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NDA BATCH 2002-02

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NDA BATCH REPORT COVER SHEET

NDA Batch Number **2002-02**	Status: **VALIDATED**
Testing Facility: **LLNL Plutonium Facility Segmented Gamma Scanner (SGS)**	

Waste Containers

BATCH NUMBER: 2002-02 includes the following containers:

LL85601006TRU	LL85701001TRU	LL85500979TRU	LL85701020TRU	LL85300999TRU
LL85901000TRU	LL85701015TRU	LL85801109TRU	LL85100556TRU	LL85200711TRU
LL85801147TRU	LL85800567TRU	LL85101103TRU	LL85101099TRU	LL85201089TRU
LL85400748TRU	LL85101099TRU Replicate	LL85801147TRU Replicate	LL85801109TRU Replicate	LL85300999TRU Replicate
LL85500979TRU Replicate				

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[1] SGS Data-Generation-Level Batch Data Report Review, Verification, and Validation Checklist

NDA BATCH REPORT COVER SHEET

NDA Batch Number **2002-02**	Status: **NOT VALIDATED**
Testing Facility: **LLNL Plutonium Facility Segmented Gamma Scanner (SGS)**	

Waste Containers

BATCH NUMBER: 2002-02 includes the following containers:

LL85601006TRU	LL85701001TRU	LL85500979TRU	LL85701020TRU	LL85300999TRU
LL85901000TRU	LL85701015TRU	LL85801109TRU	LL85100556TRU	LL85200711TRU
LL85801147TRU	LL85800567TRU	LL85101103TRU	LL85101099TRU	LL85201089TRU
LL85400748TRU	LL85101099TRU Replicate	LL85801147TRU Replicate	LL85801109TRU Replicate	LL85300999TRU Replicate
LL85500979TRU Replicate				

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Background check, Run 858, 2/7/02	2002-02-754	Background check, Run 875, 2/14/02	2002-02-1053
LL85700556, Run 859, 2/7/02	2002-02-756	S100, Run 876, 2/20/02	2002-02-1055
LL85200711, Run 860, 2/7/02	2002-02-797	Background check, Run 877, 2/20/02	2002-02-1087
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NDA BATCH REPORT COVER SHEET

NDA Batch Number **2002-02**	Status: **NOT VALIDATED**
Testing Facility: **LLNL Plutonium Facility Segmented Gamma Scanner (SGS)**	

Waste Containers

BATCH NUMBER: 2002-02 includes the following containers:

LL85601006TRU	LL85701001TRU	LL85500979TRU	LL85701020TRU	LL85300999TRU
LL85901000TRU	LL85701015TRU	LL85801109TRU	LL85100556TRU	LL85200711TRU
LL85801147TRU	LL85800567TRU	LL85101103TRU	LL85101099TRU	LL85201089TRU
LL85400748TRU	LL85101099TRU Replicate	LL85801147TRU Replicate	LL85801109TRU Replicate	LL85300999TRU Replicate
LL85500979TRU Replicate				

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Site Project QA Officer Summary	2002-01-1302		
Data Validation Summary	2002-01-1304		

NDA Batch Narrative

Batch Number: **2002-02**	Status: **VALIDATED**

Quality Control Summary

QC sample results (daily background checks, 20-gram and 100-gram SGS drum checks) were within acceptable criteria established by WIPP's Quality Assurance Objectives for TRU Waste Characterization.

Replicate Summary

Replicate runs were performed on 5 drums with IDs LL85101099TRU, LL85801147TRU, LL85801109TRU, LL85300999TRU and LL85500979TRU. All replicate measurement results are identical at the 95% confidence level as established by WIPP criteria. Note that the batch covered 5 weeks of SGS measurements from 23-Jan-2002 through 22-Feb-2002.

Nonconformance

None identified.

Technical Supervisor/QA Officer Comments

Data packet for SGS Batch 2002-02 generated using gamma spectroscopy with the Pu Facility SGS unit is technically reasonable. All QC samples are in compliance with established control limits. The batch data packet has been reviewed for correctness, completeness, consistency and compliance with WIPP's Quality Assurance Objectives and determined to be acceptable.

An Expert Review was performed on the data packet between 28-Feb-02 and 09-Jul-02 to check for potential U-235, Np-237 and Am-241 interferences and address drum cases where specific scan segments showed Se gamma ray transmissions for the 136-keV gamma to be below 0.1%. Two drums in the batch showed Pu-238 at a relative mass ratio more than 2% of all the Pu isotopes.

Technical Supervisor/QA Officer Printed Name

Signature: (Bryan B. Bandong)	Date: 18 July 2002

SGS DATA-GENERATION-LEVEL BATCH DATA REPORT REVIEW, VALIDATION, AND VERIFICATION CHECKLIST

RADIOASSAY BATCH NUMBER: 2002-02 includes the following containers:

STDASH-2	SGS100	LL85601006TRU	LL85701001TRU	LL85500979TRU
LL85701020TRU	LL85300999TRU	LL85901000TRU	LL85701015TRU	LL85801109TRU
LL85100556TRU	LL85200711TRU	LL85801147TRU	LL85800567TRU	LL85101103TRU
LL85101099TRU	LL85201089TRU	LL85400748TRU	LL85101099TRU replicate	LL85801147TRU replicate
LL85801109TRU replicate	LL85300999TRU replicate	LL85500979TRU replicate		

100% of the radioassay data in the Batch Data Report must be reviewed.

Yes/No (Y/N)	**Independent Technical Reviewer Checklist** Initial & date: JLH 7-18-02
Y	The assay measurements are within the system calibration range for the factors of waste matrix, radionuclide identity, and activity.
	Data generation and reduction were conducted in a technically correct manner in accordance with the procedures for SGS operations (OP-B332-005) and expert review (WCP-41):
Y	A Gamma Waste Assay Report and Radioassay Data Sheet are present.
Y	A MGA report is present or expert review has provided isotopic ratios from SGS or AK.
Y	MGA and AK agree as to radiological composition or, if not, this has been resolved by expert review.
Y	If Pu-238 > 2% by weight of total Pu, expert review has addressed this and assigned a Pu-240 value.
Y	If Np-237 or U-235 is identified by MGA, expert review has addressed possible interferences.
Y	If Am-241 > 0.2% by weight of total Pu + Am, expert review has addressed possible interferences.
Y	If bulk density of waste > 0.6 g/ml, expert review has addressed the high density of the drum.
Y	If transmission is any segment < 0.1% for the Se-75 peaks at 136 keV or 265 keV, expert review has addressed the low transmission.
Y	If transmission < 1% for the Se-75 peak at 401 keV, expert review has addressed the low transmission.
Y	For dead time in any segment > 50%, expert review has addressed the high dead time.
Y	If the Pu-239 masses determined from the 414 keV peak and the 129 keV peak differ by a factor of ≥2.5, expert review has addressed possible matrix inhomogeneity.
Y	If Cs-137 is present, Sr-90 is reported at an activity ratio to Cs-137of 0.39 for Pu fission or at a ratio of 1 for U-235 fission or, if both Pu and U are present, the expert reviewer has determined the ratio.
Y	If any unusual nuclides are identified (other than the 10 required to be reported to WIPP), the expert reviewer has checked for interferences.
Y	If the Summed Spectrum report value for Pu-239 and the Combined Segment NID report for Pu-239 do not agree within 95% confidence limits (the same as for replicates of unknowns), expert review has addressed the difference.
Y	If both the SGS and MGA gamma isotopic ratios for Am-241, Pu-241, Np-237, Am-243, and U-235 to Pu-239 for the Summed Spectrum and Combined Segment NID reports do not agree, expert review has resolved this.
Y	Data are reported in the proper units and correct number of significant figures or more.
Y	☒ Calculations have been verified by a valid calculation program (GWAS and/or MGA), and/or ☐ I have conducted a spot check of verified calculation programs, and/or ☑ I have made a 100% check of all hand calculations. (Mark all that apply.)
Y	I have reviewed the data, including manually input text, for transcription errors or no transcriptions were done. (Check, especially, container identification number, batch number, and gross and tare weights.)

SGS DATA-GENERATION-LEVEL BATCH DATA REPORT REVIEW, VALIDATION, AND VERIFICATION CHECKLIST

RADIOASSAY BATCH NUMBER: 2002-02 includes the following containers:

STDASH-2	SGS100	LL85601006TRU	LL85701001TRU	LL85500979TRU
LL85701020TRU	LL85300999TRU	LL85901000TRU	LL85701015TRU	LL85801109TRU
LL85100556TRU	LL85200711TRU	LL85801147TRU	LL85800567TRU	LL85101103TRU
LL85101099TRU	LL85201089TRU	LL85400748TRU	LL85101099TRU replicate	LL85801147TRU replicate
LL85801109TRU replicate	LL85300999TRU replicate	LL85500979TRU replicate		

100% of the radioassay data in the Batch Data Report must be reviewed.

Y Source transmission for each segment of every measurement is either within the acceptable range or has been accepted by the expert reviewer.

Y The testing batch QA documentation is complete and includes raw data (including data on electronic storage media and copies of SGS logbook entries for the batch), calculation records (including the printed SGS measurement report, Radioassay Data Sheet, and, if done, the Expert Reviewer's report), references to calibration records (a Count Type of *55 Gallon Galv. Drum*, *Daily 20 g Drum Check*, or *Daily 100 g Drum Check* indicates an acceptable calibration), and QC sample results, namely, a Radioassay Data Sheet for a replicate of an unknown.

Y QC measurements, namely background and performance checks, were made at the beginning of each counting session in the batch and their records are present.

Y QC measurement results (background checks and performance checks by measurement of standards) are within established control limits per procedure for SGS operations (OP-B332-005). QC criteria that were not met have been documented with a closed and satisfactorily resolved WCP NCAR or Plutonium Facility CAR.

Y A replicate count of an unknown has been made once for every batch (which has a maximum of 20 waste containers) or once per week, whichever is more frequent.

Y Replicate assay QC measurements were properly performed and pass/fail criteria are within established control limits, as calculated below, per procedure WCP-55, and if not, the data have been appropriately qualified.

Let *A1* be the Pu-239 activity from the first replicate count, as recorded on the Radioassay Data Sheet, and *A2* the value from the second replicate count.

		979	999	1109	1147	1099
Calculate:	$D = \|A1 - A2\|$ =	0.016	0.15	0.17	0.0038	0.025
Calculate:	$s = SQRT[(1.96\ s1)^2 + (1.96\ s2)^2]$ =	0.12	1.31	1.92	0.033	0.57

where *1.96 s1* and *1.96 s2* are the 1.96 σ counting statistics uncertainties associated with *A1* and *A2*. If $D < s$, the measurement results are the same at the 95% confidence level and the QC measurement passes.

Y I have marked the Passed item on the Radioassay Data Sheet(s) for QC replicates as either Yes or No.

Independent Technical Reviewer Signature — Date: 7-18-02

T. Russell Stimmel
Printed Name

SGS DATA-GENERATION-LEVEL BATCH DATA REPORT REVIEW, VALIDATION, AND VERIFICATION CHECKLIST

RADIOASSAY BATCH NUMBER: 2002-02 includes the following containers:

STDASH-2	SGS100	LL85601006TRU	LL85701001TRU	LL85500979TRU
LL85701020TRU	LL85300999TRU	LL85901000TRU	LL85701015TRU	LL85801109TRU
LL85100556TRU	LL85200711TRU	LL85801147TRU	LL85800567TRU	LL85101103TRU
LL85101099TRU	LL85201089TRU	LL85400748TRU	LL85101099TRU replicate	LL85801147TRU replicate
LL85801109TRU replicate	LL85300999TRU replicate	LL85500979TRU replicate		

100% of the radioassay data in the Batch Data Report must be reviewed.

Yes/No (Y/N)

Technical Supervisor Review Checklist

Y The data are technically reasonable based on the gamma spectroscopy technique used by the SGS.

Y All data have received independent technical review.

Y The data were re-analyzed by the Expert Reviewer.

Date: 28Feb02 through 09Jul02 Reason: Check data for U-235, Np-237, Am-241 interference. Some drums have low Se-76 136-keV gamma transmission. Some drums have Pu-238 isotopic mass component above 2%. Some drums have inconsistent Combined Segment NID and Summed Spectrum results for Pu-239.

Originally indicates possible presence of U-235 and U-238. Some segments of various drums have Se gamma transmission < 0.1%

N The data required additional expert review.

Date: _____ Reason: _____

Y The testing batch QA documentation is complete and includes raw data, calculation records, references to calibration records, and QC sample results, namely, a replicate of an unknown.

Y Testing batch data correctly lists the testing facility name, testing batch number, drum numbers included in the batch, and signature releases of radioassay testing personnel.

Y A table of contents is present.

Y Background and performance check data and control charts for the relevant time period are present.

Y Separate Radioassay Data Sheets are attached for each waste container. The sheets include information on the method used, Item Description Code (LLNL TRUW Form number or waste stream number), date of examination, total Pu-239 FGEs (g) and associated uncertainty, total alpha activity and associated uncertainty (Ci), TRU activity (nCi/g) and associated uncertainty, listing of individual radioisotopes present (Ci) and associated uncertainties (Ci), thermal power (total decay heat) and associated uncertainty (W), QC replicate (yes/no), and Operator signature / date, expert reviewer (when applicable) signature / date.

N Actions necessary for release of data: n/a

Actions completed: _____ _____
Signature **Date**

Technical Supervisor Signature — 18 July 2002 (Date)

Bryan B. Bandong (Printed Name)

SGS DATA-GENERATION-LEVEL BATCH DATA REPORT REVIEW, VALIDATION, AND VERIFICATION CHECKLIST

RADIOASSAY BATCH NUMBER: 2002-02 includes the following containers:

STDASH-2	SGS100	LL85601006TRU	LL85701001TRU	LL85500979TRU
LL85701020TRU	LL85300999TRU	LL85901000TRU	LL85701015TRU	LL85801109TRU
LL85100556TRU	LL85200711TRU	LL85801147TRU	LL85800567TRU	LL85101103TRU
LL85101099TRU	LL85201089TRU	LL85400748TRU	LL85101099TRU replicate	LL85801147TRU replicate
LL85801109TRU replicate	LL85300999TRU replicate	LL85500979TRU replicate		

100% of the radioassay data in the Batch Data Report must be reviewed.

Yes/No/Not Applicable (Y/N/NA)

QA Officer Review Checklist

NA Independent Technical and Technical Supervisory reviews have been performed as evidenced by the appropriate signature releases. *(Write "NA" if this checklist is filled out by the same person who filled out the Technical Supervisor Review Checklist.)*

NA The testing batch QA documentation is complete as appropriate for radioassay, as detailed in the Technical Supervisor checklist. *(Write "NA" if this checklist is filled out by the same person who filled out the Technical Supervisor Review Checklist.)*

Yes/No (Y/N)

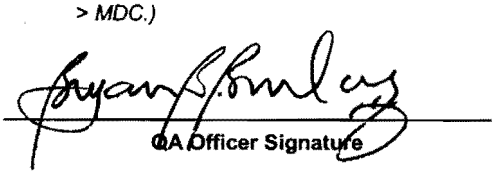
Y Additionally, these data validation checklists (Independent Technical Review, Technical Supervisor review, and QA Officer review), when complete, are appended to the Batch Data Report.

Quality Assurance Objectives have been met:

Y The results fall within the ranges for which the Quality Assurance Objectives were verified for the SGS.

Y The MDC has been correctly determined for the waste matrix of this container. (Note that the MDA values for the radionuclides reported on Radioassay Data Sheets have not been corrected for transmission attenuation, unless the expert reviewer has done so and so stated.)

Y The value reported for TRU alpha activity concentration > MDC if the reported value > 100 nCi/g. *(LLW, where the reported concentration ≤100 nCi/g, may be reported as ≤MDC.)* *(In determining TRU alpha activity concentration, any radionuclides measured at ≤MDC are counted as zero activity or are input, using acceptable knowledge, from known ratios to a nuclide measured at > MDC.)*



QA Officer Signature

18 July 2002
Date

Bryan B. Bandong
Printed Name

Date	Time In	Time Out	ID #	Operator	Seq #
1-22-02	8:22	9:20	SGS100	RMA	817
1-22-02	9:59	10:57	LL85401026	RMA	818
1-22-02	~~10:00~~	~~10:59~~	No Drum	RMA	819
	START OF BATCH 2002-02				
1-23-02	7:39 AM	7:45 AM	No Drum	RMA	✓ 820
1-23-02	7:53 AM	8:50 AM	STD ABH-2	RMA	✓ 821
1-23-02	9:48 AM	10:44 AM	LL85601006	RMA	✓ 822
1-23-02	11:25 AM	12:22 PM	LL85701001	RMA	✓ 823
1-23-02	1:20 PM	2:17 PM	LL85500979	RMA	✓ 824
1-23-02	2:26 PM	2:32 PM	No Drum	RMA	✓ 825
1-24-02	7:35 AM	7:40 AM	No Drum	RMA	✓ 826
1-24-02	8:45 AM	9:42 AM	SGS100	RMA	✓ 827
1-24-02	10:46 AM	11:42 AM	LL85500979R	RMA	✓ 828
1-24-02	2:55 PM	3:01 PM	No Drum	RMA	✓ 829
1-25-02	9:37 AM	9:43 AM	no drum	RMA	✓ 830
1-29-02	7:50 AM	8:02 AM	no drum	RMA	✓ 831
1-29-02	8:19 AM	9:15 AM	STD ABH-2	RMA	✓ 832
1-29-02	10:09 AM	11:06 AM	LL85701020	RMA	✓ 833
1-29-02	2:41 PM	2:46 PM	no drum	RMA	✓ 834
1-30-02	7:48 AM	7:54 AM	no drum	RMA	✓ 835
1-30-02	8:00 AM	8:56 AM	SGS100	RMA	✓ 836
1-31-02	7:36 AM	8:33 AM	SGS100	RMA	✓ 837
1-31-02	9:45 AM	9:51 AM	no drum	RMA	✓ 838
1-31-02	9:58 AM	10:55 AM	LL85300999	RMA	✓ 839
1-31-02	11:44 AM	12:41 PM	~~No Drum~~ LL85300979R	RMA	✓ 840
1-31-02	2:07 PM	2:12 PM	no drum	RMA	✓ 841

Batch #	Comments		
2002-01 & 02	100g source ok	87.5g CSNID	104g RADA
2002-02	unknown		
2002-02	PM Bkgd ok		
2002-02	AM Bkgd ok	RADA 24g	CSNID 17.9g
2002-02	20g source		
2002-02	unknown	RADA 55.3g	CSNID 50.7g
2002-02	unknown	RADA 15.4g	CSNID 13.1g
2002-02	unknown	RADA 3.68g	CSNID 3.44g
2002-02	PM Bkgd ok		
2002-02	AM Bkgrd ok.		
2002-02	100g source	RADA 106g	CSNID 88.0g
2002-02	unknown Replicate		
2002-02	PM Bkgrd ok		
2002-02	AM Bkgrd ok will not Run SGS per D. Hiland because of drum shuffler.		
2002-02	AM Bkgrd ok (RK)		
2002-02	20g drum	RADA 24.5g	CSNID 18.2g
2002-02	unknown	RADA none	CSNID 49.6g
2002-02	PM Bkgrd ok (RK)		
2002-02	AM Bkgrd ok (RK)		
2002-02	100g source drum ok	Rada 105g	CSNID 87.6g
2002-02 & 03	100g source drum	RADA 106g	CSNID 87.3g
2002-03	AM Bkgd OK (RK)		
2002-03	unknown	RADA 44.5g	CSNID 32.5g
2002-02	~~PM Bkgd~~ unknown Rep.	RADA 43.8	CSNID 31.9
2002-02	PM Bkgrd OK		

Date	Time In	Time out	Operator	ID	Seq #
2-1-02	7:38 AM	8:34 AM	RMA	STDASH-2	842
2-1-02	8:48 AM	8:53 AM	RMA	No drum	843
2-1-02	8:58 AM	9:55 AM	RMA	LL8590100	844
2-1-02	10:21 AM	11:17 AM	RMA	LL8570101S	845
2-1-02	1:27 PM	1:33 PM	RMA	No Drum	846
~~2-4-02~~	~~8:~~		~~SGS100~~		
2-4-02	8:24 AM	9:21 AM	RMA	SGS 100	847
2-5-02	10:45 AM	11:42 AM	RMA	SGS 100	848
2-6-02	7:39 AM	8:36 AM	RMA	SGS 100	849
2-6-02	8:43 AM	8:48 AM	RMA	None	850
2-6-02	8:54 AM	9:51 AM	RMA	LL8580109	851
2-6-02	11:06 AM	11:11 AM	RMA	None	852
2-6-02	11:17 AM	12:14 PM	RMA	LL8580109R	853
2-6-02	2:18 PM	2:23 PM	RMA	None	854
2-7-02	7:38 AM	7:44 AM	RMA	None	855
2-7-02	7:50 AM	8:46 AM	RMA	STDASH-2	856
2-7-02	9:08 AM	10:05 AM	RMA	LL8540095	857
2-7-02	Called Doug McAvoy 10:15 AM so the				
2-7-02	11:04 AM	11:10 AM	RMA	None	858
2-7-02	11:15 AM	12:12 PM	RMA	LL8510055G	859
2-7-02	1:31 PM	2:27 PM	RMA	LL8520071I	860
2-7-02	2:32 PM	2:37 PM	RMA	None	861
2-8-02	10:47 AM	10:53 AM	RMA	None	862
2-12-02	7:59 AM	8:04 AM	RMA	None	863
"	8:16 AM	9:13 AM	RMA	SGS100	864
"	11:35 AM	11:41 AM	RMA	None	865
"	11:45 AM	12:42 PM	RMA	LL8580114T	866
"	1:07 PM	1:12 PM	RMA	~~LL85~~ None	867

Batch #	Comments			
2002-02	20g source	RADA 19.2g	CSNID	17.7g
2002-02	Am Bkgrd	ok		
2002-02	unknown	RADA 24.8g	CSNID	15.3g
2002-02	unknown	RADA 6.16g	CSNID	5.08g
2002-02	PM Bkgrd	OK		
2002-02	100g source	RADA 107g	CSNID	88.7g
2002-02	100g Source	RADA 107g	CSNID	87.9g
2002-02	100g Source	RADA 105g	CSNID	87.8g
2002-02	Am Bkgrd	OK (RE)		
2002-02	unknown	RADA 68.6	CSNID	45g
2002-02	Bkgrd because of move in 1369			OK (RE)
2002-02	unknown Replicate	RADA 67.8	CSNID	43.8g
2002-02	PM Bkgd	ok (RE)		
2002-02	Am Bkgrd	OK (RE)		
2002-02	20g Source	CSNID 17.8g	RADA	19.6g
2002-02	unknown	RADA nomga	CSNID	0.44g NOMGA
they can move parts in to 1369. Part moved 10:50 AM				
2002-02	Bkgrd because of move into 1369			
2002-02	unknown	RADA 86.3g	CSNID	44.9g
2002-02	unknown "A" Drum	RADA 63.1g	CSNID	49.2g
	Notified Dave Hiland of High RADA			
2002-02	PM Bkgrd	ok (RE)		
2002-02	Am Bkgrd	(OK) (RE)		
2002-02	Am Bkgrd	(OK) (RE)		
2002-02	100g source	CSNID 87.7g	RADA	106g
2002-02	Bkgrd because of move from 1369			(OK) (RE)
2002-02	unknown	CSNID 0.929g	RADA	1.04g
2002-02	PM Bkgrd	(OK) RE		

Date	Time in	Time out	Initials	ID	Seq #
2-13-02	4		RMA	BCK	868
2-13-02	7:58 AM	8:04 AM	RMA	BCK	869
2-13-02	8:09 AM	9:06 AM	RMA	SGS100	870
2-14-02	9:48 AM	10:45 AM	RMA	SGS100	871
2 "	10:46 AM	10:52 AM	RMA	BCK	872
" "	10:		RMA	LL85800567	873
2/14/02	1:17 pm		RM	LL85801147R	874
2-14-02	2:35 pm	2:40 pm	RMA	BCK	875
2-19-02	4:00pm		~~DAH~~	—	—
2-20-02	8:13 AM	9:09 AM	RMA	SGS100	875
2 "	9:22 AM	9:28 AM	RMA	BCK	877
"	9:37 AM	10:30 AM	RMA	LL85101103	878
"	11:15 AM	12:12 PM	RMA	LL85101099	879
"	1:18 pm	2:15 pm	RMA	LL85101099R	880
2-20-02	2 pm	2 pm	RMA	BCK	881

Batch #	Comments
2002-02	AM Bkgrd canceled, started wrong Seq #
002-02	AM Bkgrd OK RM
2002-02	100g source CSNID 87.6 g RADA 105g
002-02	100g source CSNID 87.1g RADA 105g
2002-02	AM Bkgrd OK RM
2002-02	unknown CSNID 0.563g RADA 0.939g
	Note S11 & T11 Report for Bkgrnd changed in order of printout
2002-02	unknown CSNID RADA
2002-02	PM Bkgrd OK

1. Upon consolitation with K. Raschke, I reduced the lower limit for the 400 KeV from 1.5E+04 to 0.5E+04 and the ~~Revise~~ ~~Dan~~ 2/19/02 peak counts/sec from 1.5E+02 to 0.5E+02. The purpose was to avoid the lower limit alarm, which merely is there to alert us to order a new source, because the new source was ordered 2/12/02 with a expected 6 to 8 wk delivery

2. I added a container type for the latest Myers TRUW order. The new ~~list~~ ~~PA~~ 2/19/02 designation is "55 Gal Galv 66.3" to denote the new drum's T.W. of 66.3 lb or 30.1 kg.

Dave Hilland

002-02	100g soure	CSNID	88.3g	RADA	107g
002-02	AM Bkgrd	OK RM			
2002-02	unknown	CSNID	28.1g	RADA	No MGA
002-02	unknown	CSNID	15.2g	RADA	16.8g
002-02	unknown Replicate	CSNID	15.6g	RADA	17.2g
2002-02	PM Bkgrd OK	RM			

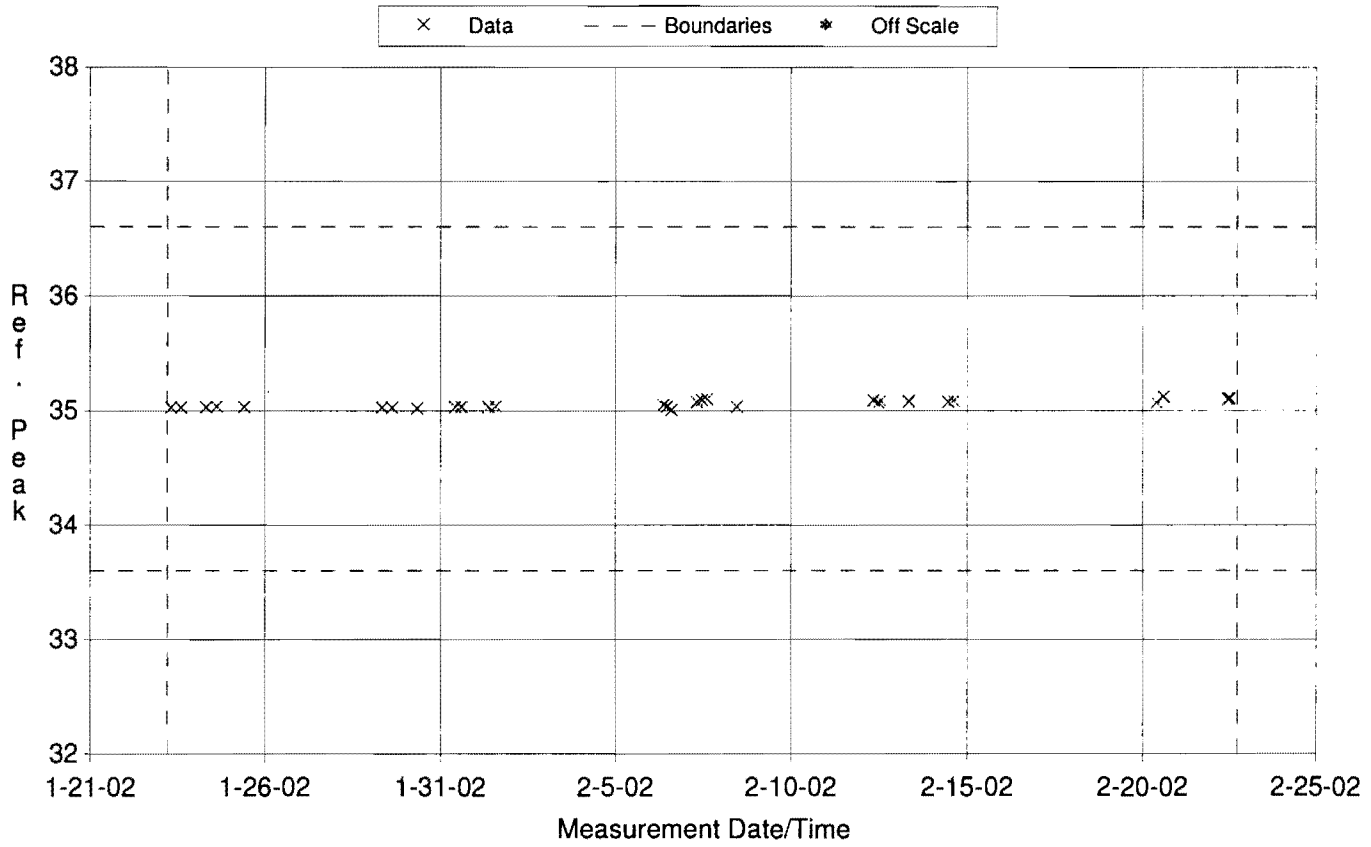
Batch 2002-00-9

[redacted]

Date	Time in	Time out		ID	Seq
2-21-02	7:40 AM	8:32 AM	[illegible]	SGS100	✓ 88
2-22-02	7:38 AM	8:35 AM	[illegible]	SGS100	✓ 883
"	10:28 AM	10:34 AM	[illegible]	BCK	✓ 884
"	10:43 AM	11:39 AM	[illegible]	LL85201089	✓ 885
"	11:43 AM	11:49 AM	[illegible]	BCK	✓ 886
	END OF BATCH 2002-52				
2-25-02	8:23 AM	8:29 AM	[illegible]	BCK	887
2-25-02	8: AM		[illegible]	SGS100	888

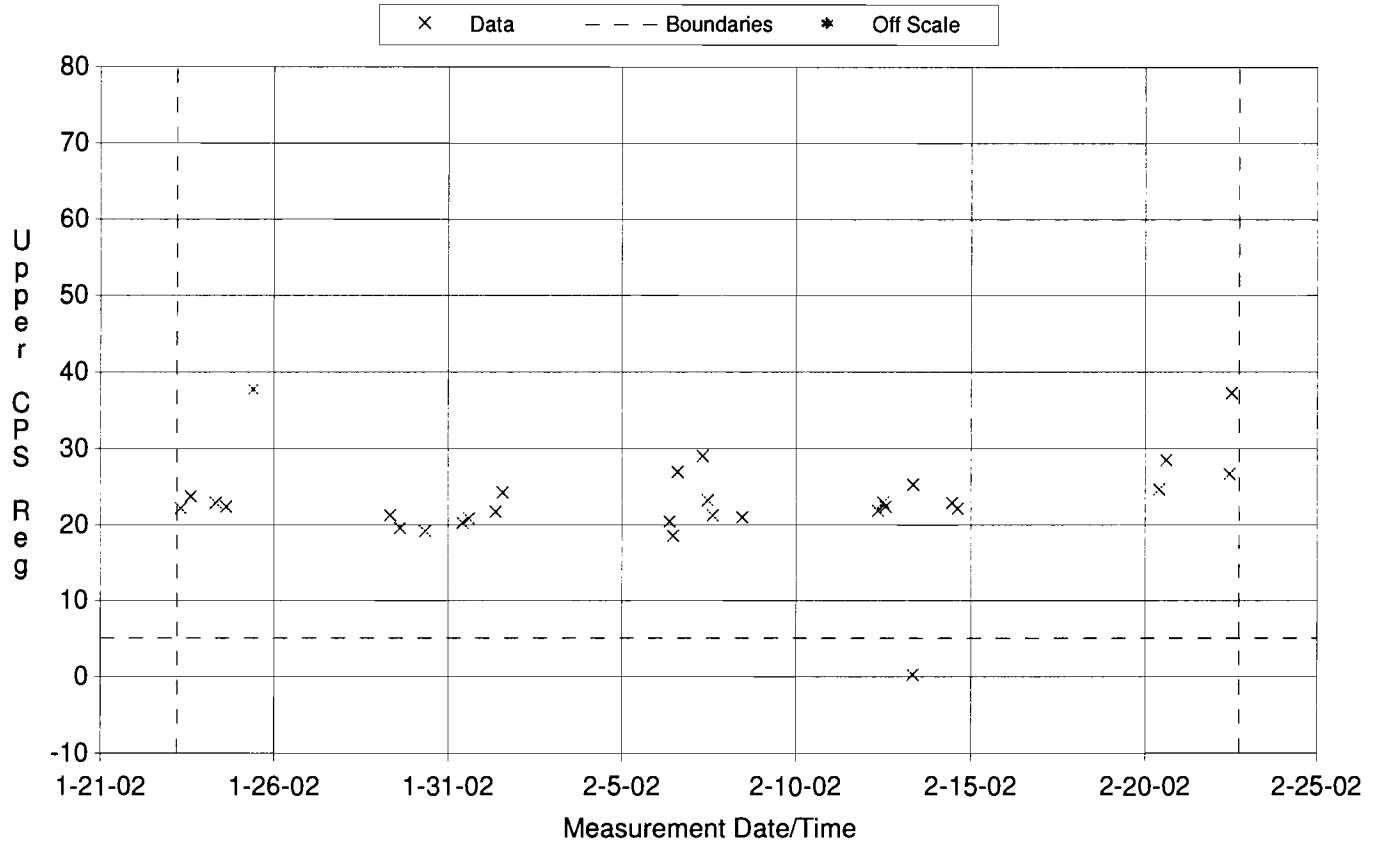
	Comments				
2002.02	100g source	CSNID	87.5g	RADA	105g
2002-02	100g source	CSNID	87.6g	RADA	105g
2002-02	AM Bkgrd	OK (RK)			
2002-02	unknown	CSNID	37.7g	RADA	49g
2002-02	PM Bkgrd	OK (RK)			
(RK) 2-25-02 2002-023	AM Bkgrd				
(RK) 2-25-02 2002-023	100g source	CSNID		Rada	

Batch 2002-02-10



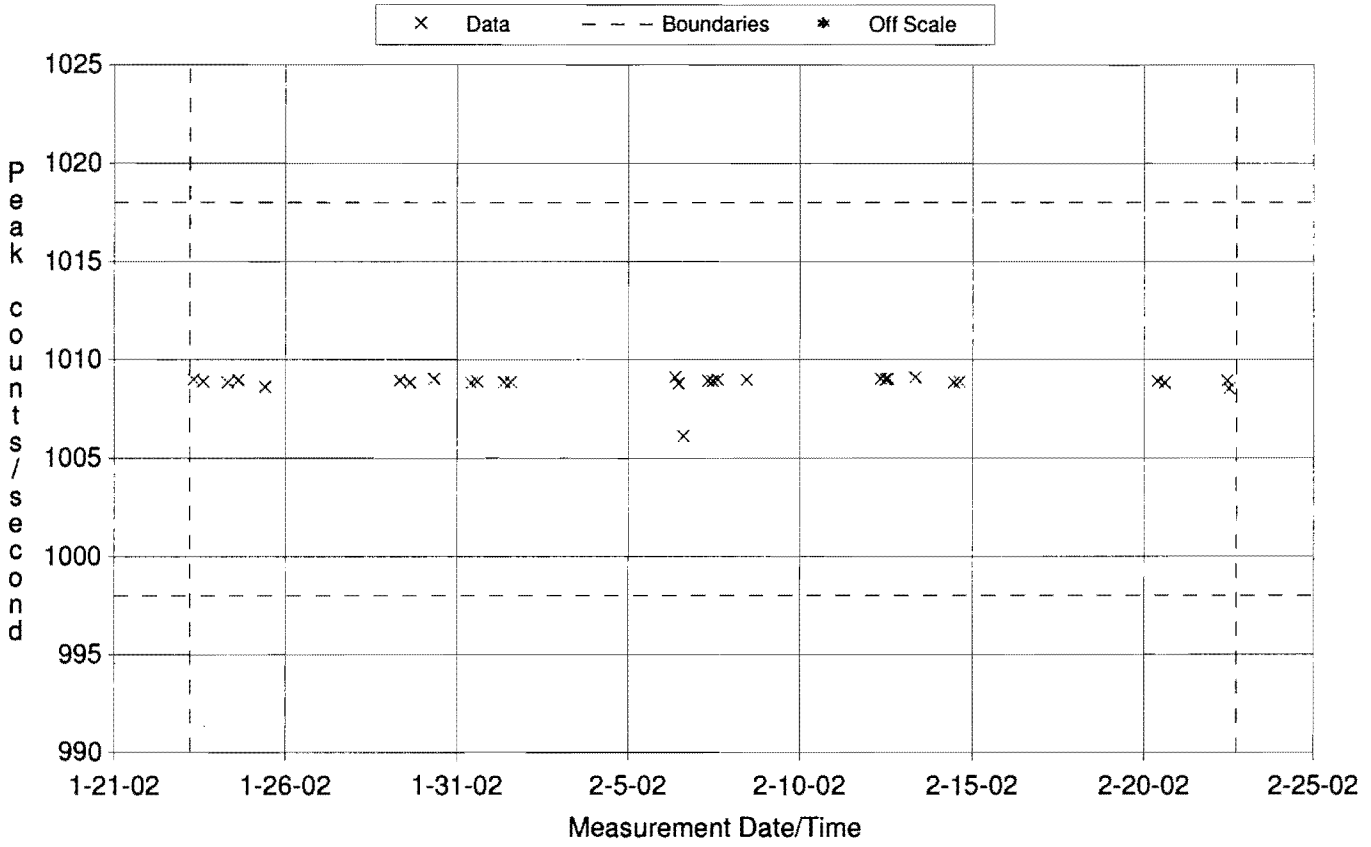
QA Filename : C:\WAS\CTRS\CTR1\ARR1\S11_BCK.QAF
Parameter Description : Ref. Peak (keV)
Selection Dates : 1-23-02 5:00:00 AM - 2-22-02 5:00:00 PM
Lower/Upper Boundaries : 33.600 - 36.600

Batch 2002-02-11



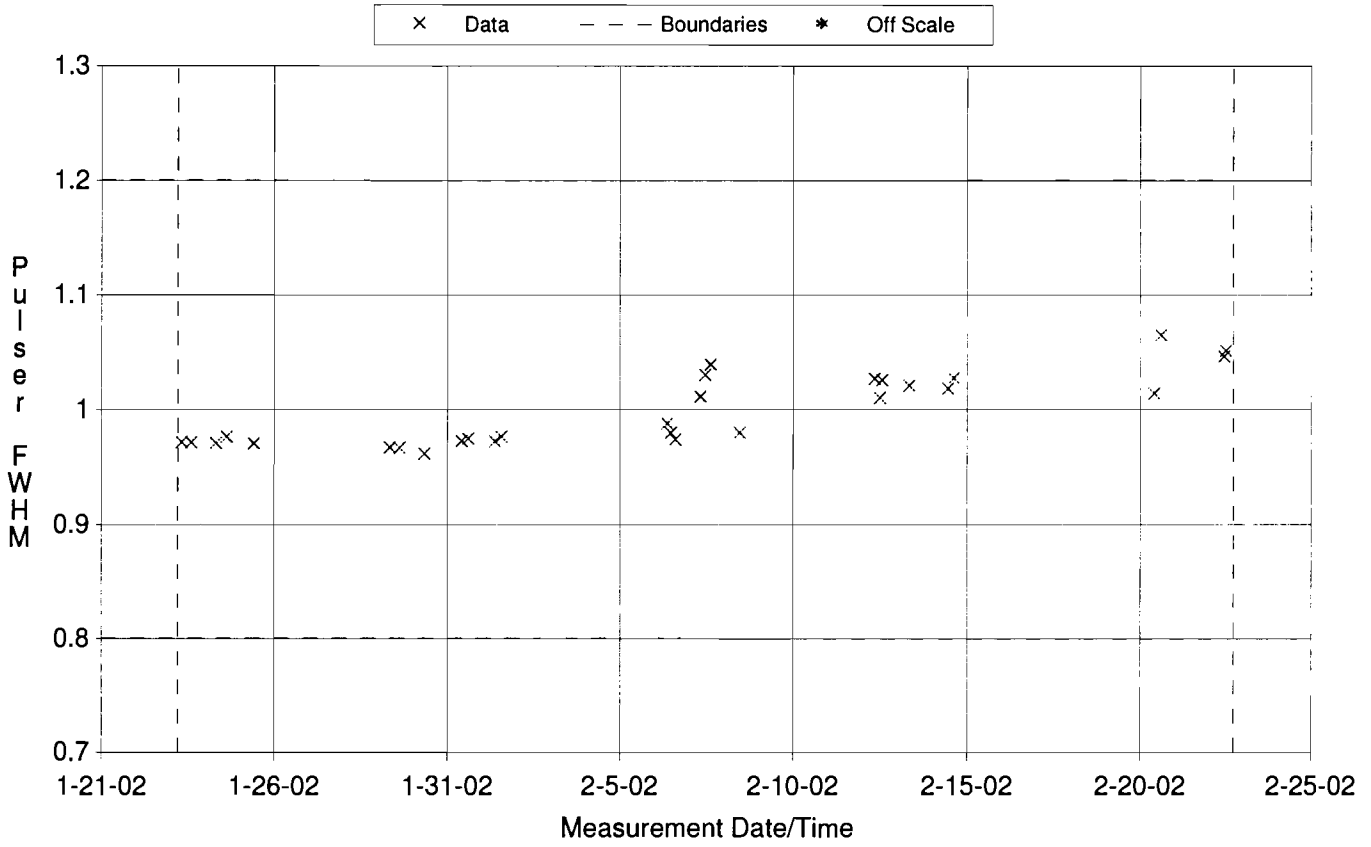
QA Filename : C:\WAS\CTRS\CTR1\ARR1\S11_BCK.QAF
Parameter Description : Upper CPS Reg (cps)
Selection Dates : 1-23-02 5:00:00 AM - 2-22-02 5:00:00 PM
Lower/Upper Boundaries : 5.000 - 60.000

Batch 2002-02-12



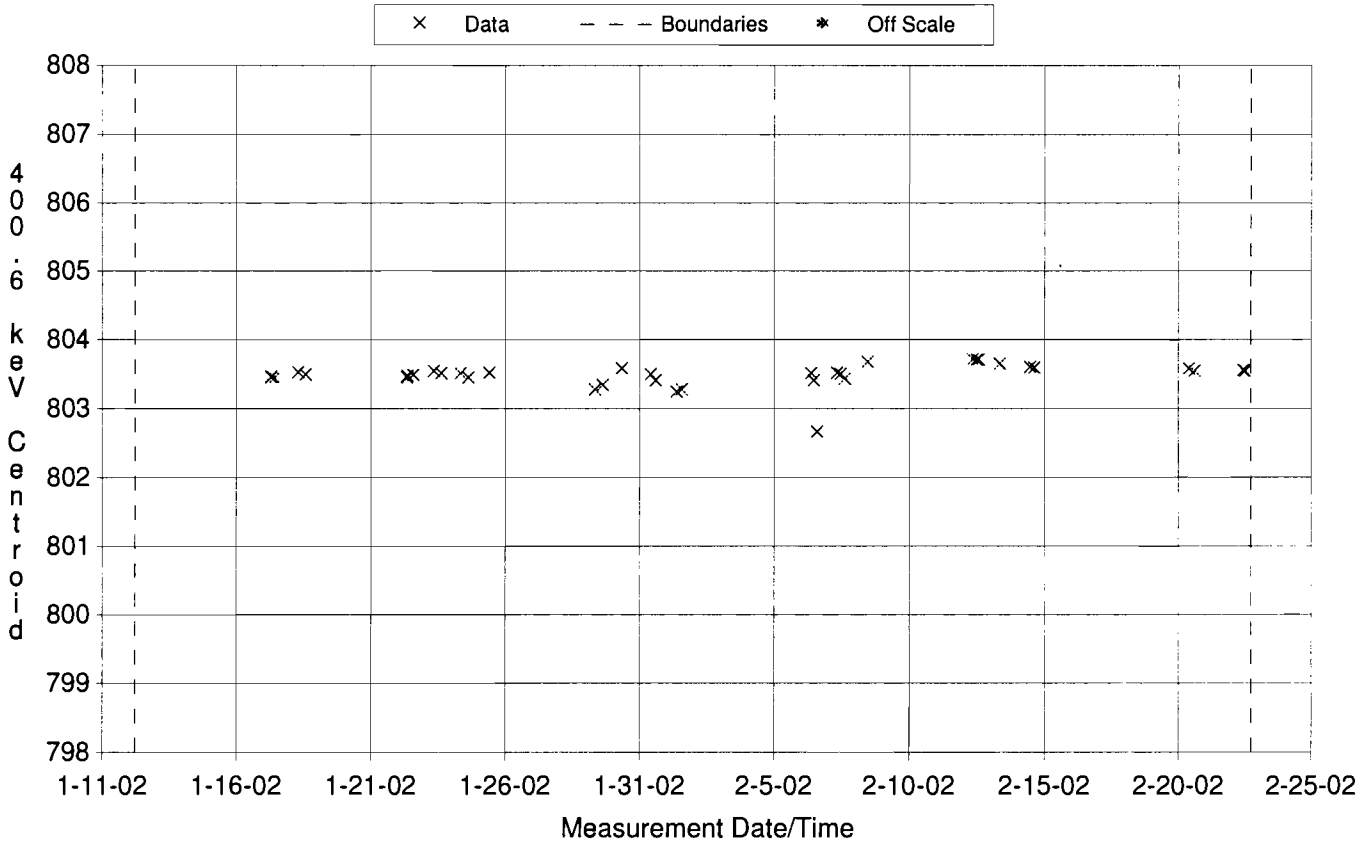
QA Filename : C:\WAS\CTRS\CTR1\ARR1\S11_BCK.QAF
Parameter Description : Peak counts/second (cps)
Selection Dates : 1-23-02 5:00:00 AM - 2-22-02 5:00:00 PM
Lower/Upper Boundaries : 998.000 - 1018.000

Batch 2002-02-13



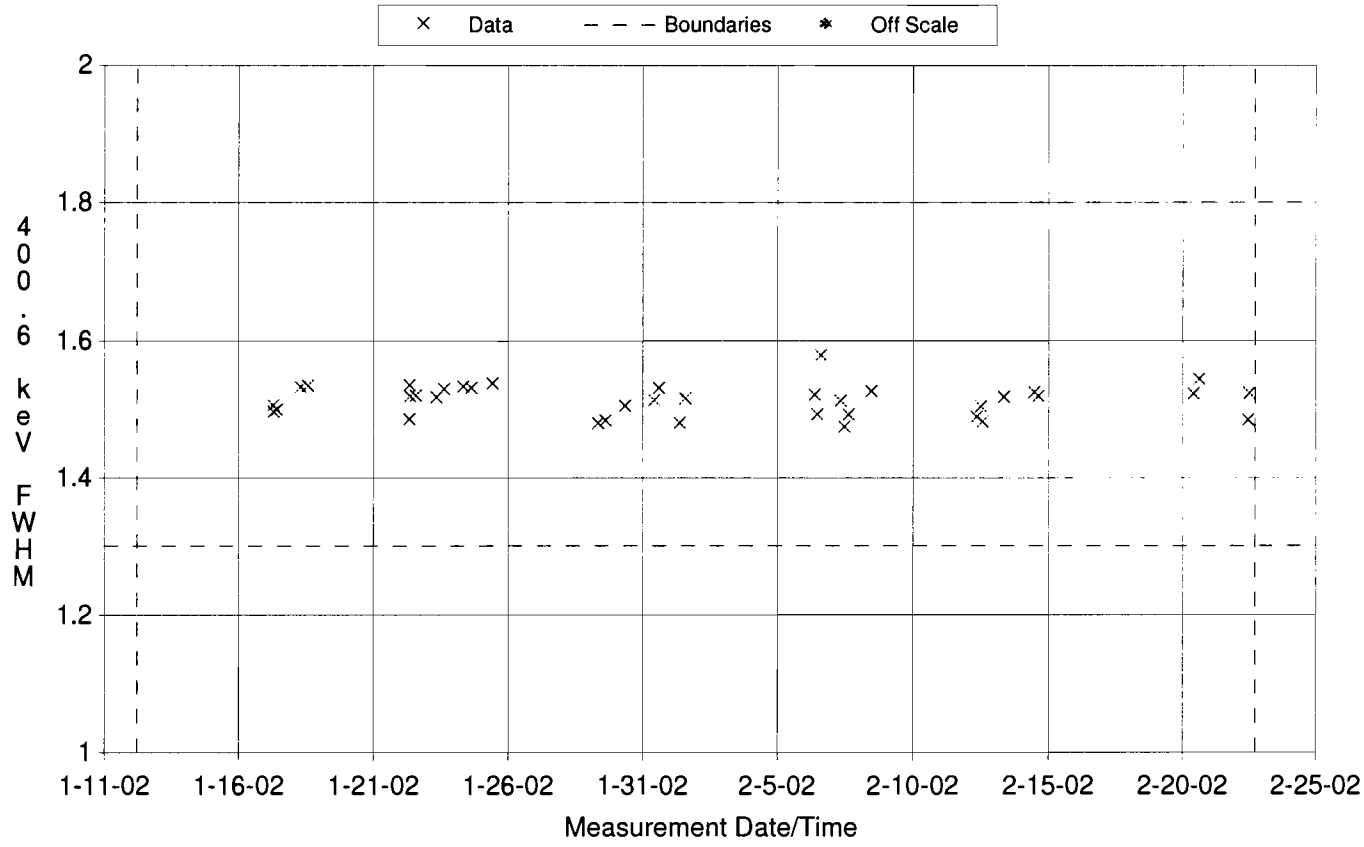
QA Filename : C:\WAS\CTRS\CTR1\ARR1\S11_BCK.QAF
Parameter Description : Pulser FWHM (keV)
Selection Dates : 1-23-02 5:00:00 AM - 2-22-02 5:00:00 PM
Lower/Upper Boundaries : 0.800 - 1.200

Batch 2002-02-14

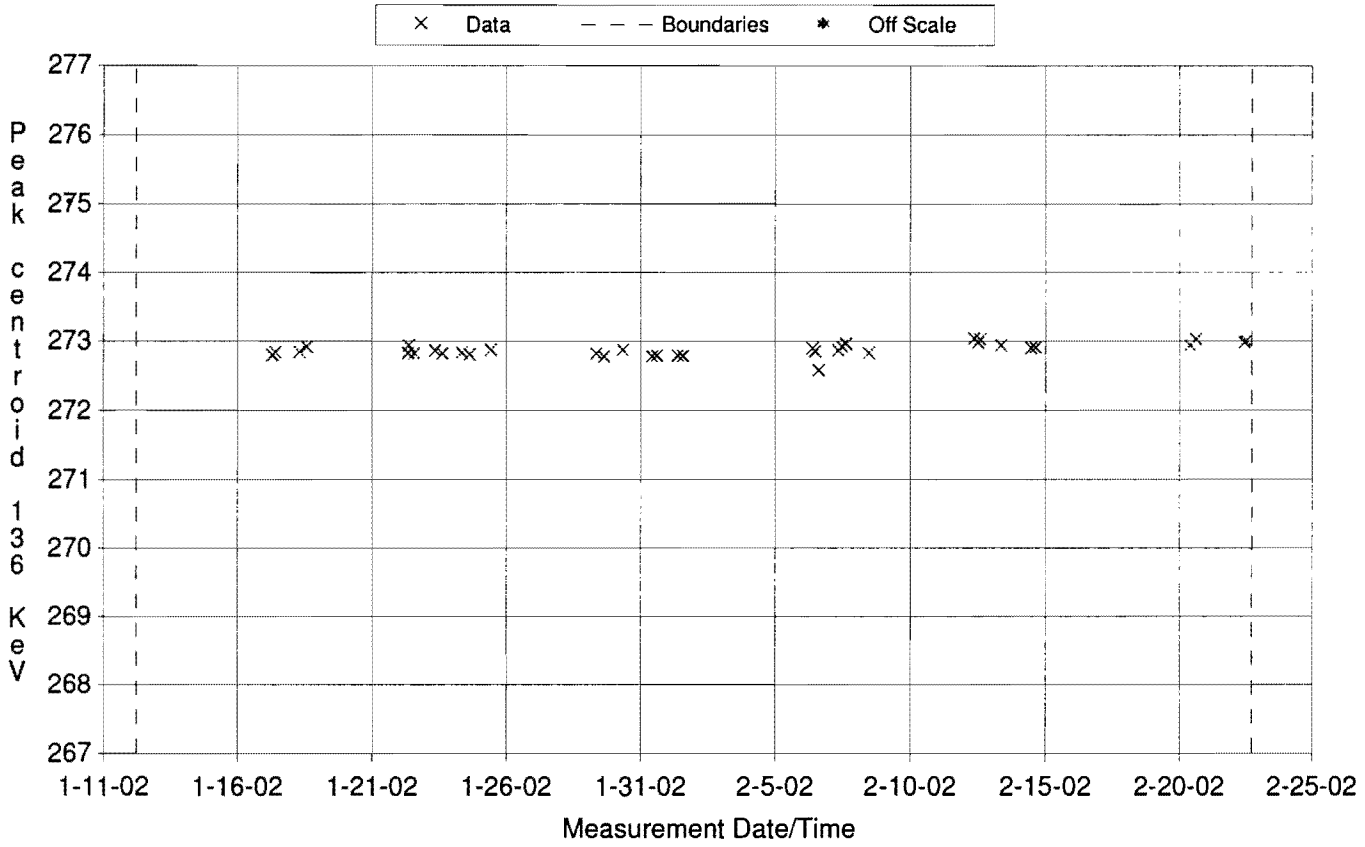


QA Filename : C:\WAS\CTRS\CTR1\ARR1\T11_BCK.QAF
Parameter Description : 400.6 keV Centroid (ch)
Selection Dates : 1-12-02 5:00:00 AM - 2-22-02 5:00:00 PM
Lower/Upper Boundaries : 800.000 - 806.000

Date: 2002-03-15

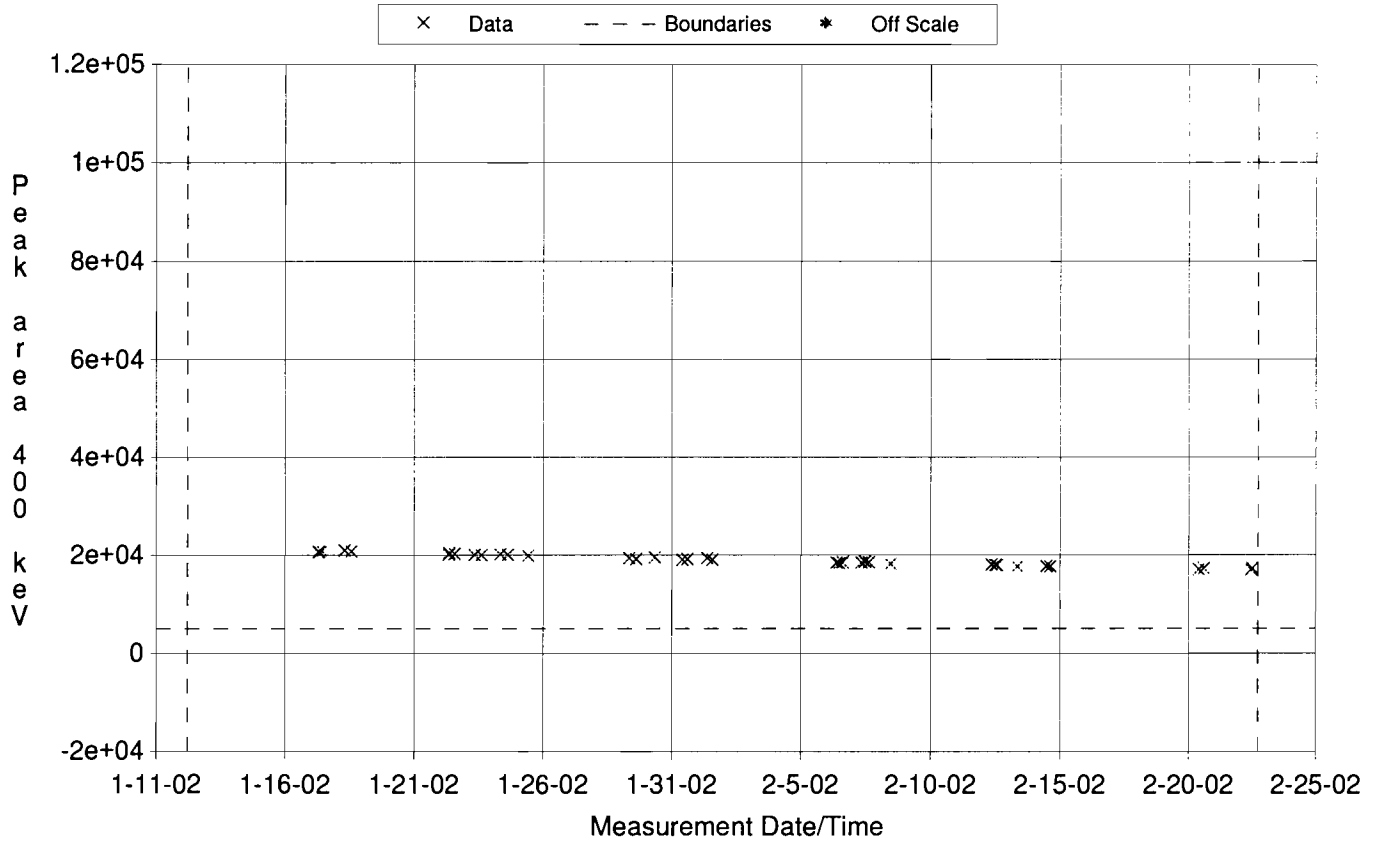


QA Filename : C:\WAS\CTRS\CTR1\ARR1\T11_BCK.QAF
Parameter Description : 400.6 keV FWHM (keV)
Selection Dates : 1-12-02 5:00:00 AM - 2-22-02 5:00:00 PM
Lower/Upper Boundaries : 1.300 - 1.800



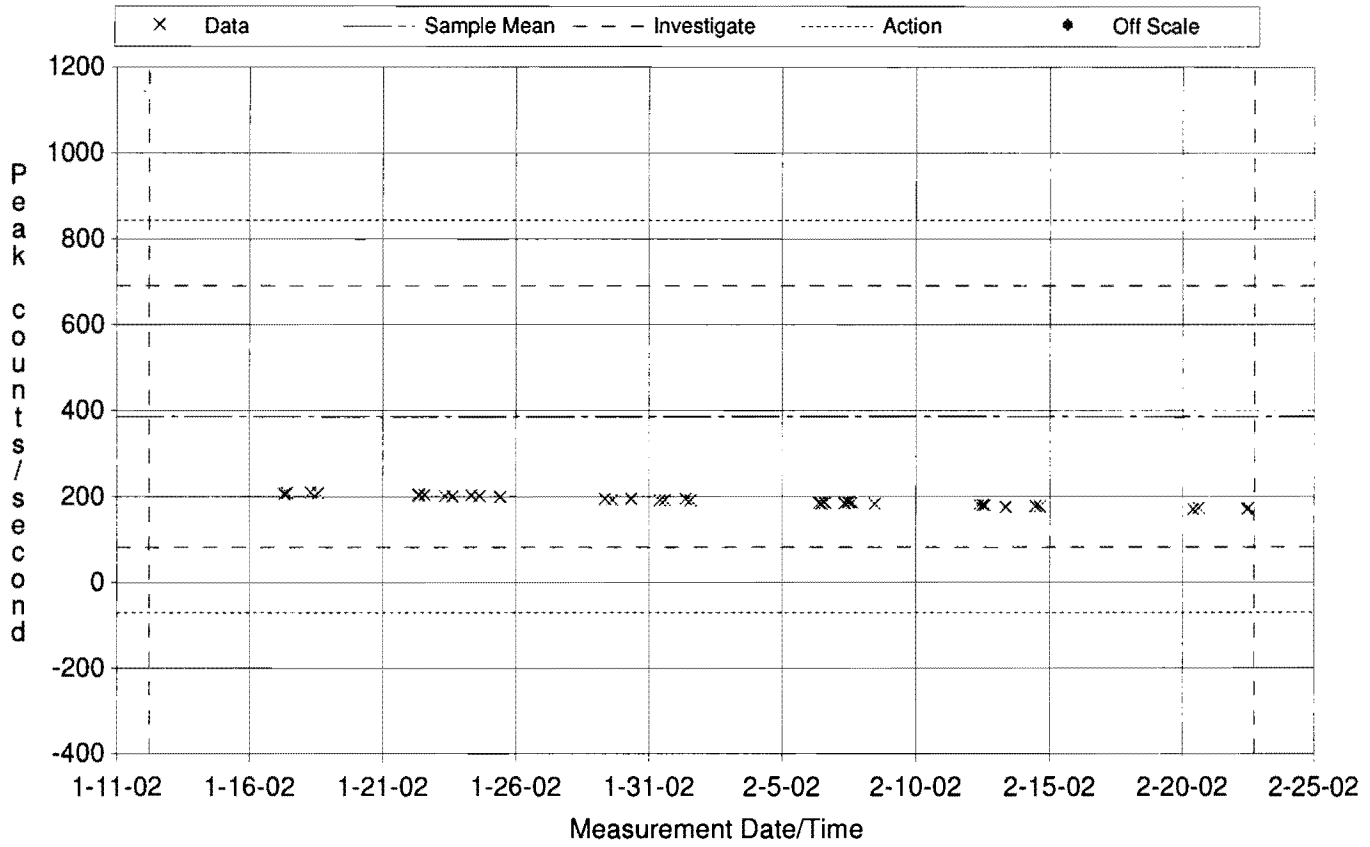
QA Filename : C:\WAS\CTRS\CTR1\ARR1\T11_BCK.QAF
Parameter Description : Peak centroid 136 KeV (ch)
Selection Dates : 1-12-02 5:00:00 AM - 2-22-02 5:00:00 PM
Lower/Upper Boundaries : 269.000 - 275.000

Both 2002-03-17



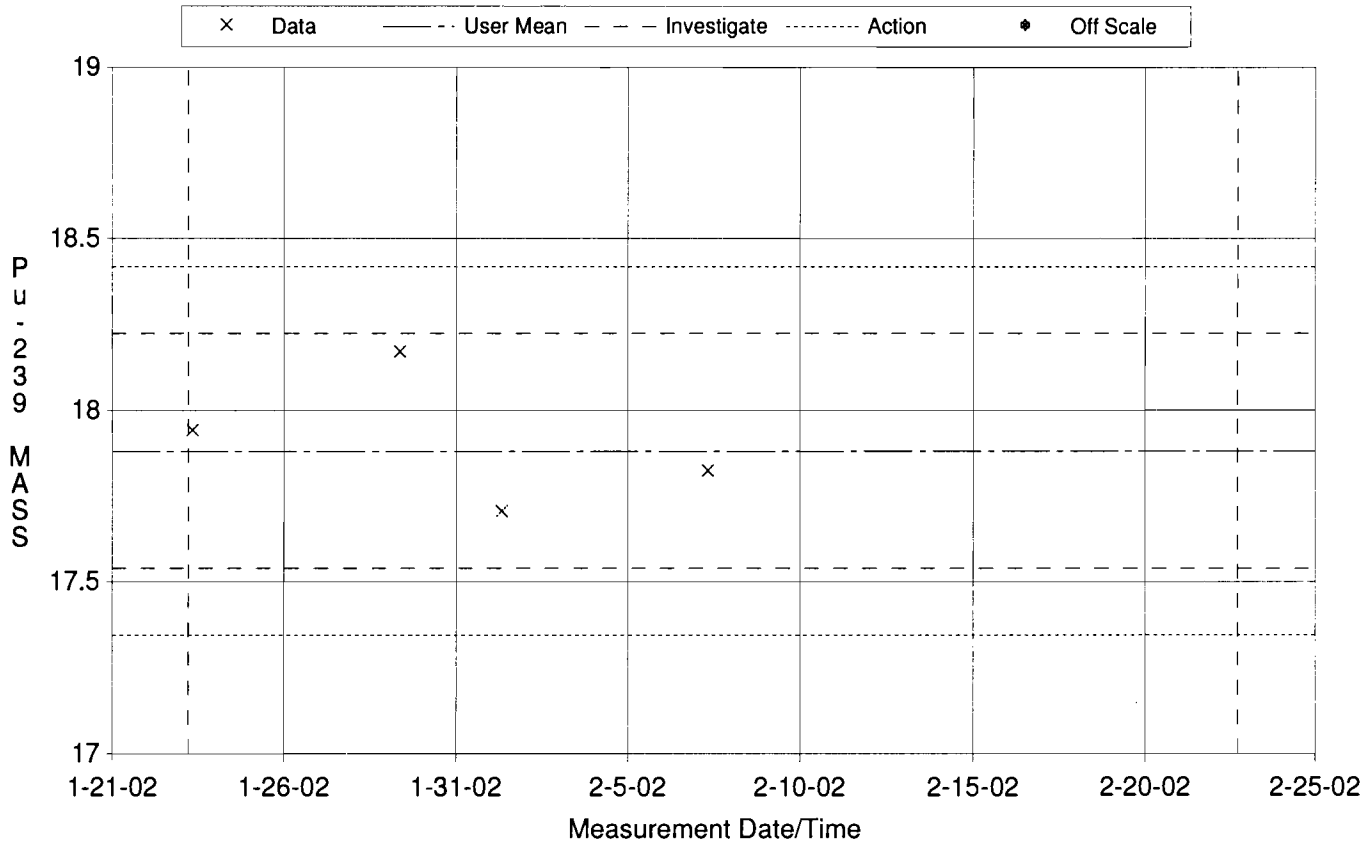
QA Filename : C:\WAS\CTRS\CTR1\ARR1\T11_BCK.QAF
Parameter Description : Peak area 400 keV (counts)
Selection Dates : 1-12-02 5:00:00 AM - 2-22-02 5:00:00 PM
Lower/Upper Boundaries : 5000.000 - 100000.000

Batch 2002-02-18



QA Filename : C:\WAS\CTRS\CTR1\ARR1\T11_BCK.QAF
Parameter Description : Peak counts/second (cps)
Selection Dates : 1-12-02 5:00:00 AM - 2-22-02 5:00:00 PM
Sample Mean +-Std Dev : 385.633 +- 1.52e+02

Bkg. 2002-02-19

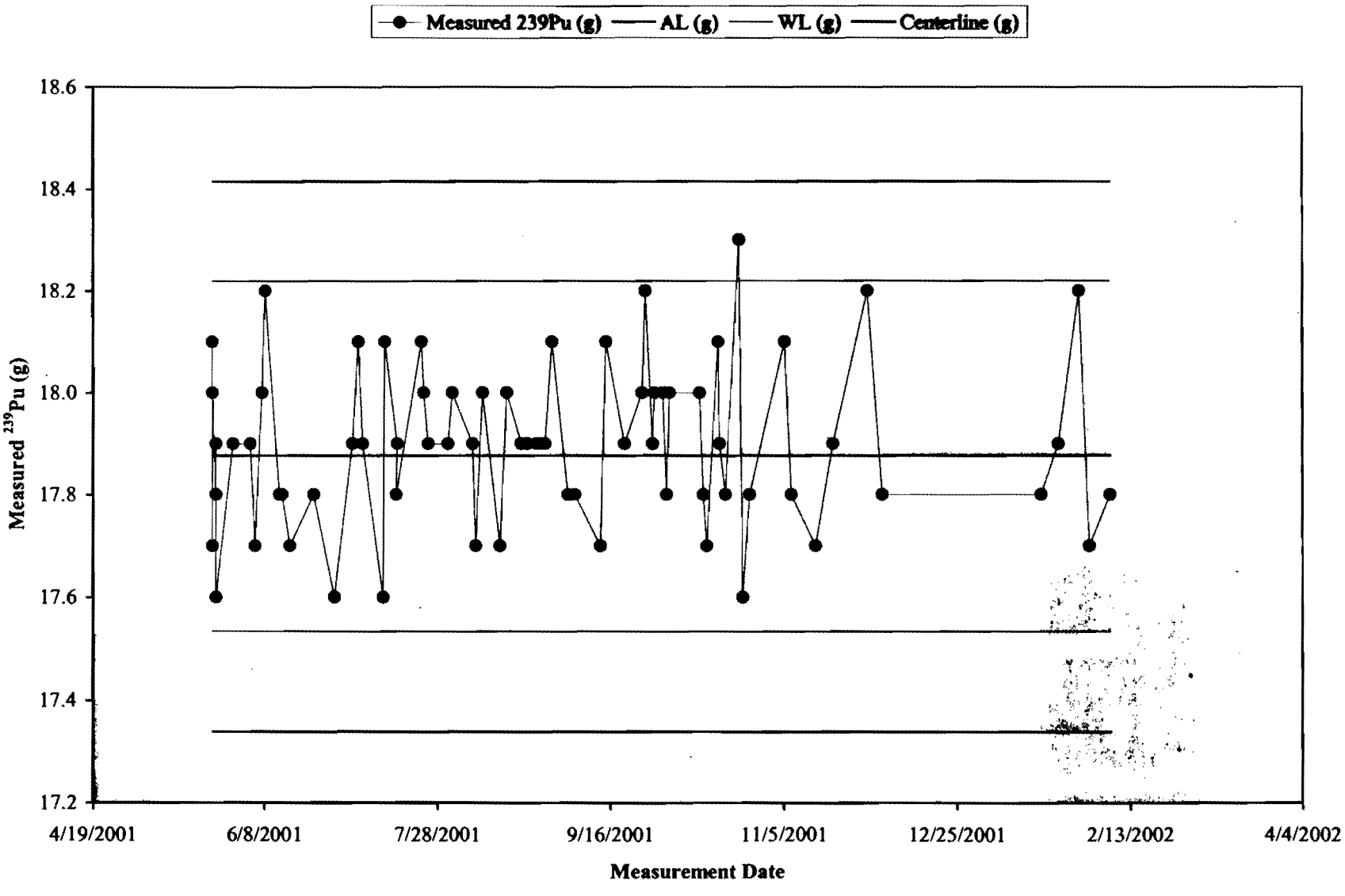


QA Filename : C:\WAS\CTRS\CTR1\ARR1\A05_CAL.QAF
Parameter Description : Pu-239 MASS (grams)
Selection Dates : 1-23-02 5:00:00 AM - 2-22-02 5:00:00 PM
User Mean +-Std Dev : 17.880 +- 1.71e-01

Date: 2002-03-29

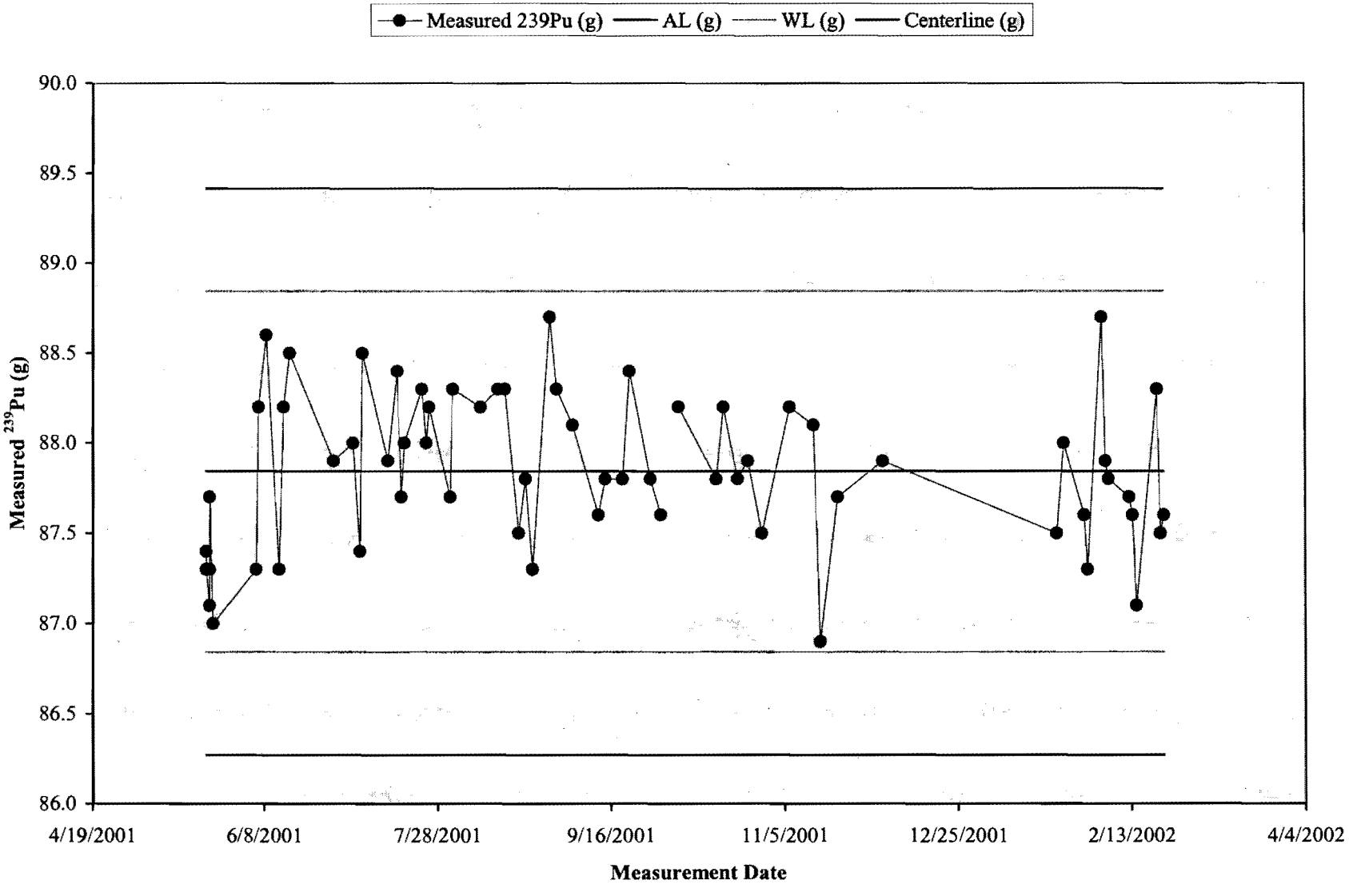
Batch 2002-02-21

Measurement Control Chart - STDASH-2 Standard



Batch 2002-02-22

Measurement Control Chart - SGS100 Standard



****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
1-23-02 7:45:16 AM

QA File: C:\WAS\CTRS\CTR1\ARR1\S11_BCK.QA
Sample ID: B820
Sample Quantity: 1.0000E+00
Sample Date: 1-23-02 7:39:37 AM
Measurement Date: 1-23-02 7:39:35 AM
Elapsed Live Time: 200.0 seconds
Elapsed Real Time: 201.9 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
Ref. Peak	3.5014E+01	0.00
[0.00+/-0.00]		< : : : >
Upper CPS Reg	2.1920E+01	0.00
[0.00+/-0.00]		< : : : >
Peak counts/second	1.0089E+03	0.00
[0.00+/-0.00]		< : : : >
Pulser FWHM	9.7024E-01	0.00
[0.00+/-0.00]		< : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
1-23-02 7:45:09 AM

QA File: C:\WAS\CTRS\CTR1\ARR1\T11_BCK.QA
Sample ID: B820
Sample Quantity: 1.0000E+00
Sample Date: 1-23-02 7:39:37 AM
Measurement Date: 1-23-02 7:43:04 AM
Elapsed Live Time: 100.0 seconds
Elapsed Real Time: 104.4 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >

Batch 2002-02-23

400.6 keV Centroid	8.0352E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>
400.6 keV FWHM	1.5148E+00			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak centroid 136 KeV	2.7284E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak area 400 keV	1.9614E+04			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak counts/second	1.9614E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

OK

RK 1-23-02

RK 1-23-02

JS 4-19-02

Batch 2002-03-34

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS 2.3A

****
* DRUM INFORMATION *
****

Drum Package ID: S20_821
Sequence Number: 821
Assay Date & Time: 1-23-2002 7:53:27 AM
Drum Package GROSS Weight: 45.00 kg NET Weight: 13.20 kg

IDC Number: STD ASH-2

QC Replicate (Yes/No): NO Passed (Yes/No): _____

Operator Name (Printed): Russell Rath

Operator Signature: RRath Date: 1-23-02

Independent Reviewer: J. Hall Jr Date: 4-19-02

Expert Reviewer: (NOT REQUIRED) Date: _____

Tech. Supv/QA Officer: Bryan Shumaker Date: 7/17/02

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 1.984E+00 +/- 4.578E-01 Ci

Batch 2002-02-25

ISOTOPIC INFORMATION

Isotope	Measured Mass (g)	Mass Uncertainty (g)	MDC (g)
Pu-238	2.529E-03	8.54E-04	1.192E-05
Pu-239	2.259E+01	7.10E+00	1.065E-01
Pu-240	1.389E+00	4.38E-01	6.547E-03
Pu-241	2.022E-02	6.38E-03	1.564E-03
Pu-242	5.737E-03	2.13E-03	2.704E-05
Am-241	6.268E-02	1.97E-02	4.317E-03
Am-243	0.000E+00	0.00E+00	0.000E+00
Np-237	0.000E+00	0.00E+00	5.170E-04
U-235	0.000E+00	0.00E+00	1.139E-01
U-238	1.123E+01	3.54E+00	1.123E+01
U-233	7.153E-01	2.36E-01	7.153E-01

Total Pu Mass: 2.40E+01 +/- 2.75E+00 g

MGA RESULTS

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	1.054E-02	6.28E+00
Pu-239	9.410E+01	6.30E-02
Pu-240	5.786E+00	1.02E+00
Pu-241	8.422E-02	1.28E+00
Pu-242	2.390E-02	1.00E+01
Am-241	2.611E-01	7.21E-01

Batch 2002-03-26

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005

Assay Date & Time: 1-23-2002 7:53:27 AM

Drum Package ID: S20_821
Sequence Number: 821

Waste Classification (TRU or LLW): TRU

		Errors at 1.96 sigma	
Total Alpha Activity :	1.984E+00	+/- 4.58E-01	Ci
Total TRU Activity :	1.503E+05	+/- 3.47E+04	nCi/g
Pu-239 Equiv Activity:	2.021E+00	+/- 4.58E-01	Ci
Fissile Gram Equiv Mass:	2.267E+01	+/- 7.10E+00	g
Total Decay Heat:	6.278E-02	+/- 1.44E-02	W
TMU Value:	31.44 %		

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error	MDA gm
Pu-238	4.38E-02	1.48E-02	2.53E-03	8.54E-04	1.19E-05
Pu-239	1.40E+00	4.41E-01	2.26E+01	7.10E+00	1.06E-01
Pu-240	3.19E-01	1.01E-01	1.39E+00	4.38E-01	6.55E-03
Pu-241	2.10E+00	6.63E-01	2.02E-02	6.38E-03	1.56E-03
Pu-242	2.28E-05	8.44E-06	5.74E-03	2.13E-03	2.70E-05
Am-241	2.18E-01	6.85E-02	6.27E-02	1.97E-02	4.32E-03
Am-243	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Np-237	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.17E-04
U-235	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.14E-01
U-238	3.82E-06	1.20E-06	1.12E+01	3.54E+00	1.12E+01
U-233	6.98E-03	2.30E-03	7.15E-01	2.36E-01	7.15E-01

Total Pu Mass: 2.40E+01 +/- 2.75E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	1.054E-02	6.28E+00
Pu-239	9.410E+01	6.30E-02
Pu-240	5.786E+00	1.02E+00
Pu-241	8.422E-02	1.28E+00
Pu-242	2.390E-02	1.00E+01
Am-241	2.611E-01	7.21E-01

Batch 2 803-02-27

****
***** M G A R E P O R T *****
****

Report generated on: 1-23-02 8:50:07 AM

MGA version: MGA V9.5 CI

Spectrum ID: 11200821.CNF Sens : 30.0% LT: 55.0 Mins DT: 1.70
Measurement date: 1-23-02 Declared date: 1-23-02

Sample ID: S20_821 Detector: Total counts: 3.598E+06

Pu g/cm2 = 0.4003 Cd g/cm2 = 1.6823 FWHM at 122 keV = 675 eV
QFIT = 1.00 FWHM at 208 keV = 850 eV
NQFIT = 1.00

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	Meas. date %Err	Decl. date % weight	Decl. date %Err
Pu-238	0.000112	6.3	6.3	0.1251	6.2	0.01054	6.28	0.01054	6.28
Pu-239	1.000000	0.0	0.5	1117.241	1.3	94.09528	0.06	94.09528	0.06
Pu-240	0.061492	1.1	1.0	68.7009	1.6	5.78607	1.02	5.78607	1.02
Pu-241	0.000895	1.3	1.2	1.0000	0.0	0.08422	1.28	0.08422	1.28
Pu-242	(New alg.)			0.2838	(10)	0.02390	(10)	0.02390	(10)
Am-241	0.002775	0.7	0.6	3.1004	1.4	0.26112	0.72	0.26112	0.72

Pu-240 effective (meas. date) = 5.853 +/- 1.11%
Am-241 separated about 29.190 +/- 0.259 years ago
Am/Pu-241 weight ratio = 3.10041 +/- 1.35%

Messages :

Lead x-rays detected.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Batch 2002-02-38

Gamma Waste Assay

Sample Information

File Name: C:\WAS\DATA\900\11100821.S11
Sample ID: S20_821 Count Sequence Number: 821
Assay Start: 1-23-02 7:53:29 AM
Description 1: 20g source drum
Description 2:
Location: 7715
Comment:
Waste Type:
Weight: Gross: 45000.0 g Net: 13200.0 g
Density: 0.063 g /ml

Container Type: 55 Gal Galv
Container: Volume: 208000. ml Full: 100.0 %

System Configuration

Counter ID Number: SGS
Arrangement Description: SGS
Segments: Number: 16 Offset: 0
Scanning Platform: Start: 934 mm Delta: -51 mm
Count Type: Daily 20 g Drum Check
Collimator/Geometry Setting: 0
Transmission Mode: Two pass
Transmission Source: 0

Errors quoted at 1.000 sigma
Reference Source Date: Reference Source Rate: 1.01E+03 cps
Geometric Correction Factor(SWCONTGCF): 0.760
Date of efficiency calibration approval: 4-18-2001 12:41:36 PM
Mu Factors response file: Lucite
Transmission Calib. Time: 5-11-2001 2:20:42 PM 59052

Reviewed by: Lee P Ables Date: 7/16/02

Segment Results

Segment: 1 Detector: DET01 (# 1) Position: 1

Elapsed Live Time: 113.82 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.499 +/- 0.0244
SE-75	264.65	0.000 +/- 0.0000	0.560 +/- 0.0051
SE-75	279.53	0.000 +/- 0.0000	0.563 +/- 0.0067
SE-75	400.65	0.000 +/- 0.0000	0.609 +/- 0.0084

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.55E+00	2.61E-06 +/- 1.64E-05
2	400.66	3.60E-02 +/- 2.10E-02	1.20E+00	1.69E-04 +/- 1.25E-05
3	662.42	1.73E-02 +/- 1.54E-02	1.15E+00	1.12E-04 +/- 8.14E-06
4	778.90	8.67E-03 +/- 8.67E-03	1.14E+00	9.79E-05 +/- 5.69E-06
5	1112.12	2.17E-02 +/- 1.64E-02	1.11E+00	7.35E-05 +/- 3.70E-06

Segment: 2 Detector: DET01 (# 1) Position: 2

Elapsed Live Time: 113.81 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.590 +/- 0.0260
SE-75	264.65	0.000 +/- 0.0000	0.631 +/- 0.0056
SE-75	279.53	0.000 +/- 0.0000	0.638 +/- 0.0073
SE-75	400.65	0.000 +/- 0.0000	0.664 +/- 0.0088

Batch 2002-02-39

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.05	7.42E-01 +/- 1.41E-01	1.70E+00	4.99E-10 +/- 4.80E-09
2	35.10	1.01E+03 +/- 4.76E+00	1.40E+00	2.21E-07 +/- 1.06E-06
3	59.61	1.62E+00 +/- 2.37E-01	1.28E+00	2.20E-05 +/- 3.31E-05
4	135.30	4.42E-01 +/- 2.05E-01	1.21E+00	3.24E-04 +/- 2.28E-05
5	185.71	2.61E-01 +/- 1.52E-01	1.20E+00	3.89E-04 +/- 4.14E-05
6	443.98	2.71E-02 +/- 2.15E-02	1.16E+00	2.36E-04 +/- 1.45E-05
7	778.90	8.67E-03 +/- 8.67E-03	1.12E+00	1.44E-04 +/- 6.92E-06
8	1112.12	8.67E-03 +/- 8.67E-03	1.09E+00	1.11E-04 +/- 4.80E-06
9	1408.01	1.52E-02 +/- 1.65E-02	1.08E+00	9.61E-05 +/- 6.36E-06

Segment: 3 Detector: DET01 (# 1) Position: 3

Elapsed Live Time: 113.78 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.637 +/- 0.0283
SE-75	264.65	0.000 +/- 0.0000	0.671 +/- 0.0058
SE-75	279.53	0.000 +/- 0.0000	0.694 +/- 0.0077
SE-75	400.65	0.000 +/- 0.0000	0.710 +/- 0.0092

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.35	1.21E+00 +/- 1.58E-01	1.58E+00	1.16E-08 +/- 1.13E-07
2	35.10	1.01E+03 +/- 4.77E+00	1.34E+00	1.07E-06 +/- 5.27E-06
3	59.62	5.05E+00 +/- 3.25E-01	1.23E+00	3.80E-05 +/- 5.87E-05
4	244.70	2.84E-01 +/- 1.09E-01	1.16E+00	3.52E-04 +/- 2.60E-05
5	264.66	2.22E-01 +/- 1.03E-01	1.16E+00	3.41E-04 +/- 2.08E-05
6	778.90	8.71E-03 +/- 8.71E-03	1.10E+00	1.57E-04 +/- 7.69E-06
7	1001.03	1.74E-02 +/- 1.23E-02	1.08E+00	1.31E-04 +/- 5.70E-06
8	1085.91	1.74E-02 +/- 1.23E-02	1.08E+00	1.23E-04 +/- 5.23E-06
9	1112.12	1.74E-02 +/- 1.23E-02	1.08E+00	1.21E-04 +/- 5.09E-06

Batch 2002-02-31

Segment: 4 Detector: DET01 (# 1) Position: 4

Elapsed Live Time: 113.71 sec Elapsed Real Time: 115.00 sec

T R A N S M I S S I O N R E S U L T S

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.674 +/- 0.0274
SE-75	264.65	0.000 +/- 0.0000	0.672 +/- 0.0058
SE-75	279.53	0.000 +/- 0.0000	0.660 +/- 0.0075
SE-75	400.65	0.000 +/- 0.0000	0.711 +/- 0.0092

P E A K A N A L Y S I S R E S U L T S

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.16	2.01E+00 +/- 1.93E-01	1.50E+00	3.31E-06 +/- 4.66E-06
2	35.10	1.01E+03 +/- 4.76E+00	1.29E+00	2.00E-05 +/- 1.66E-05
3	59.57	9.56E+00 +/- 4.04E-01	1.20E+00	9.82E-05 +/- 3.39E-05
4	98.99	8.84E-01 +/- 3.76E-01	1.17E+00	2.40E-04 +/- 2.41E-05
5	129.29	4.86E-01 +/- 2.11E-01	1.16E+00	3.12E-04 +/- 1.61E-05
6	413.70	7.55E-02 +/- 3.76E-02	1.13E+00	2.87E-04 +/- 1.11E-05
7	662.42	9.55E-02 +/- 2.88E-02	1.10E+00	1.95E-04 +/- 9.03E-06

Segment: 5 Detector: DET01 (# 1) Position: 5

Elapsed Live Time: 113.06 sec Elapsed Real Time: 115.00 sec

T R A N S M I S S I O N R E S U L T S

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.637 +/- 0.0301
SE-75	264.65	0.000 +/- 0.0000	0.674 +/- 0.0059
SE-75	279.53	0.000 +/- 0.0000	0.686 +/- 0.0077
SE-75	400.65	0.000 +/- 0.0000	0.698 +/- 0.0092

Batch 2002-03-32

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.15	6.73E+00 +/- 3.83E-01	1.59E+00	1.74E-06 +/- 2.54E-06
2	35.10	1.01E+03 +/- 4.78E+00	1.34E+00	1.48E-05 +/- 1.27E-05
3	59.59	6.25E+01 +/- 9.16E-01	1.23E+00	9.32E-05 +/- 3.30E-05
4	98.76	1.79E+01 +/- 8.33E-01	1.20E+00	2.49E-04 +/- 2.52E-05
5	103.59	8.07E+00 +/- 7.35E-01	1.19E+00	2.64E-04 +/- 2.32E-05
6	111.32	4.54E+00 +/- 5.49E-01	1.19E+00	2.86E-04 +/- 2.04E-05
7	129.29	1.81E+01 +/- 5.61E-01	1.18E+00	3.26E-04 +/- 1.67E-05
8	144.51	1.14E+00 +/- 3.61E-01	1.18E+00	3.49E-04 +/- 1.68E-05
9	203.88	1.69E+00 +/- 3.71E-01	1.17E+00	3.76E-04 +/- 2.04E-05
10	208.42	2.67E+00 +/- 4.19E-01	1.17E+00	3.75E-04 +/- 2.04E-05
11	279.54	3.11E-01 +/- 1.71E-01	1.15E+00	3.45E-04 +/- 1.68E-05
12	311.90	5.24E-01 +/- 2.15E-01	1.15E+00	3.26E-04 +/- 1.48E-05
13	333.51	2.31E+00 +/- 2.92E-01	1.15E+00	3.13E-04 +/- 1.36E-05
14	345.66	3.21E+00 +/- 2.72E-01	1.15E+00	3.06E-04 +/- 1.30E-05
15	369.00	1.22E+00 +/- 1.84E-01	1.14E+00	2.93E-04 +/- 1.20E-05
16	375.70	8.25E+00 +/- 3.35E-01	1.14E+00	2.89E-04 +/- 1.18E-05
17	393.65	3.34E+00 +/- 2.07E-01	1.14E+00	2.79E-04 +/- 1.13E-05
18	413.70	8.42E+00 +/- 2.85E-01	1.14E+00	2.69E-04 +/- 1.09E-05
19	423.39	3.23E-01 +/- 1.18E-01	1.14E+00	2.64E-04 +/- 1.07E-05
20	452.24	9.20E-01 +/- 1.10E-01	1.14E+00	2.50E-04 +/- 1.03E-05
21	662.42	2.41E-01 +/- 6.90E-02	1.11E+00	1.79E-04 +/- 8.77E-06

Segment: 6 Detector: DET01 (# 1) Position: 6

Elapsed Live Time: 110.89 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.128 +/- 0.0227
SE-75	264.65	0.000 +/- 0.0000	0.313 +/- 0.0036
SE-75	279.53	0.000 +/- 0.0000	0.316 +/- 0.0050
SE-75	400.65	0.000 +/- 0.0000	0.390 +/- 0.0066

Batch 2002-02-33

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	9.94E+00 +/- 5.13E-01	4.10E+00	3.85E-07 +/- 5.97E-07
2	23.17	1.42E+01 +/- 5.96E-01	4.10E+00	6.71E-07 +/- 9.52E-07
3	35.10	1.01E+03 +/- 4.86E+00	2.98E+00	8.04E-06 +/- 6.71E-06
4	49.90	6.46E+00 +/- 7.85E-01	2.45E+00	3.76E-05 +/- 1.82E-05
5	59.59	2.87E+02 +/- 2.08E+00	2.31E+00	6.90E-05 +/- 2.40E-05
6	75.07	1.47E+00 +/- 6.44E-01	2.17E+00	1.29E-04 +/- 2.73E-05
7	98.80	1.01E+02 +/- 1.60E+00	2.07E+00	2.22E-04 +/- 2.25E-05
8	103.54	3.95E+01 +/- 1.52E+00	2.05E+00	2.38E-04 +/- 2.11E-05
9	111.31	2.75E+01 +/- 1.08E+00	2.03E+00	2.63E-04 +/- 1.90E-05
10	115.45	2.18E+01 +/- 1.20E+00	2.02E+00	2.75E-04 +/- 1.80E-05
11	129.29	9.74E+01 +/- 1.22E+00	1.99E+00	3.10E-04 +/- 1.61E-05
12	144.44	4.52E+00 +/- 6.33E-01	1.93E+00	3.39E-04 +/- 1.63E-05
13	148.57	4.90E+00 +/- 6.47E-01	1.90E+00	3.45E-04 +/- 1.67E-05
14	161.51	5.00E+00 +/- 5.93E-01	1.84E+00	3.61E-04 +/- 1.79E-05
15	171.62	3.65E+00 +/- 5.48E-01	1.80E+00	3.69E-04 +/- 1.88E-05
16	179.66	1.62E+00 +/- 5.49E-01	1.76E+00	3.74E-04 +/- 1.94E-05
17	189.60	2.71E+00 +/- 4.77E-01	1.72E+00	3.78E-04 +/- 1.99E-05
18	196.01	3.97E+00 +/- 5.16E-01	1.70E+00	3.80E-04 +/- 2.01E-05
19	203.93	1.07E+01 +/- 7.49E-01	1.67E+00	3.81E-04 +/- 2.02E-05
20	208.42	1.23E+01 +/- 9.06E-01	1.66E+00	3.81E-04 +/- 2.03E-05
21	244.70	1.15E+00 +/- 4.01E-01	1.55E+00	3.73E-04 +/- 1.92E-05
22	255.89	2.90E+00 +/- 3.88E-01	1.53E+00	3.69E-04 +/- 1.86E-05
23	297.88	2.30E+00 +/- 4.24E-01	1.48E+00	3.47E-04 +/- 1.59E-05
24	311.90	2.07E+00 +/- 2.92E-01	1.47E+00	3.39E-04 +/- 1.51E-05
25	324.35	8.80E-01 +/- 3.34E-01	1.46E+00	3.31E-04 +/- 1.44E-05
26	333.40	1.30E+01 +/- 5.95E-01	1.45E+00	3.26E-04 +/- 1.39E-05
27	336.59	1.08E+00 +/- 5.04E-01	1.45E+00	3.24E-04 +/- 1.37E-05
28	345.64	1.61E+01 +/- 5.23E-01	1.44E+00	3.19E-04 +/- 1.33E-05
29	368.60	6.52E+00 +/- 3.90E-01	1.42E+00	3.06E-04 +/- 1.23E-05
30	375.70	4.53E+01 +/- 7.61E-01	1.42E+00	3.02E-04 +/- 1.21E-05
31	383.49	4.96E+00 +/- 3.86E-01	1.41E+00	2.97E-04 +/- 1.18E-05
32	393.65	1.65E+01 +/- 4.37E-01	1.41E+00	2.92E-04 +/- 1.16E-05
33	413.70	4.38E+01 +/- 6.75E-01	1.39E+00	2.81E-04 +/- 1.11E-05
34	423.34	2.47E+00 +/- 2.36E-01	1.39E+00	2.76E-04 +/- 1.09E-05
35	452.22	5.07E+00 +/- 2.45E-01	1.38E+00	2.61E-04 +/- 1.05E-05
36	619.99	3.10E-01 +/- 8.01E-02	1.32E+00	1.98E-04 +/- 9.16E-06
37	633.91	1.01E-01 +/- 5.03E-02	1.31E+00	1.94E-04 +/- 9.04E-06
38	647.44	1.48E-01 +/- 6.97E-02	1.31E+00	1.90E-04 +/- 8.92E-06
39	662.42	1.19E+00 +/- 1.29E-01	1.31E+00	1.86E-04 +/- 8.77E-06
40	723.47	5.10E-01 +/- 9.10E-02	1.29E+00	1.72E-04 +/- 8.13E-06
41	1001.03	2.87E-02 +/- 1.98E-02	1.24E+00	1.30E-04 +/- 4.95E-06
42	1112.12	2.40E-02 +/- 1.70E-02	1.22E+00	1.20E-04 +/- 4.28E-06

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)

Segment: 7 Detector: DET01 (# 1) Position: 7

Elapsed Live Time: 110.07 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Some transmission peaks rejected.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	0.274 +/- 0.0033
SE-75	279.53	0.000 +/- 0.0000	0.296 +/- 0.0049
SE-75	400.65	0.000 +/- 0.0000	0.387 +/- 0.0067

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	1.38E+01 +/- 5.86E-01	3.98E+00	2.18E-09 +/- 2.40E-08
2	23.17	1.95E+01 +/- 6.82E-01	3.56E+00	7.04E-09 +/- 6.91E-08
3	35.10	1.01E+03 +/- 4.86E+00	2.40E+00	9.59E-07 +/- 4.73E-06
4	59.59	4.48E+02 +/- 2.77E+00	1.93E+00	4.01E-05 +/- 6.21E-05
5	75.02	1.70E+00 +/- 6.98E-01	1.84E+00	1.05E-04 +/- 8.11E-05
6	98.75	1.08E+02 +/- 1.91E+00	1.77E+00	2.20E-04 +/- 5.19E-05
7	103.53	5.18E+01 +/- 1.67E+00	1.76E+00	2.42E-04 +/- 4.27E-05
8	111.28	3.22E+01 +/- 1.24E+00	1.74E+00	2.73E-04 +/- 2.88E-05
9	115.41	2.65E+01 +/- 1.31E+00	1.73E+00	2.88E-04 +/- 2.28E-05
10	129.29	1.21E+02 +/- 1.35E+00	1.71E+00	3.30E-04 +/- 1.98E-05
11	144.39	5.21E+00 +/- 6.87E-01	1.69E+00	3.62E-04 +/- 3.20E-05
12	148.57	3.36E+00 +/- 7.03E-01	1.69E+00	3.68E-04 +/- 3.49E-05
13	161.16	3.88E+00 +/- 6.41E-01	1.67E+00	3.83E-04 +/- 4.09E-05
14	171.67	5.21E+00 +/- 6.28E-01	1.66E+00	3.90E-04 +/- 4.31E-05
15	189.64	3.12E+00 +/- 5.52E-01	1.64E+00	3.94E-04 +/- 4.25E-05
16	196.08	5.07E+00 +/- 5.47E-01	1.63E+00	3.94E-04 +/- 4.13E-05
17	203.93	1.12E+01 +/- 8.15E-01	1.63E+00	3.92E-04 +/- 3.95E-05
18	208.38	1.62E+01 +/- 9.77E-01	1.62E+00	3.91E-04 +/- 3.83E-05
19	244.70	1.19E+00 +/- 4.26E-01	1.59E+00	3.73E-04 +/- 2.70E-05
20	255.80	3.82E+00 +/- 4.22E-01	1.58E+00	3.66E-04 +/- 2.38E-05
21	298.06	1.59E+00 +/- 4.65E-01	1.51E+00	3.37E-04 +/- 1.58E-05
22	311.90	3.12E+00 +/- 3.79E-01	1.49E+00	3.27E-04 +/- 1.48E-05

23	321.35	1.65E+00	+/-	3.93E-01	1.48E+00	3.21E-04	+/-	1.45E-05
24	324.36	8.44E-01	+/-	2.97E-01	1.48E+00	3.19E-04	+/-	1.44E-05
25	333.36	1.55E+01	+/-	6.43E-01	1.47E+00	3.13E-04	+/-	1.44E-05
26	336.51	1.42E+00	+/-	5.38E-01	1.47E+00	3.11E-04	+/-	1.44E-05
27	345.63	1.90E+01	+/-	5.57E-01	1.46E+00	3.05E-04	+/-	1.46E-05
28	369.17	7.12E+00	+/-	4.64E-01	1.43E+00	2.91E-04	+/-	1.52E-05
29	375.68	5.30E+01	+/-	8.35E-01	1.43E+00	2.87E-04	+/-	1.54E-05
30	383.46	5.55E+00	+/-	4.06E-01	1.42E+00	2.83E-04	+/-	1.57E-05
31	393.61	1.93E+01	+/-	4.77E-01	1.41E+00	2.77E-04	+/-	1.59E-05
32	400.66	3.34E-01	+/-	2.19E-01	1.40E+00	2.74E-04	+/-	1.60E-05
33	413.70	4.97E+01	+/-	7.23E-01	1.40E+00	2.67E-04	+/-	1.63E-05
34	423.30	3.34E+00	+/-	2.71E-01	1.39E+00	2.62E-04	+/-	1.63E-05
35	452.24	5.50E+00	+/-	2.59E-01	1.38E+00	2.49E-04	+/-	1.63E-05
36	641.25	2.95E-01	+/-	8.23E-02	1.31E+00	1.87E-04	+/-	1.13E-05
37	654.03	3.69E-01	+/-	8.78E-02	1.31E+00	1.84E-04	+/-	1.09E-05
38	662.42	1.10E+00	+/-	1.31E-01	1.31E+00	1.82E-04	+/-	1.06E-05
39	723.36	6.34E-01	+/-	9.33E-02	1.29E+00	1.69E-04	+/-	9.01E-06
40	770.87	3.35E-01	+/-	5.84E-02	1.28E+00	1.61E-04	+/-	8.03E-06
41	1085.91	8.99E-03	+/-	8.99E-03	1.23E+00	1.23E-04	+/-	5.27E-06
42	1112.12	1.80E-02	+/-	1.27E-02	1.23E+00	1.20E-04	+/-	5.13E-06

Batch 2002-02-36

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)

Segment: 8 Detector: DET01 (# 1) Position: 8

Elapsed Live Time: 112.19 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.355 +/- 0.0239
SE-75	264.65	0.000 +/- 0.0000	0.426 +/- 0.0043
SE-75	279.53	0.000 +/- 0.0000	0.435 +/- 0.0059
SE-75	400.65	0.000 +/- 0.0000	0.475 +/- 0.0074

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
	1	23.18	1.36E+01 +/- 5.59E-01	2.56E+00	4.16E-09 +/- 4.04E-08
	2	35.10	1.01E+03 +/- 4.82E+00	1.87E+00	6.89E-07 +/- 3.37E-06
	3	59.60	1.93E+02 +/- 1.64E+00	1.58E+00	3.34E-05 +/- 5.14E-05
	4	98.76	4.38E+01 +/- 1.24E+00	1.48E+00	1.98E-04 +/- 4.66E-05
	5	103.63	1.89E+01 +/- 1.09E+00	1.48E+00	2.19E-04 +/- 3.85E-05
	6	111.33	1.24E+01 +/- 7.82E-01	1.47E+00	2.49E-04 +/- 2.63E-05
	7	115.31	7.12E+00 +/- 8.13E-01	1.46E+00	2.63E-04 +/- 2.12E-05
	8	129.29	4.96E+01 +/- 8.63E-01	1.45E+00	3.05E-04 +/- 1.85E-05
	9	144.37	1.75E+00 +/- 3.79E-01	1.44E+00	3.38E-04 +/- 2.99E-05
	10	148.57	2.63E+00 +/- 4.89E-01	1.43E+00	3.45E-04 +/- 3.27E-05
	11	171.59	1.67E+00 +/- 4.13E-01	1.42E+00	3.69E-04 +/- 4.10E-05
	12	179.50	1.48E+00 +/- 4.01E-01	1.41E+00	3.73E-04 +/- 4.15E-05
	13	196.09	1.81E+00 +/- 4.19E-01	1.40E+00	3.77E-04 +/- 3.98E-05
	14	203.98	5.15E+00 +/- 5.38E-01	1.39E+00	3.76E-04 +/- 3.82E-05
	15	208.48	4.58E+00 +/- 6.34E-01	1.39E+00	3.75E-04 +/- 3.71E-05
	16	255.85	1.00E+00 +/- 2.96E-01	1.36E+00	3.56E-04 +/- 2.36E-05
	17	279.54	4.34E-01 +/- 2.04E-01	1.35E+00	3.42E-04 +/- 1.83E-05
M	18	297.94	6.00E-01 +/- 1.93E-01	1.34E+00	3.31E-04 +/- 1.55E-05
m	19	300.75	3.57E-01 +/- 1.41E-01	1.34E+00	3.30E-04 +/- 1.52E-05
	20	311.90	9.39E-01 +/- 2.75E-01	1.34E+00	3.23E-04 +/- 1.44E-05
	21	333.40	7.45E+00 +/- 4.28E-01	1.33E+00	3.10E-04 +/- 1.38E-05
	22	345.62	7.87E+00 +/- 3.58E-01	1.33E+00	3.03E-04 +/- 1.38E-05
	23	368.64	2.71E+00 +/- 2.77E-01	1.32E+00	2.90E-04 +/- 1.44E-05
	24	375.69	2.06E+01 +/- 5.10E-01	1.32E+00	2.86E-04 +/- 1.46E-05
	25	383.53	1.43E+00 +/- 3.35E-01	1.31E+00	2.82E-04 +/- 1.48E-05

Batch 3092-83-37

26	393.61	7.54E+00	+/- 3.03E-01	1.31E+00	2.76E-04	+/- 1.50E-05
27	413.70	1.98E+01	+/- 4.44E-01	1.30E+00	2.66E-04	+/- 1.54E-05
28	423.42	1.49E+00	+/- 1.74E-01	1.30E+00	2.62E-04	+/- 1.55E-05
29	452.23	1.96E+00	+/- 1.63E-01	1.29E+00	2.49E-04	+/- 1.56E-05
M 30	659.95	6.96E-02	+/- 3.55E-02	1.24E+00	1.83E-04	+/- 1.04E-05
m 31	663.87	3.87E-01	+/- 8.82E-02	1.24E+00	1.82E-04	+/- 1.03E-05

Segment: 9 Detector: DET01 (# 1) Position: 9

Elapsed Live Time: 113.59 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.600 +/- 0.0270
SE-75	264.65	0.000 +/- 0.0000	0.639 +/- 0.0056
SE-75	279.53	0.000 +/- 0.0000	0.644 +/- 0.0074
SE-75	400.65	0.000 +/- 0.0000	0.665 +/- 0.0089

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.14	2.78E+00 +/- 2.45E-01	1.68E+00	2.26E-06 +/- 2.29E-05
2	35.10	1.01E+03 +/- 4.76E+00	1.39E+00	1.75E-05 +/- 8.88E-05
3	59.60	2.02E+01 +/- 5.59E-01	1.27E+00	1.00E-04 +/- 1.59E-04
4	98.82	2.93E+00 +/- 4.44E-01	1.22E+00	2.51E-04 +/- 6.06E-05
5	129.29	1.25E+00 +/- 2.54E-01	1.21E+00	3.23E-04 +/- 1.97E-05
6	375.65	3.65E-01 +/- 1.22E-01	1.17E+00	2.85E-04 +/- 1.49E-05
7	413.70	2.38E-01 +/- 6.46E-02	1.16E+00	2.67E-04 +/- 1.59E-05
8	662.42	3.91E-02 +/- 3.28E-02	1.13E+00	1.82E-04 +/- 1.04E-05
9	778.90	2.61E-02 +/- 1.51E-02	1.12E+00	1.59E-04 +/- 7.62E-06
10	1001.03	3.48E-02 +/- 1.74E-02	1.10E+00	1.30E-04 +/- 5.63E-06
11	1085.91	8.69E-03 +/- 2.78E-02	1.09E+00	1.23E-04 +/- 5.22E-06

Segment: 10 Detector: DET01 (# 1) Position: 10

Elapsed Live Time: 113.76 sec Elapsed Real Time: 115.00 sec

Batch 2002-02-38

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.559 +/- 0.0256
SE-75	264.65	0.000 +/- 0.0000	0.614 +/- 0.0055
SE-75	279.53	0.000 +/- 0.0000	0.619 +/- 0.0071
SE-75	400.65	0.000 +/- 0.0000	0.679 +/- 0.0089

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.27	1.01E+00 +/- 1.73E-01	1.78E+00	3.48E-07 +/- 4.92E-07
2	35.10	1.01E+03 +/- 4.76E+00	1.45E+00	5.68E-06 +/- 4.74E-06
3	59.62	6.93E+00 +/- 3.68E-01	1.31E+00	6.38E-05 +/- 2.21E-05
4	121.11	3.92E-01 +/- 2.41E-01	1.24E+00	3.08E-04 +/- 1.78E-05
5	129.29	6.11E-01 +/- 2.10E-01	1.24E+00	3.30E-04 +/- 1.70E-05
6	778.90	1.74E-02 +/- 1.23E-02	1.11E+00	1.56E-04 +/- 7.55E-06
7	1085.91	8.68E-03 +/- 8.68E-03	1.09E+00	1.21E-04 +/- 4.45E-06
8	1408.01	8.68E-03 +/- 1.95E-02	1.08E+00	1.08E-04 +/- 6.60E-06

Segment: 11 Detector: DET01 (# 1) Position: 11

Elapsed Live Time: 113.80 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.527 +/- 0.0252
SE-75	264.65	0.000 +/- 0.0000	0.585 +/- 0.0053
SE-75	279.53	0.000 +/- 0.0000	0.595 +/- 0.0070
SE-75	400.65	0.000 +/- 0.0000	0.637 +/- 0.0086

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.42	8.42E-01 +/- 1.52E-01	1.86E+00	5.03E-07 +/- 7.00E-07
2	35.10	1.01E+03 +/- 4.76E+00	1.50E+00	6.75E-06 +/- 5.60E-06
3	59.48	2.78E+00 +/- 2.70E-01	1.34E+00	6.65E-05 +/- 2.30E-05
4	121.11	5.23E-01 +/- 2.09E-01	1.27E+00	3.01E-04 +/- 1.73E-05

Batch 1503-02-39

5	129.29	4.99E-01 +/- 1.80E-01	1.27E+00	3.21E-04 +/-	1.65E-05
6	244.70	2.08E-01 +/- 1.05E-01	1.22E+00	3.77E-04 +/-	1.91E-05
7	1085.91	1.88E-02 +/- 1.77E-02	1.11E+00	1.22E-04 +/-	4.46E-06

Segment: 12 Detector: DET01 (# 1) Position: 12

Elapsed Live Time: 113.82 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.565 +/- 0.0261
SE-75	264.65	0.000 +/- 0.0000	0.636 +/- 0.0056
SE-75	279.53	0.000 +/- 0.0000	0.638 +/- 0.0073
SE-75	400.65	0.000 +/- 0.0000	0.695 +/- 0.0091

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.44E+00	7.63E-06 +/- 6.33E-06
2	59.64	1.53E+00 +/- 2.14E-01	1.30E+00	6.66E-05 +/- 2.30E-05
3	279.54	1.33E-01 +/- 8.55E-02	1.18E+00	3.54E-04 +/- 1.68E-05

Segment: 13 Detector: DET01 (# 1) Position: 13

Elapsed Live Time: 113.87 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.638 +/- 0.0271
SE-75	264.65	0.000 +/- 0.0000	0.689 +/- 0.0059
SE-75	279.53	0.000 +/- 0.0000	0.696 +/- 0.0077
SE-75	400.65	0.000 +/- 0.0000	0.733 +/- 0.0094

Batch 2802-03-45

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.77E+00	1.34E+00	1.10E-05 +/- 9.51E-06
2	49.22	2.22E+00 +/- 2.44E-01	1.26E+00	4.40E-05 +/- 2.24E-05
3	136.00	2.86E-01 +/- 1.61E-01	1.18E+00	3.33E-04 +/- 1.65E-05
4	311.90	1.15E-01 +/- 6.11E-02	1.14E+00	3.33E-04 +/- 1.50E-05
5	413.70	6.82E-02 +/- 2.87E-02	1.12E+00	2.74E-04 +/- 1.10E-05
6	662.42	8.73E-03 +/- 8.73E-03	1.10E+00	1.80E-04 +/- 8.87E-06
7	867.39	1.75E-02 +/- 1.24E-02	1.08E+00	1.40E-04 +/- 6.42E-06

Segment: 14 Detector: DET01 (# 1) Position: 14

Elapsed Live Time: 113.87 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.672 +/- 0.0278
SE-75	264.65	0.000 +/- 0.0000	0.712 +/- 0.0061
SE-75	279.53	0.000 +/- 0.0000	0.714 +/- 0.0079
SE-75	400.65	0.000 +/- 0.0000	0.757 +/- 0.0096

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.29E+00	8.94E-06 +/- 4.41E-05
2	59.39	3.86E-01 +/- 1.58E-01	1.20E+00	7.97E-05 +/- 1.25E-04
3	129.29	3.55E-01 +/- 1.40E-01	1.16E+00	3.17E-04 +/- 1.90E-05
4	400.66	5.51E-02 +/- 3.31E-02	1.11E+00	2.73E-04 +/- 1.53E-05
5	1112.12	1.73E-02 +/- 1.23E-02	1.06E+00	1.16E-04 +/- 4.88E-06

Segment: 15 Detector: DET01 (# 1) Position: 15

Elapsed Live Time: 113.88 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.776 +/- 0.0295
SE-75	264.65	0.000 +/- 0.0000	0.777 +/- 0.0065
SE-75	279.53	0.000 +/- 0.0000	0.785 +/- 0.0083
SE-75	400.65	0.000 +/- 0.0000	0.829 +/- 0.0102

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.18E+00	1.45E-08 +/- 6.96E-08
2	148.57	2.37E-01 +/- 1.26E-01	1.10E+00	3.93E-04 +/- 3.63E-05
3	400.66	6.90E-02 +/- 3.70E-02	1.07E+00	2.59E-04 +/- 1.48E-05
4	867.39	3.47E-02 +/- 1.73E-02	1.05E+00	1.45E-04 +/- 6.37E-06
5	964.13	8.67E-03 +/- 8.67E-03	1.05E+00	1.35E-04 +/- 5.77E-06
6	1085.91	2.60E-02 +/- 1.50E-02	1.04E+00	1.24E-04 +/- 5.17E-06
7	1408.01	8.67E-03 +/- 8.67E-03	1.04E+00	9.82E-05 +/- 6.51E-06

Segment: 16 Detector: DET01 (# 1) Position: 16

Elapsed Live Time: 113.88 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.881 +/- 0.0311
SE-75	264.65	0.000 +/- 0.0000	0.877 +/- 0.0071
SE-75	279.53	0.000 +/- 0.0000	0.885 +/- 0.0090
SE-75	400.65	0.000 +/- 0.0000	0.901 +/- 0.0107

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.09E+00	9.52E-10 +/- 5.35E-09
2	185.71	2.31E-01 +/- 9.89E-02	1.05E+00	3.10E-04 +/- 3.88E-05
3	400.66	1.03E-01 +/- 3.71E-02	1.04E+00	1.86E-04 +/- 1.20E-05
4	413.70	5.29E-02 +/- 3.39E-02	1.04E+00	1.81E-04 +/- 1.21E-05
5	662.42	1.73E-02 +/- 1.23E-02	1.03E+00	1.26E-04 +/- 8.22E-06

Batch 2002-02-43

Summed Spectrum

Peak Locate Report

Sample ID: S20_821
Peak Locate Performed on: 1-23-02 8:50:08 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192
Peak Search Sensitivity: 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
1	43.00	0.4324	21.42	5.35
2	46.50	0.1599	23.17	19.74
3	70.17	0.0395	35.00	528.44
4	119.39	0.0751	59.59	107.48
5	150.40	0.2856	75.08	7.34
6	197.81	0.1096	98.77	46.23
7	207.38	0.1203	103.55	24.73
8	222.92	0.1412	111.31	25.05
9	231.07	0.1836	115.38	7.66
10	259.43	0.0921	129.56	67.41
11	289.16	0.2350	144.41	12.32
12	293.40	0.3022	146.53	6.59
13	297.90	0.2223	148.78	11.79
14	343.84	0.2731	171.73	8.97
15	379.82	0.3150	189.70	5.45
16	392.53	0.2569	196.05	8.00
17	408.30	0.1297	203.94	31.16
18	417.26	0.1105	208.41	43.18
19	512.22	0.2364	255.86	8.75
20	596.67	0.2918	298.05	6.38
21	625.33	0.2238	312.36	9.65
22	667.39	0.1256	333.38	30.36
23	673.69	0.1890	336.53	14.06
24	691.91	0.1167	345.63	35.26
25	738.06	0.1880	368.69	10.77
26	752.08	0.0877	375.69	60.62
27	767.65	0.1594	383.47	20.34
28	787.97	0.1212	393.63	30.25
29	829.76	0.0905	414.51	55.28
30	847.40	0.1709	423.32	15.83
31	905.29	0.1501	452.24	19.14
32	1328.35	0.2100	663.61	8.78
33	1447.91	0.2724	723.34	5.54

Errors quoted at 1.000 sigma

Batch 2002-02-44

Summed Spectrum

Peak Analysis Report

Sample ID: S20_821
Peak Analysis Performed on: 1-23-02 8:50:08 AM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	40-	46	43.00	21.42	4.28E+03	110.78	4.07E+03
2	46-	49	46.50	23.17	6.06E+03	128.17	5.99E+03
3	66-	73	70.17	35.00	1.85E+06	1363.00	5.18E+03
4	115-	122	119.39	59.59	1.16E+05	387.95	1.68E+04
5	146-	154	150.40	75.08	1.29E+03	165.93	1.21E+04
6	194-	201	197.81	98.77	3.39E+04	317.80	3.34E+04
7	203-	211	207.38	103.55	1.34E+04	305.69	3.31E+04
8	219-	226	222.92	111.31	8.69E+03	223.86	1.95E+04
9	227-	234	231.07	115.38	5.20E+03	229.75	2.30E+04
10	255-	263	259.43	129.56	3.22E+04	239.21	1.16E+04
11	285-	293	289.16	144.41	1.46E+03	141.61	8.63E+03
12	291-	300	293.40	146.53	1.30E+03	156.19	1.01E+04
13	298-	305	297.90	148.78	2.74E+02	123.75	7.28E+03
14	339-	348	343.84	171.73	1.22E+03	133.74	7.36E+03
15	375-	384	379.82	189.70	9.27E+02	124.15	6.41E+03
16	388-	396	392.53	196.05	1.34E+03	113.10	5.37E+03
17	403-	412	408.30	203.94	3.24E+03	152.85	8.62E+03
18	412-	421	417.26	208.41	4.06E+03	177.79	1.10E+04
19	507-	516	512.22	255.86	9.55E+02	86.62	2.90E+03
20	591-	601	596.67	298.05	5.30E+02	79.66	2.44E+03
21	620-	630	625.33	312.36	7.29E+02	80.07	2.39E+03
22	662-	672	667.39	333.38	4.27E+03	118.22	3.91E+03
23	672-	678	673.69	336.53	1.84E+02	95.98	2.83E+03
24	687-	696	691.91	345.63	5.19E+03	101.23	2.21E+03
25	732-	743	738.06	368.69	2.06E+03	77.57	1.58E+03
26	746-	757	752.08	375.69	1.42E+04	142.34	2.40E+03
27	767-	772	767.65	383.47	1.50E+03	72.19	9.83E+02
28	782-	793	787.97	393.63	5.24E+03	84.55	7.64E+02
29	824-	835	829.76	414.51	1.37E+04	121.82	4.42E+02
30	842-	852	847.40	423.32	8.39E+02	48.34	6.02E+02
31	899-	910	905.29	452.24	1.51E+03	47.40	2.90E+02
32	1322-	1334	1328.35	663.61	3.52E+02	26.40	1.30E+02
33	1441-	1454	1447.91	723.34	1.60E+02	20.33	9.14E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-02-45

Summed Spectrum

Nuclide Identification Report

Sample ID: S20_821
Nuclide Library Used: C:\WAS\NLIB\LLNL.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/)	Activity Uncertainty
Pulser	0.999	35.10*	100.00	1.435E+05	3.970E+05
Np-237	0.750	300.10	6.63		
		311.90*	38.60	1.575E+00	1.736E-01
Pu-239	0.955	413.70*	0.00	9.255E+05	1.897E+04
Pu-239A	0.995	129.29*	0.01	4.586E+05	1.262E+04
Am-241	0.904	662.42*	0.00	1.289E+05	9.747E+03
Pu-241	0.997	148.57*	0.00	1.182E+05	5.345E+04

* = Energy line found in the spectrum.
Energy Tolerance : 1.500 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 1.000 sigma

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 1-23-02 8:50:08 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	21.42	3.7371E+01	2.59
2	23.17	5.2934E+01	2.12
4	59.59	1.0132E+03	0.35
5	75.08	1.1287E+01	12.85
6	98.77	2.9630E+02	0.94
7	103.55	1.1703E+02	2.28
8	111.31	7.5927E+01	2.58
9	115.38	4.5454E+01	4.42
11	144.41	1.2775E+01	9.69
12	146.53	1.1330E+01	12.05
14	171.73	1.0698E+01	10.92
15	189.70	8.0964E+00	13.40
16	196.05	1.1679E+01	8.46
17	203.94	2.8347E+01	4.71
18	208.41	3.5499E+01	4.38
19	255.86	8.3424E+00	9.07
20	298.05	4.6273E+00	15.04
22	333.38	3.7316E+01	2.77
23	336.53	1.6098E+00	52.10
24	345.63	4.5344E+01	1.95
25	368.69	1.8021E+01	3.76
26	375.69	1.2448E+02	1.00
27	383.47	1.3095E+01	4.82
28	393.63	4.5779E+01	1.62
30	423.32	7.3300E+00	5.76
31	452.24	1.3211E+01	3.14
33	723.34	1.3947E+00	12.74

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Combined Segment NID

NID Results Combiner Mode: Sum Activities

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		3.38E+07	+/-	1.76E+08	2.56E+03	+/-	1.33E+04
SE-75	<	1.77E-01	+/-	1.06E-02	< 1.34E-05	+/-	8.03E-07
EU-152x	<	1.46E-01	+/-	9.09E-03	< 1.11E-05	+/-	6.89E-07
U-233		3.10E+03	+/-	1.12E+03	2.35E-01	+/-	8.51E-02
U-235		7.50E-02	+/-	2.79E-02	5.68E-06	+/-	2.12E-06
Np-237		2.09E+00	+/-	1.86E-01	1.58E-04	+/-	1.41E-05
Pu-238	<	1.75E+04	+/-	1.74E+03	< 1.32E+00	+/-	1.32E-01
U-238		2.29E+00	+/-	8.39E-01	1.74E-04	+/-	6.36E-05
Pu-239		1.11E+06	+/-	3.76E+04	8.44E+01	+/-	2.84E+00
Pu-239A		6.71E+05	+/-	2.36E+04	5.08E+01	+/-	1.79E+00
Am-241		1.45E+05	+/-	1.12E+04	1.10E+01	+/-	8.49E-01
Pu-241		7.81E+05	+/-	8.26E+04	5.92E+01	+/-	6.26E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
U-233	3.23E-01	+/-	1.17E-01
U-235	3.47E-02	+/-	1.29E-02
Np-237	2.97E-03	+/-	2.64E-04
U-238	6.83E+00	+/-	2.50E+00
Pu-239	1.79E+01	+/-	6.05E-01
Pu-239A	1.08E+01	+/-	3.80E-01
Am-241	4.25E-02	+/-	3.27E-03
Pu-241	7.55E-03	+/-	7.99E-04

Batch 2002-03-48

Summed Spectrum

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		1.43E+05	+/-	3.97E+05	1.09E+01	+/-	3.01E+01
SE-75	<	3.82E-01	+/-	3.63E-03	< 2.89E-05	+/-	2.75E-07
EU-152x	<	3.76E-01	+/-	7.74E-03	< 2.85E-05	+/-	5.86E-07
U-233	<	1.74E+04	+/-	3.89E+02	< 1.32E+00	+/-	2.95E-02
U-235	<	5.67E-01	+/-	1.16E-02	< 4.30E-05	+/-	8.79E-07
Np-237		1.58E+00	+/-	1.74E-01	1.19E-04	+/-	1.32E-05
Pu-238	<	4.14E+04	+/-	6.59E+02	< 3.14E+00	+/-	4.99E-02
U-238	<	9.48E+00	+/-	1.54E-01	< 7.18E-04	+/-	1.17E-05
Pu-239		9.26E+05	+/-	1.90E+04	7.01E+01	+/-	1.44E+00
Pu-239A		4.59E+05	+/-	1.26E+04	3.47E+01	+/-	9.56E-01
Am-241		1.29E+05	+/-	9.75E+03	9.77E+00	+/-	7.38E-01
Pu-241		1.18E+05	+/-	5.35E+04	8.96E+00	+/-	4.05E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
Np-237	2.24E-03	+/-	2.46E-04
Pu-239	1.49E+01	+/-	3.05E-01
Pu-239A	7.38E+00	+/-	2.03E-01
Am-241	3.76E-02	+/-	2.85E-03
Pu-241	1.14E-03	+/-	5.17E-04

Final Non-Uniformity Results

Source Longitudinal Ratio:	0.922	+/-	7.5631
Matrix Longitudinal Ratio:	0.213	+/-	0.0082
Source Vertical Ratio:	0.823	+/-	0.4141
Matrix Vertical Ratio:	0.678	+/-	0.0096

NUDS could not find the transmission peak in one radial segment.

Batch 2002-82-58

****
***** M G A R E P O R T *****
****

Report generated on: 1-23-02 8:50:07 AM

MGA version: MGA V9.5 CI

Spectrum ID: 11200821.CNF Sens : 30.0% LT: 55.0 Mins DT: 1.70
Measurement date: 1-23-02 Declared date: 1-23-02

Sample ID: S20_821 Detector: Total counts: 3.598E+06

Pu g/cm2 = 0.4003 Cd g/cm2 = 1.6823 FWHM at 122 keV = 675 eV
QFIT = 1.00 FWHM at 208 keV = 850 eV
NQFIT = 1.00

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	%Err	Decl. date % weight	%Err
Pu-238	0.000112	6.3	6.3	0.1251	6.2	0.01054	6.28	0.01054	6.28
Pu-239	1.000000	0.0	0.5	1117.241	1.3	94.09528	0.06	94.09528	0.06
Pu-240	0.061492	1.1	1.0	68.7009	1.6	5.78607	1.02	5.78607	1.02
Pu-241	0.000895	1.3	1.2	1.0000	0.0	0.08422	1.28	0.08422	1.28
Pu-242	(New alg.)			0.2838	(10)	0.02390	(10)	0.02390	(10)
Am-241	0.002775	0.7	0.6	3.1004	1.4	0.26112	0.72	0.26112	0.72

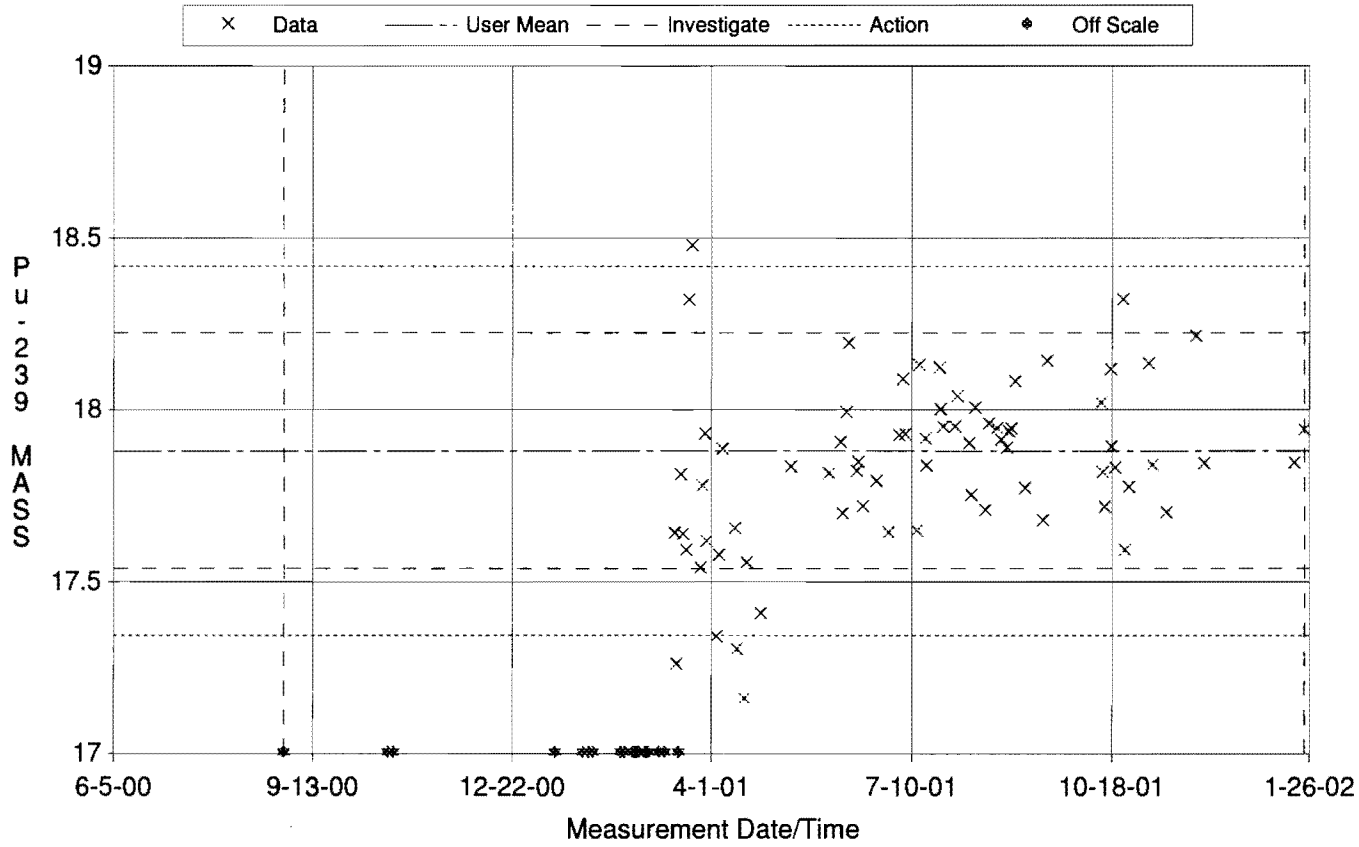
Pu-240 effective (meas. date) = 5.853 +/- 1.11%
Am-241 separated about 29.190 +/- 0.259 years ago
Am/Pu-241 weight ratio = 3.10041 +/- 1.35%

Messages :

Lead x-rays detected.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Bldg 3202-83-51



QA Filename : C:\WAS\CTRS\CTR1\ARR1\A05_CAL.QAF
Parameter Description : Pu-239 MASS (grams)
Selection Dates : 8-29-00 8:53:26 AM - 1-23-02 7:53:27 AM
User Mean +-Std Dev : 17.880 +- 1.71e-01

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS 2.3A

****
* DRUM INFORMATION *
****

Drum Package ID: LL85701001
Sequence Number: 823
Assay Date & Time: 1-23-2002 11:25:37 AM
Drum Package GROSS Weight: 84.40 kg NET Weight: 52.60 kg

IDC Number: LL85701001

QC Replicate (Yes/No): NO Passed (Yes/No): _____

Operator Name (Printed): Russell Ratti

Operator Signature: _____ Date: 1-23-02

Independent Reviewer: _____ Date: 5-16-02

Expert Reviewer: Kenneth Rasch _____ Date: 5/2/02

Tech. Supv/QA Officer: _____ Date: 5/20/02

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 4.571E+00 +/- 1.413E+00 Ci

****
* I S O T O P I C I N F O R M A T I O N *
****

Isotope	Measured Mass (g)	Mass Uncertainty (g)
Pu-238	1.939E-01	7.875E-02
Pu-239	1.428E+01	5.796E+00
Pu-240	9.122E-01	3.718E-01
Pu-241	2.037E-02	8.303E-03
Pu-242	3.835E-03	1.728E-03
Am-241	3.435E-02	1.397E-02
*Am-243	N/A	N/A
*Np-237	N/A	N/A
*U-235	N/A	N/A
*U-238	N/A	N/A
*U-233	N/A	N/A

* = Activity/Mass below detectable limit.

Total Pu Mass: 1.54E+01 +/- 5.81E+00 g

****
* Default Isotopics *
****

NUCLIDE	% Weight	% Error(1-Sigma)
Pu-238	1.258E+00	8.30E-01
Pu-239	9.267E+01	1.30E-01
Pu-240	5.918E+00	1.93E+00
Pu-241	1.322E-01	1.94E+00
Pu-242	2.488E-02	1.00E+01
Am-241	2.229E-01	1.46E+00

Batch 2008-08-89

ACTIVITY INFORMATION

Procedure ID & Rev: OP-B332-005
Software Version: GWAS V2.3A RADA V2.1

Assay Date & Time: 1-23-2002 11:25:37 AM
Report Generated: 5-02-2002 3:06:53 PM

Drum Package ID: LL85701001
Sequence Number: 823

Waste Classification (TRU or LLW): TRU

		Errors at 1.96 sigma	
Total Alpha Activity :	4.571E+00	+/- 1.413E+00	Ci
Total TRU Activity :	8.690E+04	+/- 2.685E+04	nCi/g
Pu-239 Equiv Activity:	4.307E+00	+/- 1.294E+00	Ci
Fissile Gram Equiv Mass:	1.437E+01	+/- 5.796E+00	g
Total Decay Heat:	1.495E-01	+/- 4.662E-02	W
TMU Value:	40.58 %		

ISOTOPIC INFORMATION

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error
Pu-238	3.35E+00	1.36E+00	1.94E-01	7.88E-02
Pu-239	8.87E-01	3.60E-01	1.43E+01	5.80E+00
Pu-240	2.10E-01	8.55E-02	9.12E-01	3.72E-01
Pu-241	2.12E+00	8.63E-01	2.04E-02	8.30E-03
Pu-242	1.52E-05	6.86E-06	3.83E-03	1.73E-03
Am-241	1.19E-01	4.85E-02	3.44E-02	1.40E-02
*Am-243	N/A	N/A	N/A	N/A
*Np-237	N/A	N/A	N/A	N/A
*U-235	N/A	N/A	N/A	N/A
*U-238	N/A	N/A	N/A	N/A
*U-233	N/A	N/A	N/A	N/A

* = Activity/Mass below detectable limit.

Total Pu Mass: 1.54E+01 +/- 5.81E+00 g

Default Isotopics

NUCLIDE	% Weight	% Error(1-Sigma)
Pu-238	1.258E+00	8.30E-01
Pu-239	9.267E+01	1.30E-01
Pu-240	5.918E+00	1.93E+00
Pu-241	1.322E-01	1.94E+00
Pu-242	2.488E-02	1.00E+01
Am-241	2.229E-01	1.46E+00

Batch 2002-02-9

SGS Expert Review Checklist

Container Identification #: LL85701001_____ Original Assay Date:1-23-2002__

1. *WCP-41, §6.1:* A MGA report ☒ is present or ☐ expert review has provided isotopic ratios from SGS or AK. Comment: ☒ No comments
2. *WCP-41, §6.1:* MGA and AK ☒ agree as to radiological composition or, if not, ☐ expert review has resolved this. Comment: ☒ No comments
3. *WCP-41, §6.2.1:* ☒ Pu-238 ≤ 2% by weight of total Pu or, if not, ☐ expert review has addressed this and assigned a Pu-240 value. Comment: ☒ No comments
4. *WCP-41, §6.2.2:* ☐ Neither Np-237 nor U-235 is identified by MGA or ☒ expert review has addressed possible interferences from these radionuclides.
   Comment: U-235 is identified by MGA but at an error of 39%. There is no interference. ☐ No comments
5. *WCP-41, §6.2.2.2:* ☒ Am-241 separation date is 1950 or later or ☐ expert review has addressed possible interferences. Comment: ☒ No comments
6. *WCP-41, §6.3.1.1.a:* ☒ Bulk density of waste ≤ 0.6 g/ml or ☐ expert review has addressed the high density of the drum. Comment: ☒ No comments
7. *WCP-41, §6.3.1.2.a:* ☐ Transmission in every segment ≥ 0.1% for the Se-75 peaks at 136 keV or 265 keV or ☒ expert review has addressed the low transmission.
   Comment: The transmission for the 136 keV peak is zero in segments 5&8 and low in others. However the 265keV transmission is okay as is the Pu-239/Pu-239a ratio. ☐ No comments
8. *WCP-41, §6.3.1.2.a:* ☒ Transmission in every segment ≥1% for the Se-75 peak at 401 keV or ☐ expert review has addressed the low transmission.
   Comment: The transmission is relatively low implying that the combined NID is most reliable. ☐ No comments
9. *WCP-41, §6.3.1.3.b:* ☒ Dead time in every segment ≤ 50% or ☐ expert review has addressed the high dead time. Comment: ☒ No comments
10. *WCP-41, §6.3.1.3.c:* ☒ Pu-239 masses determined from the 414 keV peak and the 129 keV peak agree by a factor of < 2.5 or ☐ expert review has addressed possible matrix inhomogeneity. Comment: ☒ No comments
11. *WCP-41, §6.3.2.3:* Cs-137 (☐ has) (☒ has not) been identified by expert review. If it has, Sr-90 is reported ☐ at an activity ratio to Cs-137of 0.39 for Pu fission or ☐ at a ratio of 1 for U-235 fission or, ☐ if both Pu and U are present, the expert reviewer has determined the ratio. Comment: ☒ No comments

Batch 2002-02-91

SGS Expert Review Checklist

Container Identification #: LL85701001_____ Original Assay Date:1-23-2002__

12. *WCP-41, §6.3.2.4:* ☐ No unusual nuclides are identified (none other than the 10 required to be reported to WIPP) or ☒ the expert reviewer has checked for interferences from unusual nuclides. Comment: The value for U-235 has been taken out because of its high error and the fact that the mass value is below an MDC. ☐ No comments

13. *WCP-41, §6.3.3:* For waste drums (☐ NA for standards), ☐ the Summed Spectrum report value for Pu-239 and the Combined Segment NID report for Pu-239 agree within 95% confidence limits (the same as for replicates of unknowns) or ☒ expert review has addressed the difference. Comment: The ratio of the combined NID to the summed NID is high, therefore the RADA has been run using the combined spectra. This type of run assumes that the combined does not equal the summed. ☐ No comments

14. *WCP-41, §6.4:* ☐ The SGS Summed Spectrum and Combined Segment NID reports agree as to the ratios by weight of several radionuclides, such as those of Am-241, Pu-241, Np-237, Am-243, and U-235 to Pu-239, and MGA results agree as to identifying these radionuclides or ☒ expert review has resolved this. Comment: See comment to #13. ☐ No comments

15. *WCP-41, §6.6.1:* ☒ All reported radionuclide masses are above 2.5 times the uncorrected MDA or ☐ expert review has calculated transmission-corrected MDA's and taken appropriate action. Comment: ☒ No comments

16. *WCP-41, §6.6.2:* ☒ Any changes to reported quantities of individual radionuclides have been entered into the RADA program and a new radioassay data sheet has been produced, showing revised derivative quantities, and included in the batch data report, along with the marked up original. Comment: ☒ No comments

17. *CP-41, §6.7:* ☒ Counting statistics are adequate for normal passive count time of 120 seconds per segment or ☐ Counting statistics are adequate for long passive count time of 600 seconds per segment or ☐ expert review has rejected the count and ordered a longer count time. Comment: ☒ No comments

Kenneth Raschke	Kenneth Raschke	5/02/02
Expert Reviewer (print)	Signature	Date

****
***** M G A R E P O R T *****
****

Report generated on: 1-23-02 12:22:12 PM

MGA version: MGA V9.5 CI

Spectrum ID: 11200823.CNF Sens : 30.0% LT: 54.7 Mins DT: 2.05
Measurement date: 1-23-02 Declared date: 1-23-02

Sample ID: LL85701001 Detector: Total counts: 4.032E+06

Pu g/cm2 = 0.3111 Cd g/cm2 = 1.5697 FWHM at 122 keV = 673 eV
QFIT = 1.00 FWHM at 208 keV = 855 eV
NQFIT = 1.00

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	%Err	Decl. date % weight	%Err
Pu-238	0.013577	0.9	0.4	9.5194	1.7	1.25813	0.83	1.25813	0.83
Pu-239	1.000000	0.0	0.8	701.1401	2.0	92.66652	0.13	92.66652	0.13
Pu-240	0.063867	2.1	1.9	44.7795	2.5	5.91830	1.93	5.91830	1.93
Pu-241	0.001426	2.0	1.7	1.0000	0.0	0.13217	1.94	0.13217	1.94
Pu-242	(New alg.)			0.1883	(10)	0.02488	(10)	0.02488	(10)
Am-241	0.002405	1.5	1.2	1.6865	2.1	0.22289	1.46	0.22289	1.46
U-235	0.014042	38.6	38.6			1.30126	38.57	1.30126	38.57

Pu-240 effective (meas. date) = 9.131 +/- 1.49%
Am-241 separated about 20.744 +/- 0.435 years ago
Am/Pu-241 weight ratio = 1.68648 +/- 2.09%

Messages :

Lead x-rays detected.
Calculations in MGAABS didn't converge : results may be suspect.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Batch 2002-02-93

****
* I S O T O P I C I N F O R M A T I O N *
****

Isotope	Measured Mass (g)	Mass Uncertainty (g)	MDC(g)
Pu-238	1.939E-01	7.875E-02	2.904E-03
Pu-239	1.428E+01	5.796E+00	2.139E-01
Pu-240	9.122E-01	3.718E-01	1.366E-02
Pu-241	2.037E-02	8.303E-03	4.015E-03
Pu-242	3.835E-03	1.728E-03	5.744E-05
Am-241	3.435E-02	1.397E-02	9.437E-04
*Am-243	N/A	N/A	0.000E+00
*Np-237	N/A	N/A	9.537E-04
*U-235	N/A	N/A	4.232E-01
*U-238	N/A	N/A	7.898E+01
*U-233	N/A	N/A	1.670E+00

* = Activity/Mass below detectable limit.

Total Pu Mass: 1.54E+01 +/- 5.81E+00 g

****
* Default Isotopics *
****

NUCLIDE	% Weight	% Error(1-Sigma)
Pu-238	1.258E+00	8.30E-01
Pu-239	9.267E+01	1.30E-01
Pu-240	5.918E+00	1.93E+00
Pu-241	1.322E-01	1.94E+00
Pu-242	2.488E-02	1.00E+01
Am-241	2.229E-01	1.46E+00

Batch 2002-02-94

Not Valid
KER

****
* ISOTOPIC INFORMATION *
****

Isotope	Measured Mass (g)	Mass Uncertainty (g)	MDC (g)
Pu-238	1.939E-01	7.88E-02	2.904E-03
Pu-239	1.428E+01	5.80E+00	2.139E-01
Pu-240	9.122E-01	3.72E-01	1.366E-02
Pu-241	2.037E-02	8.30E-03	4.015E-03
Pu-242	3.835E-03	1.73E-03	5.744E-05
Am-241	3.435E-02	1.40E-02	9.432E-03
Am-243	0.000E+00	0.00E+00	0.000E+00
Np-237	0.000E+00	0.00E+00	9.537E-04
U-235	2.006E-01	1.72E-01	4.232E-01
U-238	7.898E+01	3.15E+01	7.898E+01
U-233	1.670E+00	7.07E-01	1.670E+00

Total Pu Mass: 1.54E+01 +/- 2.50E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	1.258E+00	8.29E-01
Pu-239	9.267E+01	1.28E-01
Pu-240	5.918E+00	1.93E+00
Pu-241	1.322E-01	1.94E+00
Pu-242	2.488E-02	1.00E+01
Am-241	2.229E-01	1.46E+00
U-235	1.301E+00	3.86E+01

Gamma Waste Assay

Sample Information

File Name: C:\WAS\DATA\900\11100823.S11
Sample ID: LL85701001 Count Sequence Number: 823
Assay Start: 1-23-02 11:25:39 AM
Description 1: unknown
Description 2:
Location: 7715
Comment:
Waste Type:
Weight: Gross: 84400.0 g Net: 52600.0 g
Density: 0.253 g /ml

Container Type: 55 Gal Galv
Container: Volume: 208000. ml Full: 100.0 %

System Configuration

Counter ID Number: SGS
Arrangement Description: SGS
Segments: Number: 16 Offset: 0
Scanning Platform: Start: 934 mm Delta: -51 mm
Count Type: 55 Gal Galv
Collimator/Geometry Setting: 0
Transmission Mode: Two pass
Transmission Source: 0

Errors quoted at 1.000 sigma
Reference Source Date: Reference Source Rate: 1.01E+03 cps
Geometric Correction Factor(SWCONTGCF): 0.760
Date of efficiency calibration approval: 4-18-2001 12:41:36 PM
Mu Factors response file: Lucite
Transmission Calib. Time: 5-11-2001 2:20:42 PM 59052

Reviewed by: FOR: RUSSELL RATTI BY: Dave Weland Date: 5/21/02

Segment Results

Segment: 1 Detector: DET01 (# 1) Position: 1

Elapsed Live Time: 113.69 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.030 +/- 0.0010
SE-75	279.53	0.000 +/- 0.0000	0.033 +/- 0.0015
SE-75	400.65	0.000 +/- 0.0000	0.047 +/- 0.0022

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.33	7.74E-01 +/- 1.80E-01	4.10E+00	9.89E-08 +/- 1.23E-06
2	35.10	1.01E+03 +/- 4.76E+00	4.10E+00	2.61E-06 +/- 1.64E-05
3	59.58	4.05E+00 +/- 2.88E-01	4.10E+00	3.75E-05 +/- 7.40E-05
4	100.02	1.02E+01 +/- 4.24E-01	4.10E+00	1.42E-04 +/- 3.87E-05
5	129.29	6.44E-01 +/- 2.60E-01	4.10E+00	1.95E-04 +/- 1.38E-05
6	152.68	2.47E+00 +/- 2.57E-01	3.84E+00	2.18E-04 +/- 2.73E-05
7	239.03	1.50E+00 +/- 2.02E-01	3.02E+00	2.24E-04 +/- 2.09E-05
8	279.54	1.81E-01 +/- 1.12E-01	2.80E+00	2.11E-04 +/- 1.29E-05
9	413.70	2.33E-01 +/- 7.68E-02	2.55E+00	1.65E-04 +/- 1.27E-05
10	511.51	5.94E-01 +/- 8.80E-02	2.37E+00	1.40E-04 +/- 1.22E-05
11	584.32	6.07E-01 +/- 9.22E-02	2.26E+00	1.25E-04 +/- 1.03E-05
12	867.39	4.15E-02 +/- 2.98E-02	1.98E+00	8.96E-05 +/- 4.69E-06
13	2621.96	5.65E-01 +/- 7.01E-02	1.55E+00	4.28E-05 +/- 4.58E-05

Segment: 2 Detector: DET01 (# 1) Position: 2

Elapsed Live Time: 113.57 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

Batch 2002-02-58

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.019 +/- 0.0008
SE-75	279.53	0.000 +/- 0.0000	0.019 +/- 0.0013
SE-75	400.65	0.000 +/- 0.0000	0.033 +/- 0.0018

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.15	2.08E+00 +/- 2.18E-01	4.10E+00	5.36E-10 +/- 5.13E-09
2	35.10	1.01E+03 +/- 4.78E+00	4.10E+00	2.21E-07 +/- 1.06E-06
3	59.60	8.77E+00 +/- 3.93E-01	4.10E+00	2.20E-05 +/- 3.31E-05
4	100.07	1.82E+01 +/- 5.69E-01	4.10E+00	1.90E-04 +/- 4.06E-05
5	129.29	1.13E+00 +/- 3.15E-01	4.10E+00	3.07E-04 +/- 1.84E-05
6	152.68	4.62E+00 +/- 3.29E-01	3.93E+00	3.61E-04 +/- 3.51E-05
7	208.17	5.82E-01 +/- 2.14E-01	3.49E+00	3.88E-04 +/- 3.71E-05
8	239.00	2.68E+00 +/- 2.45E-01	3.30E+00	3.73E-04 +/- 2.79E-05
9	300.10	3.32E-01 +/- 1.51E-01	3.09E+00	3.27E-04 +/- 1.48E-05
10	375.66	3.25E-01 +/- 1.25E-01	2.88E+00	2.74E-04 +/- 1.40E-05
11	413.70	5.43E-01 +/- 1.03E-01	2.78E+00	2.51E-04 +/- 1.46E-05
12	511.72	8.83E-01 +/- 1.08E-01	2.58E+00	2.07E-04 +/- 1.34E-05
13	584.40	1.23E+00 +/- 1.27E-01	2.45E+00	1.84E-04 +/- 1.14E-05
14	2621.59	5.89E-01 +/- 8.40E-02	1.63E+00	6.26E-05 +/- 5.44E-05

Segment: 3 Detector: DET01 (# 1) Position: 3

Elapsed Live Time: 113.48 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.016 +/- 0.0007
SE-75	279.53	0.000 +/- 0.0000	0.017 +/- 0.0012
SE-75	400.65	0.000 +/- 0.0000	0.027 +/- 0.0017

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PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	8.30E-01 +/- 1.84E-01	4.10E+00	3.50E-09 +/- 3.85E-08
2	23.30	1.82E+00 +/- 1.98E-01	4.10E+00	1.13E-08 +/- 1.10E-07
3	35.10	1.01E+03 +/- 4.77E+00	4.10E+00	1.07E-06 +/- 5.27E-06
4	59.62	9.19E+00 +/- 3.74E-01	4.10E+00	3.80E-05 +/- 5.87E-05
5	100.10	1.59E+01 +/- 5.91E-01	4.10E+00	2.06E-04 +/- 4.52E-05
6	129.29	2.03E+00 +/- 3.40E-01	4.10E+00	3.02E-04 +/- 1.84E-05
7	136.00	6.05E-01 +/- 3.46E-01	3.86E+00	3.17E-04 +/- 2.33E-05
8	152.68	4.25E+00 +/- 3.49E-01	3.96E+00	3.44E-04 +/- 3.46E-05
9	208.52	6.78E-01 +/- 2.20E-01	3.59E+00	3.66E-04 +/- 3.63E-05
10	239.00	2.38E+00 +/- 2.58E-01	3.42E+00	3.55E-04 +/- 2.77E-05
11	375.95	6.24E-01 +/- 1.22E-01	2.98E+00	2.76E-04 +/- 1.44E-05
12	413.70	4.47E-01 +/- 1.05E-01	2.89E+00	2.57E-04 +/- 1.52E-05
13	584.34	1.42E+00 +/- 1.26E-01	2.54E+00	1.96E-04 +/- 1.25E-05
14	1408.01	1.74E-02 +/- 1.23E-02	1.87E+00	1.03E-04 +/- 6.77E-06

Segment: 4 Detector: DET01 (# 1) Position: 4

Elapsed Live Time: 113.31 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.131 +/- 0.0172
SE-75	264.65	0.000 +/- 0.0000	0.210 +/- 0.0027
SE-75	279.53	0.000 +/- 0.0000	0.224 +/- 0.0040
SE-75	400.65	0.000 +/- 0.0000	0.265 +/- 0.0053

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.12	4.35E+00 +/- 3.10E-01	4.10E+00	3.28E-06 +/- 4.63E-06
2	35.10	1.01E+03 +/- 4.79E+00	2.95E+00	2.00E-05 +/- 1.66E-05
3	59.59	2.59E+01 +/- 6.47E-01	2.29E+00	9.83E-05 +/- 3.39E-05
4	100.05	1.13E+01 +/- 8.06E-01	2.05E+00	2.43E-04 +/- 2.37E-05
5	129.29	5.00E+00 +/- 4.31E-01	1.98E+00	3.12E-04 +/- 1.61E-05
6	152.68	2.50E+00 +/- 3.72E-01	1.92E+00	3.45E-04 +/- 1.66E-05
7	203.87	7.53E-01 +/- 2.96E-01	1.81E+00	3.70E-04 +/- 1.94E-05

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8	208.50	9.19E-01	+/- 3.15E-01	1.80E+00	3.71E-04	+/- 1.94E-05
9	239.08	2.00E+00	+/- 2.45E-01	1.75E+00	3.67E-04	+/- 1.87E-05
10	311.90	5.69E-01	+/- 1.84E-01	1.65E+00	3.38E-04	+/- 1.48E-05
11	320.35	2.85E-01	+/- 1.39E-01	1.64E+00	3.34E-04	+/- 1.43E-05
12	333.33	9.16E-01	+/- 1.99E-01	1.63E+00	3.27E-04	+/- 1.37E-05
13	345.69	1.02E+00	+/- 1.90E-01	1.62E+00	3.21E-04	+/- 1.31E-05
14	375.71	2.43E+00	+/- 2.07E-01	1.60E+00	3.06E-04	+/- 1.21E-05
15	393.61	9.77E-01	+/- 1.48E-01	1.59E+00	2.97E-04	+/- 1.16E-05
16	413.70	2.08E+00	+/- 1.57E-01	1.58E+00	2.87E-04	+/- 1.11E-05
17	423.32	1.94E-01	+/- 8.80E-02	1.57E+00	2.83E-04	+/- 1.10E-05
18	452.56	3.47E-01	+/- 1.01E-01	1.55E+00	2.69E-04	+/- 1.06E-05
19	584.40	7.57E-01	+/- 1.17E-01	1.48E+00	2.18E-04	+/- 9.71E-06
20	662.42	1.10E-01	+/- 5.61E-02	1.45E+00	1.95E-04	+/- 9.03E-06
21	728.55	2.14E-01	+/- 5.89E-02	1.42E+00	1.78E-04	+/- 8.29E-06
22	1408.01	2.53E-02	+/- 2.11E-02	1.28E+00	9.34E-05	+/- 5.87E-06
23	1464.45	1.05E-01	+/- 3.82E-02	1.28E+00	9.00E-05	+/- 6.49E-06
24	2621.70	5.89E-01	+/- 7.20E-02	1.22E+00	5.75E-05	+/- 1.96E-05

Segment: 5 Detector: DET01 (# 1) Position: 5

Elapsed Live Time: 112.00 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Some transmission peaks rejected.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	0.137 +/- 0.0022
SE-75	279.53	0.000 +/- 0.0000	0.147 +/- 0.0034
SE-75	400.65	0.000 +/- 0.0000	0.181 +/- 0.0044

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.15	1.35E+01 +/- 5.54E-01	4.10E+00	1.74E-06 +/- 2.54E-06
2	35.10	1.01E+03 +/- 4.81E+00	3.37E+00	1.48E-05 +/- 1.27E-05
3	59.59	1.68E+02 +/- 1.57E+00	2.56E+00	9.32E-05 +/- 3.30E-05
4	98.60	5.36E+01 +/- 1.29E+00	2.27E+00	2.48E-04 +/- 2.53E-05
5	111.27	1.02E+01 +/- 7.93E-01	2.23E+00	2.86E-04 +/- 2.04E-05
6	129.29	3.53E+01 +/- 7.82E-01	2.18E+00	3.26E-04 +/- 1.67E-05
7	144.35	1.37E+00 +/- 5.69E-01	2.14E+00	3.49E-04 +/- 1.68E-05
8	152.68	8.73E+00 +/- 5.83E-01	2.12E+00	3.58E-04 +/- 1.75E-05
9	204.01	1.62E+00 +/- 5.07E-01	2.03E+00	3.76E-04 +/- 2.04E-05
10	208.38	8.44E+00 +/- 6.07E-01	2.02E+00	3.75E-04 +/- 2.04E-05

11	239.03	7.01E+00	+/- 4.45E-01	1.97E+00	3.65E-04	+/- 1.93E-05
12	256.07	8.53E-01	+/- 2.60E-01	1.95E+00	3.58E-04	+/- 1.84E-05
13	300.10	1.68E+00	+/- 3.03E-01	1.88E+00	3.33E-04	+/- 1.55E-05
14	311.90	4.47E+00	+/- 3.31E-01	1.87E+00	3.26E-04	+/- 1.48E-05
15	333.36	5.05E+00	+/- 3.91E-01	1.85E+00	3.13E-04	+/- 1.36E-05
16	345.62	4.92E+00	+/- 3.41E-01	1.83E+00	3.06E-04	+/- 1.30E-05
17	369.19	1.57E+00	+/- 2.75E-01	1.81E+00	2.93E-04	+/- 1.20E-05
18	375.70	1.44E+01	+/- 4.63E-01	1.81E+00	2.89E-04	+/- 1.18E-05
19	383.42	1.52E+00	+/- 2.15E-01	1.80E+00	2.85E-04	+/- 1.16E-05
20	393.58	5.03E+00	+/- 2.89E-01	1.79E+00	2.79E-04	+/- 1.13E-05
21	413.70	1.44E+01	+/- 3.97E-01	1.77E+00	2.69E-04	+/- 1.09E-05
22	423.38	7.03E-01	+/- 1.73E-01	1.77E+00	2.64E-04	+/- 1.07E-05
23	452.40	1.98E+00	+/- 1.71E-01	1.74E+00	2.50E-04	+/- 1.03E-05
24	511.68	1.36E+00	+/- 1.67E-01	1.69E+00	2.25E-04	+/- 9.85E-06
25	584.29	3.12E+00	+/- 1.90E-01	1.64E+00	2.00E-04	+/- 9.40E-06
26	619.71	8.22E-02	+/- 5.57E-02	1.62E+00	1.90E-04	+/- 9.14E-06
27	662.42	4.61E-01	+/- 9.87E-02	1.59E+00	1.79E-04	+/- 8.77E-06
28	728.86	6.05E-01	+/- 1.05E-01	1.56E+00	1.64E-04	+/- 8.09E-06
29	861.98	3.56E-01	+/- 8.61E-02	1.50E+00	1.41E-04	+/- 6.50E-06
30	2621.75	1.85E+00	+/- 1.34E-01	1.29E+00	8.56E-05	+/- 3.00E-05

Segment: 6 Detector: DET01 (# 1) Position: 6

Elapsed Live Time: 111.31 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.018 +/- 0.0010
SE-75	279.53	0.000 +/- 0.0000	0.021 +/- 0.0019
SE-75	400.65	0.000 +/- 0.0000	0.031 +/- 0.0022

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	9.20E+00 +/- 4.65E-01	4.10E+00	3.85E-07 +/- 5.97E-07
2	23.14	1.09E+01 +/- 5.31E-01	4.10E+00	6.66E-07 +/- 9.46E-07
3	35.10	1.01E+03 +/- 4.84E+00	4.10E+00	8.04E-06 +/- 6.71E-06
4	59.58	2.25E+02 +/- 1.87E+00	4.10E+00	6.89E-05 +/- 2.39E-05
5	75.01	1.49E+00 +/- 6.63E-01	4.10E+00	1.29E-04 +/- 2.73E-05
6	98.62	8.65E+01 +/- 1.54E+00	4.10E+00	2.21E-04 +/- 2.26E-05
7	103.53	1.72E+00 +/- 1.03E+00	4.10E+00	2.38E-04 +/- 2.11E-05

8	111.28	9.82E+00 +/-	8.82E-01	4.10E+00	2.63E-04 +/-	1.90E-05
9	129.29	4.31E+01 +/-	8.87E-01	4.10E+00	3.10E-04 +/-	1.61E-05
10	144.48	1.78E+00 +/-	8.21E-01	4.02E+00	3.39E-04 +/-	1.63E-05
11	152.68	2.02E+01 +/-	5.87E-01	3.95E+00	3.51E-04 +/-	1.70E-05
12	171.74	1.68E+00 +/-	5.39E-01	3.79E+00	3.69E-04 +/-	1.88E-05
13	196.42	1.59E+00 +/-	5.04E-01	3.61E+00	3.80E-04 +/-	2.01E-05
14	203.91	1.72E+00 +/-	6.09E-01	3.56E+00	3.81E-04 +/-	2.02E-05
15	208.40	9.74E+00 +/-	6.64E-01	3.53E+00	3.81E-04 +/-	2.03E-05
16	239.03	1.51E+01 +/-	5.69E-01	3.35E+00	3.75E-04 +/-	1.94E-05
17	255.67	1.29E+00 +/-	3.44E-01	3.26E+00	3.69E-04 +/-	1.86E-05
18	279.54	7.26E-01 +/-	3.02E-01	3.12E+00	3.57E-04 +/-	1.71E-05
19	300.10	1.22E+00 +/-	2.81E-01	3.06E+00	3.46E-04 +/-	1.58E-05
20	311.90	5.18E+00 +/-	3.86E-01	3.04E+00	3.39E-04 +/-	1.51E-05
21	321.38	7.44E-01 +/-	3.27E-01	3.01E+00	3.33E-04 +/-	1.45E-05
22	333.36	5.22E+00 +/-	4.16E-01	2.99E+00	3.26E-04 +/-	1.39E-05
23	345.63	5.46E+00 +/-	3.45E-01	2.96E+00	3.19E-04 +/-	1.33E-05
24	375.73	1.61E+01 +/-	4.88E-01	2.90E+00	3.01E-04 +/-	1.21E-05
25	383.59	7.23E-01 +/-	3.52E-01	2.88E+00	2.97E-04 +/-	1.18E-05
26	393.68	6.29E+00 +/-	3.19E-01	2.86E+00	2.91E-04 +/-	1.16E-05
27	413.70	1.53E+01 +/-	4.30E-01	2.82E+00	2.81E-04 +/-	1.11E-05
28	423.33	7.57E-01 +/-	2.09E-01	2.79E+00	2.76E-04 +/-	1.09E-05
29	443.98	2.87E-01 +/-	1.57E-01	2.75E+00	2.65E-04 +/-	1.06E-05
30	452.37	1.77E+00 +/-	1.99E-01	2.73E+00	2.61E-04 +/-	1.05E-05
31	511.58	3.03E+00 +/-	2.15E-01	2.61E+00	2.35E-04 +/-	9.95E-06
32	584.32	6.33E+00 +/-	2.67E-01	2.48E+00	2.09E-04 +/-	9.45E-06
33	662.42	3.52E-01 +/-	1.21E-01	2.37E+00	1.86E-04 +/-	8.77E-06
34	728.86	1.24E+00 +/-	1.52E-01	2.28E+00	1.71E-04 +/-	8.07E-06
35	862.42	8.62E-01 +/-	1.07E-01	2.15E+00	1.47E-04 +/-	6.46E-06
36	1596.26	5.93E-01 +/-	1.15E-01	1.78E+00	9.87E-05 +/-	9.39E-06
37	2621.98	3.35E+00 +/-	1.77E-01	1.64E+00	1.00E-04 +/-	3.41E-05

Segment: 7 Detector: DET01 (# 1) Position: 7

Elapsed Live Time: 111.66 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.023 +/- 0.0011
SE-75	279.53	0.000 +/- 0.0000	0.028 +/- 0.0019
SE-75	400.65	0.000 +/- 0.0000	0.039 +/- 0.0024

Batch 2002-02-103

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	7.61E+00 +/- 4.26E-01	4.10E+00	2.18E-09 +/- 2.40E-08
2	23.18	9.33E+00 +/- 5.02E-01	4.10E+00	7.07E-09 +/- 6.94E-08
3	35.10	1.01E+03 +/- 4.83E+00	4.10E+00	9.59E-07 +/- 4.73E-06
4	59.59	1.92E+02 +/- 1.71E+00	4.10E+00	4.01E-05 +/- 6.21E-05
5	75.09	2.25E+00 +/- 6.93E-01	4.10E+00	1.05E-04 +/- 8.11E-05
6	100.05	9.48E+01 +/- 1.41E+00	4.10E+00	2.26E-04 +/- 4.94E-05
7	111.27	6.05E+00 +/- 7.93E-01	4.10E+00	2.73E-04 +/- 2.88E-05
8	129.29	2.88E+01 +/- 7.79E-01	4.10E+00	3.30E-04 +/- 1.98E-05
9	144.44	1.76E+00 +/- 7.71E-01	3.99E+00	3.62E-04 +/- 3.20E-05
10	152.68	2.20E+01 +/- 5.81E-01	3.90E+00	3.74E-04 +/- 3.73E-05
11	208.34	6.93E+00 +/- 5.62E-01	3.40E+00	3.91E-04 +/- 3.83E-05
12	239.00	1.61E+01 +/- 5.53E-01	3.19E+00	3.76E-04 +/- 2.88E-05
M 13	298.23	5.44E-01 +/- 1.50E-01	2.87E+00	3.37E-04 +/- 1.58E-05
m 14	300.76	1.53E+00 +/- 2.64E-01	2.86E+00	3.35E-04 +/- 1.55E-05
15	311.90	5.53E+00 +/- 3.67E-01	2.84E+00	3.27E-04 +/- 1.48E-05
16	333.32	2.85E+00 +/- 3.58E-01	2.80E+00	3.13E-04 +/- 1.44E-05
17	345.67	2.64E+00 +/- 3.45E-01	2.78E+00	3.05E-04 +/- 1.46E-05
18	369.38	1.73E+00 +/- 2.64E-01	2.74E+00	2.91E-04 +/- 1.53E-05
19	375.66	9.62E+00 +/- 4.00E-01	2.73E+00	2.87E-04 +/- 1.54E-05
20	383.64	7.27E-01 +/- 2.07E-01	2.72E+00	2.83E-04 +/- 1.57E-05
21	393.52	3.40E+00 +/- 2.76E-01	2.71E+00	2.77E-04 +/- 1.59E-05
22	413.70	9.03E+00 +/- 3.34E-01	2.67E+00	2.67E-04 +/- 1.63E-05
23	452.10	1.31E+00 +/- 1.87E-01	2.59E+00	2.49E-04 +/- 1.63E-05
24	511.52	2.66E+00 +/- 2.11E-01	2.48E+00	2.25E-04 +/- 1.53E-05
25	584.25	7.54E+00 +/- 2.86E-01	2.36E+00	2.02E-04 +/- 1.31E-05
26	662.42	2.12E-01 +/- 1.19E-01	2.26E+00	1.82E-04 +/- 1.06E-05
27	728.65	1.22E+00 +/- 1.38E-01	2.18E+00	1.68E-04 +/- 8.89E-06
28	767.99	3.25E-01 +/- 1.19E-01	2.14E+00	1.62E-04 +/- 8.08E-06
29	862.37	9.95E-01 +/- 1.24E-01	2.05E+00	1.47E-04 +/- 6.78E-06
30	2621.82	4.02E+00 +/- 2.01E-01	1.59E+00	4.97E-05 +/- 4.38E-05

Segment: 8 Detector: DET01 (# 1) Position: 8

Elapsed Live Time: 112.20 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Some transmission peaks rejected.

Batch 2002-02-104

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	0.136 +/- 0.0022
SE-75	279.53	0.000 +/- 0.0000	0.141 +/- 0.0033
SE-75	400.65	0.000 +/- 0.0000	0.178 +/- 0.0044

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	5.77E+00 +/- 3.73E-01	4.10E+00	1.22E-09 +/- 1.33E-08
2	23.14	8.28E+00 +/- 4.38E-01	4.10E+00	4.06E-09 +/- 3.96E-08
3	35.10	1.01E+03 +/- 4.80E+00	3.38E+00	6.89E-07 +/- 3.37E-06
4	59.59	1.57E+02 +/- 1.51E+00	2.56E+00	3.34E-05 +/- 5.14E-05
5	75.18	2.27E+00 +/- 6.04E-01	2.40E+00	9.13E-05 +/- 7.00E-05
6	100.07	7.53E+01 +/- 1.24E+00	2.27E+00	2.04E-04 +/- 4.44E-05
7	111.31	4.71E+00 +/- 6.44E-01	2.23E+00	2.49E-04 +/- 2.63E-05
8	129.29	2.28E+01 +/- 6.87E-01	2.18E+00	3.05E-04 +/- 1.85E-05
9	144.36	1.79E+00 +/- 5.39E-01	2.15E+00	3.38E-04 +/- 2.99E-05
10	152.68	1.49E+01 +/- 6.09E-01	2.13E+00	3.51E-04 +/- 3.50E-05
11	203.92	1.66E+00 +/- 4.55E-01	2.03E+00	3.76E-04 +/- 3.82E-05
12	208.40	4.40E+00 +/- 4.97E-01	2.03E+00	3.75E-04 +/- 3.71E-05
13	239.06	1.37E+01 +/- 4.88E-01	1.98E+00	3.65E-04 +/- 2.83E-05
14	277.59	6.74E-01 +/- 3.23E-01	1.92E+00	3.44E-04 +/- 1.86E-05
15	300.10	1.48E+00 +/- 2.39E-01	1.90E+00	3.30E-04 +/- 1.53E-05
16	311.90	4.28E+00 +/- 3.19E-01	1.88E+00	3.23E-04 +/- 1.44E-05
17	333.30	2.74E+00 +/- 3.04E-01	1.86E+00	3.10E-04 +/- 1.38E-05
18	345.62	2.37E+00 +/- 2.45E-01	1.85E+00	3.03E-04 +/- 1.38E-05
19	375.70	6.74E+00 +/- 3.41E-01	1.82E+00	2.86E-04 +/- 1.46E-05
20	383.54	4.72E-01 +/- 1.84E-01	1.81E+00	2.82E-04 +/- 1.48E-05
21	393.67	2.61E+00 +/- 2.40E-01	1.80E+00	2.76E-04 +/- 1.50E-05
22	413.70	6.39E+00 +/- 2.96E-01	1.78E+00	2.66E-04 +/- 1.54E-05
23	452.50	9.35E-01 +/- 1.59E-01	1.75E+00	2.49E-04 +/- 1.56E-05
24	511.70	2.48E+00 +/- 1.96E-01	1.70E+00	2.26E-04 +/- 1.47E-05
25	584.34	6.00E+00 +/- 2.54E-01	1.65E+00	2.03E-04 +/- 1.26E-05
26	662.42	1.05E-01 +/- 7.42E-02	1.60E+00	1.83E-04 +/- 1.03E-05
27	728.82	1.14E+00 +/- 1.32E-01	1.56E+00	1.69E-04 +/- 8.67E-06
28	767.85	4.02E-01 +/- 9.63E-02	1.55E+00	1.61E-04 +/- 7.92E-06
29	862.46	8.66E-01 +/- 1.04E-01	1.51E+00	1.46E-04 +/- 6.67E-06
30	1595.56	4.39E-01 +/- 8.69E-02	1.35E+00	7.84E-05 +/- 1.04E-05
31	2621.88	2.71E+00 +/- 1.59E-01	1.29E+00	3.51E-05 +/- 3.11E-05

Segment: 9 Detector: DET01 (# 1) Position: 9

Elapsed Live Time: 112.99 sec Elapsed Real Time: 115.00 sec

Bldg 3003-03-495

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.368 +/- 0.0234
SE-75	264.65	0.000 +/- 0.0000	0.426 +/- 0.0042
SE-75	279.53	0.000 +/- 0.0000	0.433 +/- 0.0058
SE-75	400.65	0.000 +/- 0.0000	0.472 +/- 0.0073

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.20	6.97E+00 +/- 3.87E-01	2.49E+00	2.30E-06 +/- 2.31E-05
2	35.10	1.01E+03 +/- 4.78E+00	1.83E+00	1.75E-05 +/- 8.88E-05
3	59.59	7.93E+01 +/- 1.04E+00	1.56E+00	9.99E-05 +/- 1.59E-04
4	75.26	7.37E-01 +/- 4.41E-01	1.51E+00	1.66E-04 +/- 1.31E-04
5	100.06	4.23E+01 +/- 9.06E-01	1.46E+00	2.55E-04 +/- 5.72E-05
6	111.16	2.86E+00 +/- 4.95E-01	1.45E+00	2.86E-04 +/- 3.09E-05
7	121.11	7.56E-01 +/- 4.47E-01	1.44E+00	3.08E-04 +/- 1.81E-05
8	129.29	1.04E+01 +/- 5.30E-01	1.43E+00	3.23E-04 +/- 1.97E-05
9	144.19	8.98E-01 +/- 3.85E-01	1.42E+00	3.43E-04 +/- 3.13E-05
10	152.68	8.78E+00 +/- 4.63E-01	1.42E+00	3.52E-04 +/- 3.64E-05
11	208.45	1.83E+00 +/- 3.59E-01	1.39E+00	3.66E-04 +/- 3.76E-05
12	239.00	7.57E+00 +/- 3.71E-01	1.37E+00	3.56E-04 +/- 2.87E-05
13	264.66	3.13E-01 +/- 1.75E-01	1.36E+00	3.45E-04 +/- 2.17E-05
14	278.04	3.95E-01 +/- 2.62E-01	1.35E+00	3.38E-04 +/- 1.87E-05
15	300.10	8.95E-01 +/- 2.09E-01	1.34E+00	3.26E-04 +/- 1.55E-05
16	311.90	1.99E+00 +/- 2.25E-01	1.34E+00	3.20E-04 +/- 1.45E-05
17	333.38	8.23E-01 +/- 2.21E-01	1.33E+00	3.08E-04 +/- 1.39E-05
18	345.63	9.73E-01 +/- 1.77E-01	1.33E+00	3.01E-04 +/- 1.41E-05
19	375.70	3.11E+00 +/- 2.39E-01	1.32E+00	2.85E-04 +/- 1.49E-05
20	383.40	3.58E-01 +/- 1.21E-01	1.32E+00	2.82E-04 +/- 1.52E-05
21	393.61	1.24E+00 +/- 1.62E-01	1.31E+00	2.76E-04 +/- 1.55E-05
22	413.70	2.76E+00 +/- 2.07E-01	1.31E+00	2.67E-04 +/- 1.59E-05
23	452.62	3.26E-01 +/- 1.21E-01	1.29E+00	2.49E-04 +/- 1.61E-05
24	511.80	1.59E+00 +/- 1.57E-01	1.28E+00	2.26E-04 +/- 1.52E-05
25	584.30	2.95E+00 +/- 1.92E-01	1.26E+00	2.03E-04 +/- 1.30E-05
26	662.42	1.39E-01 +/- 7.25E-02	1.24E+00	1.82E-04 +/- 1.04E-05
27	728.87	5.65E-01 +/- 9.12E-02	1.23E+00	1.68E-04 +/- 8.64E-06
28	862.24	3.63E-01 +/- 8.29E-02	1.21E+00	1.46E-04 +/- 6.53E-06
29	1112.12	5.33E-02 +/- 3.67E-02	1.18E+00	1.21E-04 +/- 5.10E-06
30	2621.87	1.67E+00 +/- 1.21E-01	1.12E+00	9.34E-05 +/- 8.26E-05

Segment: 10 Detector: DET01 (# 1) Position: 10

Elapsed Live Time: 113.26 sec Elapsed Real Time: 115.00 sec

Betw 2003-03-106

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.181 +/- 0.0186
SE-75	264.65	0.000 +/- 0.0000	0.249 +/- 0.0030
SE-75	279.53	0.000 +/- 0.0000	0.256 +/- 0.0043
SE-75	400.65	0.000 +/- 0.0000	0.302 +/- 0.0056

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.22	3.76E+00 +/- 3.06E-01	3.88E+00	3.43E-07 +/- 4.85E-07
2	35.10	1.01E+03 +/- 4.77E+00	2.58E+00	5.68E-06 +/- 4.74E-06
3	59.60	3.34E+01 +/- 6.94E-01	2.05E+00	6.37E-05 +/- 2.21E-05
4	100.08	3.29E+01 +/- 7.54E-01	1.86E+00	2.36E-04 +/- 2.30E-05
5	121.11	1.05E+00 +/- 3.93E-01	1.81E+00	3.08E-04 +/- 1.78E-05
6	129.29	3.76E+00 +/- 3.93E-01	1.80E+00	3.30E-04 +/- 1.70E-05
7	152.68	8.80E+00 +/- 4.25E-01	1.76E+00	3.74E-04 +/- 1.78E-05
8	208.38	1.30E+00 +/- 2.83E-01	1.68E+00	4.01E-04 +/- 2.09E-05
9	239.07	7.93E+00 +/- 3.44E-01	1.65E+00	3.91E-04 +/- 1.98E-05
10	279.54	3.54E-01 +/- 1.73E-01	1.61E+00	3.68E-04 +/- 1.71E-05
11	300.10	7.07E-01 +/- 1.88E-01	1.59E+00	3.54E-04 +/- 1.57E-05
12	311.90	3.98E-01 +/- 1.72E-01	1.58E+00	3.45E-04 +/- 1.50E-05
13	375.60	6.79E-01 +/- 1.72E-01	1.54E+00	3.02E-04 +/- 1.20E-05
14	393.96	4.80E-01 +/- 1.39E-01	1.53E+00	2.91E-04 +/- 1.15E-05
15	413.70	1.03E+00 +/- 1.51E-01	1.52E+00	2.79E-04 +/- 1.11E-05
16	511.58	1.35E+00 +/- 1.52E-01	1.46E+00	2.30E-04 +/- 1.00E-05
17	584.36	3.36E+00 +/- 1.90E-01	1.43E+00	2.03E-04 +/- 9.52E-06
18	728.64	6.96E-01 +/- 9.97E-02	1.38E+00	1.65E-04 +/- 8.13E-06
19	862.28	4.49E-01 +/- 7.83E-02	1.34E+00	1.43E-04 +/- 6.55E-06
20	1085.91	4.36E-02 +/- 3.16E-02	1.29E+00	1.21E-04 +/- 4.45E-06
21	2621.60	1.64E+00 +/- 1.23E-01	1.20E+00	1.33E-04 +/- 4.57E-05

Segment: 11 Detector: DET01 (# 1) Position: 11

Elapsed Live Time: 113.24 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

Batch 2002-02-187

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.056 +/- 0.0013
SE-75	279.53	0.000 +/- 0.0000	0.057 +/- 0.0021
SE-75	400.65	0.000 +/- 0.0000	0.084 +/- 0.0030

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.22	3.75E+00 +/- 3.07E-01	4.10E+00	4.71E-07 +/- 6.63E-07
2	35.10	1.01E+03 +/- 4.80E+00	4.10E+00	6.75E-06 +/- 5.60E-06
3	59.59	2.91E+01 +/- 6.56E-01	4.10E+00	6.69E-05 +/- 2.31E-05
4	76.98	1.27E+00 +/- 3.91E-01	4.10E+00	1.38E-04 +/- 2.72E-05
5	100.08	4.23E+01 +/- 8.25E-01	4.10E+00	2.33E-04 +/- 2.26E-05
6	121.11	1.67E+00 +/- 3.93E-01	4.10E+00	3.01E-04 +/- 1.73E-05
7	129.29	3.33E+00 +/- 4.00E-01	4.10E+00	3.21E-04 +/- 1.65E-05
8	136.00	5.85E-01 +/- 3.94E-01	2.83E+00	3.35E-04 +/- 1.63E-05
9	152.68	1.27E+01 +/- 4.71E-01	3.64E+00	3.62E-04 +/- 1.73E-05
10	208.42	1.13E+00 +/- 2.91E-01	2.89E+00	3.89E-04 +/- 2.04E-05
11	239.02	1.05E+01 +/- 3.97E-01	2.64E+00	3.80E-04 +/- 1.94E-05
12	279.54	7.41E-01 +/- 2.02E-01	2.46E+00	3.58E-04 +/- 1.69E-05
13	300.10	6.92E-01 +/- 1.68E-01	2.41E+00	3.45E-04 +/- 1.56E-05
14	311.90	3.15E-01 +/- 1.36E-01	2.39E+00	3.37E-04 +/- 1.49E-05
15	375.67	8.51E-01 +/- 1.92E-01	2.26E+00	2.97E-04 +/- 1.19E-05
16	413.70	8.05E-01 +/- 1.55E-01	2.20E+00	2.75E-04 +/- 1.09E-05
17	511.60	2.28E+00 +/- 1.77E-01	2.07E+00	2.29E-04 +/- 9.82E-06
18	584.29	4.80E+00 +/- 2.27E-01	1.98E+00	2.02E-04 +/- 9.31E-06
19	662.42	1.13E-01 +/- 7.94E-02	1.91E+00	1.80E-04 +/- 8.65E-06
20	728.89	9.75E-01 +/- 1.29E-01	1.86E+00	1.66E-04 +/- 7.97E-06
21	787.18	8.95E-02 +/- 6.01E-02	1.81E+00	1.55E-04 +/- 7.32E-06
22	862.46	6.57E-01 +/- 9.79E-02	1.77E+00	1.44E-04 +/- 6.45E-06
23	1625.08	1.02E-01 +/- 6.23E-02	1.52E+00	1.04E-04 +/- 1.05E-05
24	1761.05	8.85E-02 +/- 3.31E-02	1.50E+00	1.04E-04 +/- 1.35E-05
25	2621.83	2.50E+00 +/- 1.59E-01	1.44E+00	1.24E-04 +/- 4.22E-05

Segment: 12 Detector: DET01 (# 1) Position: 12

Elapsed Live Time: 113.28 sec Elapsed Real Time: 115.00 sec

BWM 2002-02-108

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.086 +/- 0.0163
SE-75	264.65	0.000 +/- 0.0000	0.130 +/- 0.0021
SE-75	279.53	0.000 +/- 0.0000	0.138 +/- 0.0031
SE-75	400.65	0.000 +/- 0.0000	0.167 +/- 0.0041

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.14	3.78E+00 +/- 2.89E-01	4.10E+00	6.25E-07 +/- 8.81E-07
2	35.10	1.01E+03 +/- 4.78E+00	3.46E+00	7.63E-06 +/- 6.33E-06
3	59.62	2.62E+01 +/- 6.07E-01	2.62E+00	6.65E-05 +/- 2.30E-05
4	100.08	4.30E+01 +/- 8.02E-01	2.32E+00	2.21E-04 +/- 2.17E-05
5	121.11	1.59E+00 +/- 3.79E-01	2.25E+00	2.85E-04 +/- 1.67E-05
6	129.29	3.73E+00 +/- 3.83E-01	2.22E+00	3.04E-04 +/- 1.59E-05
7	152.68	1.25E+01 +/- 4.56E-01	2.17E+00	3.45E-04 +/- 1.67E-05
8	208.41	1.43E+00 +/- 2.03E-01	2.06E+00	3.76E-04 +/- 1.99E-05
9	239.08	9.69E+00 +/- 3.75E-01	2.01E+00	3.71E-04 +/- 1.91E-05
10	279.54	5.57E-01 +/- 1.63E-01	1.93E+00	3.54E-04 +/- 1.68E-05
11	300.10	8.18E-01 +/- 1.70E-01	1.91E+00	3.43E-04 +/- 1.55E-05
12	345.41	4.11E-01 +/- 1.23E-01	1.87E+00	3.17E-04 +/- 1.31E-05
13	375.75	1.12E+00 +/- 1.88E-01	1.85E+00	3.00E-04 +/- 1.19E-05
14	413.70	1.14E+00 +/- 1.51E-01	1.82E+00	2.79E-04 +/- 1.09E-05
15	511.59	1.97E+00 +/- 1.72E-01	1.73E+00	2.34E-04 +/- 9.75E-06
16	584.39	4.35E+00 +/- 2.12E-01	1.67E+00	2.08E-04 +/- 9.24E-06
17	662.42	1.05E-01 +/- 6.20E-02	1.62E+00	1.85E-04 +/- 8.58E-06
18	728.98	9.00E-01 +/- 1.04E-01	1.59E+00	1.70E-04 +/- 7.89E-06
19	862.22	4.98E-01 +/- 8.53E-02	1.53E+00	1.46E-04 +/- 6.33E-06
20	1112.12	4.80E-02 +/- 3.81E-02	1.45E+00	1.19E-04 +/- 4.27E-06
21	2621.86	2.37E+00 +/- 1.56E-01	1.31E+00	9.61E-05 +/- 3.26E-05

Segment: 13 Detector: DET01 (# 1) Position: 13

Elapsed Live Time: 113.49 sec Elapsed Real Time: 115.00 sec

Rotw 2002-02-109

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.150 +/- 0.0176
SE-75	264.65	0.000 +/- 0.0000	0.257 +/- 0.0031
SE-75	279.53	0.000 +/- 0.0000	0.261 +/- 0.0043
SE-75	400.65	0.000 +/- 0.0000	0.304 +/- 0.0056

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.19	2.46E+00 +/- 2.50E-01	4.10E+00	1.11E-06 +/- 1.62E-06
2	35.10	1.01E+03 +/- 4.77E+00	2.80E+00	1.10E-05 +/- 9.51E-06
3	59.62	2.22E+01 +/- 5.51E-01	2.19E+00	8.10E-05 +/- 2.88E-05
4	100.08	3.07E+01 +/- 6.78E-01	1.97E+00	2.42E-04 +/- 2.38E-05
5	121.11	8.48E-01 +/- 3.15E-01	1.92E+00	3.03E-04 +/- 1.76E-05
6	129.29	2.97E+00 +/- 3.28E-01	1.90E+00	3.21E-04 +/- 1.67E-05
7	152.68	8.82E+00 +/- 3.88E-01	1.84E+00	3.57E-04 +/- 1.76E-05
8	208.45	8.78E-01 +/- 2.32E-01	1.71E+00	3.80E-04 +/- 2.07E-05
9	239.02	4.79E+00 +/- 2.85E-01	1.65E+00	3.72E-04 +/- 1.97E-05
10	279.54	3.48E-01 +/- 1.54E-01	1.60E+00	3.52E-04 +/- 1.71E-05
11	300.10	3.53E-01 +/- 1.28E-01	1.58E+00	3.40E-04 +/- 1.57E-05
12	311.90	2.09E-01 +/- 1.41E-01	1.57E+00	3.33E-04 +/- 1.50E-05
13	375.68	1.07E+00 +/- 1.56E-01	1.53E+00	2.95E-04 +/- 1.20E-05
14	413.70	1.03E+00 +/- 1.32E-01	1.51E+00	2.74E-04 +/- 1.10E-05
15	511.64	1.42E+00 +/- 1.37E-01	1.46E+00	2.29E-04 +/- 1.00E-05
16	584.26	2.27E+00 +/- 1.62E-01	1.43E+00	2.03E-04 +/- 9.55E-06
17	728.93	4.25E-01 +/- 8.59E-02	1.37E+00	1.64E-04 +/- 8.14E-06
18	862.26	3.49E-01 +/- 7.46E-02	1.34E+00	1.41E-04 +/- 6.49E-06
19	1445.78	6.11E-02 +/- 2.98E-02	1.25E+00	9.45E-05 +/- 6.61E-06
20	2621.73	1.33E+00 +/- 1.08E-01	1.20E+00	8.42E-05 +/- 3.00E-05

Segment: 14 Detector: DET01 (# 1) Position: 14

Elapsed Live Time: 113.70 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.379 +/- 0.0220
SE-75	264.65	0.000 +/- 0.0000	0.451 +/- 0.0044
SE-75	279.53	0.000 +/- 0.0000	0.461 +/- 0.0059
SE-75	400.65	0.000 +/- 0.0000	0.494 +/- 0.0074

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.23	1.56E+00 +/- 1.92E-01	2.43E+00	5.92E-07 +/- 5.79E-06
2	35.10	1.01E+03 +/- 4.76E+00	1.80E+00	8.94E-06 +/- 4.41E-05
3	59.61	1.54E+01 +/- 4.46E-01	1.54E+00	8.06E-05 +/- 1.25E-04
4	100.09	1.37E+01 +/- 4.66E-01	1.45E+00	2.43E-04 +/- 5.32E-05
5	129.29	1.50E+00 +/- 2.55E-01	1.42E+00	3.17E-04 +/- 1.90E-05
6	135.30	5.20E-01 +/- 2.36E-01	1.41E+00	3.27E-04 +/- 2.35E-05
7	152.68	2.67E+00 +/- 2.53E-01	1.40E+00	3.48E-04 +/- 3.50E-05
8	208.41	5.91E-01 +/- 1.76E-01	1.36E+00	3.63E-04 +/- 3.63E-05
9	239.10	1.36E+00 +/- 1.76E-01	1.35E+00	3.54E-04 +/- 2.77E-05
10	300.10	1.72E-01 +/- 1.14E-01	1.32E+00	3.25E-04 +/- 1.51E-05
11	375.80	3.94E-01 +/- 1.05E-01	1.30E+00	2.85E-04 +/- 1.47E-05
12	413.70	3.38E-01 +/- 8.22E-02	1.29E+00	2.67E-04 +/- 1.56E-05
13	584.13	5.59E-01 +/- 9.70E-02	1.24E+00	2.04E-04 +/- 1.28E-05
14	662.42	5.10E-02 +/- 3.51E-02	1.22E+00	1.83E-04 +/- 1.04E-05
15	1112.12	5.21E-02 +/- 3.69E-02	1.17E+00	1.16E-04 +/- 4.88E-06

Segment: 15 Detector: DET01 (# 1) Position: 15

Elapsed Live Time: 113.82 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.662 +/- 0.0273
SE-75	264.65	0.000 +/- 0.0000	0.682 +/- 0.0059
SE-75	279.53	0.000 +/- 0.0000	0.685 +/- 0.0076
SE-75	400.65	0.000 +/- 0.0000	0.704 +/- 0.0092

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.77E+00	1.31E+00	1.45E-08 +/- 6.96E-08
2	59.64	6.18E+00 +/- 2.92E-01	1.21E+00	1.10E-05 +/- 1.65E-05
3	100.11	3.59E+00 +/- 2.90E-01	1.18E+00	1.91E-04 +/- 4.06E-05
4	129.29	8.92E-01 +/- 1.86E-01	1.17E+00	3.37E-04 +/- 1.99E-05
5	152.68	1.13E+00 +/- 1.77E-01	1.16E+00	4.00E-04 +/- 3.89E-05
6	413.70	6.82E-02 +/- 4.63E-02	1.14E+00	2.52E-04 +/- 1.49E-05

7	778.90	3.76E-02	+/- 2.69E-02	1.10E+00	1.56E-04	+/- 7.35E-06
8	964.13	1.53E-02	+/- 1.48E-02	1.09E+00	1.35E-04	+/- 5.77E-06

Segment: 16 Detector: DET01 (# 1) Position: 16

Elapsed Live Time: 113.85 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.625 +/- 0.0269
SE-75	264.65	0.000 +/- 0.0000	0.682 +/- 0.0059
SE-75	279.53	0.000 +/- 0.0000	0.678 +/- 0.0076
SE-75	400.65	0.000 +/- 0.0000	0.714 +/- 0.0092

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.35E+00	9.52E-10 +/- 5.35E-09
2	59.65	2.29E+00 +/- 1.99E-01	1.25E+00	3.36E-06 +/- 5.92E-06
3	121.11	2.63E-01 +/- 1.63E-01	1.19E+00	2.01E-04 +/- 1.30E-05
4	1408.01	2.76E-02 +/- 1.97E-02	1.07E+00	7.39E-05 +/- 5.32E-06
5	1464.72	6.94E-02 +/- 2.45E-02	1.07E+00	7.05E-05 +/- 6.23E-06

Batch 2002-02-112

Summed Spectrum

Peak Locate Report

Sample ID: LL85701001
Peak Locate Performed on: 1-23-02 12:22:13 PM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192
Peak Search Sensitivity: 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
1	43.00	0.3611	21.42	7.67
2	46.50	0.1543	23.17	21.11
3	70.16	0.0400	34.99	526.37
4	119.39	0.0765	59.59	104.01
5	150.42	0.2733	75.09	7.82
6	200.41	0.0941	100.07	66.71
7	222.86	0.1778	111.29	15.92
8	259.43	0.1089	129.55	48.41
9	289.23	0.3216	144.45	6.41
10	306.41	0.1063	153.03	48.30
11	408.31	0.1699	203.94	19.53
12	417.23	0.1245	208.39	34.52
13	478.54	0.1125	239.03	41.06
14	556.11	0.3005	277.78	5.77
15	601.98	0.1957	300.70	12.86
16	625.59	0.1571	312.50	19.57
17	667.32	0.1510	333.35	21.98
18	691.92	0.1474	345.64	22.37
19	739.31	0.2932	369.31	6.41
20	752.09	0.1083	375.70	39.56
21	767.78	0.1941	383.54	13.62
22	788.01	0.1540	393.64	18.44
23	829.79	0.1112	414.52	36.76
24	847.52	0.2530	423.38	6.20
25	905.61	0.2015	452.40	11.19
26	1024.16	0.1501	511.63	18.09
27	1169.64	0.1079	584.31	34.31
28	1458.88	0.1614	728.83	15.67
29	1537.16	0.2694	767.93	6.38
30	1726.16	0.1807	862.36	11.94
31	3195.21	0.1996	1596.32	6.25
32	3252.34	0.2463	1624.87	5.40
33	5247.81	0.1076	2621.84	19.34

Errors quoted at 1.000 sigma

Bldg. 3002-03-113

Summed Spectrum

Peak Analysis Report

Sample ID: LL85701001
Peak Analysis Performed on: 1-23-02 12:22:13 PM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	39-	46	43.00	21.42	5.04E+03	119.92	4.73E+03
2	46-	49	46.50	23.17	6.60E+03	136.76	7.02E+03
3	66-	73	70.16	34.99	1.84E+06	1361.62	6.62E+03
4	115-	122	119.39	59.59	1.14E+05	406.62	2.48E+04
5	146-	154	150.42	75.09	1.92E+03	204.59	1.83E+04
6	196-	204	200.41	100.07	6.75E+04	387.89	3.85E+04
7	218-	226	222.86	111.29	4.67E+03	226.92	2.16E+04
8	255-	263	259.43	129.55	1.88E+04	226.93	1.53E+04
9	285-	293	289.23	144.45	6.26E+02	169.30	1.31E+04
10	302-	310	306.41	153.03	1.53E+04	199.65	1.15E+04
11	403-	412	408.31	203.94	7.99E+02	151.74	9.59E+03
12	412-	421	417.23	208.39	4.46E+03	163.40	9.58E+03
13	473-	483	478.54	239.03	1.16E+04	160.20	5.93E+03
14	551-	560	556.11	277.78	7.47E+02	88.99	3.18E+03
15	597-	606	601.98	300.70	1.19E+03	88.80	2.96E+03
16	620-	630	625.59	312.50	2.59E+03	98.68	3.01E+03
17	662-	672	667.32	333.35	2.06E+03	102.29	3.47E+03
18	686-	696	691.92	345.64	2.17E+03	93.51	2.73E+03
19	734-	744	739.31	369.31	9.20E+02	75.77	2.01E+03
20	746-	757	752.09	375.70	6.54E+03	113.69	2.55E+03
21	767-	773	767.78	383.54	6.16E+02	60.73	1.33E+03
22	782-	793	788.01	393.64	2.39E+03	79.60	1.58E+03
23	824-	835	829.79	414.52	6.37E+03	97.01	1.22E+03
24	842-	852	847.52	423.38	3.02E+02	54.81	1.12E+03
25	900-	911	905.61	452.40	8.18E+02	55.32	8.95E+02
26	1018-	1029	1024.16	511.63	2.51E+03	67.00	7.93E+02
27	1163-	1175	1169.64	584.31	5.14E+03	81.14	5.49E+02
28	1452-	1465	1458.88	728.83	9.90E+02	43.88	3.40E+02
29	1530-	1543	1537.16	767.93	2.93E+02	34.18	3.17E+02
30	1719-	1732	1726.16	862.36	6.69E+02	35.18	2.07E+02
31	3186-	3203	3195.21	1596.32	4.45E+02	32.27	1.83E+02
32	3244-	3260	3252.34	1624.87	1.84E+02	25.26	1.44E+02
33	5237-	5257	5247.81	2621.84	2.75E+03	54.49	6.20E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-02-114

Summed Spectrum

Nuclide Identification Report

Sample ID: LL85701001
Nuclide Library Used: C:\WAS\NLIB\LLNL.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/)	Activity Uncertainty
Pulser	0.999	35.10*	100.00	1.841E+06	3.779E+06
Np-237	0.975	300.10*	6.63	2.090E+01	1.562E+00
		311.90*	38.60	7.940E+00	3.063E-01
Pu-238	0.991	152.68*	0.00	1.911E+06	3.512E+04
Pu-239	0.953	413.70*	0.00	5.996E+05	1.402E+04
Pu-239A	0.995	129.29*	0.01	4.073E+05	1.000E+04

* = Energy line found in the spectrum.
Energy Tolerance : 1.500 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 1.000 sigma

Batch 3003-82-US

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 1-23-02 12:22:13 PM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	21.42	4.4172E+01	2.38
2	23.17	5.7900E+01	2.07
4	59.59	9.9760E+02	0.37
5	75.09	1.6872E+01	10.63
6	100.07	5.9220E+02	0.58
7	111.29	4.0974E+01	4.86
9	144.45	5.4910E+00	27.04
11	203.94	7.0033E+00	19.00
12	208.39	3.9133E+01	3.66
13	239.03	1.0156E+02	1.39
14	277.78	6.5517E+00	11.91
17	333.35	1.8075E+01	4.96
18	345.64	1.9029E+01	4.31
19	369.31	8.0712E+00	8.23
20	375.70	5.7377E+01	1.74
21	383.54	5.4029E+00	9.86
22	393.64	2.0921E+01	3.34
24	423.38	2.6466E+00	18.16
25	452.40	7.1699E+00	6.77
26	511.63	2.1973E+01	2.68
27	584.31	4.5091E+01	1.58
28	728.83	8.6821E+00	4.43
29	767.93	2.5682E+00	11.67
30	862.36	5.8709E+00	5.26
31	1596.32	3.9059E+00	7.25
32	1624.87	1.6176E+00	13.70
33	2621.84	2.4082E+01	1.99

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 7903-83-116

Combined Segment NID

NID Results Combiner Mode: Sum Activities

Nuclide		Total Activity (uCi)				Concentration (uCi/g)		
Pulser		4.23E+07	+/-	2.18E+08		8.03E+02	+/-	4.15E+03
SE-75		4.39E-01	+/-	1.08E-01		8.34E-06	+/-	2.05E-06
EU-152x	<	3.63E-01	+/-	2.40E-02	<	6.90E-06	+/-	4.57E-07
U-233		1.12E+04	+/-	5.09E+03		2.13E-01	+/-	9.68E-02
U-235	<	2.26E-01	+/-	1.23E-02	<	4.30E-06	+/-	2.34E-07
Np-237		1.18E+01	+/-	4.55E-01		2.25E-04	+/-	8.65E-06
Pu-238		3.17E+06	+/-	9.54E+04		6.02E+01	+/-	1.81E+00
U-238	<	6.89E+00	+/-	3.19E-01	<	1.31E-04	+/-	6.06E-06
Pu-239		8.15E+05	+/-	2.24E+04		1.55E+01	+/-	4.26E-01
Pu-239A		6.77E+05	+/-	1.99E+04		1.29E+01	+/-	3.78E-01
Am-241		1.10E+05	+/-	1.83E+04		2.10E+00	+/-	3.48E-01
Pu-241	<	1.02E+05	+/-	4.91E+03	<	1.93E+00	+/-	9.34E-02

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
SE-75	3.02E-11	+/-	7.42E-12
U-233	1.16E+00	+/-	5.29E-01
Np-237	1.68E-02	+/-	6.46E-04
Pu-238	1.85E-01	+/-	5.57E-03
Pu-239	1.31E+01	+/-	3.61E-01
Pu-239A	1.09E+01	+/-	3.20E-01
Am-241	3.23E-02	+/-	5.34E-03

Batch 2002-02-117

Summed Spectrum

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		1.84E+06	+/-	3.78E+06	3.50E+01	+/-	7.18E+01
SE-75	<	6.14E-01	+/-	4.42E-03	< 1.17E-05	+/-	8.39E-08
EU-152x	<	1.12E+00	+/-	1.76E-02	< 2.12E-05	+/-	3.35E-07
U-233	<	3.48E+04	+/-	6.40E+02	< 6.62E-01	+/-	1.22E-02
U-235	<	9.27E-01	+/-	1.76E-02	< 1.76E-05	+/-	3.34E-07
Np-237		8.42E+00	+/-	3.01E-01	1.60E-04	+/-	5.72E-06
Pu-238		1.91E+06	+/-	3.51E+04	3.63E+01	+/-	6.68E-01
U-238	<	2.69E+01	+/-	4.13E-01	< 5.11E-04	+/-	7.86E-06
Pu-239		6.00E+05	+/-	1.40E+04	1.14E+01	+/-	2.66E-01
Pu-239A		4.07E+05	+/-	1.00E+04	7.74E+00	+/-	1.90E-01
Am-241	<	6.05E+04	+/-	4.29E+02	< 1.15E+00	+/-	8.16E-03
Pu-241	<	4.18E+05	+/-	5.52E+03	< 7.94E+00	+/-	1.05E-01

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
Np-237	1.20E-02	+/-	4.27E-04
Pu-238	1.12E-01	+/-	2.05E-03
Pu-239	9.65E+00	+/-	2.26E-01
Pu-239A	6.56E+00	+/-	1.61E-01

Batch 2002-02-118

Final Non-Uniformity Results

Source Longitudinal Ratio: 0.962 +/- 14.5117
Matrix Longitudinal Ratio: 0.924 +/- 0.0954

Source Vertical Ratio: 0.765 +/- 0.3920
Matrix Vertical Ratio: 0.978 +/- 0.0517

NUDS could not find the transmission peak in one radial segment.

Batch 2002-02-119

LAWRENCE LIVERMORE NATIONAL LABORATORY

WASTE DISPOSAL REQUISITION

W 211298

H1. Label/Waste Type:
☐ Non-Haz (N) ☐ RCRA Haz (H) ☐ CA Haz (C) ☐ NTS LLW (L)
☐ Low-Level (R) ☐ LLW Mixed (F) ☐ LLW Combined (S) ☒ TRU (T) ☐ TRU Mixed (X)

1. Container ID Number or Tank ID or for TRU Waste, TRU Waste Container Serial No.: Q- LL85-7 01001 TRU-

H2. CCC: DS

H3. Storage Restrictions
Not acceptable at the following locations:
☐ 233 ☐ 514 ☐ 612 ☐ 693 ☐ 696
CWAA ☐ 169 ☑ 361 ☐ 612-4

2. Container Use/Acceptability: ☐ On-site use only; ☑ Acceptable for off-site use
Container Manufacturer Serial No./Batch No.: B342576 ☐ N/A
Employee No.: 691484 Initials: [illegible] Date: 08-17-01

3. RMMA: ☒ Yes ☐ No

4. Waste Form:
☒ Solid ☐ Liquid ☐ Gas ☐ Sludge

H4. Hazardous Properties:
☐ Toxic ☐ Corrosive ☐ Ignitable ☐ Reactive

5. Outer Container Type:
☐ Box ☐ Sack ☐ Can ☐ SWB ☐ Carboy ☐ Tub ☒ Drum ☐ Bag ☐ Tank – Fixed ☐ Tank – Portable ☐ Transportainer
Other:

6. Outer Container Size/Vol:
☐ 1 gal ☒ 55 gal ☐ 67 cu ft
☐ 2 gal ☐ 85 gal ☐ 1 × 1 × 1.5
☐ 5 gal ☐ 330 gal ☐ 2 × 4 × 7
☐ 10 gal ☐ 660 gal ☐ 4 × 4 × 7
☐ 12 gal ☐ 750 gal ☐ 1 cu yd
☐ 20 gal ☐ 1000 gal ☐ 8 × 8 × 20
☐ 30 gal ☐ 5000 gal ☐ 8 × 8 × 40
Other: ☐ gal ☐ cu ft

7. Building No.: 332
8. Room No.: 1378
9. Location: ATGEN
10. Workplace Start Date: 08/20/01
11. Workplace End Date: 8/24/01
12. Account No.: 5481-50
13. Directorate: DNT
14. WEF/PKE/SAW/PIW: ☐ WEF ☒ PKE ☐ SAW ☐ PIW Specify No.: 245 ☐ N/A
15. Source Code: A940
16. Inner Containers ☒ Yes ☒ No

17. Item No.	18. Spent or Unused (S/U)	19. Organic or Inorganic (O/I)	20. Waste Form (S,SL,L,G)	21. Waste Description (For multiple parcels, list Parcel Card Nos.)	22. Hazardous Constituents and Concentrations	23. Item Container Size	24. Quantity per Item Amount	Units	25. Analysis Sample No.	Physical Waste Data: 26. Aqueous Only pH	Normality	27. Flash Point
				P021927 · P051216 ·								
				~~P021932~~ 8/20/01								
				P021943 ·								
				P051637 ·								
				P051638 ·								
				P051215 ·								
				P051639 ·								

28. Does the waste contain radioactive components? ☒ Yes ☐ No ☐ To be analyzed
(If yes or TBA, complete Page 3 as applicable to waste type.)

This section (Steps 29–30) is required for Hazardous Waste generated in a RMMA

29. Was the waste kept isolated from any operation that could have produced radioactive contamination (using a glove box, vent hood, etc.)? ☒ Yes ☐ No (If no, full rad analysis required)

30. Was the waste exposed to particle beams capable of inducing radioactivity by activation? ☐ Yes ☒ No (If yes, full rad analysis required)

31. ☒ Generator: I certify, to the best of my knowledge, that the information provided on this requistion is correct. I understand that I may be liable to State and Federal prosecution by intentionally providing false information. I have obtained this information by:
☒ Direct knowledge of the waste generating process ☐ Analytical Data
☐ Obtaining sufficient information from others knowledgeable of the waste generating process
☒ Container Custodian: I certify that the waste parcels identified on this form are contained in this waste container and have been packaged in accordance with the requirements specified in the appropriate LLNL TRU or Low-Level Waste Program Certification and Quality Assurance Program.

Generator or Container Custodian Name (Print – Last, First): Summers, Harry V.
Signature: Harry V. Summers
Employee No.: 000806 L-Code: 361 Ext.: 35816 Date: 08/24/01

H5. Inspected By: Signature: | Employee No.: | Date:

H6. Characterization Chemist Approval:
☐ Acceptable for Sampling ____ (Initials) Exempt: ☐ OP ☐ SA ☒ DE
Signature: ☐ WEF E. Newton Ledbetter | Employee No.: 690278 | Date: 12-19-01

H7. RCA Approval: ☐ Overpack for final shipment to NTS ☐ Meets SCAL
☐ Decay Program (Initials) ____ ☐ NTS Certified (Initials) ____ ☐ WIPP Certified (Initials) ____ ☐ On-site Treatment
Signature: ☐ WEF | Employee No.: | Date:

☐ On Hold – Pending S&A
☐ Released

31A. Gross Weight: 84.4 Kg

Radioactive page attached: ☒ Yes ☐ N/A
Continuation page(s) attached: ☐ Yes ☒ N/A

32. Waste Profile No., TRU Waste Form No., or Bin No.: 1, 2b

☐ HWM Use Only

LL-5344 (4/01)

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002.02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS 2.3A

****
* DRUM INFORMATION *
****

Drum Package ID: LL85500979
Sequence Number: 824
Assay Date & Time: 1-23-2002 1:20:36 PM
Drum Package GROSS Weight: 75.00 kg NET Weight: 43.20 kg

IDC Number: LL85500979

QC Replicate (Yes/No): NO Passed (Yes/No): _____

Operator Name (Printed): Russell Ratliff

Operator Signature: _____ Date: 1-23-02

Independent Reviewer: _____ Date: 5-16-02

Expert Reviewer: _____ Date: 5/2/02

Tech. Supv/QA Officer: _____ Date: 5/20/02

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 3.376E-01 +/- 8.536E-02 Ci

Batch 2002-02-121

****
* I S O T O P I C I N F O R M A T I O N *
****

Isotope	Measured Mass (g)	Mass Uncertainty (g)	MDC(g)
Pu-238	1.783E-03	6.979E-04	3.896E-05
Pu-239	3.440E+00	1.298E+00	7.517E-02
Pu-240	2.271E-01	8.693E-02	4.962E-03
Pu-241	5.733E-03	2.197E-03	7.933E-04
Pu-242	1.058E-03	4.597E-04	2.312E-05
Am-241	1.177E-02	4.500E-03	2.602E-03
*Am-243	N/A	N/A	0.000E+00
Np-237	2.596E-02	1.464E-02	2.909E-04
U-235	1.818E-01	9.786E-02	9.853E-02
*U-238	N/A	N/A	1.818E+01
*U-233	N/A	N/A	1.480E+00

* = Activity/Mass below detectable limit.

Total Pu Mass: 3.68E+00 +/- 1.30E+00 g

****
* M G A R E S U L T S *
****

NUCLIDE	% Weight	% Error(1-Sigma)
Pu-238	4.851E-02	5.32E+00
Pu-239	9.359E+01	2.24E-01
Pu-240	6.178E+00	3.32E+00
Pu-241	1.560E-01	3.45E+00
Pu-242	2.878E-02	1.10E+01
Am-241	3.203E-01	3.14E+00
Np-237	7.061E-01	2.14E+01
U-235	4.947E+00	1.96E+01

Batch 2002-02-122

ACTIVITY INFORMATION

Procedure ID & Rev: OP-B332-005
Software Version: GWAS V2.3A RADA V2.1

Assay Date & Time: 1-23-2002 1:20:36 PM
Report Generated: 5-02-2002 3:52:05 PM

Drum Package ID: LL85500979
Sequence Number: 824

Waste Classification (TRU or LLW): TRU

		Errors at 1.96 sigma	
Total Alpha Activity :	3.376E-01	+/- 8.536E-02	Ci
Total TRU Activity :	7.816E+03	+/- 1.976E+03	nCi/g
Pu-239 Equiv Activity:	3.465E-01	+/- 8.533E-02	Ci
Fissile Gram Equiv Mass:	3.641E+00	+/- 1.309E+00	g
Total Decay Heat:	1.074E-02	+/- 2.688E-03	W
TMU Value:	37.72 %		

ISOTOPIC INFORMATION

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error
Pu-238	3.08E-02	1.21E-02	1.78E-03	6.98E-04
Pu-239	2.14E-01	8.06E-02	3.44E+00	1.30E+00
Pu-240	5.22E-02	2.00E-02	2.27E-01	8.69E-02
Pu-241	5.96E-01	2.28E-01	5.73E-03	2.20E-03
Pu-242	4.20E-06	1.83E-06	1.06E-03	4.60E-04
Am-241	4.09E-02	1.56E-02	1.18E-02	4.50E-03
*Am-243	N/A	N/A	N/A	N/A
Np-237	1.85E-05	1.04E-05	2.60E-02	1.46E-02
U-235	3.98E-07	2.14E-07	1.82E-01	9.79E-02
*U-238	N/A	N/A	N/A	N/A
*U-233	N/A	N/A	N/A	N/A

* = Activity/Mass below detectable limit.

Total Pu Mass: 3.68E+00 +/- 1.30E+00 g

MGA RESULTS

NUCLIDE	% Weight	% Error(1-Sigma)
Pu-238	4.851E-02	5.32E+00
Pu-239	9.359E+01	2.24E-01
Pu-240	6.178E+00	3.32E+00
Pu-241	1.560E-01	3.45E+00
Pu-242	2.878E-02	1.10E+01
Am-241	3.203E-01	3.14E+00
Np-237	7.061E-01	2.14E+01
U-235	4.947E+00	1.96E+01

Batch 2002-02-123

SGS Expert Review Checklist

Container Identification #: LL85500979_____ Original Assay Date:1-23-2002__

1. *WCP-41, §6.1:* A MGA report ☒ is present or ☐ expert review has provided isotopic ratios from SGS or AK. Comment: ☒ No comments
2. *WCP-41, §6.1:* MGA and AK ☒ agree as to radiological composition or, if not, ☐ expert review has resolved this. Comment: ☒ No comments
3. *WCP-41, §6.2.1:* ☒ Pu-238 ≤ 2% by weight of total Pu or, if not, ☐ expert review has addressed this and assigned a Pu-240 value. Comment: ☒ No comments
4. *WCP-41, §6.2.2:* ☐ Neither Np-237 nor U-235 is identified by MGA or ☒ expert review has addressed possible interferences from these radionuclides.
   Comment: U-235 is identified by MGA and there is no interference. ☐ No comments
5. *WCP-41, §6.2.2.2:* ☒ Am-241 separation date is 1950 or later or ☐ expert review has addressed possible interferences. Comment: ☒ No comments
6. *WCP-41, §6.3.1.1.a:* ☒ Bulk density of waste ≤ 0.6 g/ml or ☐ expert review has addressed the high density of the drum. Comment: ☒ No comments
7. *WCP-41, §6.3.1.2.a:* ☐ Transmission in every segment ≥ 0.1% for the Se-75 peaks at 136 keV or 265 keV or ☒ expert review has addressed the low transmission.
   Comment: The 136 keV transmission is zero in segment 9 and low in many others. However, the 265 keV transmission is acceptable and the Pu-239/Pu239a ratio is fine. ☐ No comments
8. *WCP-41, §6.3.1.2.a:* ☒ Transmission in every segment ≥1% for the Se-75 peak at 401 keV or ☐ expert review has addressed the low transmission. Comment: The transmission is low indicating that this is a 'metals' drum and therefore the combined NID will be preferred when calculating the RADA. ☐ No comments
9. *WCP-41, §6.3.1.3.b:* ☒ Dead time in every segment ≤ 50% or ☐ expert review has addressed the high dead time. Comment: ☒ No comments
10. *WCP-41, §6.3.1.3.c:* ☒ Pu-239 masses determined from the 414 keV peak and the 129 keV peak agree by a factor of < 2.5 or ☐ expert review has addressed possible matrix inhomogeneity. Comment: ☒ No comments
11. *WCP-41, §6.3.2.3:* Cs-137 (☐ has) (☒ has not) been identified by expert review. If it has, Sr-90 is reported ☐ at an activity ratio to Cs-137of 0.39 for Pu fission or ☐ at a ratio of 1 for U-235 fission or, ☐ if both Pu and U are present, the expert reviewer has determined the ratio. Comment: ☒ No comments

Batch 2002-02-124

SGS Expert Review Checklist

Container Identification #: LL85500979_____ Original Assay Date:1-23-2002__

12. *WCP-41, §6.3.2.4:* ☐ No unusual nuclides are identified (none other than the 10 required to be reported to WIPP) or ☒ the expert reviewer has checked for interferences from unusual nuclides. Comment: Both Np-237 and U-235 are included. The high Np-237 value is confirmed by GWAS and MGA. ☐ No comments

13. *WCP-41, §6.3.3:* For waste drums (☐ NA for standards), ☐ the Summed Spectrum report value for Pu-239 and the Combined Segment NID report for Pu-239 agree within 95% confidence limits (the same as for replicates of unknowns) or ☒ expert review has addressed the difference. Comment: The combined NID/summed NID result is just outside of three sigma. Because this seems to be a 'metals' drum the combined NID is relied on and one should not expect the two to agree.☐ No comments

14. *WCP-41, §6.4:* ☐ The SGS Summed Spectrum and Combined Segment NID reports agree as to the ratios by weight of several radionuclides, such as those of Am-241, Pu-241, Np-237, Am-243, and U-235 to Pu-239, and MGA results agree as to identifying these radionuclides or ☒ expert review has resolved this. Comment: See comment to #13. ☐ No comments

15. *WCP-41, §6.6.1:* ☐ All reported radionuclide masses are above 2.5 times the uncorrected MDA or ☒ expert review has calculated transmission-corrected MDA's and taken appropriate action. Comment: The transmission is calculated to be less than 1.8. ☐ No comments

16. *WCP-41, §6.6.2:* ☒ Any changes to reported quantities of individual radionuclides have been entered into the RADA program and a new radioassay data sheet has been produced, showing revised derivative quantities, and included in the batch data report, along with the marked up original. Comment: ☒ No comments

17. *CP-41, §6.7:* ☒ Counting statistics are adequate for normal passive count time of 120 seconds per segment or ☐ Counting statistics are adequate for long passive count time of 600 seconds per segment or ☐ expert review has rejected the count and ordered a longer count time. Comment: ☒ No comments

Kenneth Raschke — Expert Reviewer (print)

Kenneth Raschke — Signature

5/2/02 — Date

****
***** M G A R E P O R T *****
****

Report generated on: 1-23-02 2:17:11 PM

MGA version: MGA V9.5 CI

Spectrum ID: 11200824.CNF Sens : 30.0% LT: 55.7 Mins DT: 0.41
Measurement date: 1-23-02 Declared date: 1-23-02

Sample ID: LL85500979 Detector: Total counts: 8.474E+05

Pu g/cm2 = 0.4440 Cd g/cm2 = 1.5197 FWHM at 122 keV = 692 eV
QFIT = 1.00 FWHM at 208 keV = 888 eV
NQFIT = 1.00

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	Meas. date %Err	Decl. date % weight	Decl. date %Err
Pu-238	0.000518	5.4	4.4	0.3111	4.8	0.04851	5.32	0.04851	5.32
Pu-239	1.000000	0.0	2.7	600.1171	3.6	93.58883	0.22	93.58883	0.22
Pu-240	0.066011	3.5	2.5	39.6146	3.4	6.17794	3.32	6.17794	3.32
Pu-241	0.001666	3.6	2.4	1.0000	0.0	0.15595	3.45	0.15595	3.45
Pu-242	(New alg.)			0.1846	(11)	0.02878	(11)	0.02878	(11)
Am-241	0.003423	3.3	1.4	2.0539	2.7	0.32031	3.14	0.32031	3.14
Np-237						0.70612	21.38		
U-235	0.052859	19.4	19.6			4.94700	19.58	4.94700	19.58

Pu-240 effective (meas. date) = 6.349 +/- 4.11%
Am-241 separated about 23.296 +/- 0.531 years ago
Am/Pu-241 weight ratio = 2.05393 +/- 2.77%

Messages :

Lead x-rays observed : Np-237 results could be affected.
Calculations in MGAABS didn't converge : results may be suspect.
Efficiency curvature boundary reached.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Batch 2002-02-126

NOT VALID KSR

****
* ISOTOPIC INFORMATION *
****

Isotope	Measured Mass (g)	Mass Uncertainty (g)	MDC (g)
Pu-238	1.783E-03	6.98E-04	3.896E-05
Pu-239	3.440E+00	1.30E+00	7.517E-02
Pu-240	2.271E-01	8.69E-02	4.962E-03
Pu-241	5.733E-03	2.20E-03	7.933E-04
Pu-242	1.058E-03	4.60E-04	2.312E-05
Am-241	1.177E-02	4.50E-03	2.602E-03
Am-243	0.000E+00	0.00E+00	0.000E+00
Np-237	2.596E-02	1.46E-02	2.909E-04
U-235	1.818E-01	9.79E-02	9.853E-02
U-238	1.818E+01	7.02E+00	1.818E+01
U-233	1.480E+00	5.53E-01	1.480E+00

Total Pu Mass: 3.68E+00 +/- 1.18E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	4.851E-02	5.32E+00
Pu-239	9.359E+01	2.24E-01
Pu-240	6.178E+00	3.32E+00
Pu-241	1.560E-01	3.45E+00
Pu-242	2.878E-02	1.10E+01
Am-241	3.203E-01	3.14E+00
Np-237	7.061E-01	2.14E+01
U-235	4.947E+00	1.96E+01

Gamma Waste Assay

Sample Information

File Name: C:\WAS\DATA\900\11100824.S11
Sample ID: LL85500979 Count Sequence Number: 824
Assay Start: 1-23-02 1:20:38 PM
Description 1: unknown
Description 2:
Location: 7715
Comment:
Waste Type:
Weight: Gross: 75000.0 g Net: 43200.0 g
Density: 0.208 g /ml

Container Type: 55 Gal Galv
Container: Volume: 208000. ml Full: 100.0 %

System Configuration

Counter ID Number: SGS
Arrangement Description: SGS
Segments: Number: 16 Offset: 0
Scanning Platform: Start: 934 mm Delta: -51 mm
Count Type: 55 Gal Galv
Collimator/Geometry Setting: 0
Transmission Mode: Two pass
Transmission Source: 0

Errors quoted at 1.000 sigma
Reference Source Date: Reference Source Rate: 1.01E+03 cps
Geometric Correction Factor(SWCONTGCF): 0.760
Date of efficiency calibration approval: 4-18-2001 12:41:36 PM
Mu Factors response file: Lucite
Transmission Calib. Time: 5-11-2001 2:20:42 PM 59052

Reviewed by: For: R. Ratti Date: 5/21/02

Batch 2002-02-129

Segment Results

Segment: 1 Detector: DET01 (# 1) Position: 1

Elapsed Live Time: 113.82 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.066 +/- 0.0125
SE-75	264.65	0.000 +/- 0.0000	0.168 +/- 0.0024
SE-75	279.53	0.000 +/- 0.0000	0.175 +/- 0.0034
SE-75	400.65	0.000 +/- 0.0000	0.237 +/- 0.0049

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.10	1.19E+00 +/- 1.56E-01	4.10E+00	9.02E-08 +/- 1.14E-06
2	35.10	1.01E+03 +/- 4.76E+00	3.79E+00	2.61E-06 +/- 1.64E-05
3	59.59	1.83E+01 +/- 4.68E-01	2.83E+00	3.75E-05 +/- 7.40E-05
4	98.93	1.76E+00 +/- 2.49E-01	2.49E+00	1.39E-04 +/- 4.06E-05
5	111.24	6.74E-01 +/- 1.99E-01	2.44E+00	1.65E-04 +/- 2.10E-05
6	129.29	1.79E+00 +/- 2.16E-01	2.38E+00	1.95E-04 +/- 1.38E-05
7	148.57	5.77E-01 +/- 1.44E-01	2.28E+00	2.15E-04 +/- 2.55E-05
8	208.27	4.63E-01 +/- 1.51E-01	2.01E+00	2.30E-04 +/- 2.81E-05
9	300.10	1.91E-01 +/- 7.95E-02	1.77E+00	2.04E-04 +/- 1.08E-05
10	311.90	1.96E+00 +/- 1.42E-01	1.76E+00	2.00E-04 +/- 1.03E-05
11	375.90	4.55E-01 +/- 7.89E-02	1.67E+00	1.77E-04 +/- 1.18E-05
12	400.66	8.83E-02 +/- 5.16E-02	1.64E+00	1.69E-04 +/- 1.25E-05
13	413.70	4.88E-01 +/- 7.82E-02	1.63E+00	1.65E-04 +/- 1.27E-05
14	452.93	1.29E-01 +/- 3.61E-02	1.61E+00	1.54E-04 +/- 1.30E-05
15	867.39	2.87E-02 +/- 1.92E-02	1.41E+00	8.96E-05 +/- 4.69E-06
16	1112.12	1.74E-02 +/- 1.23E-02	1.35E+00	7.35E-05 +/- 3.70E-06
17	1408.01	1.74E-02 +/- 1.23E-02	1.31E+00	6.19E-05 +/- 4.71E-06

Segment: 2 Detector: DET01 (# 1) Position: 2

Elapsed Live Time: 113.74 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:

Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.089 +/- 0.0016
SE-75	279.53	0.000 +/- 0.0000	0.093 +/- 0.0024
SE-75	400.65	0.000 +/- 0.0000	0.121 +/- 0.0034

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.18	1.71E+00 +/- 2.07E-01	4.10E+00	5.49E-10 +/- 5.24E-09
2	35.10	1.01E+03 +/- 4.78E+00	4.10E+00	2.21E-07 +/- 1.06E-06
3	59.61	3.62E+01 +/- 6.60E-01	4.10E+00	2.20E-05 +/- 3.31E-05
4	98.67	3.27E+00 +/- 3.60E-01	4.10E+00	1.83E-04 +/- 4.25E-05
5	103.46	1.38E+00 +/- 3.00E-01	4.10E+00	2.06E-04 +/- 3.59E-05
6	111.19	1.14E+00 +/- 2.61E-01	4.10E+00	2.41E-04 +/- 2.53E-05
7	129.29	4.59E+00 +/- 2.78E-01	4.10E+00	3.07E-04 +/- 1.84E-05
8	148.57	4.72E-01 +/- 1.78E-01	3.56E+00	3.54E-04 +/- 3.27E-05
9	208.54	1.28E+00 +/- 1.85E-01	2.60E+00	3.88E-04 +/- 3.70E-05
10	300.10	8.17E-01 +/- 1.19E-01	2.13E+00	3.27E-04 +/- 1.48E-05
11	311.90	3.34E+00 +/- 1.98E-01	2.12E+00	3.18E-04 +/- 1.39E-05
12	333.48	4.72E-01 +/- 1.16E-01	2.09E+00	3.02E-04 +/- 1.34E-05
13	345.85	2.70E-01 +/- 1.23E-01	2.07E+00	2.93E-04 +/- 1.35E-05
14	375.76	1.62E+00 +/- 1.34E-01	2.04E+00	2.74E-04 +/- 1.40E-05
15	393.87	4.38E-01 +/- 8.10E-02	2.02E+00	2.63E-04 +/- 1.43E-05
16	400.66	1.72E-01 +/- 5.37E-02	2.01E+00	2.59E-04 +/- 1.44E-05
17	413.70	1.08E+00 +/- 1.10E-01	1.99E+00	2.51E-04 +/- 1.46E-05
18	778.90	5.11E-02 +/- 2.97E-02	1.68E+00	1.44E-04 +/- 6.92E-06
19	867.39	5.28E-02 +/- 3.11E-02	1.64E+00	1.33E-04 +/- 6.03E-06
20	1408.01	8.80E-03 +/- 8.80E-03	1.47E+00	9.61E-05 +/- 6.36E-06

Segment: 3 Detector: DET01 (# 1) Position: 3

Elapsed Live Time: 113.68 sec Elapsed Real Time: 115.00 sec

Batch 2002-02-131

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.087 +/- 0.0135
SE-75	264.65	0.000 +/- 0.0000	0.182 +/- 0.0025
SE-75	279.53	0.000 +/- 0.0000	0.183 +/- 0.0035
SE-75	400.65	0.000 +/- 0.0000	0.238 +/- 0.0049

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.09	2.81E+00 +/- 2.25E-01	4.10E+00	9.98E-09 +/- 9.82E-08
2	35.10	1.01E+03 +/- 4.76E+00	3.45E+00	1.07E-06 +/- 5.27E-06
3	59.60	4.52E+01 +/- 7.29E-01	2.61E+00	3.79E-05 +/- 5.87E-05
4	98.78	5.34E+00 +/- 3.80E-01	2.32E+00	2.01E-04 +/- 4.75E-05
5	111.57	8.48E-01 +/- 3.00E-01	2.27E+00	2.50E-04 +/- 2.62E-05
6	114.39	3.82E-01 +/- 2.26E-01	2.26E+00	2.59E-04 +/- 2.24E-05
7	129.29	5.96E+00 +/- 3.08E-01	2.22E+00	3.02E-04 +/- 1.84E-05
8	148.57	4.55E-01 +/- 2.03E-01	2.14E+00	3.39E-04 +/- 3.24E-05
9	208.36	1.68E+00 +/- 2.19E-01	1.93E+00	3.66E-04 +/- 3.64E-05
10	300.10	9.34E-01 +/- 1.35E-01	1.75E+00	3.20E-04 +/- 1.49E-05
11	311.90	4.61E+00 +/- 2.19E-01	1.74E+00	3.13E-04 +/- 1.40E-05
12	333.43	5.14E-01 +/- 1.23E-01	1.71E+00	3.00E-04 +/- 1.35E-05
13	345.69	4.42E-01 +/- 9.55E-02	1.70E+00	2.93E-04 +/- 1.36E-05
14	375.72	1.66E+00 +/- 1.48E-01	1.67E+00	2.76E-04 +/- 1.44E-05
15	383.51	2.22E-01 +/- 9.31E-02	1.66E+00	2.72E-04 +/- 1.46E-05
16	400.66	1.04E-01 +/- 5.79E-02	1.64E+00	2.63E-04 +/- 1.50E-05
17	413.70	1.38E+00 +/- 1.29E-01	1.63E+00	2.57E-04 +/- 1.52E-05
18	452.43	1.42E-01 +/- 5.36E-02	1.60E+00	2.40E-04 +/- 1.54E-05
19	662.42	6.34E-02 +/- 3.29E-02	1.49E+00	1.78E-04 +/- 1.02E-05
20	778.90	8.69E-03 +/- 1.58E-02	1.44E+00	1.57E-04 +/- 7.69E-06

Segment: 4 Detector: DET01 (# 1) Position: 4

Elapsed Live Time: 113.70 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.114 +/- 0.0135
SE-75	264.65	0.000 +/- 0.0000	0.198 +/- 0.0026
SE-75	279.53	0.000 +/- 0.0000	0.207 +/- 0.0037
SE-75	400.65	0.000 +/- 0.0000	0.256 +/- 0.0051

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
	1	23.22	2.10E+00 +/- 2.22E-01	4.10E+00	3.35E-06 +/- 4.71E-06
	2	35.10	1.01E+03 +/- 4.78E+00	3.12E+00	2.00E-05 +/- 1.66E-05
	3	59.63	3.78E+01 +/- 6.60E-01	2.40E+00	9.84E-05 +/- 3.39E-05
	4	98.76	4.35E+00 +/- 3.73E-01	2.14E+00	2.40E-04 +/- 2.42E-05
	5	103.54	2.71E+00 +/- 2.42E-01	2.13E+00	2.53E-04 +/- 2.23E-05
	6	129.29	5.84E+00 +/- 3.06E-01	2.06E+00	3.12E-04 +/- 1.61E-05
	7	204.02	3.18E-01 +/- 1.73E-01	1.86E+00	3.70E-04 +/- 1.94E-05
	8	208.49	1.38E+00 +/- 2.26E-01	1.85E+00	3.71E-04 +/- 1.94E-05
	9	300.10	6.07E-01 +/- 1.11E-01	1.69E+00	3.44E-04 +/- 1.54E-05
	10	311.90	4.35E+00 +/- 2.18E-01	1.68E+00	3.38E-04 +/- 1.48E-05
	11	333.31	3.39E-01 +/- 1.40E-01	1.66E+00	3.27E-04 +/- 1.37E-05
	12	345.62	4.09E-01 +/- 1.34E-01	1.65E+00	3.21E-04 +/- 1.32E-05
	13	375.70	1.82E+00 +/- 1.50E-01	1.63E+00	3.06E-04 +/- 1.21E-05
M	14	380.90	1.72E-01 +/- 6.34E-02	1.62E+00	3.03E-04 +/- 1.19E-05
m	15	383.46	2.78E-01 +/- 8.43E-02	1.62E+00	3.02E-04 +/- 1.18E-05
	16	400.66	1.98E-01 +/- 5.80E-02	1.61E+00	2.94E-04 +/- 1.14E-05
	17	413.70	1.43E+00 +/- 1.38E-01	1.60E+00	2.87E-04 +/- 1.11E-05
	18	452.11	1.56E-01 +/- 5.40E-02	1.57E+00	2.70E-04 +/- 1.06E-05
	19	662.42	5.56E-02 +/- 3.19E-02	1.46E+00	1.95E-04 +/- 9.03E-06
	20	867.39	2.63E-02 +/- 1.52E-02	1.39E+00	1.50E-04 +/- 6.50E-06

Segment: 5 Detector: DET01 (# 1) Position: 5

Elapsed Live Time: 113.72 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.144 +/- 0.0183
SE-75	264.65	0.000 +/- 0.0000	0.306 +/- 0.0034
SE-75	279.53	0.000 +/- 0.0000	0.313 +/- 0.0048
SE-75	400.65	0.000 +/- 0.0000	0.373 +/- 0.0063

Page 2002-02-133
number not used.
K. gozdin 7-18-02

Bottle 2002-02-134

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.07	1.85E+00 +/- 2.14E-01	4.10E+00	1.71E-06 +/- 2.49E-06
2	35.10	1.01E+03 +/- 4.76E+00	2.84E+00	1.48E-05 +/- 1.27E-05
3	59.59	3.32E+01 +/- 6.34E-01	2.22E+00	9.33E-05 +/- 3.30E-05
4	98.71	3.10E+00 +/- 3.73E-01	2.00E+00	2.49E-04 +/- 2.52E-05
5	111.37	8.63E-01 +/- 2.47E-01	1.96E+00	2.86E-04 +/- 2.04E-05
6	129.29	5.00E+00 +/- 2.80E-01	1.92E+00	3.26E-04 +/- 1.67E-05
7	148.57	2.82E-01 +/- 1.55E-01	1.85E+00	3.54E-04 +/- 1.71E-05
8	208.51	1.11E+00 +/- 1.86E-01	1.65E+00	3.75E-04 +/- 2.04E-05
9	300.10	7.60E-01 +/- 1.33E-01	1.49E+00	3.33E-04 +/- 1.55E-05
10	311.90	3.61E+00 +/- 1.98E-01	1.48E+00	3.26E-04 +/- 1.48E-05
11	333.35	6.15E-01 +/- 1.20E-01	1.46E+00	3.13E-04 +/- 1.36E-05
12	345.67	1.87E-01 +/- 1.03E-01	1.46E+00	3.06E-04 +/- 1.30E-05
13	375.72	1.41E+00 +/- 1.36E-01	1.44E+00	2.89E-04 +/- 1.18E-05
14	393.71	4.54E-01 +/- 9.18E-02	1.43E+00	2.79E-04 +/- 1.13E-05
15	400.66	2.08E-01 +/- 5.94E-02	1.42E+00	2.76E-04 +/- 1.11E-05
16	413.70	1.13E+00 +/- 1.12E-01	1.42E+00	2.69E-04 +/- 1.09E-05
17	452.17	1.13E-01 +/- 5.18E-02	1.40E+00	2.51E-04 +/- 1.03E-05
18	778.90	2.53E-02 +/- 1.67E-02	1.29E+00	1.54E-04 +/- 7.51E-06
19	1085.91	3.20E-02 +/- 2.05E-02	1.24E+00	1.16E-04 +/- 4.36E-06
20	1112.12	6.11E-02 +/- 2.65E-02	1.24E+00	1.14E-04 +/- 4.26E-06

Segment: 6 Detector: DET01 (# 1) Position: 6

Elapsed Live Time: 113.77 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.118 +/- 0.0137
SE-75	264.65	0.000 +/- 0.0000	0.185 +/- 0.0025
SE-75	279.53	0.000 +/- 0.0000	0.182 +/- 0.0035
SE-75	400.65	0.000 +/- 0.0000	0.238 +/- 0.0049

Batch 3023-02-135

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.11	1.37E+00 +/- 1.85E-01	4.10E+00	6.60E-07 +/- 9.39E-07
2	35.10	1.01E+03 +/- 4.77E+00	3.08E+00	8.04E-06 +/- 6.71E-06
3	49.40	1.91E+00 +/- 3.19E-01	2.54E+00	3.63E-05 +/- 1.78E-05
4	59.60	2.49E+01 +/- 5.50E-01	2.37E+00	6.90E-05 +/- 2.40E-05
5	98.68	1.83E+00 +/- 3.25E-01	2.12E+00	2.22E-04 +/- 2.26E-05
6	111.27	9.60E-01 +/- 2.45E-01	2.08E+00	2.63E-04 +/- 1.90E-05
7	129.29	2.74E+00 +/- 2.57E-01	2.04E+00	3.10E-04 +/- 1.61E-05
8	185.71	3.05E-01 +/- 1.49E-01	1.91E+00	3.77E-04 +/- 1.97E-05
9	208.49	5.96E-01 +/- 1.68E-01	1.87E+00	3.81E-04 +/- 2.03E-05
10	300.10	6.29E-01 +/- 1.14E-01	1.76E+00	3.46E-04 +/- 1.58E-05
11	311.90	3.33E+00 +/- 1.90E-01	1.74E+00	3.39E-04 +/- 1.51E-05
12	333.43	2.65E-01 +/- 1.04E-01	1.72E+00	3.26E-04 +/- 1.39E-05
13	345.68	2.73E-01 +/- 7.92E-02	1.70E+00	3.19E-04 +/- 1.33E-05
14	375.73	8.73E-01 +/- 1.14E-01	1.67E+00	3.01E-04 +/- 1.21E-05
15	413.70	7.47E-01 +/- 9.41E-02	1.63E+00	2.81E-04 +/- 1.11E-05
16	1085.91	1.75E-02 +/- 1.23E-02	1.36E+00	1.22E-04 +/- 4.37E-06
17	1408.01	1.75E-02 +/- 1.23E-02	1.31E+00	1.04E-04 +/- 6.39E-06
18	1464.79	3.68E-02 +/- 2.90E-02	1.30E+00	1.02E-04 +/- 7.22E-06

Segment: 7 Detector: DET01 (# 1) Position: 7

Elapsed Live Time: 113.77 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.006 +/- 0.0005
SE-75	279.53	0.000 +/- 0.0000	0.007 +/- 0.0008
SE-75	400.65	0.000 +/- 0.0000	0.011 +/- 0.0011

Bldg. 3007-82-136

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.12	1.73E+00 +/- 1.89E-01	4.10E+00	6.79E-09 +/- 6.70E-08
2	35.10	1.01E+03 +/- 4.76E+00	4.10E+00	9.59E-07 +/- 4.73E-06
3	59.61	2.41E+01 +/- 5.39E-01	4.10E+00	4.02E-05 +/- 6.22E-05
4	86.77	5.82E-01 +/- 2.04E-01	4.10E+00	1.63E-04 +/- 7.25E-05
5	98.75	1.77E+00 +/- 3.04E-01	4.10E+00	2.20E-04 +/- 5.19E-05
6	111.14	1.00E+00 +/- 2.24E-01	4.10E+00	2.72E-04 +/- 2.90E-05
7	129.29	2.00E+00 +/- 2.44E-01	4.10E+00	3.30E-04 +/- 1.98E-05
8	185.71	3.34E-01 +/- 1.39E-01	3.98E+00	3.94E-04 +/- 4.30E-05
9	208.52	9.88E-01 +/- 1.52E-01	3.95E+00	3.91E-04 +/- 3.83E-05
10	300.10	4.74E-01 +/- 1.19E-01	3.82E+00	3.36E-04 +/- 1.56E-05
11	311.90	2.83E+00 +/- 1.72E-01	3.79E+00	3.27E-04 +/- 1.48E-05
12	333.74	4.68E-01 +/- 9.93E-02	3.72E+00	3.13E-04 +/- 1.44E-05
13	375.75	7.44E-01 +/- 1.05E-01	3.59E+00	2.87E-04 +/- 1.54E-05
14	400.66	1.13E-01 +/- 6.67E-02	3.53E+00	2.74E-04 +/- 1.60E-05
15	413.70	5.36E-01 +/- 8.57E-02	3.48E+00	2.67E-04 +/- 1.63E-05
16	867.39	4.34E-02 +/- 1.94E-02	2.55E+00	1.47E-04 +/- 6.73E-06
17	1408.01	8.68E-03 +/- 8.68E-03	2.13E+00	9.90E-05 +/- 6.54E-06
18	1464.46	5.08E-02 +/- 2.53E-02	2.10E+00	9.57E-05 +/- 7.74E-06

Segment: 8 Detector: DET01 (# 1) Position: 8

Elapsed Live Time: 113.70 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.040 +/- 0.0011
SE-75	279.53	0.000 +/- 0.0000	0.042 +/- 0.0017
SE-75	400.65	0.000 +/- 0.0000	0.060 +/- 0.0024

Batch 2002-02-137

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.13	1.85E+00 +/- 2.18E-01	4.10E+00	4.02E-09 +/- 3.93E-08
2	35.10	1.01E+03 +/- 4.77E+00	4.10E+00	6.89E-07 +/- 3.37E-06
3	59.60	3.26E+01 +/- 6.24E-01	4.10E+00	3.35E-05 +/- 5.14E-05
4	98.69	3.00E+00 +/- 3.95E-01	4.10E+00	1.98E-04 +/- 4.67E-05
5	111.48	7.40E-01 +/- 2.80E-01	4.10E+00	2.50E-04 +/- 2.61E-05
6	129.29	4.91E+00 +/- 3.15E-01	4.10E+00	3.05E-04 +/- 1.85E-05
7	208.51	9.27E-01 +/- 2.13E-01	3.09E+00	3.75E-04 +/- 3.71E-05
8	264.66	1.77E-01 +/- 1.18E-01	2.68E+00	3.51E-04 +/- 2.14E-05
9	300.10	7.79E-01 +/- 1.40E-01	2.61E+00	3.30E-04 +/- 1.53E-05
10	311.90	4.45E+00 +/- 2.22E-01	2.59E+00	3.23E-04 +/- 1.44E-05
11	333.52	6.35E-01 +/- 1.21E-01	2.54E+00	3.10E-04 +/- 1.38E-05
12	345.71	2.80E-01 +/- 1.20E-01	2.52E+00	3.03E-04 +/- 1.38E-05
13	375.72	1.53E+00 +/- 1.43E-01	2.47E+00	2.86E-04 +/- 1.46E-05
14	393.79	3.49E-01 +/- 8.38E-02	2.44E+00	2.76E-04 +/- 1.50E-05
15	413.70	1.23E+00 +/- 1.19E-01	2.40E+00	2.66E-04 +/- 1.54E-05
16	778.90	2.61E-02 +/- 2.02E-02	1.95E+00	1.59E-04 +/- 7.73E-06
17	1112.12	1.74E-02 +/- 1.23E-02	1.75E+00	1.16E-04 +/- 4.95E-06
18	1408.01	8.72E-03 +/- 8.72E-03	1.65E+00	9.08E-05 +/- 6.30E-06

Segment: 9 Detector: DET01 (# 1) Position: 9

Elapsed Live Time: 113.58 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Some transmission peaks rejected.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	0.088 +/- 0.0017
SE-75	279.53	0.000 +/- 0.0000	0.095 +/- 0.0025
SE-75	400.65	0.000 +/- 0.0000	0.131 +/- 0.0036

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.21	3.18E+00 +/- 2.59E-01	4.10E+00	2.31E-06 +/- 2.32E-05
2	35.10	1.01E+03 +/- 4.76E+00	4.04E+00	1.75E-05 +/- 8.88E-05
3	59.59	5.16E+01 +/- 7.92E-01	2.99E+00	1.00E-04 +/- 1.59E-04
4	86.87	4.99E-01 +/- 2.55E-01	2.69E+00	2.11E-04 +/- 9.62E-05
5	98.82	6.57E+00 +/- 4.42E-01	2.62E+00	2.51E-04 +/- 6.06E-05
6	111.22	1.13E+00 +/- 3.37E-01	2.57E+00	2.86E-04 +/- 3.08E-05
7	129.29	8.51E+00 +/- 3.63E-01	2.50E+00	3.23E-04 +/- 1.97E-05
8	148.57	7.02E-01 +/- 2.37E-01	2.44E+00	3.48E-04 +/- 3.41E-05
9	185.71	3.09E-01 +/- 1.96E-01	2.35E+00	3.67E-04 +/- 4.18E-05
10	195.78	5.65E-01 +/- 1.91E-01	2.33E+00	3.67E-04 +/- 4.04E-05
11	204.06	8.31E-01 +/- 2.15E-01	2.31E+00	3.66E-04 +/- 3.86E-05
12	208.44	1.66E+00 +/- 2.74E-01	2.30E+00	3.66E-04 +/- 3.76E-05
13	300.10	1.16E+00 +/- 1.56E-01	2.11E+00	3.26E-04 +/- 1.55E-05
14	311.90	6.39E+00 +/- 2.69E-01	2.09E+00	3.20E-04 +/- 1.45E-05
15	333.40	7.47E-01 +/- 1.54E-01	2.06E+00	3.08E-04 +/- 1.39E-05
16	341.08	5.26E-01 +/- 1.44E-01	2.05E+00	3.04E-04 +/- 1.40E-05
17	369.05	3.19E-01 +/- 1.14E-01	2.01E+00	2.89E-04 +/- 1.47E-05
18	375.71	2.53E+00 +/- 1.79E-01	2.00E+00	2.85E-04 +/- 1.49E-05
19	393.75	9.38E-01 +/- 1.10E-01	1.97E+00	2.76E-04 +/- 1.55E-05
20	400.66	1.52E-01 +/- 6.60E-02	1.96E+00	2.73E-04 +/- 1.56E-05
21	413.70	2.34E+00 +/- 1.62E-01	1.95E+00	2.67E-04 +/- 1.59E-05
22	423.25	1.23E-01 +/- 4.65E-02	1.94E+00	2.62E-04 +/- 1.60E-05
23	662.42	1.25E-01 +/- 4.83E-02	1.72E+00	1.82E-04 +/- 1.04E-05

Segment: 10 Detector: DET01 (# 1) Position: 10

Elapsed Live Time: 113.47 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.077 +/- 0.0137
SE-75	264.65	0.000 +/- 0.0000	0.170 +/- 0.0024
SE-75	279.53	0.000 +/- 0.0000	0.178 +/- 0.0034
SE-75	400.65	0.000 +/- 0.0000	0.219 +/- 0.0047

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.20	4.09E+00 +/- 2.90E-01	4.10E+00	3.40E-07 +/- 4.82E-07
2	35.10	1.01E+03 +/- 4.77E+00	3.60E+00	5.68E-06 +/- 4.74E-06
3	59.60	7.07E+01 +/- 9.30E-01	2.71E+00	6.37E-05 +/- 2.21E-05
4	76.88	5.93E-01 +/- 2.52E-01	2.52E+00	1.36E-04 +/- 2.70E-05
5	98.78	1.01E+01 +/- 5.35E-01	2.39E+00	2.31E-04 +/- 2.33E-05
6	103.33	5.12E+00 +/- 3.17E-01	2.37E+00	2.48E-04 +/- 2.20E-05
7	111.51	1.45E+00 +/- 4.15E-01	2.34E+00	2.78E-04 +/- 1.98E-05
8	114.59	1.04E+00 +/- 3.46E-01	2.33E+00	2.88E-04 +/- 1.91E-05
9	129.29	1.19E+01 +/- 4.32E-01	2.29E+00	3.30E-04 +/- 1.70E-05
10	144.52	5.95E-01 +/- 2.66E-01	2.23E+00	3.61E-04 +/- 1.72E-05
11	148.57	6.57E-01 +/- 2.83E-01	2.21E+00	3.68E-04 +/- 1.75E-05
12	208.40	3.58E+00 +/- 3.32E-01	1.98E+00	4.01E-04 +/- 2.09E-05
13	279.54	2.11E-01 +/- 1.42E-01	1.79E+00	3.68E-04 +/- 1.71E-05
14	300.10	1.36E+00 +/- 1.70E-01	1.77E+00	3.54E-04 +/- 1.57E-05
15	311.90	6.76E+00 +/- 2.74E-01	1.76E+00	3.45E-04 +/- 1.50E-05
16	333.41	1.00E+00 +/- 1.90E-01	1.74E+00	3.30E-04 +/- 1.38E-05
17	345.62	1.17E+00 +/- 1.58E-01	1.73E+00	3.22E-04 +/- 1.32E-05
18	369.25	6.57E-01 +/- 1.16E-01	1.71E+00	3.06E-04 +/- 1.22E-05
19	375.72	3.98E+00 +/- 2.18E-01	1.71E+00	3.02E-04 +/- 1.20E-05
20	383.49	3.06E-01 +/- 1.40E-01	1.70E+00	2.97E-04 +/- 1.18E-05
21	393.76	1.53E+00 +/- 1.33E-01	1.69E+00	2.91E-04 +/- 1.15E-05
22	400.66	3.01E-01 +/- 9.15E-02	1.69E+00	2.87E-04 +/- 1.13E-05
23	413.70	3.36E+00 +/- 1.94E-01	1.67E+00	2.79E-04 +/- 1.11E-05
24	452.57	3.88E-01 +/- 8.42E-02	1.64E+00	2.58E-04 +/- 1.05E-05
25	662.42	9.58E-02 +/- 4.12E-02	1.52E+00	1.80E-04 +/- 8.83E-06
26	964.13	1.42E-02 +/- 1.62E-02	1.41E+00	1.31E-04 +/- 5.40E-06
27	1085.91	3.48E-02 +/- 1.74E-02	1.38E+00	1.21E-04 +/- 4.45E-06

Segment: 11 Detector: DET01 (# 1) Position: 11

Elapsed Live Time: 113.58 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.151 +/- 0.0159
SE-75	264.65	0.000 +/- 0.0000	0.252 +/- 0.0030
SE-75	279.53	0.000 +/- 0.0000	0.254 +/- 0.0042
SE-75	400.65	0.000 +/- 0.0000	0.300 +/- 0.0056

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.18	3.04E+00 +/- 2.54E-01	4.10E+00	4.66E-07 +/- 6.57E-07
2	35.10	1.01E+03 +/- 4.76E+00	2.79E+00	6.75E-06 +/- 5.60E-06
3	48.90	2.06E+00 +/- 3.78E-01	2.33E+00	3.25E-05 +/- 1.61E-05
4	59.59	4.84E+01 +/- 7.69E-01	2.18E+00	6.69E-05 +/- 2.31E-05
5	98.83	8.50E+00 +/- 4.75E-01	1.97E+00	2.28E-04 +/- 2.29E-05
6	103.47	3.84E+00 +/- 3.01E-01	1.96E+00	2.45E-04 +/- 2.16E-05
7	111.27	1.91E+00 +/- 3.52E-01	1.94E+00	2.72E-04 +/- 1.94E-05
8	114.95	6.05E-01 +/- 3.77E-01	1.93E+00	2.83E-04 +/- 1.85E-05
9	129.29	1.01E+01 +/- 3.85E-01	1.90E+00	3.21E-04 +/- 1.65E-05
10	148.57	9.35E-01 +/- 2.39E-01	1.85E+00	3.56E-04 +/- 1.70E-05
11	208.39	3.92E+00 +/- 2.65E-01	1.71E+00	3.89E-04 +/- 2.04E-05
12	300.10	6.00E-01 +/- 1.45E-01	1.59E+00	3.45E-04 +/- 1.56E-05
13	311.90	3.45E+00 +/- 2.05E-01	1.59E+00	3.37E-04 +/- 1.49E-05
14	333.39	9.12E-01 +/- 1.54E-01	1.57E+00	3.23E-04 +/- 1.37E-05
15	345.59	8.83E-01 +/- 1.38E-01	1.56E+00	3.16E-04 +/- 1.31E-05
16	368.68	6.30E-01 +/- 1.16E-01	1.55E+00	3.01E-04 +/- 1.22E-05
17	375.76	2.92E+00 +/- 1.95E-01	1.54E+00	2.97E-04 +/- 1.19E-05
18	383.65	2.78E-01 +/- 9.79E-02	1.54E+00	2.92E-04 +/- 1.17E-05
19	393.83	1.11E+00 +/- 1.18E-01	1.53E+00	2.86E-04 +/- 1.14E-05
20	400.66	1.70E-01 +/- 6.94E-02	1.53E+00	2.82E-04 +/- 1.12E-05
21	413.70	2.75E+00 +/- 1.73E-01	1.52E+00	2.75E-04 +/- 1.09E-05
22	452.26	2.96E-01 +/- 6.36E-02	1.50E+00	2.55E-04 +/- 1.03E-05
23	662.42	8.64E-02 +/- 4.06E-02	1.40E+00	1.80E-04 +/- 8.65E-06
24	1408.01	1.74E-02 +/- 1.23E-02	1.25E+00	1.08E-04 +/- 6.61E-06

Segment: 12 Detector: DET01 (# 1) Position: 12

Elapsed Live Time: 113.78 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.161 +/- 0.0158
SE-75	264.65	0.000 +/- 0.0000	0.217 +/- 0.0028
SE-75	279.53	0.000 +/- 0.0000	0.236 +/- 0.0040
SE-75	400.65	0.000 +/- 0.0000	0.275 +/- 0.0053

Batch 2002-02-141

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.04	1.46E+00 +/- 1.71E-01	4.10E+00	6.06E-07 +/- 8.60E-07
2	35.10	1.01E+03 +/- 4.76E+00	2.72E+00	7.63E-06 +/- 6.33E-06
3	59.59	1.92E+01 +/- 4.92E-01	2.13E+00	6.64E-05 +/- 2.30E-05
4	98.74	3.21E+00 +/- 3.43E-01	1.93E+00	2.16E-04 +/- 2.20E-05
5	129.29	2.44E+00 +/- 2.45E-01	1.86E+00	3.04E-04 +/- 1.59E-05
6	148.57	3.66E-01 +/- 1.80E-01	1.83E+00	3.39E-04 +/- 1.64E-05
7	208.41	1.02E+00 +/- 1.79E-01	1.75E+00	3.76E-04 +/- 1.99E-05
8	264.66	1.56E-01 +/- 7.67E-02	1.69E+00	3.61E-04 +/- 1.77E-05
9	300.10	1.40E-01 +/- 7.90E-02	1.63E+00	3.43E-04 +/- 1.55E-05
10	311.90	1.30E+00 +/- 1.38E-01	1.62E+00	3.36E-04 +/- 1.48E-05
11	333.39	3.68E-01 +/- 1.04E-01	1.61E+00	3.24E-04 +/- 1.37E-05
12	345.72	2.72E-01 +/- 9.73E-02	1.60E+00	3.17E-04 +/- 1.31E-05
13	375.77	9.60E-01 +/- 1.11E-01	1.58E+00	3.00E-04 +/- 1.19E-05
14	393.12	3.72E-01 +/- 6.53E-02	1.57E+00	2.90E-04 +/- 1.14E-05
15	400.66	1.18E-01 +/- 4.83E-02	1.57E+00	2.86E-04 +/- 1.12E-05
16	413.70	9.67E-01 +/- 1.02E-01	1.56E+00	2.79E-04 +/- 1.09E-05
17	443.98	4.34E-02 +/- 3.08E-02	1.54E+00	2.64E-04 +/- 1.04E-05
18	964.13	3.43E-02 +/- 2.22E-02	1.34E+00	1.33E-04 +/- 5.22E-06

Segment: 13 Detector: DET01 (# 1) Position: 13

Elapsed Live Time: 113.84 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.181 +/- 0.0173
SE-75	264.65	0.000 +/- 0.0000	0.281 +/- 0.0032
SE-75	279.53	0.000 +/- 0.0000	0.286 +/- 0.0045
SE-75	400.65	0.000 +/- 0.0000	0.336 +/- 0.0059

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.12	9.63E-01 +/- 1.38E-01	3.90E+00	1.08E-06 +/- 1.59E-06
2	35.10	1.01E+03 +/- 4.76E+00	2.58E+00	1.10E-05 +/- 9.51E-06
3	59.58	1.53E+01 +/- 4.34E-01	2.05E+00	8.09E-05 +/- 2.88E-05
4	98.90	1.46E+00 +/- 2.19E-01	1.86E+00	2.38E-04 +/- 2.42E-05
5	129.29	9.51E-01 +/- 1.73E-01	1.80E+00	3.21E-04 +/- 1.67E-05
6	152.68	3.46E-01 +/- 1.35E-01	1.75E+00	3.57E-04 +/- 1.76E-05
7	300.10	1.27E-01 +/- 7.77E-02	1.53E+00	3.40E-04 +/- 1.57E-05
8	311.90	3.85E-01 +/- 9.59E-02	1.53E+00	3.33E-04 +/- 1.50E-05
9	375.78	2.09E-01 +/- 7.20E-02	1.48E+00	2.95E-04 +/- 1.20E-05
10	413.70	1.33E-01 +/- 6.57E-02	1.46E+00	2.74E-04 +/- 1.10E-05
11	1001.03	8.68E-03 +/- 8.68E-03	1.28E+00	1.23E-04 +/- 4.91E-06
12	1112.12	1.74E-02 +/- 1.23E-02	1.26E+00	1.13E-04 +/- 4.19E-06
13	1408.01	1.88E-02 +/- 1.87E-02	1.23E+00	9.60E-05 +/- 6.10E-06

Segment: 14 Detector: DET01 (# 1) Position: 14

Elapsed Live Time: 113.86 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.413 +/- 0.0224
SE-75	264.65	0.000 +/- 0.0000	0.477 +/- 0.0046
SE-75	279.53	0.000 +/- 0.0000	0.485 +/- 0.0061
SE-75	400.65	0.000 +/- 0.0000	0.516 +/- 0.0076

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.72E+00	8.94E-06 +/- 4.41E-05
2	59.59	1.53E+01 +/- 4.27E-01	1.49E+00	8.05E-05 +/- 1.25E-04
3	99.12	8.13E-01 +/- 1.91E-01	1.41E+00	2.40E-04 +/- 5.55E-05
4	311.90	1.73E-01 +/- 5.76E-02	1.29E+00	3.18E-04 +/- 1.42E-05
5	375.85	2.47E-01 +/- 5.59E-02	1.28E+00	2.85E-04 +/- 1.47E-05
6	400.66	4.73E-02 +/- 3.59E-02	1.27E+00	2.73E-04 +/- 1.53E-05
7	964.13	3.47E-02 +/- 1.73E-02	1.17E+00	1.31E-04 +/- 5.72E-06
8	1408.01	1.73E-02 +/- 1.23E-02	1.14E+00	9.39E-05 +/- 6.30E-06

Segment: 15 Detector: DET01 (# 1) Position: 15

Elapsed Live Time: 113.90 sec Elapsed Real Time: 115.00 sec

T R A N S M I S S I O N R E S U L T S

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.624 +/- 0.0268
SE-75	264.65	0.000 +/- 0.0000	0.682 +/- 0.0059
SE-75	279.53	0.000 +/- 0.0000	0.687 +/- 0.0076
SE-75	400.65	0.000 +/- 0.0000	0.714 +/- 0.0092

P E A K A N A L Y S I S R E S U L T S

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.77E+00	1.36E+00	1.45E-08 +/- 6.96E-08
2	59.60	4.31E+00 +/- 2.47E-01	1.25E+00	1.09E-05 +/- 1.64E-05
3	264.66	1.25E-01 +/- 6.71E-02	1.15E+00	3.66E-04 +/- 2.14E-05
4	311.90	1.60E-01 +/- 5.65E-02	1.14E+00	3.22E-04 +/- 1.42E-05
5	964.13	2.62E-02 +/- 1.52E-02	1.08E+00	1.35E-04 +/- 5.77E-06

Segment: 16 Detector: DET01 (# 1) Position: 16

Elapsed Live Time: 113.90 sec Elapsed Real Time: 115.00 sec

T R A N S M I S S I O N R E S U L T S

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.666 +/- 0.0264
SE-75	264.65	0.000 +/- 0.0000	0.663 +/- 0.0058
SE-75	279.53	0.000 +/- 0.0000	0.658 +/- 0.0074
SE-75	400.65	0.000 +/- 0.0000	0.680 +/- 0.0090

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.75E+00	1.30E+00	9.52E-10 +/- 5.35E-09
2	300.10	6.93E-02 +/- 4.25E-02	1.16E+00	2.42E-04 +/- 1.22E-05
3	413.70	5.63E-02 +/- 3.02E-02	1.15E+00	1.81E-04 +/- 1.21E-05
4	1112.12	8.67E-03 +/- 8.67E-03	1.09E+00	9.17E-05 +/- 4.32E-06

Batch # 2002-03-144

Summed Spectrum

Peak Locate Report

Sample ID: LL85500979
Peak Locate Performed on: 1-23-02 2:17:12 PM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192
Peak Search Sensitivity: 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
1	46.45	0.2027	23.15	13.49
2	70.18	0.0393	35.00	530.83
3	119.41	0.0878	59.60	76.32
4	197.81	0.1589	98.77	21.62
5	206.85	0.2000	103.29	12.06
6	223.02	0.2140	111.36	11.58
7	259.43	0.1288	129.56	34.20
8	298.25	0.2890	148.95	9.01
9	408.53	0.2044	204.05	12.57
10	417.30	0.1496	208.43	23.06
11	601.98	0.1933	300.70	13.88
12	625.61	0.1189	312.51	35.13
13	667.44	0.1974	333.40	12.87
14	691.98	0.1836	345.67	14.45
15	739.06	0.3127	369.19	5.05
16	752.16	0.1373	375.74	24.97
17	767.66	0.2592	383.48	7.39
18	788.12	0.2035	393.70	10.33
19	799.16	0.2827	399.21	5.91
20	829.81	0.1446	414.53	22.14
21	847.73	0.2734	423.48	6.10
22	905.58	0.2409	452.39	7.05

Errors quoted at 1.000 sigma

Summed Spectrum

Peak Analysis Report

Sample ID: LL85500979
Peak Analysis Performed on: 1-23-02 2:17:12 PM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	43-	49	46.45	23.15	3.31E+03	90.91	2.22E+03
2	66-	73	70.18	35.00	1.85E+06	1363.06	1.82E+03
3	115-	122	119.41	59.60	5.49E+04	270.42	8.72E+03
4	194-	201	197.81	98.77	6.75E+03	153.25	8.32E+03
5	206-	210	206.85	103.29	3.34E+03	92.17	2.97E+03
6	219-	226	223.02	111.36	1.67E+03	110.84	5.05E+03
7	255-	263	259.43	129.56	7.78E+03	127.34	3.91E+03
8	294-	302	298.25	148.95	5.31E+02	84.34	3.07E+03
9	404-	412	408.53	204.05	2.62E+02	74.86	2.37E+03
10	412-	421	417.30	208.43	2.08E+03	92.17	2.68E+03
11	597-	606	601.98	300.70	9.52E+02	51.16	7.39E+02
12	620-	630	625.61	312.51	5.32E+03	83.77	7.12E+02
13	662-	672	667.44	333.40	7.62E+02	52.69	8.18E+02
14	688-	697	691.98	345.67	6.49E+02	46.71	6.32E+02
15	733-	744	739.06	369.19	3.54E+02	37.52	4.20E+02
16	746-	757	752.16	375.74	2.43E+03	60.31	4.85E+02
17	767-	772	767.66	383.48	2.41E+02	28.16	1.96E+02
18	782-	793	788.12	393.70	8.38E+02	37.47	2.26E+02
19	795-	804	799.16	399.21	1.71E+02	25.66	2.16E+02
20	824-	835	829.81	414.53	2.23E+03	52.77	2.22E+02
21	842-	853	847.73	423.48	8.14E+01	24.98	2.12E+02
22	900-	911	905.58	452.39	2.36E+02	24.17	1.39E+02

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Summed Spectrum

Nuclide Identification Report

Sample ID: LL85500979
Nuclide Library Used: C:\WAS\NLIB\LLNL.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/)	Activity Uncertainty
Pulser	0.999	35.10*	100.00	1.112E+06	2.373E+06
Np-237	0.974	300.10*	6.63	1.532E+01	8.290E-01
		311.90*	38.60	1.500E+01	2.542E-01
Pu-239	0.953	413.70*	0.00	1.933E+05	5.726E+03
Pu-239A	0.995	129.29*	0.01	1.526E+05	4.179E+03
Pu-241	0.990	148.57*	0.00	3.076E+05	4.906E+04

* = Energy line found in the spectrum.
Energy Tolerance : 1.500 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 1.000 sigma

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 1-23-02 2:17:12 PM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	23.15	2.8841E+01	2.75
3	59.60	4.7797E+02	0.50
4	98.77	5.8768E+01	2.27
5	103.29	2.9119E+01	2.76
6	111.36	1.4505E+01	6.65
9	204.05	2.2779E+00	28.61
10	208.43	1.8126E+01	4.43
13	333.40	6.6376E+00	6.91
14	345.67	5.6475E+00	7.20
15	369.19	3.0810E+00	10.60
16	375.74	2.1119E+01	2.49
17	383.48	2.0979E+00	11.69
18	393.70	7.2916E+00	4.47
19	399.21	1.4917E+00	14.98
21	423.48	7.0850E-01	30.70
22	452.39	2.0528E+00	10.25

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Combined Segment NID

NID Results Combiner Mode: Sum Activities

Nuclide		Total Activity (uCi)		Concentration (uCi/g)	
Pulser		4.08E+07 +/- 2.10E+08		9.45E+02 +/- 4.86E+03	
SE-75	<	7.59E-02 +/- 5.38E-03	<	1.76E-06 +/- 1.24E-07	
EU-152x	<	1.87E-01 +/- 9.85E-03	<	4.33E-06 +/- 2.28E-07	
U-233	<	3.19E+03 +/- 2.82E+02	<	7.39E-02 +/- 6.53E-03	
U-235		3.26E-01 +/- 9.84E-02		7.55E-06 +/- 2.28E-06	
Np-237		2.04E+01 +/- 4.13E-01		4.73E-04 +/- 9.57E-06	
Pu-238		4.89E+03 +/- 1.92E+03		1.13E-01 +/- 4.45E-02	
U-238		2.90E-01 +/- 2.90E-01		6.71E-06 +/- 6.72E-06	
Pu-239		2.14E+05 +/- 6.75E+03		4.95E+00 +/- 1.56E-01	
Pu-239A		2.28E+05 +/- 5.88E+03		5.29E+00 +/- 1.36E-01	
Am-241		2.43E+04 +/- 5.10E+03		5.63E-01 +/- 1.18E-01	
Pu-241		4.47E+05 +/- 5.99E+04		1.04E+01 +/- 1.39E+00	

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)
U-235	1.51E-01 +/- 4.56E-02
Np-237	2.90E-02 +/- 5.87E-04
Pu-238	2.86E-04 +/- 1.12E-04
U-238	8.64E-01 +/- 8.65E-01
Pu-239	3.44E+00 +/- 1.09E-01
Pu-239A	3.68E+00 +/- 9.46E-02
Am-241	7.11E-03 +/- 1.49E-03
Pu-241	4.32E-03 +/- 5.79E-04

Summed Spectrum

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		1.11E+06	+/-	2.37E+06	2.57E+01	+/-	5.49E+01
SE-75	<	2.95E-01	+/-	2.20E-03	< 6.82E-06	+/-	5.10E-08
EU-152x	<	4.06E-01	+/-	6.78E-03	< 9.40E-06	+/-	1.57E-07
U-233	<	1.44E+04	+/-	2.71E+02	< 3.34E-01	+/-	6.28E-03
U-235	<	4.32E-01	+/-	8.18E-03	< 9.99E-06	+/-	1.89E-07
Np-237		1.50E+01	+/-	2.43E-01	3.48E-04	+/-	5.63E-06
Pu-238	<	3.43E+04	+/-	4.47E+02	< 7.95E-01	+/-	1.03E-02
U-238	<	1.21E+01	+/-	1.88E-01	< 2.80E-04	+/-	4.35E-06
Pu-239		1.93E+05	+/-	5.73E+03	4.47E+00	+/-	1.33E-01
Pu-239A		1.53E+05	+/-	4.18E+03	3.53E+00	+/-	9.67E-02
Am-241	<	2.80E+04	+/-	2.08E+02	< 6.47E-01	+/-	4.81E-03
Pu-241		3.08E+05	+/-	4.91E+04	7.12E+00	+/-	1.14E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
Np-237	2.13E-02	+/-	3.45E-04
Pu-239	3.11E+00	+/-	9.22E-02
Pu-239A	2.46E+00	+/-	6.73E-02
Pu-241	2.97E-03	+/-	4.74E-04

Final Non-Uniformity Results

Source Longitudinal Ratio:	0.982	+/-	17.5463
Matrix Longitudinal Ratio:	0.910	+/-	0.6600
Source Vertical Ratio:	0.666	+/-	0.3552
Matrix Vertical Ratio:	0.990	+/-	0.0768

NUDS could not find the transmission peak in one radial segment.

Batch 2002-02-151

LAWRENCE LIVERMORE NATIONAL LABORATORY

WASTE DISPOSAL REQUISITION

Waste Run Date: LL85009TRU

W 154372

Label/waste Type: (Must check)
- ☐ Non-Haz
- ☐ Haz
- ☐ Low-Level
- ☒ TRU

RCRA ☐ CA ☐

☐ No Disposal Option

1. Container Serial Number or Retention Tank ID:

2. For TRU Waste, TRU Waste Container Serial No.: LL85 ~~5 00 9 1 1~~ TRU

3. Container Acceptable: ☒ Yes ☐ N/A

Chemical Compatibility Code: DS

Storage Restrictions
☐ No Storage Restrictions
Not acceptable at the following locations:
☐ 233 ☐ 514 ☐ 612 ☐ 693
CWAA ☑ 169 ☑ 361 ☐ 612-4

4. Building No.: 332

5. Room No.: 1378

6. RMMA: ☒ Yes ☐ No

7. WAA No.: 332 A

14. Waste Package Seals Applied: ☑ Yes ☐ N/A (If yes, complete Step 15) Initials: 7-23-01

Hazardous Properties:
☐ Toxic ☐ Corrosive ☐ Ignitable ☐ Reactive

19. Outer Container Type:
☐ Box ☐ Sack ☐ Can ☐ SWB ☐ Carboy ☐ Tub ☒ Drum ☐ Tank - Fixed ☐ Tank - Portable ☐ Transportainer
Other:

20. Outer Container Size/Vol:
☐ 1 gal ☐ 750 gal ☐ 2 gal ☐ 1000 gal ☐ 5 gal ☐ 5000 gal ☐ 30 gal ☐ 67 cu ft ☒ 55 gal ☐ 1 × 1 × 1.5 ☐ 85 gal ☐ 2 × 4 × 7 ☐ 330 gal ☐ 4 × 4 × 7 ☐ 660 gal ☐ gal
Other: ☐ cu ft

8. Workplace Start Date: 7/23/01

9. Workplace End Date: 8/1/01

10. Account No.: 5481-50

11. Directorate: DNT

15. Waste Package Seal Nos.: K424 T10696 T10695 12/27/01

16. Source Code: A 940

☐ Lab Pack ☐ Over Pack

18. Waste Form:
☑ Solid ☐ Liquid ☐ Gas ☐ Sludge

17. LLW Waste Stream No. or TRU Waste Form No.: 1, Glovebox Waste

12. Did Waste Minimization Effort Practices Begin in Current Calendar Year? ☐ Yes ☒ No
If yes, enter Activity Code: W_____
Comments:

13. WEF/PKE/SAW No.: ☐ WEF No. ☒ PKE No. ☐ SAW No. ☐ N/A
Specify: 0247, 243, 245

21. Item No.	22. Spent or Unused (S/U)	23. Organic or Inorganic (O/I)	24. Waste Form (S, SL, L, G)	25. Waste Description (For multiple parcels, also list Parcel Card Nos.)	26. Hazardous Constituents and Concentrations	27. Item Container Size	28. Quantity per Item Amount	28. Quantity per Item Units	29. Analysis Sample No.	Physical Waste Data: 30. Aqueous Only pH	Physical Waste Data: 30. Aqueous Only Normality	Physical Waste Data: 31. Flash Point
				a PØ21936								
				b PØ21844								
				c PØ21840								
				d PØ21848								
				e PØ21854								
				f PØ21838								

USE CONTINUATION FORM FOR ADDITIONAL ITEMS

32. Does the waste contain radioactive components?
☒ Yes ☐ No ☐ To be analyzed
(If yes or TBA, complete Steps 36–41 as applicable to waste type.)

This section (Steps 33–35) is required for Hazardous Waste generated in a RMMA

33. Was the waste kept isolated from any operation that could have produced radioactive contamination (using a glove box, vent hood, etc.)?
☐ Yes ☐ No (If no, full rad analysis required)

34. Was the waste exposed to particle beams capable of inducing radioactivity by activation?
☐ Yes ☐ No (If yes, full rad analysis required)

35. Describe other controls used to prevent radioactive contamination:

36. Radionuclides:
Check all Plutonium grades present:
☒ Weapons ☐ Fuel ☐ Reactor ☐ Am-enriched ☐ Mixed
☐ Enriched Uranium (Identify the % of each of the following:)
_____% U-234
_____% U-235
_____% U-238
(List additional radionuclides in Step 38.)

37. Gross weight of waste package: 15.0 Kg

Tare weight of container: 10.2 lbs

38. Radiological Data:
(For certified LLW and TRU waste, list totals from Parcel Cards.)

Item	Radionuclide(s)	Quantity	Units/Activity (Ci,g)	PE - Ci	Fissile g

39. Rad. Survey mr/hr: | β-γ @ Contact | β-γ @ 1 Meter | Neutron @ Contact

40. Swipe Data: ☐ Complies with 10 CFR 835 criteria for unrestricted release

41. Rad Swipe/Survey Performed By: (Print Name–Last, First) | Employee No.: | L-Code:

Signature: | Date: | Ext.:

42. Generator: I certify, to the best of my knowledge, that the information provided on this requisition is correct. I understand that I may be liable to State and Federal prosecution by intentionally providing false information. I have obtained this information by:
☒ Direct knowledge of the waste generating process ☐ Analytical Data
☐ Obtaining sufficient information from others knowledgeable of the waste generating process.

☒ ~~Container Custodian~~: I certify that the waste parcels identified on this form are contained in this waste container and have been packaged in accordance with the requirements specified in the appropriate LLNL TRU Waste or Low-Level Waste Program Certification and Quality Assurance Program.

Generator or Container Custodian Name (Print – Last, First): Macari, Thomas

Signature: Thomas Macari

Employee No.:	L-Code:	Ext.:	Date:
553224	361	3-2217	8-2-01

Inspected By: Signature:	Employee No.:	Date:

Characterization Chemist Approval ☐ Acceptable for Sampling (Initials) ☐ WEF EX-SA

Signature:	Employee No.:	Date:
L. Rae Rowland	211108	12/28/01

RCA Approval ☐ Decay ☐ NTS ☐ WIPP ☐ WEF Program (Initials) Certified (Initials) Certified (Initials)

Signature:	Employee No.:	Date:

RMMA Certification: Shipping	CC	RSDR #:

☐ HWM Use Only

LL-5344 (Rev. 08/98) Page 1 of _____

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
1-23-02 2:32:27 PM

QA File: C:\WAS\CTRS\CTR1\ARR1\S11_BCK.QA
Sample ID: B825
Sample Quantity: 1.0000E+00
Sample Date: 1-23-02 2:26:49 PM
Measurement Date: 1-23-02 2:26:47 PM
Elapsed Live Time: 200.0 seconds
Elapsed Real Time: 201.9 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
Ref. Peak	3.5012E+01	0.00
[0.00+/-0.00]		< : : : >
Upper CPS Reg	2.3505E+01	0.00
[0.00+/-0.00]		< : : : >
Peak counts/second	1.0088E+03	0.00
[0.00+/-0.00]		< : : : >
Pulser FWHM	9.6980E-01	0.00
[0.00+/-0.00]		< : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
1-23-02 2:32:20 PM

QA File: C:\WAS\CTRS\CTR1\ARR1\T11_BCK.QA
Sample ID: B825
Sample Quantity: 1.0000E+00
Sample Date: 1-23-02 2:26:49 PM
Measurement Date: 1-23-02 2:30:15 PM
Elapsed Live Time: 100.0 seconds
Elapsed Real Time: 104.4 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >

Batch 2002-SS-153

400.6 keV Centroid	8.0348E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>
400.6 keV FWHM	1.5265E+00			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak centroid 136 KeV	2.7279E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak area 400 keV	1.9549E+04			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak counts/second	1.9549E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

OK
RLK 1-23-02
4-19-02
JH

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
1-24-02 7:40:50 AM

QA File: C:\WAS\CTRS\CTR1\ARR1\S11_BCK.QA
Sample ID: B826
Sample Quantity: 1.0000E+00
Sample Date: 1-24-02 7:35:12 AM
Measurement Date: 1-24-02 7:35:10 AM
Elapsed Live Time: 200.0 seconds
Elapsed Real Time: 201.9 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
Ref. Peak	3.5017E+01	0.00
[0.00+/-0.00]		< : : : : >
Upper CPS Reg	2.2690E+01	0.00
[0.00+/-0.00]		< : : : : >
Peak counts/second	1.0087E+03	0.00
[0.00+/-0.00]		< : : : : >
Pulser FWHM	9.6932E-01	0.00
[0.00+/-0.00]		< : : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
1-24-02 7:40:43 AM

QA File: C:\WAS\CTRS\CTR1\ARR1\T11_BCK.QA
Sample ID: B826
Sample Quantity: 1.0000E+00
Sample Date: 1-24-02 7:35:12 AM
Measurement Date: 1-24-02 7:38:38 AM
Elapsed Live Time: 100.0 seconds
Elapsed Real Time: 104.4 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >

Batch 2002-02-155

400.6 keV Centroid	8.0348E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>
400.6 keV FWHM	1.5305E+00			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak centroid 136 KeV	2.7280E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak area 400 keV	1.9777E+04			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak counts/second	1.9777E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

4-19-02

Batch 2002-02-156

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS 2.3A

****
* DRUM INFORMATION *
****

Drum Package ID: S100_827
Sequence Number: 827
Assay Date & Time: 1-24-2002 8:45:51 AM
Drum Package GROSS Weight: 54.00 kg NET Weight: 22.20 kg

IDC Number: SGS10G

QC Replicate (Yes/No): NO Passed (Yes/No): _____

Operator Name (Printed): Russell Ruth

Operator Signature: R Ruth Date: 1-24-02

Independent Reviewer: J Mc Date: 4-19-02

Expert Reviewer: (NOT REQUIRED) Date: _____

Tech. Supv/QA Officer: Bryan Bowling Date: 7/17/02

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 9.350E+00 +/- 2.145E+00 Ci

Batch 2002-02-157

ISOTOPIC INFORMATION

Isotope	Measured Mass (g)	Mass Uncertainty (g)	MDC (g)
Pu-238	9.068E-03	3.16E-03	2.047E-05
Pu-239	9.983E+01	3.27E+01	2.254E-01
Pu-240	6.003E+00	1.97E+00	1.355E-02
Pu-241	2.529E-01	8.28E-02	6.163E-03
Pu-242	3.302E-02	1.26E-02	7.455E-05
Am-241	4.646E-01	1.52E-01	1.588E-02
Am-243	0.000E+00	0.00E+00	0.000E+00
Np-237	0.000E+00	0.00E+00	1.180E-03
U-235	0.000E+00	0.00E+00	2.585E-01
U-238	1.305E+01	4.32E+00	1.305E+01
U-233	4.155E+00	1.33E+00	4.155E+00

Total Pu Mass: 1.06E+02 +/- 5.89E+00 g

MGA RESULTS

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	8.544E-03	6.09E+00
Pu-239	9.407E+01	4.41E-02
Pu-240	5.657E+00	7.27E-01
Pu-241	2.383E-01	4.78E-01
Pu-242	3.112E-02	1.00E+01
Am-241	4.378E-01	4.03E-01

Batch 2002-02-158

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005

Assay Date & Time: 1-24-2002 8:45:51 AM

Drum Package ID: S100_827
Sequence Number: 827

Waste Classification (TRU or LLW): TRU

		Errors at 1.96 sigma	
Total Alpha Activity :	9.350E+00	+/- 2.14E+00	Ci
Total TRU Activity :	4.212E+05	+/- 9.66E+04	nCi/g
Pu-239 Equiv Activity:	9.852E+00	+/- 2.15E+00	Ci
Fissile Gram Equiv Mass:	1.005E+02	+/- 3.27E+01	g
Total Decay Heat:	2.976E-01	+/- 6.76E-02	W
TMU Value:	32.72 %		

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error	MDA gm
Pu-238	1.57E-01	5.46E-02	9.07E-03	3.16E-03	2.05E-05
Pu-239	6.20E+00	2.03E+00	9.98E+01	3.27E+01	2.25E-01
Pu-240	1.38E+00	4.52E-01	6.00E+00	1.97E+00	1.36E-02
Pu-241	2.63E+01	8.61E+00	2.53E-01	8.28E-02	6.16E-03
Pu-242	1.31E-04	5.00E-05	3.30E-02	1.26E-02	7.45E-05
Am-241	1.61E+00	5.28E-01	4.65E-01	1.52E-01	1.59E-02
Am-243	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Np-237	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.18E-03
U-235	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.58E-01
U-238	4.44E-06	1.47E-06	1.31E+01	4.32E+00	1.31E+01
U-233	4.06E-02	1.30E-02	4.16E+00	1.33E+00	4.16E+00

Total Pu Mass: 1.06E+02 +/- 5.89E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	8.544E-03	6.09E+00
Pu-239	9.407E+01	4.41E-02
Pu-240	5.657E+00	7.27E-01
Pu-241	2.383E-01	4.78E-01
Pu-242	3.112E-02	1.00E+01
Am-241	4.378E-01	4.03E-01

Batch 2002-02-159

****
***** M G A R E P O R T *****
****

Report generated on: 1-24-02 9:42:29 AM

MGA version: MGA V9.5 CI

Spectrum ID: 11200827.CNF Sens : 30.0% LT: 51.0 Mins DT: 8.81
Measurement date: 1-24-02 Declared date: 1-24-02

Sample ID: S100_827 Detector: Total counts: 1.520E+07

Pu g/cm2 = 0.8535 Cd g/cm2 = 1.7795 FWHM at 122 keV = 687 eV
QFIT = 1.06 FWHM at 208 keV = 858 eV
NQFIT = 1.00

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	Meas. date %Err	Decl. date % weight	Decl. date %Err
Pu-238	0.000091	6.1	6.1	0.0359	6.1	0.00854	6.09	0.00854	6.09
Pu-239	1.000000	0.0	0.3	394.7809	0.5	94.06532	0.04	94.06532	0.04
Pu-240	0.060136	0.8	0.7	23.7407	0.8	5.65675	0.73	5.65675	0.73
Pu-241	0.002533	0.5	0.4	1.0000	0.0	0.23827	0.48	0.23827	0.48
Pu-242	(New alg.)			0.1306	(10)	0.03112	(10)	0.03112	(10)
Am-241	0.004655	0.4	0.3	1.8375	0.5	0.43783	0.40	0.43783	0.40

Pu-240 effective (meas. date) = 5.731 +/- 0.78%
Am-241 separated about 21.599 +/- 0.130 years ago
Am/Pu-241 weight ratio = 1.83753 +/- 0.50%

Messages :

Lead x-rays detected.
Calculations in MGAABS didn't converge : results may be suspect.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Batch 2002-03-1160

Gamma Waste Assay

Sample Information

File Name: C:\WAS\DATA\900\11100827.S11
Sample ID: S100_827 Count Sequence Number: 827
Assay Start: 1-24-02 8:45:53 AM
Description 1: 100g source
Description 2:
Location: 7715
Comment:
Waste Type:
Weight: Gross: 54000.0 g Net: 22200.0 g
Density: 0.107 g /ml

Container Type: 55 Gal Galv
Container: Volume: 208000. ml Full: 100.0 %

System Configuration

Counter ID Number: SGS
Arrangement Description: SGS
Segments: Number: 16 Offset: 0
Scanning Platform: Start: 934 mm Delta: -51 mm
Count Type: Daily 100 g Drum Check
Collimator/Geometry Setting: 0
Transmission Mode: Two pass
Transmission Source: 0

Errors quoted at 1.000 sigma
Reference Source Date: Reference Source Rate: 1.01E+03 cps
Geometric Correction Factor(SWCONTGCF): 0.760
Date of efficiency calibration approval: 4-18-2001 12:41:36 PM
Mu Factors response file: Lucite
Transmission Calib. Time: 5-11-2001 2:20:42 PM 59052

Reviewed by: Lee P Ahl Date: 7/16/02

Batch 2002-92-161

Segment Results

Segment: 1 Detector: DET01 (# 1) Position: 1

Elapsed Live Time: 113.38 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.406 +/- 0.0238
SE-75	264.65	0.000 +/- 0.0000	0.444 +/- 0.0044
SE-75	279.53	0.000 +/- 0.0000	0.453 +/- 0.0060
SE-75	400.65	0.000 +/- 0.0000	0.487 +/- 0.0074

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	1.17E+00 +/- 1.94E-01	2.53E+00	4.26E-08 +/- 6.00E-07
2	23.19	1.52E+00 +/- 2.08E-01	2.32E+00	9.34E-08 +/- 1.17E-06
3	35.10	1.01E+03 +/- 4.77E+00	1.74E+00	2.61E-06 +/- 1.64E-05
4	48.70	7.52E+00 +/- 4.24E-01	1.56E+00	1.63E-05 +/- 5.26E-05
5	59.35	4.35E+00 +/- 3.81E-01	1.50E+00	3.70E-05 +/- 7.37E-05
6	121.11	8.83E-01 +/- 4.22E-01	1.39E+00	1.83E-04 +/- 1.21E-05
7	148.57	7.16E-01 +/- 3.69E-01	1.38E+00	2.15E-04 +/- 2.55E-05
8	264.66	5.51E-01 +/- 2.22E-01	1.34E+00	2.17E-04 +/- 1.53E-05
9	300.10	3.77E-01 +/- 2.13E-01	1.32E+00	2.04E-04 +/- 1.08E-05
10	400.66	1.21E-01 +/- 5.11E-02	1.30E+00	1.69E-04 +/- 1.25E-05
11	778.90	1.74E-02 +/- 1.23E-02	1.21E+00	9.79E-05 +/- 5.69E-06
12	1085.91	1.74E-02 +/- 1.23E-02	1.17E+00	7.49E-05 +/- 3.78E-06

Segment: 2 Detector: DET01 (# 1) Position: 2

Elapsed Live Time: 113.23 sec Elapsed Real Time: 115.00 sec

Batch 2002-02-162

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.435 +/- 0.0261
SE-75	264.65	0.000 +/- 0.0000	0.513 +/- 0.0048
SE-75	279.53	0.000 +/- 0.0000	0.513 +/- 0.0065
SE-75	400.65	0.000 +/- 0.0000	0.563 +/- 0.0080

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.25	3.03E+00 +/- 3.07E-01	2.19E+00	5.80E-10 +/- 5.51E-09
2	35.10	1.01E+03 +/- 4.80E+00	1.67E+00	2.21E-07 +/- 1.06E-06
3	48.77	7.52E+00 +/- 4.73E-01	1.51E+00	5.41E-06 +/- 1.33E-05
4	59.53	8.23E+00 +/- 4.67E-01	1.46E+00	2.18E-05 +/- 3.30E-05
5	152.68	1.05E+00 +/- 4.04E-01	1.34E+00	3.61E-04 +/- 3.51E-05
6	279.54	5.68E-01 +/- 2.60E-01	1.27E+00	3.43E-04 +/- 1.77E-05
7	413.70	1.84E-01 +/- 6.27E-02	1.23E+00	2.51E-04 +/- 1.46E-05
8	867.39	2.65E-02 +/- 1.53E-02	1.15E+00	1.33E-04 +/- 6.03E-06

Segment: 3 Detector: DET01 (# 1) Position: 3

Elapsed Live Time: 112.45 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.409 +/- 0.0274
SE-75	264.65	0.000 +/- 0.0000	0.481 +/- 0.0047
SE-75	279.53	0.000 +/- 0.0000	0.486 +/- 0.0064
SE-75	400.65	0.000 +/- 0.0000	0.538 +/- 0.0079

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.22	7.43E+00 +/- 4.25E-01	2.30E+00	1.08E-08 +/- 1.05E-07
2	35.10	1.01E+03 +/- 4.80E+00	1.73E+00	1.07E-06 +/- 5.27E-06
3	48.63	6.01E+00 +/- 5.24E-01	1.56E+00	1.25E-05 +/- 3.18E-05
4	59.59	3.12E+01 +/- 7.29E-01	1.50E+00	3.79E-05 +/- 5.86E-05

Batch 2002-02-163

5	75.04	1.23E+00	+/- 5.67E-01	1.45E+00	9.62E-05	+/- 7.46E-05
6	98.74	1.43E+01	+/- 1.00E+00	1.41E+00	2.01E-04	+/- 4.76E-05
7	103.37	6.55E+00	+/- 8.28E-01	1.41E+00	2.19E-04	+/- 3.94E-05
8	111.17	2.37E+00	+/- 7.73E-01	1.40E+00	2.48E-04	+/- 2.67E-05
9	129.29	9.43E+00	+/- 5.99E-01	1.38E+00	3.02E-04	+/- 1.84E-05
10	148.57	1.05E+00	+/- 5.41E-01	1.37E+00	3.39E-04	+/- 3.24E-05
11	208.31	8.61E+00	+/- 5.28E-01	1.33E+00	3.66E-04	+/- 3.64E-05
12	333.22	1.95E+00	+/- 3.61E-01	1.28E+00	3.00E-04	+/- 1.35E-05
13	345.56	2.53E+00	+/- 3.29E-01	1.27E+00	2.93E-04	+/- 1.36E-05
14	375.57	5.92E+00	+/- 3.40E-01	1.26E+00	2.76E-04	+/- 1.44E-05
15	383.36	2.73E-01	+/- 1.68E-01	1.26E+00	2.72E-04	+/- 1.46E-05
16	393.42	2.22E+00	+/- 2.00E-01	1.26E+00	2.67E-04	+/- 1.48E-05
17	413.70	5.61E+00	+/- 2.50E-01	1.25E+00	2.57E-04	+/- 1.52E-05
18	423.16	1.97E-01	+/- 1.22E-01	1.25E+00	2.53E-04	+/- 1.53E-05
19	452.49	6.50E-01	+/- 1.10E-01	1.24E+00	2.40E-04	+/- 1.54E-05
20	662.42	2.81E-01	+/- 5.93E-02	1.20E+00	1.78E-04	+/- 1.02E-05
21	723.42	9.67E-02	+/- 4.24E-02	1.19E+00	1.66E-04	+/- 8.74E-06
22	867.39	3.51E-02	+/- 1.76E-02	1.17E+00	1.45E-04	+/- 6.61E-06

Segment: 4 Detector: DET01 (# 1) Position: 4

Elapsed Live Time: 107.82 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.444 +/- 0.0348
SE-75	264.65	0.000 +/- 0.0000	0.542 +/- 0.0053
SE-75	279.53	0.000 +/- 0.0000	0.555 +/- 0.0072
SE-75	400.65	0.000 +/- 0.0000	0.597 +/- 0.0087

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	1.48E+01 +/- 6.58E-01	2.35E+00	2.23E-06 +/- 3.43E-06
2	23.17	1.80E+01 +/- 7.14E-01	2.16E+00	3.32E-06 +/- 4.67E-06
3	35.10	1.01E+03 +/- 4.94E+00	1.65E+00	2.00E-05 +/- 1.66E-05
4	59.57	2.51E+02 +/- 2.01E+00	1.44E+00	9.82E-05 +/- 3.39E-05
5	75.05	2.88E+00 +/- 6.93E-01	1.40E+00	1.58E-04 +/- 3.32E-05
6	98.82	1.55E+02 +/- 2.22E+00	1.37E+00	2.40E-04 +/- 2.42E-05
7	103.43	1.21E+02 +/- 1.53E+00	1.36E+00	2.53E-04 +/- 2.24E-05
8	111.31	2.57E+01 +/- 1.54E+00	1.36E+00	2.74E-04 +/- 1.97E-05
9	117.18	1.57E+01 +/- 1.26E+00	1.35E+00	2.88E-04 +/- 1.81E-05
10	129.29	1.02E+02 +/- 1.41E+00	1.34E+00	3.12E-04 +/- 1.61E-05
11	148.57	1.73E+01 +/- 1.05E+00	1.33E+00	3.40E-04 +/- 1.63E-05
12	164.84	3.68E+00 +/- 8.23E-01	1.32E+00	3.56E-04 +/- 1.76E-05

Batch 2002-02-164

	13	171.63	5.84E+00	+/- 8.33E-01	1.31E+00	3.60E-04	+/-	1.81E-05
	14	179.28	3.25E+00	+/- 8.69E-01	1.30E+00	3.64E-04	+/-	1.86E-05
	15	189.75	3.51E+00	+/- 8.69E-01	1.30E+00	3.68E-04	+/-	1.91E-05
	16	195.99	3.94E+00	+/- 8.02E-01	1.29E+00	3.69E-04	+/-	1.93E-05
	17	208.33	1.02E+02	+/- 1.49E+00	1.28E+00	3.71E-04	+/-	1.94E-05
	18	244.70	1.31E+00	+/- 5.98E-01	1.26E+00	3.65E-04	+/-	1.85E-05
	19	255.70	5.28E+00	+/- 5.89E-01	1.26E+00	3.62E-04	+/-	1.80E-05
	20	267.94	3.89E+00	+/- 5.83E-01	1.25E+00	3.57E-04	+/-	1.73E-05
	21	298.03	1.92E+00	+/- 6.94E-01	1.24E+00	3.45E-04	+/-	1.56E-05
	22	311.90	4.68E+00	+/- 5.45E-01	1.23E+00	3.38E-04	+/-	1.48E-05
	23	324.21	1.95E+00	+/- 5.12E-01	1.23E+00	3.32E-04	+/-	1.41E-05
	24	333.26	2.68E+01	+/- 8.82E-01	1.23E+00	3.27E-04	+/-	1.37E-05
	25	336.42	3.00E+00	+/- 6.71E-01	1.22E+00	3.26E-04	+/-	1.36E-05
	26	345.61	2.70E+01	+/- 7.06E-01	1.22E+00	3.21E-04	+/-	1.32E-05
	27	369.18	1.21E+01	+/- 5.67E-01	1.22E+00	3.09E-04	+/-	1.23E-05
	28	375.67	7.79E+01	+/- 1.07E+00	1.21E+00	3.06E-04	+/-	1.21E-05
	29	383.42	6.84E+00	+/- 5.04E-01	1.21E+00	3.02E-04	+/-	1.18E-05
	30	393.58	2.88E+01	+/- 6.01E-01	1.21E+00	2.97E-04	+/-	1.16E-05
	31	400.66	4.38E-01	+/- 2.95E-01	1.21E+00	2.94E-04	+/-	1.14E-05
	32	413.70	7.58E+01	+/- 9.27E-01	1.21E+00	2.87E-04	+/-	1.11E-05
	33	423.33	3.52E+00	+/- 3.11E-01	1.20E+00	2.83E-04	+/-	1.10E-05
	34	452.21	8.34E+00	+/- 3.37E-01	1.20E+00	2.70E-04	+/-	1.06E-05
	35	482.44	2.49E-01	+/- 1.38E-01	1.19E+00	2.57E-04	+/-	1.04E-05
	36	620.09	1.06E+00	+/- 1.18E-01	1.17E+00	2.07E-04	+/-	9.43E-06
	37	646.98	2.72E-01	+/- 1.00E-01	1.16E+00	1.99E-04	+/-	9.19E-06
	38	653.94	5.53E-01	+/- 1.29E-01	1.16E+00	1.97E-04	+/-	9.12E-06
M	39	659.77	1.96E-01	+/- 6.50E-02	1.16E+00	1.96E-04	+/-	9.06E-06
m	40	663.68	3.37E+00	+/- 2.64E-01	1.16E+00	1.94E-04	+/-	9.02E-06
	41	723.36	1.77E+00	+/- 1.53E-01	1.15E+00	1.79E-04	+/-	8.35E-06
	42	757.86	2.80E-01	+/- 6.26E-02	1.15E+00	1.71E-04	+/-	7.93E-06

Batch 2002-02-165

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
43	771.00	4.24E-01 +/- 7.89E-02	1.15E+00	1.69E-04 +/- 7.76E-06
44	1112.12	2.00E-02 +/- 1.83E-02	1.12E+00	1.17E-04 +/- 4.26E-06

Segment: 5 Detector: DET01 (# 1) Position: 5

Elapsed Live Time: 100.73 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.203 +/- 0.0034
SE-75	279.53	0.000 +/- 0.0000	0.223 +/- 0.0053
SE-75	400.65	0.000 +/- 0.0000	0.357 +/- 0.0072

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	3.83E+01 +/- 9.94E-01	4.10E+00	1.08E-06 +/- 1.72E-06
2	23.13	3.42E+01 +/- 1.07E+00	4.10E+00	1.73E-06 +/- 2.53E-06
3	35.10	1.01E+03 +/- 5.11E+00	4.10E+00	1.48E-05 +/- 1.27E-05
4	59.53	6.95E+02 +/- 3.99E+00	4.10E+00	9.30E-05 +/- 3.29E-05
5	74.98	8.22E+00 +/- 1.33E+00	4.10E+00	1.58E-04 +/- 3.39E-05
6	98.71	3.28E+02 +/- 3.76E+00	4.10E+00	2.49E-04 +/- 2.52E-05
7	103.37	2.43E+02 +/- 3.22E+00	4.10E+00	2.64E-04 +/- 2.33E-05
8	111.12	5.57E+01 +/- 2.47E+00	4.10E+00	2.86E-04 +/- 2.04E-05
9	114.46	5.92E+00 +/- 2.47E+00	4.10E+00	2.94E-04 +/- 1.94E-05
10	117.18	3.58E+01 +/- 1.92E+00	4.10E+00	3.01E-04 +/- 1.87E-05
11	129.29	2.43E+02 +/- 2.25E+00	4.10E+00	3.26E-04 +/- 1.67E-05
12	148.57	3.70E+01 +/- 1.49E+00	3.13E+00	3.54E-04 +/- 1.71E-05
13	161.21	6.38E+00 +/- 1.27E+00	2.74E+00	3.65E-04 +/- 1.83E-05
14	164.79	2.67E+00 +/- 1.25E+00	2.66E+00	3.68E-04 +/- 1.86E-05
15	171.56	1.17E+01 +/- 1.17E+00	2.53E+00	3.71E-04 +/- 1.92E-05
16	179.52	6.28E+00 +/- 1.12E+00	2.41E+00	3.74E-04 +/- 1.97E-05
17	189.77	1.04E+01 +/- 1.12E+00	2.28E+00	3.76E-04 +/- 2.02E-05
18	195.99	1.04E+01 +/- 1.21E+00	2.21E+00	3.76E-04 +/- 2.03E-05
19	208.26	2.43E+02 +/- 2.37E+00	2.09E+00	3.75E-04 +/- 2.04E-05
20	237.94	1.80E+00 +/- 7.25E-01	1.87E+00	3.66E-04 +/- 1.94E-05

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21	244.70	3.63E+00	+/- 8.44E-01	1.83E+00	3.63E-04	+/- 1.90E-05
22	255.70	1.04E+01	+/- 8.36E-01	1.77E+00	3.58E-04	+/- 1.84E-05
23	267.90	7.89E+00	+/- 7.95E-01	1.71E+00	3.51E-04	+/- 1.76E-05
24	297.98	6.98E+00	+/- 8.95E-01	1.63E+00	3.34E-04	+/- 1.56E-05
25	311.90	6.76E+00	+/- 7.59E-01	1.60E+00	3.26E-04	+/- 1.48E-05
26	321.12	2.92E+00	+/- 7.39E-01	1.58E+00	3.21E-04	+/- 1.42E-05
27	324.01	5.19E+00	+/- 6.15E-01	1.58E+00	3.19E-04	+/- 1.41E-05
28	333.20	6.79E+01	+/- 1.38E+00	1.56E+00	3.13E-04	+/- 1.36E-05
29	336.29	9.99E+00	+/- 1.01E+00	1.55E+00	3.12E-04	+/- 1.34E-05
30	345.54	6.35E+01	+/- 9.79E-01	1.53E+00	3.06E-04	+/- 1.30E-05
31	368.91	2.66E+01	+/- 8.09E-01	1.49E+00	2.93E-04	+/- 1.20E-05
32	375.61	1.67E+02	+/- 1.70E+00	1.48E+00	2.89E-04	+/- 1.18E-05
33	383.39	1.75E+01	+/- 7.76E-01	1.47E+00	2.85E-04	+/- 1.16E-05
34	393.51	6.43E+01	+/- 9.40E-01	1.45E+00	2.80E-04	+/- 1.13E-05
35	400.66	1.76E+00	+/- 4.29E-01	1.44E+00	2.76E-04	+/- 1.11E-05
36	413.70	1.66E+02	+/- 1.48E+00	1.44E+00	2.69E-04	+/- 1.09E-05
37	423.20	9.20E+00	+/- 5.36E-01	1.43E+00	2.64E-04	+/- 1.07E-05
38	452.13	1.99E+01	+/- 5.34E-01	1.42E+00	2.51E-04	+/- 1.03E-05
39	482.05	4.35E-01	+/- 1.97E-01	1.40E+00	2.37E-04	+/- 1.00E-05
40	598.83	2.85E-01	+/- 1.45E-01	1.36E+00	1.96E-04	+/- 9.30E-06
41	620.17	1.77E+00	+/- 1.76E-01	1.35E+00	1.90E-04	+/- 9.14E-06
42	641.33	7.32E-01	+/- 1.88E-01	1.34E+00	1.84E-04	+/- 8.96E-06

Batch 2002-02-167

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
	43	646.93	8.01E-01 +/- 1.96E-01	1.34E+00	1.83E-04 +/- 8.91E-06
	44	653.58	1.53E+00 +/- 1.62E-01	1.34E+00	1.81E-04 +/- 8.85E-06
M	45	659.89	4.94E-01 +/- 9.44E-02	1.34E+00	1.79E-04 +/- 8.79E-06
m	46	663.53	7.74E+00 +/- 4.03E-01	1.34E+00	1.78E-04 +/- 8.76E-06
	47	689.78	8.33E-01 +/- 1.24E-01	1.33E+00	1.72E-04 +/- 8.50E-06
	48	704.75	2.43E-01 +/- 1.04E-01	1.33E+00	1.69E-04 +/- 8.35E-06
	49	723.24	3.56E+00 +/- 2.17E-01	1.32E+00	1.65E-04 +/- 8.15E-06
	50	757.75	5.69E-01 +/- 8.37E-02	1.31E+00	1.58E-04 +/- 7.76E-06
	51	770.87	9.28E-01 +/- 1.25E-01	1.31E+00	1.56E-04 +/- 7.60E-06

Segment: 6 Detector: DET01 (# 1) Position: 6

Elapsed Live Time: 99.36 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.188 +/- 0.0033
SE-75	279.53	0.000 +/- 0.0000	0.214 +/- 0.0052
SE-75	400.65	0.000 +/- 0.0000	0.329 +/- 0.0070

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	4.14E+01 +/- 1.03E+00	4.10E+00	3.85E-07 +/- 5.97E-07
2	23.11	3.50E+01 +/- 1.11E+00	4.10E+00	6.60E-07 +/- 9.39E-07
3	35.10	1.01E+03 +/- 5.14E+00	4.10E+00	8.04E-06 +/- 6.71E-06
4	49.55	1.32E+01 +/- 1.39E+00	4.10E+00	3.67E-05 +/- 1.79E-05
5	59.52	7.38E+02 +/- 4.19E+00	4.10E+00	6.87E-05 +/- 2.39E-05
6	74.87	5.80E+00 +/- 1.14E+00	4.10E+00	1.29E-04 +/- 2.73E-05
7	98.71	3.64E+02 +/- 4.00E+00	4.10E+00	2.22E-04 +/- 2.26E-05
8	103.36	2.76E+02 +/- 3.42E+00	4.10E+00	2.38E-04 +/- 2.12E-05
9	111.13	6.37E+01 +/- 2.62E+00	4.10E+00	2.63E-04 +/- 1.90E-05
10	114.44	1.04E+01 +/- 2.60E+00	4.10E+00	2.72E-04 +/- 1.82E-05
11	117.03	3.78E+01 +/- 2.01E+00	4.10E+00	2.80E-04 +/- 1.77E-05
12	129.29	2.77E+02 +/- 2.42E+00	4.10E+00	3.10E-04 +/- 1.61E-05
13	144.30	1.11E+01 +/- 2.11E+00	3.38E+00	3.39E-04 +/- 1.63E-05

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14	148.57	4.53E+01 +/-	1.58E+00	3.17E+00	3.45E-04 +/-	1.67E-05
15	161.07	3.93E+00 +/-	1.35E+00	2.79E+00	3.60E-04 +/-	1.78E-05
16	164.72	6.59E+00 +/-	1.31E+00	2.71E+00	3.64E-04 +/-	1.82E-05
17	171.49	1.33E+01 +/-	1.22E+00	2.58E+00	3.69E-04 +/-	1.88E-05
18	179.25	6.81E+00 +/-	1.27E+00	2.46E+00	3.74E-04 +/-	1.93E-05
19	189.60	9.62E+00 +/-	1.08E+00	2.33E+00	3.78E-04 +/-	1.99E-05
20	195.98	1.28E+01 +/-	1.27E+00	2.26E+00	3.80E-04 +/-	2.01E-05
21	208.27	2.73E+02 +/-	2.54E+00	2.14E+00	3.81E-04 +/-	2.03E-05
22	237.80	2.83E+00 +/-	9.03E-01	1.92E+00	3.75E-04 +/-	1.95E-05
23	244.70	5.03E+00 +/-	8.90E-01	1.87E+00	3.73E-04 +/-	1.92E-05
24	255.76	1.05E+01 +/-	8.76E-01	1.81E+00	3.69E-04 +/-	1.86E-05
25	267.93	9.42E+00 +/-	8.49E-01	1.75E+00	3.63E-04 +/-	1.78E-05
26	297.94	5.43E+00 +/-	9.87E-01	1.66E+00	3.47E-04 +/-	1.59E-05
27	311.90	8.22E+00 +/-	7.85E-01	1.63E+00	3.39E-04 +/-	1.51E-05
28	321.22	6.22E+00 +/-	8.83E-01	1.61E+00	3.33E-04 +/-	1.45E-05
29	324.27	3.19E+00 +/-	6.28E-01	1.61E+00	3.31E-04 +/-	1.44E-05
30	333.21	7.63E+01 +/-	1.43E+00	1.59E+00	3.26E-04 +/-	1.39E-05
31	336.24	1.12E+01 +/-	1.08E+00	1.58E+00	3.24E-04 +/-	1.37E-05
32	345.52	7.19E+01 +/-	1.05E+00	1.57E+00	3.19E-04 +/-	1.33E-05
33	368.86	2.89E+01 +/-	8.57E-01	1.53E+00	3.05E-04 +/-	1.23E-05
34	375.60	1.89E+02 +/-	1.84E+00	1.52E+00	3.02E-04 +/-	1.21E-05
35	383.37	1.73E+01 +/-	8.17E-01	1.51E+00	2.97E-04 +/-	1.18E-05
36	393.50	7.28E+01 +/-	9.93E-01	1.49E+00	2.92E-04 +/-	1.16E-05
37	400.66	1.80E+00 +/-	4.63E-01	1.48E+00	2.88E-04 +/-	1.14E-05
38	413.70	1.92E+02 +/-	1.62E+00	1.47E+00	2.81E-04 +/-	1.11E-05
39	423.19	1.05E+01 +/-	5.80E-01	1.47E+00	2.76E-04 +/-	1.09E-05
40	452.12	2.28E+01 +/-	5.60E-01	1.45E+00	2.62E-04 +/-	1.05E-05
41	620.00	2.27E+00 +/-	1.98E-01	1.38E+00	1.98E-04 +/-	9.16E-06
42	641.36	6.31E-01 +/-	2.04E-01	1.37E+00	1.92E-04 +/-	8.97E-06

Batch 2002-02-169

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
43	646.93	1.13E+00 +/- 2.02E-01	1.37E+00	1.90E-04 +/- 8.92E-06
44	653.66	1.45E+00 +/- 1.85E-01	1.37E+00	1.89E-04 +/- 8.86E-06
45	662.42	7.70E+00 +/- 4.24E-01	1.37E+00	1.86E-04 +/- 8.77E-06
46	689.86	8.19E-01 +/- 1.35E-01	1.36E+00	1.80E-04 +/- 8.49E-06
47	704.45	3.97E-01 +/- 1.14E-01	1.35E+00	1.76E-04 +/- 8.34E-06
48	723.13	4.26E+00 +/- 2.38E-01	1.35E+00	1.72E-04 +/- 8.13E-06
49	757.47	4.22E-01 +/- 8.84E-02	1.34E+00	1.65E-04 +/- 7.73E-06
50	770.60	1.11E+00 +/- 1.34E-01	1.33E+00	1.62E-04 +/- 7.58E-06

Segment: 7 Detector: DET01 (# 1) Position: 7

Elapsed Live Time: 104.44 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.235 +/- 0.0034
SE-75	279.53	0.000 +/- 0.0000	0.255 +/- 0.0052
SE-75	400.65	0.000 +/- 0.0000	0.368 +/- 0.0070

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	2.66E+01 +/- 8.35E-01	4.10E+00	2.18E-09 +/- 2.40E-08
2	23.17	2.63E+01 +/- 9.15E-01	4.10E+00	7.04E-09 +/- 6.92E-08
3	35.10	1.01E+03 +/- 5.02E+00	4.10E+00	9.59E-07 +/- 4.73E-06
4	49.90	1.10E+01 +/- 1.19E+00	4.10E+00	1.49E-05 +/- 3.58E-05
5	59.57	5.43E+02 +/- 3.30E+00	4.10E+00	4.01E-05 +/- 6.21E-05
6	75.02	4.91E+00 +/- 8.46E-01	4.10E+00	1.05E-04 +/- 8.11E-05
7	98.75	2.31E+02 +/- 3.10E+00	4.10E+00	2.20E-04 +/- 5.19E-05
8	103.38	2.00E+02 +/- 2.03E+00	4.10E+00	2.41E-04 +/- 4.30E-05
9	111.22	3.98E+01 +/- 2.05E+00	4.10E+00	2.73E-04 +/- 2.89E-05
10	114.51	3.65E+00 +/- 2.04E+00	4.10E+00	2.85E-04 +/- 2.40E-05
11	117.04	2.33E+01 +/- 1.58E+00	4.10E+00	2.94E-04 +/- 2.10E-05
12	129.29	1.75E+02 +/- 1.86E+00	4.10E+00	3.30E-04 +/- 1.98E-05
13	148.57	2.92E+01 +/- 1.26E+00	3.04E+00	3.68E-04 +/- 3.49E-05
14	161.05	5.50E+00 +/- 1.09E+00	2.65E+00	3.83E-04 +/- 4.09E-05

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15	164.76	3.46E+00 +/-	1.07E+00	2.57E+00	3.86E-04 +/-	4.19E-05
16	171.65	8.41E+00 +/-	9.82E-01	2.44E+00	3.90E-04 +/-	4.31E-05
17	179.43	3.85E+00 +/-	7.21E-01	2.32E+00	3.93E-04 +/-	4.34E-05
18	189.53	6.45E+00 +/-	9.54E-01	2.19E+00	3.94E-04 +/-	4.25E-05
19	195.92	9.98E+00 +/-	1.02E+00	2.12E+00	3.94E-04 +/-	4.14E-05
20	208.29	1.63E+02 +/-	1.91E+00	2.00E+00	3.91E-04 +/-	3.83E-05
21	244.70	3.77E+00 +/-	7.09E-01	1.75E+00	3.73E-04 +/-	2.70E-05
22	255.77	7.32E+00 +/-	7.02E-01	1.69E+00	3.66E-04 +/-	2.38E-05
23	267.93	5.81E+00 +/-	6.80E-01	1.64E+00	3.58E-04 +/-	2.08E-05
24	298.04	3.67E+00 +/-	7.23E-01	1.57E+00	3.37E-04 +/-	1.58E-05
25	311.90	4.45E+00 +/-	6.39E-01	1.55E+00	3.27E-04 +/-	1.48E-05
26	324.09	3.16E+00 +/-	5.23E-01	1.53E+00	3.19E-04 +/-	1.44E-05
27	333.23	4.43E+01 +/-	1.11E+00	1.52E+00	3.13E-04 +/-	1.44E-05
28	336.38	5.53E+00 +/-	8.55E-01	1.51E+00	3.11E-04 +/-	1.44E-05
29	345.57	3.91E+01 +/-	8.77E-01	1.50E+00	3.05E-04 +/-	1.46E-05
30	368.82	1.73E+01 +/-	6.73E-01	1.47E+00	2.91E-04 +/-	1.52E-05
31	375.63	1.18E+02 +/-	1.31E+00	1.46E+00	2.87E-04 +/-	1.54E-05
32	383.44	1.07E+01 +/-	6.26E-01	1.45E+00	2.83E-04 +/-	1.57E-05
33	393.58	4.29E+01 +/-	7.60E-01	1.44E+00	2.77E-04 +/-	1.59E-05
34	413.70	1.14E+02 +/-	1.18E+00	1.42E+00	2.67E-04 +/-	1.63E-05
35	423.26	5.39E+00 +/-	3.85E-01	1.42E+00	2.62E-04 +/-	1.63E-05
36	452.16	1.30E+01 +/-	4.23E-01	1.40E+00	2.49E-04 +/-	1.63E-05
37	482.35	4.30E-01 +/-	1.73E-01	1.39E+00	2.36E-04 +/-	1.60E-05
38	619.84	1.09E+00 +/-	1.49E-01	1.34E+00	1.92E-04 +/-	1.19E-05
39	646.91	3.73E-01 +/-	1.27E-01	1.33E+00	1.86E-04 +/-	1.11E-05
40	653.56	8.69E-01 +/-	1.43E-01	1.33E+00	1.84E-04 +/-	1.09E-05
41	662.42	4.84E+00 +/-	3.14E-01	1.33E+00	1.82E-04 +/-	1.06E-05
42	689.87	2.65E-01 +/-	1.02E-01	1.32E+00	1.76E-04 +/-	9.85E-06

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
43	723.12	2.31E+00 +/- 1.79E-01	1.31E+00	1.70E-04 +/- 9.02E-06
44	770.55	7.49E-01 +/- 9.59E-02	1.30E+00	1.61E-04 +/- 8.03E-06
45	1112.12	5.25E-02 +/- 3.35E-02	1.24E+00	1.20E-04 +/- 5.13E-06

Segment: 8 Detector: DET01 (# 1) Position: 8

Elapsed Live Time: 110.38 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.297 +/- 0.0299
SE-75	264.65	0.000 +/- 0.0000	0.491 +/- 0.0048
SE-75	279.53	0.000 +/- 0.0000	0.502 +/- 0.0066
SE-75	400.65	0.000 +/- 0.0000	0.548 +/- 0.0081

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	9.14E+00 +/- 5.13E-01	3.21E+00	1.22E-09 +/- 1.33E-08
2	23.19	1.22E+01 +/- 5.72E-01	2.89E+00	4.18E-09 +/- 4.06E-08
3	35.10	1.01E+03 +/- 4.86E+00	2.05E+00	6.89E-07 +/- 3.37E-06
4	49.59	4.85E+00 +/- 6.87E-01	1.78E+00	1.15E-05 +/- 2.77E-05
5	59.59	1.89E+02 +/- 1.66E+00	1.70E+00	3.34E-05 +/- 5.14E-05
6	74.91	2.31E+00 +/- 5.54E-01	1.63E+00	9.02E-05 +/- 6.99E-05
7	98.82	8.07E+01 +/- 1.66E+00	1.58E+00	1.99E-04 +/- 4.65E-05
8	103.43	6.31E+01 +/- 1.12E+00	1.57E+00	2.18E-04 +/- 3.88E-05
9	111.34	1.50E+01 +/- 1.15E+00	1.56E+00	2.49E-04 +/- 2.63E-05
10	117.39	3.84E+00 +/- 1.01E+00	1.55E+00	2.70E-04 +/- 1.91E-05
11	129.29	5.61E+01 +/- 1.06E+00	1.54E+00	3.05E-04 +/- 1.85E-05
12	148.57	1.07E+01 +/- 7.72E-01	1.50E+00	3.45E-04 +/- 3.27E-05
13	164.93	1.42E+00 +/- 6.98E-01	1.46E+00	3.64E-04 +/- 3.97E-05
14	171.70	1.91E+00 +/- 7.11E-01	1.45E+00	3.69E-04 +/- 4.10E-05
15	179.73	1.63E+00 +/- 6.76E-01	1.43E+00	3.73E-04 +/- 4.15E-05
16	189.51	1.57E+00 +/- 5.71E-01	1.41E+00	3.76E-04 +/- 4.08E-05
17	196.11	3.51E+00 +/- 6.65E-01	1.40E+00	3.77E-04 +/- 3.98E-05
18	208.34	4.84E+01 +/- 1.05E+00	1.38E+00	3.76E-04 +/- 3.72E-05
19	244.70	1.26E+00 +/- 4.47E-01	1.32E+00	3.62E-04 +/- 2.67E-05
20	255.82	2.40E+00 +/- 4.46E-01	1.31E+00	3.56E-04 +/- 2.36E-05
21	268.04	1.21E+00 +/- 3.67E-01	1.29E+00	3.49E-04 +/- 2.06E-05
22	297.91	2.43E+00 +/- 5.43E-01	1.28E+00	3.31E-04 +/- 1.55E-05

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23	311.90	1.35E+00 +/-	4.29E-01	1.27E+00	3.23E-04 +/-	1.44E-05
24	333.30	1.22E+01 +/-	6.30E-01	1.27E+00	3.10E-04 +/-	1.38E-05
25	336.43	1.71E+00 +/-	4.76E-01	1.27E+00	3.08E-04 +/-	1.38E-05
26	345.63	1.21E+01 +/-	5.09E-01	1.26E+00	3.03E-04 +/-	1.38E-05
27	369.17	5.80E+00 +/-	4.12E-01	1.25E+00	2.89E-04 +/-	1.44E-05
28	375.69	3.54E+01 +/-	7.09E-01	1.25E+00	2.86E-04 +/-	1.46E-05
29	383.43	3.82E+00 +/-	3.32E-01	1.25E+00	2.82E-04 +/-	1.48E-05
30	393.60	1.31E+01 +/-	4.15E-01	1.25E+00	2.76E-04 +/-	1.50E-05
31	400.66	3.69E-01 +/-	2.15E-01	1.25E+00	2.73E-04 +/-	1.52E-05
32	413.70	3.37E+01 +/-	5.96E-01	1.24E+00	2.66E-04 +/-	1.54E-05
33	423.40	2.03E+00 +/-	2.30E-01	1.24E+00	2.62E-04 +/-	1.55E-05
34	443.98	3.14E-01 +/-	1.29E-01	1.23E+00	2.53E-04 +/-	1.56E-05
35	452.24	3.95E+00 +/-	2.27E-01	1.23E+00	2.49E-04 +/-	1.56E-05
36	653.52	2.72E-01 +/-	8.25E-02	1.19E+00	1.85E-04 +/-	1.06E-05
M 37	659.70	1.10E-01 +/-	4.23E-02	1.19E+00	1.83E-04 +/-	1.04E-05
m 38	663.68	1.60E+00 +/-	1.69E-01	1.19E+00	1.82E-04 +/-	1.03E-05
39	689.96	1.17E-01 +/-	6.44E-02	1.18E+00	1.77E-04 +/-	9.58E-06
40	723.28	7.95E-01 +/-	1.02E-01	1.18E+00	1.70E-04 +/-	8.79E-06
41	1085.91	2.69E-02 +/-	1.55E-02	1.14E+00	1.18E-04 +/-	5.10E-06

Segment: 9 Detector: DET01 (# 1) Position: 9

Elapsed Live Time: 113.05 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.358 +/- 0.0260
SE-75	264.65	0.000 +/- 0.0000	0.518 +/- 0.0049
SE-75	279.53	0.000 +/- 0.0000	0.524 +/- 0.0066
SE-75	400.65	0.000 +/- 0.0000	0.578 +/- 0.0082

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.18	5.10E+00 +/- 3.50E-01	2.54E+00	2.29E-06 +/- 2.30E-05
2	35.10	1.01E+03 +/- 4.80E+00	1.86E+00	1.75E-05 +/- 8.88E-05
3	59.60	2.39E+01 +/- 6.27E-01	1.58E+00	1.00E-04 +/- 1.59E-04
4	75.24	1.06E+00 +/- 4.56E-01	1.52E+00	1.66E-04 +/- 1.31E-04
5	98.68	6.18E+00 +/- 7.87E-01	1.48E+00	2.51E-04 +/- 6.09E-05
6	103.26	1.74E+00 +/- 5.65E-01	1.47E+00	2.65E-04 +/- 4.88E-05
7	129.29	2.98E+00 +/- 5.09E-01	1.45E+00	3.23E-04 +/- 1.97E-05
8	208.35	1.58E+00 +/- 3.60E-01	1.33E+00	3.66E-04 +/- 3.76E-05
9	375.73	9.63E-01 +/- 1.92E-01	1.23E+00	2.85E-04 +/- 1.49E-05
10	413.70	9.46E-01 +/- 1.08E-01	1.22E+00	2.67E-04 +/- 1.59E-05
11	662.42	9.94E-02 +/- 3.94E-02	1.17E+00	1.82E-04 +/- 1.04E-05

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12	867.39	8.85E-03	+/- 8.85E-03	1.15E+00	1.46E-04	+/- 6.48E-06
13	1001.03	8.85E-03	+/- 8.85E-03	1.13E+00	1.30E-04	+/- 5.63E-06
14	1085.91	2.77E-02	+/- 2.00E-02	1.13E+00	1.23E-04	+/- 5.22E-06

Segment: 10 Detector: DET01 (# 1) Position: 10

Elapsed Live Time: 113.37 sec Elapsed Real Time: 115.00 sec

T R A N S M I S S I O N R E S U L T S

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.343 +/- 0.0239
SE-75	264.65	0.000 +/- 0.0000	0.461 +/- 0.0045
SE-75	279.53	0.000 +/- 0.0000	0.485 +/- 0.0062
SE-75	400.65	0.000 +/- 0.0000	0.521 +/- 0.0077

P E A K A N A L Y S I S R E S U L T S

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.23	2.78E+00 +/- 2.69E-01	2.62E+00	3.43E-07 +/- 4.86E-07
2	35.10	1.01E+03 +/- 4.77E+00	1.90E+00	5.68E-06 +/- 4.74E-06
3	59.66	7.24E+00 +/- 4.28E-01	1.61E+00	6.40E-05 +/- 2.21E-05
4	185.71	6.07E-01 +/- 3.60E-01	1.40E+00	4.00E-04 +/- 2.05E-05
5	264.66	4.02E-01 +/- 2.18E-01	1.32E+00	3.77E-04 +/- 1.82E-05
6	400.66	1.07E-01 +/- 5.41E-02	1.27E+00	2.87E-04 +/- 1.13E-05
7	662.42	5.23E-02 +/- 2.13E-02	1.21E+00	1.80E-04 +/- 8.83E-06
8	1001.03	2.03E-02 +/- 1.65E-02	1.16E+00	1.28E-04 +/- 5.05E-06

Segment: 11 Detector: DET01 (# 1) Position: 11

Elapsed Live Time: 113.51 sec Elapsed Real Time: 115.00 sec

T R A N S M I S S I O N R E S U L T S

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.359 +/- 0.0252
SE-75	264.65	0.000 +/- 0.0000	0.467 +/- 0.0045
SE-75	279.53	0.000 +/- 0.0000	0.485 +/- 0.0062
SE-75	400.65	0.000 +/- 0.0000	0.536 +/- 0.0078

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PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.15	2.03E+00 +/- 2.33E-01	2.54E+00	4.61E-07 +/- 6.51E-07
2	35.10	1.01E+03 +/- 4.78E+00	1.86E+00	6.75E-06 +/- 5.60E-06
3	59.64	2.16E+00 +/- 2.79E-01	1.58E+00	6.71E-05 +/- 2.31E-05
4	279.54	5.18E-01 +/- 2.14E-01	1.30E+00	3.58E-04 +/- 1.69E-05
5	400.66	8.68E-02 +/- 5.37E-02	1.26E+00	2.82E-04 +/- 1.12E-05
6	778.90	1.43E-02 +/- 1.31E-02	1.18E+00	1.56E-04 +/- 7.41E-06

Segment: 12 Detector: DET01 (# 1) Position: 12

Elapsed Live Time: 113.58 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.076 +/- 0.0148
SE-75	264.65	0.000 +/- 0.0000	0.121 +/- 0.0020
SE-75	279.53	0.000 +/- 0.0000	0.128 +/- 0.0030
SE-75	400.65	0.000 +/- 0.0000	0.161 +/- 0.0040

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	3.63E+00	7.63E-06 +/- 6.33E-06
2	59.53	1.92E+00 +/- 2.80E-01	2.73E+00	6.62E-05 +/- 2.29E-05
3	264.66	2.98E-01 +/- 1.89E-01	2.01E+00	3.61E-04 +/- 1.77E-05
4	778.90	1.74E-02 +/- 1.23E-02	1.58E+00	1.60E-04 +/- 7.32E-06
5	964.13	4.09E-02 +/- 2.45E-02	1.50E+00	1.33E-04 +/- 5.22E-06

Segment: 13 Detector: DET01 (# 1) Position: 13

Elapsed Live Time: 113.68 sec Elapsed Real Time: 115.00 sec

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TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.166 +/- 0.0175
SE-75	264.65	0.000 +/- 0.0000	0.259 +/- 0.0031
SE-75	279.53	0.000 +/- 0.0000	0.269 +/- 0.0044
SE-75	400.65	0.000 +/- 0.0000	0.320 +/- 0.0058

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
	1	35.10	1.01E+03 +/- 4.77E+00	2.68E+00	1.10E-05 +/- 9.51E-06
	2	49.80	5.02E+00 +/- 3.49E-01	2.24E+00	4.59E-05 +/- 2.28E-05
M	3	57.90	3.93E-01 +/- 1.28E-01	2.13E+00	7.44E-05 +/- 2.80E-05
m	4	59.51	8.33E-01 +/- 1.87E-01	2.11E+00	8.06E-05 +/- 2.88E-05
	5	90.87	8.42E-01 +/- 3.45E-01	1.94E+00	2.08E-04 +/- 2.72E-05
	6	264.66	3.83E-01 +/- 1.50E-01	1.60E+00	3.60E-04 +/- 1.81E-05

Segment: 14 Detector: DET01 (# 1) Position: 14

Elapsed Live Time: 113.77 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.756 +/- 0.0299
SE-75	264.65	0.000 +/- 0.0000	0.757 +/- 0.0064
SE-75	279.53	0.000 +/- 0.0000	0.755 +/- 0.0082
SE-75	400.65	0.000 +/- 0.0000	0.790 +/- 0.0099

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.20E+00	8.94E-06 +/- 4.41E-05
2	49.74	4.72E+00 +/- 3.24E-01	1.16E+00	4.37E-05 +/- 1.06E-04
3	244.70	2.35E-01 +/- 1.39E-01	1.11E+00	3.52E-04 +/- 2.62E-05
4	300.10	2.04E-01 +/- 9.62E-02	1.11E+00	3.25E-04 +/- 1.51E-05
5	778.90	2.60E-02 +/- 1.50E-02	1.07E+00	1.59E-04 +/- 7.64E-06
6	964.13	1.74E-02 +/- 1.23E-02	1.06E+00	1.31E-04 +/- 5.72E-06

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7	1112.12	1.74E-02 +/- 1.23E-02	1.05E+00	1.16E-04 +/-	4.88E-06

Segment: 15 Detector: DET01 (# 1) Position: 15

Elapsed Live Time: 113.80 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.834 +/- 0.0312
SE-75	264.65	0.000 +/- 0.0000	0.864 +/- 0.0071
SE-75	279.53	0.000 +/- 0.0000	0.868 +/- 0.0090
SE-75	400.65	0.000 +/- 0.0000	0.881 +/- 0.0106

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.77E+00	1.13E+00	1.45E-08 +/- 6.96E-08
2	1085.91	3.57E-02 +/- 2.13E-02	1.03E+00	1.24E-04 +/- 5.17E-06

Segment: 16 Detector: DET01 (# 1) Position: 16

Elapsed Live Time: 113.80 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.725 +/- 0.0291
SE-75	264.65	0.000 +/- 0.0000	0.788 +/- 0.0066
SE-75	279.53	0.000 +/- 0.0000	0.793 +/- 0.0084
SE-75	400.65	0.000 +/- 0.0000	0.816 +/- 0.0101

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PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.23E+00	9.52E-10 +/- 5.35E-09
2	300.10	1.08E-01 +/- 7.22E-02	1.09E+00	2.42E-04 +/- 1.22E-05
3	400.66	6.94E-02 +/- 3.34E-02	1.08E+00	1.86E-04 +/- 1.20E-05
4	662.42	2.60E-02 +/- 1.50E-02	1.06E+00	1.26E-04 +/- 8.22E-06

Rotah 2002-02-128

Summed Spectrum

Peak Locate Report

Sample ID: S100_827
Peak Locate Performed on: 1-24-02 9:42:30 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192
Peak Search Sensitivity: 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
1	43.00	0.2714	21.42	13.57
2	46.46	0.1357	23.15	29.14
3	70.17	0.0405	35.00	504.63
4	119.33	0.0650	59.56	157.36
5	150.29	0.2375	75.03	12.52
6	197.75	0.0827	98.74	80.80
7	207.04	0.0819	103.38	61.48
8	222.66	0.1032	111.18	46.70
9	229.26	0.1543	114.48	25.74
10	234.53	0.1758	117.11	13.33
11	259.20	0.0719	129.44	109.47
12	297.79	0.1235	148.72	38.12
13	322.62	0.2143	161.13	7.80
14	329.92	0.1673	164.77	19.53
15	343.50	0.2418	171.56	8.60
16	359.24	0.2613	179.42	7.89
17	379.70	0.2264	189.65	11.10
18	392.38	0.1964	195.98	13.79
19	417.01	0.0606	208.29	138.16
20	476.28	0.3417	237.90	5.23
21	512.00	0.1682	255.75	17.69
22	536.40	0.1664	267.94	17.94
23	596.49	0.2054	297.96	11.79
24	625.17	0.1693	312.29	18.00
25	643.01	0.2415	321.20	9.84
26	648.94	0.2240	324.16	9.03
27	667.07	0.0825	333.22	68.84
28	673.26	0.1277	336.31	31.35
29	691.76	0.0850	345.56	65.42
30	738.50	0.1316	368.91	24.27
31	751.94	0.0621	375.62	119.53
32	767.49	0.1186	383.39	36.38
33	787.80	0.0864	393.54	56.61
34	829.42	0.0627	414.34	105.82
35	847.24	0.1229	423.23	28.87
36	905.11	0.1043	452.15	40.76

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Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
37	1241.16	0.2024	620.05	10.13
38	1283.57	0.2803	641.24	5.35
39	1294.97	0.2200	646.93	8.68
40	1308.37	0.2138	653.63	8.39
41	1328.26	0.1265	663.56	24.55
42	1380.91	0.2540	689.87	6.90
43	1447.64	0.1482	723.20	16.56
44	1542.79	0.2326	770.75	7.47

Errors quoted at 1.000 sigma

Summed Spectrum

Peak Analysis Report

Sample ID: S100_827
Peak Analysis Performed on: 1-24-02 9:42:30 AM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	39-	46	43.00	21.42	1.51E+04	205.70	1.37E+04
2	46-	49	46.46	23.15	1.49E+04	222.84	2.08E+04
3	66-	73	70.17	35.00	1.81E+06	1359.46	2.05E+04
4	115-	122	119.33	59.56	2.62E+05	588.04	4.16E+04
5	146-	153	150.29	75.03	4.69E+03	299.04	4.14E+04
6	193-	201	197.75	98.74	1.21E+05	721.12	1.88E+05
7	206-	210	207.04	103.38	1.04E+05	455.74	5.66E+04
8	218-	226	222.66	111.18	2.08E+04	510.12	1.04E+05
9	226-	233	229.26	114.48	1.75E+03	504.14	1.25E+05
10	233-	238	234.53	117.11	1.20E+04	386.38	6.39E+04
11	255-	263	259.20	129.44	9.05E+04	438.09	4.71E+04
12	295-	304	297.79	148.72	1.44E+04	328.07	4.05E+04
13	318-	326	322.62	161.13	2.14E+03	286.04	3.67E+04
14	326-	334	329.92	164.77	1.74E+03	280.91	3.59E+04
15	339-	347	343.50	171.56	4.49E+03	263.96	3.04E+04
16	354-	363	359.24	179.42	2.48E+03	274.28	3.22E+04
17	375-	384	379.70	189.65	3.19E+03	270.80	3.10E+04
18	387-	396	392.38	195.98	4.41E+03	266.50	2.95E+04
19	412-	421	417.01	208.29	8.79E+04	436.41	4.38E+04
20	471-	480	476.28	237.90	6.47E+02	190.58	1.58E+04
21	507-	516	512.00	255.75	3.89E+03	184.20	1.33E+04
22	533-	541	536.40	267.94	2.92E+03	165.55	1.14E+04
23	591-	601	596.49	297.96	2.00E+03	170.21	1.13E+04
24	620-	630	625.17	312.29	2.33E+03	169.30	1.10E+04
25	638-	647	643.01	321.20	4.94E+02	171.41	1.27E+04
26	647-	653	648.94	324.16	1.62E+03	130.97	7.73E+03
27	662-	672	667.07	333.22	2.40E+04	266.18	1.88E+04
28	672-	678	673.26	336.31	3.11E+03	201.26	1.18E+04
29	687-	696	691.76	345.56	2.17E+04	210.88	9.99E+03
30	733-	743	738.50	368.91	9.55E+03	163.04	7.09E+03
31	746-	757	751.94	375.62	6.20E+04	308.53	1.31E+04
32	767-	772	767.49	383.39	5.85E+03	149.80	4.38E+03
33	782-	793	787.80	393.54	2.35E+04	178.80	3.39E+03
34	824-	834	829.42	414.34	6.14E+04	258.81	2.35E+03
35	841-	852	847.24	423.23	3.20E+03	106.49	3.17E+03
36	899-	910	905.11	452.15	7.17E+03	102.65	1.34E+03
37	1235-	1247	1241.16	620.05	6.95E+02	37.40	2.67E+02

Batch 2003-03-181

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
38	1277-	1289	1283.57	641.24	2.83E+02	36.92	3.97E+02
39	1289-	1301	1294.97	646.93	2.63E+02	39.13	4.73E+02
40	1302-	1314	1308.37	653.63	5.13E+02	35.49	2.84E+02
41	1326-	1334	1328.26	663.56	2.64E+03	56.74	2.72E+02
42	1374-	1387	1380.91	689.87	2.22E+02	29.13	2.26E+02
43	1441-	1453	1447.64	723.20	1.35E+03	44.10	2.23E+02
44	1536-	1549	1542.79	770.75	3.67E+02	25.85	1.10E+02

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-03-182

Summed Spectrum

Nuclide Identification Report

Sample ID: S100_827
Nuclide Library Used: C:\WAS\NLIB\LLNL.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/)	Activity Uncertainty
Pulser	0.999	35.10*	100.00	2.872E+05	7.226E+05
Np-237	0.754	300.10	6.63		
		311.90*	38.60	5.594E+00	4.088E-01
Pu-239	0.972	413.70*	0.00	4.577E+06	8.556E+04
Pu-239A	0.998	129.29*	0.01	1.461E+06	3.676E+04
Am-241	0.911	662.42*	0.00	1.055E+06	2.448E+04
Pu-241	0.998	148.57*	0.00	6.970E+06	1.904E+05

* = Energy line found in the spectrum.
Energy Tolerance : 1.500 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 1.000 sigma

Batch 2002-02-183

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 1-24-02 9:42:30 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	21.42	1.3484E+02	1.37
2	23.15	1.3272E+02	1.50
4	59.56	2.3379E+03	0.24
5	75.03	4.1900E+01	6.38
6	98.74	1.0773E+03	0.61
7	103.38	9.2961E+02	0.45
8	111.18	1.8576E+02	2.46
9	114.48	1.5628E+01	28.82
10	117.11	1.0713E+02	3.22
13	161.13	1.9080E+01	13.39
14	164.77	1.5525E+01	16.16
15	171.56	4.0155E+01	5.87
16	179.42	2.2183E+01	11.05
17	189.65	2.8527E+01	8.48
18	195.98	3.9373E+01	6.05
19	208.29	7.8492E+02	0.51
20	237.90	5.7806E+00	29.45
21	255.75	3.4728E+01	4.74
22	267.94	2.6052E+01	5.68
23	297.96	1.7859E+01	8.52
25	321.20	4.4120E+00	34.71
26	324.16	1.4427E+01	8.11
27	333.22	2.1440E+02	1.11
28	336.31	2.7771E+01	6.47
29	345.56	1.9393E+02	0.98
30	368.91	8.5331E+01	1.71
31	375.62	5.5409E+02	0.51
32	383.39	5.2282E+01	2.56
33	393.54	2.0991E+02	0.77
35	423.23	2.8550E+01	3.33
36	452.15	6.4086E+01	1.43
37	620.05	6.2054E+00	5.39
38	641.24	2.5315E+00	13.03
39	646.93	2.3467E+00	14.90
40	653.63	4.5847E+00	6.92
42	689.87	1.9876E+00	13.09
43	723.20	1.2093E+01	3.26
44	770.75	3.2820E+00	7.04

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Betdy 2002-02-184

Combined Segment NID

NID Results Combiner Mode: Sum Activities

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		3.80E+07	+/-	1.99E+08	1.71E+03	+/-	8.97E+03
SE-75	<	3.86E-01	+/-	1.91E-02	< 1.74E-05	+/-	8.62E-07
EU-152x		3.23E-02	+/-	1.18E-02	1.46E-06	+/-	5.33E-07
U-233	<	1.61E+04	+/-	8.22E+02	< 7.24E-01	+/-	3.70E-02
U-235		1.00E-01	+/-	5.98E-02	4.52E-06	+/-	2.69E-06
Np-237		8.14E+00	+/-	5.05E-01	3.66E-04	+/-	2.28E-05
Pu-238		1.12E+04	+/-	4.46E+03	5.03E-01	+/-	2.01E-01
U-238		8.43E-01	+/-	5.45E-01	3.80E-05	+/-	2.45E-05
Pu-239		5.47E+06	+/-	1.32E+05	2.46E+02	+/-	5.97E+00
Pu-239A		4.15E+06	+/-	1.27E+05	1.87E+02	+/-	5.73E+00
Am-241		1.24E+06	+/-	4.71E+04	5.58E+01	+/-	2.12E+00
Pu-241		1.60E+07	+/-	6.04E+05	7.22E+02	+/-	2.72E+01

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
U-235	4.65E-02	+/-	2.77E-02
Np-237	1.16E-02	+/-	7.17E-04
Pu-238	6.53E-04	+/-	2.60E-04
U-238	2.51E+00	+/-	1.62E+00
Pu-239	8.80E+01	+/-	2.13E+00
Pu-239A	6.68E+01	+/-	2.05E+00
Am-241	3.62E-01	+/-	1.38E-02
Pu-241	1.55E-01	+/-	5.84E-03

Batch 2002-03-185

Summed Spectrum

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		2.87E+05	+/-	7.23E+05	1.29E+01	+/-	3.25E+01
SE-75	<	9.03E-01	+/-	7.88E-03	< 4.07E-05	+/-	3.55E-07
EU-152x	<	4.49E-01	+/-	8.64E-03	< 2.02E-05	+/-	3.89E-07
U-233	<	4.06E+04	+/-	8.46E+02	< 1.83E+00	+/-	3.81E-02
U-235	<	1.36E+00	+/-	2.68E-02	< 6.12E-05	+/-	1.21E-06
Np-237		5.59E+00	+/-	4.09E-01	2.52E-04	+/-	1.84E-05
Pu-238	<	9.84E+04	+/-	1.43E+03	< 4.43E+00	+/-	6.46E-02
U-238	<	1.10E+01	+/-	1.76E-01	< 4.96E-04	+/-	7.92E-06
Pu-239		4.58E+06	+/-	8.56E+04	2.06E+02	+/-	3.85E+00
Pu-239A		1.46E+06	+/-	3.68E+04	6.58E+01	+/-	1.66E+00
Am-241		1.05E+06	+/-	2.45E+04	4.75E+01	+/-	1.10E+00
Pu-241		6.97E+06	+/-	1.90E+05	3.14E+02	+/-	8.58E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
Np-237	7.94E-03	+/-	5.80E-04
Pu-239	7.37E+01	+/-	1.38E+00
Pu-239A	2.35E+01	+/-	5.92E-01
Am-241	3.08E-01	+/-	7.15E-03
Pu-241	6.74E-02	+/-	1.84E-03

Final Non-Uniformity Results

Source Longitudinal Ratio: 0.987 +/- 52.6164
Matrix Longitudinal Ratio: 0.529 +/- 0.0204

Source Vertical Ratio: 0.881 +/- 0.4415
Matrix Vertical Ratio: 0.865 +/- 0.0159

NUDS could not find the transmission peak in one radial segment.

Batch 2002-02-187

****
***** M G A R E P O R T *****
****

Report generated on: 1-24-02 9:42:29 AM

MGA version: MGA V9.5 CI

Spectrum ID: 11200827.CNF Sens : 30.0% LT: 51.0 Mins DT: 8.81
Measurement date: 1-24-02 Declared date: 1-24-02

Sample ID: S100_827 Detector: Total counts: 1.520E+07

Pu g/cm2 = 0.8535 Cd g/cm2 = 1.7795 FWHM at 122 keV = 687 eV
QFIT = 1.06 FWHM at 208 keV = 858 eV
NQFIT = 1.00

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	Meas. date %Err	Decl. date % weight	Decl. date %Err
Pu-238	0.000091	6.1	6.1	0.0359	6.1	0.00854	6.09	0.00854	6.09
Pu-239	1.000000	0.0	0.3	394.7809	0.5	94.06532	0.04	94.06532	0.04
Pu-240	0.060136	0.8	0.7	23.7407	0.8	5.65675	0.73	5.65675	0.73
Pu-241	0.002533	0.5	0.4	1.0000	0.0	0.23827	0.48	0.23827	0.48
Pu-242	(New alg.)			0.1306	(10)	0.03112	(10)	0.03112	(10)
Am-241	0.004655	0.4	0.3	1.8375	0.5	0.43783	0.40	0.43783	0.40

Pu-240 effective (meas. date) = 5.731 +/- 0.78%
Am-241 separated about 21.599 +/- 0.130 years ago
Am/Pu-241 weight ratio = 1.83753 +/- 0.50%

Messages :

Lead x-rays detected.
Calculations in MGAABS didn't converge : results may be suspect.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Batch 2002-02-188

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS V2.3A RADA V2.1

****
* DRUM INFORMATION *
****

Drum Package ID: LL85500979R
Sequence Number: 828
Assay Date & Time: 1-24-2002 10:46:00 AM
Report Generated: 5-07-2002 1:45:31 PM
Drum Package GROSS Weight: 75.00 kg NET Weight: 43.20 kg

IDC Number: LL85500979 gs 7.1-02

QC Replicate (Yes/No): ~~No~~ Yes Passed (Yes/No): Yes

Operator Name (Printed): LEE R. CALDEIRA

Operator Signature: Lee R Cal Date: 5/17/02

Independent Reviewer: [signature] Date: 5-16-02

Expert Reviewer: Kenneth Rasche Date: 5/17/02

Tech. Supv/QA Officer: Bryan Ponder Date: 5/20/02

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 3.718E-01 +/- 9.388E-02 Ci

Batch 2002-02-189

****
* I S O T O P I C I N F O R M A T I O N *
****

Isotope	Measured Mass (g)	Mass Uncertainty (g)
Pu-238	2.133E-03	8.403E-04
Pu-239	3.703E+00	1.418E+00
Pu-240	2.577E-01	1.001E-01
Pu-241	6.651E-03	2.598E-03
Pu-242	1.220E-03	5.364E-04
Am-241	1.314E-02	5.098E-03
*Am-243	N/A	N/A
Np-237	3.468E-02	1.872E-02
U-235	2.094E-01	1.065E-01
*U-238	N/A	N/A
*U-233	N/A	N/A

* = Activity/Mass below detectable limit.

Total Pu Mass: 3.97E+00 +/- 1.42E+00 g

****
* M G A R E S U L T S *
****

NUCLIDE	% Weight	% Error(1-Sigma)
Pu-238	5.372E-02	4.71E+00
Pu-239	9.326E+01	2.35E-01
Pu-240	6.491E+00	3.33E+00
Pu-241	1.675E-01	3.93E+00
Pu-242	3.073E-02	1.10E+01
Am-241	3.310E-01	3.13E+00
Np-237	8.735E-01	1.94E+01
U-235	5.275E+00	1.71E+01

Batch 2002-02-190

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005
Software Version: GWAS V2.3A RADA V2.1

Assay Date & Time: 1-24-2002 10:46:00 AM
Report Generated: 5-07-2002 1:45:34 PM

Drum Package ID: LL85500979R
Sequence Number: 828

Waste Classification (TRU or LLW): TRU

			Errors at 1.96 sigma	
Total Alpha Activity :	3.718E-01	+/-	9.388E-02	Ci
Total TRU Activity :	8.607E+03	+/-	2.173E+03	nCi/g
Pu-239 Equiv Activity:	3.820E-01	+/-	9.384E-02	Ci
Fissile Gram Equiv Mass:	3.934E+00	+/-	1.430E+00	g
Total Decay Heat:	1.184E-02	+/-	2.957E-03	W
TMU Value:	38.30 %			

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error
Pu-238	3.69E-02	1.45E-02	2.13E-03	8.40E-04
Pu-239	2.30E-01	8.81E-02	3.70E+00	1.42E+00
Pu-240	5.93E-02	2.30E-02	2.58E-01	1.00E-01
Pu-241	6.92E-01	2.70E-01	6.65E-03	2.60E-03
Pu-242	4.84E-06	2.13E-06	1.22E-03	5.36E-04
Am-241	4.56E-02	1.77E-02	1.31E-02	5.10E-03
*Am-243	N/A	N/A	N/A	N/A
Np-237	2.47E-05	1.33E-05	3.47E-02	1.87E-02
U-235	4.59E-07	2.33E-07	2.09E-01	1.07E-01
*U-238	N/A	N/A	N/A	N/A
*U-233	N/A	N/A	N/A	N/A

* = Activity/Mass below detectable limit.

Total Pu Mass: 3.97E+00 +/- 1.42E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sigma)
Pu-238	5.372E-02	4.71E+00
Pu-239	9.326E+01	2.35E-01
Pu-240	6.491E+00	3.33E+00
Pu-241	1.675E-01	3.93E+00
Pu-242	3.073E-02	1.10E+01
Am-241	3.310E-01	3.13E+00
Np-237	8.735E-01	1.94E+01
U-235	5.275E+00	1.71E+01

Batch 2002-02-191

SGS Expert Review Checklist

Container Identification #: LL85500979R_____ Original Assay Date:1-24-2002__

1. *WCP-41, §6.1:* A MGA report ☒ is present or ☐ expert review has provided isotopic ratios from SGS or AK. Comment: ☒ No comments
2. *WCP-41, §6.1:* MGA and AK ☒ agree as to radiological composition or, if not, ☐ expert review has resolved this. Comment: ☒ No comments
3. *WCP-41, §6.2.1:* ☒ Pu-238 ≤ 2% by weight of total Pu or, if not, ☐ expert review has addressed this and assigned a Pu-240 value. Comment: ☒ No comments
4. *WCP-41, §6.2.2:* ☐ Neither Np-237 nor U-235 is identified by MGA or ☒ expert review has addressed possible interferences from these radionuclides.
   Comment: Both Np-237 and U-235 are identified by MGA and their presence is confirmed by GWAS. There is no interference. ☐ No comments
5. *WCP-41, §6.2.2.2:* ☒ Am-241 separation date is 1950 or later or ☐ expert review has addressed possible interferences. Comment: ☒ No comments
6. *WCP-41, §6.3.1.1.a:* ☒ Bulk density of waste ≤ 0.6 g/ml or ☐ expert review has addressed the high density of the drum. Comment: ☒ No comments
7. *WCP-41, §6.3.1.2.a:* ☐ Transmission in every segment ≥ 0.1% for the Se-75 peaks at 136 keV or 265 keV or ☒ expert review has addressed the low transmission.
   Comment: The transmission for the 136 keV gamma is zero in segments 2,8 and 9. The 265 keV transmission is just barely okay. The Pu-239/Pu-239a ratio is fine. However, because of this low transmission the RADA has been re-run using the combined analysis only.☐ No comments
8. *WCP-41, §6.3.1.2.a:* ☒ Transmission in every segment ≥1% for the Se-75 peak at 401 keV or ☐ expert review has addressed the low transmission. Comment: See above. ☐ No comments
9. *WCP-41, §6.3.1.3.b:* ☒ Dead time in every segment ≤ 50% or ☐ expert review has addressed the high dead time. Comment: ☒ No comments
10. *WCP-41, §6.3.1.3.c:* ☒ Pu-239 masses determined from the 414 keV peak and the 129 keV peak agree by a factor of < 2.5 or ☐ expert review has addressed possible matrix inhomogeneity. Comment: ☒ No comments
11. *WCP-41, §6.3.2.3:* Cs-137 (☐ has) (☒ has not) been identified by expert review. If it has, Sr-90 is reported ☐ at an activity ratio to Cs-137of 0.39 for Pu fission or ☐ at a ratio of 1 for U-235 fission or, ☐ if both Pu and U are present, the expert reviewer has determined the ratio. Comment: ☒ No comments

CONTROLLED FORM

Batch 2002-02-192

SGS Expert Review Checklist

Container Identification #: LL85500979R_____ Original Assay Date:1-24-2002__

12. *WCP-41, §6.3.2.4:* ☐ No unusual nuclides are identified (none other than the 10 required to be reported to WIPP) or ☒ the expert reviewer has checked for interferences from unusual nuclides. Comment: Both U-235 and Np-237 are reported as they are confirmed by GWAS and MGA. ☐ No comments
13. *WCP-41, §6.3.3:* For waste drums (☐ NA for standards), ☒ the Summed Spectrum report value for Pu-239 and the Combined Segment NID report for Pu-239 agree within 95% confidence limits (the same as for replicates of unknowns) or ☐ expert review has addressed the difference. Comment: ☒ No comments
14. *WCP-41, §6.4:* ☒ The SGS Summed Spectrum and Combined Segment NID reports agree as to the ratios by weight of several radionuclides, such as those of Am-241, Pu-241, Np-237, Am-243, and U-235 to Pu-239, and MGA results agree as to identifying these radionuclides or ☐ expert review has resolved this. Comment: ☒ No comments
15. *WCP-41, §6.6.1:* ☒ All reported radionuclide masses are above 2.5 times the uncorrected MDA or ☐ expert review has calculated transmission-corrected MDA's and taken appropriate action. Comment: ☒ No comments
16. *WCP-41, §6.6.2:* ☒ Any changes to reported quantities of individual radionuclides have been entered into the RADA program and a new radioassay data sheet has been produced, showing revised derivative quantities, and included in the batch data report, along with the marked up original. Comment: ☒ No comments
17. *CP-41, §6.7:* ☒ Counting statistics are adequate for normal passive count time of 120 seconds per segment or ☐ Counting statistics are adequate for long passive count time of 600 seconds per segment or ☐ expert review has rejected the count and ordered a longer count time. Comment: ☒ No comments

Kenneth Raschke	Kenneth Raschke	5/13/02
Expert Reviewer (print)	Signature	Date

CONTROLLED FORM

Rpt'd 2002-02-193

****
***** M G A R E P O R T *****
****

Report generated on: 1-24-02 11:42:36 AM

MGA version: MGA V9.5 CI

Spectrum ID: 11200828.CNF Sens : 30.0% LT: 55.7 Mins DT: 0.41
Measurement date: 1-24-02 Declared date: 1-24-02

Sample ID: LL85500979R Detector: Total counts: 8.478E+05

Pu g/cm2 = 0.0020 Cd g/cm2 = 2.0425 FWHM at 122 keV = 663 eV
QFIT = 1.00 FWHM at 208 keV = 845 eV
NQFIT = 1.00

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	%Err	Decl. date % weight	%Err
Pu-238	0.000576	4.8	4.0	0.3207	5.5	0.05372	4.71	0.05372	4.71
Pu-239	1.000000	0.0	2.7	556.7739	4.0	93.25681	0.23	93.25681	0.23
Pu-240	0.069606	3.6	2.5	38.7549	4.7	6.49126	3.33	6.49126	3.33
Pu-241	0.001796	4.0	4.2	1.0000	0.0	0.16749	3.93	0.16749	3.93
Pu-242	(New alg.)			0.1835	(11)	0.03073	(11)	0.03073	(11)
Am-241	0.003549	3.3	1.3	1.9760	4.5	0.33098	3.13	0.33098	3.13
Np-237						0.87349	19.40		
U-235	0.056561	16.9	17.1			5.27472	17.07	5.27472	17.07

Pu-240 effective (meas. date) = 6.678 +/- 4.12%
U-237 separated more than 10 days ago
Am-241 separated about 22.582 +/- 0.716 years ago
Am/Pu-241 weight ratio = 1.97604 +/- 4.43%

Messages :

Lead x-rays observed : Np-237 results could be affected.
Calculations in MGAABS didn't converge : results may be suspect.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Batch 2003-87-194

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-02

NOT VALID
KER
5/7/02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS 2.3A

****
* DRUM INFORMATION *
****

Drum Package ID: LL85500979R
Sequence Number: 828
Assay Date & Time: 1-24-2002 10:46:00 AM
Drum Package GROSS Weight: 75.00 kg NET Weight: 43.20 kg

IDC Number: LL85500979R

QC Replicate (Yes/No): Yes Passed (Yes/No): _____

Operator Name (Printed): Russell Ratti

Operator Signature: R Ratti Date: 1.24.02

Independent Reviewer: _____ Date: _____

Expert Reviewer: _____ Date: _____

Tech. Supv/QA Officer: _____ Date: _____

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 3.718E-01 +/- 9.388E-02 Ci

Batch 2002-02-195

NOT VALID
KER
5/2/02

****
* I S O T O P I C I N F O R M A T I O N *
****

Isotope	Measured Mass (g)	Mass Uncertainty (g)	MDC (g)
Pu-238	2.133E-03	8.40E-04	4.477E-05
Pu-239	3.703E+00	1.42E+00	7.773E-02
Pu-240	2.577E-01	1.00E-01	5.411E-03
Pu-241	6.651E-03	2.60E-03	7.967E-04
Pu-242	1.220E-03	5.36E-04	2.562E-05
Am-241	1.314E-02	5.10E-03	1.885E-03
Am-243	0.000E+00	0.00E+00	0.000E+00
Np-237	3.468E-02	1.87E-02	3.596E-04
U-235	2.094E-01	1.07E-01	7.643E-02
U-238	1.191E+01	4.58E+00	1.191E+01
U-233	4.338E-01	1.67E-01	4.338E-01

Total Pu Mass: 3.97E+00 +/- 1.23E+00 g

****
* M G A R E S U L T S *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	5.372E-02	4.71E+00
Pu-239	9.326E+01	2.35E-01
Pu-240	6.491E+00	3.33E+00
Pu-241	1.675E-01	3.93E+00
Pu-242	3.073E-02	1.10E+01
Am-241	3.310E-01	3.13E+00
Np-237	8.735E-01	1.94E+01
U-235	5.275E+00	1.71E+01

Batch 2002-02-196

NOT VALID
KER
5/7/02

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005

Assay Date & Time: 1-24-2002 10:46:00 AM

Drum Package ID: LL85500979R
Sequence Number: 828

Waste Classification (TRU or LLW): TRU

		Errors at 1.96 sigma	
Total Alpha Activity :	3.718E-01	+/- 9.39E-02	Ci
Total TRU Activity :	8.607E+03	+/- 2.17E+03	nCi/g
Pu-239 Equiv Activity:	3.820E-01	+/- 9.38E-02	Ci
Fissile Gram Equiv Mass:	3.934E+00	+/- 1.43E+00	g
Total Decay Heat:	1.184E-02	+/- 2.96E-03	W
TMU Value:	38.30 %		

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error	MDA gm
Pu-238	3.69E-02	1.45E-02	2.13E-03	8.40E-04	4.48E-05
Pu-239	2.30E-01	8.81E-02	3.70E+00	1.42E+00	7.77E-02
Pu-240	5.93E-02	2.30E-02	2.58E-01	1.00E-01	5.41E-03
Pu-241	6.92E-01	2.70E-01	6.65E-03	2.60E-03	7.97E-04
Pu-242	4.84E-06	2.13E-06	1.22E-03	5.36E-04	2.56E-05
Am-241	4.56E-02	1.77E-02	1.31E-02	5.10E-03	1.88E-03
Am-243	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Np-237	2.47E-05	1.33E-05	3.47E-02	1.87E-02	3.60E-04
U-235	4.59E-07	2.33E-07	2.09E-01	1.07E-01	7.64E-02
U-238	4.05E-06	1.56E-06	1.19E+01	4.58E+00	1.19E+01
U-233	4.23E-03	1.63E-03	4.34E-01	1.67E-01	4.34E-01

Total Pu Mass: 3.97E+00 +/- 1.23E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	5.372E-02	4.71E+00
Pu-239	9.326E+01	2.35E-01
Pu-240	6.491E+00	3.33E+00
Pu-241	1.675E-01	3.93E+00
Pu-242	3.073E-02	1.10E+01
Am-241	3.310E-01	3.13E+00
Np-237	8.735E-01	1.94E+01
U-235	5.275E+00	1.71E+01

Batch 2002-02-197

Gamma Waste Assay

Sample Information

File Name: C:\WAS\DATA\900\11100828.S11
Sample ID: LL85500979R Count Sequence Number: 828
Assay Start: 1-24-02 10:46:02 AM
Description 1: unknouwn
Description 2:
Location: 7715
Comment:
Waste Type:
Weight: Gross: 75000.0 g Net: 43200.0 g
Density: 0.208 g /ml

Container Type: 55 Gal Galv
Container: Volume: 208000. ml Full: 100.0 %

System Configuration

Counter ID Number: SGS
Arrangement Description: SGS
Segments: Number: 16 Offset: 0
Scanning Platform: Start: 934 mm Delta: -51 mm
Count Type: 55 Gal Galv
Collimator/Geometry Setting: 0
Transmission Mode: Two pass
Transmission Source: 0

Errors quoted at 1.000 sigma
Reference Source Date: Reference Source Rate: 1.01E+03 cps
Geometric Correction Factor(SWCONTGCF): 0.760
Date of efficiency calibration approval: 4-18-2001 12:41:36 PM
Mu Factors response file: Lucite
Transmission Calib. Time: 5-11-2001 2:20:42 PM 59052

Reviewed by: FOR: LEE CALDEIRA BY: DAVE HILAND Date: 5/21/02

Batch 2002-02-198

Segment Results

Segment: 1 Detector: DET01 (# 1) Position: 1

Elapsed Live Time: 113.82 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.085 +/- 0.0126
SE-75	264.65	0.000 +/- 0.0000	0.168 +/- 0.0024
SE-75	279.53	0.000 +/- 0.0000	0.171 +/- 0.0033
SE-75	400.65	0.000 +/- 0.0000	0.226 +/- 0.0048

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.27	1.20E+00 +/- 1.62E-01	4.10E+00	9.66E-08 +/- 1.20E-06
2	35.10	1.01E+03 +/- 4.76E+00	3.47E+00	2.61E-06 +/- 1.64E-05
3	48.40	2.07E+00 +/- 2.74E-01	2.85E+00	1.58E-05 +/- 5.18E-05
4	59.58	1.90E+01 +/- 4.71E-01	2.63E+00	3.75E-05 +/- 7.40E-05
5	98.80	1.80E+00 +/- 2.39E-01	2.33E+00	1.39E-04 +/- 4.08E-05
6	129.29	2.00E+00 +/- 2.14E-01	2.23E+00	1.95E-04 +/- 1.38E-05
7	148.57	2.65E-01 +/- 1.48E-01	2.16E+00	2.15E-04 +/- 2.55E-05
8	185.71	2.56E-01 +/- 1.23E-01	2.03E+00	2.30E-04 +/- 3.16E-05
9	208.39	3.68E-01 +/- 1.43E-01	1.96E+00	2.30E-04 +/- 2.81E-05
10	300.10	2.34E-01 +/- 8.46E-02	1.79E+00	2.04E-04 +/- 1.08E-05
11	311.90	1.50E+00 +/- 1.31E-01	1.77E+00	2.00E-04 +/- 1.03E-05
12	375.60	6.80E-01 +/- 9.52E-02	1.70E+00	1.77E-04 +/- 1.18E-05
13	413.70	4.84E-01 +/- 7.95E-02	1.66E+00	1.65E-04 +/- 1.27E-05
14	443.98	4.34E-02 +/- 3.20E-02	1.63E+00	1.57E-04 +/- 1.30E-05
15	662.42	2.60E-02 +/- 1.50E-02	1.51E+00	1.12E-04 +/- 8.14E-06
16	1001.03	1.74E-02 +/- 1.23E-02	1.39E+00	7.98E-05 +/- 4.04E-06
17	1085.91	1.74E-02 +/- 1.23E-02	1.37E+00	7.49E-05 +/- 3.78E-06

Segment: 2 Detector: DET01 (# 1) Position: 2

Elapsed Live Time: 113.73 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:

Some transmission peaks rejected.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	0.085 +/- 0.0016
SE-75	279.53	0.000 +/- 0.0000	0.089 +/- 0.0024
SE-75	400.65	0.000 +/- 0.0000	0.122 +/- 0.0034

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.26	1.97E+00 +/- 2.05E-01	4.10E+00	5.81E-10 +/- 5.52E-09
2	35.10	1.01E+03 +/- 4.76E+00	4.09E+00	2.21E-07 +/- 1.06E-06
3	59.61	3.55E+01 +/- 6.53E-01	3.03E+00	2.20E-05 +/- 3.31E-05
4	98.79	4.12E+00 +/- 3.37E-01	2.65E+00	1.84E-04 +/- 4.23E-05
5	111.43	5.18E-01 +/- 2.64E-01	2.59E+00	2.42E-04 +/- 2.50E-05
6	129.29	4.16E+00 +/- 2.86E-01	2.53E+00	3.07E-04 +/- 1.84E-05
7	185.71	2.36E-01 +/- 1.43E-01	2.37E+00	3.89E-04 +/- 4.14E-05
8	203.95	3.52E-01 +/- 1.73E-01	2.33E+00	3.89E-04 +/- 3.82E-05
9	208.44	1.11E+00 +/- 2.05E-01	2.32E+00	3.88E-04 +/- 3.70E-05
10	300.10	5.84E-01 +/- 1.22E-01	2.15E+00	3.27E-04 +/- 1.48E-05
11	311.90	3.57E+00 +/- 2.00E-01	2.13E+00	3.18E-04 +/- 1.39E-05
12	333.42	4.52E-01 +/- 1.15E-01	2.10E+00	3.02E-04 +/- 1.34E-05
13	345.74	2.76E-01 +/- 1.26E-01	2.08E+00	2.93E-04 +/- 1.34E-05
14	375.67	1.03E+00 +/- 1.29E-01	2.04E+00	2.74E-04 +/- 1.40E-05
15	393.42	2.97E-01 +/- 6.51E-02	2.01E+00	2.63E-04 +/- 1.43E-05
16	400.66	2.14E-01 +/- 5.86E-02	2.00E+00	2.59E-04 +/- 1.44E-05
17	413.70	8.42E-01 +/- 9.93E-02	1.99E+00	2.51E-04 +/- 1.46E-05
18	1112.12	3.47E-02 +/- 1.74E-02	1.54E+00	1.11E-04 +/- 4.80E-06
19	1408.01	2.60E-02 +/- 1.50E-02	1.47E+00	9.61E-05 +/- 6.36E-06

Segment: 3 Detector: DET01 (# 1) Position: 3

Elapsed Live Time: 113.69 sec Elapsed Real Time: 115.00 sec

Batch 2002-02-280

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.077 +/- 0.0135
SE-75	264.65	0.000 +/- 0.0000	0.181 +/- 0.0025
SE-75	279.53	0.000 +/- 0.0000	0.190 +/- 0.0036
SE-75	400.65	0.000 +/- 0.0000	0.232 +/- 0.0048

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.12	2.30E+00 +/- 2.28E-01	4.10E+00	1.02E-08 +/- 1.00E-07
2	35.10	1.01E+03 +/- 4.76E+00	3.60E+00	1.07E-06 +/- 5.27E-06
3	59.60	4.35E+01 +/- 7.18E-01	2.71E+00	3.79E-05 +/- 5.87E-05
4	98.73	3.65E+00 +/- 4.04E-01	2.39E+00	2.01E-04 +/- 4.76E-05
5	111.34	1.19E+00 +/- 2.74E-01	2.34E+00	2.49E-04 +/- 2.65E-05
6	129.29	5.33E+00 +/- 3.02E-01	2.29E+00	3.02E-04 +/- 1.84E-05
7	148.57	5.28E-01 +/- 1.95E-01	2.20E+00	3.39E-04 +/- 3.24E-05
8	208.48	1.87E+00 +/- 2.21E-01	1.95E+00	3.66E-04 +/- 3.64E-05
9	244.70	2.32E-01 +/- 1.08E-01	1.84E+00	3.52E-04 +/- 2.60E-05
10	300.10	9.05E-01 +/- 1.34E-01	1.74E+00	3.20E-04 +/- 1.49E-05
11	311.90	4.75E+00 +/- 2.20E-01	1.73E+00	3.13E-04 +/- 1.40E-05
12	333.55	6.05E-01 +/- 1.34E-01	1.71E+00	3.00E-04 +/- 1.35E-05
13	345.65	3.48E-01 +/- 1.13E-01	1.70E+00	2.93E-04 +/- 1.36E-05
14	375.65	1.53E+00 +/- 1.49E-01	1.68E+00	2.76E-04 +/- 1.44E-05
15	393.53	5.39E-01 +/- 9.00E-02	1.66E+00	2.67E-04 +/- 1.48E-05
16	413.70	1.32E+00 +/- 1.23E-01	1.65E+00	2.57E-04 +/- 1.52E-05
17	451.91	2.10E-01 +/- 4.94E-02	1.62E+00	2.40E-04 +/- 1.54E-05
18	662.42	4.51E-02 +/- 3.08E-02	1.50E+00	1.78E-04 +/- 1.02E-05
19	867.39	8.69E-03 +/- 1.58E-02	1.42E+00	1.45E-04 +/- 6.61E-06

Segment: 4 Detector: DET01 (# 1) Position: 4

Elapsed Live Time: 113.69 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.093 +/- 0.0138
SE-75	264.65	0.000 +/- 0.0000	0.195 +/- 0.0026
SE-75	279.53	0.000 +/- 0.0000	0.207 +/- 0.0038
SE-75	400.65	0.000 +/- 0.0000	0.257 +/- 0.0051

Betty 2002-02-20

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.12	2.39E+00 +/- 2.19E-01	4.10E+00	3.29E-06 +/- 4.64E-06
2	35.10	1.01E+03 +/- 4.76E+00	3.36E+00	2.00E-05 +/- 1.66E-05
3	59.59	3.78E+01 +/- 6.75E-01	2.55E+00	9.83E-05 +/- 3.39E-05
4	86.84	6.74E-01 +/- 2.25E-01	2.32E+00	2.01E-04 +/- 2.92E-05
5	98.73	3.70E+00 +/- 4.01E-01	2.27E+00	2.40E-04 +/- 2.42E-05
6	103.73	1.63E+00 +/- 3.35E-01	2.25E+00	2.54E-04 +/- 2.23E-05
7	111.38	1.16E+00 +/- 2.72E-01	2.22E+00	2.74E-04 +/- 1.96E-05
8	129.29	5.42E+00 +/- 3.22E-01	2.17E+00	3.12E-04 +/- 1.61E-05
9	148.57	4.05E-01 +/- 1.98E-01	2.10E+00	3.40E-04 +/- 1.63E-05
10	208.40	1.94E+00 +/- 1.97E-01	1.89E+00	3.71E-04 +/- 1.94E-05
11	300.10	7.58E-01 +/- 1.33E-01	1.69E+00	3.44E-04 +/- 1.54E-05
12	311.90	4.16E+00 +/- 2.14E-01	1.68E+00	3.38E-04 +/- 1.48E-05
13	333.52	5.02E-01 +/- 1.26E-01	1.66E+00	3.27E-04 +/- 1.37E-05
14	345.68	3.57E-01 +/- 1.06E-01	1.65E+00	3.21E-04 +/- 1.31E-05
15	375.69	1.47E+00 +/- 1.49E-01	1.62E+00	3.06E-04 +/- 1.21E-05
16	393.56	6.61E-01 +/- 8.95E-02	1.61E+00	2.97E-04 +/- 1.16E-05
17	400.66	9.19E-02 +/- 5.94E-02	1.60E+00	2.94E-04 +/- 1.14E-05
18	413.70	1.67E+00 +/- 1.32E-01	1.59E+00	2.87E-04 +/- 1.11E-05
19	662.42	4.73E-02 +/- 3.01E-02	1.46E+00	1.95E-04 +/- 9.03E-06
20	778.90	1.74E-02 +/- 1.23E-02	1.41E+00	1.67E-04 +/- 7.66E-06
21	1112.12	8.69E-03 +/- 2.78E-02	1.33E+00	1.17E-04 +/- 4.26E-06

Segment: 5 Detector: DET01 (# 1) Position: 5

Elapsed Live Time: 113.73 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.178 +/- 0.0170
SE-75	264.65	0.000 +/- 0.0000	0.307 +/- 0.0034
SE-75	279.53	0.000 +/- 0.0000	0.315 +/- 0.0047
SE-75	400.65	0.000 +/- 0.0000	0.376 +/- 0.0063

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PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.36	1.88E+00 +/- 1.98E-01	3.88E+00	1.84E-06 +/- 2.65E-06
2	35.10	1.01E+03 +/- 4.76E+00	2.60E+00	1.48E-05 +/- 1.27E-05
3	59.60	3.39E+01 +/- 6.29E-01	2.06E+00	9.33E-05 +/- 3.30E-05
4	98.82	3.37E+00 +/- 3.43E-01	1.87E+00	2.49E-04 +/- 2.52E-05
5	103.59	1.90E+00 +/- 2.25E-01	1.86E+00	2.64E-04 +/- 2.32E-05
6	111.35	1.05E+00 +/- 2.49E-01	1.84E+00	2.86E-04 +/- 2.04E-05
7	129.29	4.62E+00 +/- 2.82E-01	1.81E+00	3.26E-04 +/- 1.67E-05
8	148.57	2.72E-01 +/- 1.52E-01	1.76E+00	3.54E-04 +/- 1.71E-05
9	208.54	1.43E+00 +/- 1.80E-01	1.62E+00	3.75E-04 +/- 2.04E-05
10	300.10	7.19E-01 +/- 1.17E-01	1.49E+00	3.33E-04 +/- 1.55E-05
11	311.90	3.96E+00 +/- 2.05E-01	1.48E+00	3.26E-04 +/- 1.48E-05
12	333.32	3.49E-01 +/- 1.23E-01	1.46E+00	3.13E-04 +/- 1.36E-05
13	345.65	3.39E-01 +/- 1.07E-01	1.45E+00	3.06E-04 +/- 1.30E-05
14	375.72	1.46E+00 +/- 1.38E-01	1.43E+00	2.89E-04 +/- 1.18E-05
15	393.74	5.04E-01 +/- 8.83E-02	1.42E+00	2.79E-04 +/- 1.13E-05
16	413.70	1.19E+00 +/- 1.15E-01	1.41E+00	2.69E-04 +/- 1.09E-05
17	509.92	1.67E-01 +/- 5.19E-02	1.37E+00	2.26E-04 +/- 9.86E-06
18	867.39	8.69E-03 +/- 8.69E-03	1.27E+00	1.40E-04 +/- 6.44E-06
19	1001.03	8.69E-03 +/- 8.69E-03	1.25E+00	1.24E-04 +/- 4.97E-06
20	1085.91	1.74E-02 +/- 1.23E-02	1.24E+00	1.16E-04 +/- 4.36E-06

Segment: 6 Detector: DET01 (# 1) Position: 6

Elapsed Live Time: 113.78 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.110 +/- 0.0136
SE-75	264.65	0.000 +/- 0.0000	0.188 +/- 0.0025
SE-75	279.53	0.000 +/- 0.0000	0.192 +/- 0.0036
SE-75	400.65	0.000 +/- 0.0000	0.232 +/- 0.0048

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PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.22	1.43E+00 +/- 1.75E-01	4.10E+00	6.82E-07 +/- 9.65E-07
2	35.10	1.01E+03 +/- 4.78E+00	3.17E+00	8.04E-06 +/- 6.71E-06
3	59.60	2.48E+01 +/- 5.57E-01	2.43E+00	6.90E-05 +/- 2.40E-05
4	98.87	2.80E+00 +/- 2.91E-01	2.16E+00	2.22E-04 +/- 2.25E-05
5	129.29	2.97E+00 +/- 2.38E-01	2.08E+00	3.10E-04 +/- 1.61E-05
6	136.00	2.90E-01 +/- 1.83E-01	1.95E+00	3.24E-04 +/- 1.60E-05
7	208.38	1.14E+00 +/- 1.84E-01	1.88E+00	3.81E-04 +/- 2.03E-05
8	279.54	2.14E-01 +/- 9.93E-02	1.76E+00	3.57E-04 +/- 1.71E-05
9	300.10	6.13E-01 +/- 1.12E-01	1.74E+00	3.46E-04 +/- 1.58E-05
10	311.90	3.17E+00 +/- 1.88E-01	1.73E+00	3.39E-04 +/- 1.51E-05
11	333.42	2.05E-01 +/- 1.04E-01	1.71E+00	3.26E-04 +/- 1.39E-05
12	375.79	1.06E+00 +/- 1.15E-01	1.67E+00	3.01E-04 +/- 1.21E-05
13	400.66	1.47E-01 +/- 5.21E-02	1.66E+00	2.88E-04 +/- 1.14E-05
14	413.70	7.87E-01 +/- 1.00E-01	1.65E+00	2.81E-04 +/- 1.11E-05

Segment: 7 Detector: DET01 (# 1) Position: 7

Elapsed Live Time: 113.76 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.006 +/- 0.0005
SE-75	279.53	0.000 +/- 0.0000	0.005 +/- 0.0007
SE-75	400.65	0.000 +/- 0.0000	0.012 +/- 0.0011

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.12	1.51E+00 +/- 1.79E-01	4.10E+00	6.83E-09 +/- 6.73E-08
2	35.10	1.01E+03 +/- 4.76E+00	4.10E+00	9.59E-07 +/- 4.73E-06
3	59.57	2.23E+01 +/- 5.35E-01	4.10E+00	4.01E-05 +/- 6.21E-05
4	98.73	2.54E+00 +/- 3.26E-01	4.10E+00	2.20E-04 +/- 5.19E-05

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5	129.29	2.72E+00 +/-	2.47E-01	4.10E+00	3.30E-04 +/-	1.98E-05
6	208.39	6.43E-01 +/-	1.65E-01	3.98E+00	3.91E-04 +/-	3.83E-05
7	300.10	3.33E-01 +/-	1.13E-01	3.94E+00	3.36E-04 +/-	1.56E-05
8	311.90	2.64E+00 +/-	1.74E-01	3.88E+00	3.27E-04 +/-	1.48E-05
9	345.92	1.70E-01 +/-	1.12E-01	3.71E+00	3.05E-04 +/-	1.46E-05
10	375.74	7.47E-01 +/-	1.05E-01	3.58E+00	2.87E-04 +/-	1.54E-05
11	400.66	1.31E-01 +/-	5.25E-02	3.47E+00	2.74E-04 +/-	1.60E-05
12	413.70	5.20E-01 +/-	8.67E-02	3.43E+00	2.67E-04 +/-	1.63E-05

Segment: 8 Detector: DET01 (# 1) Position: 8

Elapsed Live Time: 113.70 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Some transmission peaks rejected.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	0.039 +/- 0.0011
SE-75	279.53	0.000 +/- 0.0000	0.043 +/- 0.0017
SE-75	400.65	0.000 +/- 0.0000	0.062 +/- 0.0024

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.18	2.35E+00 +/- 2.18E-01	4.10E+00	4.16E-09 +/- 4.05E-08
2	35.10	1.01E+03 +/- 4.77E+00	4.10E+00	6.89E-07 +/- 3.37E-06
3	59.62	3.12E+01 +/- 6.19E-01	3.85E+00	3.35E-05 +/- 5.15E-05
4	98.75	3.08E+00 +/- 3.86E-01	3.32E+00	1.98E-04 +/- 4.66E-05
5	111.57	8.47E-01 +/- 2.93E-01	3.23E+00	2.50E-04 +/- 2.59E-05
6	129.29	5.08E+00 +/- 2.91E-01	3.14E+00	3.05E-04 +/- 1.85E-05
7	148.57	6.08E-01 +/- 2.02E-01	3.06E+00	3.45E-04 +/- 3.27E-05
8	208.36	1.16E+00 +/- 2.22E-01	2.85E+00	3.76E-04 +/- 3.72E-05
9	300.10	7.64E-01 +/- 1.48E-01	2.59E+00	3.30E-04 +/- 1.53E-05
10	311.90	4.71E+00 +/- 2.29E-01	2.56E+00	3.23E-04 +/- 1.44E-05
11	333.22	4.28E-01 +/- 1.36E-01	2.52E+00	3.10E-04 +/- 1.38E-05
12	345.68	3.04E-01 +/- 1.15E-01	2.50E+00	3.03E-04 +/- 1.38E-05
13	375.77	1.41E+00 +/- 1.34E-01	2.44E+00	2.86E-04 +/- 1.46E-05
14	393.63	4.73E-01 +/- 9.35E-02	2.41E+00	2.76E-04 +/- 1.50E-05
15	413.70	1.44E+00 +/- 1.30E-01	2.38E+00	2.66E-04 +/- 1.54E-05
16	1112.12	8.75E-03 +/- 8.75E-03	1.74E+00	1.16E-04 +/- 4.95E-06

Batch 2002-02-205

Segment: 9 Detector: DET01 (# 1) Position: 9

Elapsed Live Time: 113.58 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Some transmission peaks rejected.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	0.089 +/- 0.0017
SE-75	279.53	0.000 +/- 0.0000	0.093 +/- 0.0025
SE-75	400.65	0.000 +/- 0.0000	0.127 +/- 0.0035

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.19	3.47E+00 +/- 2.59E-01	4.10E+00	2.29E-06 +/- 2.31E-05
2	35.10	1.01E+03 +/- 4.77E+00	4.02E+00	1.75E-05 +/- 8.88E-05
3	59.60	5.10E+01 +/- 7.87E-01	2.98E+00	1.00E-04 +/- 1.59E-04
4	98.83	6.62E+00 +/- 4.35E-01	2.61E+00	2.51E-04 +/- 6.05E-05
5	111.33	2.05E+00 +/- 3.25E-01	2.56E+00	2.86E-04 +/- 3.06E-05
6	129.29	7.83E+00 +/- 3.57E-01	2.49E+00	3.23E-04 +/- 1.97E-05
7	148.57	6.17E-01 +/- 2.46E-01	2.44E+00	3.48E-04 +/- 3.41E-05
8	208.44	2.12E+00 +/- 2.71E-01	2.29E+00	3.66E-04 +/- 3.76E-05
9	244.70	2.25E-01 +/- 1.37E-01	2.22E+00	3.54E-04 +/- 2.70E-05
10	300.10	1.42E+00 +/- 1.59E-01	2.12E+00	3.26E-04 +/- 1.55E-05
11	311.90	7.00E+00 +/- 2.80E-01	2.11E+00	3.20E-04 +/- 1.45E-05
12	333.39	1.05E+00 +/- 1.53E-01	2.07E+00	3.08E-04 +/- 1.39E-05
13	345.67	4.36E-01 +/- 1.58E-01	2.05E+00	3.01E-04 +/- 1.41E-05
14	375.85	1.97E+00 +/- 1.72E-01	2.01E+00	2.85E-04 +/- 1.49E-05
15	383.71	1.77E-01 +/- 1.37E-01	2.00E+00	2.81E-04 +/- 1.52E-05
16	394.05	6.95E-01 +/- 1.18E-01	1.99E+00	2.76E-04 +/- 1.55E-05
17	413.70	2.37E+00 +/- 1.66E-01	1.96E+00	2.67E-04 +/- 1.59E-05
18	423.44	9.01E-02 +/- 6.74E-02	1.95E+00	2.62E-04 +/- 1.60E-05
19	452.17	2.77E-01 +/- 6.32E-02	1.92E+00	2.50E-04 +/- 1.61E-05
20	662.42	7.89E-02 +/- 3.36E-02	1.73E+00	1.82E-04 +/- 1.04E-05
21	778.90	2.61E-02 +/- 1.51E-02	1.66E+00	1.59E-04 +/- 7.62E-06
22	964.13	8.70E-03 +/- 1.58E-02	1.58E+00	1.34E-04 +/- 5.82E-06
23	1112.12	4.35E-02 +/- 1.95E-02	1.53E+00	1.21E-04 +/- 5.10E-06
24	1408.01	1.74E-02 +/- 1.23E-02	1.46E+00	1.05E-04 +/- 6.85E-06

Batch 2002-02-206

Segment: 10 Detector: DET01 (# 1) Position: 10

Elapsed Live Time: 113.48 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.078 +/- 0.0139
SE-75	264.65	0.000 +/- 0.0000	0.168 +/- 0.0024
SE-75	279.53	0.000 +/- 0.0000	0.173 +/- 0.0034
SE-75	400.65	0.000 +/- 0.0000	0.228 +/- 0.0048

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.14	4.52E+00 +/- 2.96E-01	4.10E+00	3.33E-07 +/- 4.73E-07
2	35.10	1.01E+03 +/- 4.77E+00	3.59E+00	5.68E-06 +/- 4.74E-06
3	59.60	6.87E+01 +/- 9.18E-01	2.70E+00	6.37E-05 +/- 2.21E-05
4	98.77	9.34E+00 +/- 5.20E-01	2.39E+00	2.31E-04 +/- 2.33E-05
5	111.45	1.63E+00 +/- 4.24E-01	2.34E+00	2.78E-04 +/- 1.98E-05
6	114.94	1.58E+00 +/- 3.78E-01	2.33E+00	2.89E-04 +/- 1.90E-05
7	129.29	1.26E+01 +/- 4.37E-01	2.29E+00	3.30E-04 +/- 1.70E-05
8	148.57	1.11E+00 +/- 2.79E-01	2.21E+00	3.68E-04 +/- 1.75E-05
9	204.03	8.22E-01 +/- 2.60E-01	2.00E+00	4.02E-04 +/- 2.09E-05
10	208.41	3.74E+00 +/- 3.41E-01	1.98E+00	4.01E-04 +/- 2.09E-05
11	300.10	1.23E+00 +/- 1.67E-01	1.78E+00	3.54E-04 +/- 1.57E-05
12	311.90	6.08E+00 +/- 2.66E-01	1.77E+00	3.45E-04 +/- 1.50E-05
13	333.34	1.18E+00 +/- 1.85E-01	1.74E+00	3.30E-04 +/- 1.38E-05
14	340.94	2.53E-01 +/- 1.67E-01	1.73E+00	3.25E-04 +/- 1.34E-05
15	345.66	7.32E-01 +/- 1.98E-01	1.73E+00	3.22E-04 +/- 1.32E-05
16	375.73	3.84E+00 +/- 2.20E-01	1.69E+00	3.02E-04 +/- 1.20E-05
17	383.50	5.14E-01 +/- 1.04E-01	1.68E+00	2.97E-04 +/- 1.18E-05
18	393.66	1.24E+00 +/- 1.28E-01	1.67E+00	2.91E-04 +/- 1.15E-05
19	413.70	3.86E+00 +/- 2.03E-01	1.65E+00	2.79E-04 +/- 1.11E-05
20	423.53	3.44E-01 +/- 7.49E-02	1.65E+00	2.73E-04 +/- 1.09E-05
21	452.68	3.57E-01 +/- 7.35E-02	1.62E+00	2.58E-04 +/- 1.05E-05
22	662.42	1.26E-01 +/- 3.95E-02	1.50E+00	1.80E-04 +/- 8.83E-06
23	964.13	1.74E-02 +/- 1.23E-02	1.40E+00	1.31E-04 +/- 5.40E-06
24	1001.03	1.74E-02 +/- 1.23E-02	1.39E+00	1.28E-04 +/- 5.05E-06
25	1085.91	8.72E-03 +/- 8.72E-03	1.37E+00	1.21E-04 +/- 4.45E-06

Segment: 11 Detector: DET01 (# 1) Position: 11

B-tw 2003-03-287

Elapsed Live Time: 113.60 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.131 +/- 0.0160
SE-75	264.65	0.000 +/- 0.0000	0.247 +/- 0.0030
SE-75	279.53	0.000 +/- 0.0000	0.244 +/- 0.0041
SE-75	400.65	0.000 +/- 0.0000	0.300 +/- 0.0056

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.13	3.32E+00 +/- 2.56E-01	4.10E+00	4.58E-07 +/- 6.47E-07
2	35.10	1.01E+03 +/- 4.76E+00	2.96E+00	6.75E-06 +/- 5.60E-06
3	59.60	4.79E+01 +/- 7.63E-01	2.29E+00	6.70E-05 +/- 2.31E-05
4	98.70	7.04E+00 +/- 5.18E-01	2.06E+00	2.28E-04 +/- 2.30E-05
5	111.40	1.58E+00 +/- 3.28E-01	2.02E+00	2.72E-04 +/- 1.93E-05
6	129.29	9.15E+00 +/- 3.79E-01	1.98E+00	3.21E-04 +/- 1.65E-05
7	148.57	5.73E-01 +/- 2.50E-01	1.92E+00	3.56E-04 +/- 1.70E-05
8	208.41	2.80E+00 +/- 2.80E-01	1.75E+00	3.89E-04 +/- 2.04E-05
9	279.54	2.64E-01 +/- 1.16E-01	1.63E+00	3.58E-04 +/- 1.69E-05
10	300.10	5.72E-01 +/- 1.25E-01	1.61E+00	3.45E-04 +/- 1.56E-05
11	311.90	3.89E+00 +/- 2.17E-01	1.60E+00	3.37E-04 +/- 1.49E-05
12	333.20	9.79E-01 +/- 1.65E-01	1.58E+00	3.24E-04 +/- 1.37E-05
13	345.69	7.80E-01 +/- 1.32E-01	1.57E+00	3.16E-04 +/- 1.31E-05
14	375.70	2.47E+00 +/- 1.82E-01	1.54E+00	2.97E-04 +/- 1.19E-05
15	383.69	2.63E-01 +/- 1.01E-01	1.54E+00	2.92E-04 +/- 1.17E-05
16	393.68	1.09E+00 +/- 1.13E-01	1.53E+00	2.86E-04 +/- 1.14E-05
17	400.66	1.89E-01 +/- 6.17E-02	1.53E+00	2.82E-04 +/- 1.12E-05
18	413.70	2.84E+00 +/- 1.70E-01	1.52E+00	2.75E-04 +/- 1.09E-05
19	452.23	4.28E-01 +/- 6.44E-02	1.49E+00	2.55E-04 +/- 1.03E-05
20	1001.03	8.70E-03 +/- 8.70E-03	1.31E+00	1.28E-04 +/- 5.01E-06
21	1085.91	2.72E-02 +/- 1.94E-02	1.30E+00	1.22E-04 +/- 4.46E-06
22	1408.01	1.74E-02 +/- 1.23E-02	1.25E+00	1.08E-04 +/- 6.61E-06

Segment: 12 Detector: DET01 (# 1) Position: 12

Elapsed Live Time: 113.77 sec Elapsed Real Time: 115.00 sec

Batch 2202-02-208

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.142 +/- 0.0148
SE-75	264.65	0.000 +/- 0.0000	0.228 +/- 0.0028
SE-75	279.53	0.000 +/- 0.0000	0.241 +/- 0.0041
SE-75	400.65	0.000 +/- 0.0000	0.277 +/- 0.0053

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.18	1.34E+00 +/- 1.70E-01	4.10E+00	6.30E-07 +/- 8.88E-07
2	35.10	1.01E+03 +/- 4.76E+00	2.86E+00	7.63E-06 +/- 6.33E-06
3	59.59	1.86E+01 +/- 4.87E-01	2.23E+00	6.64E-05 +/- 2.30E-05
4	98.86	3.41E+00 +/- 3.21E-01	2.01E+00	2.17E-04 +/- 2.20E-05
5	129.29	2.90E+00 +/- 2.53E-01	1.93E+00	3.04E-04 +/- 1.59E-05
6	208.40	7.52E-01 +/- 1.82E-01	1.76E+00	3.76E-04 +/- 1.99E-05
7	279.54	1.48E-01 +/- 7.87E-02	1.64E+00	3.54E-04 +/- 1.68E-05
8	300.10	2.23E-01 +/- 8.46E-02	1.62E+00	3.43E-04 +/- 1.55E-05
9	311.90	1.18E+00 +/- 1.31E-01	1.62E+00	3.36E-04 +/- 1.48E-05
10	345.74	3.10E-01 +/- 1.02E-01	1.60E+00	3.17E-04 +/- 1.31E-05
11	375.79	8.99E-01 +/- 1.15E-01	1.58E+00	3.00E-04 +/- 1.19E-05
12	393.72	3.16E-01 +/- 8.42E-02	1.57E+00	2.90E-04 +/- 1.14E-05
13	413.70	8.00E-01 +/- 1.01E-01	1.56E+00	2.79E-04 +/- 1.09E-05
14	443.98	6.80E-02 +/- 5.04E-02	1.54E+00	2.64E-04 +/- 1.04E-05
15	662.42	2.60E-02 +/- 1.50E-02	1.43E+00	1.85E-04 +/- 8.58E-06

Segment: 13 Detector: DET01 (# 1) Position: 13

Elapsed Live Time: 113.85 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.157 +/- 0.0178
SE-75	264.65	0.000 +/- 0.0000	0.288 +/- 0.0033
SE-75	279.53	0.000 +/- 0.0000	0.289 +/- 0.0045
SE-75	400.65	0.000 +/- 0.0000	0.338 +/- 0.0059

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.23	1.06E+00 +/- 1.44E-01	4.10E+00	1.12E-06 +/- 1.64E-06
2	35.10	1.01E+03 +/- 4.78E+00	2.74E+00	1.10E-05 +/- 9.51E-06
3	59.63	1.45E+01 +/- 4.25E-01	2.15E+00	8.10E-05 +/- 2.88E-05
4	99.05	1.56E+00 +/- 2.39E-01	1.94E+00	2.38E-04 +/- 2.42E-05
5	129.29	5.27E-01 +/- 1.73E-01	1.87E+00	3.21E-04 +/- 1.67E-05
6	148.57	2.50E-01 +/- 1.42E-01	1.82E+00	3.52E-04 +/- 1.72E-05
7	208.33	5.15E-01 +/- 1.23E-01	1.66E+00	3.80E-04 +/- 2.07E-05
8	300.10	1.39E-01 +/- 6.60E-02	1.53E+00	3.40E-04 +/- 1.57E-05
9	311.90	4.91E-01 +/- 8.81E-02	1.52E+00	3.33E-04 +/- 1.50E-05
10	375.53	2.92E-01 +/- 7.06E-02	1.48E+00	2.95E-04 +/- 1.20E-05
11	413.70	2.88E-01 +/- 6.25E-02	1.46E+00	2.74E-04 +/- 1.10E-05
12	778.90	8.76E-03 +/- 8.77E-03	1.32E+00	1.54E-04 +/- 7.54E-06
13	1001.03	3.51E-02 +/- 1.75E-02	1.28E+00	1.23E-04 +/- 4.91E-06
14	1408.01	8.76E-03 +/- 1.97E-02	1.23E+00	9.60E-05 +/- 6.10E-06

Segment: 14 Detector: DET01 (# 1) Position: 14

Elapsed Live Time: 113.86 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.430 +/- 0.0223
SE-75	264.65	0.000 +/- 0.0000	0.475 +/- 0.0046
SE-75	279.53	0.000 +/- 0.0000	0.489 +/- 0.0062
SE-75	400.65	0.000 +/- 0.0000	0.526 +/- 0.0077

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.09	8.06E-01 +/- 1.28E-01	2.23E+00	5.65E-07 +/- 5.58E-06
2	35.10	1.01E+03 +/- 4.76E+00	1.68E+00	8.94E-06 +/- 4.41E-05
3	59.59	1.62E+01 +/- 4.34E-01	1.46E+00	8.05E-05 +/- 1.25E-04
4	152.68	1.78E-01 +/- 1.11E-01	1.35E+00	3.48E-04 +/- 3.50E-05
5	244.70	1.11E-01 +/- 7.84E-02	1.32E+00	3.52E-04 +/- 2.62E-05
6	279.54	1.52E-01 +/- 6.57E-02	1.30E+00	3.36E-04 +/- 1.80E-05
7	311.90	2.61E-01 +/- 5.95E-02	1.29E+00	3.18E-04 +/- 1.42E-05

8	413.70	1.41E-01	+/- 4.17E-02	1.26E+00	2.67E-04	+/- 1.56E-05
9	778.90	3.47E-02	+/- 1.73E-02	1.18E+00	1.59E-04	+/- 7.64E-06
10	964.13	8.67E-03	+/- 8.67E-03	1.16E+00	1.31E-04	+/- 5.72E-06
11	1112.12	3.47E-02	+/- 1.73E-02	1.15E+00	1.16E-04	+/- 4.88E-06

Segment: 15 Detector: DET01 (# 1) Position: 15

Elapsed Live Time: 113.90 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.630 +/- 0.0271
SE-75	264.65	0.000 +/- 0.0000	0.674 +/- 0.0059
SE-75	279.53	0.000 +/- 0.0000	0.686 +/- 0.0077
SE-75	400.65	0.000 +/- 0.0000	0.717 +/- 0.0093

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	22.92	2.31E-01 +/- 1.04E-01	1.61E+00	1.20E-12 +/- 1.17E-11
2	35.10	1.01E+03 +/- 4.77E+00	1.35E+00	1.45E-08 +/- 6.96E-08
3	59.64	4.63E+00 +/- 2.41E-01	1.24E+00	1.10E-05 +/- 1.65E-05
4	311.90	9.32E-02 +/- 5.43E-02	1.14E+00	3.22E-04 +/- 1.42E-05
5	400.66	8.99E-02 +/- 3.86E-02	1.13E+00	2.59E-04 +/- 1.48E-05
6	413.70	7.65E-02 +/- 3.22E-02	1.13E+00	2.52E-04 +/- 1.49E-05
7	778.90	3.50E-02 +/- 1.75E-02	1.09E+00	1.56E-04 +/- 7.35E-06
8	1001.03	8.74E-03 +/- 8.74E-03	1.08E+00	1.32E-04 +/- 5.58E-06
9	1408.01	2.62E-02 +/- 1.51E-02	1.07E+00	9.82E-05 +/- 6.51E-06

Segment: 16 Detector: DET01 (# 1) Position: 16

Elapsed Live Time: 113.90 sec Elapsed Real Time: 115.00 sec

Batch 2202-02-211

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.578 +/- 0.0264
SE-75	264.65	0.000 +/- 0.0000	0.657 +/- 0.0057
SE-75	279.53	0.000 +/- 0.0000	0.660 +/- 0.0074
SE-75	400.65	0.000 +/- 0.0000	0.680 +/- 0.0090

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.75E+00	1.42E+00	9.52E-10 +/- 5.35E-09
2	59.64	9.04E-01 +/- 1.35E-01	1.29E+00	3.36E-06 +/- 5.92E-06
3	279.54	9.02E-02 +/- 6.19E-02	1.17E+00	2.56E-04 +/- 1.50E-05
4	413.70	7.80E-02 +/- 4.27E-02	1.15E+00	1.81E-04 +/- 1.21E-05
5	867.39	1.73E-02 +/- 1.23E-02	1.10E+00	1.07E-04 +/- 5.41E-06

Batch 2002-03-242

Summed Spectrum

Peak Locate Report

Sample ID: LL85500979R
Peak Locate Performed on: 1-24-02 11:42:37 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192
Peak Search Sensitivity: 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
1	46.51	0.1988	23.18	12.97
2	70.19	0.0391	35.01	529.02
3	119.41	0.0882	59.60	75.54
4	197.83	0.1599	98.78	22.40
5	223.11	0.2108	111.41	10.90
6	259.45	0.1289	129.56	33.32
7	297.98	0.2864	148.82	7.28
8	408.40	0.2131	203.98	12.03
9	417.28	0.1459	208.42	24.49
10	601.96	0.1887	300.69	13.77
11	625.57	0.1196	312.49	34.38
12	667.29	0.1944	333.33	13.37
13	692.02	0.1902	345.69	13.18
14	752.14	0.1391	375.72	24.41
15	767.86	0.2427	383.58	7.84
16	788.01	0.1939	393.64	11.82
17	829.78	0.1472	414.52	20.91
18	847.84	0.2705	423.53	6.59
19	905.47	0.2492	452.33	6.36

Errors quoted at 1.000 sigma

Batch 2002-02-213

Summed Spectrum

Peak Analysis Report

Sample ID: LL85500979R
Peak Analysis Performed on: 1-24-02 11:42:37 AM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	43-	49	46.51	23.18	3.43E+03	90.17	2.14E+03
2	66-	73	70.19	35.01	1.85E+06	1363.29	1.89E+03
3	115-	122	119.41	59.60	5.41E+04	268.86	8.71E+03
4	194-	201	197.83	98.78	6.63E+03	152.73	8.32E+03
5	219-	226	223.11	111.41	1.60E+03	111.28	5.14E+03
6	255-	263	259.45	129.56	7.59E+03	127.14	3.98E+03
7	293-	302	297.98	148.82	3.73E+02	92.04	3.56E+03
8	403-	412	408.40	203.98	1.58E+02	79.81	2.65E+03
9	412-	421	417.28	208.42	2.20E+03	92.18	2.64E+03
10	597-	606	601.96	300.69	9.89E+02	51.44	7.36E+02
11	620-	630	625.57	312.49	5.40E+03	83.95	6.94E+02
12	662-	672	667.29	333.33	7.51E+02	53.65	8.58E+02
13	688-	697	692.02	345.69	6.41E+02	46.18	6.26E+02
14	746-	757	752.14	375.72	2.20E+03	59.90	5.56E+02
15	765-	773	767.86	383.58	9.06E+01	42.29	4.98E+02
16	782-	793	788.01	393.64	7.71E+02	37.53	2.55E+02
17	824-	835	829.78	414.52	2.36E+03	52.95	1.77E+02
18	842-	853	847.84	423.53	1.43E+02	24.11	1.73E+02
19	899-	910	905.47	452.33	2.28E+02	24.21	1.42E+02

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-02-214

Summed Spectrum

Nuclide Identification Report

Sample ID: LL85500979R
Nuclide Library Used: C:\WAS\NLIB\LLNL.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/)	Activity Uncertainty
Pulser	0.999	35.10*	100.00	1.110E+06	2.369E+06
Np-237	0.976	300.10*	6.63	1.591E+01	8.338E-01
		311.90*	38.60	1.520E+01	2.551E-01
Pu-239	0.954	413.70*	0.00	2.046E+05	5.860E+03
Pu-239A	0.995	129.29*	0.01	1.488E+05	4.108E+03
Pu-241	0.996	148.57*	0.00	2.161E+05	5.345E+04

* = Energy line found in the spectrum.
Energy Tolerance : 1.500 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 1.000 sigma

Beta 2002-02-215

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 1-24-02 11:42:37 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	23.18	2.9843E+01	2.63
3	59.60	4.7072E+02	0.51
4	98.78	5.7683E+01	2.31
5	111.41	1.3950E+01	6.94
8	203.98	1.3763E+00	50.47
9	208.42	1.9181E+01	4.18
12	333.33	6.5343E+00	7.15
13	345.69	5.5823E+00	7.20
14	375.72	1.9133E+01	2.73
15	383.58	7.8831E-01	46.69
16	393.64	6.7107E+00	4.87
18	423.53	1.2466E+00	16.83
19	452.33	1.9845E+00	10.62

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-02-216

Combined Segment NID

NID Results Combiner Mode: Sum Activities

Nuclide		Total Activity (uCi)				Concentration (uCi/g)		
Pulser		4.42E+07	+/-	2.29E+08		1.02E+03	+/-	5.30E+03
SE-75	<	6.99E-02	+/-	4.95E-03	<	1.62E-06	+/-	1.14E-07
EU-152x		7.39E-02	+/-	1.96E-02		1.71E-06	+/-	4.53E-07
U-233		2.03E+03	+/-	1.29E+03		4.70E-02	+/-	2.98E-02
U-235		1.74E-01	+/-	6.77E-02		4.04E-06	+/-	1.57E-06
Np-237		2.05E+01	+/-	4.18E-01		4.75E-04	+/-	9.68E-06
Pu-238		1.98E+03	+/-	1.26E+03		4.59E-02	+/-	2.91E-02
U-238		3.55E+00	+/-	1.11E+00		8.23E-05	+/-	2.56E-05
Pu-239		2.24E+05	+/-	6.90E+03		5.18E+00	+/-	1.60E-01
Pu-239A		2.11E+05	+/-	5.32E+03		4.89E+00	+/-	1.23E-01
Am-241		2.08E+04	+/-	4.21E+03		4.82E-01	+/-	9.76E-02
Pu-241		4.44E+05	+/-	6.14E+04		1.03E+01	+/-	1.42E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
U-233	2.11E-01	+/-	1.34E-01
U-235	8.08E-02	+/-	3.13E-02
Np-237	2.91E-02	+/-	5.94E-04
Pu-238	1.16E-04	+/-	7.35E-05
U-238	1.06E+01	+/-	3.30E+00
Pu-239	3.61E+00	+/-	1.11E-01
Pu-239A	3.40E+00	+/-	8.56E-02
Am-241	6.09E-03	+/-	1.23E-03
Pu-241	4.29E-03	+/-	5.93E-04

Batch 2002-03-217

Summed Spectrum

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		1.11E+06	+/-	2.37E+06	2.57E+01	+/-	5.48E+01
SE-75	<	2.91E-01	+/-	2.18E-03	< 6.74E-06	+/-	5.04E-08
EU-152x	<	4.06E-01	+/-	6.78E-03	< 9.40E-06	+/-	1.57E-07
U-233	<	1.48E+04	+/-	2.77E+02	< 3.42E-01	+/-	6.41E-03
U-235	<	4.35E-01	+/-	8.24E-03	< 1.01E-05	+/-	1.91E-07
Np-237		1.53E+01	+/-	2.44E-01	3.53E-04	+/-	5.65E-06
Pu-238	<	3.42E+04	+/-	4.45E+02	< 7.92E-01	+/-	1.03E-02
U-238	<	1.08E+01	+/-	1.67E-01	< 2.50E-04	+/-	3.88E-06
Pu-239		2.05E+05	+/-	5.86E+03	4.74E+00	+/-	1.36E-01
Pu-239A		1.49E+05	+/-	4.11E+03	3.44E+00	+/-	9.51E-02
Am-241	<	2.61E+04	+/-	1.93E+02	< 6.03E-01	+/-	4.48E-03
Pu-241		2.16E+05	+/-	5.34E+04	5.00E+00	+/-	1.24E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
Np-237	2.17E-02	+/-	3.46E-04
Pu-239	3.29E+00	+/-	9.44E-02
Pu-239A	2.40E+00	+/-	6.61E-02
Pu-241	2.09E-03	+/-	5.17E-04

Batch 2002-03-218

Final Non-Uniformity Results

Source Longitudinal Ratio:	0.000	+/-	0.0000
Matrix Longitudinal Ratio:	0.974	+/-	2.8979
Source Vertical Ratio:	0.000	+/-	0.0000
Matrix Vertical Ratio:	0.991	+/-	0.0851

NUDS could not find the transmission peak in one radial segment.
NUDS could not find the source peak in any radial segment.

Batch 3003-03-219

LAWRENCE LIVERMORE NATIONAL LABORATORY

WASTE DISPOSAL REQUISITION

W 154372

Waste Run Date: LL85500179TRU

Label/waste Type: (Must check)
- ☐ Non-Haz
- ☐ Haz
- ☐ Low-Level
- ☒ TRU

RCRA ☐ CA ☐

☐ No Disposal Option

1. Container Serial Number or Retention Tank ID:

2. For TRU Waste, TRU Waste Container Serial No.: LL85~~5 00 11~~ TRU

3. Container Acceptable: ☒ Yes ☐ N/A

Chemical Compatibility Code: DS

Storage Restrictions
☐ No Storage Restrictions
Not acceptable at the following locations:
☐ 233 ☐ 514 ☐ 612 ☐ 693
CWAA ☐ 169 ☐ 361 ☐ 612-4

4. Building No.: 332
5. Room No.: 1378
6. RMMA: ☒ Yes ☐ No
7. WAA No.: 332A
14. Waste Package Seals Applied: ☒ Yes ☐ N/A (If yes, complete Step 15) Initials: 7-23-01
Hazardous Properties: ☐ Toxic ☐ Corrosive ☐ Ignitable ☐ Reactive
19. Outer Container Type: ☐ Box ☐ Sack ☐ Can ☐ SWB ☐ Carboy ☐ Tub ☒ Drum ☐ Tank - Fixed ☐ Tank - Portable ☐ Transportainer Other:
20. Outer Container Size/Vol: ☐ 1 gal ☐ 750 gal ☐ 2 gal ☐ 1000 gal ☐ 5 gal ☐ 5000 gal ☐ 30 gal ☐ 67 cu ft ☒ 55 gal ☐ 1 x 1 x 1.5 ☐ 85 gal ☐ 2 x 4 x 7 ☐ 330 gal ☐ 4 x 4 x 7 ☐ 660 gal ☐ gal ☐ cu ft Other:

8. Workplace Start Date: 7/23/01
9. Workplace End Date: 8/1/01
10. Account No.: 5481-50
11. Directorate: DNT
15. Waste Package Seal Nos.: K424 T1064 T1065 12/27/01
16. Source Code: A540
☐ Lab Pack ☐ Over Pack
18. Waste Form: ☒ Solid ☐ Liquid ☐ Gas ☐ Sludge
17. LLW Waste Stream No. or TRU Waste Form No.: 1, Glovebox Waste

12. Did Waste Minimization Effort Practices Begin in Current Calendar Year? ☐ Yes ☒ No
If yes, enter Activity Code: W_____
Comments:

13. WEF/PKE/SAW No.: ☐ WEF No. ☒ PKE No. ☐ SAW No. ☐ N/A
Specify: 0247, 243, 245

21. Item No.	22. Spent or Unused (S/U)	23. Organic or Inorganic (O/I)	24. Waste Form (S, SL, L, G)	25. Waste Description (For multiple parcels, also list Parcel Card Nos.)	26. Hazardous Constituents and Concentrations	27. Item Container Size	28. Quantity per Item Amount	28. Quantity per Item Units	29. Analysis Sample No.	Physical Waste Data: 30. Aqueous Only pH	Physical Waste Data: 30. Aqueous Only Normality	Physical Waste Data: 31. Flash Point
				P021936 a								
				P021844 b								
				P021840 c								
				P021848 d								
				P021854 e								
				P021838 f								

USE CONTINUATION FORM FOR ADDITIONAL ITEMS

32. Does the waste contain radioactive components? ☒ Yes ☐ No ☐ To be analyzed
(If yes or TBA, complete Steps 36–41 as applicable to waste type.)

36. Radionuclides:
Check all Plutonium grades present:
☒ Weapons ☐ Fuel ☐ Reactor ☐ Am-enriched ☐ Mixed
☐ Enriched Uranium (identify the % of each of the following:)
_____% U-234
_____% U-235
_____% U-238
(List additional radionuclides in Step 38.)

38. Radiological Data:
(For certified LLW and TRU waste, list totals from Parcel Cards.)

Item	Radionuclide(s)	Quantity	Units/Activity (Ci,g)	PE - Ci	Fissile g

This section (Steps 33–35) is required for Hazardous Waste generated in a RMMA

33. Was the waste kept isolated from any operation that could have produced radioactive contamination (using a glove box, vent hood, etc.)? ☐ Yes ☐ No (If no, full rad analysis required)

34. Was the waste exposed to particle beams capable of inducing radioactivity by activation? ☐ Yes ☐ No (If yes, full rad analysis required)

35. Describe other controls used to prevent radioactive contamination:

39. Rad. Survey mr/hr: | β-γ @ Contact | β-γ @ 1 Meter | Neutron @ Contact

37. Gross weight of waste package: 15.0Kg

40. Swipe Data: ☐ Complies with 10 CFR 835 criteria for unrestricted release

41. Rad Swipe/Survey Performed By: (Print Name–Last, First) | Employee No.: | L-Code:

Signature: | Date: | Ext.:

RMMA Certification: Shipping | CC | RSDR #:

Tare weight of container: 70.2lbs

42. Generator: I certify, to the best of my knowledge, that the information provided on this requisition is correct. I understand that I may be liable to State and Federal prosecution by intentionally providing false information. I have obtained this information by:
☒ Direct knowledge of the waste generating process ☐ Analytical Data
☐ Obtaining sufficient information from others knowledgeable of the waste generating process.

Container Custodian: I certify that the waste parcels identified on this form are contained in this waste container and have been packaged in accordance with the requirements specified in the appropriate LLNL TRU Waste or Low-Level Waste Program Certification and Quality Assurance Program.

Generator or Container Custodian Name (Print – Last, First): Macari, Thomas
Signature: Tom Macari
Employee No.: 553224 | L-Code: 361 | Ext.: 3-2217 | Date: 8-2-01

Inspected By: Signature: | Employee No.: | Date:

Characterization Chemist Approval ☐ Acceptable for Sampling (Initials) ☐ WEF EX-SA
Signature: L. Rae Rochelle | Employee No.: 211108 | Date: 7/25/01

RCA Approval ☐ Decay ☐ NTS ☐ WIPP ☐ WEF Program (Initials) Certified (Initials) Certified (Initials)
Signature: | Employee No.: | Date:

☐ HWM Use Only

LL-5344 (Rev. 06/98) Page 1 of _____

Retrieved 2002-12-20

****
***** GENIE QUALITY ASSURANCE *****
****

Last Results Report
1-24-02 3:01:08 PM

OK PM

QA File: C:\WAS\CTRS\CTR1\ARR1\S11_BCK.QA
Sample ID: ~~B828~~ B829 1.24.02
Sample Quantity: 1.0000E+00
Sample Date: 1-24-02 2:55:29 PM
Measurement Date: 1-24-02 2:55:27 PM
Elapsed Live Time: 200.0 seconds
Elapsed Real Time: 201.9 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
Ref. Peak [0.00+/-0.00]	3.5023E+01	0.00 < : : : >
Upper CPS Reg [0.00+/-0.00]	2.2110E+01	0.00 < : : : >
Peak counts/second [0.00+/-0.00]	1.0088E+03	0.00 < : : : >
Pulser FWHM [0.00+/-0.00]	9.7466E-01	0.00 < : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

****
***** GENIE QUALITY ASSURANCE *****
****

Last Results Report
1-24-02 3:01:01 PM

QA File: C:\WAS\CTRS\CTR1\ARR1\T11_BCK.QA
Sample ID: ~~B828~~ B829 1.24.02
Sample Quantity: 1.0000E+00
Sample Date: 1-24-02 2:55:29 PM
Measurement Date: 1-24-02 2:58:55 PM
Elapsed Live Time: 100.0 seconds
Elapsed Real Time: 104.4 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >

Batch 2002-02-331

400.6 keV Centroid	8.0342E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>
400.6 keV FWHM	1.5287E+00			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak centroid 136 KeV	2.7278E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak area 400 keV	1.9632E+04			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak counts/second	1.9632E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

GN 4-19-02

Batch 2002-02-222

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
1-25-02 9:43:06 AM

QA File: C:\WAS\CTRS\CTR1\ARR1\S11_BCK.QA
Sample ID: ~~B829~~ B930 KE 1-25-02
Sample Quantity: 1.0000E+00
Sample Date: 1-25-02 9:37:27 AM
Measurement Date: 1-25-02 9:37:25 AM
Elapsed Live Time: 200.0 seconds
Elapsed Real Time: 201.9 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
Ref. Peak	3.5016E+01	0.00
[0.00+/-0.00]		< : : : >
Upper CPS Reg	3.7530E+01	0.00
[0.00+/-0.00]		< : : : >
Peak counts/second	1.0085E+03	0.00
[0.00+/-0.00]		< : : : >
Pulser FWHM	9.6865E-01	0.00
[0.00+/-0.00]		< : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
1-25-02 9:42:59 AM

QA File: C:\WAS\CTRS\CTR1\ARR1\T11_BCK.QA
Sample ID: ~~B829~~ B930 KE 1-25-02
Sample Quantity: 1.0000E+00
Sample Date: 1-25-02 9:37:27 AM
Measurement Date: 1-25-02 9:40:53 AM
Elapsed Live Time: 100.0 seconds
Elapsed Real Time: 104.4 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >

Batch 2002-02-223

400.6 keV Centroid	8.0349E+02			0.00			
[0.00+/-0.00]		<	:	:	:	>	
400.6 keV FWHM	1.5353E+00			0.00			
[0.00+/-0.00]		<	:	:	:	>	
Peak centroid 136 KeV	2.7285E+02			0.00			
[0.00+/-0.00]		<	:	:	:	>	
Peak area 400 keV	1.9454E+04			0.00			
[0.00+/-0.00]		<	:	:	:	>	
Peak counts/second	1.9454E+02			0.00			
[0.00+/-0.00]		<	:	:	:	>	

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

OK RR 1-25-02

JW 4-19-02

Batch 3003-03-334

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
1-29-02 8:02:20 AM

QA File: C:\WAS\CTRS\CTR1\ARR1\S11_BCK.QA
Sample ID: B831
Sample Quantity: 1.0000E+00
Sample Date: 1-29-02 7:50:53 AM
Measurement Date: 1-29-02 7:50:51 AM
Elapsed Live Time: 200.0 seconds
Elapsed Real Time: 201.9 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
Ref. Peak	3.5014E+01	0.00
[0.00+/-0.00]		< : : : >
Upper CPS Reg	2.0985E+01	0.00
[0.00+/-0.00]		< : : : >
Peak counts/second	1.0088E+03	0.00
[0.00+/-0.00]		< : : : >
Pulser FWHM	9.6523E-01	0.00
[0.00+/-0.00]		< : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
1-29-02 8:02:12 AM

QA File: C:\WAS\CTRS\CTR1\ARR1\T11_BCK.QA
Sample ID: B831
Sample Quantity: 1.0000E+00
Sample Date: 1-29-02 7:50:53 AM
Measurement Date: 1-29-02 8:00:07 AM
Elapsed Live Time: 100.0 seconds
Elapsed Real Time: 104.2 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >

Batch 2002-02-225

400.6 keV Centroid	8.0325E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>
400.6 keV FWHM	1.4769E+00			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak centroid 136 KeV	2.7279E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak area 400 keV	1.8964E+04			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak counts/second	1.8964E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

OK 1.29.02

4-19-02

Batch 2002-02-226

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS 2.3A

****
* DRUM INFORMATION *
****

Drum Package ID: S20_832
Sequence Number: 832
Assay Date & Time: 1-29-2002 8:19:05 AM
Drum Package GROSS Weight: 45.00 kg NET Weight: 13.20 kg

IDC Number: STD ASH-2

QC Replicate (Yes/No): NO Passed (Yes/No): _____

Operator Name (Printed): Russell Rath

Operator Signature: R Rath Date: 1-29-02

Independent Reviewer: J. Mc Jr Date: 4-19-02

Expert Reviewer: (NOT REQUIRED) Date: _____

Tech. Supv/QA Officer: Bryan Soulay Date: 7/17/02

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 2.021E+00 +/- 4.672E-01 Ci

Batch 2002-02-227

ISOTOPIC INFORMATION

Isotope	Measured Mass (g)	Mass Uncertainty (g)	MDC (g)
Pu-238	2.379E-03	8.14E-04	1.024E-05
Pu-239	2.304E+01	7.25E+00	9.919E-02
Pu-240	1.424E+00	4.49E-01	6.132E-03
Pu-241	2.075E-02	6.55E-03	1.639E-03
Pu-242	5.882E-03	2.18E-03	2.533E-05
Am-241	6.367E-02	2.00E-02	4.177E-03
Am-243	0.000E+00	0.00E+00	0.000E+00
Np-237	0.000E+00	0.00E+00	4.579E-04
U-235	0.000E+00	0.00E+00	2.615E-01
U-238	1.191E+01	3.74E+00	1.191E+01
U-233	1.760E+00	5.29E-01	1.760E+00

Total Pu Mass: 2.45E+01 +/- 2.78E+00 g

MGA RESULTS

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	9.713E-03	6.87E+00
Pu-239	9.407E+01	6.32E-02
Pu-240	5.815E+00	1.02E+00
Pu-241	8.473E-02	1.28E+00
Pu-242	2.402E-02	1.00E+01
Am-241	2.600E-01	7.27E-01

Batch 2002-02-228

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005

Assay Date & Time: 1-29-2002 8:19:05 AM

Drum Package ID: S20_832
Sequence Number: 832

Waste Classification (TRU or LLW): TRU

		Errors at 1.96 sigma	
Total Alpha Activity :	2.021E+00	+/- 4.67E-01	Ci
Total TRU Activity :	1.531E+05	+/- 3.54E+04	nCi/g
Pu-239 Equiv Activity:	2.059E+00	+/- 4.67E-01	Ci
Fissile Gram Equiv Mass:	2.312E+01	+/- 7.25E+00	g
Total Decay Heat:	6.394E-02	+/- 1.47E-02	W
TMU Value:	31.46 %		

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error	MDA gm
Pu-238	4.12E-02	1.41E-02	2.38E-03	8.14E-04	1.02E-05
Pu-239	1.43E+00	4.50E-01	2.30E+01	7.25E+00	9.92E-02
Pu-240	3.28E-01	1.03E-01	1.42E+00	4.49E-01	6.13E-03
Pu-241	2.16E+00	6.81E-01	2.08E-02	6.55E-03	1.64E-03
Pu-242	2.34E-05	8.66E-06	5.88E-03	2.18E-03	2.53E-05
Am-241	2.21E-01	6.96E-02	6.37E-02	2.00E-02	4.18E-03
Am-243	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Np-237	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.58E-04
U-235	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.61E-01
U-238	4.05E-06	1.27E-06	1.19E+01	3.74E+00	1.19E+01
U-233	1.72E-02	5.17E-03	1.76E+00	5.29E-01	1.76E+00

Total Pu Mass: 2.45E+01 +/- 2.78E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	9.713E-03	6.87E+00
Pu-239	9.407E+01	6.32E-02
Pu-240	5.815E+00	1.02E+00
Pu-241	8.473E-02	1.28E+00
Pu-242	2.402E-02	1.00E+01
Am-241	2.600E-01	7.27E-01

Batch 2002-02-329

****
***** M G A R E P O R T *****
****

Report generated on: 1-29-02 9:15:44 AM

MGA version: MGA V9.5 CI

Spectrum ID: 11200832.CNF Sens : 30.0% LT: 55.0 Mins DT: 1.69
Measurement date: 1-29-02 Declared date: 1-29-02

Sample ID: S20_832 Detector: Total counts: 3.579E+06

Pu g/cm2 = 0.4071 Cd g/cm2 = 1.6627 FWHM at 122 keV = 674 eV
QFIT = 1.00 FWHM at 208 keV = 856 eV
NQFIT = 1.00

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	Meas. date %Err	Decl. date % weight	Decl. date %Err
Pu-238	0.000103	6.9	6.9	0.1146	6.9	0.00971	6.87	0.00971	6.87
Pu-239	1.000000	0.0	0.5	1110.219	1.3	94.06654	0.06	94.06654	0.06
Pu-240	0.061818	1.1	1.0	68.6317	1.5	5.81502	1.02	5.81502	1.02
Pu-241	0.000901	1.3	1.2	1.0000	0.0	0.08473	1.28	0.08473	1.28
Pu-242	(New alg.)			0.2835	(10)	0.02402	(10)	0.02402	(10)
Am-241	0.002764	0.7	0.6	3.0683	1.4	0.25997	0.73	0.25997	0.73

Pu-240 effective (meas. date) = 5.880 +/- 1.11%
Am-241 separated about 29.011 +/- 0.260 years ago
Am/Pu-241 weight ratio = 3.06834 +/- 1.35%

Messages :

Lead x-rays detected.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Batch 2002-02-230

Gamma Waste Assay

Sample Information

File Name: C:\WAS\DATA\900\11100832.S11
Sample ID: S20_832 Count Sequence Number: 832
Assay Start: 1-29-02 8:19:07 AM
Description 1: 20g source drum
Description 2:
Location: 7715
Comment:
Waste Type:
Weight: Gross: 45000.0 g Net: 13200.0 g
Density: 0.063 g /ml

Container Type: 55 Gal Galv
Container: Volume: 208000. ml Full: 100.0 %

System Configuration

Counter ID Number: SGS
Arrangement Description: SGS
Segments: Number: 16 Offset: 0
Scanning Platform: Start: 934 mm Delta: -51 mm
Count Type: Daily 20 g Drum Check
Collimator/Geometry Setting: 0
Transmission Mode: Two pass
Transmission Source: 0

Errors quoted at 1.000 sigma
Reference Source Date: Reference Source Rate: 1.01E+03 cps
Geometric Correction Factor(SWCONTGCF): 0.760
Date of efficiency calibration approval: 4-18-2001 12:41:36 PM
Mu Factors response file: Lucite
Transmission Calib. Time: 5-11-2001 2:20:42 PM 59052

Reviewed by: _____ Date: 7/16/02

Batch 2002-02-231

Segment Results

Segment: 1 Detector: DET01 (# 1) Position: 1

Elapsed Live Time: 113.83 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.517 +/- 0.0249
SE-75	264.65	0.000 +/- 0.0000	0.555 +/- 0.0051
SE-75	279.53	0.000 +/- 0.0000	0.568 +/- 0.0068
SE-75	400.65	0.000 +/- 0.0000	0.606 +/- 0.0085

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.42	5.62E-01 +/- 1.42E-01	1.89E+00	1.03E-07 +/- 1.27E-06
2	35.10	1.01E+03 +/- 4.78E+00	1.52E+00	2.61E-06 +/- 1.64E-05
3	778.90	2.96E-02 +/- 1.97E-02	1.14E+00	9.79E-05 +/- 5.69E-06

Segment: 2 Detector: DET01 (# 1) Position: 2

Elapsed Live Time: 113.81 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.617 +/- 0.0272
SE-75	264.65	0.000 +/- 0.0000	0.625 +/- 0.0056
SE-75	279.53	0.000 +/- 0.0000	0.635 +/- 0.0074
SE-75	400.65	0.000 +/- 0.0000	0.681 +/- 0.0091

Batch 2002-02-232

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	4.01E-01 +/- 1.04E-01	1.73E+00	1.31E-10 +/- 1.40E-09
2	35.10	1.01E+03 +/- 4.76E+00	1.37E+00	2.21E-07 +/- 1.06E-06
3	48.32	3.40E+00 +/- 3.09E-01	1.28E+00	5.02E-06 +/- 1.26E-05
4	59.69	2.46E+00 +/- 2.76E-01	1.25E+00	2.22E-05 +/- 3.33E-05
5	311.90	1.13E-01 +/- 7.82E-02	1.17E+00	3.18E-04 +/- 1.39E-05

Segment: 3 Detector: DET01 (# 1) Position: 3

Elapsed Live Time: 113.77 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.634 +/- 0.0274
SE-75	264.65	0.000 +/- 0.0000	0.687 +/- 0.0060
SE-75	279.53	0.000 +/- 0.0000	0.668 +/- 0.0076
SE-75	400.65	0.000 +/- 0.0000	0.715 +/- 0.0094

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.77E+00	1.34E+00	1.07E-06 +/- 5.27E-06
2	59.44	4.81E+00 +/- 3.24E-01	1.24E+00	3.75E-05 +/- 5.83E-05
3	400.66	9.75E-02 +/- 4.93E-02	1.13E+00	2.63E-04 +/- 1.50E-05
4	867.39	1.42E-02 +/- 1.46E-02	1.09E+00	1.45E-04 +/- 6.61E-06
5	964.13	2.78E-02 +/- 1.96E-02	1.08E+00	1.34E-04 +/- 5.92E-06
6	1001.03	8.73E-03 +/- 8.73E-03	1.08E+00	1.31E-04 +/- 5.70E-06
7	1112.12	8.73E-03 +/- 8.73E-03	1.08E+00	1.21E-04 +/- 5.09E-06

Segment: 4 Detector: DET01 (# 1) Position: 4

Elapsed Live Time: 113.71 sec Elapsed Real Time: 115.00 sec

Batch 1883-03-233

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.630 +/- 0.0278
SE-75	264.65	0.000 +/- 0.0000	0.662 +/- 0.0059
SE-75	279.53	0.000 +/- 0.0000	0.671 +/- 0.0077
SE-75	400.65	0.000 +/- 0.0000	0.704 +/- 0.0094

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.32	1.60E+00 +/- 1.97E-01	1.59E+00	3.42E-06 +/- 4.79E-06
2	35.10	1.01E+03 +/- 4.76E+00	1.35E+00	2.00E-05 +/- 1.66E-05
3	59.60	9.84E+00 +/- 4.07E-01	1.24E+00	9.83E-05 +/- 3.39E-05
4	75.00	5.32E-01 +/- 2.58E-01	1.22E+00	1.58E-04 +/- 3.32E-05
5	867.39	2.71E-02 +/- 1.96E-02	1.09E+00	1.50E-04 +/- 6.50E-06
6	1112.12	8.68E-03 +/- 8.68E-03	1.08E+00	1.17E-04 +/- 4.26E-06

Segment: 5 Detector: DET01 (# 1) Position: 5

Elapsed Live Time: 113.05 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.644 +/- 0.0286
SE-75	264.65	0.000 +/- 0.0000	0.666 +/- 0.0059
SE-75	279.53	0.000 +/- 0.0000	0.665 +/- 0.0077
SE-75	400.65	0.000 +/- 0.0000	0.701 +/- 0.0093

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.22	6.79E+00 +/- 3.90E-01	1.57E+00	1.78E-06 +/- 2.58E-06
2	35.10	1.01E+03 +/- 4.78E+00	1.33E+00	1.48E-05 +/- 1.27E-05
3	59.59	6.51E+01 +/- 9.37E-01	1.23E+00	9.33E-05 +/- 3.30E-05
4	98.84	2.11E+01 +/- 7.87E-01	1.19E+00	2.49E-04 +/- 2.52E-05
5	103.50	7.42E+00 +/- 7.42E-01	1.19E+00	2.64E-04 +/- 2.32E-05
6	111.23	5.37E+00 +/- 5.96E-01	1.19E+00	2.86E-04 +/- 2.04E-05

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7	129.29	1.81E+01	+/- 6.07E-01	1.18E+00	3.26E-04	+/- 1.67E-05
8	148.57	7.07E-01	+/- 3.65E-01	1.17E+00	3.54E-04	+/- 1.71E-05
9	203.96	2.06E+00	+/- 3.77E-01	1.17E+00	3.76E-04	+/- 2.04E-05
10	208.44	2.30E+00	+/- 4.35E-01	1.17E+00	3.75E-04	+/- 2.04E-05
11	255.74	5.93E-01	+/- 2.28E-01	1.16E+00	3.58E-04	+/- 1.84E-05
12	311.90	5.40E-01	+/- 2.17E-01	1.16E+00	3.26E-04	+/- 1.48E-05
13	333.31	2.32E+00	+/- 2.93E-01	1.15E+00	3.13E-04	+/- 1.36E-05
14	345.64	3.17E+00	+/- 2.74E-01	1.15E+00	3.06E-04	+/- 1.30E-05
15	375.62	8.48E+00	+/- 3.44E-01	1.15E+00	2.89E-04	+/- 1.18E-05
16	383.38	8.09E-01	+/- 1.58E-01	1.14E+00	2.85E-04	+/- 1.16E-05
17	393.53	3.30E+00	+/- 2.11E-01	1.14E+00	2.80E-04	+/- 1.13E-05
18	400.66	1.83E-01	+/- 1.12E-01	1.14E+00	2.76E-04	+/- 1.11E-05
19	413.70	8.61E+00	+/- 2.89E-01	1.14E+00	2.69E-04	+/- 1.09E-05
20	423.24	4.82E-01	+/- 1.14E-01	1.14E+00	2.64E-04	+/- 1.07E-05
21	452.06	9.10E-01	+/- 1.12E-01	1.13E+00	2.51E-04	+/- 1.03E-05
22	662.42	2.62E-01	+/- 5.78E-02	1.11E+00	1.79E-04	+/- 8.77E-06
23	867.39	8.75E-03	+/- 8.75E-03	1.09E+00	1.40E-04	+/- 6.44E-06

Segment: 6 Detector: DET01 (# 1) Position: 6

Elapsed Live Time: 110.82 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.122 +/- 0.0230
SE-75	264.65	0.000 +/- 0.0000	0.295 +/- 0.0035
SE-75	279.53	0.000 +/- 0.0000	0.311 +/- 0.0051
SE-75	400.65	0.000 +/- 0.0000	0.375 +/- 0.0066

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	1.02E+01 +/- 5.11E-01	4.10E+00	3.85E-07 +/- 5.97E-07
2	23.16	1.46E+01 +/- 6.00E-01	4.10E+00	6.70E-07 +/- 9.51E-07
3	35.10	1.01E+03 +/- 4.85E+00	3.04E+00	8.04E-06 +/- 6.71E-06
4	59.59	2.92E+02 +/- 2.10E+00	2.34E+00	6.89E-05 +/- 2.40E-05
5	74.96	1.48E+00 +/- 6.48E-01	2.21E+00	1.29E-04 +/- 2.73E-05
6	98.74	8.45E+01 +/- 1.71E+00	2.10E+00	2.22E-04 +/- 2.25E-05
7	103.56	4.45E+01 +/- 1.50E+00	2.08E+00	2.39E-04 +/- 2.11E-05
8	111.36	2.62E+01 +/- 1.08E+00	2.06E+00	2.63E-04 +/- 1.89E-05
9	115.45	2.18E+01 +/- 1.21E+00	2.05E+00	2.75E-04 +/- 1.80E-05
10	129.29	9.95E+01 +/- 1.22E+00	2.02E+00	3.10E-04 +/- 1.61E-05
11	144.36	4.94E+00 +/- 6.75E-01	1.96E+00	3.39E-04 +/- 1.63E-05
12	148.57	3.66E+00 +/- 6.52E-01	1.93E+00	3.45E-04 +/- 1.67E-05
13	161.33	4.19E+00 +/- 6.42E-01	1.87E+00	3.60E-04 +/- 1.78E-05

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14	171.62	4.61E+00	+/-	5.34E-01	1.83E+00	3.69E-04	+/-	1.88E-05
15	179.54	2.79E+00	+/-	5.11E-01	1.79E+00	3.74E-04	+/-	1.94E-05
16	189.74	1.97E+00	+/-	5.12E-01	1.75E+00	3.78E-04	+/-	1.99E-05
17	196.04	2.74E+00	+/-	5.12E-01	1.73E+00	3.80E-04	+/-	2.01E-05
18	203.93	9.48E+00	+/-	7.54E-01	1.70E+00	3.81E-04	+/-	2.02E-05
19	208.37	1.22E+01	+/-	9.00E-01	1.69E+00	3.81E-04	+/-	2.03E-05
20	237.82	6.65E-01	+/-	4.04E-01	1.60E+00	3.75E-04	+/-	1.95E-05
21	244.70	1.54E+00	+/-	4.01E-01	1.58E+00	3.73E-04	+/-	1.92E-05
22	255.73	3.53E+00	+/-	3.94E-01	1.56E+00	3.69E-04	+/-	1.86E-05
23	267.90	8.20E-01	+/-	3.02E-01	1.53E+00	3.63E-04	+/-	1.78E-05
24	279.54	5.90E-01	+/-	3.44E-01	1.51E+00	3.57E-04	+/-	1.71E-05
25	298.08	1.56E+00	+/-	4.42E-01	1.49E+00	3.47E-04	+/-	1.59E-05
26	311.90	2.79E+00	+/-	3.51E-01	1.48E+00	3.39E-04	+/-	1.51E-05
27	324.14	1.59E+00	+/-	2.56E-01	1.47E+00	3.32E-04	+/-	1.44E-05
28	333.34	1.42E+01	+/-	6.03E-01	1.47E+00	3.26E-04	+/-	1.39E-05
29	336.55	1.08E+00	+/-	4.98E-01	1.46E+00	3.24E-04	+/-	1.37E-05
30	345.60	1.62E+01	+/-	5.08E-01	1.46E+00	3.19E-04	+/-	1.33E-05
31	368.58	6.51E+00	+/-	3.80E-01	1.44E+00	3.06E-04	+/-	1.23E-05
32	375.65	4.44E+01	+/-	7.77E-01	1.44E+00	3.02E-04	+/-	1.21E-05
33	383.40	4.68E+00	+/-	3.79E-01	1.43E+00	2.97E-04	+/-	1.18E-05
34	393.61	1.62E+01	+/-	4.38E-01	1.42E+00	2.92E-04	+/-	1.16E-05
35	413.70	4.36E+01	+/-	6.73E-01	1.41E+00	2.81E-04	+/-	1.11E-05
36	423.28	2.44E+00	+/-	2.39E-01	1.41E+00	2.76E-04	+/-	1.09E-05
37	446.25	2.30E-01	+/-	1.33E-01	1.40E+00	2.64E-04	+/-	1.06E-05
38	452.21	5.09E+00	+/-	2.42E-01	1.39E+00	2.61E-04	+/-	1.05E-05
39	620.16	2.42E-01	+/-	7.33E-02	1.33E+00	1.98E-04	+/-	9.16E-06
40	647.34	2.30E-01	+/-	8.91E-02	1.32E+00	1.90E-04	+/-	8.92E-06
41	662.42	9.63E-01	+/-	1.25E-01	1.32E+00	1.86E-04	+/-	8.77E-06
42	723.28	5.24E-01	+/-	9.28E-02	1.30E+00	1.72E-04	+/-	8.13E-06

Batch 2002-02-236

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
43	1085.91	8.94E-03 +/- 8.94E-03	1.24E+00	1.22E-04 +/- 4.37E-06

Segment: 7 Detector: DET01 (# 1) Position: 7

Elapsed Live Time: 110.09 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Some transmission peaks rejected.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	0.277 +/- 0.0034
SE-75	279.53	0.000 +/- 0.0000	0.294 +/- 0.0050
SE-75	400.65	0.000 +/- 0.0000	0.397 +/- 0.0069

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
	1	21.42	1.37E+01 +/- 5.77E-01	3.95E+00	2.18E-09 +/- 2.40E-08
	2	23.16	1.94E+01 +/- 6.84E-01	3.53E+00	6.98E-09 +/- 6.86E-08
	3	35.10	1.01E+03 +/- 4.87E+00	2.39E+00	9.59E-07 +/- 4.73E-06
	4	49.69	5.34E+00 +/- 8.21E-01	2.03E+00	1.46E-05 +/- 3.52E-05
	5	59.58	4.46E+02 +/- 2.77E+00	1.92E+00	4.01E-05 +/- 6.21E-05
	6	98.77	1.26E+02 +/- 1.79E+00	1.76E+00	2.21E-04 +/- 5.19E-05
	7	103.52	5.05E+01 +/- 1.67E+00	1.75E+00	2.42E-04 +/- 4.27E-05
	8	111.32	3.12E+01 +/- 1.19E+00	1.73E+00	2.73E-04 +/- 2.87E-05
	9	115.40	2.69E+01 +/- 1.32E+00	1.73E+00	2.88E-04 +/- 2.28E-05
	10	129.29	1.18E+02 +/- 1.33E+00	1.70E+00	3.30E-04 +/- 1.98E-05
M	11	144.38	5.36E+00 +/- 5.50E-01	1.68E+00	3.62E-04 +/- 3.20E-05
m	12	146.27	1.83E+00 +/- 3.47E-01	1.68E+00	3.65E-04 +/- 3.33E-05
	13	148.57	2.63E+00 +/- 7.15E-01	1.68E+00	3.68E-04 +/- 3.49E-05
	14	161.23	4.56E+00 +/- 6.83E-01	1.66E+00	3.83E-04 +/- 4.09E-05
	15	171.73	4.42E+00 +/- 6.20E-01	1.65E+00	3.90E-04 +/- 4.31E-05
	16	179.54	2.52E+00 +/- 5.45E-01	1.64E+00	3.93E-04 +/- 4.34E-05
	17	189.64	3.16E+00 +/- 5.52E-01	1.63E+00	3.94E-04 +/- 4.25E-05
	18	195.95	4.94E+00 +/- 5.91E-01	1.63E+00	3.94E-04 +/- 4.14E-05
	19	203.90	8.28E+00 +/- 8.22E-01	1.62E+00	3.92E-04 +/- 3.95E-05
	20	208.35	1.79E+01 +/- 9.64E-01	1.61E+00	3.91E-04 +/- 3.83E-05
	21	244.70	2.06E+00 +/- 4.27E-01	1.58E+00	3.73E-04 +/- 2.70E-05

Batch 2002-02-237

22	255.78	3.59E+00	+/- 4.20E-01	1.57E+00	3.66E-04	+/- 2.38E-05
23	267.91	8.48E-01	+/- 3.22E-01	1.56E+00	3.58E-04	+/- 2.08E-05
24	298.00	2.64E+00	+/- 4.63E-01	1.51E+00	3.37E-04	+/- 1.58E-05
25	311.90	2.65E+00	+/- 3.17E-01	1.49E+00	3.27E-04	+/- 1.48E-05
26	321.31	9.65E-01	+/- 4.26E-01	1.48E+00	3.21E-04	+/- 1.45E-05
27	324.31	9.69E-01	+/- 3.05E-01	1.48E+00	3.19E-04	+/- 1.44E-05
28	333.35	1.65E+01	+/- 6.44E-01	1.46E+00	3.13E-04	+/- 1.44E-05
29	336.48	1.69E+00	+/- 5.29E-01	1.46E+00	3.11E-04	+/- 1.44E-05
30	345.59	1.87E+01	+/- 5.47E-01	1.45E+00	3.05E-04	+/- 1.46E-05
31	368.61	6.42E+00	+/- 4.11E-01	1.42E+00	2.91E-04	+/- 1.52E-05
32	375.64	5.16E+01	+/- 8.34E-01	1.42E+00	2.87E-04	+/- 1.54E-05
33	383.41	5.43E+00	+/- 4.05E-01	1.41E+00	2.83E-04	+/- 1.57E-05
34	393.55	2.01E+01	+/- 4.82E-01	1.40E+00	2.77E-04	+/- 1.59E-05
35	413.70	5.15E+01	+/- 7.33E-01	1.39E+00	2.67E-04	+/- 1.63E-05
36	423.21	3.32E+00	+/- 2.68E-01	1.38E+00	2.62E-04	+/- 1.63E-05
37	452.18	5.70E+00	+/- 2.63E-01	1.37E+00	2.49E-04	+/- 1.63E-05
38	641.31	1.66E-01	+/- 7.84E-02	1.30E+00	1.87E-04	+/- 1.13E-05
39	646.89	2.58E-01	+/- 8.82E-02	1.30E+00	1.86E-04	+/- 1.11E-05
40	653.26	3.03E-01	+/- 8.52E-02	1.30E+00	1.84E-04	+/- 1.09E-05
41	662.42	1.44E+00	+/- 1.32E-01	1.30E+00	1.82E-04	+/- 1.06E-05
42	704.93	6.30E-02	+/- 3.85E-02	1.29E+00	1.73E-04	+/- 9.46E-06

Batch 2002-02-23B

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
43	723.41	6.64E-01 +/- 9.33E-02	1.28E+00	1.69E-04 +/- 9.01E-06
44	964.13	2.70E-02 +/- 2.09E-02	1.24E+00	1.35E-04 +/- 6.00E-06
45	1112.12	2.70E-02 +/- 1.56E-02	1.22E+00	1.20E-04 +/- 5.13E-06
46	1408.01	1.80E-02 +/- 1.27E-02	1.19E+00	9.90E-05 +/- 6.54E-06

Segment: 8 Detector: DET01 (# 1) Position: 8

Elapsed Live Time: 112.25 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.301 +/- 0.0243
SE-75	264.65	0.000 +/- 0.0000	0.418 +/- 0.0043
SE-75	279.53	0.000 +/- 0.0000	0.431 +/- 0.0059
SE-75	400.65	0.000 +/- 0.0000	0.479 +/- 0.0075

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.21	1.42E+01 +/- 5.55E-01	2.86E+00	4.25E-09 +/- 4.12E-08
2	35.10	1.01E+03 +/- 4.82E+00	2.03E+00	6.89E-07 +/- 3.37E-06
3	59.60	1.88E+02 +/- 1.61E+00	1.69E+00	3.35E-05 +/- 5.14E-05
4	75.21	1.86E+00 +/- 6.51E-01	1.63E+00	9.15E-05 +/- 7.00E-05
5	98.75	4.37E+01 +/- 1.23E+00	1.57E+00	1.98E-04 +/- 4.66E-05
6	103.49	1.94E+01 +/- 1.09E+00	1.56E+00	2.18E-04 +/- 3.87E-05
7	111.34	1.21E+01 +/- 7.67E-01	1.55E+00	2.49E-04 +/- 2.63E-05
8	115.32	7.07E+00 +/- 8.01E-01	1.55E+00	2.63E-04 +/- 2.12E-05
9	129.29	4.67E+01 +/- 8.40E-01	1.53E+00	3.05E-04 +/- 1.85E-05
10	144.37	1.89E+00 +/- 5.15E-01	1.51E+00	3.38E-04 +/- 2.99E-05
11	148.57	1.79E+00 +/- 4.82E-01	1.51E+00	3.45E-04 +/- 3.27E-05
12	161.19	1.48E+00 +/- 4.44E-01	1.49E+00	3.61E-04 +/- 3.86E-05
13	171.55	1.46E+00 +/- 4.07E-01	1.47E+00	3.69E-04 +/- 4.10E-05
14	189.79	1.81E+00 +/- 3.92E-01	1.45E+00	3.76E-04 +/- 4.08E-05
15	196.06	1.53E+00 +/- 3.77E-01	1.44E+00	3.77E-04 +/- 3.99E-05
16	203.88	4.25E+00 +/- 5.43E-01	1.43E+00	3.76E-04 +/- 3.82E-05
17	208.35	6.28E+00 +/- 6.22E-01	1.43E+00	3.76E-04 +/- 3.72E-05
18	255.84	1.35E+00 +/- 2.87E-01	1.38E+00	3.56E-04 +/- 2.36E-05
19	298.02	1.16E+00 +/- 3.33E-01	1.35E+00	3.31E-04 +/- 1.55E-05
20	311.90	8.02E-01 +/- 2.21E-01	1.34E+00	3.23E-04 +/- 1.44E-05
21	333.36	5.77E+00 +/- 4.08E-01	1.33E+00	3.10E-04 +/- 1.38E-05

22	336.38	4.49E-01 +/-	3.28E-01	1.33E+00	3.08E-04 +/-	1.38E-05
23	345.62	6.66E+00 +/-	3.53E-01	1.33E+00	3.03E-04 +/-	1.38E-05
24	351.22	3.07E-01 +/-	1.85E-01	1.32E+00	2.99E-04 +/-	1.39E-05
25	368.62	2.61E+00 +/-	2.73E-01	1.32E+00	2.90E-04 +/-	1.44E-05
26	375.64	1.94E+01 +/-	5.13E-01	1.31E+00	2.86E-04 +/-	1.46E-05
27	383.42	1.85E+00 +/-	2.59E-01	1.31E+00	2.82E-04 +/-	1.48E-05
28	393.62	7.15E+00 +/-	3.02E-01	1.31E+00	2.76E-04 +/-	1.50E-05
29	413.70	1.92E+01 +/-	4.40E-01	1.30E+00	2.66E-04 +/-	1.54E-05
30	423.24	1.36E+00 +/-	1.57E-01	1.30E+00	2.62E-04 +/-	1.55E-05
31	452.23	2.19E+00 +/-	1.62E-01	1.29E+00	2.49E-04 +/-	1.56E-05
32	662.42	6.17E-01 +/-	8.54E-02	1.23E+00	1.83E-04 +/-	1.03E-05
33	723.09	1.79E-01 +/-	6.08E-02	1.22E+00	1.70E-04 +/-	8.80E-06
34	867.39	2.67E-02 +/-	1.54E-02	1.20E+00	1.45E-04 +/-	6.62E-06
35	964.13	8.89E-03 +/-	8.89E-03	1.19E+00	1.32E-04 +/-	5.87E-06

Segment: 9 Detector: DET01 (# 1) Position: 9

Elapsed Live Time: 113.60 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.582 +/- 0.0274
SE-75	264.65	0.000 +/- 0.0000	0.630 +/- 0.0056
SE-75	279.53	0.000 +/- 0.0000	0.634 +/- 0.0074
SE-75	400.65	0.000 +/- 0.0000	0.667 +/- 0.0090

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.28	2.71E+00 +/- 2.45E-01	1.71E+00	2.35E-06 +/- 2.35E-05
2	35.10	1.01E+03 +/- 4.76E+00	1.41E+00	1.75E-05 +/- 8.88E-05
3	59.57	1.96E+01 +/- 5.48E-01	1.29E+00	9.99E-05 +/- 1.59E-04
4	129.29	1.00E+00 +/- 3.09E-01	1.22E+00	3.23E-04 +/- 1.97E-05
5	208.37	2.45E-01 +/- 1.46E-01	1.20E+00	3.66E-04 +/- 3.76E-05
6	244.70	2.59E-01 +/- 1.51E-01	1.19E+00	3.54E-04 +/- 2.70E-05
7	279.54	2.79E-01 +/- 1.51E-01	1.18E+00	3.37E-04 +/- 1.85E-05
8	400.66	9.66E-02 +/- 5.43E-02	1.16E+00	2.73E-04 +/- 1.56E-05
9	413.70	3.73E-01 +/- 7.46E-02	1.16E+00	2.67E-04 +/- 1.59E-05
10	443.98	7.39E-02 +/- 3.76E-02	1.15E+00	2.53E-04 +/- 1.61E-05
11	1085.91	8.69E-03 +/- 8.69E-03	1.09E+00	1.23E-04 +/- 5.22E-06

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Segment: 10 Detector: DET01 (# 1) Position: 10

Elapsed Live Time: 113.75 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.521 +/- 0.0261
SE-75	264.65	0.000 +/- 0.0000	0.620 +/- 0.0056
SE-75	279.53	0.000 +/- 0.0000	0.634 +/- 0.0073
SE-75	400.65	0.000 +/- 0.0000	0.669 +/- 0.0090

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.26	1.16E+00 +/- 1.71E-01	1.89E+00	3.47E-07 +/- 4.90E-07
2	35.10	1.01E+03 +/- 4.76E+00	1.51E+00	5.68E-06 +/- 4.74E-06
3	59.54	7.66E+00 +/- 3.62E-01	1.35E+00	6.35E-05 +/- 2.20E-05
4	413.70	7.77E-02 +/- 4.34E-02	1.16E+00	2.79E-04 +/- 1.11E-05
5	867.39	4.35E-02 +/- 1.95E-02	1.11E+00	1.42E-04 +/- 6.49E-06
6	964.13	8.70E-03 +/- 8.70E-03	1.10E+00	1.31E-04 +/- 5.40E-06
7	1001.03	3.52E-02 +/- 2.82E-02	1.10E+00	1.28E-04 +/- 5.05E-06

Segment: 11 Detector: DET01 (# 1) Position: 11

Elapsed Live Time: 113.80 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.488 +/- 0.0256
SE-75	264.65	0.000 +/- 0.0000	0.585 +/- 0.0053
SE-75	279.53	0.000 +/- 0.0000	0.583 +/- 0.0070
SE-75	400.65	0.000 +/- 0.0000	0.632 +/- 0.0087

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.57E+00	6.75E-06 +/- 5.60E-06
2	59.39	2.83E+00 +/- 2.65E-01	1.39E+00	6.62E-05 +/- 2.30E-05
3	121.11	5.30E-01 +/- 2.19E-01	1.31E+00	3.01E-04 +/- 1.73E-05
4	400.66	1.03E-01 +/- 4.58E-02	1.18E+00	2.82E-04 +/- 1.12E-05
5	867.39	2.60E-02 +/- 1.50E-02	1.12E+00	1.43E-04 +/- 6.39E-06
6	1408.01	8.67E-03 +/- 8.67E-03	1.09E+00	1.08E-04 +/- 6.61E-06

Segment: 12 Detector: DET01 (# 1) Position: 12

Elapsed Live Time: 113.83 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.641 +/- 0.0265
SE-75	264.65	0.000 +/- 0.0000	0.638 +/- 0.0057
SE-75	279.53	0.000 +/- 0.0000	0.635 +/- 0.0074
SE-75	400.65	0.000 +/- 0.0000	0.676 +/- 0.0091

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.33	5.77E-01 +/- 1.18E-01	1.57E+00	6.60E-07 +/- 9.23E-07
2	35.10	1.01E+03 +/- 4.75E+00	1.33E+00	7.63E-06 +/- 6.33E-06
3	59.39	1.75E+00 +/- 2.23E-01	1.23E+00	6.57E-05 +/- 2.29E-05
4	72.88	3.86E-01 +/- 1.66E-01	1.21E+00	1.17E-04 +/- 2.63E-05
5	148.57	2.71E-01 +/- 1.49E-01	1.18E+00	3.39E-04 +/- 1.64E-05
6	400.66	5.20E-02 +/- 3.25E-02	1.16E+00	2.86E-04 +/- 1.12E-05
7	778.90	2.86E-02 +/- 2.53E-02	1.11E+00	1.60E-04 +/- 7.32E-06
8	964.13	1.95E-02 +/- 1.86E-02	1.10E+00	1.33E-04 +/- 5.22E-06

Segment: 13 Detector: DET01 (# 1) Position: 13

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Elapsed Live Time: 113.85 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.650 +/- 0.0271
SE-75	264.65	0.000 +/- 0.0000	0.695 +/- 0.0060
SE-75	279.53	0.000 +/- 0.0000	0.685 +/- 0.0077
SE-75	400.65	0.000 +/- 0.0000	0.735 +/- 0.0095

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.32E+00	1.10E-05 +/- 9.51E-06
2	244.70	1.50E-01 +/- 8.54E-02	1.15E+00	3.70E-04 +/- 1.94E-05
3	264.66	1.90E-01 +/- 8.94E-02	1.14E+00	3.60E-04 +/- 1.81E-05
4	400.66	4.07E-02 +/- 2.98E-02	1.12E+00	2.81E-04 +/- 1.13E-05
5	413.70	3.84E-02 +/- 2.91E-02	1.12E+00	2.74E-04 +/- 1.10E-05
6	964.13	2.33E-02 +/- 2.20E-02	1.08E+00	1.27E-04 +/- 5.29E-06

Segment: 14 Detector: DET01 (# 1) Position: 14

Elapsed Live Time: 113.87 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.639 +/- 0.0281
SE-75	264.65	0.000 +/- 0.0000	0.717 +/- 0.0062
SE-75	279.53	0.000 +/- 0.0000	0.723 +/- 0.0080
SE-75	400.65	0.000 +/- 0.0000	0.744 +/- 0.0096

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.42	3.49E-01 +/- 1.04E-01	1.57E+00	6.32E-07 +/- 6.11E-06
2	35.10	1.01E+03 +/- 4.75E+00	1.34E+00	8.94E-06 +/- 4.41E-05
3	311.90	1.26E-01 +/- 5.15E-02	1.12E+00	3.18E-04 +/- 1.42E-05
4	413.70	6.15E-02 +/- 2.60E-02	1.11E+00	2.67E-04 +/- 1.56E-05

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5	964.13	3.43E-02 +/-	2.78E-02	1.07E+00	1.31E-04 +/- 5.72E-06
6	1085.91	1.73E-02 +/-	1.23E-02	1.07E+00	1.18E-04 +/- 5.01E-06

Segment: 15 Detector: DET01 (# 1) Position: 15

Elapsed Live Time: 113.90 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.753 +/- 0.0295
SE-75	264.65	0.000 +/- 0.0000	0.773 +/- 0.0065
SE-75	279.53	0.000 +/- 0.0000	0.784 +/- 0.0084
SE-75	400.65	0.000 +/- 0.0000	0.807 +/- 0.0101

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.78E+00	1.21E+00	1.45E-08 +/- 6.96E-08
2	443.98	4.28E-02 +/- 2.68E-02	1.08E+00	2.37E-04 +/- 1.50E-05
3	1085.91	3.60E-02 +/- 2.15E-02	1.05E+00	1.24E-04 +/- 5.17E-06
4	1408.01	8.79E-03 +/- 8.79E-03	1.04E+00	9.82E-05 +/- 6.51E-06

Segment: 16 Detector: DET01 (# 1) Position: 16

Elapsed Live Time: 113.88 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.912 +/- 0.0321
SE-75	264.65	0.000 +/- 0.0000	0.892 +/- 0.0073
SE-75	279.53	0.000 +/- 0.0000	0.897 +/- 0.0093
SE-75	400.65	0.000 +/- 0.0000	0.890 +/- 0.0108

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.75E+00	1.06E+00	9.52E-10 +/- 5.35E-09

Batch 2002-02-245

Summed Spectrum

Peak Locate Report

Sample ID: S20_832
Peak Locate Performed on: 1-29-02 9:15:45 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192
Peak Search Sensitivity: 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
1	43.00	0.4178	21.42	5.73
2	46.54	0.1588	23.19	21.26
3	70.20	0.0392	35.01	522.82
4	119.39	0.0748	59.59	109.07
5	150.36	0.3290	75.06	5.96
6	197.81	0.1104	98.77	47.63
7	207.34	0.1205	103.53	23.86
8	222.96	0.1403	111.34	25.35
9	231.06	0.1804	115.38	8.28
10	259.42	0.0926	129.55	67.94
11	289.13	0.2364	144.40	12.52
12	293.28	0.3370	146.47	6.34
13	297.83	0.2358	148.74	14.93
14	322.68	0.2599	161.16	6.10
15	343.63	0.2563	171.62	8.66
16	379.75	0.3033	189.67	7.81
17	392.45	0.2524	196.01	7.64
18	408.26	0.1278	203.91	33.16
19	417.16	0.1090	208.36	43.63
20	512.08	0.2321	255.78	10.07
21	596.68	0.2705	298.05	6.40
22	625.42	0.2302	312.41	9.02
23	649.03	0.2798	324.21	5.97
24	667.32	0.1227	333.35	31.64
25	673.67	0.1969	336.52	11.66
26	691.85	0.1185	345.60	33.32
27	737.91	0.1947	368.62	7.95
28	751.98	0.0876	375.64	60.92
29	767.49	0.1655	383.39	18.53
30	787.89	0.1237	393.58	28.21
31	829.55	0.0893	414.40	53.10
32	847.24	0.1720	423.24	15.87
33	905.18	0.1499	452.18	20.15
34	1328.34	0.2113	663.60	9.14
35	1447.96	0.2523	723.36	6.89

Errors quoted at 1.000 sigma

Batch 2002-02-246

Summed Spectrum

Peak Analysis Report

Sample ID: S20_832
Peak Analysis Performed on: 1-29-02 9:15:45 AM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	40-	46	43.00	21.42	4.09E+03	110.38	4.10E+03
2	46-	49	46.54	23.19	6.14E+03	128.94	6.03E+03
3	67-	73	70.20	35.01	1.85E+06	1361.72	4.68E+03
4	115-	122	119.39	59.59	1.16E+05	388.70	1.69E+04
5	146-	153	150.36	75.06	9.53E+02	152.62	1.08E+04
6	194-	201	197.81	98.77	3.35E+04	318.29	3.38E+04
7	203-	211	207.34	103.53	1.34E+04	304.99	3.29E+04
8	219-	226	222.96	111.34	8.45E+03	224.01	1.96E+04
9	227-	234	231.06	115.38	5.20E+03	230.56	2.32E+04
10	255-	263	259.42	129.55	3.19E+04	237.90	1.14E+04
11	285-	293	289.13	144.40	1.62E+03	141.43	8.52E+03
12	291-	300	293.28	146.47	1.34E+03	156.09	1.00E+04
13	298-	304	297.83	148.74	4.60E+02	112.98	6.30E+03
14	318-	326	322.68	161.16	1.57E+03	132.57	7.48E+03
15	339-	347	343.63	171.62	1.22E+03	122.57	6.46E+03
16	375-	384	379.75	189.67	7.34E+02	124.91	6.58E+03
17	388-	396	392.45	196.01	1.07E+03	113.22	5.51E+03
18	403-	412	408.26	203.91	2.62E+03	153.95	8.96E+03
19	412-	421	417.16	208.36	4.35E+03	176.90	1.08E+04
20	507-	516	512.08	255.78	1.03E+03	86.26	2.84E+03
21	591-	601	596.68	298.05	5.80E+02	79.77	2.42E+03
22	620-	630	625.42	312.41	7.16E+02	80.80	2.44E+03
23	644-	654	649.03	324.21	8.37E+02	81.67	2.42E+03
24	662-	672	667.32	333.35	4.35E+03	118.52	3.89E+03
25	672-	678	673.67	336.52	3.48E+02	92.91	2.70E+03
26	687-	696	691.85	345.60	5.00E+03	100.20	2.22E+03
27	732-	743	737.91	368.62	1.90E+03	77.29	1.62E+03
28	746-	757	751.98	375.64	1.40E+04	144.13	2.71E+03
29	767-	772	767.49	383.39	1.40E+03	71.16	9.68E+02
30	782-	793	787.89	393.58	5.29E+03	85.23	7.91E+02
31	824-	834	829.55	414.40	1.38E+04	122.28	4.78E+02
32	841-	852	847.24	423.24	8.47E+02	48.01	5.76E+02
33	899-	910	905.18	452.18	1.57E+03	47.66	2.79E+02
34	1322-	1334	1328.34	663.60	3.36E+02	26.50	1.39E+02
35	1441-	1454	1447.96	723.36	1.76E+02	20.05	8.19E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-02-247

Summed Spectrum

Nuclide Identification Report

Sample ID: S20_832
Nuclide Library Used: C:\WAS\NLIB\LLNL.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/)	Activity Uncertainty
Pulser	0.999	35.10*	100.00	1.431E+05	3.958E+05
Np-237	0.748	300.10	6.63		
		311.90*	38.60	1.551E+00	1.754E-01
Pu-239	0.966	413.70*	0.00	9.313E+05	1.909E+04
Pu-239A	0.995	129.29*	0.01	4.554E+05	1.254E+04
Am-241	0.905	662.42*	0.00	1.233E+05	9.789E+03
Pu-241	0.998	148.57*	0.00	1.989E+05	4.894E+04

* = Energy line found in the spectrum.
Energy Tolerance : 1.500 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 1.000 sigma

Batch 2002-02-248

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 1-29-02 9:15:45 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	21.42	3.5813E+01	2.70
2	23.19	5.3682E+01	2.10
4	59.59	1.0179E+03	0.35
5	75.06	8.3390E+00	16.01
6	98.77	2.9262E+02	0.96
7	103.53	1.1762E+02	2.27
8	111.34	7.3956E+01	2.65
9	115.38	4.5500E+01	4.43
11	144.40	1.4195E+01	8.72
12	146.47	1.1741E+01	11.63
14	161.16	1.3728E+01	8.45
15	171.62	1.0667E+01	10.05
16	189.67	6.4218E+00	17.01
17	196.01	9.3243E+00	10.62
18	203.91	2.2878E+01	5.89
19	208.36	3.8024E+01	4.07
20	255.78	9.0176E+00	8.37
21	298.05	5.0707E+00	13.76
23	324.21	7.3183E+00	9.76
24	333.35	3.8063E+01	2.73
25	336.52	3.0437E+00	26.70
26	345.60	4.3724E+01	2.01
27	368.62	1.6659E+01	4.06
28	375.64	1.2205E+02	1.04
29	383.39	1.2230E+01	5.09
30	393.58	4.6268E+01	1.61
32	423.24	7.4059E+00	5.67
33	452.18	1.3725E+01	3.04
35	723.36	1.5403E+00	11.38

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-02-249

Combined Segment NID

NID Results Combiner Mode: Sum Activities

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		3.32E+07	+/-	1.72E+08	2.51E+03	+/-	1.30E+04
SE-75	<	1.77E-01	+/-	1.06E-02	< 1.34E-05	+/-	8.04E-07
EU-152x		3.91E-02	+/-	1.53E-02	2.96E-06	+/-	1.16E-06
U-233	<	7.07E+03	+/-	5.12E+02	< 5.35E-01	+/-	3.88E-02
U-235	<	2.47E-01	+/-	2.72E-02	< 1.87E-05	+/-	2.06E-06
Np-237		2.13E+00	+/-	1.82E-01	1.61E-04	+/-	1.38E-05
Pu-238	<	1.72E+04	+/-	1.72E+03	< 1.30E+00	+/-	1.30E-01
U-238		1.21E+00	+/-	8.14E-01	9.13E-05	+/-	6.17E-05
Pu-239		1.13E+06	+/-	3.82E+04	8.55E+01	+/-	2.90E+00
Pu-239A		6.69E+05	+/-	2.36E+04	5.07E+01	+/-	1.79E+00
Am-241		1.55E+05	+/-	1.10E+04	1.17E+01	+/-	8.35E-01
Pu-241		6.30E+05	+/-	8.33E+04	4.77E+01	+/-	6.31E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
Np-237	3.02E-03	+/-	2.58E-04
U-238	3.59E+00	+/-	2.43E+00
Pu-239	1.82E+01	+/-	6.16E-01
Pu-239A	1.08E+01	+/-	3.80E-01
Am-241	4.52E-02	+/-	3.22E-03
Pu-241	6.09E-03	+/-	8.05E-04

Batch 2002-02-250

Summed Spectrum

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		1.43E+05	+/-	3.96E+05	1.08E+01	+/-	3.00E+01
SE-75	<	3.81E-01	+/-	3.63E-03	< 2.89E-05	+/-	2.75E-07
EU-152x	<	3.65E-01	+/-	7.52E-03	< 2.77E-05	+/-	5.70E-07
U-233	<	1.72E+04	+/-	3.84E+02	< 1.30E+00	+/-	2.91E-02
U-235	<	5.73E-01	+/-	1.17E-02	< 4.34E-05	+/-	8.87E-07
Np-237		1.55E+00	+/-	1.75E-01	1.17E-04	+/-	1.33E-05
Pu-238	<	4.10E+04	+/-	6.53E+02	< 3.11E+00	+/-	4.94E-02
U-238	<	9.18E+00	+/-	1.49E-01	< 6.95E-04	+/-	1.13E-05
Pu-239		9.31E+05	+/-	1.91E+04	7.06E+01	+/-	1.45E+00
Pu-239A		4.55E+05	+/-	1.25E+04	3.45E+01	+/-	9.50E-01
Am-241		1.23E+05	+/-	9.79E+03	9.34E+00	+/-	7.42E-01
Pu-241		1.99E+05	+/-	4.89E+04	1.51E+01	+/-	3.71E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
Np-237	2.20E-03	+/-	2.49E-04
Pu-239	1.50E+01	+/-	3.07E-01
Pu-239A	7.33E+00	+/-	2.02E-01
Am-241	3.60E-02	+/-	2.86E-03
Pu-241	1.92E-03	+/-	4.73E-04

Batch 2002-02-251

Final Non-Uniformity Results

Source Longitudinal Ratio: 0.977 +/- 17.4594
Matrix Longitudinal Ratio: 0.206 +/- 0.0079

Source Vertical Ratio: 0.814 +/- 0.4107
Matrix Vertical Ratio: 0.681 +/- 0.0098

NUDS could not find the transmission peak in one radial segment.

Batch 2002-02-252

****
***** M G A R E P O R T *****
****

Report generated on: 1-29-02 9:15:44 AM

MGA version: MGA V9.5 CI

Spectrum ID: 11200832.CNF Sens : 30.0% LT: 55.0 Mins DT: 1.69
Measurement date: 1-29-02 Declared date: 1-29-02

Sample ID: S20_832 Detector: Total counts: 3.579E+06

Pu g/cm2 = 0.4071 Cd g/cm2 = 1.6627 FWHM at 122 keV = 674 eV
QFIT = 1.00 FWHM at 208 keV = 856 eV
NQFIT = 1.00

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	Meas. date %Err	Decl. date % weight	Decl. date %Err
Pu-238	0.000103	6.9	6.9	0.1146	6.9	0.00971	6.87	0.00971	6.87
Pu-239	1.000000	0.0	0.5	1110.219	1.3	94.06654	0.06	94.06654	0.06
Pu-240	0.061818	1.1	1.0	68.6317	1.5	5.81502	1.02	5.81502	1.02
Pu-241	0.000901	1.3	1.2	1.0000	0.0	0.08473	1.28	0.08473	1.28
Pu-242	(New alg.)			0.2835	(10)	0.02402	(10)	0.02402	(10)
Am-241	0.002764	0.7	0.6	3.0683	1.4	0.25997	0.73	0.25997	0.73

Pu-240 effective (meas. date) = 5.880 +/- 1.11%
Am-241 separated about 29.011 +/- 0.260 years ago
Am/Pu-241 weight ratio = 3.06834 +/- 1.35%

Messages :

Lead x-rays detected.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Batch 3003-03-253

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
1-29-02 2:46:40 PM

QA File: C:\WAS\CTRS\CTR1\ARR1\S11_BCK.QA
Sample ID: B834
Sample Quantity: 1.0000E+00
Sample Date: 1-29-02 2:41:01 PM
Measurement Date: 1-29-02 2:40:59 PM
Elapsed Live Time: 200.0 seconds
Elapsed Real Time: 201.9 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
Ref. Peak	3.5010E+01	0.00
[0.00+/-0.00]		< : : : >
Upper CPS Reg	1.9350E+01	0.00
[0.00+/-0.00]		< : : : >
Peak counts/second	1.0087E+03	0.00
[0.00+/-0.00]		< : : : >
Pulser FWHM	9.6504E-01	0.00
[0.00+/-0.00]		< : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
1-29-02 2:46:33 PM

QA File: C:\WAS\CTRS\CTR1\ARR1\T11_BCK.QA
Sample ID: B834
Sample Quantity: 1.0000E+00
Sample Date: 1-29-02 2:41:01 PM
Measurement Date: 1-29-02 2:44:27 PM
Elapsed Live Time: 100.0 seconds
Elapsed Real Time: 104.2 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >

Batch 2002-02-288

400.6 keV Centroid	8.0331E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>
400.6 keV FWHM	1.4809E+00			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak centroid 136 KeV	2.7275E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak area 400 keV	1.8777E+04			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak counts/second	1.8777E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

JKS
4-19-02

Bath 2002-02-289

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
1-30-02 7:54:30 AM

QA File: C:\WAS\CTRS\CTR1\ARR1\S11_BCK.QA
Sample ID: B835
Sample Quantity: 1.0000E+00
Sample Date: 1-30-02 7:48:51 AM
Measurement Date: 1-30-02 7:48:49 AM
Elapsed Live Time: 200.0 seconds
Elapsed Real Time: 201.9 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
Ref. Peak	3.5006E+01	0.00
[0.00+/-0.00]		< : : : >
Upper CPS Reg	1.8925E+01	0.00
[0.00+/-0.00]		< : : : >
Peak counts/second	1.0089E+03	0.00
[0.00+/-0.00]		< : : : >
Pulser FWHM	9.6020E-01	0.00
[0.00+/-0.00]		< : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
1-30-02 7:54:23 AM

QA File: C:\WAS\CTRS\CTR1\ARR1\T11_BCK.QA
Sample ID: B835
Sample Quantity: 1.0000E+00
Sample Date: 1-30-02 7:48:51 AM
Measurement Date: 1-30-02 7:52:17 AM
Elapsed Live Time: 100.0 seconds
Elapsed Real Time: 104.2 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >

Batch 2002-02-290

400.6 keV Centroid	8.0356E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>
400.6 keV FWHM	1.5015E+00			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak centroid 136 KeV	2.7284E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak area 400 keV	1.9086E+04			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak counts/second	1.9086E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

OK RPK

GS 4-19-02

Batch 2002-02-291

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS 2.3A

****
* DRUM INFORMATION *
****

Drum Package ID: S100_836
Sequence Number: 836
Assay Date & Time: 1-30-2002 8:00:02 AM
Drum Package GROSS Weight: 54.00 kg NET Weight: 22.20 kg

IDC Number: S100-836

QC Replicate (Yes/No): NO Passed (Yes/No): _____

Operator Name (Printed): Russell Rath

Operator Signature: _____ Date: 1-30-02

Independent Reviewer: _____ Date: 4-19-02

Expert Reviewer: (NOT REQUIRED) Date: _____

Tech. Supv/QA Officer: _____ Date: 7/17/02

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 9.253E+00 +/- 2.122E+00 Ci

Batch 2002-02-292

ISOTOPIC INFORMATION

Isotope	Measured Mass (g)	Mass Uncertainty (g)	MDC (g)
Pu-238	8.692E-03	3.09E-03	2.066E-05
Pu-239	9.867E+01	3.23E+01	2.346E-01
Pu-240	5.931E+00	1.94E+00	1.410E-02
Pu-241	2.539E-01	8.31E-02	6.144E-03
Pu-242	3.283E-02	1.25E-02	7.803E-05
Am-241	4.638E-01	1.52E-01	6.804E-03
Am-243	0.000E+00	0.00E+00	0.000E+00
Np-237	0.000E+00	0.00E+00	1.173E-03
U-235	0.000E+00	0.00E+00	2.559E-01
U-238	1.329E+01	4.37E+00	1.329E+01
U-233	1.644E+00	5.49E-01	1.644E+00

Total Pu Mass: 1.05E+02 +/- 5.86E+00 g

MGA RESULTS

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	8.286E-03	7.02E+00
Pu-239	9.406E+01	5.05E-02
Pu-240	5.654E+00	8.33E-01
Pu-241	2.420E-01	5.42E-01
Pu-242	3.129E-02	1.00E+01
Am-241	4.421E-01	4.59E-01

Batch 2002-07-293

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005

Assay Date & Time: 1-30-2002 8:00:02 AM

Drum Package ID: S100_836
Sequence Number: 836

Waste Classification (TRU or LLW): TRU

		Errors at 1.96 sigma	
Total Alpha Activity :	9.253E+00	+/- 2.12E+00	Ci
Total TRU Activity :	4.168E+05	+/- 9.56E+04	nCi/g
Pu-239 Equiv Activity:	9.757E+00	+/- 2.13E+00	Ci
Fissile Gram Equiv Mass:	9.939E+01	+/- 3.23E+01	g
Total Decay Heat:	2.945E-01	+/- 6.69E-02	W
TMU Value:	32.72 %		

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error	MDA gm
Pu-238	1.50E-01	5.34E-02	8.69E-03	3.09E-03	2.07E-05
Pu-239	6.13E+00	2.01E+00	9.87E+01	3.23E+01	2.35E-01
Pu-240	1.36E+00	4.47E-01	5.93E+00	1.94E+00	1.41E-02
Pu-241	2.64E+01	8.64E+00	2.54E-01	8.31E-02	6.14E-03
Pu-242	1.30E-04	4.97E-05	3.28E-02	1.25E-02	7.80E-05
Am-241	1.61E+00	5.27E-01	4.64E-01	1.52E-01	6.80E-03
Am-243	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Np-237	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.17E-03
U-235	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.56E-01
U-238	4.52E-06	1.48E-06	1.33E+01	4.37E+00	1.33E+01
U-233	1.60E-02	5.36E-03	1.64E+00	5.49E-01	1.64E+00

Total Pu Mass: 1.05E+02 +/- 5.86E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	8.286E-03	7.02E+00
Pu-239	9.406E+01	5.05E-02
Pu-240	5.654E+00	8.33E-01
Pu-241	2.420E-01	5.42E-01
Pu-242	3.129E-02	1.00E+01
Am-241	4.421E-01	4.59E-01

Batch 2002-02-294

****
***** M G A R E P O R T *****
****

Report generated on: 1-30-02 8:56:45 AM

MGA version: MGA V9.5 CI

Spectrum ID: 11200836.CNF Sens : 30.0% LT: 51.1 Mins DT: 8.80
Measurement date: 1-30-02 Declared date: 1-30-02

Sample ID: S100_836 Detector: Total counts: 1.522E+07

Pu g/cm2 = 0.8116 Cd g/cm2 = 1.7960 FWHM at 122 keV = 689 eV
QFIT = 1.38 FWHM at 208 keV = 869 eV
NQFIT = 1.02

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	Meas. date %Err	Decl. date % weight	Decl. date %Err
Pu-238	0.000088	7.0	7.0	0.0342	7.0	0.00829	7.02	0.00829	7.02
Pu-239	1.000000	0.0	0.4	388.6657	0.6	94.06442	0.05	94.06442	0.05
Pu-240	0.060108	0.9	0.8	23.3618	0.9	5.65398	0.83	5.65398	0.83
Pu-241	0.002573	0.6	0.5	1.0000	0.0	0.24202	0.54	0.24202	0.54
Pu-242	(New alg.)			0.1293	(10)	0.03129	(10)	0.03129	(10)
Am-241	0.004700	0.5	0.3	1.8268	0.6	0.44213	0.46	0.44213	0.46

Pu-240 effective (meas. date) = 5.727 +/- 0.89%
Am-241 separated about 21.499 +/- 0.143 years ago
Am/Pu-241 weight ratio = 1.82682 +/- 0.57%

Messages :

Lead x-rays detected.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Batch 2002-02-295

Gamma Waste Assay

Sample Information

File Name: C:\WAS\DATA\900\11100836.S11
Sample ID: S100_836 Count Sequence Number: 836
Assay Start: 1-30-02 8:00:04 AM
Description 1: 100g source drum
Description 2:
Location: 7715
Comment:
Waste Type:
Weight: Gross: 54000.0 g Net: 22200.0 g
Density: 0.107 g /ml

Container Type: 55 Gal Galv
Container: Volume: 208000. ml Full: 100.0 %

System Configuration

Counter ID Number: SGS
Arrangement Description: SGS
Segments: Number: 16 Offset: 0
Scanning Platform: Start: 934 mm Delta: -51 mm
Count Type: Daily 100 g Drum Check
Collimator/Geometry Setting: 0
Transmission Mode: Two pass
Transmission Source: 0

Errors quoted at 1.000 sigma
Reference Source Date: Reference Source Rate: 1.01E+03 cps
Geometric Correction Factor(SWCONTGCF): 0.760
Date of efficiency calibration approval: 4-18-2001 12:41:36 PM
Mu Factors response file: Lucite
Transmission Calib. Time: 5-11-2001 2:20:42 PM 59052

Reviewed by: _____ Date: 7/16/02

Batch 2002-02-28

Segment Results

Segment: 1 Detector: DET01 (# 1) Position: 1

Elapsed Live Time: 113.37 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.391 +/- 0.0248
SE-75	264.65	0.000 +/- 0.0000	0.443 +/- 0.0044
SE-75	279.53	0.000 +/- 0.0000	0.455 +/- 0.0061
SE-75	400.65	0.000 +/- 0.0000	0.494 +/- 0.0075

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.14	2.40E+00 +/- 2.58E-01	2.39E+00	9.15E-08 +/- 1.15E-06
2	35.10	1.01E+03 +/- 4.77E+00	1.77E+00	2.61E-06 +/- 1.64E-05
3	59.54	4.23E+00 +/- 3.71E-01	1.52E+00	3.74E-05 +/- 7.39E-05
4	662.42	4.61E-02 +/- 2.81E-02	1.22E+00	1.12E-04 +/- 8.14E-06
5	778.90	3.66E-02 +/- 2.72E-02	1.20E+00	9.79E-05 +/- 5.69E-06
6	1001.03	2.18E-02 +/- 1.94E-02	1.18E+00	7.98E-05 +/- 4.04E-06

Segment: 2 Detector: DET01 (# 1) Position: 2

Elapsed Live Time: 113.21 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.430 +/- 0.0266
SE-75	264.65	0.000 +/- 0.0000	0.511 +/- 0.0049
SE-75	279.53	0.000 +/- 0.0000	0.518 +/- 0.0066
SE-75	400.65	0.000 +/- 0.0000	0.552 +/- 0.0081

Batch 2002-02-297

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.18	3.24E+00 +/- 3.01E-01	2.22E+00	5.48E-10 +/- 5.23E-09
2	35.10	1.01E+03 +/- 4.78E+00	1.68E+00	2.21E-07 +/- 1.06E-06
3	59.55	8.52E+00 +/- 4.60E-01	1.46E+00	2.19E-05 +/- 3.30E-05
4	135.30	9.24E-01 +/- 4.70E-01	1.36E+00	3.24E-04 +/- 2.28E-05
5	300.10	3.84E-01 +/- 2.53E-01	1.27E+00	3.27E-04 +/- 1.48E-05
6	778.90	2.62E-02 +/- 1.51E-02	1.17E+00	1.44E-04 +/- 6.92E-06
7	867.39	1.75E-02 +/- 1.23E-02	1.16E+00	1.33E-04 +/- 6.03E-06
8	1001.03	2.62E-02 +/- 1.51E-02	1.15E+00	1.20E-04 +/- 5.31E-06

Segment: 3 Detector: DET01 (# 1) Position: 3

Elapsed Live Time: 112.47 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.382 +/- 0.0279
SE-75	264.65	0.000 +/- 0.0000	0.470 +/- 0.0047
SE-75	279.53	0.000 +/- 0.0000	0.477 +/- 0.0064
SE-75	400.65	0.000 +/- 0.0000	0.541 +/- 0.0080

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	3.53E+00 +/- 3.29E-01	2.65E+00	3.50E-09 +/- 3.85E-08
2	23.22	3.89E+00 +/- 3.45E-01	2.42E+00	1.08E-08 +/- 1.05E-07
3	35.10	1.01E+03 +/- 4.80E+00	1.79E+00	1.07E-06 +/- 5.27E-06
4	59.60	3.17E+01 +/- 7.29E-01	1.54E+00	3.79E-05 +/- 5.87E-05
5	98.82	1.52E+01 +/- 9.22E-01	1.45E+00	2.01E-04 +/- 4.74E-05
6	103.24	3.00E+00 +/- 9.51E-01	1.44E+00	2.19E-04 +/- 3.97E-05
7	111.21	3.05E+00 +/- 7.72E-01	1.43E+00	2.48E-04 +/- 2.67E-05
8	129.29	8.61E+00 +/- 6.45E-01	1.41E+00	3.02E-04 +/- 1.84E-05
9	148.57	1.49E+00 +/- 5.43E-01	1.40E+00	3.39E-04 +/- 3.24E-05
10	208.35	8.28E+00 +/- 5.23E-01	1.35E+00	3.66E-04 +/- 3.64E-05
11	333.11	1.28E+00 +/- 3.56E-01	1.28E+00	3.00E-04 +/- 1.35E-05
12	345.49	1.90E+00 +/- 3.13E-01	1.27E+00	2.93E-04 +/- 1.36E-05
13	375.63	5.57E+00 +/- 3.37E-01	1.26E+00	2.76E-04 +/- 1.44E-05

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14	383.41	4.06E-01	+/- 1.64E-01	1.26E+00	2.72E-04	+/- 1.46E-05
15	393.57	1.82E+00	+/- 2.07E-01	1.25E+00	2.67E-04	+/- 1.48E-05
16	413.70	5.74E+00	+/- 2.51E-01	1.25E+00	2.57E-04	+/- 1.52E-05
17	423.11	3.68E-01	+/- 1.20E-01	1.24E+00	2.53E-04	+/- 1.53E-05
18	443.98	1.63E-01	+/- 7.37E-02	1.24E+00	2.43E-04	+/- 1.54E-05
19	452.08	6.20E-01	+/- 1.02E-01	1.24E+00	2.40E-04	+/- 1.54E-05
20	662.42	3.43E-01	+/- 6.75E-02	1.19E+00	1.78E-04	+/- 1.02E-05
21	778.90	2.58E-02	+/- 2.06E-02	1.18E+00	1.57E-04	+/- 7.69E-06
22	1408.01	8.80E-03	+/- 8.80E-03	1.13E+00	1.03E-04	+/- 6.77E-06

Segment: 4 Detector: DET01 (# 1) Position: 4

Elapsed Live Time: 107.78 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.418 +/- 0.0384
SE-75	264.65	0.000 +/- 0.0000	0.534 +/- 0.0053
SE-75	279.53	0.000 +/- 0.0000	0.546 +/- 0.0073
SE-75	400.65	0.000 +/- 0.0000	0.595 +/- 0.0088

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)		Correction Factor	Original Efficiency	
	1	21.42	1.59E+01	+/- 6.55E-01	2.47E+00	2.23E-06	+/- 3.43E-06
	2	23.17	1.67E+01	+/- 7.11E-01	2.26E+00	3.32E-06	+/- 4.68E-06
	3	35.10	1.01E+03	+/- 4.93E+00	1.71E+00	2.00E-05	+/- 1.66E-05
	4	59.58	2.51E+02	+/- 2.00E+00	1.48E+00	9.82E-05	+/- 3.39E-05
	5	74.96	4.31E+00	+/- 9.32E-01	1.44E+00	1.58E-04	+/- 3.32E-05
	6	98.82	1.53E+02	+/- 2.22E+00	1.40E+00	2.40E-04	+/- 2.42E-05
	7	103.44	1.22E+02	+/- 1.53E+00	1.39E+00	2.53E-04	+/- 2.24E-05
	8	111.26	2.10E+01	+/- 1.63E+00	1.39E+00	2.74E-04	+/- 1.97E-05
	9	117.19	1.44E+01	+/- 1.25E+00	1.38E+00	2.88E-04	+/- 1.80E-05
	10	129.29	1.00E+02	+/- 1.41E+00	1.37E+00	3.12E-04	+/- 1.61E-05
	11	144.17	1.85E+00	+/- 9.18E-01	1.36E+00	3.35E-04	+/- 1.60E-05
M	12	146.50	1.13E+00	+/- 4.17E-01	1.36E+00	3.38E-04	+/- 1.61E-05
m	13	148.81	1.99E+01	+/- 9.98E-01	1.35E+00	3.41E-04	+/- 1.63E-05
	14	161.01	2.85E+00	+/- 9.00E-01	1.34E+00	3.53E-04	+/- 1.73E-05
	15	164.86	3.31E+00	+/- 8.85E-01	1.34E+00	3.56E-04	+/- 1.76E-05
	16	171.56	7.02E+00	+/- 8.41E-01	1.33E+00	3.60E-04	+/- 1.81E-05
	17	179.64	4.13E+00	+/- 8.09E-01	1.32E+00	3.64E-04	+/- 1.86E-05
	18	189.64	4.31E+00	+/- 8.02E-01	1.31E+00	3.68E-04	+/- 1.91E-05
	19	196.04	5.37E+00	+/- 7.99E-01	1.31E+00	3.69E-04	+/- 1.93E-05
	20	208.35	1.03E+02	+/- 1.51E+00	1.30E+00	3.71E-04	+/- 1.94E-05
	21	244.70	1.91E+00	+/- 5.99E-01	1.27E+00	3.65E-04	+/- 1.85E-05

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22	255.77	4.97E+00	+/-	5.87E-01	1.26E+00	3.62E-04	+/-	1.80E-05
23	267.97	3.75E+00	+/-	5.70E-01	1.26E+00	3.57E-04	+/-	1.73E-05
24	298.00	2.66E+00	+/-	7.03E-01	1.24E+00	3.45E-04	+/-	1.56E-05
25	311.90	3.33E+00	+/-	4.38E-01	1.24E+00	3.38E-04	+/-	1.48E-05
26	324.33	2.11E+00	+/-	5.15E-01	1.23E+00	3.32E-04	+/-	1.41E-05
27	333.29	2.71E+01	+/-	8.90E-01	1.23E+00	3.27E-04	+/-	1.37E-05
28	336.43	3.67E+00	+/-	6.95E-01	1.23E+00	3.26E-04	+/-	1.36E-05
29	345.61	2.75E+01	+/-	7.12E-01	1.23E+00	3.21E-04	+/-	1.32E-05
30	368.94	1.18E+01	+/-	5.43E-01	1.22E+00	3.09E-04	+/-	1.23E-05
31	375.68	7.84E+01	+/-	1.06E+00	1.22E+00	3.06E-04	+/-	1.21E-05
32	383.43	8.03E+00	+/-	5.01E-01	1.22E+00	3.02E-04	+/-	1.18E-05
33	393.63	2.82E+01	+/-	6.04E-01	1.21E+00	2.97E-04	+/-	1.16E-05
34	413.70	7.49E+01	+/-	9.18E-01	1.21E+00	2.87E-04	+/-	1.11E-05
35	423.35	4.27E+00	+/-	3.38E-01	1.21E+00	2.83E-04	+/-	1.10E-05
36	452.27	9.37E+00	+/-	3.44E-01	1.20E+00	2.70E-04	+/-	1.06E-05
37	619.69	7.38E-01	+/-	1.15E-01	1.17E+00	2.07E-04	+/-	9.44E-06
38	634.44	1.46E-01	+/-	9.99E-02	1.17E+00	2.03E-04	+/-	9.30E-06
39	653.76	6.19E-01	+/-	1.18E-01	1.16E+00	1.97E-04	+/-	9.12E-06
40	662.42	3.71E+00	+/-	2.05E-01	1.16E+00	1.95E-04	+/-	9.03E-06
41	690.03	4.20E-01	+/-	8.91E-02	1.16E+00	1.87E-04	+/-	8.74E-06
42	704.80	1.80E-01	+/-	5.56E-02	1.16E+00	1.84E-04	+/-	8.57E-06

Batch 2002-02-300

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
43	723.37	1.42E+00 +/- 1.44E-01	1.15E+00	1.79E-04 +/- 8.35E-06
44	770.86	5.45E-01 +/- 8.62E-02	1.15E+00	1.69E-04 +/- 7.76E-06
45	964.13	4.58E-02 +/- 2.05E-02	1.13E+00	1.35E-04 +/- 5.34E-06
46	1085.91	2.75E-02 +/- 1.59E-02	1.12E+00	1.20E-04 +/- 4.36E-06

Segment: 5 Detector: DET01 (# 1) Position: 5

Elapsed Live Time: 100.83 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.195 +/- 0.0034
SE-75	279.53	0.000 +/- 0.0000	0.224 +/- 0.0054
SE-75	400.65	0.000 +/- 0.0000	0.358 +/- 0.0073

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	3.83E+01 +/- 9.86E-01	4.10E+00	1.08E-06 +/- 1.72E-06
2	23.12	3.35E+01 +/- 1.08E+00	4.10E+00	1.73E-06 +/- 2.52E-06
3	35.10	1.01E+03 +/- 5.12E+00	4.10E+00	1.48E-05 +/- 1.27E-05
4	39.61	1.60E+00 +/- 6.75E-01	4.10E+00	2.45E-05 +/- 1.75E-05
5	59.53	6.94E+02 +/- 4.00E+00	4.10E+00	9.30E-05 +/- 3.29E-05
6	74.90	4.54E+00 +/- 9.88E-01	4.10E+00	1.58E-04 +/- 3.39E-05
7	98.74	3.26E+02 +/- 3.77E+00	4.10E+00	2.49E-04 +/- 2.52E-05
8	103.36	2.40E+02 +/- 3.23E+00	4.10E+00	2.64E-04 +/- 2.33E-05
9	111.18	5.87E+01 +/- 2.48E+00	4.10E+00	2.86E-04 +/- 2.04E-05
10	114.49	7.64E+00 +/- 2.46E+00	4.10E+00	2.95E-04 +/- 1.94E-05
11	117.09	3.33E+01 +/- 1.92E+00	4.10E+00	3.01E-04 +/- 1.87E-05
12	129.29	2.47E+02 +/- 2.27E+00	4.10E+00	3.26E-04 +/- 1.67E-05
13	146.35	4.74E+01 +/- 1.57E+00	3.25E+00	3.52E-04 +/- 1.70E-05
14	148.57	1.71E+01 +/- 1.21E+00	3.15E+00	3.54E-04 +/- 1.71E-05
15	161.07	2.23E+00 +/- 1.30E+00	2.77E+00	3.65E-04 +/- 1.83E-05
16	164.73	7.92E+00 +/- 1.26E+00	2.69E+00	3.68E-04 +/- 1.86E-05
17	171.55	1.48E+01 +/- 1.16E+00	2.56E+00	3.71E-04 +/- 1.92E-05
18	179.54	6.32E+00 +/- 1.11E+00	2.43E+00	3.74E-04 +/- 1.97E-05

Batch 2002-03-381

19	189.51	1.13E+01	+/-	1.04E+00	2.31E+00	3.76E-04	+/-	2.02E-05
20	195.92	1.24E+01	+/-	1.21E+00	2.23E+00	3.76E-04	+/-	2.03E-05
21	208.27	2.40E+02	+/-	2.38E+00	2.12E+00	3.75E-04	+/-	2.04E-05
22	225.74	1.61E+00	+/-	8.44E-01	1.98E+00	3.71E-04	+/-	1.99E-05
23	237.72	1.72E+00	+/-	8.61E-01	1.90E+00	3.66E-04	+/-	1.94E-05
24	244.70	5.02E+00	+/-	8.69E-01	1.85E+00	3.63E-04	+/-	1.90E-05
25	255.78	1.06E+01	+/-	8.24E-01	1.79E+00	3.58E-04	+/-	1.84E-05
26	267.98	7.88E+00	+/-	7.92E-01	1.73E+00	3.51E-04	+/-	1.76E-05
27	297.86	7.16E+00	+/-	9.41E-01	1.63E+00	3.34E-04	+/-	1.56E-05
28	311.90	7.88E+00	+/-	7.48E-01	1.60E+00	3.26E-04	+/-	1.48E-05
29	321.04	2.15E+00	+/-	7.82E-01	1.58E+00	3.21E-04	+/-	1.42E-05
30	323.93	5.04E+00	+/-	6.05E-01	1.57E+00	3.19E-04	+/-	1.41E-05
31	333.18	6.61E+01	+/-	1.38E+00	1.55E+00	3.13E-04	+/-	1.36E-05
32	336.32	9.03E+00	+/-	1.02E+00	1.55E+00	3.12E-04	+/-	1.34E-05
33	345.53	6.58E+01	+/-	9.97E-01	1.53E+00	3.06E-04	+/-	1.30E-05
34	368.73	2.63E+01	+/-	8.43E-01	1.49E+00	2.93E-04	+/-	1.20E-05
35	375.63	1.69E+02	+/-	1.66E+00	1.48E+00	2.89E-04	+/-	1.18E-05
36	383.39	1.76E+01	+/-	7.89E-01	1.47E+00	2.85E-04	+/-	1.16E-05
37	393.55	6.34E+01	+/-	9.34E-01	1.45E+00	2.79E-04	+/-	1.13E-05
38	400.66	7.03E-01	+/-	4.36E-01	1.44E+00	2.76E-04	+/-	1.11E-05
39	413.70	1.69E+02	+/-	1.50E+00	1.43E+00	2.69E-04	+/-	1.09E-05
40	423.21	9.72E+00	+/-	5.37E-01	1.43E+00	2.64E-04	+/-	1.07E-05
41	452.12	1.94E+01	+/-	5.30E-01	1.41E+00	2.51E-04	+/-	1.03E-05
42	619.83	2.03E+00	+/-	1.76E-01	1.35E+00	1.90E-04	+/-	9.14E-06

Rich 2002-02-202

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
	43	640.91	9.90E-01 +/- 1.62E-01	1.34E+00	1.84E-04 +/- 8.97E-06
	44	646.93	7.50E-01 +/- 1.56E-01	1.34E+00	1.83E-04 +/- 8.91E-06
	45	653.78	1.75E+00 +/- 1.72E-01	1.34E+00	1.81E-04 +/- 8.85E-06
M	46	660.00	5.36E-01 +/- 9.91E-02	1.34E+00	1.79E-04 +/- 8.79E-06
m	47	663.59	7.67E+00 +/- 4.06E-01	1.34E+00	1.78E-04 +/- 8.76E-06
	48	705.33	1.75E-01 +/- 9.05E-02	1.32E+00	1.69E-04 +/- 8.34E-06
	49	723.28	3.71E+00 +/- 2.26E-01	1.32E+00	1.65E-04 +/- 8.15E-06
	50	757.82	4.51E-01 +/- 9.42E-02	1.31E+00	1.58E-04 +/- 7.76E-06
	51	771.09	7.70E-01 +/- 1.22E-01	1.31E+00	1.56E-04 +/- 7.60E-06

Segment: 6 Detector: DET01 (# 1) Position: 6

Elapsed Live Time: 99.37 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.187 +/- 0.0034
SE-75	279.53	0.000 +/- 0.0000	0.210 +/- 0.0054
SE-75	400.65	0.000 +/- 0.0000	0.344 +/- 0.0073

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	4.21E+01 +/- 1.03E+00	4.10E+00	3.85E-07 +/- 5.97E-07
2	23.13	3.45E+01 +/- 1.11E+00	4.10E+00	6.63E-07 +/- 9.43E-07
3	35.10	1.01E+03 +/- 5.14E+00	4.10E+00	8.04E-06 +/- 6.71E-06
4	49.53	1.18E+01 +/- 1.38E+00	4.10E+00	3.66E-05 +/- 1.79E-05
5	59.50	7.36E+02 +/- 4.18E+00	4.10E+00	6.86E-05 +/- 2.39E-05
6	74.99	5.19E+00 +/- 1.15E+00	4.10E+00	1.29E-04 +/- 2.73E-05
7	98.72	3.62E+02 +/- 4.01E+00	4.10E+00	2.22E-04 +/- 2.26E-05
8	103.34	2.68E+02 +/- 3.41E+00	4.10E+00	2.38E-04 +/- 2.12E-05
9	111.13	5.82E+01 +/- 2.62E+00	4.10E+00	2.63E-04 +/- 1.90E-05
10	114.40	1.47E+01 +/- 2.60E+00	4.10E+00	2.72E-04 +/- 1.82E-05
11	116.96	4.36E+01 +/- 2.03E+00	4.10E+00	2.80E-04 +/- 1.77E-05
12	129.29	2.81E+02 +/- 2.43E+00	4.10E+00	3.10E-04 +/- 1.61E-05
13	144.24	3.85E+00 +/- 1.39E+00	3.38E+00	3.38E-04 +/- 1.63E-05

Batch 3003-03-303

14	148.57	4.66E+01 +/-	1.58E+00	3.18E+00	3.45E-04 +/-	1.67E-05
15	161.00	3.98E+00 +/-	1.36E+00	2.80E+00	3.60E-04 +/-	1.78E-05
16	164.75	6.63E+00 +/-	1.32E+00	2.71E+00	3.64E-04 +/-	1.82E-05
17	171.61	1.42E+01 +/-	1.22E+00	2.58E+00	3.69E-04 +/-	1.88E-05
18	179.35	7.09E+00 +/-	1.26E+00	2.46E+00	3.74E-04 +/-	1.94E-05
19	189.58	1.21E+01 +/-	1.08E+00	2.33E+00	3.78E-04 +/-	1.99E-05
20	195.87	1.26E+01 +/-	1.26E+00	2.26E+00	3.80E-04 +/-	2.01E-05
21	208.26	2.74E+02 +/-	2.54E+00	2.14E+00	3.81E-04 +/-	2.03E-05
22	244.70	3.10E+00 +/-	8.97E-01	1.88E+00	3.73E-04 +/-	1.92E-05
23	248.99	1.74E+00 +/-	8.58E-01	1.85E+00	3.71E-04 +/-	1.89E-05
24	255.66	1.14E+01 +/-	8.74E-01	1.82E+00	3.69E-04 +/-	1.86E-05
25	267.89	7.63E+00 +/-	8.54E-01	1.75E+00	3.63E-04 +/-	1.78E-05
26	297.79	6.55E+00 +/-	9.90E-01	1.66E+00	3.47E-04 +/-	1.59E-05
27	311.90	8.24E+00 +/-	7.84E-01	1.63E+00	3.39E-04 +/-	1.51E-05
28	324.08	5.88E+00 +/-	6.39E-01	1.60E+00	3.32E-04 +/-	1.44E-05
29	333.19	7.36E+01 +/-	1.47E+00	1.58E+00	3.26E-04 +/-	1.39E-05
30	336.28	1.27E+01 +/-	1.09E+00	1.57E+00	3.24E-04 +/-	1.37E-05
31	345.54	7.10E+01 +/-	1.05E+00	1.56E+00	3.19E-04 +/-	1.33E-05
32	368.84	2.95E+01 +/-	8.61E-01	1.51E+00	3.05E-04 +/-	1.23E-05
33	375.61	1.90E+02 +/-	1.84E+00	1.50E+00	3.02E-04 +/-	1.21E-05
34	383.40	1.70E+01 +/-	8.11E-01	1.49E+00	2.97E-04 +/-	1.18E-05
35	393.55	7.16E+01 +/-	9.99E-01	1.47E+00	2.92E-04 +/-	1.16E-05
36	413.70	1.90E+02 +/-	1.62E+00	1.45E+00	2.81E-04 +/-	1.11E-05
37	423.18	1.04E+01 +/-	5.22E-01	1.45E+00	2.76E-04 +/-	1.09E-05
38	452.16	2.23E+01 +/-	5.54E-01	1.43E+00	2.61E-04 +/-	1.05E-05
39	482.35	5.43E-01 +/-	2.29E-01	1.42E+00	2.48E-04 +/-	1.02E-05
40	598.72	3.34E-01 +/-	1.48E-01	1.37E+00	2.04E-04 +/-	9.33E-06
41	619.93	1.64E+00 +/-	1.93E-01	1.36E+00	1.98E-04 +/-	9.16E-06
42	634.36	1.61E-01 +/-	1.03E-01	1.36E+00	1.94E-04 +/-	9.03E-06

Batch 2002-02-304

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
	43	641.47	2.84E-01 +/- 2.12E-01	1.36E+00	1.92E-04 +/- 8.97E-06
	44	646.91	7.02E-01 +/- 1.91E-01	1.36E+00	1.90E-04 +/- 8.92E-06
	45	653.90	1.44E+00 +/- 2.07E-01	1.35E+00	1.89E-04 +/- 8.85E-06
M	46	659.92	4.25E-01 +/- 1.02E-01	1.35E+00	1.87E-04 +/- 8.80E-06
m	47	663.59	8.67E+00 +/- 4.14E-01	1.35E+00	1.86E-04 +/- 8.76E-06
	48	723.19	4.18E+00 +/- 2.47E-01	1.33E+00	1.72E-04 +/- 8.13E-06
	49	757.56	3.12E-01 +/- 8.64E-02	1.32E+00	1.65E-04 +/- 7.73E-06
	50	770.60	1.18E+00 +/- 1.30E-01	1.32E+00	1.62E-04 +/- 7.58E-06
	51	964.13	7.31E-02 +/- 3.69E-02	1.28E+00	1.34E-04 +/- 5.31E-06
	52	1112.12	2.37E-02 +/- 1.83E-02	1.26E+00	1.20E-04 +/- 4.28E-06
	53	1408.01	9.82E-03 +/- 9.82E-03	1.22E+00	1.04E-04 +/- 6.39E-06

Segment: 7 Detector: DET01 (# 1) Position: 7

Elapsed Live Time: 104.41 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.235 +/- 0.0035
SE-75	279.53	0.000 +/- 0.0000	0.248 +/- 0.0052
SE-75	400.65	0.000 +/- 0.0000	0.375 +/- 0.0072

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	2.97E+01 +/- 8.49E-01	4.10E+00	2.18E-09 +/- 2.40E-08
2	23.13	2.85E+01 +/- 9.17E-01	4.10E+00	6.87E-09 +/- 6.76E-08
3	35.10	1.01E+03 +/- 5.01E+00	4.10E+00	9.59E-07 +/- 4.73E-06
4	49.56	6.83E+00 +/- 1.16E+00	4.10E+00	1.43E-05 +/- 3.49E-05
5	59.56	5.43E+02 +/- 3.29E+00	4.10E+00	4.00E-05 +/- 6.21E-05
6	74.98	3.86E+00 +/- 8.33E-01	4.10E+00	1.04E-04 +/- 8.11E-05
7	98.78	2.68E+02 +/- 2.95E+00	4.10E+00	2.21E-04 +/- 5.19E-05
8	103.36	2.00E+02 +/- 2.02E+00	4.10E+00	2.41E-04 +/- 4.30E-05
9	111.24	3.79E+01 +/- 2.06E+00	4.10E+00	2.73E-04 +/- 2.88E-05
10	114.49	3.73E+00 +/- 2.05E+00	4.10E+00	2.85E-04 +/- 2.40E-05
11	117.00	2.22E+01 +/- 1.58E+00	4.10E+00	2.94E-04 +/- 2.10E-05

Batch 2002-02-305

12	129.29	1.74E+02	+/-	1.86E+00	4.10E+00	3.30E-04	+/-	1.98E-05
13	144.41	2.59E+00	+/-	1.61E+00	3.25E+00	3.62E-04	+/-	3.20E-05
14	148.57	2.70E+01	+/-	1.26E+00	3.04E+00	3.68E-04	+/-	3.49E-05
15	160.97	3.42E+00	+/-	1.09E+00	2.65E+00	3.83E-04	+/-	4.08E-05
16	164.80	5.27E+00	+/-	1.07E+00	2.57E+00	3.86E-04	+/-	4.19E-05
17	171.56	9.84E+00	+/-	9.81E-01	2.44E+00	3.90E-04	+/-	4.31E-05
18	179.39	3.30E+00	+/-	1.02E+00	2.32E+00	3.93E-04	+/-	4.34E-05
19	189.59	6.73E+00	+/-	8.78E-01	2.19E+00	3.94E-04	+/-	4.25E-05
20	196.03	7.78E+00	+/-	9.48E-01	2.12E+00	3.94E-04	+/-	4.14E-05
21	208.30	1.63E+02	+/-	1.91E+00	2.00E+00	3.91E-04	+/-	3.83E-05
22	244.70	1.77E+00	+/-	7.09E-01	1.75E+00	3.73E-04	+/-	2.70E-05
23	255.80	6.01E+00	+/-	7.03E-01	1.69E+00	3.66E-04	+/-	2.38E-05
24	267.90	5.11E+00	+/-	6.78E-01	1.64E+00	3.58E-04	+/-	2.08E-05
25	297.95	3.98E+00	+/-	8.02E-01	1.58E+00	3.37E-04	+/-	1.58E-05
26	311.90	4.76E+00	+/-	6.37E-01	1.56E+00	3.27E-04	+/-	1.48E-05
27	321.42	3.83E+00	+/-	6.99E-01	1.54E+00	3.21E-04	+/-	1.45E-05
28	324.22	2.06E+00	+/-	5.04E-01	1.53E+00	3.19E-04	+/-	1.44E-05
29	333.22	4.41E+01	+/-	1.11E+00	1.52E+00	3.13E-04	+/-	1.44E-05
30	336.34	6.44E+00	+/-	8.56E-01	1.51E+00	3.11E-04	+/-	1.44E-05
31	345.58	4.33E+01	+/-	8.01E-01	1.50E+00	3.05E-04	+/-	1.46E-05
32	368.85	1.74E+01	+/-	6.70E-01	1.46E+00	2.91E-04	+/-	1.52E-05
33	375.64	1.14E+02	+/-	1.34E+00	1.45E+00	2.87E-04	+/-	1.54E-05
34	383.45	1.26E+01	+/-	6.23E-01	1.44E+00	2.83E-04	+/-	1.57E-05
35	393.62	4.18E+01	+/-	7.56E-01	1.43E+00	2.77E-04	+/-	1.59E-05
36	400.66	5.87E-01	+/-	3.64E-01	1.42E+00	2.74E-04	+/-	1.60E-05
37	413.70	1.14E+02	+/-	1.17E+00	1.41E+00	2.67E-04	+/-	1.63E-05
38	423.26	6.24E+00	+/-	4.32E-01	1.41E+00	2.62E-04	+/-	1.63E-05
39	446.14	4.96E-01	+/-	2.82E-01	1.40E+00	2.51E-04	+/-	1.64E-05
40	452.18	1.34E+01	+/-	4.25E-01	1.39E+00	2.49E-04	+/-	1.63E-05
41	619.97	1.07E+00	+/-	1.61E-01	1.33E+00	1.92E-04	+/-	1.19E-05
M 42	638.44	1.37E-01	+/-	5.76E-02	1.33E+00	1.88E-04	+/-	1.14E-05

Batch 2002-02-306

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
m 43	641.20	4.30E-01 +/- 1.19E-01	1.33E+00	1.87E-04 +/- 1.13E-05
44	647.05	4.77E-01 +/- 1.74E-01	1.32E+00	1.86E-04 +/- 1.11E-05
45	653.61	9.37E-01 +/- 1.42E-01	1.32E+00	1.84E-04 +/- 1.09E-05
46	662.42	6.00E+00 +/- 2.64E-01	1.32E+00	1.82E-04 +/- 1.06E-05
47	689.69	5.59E-01 +/- 9.31E-02	1.31E+00	1.76E-04 +/- 9.86E-06
48	723.22	2.68E+00 +/- 1.83E-01	1.30E+00	1.70E-04 +/- 9.01E-06
49	757.53	2.43E-01 +/- 7.28E-02	1.29E+00	1.63E-04 +/- 8.28E-06
50	770.65	8.77E-01 +/- 1.05E-01	1.29E+00	1.61E-04 +/- 8.03E-06
51	1112.12	9.41E-03 +/- 9.41E-03	1.23E+00	1.20E-04 +/- 5.13E-06

Segment: 8 Detector: DET01 (# 1) Position: 8

Elapsed Live Time: 110.43 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.362 +/- 0.0301
SE-75	264.65	0.000 +/- 0.0000	0.483 +/- 0.0048
SE-75	279.53	0.000 +/- 0.0000	0.495 +/- 0.0067
SE-75	400.65	0.000 +/- 0.0000	0.555 +/- 0.0083

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	9.31E+00 +/- 5.11E-01	2.77E+00	1.22E-09 +/- 1.33E-08
2	23.18	1.23E+01 +/- 5.72E-01	2.52E+00	4.17E-09 +/- 4.06E-08
3	35.10	1.01E+03 +/- 4.88E+00	1.85E+00	6.89E-07 +/- 3.37E-06
4	59.60	1.89E+02 +/- 1.66E+00	1.57E+00	3.34E-05 +/- 5.14E-05
5	75.12	4.01E+00 +/- 8.06E-01	1.52E+00	9.11E-05 +/- 7.00E-05
6	98.82	8.53E+01 +/- 1.68E+00	1.47E+00	1.99E-04 +/- 4.65E-05
7	103.47	6.17E+01 +/- 1.18E+00	1.47E+00	2.18E-04 +/- 3.87E-05
8	111.31	1.43E+01 +/- 1.16E+00	1.46E+00	2.49E-04 +/- 2.63E-05
9	117.24	7.07E+00 +/- 9.24E-01	1.45E+00	2.70E-04 +/- 1.92E-05
10	129.29	5.97E+01 +/- 1.08E+00	1.44E+00	3.05E-04 +/- 1.85E-05
11	148.57	9.86E+00 +/- 7.75E-01	1.42E+00	3.45E-04 +/- 3.27E-05
12	171.53	2.97E+00 +/- 6.60E-01	1.39E+00	3.69E-04 +/- 4.10E-05
13	196.11	2.88E+00 +/- 6.77E-01	1.36E+00	3.77E-04 +/- 3.98E-05
14	208.38	4.92E+01 +/- 1.05E+00	1.35E+00	3.76E-04 +/- 3.72E-05
15	244.70	7.65E-01 +/- 4.65E-01	1.32E+00	3.62E-04 +/- 2.67E-05
16	268.16	1.39E+00 +/- 4.31E-01	1.30E+00	3.49E-04 +/- 2.06E-05

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17	297.85	2.15E+00 +/-	5.51E-01	1.28E+00	3.31E-04 +/-	1.56E-05
18	311.90	9.83E-01 +/-	4.30E-01	1.28E+00	3.23E-04 +/-	1.44E-05
19	333.30	1.25E+01 +/-	6.19E-01	1.27E+00	3.10E-04 +/-	1.38E-05
20	336.51	7.69E-01 +/-	4.63E-01	1.27E+00	3.08E-04 +/-	1.38E-05
21	345.68	1.27E+01 +/-	5.27E-01	1.26E+00	3.03E-04 +/-	1.38E-05
22	369.21	4.89E+00 +/-	4.06E-01	1.25E+00	2.89E-04 +/-	1.44E-05
23	375.70	3.50E+01 +/-	7.15E-01	1.25E+00	2.86E-04 +/-	1.46E-05
24	383.48	2.09E+00 +/-	4.50E-01	1.25E+00	2.82E-04 +/-	1.48E-05
25	393.61	1.26E+01 +/-	4.16E-01	1.24E+00	2.76E-04 +/-	1.50E-05
26	413.70	3.34E+01 +/-	6.02E-01	1.24E+00	2.66E-04 +/-	1.54E-05
27	423.24	1.77E+00 +/-	2.23E-01	1.23E+00	2.62E-04 +/-	1.55E-05
28	443.98	1.70E-01 +/-	1.18E-01	1.23E+00	2.53E-04 +/-	1.56E-05
29	452.45	4.13E+00 +/-	2.24E-01	1.23E+00	2.49E-04 +/-	1.56E-05
30	646.97	1.57E-01 +/-	8.26E-02	1.19E+00	1.86E-04 +/-	1.08E-05
31	653.66	3.08E-01 +/-	8.14E-02	1.19E+00	1.85E-04 +/-	1.06E-05
32	662.42	1.39E+00 +/-	1.39E-01	1.18E+00	1.83E-04 +/-	1.03E-05
33	723.60	7.33E-01 +/-	9.11E-02	1.18E+00	1.70E-04 +/-	8.79E-06

Segment: 9 Detector: DET01 (# 1) Position: 9

Elapsed Live Time: 113.02 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.386 +/- 0.0266
SE-75	264.65	0.000 +/- 0.0000	0.506 +/- 0.0049
SE-75	279.53	0.000 +/- 0.0000	0.523 +/- 0.0066
SE-75	400.65	0.000 +/- 0.0000	0.581 +/- 0.0083

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.15	5.22E+00 +/- 3.40E-01	2.41E+00	2.27E-06 +/- 2.29E-05
2	35.10	1.01E+03 +/- 4.78E+00	1.78E+00	1.75E-05 +/- 8.88E-05
3	59.58	2.29E+01 +/- 6.24E-01	1.53E+00	9.99E-05 +/- 1.59E-04
4	98.95	6.00E+00 +/- 7.23E-01	1.44E+00	2.52E-04 +/- 6.02E-05
5	129.29	1.89E+00 +/- 5.02E-01	1.41E+00	3.23E-04 +/- 1.97E-05
6	208.29	1.38E+00 +/- 3.64E-01	1.33E+00	3.66E-04 +/- 3.76E-05
7	244.70	5.97E-01 +/- 2.77E-01	1.30E+00	3.54E-04 +/- 2.70E-05
8	375.66	8.30E-01 +/- 1.93E-01	1.23E+00	2.85E-04 +/- 1.49E-05
9	413.70	6.82E-01 +/- 9.78E-02	1.22E+00	2.67E-04 +/- 1.59E-05
10	443.98	8.47E-02 +/- 5.56E-02	1.21E+00	2.53E-04 +/- 1.61E-05
11	662.42	7.43E-02 +/- 3.29E-02	1.17E+00	1.82E-04 +/- 1.04E-05

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Segment: 10 Detector: DET01 (# 1) Position: 10

Elapsed Live Time: 113.37 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.313 +/- 0.0243
SE-75	264.65	0.000 +/- 0.0000	0.465 +/- 0.0046
SE-75	279.53	0.000 +/- 0.0000	0.471 +/- 0.0062
SE-75	400.65	0.000 +/- 0.0000	0.534 +/- 0.0079

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.20	3.00E+00 +/- 2.69E-01	2.79E+00	3.40E-07 +/- 4.81E-07
2	35.10	1.01E+03 +/- 4.77E+00	1.99E+00	5.68E-06 +/- 4.74E-06
3	59.63	8.08E+00 +/- 3.97E-01	1.67E+00	6.38E-05 +/- 2.21E-05
4	74.80	1.14E+00 +/- 3.74E-01	1.60E+00	1.27E-04 +/- 2.69E-05
5	98.49	1.42E+00 +/- 5.84E-01	1.55E+00	2.30E-04 +/- 2.34E-05
6	185.71	6.60E-01 +/- 3.62E-01	1.42E+00	4.00E-04 +/- 2.05E-05
7	1001.03	1.74E-02 +/- 1.23E-02	1.16E+00	1.28E-04 +/- 5.05E-06
8	1085.91	8.71E-03 +/- 8.71E-03	1.15E+00	1.21E-04 +/- 4.45E-06

Segment: 11 Detector: DET01 (# 1) Position: 11

Elapsed Live Time: 113.51 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.358 +/- 0.0233
SE-75	264.65	0.000 +/- 0.0000	0.469 +/- 0.0046
SE-75	279.53	0.000 +/- 0.0000	0.472 +/- 0.0061
SE-75	400.65	0.000 +/- 0.0000	0.519 +/- 0.0077

Batch 2002-07-309

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.79E+00	1.86E+00	6.75E-06 +/- 5.60E-06
2	59.56	3.34E+00 +/- 3.22E-01	1.58E+00	6.68E-05 +/- 2.31E-05
3	121.11	7.75E-01 +/- 3.80E-01	1.45E+00	3.01E-04 +/- 1.73E-05
4	185.71	7.81E-01 +/- 3.23E-01	1.38E+00	3.87E-04 +/- 1.99E-05
5	311.90	3.15E-01 +/- 1.79E-01	1.30E+00	3.37E-04 +/- 1.49E-05
6	413.70	6.17E-02 +/- 3.85E-02	1.27E+00	2.75E-04 +/- 1.09E-05
7	1001.03	8.81E-03 +/- 8.81E-03	1.16E+00	1.28E-04 +/- 5.01E-06
8	1085.91	2.64E-02 +/- 1.53E-02	1.16E+00	1.22E-04 +/- 4.46E-06

Segment: 12 Detector: DET01 (# 1) Position: 12

Elapsed Live Time: 113.59 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.081 +/- 0.0143
SE-75	264.65	0.000 +/- 0.0000	0.120 +/- 0.0020
SE-75	279.53	0.000 +/- 0.0000	0.123 +/- 0.0030
SE-75	400.65	0.000 +/- 0.0000	0.160 +/- 0.0041

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.06	1.46E+00 +/- 1.91E-01	4.10E+00	6.09E-07 +/- 8.64E-07
2	35.10	1.01E+03 +/- 4.77E+00	3.55E+00	7.63E-06 +/- 6.33E-06
3	49.90	4.30E+00 +/- 3.54E-01	2.86E+00	3.61E-05 +/- 1.73E-05
4	59.44	1.75E+00 +/- 2.77E-01	2.67E+00	6.59E-05 +/- 2.29E-05
5	264.66	2.85E-01 +/- 1.86E-01	2.01E+00	3.61E-04 +/- 1.77E-05
6	300.10	2.59E-01 +/- 1.61E-01	1.97E+00	3.43E-04 +/- 1.55E-05

Segment: 13 Detector: DET01 (# 1) Position: 13

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Elapsed Live Time: 113.69 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.188 +/- 0.0184
SE-75	264.65	0.000 +/- 0.0000	0.268 +/- 0.0032
SE-75	279.53	0.000 +/- 0.0000	0.272 +/- 0.0045
SE-75	400.65	0.000 +/- 0.0000	0.319 +/- 0.0058

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	2.54E+00	1.10E-05 +/- 9.51E-06
2	152.68	6.16E-01 +/- 2.51E-01	1.74E+00	3.57E-04 +/- 1.76E-05
3	778.90	8.69E-03 +/- 8.69E-03	1.34E+00	1.54E-04 +/- 7.54E-06
4	867.39	3.69E-02 +/- 2.85E-02	1.32E+00	1.40E-04 +/- 6.42E-06
5	1001.03	2.32E-02 +/- 1.54E-02	1.29E+00	1.23E-04 +/- 4.91E-06
6	1112.12	8.69E-03 +/- 8.69E-03	1.28E+00	1.13E-04 +/- 4.19E-06

Segment: 14 Detector: DET01 (# 1) Position: 14

Elapsed Live Time: 113.78 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.732 +/- 0.0300
SE-75	264.65	0.000 +/- 0.0000	0.766 +/- 0.0065
SE-75	279.53	0.000 +/- 0.0000	0.764 +/- 0.0083
SE-75	400.65	0.000 +/- 0.0000	0.786 +/- 0.0100

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.78E+00	1.23E+00	8.94E-06 +/- 4.41E-05
2	413.70	3.73E-02 +/- 2.48E-02	1.09E+00	2.67E-04 +/- 1.56E-05
3	662.42	8.78E-03 +/- 8.78E-03	1.07E+00	1.83E-04 +/- 1.04E-05
4	778.90	3.51E-02 +/- 1.76E-02	1.07E+00	1.59E-04 +/- 7.64E-06

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5	964.13	1.98E-02 +/-	1.70E-02	1.06E+00	1.31E-04 +/-	5.72E-06
6	1112.12	8.78E-03 +/-	8.78E-03	1.05E+00	1.16E-04 +/-	4.88E-06
7	1408.01	8.78E-03 +/-	8.78E-03	1.05E+00	9.39E-05 +/-	6.30E-06

Segment: 15 Detector: DET01 (# 1) Position: 15

Elapsed Live Time: 113.79 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.838 +/- 0.0316
SE-75	264.65	0.000 +/- 0.0000	0.864 +/- 0.0071
SE-75	279.53	0.000 +/- 0.0000	0.858 +/- 0.0090
SE-75	400.65	0.000 +/- 0.0000	0.880 +/- 0.0107

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.13E+00	1.45E-08 +/- 6.96E-08
2	136.00	4.01E-01 +/- 2.02E-01	1.07E+00	3.60E-04 +/- 2.57E-05
3	400.66	5.13E-02 +/- 3.85E-02	1.05E+00	2.59E-04 +/- 1.48E-05
4	413.70	6.08E-02 +/- 3.10E-02	1.05E+00	2.52E-04 +/- 1.49E-05
5	778.90	2.60E-02 +/- 1.50E-02	1.04E+00	1.56E-04 +/- 7.35E-06
6	867.39	8.68E-03 +/- 8.68E-03	1.03E+00	1.45E-04 +/- 6.37E-06
7	1112.12	1.95E-02 +/- 1.86E-02	1.03E+00	1.22E-04 +/- 5.05E-06
8	1408.01	2.60E-02 +/- 1.50E-02	1.03E+00	9.82E-05 +/- 6.51E-06

Segment: 16 Detector: DET01 (# 1) Position: 16

Elapsed Live Time: 113.80 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.719 +/- 0.0302
SE-75	264.65	0.000 +/- 0.0000	0.790 +/- 0.0067
SE-75	279.53	0.000 +/- 0.0000	0.800 +/- 0.0086
SE-75	400.65	0.000 +/- 0.0000	0.836 +/- 0.0104

Batch 2002-02-B12

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.24E+00	9.52E-10 +/- 5.35E-09
2	311.90	8.02E-02 +/- 6.31E-02	1.08E+00	2.34E-04 +/- 1.14E-05
3	1001.03	2.60E-02 +/- 1.50E-02	1.04E+00	9.85E-05 +/- 4.77E-06
4	1112.12	2.60E-02 +/- 1.50E-02	1.04E+00	9.17E-05 +/- 4.32E-06

Batch 2002-02-313

Summed Spectrum

Peak Locate Report

Sample ID: S100_836
Peak Locate Performed on: 1-30-02 8:56:46 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192
Peak Search Sensitivity: 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
1	43.00	0.2685	21.42	13.87
2	46.45	0.1329	23.15	31.31
3	70.16	0.0407	34.99	507.67
4	119.33	0.0652	59.56	157.67
5	150.25	0.2383	75.01	11.06
6	197.79	0.0824	98.76	77.30
7	207.01	0.0825	103.36	64.77
8	222.68	0.1029	111.19	47.45
9	229.23	0.1494	114.47	27.21
10	234.41	0.1735	117.05	13.58
11	259.21	0.0716	129.45	111.69
12	289.03	0.2044	144.34	15.33
13	297.75	0.1222	148.70	39.20
14	322.41	0.2061	161.02	6.81
15	329.99	0.1626	164.81	21.49
16	343.52	0.2334	171.57	9.56
17	359.36	0.2622	179.48	6.80
18	379.48	0.2381	189.54	9.02
19	392.35	0.2029	195.96	12.25
20	417.02	0.0606	208.29	137.88
21	487.46	0.3023	243.48	5.68
22	512.00	0.1772	255.75	16.90
23	536.39	0.1669	267.93	17.64
24	596.34	0.1945	297.88	12.71
25	625.15	0.1671	312.28	16.76
26	648.92	0.2140	324.15	9.46
27	667.06	0.0831	333.21	67.12
28	673.30	0.1301	336.34	30.71
29	691.78	0.0847	345.56	65.07
30	738.33	0.1306	368.82	22.73
31	751.97	0.0625	375.64	116.85
32	767.54	0.1170	383.42	36.07
33	787.90	0.0867	393.59	59.01
34	829.48	0.0625	414.36	105.31
35	847.23	0.1209	423.23	30.45
36	905.15	0.1053	452.17	40.12

Batch 2002-02-314

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
37	1240.87	0.2020	619.90	10.12
38	1295.00	0.2068	646.94	10.06
39	1308.58	0.2205	653.73	8.20
40	1328.31	0.1255	663.59	25.14
41	1380.81	0.2791	689.82	5.09
42	1447.75	0.1481	723.26	17.21
43	1516.83	0.2745	757.78	5.32
44	1542.86	0.2508	770.78	6.52

Errors quoted at 1.000 sigma

Batch 2002-02-315

Summed Spectrum

Peak Analysis Report

Sample ID: S100_836
Peak Analysis Performed on: 1-30-02 8:56:46 AM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	39-	46	43.00	21.42	1.57E+04	205.34	1.34E+04
2	46-	49	46.45	23.15	1.49E+04	222.91	2.08E+04
3	66-	73	70.16	34.99	1.81E+06	1359.50	2.03E+04
4	115-	122	119.33	59.56	2.61E+05	587.15	4.13E+04
5	149-	153	150.25	75.01	2.14E+03	221.02	2.79E+04
6	193-	201	197.79	98.76	1.21E+05	721.20	1.88E+05
7	206-	210	207.01	103.36	1.03E+05	454.10	5.62E+04
8	218-	226	222.68	111.19	1.99E+04	510.44	1.04E+05
9	226-	233	229.23	114.47	2.77E+03	503.57	1.24E+05
10	233-	238	234.41	117.05	1.20E+04	386.86	6.39E+04
11	255-	263	259.21	129.45	9.10E+04	438.54	4.70E+04
12	284-	297	289.03	144.34	6.64E+02	440.30	6.84E+04
13	295-	304	297.75	148.70	1.46E+04	327.29	4.02E+04
14	318-	326	322.41	161.02	1.93E+03	286.96	3.70E+04
15	326-	334	329.99	164.81	2.38E+03	281.20	3.56E+04
16	339-	347	343.52	171.57	5.24E+03	264.12	3.01E+04
17	355-	363	359.36	179.48	2.32E+03	253.25	2.89E+04
18	375-	383	379.48	189.54	3.75E+03	250.59	2.77E+04
19	387-	396	392.35	195.96	4.27E+03	266.42	2.96E+04
20	412-	421	417.02	208.29	8.77E+04	436.92	4.41E+04
21	482-	492	487.46	243.48	1.55E+03	202.37	1.65E+04
22	507-	516	512.00	255.75	3.72E+03	183.27	1.32E+04
23	533-	541	536.39	267.93	2.83E+03	164.92	1.13E+04
24	591-	601	596.34	297.88	1.91E+03	170.40	1.14E+04
25	620-	630	625.15	312.28	2.29E+03	168.63	1.10E+04
26	647-	653	648.92	324.15	1.92E+03	129.51	7.37E+03
27	662-	672	667.06	333.21	2.36E+04	266.58	1.90E+04
28	672-	678	673.30	336.34	3.20E+03	201.66	1.18E+04
29	689-	696	691.78	345.56	2.35E+04	192.05	6.55E+03
30	733-	743	738.33	368.82	9.43E+03	163.38	7.20E+03
31	746-	757	751.97	375.64	6.17E+04	307.20	1.30E+04
32	767-	772	767.54	383.42	6.18E+03	149.75	4.46E+03
33	782-	793	787.90	393.59	2.30E+04	177.85	3.47E+03
34	824-	834	829.48	414.36	6.16E+04	258.71	2.22E+03
35	841-	852	847.23	423.23	3.46E+03	106.07	3.05E+03
36	899-	910	905.15	452.17	7.22E+03	102.04	1.27E+03
37	1234-	1246	1240.87	619.90	6.02E+02	37.81	3.15E+02

Batch 2002-02-316

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
38	1291-	1301	1295.00	646.94	2.82E+02	34.76	3.85E+02
39	1302-	1314	1308.58	653.73	5.26E+02	36.72	3.13E+02
40	1326-	1334	1328.31	663.59	2.69E+03	57.06	2.66E+02
41	1374-	1387	1380.81	689.82	2.67E+02	26.97	1.67E+02
42	1441-	1454	1447.75	723.26	1.34E+03	45.42	2.64E+02
43	1510-	1523	1516.83	757.78	1.61E+02	19.95	8.59E+01
44	1536-	1549	1542.86	770.78	3.97E+02	26.54	1.10E+02

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2003-02-317

Summed Spectrum

Nuclide Identification Report

Sample ID: S100_836
Nuclide Library Used: C:\WAS\NLIB\LLNL.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/)	Activity Uncertainty
Pulser	0.999	35.10*	100.00	2.876E+05	7.239E+05
Np-237	0.755	300.10	6.63		
		311.90*	38.60	5.494E+00	4.070E-01
Pu-239	0.969	413.70*	0.00	4.593E+06	8.584E+04
Pu-239A	0.998	129.29*	0.01	1.468E+06	3.694E+04
Am-241	0.908	662.42*	0.00	1.075E+06	2.466E+04
Pu-241	0.999	148.57*	0.00	7.093E+06	1.911E+05

* = Energy line found in the spectrum.
Energy Tolerance : 1.500 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 1.000 sigma

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 1-30-02 8:56:46 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	21.42	1.3981E+02	1.32
2	23.15	1.3273E+02	1.50
4	59.56	2.3331E+03	0.24
5	75.01	1.9108E+01	10.33
6	98.76	1.0782E+03	0.60
7	103.36	9.2302E+02	0.45
8	111.19	1.7804E+02	2.56
9	114.47	2.4751E+01	18.17
10	117.05	1.0690E+02	3.23
12	144.34	5.9289E+00	66.32
14	161.02	1.7273E+01	14.84
15	164.81	2.1296E+01	11.79
16	171.57	4.6841E+01	5.04
17	179.48	2.0721E+01	10.92
18	189.54	3.3460E+01	6.69
19	195.96	3.8162E+01	6.24
20	208.29	7.8290E+02	0.51
21	243.48	1.3803E+01	13.09
22	255.75	3.3231E+01	4.93
23	267.93	2.5296E+01	5.82
24	297.88	1.7100E+01	8.90
26	324.15	1.7141E+01	6.75
27	333.21	2.1046E+02	1.14
28	336.34	2.8590E+01	6.30
29	345.56	2.1027E+02	0.82
30	368.82	8.4195E+01	1.74
31	375.64	5.5140E+02	0.51
32	383.42	5.5192E+01	2.42
33	393.59	2.0508E+02	0.78
35	423.23	3.0941E+01	3.06
36	452.17	6.4455E+01	1.42
37	619.90	5.3739E+00	6.28
38	646.94	2.5219E+00	12.31
39	653.73	4.6943E+00	6.99
41	689.82	2.3872E+00	10.09
42	723.26	1.1939E+01	3.40
43	757.78	1.4389E+00	12.38
44	770.78	3.5462E+00	6.68

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Combined Segment NID

NID Results Combiner Mode: Sum Activities

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		3.82E+07	+/-	2.00E+08	1.72E+03	+/-	9.02E+03
SE-75	<	3.85E-01	+/-	1.91E-02	< 1.74E-05	+/-	8.60E-07
EU-152x		4.48E-02	+/-	1.62E-02	2.02E-06	+/-	7.29E-07
U-233		5.89E+03	+/-	2.41E+03	2.65E-01	+/-	1.09E-01
U-235		2.43E-01	+/-	8.23E-02	1.09E-05	+/-	3.71E-06
Np-237		8.30E+00	+/-	5.02E-01	3.74E-04	+/-	2.26E-05
Pu-238		8.63E+03	+/-	3.55E+03	3.89E-01	+/-	1.60E-01
U-238		4.28E+00	+/-	1.34E+00	1.93E-04	+/-	6.05E-05
Pu-239		5.44E+06	+/-	1.32E+05	2.45E+02	+/-	5.94E+00
Pu-239A		4.18E+06	+/-	1.29E+05	1.88E+02	+/-	5.79E+00
Am-241		1.34E+06	+/-	4.73E+04	6.03E+01	+/-	2.13E+00
Pu-241		1.35E+07	+/-	5.46E+05	6.06E+02	+/-	2.46E+01

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
U-233	6.12E-01	+/-	2.51E-01
U-235	1.12E-01	+/-	3.81E-02
Np-237	1.18E-02	+/-	7.14E-04
Pu-238	5.04E-04	+/-	2.07E-04
U-238	1.27E+01	+/-	4.00E+00
Pu-239	8.76E+01	+/-	2.12E+00
Pu-239A	6.73E+01	+/-	2.07E+00
Am-241	3.91E-01	+/-	1.38E-02
Pu-241	1.30E-01	+/-	5.28E-03

Batch 2002-02-320

Summed Spectrum

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		2.88E+05	+/-	7.24E+05	1.30E+01	+/-	3.26E+01
SE-75	<	9.02E-01	+/-	7.87E-03	< 4.06E-05	+/-	3.54E-07
EU-152x	<	4.39E-01	+/-	8.47E-03	< 1.98E-05	+/-	3.81E-07
U-233	<	4.04E+04	+/-	8.42E+02	< 1.82E+00	+/-	3.79E-02
U-235	<	1.36E+00	+/-	2.67E-02	< 6.11E-05	+/-	1.20E-06
Np-237		5.49E+00	+/-	4.07E-01	2.47E-04	+/-	1.83E-05
Pu-238	<	9.80E+04	+/-	1.43E+03	< 4.41E+00	+/-	6.43E-02
U-238	<	1.16E+01	+/-	1.86E-01	< 5.24E-04	+/-	8.37E-06
Pu-239		4.59E+06	+/-	8.58E+04	2.07E+02	+/-	3.87E+00
Pu-239A		1.47E+06	+/-	3.69E+04	6.61E+01	+/-	1.66E+00
Am-241		1.08E+06	+/-	2.47E+04	4.84E+01	+/-	1.11E+00
Pu-241		7.09E+06	+/-	1.91E+05	3.20E+02	+/-	8.61E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
Np-237	7.80E-03	+/-	5.78E-04
Pu-239	7.39E+01	+/-	1.38E+00
Pu-239A	2.36E+01	+/-	5.95E-01
Am-241	3.14E-01	+/-	7.20E-03
Pu-241	6.86E-02	+/-	1.85E-03

Batch 2002-02-321

Final Non-Uniformity Results

Source Longitudinal Ratio: 0.402 +/- 0.5327
Matrix Longitudinal Ratio: 0.553 +/- 0.0229

Source Vertical Ratio: 0.877 +/- 0.4405
Matrix Vertical Ratio: 0.861 +/- 0.0158

NUDS could not find the transmission peak in one radial segment.

****
***** M G A R E P O R T *****
****

Report generated on: 1-30-02 8:56:45 AM

MGA version: MGA V9.5 CI

Spectrum ID: 11200836.CNF Sens : 30.0% LT: 51.1 Mins DT: 8.80
Measurement date: 1-30-02 Declared date: 1-30-02

Sample ID: S100_836 Detector: Total counts: 1.522E+07

Pu g/cm2 = 0.8116 Cd g/cm2 = 1.7960 FWHM at 122 keV = 689 eV
QFIT = 1.38 FWHM at 208 keV = 869 eV
NQFIT = 1.02

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	Meas. date %Err	Decl. date % weight	Decl. date %Err
Pu-238	0.000088	7.0	7.0	0.0342	7.0	0.00829	7.02	0.00829	7.02
Pu-239	1.000000	0.0	0.4	388.6657	0.6	94.06442	0.05	94.06442	0.05
Pu-240	0.060108	0.9	0.8	23.3618	0.9	5.65398	0.83	5.65398	0.83
Pu-241	0.002573	0.6	0.5	1.0000	0.0	0.24202	0.54	0.24202	0.54
Pu-242	(New alg.)			0.1293	(10)	0.03129	(10)	0.03129	(10)
Am-241	0.004700	0.5	0.3	1.8268	0.6	0.44213	0.46	0.44213	0.46

Pu-240 effective (meas. date) = 5.727 +/- 0.89%
Am-241 separated about 21.499 +/- 0.143 years ago
Am/Pu-241 weight ratio = 1.82682 +/- 0.57%

Messages :

Lead x-rays detected.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Ruth 2002-02-323

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-032 KG 7-3-02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS 2.3A

****
* DRUM INFORMATION *
****

Drum Package ID: S100_837
Sequence Number: 837
Assay Date & Time: 1-31-2002 7:36:34 AM
Drum Package GROSS Weight: 54.00 kg NET Weight: 22.20 kg

IDC Number: S100-837

QC Replicate (Yes/No): NO Passed (Yes/No): _____

Operator Name (Printed): Russell Rath

Operator Signature: _____ Date: 1-31-02

Independent Reviewer: _____ Date: 4-19-02

Expert Reviewer: (NOT REQUIRED) Date: _____

Tech. Supv/QA Officer: _____ Date: 7/17/02

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 9.318E+00 +/- 2.140E+00 Ci

Batch 2002-02-324

ISOTOPIC INFORMATION

Isotope	Measured Mass (g)	Mass Uncertainty (g)	MDC (g)
Pu-238	9.015E-03	3.16E-03	2.105E-05
Pu-239	9.968E+01	3.26E+01	2.327E-01
Pu-240	5.911E+00	1.94E+00	1.380E-02
Pu-241	2.533E-01	8.29E-02	6.191E-03
Pu-242	3.263E-02	1.24E-02	7.617E-05
Am-241	4.643E-01	1.52E-01	7.336E-03
Am-243	0.000E+00	0.00E+00	0.000E+00
Np-237	0.000E+00	0.00E+00	1.177E-03
U-235	0.000E+00	0.00E+00	2.600E-01
U-238	1.427E+01	4.70E+00	1.427E+01
U-233	1.646E+00	5.50E-01	1.646E+00

Total Pu Mass: 1.06E+02 +/- 5.89E+00 g

MGA RESULTS

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	8.514E-03	6.48E+00
Pu-239	9.414E+01	4.72E-02
Pu-240	5.582E+00	7.88E-01
Pu-241	2.392E-01	5.09E-01
Pu-242	3.081E-02	1.00E+01
Am-241	4.385E-01	4.33E-01

Batch 2002-02-325

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005

Assay Date & Time: 1-31-2002 7:36:34 AM

Drum Package ID: S100_837
Sequence Number: 837

Waste Classification (TRU or LLW): TRU

		Errors at 1.96 sigma	
Total Alpha Activity :	9.318E+00	+/- 2.14E+00	Ci
Total TRU Activity :	4.197E+05	+/- 9.64E+04	nCi/g
Pu-239 Equiv Activity:	9.820E+00	+/- 2.15E+00	Ci
Fissile Gram Equiv Mass:	1.004E+02	+/- 3.26E+01	g
Total Decay Heat:	2.966E-01	+/- 6.74E-02	W
TMU Value:	32.71 %		

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error	MDA gm
Pu-238	1.56E-01	5.47E-02	9.02E-03	3.16E-03	2.10E-05
Pu-239	6.19E+00	2.03E+00	9.97E+01	3.26E+01	2.33E-01
Pu-240	1.36E+00	4.45E-01	5.91E+00	1.94E+00	1.38E-02
Pu-241	2.63E+01	8.62E+00	2.53E-01	8.29E-02	6.19E-03
Pu-242	1.30E-04	4.94E-05	3.26E-02	1.24E-02	7.62E-05
Am-241	1.61E+00	5.27E-01	4.64E-01	1.52E-01	7.34E-03
Am-243	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Np-237	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.18E-03
U-235	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.60E-01
U-238	4.85E-06	1.60E-06	1.43E+01	4.70E+00	1.43E+01
U-233	1.61E-02	5.37E-03	1.65E+00	5.50E-01	1.65E+00

Total Pu Mass: 1.06E+02 +/- 5.89E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	8.514E-03	6.48E+00
Pu-239	9.414E+01	4.72E-02
Pu-240	5.582E+00	7.88E-01
Pu-241	2.392E-01	5.09E-01
Pu-242	3.081E-02	1.00E+01
Am-241	4.385E-01	4.33E-01

Batch 2002-02-326

****
***** M G A R E P O R T *****
****

Report generated on: 1-31-02 8:32:55 AM

MGA version: MGA V9.5 CI

Spectrum ID: 11200837.CNF Sens : 30.0% LT: 50.8 Mins DT: 8.80
Measurement date: 1-31-02 Declared date: 1-31-02

Sample ID: S100_837 Detector: Total counts: 1.512E+07

Pu g/cm2 = 0.8492 Cd g/cm2 = 1.7827 FWHM at 122 keV = 686 eV
QFIT = 1.22 FWHM at 208 keV = 860 eV
NQFIT = 1.01

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	Meas. date %Err	Decl. date % weight	Decl. date %Err
Pu-238	0.000090	6.5	6.5	0.0356	6.5	0.00851	6.48	0.00851	6.48
Pu-239	1.000000	0.0	0.3	393.5996	0.5	94.13927	0.05	94.13927	0.05
Pu-240	0.059298	0.8	0.8	23.3395	0.9	5.58223	0.79	5.58223	0.79
Pu-241	0.002541	0.5	0.4	1.0000	0.0	0.23918	0.51	0.23918	0.51
Pu-242	(New alg.)			0.1288	(10)	0.03081	(10)	0.03081	(10)
Am-241	0.004658	0.4	0.3	1.8332	0.5	0.43846	0.43	0.43846	0.43

Pu-240 effective (meas. date) = 5.655 +/- 0.85%
Am-241 separated about 21.567 +/- 0.137 years ago
Am/Pu-241 weight ratio = 1.83320 +/- 0.54%

Messages :

Lead x-rays detected.
Calculations in MGAABS didn't converge : results may be suspect.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Batch 2002-02-327

****
***** M G A R E P O R T *****
****

Report generated on: 1-31-02 8:32:55 AM

MGA version: MGA V9.5 CI

Spectrum ID: 11200837.CNF Sens : 30.0% LT: 50.8 Mins DT: 8.80
Measurement date: 1-31-02 Declared date: 1-31-02

Sample ID: S100_837 Detector: Total counts: 1.512E+07

Pu g/cm2 = 0.8492 Cd g/cm2 = 1.7827 FWHM at 122 keV = 686 eV
QFIT = 1.22 FWHM at 208 keV = 860 eV
NQFIT = 1.01

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	Meas. date %Err	Decl. date % weight	Decl. date %Err
Pu-238	0.000090	6.5	6.5	0.0356	6.5	0.00851	6.48	0.00851	6.48
Pu-239	1.000000	0.0	0.3	393.5996	0.5	94.13927	0.05	94.13927	0.05
Pu-240	0.059298	0.8	0.8	23.3395	0.9	5.58223	0.79	5.58223	0.79
Pu-241	0.002541	0.5	0.4	1.0000	0.0	0.23918	0.51	0.23918	0.51
Pu-242	(New alg.)			0.1288	(10)	0.03081	(10)	0.03081	(10)
Am-241	0.004658	0.4	0.3	1.8332	0.5	0.43846	0.43	0.43846	0.43

Pu-240 effective (meas. date) = 5.655 +/- 0.85%
Am-241 separated about 21.567 +/- 0.137 years ago
Am/Pu-241 weight ratio = 1.83320 +/- 0.54%

Messages :

Lead x-rays detected.
Calculations in MGAABS didn't converge : results may be suspect.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Batch 2002-02-328

Gamma Waste Assay

Sample Information

File Name: C:\WAS\DATA\900\11100837.S11
Sample ID: S100_837 Count Sequence Number: 837
Assay Start: 1-31-02 7:36:36 AM
Description 1: 100g source drum
Description 2:
Location: 7715
Comment:
Waste Type:
Weight: Gross: 54000.0 g Net: 22200.0 g
Density: 0.107 g /ml

Container Type: 55 Gal Galv
Container: Volume: 208000. ml Full: 100.0 %

System Configuration

Counter ID Number: SGS
Arrangement Description: SGS
Segments: Number: 16 Offset: 0
Scanning Platform: Start: 934 mm Delta: -51 mm
Count Type: Daily 100 g Drum Check
Collimator/Geometry Setting: 0
Transmission Mode: Two pass
Transmission Source: 0

Errors quoted at 1.000 sigma
Reference Source Date: Reference Source Rate: 1.01E+03 cps
Geometric Correction Factor(SWCONTGCF): 0.760
Date of efficiency calibration approval: 4-18-2001 12:41:36 PM
Mu Factors response file: Lucite
Transmission Calib. Time: 5-11-2001 2:20:42 PM 59052

Reviewed by: _____ Date: 7/16/02

Batch 2002-02-329

Segment Results

Segment: 1 Detector: DET01 (# 1) Position: 1

Elapsed Live Time: 113.37 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.375 +/- 0.0249
SE-75	264.65	0.000 +/- 0.0000	0.444 +/- 0.0044
SE-75	279.53	0.000 +/- 0.0000	0.455 +/- 0.0061
SE-75	400.65	0.000 +/- 0.0000	0.487 +/- 0.0075

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.36	2.47E+00 +/- 2.48E-01	2.44E+00	1.00E-07 +/- 1.24E-06
2	35.10	1.01E+03 +/- 4.77E+00	1.81E+00	2.61E-06 +/- 1.64E-05
3	57.81	3.89E+00 +/- 3.89E-01	1.56E+00	3.35E-05 +/- 7.16E-05
4	59.68	1.46E+00 +/- 2.90E-01	1.55E+00	3.77E-05 +/- 7.41E-05
5	135.30	6.72E-01 +/- 4.37E-01	1.42E+00	2.02E-04 +/- 1.77E-05
6	279.54	3.94E-01 +/- 2.39E-01	1.33E+00	2.11E-04 +/- 1.29E-05
7	662.42	4.10E-02 +/- 2.45E-02	1.23E+00	1.12E-04 +/- 8.14E-06
8	1408.01	8.71E-03 +/- 8.71E-03	1.15E+00	6.19E-05 +/- 4.71E-06

Segment: 2 Detector: DET01 (# 1) Position: 2

Elapsed Live Time: 113.23 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.425 +/- 0.0270
SE-75	264.65	0.000 +/- 0.0000	0.512 +/- 0.0049
SE-75	279.53	0.000 +/- 0.0000	0.520 +/- 0.0066
SE-75	400.65	0.000 +/- 0.0000	0.562 +/- 0.0082

Batch 2002-02-330

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	1.47E+00 +/- 2.33E-01	2.43E+00	1.31E-10 +/- 1.40E-09
2	23.30	2.06E+00 +/- 2.33E-01	2.22E+00	6.02E-10 +/- 5.70E-09
3	35.10	1.01E+03 +/- 4.80E+00	1.69E+00	2.21E-07 +/- 1.06E-06
4	59.56	8.59E+00 +/- 4.59E-01	1.47E+00	2.19E-05 +/- 3.30E-05
5	413.70	1.60E-01 +/- 5.58E-02	1.23E+00	2.51E-04 +/- 1.46E-05
6	778.90	8.82E-03 +/- 8.82E-03	1.16E+00	1.44E-04 +/- 6.92E-06
7	1085.91	1.76E-02 +/- 1.25E-02	1.14E+00	1.13E-04 +/- 4.92E-06

Segment: 3 Detector: DET01 (# 1) Position: 3

Elapsed Live Time: 112.45 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.356 +/- 0.0278
SE-75	264.65	0.000 +/- 0.0000	0.470 +/- 0.0047
SE-75	279.53	0.000 +/- 0.0000	0.491 +/- 0.0065
SE-75	400.65	0.000 +/- 0.0000	0.517 +/- 0.0079

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	3.47E+00 +/- 3.31E-01	2.81E+00	3.50E-09 +/- 3.85E-08
2	23.22	4.28E+00 +/- 3.43E-01	2.55E+00	1.08E-08 +/- 1.05E-07
3	35.10	1.01E+03 +/- 4.80E+00	1.87E+00	1.07E-06 +/- 5.27E-06
4	59.56	3.15E+01 +/- 7.31E-01	1.58E+00	3.78E-05 +/- 5.86E-05
5	98.84	1.44E+01 +/- 9.31E-01	1.48E+00	2.01E-04 +/- 4.74E-05
6	103.36	7.79E+00 +/- 8.25E-01	1.48E+00	2.19E-04 +/- 3.95E-05
7	111.28	1.47E+00 +/- 7.72E-01	1.47E+00	2.49E-04 +/- 2.66E-05
8	116.35	5.60E+00 +/- 6.72E-01	1.46E+00	2.66E-04 +/- 2.02E-05
9	129.29	7.86E+00 +/- 6.39E-01	1.45E+00	3.02E-04 +/- 1.84E-05
10	148.57	1.99E+00 +/- 5.40E-01	1.43E+00	3.39E-04 +/- 3.24E-05
11	208.33	7.25E+00 +/- 5.23E-01	1.36E+00	3.66E-04 +/- 3.64E-05
12	311.90	8.20E-01 +/- 3.28E-01	1.29E+00	3.13E-04 +/- 1.40E-05
13	333.23	2.14E+00 +/- 3.60E-01	1.28E+00	3.00E-04 +/- 1.35E-05
14	345.59	2.01E+00 +/- 3.23E-01	1.28E+00	2.93E-04 +/- 1.36E-05

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15	369.06	1.19E+00	+/- 2.47E-01	1.28E+00	2.80E-04	+/- 1.42E-05
16	375.69	5.43E+00	+/- 3.40E-01	1.28E+00	2.76E-04	+/- 1.44E-05
17	393.56	2.29E+00	+/- 2.07E-01	1.27E+00	2.67E-04	+/- 1.48E-05
18	413.70	5.71E+00	+/- 2.51E-01	1.27E+00	2.57E-04	+/- 1.52E-05
19	423.07	2.91E-01	+/- 1.11E-01	1.26E+00	2.53E-04	+/- 1.53E-05
20	452.16	5.71E-01	+/- 9.87E-02	1.26E+00	2.40E-04	+/- 1.54E-05
21	662.42	3.22E-01	+/- 6.29E-02	1.21E+00	1.78E-04	+/- 1.02E-05

Segment: 4 Detector: DET01 (# 1) Position: 4

Elapsed Live Time: 107.76 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.460 +/- 0.0359
SE-75	264.65	0.000 +/- 0.0000	0.532 +/- 0.0053
SE-75	279.53	0.000 +/- 0.0000	0.545 +/- 0.0073
SE-75	400.65	0.000 +/- 0.0000	0.587 +/- 0.0088

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
	1	21.42	1.56E+01 +/- 6.50E-01	2.28E+00	2.23E-06 +/- 3.43E-06
	2	23.17	1.63E+01 +/- 7.06E-01	2.10E+00	3.32E-06 +/- 4.67E-06
	3	35.10	1.01E+03 +/- 4.93E+00	1.62E+00	2.00E-05 +/- 1.66E-05
	4	59.59	2.53E+02 +/- 2.01E+00	1.42E+00	9.83E-05 +/- 3.39E-05
	5	75.03	2.46E+00 +/- 7.83E-01	1.38E+00	1.58E-04 +/- 3.32E-05
	6	98.84	1.52E+02 +/- 2.23E+00	1.35E+00	2.40E-04 +/- 2.42E-05
	7	103.48	1.23E+02 +/- 1.63E+00	1.35E+00	2.53E-04 +/- 2.24E-05
	8	111.28	2.60E+01 +/- 1.63E+00	1.34E+00	2.74E-04 +/- 1.97E-05
	9	117.35	1.46E+01 +/- 1.26E+00	1.34E+00	2.88E-04 +/- 1.80E-05
	10	129.29	1.02E+02 +/- 1.41E+00	1.33E+00	3.12E-04 +/- 1.61E-05
M	11	146.49	1.15E+00 +/- 3.13E-01	1.32E+00	3.38E-04 +/- 1.61E-05
m	12	148.80	2.00E+01 +/- 9.93E-01	1.32E+00	3.41E-04 +/- 1.63E-05
	13	161.11	2.86E+00 +/- 9.18E-01	1.31E+00	3.53E-04 +/- 1.73E-05
	14	164.78	3.11E+00 +/- 9.02E-01	1.31E+00	3.56E-04 +/- 1.76E-05
	15	171.55	6.94E+00 +/- 8.26E-01	1.30E+00	3.60E-04 +/- 1.81E-05
	16	179.52	3.42E+00 +/- 8.14E-01	1.30E+00	3.64E-04 +/- 1.86E-05
	17	189.52	3.77E+00 +/- 7.32E-01	1.29E+00	3.68E-04 +/- 1.91E-05
	18	196.06	5.41E+00 +/- 7.96E-01	1.29E+00	3.69E-04 +/- 1.93E-05
	19	208.34	1.02E+02 +/- 1.51E+00	1.28E+00	3.71E-04 +/- 1.94E-05
	20	244.70	1.56E+00 +/- 6.11E-01	1.27E+00	3.65E-04 +/- 1.85E-05
	21	255.83	4.51E+00 +/- 5.88E-01	1.26E+00	3.62E-04 +/- 1.80E-05
	22	268.00	3.73E+00 +/- 5.78E-01	1.26E+00	3.57E-04 +/- 1.73E-05
	23	297.94	1.85E+00 +/- 7.02E-01	1.24E+00	3.45E-04 +/- 1.56E-05

24	311.90	3.69E+00 +/-	5.41E-01	1.24E+00	3.38E-04 +/-	1.48E-05
25	321.42	1.22E+00 +/-	5.90E-01	1.24E+00	3.33E-04 +/-	1.43E-05
26	324.39	1.36E+00 +/-	4.17E-01	1.24E+00	3.32E-04 +/-	1.41E-05
27	333.26	2.77E+01 +/-	8.94E-01	1.23E+00	3.27E-04 +/-	1.37E-05
28	336.38	4.29E+00 +/-	6.89E-01	1.23E+00	3.26E-04 +/-	1.36E-05
29	345.61	2.74E+01 +/-	7.18E-01	1.23E+00	3.21E-04 +/-	1.32E-05
30	369.22	1.18E+01 +/-	5.71E-01	1.22E+00	3.09E-04 +/-	1.23E-05
31	375.67	7.71E+01 +/-	1.07E+00	1.22E+00	3.06E-04 +/-	1.21E-05
32	383.46	7.48E+00 +/-	4.90E-01	1.22E+00	3.02E-04 +/-	1.18E-05
33	393.59	2.89E+01 +/-	6.01E-01	1.22E+00	2.97E-04 +/-	1.16E-05
34	413.70	7.53E+01 +/-	9.21E-01	1.21E+00	2.87E-04 +/-	1.11E-05
35	423.28	3.93E+00 +/-	3.46E-01	1.21E+00	2.83E-04 +/-	1.10E-05
36	452.22	9.08E+00 +/-	3.41E-01	1.20E+00	2.70E-04 +/-	1.06E-05
37	619.89	8.32E-01 +/-	1.19E-01	1.17E+00	2.07E-04 +/-	9.43E-06
38	641.03	6.47E-01 +/-	1.12E-01	1.17E+00	2.01E-04 +/-	9.24E-06
39	647.07	3.05E-01 +/-	1.10E-01	1.17E+00	1.99E-04 +/-	9.19E-06
40	653.72	5.01E-01 +/-	1.13E-01	1.17E+00	1.97E-04 +/-	9.12E-06
41	662.42	3.85E+00 +/-	2.11E-01	1.17E+00	1.95E-04 +/-	9.03E-06
42	723.44	1.77E+00 +/-	1.41E-01	1.16E+00	1.79E-04 +/-	8.35E-06

Batch 2002-02-333

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
43	771.10	5.71E-01 +/- 8.70E-02	1.15E+00	1.68E-04 +/- 7.76E-06
44	1085.91	1.83E-02 +/- 1.30E-02	1.12E+00	1.20E-04 +/- 4.36E-06
45	1408.01	9.16E-03 +/- 9.16E-03	1.11E+00	9.34E-05 +/- 5.87E-06

Segment: 5 Detector: DET01 (# 1) Position: 5

Elapsed Live Time: 100.69 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.194 +/- 0.0034
SE-75	279.53	0.000 +/- 0.0000	0.233 +/- 0.0055
SE-75	400.65	0.000 +/- 0.0000	0.371 +/- 0.0074

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	3.89E+01 +/- 9.91E-01	4.10E+00	1.08E-06 +/- 1.72E-06
2	23.14	3.34E+01 +/- 1.08E+00	4.10E+00	1.74E-06 +/- 2.53E-06
3	35.10	1.01E+03 +/- 5.11E+00	4.10E+00	1.48E-05 +/- 1.27E-05
4	59.53	6.96E+02 +/- 4.00E+00	4.10E+00	9.30E-05 +/- 3.29E-05
5	67.67	2.15E+00 +/- 1.04E+00	4.10E+00	1.27E-04 +/- 3.45E-05
6	75.01	4.73E+00 +/- 9.91E-01	4.10E+00	1.59E-04 +/- 3.39E-05
7	98.71	3.30E+02 +/- 3.77E+00	4.10E+00	2.49E-04 +/- 2.52E-05
8	103.39	2.45E+02 +/- 3.23E+00	4.10E+00	2.64E-04 +/- 2.33E-05
9	111.14	5.47E+01 +/- 2.49E+00	4.10E+00	2.86E-04 +/- 2.04E-05
10	114.49	7.58E+00 +/- 2.46E+00	4.10E+00	2.95E-04 +/- 1.94E-05
11	117.15	3.37E+01 +/- 1.92E+00	4.10E+00	3.01E-04 +/- 1.87E-05
12	129.29	2.45E+02 +/- 2.26E+00	4.10E+00	3.26E-04 +/- 1.67E-05
13	144.25	2.06E+00 +/- 1.32E+00	3.36E+00	3.49E-04 +/- 1.68E-05
14	148.57	4.15E+01 +/- 1.51E+00	3.16E+00	3.54E-04 +/- 1.71E-05
15	161.01	4.76E+00 +/- 1.28E+00	2.77E+00	3.65E-04 +/- 1.83E-05
16	164.80	5.05E+00 +/- 1.25E+00	2.69E+00	3.68E-04 +/- 1.86E-05
17	171.54	1.22E+01 +/- 1.16E+00	2.56E+00	3.71E-04 +/- 1.92E-05
18	179.27	4.33E+00 +/- 1.20E+00	2.44E+00	3.74E-04 +/- 1.97E-05
19	189.47	9.42E+00 +/- 1.04E+00	2.31E+00	3.76E-04 +/- 2.02E-05

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20	195.85	1.13E+01 +/-	9.56E-01	2.24E+00	3.76E-04 +/-	2.03E-05
21	208.27	2.42E+02 +/-	2.37E+00	2.12E+00	3.75E-04 +/-	2.04E-05
22	244.70	3.12E+00 +/-	8.59E-01	1.86E+00	3.63E-04 +/-	1.90E-05
23	255.71	1.00E+01 +/-	7.72E-01	1.80E+00	3.58E-04 +/-	1.84E-05
24	267.85	8.41E+00 +/-	7.55E-01	1.73E+00	3.51E-04 +/-	1.76E-05
25	297.78	5.50E+00 +/-	9.33E-01	1.61E+00	3.34E-04 +/-	1.56E-05
26	311.90	8.34E+00 +/-	7.44E-01	1.58E+00	3.26E-04 +/-	1.48E-05
27	320.98	3.05E+00 +/-	7.35E-01	1.56E+00	3.21E-04 +/-	1.42E-05
28	324.12	5.12E+00 +/-	6.09E-01	1.55E+00	3.19E-04 +/-	1.41E-05
29	333.20	6.58E+01 +/-	1.39E+00	1.54E+00	3.13E-04 +/-	1.36E-05
30	336.33	1.03E+01 +/-	1.02E+00	1.53E+00	3.12E-04 +/-	1.34E-05
31	345.55	6.56E+01 +/-	9.99E-01	1.51E+00	3.06E-04 +/-	1.30E-05
32	368.79	2.76E+01 +/-	8.21E-01	1.47E+00	2.93E-04 +/-	1.20E-05
33	375.61	1.68E+02 +/-	1.71E+00	1.46E+00	2.89E-04 +/-	1.18E-05
34	383.39	1.67E+01 +/-	7.62E-01	1.45E+00	2.85E-04 +/-	1.16E-05
35	393.49	6.31E+01 +/-	9.19E-01	1.43E+00	2.80E-04 +/-	1.13E-05
36	413.70	1.69E+02 +/-	1.50E+00	1.42E+00	2.69E-04 +/-	1.09E-05
37	423.23	8.62E+00 +/-	5.49E-01	1.41E+00	2.64E-04 +/-	1.07E-05
38	452.13	2.01E+01 +/-	5.27E-01	1.40E+00	2.51E-04 +/-	1.03E-05
39	482.64	4.73E-01 +/-	2.13E-01	1.39E+00	2.37E-04 +/-	1.00E-05
40	620.01	1.57E+00 +/-	1.78E-01	1.34E+00	1.90E-04 +/-	9.14E-06
41	640.97	4.87E-01 +/-	1.73E-01	1.33E+00	1.84E-04 +/-	8.96E-06
42	647.03	7.66E-01 +/-	1.81E-01	1.33E+00	1.83E-04 +/-	8.91E-06

Batch 2002-02-335

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
	43	653.93	1.42E+00 +/- 1.91E-01	1.33E+00	1.81E-04 +/- 8.85E-06
M	44	659.90	2.64E-01 +/- 4.98E-02	1.32E+00	1.79E-04 +/- 8.79E-06
m	45	663.58	7.49E+00 +/- 1.77E-01	1.32E+00	1.78E-04 +/- 8.76E-06
	46	690.21	4.34E-01 +/- 1.29E-01	1.32E+00	1.72E-04 +/- 8.50E-06
	47	704.92	3.06E-01 +/- 1.10E-01	1.31E+00	1.69E-04 +/- 8.34E-06
	48	723.26	3.09E+00 +/- 2.16E-01	1.31E+00	1.65E-04 +/- 8.15E-06
	49	757.54	5.21E-01 +/- 8.83E-02	1.30E+00	1.58E-04 +/- 7.76E-06
	50	770.44	1.34E+00 +/- 1.20E-01	1.30E+00	1.56E-04 +/- 7.61E-06
	51	1112.12	2.92E-02 +/- 1.68E-02	1.24E+00	1.14E-04 +/- 4.26E-06

Segment: 6 Detector: DET01 (# 1) Position: 6

Elapsed Live Time: 99.30 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.184 +/- 0.0035
SE-75	279.53	0.000 +/- 0.0000	0.207 +/- 0.0054
SE-75	400.65	0.000 +/- 0.0000	0.336 +/- 0.0073

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	4.03E+01 +/- 1.03E+00	4.10E+00	3.85E-07 +/- 5.97E-07
2	23.12	3.34E+01 +/- 1.11E+00	4.10E+00	6.61E-07 +/- 9.40E-07
3	35.10	1.01E+03 +/- 5.15E+00	4.10E+00	8.04E-06 +/- 6.71E-06
4	49.60	1.09E+01 +/- 1.29E+00	4.10E+00	3.68E-05 +/- 1.79E-05
5	59.52	7.39E+02 +/- 4.20E+00	4.10E+00	6.87E-05 +/- 2.39E-05
6	74.77	8.75E+00 +/- 1.39E+00	4.10E+00	1.28E-04 +/- 2.73E-05
7	98.71	3.62E+02 +/- 4.01E+00	4.10E+00	2.22E-04 +/- 2.26E-05
8	103.37	3.15E+02 +/- 2.69E+00	4.10E+00	2.38E-04 +/- 2.12E-05
9	111.13	5.93E+01 +/- 2.64E+00	4.10E+00	2.63E-04 +/- 1.90E-05
10	114.45	1.76E+01 +/- 2.61E+00	4.10E+00	2.73E-04 +/- 1.82E-05
11	117.03	3.64E+01 +/- 2.04E+00	4.10E+00	2.80E-04 +/- 1.77E-05
12	129.29	2.60E+02 +/- 2.54E+00	4.10E+00	3.10E-04 +/- 1.61E-05
13	148.57	4.38E+01 +/- 1.58E+00	3.19E+00	3.45E-04 +/- 1.67E-05

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14	161.16	4.30E+00 +/-	1.36E+00	2.80E+00	3.60E-04 +/-	1.78E-05
15	164.79	5.88E+00 +/-	1.32E+00	2.72E+00	3.64E-04 +/-	1.82E-05
16	171.65	1.33E+01 +/-	1.22E+00	2.59E+00	3.69E-04 +/-	1.88E-05
17	179.51	6.31E+00 +/-	1.18E+00	2.47E+00	3.74E-04 +/-	1.94E-05
18	189.52	9.35E+00 +/-	1.09E+00	2.34E+00	3.78E-04 +/-	1.99E-05
19	195.92	1.16E+01 +/-	1.28E+00	2.27E+00	3.80E-04 +/-	2.01E-05
20	208.26	2.75E+02 +/-	2.56E+00	2.15E+00	3.81E-04 +/-	2.03E-05
21	244.70	3.52E+00 +/-	9.03E-01	1.89E+00	3.73E-04 +/-	1.92E-05
22	255.66	1.29E+01 +/-	8.78E-01	1.82E+00	3.69E-04 +/-	1.86E-05
23	267.84	9.86E+00 +/-	7.97E-01	1.76E+00	3.63E-04 +/-	1.78E-05
24	281.82	1.46E+00 +/-	8.70E-01	1.71E+00	3.56E-04 +/-	1.69E-05
25	297.94	6.34E+00 +/-	9.90E-01	1.67E+00	3.47E-04 +/-	1.59E-05
26	311.90	9.27E+00 +/-	7.89E-01	1.64E+00	3.39E-04 +/-	1.51E-05
27	324.15	5.42E+00 +/-	6.43E-01	1.61E+00	3.32E-04 +/-	1.44E-05
28	333.17	7.76E+01 +/-	1.49E+00	1.59E+00	3.26E-04 +/-	1.39E-05
29	336.30	1.13E+01 +/-	1.09E+00	1.58E+00	3.24E-04 +/-	1.37E-05
30	345.54	7.16E+01 +/-	1.05E+00	1.57E+00	3.19E-04 +/-	1.33E-05
31	368.77	2.77E+01 +/-	8.61E-01	1.52E+00	3.05E-04 +/-	1.23E-05
32	375.60	1.91E+02 +/-	1.85E+00	1.51E+00	3.02E-04 +/-	1.21E-05
33	383.40	1.95E+01 +/-	8.23E-01	1.50E+00	2.97E-04 +/-	1.18E-05
34	393.55	7.31E+01 +/-	1.01E+00	1.48E+00	2.92E-04 +/-	1.16E-05
35	400.66	7.15E-01 +/-	4.04E-01	1.47E+00	2.88E-04 +/-	1.14E-05
36	413.70	1.88E+02 +/-	1.61E+00	1.46E+00	2.81E-04 +/-	1.11E-05
37	423.15	1.04E+01 +/-	5.80E-01	1.46E+00	2.76E-04 +/-	1.09E-05
38	452.14	2.23E+01 +/-	5.67E-01	1.44E+00	2.62E-04 +/-	1.05E-05
39	619.89	2.40E+00 +/-	1.81E-01	1.37E+00	1.98E-04 +/-	9.16E-06
40	640.83	1.04E+00 +/-	1.68E-01	1.37E+00	1.92E-04 +/-	8.98E-06
41	646.85	7.01E-01 +/-	1.74E-01	1.36E+00	1.90E-04 +/-	8.92E-06
42	653.97	1.72E+00 +/-	2.00E-01	1.36E+00	1.89E-04 +/-	8.85E-06

Batch 2002-02-337

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
M 43	660.08	6.77E-01 +/- 1.13E-01	1.36E+00	1.87E-04 +/- 8.79E-06
m 44	663.53	8.22E+00 +/- 4.20E-01	1.36E+00	1.86E-04 +/- 8.76E-06
45	689.95	6.28E-01 +/- 1.41E-01	1.35E+00	1.80E-04 +/- 8.49E-06
46	723.05	3.70E+00 +/- 2.37E-01	1.34E+00	1.72E-04 +/- 8.13E-06
47	757.37	3.26E-01 +/- 9.65E-02	1.33E+00	1.65E-04 +/- 7.74E-06
48	770.79	1.14E+00 +/- 1.35E-01	1.33E+00	1.62E-04 +/- 7.58E-06
49	964.13	5.30E-02 +/- 3.63E-02	1.29E+00	1.34E-04 +/- 5.31E-06
50	1001.03	5.66E-02 +/- 3.29E-02	1.28E+00	1.30E-04 +/- 4.95E-06

Segment: 7 Detector: DET01 (# 1) Position: 7

Elapsed Live Time: 104.42 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.234 +/- 0.0035
SE-75	279.53	0.000 +/- 0.0000	0.262 +/- 0.0054
SE-75	400.65	0.000 +/- 0.0000	0.372 +/- 0.0072

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	2.72E+01 +/- 8.39E-01	4.10E+00	2.18E-09 +/- 2.40E-08
2	23.16	2.77E+01 +/- 9.19E-01	4.10E+00	6.98E-09 +/- 6.86E-08
3	35.10	1.01E+03 +/- 5.02E+00	4.10E+00	9.59E-07 +/- 4.73E-06
4	49.84	1.02E+01 +/- 1.17E+00	4.10E+00	1.48E-05 +/- 3.56E-05
5	59.57	5.43E+02 +/- 3.29E+00	4.10E+00	4.01E-05 +/- 6.21E-05
6	74.90	5.15E+00 +/- 8.44E-01	4.10E+00	1.04E-04 +/- 8.11E-05
7	98.77	2.61E+02 +/- 2.95E+00	4.10E+00	2.21E-04 +/- 5.19E-05
8	103.40	2.00E+02 +/- 2.03E+00	4.10E+00	2.41E-04 +/- 4.29E-05
9	111.21	4.10E+01 +/- 2.06E+00	4.10E+00	2.73E-04 +/- 2.89E-05
10	117.09	2.28E+01 +/- 1.58E+00	4.10E+00	2.94E-04 +/- 2.09E-05
11	129.29	1.75E+02 +/- 1.86E+00	4.10E+00	3.30E-04 +/- 1.98E-05
12	144.24	1.99E+00 +/- 1.12E+00	3.26E+00	3.62E-04 +/- 3.19E-05
13	148.57	2.84E+01 +/- 1.26E+00	3.04E+00	3.68E-04 +/- 3.49E-05
14	164.83	4.16E+00 +/- 1.06E+00	2.57E+00	3.86E-04 +/- 4.19E-05

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15	171.66	2.49E+00	+/-	1.33E+00	2.44E+00	3.90E-04	+/-	4.31E-05
16	179.52	5.02E+00	+/-	9.47E-01	2.32E+00	3.93E-04	+/-	4.34E-05
17	189.69	4.57E+00	+/-	1.04E+00	2.19E+00	3.94E-04	+/-	4.25E-05
18	195.92	8.33E+00	+/-	1.03E+00	2.12E+00	3.94E-04	+/-	4.14E-05
19	208.31	1.62E+02	+/-	1.91E+00	2.00E+00	3.91E-04	+/-	3.83E-05
20	244.70	3.20E+00	+/-	7.12E-01	1.75E+00	3.73E-04	+/-	2.70E-05
21	255.81	6.97E+00	+/-	7.01E-01	1.69E+00	3.66E-04	+/-	2.38E-05
22	267.99	6.40E+00	+/-	6.75E-01	1.64E+00	3.58E-04	+/-	2.08E-05
23	297.84	4.25E+00	+/-	8.03E-01	1.56E+00	3.37E-04	+/-	1.58E-05
24	311.90	4.62E+00	+/-	6.35E-01	1.54E+00	3.27E-04	+/-	1.48E-05
25	321.15	1.74E+00	+/-	6.21E-01	1.53E+00	3.21E-04	+/-	1.45E-05
26	324.24	2.64E+00	+/-	5.58E-01	1.52E+00	3.19E-04	+/-	1.44E-05
27	333.23	4.31E+01	+/-	1.11E+00	1.51E+00	3.13E-04	+/-	1.44E-05
28	336.35	6.71E+00	+/-	8.41E-01	1.50E+00	3.11E-04	+/-	1.44E-05
29	345.58	4.27E+01	+/-	7.97E-01	1.49E+00	3.05E-04	+/-	1.46E-05
30	368.96	1.73E+01	+/-	6.73E-01	1.46E+00	2.91E-04	+/-	1.52E-05
31	375.64	1.16E+02	+/-	1.35E+00	1.45E+00	2.87E-04	+/-	1.54E-05
32	383.44	1.19E+01	+/-	6.29E-01	1.44E+00	2.83E-04	+/-	1.57E-05
33	393.55	4.37E+01	+/-	7.60E-01	1.43E+00	2.77E-04	+/-	1.59E-05
34	400.66	5.58E-01	+/-	2.83E-01	1.42E+00	2.74E-04	+/-	1.60E-05
35	413.70	1.12E+02	+/-	1.17E+00	1.42E+00	2.67E-04	+/-	1.63E-05
36	423.21	6.04E+00	+/-	4.38E-01	1.41E+00	2.62E-04	+/-	1.63E-05
37	452.18	1.40E+01	+/-	4.28E-01	1.40E+00	2.49E-04	+/-	1.63E-05
38	462.83	4.12E-01	+/-	1.94E-01	1.39E+00	2.44E-04	+/-	1.62E-05
39	619.79	1.11E+00	+/-	1.51E-01	1.33E+00	1.92E-04	+/-	1.20E-05
40	641.02	5.86E-01	+/-	1.46E-01	1.33E+00	1.87E-04	+/-	1.13E-05
41	647.02	4.43E-01	+/-	1.56E-01	1.33E+00	1.86E-04	+/-	1.11E-05
42	653.52	8.90E-01	+/-	1.39E-01	1.32E+00	1.84E-04	+/-	1.09E-05

Batch 2002-02-339

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
M 43	660.04	5.17E-01 +/- 8.92E-02	1.32E+00	1.83E-04 +/- 1.07E-05
m 44	663.57	5.29E+00 +/- 3.21E-01	1.32E+00	1.82E-04 +/- 1.06E-05
45	689.77	4.71E-01 +/- 9.69E-02	1.31E+00	1.76E-04 +/- 9.85E-06
46	723.42	2.53E+00 +/- 1.81E-01	1.31E+00	1.69E-04 +/- 9.01E-06
47	770.86	5.53E-01 +/- 1.01E-01	1.29E+00	1.61E-04 +/- 8.03E-06

Segment: 8 Detector: DET01 (# 1) Position: 8

Elapsed Live Time: 110.39 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.350 +/- 0.0303
SE-75	264.65	0.000 +/- 0.0000	0.481 +/- 0.0048
SE-75	279.53	0.000 +/- 0.0000	0.496 +/- 0.0067
SE-75	400.65	0.000 +/- 0.0000	0.550 +/- 0.0083

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	9.76E+00 +/- 5.09E-01	2.84E+00	1.22E-09 +/- 1.33E-08
2	23.19	1.17E+01 +/- 5.65E-01	2.58E+00	4.19E-09 +/- 4.07E-08
3	35.10	1.01E+03 +/- 4.86E+00	1.88E+00	6.89E-07 +/- 3.37E-06
4	59.59	1.87E+02 +/- 1.66E+00	1.59E+00	3.34E-05 +/- 5.14E-05
5	75.12	4.74E+00 +/- 7.99E-01	1.54E+00	9.11E-05 +/- 7.00E-05
6	98.84	8.34E+01 +/- 1.66E+00	1.49E+00	1.99E-04 +/- 4.65E-05
7	103.42	6.28E+01 +/- 1.11E+00	1.48E+00	2.18E-04 +/- 3.88E-05
8	111.34	1.51E+01 +/- 1.15E+00	1.48E+00	2.49E-04 +/- 2.63E-05
9	117.06	6.59E+00 +/- 9.18E-01	1.47E+00	2.69E-04 +/- 1.94E-05
10	129.29	5.97E+01 +/- 1.07E+00	1.46E+00	3.05E-04 +/- 1.85E-05
M 11	144.53	4.76E+00 +/- 4.10E-01	1.44E+00	3.38E-04 +/- 3.00E-05
m 12	146.55	4.51E+00 +/- 4.10E-01	1.44E+00	3.42E-04 +/- 3.14E-05
m 13	148.83	1.39E+01 +/- 6.87E-01	1.43E+00	3.45E-04 +/- 3.29E-05
14	171.67	2.84E+00 +/- 6.52E-01	1.40E+00	3.69E-04 +/- 4.10E-05
15	189.66	2.73E+00 +/- 6.31E-01	1.38E+00	3.76E-04 +/- 4.08E-05
16	196.01	2.14E+00 +/- 6.20E-01	1.37E+00	3.77E-04 +/- 3.99E-05
17	208.37	4.91E+01 +/- 1.04E+00	1.36E+00	3.76E-04 +/- 3.72E-05
18	244.70	7.87E-01 +/- 4.58E-01	1.32E+00	3.62E-04 +/- 2.67E-05
19	255.74	2.64E+00 +/- 4.42E-01	1.31E+00	3.56E-04 +/- 2.36E-05
20	268.03	1.11E+00 +/- 4.37E-01	1.30E+00	3.49E-04 +/- 2.06E-05

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21	311.90	1.90E+00	+/- 3.60E-01	1.28E+00	3.23E-04	+/- 1.44E-05
22	321.27	1.22E+00	+/- 4.46E-01	1.27E+00	3.17E-04	+/- 1.39E-05
23	333.28	1.22E+01	+/- 6.19E-01	1.27E+00	3.10E-04	+/- 1.38E-05
24	336.43	1.50E+00	+/- 4.73E-01	1.27E+00	3.08E-04	+/- 1.38E-05
25	345.63	1.35E+01	+/- 4.63E-01	1.26E+00	3.03E-04	+/- 1.38E-05
26	369.14	5.39E+00	+/- 4.09E-01	1.26E+00	2.89E-04	+/- 1.44E-05
27	375.69	3.52E+01	+/- 7.00E-01	1.25E+00	2.86E-04	+/- 1.46E-05
28	383.47	3.24E+00	+/- 3.40E-01	1.25E+00	2.82E-04	+/- 1.48E-05
29	393.63	1.26E+01	+/- 4.03E-01	1.25E+00	2.76E-04	+/- 1.50E-05
30	413.70	3.45E+01	+/- 5.98E-01	1.24E+00	2.66E-04	+/- 1.54E-05
31	423.29	2.03E+00	+/- 2.28E-01	1.24E+00	2.62E-04	+/- 1.55E-05
32	452.29	4.06E+00	+/- 2.26E-01	1.23E+00	2.49E-04	+/- 1.56E-05
33	619.92	1.67E-01	+/- 7.57E-02	1.20E+00	1.93E-04	+/- 1.16E-05
34	662.42	1.50E+00	+/- 1.39E-01	1.19E+00	1.83E-04	+/- 1.03E-05
35	723.19	7.06E-01	+/- 9.56E-02	1.18E+00	1.70E-04	+/- 8.79E-06
36	1335.33	7.16E-02	+/- 2.53E-02	1.13E+00	9.62E-05	+/- 5.26E-06

Segment: 9 Detector: DET01 (# 1) Position: 9

Elapsed Live Time: 113.03 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.334 +/- 0.0267
SE-75	264.65	0.000 +/- 0.0000	0.513 +/- 0.0049
SE-75	279.53	0.000 +/- 0.0000	0.512 +/- 0.0066
SE-75	400.65	0.000 +/- 0.0000	0.584 +/- 0.0084

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	2.23E+00 +/- 2.60E-01	2.95E+00	1.44E-06 +/- 1.63E-05
2	23.20	3.19E+00 +/- 2.79E-01	2.67E+00	2.30E-06 +/- 2.31E-05
3	35.10	1.01E+03 +/- 4.78E+00	1.93E+00	1.75E-05 +/- 8.88E-05
4	59.59	2.33E+01 +/- 6.15E-01	1.62E+00	9.99E-05 +/- 1.59E-04
5	74.74	6.56E-01 +/- 3.38E-01	1.57E+00	1.64E-04 +/- 1.32E-04
6	98.77	6.58E+00 +/- 7.13E-01	1.52E+00	2.51E-04 +/- 6.07E-05
7	129.29	2.38E+00 +/- 5.06E-01	1.48E+00	3.23E-04 +/- 1.97E-05
8	208.36	1.55E+00 +/- 3.55E-01	1.35E+00	3.66E-04 +/- 3.76E-05
9	345.46	3.25E-01 +/- 1.96E-01	1.24E+00	3.01E-04 +/- 1.41E-05
10	375.47	6.97E-01 +/- 1.78E-01	1.23E+00	2.86E-04 +/- 1.49E-05
11	413.70	1.07E+00 +/- 1.17E-01	1.22E+00	2.67E-04 +/- 1.59E-05
12	452.01	1.15E-01 +/- 4.95E-02	1.21E+00	2.50E-04 +/- 1.61E-05

Batch 2002-02-341

Segment: 10 Detector: DET01 (# 1) Position: 10

Elapsed Live Time: 113.37 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.323 +/- 0.0242
SE-75	264.65	0.000 +/- 0.0000	0.466 +/- 0.0046
SE-75	279.53	0.000 +/- 0.0000	0.470 +/- 0.0062
SE-75	400.65	0.000 +/- 0.0000	0.531 +/- 0.0079

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.19	2.90E+00 +/- 2.62E-01	2.73E+00	3.39E-07 +/- 4.81E-07
2	35.10	1.01E+03 +/- 4.77E+00	1.96E+00	5.68E-06 +/- 4.74E-06
3	59.57	9.50E+00 +/- 4.24E-01	1.65E+00	6.36E-05 +/- 2.21E-05
4	129.29	8.60E-01 +/- 3.86E-01	1.50E+00	3.30E-04 +/- 1.70E-05
5	400.66	1.01E-01 +/- 5.82E-02	1.26E+00	2.87E-04 +/- 1.13E-05
6	662.42	7.10E-02 +/- 3.22E-02	1.20E+00	1.80E-04 +/- 8.83E-06
7	1408.01	8.71E-03 +/- 8.71E-03	1.13E+00	1.08E-04 +/- 6.60E-06

Segment: 11 Detector: DET01 (# 1) Position: 11

Elapsed Live Time: 113.52 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.389 +/- 0.0243
SE-75	264.65	0.000 +/- 0.0000	0.465 +/- 0.0046
SE-75	279.53	0.000 +/- 0.0000	0.477 +/- 0.0063
SE-75	400.65	0.000 +/- 0.0000	0.517 +/- 0.0077

Batch 2002-02-342

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.26	2.29E+00 +/- 2.25E-01	2.38E+00	4.78E-07 +/- 6.72E-07
2	35.10	1.01E+03 +/- 4.78E+00	1.78E+00	6.75E-06 +/- 5.60E-06
3	59.66	2.93E+00 +/- 2.99E-01	1.53E+00	6.72E-05 +/- 2.31E-05
4	135.30	1.03E+00 +/- 3.84E-01	1.40E+00	3.34E-04 +/- 1.63E-05
5	443.98	7.53E-02 +/- 4.96E-02	1.26E+00	2.59E-04 +/- 1.04E-05
6	867.39	8.77E-03 +/- 8.77E-03	1.18E+00	1.43E-04 +/- 6.39E-06

Segment: 12 Detector: DET01 (# 1) Position: 12

Elapsed Live Time: 113.58 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.084 +/- 0.0152
SE-75	264.65	0.000 +/- 0.0000	0.124 +/- 0.0021
SE-75	279.53	0.000 +/- 0.0000	0.128 +/- 0.0031
SE-75	400.65	0.000 +/- 0.0000	0.164 +/- 0.0041

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.34	1.29E+00 +/- 2.01E-01	4.10E+00	6.63E-07 +/- 9.26E-07
2	35.10	1.01E+03 +/- 4.77E+00	3.50E+00	7.63E-06 +/- 6.33E-06
3	59.62	1.95E+00 +/- 2.77E-01	2.64E+00	6.65E-05 +/- 2.30E-05
4	74.88	5.83E-01 +/- 3.21E-01	2.48E+00	1.25E-04 +/- 2.64E-05
5	185.71	3.77E-01 +/- 2.27E-01	2.12E+00	3.72E-04 +/- 1.93E-05
6	413.70	6.92E-02 +/- 4.24E-02	1.83E+00	2.79E-04 +/- 1.09E-05
7	1085.91	1.74E-02 +/- 1.23E-02	1.46E+00	1.21E-04 +/- 4.35E-06
8	1112.12	8.69E-03 +/- 8.69E-03	1.46E+00	1.19E-04 +/- 4.27E-06

Segment: 13 Detector: DET01 (# 1) Position: 13

Batch 2002-02-343

Elapsed Live Time: 113.69 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.224 +/- 0.0186
SE-75	264.65	0.000 +/- 0.0000	0.269 +/- 0.0032
SE-75	279.53	0.000 +/- 0.0000	0.273 +/- 0.0045
SE-75	400.65	0.000 +/- 0.0000	0.324 +/- 0.0059

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	5.93E-01 +/- 1.26E-01	3.85E+00	6.56E-07 +/- 1.05E-06
2	35.10	1.01E+03 +/- 4.76E+00	2.34E+00	1.10E-05 +/- 9.51E-06
3	964.13	2.61E-02 +/- 1.50E-02	1.30E+00	1.27E-04 +/- 5.29E-06
4	1001.03	8.68E-03 +/- 8.68E-03	1.29E+00	1.23E-04 +/- 4.91E-06
5	1085.91	1.74E-02 +/- 1.23E-02	1.28E+00	1.15E-04 +/- 4.30E-06

Segment: 14 Detector: DET01 (# 1) Position: 14

Elapsed Live Time: 113.77 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.735 +/- 0.0301
SE-75	264.65	0.000 +/- 0.0000	0.776 +/- 0.0066
SE-75	279.53	0.000 +/- 0.0000	0.770 +/- 0.0084
SE-75	400.65	0.000 +/- 0.0000	0.789 +/- 0.0100

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.77E+00	1.22E+00	8.94E-06 +/- 4.41E-05
2	778.90	2.73E-02 +/- 2.08E-02	1.07E+00	1.59E-04 +/- 7.64E-06
3	964.13	3.59E-02 +/- 2.14E-02	1.06E+00	1.31E-04 +/- 5.72E-06

Batch 2002-02-344

Segment: 15 Detector: DET01 (# 1) Position: 15

Elapsed Live Time: 113.80 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.809 +/- 0.0317
SE-75	264.65	0.000 +/- 0.0000	0.859 +/- 0.0071
SE-75	279.53	0.000 +/- 0.0000	0.862 +/- 0.0090
SE-75	400.65	0.000 +/- 0.0000	0.883 +/- 0.0108

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.15E+00	1.45E-08 +/- 6.96E-08
2	121.11	3.34E-01 +/- 2.13E-01	1.09E+00	3.03E-04 +/- 1.76E-05
3	400.66	1.24E-01 +/- 4.64E-02	1.05E+00	2.59E-04 +/- 1.48E-05
4	413.70	3.76E-02 +/- 2.50E-02	1.05E+00	2.52E-04 +/- 1.49E-05
5	778.90	4.34E-02 +/- 1.94E-02	1.03E+00	1.56E-04 +/- 7.35E-06
6	1085.91	1.73E-02 +/- 1.23E-02	1.03E+00	1.24E-04 +/- 5.17E-06
7	1408.01	1.73E-02 +/- 1.23E-02	1.02E+00	9.82E-05 +/- 6.51E-06

Segment: 16 Detector: DET01 (# 1) Position: 16

Elapsed Live Time: 113.80 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.714 +/- 0.0305
SE-75	264.65	0.000 +/- 0.0000	0.789 +/- 0.0067
SE-75	279.53	0.000 +/- 0.0000	0.796 +/- 0.0086
SE-75	400.65	0.000 +/- 0.0000	0.815 +/- 0.0102

Batch 2002-02-345

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.25E+00	9.52E-10 +/- 5.35E-09
2	400.66	6.02E-02 +/- 2.64E-02	1.08E+00	1.86E-04 +/- 1.20E-05
3	443.98	4.52E-02 +/- 2.29E-02	1.08E+00	1.70E-04 +/- 1.22E-05
4	662.42	4.34E-02 +/- 1.94E-02	1.06E+00	1.26E-04 +/- 8.22E-06
5	1085.91	1.74E-02 +/- 1.23E-02	1.05E+00	9.33E-05 +/- 4.42E-06
6	1112.12	1.74E-02 +/- 1.23E-02	1.05E+00	9.17E-05 +/- 4.32E-06

Batch 2002-02-346

Summed Spectrum

Peak Locate Report

Sample ID: S100_837
Peak Locate Performed on: 1-31-02 8:32:56 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192
Peak Search Sensitivity: 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
1	43.00	0.2747	21.42	13.25
2	46.47	0.1334	23.16	29.74
3	70.18	0.0403	35.00	504.03
4	119.34	0.0649	59.57	156.61
5	134.76	0.3785	67.27	5.33
6	150.25	0.2416	75.01	12.75
7	197.78	0.0821	98.75	79.18
8	207.08	0.0820	103.40	61.84
9	222.68	0.1029	111.19	45.26
10	229.27	0.1511	114.49	26.63
11	234.54	0.1783	117.12	14.87
12	259.20	0.0716	129.44	111.29
13	293.11	0.3107	146.38	9.24
14	297.79	0.1212	148.72	40.35
15	322.52	0.2174	161.08	6.44
16	329.96	0.1678	164.80	18.91
17	343.56	0.2267	171.59	10.98
18	359.37	0.2672	179.49	7.95
19	379.54	0.2325	189.56	9.91
20	392.27	0.1956	195.93	13.96
21	417.02	0.0605	208.29	138.98
22	487.57	0.3254	243.54	5.40
23	511.96	0.1624	255.73	19.44
24	536.36	0.1651	267.92	18.60
25	596.30	0.2005	297.86	12.68
26	625.18	0.1646	312.29	16.88
27	642.90	0.2421	321.15	9.92
28	648.96	0.2162	324.17	10.08
29	667.05	0.0819	333.21	69.48
30	673.31	0.1290	336.34	29.95
31	691.78	0.0845	345.57	66.10
32	738.44	0.1339	368.88	22.19
33	751.94	0.0624	375.63	117.38
34	767.53	0.1159	383.41	37.47
35	787.84	0.0864	393.56	59.35
36	829.43	0.0628	414.34	106.29

Batch 2002-02-347

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
37	847.15	0.1237	423.19	29.25
38	905.14	0.1042	452.16	41.01
39	1240.99	0.2056	619.96	10.32
40	1283.08	0.2910	640.99	5.57
41	1295.01	0.2130	646.95	9.47
42	1308.72	0.2269	653.80	7.03
43	1328.22	0.1294	663.54	23.55
44	1381.04	0.2721	689.93	5.74
45	1411.26	0.2913	705.03	5.04
46	1447.76	0.1523	723.27	16.56
47	1516.46	0.2598	757.59	5.49
48	1542.77	0.2204	770.74	7.99
49	2930.97	0.2577	1464.31	5.12

Errors quoted at 1.000 sigma

Batch 2002-02-348

Summed Spectrum

Peak Analysis Report

Sample ID: S100_837
Peak Analysis Performed on: 1-31-02 8:32:56 AM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	39-	46	43.00	21.42	1.52E+04	205.00	1.35E+04
2	46-	49	46.47	23.16	1.46E+04	222.71	2.08E+04
3	66-	73	70.18	35.00	1.81E+06	1360.10	2.04E+04
4	115-	122	119.34	59.57	2.62E+05	587.87	4.12E+04
5	131-	138	134.76	67.27	7.08E+02	232.79	2.62E+04
6	149-	153	150.25	75.01	2.32E+03	222.54	2.82E+04
7	193-	201	197.78	98.75	1.20E+05	722.61	1.89E+05
8	206-	210	207.08	103.40	1.04E+05	455.92	5.67E+04
9	218-	226	222.68	111.19	2.02E+04	511.94	1.05E+05
10	226-	233	229.27	114.49	2.41E+03	505.27	1.25E+05
11	233-	238	234.54	117.12	1.14E+04	388.22	6.47E+04
12	255-	263	259.20	129.44	9.13E+04	438.72	4.69E+04
13	291-	300	293.11	146.38	1.82E+04	338.22	4.23E+04
14	298-	304	297.79	148.72	5.94E+03	260.88	3.03E+04
15	318-	326	322.52	161.08	1.86E+03	286.90	3.71E+04
16	326-	334	329.96	164.80	2.02E+03	281.25	3.59E+04
17	339-	347	343.56	171.59	4.77E+03	263.82	3.03E+04
18	355-	363	359.37	179.49	2.36E+03	254.29	2.92E+04
19	375-	383	379.54	189.56	3.28E+03	251.36	2.81E+04
20	387-	396	392.27	195.93	4.26E+03	267.81	2.99E+04
21	412-	421	417.02	208.29	8.76E+04	437.14	4.42E+04
22	482-	492	487.57	243.54	1.36E+03	204.01	1.69E+04
23	507-	516	511.96	255.73	4.00E+03	183.47	1.31E+04
24	531-	541	536.36	267.92	3.37E+03	191.04	1.39E+04
25	591-	601	596.30	297.86	2.19E+03	168.89	1.11E+04
26	620-	630	625.18	312.29	2.63E+03	168.06	1.07E+04
27	639-	647	642.90	321.15	1.00E+03	158.36	1.11E+04
28	647-	653	648.96	324.17	1.74E+03	130.23	7.58E+03
29	662-	672	667.05	333.21	2.40E+04	268.07	1.91E+04
30	672-	678	673.31	336.34	3.39E+03	201.46	1.17E+04
31	689-	696	691.78	345.57	2.36E+04	192.63	6.63E+03
32	733-	743	738.44	368.88	9.40E+03	164.32	7.33E+03
33	746-	757	751.94	375.63	6.20E+04	308.46	1.31E+04
34	767-	772	767.53	383.41	6.20E+03	149.32	4.42E+03
35	782-	793	787.84	393.56	2.34E+04	178.08	3.32E+03
36	824-	834	829.43	414.34	6.13E+04	258.42	2.31E+03
37	841-	852	847.15	423.19	3.24E+03	106.46	3.16E+03

Batch 2002-02-349

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
38	899-	910	905.14	452.16	7.34E+03	102.73	1.28E+03
39	1234-	1246	1240.99	619.96	6.39E+02	36.76	2.71E+02
40	1277-	1289	1283.08	640.99	3.07E+02	34.58	3.36E+02
41	1289-	1301	1295.01	646.95	2.10E+02	38.19	4.66E+02
42	1302-	1314	1308.72	653.80	5.30E+02	35.86	2.88E+02
43	1326-	1334	1328.22	663.54	2.62E+03	56.59	2.72E+02
44	1374-	1387	1381.04	689.93	2.09E+02	29.20	2.29E+02
45	1405-	1417	1411.26	705.03	6.64E+01	23.28	1.78E+02
46	1441-	1454	1447.76	723.27	1.26E+03	44.39	2.59E+02
47	1510-	1522	1516.46	757.59	1.66E+02	19.83	8.63E+01
48	1536-	1549	1542.77	770.74	3.83E+02	26.37	1.13E+02
49	2922-	2938	2930.97	1464.31	1.17E+02	12.75	1.46E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-02-350

Summed Spectrum

Nuclide Identification Report

Sample ID: S100_837
Nuclide Library Used: C:\WAS\NLIB\LLNL.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/)	Activity Uncertainty
Pulser	0.999	35.10*	100.00	2.870E+05	7.218E+05
Np-237	0.754	300.10	6.63		
		311.90*	38.60	6.320E+00	4.061E-01
Pu-239	0.971	413.70*	0.00	4.564E+06	8.533E+04
Pu-239A	0.998	129.29*	0.01	1.472E+06	3.703E+04
Am-241	0.914	662.42*	0.00	1.046E+06	2.437E+04
Pu-241	0.998	148.57*	0.00	2.874E+06	1.335E+05

* = Energy line found in the spectrum.
Energy Tolerance : 1.500 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 1.000 sigma

Batch 2002-02-351

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 1-31-02 8:32:56 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	21.42	1.3547E+02	1.35
2	23.16	1.3039E+02	1.53
4	59.57	2.3406E+03	0.24
5	67.27	6.3154E+00	32.90
6	75.01	2.0669E+01	9.61
7	98.75	1.0752E+03	0.61
8	103.40	9.2864E+02	0.45
9	111.19	1.8000E+02	2.54
10	114.49	2.1492E+01	20.98
11	117.12	1.0166E+02	3.41
13	146.38	1.6232E+02	1.86
15	161.08	1.6599E+01	15.43
16	164.80	1.8027E+01	13.92
17	171.59	4.2576E+01	5.53
18	179.49	2.1079E+01	10.77
19	189.56	2.9296E+01	7.66
20	195.93	3.8055E+01	6.28
21	208.29	7.8221E+02	0.51
22	243.54	1.2149E+01	14.99
23	255.73	3.5663E+01	4.59
24	267.92	3.0062E+01	5.67
25	297.86	1.9561E+01	7.71
27	321.15	8.9349E+00	15.82
28	324.17	1.5500E+01	7.50
29	333.21	2.1432E+02	1.12
30	336.34	3.0280E+01	5.94
31	345.57	2.1060E+02	0.82
32	368.88	8.3873E+01	1.75
33	375.63	5.5325E+02	0.51
34	383.41	5.5320E+01	2.41
35	393.56	2.0907E+02	0.77
37	423.19	2.8926E+01	3.29
38	452.16	6.5475E+01	1.40
39	619.96	5.6995E+00	5.76
40	640.99	2.7394E+00	11.27
41	646.95	1.8714E+00	18.21
42	653.80	4.7316E+00	6.77
44	689.93	1.8684E+00	13.95
45	705.03	5.9275E-01	35.05
46	723.27	1.1232E+01	3.53
47	757.59	1.4783E+00	11.97
48	770.74	3.4161E+00	6.89
49	1464.31	1.0481E+00	10.86

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Batch 2002-02-352

Errors quoted at 1.000 sigma

Combined Segment NID

NID Results Combiner Mode: Sum Activities

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		3.84E+07	+/-	2.01E+08	1.73E+03	+/-	9.06E+03
SE-75	<	3.91E-01	+/-	1.94E-02	< 1.76E-05	+/-	8.72E-07
EU-152x	<	2.09E-01	+/-	1.31E-02	< 9.42E-06	+/-	5.91E-07
U-233		1.05E+04	+/-	4.08E+03	4.75E-01	+/-	1.84E-01
U-235		1.01E-01	+/-	6.15E-02	4.57E-06	+/-	2.77E-06
Np-237		9.20E+00	+/-	5.16E-01	4.14E-04	+/-	2.33E-05
Pu-238	<	4.05E+04	+/-	1.97E+03	< 1.82E+00	+/-	8.86E-02
U-238		2.08E+00	+/-	1.08E+00	9.39E-05	+/-	4.88E-05
Pu-239		5.42E+06	+/-	1.31E+05	2.44E+02	+/-	5.90E+00
Pu-239A		4.06E+06	+/-	1.24E+05	1.83E+02	+/-	5.59E+00
Am-241		1.29E+06	+/-	4.34E+04	5.79E+01	+/-	1.96E+00
Pu-241		1.67E+07	+/-	6.09E+05	7.50E+02	+/-	2.74E+01

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
U-233	1.10E+00	+/-	4.24E-01
U-235	4.70E-02	+/-	2.85E-02
Np-237	1.31E-02	+/-	7.33E-04
U-238	6.21E+00	+/-	3.23E+00
Pu-239	8.73E+01	+/-	2.11E+00
Pu-239A	6.53E+01	+/-	2.00E+00
Am-241	3.75E-01	+/-	1.27E-02
Pu-241	1.61E-01	+/-	5.89E-03

Batch 2002-02-354

Summed Spectrum

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		2.87E+05	+/-	7.22E+05	1.29E+01	+/-	3.25E+01
SE-75	<	9.05E-01	+/-	7.89E-03	< 4.08E-05	+/-	3.55E-07
EU-152x	<	4.44E-01	+/-	8.56E-03	< 2.00E-05	+/-	3.85E-07
U-233	<	4.04E+04	+/-	8.44E+02	< 1.82E+00	+/-	3.80E-02
U-235	<	1.36E+00	+/-	2.68E-02	< 6.13E-05	+/-	1.21E-06
Np-237		6.32E+00	+/-	4.06E-01	2.85E-04	+/-	1.83E-05
Pu-238	<	9.83E+04	+/-	1.43E+03	< 4.43E+00	+/-	6.45E-02
U-238	<	1.22E+01	+/-	1.94E-01	< 5.48E-04	+/-	8.75E-06
Pu-239		4.56E+06	+/-	8.53E+04	2.06E+02	+/-	3.84E+00
Pu-239A		1.47E+06	+/-	3.70E+04	6.63E+01	+/-	1.67E+00
Am-241		1.05E+06	+/-	2.44E+04	4.71E+01	+/-	1.10E+00
Pu-241		2.87E+06	+/-	1.33E+05	1.29E+02	+/-	6.01E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
Np-237	8.97E-03	+/-	5.77E-04
Pu-239	7.35E+01	+/-	1.37E+00
Pu-239A	2.37E+01	+/-	5.96E-01
Am-241	3.05E-01	+/-	7.12E-03
Pu-241	2.78E-02	+/-	1.29E-03

Batch 2002-02-355

Final Non-Uniformity Results

Source Longitudinal Ratio:	0.000	+/-	0.0000
Matrix Longitudinal Ratio:	0.564	+/-	0.0239
Source Vertical Ratio:	0.000	+/-	0.0000
Matrix Vertical Ratio:	0.859	+/-	0.0158

NUDS could not find the transmission peak in one radial segment.
NUDS could not find the source peak in any radial segment.

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
1-31-02 9:51:39 AM

QA File: C:\WAS\CTRS\CTR1\ARR1\S11_BCK.QA
Sample ID: B838
Sample Quantity: 1.0000E+00
Sample Date: 1-31-02 9:45:20 AM
Measurement Date: 1-31-02 9:45:18 AM
Elapsed Live Time: 200.0 seconds
Elapsed Real Time: 201.9 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
Ref. Peak [0.00+/-0.00]	3.5014E+01	0.00 < : : : >
Upper CPS Reg [0.00+/-0.00]	2.0040E+01	0.00 < : : : >
Peak counts/second [0.00+/-0.00]	1.0087E+03	0.00 < : : : >
Pulser FWHM [0.00+/-0.00]	9.7110E-01	0.00 < : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
1-31-02 9:51:32 AM

QA File: C:\WAS\CTRS\CTR1\ARR1\T11_BCK.QA
Sample ID: B838
Sample Quantity: 1.0000E+00
Sample Date: 1-31-02 9:45:20 AM
Measurement Date: 1-31-02 9:49:27 AM
Elapsed Live Time: 100.0 seconds
Elapsed Real Time: 104.2 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >

Batch 2002-02-357

400.6 keV Centroid	8.0347E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>
400.6 keV FWHM	1.5107E+00			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak centroid 136 KeV	2.7275E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak area 400 keV	1.8664E+04			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak counts/second	1.8664E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

OK RH 1-31-02

JM 4-19-02

Batch 2002-02-358

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS 2.3A

****
* DRUM INFORMATION *
****

Drum Package ID: LL85300999
Sequence Number: 839
Assay Date & Time: 1-31-2002 9:58:50 AM
Drum Package GROSS Weight: 66.00 kg NET Weight: 34.20 kg

IDC Number: LL85300999

QC Replicate (Yes/No): NO Passed (Yes/No): _____

Operator Name (Printed): RH 1-31-02 Russell Rath

Operator Signature: _____ Date: 1-31-02

Independent Reviewer: _____ Date: 6-4-02

Expert Reviewer: Kenneth Raschke Date: 5/22/02

Tech. Supv/QA Officer: _____ Date: 7/17/02

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 4.016E+00 +/- 1.000E+00 Ci

Batch 2002-02-359

****
* I S O T O P I C I N F O R M A T I O N *
****

Isotope	Measured Mass (g)	Mass Uncertainty (g)
Pu-238	6.705E-03	2.541E-03
Pu-239	4.349E+01	1.533E+01
Pu-240	2.947E+00	1.042E+00
Pu-241	8.559E-02	3.022E-02
Pu-242	1.406E-02	5.669E-03
Am-241	1.502E-01	5.301E-02
*Am-243	N/A	N/A
*Np-237	N/A	N/A
U-235	5.308E+00	1.892E+00
*U-238	N/A	N/A
*U-233	N/A	N/A

* = Activity/Mass below detectable limit.

Total Pu Mass: 4.65E+01 +/- 1.54E+01 g

****
* M G A R E S U L T S *
****

NUCLIDE	% Weight	% Error(1-Sigma)
Pu-238	1.440E-02	7.09E+00
Pu-239	9.344E+01	9.48E-02
Pu-240	6.331E+00	1.39E+00
Pu-241	1.839E-01	1.02E+00
Pu-242	3.020E-02	1.00E+01
Am-241	3.227E-01	9.48E-01
U-235	1.140E+01	2.69E+00

Batch 2002-02-360

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005
Software Version: GWAS V2.3A RADA V2.1

Assay Date & Time: 1-31-2002 9:58:50 AM
Report Generated: 5-22-2002 3:43:10 PM

Drum Package ID: LL85300999
Sequence Number: 839

Waste Classification (TRU or LLW): TRU

		Errors at 1.96 sigma	
Total Alpha Activity :	4.016E+00	+/- 1.000E+00	Ci
Total TRU Activity :	1.174E+05	+/- 2.924E+04	nCi/g
Pu-239 Equiv Activity:	4.180E+00	+/- 1.002E+00	Ci
Fissile Gram Equiv Mass:	4.906E+01	+/- 1.568E+01	g
Total Decay Heat:	1.275E-01	+/- 3.145E-02	W
TMU Value:	35.25 %		

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error
Pu-238	1.16E-01	4.40E-02	6.70E-03	2.54E-03
Pu-239	2.70E+00	9.52E-01	4.35E+01	1.53E+01
Pu-240	6.78E-01	2.40E-01	2.95E+00	1.04E+00
Pu-241	8.90E+00	3.14E+00	8.56E-02	3.02E-02
Pu-242	5.58E-05	2.25E-05	1.41E-02	5.67E-03
Am-241	5.21E-01	1.84E-01	1.50E-01	5.30E-02
*Am-243	N/A	N/A	N/A	N/A
*Np-237	N/A	N/A	N/A	N/A
U-235	1.16E-05	4.14E-06	5.31E+00	1.89E+00
*U-238	N/A	N/A	N/A	N/A
*U-233	N/A	N/A	N/A	N/A

* = Activity/Mass below detectable limit.

Total Pu Mass: 4.65E+01 +/- 1.54E+01 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sigma)
Pu-238	1.440E-02	7.09E+00
Pu-239	9.344E+01	9.48E-02
Pu-240	6.331E+00	1.39E+00
Pu-241	1.839E-01	1.02E+00
Pu-242	3.020E-02	1.00E+01
Am-241	3.227E-01	9.48E-01
U-235	1.140E+01	2.69E+00

Batch 2002-02-361

SGS Expert Review Checklist

Container Identification #: LL85300999_____ Original Assay Date:1-31-2002__

1. *WCP-41, §6.1:* A MGA report ☒ is present or ☐ expert review has provided isotopic ratios from SGS or AK. Comment: ☒ No comments
2. *WCP-41, §6.1:* MGA and AK ☒ agree as to radiological composition or, if not, ☐ expert review has resolved this. Comment: ☒ No comments
3. *WCP-41, §6.2.1:* ☒ Pu-238 ≤ 2% by weight of total Pu or, if not, ☐ expert review has addressed this and assigned a Pu-240 value. Comment: ☒ No comments
4. *WCP-41, §6.2.2:* ☐ Neither Np-237 nor U-235 is identified by MGA or ☒ expert review has addressed possible interferences from these radionuclides.
   Comment: U-235 is identified by MGA and confirmed by GWAS. There is no interference. ☐ No comments
5. *WCP-41, §6.2.2.2:* ☒ Am-241 separation date is 1950 or later or ☐ expert review has addressed possible interferences. Comment: ☒ No comments
6. *WCP-41, §6.3.1.1.a:* ☒ Bulk density of waste ≤ 0.6 g/ml or ☐ expert review has addressed the high density of the drum. Comment: ☒ No comments
7. *WCP-41, §6.3.1.2.a:* ☐ Transmission in every segment ≥ 0.1% for the Se-75 peaks at 136 keV or 265 keV or ☒ expert review has addressed the low transmission.
   Comment: The transmission at 136 keV is zero in three segments however the transmission for the 265 keV gamma is okay. The 413 kev to 129 keV ratio is also okay. ☐ No comments
8. *WCP-41, §6.3.1.2.a:* ☒ Transmission in every segment ≥1% for the Se-75 peak at 401 keV or ☐ expert review has addressed the low transmission. Comment: ☒ No comments
9. *WCP-41, §6.3.1.3.b:* ☒ Dead time in every segment ≤ 50% or ☐ expert review has addressed the high dead time. Comment: ☒ No comments
10. *WCP-41, §6.3.1.3.c:* ☒ Pu-239 masses determined from the 414 keV peak and the 129 keV peak agree by a factor of < 2.5 or ☐ expert review has addressed possible matrix inhomogeneity. Comment: ☒ No comments
11. *WCP-41, §6.3.2.3:* Cs-137 (☐ has) (☒ has not) been identified by expert review. If it has, Sr-90 is reported ☐ at an activity ratio to Cs-137of 0.39 for Pu fission or ☐ at a ratio of 1 for U-235 fission or, ☐ if both Pu and U are present, the expert reviewer has determined the ratio. Comment: ☒ No comments
12. *WCP-41, §6.3.2.4:* ☐ No unusual nuclides are identified (none other than the 10 required to be reported to WIPP) or ☒ the expert reviewer has

CONTROLLED FORM

Batch 2002-02-362

SGS Expert Review Checklist

Container Identification #: LL85300999_____ Original Assay Date:1-31-2002__

checked for interferences from unusual nuclides. Comment: U-235 is included and it is at a 2.7% error. ☐ No comments

13. *WCP-41, §6.3.3:* For waste drums (☐ NA for standards), ☐ the Summed Spectrum report value for Pu-239 and the Combined Segment NID report for Pu-239 agree within 95% confidence limits (the same as for replicates of unknowns) or ☒ expert review has addressed the difference. Comment: The combined NID/summed NID ratio disagrees by more than three sigma. The uniformity measurements indicate that one should not expect the two to agree. ☐ No comments

14. *WCP-41, §6.4:* ☒ The SGS Summed Spectrum and Combined Segment NID reports agree as to the ratios by weight of several radionuclides, such as those of Am-241, Pu-241, Np-237, Am-243, and U-235 to Pu-239, and MGA results agree as to identifying these radionuclides or ☐ expert review has resolved this. Comment: ☒ No comments

15. *WCP-41, §6.6.1:* ☒ All reported radionuclide masses are above 2.5 times the uncorrected MDA or ☐ expert review has calculated transmission-corrected MDA's and taken appropriate action. Comment: ☒ No comments

16. *WCP-41, §6.6.2:* ☒ Any changes to reported quantities of individual radionuclides have been entered into the RADA program and a new radioassay data sheet has been produced, showing revised derivative quantities, and included in the batch data report, along with the marked up original. Comment: ☒ No comments

17. *CP-41, §6.7:* ☒ Counting statistics are adequate for normal passive count time of 120 seconds per segment or ☐ Counting statistics are adequate for long passive count time of 600 seconds per segment or ☐ expert review has rejected the count and ordered a longer count time. Comment: ☒ No comments

Kenneth Raschke — Expert Reviewer (print)

Kenneth Raschke — Signature

5/22/02 — Date

Batch 2002-02-363

****
***** M G A R E P O R T *****
****

Report generated on: 1-31-02 10:55:21 AM

MGA version: MGA V9.5 CI

Spectrum ID: 11200839.CNF Sens : 30.0% LT: 54.4 Mins DT: 2.62
Measurement date: 1-31-02 Declared date: 1-31-02

Sample ID: LL85300999 Detector: Total counts: 5.260E+06

Pu g/cm2 = 0.0020 Cd g/cm2 = 2.3752 FWHM at 122 keV = 684 eV
QFIT = 1.62 FWHM at 208 keV = 850 eV
NQFIT = 1.04

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	Meas. date %Err	Decl. date % weight	Decl. date %Err
Pu-238	0.000154	7.1	7.1	0.0783	7.0	0.01440	7.09	0.01440	7.09
Pu-239	1.000000	0.0	0.6	508.1141	1.0	93.44028	0.09	93.44028	0.09
Pu-240	0.067757	1.5	1.4	34.4282	1.6	6.33122	1.39	6.33122	1.39
Pu-241	0.001968	1.0	1.0	1.0000	0.0	0.18390	1.02	0.18390	1.02
Pu-242	(New alg.)			0.1642	(10)	0.03020	(10)	0.03020	(10)
Am-241	0.003453	1.0	0.8	1.7546	1.2	0.32266	0.95	0.32266	0.95
U-235	0.122039	2.6	2.7			11.40331	2.69	11.40331	2.69

Pu-240 effective (meas. date) = 6.418 +/- 1.50%
Am-241 separated about 20.913 +/- 0.279 years ago
Am/Pu-241 weight ratio = 1.75455 +/- 1.22%

Messages :

Lead x-rays detected.
Calculations in MGAABS didn't converge : results may be suspect.
Pu-241/Pu-239 efficiency changed in MGACAL by 1%.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Batch 2002-02-364

NOT VALID
KER
5/22/02

****
* ISOTOPIC INFORMATION *
****

Isotope	Measured Mass (g)	Mass Uncertainty (g)	MDC (g)
Pu-238	6.705E-03	2.54E-03	1.757E-05
Pu-239	4.349E+01	1.53E+01	1.140E-01
Pu-240	2.947E+00	1.04E+00	7.722E-03
Pu-241	8.559E-02	3.02E-02	1.672E-03
Pu-242	1.406E-02	5.67E-03	3.683E-05
Am-241	1.502E-01	5.30E-02	4.020E-03
Am-243	0.000E+00	0.00E+00	0.000E+00
Np-237	0.000E+00	0.00E+00	5.722E-04
U-235	5.308E+00	1.89E+00	1.233E-01
U-238	1.474E+01	5.36E+00	1.474E+01
U-233	8.592E-01	3.12E-01	8.592E-01

Total Pu Mass: 4.65E+01 +/- 4.05E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	1.440E-02	7.09E+00
Pu-239	9.344E+01	9.48E-02
Pu-240	6.331E+00	1.39E+00
Pu-241	1.839E-01	1.02E+00
Pu-242	3.020E-02	1.00E+01
Am-241	3.227E-01	9.48E-01
U-235	1.140E+01	2.69E+00

Batch 2002-02-31

Gamma Waste Assay

Sample Information

File Name: C:\WAS\DATA\900\11100839.S11
Sample ID: LL85300999 Count Sequence Number: 839
Assay Start: 1-31-02 9:58:52 AM
Description 1: unknown
Description 2:
Location: 7715
Comment:
Waste Type:
Weight: Gross: 66000.0 g Net: 34200.0 g
Density: 0.164 g /ml

Container Type: 55 Gal Galv
Container: Volume: 208000. ml Full: 100.0 %

System Configuration

Counter ID Number: SGS
Arrangement Description: SGS
Segments: Number: 16 Offset: 0
Scanning Platform: Start: 934 mm Delta: -51 mm
Count Type: 55 Gal Galv
Collimator/Geometry Setting: 0
Transmission Mode: Two pass
Transmission Source: 0

Errors quoted at 1.000 sigma
Reference Source Date: Reference Source Rate: 1.01E+03 cps
Geometric Correction Factor(SWCONTGCF): 0.760
Date of efficiency calibration approval: 4-18-2001 12:41:36 PM
Mu Factors response file: Lucite
Transmission Calib. Time: 5-11-2001 2:20:42 PM 59052

Reviewed by: Lee P Collins Date: 7/16/02

Batch 2002-02-367

Segment Results

Segment: 1 Detector: DET01 (# 1) Position: 1

Elapsed Live Time: 113.63 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.147 +/- 0.0170
SE-75	264.65	0.000 +/- 0.0000	0.256 +/- 0.0031
SE-75	279.53	0.000 +/- 0.0000	0.268 +/- 0.0044
SE-75	400.65	0.000 +/- 0.0000	0.321 +/- 0.0059

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	7.02E-01 +/- 1.49E-01	4.10E+00	4.26E-08 +/- 6.00E-07
2	23.22	9.65E-01 +/- 1.67E-01	4.10E+00	9.48E-08 +/- 1.18E-06
3	35.10	1.01E+03 +/- 4.76E+00	2.82E+00	2.61E-06 +/- 1.64E-05
4	59.62	2.10E+01 +/- 5.20E-01	2.20E+00	3.76E-05 +/- 7.40E-05
5	98.89	2.58E+00 +/- 3.74E-01	1.98E+00	1.39E-04 +/- 4.06E-05
6	129.29	4.02E+00 +/- 3.42E-01	1.91E+00	1.95E-04 +/- 1.38E-05
7	208.43	1.12E+00 +/- 2.34E-01	1.71E+00	2.30E-04 +/- 2.81E-05
8	279.54	3.09E-01 +/- 1.30E-01	1.58E+00	2.11E-04 +/- 1.29E-05
9	311.90	2.59E-01 +/- 1.37E-01	1.56E+00	2.00E-04 +/- 1.03E-05
10	333.50	5.09E-01 +/- 1.30E-01	1.54E+00	1.92E-04 +/- 1.04E-05
11	345.79	4.38E-01 +/- 1.20E-01	1.53E+00	1.88E-04 +/- 1.08E-05
12	375.62	1.29E+00 +/- 1.47E-01	1.51E+00	1.77E-04 +/- 1.18E-05
13	400.66	1.13E-01 +/- 5.71E-02	1.49E+00	1.69E-04 +/- 1.25E-05
14	413.70	1.20E+00 +/- 1.17E-01	1.49E+00	1.65E-04 +/- 1.27E-05

Segment: 2 Detector: DET01 (# 1) Position: 2

Elapsed Live Time: 113.38 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Some transmission peaks rejected.

Batch 2002-02-368

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	0.193 +/- 0.0026
SE-75	279.53	0.000 +/- 0.0000	0.200 +/- 0.0038
SE-75	400.65	0.000 +/- 0.0000	0.253 +/- 0.0052

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.17	3.30E+00 +/- 2.89E-01	4.10E+00	5.45E-10 +/- 5.20E-09
2	35.10	1.01E+03 +/- 4.77E+00	2.88E+00	2.21E-07 +/- 1.06E-06
3	59.61	4.66E+01 +/- 7.70E-01	2.24E+00	2.20E-05 +/- 3.31E-05
4	98.80	8.54E+00 +/- 5.32E-01	2.02E+00	1.84E-04 +/- 4.23E-05
5	111.34	2.05E+00 +/- 4.22E-01	1.98E+00	2.41E-04 +/- 2.51E-05
6	129.29	1.13E+01 +/- 4.60E-01	1.94E+00	3.07E-04 +/- 1.84E-05
7	148.57	9.74E-01 +/- 3.34E-01	1.91E+00	3.54E-04 +/- 3.27E-05
8	203.95	6.06E-01 +/- 3.12E-01	1.82E+00	3.89E-04 +/- 3.82E-05
9	208.41	2.19E+00 +/- 3.40E-01	1.82E+00	3.88E-04 +/- 3.70E-05
10	311.90	6.62E-01 +/- 1.76E-01	1.70E+00	3.18E-04 +/- 1.39E-05
11	333.31	1.56E+00 +/- 2.23E-01	1.67E+00	3.02E-04 +/- 1.34E-05
12	345.62	1.18E+00 +/- 1.90E-01	1.66E+00	2.93E-04 +/- 1.34E-05
13	375.66	4.08E+00 +/- 2.46E-01	1.63E+00	2.74E-04 +/- 1.40E-05
14	383.50	3.42E-01 +/- 1.56E-01	1.63E+00	2.69E-04 +/- 1.42E-05
15	393.61	1.48E+00 +/- 1.50E-01	1.62E+00	2.63E-04 +/- 1.43E-05
16	413.70	4.09E+00 +/- 1.99E-01	1.60E+00	2.51E-04 +/- 1.46E-05
17	423.38	1.42E-01 +/- 7.52E-02	1.60E+00	2.46E-04 +/- 1.46E-05
18	452.13	5.01E-01 +/- 8.02E-02	1.58E+00	2.32E-04 +/- 1.45E-05
19	662.42	5.88E-02 +/- 3.63E-02	1.46E+00	1.65E-04 +/- 9.18E-06
20	1001.03	2.03E-02 +/- 1.71E-02	1.36E+00	1.20E-04 +/- 5.31E-06
21	1085.91	1.42E-02 +/- 1.30E-02	1.34E+00	1.13E-04 +/- 4.92E-06

Segment: 3 Detector: DET01 (# 1) Position: 3

Elapsed Live Time: 112.67 sec Elapsed Real Time: 115.00 sec

Batch 2002-02-369

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.126 +/- 0.0201
SE-75	264.65	0.000 +/- 0.0000	0.249 +/- 0.0031
SE-75	279.53	0.000 +/- 0.0000	0.258 +/- 0.0045
SE-75	400.65	0.000 +/- 0.0000	0.309 +/- 0.0059

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
	1	23.24	7.16E+00 +/- 4.23E-01	4.10E+00	1.09E-08 +/- 1.06E-07
	2	35.10	1.01E+03 +/- 4.80E+00	3.00E+00	1.07E-06 +/- 5.27E-06
	3	59.60	8.68E+01 +/- 1.08E+00	2.32E+00	3.79E-05 +/- 5.87E-05
	4	98.70	1.82E+01 +/- 8.70E-01	2.08E+00	2.00E-04 +/- 4.76E-05
	5	103.54	1.18E+01 +/- 5.48E-01	2.06E+00	2.20E-04 +/- 3.91E-05
	6	111.30	5.42E+00 +/- 6.27E-01	2.04E+00	2.49E-04 +/- 2.65E-05
	7	129.29	3.04E+01 +/- 6.98E-01	2.00E+00	3.02E-04 +/- 1.84E-05
	8	148.57	2.07E+00 +/- 5.00E-01	1.93E+00	3.39E-04 +/- 3.24E-05
	9	161.92	1.16E+00 +/- 4.90E-01	1.89E+00	3.54E-04 +/- 3.83E-05
	10	164.97	7.56E-01 +/- 3.61E-01	1.88E+00	3.57E-04 +/- 3.92E-05
	11	171.80	1.06E+00 +/- 4.51E-01	1.85E+00	3.61E-04 +/- 4.04E-05
	12	203.96	2.29E+00 +/- 5.32E-01	1.76E+00	3.67E-04 +/- 3.75E-05
	13	208.39	1.00E+01 +/- 6.12E-01	1.75E+00	3.66E-04 +/- 3.64E-05
	14	255.84	6.87E-01 +/- 2.95E-01	1.64E+00	3.46E-04 +/- 2.30E-05
	15	298.20	6.23E-01 +/- 3.38E-01	1.59E+00	3.21E-04 +/- 1.51E-05
	16	311.90	9.78E-01 +/- 2.38E-01	1.57E+00	3.13E-04 +/- 1.40E-05
	17	333.38	6.00E+00 +/- 3.99E-01	1.56E+00	3.00E-04 +/- 1.35E-05
	18	345.65	6.23E+00 +/- 3.59E-01	1.55E+00	2.93E-04 +/- 1.36E-05
M	19	367.65	9.21E-01 +/- 1.69E-01	1.53E+00	2.80E-04 +/- 1.41E-05
m	20	369.29	1.31E+00 +/- 2.06E-01	1.53E+00	2.79E-04 +/- 1.42E-05
	21	375.70	1.83E+01 +/- 4.95E-01	1.53E+00	2.76E-04 +/- 1.44E-05
	22	383.40	1.83E+00 +/- 2.40E-01	1.52E+00	2.72E-04 +/- 1.46E-05
	23	393.66	7.18E+00 +/- 2.98E-01	1.52E+00	2.67E-04 +/- 1.48E-05
	24	400.66	3.58E-01 +/- 1.58E-01	1.51E+00	2.63E-04 +/- 1.50E-05
	25	413.70	1.87E+01 +/- 4.34E-01	1.50E+00	2.57E-04 +/- 1.52E-05
	26	423.30	1.19E+00 +/- 1.67E-01	1.50E+00	2.53E-04 +/- 1.53E-05
	27	452.31	2.29E+00 +/- 1.71E-01	1.48E+00	2.40E-04 +/- 1.54E-05
M	28	660.01	9.38E-02 +/- 3.91E-02	1.39E+00	1.78E-04 +/- 1.03E-05
m	29	663.77	3.70E-01 +/- 9.12E-02	1.39E+00	1.77E-04 +/- 1.02E-05
	30	778.90	8.80E-03 +/- 8.80E-03	1.35E+00	1.57E-04 +/- 7.69E-06

Segment: 4 Detector: DET01 (# 1) Position: 4

Elapsed Live Time: 111.48 sec Elapsed Real Time: 115.00 sec

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TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.136 +/- 0.0233
SE-75	264.65	0.000 +/- 0.0000	0.234 +/- 0.0031
SE-75	279.53	0.000 +/- 0.0000	0.251 +/- 0.0046
SE-75	400.65	0.000 +/- 0.0000	0.291 +/- 0.0059

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	5.60E+00 +/- 4.20E-01	4.10E+00	2.23E-06 +/- 3.43E-06
2	23.23	7.51E+00 +/- 4.58E-01	4.10E+00	3.36E-06 +/- 4.72E-06
3	35.10	1.01E+03 +/- 4.83E+00	2.91E+00	2.00E-05 +/- 1.66E-05
4	59.58	1.64E+02 +/- 1.54E+00	2.26E+00	9.82E-05 +/- 3.39E-05
5	98.70	3.12E+01 +/- 1.18E+00	2.03E+00	2.39E-04 +/- 2.43E-05
6	103.60	2.32E+01 +/- 7.59E-01	2.02E+00	2.54E-04 +/- 2.23E-05
7	111.37	1.13E+01 +/- 8.50E-01	2.00E+00	2.74E-04 +/- 1.96E-05
8	129.29	5.96E+01 +/- 9.76E-01	1.95E+00	3.12E-04 +/- 1.61E-05
9	148.57	5.72E+00 +/- 6.79E-01	1.90E+00	3.40E-04 +/- 1.63E-05
10	164.87	1.49E+00 +/- 4.81E-01	1.86E+00	3.56E-04 +/- 1.76E-05
11	171.84	2.06E+00 +/- 6.01E-01	1.84E+00	3.60E-04 +/- 1.81E-05
12	196.00	1.95E+00 +/- 5.38E-01	1.78E+00	3.69E-04 +/- 1.93E-05
13	208.38	2.64E+01 +/- 8.94E-01	1.76E+00	3.71E-04 +/- 1.94E-05
14	244.70	6.47E-01 +/- 4.22E-01	1.69E+00	3.65E-04 +/- 1.85E-05
15	255.86	2.54E+00 +/- 4.17E-01	1.67E+00	3.62E-04 +/- 1.80E-05
16	268.00	1.07E+00 +/- 3.33E-01	1.64E+00	3.57E-04 +/- 1.73E-05
17	298.01	1.00E+00 +/- 4.79E-01	1.60E+00	3.45E-04 +/- 1.56E-05
18	311.90	2.28E+00 +/- 3.86E-01	1.59E+00	3.38E-04 +/- 1.48E-05
19	333.32	1.11E+01 +/- 6.01E-01	1.58E+00	3.27E-04 +/- 1.37E-05
20	336.52	1.07E+00 +/- 4.66E-01	1.58E+00	3.26E-04 +/- 1.36E-05
21	345.67	1.32E+01 +/- 4.41E-01	1.57E+00	3.21E-04 +/- 1.31E-05
22	369.20	4.32E+00 +/- 4.60E-01	1.56E+00	3.09E-04 +/- 1.23E-05
23	375.69	3.93E+01 +/- 7.31E-01	1.55E+00	3.06E-04 +/- 1.21E-05
24	383.49	4.39E+00 +/- 3.44E-01	1.55E+00	3.02E-04 +/- 1.18E-05
25	393.60	1.47E+01 +/- 4.22E-01	1.54E+00	2.97E-04 +/- 1.16E-05
26	413.70	3.88E+01 +/- 6.41E-01	1.53E+00	2.87E-04 +/- 1.11E-05
27	423.31	1.62E+00 +/- 2.22E-01	1.53E+00	2.83E-04 +/- 1.10E-05
28	443.98	3.19E-01 +/- 1.34E-01	1.51E+00	2.73E-04 +/- 1.07E-05
29	452.33	4.56E+00 +/- 2.35E-01	1.51E+00	2.70E-04 +/- 1.06E-05
30	646.83	1.63E-01 +/- 1.05E-01	1.42E+00	1.99E-04 +/- 9.19E-06
M 31	660.20	1.42E-01 +/- 5.03E-02	1.41E+00	1.95E-04 +/- 9.06E-06
m 32	663.60	1.09E+00 +/- 1.48E-01	1.41E+00	1.94E-04 +/- 9.02E-06
33	723.09	4.95E-01 +/- 9.50E-02	1.39E+00	1.79E-04 +/- 8.36E-06
34	867.39	2.97E-02 +/- 2.59E-02	1.35E+00	1.50E-04 +/- 6.50E-06
35	1408.01	1.78E-02 +/- 1.26E-02	1.26E+00	9.34E-05 +/- 5.87E-06

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Segment: 5 Detector: DET01 (# 1) Position: 5

Elapsed Live Time: 111.53 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Some transmission peaks rejected.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	0.210 +/- 0.0029
SE-75	279.53	0.000 +/- 0.0000	0.228 +/- 0.0044
SE-75	400.65	0.000 +/- 0.0000	0.271 +/- 0.0056

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	6.87E+00 +/- 4.34E-01	4.10E+00	1.08E-06 +/- 1.72E-06
2	23.15	8.34E+00 +/- 4.75E-01	4.10E+00	1.74E-06 +/- 2.54E-06
3	35.10	1.01E+03 +/- 4.83E+00	2.76E+00	1.48E-05 +/- 1.27E-05
4	49.44	8.69E+00 +/- 8.22E-01	2.30E+00	5.41E-05 +/- 2.70E-05
5	59.60	1.86E+02 +/- 1.65E+00	2.16E+00	9.33E-05 +/- 3.30E-05
6	75.05	1.00E+00 +/- 5.51E-01	2.05E+00	1.59E-04 +/- 3.39E-05
7	98.73	3.05E+01 +/- 1.18E+00	1.95E+00	2.49E-04 +/- 2.52E-05
8	103.43	2.41E+01 +/- 7.08E-01	1.94E+00	2.64E-04 +/- 2.33E-05
9	111.34	9.76E+00 +/- 8.34E-01	1.92E+00	2.86E-04 +/- 2.04E-05
10	129.29	5.46E+01 +/- 9.56E-01	1.88E+00	3.26E-04 +/- 1.67E-05
11	144.51	1.18E+00 +/- 6.20E-01	1.86E+00	3.49E-04 +/- 1.68E-05
12	148.57	5.95E+00 +/- 6.43E-01	1.85E+00	3.54E-04 +/- 1.71E-05
13	161.50	1.39E+00 +/- 6.07E-01	1.83E+00	3.66E-04 +/- 1.83E-05
14	171.70	2.49E+00 +/- 5.97E-01	1.82E+00	3.71E-04 +/- 1.92E-05
15	179.49	8.73E-01 +/- 5.32E-01	1.81E+00	3.74E-04 +/- 1.97E-05
16	196.06	2.29E+00 +/- 5.26E-01	1.78E+00	3.76E-04 +/- 2.03E-05
17	208.38	2.75E+01 +/- 8.71E-01	1.77E+00	3.75E-04 +/- 2.04E-05
18	255.76	2.11E+00 +/- 4.06E-01	1.72E+00	3.58E-04 +/- 1.84E-05
19	267.78	1.13E+00 +/- 3.53E-01	1.70E+00	3.51E-04 +/- 1.76E-05
20	298.00	1.45E+00 +/- 4.58E-01	1.65E+00	3.34E-04 +/- 1.56E-05
21	311.90	3.22E+00 +/- 3.82E-01	1.64E+00	3.26E-04 +/- 1.48E-05
22	324.47	8.45E-01 +/- 3.33E-01	1.63E+00	3.19E-04 +/- 1.40E-05
23	333.32	1.09E+01 +/- 5.61E-01	1.62E+00	3.13E-04 +/- 1.36E-05
24	336.44	6.37E-01 +/- 4.52E-01	1.62E+00	3.12E-04 +/- 1.34E-05
25	345.58	1.32E+01 +/- 4.16E-01	1.61E+00	3.06E-04 +/- 1.30E-05
26	368.82	4.96E+00 +/- 3.64E-01	1.60E+00	2.93E-04 +/- 1.20E-05
27	375.68	3.49E+01 +/- 6.90E-01	1.59E+00	2.89E-04 +/- 1.18E-05
28	383.42	3.66E+00 +/- 3.22E-01	1.59E+00	2.85E-04 +/- 1.16E-05
29	393.62	1.28E+01 +/- 4.05E-01	1.58E+00	2.79E-04 +/- 1.13E-05

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30	400.66	3.87E-01 +/-	1.82E-01	1.58E+00	2.76E-04 +/-	1.11E-05
31	413.70	3.50E+01 +/-	6.04E-01	1.57E+00	2.69E-04 +/-	1.09E-05
32	423.32	2.03E+00 +/-	2.20E-01	1.56E+00	2.64E-04 +/-	1.07E-05
33	443.98	1.88E-01 +/-	1.01E-01	1.55E+00	2.54E-04 +/-	1.04E-05
34	452.23	4.08E+00 +/-	2.20E-01	1.54E+00	2.50E-04 +/-	1.03E-05
35	549.30	9.16E-02 +/-	5.79E-02	1.49E+00	2.12E-04 +/-	9.63E-06
36	662.42	8.76E-01 +/-	1.13E-01	1.44E+00	1.79E-04 +/-	8.77E-06
37	723.40	5.05E-01 +/-	8.27E-02	1.41E+00	1.65E-04 +/-	8.15E-06
38	770.82	1.75E-01 +/-	5.58E-02	1.40E+00	1.56E-04 +/-	7.60E-06
39	1408.01	8.88E-03 +/-	2.00E-02	1.28E+00	9.75E-05 +/-	6.10E-06

Segment: 6 Detector: DET01 (# 1) Position: 6

Elapsed Live Time: 112.67 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Some transmission peaks rejected.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	0.184 +/- 0.0026
SE-75	279.53	0.000 +/- 0.0000	0.196 +/- 0.0039
SE-75	400.65	0.000 +/- 0.0000	0.238 +/- 0.0051

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	3.74E+00 +/- 3.25E-01	4.10E+00	3.85E-07 +/- 5.97E-07
2	23.21	5.39E+00 +/- 3.61E-01	4.10E+00	6.78E-07 +/- 9.61E-07
3	35.10	1.01E+03 +/- 4.79E+00	2.95E+00	8.04E-06 +/- 6.71E-06
4	59.61	1.08E+02 +/- 1.20E+00	2.28E+00	6.90E-05 +/- 2.40E-05
5	98.76	1.97E+01 +/- 8.75E-01	2.05E+00	2.22E-04 +/- 2.25E-05
6	103.35	1.26E+01 +/- 5.16E-01	2.04E+00	2.38E-04 +/- 2.12E-05
7	111.31	5.19E+00 +/- 6.23E-01	2.02E+00	2.63E-04 +/- 1.90E-05
8	116.41	1.67E+00 +/- 8.37E-01	2.00E+00	2.78E-04 +/- 1.78E-05
9	129.29	2.76E+01 +/- 7.03E-01	1.97E+00	3.10E-04 +/- 1.61E-05
10	148.57	3.02E+00 +/- 4.94E-01	1.94E+00	3.45E-04 +/- 1.67E-05
11	195.94	1.37E+00 +/- 4.02E-01	1.86E+00	3.80E-04 +/- 2.01E-05
12	208.37	1.03E+01 +/- 5.71E-01	1.85E+00	3.81E-04 +/- 2.03E-05
13	255.99	1.05E+00 +/- 3.05E-01	1.79E+00	3.68E-04 +/- 1.85E-05
14	300.10	1.24E+00 +/- 2.82E-01	1.73E+00	3.46E-04 +/- 1.58E-05
15	311.90	4.55E+00 +/- 3.25E-01	1.71E+00	3.39E-04 +/- 1.51E-05
16	333.31	3.70E+00 +/- 3.70E-01	1.70E+00	3.26E-04 +/- 1.39E-05
17	345.69	4.17E+00 +/- 3.19E-01	1.68E+00	3.19E-04 +/- 1.33E-05

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18	369.26	1.94E+00	+/- 2.32E-01	1.67E+00	3.05E-04	+/- 1.23E-05
19	375.71	1.30E+01	+/- 4.11E-01	1.66E+00	3.01E-04	+/- 1.21E-05
20	383.46	1.46E+00	+/- 2.02E-01	1.65E+00	2.97E-04	+/- 1.18E-05
21	393.60	4.81E+00	+/- 2.43E-01	1.65E+00	2.92E-04	+/- 1.16E-05
22	400.66	4.37E-01	+/- 1.24E-01	1.64E+00	2.88E-04	+/- 1.14E-05
23	413.70	1.28E+01	+/- 3.63E-01	1.63E+00	2.81E-04	+/- 1.11E-05
24	423.40	7.61E-01	+/- 1.35E-01	1.62E+00	2.76E-04	+/- 1.09E-05
25	452.23	1.46E+00	+/- 1.36E-01	1.60E+00	2.61E-04	+/- 1.05E-05
26	662.42	3.83E-01	+/- 8.05E-02	1.49E+00	1.86E-04	+/- 8.77E-06
27	1001.03	1.53E-02	+/- 1.27E-02	1.38E+00	1.30E-04	+/- 4.95E-06

Segment: 7 Detector: DET01 (# 1) Position: 7

Elapsed Live Time: 112.89 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.108 +/- 0.0181
SE-75	264.65	0.000 +/- 0.0000	0.214 +/- 0.0028
SE-75	279.53	0.000 +/- 0.0000	0.226 +/- 0.0042
SE-75	400.65	0.000 +/- 0.0000	0.269 +/- 0.0054

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	3.57E+00 +/- 3.03E-01	4.10E+00	2.18E-09 +/- 2.40E-08
2	23.21	5.07E+00 +/- 3.47E-01	4.10E+00	7.19E-09 +/- 7.04E-08
3	35.10	1.01E+03 +/- 4.79E+00	3.19E+00	9.59E-07 +/- 4.73E-06
4	49.90	5.16E+00 +/- 6.41E-01	2.61E+00	1.49E-05 +/- 3.58E-05
5	59.60	1.13E+02 +/- 1.23E+00	2.44E+00	4.02E-05 +/- 6.22E-05
6	98.77	1.95E+01 +/- 7.80E-01	2.18E+00	2.21E-04 +/- 5.19E-05
7	111.29	4.72E+00 +/- 6.12E-01	2.14E+00	2.73E-04 +/- 2.87E-05
8	129.29	2.59E+01 +/- 6.63E-01	2.09E+00	3.30E-04 +/- 1.98E-05
9	148.57	1.01E+00 +/- 4.57E-01	2.02E+00	3.68E-04 +/- 3.49E-05
10	203.98	1.26E+00 +/- 4.17E-01	1.84E+00	3.92E-04 +/- 3.95E-05
11	208.44	6.03E+00 +/- 4.92E-01	1.83E+00	3.91E-04 +/- 3.83E-05
12	300.10	1.27E+00 +/- 2.42E-01	1.65E+00	3.36E-04 +/- 1.56E-05
13	311.90	4.67E+00 +/- 3.00E-01	1.64E+00	3.27E-04 +/- 1.48E-05
14	333.32	2.30E+00 +/- 2.94E-01	1.63E+00	3.13E-04 +/- 1.44E-05
15	345.65	2.70E+00 +/- 2.82E-01	1.62E+00	3.05E-04 +/- 1.46E-05
16	369.21	1.03E+00 +/- 1.95E-01	1.60E+00	2.91E-04 +/- 1.52E-05
17	375.72	8.04E+00 +/- 3.30E-01	1.60E+00	2.87E-04 +/- 1.54E-05
18	383.51	7.24E-01 +/- 1.57E-01	1.59E+00	2.83E-04 +/- 1.57E-05
19	393.65	3.06E+00 +/- 2.05E-01	1.58E+00	2.77E-04 +/- 1.59E-05
20	413.70	8.13E+00 +/- 2.87E-01	1.57E+00	2.67E-04 +/- 1.63E-05

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21	423.58	4.48E-01	+/- 1.22E-01	1.56E+00	2.62E-04	+/- 1.63E-05
22	452.34	9.06E-01	+/- 1.05E-01	1.55E+00	2.49E-04	+/- 1.63E-05
23	664.27	1.36E-01	+/- 6.15E-02	1.44E+00	1.82E-04	+/- 1.06E-05
24	1408.01	3.50E-02	+/- 1.75E-02	1.28E+00	9.90E-05	+/- 6.54E-06

Segment: 8 Detector: DET01 (# 1) Position: 8

Elapsed Live Time: 112.80 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.111 +/- 0.0194
SE-75	264.65	0.000 +/- 0.0000	0.265 +/- 0.0032
SE-75	279.53	0.000 +/- 0.0000	0.268 +/- 0.0046
SE-75	400.65	0.000 +/- 0.0000	0.334 +/- 0.0061

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.17	8.34E+00 +/- 4.33E-01	4.10E+00	4.13E-09 +/- 4.02E-08
2	35.10	1.01E+03 +/- 4.79E+00	3.16E+00	6.89E-07 +/- 3.37E-06
3	59.60	1.20E+02 +/- 1.27E+00	2.42E+00	3.35E-05 +/- 5.14E-05
4	98.78	2.30E+01 +/- 8.37E-01	2.16E+00	1.98E-04 +/- 4.66E-05
5	103.48	1.34E+01 +/- 5.65E-01	2.14E+00	2.18E-04 +/- 3.87E-05
6	111.27	4.59E+00 +/- 6.40E-01	2.12E+00	2.49E-04 +/- 2.64E-05
7	114.63	1.07E+00 +/- 6.30E-01	2.11E+00	2.61E-04 +/- 2.20E-05
8	129.29	2.95E+01 +/- 6.88E-01	2.07E+00	3.05E-04 +/- 1.85E-05
9	148.57	3.00E+00 +/- 4.45E-01	1.99E+00	3.45E-04 +/- 3.27E-05
10	160.34	1.74E+00 +/- 4.21E-01	1.93E+00	3.60E-04 +/- 3.83E-05
11	171.81	1.03E+00 +/- 4.00E-01	1.88E+00	3.69E-04 +/- 4.10E-05
12	189.82	7.48E-01 +/- 3.46E-01	1.81E+00	3.76E-04 +/- 4.08E-05
13	203.95	1.04E+00 +/- 4.48E-01	1.76E+00	3.76E-04 +/- 3.82E-05
14	208.42	8.43E+00 +/- 5.18E-01	1.75E+00	3.76E-04 +/- 3.71E-05
15	244.70	6.01E-01 +/- 2.57E-01	1.64E+00	3.62E-04 +/- 2.67E-05
16	300.10	6.14E-01 +/- 2.46E-01	1.56E+00	3.30E-04 +/- 1.53E-05
17	311.90	3.11E+00 +/- 2.81E-01	1.55E+00	3.23E-04 +/- 1.44E-05
18	333.34	2.76E+00 +/- 3.17E-01	1.53E+00	3.10E-04 +/- 1.38E-05
19	345.63	2.91E+00 +/- 2.72E-01	1.52E+00	3.03E-04 +/- 1.38E-05
20	368.91	1.57E+00 +/- 1.95E-01	1.50E+00	2.89E-04 +/- 1.44E-05
21	375.70	9.32E+00 +/- 3.54E-01	1.49E+00	2.86E-04 +/- 1.46E-05
22	383.50	8.44E-01 +/- 1.70E-01	1.49E+00	2.82E-04 +/- 1.48E-05
23	393.60	3.26E+00 +/- 2.13E-01	1.48E+00	2.76E-04 +/- 1.50E-05
24	413.70	9.68E+00 +/- 3.07E-01	1.47E+00	2.66E-04 +/- 1.54E-05
25	423.26	6.87E-01 +/- 1.21E-01	1.46E+00	2.62E-04 +/- 1.55E-05
26	452.18	1.14E+00 +/- 1.25E-01	1.45E+00	2.49E-04 +/- 1.56E-05

27	662.42	1.97E-01	+/- 7.09E-02	1.36E+00	1.83E-04	+/- 1.03E-05
28	1001.03	8.77E-03	+/- 1.60E-02	1.28E+00	1.28E-04	+/- 5.62E-06

Segment: 9 Detector: DET01 (# 1) Position: 9

Elapsed Live Time: 112.12 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.155 +/- 0.0217
SE-75	264.65	0.000 +/- 0.0000	0.299 +/- 0.0035
SE-75	279.53	0.000 +/- 0.0000	0.307 +/- 0.0049
SE-75	400.65	0.000 +/- 0.0000	0.359 +/- 0.0064

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	5.60E+00 +/- 3.93E-01	4.10E+00	1.44E-06 +/- 1.63E-05
2	23.23	8.28E+00 +/- 4.51E-01	4.10E+00	2.32E-06 +/- 2.33E-05
3	35.10	1.01E+03 +/- 4.81E+00	2.76E+00	1.75E-05 +/- 8.88E-05
4	59.59	1.90E+02 +/- 1.65E+00	2.16E+00	9.99E-05 +/- 1.59E-04
5	75.08	1.77E+00 +/- 5.31E-01	2.05E+00	1.65E-04 +/- 1.31E-04
6	98.77	4.45E+01 +/- 1.10E+00	1.95E+00	2.51E-04 +/- 6.07E-05
7	103.30	3.09E+01 +/- 7.31E-01	1.94E+00	2.65E-04 +/- 4.86E-05
8	111.35	8.57E+00 +/- 7.85E-01	1.92E+00	2.86E-04 +/- 3.05E-05
9	129.29	3.69E+01 +/- 8.02E-01	1.88E+00	3.23E-04 +/- 1.97E-05
10	148.57	5.47E+00 +/- 5.29E-01	1.82E+00	3.48E-04 +/- 3.41E-05
11	164.90	1.10E+00 +/- 3.93E-01	1.77E+00	3.60E-04 +/- 4.08E-05
12	171.83	2.08E+00 +/- 4.64E-01	1.75E+00	3.63E-04 +/- 4.19E-05
13	189.56	9.22E-01 +/- 3.77E-01	1.70E+00	3.67E-04 +/- 4.14E-05
14	195.91	2.09E+00 +/- 4.40E-01	1.68E+00	3.67E-04 +/- 4.04E-05
15	208.36	2.28E+01 +/- 7.25E-01	1.65E+00	3.66E-04 +/- 3.76E-05
16	244.70	9.05E-01 +/- 3.05E-01	1.57E+00	3.54E-04 +/- 2.70E-05
17	255.77	2.31E+00 +/- 2.95E-01	1.55E+00	3.49E-04 +/- 2.39E-05
18	267.95	9.17E-01 +/- 2.45E-01	1.53E+00	3.43E-04 +/- 2.09E-05
19	300.10	1.10E+00 +/- 2.79E-01	1.50E+00	3.26E-04 +/- 1.55E-05
20	311.90	1.74E+00 +/- 2.87E-01	1.49E+00	3.20E-04 +/- 1.45E-05
21	321.31	6.77E-01 +/- 2.96E-01	1.49E+00	3.14E-04 +/- 1.41E-05
22	333.29	7.16E+00 +/- 4.39E-01	1.48E+00	3.08E-04 +/- 1.39E-05
23	336.36	1.28E+00 +/- 3.52E-01	1.48E+00	3.06E-04 +/- 1.39E-05
24	345.66	6.99E+00 +/- 3.65E-01	1.47E+00	3.01E-04 +/- 1.41E-05
25	368.85	3.24E+00 +/- 2.79E-01	1.46E+00	2.89E-04 +/- 1.47E-05
26	375.70	2.14E+01 +/- 5.22E-01	1.45E+00	2.85E-04 +/- 1.49E-05
27	383.53	2.00E+00 +/- 2.76E-01	1.45E+00	2.81E-04 +/- 1.52E-05
28	393.61	7.81E+00 +/- 3.01E-01	1.44E+00	2.76E-04 +/- 1.55E-05

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29	413.70	2.05E+01	+/- 4.54E-01	1.43E+00	2.67E-04	+/- 1.59E-05
30	423.41	1.17E+00	+/- 1.61E-01	1.43E+00	2.62E-04	+/- 1.60E-05
31	452.28	2.49E+00	+/- 1.78E-01	1.41E+00	2.49E-04	+/- 1.61E-05
32	662.42	9.98E-01	+/- 1.05E-01	1.33E+00	1.82E-04	+/- 1.04E-05
33	723.33	4.76E-01	+/- 7.70E-02	1.32E+00	1.69E-04	+/- 8.77E-06
34	778.90	4.42E-02	+/- 1.98E-02	1.30E+00	1.59E-04	+/- 7.62E-06

Segment: 10 Detector: DET01 (# 1) Position: 10

Elapsed Live Time: 112.09 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.158 +/- 0.0220
SE-75	264.65	0.000 +/- 0.0000	0.306 +/- 0.0035
SE-75	279.53	0.000 +/- 0.0000	0.303 +/- 0.0050
SE-75	400.65	0.000 +/- 0.0000	0.370 +/- 0.0065

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
	1	21.42	5.94E+00 +/- 3.92E-01	4.10E+00	1.78E-07 +/- 2.77E-07
	2	23.16	8.23E+00 +/- 4.55E-01	4.10E+00	3.36E-07 +/- 4.77E-07
	3	35.10	1.01E+03 +/- 4.81E+00	2.74E+00	5.68E-06 +/- 4.74E-06
	4	49.69	7.79E+00 +/- 7.36E-01	2.28E+00	3.18E-05 +/- 1.54E-05
	5	59.59	1.97E+02 +/- 1.68E+00	2.15E+00	6.37E-05 +/- 2.21E-05
	6	98.85	4.56E+01 +/- 1.13E+00	1.94E+00	2.31E-04 +/- 2.33E-05
	7	103.33	2.51E+01 +/- 1.04E+00	1.93E+00	2.48E-04 +/- 2.20E-05
	8	111.34	9.33E+00 +/- 7.88E-01	1.91E+00	2.77E-04 +/- 1.98E-05
	9	129.29	3.63E+01 +/- 7.96E-01	1.87E+00	3.30E-04 +/- 1.70E-05
M	10	146.66	7.06E-01 +/- 2.01E-01	1.82E+00	3.65E-04 +/- 1.73E-05
m	11	148.95	5.37E+00 +/- 5.12E-01	1.81E+00	3.68E-04 +/- 1.75E-05
	12	171.72	1.71E+00 +/- 4.67E-01	1.74E+00	3.93E-04 +/- 1.96E-05
	13	179.60	8.31E-01 +/- 4.12E-01	1.71E+00	3.97E-04 +/- 2.02E-05
	14	196.01	1.48E+00 +/- 4.06E-01	1.67E+00	4.02E-04 +/- 2.08E-05
	15	208.38	2.44E+01 +/- 7.34E-01	1.64E+00	4.01E-04 +/- 2.09E-05
	16	244.70	6.17E-01 +/- 3.20E-01	1.56E+00	3.89E-04 +/- 1.95E-05
	17	255.96	1.30E+00 +/- 3.24E-01	1.53E+00	3.82E-04 +/- 1.88E-05
	18	267.99	6.04E-01 +/- 2.84E-01	1.52E+00	3.75E-04 +/- 1.79E-05
	19	297.94	8.26E-01 +/- 3.24E-01	1.50E+00	3.55E-04 +/- 1.59E-05
	20	311.90	1.33E+00 +/- 2.44E-01	1.49E+00	3.45E-04 +/- 1.50E-05
	21	321.45	7.86E-01 +/- 2.90E-01	1.48E+00	3.39E-04 +/- 1.44E-05
	22	333.28	7.02E+00 +/- 4.53E-01	1.47E+00	3.30E-04 +/- 1.38E-05
	23	336.43	1.22E+00 +/- 3.54E-01	1.47E+00	3.28E-04 +/- 1.36E-05
	24	345.66	7.58E+00 +/- 3.66E-01	1.47E+00	3.22E-04 +/- 1.32E-05

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25	368.64	3.80E+00	+/- 2.91E-01	1.45E+00	3.07E-04	+/- 1.23E-05
26	375.69	2.17E+01	+/- 5.37E-01	1.44E+00	3.02E-04	+/- 1.20E-05
27	393.63	8.42E+00	+/- 3.11E-01	1.43E+00	2.91E-04	+/- 1.15E-05
28	413.70	2.06E+01	+/- 4.59E-01	1.42E+00	2.79E-04	+/- 1.11E-05
29	423.29	1.19E+00	+/- 1.86E-01	1.41E+00	2.74E-04	+/- 1.09E-05
30	452.33	2.60E+00	+/- 1.82E-01	1.40E+00	2.58E-04	+/- 1.05E-05
31	619.97	3.27E-01	+/- 6.17E-02	1.34E+00	1.92E-04	+/- 9.23E-06
32	662.42	9.84E-01	+/- 1.11E-01	1.32E+00	1.80E-04	+/- 8.83E-06
33	723.33	4.61E-01	+/- 9.24E-02	1.31E+00	1.66E-04	+/- 8.19E-06
34	867.39	3.79E-02	+/- 2.13E-02	1.28E+00	1.42E-04	+/- 6.49E-06
35	964.13	2.65E-02	+/- 1.53E-02	1.26E+00	1.31E-04	+/- 5.40E-06
36	1001.03	3.53E-02	+/- 1.76E-02	1.25E+00	1.28E-04	+/- 5.05E-06
37	1408.01	8.82E-03	+/- 8.82E-03	1.21E+00	1.08E-04	+/- 6.60E-06

Segment: 11 Detector: DET01 (# 1) Position: 11

Elapsed Live Time: 113.12 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.146 +/- 0.0192
SE-75	264.65	0.000 +/- 0.0000	0.229 +/- 0.0029
SE-75	279.53	0.000 +/- 0.0000	0.242 +/- 0.0043
SE-75	400.65	0.000 +/- 0.0000	0.290 +/- 0.0056

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.20	5.88E+00 +/- 3.59E-01	4.10E+00	4.69E-07 +/- 6.60E-07
2	35.10	1.01E+03 +/- 4.79E+00	2.83E+00	6.75E-06 +/- 5.60E-06
3	59.59	6.82E+01 +/- 9.46E-01	2.21E+00	6.69E-05 +/- 2.31E-05
4	98.80	1.55E+01 +/- 7.07E-01	1.99E+00	2.28E-04 +/- 2.29E-05
5	103.27	9.91E+00 +/- 4.57E-01	1.98E+00	2.45E-04 +/- 2.16E-05
6	111.31	3.89E+00 +/- 5.19E-01	1.96E+00	2.72E-04 +/- 1.94E-05
7	129.29	1.52E+01 +/- 5.43E-01	1.92E+00	3.21E-04 +/- 1.65E-05
8	146.40	2.47E+00 +/- 4.17E-01	1.88E+00	3.53E-04 +/- 1.68E-05
9	148.57	8.95E-01 +/- 3.12E-01	1.87E+00	3.56E-04 +/- 1.70E-05
10	208.41	7.54E+00 +/- 4.63E-01	1.75E+00	3.89E-04 +/- 2.04E-05
11	279.54	3.41E-01 +/- 2.07E-01	1.64E+00	3.58E-04 +/- 1.69E-05
12	311.90	1.07E+00 +/- 2.01E-01	1.61E+00	3.37E-04 +/- 1.49E-05
13	333.43	2.10E+00 +/- 2.98E-01	1.59E+00	3.23E-04 +/- 1.37E-05
14	336.35	3.75E-01 +/- 2.22E-01	1.59E+00	3.22E-04 +/- 1.35E-05
15	345.62	2.59E+00 +/- 2.46E-01	1.58E+00	3.16E-04 +/- 1.31E-05
16	369.32	1.27E+00 +/- 1.85E-01	1.56E+00	3.01E-04 +/- 1.21E-05
17	375.72	7.62E+00 +/- 3.20E-01	1.56E+00	2.97E-04 +/- 1.19E-05

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18	383.52	8.50E-01 +/-	1.64E-01	1.55E+00	2.92E-04 +/-	1.17E-05
19	393.69	2.75E+00 +/-	1.83E-01	1.55E+00	2.86E-04 +/-	1.14E-05
20	413.70	7.64E+00 +/-	2.82E-01	1.53E+00	2.75E-04 +/-	1.09E-05
21	423.26	4.37E-01 +/-	1.18E-01	1.53E+00	2.70E-04 +/-	1.08E-05
22	452.26	8.90E-01 +/-	1.13E-01	1.51E+00	2.55E-04 +/-	1.03E-05
23	663.95	3.46E-01 +/-	6.84E-02	1.41E+00	1.80E-04 +/-	8.64E-06
24	723.36	8.69E-02 +/-	3.88E-02	1.39E+00	1.67E-04 +/-	8.03E-06
25	1408.01	8.78E-03 +/-	8.78E-03	1.26E+00	1.08E-04 +/-	6.61E-06

Segment: 12 Detector: DET01 (# 1) Position: 12

Elapsed Live Time: 113.13 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.179 +/- 0.0197
SE-75	264.65	0.000 +/- 0.0000	0.274 +/- 0.0033
SE-75	279.53	0.000 +/- 0.0000	0.279 +/- 0.0046
SE-75	400.65	0.000 +/- 0.0000	0.336 +/- 0.0061

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	2.56E+00 +/- 2.55E-01	4.10E+00	3.60E-07 +/- 5.55E-07
2	23.23	3.12E+00 +/- 2.89E-01	3.90E+00	6.41E-07 +/- 9.00E-07
3	35.10	1.01E+03 +/- 4.78E+00	2.60E+00	7.63E-06 +/- 6.33E-06
4	59.60	6.74E+01 +/- 9.33E-01	2.06E+00	6.64E-05 +/- 2.30E-05
5	98.74	1.36E+01 +/- 7.81E-01	1.87E+00	2.16E-04 +/- 2.20E-05
6	103.70	7.90E+00 +/- 4.75E-01	1.85E+00	2.33E-04 +/- 2.06E-05
7	111.39	3.53E+00 +/- 5.38E-01	1.84E+00	2.58E-04 +/- 1.86E-05
8	114.93	1.25E+00 +/- 5.95E-01	1.83E+00	2.68E-04 +/- 1.78E-05
9	129.29	1.96E+01 +/- 5.75E-01	1.80E+00	3.04E-04 +/- 1.59E-05
10	148.57	2.21E+00 +/- 3.89E-01	1.76E+00	3.39E-04 +/- 1.64E-05
11	208.47	9.72E+00 +/- 4.80E-01	1.65E+00	3.76E-04 +/- 1.99E-05
12	268.09	3.06E-01 +/- 1.97E-01	1.57E+00	3.60E-04 +/- 1.75E-05
13	300.10	4.68E-01 +/- 1.97E-01	1.54E+00	3.43E-04 +/- 1.55E-05
14	311.90	6.75E-01 +/- 1.87E-01	1.54E+00	3.36E-04 +/- 1.48E-05
15	333.34	2.48E+00 +/- 2.75E-01	1.52E+00	3.24E-04 +/- 1.37E-05
16	345.69	2.72E+00 +/- 2.39E-01	1.51E+00	3.17E-04 +/- 1.31E-05
17	375.71	7.23E+00 +/- 3.10E-01	1.49E+00	3.00E-04 +/- 1.19E-05
18	383.52	4.23E-01 +/- 2.05E-01	1.48E+00	2.95E-04 +/- 1.17E-05
19	393.59	2.36E+00 +/- 1.80E-01	1.48E+00	2.90E-04 +/- 1.14E-05
20	400.66	1.24E-01 +/- 8.71E-02	1.47E+00	2.86E-04 +/- 1.12E-05
21	413.70	7.15E+00 +/- 2.66E-01	1.46E+00	2.79E-04 +/- 1.09E-05
22	423.49	2.99E-01 +/- 9.75E-02	1.46E+00	2.74E-04 +/- 1.07E-05

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23	452.15	7.73E-01 +/-	1.05E-01	1.44E+00	2.60E-04 +/-	1.03E-05
24	662.42	3.11E-01 +/-	6.24E-02	1.36E+00	1.85E-04 +/-	8.58E-06
25	1112.12	2.62E-02 +/-	1.51E-02	1.26E+00	1.19E-04 +/-	4.27E-06

Segment: 13 Detector: DET01 (# 1) Position: 13

Elapsed Live Time: 112.96 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.097 +/- 0.0180
SE-75	264.65	0.000 +/- 0.0000	0.230 +/- 0.0029
SE-75	279.53	0.000 +/- 0.0000	0.239 +/- 0.0042
SE-75	400.65	0.000 +/- 0.0000	0.288 +/- 0.0056

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.19	6.74E+00 +/- 3.96E-01	4.10E+00	1.11E-06 +/- 1.62E-06
2	35.10	1.01E+03 +/- 4.79E+00	3.31E+00	1.10E-05 +/- 9.51E-06
3	59.59	9.08E+01 +/- 1.09E+00	2.52E+00	8.09E-05 +/- 2.88E-05
4	98.68	1.73E+01 +/- 8.89E-01	2.24E+00	2.37E-04 +/- 2.43E-05
5	103.61	1.09E+01 +/- 5.46E-01	2.22E+00	2.53E-04 +/- 2.25E-05
6	111.25	5.23E+00 +/- 6.27E-01	2.20E+00	2.77E-04 +/- 2.00E-05
7	115.08	1.24E+00 +/- 6.68E-01	2.19E+00	2.87E-04 +/- 1.89E-05
8	129.29	2.94E+01 +/- 6.64E-01	2.15E+00	3.21E-04 +/- 1.67E-05
9	135.30	6.30E-01 +/- 3.38E-01	2.14E+00	3.32E-04 +/- 1.65E-05
10	144.53	1.21E+00 +/- 4.07E-01	2.09E+00	3.47E-04 +/- 1.69E-05
11	148.57	2.72E+00 +/- 4.26E-01	2.06E+00	3.52E-04 +/- 1.72E-05
12	185.71	4.25E+00 +/- 3.88E-01	1.90E+00	3.79E-04 +/- 2.03E-05
13	208.41	1.47E+01 +/- 5.62E-01	1.82E+00	3.80E-04 +/- 2.07E-05
14	244.70	3.65E-01 +/- 2.16E-01	1.71E+00	3.70E-04 +/- 1.94E-05
15	268.45	5.69E-01 +/- 2.17E-01	1.65E+00	3.58E-04 +/- 1.79E-05
16	300.10	5.73E-01 +/- 1.89E-01	1.62E+00	3.40E-04 +/- 1.57E-05
17	311.90	9.33E-01 +/- 1.89E-01	1.61E+00	3.33E-04 +/- 1.50E-05
18	333.28	3.22E+00 +/- 2.97E-01	1.60E+00	3.20E-04 +/- 1.38E-05
19	336.49	3.06E-01 +/- 2.33E-01	1.59E+00	3.18E-04 +/- 1.36E-05
20	345.61	3.46E+00 +/- 2.46E-01	1.59E+00	3.13E-04 +/- 1.32E-05
21	368.93	1.26E+00 +/- 1.82E-01	1.57E+00	2.99E-04 +/- 1.22E-05
22	375.69	1.00E+01 +/- 3.56E-01	1.56E+00	2.95E-04 +/- 1.20E-05
23	393.64	3.19E+00 +/- 2.04E-01	1.55E+00	2.85E-04 +/- 1.15E-05
24	413.70	8.84E+00 +/- 3.00E-01	1.54E+00	2.74E-04 +/- 1.10E-05
25	423.40	5.05E-01 +/- 1.04E-01	1.53E+00	2.69E-04 +/- 1.09E-05
26	452.43	1.12E+00 +/- 1.16E-01	1.51E+00	2.55E-04 +/- 1.05E-05
27	662.42	2.68E-01 +/- 6.44E-02	1.41E+00	1.80E-04 +/- 8.87E-06

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28	1001.03	1.76E-02 +/-	1.24E-02	1.32E+00	1.23E-04 +/-	4.91E-06
29	1408.01	8.78E-03 +/-	8.78E-03	1.26E+00	9.60E-05 +/-	6.10E-06

Segment: 14 Detector: DET01 (# 1) Position: 14

Elapsed Live Time: 113.21 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.183 +/- 0.0191
SE-75	264.65	0.000 +/- 0.0000	0.295 +/- 0.0034
SE-75	279.53	0.000 +/- 0.0000	0.307 +/- 0.0048
SE-75	400.65	0.000 +/- 0.0000	0.371 +/- 0.0064

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	2.20E+00 +/- 2.53E-01	4.10E+00	3.08E-07 +/- 3.39E-06
2	23.20	3.61E+00 +/- 2.97E-01	3.86E+00	5.86E-07 +/- 5.75E-06
3	35.10	1.01E+03 +/- 4.78E+00	2.57E+00	8.94E-06 +/- 4.41E-05
4	59.60	8.98E+01 +/- 1.07E+00	2.04E+00	8.05E-05 +/- 1.25E-04
5	98.68	1.18E+01 +/- 7.17E-01	1.85E+00	2.39E-04 +/- 5.66E-05
6	103.32	7.82E+00 +/- 4.19E-01	1.84E+00	2.54E-04 +/- 4.55E-05
7	111.32	2.19E+00 +/- 4.95E-01	1.83E+00	2.77E-04 +/- 2.91E-05
8	114.62	8.77E-01 +/- 5.02E-01	1.82E+00	2.85E-04 +/- 2.39E-05
9	129.29	1.75E+01 +/- 5.32E-01	1.79E+00	3.17E-04 +/- 1.90E-05
10	144.12	2.62E+00 +/- 3.52E-01	1.76E+00	3.39E-04 +/- 3.01E-05
11	148.57	1.27E+00 +/- 3.69E-01	1.75E+00	3.44E-04 +/- 3.29E-05
12	171.79	8.33E-01 +/- 3.04E-01	1.70E+00	3.60E-04 +/- 4.04E-05
13	185.71	1.24E+01 +/- 4.50E-01	1.67E+00	3.64E-04 +/- 4.04E-05
14	195.70	7.35E-01 +/- 2.73E-01	1.65E+00	3.65E-04 +/- 3.90E-05
15	203.98	6.02E-01 +/- 3.72E-01	1.63E+00	3.64E-04 +/- 3.74E-05
16	208.43	8.04E+00 +/- 4.42E-01	1.63E+00	3.63E-04 +/- 3.63E-05
17	255.57	3.47E-01 +/- 1.86E-01	1.55E+00	3.47E-04 +/- 2.33E-05
18	268.06	3.62E-01 +/- 1.79E-01	1.53E+00	3.41E-04 +/- 2.03E-05
19	300.10	5.54E-01 +/- 1.53E-01	1.50E+00	3.25E-04 +/- 1.51E-05
20	311.90	2.62E-01 +/- 1.58E-01	1.49E+00	3.18E-04 +/- 1.42E-05
21	333.49	1.78E+00 +/- 2.27E-01	1.47E+00	3.07E-04 +/- 1.37E-05
22	345.60	1.88E+00 +/- 1.86E-01	1.46E+00	3.00E-04 +/- 1.38E-05
23	369.40	8.50E-01 +/- 1.56E-01	1.44E+00	2.88E-04 +/- 1.45E-05
24	375.69	5.80E+00 +/- 2.78E-01	1.44E+00	2.85E-04 +/- 1.47E-05
25	383.58	6.41E-01 +/- 1.42E-01	1.43E+00	2.81E-04 +/- 1.49E-05
26	393.67	1.89E+00 +/- 1.52E-01	1.43E+00	2.76E-04 +/- 1.52E-05
27	413.70	5.01E+00 +/- 2.19E-01	1.42E+00	2.67E-04 +/- 1.56E-05
28	423.32	2.44E-01 +/- 8.62E-02	1.41E+00	2.62E-04 +/- 1.57E-05

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29	443.98	8.77E-02 +/-	5.49E-02	1.40E+00	2.53E-04 +/-	1.58E-05
30	452.41	5.19E-01 +/-	8.39E-02	1.40E+00	2.50E-04 +/-	1.58E-05
31	662.42	1.47E-01 +/-	5.48E-02	1.32E+00	1.83E-04 +/-	1.04E-05
32	1408.01	1.75E-02 +/-	1.23E-02	1.21E+00	9.39E-05 +/-	6.30E-06

Segment: 15 Detector: DET01 (# 1) Position: 15

Elapsed Live Time: 113.62 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.465 +/- 0.0253
SE-75	264.65	0.000 +/- 0.0000	0.556 +/- 0.0052
SE-75	279.53	0.000 +/- 0.0000	0.563 +/- 0.0068
SE-75	400.65	0.000 +/- 0.0000	0.605 +/- 0.0085

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.16	2.42E+00 +/- 2.34E-01	2.08E+00	1.59E-12 +/- 1.53E-11
2	35.10	1.01E+03 +/- 4.77E+00	1.61E+00	1.45E-08 +/- 6.96E-08
3	49.85	3.59E+00 +/- 4.01E-01	1.46E+00	1.94E-06 +/- 4.54E-06
4	59.61	2.72E+01 +/- 6.04E-01	1.42E+00	1.09E-05 +/- 1.65E-05
5	98.92	3.82E+00 +/- 3.91E-01	1.35E+00	1.84E-04 +/- 4.19E-05
6	103.36	1.14E+00 +/- 3.50E-01	1.34E+00	2.10E-04 +/- 3.67E-05
7	110.79	5.88E-01 +/- 2.25E-01	1.34E+00	2.51E-04 +/- 2.69E-05
8	129.29	4.04E+00 +/- 3.31E-01	1.32E+00	3.37E-04 +/- 1.99E-05
9	144.06	2.27E+00 +/- 2.80E-01	1.31E+00	3.82E-04 +/- 3.28E-05
10	163.65	1.73E+00 +/- 2.52E-01	1.30E+00	4.15E-04 +/- 4.38E-05
11	185.71	1.50E+01 +/- 4.38E-01	1.28E+00	4.24E-04 +/- 4.51E-05
12	208.51	1.87E+00 +/- 1.89E-01	1.27E+00	4.15E-04 +/- 3.96E-05
13	300.10	1.79E-01 +/- 1.00E-01	1.23E+00	3.32E-04 +/- 1.51E-05
14	311.90	1.35E-01 +/- 9.10E-02	1.23E+00	3.22E-04 +/- 1.42E-05
15	333.18	3.05E-01 +/- 1.36E-01	1.22E+00	3.04E-04 +/- 1.37E-05
16	345.65	5.14E-01 +/- 1.16E-01	1.22E+00	2.95E-04 +/- 1.38E-05
17	375.61	1.22E+00 +/- 1.37E-01	1.21E+00	2.74E-04 +/- 1.44E-05
18	380.92	2.57E-01 +/- 8.93E-02	1.21E+00	2.71E-04 +/- 1.45E-05
19	393.27	4.81E-01 +/- 8.77E-02	1.21E+00	2.63E-04 +/- 1.47E-05
20	413.70	1.25E+00 +/- 1.14E-01	1.20E+00	2.52E-04 +/- 1.49E-05
21	778.90	1.75E-02 +/- 1.24E-02	1.14E+00	1.56E-04 +/- 7.35E-06
22	1175.90	6.99E-02 +/- 2.47E-02	1.11E+00	1.17E-04 +/- 4.83E-06

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Segment: 16 Detector: DET01 (# 1) Position: 16

Elapsed Live Time: 113.78 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.507 +/- 0.0248
SE-75	264.65	0.000 +/- 0.0000	0.539 +/- 0.0050
SE-75	279.53	0.000 +/- 0.0000	0.546 +/- 0.0067
SE-75	400.65	0.000 +/- 0.0000	0.610 +/- 0.0085

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	22.92	1.09E+00 +/- 1.60E-01	1.96E+00	8.67E-15 +/- 9.86E-14
2	35.10	1.01E+03 +/- 4.76E+00	1.53E+00	9.52E-10 +/- 5.35E-09
3	59.60	4.58E+00 +/- 2.91E-01	1.37E+00	3.34E-06 +/- 5.89E-06
4	121.11	3.71E-01 +/- 2.21E-01	1.29E+00	2.01E-04 +/- 1.30E-05
5	129.29	4.79E-01 +/- 2.10E-01	1.28E+00	2.29E-04 +/- 1.54E-05
6	144.03	1.53E+00 +/- 2.27E-01	1.28E+00	2.69E-04 +/- 2.69E-05
7	185.71	8.48E+00 +/- 3.28E-01	1.27E+00	3.10E-04 +/- 3.88E-05
8	205.86	4.16E-01 +/- 1.69E-01	1.26E+00	3.06E-04 +/- 3.49E-05
9	413.70	8.16E-02 +/- 3.96E-02	1.20E+00	1.81E-04 +/- 1.21E-05

Batch 2002-02-383

Summed Spectrum

Peak Locate Report

Sample ID: LL85300999
Peak Locate Performed on: 1-31-02 10:55:22 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192
Peak Search Sensitivity: 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
1	43.00	0.3151	21.42	10.07
2	46.55	0.1492	23.20	24.58
3	70.18	0.0397	35.00	521.19
4	119.40	0.0665	59.60	134.85
5	150.38	0.2768	75.07	8.13
6	197.79	0.1061	98.76	51.14
7	207.12	0.1221	103.42	31.02
8	222.97	0.1374	111.34	27.78
9	229.66	0.1913	114.68	13.19
10	259.42	0.0841	129.55	81.44
11	289.10	0.2066	144.38	14.52
12	293.26	0.3199	146.46	7.26
13	298.03	0.1611	148.84	23.74
14	323.01	0.2712	161.32	7.30
15	330.13	0.2331	164.88	8.97
16	343.88	0.2672	171.75	9.74
17	359.48	0.2985	179.54	5.89
18	372.52	0.1568	186.06	21.27
19	392.43	0.2496	196.00	8.55
20	408.32	0.1235	203.95	34.65
21	417.23	0.0833	208.39	75.59
22	512.18	0.2056	255.83	12.77
23	536.62	0.2430	268.05	8.95
24	596.55	0.2786	297.99	6.31
25	625.52	0.1548	312.46	19.66
26	643.20	0.2755	321.29	7.04
27	649.60	0.2708	324.49	6.67
28	667.27	0.1072	333.32	40.66
29	673.57	0.1667	336.47	17.35
30	691.94	0.1046	345.64	43.34
31	739.09	0.1898	369.20	14.12
32	752.08	0.0778	375.69	77.25
33	767.66	0.1388	383.48	26.02
34	787.96	0.1079	393.62	38.65
35	829.76	0.0797	414.50	71.51
36	847.45	0.1524	423.34	19.38

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
37	905.37	0.1303	452.28	25.55
38	1295.06	0.2690	646.98	5.84
39	1328.50	0.1788	663.68	12.16
40	1447.89	0.2169	723.33	8.34

Errors quoted at 1.000 sigma

Betty 2002-02-385

Summed Spectrum

Peak Analysis Report

Sample ID: LL85300999
Peak Analysis Performed on: 1-31-02 10:55:22 AM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	39-	46	43.00	21.42	6.00E+03	136.52	6.29E+03
2	46-	49	46.55	23.20	8.24E+03	154.30	9.09E+03
3	66-	73	70.18	35.00	1.84E+06	1363.41	9.23E+03
4	115-	122	119.40	59.60	1.79E+05	492.89	3.06E+04
5	146-	153	150.38	75.07	1.48E+03	179.49	1.49E+04
6	193-	201	197.79	98.76	3.21E+04	390.10	5.63E+04
7	206-	210	207.12	103.42	2.32E+04	231.83	1.75E+04
8	219-	226	222.97	111.34	8.83E+03	270.94	3.01E+04
9	226-	233	229.66	114.68	6.48E+02	282.03	3.80E+04
10	255-	263	259.42	129.55	4.57E+04	301.30	2.09E+04
11	285-	293	289.10	144.38	1.48E+03	196.09	1.70E+04
12	291-	300	293.26	146.46	4.29E+03	219.66	1.92E+04
13	298-	305	298.03	148.84	1.93E+03	178.74	1.43E+04
14	318-	327	323.01	161.32	7.54E+02	202.74	1.75E+04
15	327-	334	330.13	164.88	1.12E+03	165.72	1.30E+04
16	339-	348	343.88	171.75	1.89E+03	181.58	1.37E+04
17	355-	363	359.48	179.54	7.09E+02	162.48	1.20E+04
18	368-	376	372.52	186.06	3.76E+03	176.17	1.27E+04
19	388-	396	392.43	196.00	1.57E+03	156.43	1.07E+04
20	403-	412	408.32	203.95	4.46E+02	220.03	1.97E+04
21	412-	421	417.23	208.39	2.07E+04	253.57	1.83E+04
22	507-	516	512.18	255.83	1.41E+03	117.04	5.44E+03
23	531-	541	536.62	268.05	6.84E+02	119.09	5.65E+03
24	591-	601	596.55	297.99	6.43E+02	110.48	4.85E+03
25	620-	630	625.52	312.46	2.88E+03	114.54	4.30E+03
26	638-	648	643.20	321.29	1.95E+02	111.97	5.16E+03
27	648-	654	649.60	324.49	4.78E+02	78.51	2.89E+03
28	662-	672	667.27	333.32	7.14E+03	158.24	7.20E+03
29	672-	678	673.57	336.47	5.53E+02	122.99	4.81E+03
30	687-	697	691.94	345.64	7.61E+03	134.09	4.32E+03
31	733-	744	739.09	369.20	3.30E+03	105.33	3.08E+03
32	746-	757	752.08	375.69	2.30E+04	184.93	4.46E+03
33	767-	772	767.66	383.48	2.38E+03	89.94	1.72E+03
34	782-	793	787.96	393.62	8.45E+03	108.99	1.37E+03
35	824-	835	829.76	414.50	2.28E+04	158.06	8.85E+02
36	842-	852	847.45	423.34	1.24E+03	60.00	9.58E+02
37	899-	910	905.37	452.28	2.67E+03	62.06	4.69E+02

Batch 2002-02-386

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
38	1291-	1301	1295.06	646.98	8.56E+01	22.37	1.72E+02
39	1322-	1334	1328.50	663.68	7.44E+02	34.19	1.61E+02
40	1441-	1454	1447.89	723.33	3.34E+02	27.09	1.45E+02

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Summed Spectrum

Nuclide Identification Report

Sample ID: LL85300999
Nuclide Library Used: C:\WAS\NLIB\LLNL.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/)	Activity Uncertainty
Pulser	0.999	35.10*	100.00	6.505E+05	1.472E+06
U-235	0.992	185.71*	57.20	5.983E+00	3.027E-01
Np-237	0.745	300.10	6.63		
		311.90*	38.60	7.566E+00	3.051E-01
Pu-239	0.955	413.70*	0.00	1.847E+06	3.556E+04
Pu-239A	0.995	129.29*	0.01	8.237E+05	1.958E+04
Am-241	0.893	662.42*	0.00	3.184E+05	1.485E+04
Pu-241	0.995	148.57*	0.00	1.034E+06	9.689E+04

* = Energy line found in the spectrum.
Energy Tolerance : 1.500 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 1.000 sigma

Batch 2002-02-388

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 1-31-02 10:55:22 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	21.42	5.2602E+01	2.28
2	23.20	7.2259E+01	1.88
4	59.60	1.5738E+03	0.29
5	75.07	1.2958E+01	12.15
6	98.76	2.8131E+02	1.22
7	103.42	2.0341E+02	1.00
8	111.34	7.7450E+01	3.07
9	114.68	5.6875E+00	43.50
11	144.38	1.3010E+01	13.22
12	146.46	3.7631E+01	5.12
14	161.32	6.6152E+00	26.88
15	164.88	9.7862E+00	14.85
16	171.75	1.6579E+01	9.61
17	179.54	6.2220E+00	22.91
19	196.00	1.3750E+01	9.98
20	203.95	3.9155E+00	49.29
21	208.39	1.8140E+02	1.23
22	255.83	1.2402E+01	8.28
23	268.05	6.0010E+00	17.41
24	297.99	5.6424E+00	17.18
26	321.29	1.7095E+00	57.45
27	324.49	4.1911E+00	16.43
28	333.32	6.2611E+01	2.22
29	336.47	4.8521E+00	22.23
30	345.64	6.6763E+01	1.76
31	369.20	2.8978E+01	3.19
32	375.69	2.0207E+02	0.81
33	383.48	2.0848E+01	3.79
34	393.62	7.4089E+01	1.29
36	423.34	1.0839E+01	4.86
37	452.28	2.3412E+01	2.33
38	646.98	7.5104E-01	26.13
40	723.33	2.9285E+00	8.11

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-02-389

Combined Segment NID

NID Results Combiner Mode: Sum Activities

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		4.77E+07	+/-	2.47E+08	1.40E+03	+/-	7.24E+03
SE-75	<	1.80E-01	+/-	9.11E-03	< 5.27E-06	+/-	2.66E-07
EU-152x	<	1.71E-01	+/-	1.30E-02	< 5.00E-06	+/-	3.81E-07
U-233		4.71E+03	+/-	2.55E+03	1.38E-01	+/-	7.44E-02
U-235		7.48E+00	+/-	4.67E-01	2.19E-04	+/-	1.36E-05
Np-237		9.14E+00	+/-	3.65E-01	2.67E-04	+/-	1.07E-05
Pu-238	<	1.90E+04	+/-	9.12E+02	< 5.55E-01	+/-	2.67E-02
U-238		3.27E+00	+/-	1.16E+00	9.57E-05	+/-	3.39E-05
Pu-239		2.02E+06	+/-	3.54E+04	5.91E+01	+/-	1.03E+00
Pu-239A		1.07E+06	+/-	1.93E+04	3.12E+01	+/-	5.65E-01
Am-241		2.90E+05	+/-	1.62E+04	8.47E+00	+/-	4.75E-01
Pu-241		3.09E+06	+/-	1.52E+05	9.03E+01	+/-	4.44E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
U-233	4.90E-01	+/-	2.65E-01
U-235	3.46E+00	+/-	2.16E-01
Np-237	1.30E-02	+/-	5.18E-04
U-238	9.75E+00	+/-	3.46E+00
Pu-239	3.25E+01	+/-	5.69E-01
Pu-239A	1.72E+01	+/-	3.11E-01
Am-241	8.46E-02	+/-	4.74E-03
Pu-241	2.99E-02	+/-	1.47E-03

Summed Spectrum

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		6.51E+05	+/-	1.47E+06	1.90E+01	+/-	4.31E+01
SE-75	<	6.32E-01	+/-	5.00E-03	< 1.85E-05	+/-	1.46E-07
EU-152x	<	4.07E-01	+/-	7.20E-03	< 1.19E-05	+/-	2.11E-07
U-233	<	3.03E+04	+/-	5.88E+02	< 8.85E-01	+/-	1.72E-02
U-235		5.98E+00	+/-	3.03E-01	1.75E-04	+/-	8.85E-06
Np-237		7.57E+00	+/-	3.05E-01	2.21E-04	+/-	8.92E-06
Pu-238	<	7.24E+04	+/-	9.72E+02	< 2.12E+00	+/-	2.84E-02
U-238	<	1.17E+01	+/-	1.83E-01	< 3.41E-04	+/-	5.36E-06
Pu-239		1.85E+06	+/-	3.56E+04	5.40E+01	+/-	1.04E+00
Pu-239A		8.24E+05	+/-	1.96E+04	2.41E+01	+/-	5.73E-01
Am-241		3.18E+05	+/-	1.49E+04	9.31E+00	+/-	4.34E-01
Pu-241		1.03E+06	+/-	9.69E+04	3.02E+01	+/-	2.83E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
U-235	2.77E+00	+/-	1.40E-01
Np-237	1.07E-02	+/-	4.33E-04
Pu-239	2.97E+01	+/-	5.72E-01
Pu-239A	1.33E+01	+/-	3.15E-01
Am-241	9.30E-02	+/-	4.34E-03
Pu-241	1.00E-02	+/-	9.37E-04

Batch 2002-02-391

Final Non-Uniformity Results

Source Longitudinal Ratio:	0.000	+/-	0.0000
Matrix Longitudinal Ratio:	0.703	+/-	0.0428
Source Vertical Ratio:	0.000	+/-	0.0000
Matrix Vertical Ratio:	0.673	+/-	0.0113

NUDS could not find the transmission peak in one radial segment.
NUDS could not find the source peak in any radial segment.

LAWRENCE LIVERMORE NATIONAL LABORATORY

WASTE DISPOSAL REQUISITION

W 211462

H1. Label/Waste Type:
☐ Non-Haz (N) ☐ Low-Level (R)
☐ RCRA Haz (H) ☐ LLW Mixed (F)
☐ CA Haz (C) ☒ TRU (T)
☐ NTS LLW (L) ☐ TRU Mixed (X)

1. Container ID Number or Tank ID or for TRU Waste, TRU Waste Container Serial No.: Q- LL85-3 0 0 9 9 9 TRU-

H2. CCC: D5

H3. Storage Restrictions
Not acceptable at the following locations:
☐ 233 ☐ 514 ☐ 612 ☐ 693 ☐ 696
CWAA ☑ 169 ☑ 361 ☐ 612-4

2. Container Use/Acceptability: ☐ On-site use only; ☑ Acceptable for off-site use
Container Manufacturer Serial No./Batch No. 65501 B342576 ☐ N/A
Employee No.: 060806 Initials: HVS Date: 09/18/01

3. RMMA: ☒ Yes ☐ No

4. Waste Form:
☒ Solid ☐ Liquid
☐ Gas ☐ Sludge

H4. Hazardous Properties:
☐ Toxic ☐ Corrosive
☐ Ignitable ☐ Reactive

5. Outer Container Type:
☐ Box ☐ Sack
☐ Can ☐ SWB
☐ Carboy ☐ Tub
☒ Drum ☐ Bag
☐ Tank – Fixed
☐ Tank – Portable
☐ Transportainer
Other: _____

6. Outer Container Size/Vol:
☐ 1 gal ☒ 55 gal ☐ 67 cu ft
☐ 2 gal ☐ 85 gal ☐ 1 × 1 × 1.5
☐ 5 gal ☐ 330 gal ☐ 2 × 4 × 7
☐ 10 gal ☐ 660 gal ☐ 4 × 4 × 7
☐ 12 gal ☐ 750 gal ☐ 1 cu yd
☐ 20 gal ☐ 1000 gal ☐ 8 × 8 × 20
☐ 30 gal ☐ 5000 gal ☐ 8 × 8 × 40
Other: _____ ☐ gal _____ ☐ cu ft

7. Building No.: 332

8. Room No.: 1378

9. Location: ~~7860~~ 7860 Atlas (12/10/01)

10. Workplace Start Date: 09/18/01 HVS 12/10/01

11. Workplace End Date: ~~12/12/01~~ 10-26-01 HVS 12/10/01

12. Account No.: S481-50

13. Directorate: DNT

14. WEF/PKE/SAW/PIW:
☐ WEF ☒ PKE ☐ SAW ☐ PIW
Specify No.: 243, 244, 247 ☐ N/A

15. Source Code: A940

16. Inner Containers
☐ Yes ☐ No

17. Item No.	18. Spent or Unused (S/U)	19. Organic or Inorganic (O/I)	20. Waste Form (S,SL,L,G)	21. Waste Description (For multiple parcels, list Parcel Card Nos.)	22. Hazardous Constituents and Concentrations	23. Item Container Size	24. Quantity per Item Amount	Units	25. Analysis Sample No.	Physical Waste Data: 26. Aqueous Only pH	Normality	27. Flash Point
				P050348	P050356							
				P050457								
				P050461								
				P050462								
				P050463								
				P050464								
				P050465								

28. Does the waste contain radioactive components?
☒ Yes ☐ No ☐ To be analyzed HVS 12/10/01
(If yes or TBA, complete Page 3 as applicable to waste type.)

This section (Steps 29–30) is required for Hazardous Waste generated in a RMMA

29. Was the waste kept isolated from any operation that could have produced radioactive contamination (using a glove box, vent hood, etc.)?
☒ Yes ☐ No (If no, full rad analysis required)
HVS 12/10/01

30. Was the waste exposed to particle beams capable of inducing radioactivity by activation?
☐ Yes ☒ No (If yes, full rad analysis required)
HVS 12/10/01

31. ☒ Generator: I certify, to the best of my knowledge, that the information provided on this requisition is correct. I understand that I may be liable to State and Federal prosecution by intentionally providing false information. I have obtained this information by:
☐ Direct knowledge of the waste generating process ☐ Analytical Data
☐ Obtaining sufficient information from others knowledgeable of the waste generating process

☒ Container Custodian: I certify that the waste parcels identified on this form are contained in this waste container and have been packaged in accordance with the requirements specified in the appropriate LLNL TRU or Low-Level Waste Program Certification and Quality Assurance Program.

Generator or Container Custodian Name (Print – Last, First): Summers, Harry
Signature: H. V. S.

Employee No.:	L-Code:	Ext.:	Date:
000806	361	35810	10/29/01

H5. Inspected By: Signature: | Employee No.: | Date:

H6. Characterization Chemist Approval:
☐ Acceptable for Sampling ESP (Initials) Exempt: ☐ OP ☐ SA ☒ DE
Signature: ☐ WEF E Meeta Reddy | Employee No.: 690278 | Date: 12-20-01

H7. RCA Approval: ☐ Overpack for final shipment to NTS ☐ Meets SCAL
☐ Decay Program (Initials) _____ ☐ NTS Certified (Initials) _____ ☐ WIPP Certified (Initials) _____
☐ On-site Treatment
Signature: ☐ WEF | Employee No.: | Date:

☐ On Hold – Pending S&A

☐ Released

31A. Gross Weight: 66.0 KG

Radioactive page attached: ☑ Yes ☐ N/A

Continuation page(s) attached: ☐ Yes ☒ N/A

32. Waste Profile No., TRU Waste Form No., or Bin No.:

☐ HWM Use Only

LL-5344 (4/01)

Batch 2002-02-343

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS 2.3A

****
* DRUM INFORMATION *
****

Drum Package ID: LL85300999R
Sequence Number: 840
Assay Date & Time: 1-31-2002 11:44:20 AM
Drum Package GROSS Weight: 66.00 kg NET Weight: 34.20 kg

IDC Number: LL85300999R

QC Replicate (Yes/No): Yes Passed (Yes/No): Yes

Operator Name (Printed): Russell Rath

Operator Signature: _____ Date: 1-31-02

Independent Reviewer: _____ Date: 6-4-02

Expert Reviewer: Kenneth Raschke Date: 5/22/02

Tech. Supv/QA Officer: _____ Date: 7/17/02

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 3.744E+00 +/- 9.396E-01 Ci

Batch 2002-02-394

****
* I S O T O P I C I N F O R M A T I O N *
****

Isotope	Measured Mass (g)	Mass Uncertainty (g)
Pu-238	6.498E-03	2.402E-03
Pu-239	4.102E+01	1.446E+01
Pu-240	2.648E+00	9.354E-01
Pu-241	7.618E-02	2.696E-02
Pu-242	1.245E-02	5.022E-03
Am-241	1.367E-01	4.825E-02
*Am-243	N/A	N/A
*Np-237	N/A	N/A
U-235	4.893E+00	1.754E+00
*U-238	N/A	N/A
*U-233	N/A	N/A

* = Activity/Mass below detectable limit.

Total Pu Mass: 4.38E+01 +/- 1.45E+01 g

****
* M G A R E S U L T S *
****

NUCLIDE	% Weight	% Error(1-Sigma)
Pu-238	1.485E-02	5.67E+00
Pu-239	9.373E+01	7.54E-02
Pu-240	6.050E+00	1.15E+00
Pu-241	1.741E-01	1.59E+00
Pu-242	2.845E-02	1.00E+01
Am-241	3.124E-01	7.82E-01
U-235	1.118E+01	3.33E+00

Batch 2002-02-395

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005
Software Version: GWAS V2.3A RADA V2.1

Assay Date & Time: 1-31-2002 11:44:20 AM
Report Generated: 5-22-2002 3:58:26 PM

Drum Package ID: LL85300999R
Sequence Number: 840

Waste Classification (TRU or LLW): TRU

			Errors at 1.96 sigma
Total Alpha Activity :	3.744E+00	+/-	9.396E-01 Ci
Total TRU Activity :	1.095E+05	+/-	2.747E+04 nCi/g
Pu-239 Equiv Activity:	3.889E+00	+/-	9.411E-01 Ci
Fissile Gram Equiv Mass:	4.615E+01	+/-	1.478E+01 g
Total Decay Heat:	1.188E-01	+/-	2.955E-02 W
TMU Value:	35.25 %		

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error
Pu-238	1.12E-01	4.16E-02	6.50E-03	2.40E-03
Pu-239	2.55E+00	8.98E-01	4.10E+01	1.45E+01
Pu-240	6.09E-01	2.15E-01	2.65E+00	9.35E-01
Pu-241	7.92E+00	2.80E+00	7.62E-02	2.70E-02
Pu-242	4.94E-05	1.99E-05	1.24E-02	5.02E-03
Am-241	4.75E-01	1.67E-01	1.37E-01	4.83E-02
*Am-243	N/A	N/A	N/A	N/A
*Np-237	N/A	N/A	N/A	N/A
U-235	1.07E-05	3.84E-06	4.89E+00	1.75E+00
*U-238	N/A	N/A	N/A	N/A
*U-233	N/A	N/A	N/A	N/A

* = Activity/Mass below detectable limit.

Total Pu Mass: 4.38E+01 +/- 1.45E+01 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sigma)
Pu-238	1.485E-02	5.67E+00
Pu-239	9.373E+01	7.54E-02
Pu-240	6.050E+00	1.15E+00
Pu-241	1.741E-01	1.59E+00
Pu-242	2.845E-02	1.00E+01
Am-241	3.124E-01	7.82E-01
U-235	1.118E+01	3.33E+00

Batch 2002-02-396

SGS Expert Review Checklist

Container Identification #: LL85300999R_____ Original Assay Date:1-31-2002__

1. *WCP-41, §6.1:* A MGA report ☒ is present or ☐ expert review has provided isotopic ratios from SGS or AK. Comment: ☒ No comments
2. *WCP-41, §6.1:* MGA and AK ☒ agree as to radiological composition or, if not, ☐ expert review has resolved this. Comment: ☒ No comments
3. *WCP-41, §6.2.1:* ☒ Pu-238 ≤ 2% by weight of total Pu or, if not, ☐ expert review has addressed this and assigned a Pu-240 value. Comment: ☒ No comments
4. *WCP-41, §6.2.2:* ☐ Neither Np-237 nor U-235 is identified by MGA or ☒ expert review has addressed possible interferences from these radionuclides.
   Comment: U-235 is identified by MGA and confirmed by GWAS. There is no interference. ☐ No comments
5. *WCP-41, §6.2.2.2:* ☒ Am-241 separation date is 1950 or later or ☐ expert review has addressed possible interferences. Comment: ☒ No comments
6. *WCP-41, §6.3.1.1.a:* ☒ Bulk density of waste ≤ 0.6 g/ml or ☐ expert review has addressed the high density of the drum. Comment: ☒ No comments
7. *WCP-41, §6.3.1.2.a:* ☐ Transmission in every segment ≥ 0.1% for the Se-75 peaks at 136 keV or 265 keV or ☒ expert review has addressed the low transmission.
   Comment: The transmission at 136 keV is zero in one segment however the 265 keV transmission is okay as is the 413 keV/129 keV ratio. ☐ No comments
8. *WCP-41, §6.3.1.2.a:* ☒ Transmission in every segment ≥1% for the Se-75 peak at 401 keV or ☐ expert review has addressed the low transmission. Comment: ☒ No comments
9. *WCP-41, §6.3.1.3.b:* ☒ Dead time in every segment ≤ 50% or ☐ expert review has addressed the high dead time. Comment: ☒ No comments
10. *WCP-41, §6.3.1.3.c:* ☒ Pu-239 masses determined from the 414 keV peak and the 129 keV peak agree by a factor of < 2.5 or ☐ expert review has addressed possible matrix inhomogeneity. Comment: ☒ No comments
11. *WCP-41, §6.3.2.3:* Cs-137 (☐ has) (☒ has not) been identified by expert review. If it has, Sr-90 is reported ☐ at an activity ratio to Cs-137of 0.39 for Pu fission or ☐ at a ratio of for U-235 fission or, ☐ if both Pu and U are present, the expert reviewer has determined the ratio. Comment: ☒ No comments
12. *WCP-41, §6.3.2.4:* ☐ No unusual nuclides are identified (none other than the 10 required to be reported to WIPP) or ☒ the expert reviewer has

Batch 2002-02-367

SGS Expert Review Checklist

Container Identification #: LL85300 ...R_____ Original Assay Date:1-31-2002__

checked for interferences f... unusual nuclides. Comment: U-235 is identified by both MGA and ...A... ☐ No comments

13. *WCP-41, §6.3.3:* For waste ...ms (☐ NA for standards), ☐ the Summed Spectrum report value for ...239 and the Combined Segment NID report for Pu-239 agree within 95... ...onfidence limits (the same as for replicates of unknowns) or ☒ expert ...iew has addressed the difference. Comment: The combined NID/summe... ...D ratio does not agree within three sigma. However the uniformity me... ...ments imply that one should not expect agreement.☐ No commen...

14. *WCP-41, §6.4:* ☒ The SG... ...mmed Spectrum and Combined Segment NID reports agree as to the... ...os... weight of several radionuclides, such as those of Am-241, Pu-24... ...p-2... , Am-243, and U-235 to Pu-239, and MGA results agree as to id... ...fying these radionuclides or ☐ expert review has resolved this. Comme... ☐ No comments

15. *WCP-41, §6.6.1:* ☒ All rep... ...d radionuclide masses are above 2.5 times the uncorrected MDA or ☐... ...rt review has calculated transmission-corrected MDA's and taker... ...opriate action. Comment: ☒ No comments

16. *WCP-41, §6.6.2:* ☒ Any c... ...s to reported quantities of individual radionuclides have been e... ...d into the RADA program and a new radioassay data sheet has ...n produced, showing revised derivative quantities, and included in ...batch data report, along with the marked up original. Comment: [...lo comments

17. *CP-41, §6.7:* ☒ Counting ...stics are adequate for normal passive count time of 120 seconds per se... ☐ Counting statistics are adequate for long passive count time ...00 seconds per segment or ☐ expert review has rejected the co... ...nd ordered a longer count time. Comment: ☒ No co...

Kenneth Raschke — Kenneth Raschke — 5/22/02

Expert Reviewer (print) — Signature — Date

Batch ...

****
***** M G A R E P O R T *****
****

Report generated on: 1-31-02 12:40:52 PM

MGA version: MGA V9.5 CI

Spectrum ID: 11200840.CNF Sens : 30.0% LT: 54.4 Mins DT: 2.62
Measurement date: 1-31-02 Declared date: 1-31-02

Sample ID: LL85300999R Detector: Total counts: 5.277E+06

Pu g/cm2 = 0.3217 Cd g/cm2 = 1.8130 FWHM at 122 keV = 681 eV
QFIT = 1.00 FWHM at 208 keV = 871 eV
NQFIT = 1.00

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	Meas. date %Err	Decl. date % weight	Decl. date %Err
Pu-238	0.000158	5.7	5.6	0.0853	5.7	0.01485	5.67	0.01485	5.67
Pu-239	1.000000	0.0	0.6	538.4937	1.6	93.73269	0.08	93.73269	0.08
Pu-240	0.064545	1.2	1.2	34.7570	1.8	6.04996	1.15	6.04996	1.15
Pu-241	0.001857	1.6	1.4	1.0000	0.0	0.17406	1.59	0.17406	1.59
Pu-242	(New alg.)			0.1634	(10)	0.02845	(10)	0.02845	(10)
Am-241	0.003333	0.8	0.6	1.7950	1.5	0.31244	0.78	0.31244	0.78
U-235	0.119285	3.3	3.3			11.18091	3.33	11.18091	3.33

Pu-240 effective (meas. date) = 6.135 +/- 1.26%
U-237 separated more than 10 days ago
Am-241 separated about 21.245 +/- 0.293 years ago
Am/Pu-241 weight ratio = 1.79499 +/- 1.55%

Messages :

Lead x-rays detected.
Calculations in MGAABS didn't converge : results may be suspect.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Batch 2002-03 399

NOT VALID
KER
5/22/02

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005

Assay Date & Time: 1-31-2002 11:44:20 AM

Drum Package ID: LL85300999R
Sequence Number: 840

Waste Classification (TRU or LLW): TRU

		Errors at 1.96 sigma	
Total Alpha Activity :	3.744E+00	+/- 9.40E-01	Ci
Total TRU Activity :	1.095E+05	+/- 2.75E+04	nCi/g
Pu-239 Equiv Activity:	3.889E+00	+/- 9.41E-01	Ci
Fissile Gram Equiv Mass:	4.615E+01	+/- 1.48E+01	g
Total Decay Heat:	1.188E-01	+/- 2.96E-02	W
TMU Value:	35.25 %		

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error	MDA gm
Pu-238	1.12E-01	4.16E-02	6.50E-03	2.40E-03	1.76E-05
Pu-239	2.55E+00	8.98E-01	4.10E+01	1.45E+01	1.11E-01
Pu-240	6.09E-01	2.15E-01	2.65E+00	9.35E-01	7.17E-03
Pu-241	7.92E+00	2.80E+00	7.62E-02	2.70E-02	1.96E-03
Pu-242	4.94E-05	1.99E-05	1.24E-02	5.02E-03	3.37E-05
Am-241	4.75E-01	1.67E-01	1.37E-01	4.83E-02	4.79E-03
Am-243	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Np-237	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.82E-04
U-235	1.07E-05	3.84E-06	4.89E+00	1.75E+00	1.24E-01
U-238	5.64E-06	2.05E-06	1.66E+01	6.03E+00	1.66E+01
U-233	3.01E-02	1.06E-02	3.08E+00	1.08E+00	3.08E+00

Total Pu Mass: 4.38E+01 +/- 3.93E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	1.485E-02	5.67E+00
Pu-239	9.373E+01	7.54E-02
Pu-240	6.050E+00	1.15E+00
Pu-241	1.741E-01	1.59E+00
Pu-242	2.845E-02	1.00E+01
Am-241	3.124E-01	7.82E-01
U-235	1.118E+01	3.33E+00

Batch 2002-02-401

****
* I S O T O P I C I N F O R M A T I O N *
****

NOT VALID
KER 5/22/02

Isotope	Measured Mass (g)	Mass Uncertainty (g)	MDC (g)
Pu-238	6.498E-03	2.40E-03	1.759E-05
Pu-239	4.102E+01	1.45E+01	1.111E-01
Pu-240	2.648E+00	9.35E-01	7.169E-03
Pu-241	7.618E-02	2.70E-02	1.956E-03
Pu-242	1.245E-02	5.02E-03	3.371E-05
Am-241	1.367E-01	4.83E-02	4.793E-03
Am-243	0.000E+00	0.00E+00	0.000E+00
Np-237	0.000E+00	0.00E+00	5.821E-04
U-235	4.893E+00	1.75E+00	1.243E-01
U-238	1.658E+01	6.03E+00	1.658E+01
U-233	3.085E+00	1.08E+00	3.085E+00

Total Pu Mass: 4.38E+01 +/- 3.93E+00 g

****
* M G A R E S U L T S *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	1.485E-02	5.67E+00
Pu-239	9.373E+01	7.54E-02
Pu-240	6.050E+00	1.15E+00
Pu-241	1.741E-01	1.59E+00
Pu-242	2.845E-02	1.00E+01
Am-241	3.124E-01	7.82E-01
U-235	1.118E+01	3.33E+00

Gamma Waste Assay

Sample Information

File Name: C:\WAS\DATA\900\11100840.S11
Sample ID: LL85300999R Count Sequence Number: 840
Assay Start: 1-31-02 11:44:22 AM
Description 1: unknown
Description 2: Replicate
Location: 7715
Comment:
Waste Type:
Weight: Gross: 66000.0 g Net: 34200.0 g
Density: 0.164 g /ml

Container Type: 55 Gal Galv
Container: Volume: 208000. ml Full: 100.0 %

System Configuration

Counter ID Number: SGS
Arrangement Description: SGS
Segments: Number: 16 Offset: 0
Scanning Platform: Start: 934 mm Delta: -51 mm
Count Type: 55 Gal Galv
Collimator/Geometry Setting: 0
Transmission Mode: Two pass
Transmission Source: 0

Errors quoted at 1.000 sigma
Reference Source Date: Reference Source Rate: 1.01E+03 cps
Geometric Correction Factor(SWCONTGCF): 0.760
Date of efficiency calibration approval: 4-18-2001 12:41:36 PM
Mu Factors response file: Lucite
Transmission Calib. Time: 5-11-2001 2:20:42 PM 59052

Reviewed by: Lu P Cahn Date: 7/16/02

Batch 2002-03-483

Segment Results

Segment: 1 Detector: DET01 (# 1) Position: 1

Elapsed Live Time: 113.65 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.156 +/- 0.0173
SE-75	264.65	0.000 +/- 0.0000	0.257 +/- 0.0031
SE-75	279.53	0.000 +/- 0.0000	0.265 +/- 0.0044
SE-75	400.65	0.000 +/- 0.0000	0.309 +/- 0.0058

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.21	1.73E+00 +/- 2.09E-01	4.10E+00	9.41E-08 +/- 1.18E-06
2	35.10	1.01E+03 +/- 4.78E+00	2.75E+00	2.61E-06 +/- 1.64E-05
3	59.59	1.87E+01 +/- 4.54E-01	2.16E+00	3.75E-05 +/- 7.40E-05
4	98.71	2.41E+00 +/- 4.03E-01	1.95E+00	1.39E-04 +/- 4.10E-05
5	129.29	4.24E+00 +/- 3.51E-01	1.88E+00	1.95E-04 +/- 1.38E-05
6	208.48	1.09E+00 +/- 2.34E-01	1.70E+00	2.30E-04 +/- 2.81E-05
7	279.54	4.37E-01 +/- 1.41E-01	1.59E+00	2.11E-04 +/- 1.29E-05
8	333.36	2.53E-01 +/- 1.44E-01	1.55E+00	1.92E-04 +/- 1.04E-05
9	345.62	5.15E-01 +/- 1.26E-01	1.54E+00	1.88E-04 +/- 1.07E-05
10	375.67	1.36E+00 +/- 1.40E-01	1.53E+00	1.77E-04 +/- 1.18E-05
11	394.11	5.43E-01 +/- 8.57E-02	1.52E+00	1.71E-04 +/- 1.24E-05
12	400.66	9.67E-02 +/- 6.12E-02	1.51E+00	1.69E-04 +/- 1.25E-05
13	413.70	9.45E-01 +/- 1.07E-01	1.50E+00	1.65E-04 +/- 1.27E-05
14	443.98	4.83E-02 +/- 3.47E-02	1.49E+00	1.57E-04 +/- 1.30E-05
15	778.90	2.69E-02 +/- 1.99E-02	1.35E+00	9.79E-05 +/- 5.69E-06

Segment: 2 Detector: DET01 (# 1) Position: 2

Elapsed Live Time: 113.39 sec Elapsed Real Time: 115.00 sec

Batch 2002-02-403

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.089 +/- 0.0165
SE-75	264.65	0.000 +/- 0.0000	0.191 +/- 0.0026
SE-75	279.53	0.000 +/- 0.0000	0.203 +/- 0.0039
SE-75	400.65	0.000 +/- 0.0000	0.254 +/- 0.0052

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.18	3.79E+00 +/- 2.93E-01	4.10E+00	5.51E-10 +/- 5.25E-09
2	35.10	1.01E+03 +/- 4.77E+00	3.42E+00	2.21E-07 +/- 1.06E-06
3	59.62	4.58E+01 +/- 7.67E-01	2.59E+00	2.20E-05 +/- 3.31E-05
4	98.72	6.32E+00 +/- 5.83E-01	2.30E+00	1.84E-04 +/- 4.24E-05
5	103.63	4.43E+00 +/- 3.66E-01	2.28E+00	2.07E-04 +/- 3.57E-05
6	111.41	1.75E+00 +/- 4.62E-01	2.25E+00	2.41E-04 +/- 2.50E-05
7	129.29	1.07E+01 +/- 4.87E-01	2.20E+00	3.07E-04 +/- 1.84E-05
8	208.31	2.46E+00 +/- 3.54E-01	1.91E+00	3.88E-04 +/- 3.71E-05
9	311.90	4.26E-01 +/- 1.76E-01	1.69E+00	3.18E-04 +/- 1.39E-05
10	333.35	1.74E+00 +/- 2.21E-01	1.67E+00	3.02E-04 +/- 1.34E-05
11	345.62	1.58E+00 +/- 1.91E-01	1.66E+00	2.93E-04 +/- 1.34E-05
12	369.36	7.36E-01 +/- 1.47E-01	1.64E+00	2.78E-04 +/- 1.39E-05
13	375.67	4.05E+00 +/- 2.45E-01	1.63E+00	2.74E-04 +/- 1.40E-05
14	383.46	2.86E-01 +/- 1.20E-01	1.62E+00	2.69E-04 +/- 1.42E-05
15	393.74	1.33E+00 +/- 1.37E-01	1.62E+00	2.63E-04 +/- 1.43E-05
16	413.70	4.37E+00 +/- 2.08E-01	1.60E+00	2.51E-04 +/- 1.46E-05
17	423.57	2.71E-01 +/- 9.36E-02	1.59E+00	2.46E-04 +/- 1.46E-05
18	452.19	5.28E-01 +/- 8.50E-02	1.57E+00	2.32E-04 +/- 1.45E-05
19	662.42	8.81E-02 +/- 4.04E-02	1.46E+00	1.65E-04 +/- 9.18E-06
20	1085.91	8.72E-03 +/- 8.72E-03	1.34E+00	1.13E-04 +/- 4.92E-06

Segment: 3 Detector: DET01 (# 1) Position: 3

Elapsed Live Time: 112.69 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.125 +/- 0.0201
SE-75	264.65	0.000 +/- 0.0000	0.251 +/- 0.0031
SE-75	279.53	0.000 +/- 0.0000	0.249 +/- 0.0044
SE-75	400.65	0.000 +/- 0.0000	0.307 +/- 0.0059

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	3.83E+00 +/- 3.17E-01	4.10E+00	3.50E-09 +/- 3.85E-08
2	23.10	5.02E+00 +/- 3.52E-01	4.10E+00	1.01E-08 +/- 9.91E-08
3	35.10	1.01E+03 +/- 4.82E+00	3.01E+00	1.07E-06 +/- 5.27E-06
4	48.98	5.92E+00 +/- 6.03E-01	2.50E+00	1.31E-05 +/- 3.27E-05
5	59.61	8.64E+01 +/- 1.09E+00	2.33E+00	3.80E-05 +/- 5.87E-05
6	98.73	1.71E+01 +/- 8.68E-01	2.08E+00	2.01E-04 +/- 4.76E-05
7	103.61	1.20E+01 +/- 5.53E-01	2.07E+00	2.20E-04 +/- 3.90E-05
8	111.41	3.99E+00 +/- 6.91E-01	2.05E+00	2.49E-04 +/- 2.64E-05
9	129.29	3.07E+01 +/- 7.01E-01	2.00E+00	3.02E-04 +/- 1.84E-05
M 10	144.56	1.78E+00 +/- 2.73E-01	1.95E+00	3.33E-04 +/- 2.98E-05
m 11	146.48	1.04E+00 +/- 2.21E-01	1.95E+00	3.36E-04 +/- 3.10E-05
m 12	148.87	2.73E+00 +/- 3.49E-01	1.94E+00	3.39E-04 +/- 3.25E-05
13	161.67	1.30E+00 +/- 4.49E-01	1.89E+00	3.54E-04 +/- 3.83E-05
14	171.78	8.23E-01 +/- 4.47E-01	1.86E+00	3.61E-04 +/- 4.03E-05
15	179.44	7.10E-01 +/- 4.33E-01	1.83E+00	3.65E-04 +/- 4.08E-05
16	203.99	1.77E+00 +/- 5.23E-01	1.76E+00	3.67E-04 +/- 3.74E-05
17	208.40	1.01E+01 +/- 6.04E-01	1.75E+00	3.66E-04 +/- 3.64E-05
18	255.94	9.70E-01 +/- 3.25E-01	1.63E+00	3.46E-04 +/- 2.30E-05
19	311.90	6.98E-01 +/- 2.27E-01	1.59E+00	3.13E-04 +/- 1.40E-05
20	324.43	4.34E-01 +/- 2.32E-01	1.58E+00	3.05E-04 +/- 1.36E-05
21	333.37	5.70E+00 +/- 4.14E-01	1.57E+00	3.00E-04 +/- 1.35E-05
22	345.65	5.88E+00 +/- 3.58E-01	1.56E+00	2.93E-04 +/- 1.36E-05
23	368.84	2.46E+00 +/- 2.67E-01	1.54E+00	2.80E-04 +/- 1.42E-05
24	375.71	1.82E+01 +/- 5.00E-01	1.53E+00	2.76E-04 +/- 1.44E-05
25	383.46	2.07E+00 +/- 2.43E-01	1.53E+00	2.72E-04 +/- 1.46E-05
26	393.61	7.14E+00 +/- 2.99E-01	1.52E+00	2.67E-04 +/- 1.48E-05
27	413.70	1.83E+01 +/- 4.32E-01	1.51E+00	2.57E-04 +/- 1.52E-05
28	423.38	1.20E+00 +/- 1.64E-01	1.50E+00	2.53E-04 +/- 1.53E-05
29	452.17	2.44E+00 +/- 1.59E-01	1.48E+00	2.40E-04 +/- 1.54E-05
30	647.28	1.89E-01 +/- 4.68E-02	1.40E+00	1.81E-04 +/- 1.07E-05
31	662.42	3.51E-01 +/- 8.62E-02	1.39E+00	1.78E-04 +/- 1.02E-05
32	1112.12	8.87E-03 +/- 8.87E-03	1.29E+00	1.21E-04 +/- 5.09E-06

Segment: 4 Detector: DET01 (# 1) Position: 4

Elapsed Live Time: 111.50 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.135 +/- 0.0229
SE-75	264.65	0.000 +/- 0.0000	0.232 +/- 0.0031
SE-75	279.53	0.000 +/- 0.0000	0.244 +/- 0.0045
SE-75	400.65	0.000 +/- 0.0000	0.286 +/- 0.0058

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	6.43E+00 +/- 4.14E-01	4.10E+00	2.23E-06 +/- 3.43E-06
2	23.18	7.29E+00 +/- 4.59E-01	4.10E+00	3.32E-06 +/- 4.68E-06
3	35.10	1.01E+03 +/- 4.83E+00	2.92E+00	2.00E-05 +/- 1.66E-05
4	59.58	1.60E+02 +/- 1.52E+00	2.27E+00	9.82E-05 +/- 3.39E-05
5	98.76	3.20E+01 +/- 1.19E+00	2.04E+00	2.40E-04 +/- 2.42E-05
6	103.59	2.38E+01 +/- 7.55E-01	2.02E+00	2.54E-04 +/- 2.23E-05
7	111.30	1.21E+01 +/- 8.33E-01	2.00E+00	2.74E-04 +/- 1.97E-05
8	115.31	1.88E+00 +/- 9.51E-01	1.99E+00	2.84E-04 +/- 1.85E-05
9	129.29	5.92E+01 +/- 9.77E-01	1.96E+00	3.12E-04 +/- 1.61E-05
10	144.42	1.37E+00 +/- 6.21E-01	1.92E+00	3.35E-04 +/- 1.60E-05
11	148.57	5.88E+00 +/- 6.44E-01	1.91E+00	3.40E-04 +/- 1.63E-05
12	161.93	1.39E+00 +/- 6.14E-01	1.87E+00	3.53E-04 +/- 1.73E-05
13	189.67	2.30E+00 +/- 5.34E-01	1.80E+00	3.68E-04 +/- 1.91E-05
14	196.06	3.68E+00 +/- 5.29E-01	1.79E+00	3.69E-04 +/- 1.93E-05
15	208.35	2.73E+01 +/- 8.90E-01	1.76E+00	3.71E-04 +/- 1.94E-05
16	255.81	2.59E+00 +/- 4.15E-01	1.67E+00	3.62E-04 +/- 1.80E-05
17	268.00	1.33E+00 +/- 3.23E-01	1.65E+00	3.57E-04 +/- 1.73E-05
18	297.93	2.10E+00 +/- 4.74E-01	1.62E+00	3.45E-04 +/- 1.56E-05
19	311.90	2.56E+00 +/- 3.82E-01	1.61E+00	3.38E-04 +/- 1.48E-05
20	324.39	6.01E-01 +/- 3.14E-01	1.60E+00	3.32E-04 +/- 1.41E-05
21	333.33	1.23E+01 +/- 5.85E-01	1.59E+00	3.27E-04 +/- 1.37E-05
22	336.50	9.80E-01 +/- 4.63E-01	1.59E+00	3.26E-04 +/- 1.36E-05
23	345.61	1.15E+01 +/- 4.83E-01	1.58E+00	3.21E-04 +/- 1.32E-05
24	368.69	5.01E+00 +/- 4.00E-01	1.57E+00	3.10E-04 +/- 1.23E-05
25	375.71	3.93E+01 +/- 7.37E-01	1.57E+00	3.06E-04 +/- 1.21E-05
26	383.55	3.65E+00 +/- 3.94E-01	1.56E+00	3.02E-04 +/- 1.18E-05
27	393.60	1.48E+01 +/- 4.21E-01	1.55E+00	2.97E-04 +/- 1.16E-05
28	413.70	3.82E+01 +/- 6.34E-01	1.54E+00	2.87E-04 +/- 1.11E-05
29	423.34	2.74E+00 +/- 2.33E-01	1.54E+00	2.83E-04 +/- 1.10E-05
30	452.23	4.98E+00 +/- 2.38E-01	1.52E+00	2.70E-04 +/- 1.06E-05
31	620.00	3.44E-01 +/- 8.04E-02	1.43E+00	2.07E-04 +/- 9.43E-06
32	647.32	1.95E-01 +/- 9.95E-02	1.42E+00	1.99E-04 +/- 9.18E-06
33	653.68	2.17E-01 +/- 8.37E-02	1.42E+00	1.97E-04 +/- 9.12E-06
34	662.42	1.02E+00 +/- 1.34E-01	1.42E+00	1.95E-04 +/- 9.03E-06
35	723.24	4.92E-01 +/- 9.23E-02	1.40E+00	1.79E-04 +/- 8.35E-06
36	778.90	5.49E-02 +/- 2.48E-02	1.38E+00	1.67E-04 +/- 7.66E-06
37	1085.91	4.44E-02 +/- 1.99E-02	1.31E+00	1.20E-04 +/- 4.36E-06
38	1408.01	1.78E-02 +/- 1.26E-02	1.27E+00	9.34E-05 +/- 5.87E-06

Segment: 5 Detector: DET01 (# 1) Position: 5

Elapsed Live Time: 111.59 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Some transmission peaks rejected.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	0.209 +/- 0.0029
SE-75	279.53	0.000 +/- 0.0000	0.221 +/- 0.0043
SE-75	400.65	0.000 +/- 0.0000	0.273 +/- 0.0056

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	6.83E+00 +/- 4.30E-01	4.10E+00	1.08E-06 +/- 1.72E-06
2	23.18	9.42E+00 +/- 4.82E-01	4.10E+00	1.75E-06 +/- 2.55E-06
3	35.10	1.01E+03 +/- 4.85E+00	2.77E+00	1.48E-05 +/- 1.27E-05
4	51.40	3.26E+00 +/- 8.85E-01	2.27E+00	6.11E-05 +/- 2.85E-05
5	59.59	1.85E+02 +/- 1.65E+00	2.17E+00	9.33E-05 +/- 3.30E-05
6	98.79	3.57E+01 +/- 1.09E+00	1.96E+00	2.49E-04 +/- 2.52E-05
7	103.45	2.35E+01 +/- 7.63E-01	1.94E+00	2.64E-04 +/- 2.33E-05
8	111.36	8.61E+00 +/- 8.36E-01	1.92E+00	2.86E-04 +/- 2.04E-05
9	115.06	3.75E+00 +/- 9.39E-01	1.92E+00	2.96E-04 +/- 1.92E-05
10	129.29	5.42E+01 +/- 9.64E-01	1.89E+00	3.26E-04 +/- 1.67E-05
11	144.34	1.36E+00 +/- 6.60E-01	1.86E+00	3.49E-04 +/- 1.68E-05
12	148.57	6.02E+00 +/- 6.41E-01	1.85E+00	3.54E-04 +/- 1.71E-05
13	179.50	8.92E-01 +/- 5.40E-01	1.81E+00	3.74E-04 +/- 1.97E-05
14	189.50	1.11E+00 +/- 4.90E-01	1.80E+00	3.76E-04 +/- 2.02E-05
15	196.10	2.57E+00 +/- 5.72E-01	1.79E+00	3.76E-04 +/- 2.03E-05
16	208.38	2.64E+01 +/- 8.70E-01	1.77E+00	3.75E-04 +/- 2.04E-05
17	244.70	6.97E-01 +/- 4.23E-01	1.73E+00	3.63E-04 +/- 1.90E-05
18	255.75	1.99E+00 +/- 4.01E-01	1.72E+00	3.58E-04 +/- 1.84E-05
19	298.08	1.37E+00 +/- 4.75E-01	1.66E+00	3.34E-04 +/- 1.56E-05
20	311.90	3.80E+00 +/- 3.96E-01	1.65E+00	3.26E-04 +/- 1.48E-05
21	324.30	7.59E-01 +/- 3.40E-01	1.64E+00	3.19E-04 +/- 1.41E-05
22	333.36	1.15E+01 +/- 5.73E-01	1.63E+00	3.13E-04 +/- 1.36E-05
23	345.64	1.17E+01 +/- 4.93E-01	1.62E+00	3.06E-04 +/- 1.30E-05
24	369.13	4.98E+00 +/- 3.80E-01	1.60E+00	2.93E-04 +/- 1.20E-05
25	375.69	3.43E+01 +/- 6.86E-01	1.59E+00	2.89E-04 +/- 1.18E-05
26	383.46	3.91E+00 +/- 3.24E-01	1.59E+00	2.85E-04 +/- 1.16E-05
27	393.63	1.30E+01 +/- 4.04E-01	1.58E+00	2.79E-04 +/- 1.13E-05
28	413.70	3.45E+01 +/- 5.97E-01	1.56E+00	2.69E-04 +/- 1.09E-05

29	423.29	2.34E+00	+/- 2.23E-01	1.56E+00	2.64E-04	+/- 1.07E-05
30	452.31	4.22E+00	+/- 2.29E-01	1.54E+00	2.50E-04	+/- 1.03E-05
31	662.42	1.15E+00	+/- 1.25E-01	1.43E+00	1.79E-04	+/- 8.77E-06
32	723.37	5.27E-01	+/- 7.69E-02	1.41E+00	1.65E-04	+/- 8.15E-06
33	778.90	5.59E-02	+/- 3.50E-02	1.39E+00	1.54E-04	+/- 7.51E-06
34	1001.03	1.79E-02	+/- 1.27E-02	1.34E+00	1.24E-04	+/- 4.97E-06

Segment: 6 Detector: DET01 (# 1) Position: 6

Elapsed Live Time: 112.68 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.183 +/- 0.0026
SE-75	279.53	0.000 +/- 0.0000	0.184 +/- 0.0038
SE-75	400.65	0.000 +/- 0.0000	0.247 +/- 0.0052

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.11	8.57E+00 +/- 4.36E-01	4.10E+00	6.58E-07 +/- 9.37E-07
2	35.10	1.01E+03 +/- 4.79E+00	4.10E+00	8.04E-06 +/- 6.71E-06
3	59.60	1.10E+02 +/- 1.22E+00	4.10E+00	6.90E-05 +/- 2.40E-05
4	98.76	1.86E+01 +/- 8.86E-01	4.10E+00	2.22E-04 +/- 2.25E-05
5	103.16	1.24E+01 +/- 5.25E-01	4.10E+00	2.37E-04 +/- 2.12E-05
6	111.31	5.89E+00 +/- 6.21E-01	4.10E+00	2.63E-04 +/- 1.90E-05
7	129.29	2.70E+01 +/- 7.00E-01	4.10E+00	3.10E-04 +/- 1.61E-05
8	144.19	1.43E+00 +/- 4.57E-01	3.40E+00	3.38E-04 +/- 1.63E-05
9	148.57	2.51E+00 +/- 4.74E-01	3.19E+00	3.45E-04 +/- 1.67E-05
10	203.90	1.21E+00 +/- 5.00E-01	2.19E+00	3.81E-04 +/- 2.02E-05
11	208.40	9.26E+00 +/- 5.72E-01	2.15E+00	3.81E-04 +/- 2.03E-05
12	300.10	1.14E+00 +/- 2.79E-01	1.75E+00	3.46E-04 +/- 1.58E-05
13	311.90	4.42E+00 +/- 3.10E-01	1.73E+00	3.39E-04 +/- 1.51E-05
14	333.31	4.29E+00 +/- 3.72E-01	1.70E+00	3.26E-04 +/- 1.39E-05
15	345.61	4.59E+00 +/- 3.25E-01	1.69E+00	3.19E-04 +/- 1.33E-05
16	369.16	1.76E+00 +/- 2.51E-01	1.66E+00	3.05E-04 +/- 1.23E-05
17	375.72	1.27E+01 +/- 4.21E-01	1.65E+00	3.01E-04 +/- 1.21E-05
18	383.48	1.32E+00 +/- 2.10E-01	1.64E+00	2.97E-04 +/- 1.18E-05
19	393.64	4.65E+00 +/- 2.47E-01	1.63E+00	2.92E-04 +/- 1.16E-05
20	413.70	1.27E+01 +/- 3.60E-01	1.61E+00	2.81E-04 +/- 1.11E-05
21	423.32	6.95E-01 +/- 1.21E-01	1.61E+00	2.76E-04 +/- 1.09E-05

22	452.25	1.65E+00 +/-	1.48E-01	1.59E+00	2.61E-04 +/-	1.05E-05
23	662.42	4.01E-01 +/-	8.07E-02	1.47E+00	1.86E-04 +/-	8.77E-06
24	964.13	1.43E-02 +/-	1.55E-02	1.37E+00	1.34E-04 +/-	5.31E-06
25	1001.03	2.80E-02 +/-	2.08E-02	1.37E+00	1.30E-04 +/-	4.95E-06

Segment: 7 Detector: DET01 (# 1) Position: 7

Elapsed Live Time: 112.92 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.103 +/- 0.0184
SE-75	264.65	0.000 +/- 0.0000	0.209 +/- 0.0028
SE-75	279.53	0.000 +/- 0.0000	0.223 +/- 0.0041
SE-75	400.65	0.000 +/- 0.0000	0.282 +/- 0.0055

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.19	7.50E+00 +/- 4.14E-01	4.10E+00	7.10E-09 +/- 6.96E-08
2	35.10	1.01E+03 +/- 4.81E+00	3.24E+00	9.59E-07 +/- 4.73E-06
3	59.60	1.15E+02 +/- 1.24E+00	2.47E+00	4.02E-05 +/- 6.22E-05
4	98.80	1.97E+01 +/- 7.95E-01	2.20E+00	2.21E-04 +/- 5.18E-05
5	103.45	1.07E+01 +/- 5.24E-01	2.19E+00	2.41E-04 +/- 4.28E-05
6	111.39	6.12E+00 +/- 5.70E-01	2.16E+00	2.73E-04 +/- 2.86E-05
7	129.29	2.57E+01 +/- 6.55E-01	2.11E+00	3.30E-04 +/- 1.98E-05
8	144.32	1.27E+00 +/- 4.53E-01	2.06E+00	3.62E-04 +/- 3.19E-05
9	148.57	1.95E+00 +/- 4.32E-01	2.05E+00	3.68E-04 +/- 3.49E-05
10	189.83	6.41E-01 +/- 3.46E-01	1.90E+00	3.94E-04 +/- 4.25E-05
11	203.97	9.35E-01 +/- 4.23E-01	1.86E+00	3.92E-04 +/- 3.95E-05
12	208.41	6.45E+00 +/- 4.87E-01	1.85E+00	3.91E-04 +/- 3.83E-05
13	244.70	5.38E-01 +/- 2.47E-01	1.76E+00	3.73E-04 +/- 2.70E-05
14	300.10	1.15E+00 +/- 2.44E-01	1.65E+00	3.36E-04 +/- 1.56E-05
15	311.90	4.83E+00 +/- 2.96E-01	1.64E+00	3.27E-04 +/- 1.48E-05
16	333.29	2.45E+00 +/- 2.97E-01	1.62E+00	3.13E-04 +/- 1.44E-05
17	345.67	2.86E+00 +/- 2.41E-01	1.61E+00	3.05E-04 +/- 1.46E-05
18	369.05	1.71E+00 +/- 1.88E-01	1.58E+00	2.91E-04 +/- 1.52E-05
19	375.72	8.90E+00 +/- 3.35E-01	1.58E+00	2.87E-04 +/- 1.54E-05
20	383.42	5.31E-01 +/- 2.07E-01	1.57E+00	2.83E-04 +/- 1.57E-05
21	393.62	2.88E+00 +/- 1.94E-01	1.56E+00	2.77E-04 +/- 1.59E-05
22	400.66	1.73E-01 +/- 8.51E-02	1.56E+00	2.74E-04 +/- 1.60E-05
23	413.70	7.55E+00 +/- 2.80E-01	1.55E+00	2.67E-04 +/- 1.63E-05
24	423.49	3.90E-01 +/- 1.22E-01	1.54E+00	2.62E-04 +/- 1.63E-05
25	443.98	7.88E-02 +/- 5.78E-02	1.53E+00	2.52E-04 +/- 1.64E-05
26	452.25	1.13E+00 +/- 1.07E-01	1.52E+00	2.49E-04 +/- 1.63E-05

27	662.42	2.36E-01	+/- 5.34E-02	1.42E+00	1.82E-04	+/- 1.06E-05
28	723.26	1.23E-01	+/- 4.87E-02	1.40E+00	1.70E-04	+/- 9.01E-06
29	778.90	1.78E-02	+/- 1.26E-02	1.38E+00	1.60E-04	+/- 7.89E-06

Segment: 8 Detector: DET01 (# 1) Position: 8

Elapsed Live Time: 112.81 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.108 +/- 0.0196
SE-75	264.65	0.000 +/- 0.0000	0.271 +/- 0.0033
SE-75	279.53	0.000 +/- 0.0000	0.271 +/- 0.0046
SE-75	400.65	0.000 +/- 0.0000	0.336 +/- 0.0061

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.18	7.93E+00 +/- 4.29E-01	4.10E+00	4.16E-09 +/- 4.05E-08
2	35.10	1.01E+03 +/- 4.79E+00	3.18E+00	6.89E-07 +/- 3.37E-06
3	59.60	1.19E+02 +/- 1.27E+00	2.44E+00	3.34E-05 +/- 5.14E-05
4	98.76	1.82E+01 +/- 9.04E-01	2.17E+00	1.98E-04 +/- 4.66E-05
5	111.38	5.92E+00 +/- 6.11E-01	2.13E+00	2.49E-04 +/- 2.62E-05
6	129.29	2.77E+01 +/- 6.78E-01	2.09E+00	3.05E-04 +/- 1.85E-05
7	148.57	3.08E+00 +/- 4.39E-01	2.00E+00	3.45E-04 +/- 3.27E-05
8	171.63	1.12E+00 +/- 3.78E-01	1.88E+00	3.69E-04 +/- 4.10E-05
9	204.01	1.21E+00 +/- 4.21E-01	1.76E+00	3.76E-04 +/- 3.82E-05
10	208.40	8.18E+00 +/- 5.27E-01	1.74E+00	3.76E-04 +/- 3.71E-05
11	244.70	4.89E-01 +/- 2.61E-01	1.63E+00	3.62E-04 +/- 2.67E-05
12	255.91	1.09E+00 +/- 2.66E-01	1.60E+00	3.56E-04 +/- 2.36E-05
13	300.10	3.46E-01 +/- 1.97E-01	1.56E+00	3.30E-04 +/- 1.53E-05
14	311.90	2.68E+00 +/- 2.70E-01	1.55E+00	3.23E-04 +/- 1.44E-05
15	333.47	2.58E+00 +/- 3.28E-01	1.53E+00	3.10E-04 +/- 1.38E-05
16	336.51	3.51E-01 +/- 2.48E-01	1.52E+00	3.08E-04 +/- 1.38E-05
17	345.67	3.38E+00 +/- 2.92E-01	1.52E+00	3.03E-04 +/- 1.38E-05
18	375.71	9.70E+00 +/- 3.58E-01	1.49E+00	2.86E-04 +/- 1.46E-05
19	383.45	1.16E+00 +/- 1.77E-01	1.48E+00	2.82E-04 +/- 1.48E-05
20	393.66	3.62E+00 +/- 2.15E-01	1.48E+00	2.76E-04 +/- 1.50E-05
21	413.70	9.07E+00 +/- 3.09E-01	1.46E+00	2.66E-04 +/- 1.54E-05
22	423.41	4.79E-01 +/- 1.16E-01	1.46E+00	2.62E-04 +/- 1.55E-05
23	452.29	1.02E+00 +/- 1.14E-01	1.44E+00	2.49E-04 +/- 1.56E-05
24	662.42	3.73E-01 +/- 6.34E-02	1.36E+00	1.83E-04 +/- 1.03E-05
25	964.13	1.75E-02 +/- 1.24E-02	1.29E+00	1.32E-04 +/- 5.87E-06
26	1085.91	2.63E-02 +/- 1.52E-02	1.27E+00	1.18E-04 +/- 5.10E-06
27	1112.12	8.77E-03 +/- 8.77E-03	1.26E+00	1.16E-04 +/- 4.95E-06

Batch 2002-07-WP

Segment: 9 Detector: DET01 (# 1) Position: 9

Elapsed Live Time: 112.14 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.174 +/- 0.0213
SE-75	264.65	0.000 +/- 0.0000	0.291 +/- 0.0034
SE-75	279.53	0.000 +/- 0.0000	0.303 +/- 0.0050
SE-75	400.65	0.000 +/- 0.0000	0.358 +/- 0.0064

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	5.59E+00 +/- 3.92E-01	4.10E+00	1.44E-06 +/- 1.63E-05
2	23.19	8.92E+00 +/- 4.57E-01	3.96E+00	2.29E-06 +/- 2.31E-05
3	35.10	1.01E+03 +/- 4.81E+00	2.62E+00	1.75E-05 +/- 8.88E-05
4	49.90	7.99E+00 +/- 8.00E-01	2.19E+00	6.14E-05 +/- 1.52E-04
5	59.59	1.90E+02 +/- 1.64E+00	2.07E+00	9.99E-05 +/- 1.59E-04
6	74.99	1.18E+00 +/- 4.91E-01	1.97E+00	1.65E-04 +/- 1.32E-04
7	98.80	4.21E+01 +/- 1.10E+00	1.88E+00	2.51E-04 +/- 6.06E-05
8	103.34	3.16E+01 +/- 7.38E-01	1.87E+00	2.65E-04 +/- 4.86E-05
9	111.30	8.11E+00 +/- 7.81E-01	1.85E+00	2.86E-04 +/- 3.06E-05
10	129.29	3.70E+01 +/- 8.02E-01	1.82E+00	3.23E-04 +/- 1.97E-05
11	146.47	5.11E+00 +/- 5.74E-01	1.78E+00	3.46E-04 +/- 3.28E-05
12	148.57	2.43E+00 +/- 4.39E-01	1.77E+00	3.48E-04 +/- 3.41E-05
13	164.99	7.77E-01 +/- 4.77E-01	1.73E+00	3.60E-04 +/- 4.08E-05
14	171.75	2.44E+00 +/- 4.74E-01	1.71E+00	3.63E-04 +/- 4.19E-05
15	195.98	1.75E+00 +/- 4.47E-01	1.66E+00	3.67E-04 +/- 4.04E-05
16	208.42	2.23E+01 +/- 7.27E-01	1.64E+00	3.66E-04 +/- 3.76E-05
17	244.70	1.01E+00 +/- 3.10E-01	1.57E+00	3.54E-04 +/- 2.70E-05
18	255.79	1.32E+00 +/- 2.98E-01	1.56E+00	3.49E-04 +/- 2.39E-05
19	268.06	9.24E-01 +/- 2.46E-01	1.54E+00	3.43E-04 +/- 2.09E-05
20	297.94	9.53E-01 +/- 3.08E-01	1.51E+00	3.27E-04 +/- 1.57E-05
21	311.90	1.39E+00 +/- 2.85E-01	1.50E+00	3.20E-04 +/- 1.45E-05
22	333.36	6.82E+00 +/- 4.47E-01	1.48E+00	3.08E-04 +/- 1.39E-05
23	336.29	1.32E+00 +/- 3.48E-01	1.48E+00	3.06E-04 +/- 1.39E-05
24	345.65	7.11E+00 +/- 3.59E-01	1.47E+00	3.01E-04 +/- 1.41E-05
25	369.38	3.78E+00 +/- 2.77E-01	1.46E+00	2.89E-04 +/- 1.47E-05
26	375.70	2.01E+01 +/- 5.19E-01	1.46E+00	2.85E-04 +/- 1.49E-05
27	383.53	1.59E+00 +/- 3.34E-01	1.45E+00	2.81E-04 +/- 1.52E-05
28	393.62	7.41E+00 +/- 2.98E-01	1.45E+00	2.76E-04 +/- 1.55E-05
29	413.70	1.98E+01 +/- 4.48E-01	1.43E+00	2.67E-04 +/- 1.59E-05
30	423.26	1.16E+00 +/- 1.68E-01	1.43E+00	2.62E-04 +/- 1.60E-05

31	452.33	2.56E+00	+/- 1.70E-01	1.42E+00	2.49E-04	+/- 1.61E-05
32	559.94	1.08E-01	+/- 4.61E-02	1.37E+00	2.10E-04	+/- 1.38E-05
33	619.59	2.52E-01	+/- 6.10E-02	1.35E+00	1.93E-04	+/- 1.18E-05
34	647.42	1.34E-01	+/- 5.78E-02	1.34E+00	1.86E-04	+/- 1.09E-05
35	662.42	9.60E-01	+/- 1.06E-01	1.34E+00	1.82E-04	+/- 1.04E-05
36	964.13	2.21E-02	+/- 1.72E-02	1.27E+00	1.34E-04	+/- 5.82E-06
37	1112.12	8.83E-03	+/- 4.12E-02	1.25E+00	1.21E-04	+/- 5.10E-06

Segment: 10 Detector: DET01 (# 1) Position: 10

Elapsed Live Time: 112.09 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.148 +/- 0.0221
SE-75	264.65	0.000 +/- 0.0000	0.306 +/- 0.0035
SE-75	279.53	0.000 +/- 0.0000	0.307 +/- 0.0050
SE-75	400.65	0.000 +/- 0.0000	0.370 +/- 0.0065

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	6.30E+00 +/- 3.97E-01	4.10E+00	1.78E-07 +/- 2.77E-07
2	23.16	8.86E+00 +/- 4.54E-01	4.10E+00	3.36E-07 +/- 4.77E-07
3	35.10	1.01E+03 +/- 4.81E+00	2.81E+00	5.68E-06 +/- 4.74E-06
4	59.59	2.00E+02 +/- 1.69E+00	2.20E+00	6.37E-05 +/- 2.21E-05
5	75.02	1.30E+00 +/- 4.93E-01	2.08E+00	1.28E-04 +/- 2.69E-05
6	85.87	1.57E+00 +/- 5.54E-01	2.03E+00	1.76E-04 +/- 2.64E-05
7	98.80	4.63E+01 +/- 1.12E+00	1.98E+00	2.31E-04 +/- 2.33E-05
8	103.37	2.47E+01 +/- 1.04E+00	1.97E+00	2.49E-04 +/- 2.20E-05
9	111.29	8.13E+00 +/- 8.28E-01	1.95E+00	2.77E-04 +/- 1.99E-05
10	129.29	3.46E+01 +/- 7.93E-01	1.91E+00	3.30E-04 +/- 1.70E-05
11	148.57	5.88E+00 +/- 5.30E-01	1.84E+00	3.68E-04 +/- 1.75E-05
12	171.39	2.08E+00 +/- 4.63E-01	1.76E+00	3.93E-04 +/- 1.96E-05
13	196.06	1.40E+00 +/- 4.07E-01	1.68E+00	4.02E-04 +/- 2.08E-05
14	208.39	2.41E+01 +/- 7.42E-01	1.65E+00	4.01E-04 +/- 2.09E-05
15	244.70	1.04E+00 +/- 3.05E-01	1.56E+00	3.89E-04 +/- 1.95E-05
16	256.14	1.38E+00 +/- 3.03E-01	1.53E+00	3.82E-04 +/- 1.87E-05
17	268.01	6.10E-01 +/- 2.84E-01	1.52E+00	3.75E-04 +/- 1.79E-05
18	297.72	1.23E+00 +/- 3.30E-01	1.50E+00	3.55E-04 +/- 1.59E-05
19	311.90	1.60E+00 +/- 2.75E-01	1.49E+00	3.45E-04 +/- 1.50E-05
20	321.46	5.69E-01 +/- 2.92E-01	1.48E+00	3.39E-04 +/- 1.44E-05
21	333.30	7.58E+00 +/- 4.40E-01	1.47E+00	3.30E-04 +/- 1.38E-05
22	336.40	6.03E-01 +/- 3.71E-01	1.47E+00	3.28E-04 +/- 1.36E-05
23	345.64	6.88E+00 +/- 3.71E-01	1.46E+00	3.22E-04 +/- 1.32E-05

24	369.27	3.30E+00	+/- 2.78E-01	1.45E+00	3.06E-04	+/- 1.22E-05
25	375.67	2.15E+01	+/- 5.30E-01	1.44E+00	3.02E-04	+/- 1.20E-05
26	383.41	2.46E+00	+/- 2.67E-01	1.44E+00	2.97E-04	+/- 1.18E-05
27	393.67	8.24E+00	+/- 3.14E-01	1.43E+00	2.91E-04	+/- 1.15E-05
28	413.70	2.09E+01	+/- 4.62E-01	1.42E+00	2.79E-04	+/- 1.11E-05
29	423.29	1.43E+00	+/- 1.81E-01	1.41E+00	2.74E-04	+/- 1.09E-05
30	452.32	2.45E+00	+/- 1.77E-01	1.40E+00	2.58E-04	+/- 1.05E-05
31	646.94	1.84E-01	+/- 6.07E-02	1.33E+00	1.84E-04	+/- 8.98E-06
32	662.42	8.53E-01	+/- 1.05E-01	1.32E+00	1.80E-04	+/- 8.83E-06
33	689.87	1.61E-01	+/- 4.26E-02	1.32E+00	1.74E-04	+/- 8.55E-06
34	723.29	4.57E-01	+/- 7.18E-02	1.31E+00	1.66E-04	+/- 8.19E-06

Segment: 11 Detector: DET01 (# 1) Position: 11

Elapsed Live Time: 113.13 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.117 +/- 0.0180
SE-75	264.65	0.000 +/- 0.0000	0.230 +/- 0.0029
SE-75	279.53	0.000 +/- 0.0000	0.237 +/- 0.0042
SE-75	400.65	0.000 +/- 0.0000	0.297 +/- 0.0057

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.14	6.25E+00 +/- 3.57E-01	4.10E+00	4.59E-07 +/- 6.49E-07
2	35.10	1.01E+03 +/- 4.80E+00	3.09E+00	6.75E-06 +/- 5.60E-06
3	59.60	7.00E+01 +/- 9.57E-01	2.38E+00	6.70E-05 +/- 2.31E-05
4	98.79	1.39E+01 +/- 7.12E-01	2.13E+00	2.28E-04 +/- 2.29E-05
5	103.32	9.95E+00 +/- 4.66E-01	2.11E+00	2.45E-04 +/- 2.16E-05
6	111.25	3.30E+00 +/- 5.57E-01	2.09E+00	2.72E-04 +/- 1.94E-05
7	129.29	1.53E+01 +/- 5.42E-01	2.04E+00	3.21E-04 +/- 1.65E-05
8	144.34	8.49E-01 +/- 3.98E-01	1.99E+00	3.50E-04 +/- 1.66E-05
9	148.57	9.10E-01 +/- 3.87E-01	1.98E+00	3.56E-04 +/- 1.70E-05
10	161.34	6.61E-01 +/- 3.89E-01	1.93E+00	3.72E-04 +/- 1.81E-05
11	208.36	8.21E+00 +/- 4.61E-01	1.79E+00	3.89E-04 +/- 2.04E-05
12	244.70	5.52E-01 +/- 2.01E-01	1.70E+00	3.77E-04 +/- 1.91E-05
13	311.90	6.29E-01 +/- 2.16E-01	1.61E+00	3.37E-04 +/- 1.49E-05
14	333.38	2.11E+00 +/- 2.94E-01	1.59E+00	3.23E-04 +/- 1.37E-05
15	336.54	4.44E-01 +/- 2.13E-01	1.59E+00	3.21E-04 +/- 1.35E-05
16	345.73	2.95E+00 +/- 2.44E-01	1.58E+00	3.16E-04 +/- 1.31E-05
17	368.25	8.12E-01 +/- 1.85E-01	1.56E+00	3.02E-04 +/- 1.22E-05
18	375.69	7.25E+00 +/- 3.19E-01	1.55E+00	2.97E-04 +/- 1.19E-05
19	393.57	3.01E+00 +/- 1.99E-01	1.54E+00	2.86E-04 +/- 1.14E-05

20	413.70	7.60E+00	+/- 2.75E-01	1.52E+00	2.75E-04	+/- 1.09E-05
21	423.58	3.01E-01	+/- 1.13E-01	1.52E+00	2.70E-04	+/- 1.07E-05
22	452.18	8.83E-01	+/- 1.09E-01	1.50E+00	2.55E-04	+/- 1.03E-05
23	662.42	3.93E-01	+/- 6.71E-02	1.40E+00	1.80E-04	+/- 8.65E-06
24	964.13	1.77E-02	+/- 1.25E-02	1.32E+00	1.32E-04	+/- 5.35E-06
25	1001.03	1.77E-02	+/- 1.25E-02	1.31E+00	1.28E-04	+/- 5.01E-06
26	1408.01	8.83E-03	+/- 8.83E-03	1.26E+00	1.08E-04	+/- 6.61E-06

Segment: 12 Detector: DET01 (# 1) Position: 12

Elapsed Live Time: 113.14 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.151 +/- 0.0195
SE-75	264.65	0.000 +/- 0.0000	0.277 +/- 0.0033
SE-75	279.53	0.000 +/- 0.0000	0.271 +/- 0.0045
SE-75	400.65	0.000 +/- 0.0000	0.335 +/- 0.0061

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	2.75E+00 +/- 2.61E-01	4.10E+00	3.60E-07 +/- 5.55E-07
2	23.14	3.34E+00 +/- 3.00E-01	4.10E+00	6.23E-07 +/- 8.80E-07
3	35.10	1.01E+03 +/- 4.78E+00	2.79E+00	7.63E-06 +/- 6.33E-06
4	59.59	6.71E+01 +/- 9.28E-01	2.18E+00	6.64E-05 +/- 2.30E-05
5	98.78	1.41E+01 +/- 7.25E-01	1.97E+00	2.16E-04 +/- 2.20E-05
6	103.59	8.30E+00 +/- 4.94E-01	1.96E+00	2.33E-04 +/- 2.07E-05
7	111.30	3.51E+00 +/- 5.33E-01	1.94E+00	2.57E-04 +/- 1.86E-05
8	129.29	2.13E+01 +/- 5.85E-01	1.90E+00	3.04E-04 +/- 1.59E-05
9	144.44	7.11E-01 +/- 3.67E-01	1.86E+00	3.33E-04 +/- 1.61E-05
10	148.57	2.29E+00 +/- 3.84E-01	1.84E+00	3.39E-04 +/- 1.64E-05
11	195.85	5.11E-01 +/- 3.09E-01	1.71E+00	3.75E-04 +/- 1.97E-05
12	208.42	8.93E+00 +/- 4.65E-01	1.68E+00	3.76E-04 +/- 1.99E-05
13	311.90	8.57E-01 +/- 1.98E-01	1.55E+00	3.36E-04 +/- 1.48E-05
14	321.29	3.01E-01 +/- 1.93E-01	1.54E+00	3.31E-04 +/- 1.43E-05
15	333.31	2.63E+00 +/- 2.76E-01	1.53E+00	3.24E-04 +/- 1.37E-05
16	345.59	2.82E+00 +/- 2.37E-01	1.52E+00	3.17E-04 +/- 1.31E-05
17	368.72	1.11E+00 +/- 1.79E-01	1.50E+00	3.04E-04 +/- 1.21E-05
18	375.67	6.84E+00 +/- 3.04E-01	1.49E+00	3.00E-04 +/- 1.19E-05
19	393.65	2.50E+00 +/- 1.87E-01	1.48E+00	2.90E-04 +/- 1.14E-05
20	413.70	7.09E+00 +/- 2.62E-01	1.47E+00	2.79E-04 +/- 1.09E-05
21	423.47	3.84E-01 +/- 1.07E-01	1.46E+00	2.74E-04 +/- 1.07E-05
22	452.29	7.46E-01 +/- 1.07E-01	1.45E+00	2.60E-04 +/- 1.03E-05
23	663.96	2.21E-01 +/- 5.48E-02	1.36E+00	1.85E-04 +/- 8.56E-06

Batch 2002-02-414

24	778.90	1.75E-02	+/- 1.24E-02	1.33E+00	1.60E-04	+/- 7.32E-06
25	867.39	1.75E-02	+/- 1.24E-02	1.31E+00	1.45E-04	+/- 6.27E-06

Segment: 13 Detector: DET01 (# 1) Position: 13

Elapsed Live Time: 112.98 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.101 +/- 0.0195
SE-75	264.65	0.000 +/- 0.0000	0.229 +/- 0.0029
SE-75	279.53	0.000 +/- 0.0000	0.243 +/- 0.0042
SE-75	400.65	0.000 +/- 0.0000	0.298 +/- 0.0057

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.17	7.17E+00 +/- 3.96E-01	4.10E+00	1.10E-06 +/- 1.61E-06
2	35.10	1.01E+03 +/- 4.80E+00	3.26E+00	1.10E-05 +/- 9.51E-06
3	59.59	8.92E+01 +/- 1.08E+00	2.49E+00	8.09E-05 +/- 2.88E-05
4	98.76	2.03E+01 +/- 9.02E-01	2.22E+00	2.37E-04 +/- 2.43E-05
5	103.50	1.17E+01 +/- 5.42E-01	2.20E+00	2.53E-04 +/- 2.25E-05
6	111.23	4.42E+00 +/- 6.46E-01	2.17E+00	2.77E-04 +/- 2.00E-05
7	129.29	2.95E+01 +/- 6.61E-01	2.13E+00	3.21E-04 +/- 1.67E-05
8	148.57	4.33E+00 +/- 3.59E-01	2.05E+00	3.52E-04 +/- 1.72E-05
9	164.83	9.28E-01 +/- 2.97E-01	1.97E+00	3.68E-04 +/- 1.88E-05
10	171.79	1.40E+00 +/- 3.58E-01	1.95E+00	3.73E-04 +/- 1.94E-05
11	185.71	4.97E+00 +/- 4.02E-01	1.89E+00	3.79E-04 +/- 2.03E-05
12	196.12	7.09E-01 +/- 3.22E-01	1.86E+00	3.80E-04 +/- 2.06E-05
13	208.43	1.45E+01 +/- 5.50E-01	1.82E+00	3.80E-04 +/- 2.07E-05
14	298.34	3.64E-01 +/- 2.20E-01	1.61E+00	3.41E-04 +/- 1.59E-05
15	311.90	5.09E-01 +/- 1.91E-01	1.60E+00	3.33E-04 +/- 1.50E-05
16	333.38	3.27E+00 +/- 2.97E-01	1.58E+00	3.20E-04 +/- 1.38E-05
17	345.61	3.27E+00 +/- 2.45E-01	1.57E+00	3.13E-04 +/- 1.32E-05
18	375.64	9.35E+00 +/- 3.48E-01	1.55E+00	2.95E-04 +/- 1.20E-05
19	393.64	3.30E+00 +/- 2.05E-01	1.53E+00	2.85E-04 +/- 1.15E-05
20	413.70	8.32E+00 +/- 2.89E-01	1.52E+00	2.74E-04 +/- 1.10E-05
21	423.39	4.79E-01 +/- 1.17E-01	1.52E+00	2.69E-04 +/- 1.09E-05
22	452.09	9.09E-01 +/- 1.18E-01	1.50E+00	2.55E-04 +/- 1.05E-05
23	662.42	2.07E-01 +/- 5.99E-02	1.40E+00	1.80E-04 +/- 8.87E-06
24	778.90	6.09E-02 +/- 3.03E-02	1.36E+00	1.54E-04 +/- 7.54E-06
25	1001.03	1.77E-02 +/- 1.25E-02	1.31E+00	1.23E-04 +/- 4.91E-06
26	1085.91	2.65E-02 +/- 1.53E-02	1.30E+00	1.15E-04 +/- 4.30E-06
27	1463.83	6.19E-02 +/- 2.34E-02	1.25E+00	9.39E-05 +/- 6.86E-06

Batch 2002-02-419

Segment: 14 Detector: DET01 (# 1) Position: 14

Elapsed Live Time: 113.19 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.191 +/- 0.0186
SE-75	264.65	0.000 +/- 0.0000	0.298 +/- 0.0034
SE-75	279.53	0.000 +/- 0.0000	0.307 +/- 0.0048
SE-75	400.65	0.000 +/- 0.0000	0.360 +/- 0.0063

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.16	5.85E+00 +/- 3.53E-01	3.78E+00	5.80E-07 +/- 5.69E-06
2	35.10	1.01E+03 +/- 4.78E+00	2.52E+00	8.94E-06 +/- 4.41E-05
3	59.60	8.95E+01 +/- 1.07E+00	2.01E+00	8.05E-05 +/- 1.25E-04
4	98.76	1.19E+01 +/- 7.31E-01	1.83E+00	2.39E-04 +/- 5.64E-05
5	103.39	8.32E+00 +/- 4.26E-01	1.82E+00	2.54E-04 +/- 4.54E-05
6	111.24	3.19E+00 +/- 5.22E-01	1.80E+00	2.76E-04 +/- 2.93E-05
7	129.29	1.70E+01 +/- 5.32E-01	1.77E+00	3.17E-04 +/- 1.90E-05
8	144.19	2.60E+00 +/- 3.00E-01	1.74E+00	3.39E-04 +/- 3.01E-05
9	148.57	1.30E+00 +/- 3.85E-01	1.73E+00	3.44E-04 +/- 3.29E-05
10	163.62	1.43E+00 +/- 4.15E-01	1.70E+00	3.56E-04 +/- 3.90E-05
11	185.71	1.31E+01 +/- 4.47E-01	1.65E+00	3.64E-04 +/- 4.04E-05
12	195.95	8.84E-01 +/- 2.68E-01	1.63E+00	3.65E-04 +/- 3.90E-05
13	208.40	8.21E+00 +/- 4.35E-01	1.61E+00	3.63E-04 +/- 3.63E-05
14	244.70	3.37E-01 +/- 1.84E-01	1.56E+00	3.52E-04 +/- 2.62E-05
15	267.92	3.42E-01 +/- 1.72E-01	1.53E+00	3.41E-04 +/- 2.03E-05
16	311.90	4.29E-01 +/- 1.25E-01	1.49E+00	3.18E-04 +/- 1.42E-05
17	333.31	2.00E+00 +/- 2.35E-01	1.48E+00	3.07E-04 +/- 1.37E-05
18	345.64	2.42E+00 +/- 2.01E-01	1.47E+00	3.00E-04 +/- 1.38E-05
19	375.70	5.57E+00 +/- 2.70E-01	1.45E+00	2.85E-04 +/- 1.47E-05
20	383.48	5.69E-01 +/- 1.37E-01	1.45E+00	2.81E-04 +/- 1.49E-05
21	393.67	2.02E+00 +/- 1.63E-01	1.44E+00	2.76E-04 +/- 1.52E-05
22	413.70	5.39E+00 +/- 2.29E-01	1.43E+00	2.67E-04 +/- 1.56E-05
23	423.46	2.78E-01 +/- 7.74E-02	1.43E+00	2.62E-04 +/- 1.57E-05
24	452.11	5.64E-01 +/- 9.61E-02	1.41E+00	2.50E-04 +/- 1.58E-05
25	662.42	2.84E-01 +/- 5.68E-02	1.33E+00	1.83E-04 +/- 1.04E-05
26	964.13	1.75E-02 +/- 1.55E-02	1.27E+00	1.31E-04 +/- 5.72E-06
27	1001.03	2.62E-02 +/- 1.51E-02	1.26E+00	1.27E-04 +/- 5.50E-06
28	1085.91	1.89E-02 +/- 1.74E-02	1.25E+00	1.18E-04 +/- 5.01E-06

Batch 2002-02-416

Segment: 15 Detector: DET01 (# 1) Position: 15

Elapsed Live Time: 113.63 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.500 +/- 0.0257
SE-75	264.65	0.000 +/- 0.0000	0.550 +/- 0.0051
SE-75	279.53	0.000 +/- 0.0000	0.559 +/- 0.0068
SE-75	400.65	0.000 +/- 0.0000	0.608 +/- 0.0085

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.28	2.42E+00 +/- 2.29E-01	1.95E+00	1.84E-12 +/- 1.75E-11
2	35.10	1.01E+03 +/- 4.78E+00	1.55E+00	1.45E-08 +/- 6.96E-08
3	59.61	2.92E+01 +/- 6.08E-01	1.37E+00	1.09E-05 +/- 1.65E-05
4	98.68	2.75E+00 +/- 4.22E-01	1.31E+00	1.82E-04 +/- 4.21E-05
5	129.29	3.46E+00 +/- 3.36E-01	1.29E+00	3.37E-04 +/- 1.99E-05
6	144.05	2.39E+00 +/- 2.80E-01	1.28E+00	3.82E-04 +/- 3.28E-05
7	163.52	1.64E+00 +/- 2.49E-01	1.28E+00	4.15E-04 +/- 4.37E-05
8	185.71	1.48E+01 +/- 4.28E-01	1.27E+00	4.24E-04 +/- 4.51E-05
9	208.51	1.31E+00 +/- 2.32E-01	1.26E+00	4.15E-04 +/- 3.96E-05
10	311.90	2.70E-01 +/- 8.95E-02	1.23E+00	3.22E-04 +/- 1.42E-05
11	333.61	2.67E-01 +/- 1.27E-01	1.22E+00	3.04E-04 +/- 1.37E-05
12	345.63	5.22E-01 +/- 1.04E-01	1.22E+00	2.95E-04 +/- 1.38E-05
13	375.76	1.35E+00 +/- 1.32E-01	1.21E+00	2.74E-04 +/- 1.44E-05
14	393.60	4.97E-01 +/- 8.68E-02	1.20E+00	2.63E-04 +/- 1.47E-05
15	413.70	1.09E+00 +/- 1.06E-01	1.20E+00	2.52E-04 +/- 1.49E-05
16	662.42	7.90E-02 +/- 2.63E-02	1.16E+00	1.74E-04 +/- 9.76E-06

Segment: 16 Detector: DET01 (# 1) Position: 16

Elapsed Live Time: 113.77 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.489 +/- 0.0250
SE-75	264.65	0.000 +/- 0.0000	0.540 +/- 0.0051
SE-75	279.53	0.000 +/- 0.0000	0.544 +/- 0.0067
SE-75	400.65	0.000 +/- 0.0000	0.600 +/- 0.0085

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.30	1.03E+00 +/- 1.47E-01	1.99E+00	1.49E-14 +/- 1.66E-13
2	35.10	1.01E+03 +/- 4.76E+00	1.56E+00	9.52E-10 +/- 5.35E-09
3	59.59	4.40E+00 +/- 3.02E-01	1.39E+00	3.33E-06 +/- 5.88E-06
4	129.29	3.74E-01 +/- 1.73E-01	1.30E+00	2.29E-04 +/- 1.54E-05
5	144.06	1.35E+00 +/- 2.26E-01	1.29E+00	2.69E-04 +/- 2.69E-05
6	163.81	8.49E-01 +/- 2.08E-01	1.28E+00	2.99E-04 +/- 3.71E-05
7	185.71	8.00E+00 +/- 3.24E-01	1.28E+00	3.10E-04 +/- 3.88E-05
8	205.61	4.34E-01 +/- 1.67E-01	1.27E+00	3.06E-04 +/- 3.50E-05
9	413.70	1.93E-01 +/- 5.42E-02	1.20E+00	1.81E-04 +/- 1.21E-05
10	778.90	2.60E-02 +/- 1.50E-02	1.14E+00	1.14E-04 +/- 6.23E-06

Summed Spectrum

Peak Locate Report

Sample ID: LL85300999R
Peak Locate Performed on: 1-31-02 12:40:52 PM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192
Peak Search Sensitivity: 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
1	43.00	0.3663	21.42	7.45
2	46.49	0.1452	23.17	24.20
3	70.17	0.0398	35.00	521.10
4	119.40	0.0665	59.59	135.94
5	150.33	0.2879	75.05	8.03
6	197.82	0.1060	98.77	52.16
7	207.13	0.1221	103.42	26.97
8	222.97	0.1361	111.34	27.82
9	230.25	0.1822	114.98	11.92
10	259.43	0.0837	129.56	81.43
11	288.95	0.2043	144.30	13.64
12	297.99	0.1615	148.82	25.85
13	330.23	0.2461	164.93	9.28
14	343.67	0.2767	171.64	7.07
15	359.41	0.3176	179.51	5.82
16	372.54	0.1639	186.07	19.96
17	392.56	0.2437	196.07	8.54
18	417.22	0.0835	208.39	75.30
19	512.16	0.2225	255.82	10.14
20	536.48	0.2435	267.98	8.45
21	596.54	0.2686	297.98	7.39
22	625.53	0.1531	312.47	20.68
23	649.34	0.2744	324.36	7.28
24	667.31	0.1075	333.34	41.02
25	673.69	0.1655	336.53	16.49
26	691.92	0.1052	345.64	43.56
27	738.47	0.1755	368.89	12.26
28	752.09	0.0783	375.70	75.60
29	767.67	0.1395	383.48	25.88
30	787.99	0.1078	393.63	38.06
31	829.73	0.0798	414.49	70.29
32	847.49	0.1511	423.36	19.03
33	905.31	0.1311	452.25	25.42
34	1240.78	0.2701	619.86	5.08
35	1295.34	0.2686	647.11	6.28
36	1328.46	0.1709	663.66	13.22

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
37	1448.00	0.2127	723.39	8.23

Errors quoted at 1.000 sigma

Summed Spectrum

Peak Analysis Report

Sample ID: LL85300999R
Peak Analysis Performed on: 1-31-02 12:40:53 PM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	39-	46	43.00	21.42	6.28E+03	136.25	6.18E+03
2	46-	49	46.49	23.17	8.71E+03	154.77	8.88E+03
3	66-	73	70.17	35.00	1.83E+06	1360.70	9.21E+03
4	115-	122	119.40	59.59	1.79E+05	491.43	3.02E+04
5	146-	153	150.33	75.05	9.46E+02	179.12	1.51E+04
6	194-	201	197.82	98.77	3.69E+04	361.93	4.69E+04
7	206-	210	207.13	103.42	2.33E+04	232.34	1.76E+04
8	219-	226	222.97	111.34	9.07E+03	268.97	2.97E+04
9	226-	234	230.25	114.98	1.33E+03	303.86	4.07E+04
10	255-	263	259.43	129.56	4.50E+04	300.43	2.10E+04
11	284-	293	288.95	144.30	1.69E+03	209.02	1.83E+04
12	293-	302	297.99	148.82	4.15E+03	215.04	1.85E+04
13	326-	334	330.23	164.93	3.51E+02	181.69	1.51E+04
14	339-	347	343.67	171.64	1.84E+03	168.19	1.24E+04
15	355-	363	359.41	179.51	7.14E+02	160.72	1.18E+04
16	368-	376	372.54	186.07	4.15E+03	176.07	1.25E+04
17	388-	396	392.56	196.07	1.93E+03	155.67	1.05E+04
18	412-	421	417.22	208.39	2.04E+04	252.11	1.81E+04
19	507-	516	512.16	255.82	1.45E+03	117.07	5.43E+03
20	532-	541	536.48	267.98	5.85E+02	111.17	5.19E+03
21	591-	601	596.54	297.98	5.63E+02	110.07	4.83E+03
22	620-	630	625.53	312.47	2.87E+03	113.64	4.22E+03
23	646-	654	649.34	324.36	4.17E+02	95.19	3.90E+03
24	662-	672	667.31	333.34	7.40E+03	157.99	7.05E+03
25	672-	678	673.69	336.53	5.29E+02	123.85	4.84E+03
26	687-	696	691.92	345.64	7.61E+03	129.70	4.04E+03
27	733-	743	738.47	368.89	3.22E+03	100.30	2.86E+03
28	746-	757	752.09	375.70	2.26E+04	184.07	4.50E+03
29	767-	772	767.67	383.48	2.42E+03	90.89	1.72E+03
30	782-	793	787.99	393.63	8.47E+03	108.96	1.36E+03
31	824-	835	829.73	414.49	2.23E+04	156.60	8.81E+02
32	842-	852	847.49	423.36	1.40E+03	59.63	8.84E+02
33	899-	910	905.31	452.25	2.76E+03	61.93	4.27E+02
34	1234-	1246	1240.78	619.86	1.57E+02	23.80	1.56E+02
35	1289-	1301	1295.34	647.11	1.29E+02	25.30	1.89E+02
36	1322-	1334	1328.46	663.66	7.16E+02	34.54	1.81E+02
37	1441-	1454	1448.00	723.39	3.76E+02	25.29	9.58E+01

Batch 2002-02-421

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-02-422

Summed Spectrum

Nuclide Identification Report

Sample ID: LL85300999R
Nuclide Library Used: C:\WAS\NLIB\LLNL.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/)	Activity Uncertainty
Pulser	0.999	35.10*	100.00	6.508E+05	1.473E+06
U-235	0.991	185.71*	57.20	6.632E+00	3.086E-01
Np-237	0.744	300.10	6.63		
		311.90*	38.60	7.557E+00	3.040E-01
Pu-239	0.957	413.70*	0.00	1.819E+06	3.505E+04
Pu-239A	0.995	129.29*	0.01	8.145E+05	1.938E+04
Am-241	0.896	662.42*	0.00	3.077E+05	1.504E+04
Pu-241	0.995	148.57*	0.00	2.236E+06	1.198E+05

* = Energy line found in the spectrum.
Energy Tolerance : 1.500 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 1.000 sigma

Rpt'd 2002-02-423

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 1-31-02 12:40:52 PM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	21.42	5.5279E+01	2.17
2	23.17	7.6743E+01	1.78
4	59.59	1.5763E+03	0.29
5	75.05	8.3341E+00	18.93
6	98.77	3.2503E+02	0.99
7	103.42	2.0495E+02	1.00
8	111.34	7.9910E+01	2.97
9	114.98	1.1699E+01	22.87
11	144.30	1.4892E+01	12.36
13	164.93	3.0905E+00	51.77
14	171.64	1.6183E+01	9.15
15	179.51	6.2878E+00	22.51
17	196.07	1.6974E+01	8.08
18	208.39	1.7940E+02	1.24
19	255.82	1.2770E+01	8.07
20	267.98	5.1545E+00	18.99
21	297.98	4.9558E+00	19.56
23	324.36	3.6767E+00	22.80
24	333.34	6.5162E+01	2.14
25	336.53	4.6549E+00	23.43
26	345.64	6.6975E+01	1.71
27	368.89	2.8382E+01	3.11
28	375.70	1.9926E+02	0.82
29	383.48	2.1272E+01	3.76
30	393.63	7.4565E+01	1.29
32	423.36	1.2304E+01	4.27
33	452.25	2.4281E+01	2.25
34	619.86	1.3842E+00	15.14
35	647.11	1.1331E+00	19.67
37	723.39	3.3131E+00	6.72

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-02-424

Combined Segment NID

NID Results Combiner Mode: Sum Activities

Nuclide		Total Activity (uCi)				Concentration (uCi/g)		
Pulser		4.86E+07	+/-	2.52E+08		1.42E+03	+/-	7.38E+03
SE-75	<	1.79E-01	+/-	8.74E-03	<	5.24E-06	+/-	2.56E-07
EU-152x	<	2.17E-01	+/-	1.14E-02	<	6.35E-06	+/-	3.34E-07
U-233	<	7.30E+03	+/-	3.71E+02	<	2.13E-01	+/-	1.09E-02
U-235		7.62E+00	+/-	4.69E-01		2.23E-04	+/-	1.37E-05
Np-237		8.65E+00	+/-	3.59E-01		2.53E-04	+/-	1.05E-05
Pu-238	<	1.85E+04	+/-	8.91E+02	<	5.42E-01	+/-	2.60E-02
U-238		3.60E+00	+/-	1.13E+00		1.05E-04	+/-	3.31E-05
Pu-239		1.98E+06	+/-	3.48E+04		5.80E+01	+/-	1.02E+00
Pu-239A		1.14E+06	+/-	2.08E+04		3.34E+01	+/-	6.09E-01
Am-241		3.28E+05	+/-	1.65E+04		9.59E+00	+/-	4.82E-01
Pu-241		3.22E+06	+/-	1.51E+05		9.43E+01	+/-	4.40E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
U-235	3.53E+00	+/-	2.17E-01
Np-237	1.23E-02	+/-	5.10E-04
U-238	1.07E+01	+/-	3.37E+00
Pu-239	3.19E+01	+/-	5.60E-01
Pu-239A	1.84E+01	+/-	3.35E-01
Am-241	9.58E-02	+/-	4.81E-03
Pu-241	3.12E-02	+/-	1.46E-03

Batch 2002-02-425

Summed Spectrum

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		6.51E+05	+/-	1.47E+06	1.90E+01	+/-	4.31E+01
SE-75	<	6.33E-01	+/-	5.00E-03	< 1.85E-05	+/-	1.46E-07
EU-152x	<	4.40E-01	+/-	7.78E-03	< 1.29E-05	+/-	2.28E-07
U-233	<	3.01E+04	+/-	5.85E+02	< 8.80E-01	+/-	1.71E-02
U-235		6.63E+00	+/-	3.09E-01	1.94E-04	+/-	9.02E-06
Np-237		7.56E+00	+/-	3.04E-01	2.21E-04	+/-	8.89E-06
Pu-238	<	7.21E+04	+/-	9.68E+02	< 2.11E+00	+/-	2.83E-02
U-238	<	1.23E+01	+/-	1.94E-01	< 3.61E-04	+/-	5.67E-06
Pu-239		1.82E+06	+/-	3.51E+04	5.32E+01	+/-	1.02E+00
Pu-239A		8.14E+05	+/-	1.94E+04	2.38E+01	+/-	5.67E-01
Am-241		3.08E+05	+/-	1.50E+04	9.00E+00	+/-	4.40E-01
Pu-241		2.24E+06	+/-	1.20E+05	6.54E+01	+/-	3.50E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
U-235	3.07E+00	+/-	1.43E-01
Np-237	1.07E-02	+/-	4.32E-04
Pu-239	2.93E+01	+/-	5.64E-01
Pu-239A	1.31E+01	+/-	3.12E-01
Am-241	8.99E-02	+/-	4.39E-03
Pu-241	2.16E-02	+/-	1.16E-03

Final Non-Uniformity Results

Source Longitudinal Ratio:	0.000	+/-	0.0000
Matrix Longitudinal Ratio:	0.726	+/-	0.0478
Source Vertical Ratio:	0.000	+/-	0.0000
Matrix Vertical Ratio:	0.667	+/-	0.0112

NUDS could not find the transmission peak in one radial segment.
NUDS could not find the source peak in any radial segment.

LAWRENCE LIVERMORE NATIONAL LABORATORY

WASTE DISPOSAL REQUISITION

W 211462

H1. Label/Waste Type:
- ☐ Non-Haz (N)
- ☐ RCRA Haz (H)
- ☐ CA Haz (C)
- ☐ NTS LLW (L)
- ☐ Low-Level (R)
- ☐ LLW Mixed (F)
- ☐ LLW Combined (S)
- ☒ TRU (T)
- ☐ TRU Mixed (X)

H2. CCC: DS

H3. Storage Restrictions
Not acceptable at the following locations:
☐ 233 ☐ 514 ☐ 612 ☐ 693 ☐ 696
CWAA ☑ 169 ☑ 361 ☐ 612-4

1. Container ID Number or Tank ID or for TRU Waste, TRU Waste Container Serial No.: Q- LL85-3 0 0 9 9 9 TRU-

2. Container Use/Acceptability: ☐ On-site use only; ☑ Acceptable for off-site use
Container Manufacturer Serial No./Batch No. 65501 B342576 ☐ N/A
Employee No.: 000806 Initials: HVS Date: 09/18/01

3. RMMA: ☒ Yes ☐ No

4. Waste Form:
- ☒ Solid
- ☐ Liquid
- ☐ Gas
- ☐ Sludge

H4. Hazardous Properties:
- ☐ Toxic
- ☐ Corrosive
- ☐ Ignitable
- ☐ Reactive

5. Outer Container Type:
- ☐ Box
- ☐ Sack
- ☐ Can
- ☐ SWB
- ☐ Carboy
- ☐ Tub
- ☒ Drum
- ☐ Bag
- ☐ Tank – Fixed
- ☐ Tank – Portable
- ☐ Transportainer

Other: ____

6. Outer Container Size/Vol:
- ☐ 1 gal ☒ 55 gal ☐ 67 cu ft
- ☐ 2 gal ☐ 85 gal ☐ 1 × 1 × 1.5
- ☐ 5 gal ☐ 330 gal ☐ 2 × 4 × 7
- ☐ 10 gal ☐ 660 gal ☐ 4 × 4 × 7
- ☐ 12 gal ☐ 750 gal ☐ 1 cu yd
- ☐ 20 gal ☐ 1000 gal ☐ 8 × 8 × 20
- ☐ 30 gal ☐ 5000 gal ☐ 8 × 8 × 40

Other: ____ ☐ gal ____ ☐ cu ft

7. Building No.: 332

8. Room No.: 1378

9. Location: 10-29-01 HVS 12100 1 Atgen

10. Workplace Start Date: 09/18/01 HVS 12100 1

11. Workplace End Date: ~~10/12/01~~ 10-26 HVS 12100 1

12. Account No.: S481-50

13. Directorate: DNT

14. WEF/PKE/SAW/PIW:
☐ WEF ☒ PKE ☐ SAW ☐ PIW
Specify No.: 243,244,247 ☐ N/A

15. Source Code: A940

16. Inner Containers
☐ Yes ☐ No

17. Item No.	18. Spent or Unused (S/U)	19. Organic or Inorganic (O/I)	20. Waste Form (S,SL,L,G)	21. Waste Description (For multiple parcels, list Parcel Card Nos.)	22. Hazardous Constituents and Concentrations	23. Item Container Size	24. Quantity per Item Amount	Units	25. Analysis Sample No.	Physical Waste Data: 26. Aqueous Only pH	Normality	27. Flash Point
				P050348	P050356							
				P050457								
				P050461								
				P050462								
				P050463								
				P050464								
				P050465								

28. Does the waste contain radioactive components?
☒ Yes ☐ No ☐ To be analyzed HVS 12/10/01
(If yes or TBA, complete Page 3 as applicable to waste type.)

This section (Steps 29–30) is required for Hazardous Waste generated in a RMMA

29. Was the waste kept isolated from any operation that could have produced radioactive contamination (using a glove box, vent hood, etc.)?
HVS 12/10/01
☒ Yes ☐ No (If no, full rad analysis required)

30. Was the waste exposed to particle beams capable of inducing radioactivity by activation?
☐ Yes ☒ No (If yes, full rad analysis required)
HVS 12/10/01

31. ☒ Generator: I certify, to the best of my knowledge, that the information provided on this requistion is correct. I understand that I may be liable to State and Federal prosecution by intentionally providing false information. I have obtained this information by:
- ☐ Direct knowledge of the waste generating process ☐ Analytical Data
- ☐ Obtaining sufficient information from others knowledgeable of the waste generating process

☒ Container Custodian: I certify that the waste parcels identified on this form are contained in this waste container and have been packaged in accordance with the requirements specified in the appropriate LLNL TRU or Low-Level Waste Program Certification and Quality Assurance Program.

Generator or Container Custodian Name (Print – Last, First): Summers Harry
Signature: H. V. S.

Employee No.:	L-Code:	Ext.:	Date:
000806	361	35810	10/29/01

H5. Inspected By: Signature: | Employee No.: | Date:

H6. Characterization Chemist Approval:
☐ Acceptable for Sampling ENP (Initials) Exempt: ☐ OP ☐ SA ☑ DE
Signature: ☐ WEF E Mertz Roder | Employee No.: 690278 | Date: 12-20-01

H7. RCA Approval: ☐ Overpack for final shipment to NTS ☐ Meets SCAL
☐ Decay Program (Initials) ____ ☐ NTS Certified (Initials) ____ ☐ WIPP Certified (Initials) ____
☐ On-site Treatment
Signature: ☐ WEF | Employee No.: | Date:

32. Waste Profile No., TRU Waste Form No., or Bin No.:

☐ On Hold – Pending S&A

☐ Released

31A. Gross Weight: 66.0 KG

Radioactive page attached: ☑ Yes ☐ N/A

Continuation page(s) attached: ☐ Yes ☒ N/A

☐ HWM Use Only

LL-5344 (4/01)

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
2-01-02 8:53:51 AM

QA File: C:\WAS\CTRS\CTR1\ARR1\S11_BCK.QA
Sample ID: B841
Sample Quantity: 1.0000E+00
Sample Date: 2-01-02 8:48:13 AM
Measurement Date: 2-01-02 8:48:11 AM
Elapsed Live Time: 200.0 seconds
Elapsed Real Time: 201.9 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
Ref. Peak	3.5015E+01	0.00
[0.00+/-0.00]		< : : : >
Upper CPS Reg	2.1460E+01	0.00
[0.00+/-0.00]		< : : : >
Peak counts/second	1.0088E+03	0.00
[0.00+/-0.00]		< : : : >
Pulser FWHM	9.7064E-01	0.00
[0.00+/-0.00]		< : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
2-01-02 8:53:44 AM

QA File: C:\WAS\CTRS\CTR1\ARR1\T11_BCK.QA
Sample ID: B841
Sample Quantity: 1.0000E+00
Sample Date: 2-01-02 8:48:13 AM
Measurement Date: 2-01-02 8:51:39 AM
Elapsed Live Time: 100.0 seconds
Elapsed Real Time: 104.2 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >

400.6 keV Centroid	8.0322E+02			0.00			
[0.00+/-0.00]		<	:	:	:	>	
400.6 keV FWHM	1.4777E+00			0.00			
[0.00+/-0.00]		<	:	:	:	>	
Peak centroid 136 KeV	2.7276E+02			0.00			
[0.00+/-0.00]		<	:	:	:	>	
Peak area 400 keV	1.8988E+04			0.00			
[0.00+/-0.00]		<	:	:	:	>	
Peak counts/second	1.8988E+02			0.00			
[0.00+/-0.00]		<	:	:	:	>	

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

OK
RK
2-1-02

JN
4-19-02

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS 2.3A

****
* DRUM INFORMATION *
****

Drum Package ID: S20_842
Sequence Number: 842
Assay Date & Time: 2-01-2002 7:38:03 AM
Drum Package GROSS Weight: 45.00 kg NET Weight: 13.20 kg

IDC Number: S20-842

QC Replicate (Yes/No): NO Passed (Yes/No): _____

Operator Name (Printed): Russell Rath

Operator Signature: _____ Date: 2-1-02

Independent Reviewer: _____ Date: 4-19-02

Expert Reviewer: (NOT REQUIRED) Date: _____

Tech. Supv/QA Officer: _____ Date: 7/17/02

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 1.572E+00 +/- 3.665E-01 Ci

Batch 2002-02-431

ISOTOPIC INFORMATION

Isotope	Measured Mass (g)	Mass Uncertainty (g)	MDC (g)
Pu-238	1.824E-03	6.26E-04	9.913E-06
Pu-239	1.808E+01	5.70E+00	9.830E-02
Pu-240	1.070E+00	3.38E-01	5.818E-03
Pu-241	1.591E-02	5.03E-03	2.517E-03
Pu-242	4.380E-03	1.63E-03	2.381E-05
Am-241	4.926E-02	1.55E-02	3.747E-03
Am-243	0.000E+00	0.00E+00	0.000E+00
Np-237	0.000E+00	0.00E+00	5.321E-04
U-235	0.000E+00	0.00E+00	1.143E-01
U-238	1.191E+01	3.74E+00	1.191E+01
U-233	1.763E+00	5.30E-01	1.763E+00

Total Pu Mass: 1.92E+01 +/- 2.46E+00 g

MGA RESULTS

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	9.510E-03	6.98E+00
Pu-239	9.430E+01	6.15E-02
Pu-240	5.582E+00	1.03E+00
Pu-241	8.294E-02	1.28E+00
Pu-242	2.284E-02	1.00E+01
Am-241	2.569E-01	7.22E-01

Batch 2002-02-432

****
* A C T I V I T Y I N F O R M A T I O N *
****

Procedure ID & Rev: OP-B332-005

Assay Date & Time: 2-01-2002 7:38:03 AM

Drum Package ID: S20_842
Sequence Number: 842

Waste Classification (TRU or LLW): TRU

		Errors at 1.96 sigma	
Total Alpha Activity :	1.572E+00	+/- 3.66E-01	Ci
Total TRU Activity :	1.191E+05	+/- 2.78E+04	nCi/g
Pu-239 Equiv Activity:	1.602E+00	+/- 3.67E-01	Ci
Fissile Gram Equiv Mass:	1.815E+01	+/- 5.70E+00	g
Total Decay Heat:	4.974E-02	+/- 1.15E-02	W
TMU Value:	31.50 %		

****
* I S O T O P I C I N F O R M A T I O N *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error	MDA gm
Pu-238	3.16E-02	1.08E-02	1.82E-03	6.26E-04	9.91E-06
Pu-239	1.12E+00	3.54E-01	1.81E+01	5.70E+00	9.83E-02
Pu-240	2.46E-01	7.77E-02	1.07E+00	3.38E-01	5.82E-03
Pu-241	1.65E+00	5.23E-01	1.59E-02	5.03E-03	2.52E-03
Pu-242	1.74E-05	6.45E-06	4.38E-03	1.63E-03	2.38E-05
Am-241	1.71E-01	5.39E-02	4.93E-02	1.55E-02	3.75E-03
Am-243	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Np-237	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.32E-04
U-235	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.14E-01
U-238	4.05E-06	1.27E-06	1.19E+01	3.74E+00	1.19E+01
U-233	1.72E-02	5.18E-03	1.76E+00	5.30E-01	1.76E+00

Total Pu Mass: 1.92E+01 +/- 2.46E+00 g

****
* M G A R E S U L T S *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	9.510E-03	6.98E+00
Pu-239	9.430E+01	6.15E-02
Pu-240	5.582E+00	1.03E+00
Pu-241	8.294E-02	1.28E+00
Pu-242	2.284E-02	1.00E+01
Am-241	2.569E-01	7.22E-01

433
Batch 3002-02-~~439~~ KS 7-16-02

****
***** M G A R E P O R T *****
****

Report generated on: 2-01-02 8:34:39 AM

MGA version: MGA V9.5 CI

Spectrum ID: 11200842.CNF Sens : 30.0% LT: 55.0 Mins DT: 1.69
Measurement date: 2-01-02 Declared date: 2-01-02

Sample ID: S20_842 Detector: Total counts: 3.571E+06

Pu g/cm2 = 0.4222 Cd g/cm2 = 1.6678 FWHM at 122 keV = 682 eV
QFIT = 1.00 FWHM at 208 keV = 869 eV
NQFIT = 1.00

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	Meas. date %Err	Decl. date % weight	Decl. date %Err
Pu-238	0.000101	7.0	7.0	0.1147	7.0	0.00951	6.98	0.00951	6.98
Pu-239	1.000000	0.0	0.5	1136.948	1.3	94.30300	0.06	94.30300	0.06
Pu-240	0.059189	1.1	1.0	67.2949	1.6	5.58171	1.03	5.58171	1.03
Pu-241	0.000880	1.3	1.2	1.0000	0.0	0.08294	1.28	0.08294	1.28
Pu-242	(New alg.)			0.2754	(10)	0.02284	(10)	0.02284	(10)
Am-241	0.002724	0.7	0.6	3.0969	1.4	0.25687	0.72	0.25687	0.72

Pu-240 effective (meas. date) = 5.644 +/- 1.12%
Am-241 separated about 29.188 +/- 0.260 years ago
Am/Pu-241 weight ratio = 3.09693 +/- 1.36%

Messages :

Lead x-rays detected.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Batch 2002-02-~~433~~ 434 MS 2-16-02

Gamma Waste Assay

Sample Information

File Name: C:\WAS\DATA\900\11100842.S11
Sample ID: S20_842 Count Sequence Number: 842
Assay Start: 2-01-02 7:38:05 AM
Description 1: 20g source drum
Description 2:
Location: 7715
Comment:
Waste Type:
Weight: Gross: 45000.0 g Net: 13200.0 g
Density: 0.063 g /ml

Container Type: 55 Gal Galv
Container: Volume: 208000. ml Full: 100.0 %

System Configuration

Counter ID Number: SGS
Arrangement Description: SGS
Segments: Number: 16 Offset: 0
Scanning Platform: Start: 934 mm Delta: -51 mm
Count Type: Daily 20 g Drum Check
Collimator/Geometry Setting: 0
Transmission Mode: Two pass
Transmission Source: 0

Errors quoted at 1.000 sigma
Reference Source Date: Reference Source Rate: 1.01E+03 cps
Geometric Correction Factor(SWCONTGCF): 0.760
Date of efficiency calibration approval: 4-18-2001 12:41:36 PM
Mu Factors response file: Lucite
Transmission Calib. Time: 5-11-2001 2:20:42 PM 59052

Reviewed by: Lee P Ault Date: 7/16/02

Batch 2002-02-435 7-16-02

Segment Results

Segment: 1 Detector: DET01 (# 1) Position: 1

Elapsed Live Time: 113.82 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.482 +/- 0.0247
SE-75	264.65	0.000 +/- 0.0000	0.557 +/- 0.0052
SE-75	279.53	0.000 +/- 0.0000	0.571 +/- 0.0069
SE-75	400.65	0.000 +/- 0.0000	0.605 +/- 0.0085

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.58E+00	2.61E-06 +/- 1.64E-05

Segment: 2 Detector: DET01 (# 1) Position: 2

Elapsed Live Time: 113.81 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.567 +/- 0.0265
SE-75	264.65	0.000 +/- 0.0000	0.624 +/- 0.0056
SE-75	279.53	0.000 +/- 0.0000	0.629 +/- 0.0073
SE-75	400.65	0.000 +/- 0.0000	0.677 +/- 0.0091

436 KR
Batch 2002-02-[illegible] 7-16-02

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.44E+00	2.21E-07 +/- 1.06E-06
2	48.40	3.66E+00 +/- 3.02E-01	1.34E+00	5.09E-06 +/- 1.27E-05
3	59.61	2.80E+00 +/- 2.73E-01	1.30E+00	2.20E-05 +/- 3.31E-05
4	185.71	2.65E-01 +/- 1.50E-01	1.21E+00	3.89E-04 +/- 4.14E-05
5	264.66	1.75E-01 +/- 9.69E-02	1.19E+00	3.54E-04 +/- 2.08E-05
6	400.66	1.04E-01 +/- 3.83E-02	1.16E+00	2.59E-04 +/- 1.44E-05
7	413.70	4.99E-02 +/- 3.57E-02	1.15E+00	2.51E-04 +/- 1.46E-05
8	662.42	5.20E-02 +/- 2.12E-02	1.12E+00	1.65E-04 +/- 9.18E-06
9	867.39	4.01E-02 +/- 2.48E-02	1.10E+00	1.33E-04 +/- 6.03E-06
10	964.13	2.60E-02 +/- 1.50E-02	1.10E+00	1.23E-04 +/- 5.48E-06
11	1085.91	8.67E-03 +/- 8.67E-03	1.09E+00	1.13E-04 +/- 4.92E-06
12	1112.12	1.73E-02 +/- 1.23E-02	1.09E+00	1.11E-04 +/- 4.80E-06
13	1408.01	4.34E-02 +/- 1.94E-02	1.08E+00	9.61E-05 +/- 6.36E-06

Segment: 3 Detector: DET01 (# 1) Position: 3

Elapsed Live Time: 113.78 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.618 +/- 0.0279
SE-75	264.65	0.000 +/- 0.0000	0.685 +/- 0.0060
SE-75	279.53	0.000 +/- 0.0000	0.685 +/- 0.0078
SE-75	400.65	0.000 +/- 0.0000	0.718 +/- 0.0095

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.24	1.17E+00 +/- 1.59E-01	1.63E+00	1.09E-08 +/- 1.06E-07
2	35.10	1.01E+03 +/- 4.76E+00	1.36E+00	1.07E-06 +/- 5.27E-06
3	59.58	4.99E+00 +/- 3.25E-01	1.25E+00	3.79E-05 +/- 5.86E-05
4	443.98	2.50E-02 +/- 1.93E-02	1.12E+00	2.43E-04 +/- 1.54E-05
5	559.01	6.73E-02 +/- 3.71E-02	1.11E+00	2.03E-04 +/- 1.33E-05
6	662.42	8.68E-03 +/- 8.68E-03	1.10E+00	1.78E-04 +/- 1.02E-05
7	1112.12	8.68E-03 +/- 1.58E-02	1.08E+00	1.21E-04 +/- 5.09E-06

Batch 2002-02 437 #8

Segment: 4 Detector: DET01 (# 1) Position: 4

Elapsed Live Time: 113.71 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.623 +/- 0.0283
SE-75	264.65	0.000 +/- 0.0000	0.671 +/- 0.0059
SE-75	279.53	0.000 +/- 0.0000	0.676 +/- 0.0077
SE-75	400.65	0.000 +/- 0.0000	0.708 +/- 0.0094

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.26	1.79E+00 +/- 1.90E-01	1.61E+00	3.39E-06 +/- 4.75E-06
2	35.10	1.01E+03 +/- 4.76E+00	1.36E+00	2.00E-05 +/- 1.66E-05
3	59.48	9.49E+00 +/- 4.04E-01	1.25E+00	9.78E-05 +/- 3.39E-05
4	148.57	4.24E-01 +/- 2.06E-01	1.19E+00	3.40E-04 +/- 1.63E-05
5	1112.12	1.74E-02 +/- 1.23E-02	1.08E+00	1.17E-04 +/- 4.26E-06

Segment: 5 Detector: DET01 (# 1) Position: 5

Elapsed Live Time: 113.07 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.655 +/- 0.0294
SE-75	264.65	0.000 +/- 0.0000	0.667 +/- 0.0059
SE-75	279.53	0.000 +/- 0.0000	0.668 +/- 0.0077
SE-75	400.65	0.000 +/- 0.0000	0.702 +/- 0.0094

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PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	3.17E+00 +/- 2.85E-01	1.62E+00	1.08E-06 +/- 1.72E-06
2	23.17	5.11E+00 +/- 3.30E-01	1.54E+00	1.75E-06 +/- 2.55E-06
3	35.10	1.01E+03 +/- 4.80E+00	1.32E+00	1.48E-05 +/- 1.27E-05
4	59.59	6.40E+01 +/- 9.33E-01	1.22E+00	9.33E-05 +/- 3.30E-05
5	74.96	1.29E+00 +/- 4.15E-01	1.20E+00	1.58E-04 +/- 3.39E-05
6	98.68	1.66E+01 +/- 8.51E-01	1.18E+00	2.49E-04 +/- 2.53E-05
7	103.54	7.54E+00 +/- 7.41E-01	1.18E+00	2.64E-04 +/- 2.32E-05
8	111.36	5.21E+00 +/- 5.62E-01	1.18E+00	2.86E-04 +/- 2.04E-05
9	129.29	1.99E+01 +/- 5.63E-01	1.17E+00	3.26E-04 +/- 1.67E-05
10	144.33	1.34E+00 +/- 3.91E-01	1.17E+00	3.49E-04 +/- 1.68E-05
11	148.57	1.06E+00 +/- 3.63E-01	1.17E+00	3.54E-04 +/- 1.71E-05
12	161.96	8.44E-01 +/- 3.53E-01	1.17E+00	3.66E-04 +/- 1.84E-05
13	204.02	1.55E+00 +/- 3.64E-01	1.16E+00	3.76E-04 +/- 2.04E-05
14	208.30	2.50E+00 +/- 4.29E-01	1.16E+00	3.75E-04 +/- 2.04E-05
15	244.70	3.88E-01 +/- 1.92E-01	1.16E+00	3.63E-04 +/- 1.90E-05
16	255.74	7.19E-01 +/- 2.21E-01	1.16E+00	3.58E-04 +/- 1.84E-05
17	300.10	3.57E-01 +/- 2.20E-01	1.16E+00	3.33E-04 +/- 1.55E-05
18	333.24	2.89E+00 +/- 2.91E-01	1.15E+00	3.13E-04 +/- 1.36E-05
19	345.55	3.25E+00 +/- 2.56E-01	1.15E+00	3.06E-04 +/- 1.30E-05
20	369.14	1.06E+00 +/- 2.07E-01	1.15E+00	2.93E-04 +/- 1.20E-05
21	375.62	8.05E+00 +/- 3.39E-01	1.14E+00	2.89E-04 +/- 1.18E-05
22	383.43	5.69E-01 +/- 2.28E-01	1.14E+00	2.85E-04 +/- 1.16E-05
23	393.62	3.31E+00 +/- 2.09E-01	1.14E+00	2.79E-04 +/- 1.13E-05
24	400.66	3.00E-01 +/- 1.11E-01	1.14E+00	2.76E-04 +/- 1.11E-05
25	413.70	8.13E+00 +/- 2.82E-01	1.14E+00	2.69E-04 +/- 1.09E-05
26	423.35	3.70E-01 +/- 1.15E-01	1.14E+00	2.64E-04 +/- 1.07E-05
27	452.17	9.84E-01 +/- 1.06E-01	1.13E+00	2.51E-04 +/- 1.03E-05
28	662.42	1.58E-01 +/- 5.19E-02	1.11E+00	1.79E-04 +/- 8.77E-06
29	964.13	1.54E-02 +/- 1.28E-02	1.09E+00	1.28E-04 +/- 5.33E-06

Segment: 6 Detector: DET01 (# 1) Position: 6

Elapsed Live Time: 110.82 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.132 +/- 0.0246
SE-75	264.65	0.000 +/- 0.0000	0.306 +/- 0.0036
SE-75	279.53	0.000 +/- 0.0000	0.312 +/- 0.0051
SE-75	400.65	0.000 +/- 0.0000	0.394 +/- 0.0069

Bobby 2-02-02-439

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)		Correction Factor	Original Efficiency		
	1	21.42	8.64E+00	5.03E-01	4.10E+00	3.85E-07	5.97E-07	
	2	23.20	1.46E+01	5.91E-01	4.10E+00	6.77E-07	9.59E-07	
	3	35.10	1.01E+03	4.85E+00	2.94E+00	8.04E-06	6.71E-06	
	4	59.59	2.93E+02	2.10E+00	2.28E+00	6.89E-05	2.40E-05	
	5	74.97	2.98E+00	6.36E-01	2.15E+00	1.29E-04	2.73E-05	
	6	98.77	9.92E+01	1.60E+00	2.05E+00	2.22E-04	2.25E-05	
	7	103.54	4.22E+01	1.50E+00	2.03E+00	2.38E-04	2.11E-05	
	8	111.34	2.58E+01	1.08E+00	2.01E+00	2.63E-04	1.89E-05	
	9	115.42	2.17E+01	1.20E+00	2.00E+00	2.75E-04	1.80E-05	
	10	129.29	9.96E+01	1.22E+00	1.97E+00	3.10E-04	1.61E-05	
	11	144.48	4.87E+00	6.24E-01	1.91E+00	3.39E-04	1.63E-05	
	12	148.57	3.89E+00	6.36E-01	1.89E+00	3.45E-04	1.67E-05	
	13	171.72	4.23E+00	5.73E-01	1.79E+00	3.69E-04	1.88E-05	
	14	179.42	1.38E+00	5.53E-01	1.76E+00	3.74E-04	1.94E-05	
	15	189.44	2.32E+00	5.51E-01	1.73E+00	3.78E-04	1.99E-05	
	16	195.98	3.35E+00	5.54E-01	1.70E+00	3.80E-04	2.01E-05	
	17	203.90	8.99E+00	7.71E-01	1.68E+00	3.81E-04	2.02E-05	
	18	208.32	1.33E+01	9.04E-01	1.66E+00	3.81E-04	2.03E-05	
	19	244.70	7.03E-01	3.47E-01	1.56E+00	3.73E-04	1.92E-05	
	20	255.77	3.15E+00	3.88E-01	1.54E+00	3.69E-04	1.86E-05	
	21	297.80	2.07E+00	4.42E-01	1.49E+00	3.47E-04	1.59E-05	
	22	311.90	1.74E+00	3.56E-01	1.47E+00	3.39E-04	1.51E-05	
	23	324.34	1.81E+00	2.78E-01	1.46E+00	3.31E-04	1.44E-05	
	24	333.26	1.39E+01	6.02E-01	1.45E+00	3.26E-04	1.39E-05	
	25	336.49	1.12E+00	4.81E-01	1.45E+00	3.24E-04	1.37E-05	
	26	345.56	1.55E+01	5.08E-01	1.44E+00	3.19E-04	1.33E-05	
	27	368.69	6.65E+00	3.73E-01	1.42E+00	3.05E-04	1.23E-05	
	28	375.61	4.41E+01	7.67E-01	1.42E+00	3.02E-04	1.21E-05	
	29	383.42	4.21E+00	3.83E-01	1.41E+00	2.97E-04	1.18E-05	
	30	393.58	1.66E+01	4.48E-01	1.40E+00	2.92E-04	1.16E-05	
	31	413.70	4.38E+01	6.69E-01	1.39E+00	2.81E-04	1.11E-05	
	32	423.16	2.45E+00	2.53E-01	1.39E+00	2.76E-04	1.09E-05	
	33	452.20	4.87E+00	2.43E-01	1.37E+00	2.61E-04	1.05E-05	
	34	646.97	1.55E-01	1.08E-01	1.31E+00	1.90E-04	8.92E-06	
M	35	659.86	1.58E-01	5.27E-02	1.30E+00	1.87E-04	8.80E-06	
m	36	663.59	1.10E+00	1.46E-01	1.30E+00	1.86E-04	8.76E-06	
	37	723.13	5.70E-01	8.65E-02	1.29E+00	1.72E-04	8.13E-06	
	38	1408.01	8.94E-03	8.94E-03	1.19E+00	1.04E-04	6.39E-06	

Segment: 7 Detector: DET01 (# 1) Position: 7

Elapsed Live Time: 110.10 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:

440 kg 7-16-02

Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.279 +/- 0.0034
SE-75	279.53	0.000 +/- 0.0000	0.298 +/- 0.0050
SE-75	400.65	0.000 +/- 0.0000	0.381 +/- 0.0068

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
	1	21.42	1.39E+01 +/- 5.89E-01	4.10E+00	2.18E-09 +/- 2.40E-08
	2	23.19	2.02E+01 +/- 6.91E-01	4.10E+00	7.12E-09 +/- 6.98E-08
	3	35.10	1.01E+03 +/- 4.88E+00	4.10E+00	9.59E-07 +/- 4.73E-06
	4	49.79	7.29E+00 +/- 9.15E-01	4.10E+00	1.47E-05 +/- 3.55E-05
	5	59.59	4.46E+02 +/- 2.78E+00	4.10E+00	4.01E-05 +/- 6.21E-05
	6	75.06	1.29E+00 +/- 7.01E-01	4.10E+00	1.05E-04 +/- 8.11E-05
	7	98.74	1.08E+02 +/- 1.92E+00	4.10E+00	2.20E-04 +/- 5.19E-05
	8	103.55	4.93E+01 +/- 1.67E+00	4.10E+00	2.42E-04 +/- 4.26E-05
	9	111.35	3.19E+01 +/- 1.19E+00	4.10E+00	2.73E-04 +/- 2.87E-05
	10	115.41	2.64E+01 +/- 1.33E+00	4.10E+00	2.88E-04 +/- 2.28E-05
	11	129.29	1.21E+02 +/- 1.36E+00	4.10E+00	3.30E-04 +/- 1.98E-05
	12	144.41	6.17E+00 +/- 6.88E-01	3.15E+00	3.62E-04 +/- 3.20E-05
	13	148.57	4.56E+00 +/- 7.12E-01	2.94E+00	3.68E-04 +/- 3.49E-05
	14	161.02	3.67E+00 +/- 6.36E-01	2.54E+00	3.83E-04 +/- 4.08E-05
	15	171.63	5.26E+00 +/- 5.88E-01	2.33E+00	3.90E-04 +/- 4.31E-05
	16	179.45	2.33E+00 +/- 5.93E-01	2.21E+00	3.93E-04 +/- 4.34E-05
	17	189.49	2.90E+00 +/- 5.12E-01	2.08E+00	3.94E-04 +/- 4.25E-05
	18	196.00	4.68E+00 +/- 5.54E-01	2.01E+00	3.94E-04 +/- 4.14E-05
	19	203.86	9.77E+00 +/- 8.38E-01	1.94E+00	3.92E-04 +/- 3.95E-05
	20	208.33	1.82E+01 +/- 9.72E-01	1.90E+00	3.91E-04 +/- 3.83E-05
	21	238.21	7.97E-01 +/- 3.66E-01	1.70E+00	3.77E-04 +/- 2.90E-05
	22	244.70	1.23E+00 +/- 4.28E-01	1.66E+00	3.73E-04 +/- 2.70E-05
	23	255.73	3.19E+00 +/- 4.26E-01	1.60E+00	3.66E-04 +/- 2.39E-05
	24	297.91	2.16E+00 +/- 4.57E-01	1.51E+00	3.37E-04 +/- 1.58E-05
	25	311.90	2.63E+00 +/- 3.86E-01	1.49E+00	3.27E-04 +/- 1.48E-05
	26	324.34	7.26E-01 +/- 3.70E-01	1.48E+00	3.19E-04 +/- 1.44E-05
	27	333.27	1.69E+01 +/- 6.48E-01	1.47E+00	3.13E-04 +/- 1.44E-05
	28	336.52	1.35E+00 +/- 5.19E-01	1.47E+00	3.11E-04 +/- 1.44E-05
	29	345.56	1.79E+01 +/- 5.51E-01	1.46E+00	3.05E-04 +/- 1.46E-05
M	30	367.57	2.83E+00 +/- 3.24E-01	1.44E+00	2.92E-04 +/- 1.52E-05
m	31	369.14	4.02E+00 +/- 3.81E-01	1.44E+00	2.91E-04 +/- 1.52E-05
	32	375.62	5.05E+01 +/- 8.36E-01	1.43E+00	2.87E-04 +/- 1.54E-05
	33	383.44	3.59E+00 +/- 5.38E-01	1.43E+00	2.83E-04 +/- 1.57E-05
	34	393.53	1.90E+01 +/- 4.79E-01	1.42E+00	2.77E-04 +/- 1.59E-05
	35	413.70	4.87E+01 +/- 7.14E-01	1.40E+00	2.67E-04 +/- 1.63E-05
	36	423.24	2.43E+00 +/- 2.70E-01	1.40E+00	2.62E-04 +/- 1.63E-05
	37	452.13	5.62E+00 +/- 2.57E-01	1.39E+00	2.49E-04 +/- 1.63E-05

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38	646.96	2.85E-01	+/- 9.50E-02	1.32E+00	1.86E-04	+/- 1.11E-05
39	662.42	1.09E+00	+/- 1.24E-01	1.31E+00	1.82E-04	+/- 1.06E-05
40	723.22	4.44E-01	+/- 8.66E-02	1.30E+00	1.70E-04	+/- 9.01E-06
41	1408.01	4.54E-02	+/- 2.03E-02	1.20E+00	9.90E-05	+/- 6.54E-06

Segment: 8 Detector: DET01 (# 1) Position: 8

Elapsed Live Time: 112.21 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.338 +/- 0.0245
SE-75	264.65	0.000 +/- 0.0000	0.429 +/- 0.0044
SE-75	279.53	0.000 +/- 0.0000	0.441 +/- 0.0060
SE-75	400.65	0.000 +/- 0.0000	0.480 +/- 0.0076

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	5.34E+00 +/- 3.93E-01	2.92E+00	1.22E-09 +/- 1.33E-08
2	23.25	9.01E+00 +/- 4.63E-01	2.64E+00	4.35E-09 +/- 4.22E-08
3	35.10	1.01E+03 +/- 4.81E+00	1.91E+00	6.89E-07 +/- 3.37E-06
4	59.60	1.91E+02 +/- 1.62E+00	1.62E+00	3.34E-05 +/- 5.14E-05
5	75.10	1.71E+00 +/- 5.49E-01	1.56E+00	9.10E-05 +/- 7.00E-05
6	98.76	4.31E+01 +/- 1.23E+00	1.51E+00	1.98E-04 +/- 4.66E-05
7	103.51	1.79E+01 +/- 1.08E+00	1.50E+00	2.18E-04 +/- 3.87E-05
8	111.35	1.24E+01 +/- 7.73E-01	1.49E+00	2.49E-04 +/- 2.63E-05
9	115.65	9.78E+00 +/- 8.61E-01	1.49E+00	2.64E-04 +/- 2.08E-05
10	129.29	4.71E+01 +/- 8.47E-01	1.47E+00	3.05E-04 +/- 1.85E-05
11	144.33	2.21E+00 +/- 5.01E-01	1.46E+00	3.38E-04 +/- 2.99E-05
12	148.57	2.39E+00 +/- 4.79E-01	1.45E+00	3.45E-04 +/- 3.27E-05
13	171.63	1.73E+00 +/- 4.11E-01	1.43E+00	3.69E-04 +/- 4.10E-05
14	195.93	1.45E+00 +/- 4.16E-01	1.41E+00	3.77E-04 +/- 3.99E-05
15	203.96	4.10E+00 +/- 5.29E-01	1.40E+00	3.76E-04 +/- 3.82E-05
16	208.35	6.24E+00 +/- 6.18E-01	1.40E+00	3.76E-04 +/- 3.72E-05
17	244.70	7.34E-01 +/- 3.03E-01	1.37E+00	3.62E-04 +/- 2.67E-05
18	255.76	1.19E+00 +/- 2.98E-01	1.36E+00	3.56E-04 +/- 2.36E-05
19	311.90	9.15E-01 +/- 2.67E-01	1.33E+00	3.23E-04 +/- 1.44E-05
20	333.28	5.50E+00 +/- 4.15E-01	1.32E+00	3.10E-04 +/- 1.38E-05
21	336.58	5.80E-01 +/- 3.18E-01	1.32E+00	3.08E-04 +/- 1.38E-05
22	345.51	7.51E+00 +/- 3.48E-01	1.32E+00	3.03E-04 +/- 1.38E-05
23	368.80	2.81E+00 +/- 2.61E-01	1.31E+00	2.90E-04 +/- 1.44E-05
24	375.64	2.03E+01 +/- 5.09E-01	1.31E+00	2.86E-04 +/- 1.46E-05
25	383.44	1.50E+00 +/- 3.31E-01	1.31E+00	2.82E-04 +/- 1.48E-05
26	393.55	7.98E+00 +/- 3.01E-01	1.31E+00	2.76E-04 +/- 1.50E-05

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27	413.70	1.94E+01	+/- 4.36E-01	1.30E+00	2.66E-04	+/- 1.54E-05
28	423.16	1.10E+00	+/- 1.63E-01	1.30E+00	2.62E-04	+/- 1.55E-05
29	452.18	2.41E+00	+/- 1.64E-01	1.29E+00	2.49E-04	+/- 1.56E-05
30	559.76	6.14E-02	+/- 4.18E-02	1.26E+00	2.10E-04	+/- 1.34E-05
31	662.42	6.14E-01	+/- 8.35E-02	1.23E+00	1.83E-04	+/- 1.03E-05
32	723.15	1.14E-01	+/- 4.22E-02	1.22E+00	1.70E-04	+/- 8.80E-06
33	964.13	2.64E-02	+/- 1.53E-02	1.19E+00	1.32E-04	+/- 5.87E-06

Segment: 9 Detector: DET01 (# 1) Position: 9

Elapsed Live Time: 113.61 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.618 +/- 0.0276
SE-75	264.65	0.000 +/- 0.0000	0.636 +/- 0.0057
SE-75	279.53	0.000 +/- 0.0000	0.651 +/- 0.0075
SE-75	400.65	0.000 +/- 0.0000	0.690 +/- 0.0092

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.32	2.90E+00 +/- 2.29E-01	1.62E+00	2.37E-06 +/- 2.36E-05
2	35.10	1.01E+03 +/- 4.77E+00	1.36E+00	1.75E-05 +/- 8.88E-05
3	59.53	1.98E+01 +/- 5.46E-01	1.25E+00	9.97E-05 +/- 1.59E-04
4	98.64	2.67E+00 +/- 4.75E-01	1.21E+00	2.51E-04 +/- 6.11E-05
5	103.30	9.30E-01 +/- 3.63E-01	1.21E+00	2.65E-04 +/- 4.87E-05
6	111.35	6.53E-01 +/- 3.38E-01	1.20E+00	2.86E-04 +/- 3.05E-05
7	129.29	1.17E+00 +/- 3.04E-01	1.20E+00	3.23E-04 +/- 1.97E-05
8	375.25	4.70E-01 +/- 1.17E-01	1.15E+00	2.86E-04 +/- 1.49E-05
9	413.70	2.99E-01 +/- 7.91E-02	1.15E+00	2.67E-04 +/- 1.59E-05
10	778.90	2.62E-02 +/- 1.51E-02	1.10E+00	1.59E-04 +/- 7.62E-06
11	867.39	2.04E-02 +/- 1.76E-02	1.10E+00	1.46E-04 +/- 6.48E-06
12	1001.03	1.75E-02 +/- 1.23E-02	1.09E+00	1.30E-04 +/- 5.63E-06
13	1112.12	2.62E-02 +/- 1.51E-02	1.08E+00	1.21E-04 +/- 5.10E-06

Segment: 10 Detector: DET01 (# 1) Position: 10

Elapsed Live Time: 113.75 sec Elapsed Real Time: 115.00 sec

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TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.594 +/- 0.0268
SE-75	264.65	0.000 +/- 0.0000	0.622 +/- 0.0056
SE-75	279.53	0.000 +/- 0.0000	0.639 +/- 0.0074
SE-75	400.65	0.000 +/- 0.0000	0.676 +/- 0.0091

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.20	1.44E+00 +/- 1.68E-01	1.69E+00	3.41E-07 +/- 4.83E-07
2	35.10	1.01E+03 +/- 4.76E+00	1.40E+00	5.68E-06 +/- 4.74E-06
3	59.63	5.50E+00 +/- 3.31E-01	1.27E+00	6.39E-05 +/- 2.21E-05
4	121.11	6.27E-01 +/- 2.47E-01	1.22E+00	3.08E-04 +/- 1.78E-05
5	244.70	2.41E-01 +/- 1.38E-01	1.19E+00	3.89E-04 +/- 1.95E-05
6	311.90	2.00E-01 +/- 9.17E-02	1.17E+00	3.45E-04 +/- 1.50E-05
7	400.66	6.24E-02 +/- 4.37E-02	1.16E+00	2.87E-04 +/- 1.13E-05
8	662.42	1.88E-02 +/- 1.72E-02	1.12E+00	1.80E-04 +/- 8.83E-06
9	778.90	1.74E-02 +/- 1.23E-02	1.11E+00	1.56E-04 +/- 7.55E-06

Segment: 11 Detector: DET01 (# 1) Position: 11

Elapsed Live Time: 113.81 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.541 +/- 0.0258
SE-75	264.65	0.000 +/- 0.0000	0.593 +/- 0.0054
SE-75	279.53	0.000 +/- 0.0000	0.606 +/- 0.0072
SE-75	400.65	0.000 +/- 0.0000	0.642 +/- 0.0089

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PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	2.50E-01 +/- 1.08E-01	1.97E+00	2.54E-07 +/- 3.92E-07
2	35.10	1.01E+03 +/- 4.76E+00	1.48E+00	6.75E-06 +/- 5.60E-06
3	59.52	3.31E+00 +/- 2.64E-01	1.33E+00	6.67E-05 +/- 2.31E-05
4	152.68	2.85E-01 +/- 1.62E-01	1.25E+00	3.62E-04 +/- 1.73E-05
5	413.70	4.70E-02 +/- 3.19E-02	1.17E+00	2.75E-04 +/- 1.09E-05
6	662.42	2.60E-02 +/- 1.50E-02	1.14E+00	1.80E-04 +/- 8.65E-06
7	778.90	2.10E-02 +/- 1.65E-02	1.13E+00	1.56E-04 +/- 7.41E-06
8	1112.12	8.67E-03 +/- 8.67E-03	1.10E+00	1.20E-04 +/- 4.37E-06

Segment: 12 Detector: DET01 (# 1) Position: 12

Elapsed Live Time: 113.83 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.609 +/- 0.0268
SE-75	264.65	0.000 +/- 0.0000	0.634 +/- 0.0057
SE-75	279.53	0.000 +/- 0.0000	0.637 +/- 0.0074
SE-75	400.65	0.000 +/- 0.0000	0.671 +/- 0.0091

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.38E+00	7.63E-06 +/- 6.33E-06
2	59.54	1.29E+00 +/- 2.24E-01	1.26E+00	6.62E-05 +/- 2.29E-05
3	185.71	2.40E-01 +/- 1.31E-01	1.19E+00	3.72E-04 +/- 1.93E-05
4	279.54	1.97E-01 +/- 9.38E-02	1.18E+00	3.54E-04 +/- 1.68E-05
5	778.90	6.95E-02 +/- 2.46E-02	1.11E+00	1.60E-04 +/- 7.32E-06
6	1112.12	8.68E-03 +/- 8.68E-03	1.09E+00	1.19E-04 +/- 4.27E-06
7	1408.01	8.68E-03 +/- 8.68E-03	1.08E+00	1.02E-04 +/- 6.34E-06

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Segment: 13 Detector: DET01 (# 1) Position: 13

Elapsed Live Time: 113.87 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.608 +/- 0.0273
SE-75	264.65	0.000 +/- 0.0000	0.690 +/- 0.0060
SE-75	279.53	0.000 +/- 0.0000	0.689 +/- 0.0078
SE-75	400.65	0.000 +/- 0.0000	0.709 +/- 0.0094

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.38E+00	1.10E-05 +/- 9.51E-06
2	59.48	4.51E-01 +/- 1.87E-01	1.26E+00	8.04E-05 +/- 2.88E-05
3	152.68	2.19E-01 +/- 1.16E-01	1.19E+00	3.57E-04 +/- 1.76E-05
4	413.70	9.54E-02 +/- 2.88E-02	1.13E+00	2.74E-04 +/- 1.10E-05
5	1085.91	8.67E-03 +/- 8.67E-03	1.08E+00	1.15E-04 +/- 4.30E-06
6	1112.12	8.67E-03 +/- 8.67E-03	1.08E+00	1.13E-04 +/- 4.19E-06

Segment: 14 Detector: DET01 (# 1) Position: 14

Elapsed Live Time: 113.89 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.618 +/- 0.0284
SE-75	264.65	0.000 +/- 0.0000	0.722 +/- 0.0062
SE-75	279.53	0.000 +/- 0.0000	0.719 +/- 0.0080
SE-75	400.65	0.000 +/- 0.0000	0.727 +/- 0.0095

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PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.78E+00	1.36E+00	8.94E-06 +/- 4.41E-05
2	400.66	4.93E-02 +/- 2.96E-02	1.13E+00	2.73E-04 +/- 1.53E-05
3	1001.03	8.77E-03 +/- 8.77E-03	1.08E+00	1.27E-04 +/- 5.50E-06

Segment: 15 Detector: DET01 (# 1) Position: 15

Elapsed Live Time: 113.89 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.699 +/- 0.0294
SE-75	264.65	0.000 +/- 0.0000	0.776 +/- 0.0066
SE-75	279.53	0.000 +/- 0.0000	0.787 +/- 0.0085
SE-75	400.65	0.000 +/- 0.0000	0.816 +/- 0.0102

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.26E+00	1.45E-08 +/- 6.96E-08
2	311.90	6.44E-02 +/- 4.18E-02	1.09E+00	3.22E-04 +/- 1.42E-05
3	443.98	2.87E-02 +/- 1.86E-02	1.08E+00	2.37E-04 +/- 1.50E-05
4	778.90	3.38E-02 +/- 2.20E-02	1.06E+00	1.56E-04 +/- 7.35E-06
5	867.39	2.60E-02 +/- 1.50E-02	1.05E+00	1.45E-04 +/- 6.37E-06
6	1085.91	2.31E-02 +/- 1.64E-02	1.05E+00	1.24E-04 +/- 5.17E-06

Segment: 16 Detector: DET01 (# 1) Position: 16

Elapsed Live Time: 113.90 sec Elapsed Real Time: 115.00 sec

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TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.846 +/- 0.0319
SE-75	264.65	0.000 +/- 0.0000	0.889 +/- 0.0073
SE-75	279.53	0.000 +/- 0.0000	0.880 +/- 0.0091
SE-75	400.65	0.000 +/- 0.0000	0.904 +/- 0.0110

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.78E+00	1.12E+00	9.52E-10 +/- 5.35E-09
2	443.98	5.79E-02 +/- 2.81E-02	1.04E+00	1.70E-04 +/- 1.22E-05
3	778.90	4.39E-02 +/- 1.96E-02	1.03E+00	1.14E-04 +/- 6.23E-06
4	964.13	8.78E-03 +/- 8.78E-03	1.02E+00	1.01E-04 +/- 4.92E-06
5	1112.12	8.78E-03 +/- 1.60E-02	1.02E+00	9.17E-05 +/- 4.32E-06
6	1408.01	8.78E-03 +/- 8.78E-03	1.02E+00	7.39E-05 +/- 5.32E-06

448 kg 7-16-02

Summed Spectrum

Peak Locate Report

Sample ID: S20_842
Peak Locate Performed on: 2-01-02 8:34:40 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192
Peak Search Sensitivity: 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
1	43.00	0.3684	21.42	7.37
2	46.57	0.1610	23.21	22.07
3	70.20	0.0392	35.01	519.81
4	119.39	0.0749	59.59	108.87
5	150.37	0.2959	75.07	7.16
6	197.77	0.1101	98.75	44.99
7	207.36	0.1211	103.54	24.59
8	222.99	0.1409	111.35	25.91
9	231.18	0.1843	115.44	7.66
10	259.40	0.0921	129.54	68.66
11	289.19	0.2524	144.42	10.00
12	298.01	0.2339	148.83	12.56
13	343.72	0.2710	171.67	8.10
14	379.55	0.3192	189.57	5.14
15	392.40	0.2405	195.99	10.43
16	408.24	0.1281	203.90	31.87
17	417.09	0.1092	208.33	44.31
18	511.97	0.2251	255.73	10.24
19	596.34	0.2481	297.88	8.06
20	625.15	0.2140	312.27	10.35
21	649.19	0.2754	324.29	6.25
22	667.16	0.1204	333.27	32.78
23	673.66	0.1952	336.51	12.75
24	691.75	0.1195	345.55	33.84
25	738.13	0.1906	368.72	10.17
26	751.93	0.0881	375.62	60.36
27	767.57	0.1620	383.43	18.46
28	787.86	0.1231	393.57	28.49
29	829.39	0.0904	414.32	53.12
30	847.18	0.1711	423.21	15.98
31	905.14	0.1491	452.16	20.48
32	1328.19	0.2138	663.53	8.89
33	1447.46	0.2417	723.12	6.59

Errors quoted at 1.000 sigma

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Summed Spectrum

Peak Analysis Report

Sample ID: S20_842
Peak Analysis Performed on: 2-01-02 8:34:40 AM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	40-	46	43.00	21.42	4.01E+03	110.21	4.11E+03
2	46-	49	46.57	23.21	6.27E+03	127.90	5.86E+03
3	67-	73	70.20	35.01	1.85E+06	1361.55	4.66E+03
4	115-	122	119.39	59.59	1.16E+05	388.11	1.67E+04
5	146-	153	150.37	75.07	1.27E+03	151.45	1.05E+04
6	193-	201	197.77	98.75	2.84E+04	344.38	4.18E+04
7	203-	211	207.36	103.54	1.31E+04	303.82	3.30E+04
8	219-	226	222.99	111.35	8.52E+03	224.26	1.97E+04
9	227-	235	231.18	115.44	6.91E+03	247.51	2.43E+04
10	255-	263	259.40	129.54	3.23E+04	239.17	1.16E+04
11	285-	293	289.19	144.42	1.62E+03	140.23	8.33E+03
12	293-	302	298.01	148.83	1.14E+03	152.88	9.65E+03
13	339-	347	343.72	171.67	1.36E+03	123.14	6.46E+03
14	375-	383	379.55	189.57	6.91E+02	114.97	5.87E+03
15	388-	396	392.40	195.99	1.07E+03	113.00	5.49E+03
16	403-	412	408.24	203.90	2.66E+03	154.94	9.01E+03
17	412-	421	417.09	208.33	4.52E+03	176.53	1.06E+04
18	507-	516	511.97	255.73	9.42E+02	87.19	2.95E+03
19	591-	601	596.34	297.88	5.30E+02	79.98	2.47E+03
20	620-	630	625.15	312.27	6.29E+02	80.09	2.43E+03
21	646-	654	649.19	324.29	3.30E+02	71.61	2.15E+03
22	662-	672	667.16	333.27	4.37E+03	118.55	3.90E+03
23	672-	678	673.66	336.51	3.16E+02	90.97	2.55E+03
24	687-	696	691.75	345.55	4.94E+03	100.02	2.22E+03
25	732-	743	738.13	368.72	1.94E+03	78.14	1.66E+03
26	746-	757	751.93	375.62	1.38E+04	142.95	2.64E+03
27	767-	772	767.57	383.43	1.44E+03	69.64	9.85E+02
28	782-	793	787.86	393.57	5.24E+03	85.40	8.23E+02
29	824-	834	829.39	414.32	1.34E+04	120.53	4.55E+02
30	841-	852	847.18	423.21	7.15E+02	49.30	6.59E+02
31	899-	910	905.14	452.16	1.56E+03	47.11	2.62E+02
32	1322-	1334	1328.19	663.53	3.09E+02	26.19	1.43E+02
33	1443-	1453	1447.46	723.12	1.39E+02	16.77	5.96E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

450 7-16-02 KJ

Summed Spectrum

Nuclide Identification Report

Sample ID: S20_842
Nuclide Library Used: C:\WAS\NLIB\LLNL.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/)	Activity Uncertainty
Pulser	0.999	35.10*	100.00	1.431E+05	3.956E+05
Np-237	0.755	300.10	6.63		
		311.90*	38.60	1.362E+00	1.737E-01
Pu-239	0.973	413.70*	0.00	9.066E+05	1.862E+04
Pu-239A	0.996	129.29*	0.01	4.606E+05	1.268E+04
Am-241	0.916	662.42*	0.00	1.134E+05	9.667E+03
Pu-241	0.995	148.57*	0.00	4.914E+05	6.655E+04

* = Energy line found in the spectrum.
Energy Tolerance : 1.500 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 1.000 sigma

Batch 3203-02 451 kg 2/6/02

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 2-01-02 8:34:40 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	21.42	3.5060E+01	2.75
2	23.21	5.4820E+01	2.04
4	59.59	1.0168E+03	0.35
5	75.07	1.1124E+01	11.91
6	98.75	2.4865E+02	1.22
7	103.54	1.1428E+02	2.33
8	111.35	7.4536E+01	2.63
9	115.44	6.0481E+01	3.58
11	144.42	1.4167E+01	8.66
13	171.67	1.1877E+01	9.07
14	189.57	6.0487E+00	16.63
15	195.99	9.3745E+00	10.55
16	203.90	2.3307E+01	5.82
17	208.33	3.9575E+01	3.90
18	255.73	8.2378E+00	9.26
19	297.88	4.6332E+00	15.10
21	324.29	2.8865E+00	21.71
22	333.27	3.8240E+01	2.71
23	336.51	2.7630E+00	28.81
24	345.55	4.3216E+01	2.03
25	368.72	1.6978E+01	4.03
26	375.62	1.2040E+02	1.04
27	383.43	1.2565E+01	4.85
28	393.57	4.5839E+01	1.63
30	423.21	6.2577E+00	6.89
31	452.16	1.3664E+01	3.02
33	723.12	1.2198E+00	12.03

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

452 7-16-02 kg

Combined Segment NID

NID Results Combiner Mode: Sum Activities

Nuclide		Total Activity (uCi)			Concentration (uCi/g)	
Pulser		3.49E+07	+/- 1.80E+08		2.64E+03	+/- 1.37E+04
SE-75	<	1.78E-01	+/- 1.07E-02	<	1.35E-05	+/- 8.07E-07
EU-152x		6.30E-02	+/- 1.62E-02		4.77E-06	+/- 1.23E-06
U-233	<	7.11E+03	+/- 5.15E+02	<	5.38E-01	+/- 3.91E-02
U-235		7.54E-02	+/- 3.01E-02		5.71E-06	+/- 2.28E-06
Np-237		1.70E+00	+/- 1.90E-01		1.28E-04	+/- 1.44E-05
Pu-238		4.94E+03	+/- 1.97E+03		3.74E-01	+/- 1.49E-01
U-238		7.10E-01	+/- 4.11E-01		5.38E-05	+/- 3.11E-05
Pu-239		1.10E+06	+/- 3.70E+04		8.33E+01	+/- 2.81E+00
Pu-239A		1.05E+06	+/- 4.40E+04		7.94E+01	+/- 3.33E+00
Am-241		1.44E+05	+/- 1.11E+04		1.09E+01	+/- 8.42E-01
Pu-241		1.05E+06	+/- 1.16E+05		7.96E+01	+/- 8.80E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
U-235	3.49E-02	+/-	1.40E-02
Np-237	2.41E-03	+/-	2.69E-04
Pu-238	2.89E-04	+/-	1.15E-04
U-238	2.12E+00	+/-	1.22E+00
Pu-239	1.77E+01	+/-	5.96E-01
Pu-239A	1.69E+01	+/-	7.09E-01
Am-241	4.22E-02	+/-	3.24E-03
Pu-241	1.02E-02	+/-	1.12E-03

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Summed Spectrum

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		1.43E+05	+/-	3.96E+05	1.08E+01	+/-	3.00E+01
SE-75	<	3.85E-01	+/-	3.66E-03	< 2.92E-05	+/-	2.77E-07
EU-152x	<	3.60E-01	+/-	7.42E-03	< 2.73E-05	+/-	5.62E-07
U-233	<	1.72E+04	+/-	3.85E+02	< 1.30E+00	+/-	2.92E-02
U-235	<	5.70E-01	+/-	1.17E-02	< 4.32E-05	+/-	8.84E-07
Np-237		1.36E+00	+/-	1.74E-01	1.03E-04	+/-	1.32E-05
Pu-238	<	4.14E+04	+/-	6.58E+02	< 3.13E+00	+/-	4.99E-02
U-238	<	9.02E+00	+/-	1.47E-01	< 6.84E-04	+/-	1.11E-05
Pu-239		9.07E+05	+/-	1.86E+04	6.87E+01	+/-	1.41E+00
Pu-239A		4.61E+05	+/-	1.27E+04	3.49E+01	+/-	9.61E-01
Am-241		1.13E+05	+/-	9.67E+03	8.59E+00	+/-	7.32E-01
Pu-241		4.91E+05	+/-	6.65E+04	3.72E+01	+/-	5.04E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
Np-237	1.93E-03	+/-	2.47E-04
Pu-239	1.46E+01	+/-	3.00E-01
Pu-239A	7.42E+00	+/-	2.04E-01
Am-241	3.31E-02	+/-	2.82E-03
Pu-241	4.75E-03	+/-	6.44E-04

Batch 2002-03-454

Final Non-Uniformity Results

Source Longitudinal Ratio:	0.770	+/-	2.4283
Matrix Longitudinal Ratio:	0.185	+/-	0.0074
Source Vertical Ratio:	0.836	+/-	0.4239
Matrix Vertical Ratio:	0.673	+/-	0.0097

NUDS could not find the transmission peak in one radial segment.

455 2-16-02 kg

****
***** M G A R E P O R T *****
****

Report generated on: 2-01-02 8:34:39 AM

MGA version: MGA V9.5 CI

Spectrum ID: 11200842.CNF Sens : 30.0% LT: 55.0 Mins DT: 1.69
Measurement date: 2-01-02 Declared date: 2-01-02

Sample ID: S20_842 Detector: Total counts: 3.571E+06

Pu g/cm2 = 0.4222 Cd g/cm2 = 1.6678 FWHM at 122 keV = 682 eV
QFIT = 1.00 FWHM at 208 keV = 869 eV
NQFIT = 1.00

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	Meas. date %Err	Decl. date % weight	Decl. date %Err
Pu-238	0.000101	7.0	7.0	0.1147	7.0	0.00951	6.98	0.00951	6.98
Pu-239	1.000000	0.0	0.5	1136.948	1.3	94.30300	0.06	94.30300	0.06
Pu-240	0.059189	1.1	1.0	67.2949	1.6	5.58171	1.03	5.58171	1.03
Pu-241	0.000880	1.3	1.2	1.0000	0.0	0.08294	1.28	0.08294	1.28
Pu-242	(New alg.)			0.2754	(10)	0.02284	(10)	0.02284	(10)
Am-241	0.002724	0.7	0.6	3.0969	1.4	0.25687	0.72	0.25687	0.72

Pu-240 effective (meas. date) = 5.644 +/- 1.12%
Am-241 separated about 29.188 +/- 0.260 years ago
Am/Pu-241 weight ratio = 3.09693 +/- 1.36%

Messages :

Lead x-rays detected.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

7-16-02
456 g

****
* RADIOASSAY DATA SHEET *
****

Batch Number: ~~2002-03~~ 2002-02 7-3-02 Hg

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS V2.3A RADA V2.1

****
* DRUM INFORMATION *
****

Drum Package ID: LL85901000
Sequence Number: 844
Assay Date & Time: 2-01-2002 8:58:54 AM
Report Generated: 6-06-2002 2:56:56 PM
Drum Package GROSS Weight: 7-3-02 Hg 89.80 kg NET Weight: 58.00 kg

IDC Number: ~~LL85401000~~ LL85901000

QC Replicate (Yes/No): No Passed (Yes/No): _____

Operator Name (Printed): Russell Ratti
FOR: RUSSELL RATTI.
Operator Signature: BY: Dave Hulan Date: 6/14/02

Independent Reviewer: [signature] Date: 6-20-02

Expert Reviewer: Kenneth Rasche Date: 6-6-02

Tech. Supv/QA Officer: [signature] Date: 7/17/02

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 2.304E+00 +/- 6.255E-01 Ci

457 Hg
Batch 2002-02 ~~458~~ 7-16-02

****
* I S O T O P I C I N F O R M A T I O N *
****

Isotope	Measured Mass (g)	Mass Uncertainty (g)
Pu-238	9.718E-03	4.213E-03
Pu-239	2.203E+01	9.290E+00
Pu-240	1.529E+00	6.485E-01
Pu-241	5.078E-02	2.183E-02
Pu-242	8.474E-03	4.013E-03
Am-241	1.197E-01	5.058E-02
*Am-243	N/A	N/A
*Np-237	N/A	N/A
U-235	2.561E+00	1.194E+00
*U-238	N/A	N/A
*U-233	N/A	N/A

* = Activity/Mass below detectable limit.

Total Pu Mass: 2.36E+01 +/- 9.31E+00 g

****
* M G A R E S U L T S *
****

NUCLIDE	% Weight	% Error(1-Sigma)
Pu-238	4.112E-02	5.14E+00
Pu-239	9.324E+01	1.67E-01
Pu-240	6.470E+00	2.34E+00
Pu-241	2.149E-01	4.31E+00
Pu-242	3.586E-02	1.10E+01
Am-241	5.064E-01	1.52E+00
U-235	1.084E+01	1.02E+01

458 7-16-02 ky

Batch 2002-02-458

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005
Software Version: GWAS V2.3A RADA V2.1

Assay Date & Time: 2-01-2002 8:58:54 AM
Report Generated: 6-06-2002 2:56:59 PM

Drum Package ID: LL85901000
Sequence Number: 844

Waste Classification (TRU or LLW): TRU

		Errors at 1.96 sigma	
Total Alpha Activity :	2.304E+00	+/- 6.255E-01	Ci
Total TRU Activity :	3.972E+04	+/- 1.079E+04	nCi/g
Pu-239 Equiv Activity:	2.392E+00	+/- 6.264E-01	Ci
Fissile Gram Equiv Mass:	2.475E+01	+/- 9.517E+00	g
Total Decay Heat:	7.353E-02	+/- 1.975E-02	W
TMU Value:	42.16 %		

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error
Pu-238	1.68E-01	7.29E-02	9.72E-03	4.21E-03
Pu-239	1.37E+00	5.77E-01	2.20E+01	9.29E+00
Pu-240	3.52E-01	1.49E-01	1.53E+00	6.48E-01
Pu-241	5.28E+00	2.27E+00	5.08E-02	2.18E-02
Pu-242	3.36E-05	1.59E-05	8.47E-03	4.01E-03
Am-241	4.15E-01	1.76E-01	1.20E-01	5.06E-02
*Am-243	N/A	N/A	N/A	N/A
*Np-237	N/A	N/A	N/A	N/A
U-235	5.61E-06	2.61E-06	2.56E+00	1.19E+00
*U-238	N/A	N/A	N/A	N/A
*U-233	N/A	N/A	N/A	N/A

* = Activity/Mass below detectable limit.

Total Pu Mass: 2.36E+01 +/- 9.31E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sigma)
Pu-238	4.112E-02	5.14E+00
Pu-239	9.324E+01	1.67E-01
Pu-240	6.470E+00	2.34E+00
Pu-241	2.149E-01	4.31E+00
Pu-242	3.586E-02	1.10E+01
Am-241	5.064E-01	1.52E+00
U-235	1.084E+01	1.02E+01

459 7-16-02
Batch 2002-82

SGS Expert Review Checklist

Container Identification #: LL85901000_____ Original Assay Date:2-01-2002__

1. *WCP-41, §6.1:* A MGA report ☒ is present or ☐ expert review has provided isotopic ratios from SGS or AK. Comment: ☒ No comments
2. *WCP-41, §6.1:* MGA and AK ☒ agree as to radiological composition or, if not, ☐ expert review has resolved this. Comment: ☒ No comments
3. *WCP-41, §6.2.1:* ☒ Pu-238 ≤ 2% by weight of total Pu or, if not, ☐ expert review has addressed this and assigned a Pu-240 value. Comment: ☒ No comments
4. *WCP-41, §6.2.2:* ☐ Neither Np-237 nor U-235 is identified by MGA or ☒ expert review has addressed possible interferences from these radionuclides.
   Comment: U-235 is identified by MGA and confirmed by GWAS. There is no interference. ☐ No comments
5. *WCP-41, §6.2.2.2:* ☒ Am-241 separation date is 1950 or later or ☐ expert review has addressed possible interferences. Comment: ☒ No comments
6. *WCP-41, §6.3.1.1.a:* ☒ Bulk density of waste ≤ 0.6 g/ml or ☐ expert review has addressed the high density of the drum. Cornment: ☒ No comments
7. *WCP-41, §6.3.1.2.a:* ☐ Transmission in every segment ≥ 0.1% for the Se-75 peaks at 136 keV or 265 keV or ☒ expert review has addressed the low transmission.
   Corriment: The transmission of the 136 keV gamma-ray is zero in three segments and low in many others. The transmission of the 265 keV gamma-ray is barely okay. The ratio of the Pu239/Pu239a is okay though. ☐ No comments
8. *WCP-41, §6.3.1.2.a:* ☐ Transmission in every segment ≥1% for the Se-75 peak at 401 keV or ☒ expert review has addressed the low transmission. Comment: The overall transmission for this drum is low. It does not become less than 1% for the 401 keV peak, but the low transmission does imply that this is a metals drum and therefore the combined NID should be relied upon. Three segments were refit using interactive peak-fit to give better homogeneity corrections.☐ No comments
9. *WCP-41, §6.3.1.3.b:* ☒ Dead time in every segment ≤ 50% or ☐ expert review has addressed the high dead time. Comment: ☒ No comments
10. *WCP-41, §6.3.1.3.c:* ☒ Pu-239 masses determined from the 414 keV peak and the 129 keV peak agree by a factor of < 2.5 or ☐ expert review has addressed possible matrix inhomogeneity. Comment: ☒ No comments
11. *WCP-41, §6.3.2.3:* Cs-137 (☐ has) (☒ has not) been identified by expert review. If it has, Sr-90 is reported ☐ at an activity ratio to Cs-137of 0.39 for Pu fission or ☐ at a ratio of 1 for U-235 fission or, ☐ if both Pu and U are

Batch 2003-02-460

Container Identification #: LL85901000_____ Original Assay Date:2-01-2002__

present, the expert reviewer has determined the ratio. Comment: ☒ No comments

12. *WCP-41, §6.3.2.4:* ☐ No unusual nuclides are identified (none other than the 10 required to be reported to WIPP) or ☒ the expert reviewer has checked for interferences from unusual nuclides. Comment: U-235 has been identified by both MGA and GWAS.☐ No comments

13. *WCP-41, §6.3.3:* For waste drums (☐ NA for standards), ☐ the Summed Spectrum report value for Pu-239 and the Combined Segment NID report for Pu-239 agree within 95% confidence limits (the same as for replicates of unknowns) or ☒ expert review has addressed the difference. Comment: The difference for the combined NID and the summed NID is large. This together with the transmission measurements imply that this is a metals drum and therefore the combined NID analysis should be relied on.☐ No comments

14. *WCP-41, §6.4:* ☐ The SGS Summed Spectrum and Combined Segment NID reports agree as to the ratios by weight of several radionuclides, such as those of Am-241, Pu-241, Np-237, Am-243, and U-235 to Pu-239, and MGA results agree as to identifying these radionuclides or ☒ expert review has resolved this. Comment: See comment to #13. ☐ No comments

15. *WCP-41, §6.6.1:* ☒ All reported radionuclide masses are above 2.5 times the uncorrected MDA or ☐ expert review has calculated transmission-corrected MDA's and taken appropriate action. Comment: ☒ No comments

16. *WCP-41, §6.6.2:* ☒ Any changes to reported quantities of individual radionuclides have been entered into the RADA program and a new radioassay data sheet has been produced, showing revised derivative quantities, and included in the batch data report, along with the marked up original. Comment: ☒ No comments

17. *CP-41, §6.7:* ☒ Counting statistics are adequate for normal passive count time of 120 seconds per segment or ☐ Counting statistics are adequate for long passive count time of 600 seconds per segment or ☐ expert review has rejected the count and ordered a longer count time. Comment: ☒ No comments

Kenneth Raschke — Expert Reviewer (print)

Kenneth Raschke — Signature

6-6-02 — Date

461 7-16-02 MJ

Batch 2002-02-~~4602~~

****
***** M G A R E P O R T *****
****

Report generated on: 6-06-02 2:45:59 PM

MGA version: MGA V9.5 CI

Spectrum ID: 11200844.CNF Sens : 30.0% LT: 55.3 Mins DT: 0.98
Measurement date: 2-01-02 Declared date: 2-01-02

Sample ID: LL85901000 Detector: Total counts: 2.062E+06

Pu g/cm2 = 0.3439 Cd g/cm2 = 1.6411 FWHM at 122 keV = 680 eV
QFIT = 1.00 FWHM at 208 keV = 853 eV
NQFIT = 1.00

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	%Err	Decl. date % weight	%Err
Pu-238	0.000441	5.2	4.9	0.1914	5.7	0.04112	5.14	0.04112	5.14
Pu-239	1.000000	0.0	1.3	433.9467	4.4	93.23840	0.17	93.23840	0.17
Pu-240	0.069389	2.5	2.2	30.1113	4.1	6.46976	2.34	6.46976	2.34
Pu-241	0.002304	4.4	3.6	1.0000	0.0	0.21486	4.31	0.21486	4.31
Pu-242	(New alg.)			0.1669	(11)	0.03586	(11)	0.03586	(11)
Am-241	0.005431	1.6	0.9	2.3569	3.6	0.50641	1.52	0.50641	1.52
U-235	0.116217	10.1	10.2			10.83584	10.16	10.83584	10.16

Pu-240 effective (meas. date) = 6.634 +/- 2.61%
U-237 separated more than 10 days ago
Am-241 separated about 25.184 +/- 0.540 years ago
Am/Pu-241 weight ratio = 2.35693 +/- 3.73%

Messages :

Lead x-rays detected.
Calculations in MGAABS didn't converge : results may be suspect.
Efficiency curvature boundary reached.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

462 7-16-02
Batch 2002-02-[illegible]

INVALID

Radio Assay Data Sheet Drum ID LL85901000

****
* RADIOASSAY DATA SHEET *
****

KER
6-6-02

Batch Number: 2002-02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS 2.3A

****
* DRUM INFORMATION *
****

Drum Package ID: LL85901000
Sequence Number: 844
Assay Date & Time: 2-01-2002 8:58:54 AM
Drum Package GROSS Weight: 89.80 kg NET Weight: 58.00 kg

IDC Number: LL85901000

QC Replicate (Yes/No): NO Passed (Yes/No): _____

Operator Name (Printed): Russell Ratti

Operator Signature: RRatt Date: 2-1-02

Independent Reviewer: _____ Date: _____

Expert Reviewer: Kenneth Rasche Date: 6-6-02

Tech. Supv/QA Officer: _____ Date: _____

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 2.421E+00 +/- 6.573E-01 Ci

463 7-16-02

INVALID DATA KER 6-6-02

****
* I S O T O P I C I N F O R M A T I O N *
****

Isotope	Measured Mass (g)	Mass Uncertainty (g)	MDC (g)
Pu-238	1.021E-02	4.43E-03	6.987E-05
Pu-239	2.315E+01	9.76E+00	1.584E-01
Pu-240	1.607E+00	6.81E-01	1.099E-02
Pu-241	5.336E-02	2.29E-02	2.176E-03
Pu-242	8.905E-03	4.22E-03	6.092E-05
Am-241	1.258E-01	5.31E-02	5.498E-03
Am-243	0.000E+00	0.00E+00	0.000E+00
Np-237	0.000E+00	0.00E+00	8.383E-04
U-235	2.691E+00	1.25E+00	1.104E-01
U-238	1.401E+01	5.88E+00	1.401E+01
U-233	1.224E+00	5.47E-01	1.224E+00

Total Pu Mass: 2.48E+01 +/- 3.24E+00 g

****
* M G A R E S U L T S *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	4.112E-02	5.14E+00
Pu-239	9.324E+01	1.67E-01
Pu-240	6.470E+00	2.34E+00
Pu-241	2.149E-01	4.31E+00
Pu-242	3.586E-02	1.10E+01
Am-241	5.064E-01	1.52E+00
U-235	1.084E+01	1.02E+01

464 7-16-02

INVALID
KER
6-6-02

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005

Assay Date & Time: 2-01-2002 8:58:54 AM

Drum Package ID: LL85901000
Sequence Number: 844

Waste Classification (TRU or LLW): TRU

		Errors at 1.96 sigma	
Total Alpha Activity :	2.421E+00	+/- 6.57E-01	Ci
Total TRU Activity :	4.174E+04	+/- 1.13E+04	nCi/g
Pu-239 Equiv Activity:	2.514E+00	+/- 6.58E-01	Ci
Fissile Gram Equiv Mass:	2.601E+01	+/- 1.00E+01	g
Total Decay Heat:	7.727E-02	+/- 2.07E-02	W
TMU Value:	42.16 %		

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error	MDA gm
Pu-238	1.77E-01	7.66E-02	1.02E-02	4.43E-03	6.99E-05
Pu-239	1.44E+00	6.06E-01	2.32E+01	9.76E+00	1.58E-01
Pu-240	3.70E-01	1.57E-01	1.61E+00	6.81E-01	1.10E-02
Pu-241	5.55E+00	2.39E+00	5.34E-02	2.29E-02	2.18E-03
Pu-242	3.54E-05	1.67E-05	8.91E-03	4.22E-03	6.09E-05
Am-241	4.36E-01	1.84E-01	1.26E-01	5.31E-02	5.50E-03
Am-243	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Np-237	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.38E-04
U-235	5.89E-06	2.75E-06	2.69E+00	1.25E+00	1.10E-01
U-238	4.76E-06	2.00E-06	1.40E+01	5.88E+00	1.40E+01
U-233	1.19E-02	5.34E-03	1.22E+00	5.47E-01	1.22E+00

Total Pu Mass: 2.48E+01 +/- 3.24E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	4.112E-02	5.14E+00
Pu-239	9.324E+01	1.67E-01
Pu-240	6.470E+00	2.34E+00
Pu-241	2.149E-01	4.31E+00
Pu-242	3.586E-02	1.10E+01
Am-241	5.064E-01	1.52E+00
U-235	1.084E+01	1.02E+01

Batch 2002-02-465

Gamma Waste Assay

Sample Information

File Name: C:\WAS\DATA\900\11100844.S11
Sample ID: LL85901000 Count Sequence Number: 844
Assay Start: 2-01-02 8:58:56 AM
Description 1: unknown
Description 2:
Location: 7715
Comment:
Waste Type:
Weight: Gross: 89800.0 g Net: 58000.0 g
Density: 0.279 g /ml

Container Type: 55 Gal Galv
Container: Volume: 208000. ml Full: 100.0 %

System Configuration

Counter ID Number: SGS
Arrangement Description: SGS
Segments: Number: 16 Offset: 0
Scanning Platform: Start: 934 mm Delta: -51 mm
Count Type: 55 Gal Galv
Collimator/Geometry Setting: 0
Transmission Mode: Two pass
Transmission Source: 0

Errors quoted at 1.000 sigma
Reference Source Date: Reference Source Rate: 1.01E+03 cps
Geometric Correction Factor(SWCONTGCF): 0.760
Date of efficiency calibration approval: 4-18-2001 12:41:36 PM
Mu Factors response file: Lucite
Transmission Calib. Time: 5-11-2001 2:20:42 PM 59052

Reviewed by: Lee P Ahl Date: 7/16/02

Batch 2002-07-446

Segment Results

Segment: 1 Detector: DET01 (# 1) Position: 1

Elapsed Live Time: 113.86 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.012 +/- 0.0006
SE-75	279.53	0.000 +/- 0.0000	0.014 +/- 0.0010
SE-75	400.65	0.000 +/- 0.0000	0.021 +/- 0.0015

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.78E+00	4.10E+00	2.61E-06 +/- 1.64E-05
2	59.60	7.81E+00 +/- 3.27E-01	4.10E+00	3.76E-05 +/- 7.40E-05
3	129.29	6.60E-01 +/- 1.84E-01	4.10E+00	1.95E-04 +/- 1.38E-05
4	135.30	2.21E-01 +/- 1.53E-01	4.10E+00	2.02E-04 +/- 1.77E-05
5	375.58	1.83E-01 +/- 7.39E-02	3.16E+00	1.77E-04 +/- 1.18E-05
6	413.70	2.55E-01 +/- 5.84E-02	3.08E+00	1.65E-04 +/- 1.27E-05
7	584.20	8.79E-02 +/- 2.78E-02	2.69E+00	1.25E-04 +/- 1.03E-05
8	964.13	1.76E-02 +/- 1.24E-02	2.21E+00	8.22E-05 +/- 4.17E-06
9	1085.91	1.76E-02 +/- 1.24E-02	2.12E+00	7.49E-05 +/- 3.78E-06

Segment: 2 Detector: DET01 (# 1) Position: 2

Elapsed Live Time: 113.81 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.008 +/- 0.0005
SE-75	279.53	0.000 +/- 0.0000	0.010 +/- 0.0009
SE-75	400.65	0.000 +/- 0.0000	0.016 +/- 0.0013

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.30	1.14E+00 +/- 1.53E-01	4.10E+00	6.02E-10 +/- 5.70E-09
2	35.10	1.01E+03 +/- 4.76E+00	4.10E+00	2.21E-07 +/- 1.06E-06
3	48.84	3.61E+00 +/- 3.19E-01	4.10E+00	5.47E-06 +/- 1.34E-05
4	59.60	1.33E+01 +/- 4.24E-01	4.10E+00	2.20E-05 +/- 3.31E-05
5	129.29	1.37E+00 +/- 2.09E-01	4.10E+00	3.07E-04 +/- 1.84E-05
6	208.36	4.59E-01 +/- 1.55E-01	3.86E+00	3.88E-04 +/- 3.71E-05
7	311.90	1.14E-01 +/- 7.50E-02	3.51E+00	3.18E-04 +/- 1.39E-05
8	345.63	1.25E-01 +/- 6.39E-02	3.41E+00	2.93E-04 +/- 1.34E-05
9	413.70	3.83E-01 +/- 6.50E-02	3.23E+00	2.51E-04 +/- 1.46E-05
10	511.61	1.94E-01 +/- 5.40E-02	2.98E+00	2.07E-04 +/- 1.34E-05
11	778.90	1.74E-02 +/- 1.23E-02	2.50E+00	1.44E-04 +/- 6.92E-06
12	1408.01	8.68E-03 +/- 8.68E-03	2.02E+00	9.61E-05 +/- 6.36E-06

Segment: 3 Detector: DET01 (# 1) Position: 3

Elapsed Live Time: 113.78 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Some transmission peaks rejected.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	0.045 +/- 0.0012
SE-75	279.53	0.000 +/- 0.0000	0.046 +/- 0.0018
SE-75	400.65	0.000 +/- 0.0000	0.065 +/- 0.0026

Batch 2002-02-468

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	4.10E+00	1.07E-06 +/- 5.27E-06
2	59.58	1.64E+01 +/- 4.72E-01	3.70E+00	3.79E-05 +/- 5.86E-05
3	129.29	1.89E+00 +/- 2.33E-01	3.03E+00	3.02E-04 +/- 1.84E-05
4	208.28	6.41E-01 +/- 1.69E-01	2.75E+00	3.66E-04 +/- 3.64E-05
5	244.70	1.86E-01 +/- 1.08E-01	2.65E+00	3.52E-04 +/- 2.60E-05
6	375.67	5.96E-01 +/- 9.95E-02	2.41E+00	2.76E-04 +/- 1.44E-05
7	413.70	4.43E-01 +/- 7.27E-02	2.35E+00	2.57E-04 +/- 1.52E-05
8	1085.91	1.74E-02 +/- 1.23E-02	1.74E+00	1.23E-04 +/- 5.23E-06
9	1112.12	2.03E-02 +/- 1.75E-02	1.73E+00	1.21E-04 +/- 5.09E-06

Segment: 4 Detector: DET01 (# 1) Position: 4

Elapsed Live Time: 113.75 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.105 +/- 0.0127
SE-75	264.65	0.000 +/- 0.0000	0.124 +/- 0.0020
SE-75	279.53	0.000 +/- 0.0000	0.126 +/- 0.0029
SE-75	400.65	0.000 +/- 0.0000	0.160 +/- 0.0041

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.26	1.47E+00 +/- 1.81E-01	4.10E+00	3.38E-06 +/- 4.74E-06
2	35.10	1.01E+03 +/- 4.76E+00	3.23E+00	2.00E-05 +/- 1.66E-05
3	59.62	1.49E+01 +/- 4.66E-01	2.46E+00	9.84E-05 +/- 3.39E-05
4	98.78	1.64E+00 +/- 2.99E-01	2.20E+00	2.40E-04 +/- 2.42E-05
5	129.29	1.34E+00 +/- 2.45E-01	2.11E+00	3.12E-04 +/- 1.61E-05
6	148.57	4.03E-01 +/- 2.01E-01	2.08E+00	3.40E-04 +/- 1.63E-05
7	208.28	5.19E-01 +/- 1.63E-01	2.03E+00	3.71E-04 +/- 1.94E-05
8	279.54	1.83E-01 +/- 1.05E-01	1.99E+00	3.53E-04 +/- 1.66E-05
9	375.69	4.00E-01 +/- 8.93E-02	1.88E+00	3.06E-04 +/- 1.21E-05
10	413.70	4.12E-01 +/- 6.80E-02	1.84E+00	2.87E-04 +/- 1.11E-05
11	443.98	8.60E-02 +/- 3.07E-02	1.81E+00	2.73E-04 +/- 1.07E-05
12	662.42	3.60E-02 +/- 2.10E-02	1.64E+00	1.95E-04 +/- 9.03E-06

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13	1408.01	2.60E-02 +/- 1.50E-02	1.40E+00	9.34E-05 +/-	5.87E-06

Segment: 5 Detector: DET01 (# 1) Position: 5

Elapsed Live Time: 113.71 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.067 +/- 0.0126
SE-75	264.65	0.000 +/- 0.0000	0.091 +/- 0.0017
SE-75	279.53	0.000 +/- 0.0000	0.089 +/- 0.0025
SE-75	400.65	0.000 +/- 0.0000	0.117 +/- 0.0035

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.08	1.69E+00 +/- 1.91E-01	4.10E+00	1.71E-06 +/- 2.50E-06
2	35.10	1.01E+03 +/- 4.76E+00	3.79E+00	1.48E-05 +/- 1.27E-05
3	59.58	1.51E+01 +/- 4.90E-01	2.83E+00	9.32E-05 +/- 3.30E-05
4	129.29	1.54E+00 +/- 2.57E-01	2.38E+00	3.26E-04 +/- 1.67E-05
5	208.37	6.34E-01 +/- 1.71E-01	2.24E+00	3.75E-04 +/- 2.04E-05
6	264.66	1.88E-01 +/- 1.07E-01	2.17E+00	3.53E-04 +/- 1.78E-05
7	375.71	4.47E-01 +/- 9.64E-02	2.06E+00	2.89E-04 +/- 1.18E-05
8	413.70	3.02E-01 +/- 6.59E-02	2.01E+00	2.69E-04 +/- 1.09E-05
9	512.21	1.13E-01 +/- 4.83E-02	1.90E+00	2.25E-04 +/- 9.85E-06
10	867.39	2.66E-02 +/- 1.96E-02	1.65E+00	1.40E-04 +/- 6.44E-06
11	1408.01	1.74E-02 +/- 1.23E-02	1.48E+00	9.75E-05 +/- 6.10E-06

Segment: 6 Detector: DET01 (# 1) Position: 6

Elapsed Live Time: 113.54 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Some transmission peaks rejected.

Batch 2003-03-420

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	0.055 +/- 0.0013
SE-75	279.53	0.000 +/- 0.0000	0.055 +/- 0.0021
SE-75	400.65	0.000 +/- 0.0000	0.079 +/- 0.0028

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.21	3.02E+00 +/- 2.67E-01	4.10E+00	6.80E-07 +/- 9.63E-07
2	35.10	1.01E+03 +/- 4.77E+00	4.10E+00	8.04E-06 +/- 6.71E-06
3	59.60	3.07E+01 +/- 6.65E-01	3.49E+00	6.90E-05 +/- 2.40E-05
4	73.26	4.24E-01 +/- 2.60E-01	3.25E+00	1.22E-04 +/- 2.73E-05
5	98.78	3.89E+00 +/- 4.37E-01	3.02E+00	2.22E-04 +/- 2.25E-05
6	129.29	3.05E+00 +/- 3.47E-01	2.87E+00	3.10E-04 +/- 1.61E-05
7	148.57	4.67E-01 +/- 2.65E-01	2.80E+00	3.45E-04 +/- 1.67E-05
8	208.37	8.89E-01 +/- 2.39E-01	2.62E+00	3.81E-04 +/- 2.03E-05
9	333.28	3.66E-01 +/- 1.74E-01	2.37E+00	3.26E-04 +/- 1.39E-05
10	375.64	8.32E-01 +/- 1.43E-01	2.30E+00	3.02E-04 +/- 1.21E-05
11	393.34	4.56E-01 +/- 9.83E-02	2.27E+00	2.92E-04 +/- 1.16E-05
12	413.70	1.05E+00 +/- 1.04E-01	2.24E+00	2.81E-04 +/- 1.11E-05
13	662.42	2.67E-02 +/- 1.98E-02	1.94E+00	1.86E-04 +/- 8.77E-06
14	964.13	2.61E-02 +/- 1.51E-02	1.74E+00	1.34E-04 +/- 5.31E-06
15	1001.03	8.71E-03 +/- 2.79E-02	1.72E+00	1.30E-04 +/- 4.95E-06

Segment: 7 Detector: DET01 (# 1) Position: 7

Elapsed Live Time: 112.87 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Some transmission peaks rejected.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	0.146 +/- 0.0023
SE-75	279.53	0.000 +/- 0.0000	0.146 +/- 0.0033
SE-75	400.65	0.000 +/- 0.0000	0.178 +/- 0.0044

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)		Correction Factor	Original Efficiency		
	1	23.16	9.01E+00	+/- 4.55E-01	4.10E+00	6.96E-09	+/-	6.84E-08
	2	35.10	1.01E+03	+/- 4.79E+00	3.28E+00	9.59E-07	+/-	4.73E-06
	3	49.52	4.73E+00	+/- 6.49E-01	2.68E+00	1.42E-05	+/-	3.47E-05
	4	59.59	1.39E+02	+/- 1.37E+00	2.50E+00	4.01E-05	+/-	6.21E-05
	5	98.86	1.84E+01	+/- 7.63E-01	2.23E+00	2.21E-04	+/-	5.17E-05
	6	103.22	2.68E+00	+/- 8.56E-01	2.21E+00	2.40E-04	+/-	4.33E-05
	7	111.29	4.00E+00	+/- 5.71E-01	2.18E+00	2.73E-04	+/-	2.87E-05
M	8	125.44	4.01E+00	+/- 2.94E-01	2.14E+00	3.20E-04	+/-	1.79E-05
m	9	129.49	1.80E+01	+/- 6.77E-01	2.13E+00	3.31E-04	+/-	1.99E-05
M	10	146.84	7.09E-01	+/- 2.15E-01	2.10E+00	3.66E-04	+/-	3.37E-05
m	11	148.86	1.82E+00	+/- 3.36E-01	2.09E+00	3.69E-04	+/-	3.51E-05
	12	171.77	8.46E-01	+/- 3.86E-01	2.05E+00	3.90E-04	+/-	4.31E-05
	13	195.69	1.08E+00	+/- 3.63E-01	2.01E+00	3.94E-04	+/-	4.14E-05
	14	208.36	9.41E+00	+/- 5.01E-01	1.99E+00	3.91E-04	+/-	3.83E-05
	15	255.58	6.03E-01	+/- 2.65E-01	1.92E+00	3.66E-04	+/-	2.39E-05
	16	267.60	5.25E-01	+/- 2.28E-01	1.90E+00	3.58E-04	+/-	2.09E-05
	17	311.90	7.91E-01	+/- 2.41E-01	1.87E+00	3.27E-04	+/-	1.48E-05
	18	333.25	3.63E+00	+/- 3.37E-01	1.85E+00	3.13E-04	+/-	1.44E-05
	19	336.23	9.23E-01	+/- 2.46E-01	1.85E+00	3.11E-04	+/-	1.44E-05
	20	345.59	3.75E+00	+/- 2.33E-01	1.84E+00	3.05E-04	+/-	1.46E-05
	21	368.78	1.80E+00	+/- 2.13E-01	1.82E+00	2.91E-04	+/-	1.52E-05
	22	375.60	1.01E+01	+/- 3.70E-01	1.81E+00	2.87E-04	+/-	1.54E-05
	23	383.51	6.20E-01	+/- 1.85E-01	1.81E+00	2.83E-04	+/-	1.57E-05
	24	393.61	3.95E+00	+/- 2.34E-01	1.80E+00	2.77E-04	+/-	1.59E-05
	25	413.70	9.55E+00	+/- 3.19E-01	1.78E+00	2.67E-04	+/-	1.63E-05
	26	423.28	4.67E-01	+/- 1.39E-01	1.77E+00	2.62E-04	+/-	1.63E-05
	27	452.28	1.47E+00	+/- 1.40E-01	1.75E+00	2.49E-04	+/-	1.63E-05
	28	662.42	6.96E-01	+/- 9.61E-02	1.60E+00	1.82E-04	+/-	1.06E-05
	29	723.40	3.86E-01	+/- 6.97E-02	1.57E+00	1.69E-04	+/-	9.01E-06

Segment: 8 Detector: DET01 (# 1) Position: 8

Elapsed Live Time: 112.70 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

Batch 2002-02-472

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	279.53	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	400.65	0.000 +/- 0.0000	0.025 +/- 0.0018

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
	1	23.16	1.01E+01 +/- 4.76E-01	4.10E+00	4.11E-09 +/- 4.01E-08
	2	35.10	1.01E+03 +/- 4.79E+00	4.10E+00	6.89E-07 +/- 3.37E-06
	3	59.59	1.64E+02 +/- 1.49E+00	4.10E+00	3.34E-05 +/- 5.14E-05
	4	98.89	1.99E+01 +/- 7.87E-01	4.10E+00	1.99E-04 +/- 4.64E-05
	5	103.17	2.30E+00 +/- 8.86E-01	4.10E+00	2.17E-04 +/- 3.92E-05
	6	111.27	2.81E+00 +/- 5.92E-01	4.10E+00	2.49E-04 +/- 2.64E-05
M	7	125.48	4.21E+00 +/- 3.06E-01	4.10E+00	2.95E-04 +/- 1.67E-05
m	8	129.52	2.18E+01 +/- 7.40E-01	4.10E+00	3.06E-04 +/- 1.86E-05
	9	148.57	4.51E+00 +/- 4.40E-01	4.07E+00	3.45E-04 +/- 3.27E-05
	10	164.75	1.63E+00 +/- 4.31E-01	4.04E+00	3.64E-04 +/- 3.97E-05
	11	195.99	1.02E+00 +/- 3.69E-01	4.02E+00	3.76E-04 +/- 3.99E-05
	12	208.34	1.49E+01 +/- 6.00E-01	4.02E+00	3.76E-04 +/- 3.72E-05
	13	244.70	7.65E-01 +/- 2.82E-01	4.05E+00	3.62E-04 +/- 2.67E-05
	14	268.18	5.17E-01 +/- 2.75E-01	4.10E+00	3.49E-04 +/- 2.06E-05
	15	311.90	8.05E-01 +/- 2.33E-01	3.69E+00	3.23E-04 +/- 1.44E-05
	16	333.29	5.08E+00 +/- 4.08E-01	3.48E+00	3.10E-04 +/- 1.38E-05
	17	336.41	1.03E+00 +/- 3.00E-01	3.45E+00	3.08E-04 +/- 1.38E-05
	18	345.56	5.03E+00 +/- 3.10E-01	3.38E+00	3.03E-04 +/- 1.38E-05
M	19	367.75	9.63E-01 +/- 1.72E-01	3.21E+00	2.90E-04 +/- 1.44E-05
m	20	369.34	1.59E+00 +/- 2.24E-01	3.20E+00	2.89E-04 +/- 1.44E-05
	21	375.65	1.50E+01 +/- 4.65E-01	3.15E+00	2.86E-04 +/- 1.46E-05
	22	383.53	1.53E+00 +/- 2.20E-01	3.10E+00	2.82E-04 +/- 1.48E-05
	23	393.55	5.85E+00 +/- 2.76E-01	3.04E+00	2.76E-04 +/- 1.50E-05
	24	413.70	1.51E+01 +/- 3.94E-01	2.96E+00	2.66E-04 +/- 1.54E-05
	25	423.14	7.72E-01 +/- 1.72E-01	2.94E+00	2.62E-04 +/- 1.55E-05
	26	452.10	1.79E+00 +/- 1.63E-01	2.87E+00	2.49E-04 +/- 1.56E-05
	27	653.42	2.53E-01 +/- 6.97E-02	2.49E+00	1.85E-04 +/- 1.06E-05
	28	662.42	1.26E+00 +/- 1.19E-01	2.47E+00	1.83E-04 +/- 1.03E-05
	29	690.10	1.55E-01 +/- 4.84E-02	2.43E+00	1.77E-04 +/- 9.58E-06
	30	722.90	5.95E-01 +/- 8.23E-02	2.39E+00	1.70E-04 +/- 8.80E-06
	31	867.39	3.38E-02 +/- 2.30E-02	2.23E+00	1.45E-04 +/- 6.62E-06
	32	964.13	3.34E-02 +/- 2.37E-02	2.15E+00	1.32E-04 +/- 5.87E-06

Segment: 9 Detector: DET01 (# 1) Position: 9

Batch 2882-03-423

Elapsed Live Time: 113.04 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.005 +/- 0.0007
SE-75	279.53	0.000 +/- 0.0000	0.009 +/- 0.0014
SE-75	400.65	0.000 +/- 0.0000	0.030 +/- 0.0020

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
M	1	21.60	1.41E+00 +/- 1.15E-01	4.10E+00	1.51E-06 +/- 1.69E-05
m	2	23.22	7.01E+00 +/- 2.59E-01	4.10E+00	2.31E-06 +/- 2.32E-05
m	3	26.20	3.30E+00 +/- 2.00E-01	4.10E+00	4.47E-06 +/- 3.72E-05
	4	35.10	1.01E+03 +/- 4.78E+00	4.10E+00	1.75E-05 +/- 8.88E-05
	5	59.60	1.01E+02 +/- 1.13E+00	4.10E+00	1.00E-04 +/- 1.59E-04
	6	98.81	1.03E+01 +/- 5.91E-01	4.10E+00	2.51E-04 +/- 6.06E-05
	7	103.13	2.70E+00 +/- 6.68E-01	4.10E+00	2.64E-04 +/- 4.91E-05
	8	111.40	2.04E+00 +/- 4.53E-01	4.10E+00	2.86E-04 +/- 3.04E-05
M	9	125.44	3.24E+00 +/- 2.69E-01	4.10E+00	3.16E-04 +/- 1.78E-05
m	10	129.51	1.49E+01 +/- 6.16E-01	4.10E+00	3.23E-04 +/- 1.98E-05
	11	148.57	1.82E+00 +/- 3.92E-01	4.07E+00	3.48E-04 +/- 3.41E-05
	12	208.38	1.30E+01 +/- 5.46E-01	4.01E+00	3.66E-04 +/- 3.76E-05
	13	300.10	6.10E-01 +/- 2.13E-01	3.53E+00	3.26E-04 +/- 1.55E-05
	14	311.90	1.36E+00 +/- 2.47E-01	3.43E+00	3.20E-04 +/- 1.45E-05
	15	323.06	1.50E+00 +/- 2.49E-01	3.34E+00	3.13E-04 +/- 1.40E-05
	16	333.19	3.70E+00 +/- 3.91E-01	3.27E+00	3.08E-04 +/- 1.39E-05
	17	336.34	1.52E+00 +/- 2.69E-01	3.25E+00	3.06E-04 +/- 1.39E-05
	18	345.61	4.67E+00 +/- 3.07E-01	3.19E+00	3.01E-04 +/- 1.41E-05
	19	369.26	1.82E+00 +/- 2.39E-01	3.04E+00	2.89E-04 +/- 1.47E-05
	20	375.64	1.23E+01 +/- 4.16E-01	3.00E+00	2.85E-04 +/- 1.49E-05
	21	383.44	1.18E+00 +/- 1.98E-01	2.96E+00	2.81E-04 +/- 1.52E-05
	22	393.65	4.53E+00 +/- 2.56E-01	2.91E+00	2.76E-04 +/- 1.55E-05
	23	413.70	1.18E+01 +/- 3.53E-01	2.84E+00	2.67E-04 +/- 1.59E-05
	24	423.18	5.87E-01 +/- 1.40E-01	2.82E+00	2.62E-04 +/- 1.60E-05
	25	443.98	1.93E-01 +/- 8.56E-02	2.77E+00	2.53E-04 +/- 1.61E-05
	26	452.38	1.56E+00 +/- 1.44E-01	2.75E+00	2.49E-04 +/- 1.61E-05
	27	619.98	2.43E-01 +/- 6.02E-02	2.45E+00	1.93E-04 +/- 1.18E-05
	28	662.42	8.33E-01 +/- 1.02E-01	2.38E+00	1.82E-04 +/- 1.04E-05
	29	722.99	5.49E-01 +/- 8.26E-02	2.31E+00	1.69E-04 +/- 8.78E-06
	30	1085.91	1.75E-02 +/- 1.24E-02	1.99E+00	1.23E-04 +/- 5.22E-06
	31	1112.12	2.62E-02 +/- 1.51E-02	1.98E+00	1.21E-04 +/- 5.10E-06

Batch 2003-B2-4424

Segment: 10 Detector: DET01 (# 1) Position: 10

Elapsed Live Time: 113.22 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.014 +/- 0.0008
SE-75	279.53	0.000 +/- 0.0000	0.016 +/- 0.0015
SE-75	400.65	0.000 +/- 0.0000	0.048 +/- 0.0023

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
	1	21.42	2.24E+00 +/- 2.56E-01	4.10E+00	1.78E-07 +/- 2.77E-07
	2	23.24	4.21E+00 +/- 3.01E-01	4.10E+00	3.45E-07 +/- 4.88E-07
	3	35.10	1.01E+03 +/- 4.78E+00	4.10E+00	5.68E-06 +/- 4.74E-06
	4	59.61	9.83E+01 +/- 1.11E+00	4.10E+00	6.38E-05 +/- 2.21E-05
	5	98.80	8.87E+00 +/- 5.27E-01	4.10E+00	2.31E-04 +/- 2.33E-05
	6	111.35	1.98E+00 +/- 4.00E-01	4.10E+00	2.77E-04 +/- 1.98E-05
M	7	114.80	8.31E-01 +/- 2.50E-01	4.10E+00	2.89E-04 +/- 1.90E-05
m	8	116.33	1.02E+00 +/- 2.70E-01	4.10E+00	2.93E-04 +/- 1.87E-05
	9	129.29	1.15E+01 +/- 4.76E-01	4.10E+00	3.30E-04 +/- 1.70E-05
	10	148.57	2.19E+00 +/- 3.51E-01	4.00E+00	3.68E-04 +/- 1.75E-05
	11	208.32	1.00E+01 +/- 4.73E-01	3.63E+00	4.01E-04 +/- 2.09E-05
	12	244.70	3.69E-01 +/- 2.37E-01	3.45E+00	3.89E-04 +/- 1.95E-05
	13	300.10	5.20E-01 +/- 2.24E-01	3.13E+00	3.54E-04 +/- 1.57E-05
	14	311.90	9.37E-01 +/- 2.18E-01	3.04E+00	3.45E-04 +/- 1.50E-05
	15	333.26	2.91E+00 +/- 3.12E-01	2.91E+00	3.30E-04 +/- 1.38E-05
	16	336.20	6.96E-01 +/- 2.25E-01	2.89E+00	3.28E-04 +/- 1.36E-05
	17	345.64	3.04E+00 +/- 2.70E-01	2.84E+00	3.22E-04 +/- 1.32E-05
	18	369.05	1.48E+00 +/- 2.02E-01	2.71E+00	3.06E-04 +/- 1.22E-05
	19	375.63	8.41E+00 +/- 3.38E-01	2.68E+00	3.02E-04 +/- 1.20E-05
	20	383.40	5.36E-01 +/- 2.09E-01	2.64E+00	2.97E-04 +/- 1.18E-05
	21	393.58	3.23E+00 +/- 2.06E-01	2.60E+00	2.91E-04 +/- 1.15E-05
	22	413.70	8.47E+00 +/- 2.93E-01	2.54E+00	2.79E-04 +/- 1.11E-05
	23	423.14	3.60E-01 +/- 1.12E-01	2.52E+00	2.74E-04 +/- 1.09E-05
	24	443.98	1.05E-01 +/- 5.93E-02	2.48E+00	2.62E-04 +/- 1.06E-05
	25	452.09	9.25E-01 +/- 1.20E-01	2.47E+00	2.58E-04 +/- 1.05E-05
	26	662.42	6.28E-01 +/- 8.44E-02	2.16E+00	1.80E-04 +/- 8.83E-06
	27	723.33	2.79E-01 +/- 7.05E-02	2.10E+00	1.66E-04 +/- 8.19E-06
	28	867.39	3.49E-02 +/- 1.75E-02	1.97E+00	1.42E-04 +/- 6.49E-06
	29	964.13	2.62E-02 +/- 1.51E-02	1.91E+00	1.31E-04 +/- 5.40E-06

30	1464.00	9.44E-02 +/-	3.21E-02	1.70E+00	1.07E-04 +/- 7.53E-06

Segment: 11 Detector: DET01 (# 1) Position: 11

Elapsed Live Time: 113.30 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.110 +/- 0.0158
SE-75	264.65	0.000 +/- 0.0000	0.194 +/- 0.0027
SE-75	279.53	0.000 +/- 0.0000	0.203 +/- 0.0039
SE-75	400.65	0.000 +/- 0.0000	0.272 +/- 0.0054

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.14	5.29E+00 +/- 3.45E-01	4.10E+00	4.59E-07 +/- 6.49E-07
2	35.10	1.01E+03 +/- 4.77E+00	3.16E+00	6.75E-06 +/- 5.60E-06
3	59.60	9.12E+01 +/- 1.06E+00	2.42E+00	6.69E-05 +/- 2.31E-05
4	74.91	9.29E-01 +/- 2.74E-01	2.28E+00	1.29E-04 +/- 2.72E-05
5	98.86	9.50E+00 +/- 5.32E-01	2.16E+00	2.28E-04 +/- 2.29E-05
6	111.14	1.88E+00 +/- 4.25E-01	2.12E+00	2.71E-04 +/- 1.94E-05
7	129.29	1.24E+01 +/- 4.78E-01	2.08E+00	3.21E-04 +/- 1.65E-05
8	148.57	2.11E+00 +/- 3.19E-01	2.02E+00	3.56E-04 +/- 1.70E-05
9	185.71	1.03E+00 +/- 3.17E-01	1.92E+00	3.87E-04 +/- 1.99E-05
10	208.40	7.70E+00 +/- 4.28E-01	1.86E+00	3.89E-04 +/- 2.04E-05
11	300.10	4.64E-01 +/- 1.92E-01	1.70E+00	3.45E-04 +/- 1.56E-05
12	311.90	1.94E+00 +/- 2.14E-01	1.68E+00	3.37E-04 +/- 1.49E-05
13	333.25	2.56E+00 +/- 2.64E-01	1.65E+00	3.24E-04 +/- 1.37E-05
14	336.16	5.87E-01 +/- 1.99E-01	1.65E+00	3.22E-04 +/- 1.35E-05
15	345.64	2.07E+00 +/- 2.22E-01	1.64E+00	3.16E-04 +/- 1.31E-05
16	369.39	1.26E+00 +/- 1.73E-01	1.61E+00	3.01E-04 +/- 1.21E-05
17	375.70	6.36E+00 +/- 2.90E-01	1.60E+00	2.97E-04 +/- 1.19E-05
18	383.43	6.23E-01 +/- 1.42E-01	1.59E+00	2.92E-04 +/- 1.17E-05
19	393.49	2.66E+00 +/- 1.79E-01	1.58E+00	2.87E-04 +/- 1.14E-05
20	413.70	6.68E+00 +/- 2.59E-01	1.57E+00	2.75E-04 +/- 1.09E-05
21	423.39	4.05E-01 +/- 9.66E-02	1.56E+00	2.70E-04 +/- 1.08E-05
22	452.05	9.85E-01 +/- 1.10E-01	1.54E+00	2.55E-04 +/- 1.03E-05
23	662.42	3.77E-01 +/- 7.09E-02	1.44E+00	1.80E-04 +/- 8.65E-06
24	723.09	2.31E-01 +/- 4.80E-02	1.41E+00	1.67E-04 +/- 8.03E-06
25	1085.91	4.11E-02 +/- 2.49E-02	1.32E+00	1.22E-04 +/- 4.46E-06

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Segment: 12 Detector: DET01 (# 1) Position: 12

Elapsed Live Time: 113.52 sec Elapsed Real Time: 115.00 sec

T R A N S M I S S I O N R E S U L T S

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.172 +/- 0.0180
SE-75	264.65	0.000 +/- 0.0000	0.275 +/- 0.0033
SE-75	279.53	0.000 +/- 0.0000	0.292 +/- 0.0047
SE-75	400.65	0.000 +/- 0.0000	0.336 +/- 0.0061

P E A K A N A L Y S I S R E S U L T S

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.17	3.57E+00 +/- 2.75E-01	4.00E+00	6.30E-07 +/- 8.88E-07
2	35.10	1.01E+03 +/- 4.77E+00	2.64E+00	7.63E-06 +/- 6.33E-06
3	59.59	5.76E+01 +/- 8.36E-01	2.09E+00	6.64E-05 +/- 2.30E-05
4	98.91	7.36E+00 +/- 4.64E-01	1.89E+00	2.17E-04 +/- 2.20E-05
5	111.37	1.68E+00 +/- 3.34E-01	1.86E+00	2.57E-04 +/- 1.86E-05
6	129.29	8.09E+00 +/- 3.86E-01	1.83E+00	3.04E-04 +/- 1.59E-05
7	144.33	5.94E-01 +/- 3.01E-01	1.79E+00	3.33E-04 +/- 1.61E-05
8	148.57	6.31E-01 +/- 2.86E-01	1.78E+00	3.39E-04 +/- 1.64E-05
9	185.71	3.53E+00 +/- 2.95E-01	1.70E+00	3.72E-04 +/- 1.93E-05
10	208.44	3.23E+00 +/- 3.15E-01	1.66E+00	3.76E-04 +/- 1.99E-05
11	300.10	5.77E-01 +/- 1.53E-01	1.53E+00	3.43E-04 +/- 1.55E-05
12	311.90	2.61E+00 +/- 2.00E-01	1.52E+00	3.36E-04 +/- 1.48E-05
13	333.27	8.47E-01 +/- 1.91E-01	1.51E+00	3.24E-04 +/- 1.37E-05
14	336.40	2.07E-01 +/- 1.32E-01	1.50E+00	3.22E-04 +/- 1.35E-05
15	345.72	1.13E+00 +/- 1.67E-01	1.50E+00	3.17E-04 +/- 1.31E-05
16	375.62	3.75E+00 +/- 2.20E-01	1.48E+00	3.00E-04 +/- 1.19E-05
17	383.40	3.61E-01 +/- 1.15E-01	1.48E+00	2.95E-04 +/- 1.17E-05
18	393.54	1.29E+00 +/- 1.30E-01	1.47E+00	2.90E-04 +/- 1.14E-05
19	400.66	1.48E-01 +/- 7.64E-02	1.47E+00	2.86E-04 +/- 1.12E-05
20	413.70	3.14E+00 +/- 1.86E-01	1.46E+00	2.79E-04 +/- 1.09E-05
21	452.21	3.61E-01 +/- 7.56E-02	1.44E+00	2.60E-04 +/- 1.03E-05
22	662.42	1.04E-01 +/- 4.41E-02	1.36E+00	1.85E-04 +/- 8.58E-06
23	778.90	1.52E-02 +/- 1.47E-02	1.33E+00	1.60E-04 +/- 7.32E-06
24	964.13	1.74E-02 +/- 1.23E-02	1.29E+00	1.33E-04 +/- 5.22E-06

Segment: 13 Detector: DET01 (# 1) Position: 13

Elapsed Live Time: 113.73 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.492 +/- 0.0259
SE-75	264.65	0.000 +/- 0.0000	0.598 +/- 0.0055
SE-75	279.53	0.000 +/- 0.0000	0.626 +/- 0.0073
SE-75	400.65	0.000 +/- 0.0000	0.669 +/- 0.0091

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.34	2.00E+00 +/- 2.02E-01	1.98E+00	1.15E-06 +/- 1.68E-06
2	35.10	1.01E+03 +/- 4.76E+00	1.56E+00	1.10E-05 +/- 9.51E-06
3	59.61	2.44E+01 +/- 5.52E-01	1.38E+00	8.10E-05 +/- 2.88E-05
4	98.75	2.37E+00 +/- 3.33E-01	1.32E+00	2.37E-04 +/- 2.43E-05
5	103.38	1.43E+00 +/- 2.78E-01	1.32E+00	2.53E-04 +/- 2.26E-05
6	129.29	3.17E+00 +/- 2.77E-01	1.30E+00	3.21E-04 +/- 1.67E-05
7	144.07	6.95E-01 +/- 2.07E-01	1.29E+00	3.46E-04 +/- 1.68E-05
8	185.71	3.84E+00 +/- 2.51E-01	1.26E+00	3.79E-04 +/- 2.03E-05
9	208.24	6.03E-01 +/- 2.00E-01	1.24E+00	3.80E-04 +/- 2.07E-05
10	300.10	4.80E-01 +/- 1.03E-01	1.18E+00	3.40E-04 +/- 1.57E-05
11	311.90	2.35E+00 +/- 1.68E-01	1.18E+00	3.33E-04 +/- 1.50E-05
12	333.18	2.23E-01 +/- 1.20E-01	1.18E+00	3.20E-04 +/- 1.38E-05
13	375.75	8.67E-01 +/- 1.20E-01	1.17E+00	2.95E-04 +/- 1.20E-05
14	393.85	3.08E-01 +/- 7.52E-02	1.16E+00	2.85E-04 +/- 1.15E-05
15	413.70	8.49E-01 +/- 1.09E-01	1.16E+00	2.74E-04 +/- 1.10E-05
16	662.42	4.24E-02 +/- 3.26E-02	1.12E+00	1.80E-04 +/- 8.87E-06
17	1001.03	8.69E-03 +/- 8.69E-03	1.10E+00	1.23E-04 +/- 4.91E-06
18	1112.12	8.69E-03 +/- 8.69E-03	1.09E+00	1.13E-04 +/- 4.19E-06
19	1408.01	1.74E-02 +/- 1.23E-02	1.08E+00	9.60E-05 +/- 6.10E-06

Segment: 14 Detector: DET01 (# 1) Position: 14

Elapsed Live Time: 113.83 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.784 +/- 0.0303
SE-75	264.65	0.000 +/- 0.0000	0.781 +/- 0.0066
SE-75	279.53	0.000 +/- 0.0000	0.789 +/- 0.0085
SE-75	400.65	0.000 +/- 0.0000	0.813 +/- 0.0102

Batch 2002-02-428

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.18E+00	8.94E-06 +/- 4.41E-05
2	59.61	9.41E+00 +/- 3.56E-01	1.12E+00	8.06E-05 +/- 1.25E-04
3	99.03	8.37E-01 +/- 2.29E-01	1.10E+00	2.40E-04 +/- 5.58E-05
4	129.29	5.32E-01 +/- 1.95E-01	1.10E+00	3.17E-04 +/- 1.90E-05
5	185.71	1.41E+00 +/- 1.76E-01	1.10E+00	3.64E-04 +/- 4.04E-05
6	300.10	2.71E-01 +/- 9.93E-02	1.09E+00	3.25E-04 +/- 1.51E-05
7	311.90	9.11E-01 +/- 1.25E-01	1.09E+00	3.18E-04 +/- 1.42E-05
8	400.66	6.07E-02 +/- 4.10E-02	1.08E+00	2.73E-04 +/- 1.53E-05
9	413.70	2.86E-01 +/- 5.95E-02	1.08E+00	2.67E-04 +/- 1.56E-05
10	1408.01	2.60E-02 +/- 1.50E-02	1.04E+00	9.39E-05 +/- 6.30E-06

Segment: 15 Detector: DET01 (# 1) Position: 15

Elapsed Live Time: 113.88 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.911 +/- 0.0324
SE-75	264.65	0.000 +/- 0.0000	0.877 +/- 0.0073
SE-75	279.53	0.000 +/- 0.0000	0.883 +/- 0.0092
SE-75	400.65	0.000 +/- 0.0000	0.888 +/- 0.0109

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.75E+00	1.07E+00	1.45E-08 +/- 6.96E-08
2	59.60	3.22E+00 +/- 2.23E-01	1.05E+00	1.09E-05 +/- 1.64E-05
3	185.71	5.07E-01 +/- 1.23E-01	1.04E+00	4.24E-04 +/- 4.51E-05
4	300.10	1.04E-01 +/- 6.97E-02	1.05E+00	3.32E-04 +/- 1.51E-05
5	311.90	2.27E-01 +/- 6.27E-02	1.05E+00	3.22E-04 +/- 1.42E-05
6	413.70	4.49E-02 +/- 3.35E-02	1.05E+00	2.52E-04 +/- 1.49E-05
7	443.98	4.82E-02 +/- 3.04E-02	1.04E+00	2.37E-04 +/- 1.50E-05
8	662.42	1.88E-02 +/- 1.81E-02	1.04E+00	1.74E-04 +/- 9.76E-06
9	778.90	9.10E-02 +/- 3.31E-02	1.03E+00	1.56E-04 +/- 7.35E-06

Entry 2-282-02-479

Segment: 16 Detector: DET01 (# 1) Position: 16

Elapsed Live Time: 113.89 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.767 +/- 0.0298
SE-75	264.65	0.000 +/- 0.0000	0.767 +/- 0.0065
SE-75	279.53	0.000 +/- 0.0000	0.759 +/- 0.0083
SE-75	400.65	0.000 +/- 0.0000	0.786 +/- 0.0100

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.19E+00	9.52E-10 +/- 5.35E-09
2	136.00	2.30E-01 +/- 1.36E-01	1.13E+00	2.49E-04 +/- 2.05E-05
3	244.70	1.11E-01 +/- 6.77E-02	1.10E+00	2.82E-04 +/- 2.33E-05
4	778.90	6.08E-02 +/- 2.30E-02	1.07E+00	1.14E-04 +/- 6.23E-06

Batch 2002-02-480

Summed Spectrum

Peak Locate Report

Sample ID: LL85901000
Peak Locate Performed on: 6-06-02 2:46:01 PM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192
Peak Search Sensitivity: 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
1	43.00	0.4341	21.66	5.31
2	46.54	0.1724	23.19	18.06
3	53.00	0.4341	26.22	5.31
4	70.20	0.0392	35.01	523.04
5	119.40	0.0795	59.60	94.45
6	197.96	0.1474	98.85	23.96
7	206.59	0.1674	103.16	20.26
8	222.96	0.2058	111.34	11.84
9	250.90	0.1193	125.46	41.77
10	259.41	0.1193	129.51	41.77
11	288.66	0.3001	144.16	6.18
12	297.99	0.2383	148.82	10.61
13	330.11	0.3131	164.87	6.36
14	372.44	0.2365	186.02	8.84
15	392.35	0.3322	195.97	5.89
16	417.16	0.1099	208.36	43.01
17	511.91	0.3369	255.70	5.06
18	625.26	0.1779	312.33	15.44
19	667.13	0.1421	333.25	23.87
20	673.19	0.2041	336.28	11.26
21	691.86	0.1432	345.61	23.32
22	739.29	0.2458	369.30	8.33
23	751.98	0.1059	375.64	41.93
24	767.66	0.1971	383.47	12.43
25	787.92	0.1442	393.60	21.55
26	829.49	0.1071	414.37	37.32
27	847.15	0.2014	423.19	11.79
28	905.11	0.1800	452.15	13.87
29	1328.06	0.1925	663.46	11.34
30	1447.44	0.2277	723.11	6.42

Errors quoted at 1.000 sigma

Batch 2002-02-481

Summed Spectrum

Peak Analysis Report

Sample ID: LL85901000
Peak Analysis Performed on: 6-06-02 2:46:01 PM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

	Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
M	1	41-	56	43.48	21.66	1.21E+03	35.86	1.13E+02
m	2	41-	56	46.53	23.19	6.61E+03	84.30	6.63E+02
m	3	41-	56	52.61	26.22	3.02E+03	63.49	1.62E+03
	4	67-	73	70.20	35.01	1.85E+06	1363.56	3.33E+03
	5	115-	122	119.40	59.60	8.99E+04	347.97	1.50E+04
	6	194-	201	197.96	98.85	1.02E+04	199.85	1.48E+04
	7	202-	210	206.59	103.16	6.86E+02	221.65	1.92E+04
	8	219-	226	222.96	111.34	2.09E+03	148.60	9.56E+03
M	9	248-	263	251.24	125.46	2.19E+03	80.08	6.19E+03
m	10	248-	263	259.34	129.51	1.24E+04	193.93	6.70E+03
	11	284-	292	288.66	144.16	3.43E+02	119.07	6.43E+03
	12	293-	302	297.99	148.82	1.39E+03	132.26	7.10E+03
	13	325-	334	330.11	164.87	3.79E+02	121.25	6.32E+03
	14	368-	376	372.44	186.02	1.21E+03	107.91	4.88E+03
	15	387-	396	392.35	195.97	6.69E+02	107.20	4.79E+03
	16	412-	421	417.16	208.36	7.14E+03	146.98	6.16E+03
	17	507-	516	511.91	255.70	3.20E+02	75.03	2.35E+03
	18	620-	630	625.26	312.33	1.29E+03	76.72	1.93E+03
	19	662-	672	667.13	333.25	2.27E+03	97.28	2.92E+03
	20	672-	678	673.19	336.28	5.53E+02	69.72	1.67E+03
	21	686-	696	691.86	345.61	2.34E+03	81.30	1.77E+03
	22	734-	744	739.29	369.30	1.12E+03	62.97	1.17E+03
	23	746-	757	751.98	375.64	6.84E+03	105.16	1.68E+03
	24	767-	772	767.66	383.47	6.59E+02	50.49	6.63E+02
	25	782-	793	787.92	393.60	2.62E+03	65.41	6.61E+02
	26	824-	834	829.49	414.37	6.79E+03	88.17	4.15E+02
	27	841-	852	847.15	423.19	3.66E+02	40.29	4.97E+02
	28	899-	910	905.11	452.15	8.83E+02	39.28	2.64E+02
	29	1324-	1334	1328.06	663.46	4.53E+02	26.13	9.73E+01
	30	1441-	1453	1447.44	723.11	2.22E+02	22.25	1.04E+02

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Summed Spectrum

Nuclide Identification Report

Sample ID: LL85901000
Nuclide Library Used: C:\WAS\NLIB\LLNL.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/)	Activity Uncertainty
Pulser	0.999	35.10*	100.00	2.376E+06	4.805E+06
U-235	0.994	185.71*	57.20	2.344E+00	2.145E-01
Np-237	0.752	300.10	6.63		
		311.90*	38.60	4.108E+00	2.453E-01
Pu-239	0.969	413.70*	0.00	6.616E+05	1.453E+04
Pu-239A	0.997	129.29*	0.01	2.800E+05	7.387E+03
Am-241	0.925	662.42*	0.00	2.263E+05	1.316E+04
Pu-241	0.995	148.57*	0.00	9.228E+05	8.867E+04

* = Energy line found in the spectrum.
Energy Tolerance : 1.500 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 1.000 sigma

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 6-06-02 2:46:01 PM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192

	Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
M	1	21.66	1.0510E+01	2.97
m	2	23.19	5.7568E+01	1.28
m	3	26.22	2.6332E+01	2.10
	5	59.60	7.8315E+02	0.40
	6	98.85	8.9044E+01	1.96
	7	103.16	5.9770E+00	32.31
	8	111.34	1.8247E+01	7.10
M	9	125.46	1.9088E+01	3.66
	11	144.16	2.9839E+00	34.77
	13	164.87	3.3010E+00	32.00
	15	195.97	5.8273E+00	16.03
	16	208.36	6.2237E+01	2.06
	17	255.70	2.7918E+00	23.41
	19	333.25	1.9747E+01	4.29
	20	336.28	4.8198E+00	12.60
	21	345.61	2.0404E+01	3.47
	22	369.30	9.7882E+00	5.61
	23	375.64	5.9549E+01	1.54
	24	383.47	5.7424E+00	7.66
	25	393.60	2.2858E+01	2.49
	27	423.19	3.1849E+00	11.02
	28	452.15	7.6923E+00	4.45
	30	723.11	1.9366E+00	10.01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Combined Segment NID

NID Results Combiner Mode: Sum Activities

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		3.71E+07	+/-	1.92E+08	6.40E+02	+/-	3.31E+03
SE-75	<	1.28E-01	+/-	7.79E-03	< 2.20E-06	+/-	1.34E-07
EU-152x	<	1.71E-01	+/-	1.30E-02	< 2.94E-06	+/-	2.24E-07
U-233		6.44E+03	+/-	3.72E+03	1.11E-01	+/-	6.41E-02
U-235		1.87E+00	+/-	1.25E-01	3.22E-05	+/-	2.16E-06
Np-237		5.15E+00	+/-	3.42E-01	8.88E-05	+/-	5.89E-06
Pu-238	<	1.28E+04	+/-	1.28E+03	< 2.21E-01	+/-	2.21E-02
U-238		6.20E-01	+/-	1.21E+00	1.07E-05	+/-	2.09E-05
Pu-239		9.47E+05	+/-	2.85E+04	1.63E+01	+/-	4.91E-01
Pu-239A		4.22E+05	+/-	1.29E+04	7.27E+00	+/-	2.22E-01
Am-241		3.13E+05	+/-	1.94E+04	5.40E+00	+/-	3.35E-01
Pu-241		1.88E+06	+/-	1.52E+05	3.24E+01	+/-	2.62E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
U-233	6.70E-01	+/-	3.86E-01
U-235	8.64E-01	+/-	5.79E-02
Np-237	7.31E-03	+/-	4.86E-04
U-238	1.85E+00	+/-	3.61E+00
Pu-239	1.53E+01	+/-	4.58E-01
Pu-239A	6.79E+00	+/-	2.07E-01
Am-241	9.14E-02	+/-	5.68E-03
Pu-241	1.82E-02	+/-	1.47E-03

Summed Spectrum

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		2.38E+06	+/-	4.80E+06	4.10E+01	+/-	8.28E+01
SE-75	<	5.07E-01	+/-	3.59E-03	< 8.74E-06	+/-	6.19E-08
EU-152x	<	4.56E-01	+/-	6.99E-03	< 7.86E-06	+/-	1.21E-07
U-233	<	2.47E+04	+/-	4.52E+02	< 4.25E-01	+/-	7.79E-03
U-235		2.34E+00	+/-	2.15E-01	4.04E-05	+/-	3.70E-06
Np-237		4.11E+00	+/-	2.45E-01	7.08E-05	+/-	4.23E-06
Pu-238	<	5.71E+04	+/-	7.43E+02	< 9.84E-01	+/-	1.28E-02
U-238	<	1.16E+01	+/-	1.77E-01	< 2.00E-04	+/-	3.06E-06
Pu-239		6.62E+05	+/-	1.45E+04	1.14E+01	+/-	2.51E-01
Pu-239A		2.80E+05	+/-	7.39E+03	4.83E+00	+/-	1.27E-01
Am-241		2.26E+05	+/-	1.32E+04	3.90E+00	+/-	2.27E-01
Pu-241		9.23E+05	+/-	8.87E+04	1.59E+01	+/-	1.53E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
U-235	1.09E+00	+/-	9.93E-02
Np-237	5.83E-03	+/-	3.48E-04
Pu-239	1.07E+01	+/-	2.34E-01
Pu-239A	4.51E+00	+/-	1.19E-01
Am-241	6.61E-02	+/-	3.84E-03
Pu-241	8.92E-03	+/-	8.57E-04

Batch 2002-02-486

Final Non-Uniformity Results

Source Longitudinal Ratio:	0.788	+/-	2.0796
Matrix Longitudinal Ratio:	0.960	+/-	0.2637
Source Vertical Ratio:	0.746	+/-	0.3769
Matrix Vertical Ratio:	0.993	+/-	0.1617

NUDS could not find the transmission peak in one radial segment.
NUDS could not find the source peak in one radial segment.

LAWRENCE LIVERMORE NATIONAL LABORATORY

WASTE DISPOSAL REQUISITION

W 211302

H1. Label/Waste Type:
☐ Non-Haz (N) ☐ Low-Level (R)
☐ RCRA Haz (H) ☐ LLW Mixed (F)
☐ CA Haz (C) ☐ LLW Combined (S)
☐ NTS LLW (L) ☒ TRU (T) ☐ TRU Mixed (X)

1. Container ID Number or Tank ID or for TRU Waste, TRU Waste Container Serial No.: Q- LL85 01200 TRU-

H2. CCC: DS

H3. Storage Restrictions
Not acceptable at the following locations:
☐ 233 ☐ 514 ☐ 612 ☐ 693 ☐ 696
CWAA ☐ 169 ☐ 361 ☐ 612-4

2. Container Use/Acceptability: ☐ On-site use only; ☒ Acceptable for off-site use
Container Manufacturer Serial No./Batch No.: G5501 B342576 ☐ N/A
Employee No.: 691484 Initials: DS Date: 08-27-01

3. RMMA: ☒ Yes ☐ No

4. Waste Form:
☒ Solid ☐ Liquid
☐ Gas ☐ Sludge

H4. Hazardous Properties:
☐ Toxic ☐ Corrosive
☐ Ignitable ☐ Reactive

5. Outer Container Type:
☐ Box ☐ Sack
☐ Can ☐ SWB
☐ Carboy ☐ Tub
☒ Drum ☐ Bag
☐ Tank – Fixed
☐ Tank – Portable
☐ Transportainer
Other: _____

6. Outer Container Size/Vol:
☐ 1 gal ☒ 55 gal ☐ 67 cu ft
☐ 2 gal ☐ 85 gal ☐ 1 × 1 × 1.5
☐ 5 gal ☐ 330 gal ☐ 2 × 4 × 7
☐ 10 gal ☐ 660 gal ☐ 4 × 4 × 7
☐ 12 gal ☐ 750 gal ☐ 1 cu yd
☐ 20 gal ☐ 1000 gal ☐ 8 × 8 × 20
☐ 30 gal ☐ 5000 gal ☐ 8 × 8 × 40
Other: _____ ☐ gal _____ ☐ cu ft

7. Building No.: 332
8. Room No.: 1378
9. Location: AtGen
10. Workplace Start Date: 08/28/01 HVS 12/10/01
11. Workplace End Date: ~~11/07/01~~ 11/20/01 HVS 12/10/01
12. Account No.: 5481-50
13. Directorate: DNT
14. WEF/PKE/SAW/PIW: 0463 ☐ WEF ☒ PKE ☐ SAW ☐ PIW
Specify No.: 0245, 0243, 0244 ☐ N/A
15. Source Code: A940
16. Inner Containers ☒ Yes HIS 12/26/01 ☒ No

17. Item No.	18. Spent or Unused (S/U)	19. Organic or Inorganic (O/I)	20. Waste Form (S,SL,L,G)	21. Waste Description (For multiple parcels, list Parcel Card Nos.)	22. Hazardous Constituents and Concentrations	23. Item Container Size	24. Quantity per Item Amount	24. Quantity per Item Units	25. Analysis Sample No.	Physical Waste Data: 26. Aqueous Only pH	26. Aqueous Only Normality	27. Flash Point
				P051220								
				P051219								
				P051222								
				P051221								
				P050349								
				P050456								
				P050476								

28. Does the waste contain radioactive components?
☒ Yes ☐ No ☐ To be analyzed
(If yes or TBA, complete Page 3 as applicable to waste type.)

This section (Steps 29–30) is required for Hazardous Waste generated in a RMMA

29. Was the waste kept isolated from any operation that could have produced radioactive contamination (using a glove box, vent hood, etc.)?
☒ Yes ☐ No (If no, full rad analysis required)

30. Was the waste exposed to particle beams capable of inducing radioactivity by activation?
☐ Yes ☒ No (If yes, full rad analysis required)

31. ☒ Generator: I certify, to the best of my knowledge, that the information provided on this requisition is correct. I understand that I may be liable to State and Federal prosecution by intentionally providing false information. I have obtained this information by:
HVS 12/10/01
☒ Direct knowledge of the waste generating process ☐ Analytical Data
HVS 12/10/01
☐ Obtaining sufficient information from others knowledgeable of the waste generating process

☒ Container Custodian: I certify that the waste parcels identified on this form are contained in this waste container and have been packaged in accordance with the requirements specified in the appropriate LLNL TRU or Low-Level Waste Program Certification and Quality Assurance Program.

Generator or Container Custodian Name (Print – Last, First): Summers, Harry
Signature:
Employee No.: 000806 | L-Code: 361 | Ext.: 35810 | Date: 11/02/01

H5. Inspected By: Signature: | Employee No.: | Date:

H6. Characterization Chemist Approval:
☐ Acceptable for Sampling SMP (Initials) Exempt: ☐ OP ☐ SA ☒ DE
Signature: ☐ WEF E. Hector Rodela | Employee No.: 690278 | Date: 12-20-01

H7. RCA Approval: ☐ Overpack for final shipment to NTS ☐ Meets SCAL
☐ Decay _____ Program (Initials) ☐ NTS _____ Certified (Initials) ☐ WIPP _____ Certified [redacted]
☐ On-[redacted]
Signature: ☐ WEF | Employee No.: [redacted]

32. Waste Profile No., TRU Waste Form No., or Bin No.: 1, 2a, 2b

☐ On Hold – Pending S&A
☐ Released

31A. Gross Weight: 89.8kg

Radioactive page attached: ☒ Yes ☐ N/A
Continuation page(s) attached: ☐ Yes ☒ N/A

☐ HWM Use Only

LL-5344 (4/01)

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS 2.3A

****
* DRUM INFORMATION *
****

Drum Package ID: LL85701015
Sequence Number: 845
Assay Date & Time: 2-01-2002 10:21:01 AM
Drum Package GROSS Weight: 49.00 kg NET Weight: 17.20 kg

IDC Number: LL85701015

QC Replicate (Yes/No): NO Passed (Yes/No): _____

Operator Name (Printed): Russell Rath

Operator Signature: _____ Date: 2-1-02

Independent Reviewer: _____ Date: 6-7-02

Expert Reviewer: Kenneth Rasche Date: 6-6-02

Tech. Supv/QA Officer: _____ Date: 6/27/02

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 5.409E-01 +/- 1.203E-01 Ci

Batch 2002-02 #86

****
* I S O T O P I C I N F O R M A T I O N *
****

Isotope	Measured Mass (g)	Mass Uncertainty (g)
Pu-238	8.510E-04	3.150E-04
Pu-239	5.803E+00	1.839E+00
Pu-240	3.445E-01	1.100E-01
Pu-241	6.495E-03	2.084E-03
Pu-242	1.657E-03	6.172E-04
Am-241	2.491E-02	7.913E-03
*Am-243	N/A	N/A
*Np-237	N/A	N/A
U-235	2.441E+01	7.893E+00
*U-238	N/A	N/A
*U-233	N/A	N/A

* = Activity/Mass below detectable limit.

Total Pu Mass: 6.16E+00 +/- 1.84E+00 g

****
* M G A R E S U L T S *
****

NUCLIDE	% Weight	% Error(1-Sigma)
Pu-238	1.382E-02	9.77E+00
Pu-239	9.426E+01	1.19E-01
Pu-240	5.597E+00	1.99E+00
Pu-241	1.055E-01	2.56E+00
Pu-242	2.691E-02	1.00E+01
Am-241	4.047E-01	1.15E+00
U-235	3.965E+02	3.29E+00

Batch 2 002-03-490

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005
Software Version: GWAS V2.3A RADA V2.1

Assay Date & Time: 2-01-2002 10:21:01 AM
Report Generated: 6-06-2002 4:11:13 PM

Drum Package ID: LL85701015
Sequence Number: 845

Waste Classification (TRU or LLW): TRU

			Errors at 1.96 sigma	
Total Alpha Activity :	5.409E-01	+/-	1.203E-01	Ci
Total TRU Activity :	3.144E+04	+/-	6.992E+03	nCi/g
Pu-239 Equiv Activity:	5.527E-01	+/-	1.203E-01	Ci
Fissile Gram Equiv Mass:	3.024E+01	+/-	1.379E+01	g
Total Decay Heat:	1.718E-02	+/-	3.788E-03	W
TMU Value:	31.68 %			

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error
Pu-238	1.47E-02	5.45E-03	8.51E-04	3.15E-04
Pu-239	3.60E-01	1.14E-01	5.80E+00	1.84E+00
Pu-240	7.92E-02	2.53E-02	3.45E-01	1.10E-01
Pu-241	6.75E-01	2.17E-01	6.49E-03	2.08E-03
Pu-242	6.58E-06	2.45E-06	1.66E-03	6.17E-04
Am-241	8.64E-02	2.75E-02	2.49E-02	7.91E-03
*Am-243	N/A	N/A	N/A	N/A
*Np-237	N/A	N/A	N/A	N/A
U-235	5.35E-05	1.73E-05	2.44E+01	7.89E+00
*U-238	N/A	N/A	N/A	N/A
*U-233	N/A	N/A	N/A	N/A

* = Activity/Mass below detectable limit.

Total Pu Mass: 6.16E+00 +/- 1.84E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sigma)
Pu-238	1.382E-02	9.77E+00
Pu-239	9.426E+01	1.19E-01
Pu-240	5.597E+00	1.99E+00
Pu-241	1.055E-01	2.56E+00
Pu-242	2.691E-02	1.00E+01
Am-241	4.047E-01	1.15E+00
U-235	3.965E+02	3.29E+00

Batch 2001-03-1491

SGS Expert Review Checklist

Container Identification #: LL85701015_____ Original Assay Date:2-01-2002__

1. *WCP-41, §6.1:* A MGA report ☒ is present or ☐ expert review has provided isotopic ratios from SGS or AK. Comment: ☒ No comments
2. *WCP-41, §6.1:* MGA and AK ☒ agree as to radiological composition or, if not, ☐ expert review has resolved this. Comment: ☒ No comments
3. *WCP-41, §6.2.1:* ☒ Pu-238 ≤ 2% by weight of total Pu or, if not, ☐ expert review has addressed this and assigned a Pu-240 value. Comment: ☒ No comments
4. *WCP-41, §6.2.2:* ☐ Neither Np-237 nor U-235 is identified by MGA or ☒ expert review has addressed possible interferences from these radionuclides.
   Comment: U-235 is identified by MGA. There is no interference.☐ No comments
5. *WCP-41, §6.2.2.2:* ☒ Am-241 separation date is 1950 or later or ☐ expert review has addressed possible interferences. Comment: ☒ No comments
6. *WCP-41, §6.3.1.1.a:* ☒ Bulk density of waste ≤ 0.6 g/ml or ☐ expert review has addressed the high density of the drum. Comment: ☒ No comments
7. *WCP-41, §6.3.1.2.a:* ☒ Transmission in every segment ≥ 0.1% for the Se-75 peaks at 136 keV or 265 keV or ☐ expert review has addressed the low transmission.
   Comment: ☒ No comments
8. *WCP-41, §6.3.1.2.a:* ☒ Transmission in every segment ≥1% for the Se-75 peak at 401 keV or ☐ expert review has addressed the low transmission.
   Comment: ☒ No comments
9. *WCP-41, §6.3.1.3.b:* ☒ Dead time in every segment ≤ 50% or ☐ expert review has addressed the high dead time. Comment: ☒ No comments
10. *WCP-41, §6.3.1.3.c:* ☒ Pu-239 masses determined from the 414 keV peak and the 129 keV peak agree by a factor of < 2.5 or ☐ expert review has addressed possible matrix inhomogeneity. Comment: ☒ No comments
11. *WCP-41, §6.3.2.3:* Cs-137 (☐ has) (☒ has not) been identified by expert review. If it has, Sr-90 is reported ☐ at an activity ratio to Cs-137of 0.39 for Pu fission or ☐ at a ratio of 1 for U-235 fission or, ☐ if both Pu and U are present, the expert reviewer has determined the ratio. Comment: ☒ No comments
12. *WCP-41, §6.3.2.4:* ☐ No unusual nuclides are identified (none other than the 10 required to be reported to WIPP) or ☒ the expert reviewer has checked for interferences from unusual nuclides. Comment: U-235 is identified by MGA and confirmed by GWAS.☐ No comments

SGS Expert Review Checklist

Container Identification #: LL85701015_____ Original Assay Date:2-01-2002__

13. *WCP-41, §6.3.3:* For waste drums (☐ NA for standards), ☒ the Summed Spectrum report value for Pu-239 and the Combined Segment NID report for Pu-239 agree within 95% confidence limits (the same as for replicates of unknowns) or ☐ expert review has addressed the difference. Comment: ☒ No comments
14. *WCP-41, §6.4:* ☒ The SGS Summed Spectrum and Combined Segment NID reports agree as to the ratios by weight of several radionuclides, such as those of Am-241, Pu-241, Np-237, Am-243, and U-235 to Pu-239, and MGA results agree as to identifying these radionuclides or ☐ expert review has resolved this. Comment: ☒ No comments
15. *WCP-41, §6.6.1:* ☒ All reported radionuclide masses are above 2.5 times the uncorrected MDA or ☐ expert review has calculated transmission-corrected MDA's and taken appropriate action. Comment: ☒ No comments
16. *WCP-41, §6.6.2:* ☒ Any changes to reported quantities of individual radionuclides have been entered into the RADA program and a new radioassay data sheet has been produced, showing revised derivative quantities, and included in the batch data report, along with the marked up original. Comment: ☒ No comments
17. *CP-41, §6.7:* ☒ Counting statistics are adequate for normal passive count time of 120 seconds per segment or ☐ Counting statistics are adequate for long passive count time of 600 seconds per segment or ☐ expert review has rejected the count and ordered a longer count time. Comment: ☒ No comments

Kenneth Raschke	Kenneth Raschke	6-6-02
Expert Reviewer (print)	Signature	Date

Batch 2002-02-493

NOT VALID
KER
6-6-02

****
* ISOTOPIC INFORMATION *
****

Isotope	Measured Mass (g)	Mass Uncertainty (g)	MDC (g)
Pu-238	8.510E-04	3.15E-04	8.774E-06
Pu-239	5.803E+00	1.84E+00	5.983E-02
Pu-240	3.445E-01	1.10E-01	3.552E-03
Pu-241	6.495E-03	2.08E-03	2.015E-03
Pu-242	1.657E-03	6.17E-04	1.708E-05
Am-241	2.491E-02	7.91E-03	2.741E-03
Am-243	0.000E+00	0.00E+00	0.000E+00
Np-237	0.000E+00	0.00E+00	2.865E-04
U-235	2.441E+01	7.89E+00	1.147E-01
U-238	1.139E+01	3.62E+00	1.139E+01
U-233	1.673E+00	5.18E-01	1.673E+00

Total Pu Mass: 6.16E+00 +/- 1.40E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	1.382E-02	9.77E+00
Pu-239	9.426E+01	1.19E-01
Pu-240	5.597E+00	1.99E+00
Pu-241	1.055E-01	2.56E+00
Pu-242	2.691E-02	1.00E+01
Am-241	4.047E-01	1.15E+00
U-235	3.965E+02	3.29E+00

NOT VALID
KER
6-6-02

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005

Assay Date & Time: 2-01-2002 10:21:01 AM

Drum Package ID: LL85701015
Sequence Number: 845

Waste Classification (TRU or LLW): TRU

		Errors at 1.96 sigma	
Total Alpha Activity :	5.409E-01	+/- 1.20E-01	Ci
Total TRU Activity :	3.144E+04	+/- 6.99E+03	nCi/g
Pu-239 Equiv Activity:	5.527E-01	+/- 1.20E-01	Ci
Fissile Gram Equiv Mass:	3.024E+01	+/- 1.38E+01	g
Total Decay Heat:	1.718E-02	+/- 3.79E-03	W
TMU Value:	31.68 %		

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error	MDA gm
Pu-238	1.47E-02	5.45E-03	8.51E-04	3.15E-04	8.77E-06
Pu-239	3.60E-01	1.14E-01	5.80E+00	1.84E+00	5.98E-02
Pu-240	7.92E-02	2.53E-02	3.45E-01	1.10E-01	3.55E-03
Pu-241	6.75E-01	2.17E-01	6.49E-03	2.08E-03	2.02E-03
Pu-242	6.58E-06	2.45E-06	1.66E-03	6.17E-04	1.71E-05
Am-241	8.64E-02	2.75E-02	2.49E-02	7.91E-03	2.74E-03
Am-243	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Np-237	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.87E-04
U-235	5.35E-05	1.73E-05	2.44E+01	7.89E+00	1.15E-01
U-238	3.87E-06	1.23E-06	1.14E+01	3.62E+00	1.14E+01
U-233	1.63E-02	5.06E-03	1.67E+00	5.18E-01	1.67E+00

Total Pu Mass: 6.16E+00 +/- 1.40E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	1.382E-02	9.77E+00
Pu-239	9.426E+01	1.19E-01
Pu-240	5.597E+00	1.99E+00
Pu-241	1.055E-01	2.56E+00
Pu-242	2.691E-02	1.00E+01
Am-241	4.047E-01	1.15E+00
U-235	3.965E+02	3.29E+00

****
***** M G A R E P O R T *****
****

Report generated on: 2-01-02 11:17:32 AM

MGA version: MGA V9.5 CI

Spectrum ID: 11200845.CNF Sens : 30.0% LT: 55.3 Mins DT: 0.89
Measurement date: 2-01-02 Declared date: 2-01-02

Sample ID: LL85701015 Detector: Total counts: 2.016E+06

Pu g/cm2 = 0.1805 Cd g/cm2 = 1.6128 FWHM at 122 keV = 685 eV
QFIT = 1.00 FWHM at 208 keV = 879 eV
NQFIT = 1.00

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	%Err	Decl. date % weight	%Err
Pu-238	0.000147	9.8	9.7	0.1310	9.7	0.01382	9.77	0.01382	9.77
Pu-239	1.000000	0.0	0.9	893.4010	2.6	94.25724	0.12	94.25724	0.12
Pu-240	0.059375	2.1	1.9	53.0456	3.1	5.59652	1.99	5.59652	1.99
Pu-241	0.001119	2.6	2.3	1.0000	0.0	0.10550	2.56	0.10550	2.56
Pu-242	(New alg.)			0.2551	(10)	0.02691	(10)	0.02691	(10)
Am-241	0.004293	1.2	0.9	3.8354	2.5	0.40465	1.15	0.40465	1.15
U-235	4.207050	3.2	3.3			396.54492	3.29	396.54492	3.29

Pu-240 effective (meas. date) = 5.677 +/- 2.15%
Am-241 separated about 32.477 +/- 0.376 years ago
Am/Pu-241 weight ratio = 3.83541 +/- 2.48%

Messages :

Lead x-rays detected.
Calculations in MGAABS didn't converge : results may be suspect.
Pu-241/Pu-239 efficiency changed in MGACAL by 1%.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Gamma Waste Assay

Sample Information

File Name: C:\WAS\DATA\900\11100845.S11
Sample ID: LL85701015 Count Sequence Number: 845
Assay Start: 2-01-02 10:21:03 AM
Description 1: unknown
Description 2:
Location: 7715
Comment:
Waste Type:
Weight: Gross: 49000.0 g Net: 17200.0 g
Density: 0.083 g /ml

Container Type: 55 Gal Galv
Container: Volume: 208000. ml Full: 100.0 %

System Configuration

Counter ID Number: SGS
Arrangement Description: SGS
Segments: Number: 16 Offset: 0
Scanning Platform: Start: 934 mm Delta: -51 mm
Count Type: 55 Gal Galv
Collimator/Geometry Setting: 0
Transmission Mode: Two pass
Transmission Source: 0

Errors quoted at 1.000 sigma
Reference Source Date: Reference Source Rate: 1.01E+03 cps
Geometric Correction Factor(SWCONTGCF): 0.760
Date of efficiency calibration approval: 4-18-2001 12:41:36 PM
Mu Factors response file: Lucite
Transmission Calib. Time: 5-11-2001 2:20:42 PM 59052

Reviewed by: Joe P Cole Date: 6/16/02

Segment Results

Segment: 1 Detector: DET01 (# 1) Position: 1

Elapsed Live Time: 113.87 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.692 +/- 0.0282
SE-75	264.65	0.000 +/- 0.0000	0.728 +/- 0.0063
SE-75	279.53	0.000 +/- 0.0000	0.723 +/- 0.0081
SE-75	400.65	0.000 +/- 0.0000	0.773 +/- 0.0099

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.27E+00	2.61E-06 +/- 1.64E-05
2	48.69	3.79E+00 +/- 2.97E-01	1.21E+00	1.63E-05 +/- 5.26E-05
3	59.58	3.73E+00 +/- 2.41E-01	1.19E+00	3.75E-05 +/- 7.39E-05
4	185.71	7.80E-01 +/- 1.27E-01	1.14E+00	2.30E-04 +/- 3.16E-05
5	244.70	1.08E-01 +/- 6.59E-02	1.13E+00	2.23E-04 +/- 1.95E-05
6	300.10	9.71E-02 +/- 5.93E-02	1.12E+00	2.04E-04 +/- 1.08E-05
7	311.90	1.18E-01 +/- 5.71E-02	1.12E+00	2.00E-04 +/- 1.03E-05
8	400.66	1.13E-01 +/- 4.59E-02	1.10E+00	1.69E-04 +/- 1.25E-05
9	662.42	4.77E-02 +/- 2.90E-02	1.08E+00	1.12E-04 +/- 8.14E-06
10	867.39	2.60E-02 +/- 1.50E-02	1.07E+00	8.96E-05 +/- 4.69E-06
11	1001.03	1.95E-02 +/- 1.71E-02	1.06E+00	7.98E-05 +/- 4.04E-06
12	1112.12	3.12E-02 +/- 2.35E-02	1.06E+00	7.35E-05 +/- 3.70E-06
13	1408.01	2.60E-02 +/- 1.50E-02	1.05E+00	6.19E-05 +/- 4.71E-06

Segment: 2 Detector: DET01 (# 1) Position: 2

Elapsed Live Time: 113.83 sec Elapsed Real Time: 115.00 sec

Batch 2002-02-498

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.563 +/- 0.0264
SE-75	264.65	0.000 +/- 0.0000	0.631 +/- 0.0057
SE-75	279.53	0.000 +/- 0.0000	0.627 +/- 0.0073
SE-75	400.65	0.000 +/- 0.0000	0.670 +/- 0.0091

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.30	8.33E-01 +/- 1.43E-01	1.76E+00	6.00E-10 +/- 5.69E-09
2	35.10	1.01E+03 +/- 4.77E+00	1.44E+00	2.21E-07 +/- 1.06E-06
3	48.91	4.51E+00 +/- 3.55E-01	1.34E+00	5.53E-06 +/- 1.35E-05
4	59.60	1.38E+01 +/- 4.15E-01	1.30E+00	2.20E-05 +/- 3.31E-05
5	98.90	8.91E-01 +/- 2.12E-01	1.25E+00	1.85E-04 +/- 4.22E-05
6	129.29	7.68E-01 +/- 1.90E-01	1.24E+00	3.07E-04 +/- 1.84E-05
7	143.78	9.19E-01 +/- 1.93E-01	1.23E+00	3.45E-04 +/- 2.95E-05
8	185.71	5.41E+00 +/- 2.47E-01	1.21E+00	3.89E-04 +/- 4.14E-05
9	208.22	5.83E-01 +/- 1.12E-01	1.20E+00	3.88E-04 +/- 3.71E-05
10	311.90	1.81E-01 +/- 7.13E-02	1.18E+00	3.18E-04 +/- 1.39E-05
11	375.70	2.99E-01 +/- 7.76E-02	1.17E+00	2.74E-04 +/- 1.40E-05
12	413.70	2.90E-01 +/- 5.80E-02	1.16E+00	2.51E-04 +/- 1.46E-05
13	867.39	8.74E-03 +/- 8.74E-03	1.11E+00	1.33E-04 +/- 6.03E-06
14	1408.01	2.04E-02 +/- 1.81E-02	1.08E+00	9.61E-05 +/- 6.36E-06

Segment: 3 Detector: DET01 (# 1) Position: 3

Elapsed Live Time: 113.76 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.411 +/- 0.0228
SE-75	264.65	0.000 +/- 0.0000	0.476 +/- 0.0047
SE-75	279.53	0.000 +/- 0.0000	0.482 +/- 0.0062
SE-75	400.65	0.000 +/- 0.0000	0.535 +/- 0.0079

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.19	1.44E+00 +/- 1.77E-01	2.29E+00	1.06E-08 +/- 1.04E-07
2	35.10	1.01E+03 +/- 4.76E+00	1.73E+00	1.07E-06 +/- 5.27E-06
3	59.58	2.33E+01 +/- 5.37E-01	1.49E+00	3.79E-05 +/- 5.86E-05
4	98.78	1.90E+00 +/- 2.73E-01	1.41E+00	2.01E-04 +/- 4.75E-05
5	129.29	1.34E+00 +/- 2.25E-01	1.38E+00	3.02E-04 +/- 1.84E-05
6	144.05	1.26E+00 +/- 2.12E-01	1.37E+00	3.32E-04 +/- 2.94E-05
7	163.65	8.55E-01 +/- 1.82E-01	1.36E+00	3.56E-04 +/- 3.88E-05
8	185.71	7.91E+00 +/- 3.05E-01	1.35E+00	3.67E-04 +/- 4.05E-05
9	208.42	9.80E-01 +/- 1.52E-01	1.33E+00	3.66E-04 +/- 3.64E-05
10	311.90	3.85E-01 +/- 9.23E-02	1.29E+00	3.13E-04 +/- 1.40E-05
11	333.10	2.44E-01 +/- 8.12E-02	1.28E+00	3.00E-04 +/- 1.35E-05
12	375.63	6.94E-01 +/- 9.13E-02	1.27E+00	2.76E-04 +/- 1.44E-05
13	393.66	2.87E-01 +/- 5.53E-02	1.26E+00	2.67E-04 +/- 1.48E-05
14	413.70	4.36E-01 +/- 8.39E-02	1.25E+00	2.57E-04 +/- 1.52E-05
15	662.42	5.75E-02 +/- 2.76E-02	1.20E+00	1.78E-04 +/- 1.02E-05

Segment: 4 Detector: DET01 (# 1) Position: 4

Elapsed Live Time: 113.70 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.497 +/- 0.0244
SE-75	264.65	0.000 +/- 0.0000	0.543 +/- 0.0051
SE-75	279.53	0.000 +/- 0.0000	0.555 +/- 0.0068
SE-75	400.65	0.000 +/- 0.0000	0.582 +/- 0.0083

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.22	2.78E+00 +/- 2.28E-01	1.97E+00	3.35E-06 +/- 4.71E-06
2	35.10	1.01E+03 +/- 4.78E+00	1.55E+00	2.00E-05 +/- 1.66E-05
3	59.60	4.75E+01 +/- 7.59E-01	1.38E+00	9.83E-05 +/- 3.39E-05
4	98.92	2.91E+00 +/- 3.24E-01	1.31E+00	2.40E-04 +/- 2.42E-05
5	129.29	2.27E+00 +/- 2.79E-01	1.29E+00	3.12E-04 +/- 1.61E-05
6	144.12	1.27E+00 +/- 2.30E-01	1.29E+00	3.35E-04 +/- 1.60E-05

7	163.91	8.68E-01	+/- 2.16E-01	1.28E+00	3.55E-04	+/- 1.75E-05
8	185.71	7.96E+00	+/- 3.14E-01	1.27E+00	3.67E-04	+/- 1.89E-05
9	208.35	1.31E+00	+/- 1.54E-01	1.26E+00	3.71E-04	+/- 1.94E-05
10	300.10	1.22E-01	+/- 6.43E-02	1.24E+00	3.44E-04	+/- 1.54E-05
11	311.90	5.43E-01	+/- 9.34E-02	1.23E+00	3.38E-04	+/- 1.48E-05
12	375.51	8.24E-01	+/- 1.06E-01	1.22E+00	3.06E-04	+/- 1.21E-05
13	413.70	6.89E-01	+/- 9.08E-02	1.22E+00	2.87E-04	+/- 1.11E-05
14	443.98	4.82E-02	+/- 3.41E-02	1.21E+00	2.73E-04	+/- 1.07E-05

Segment: 5 Detector: DET01 (# 1) Position: 5

Elapsed Live Time: 113.67 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.405 +/- 0.0235
SE-75	264.65	0.000 +/- 0.0000	0.497 +/- 0.0048
SE-75	279.53	0.000 +/- 0.0000	0.500 +/- 0.0064
SE-75	400.65	0.000 +/- 0.0000	0.545 +/- 0.0080

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.15	2.68E+00 +/- 2.35E-01	2.32E+00	1.74E-06 +/- 2.53E-06
2	35.10	1.01E+03 +/- 4.76E+00	1.74E+00	1.48E-05 +/- 1.27E-05
3	59.60	4.41E+01 +/- 7.34E-01	1.50E+00	9.33E-05 +/- 3.30E-05
4	98.79	3.26E+00 +/- 3.18E-01	1.42E+00	2.49E-04 +/- 2.52E-05
5	129.29	1.47E+00 +/- 2.79E-01	1.39E+00	3.26E-04 +/- 1.67E-05
6	144.00	3.03E+00 +/- 2.55E-01	1.37E+00	3.49E-04 +/- 1.68E-05
7	163.69	1.53E+00 +/- 2.30E-01	1.36E+00	3.67E-04 +/- 1.85E-05
8	185.71	1.91E+01 +/- 4.52E-01	1.34E+00	3.75E-04 +/- 2.00E-05
9	205.52	5.41E-01 +/- 2.21E-01	1.33E+00	3.75E-04 +/- 2.04E-05
10	208.42	4.70E-01 +/- 1.97E-01	1.32E+00	3.75E-04 +/- 2.04E-05
11	300.10	2.01E-01 +/- 7.54E-02	1.28E+00	3.33E-04 +/- 1.55E-05
12	311.90	3.24E-01 +/- 8.53E-02	1.28E+00	3.26E-04 +/- 1.48E-05
13	345.32	2.61E-01 +/- 7.89E-02	1.26E+00	3.06E-04 +/- 1.30E-05
14	375.59	5.79E-01 +/- 9.93E-02	1.26E+00	2.89E-04 +/- 1.18E-05
15	400.66	7.49E-02 +/- 3.85E-02	1.25E+00	2.76E-04 +/- 1.11E-05
16	413.70	5.07E-01 +/- 8.80E-02	1.24E+00	2.69E-04 +/- 1.09E-05
17	662.42	4.94E-02 +/- 2.96E-02	1.19E+00	1.79E-04 +/- 8.77E-06
18	778.90	2.61E-02 +/- 1.51E-02	1.17E+00	1.54E-04 +/- 7.51E-06
19	964.13	1.74E-02 +/- 1.23E-02	1.15E+00	1.28E-04 +/- 5.33E-06
20	1085.91	2.17E-02 +/- 1.65E-02	1.14E+00	1.16E-04 +/- 4.36E-06

Segment: 6 Detector: DET01 (# 1) Position: 6

Elapsed Live Time: 113.74 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.509 +/- 0.0263
SE-75	264.65	0.000 +/- 0.0000	0.626 +/- 0.0056
SE-75	279.53	0.000 +/- 0.0000	0.631 +/- 0.0074
SE-75	400.65	0.000 +/- 0.0000	0.678 +/- 0.0091

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.20	1.23E+00 +/- 1.84E-01	1.93E+00	6.77E-07 +/- 9.59E-07
2	35.10	1.01E+03 +/- 4.78E+00	1.53E+00	8.04E-06 +/- 6.71E-06
3	59.61	1.00E+01 +/- 3.96E-01	1.36E+00	6.90E-05 +/- 2.40E-05
4	129.29	4.87E-01 +/- 1.83E-01	1.28E+00	3.10E-04 +/- 1.61E-05
5	144.04	4.67E+00 +/- 2.89E-01	1.27E+00	3.38E-04 +/- 1.63E-05
6	163.56	2.80E+00 +/- 2.45E-01	1.25E+00	3.63E-04 +/- 1.81E-05
7	185.71	2.85E+01 +/- 5.43E-01	1.24E+00	3.77E-04 +/- 1.97E-05
8	205.72	1.83E+00 +/- 2.01E-01	1.22E+00	3.81E-04 +/- 2.03E-05
9	300.10	1.07E-01 +/- 7.62E-02	1.18E+00	3.46E-04 +/- 1.58E-05
10	311.90	1.76E-01 +/- 8.27E-02	1.18E+00	3.39E-04 +/- 1.51E-05
11	413.70	1.18E-01 +/- 4.57E-02	1.15E+00	2.81E-04 +/- 1.11E-05
12	662.42	3.51E-02 +/- 1.76E-02	1.12E+00	1.86E-04 +/- 8.77E-06
13	867.39	4.39E-02 +/- 1.96E-02	1.10E+00	1.46E-04 +/- 6.40E-06
14	1001.03	2.63E-02 +/- 1.52E-02	1.09E+00	1.30E-04 +/- 4.95E-06
15	1085.91	2.63E-02 +/- 1.52E-02	1.09E+00	1.22E-04 +/- 4.37E-06
16	1408.01	8.78E-03 +/- 3.65E-02	1.08E+00	1.04E-04 +/- 6.39E-06

Segment: 7 Detector: DET01 (# 1) Position: 7

Elapsed Live Time: 113.74 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.505 +/- 0.0253
SE-75	264.65	0.000 +/- 0.0000	0.571 +/- 0.0053
SE-75	279.53	0.000 +/- 0.0000	0.579 +/- 0.0070
SE-75	400.65	0.000 +/- 0.0000	0.621 +/- 0.0087

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.09	1.36E+00 +/- 1.74E-01	1.95E+00	6.70E-09 +/- 6.61E-08
2	35.10	1.01E+03 +/- 4.76E+00	1.54E+00	9.59E-07 +/- 4.73E-06
3	48.40	4.63E+00 +/- 3.63E-01	1.41E+00	1.23E-05 +/- 3.16E-05
4	59.60	1.03E+01 +/- 3.97E-01	1.37E+00	4.02E-05 +/- 6.21E-05
5	84.28	4.57E-01 +/- 2.21E-01	1.32E+00	1.50E-04 +/- 7.56E-05
6	98.70	4.49E-01 +/- 2.53E-01	1.31E+00	2.20E-04 +/- 5.20E-05
7	144.00	4.24E+00 +/- 2.74E-01	1.28E+00	3.61E-04 +/- 3.17E-05
8	163.58	2.31E+00 +/- 2.43E-01	1.27E+00	3.85E-04 +/- 4.16E-05
9	185.71	2.49E+01 +/- 5.13E-01	1.26E+00	3.94E-04 +/- 4.30E-05
10	205.71	1.75E+00 +/- 1.71E-01	1.25E+00	3.92E-04 +/- 3.90E-05
11	311.90	1.81E-01 +/- 7.92E-02	1.21E+00	3.27E-04 +/- 1.48E-05
12	413.70	1.01E-01 +/- 5.88E-02	1.19E+00	2.67E-04 +/- 1.63E-05
13	778.90	8.69E-03 +/- 8.69E-03	1.14E+00	1.60E-04 +/- 7.89E-06
14	1001.03	1.74E-02 +/- 1.23E-02	1.12E+00	1.31E-04 +/- 5.77E-06
15	1085.91	8.69E-03 +/- 8.69E-03	1.11E+00	1.23E-04 +/- 5.27E-06

Segment: 8 Detector: DET01 (# 1) Position: 8

Elapsed Live Time: 113.72 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.418 +/- 0.0237
SE-75	264.65	0.000 +/- 0.0000	0.494 +/- 0.0048
SE-75	279.53	0.000 +/- 0.0000	0.501 +/- 0.0064
SE-75	400.65	0.000 +/- 0.0000	0.551 +/- 0.0080

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.20	1.65E+00 +/- 1.81E-01	2.26E+00	4.22E-09 +/- 4.10E-08
2	35.10	1.01E+03 +/- 4.78E+00	1.71E+00	6.89E-07 +/- 3.37E-06
3	59.60	1.20E+01 +/- 4.35E-01	1.48E+00	3.35E-05 +/- 5.14E-05
4	84.37	3.72E-01 +/- 2.34E-01	1.42E+00	1.33E-04 +/- 6.63E-05
5	144.04	3.78E+00 +/- 2.94E-01	1.36E+00	3.37E-04 +/- 2.97E-05
6	163.65	2.37E+00 +/- 2.43E-01	1.35E+00	3.63E-04 +/- 3.94E-05
7	185.71	2.53E+01 +/- 5.18E-01	1.33E+00	3.75E-04 +/- 4.12E-05
8	205.62	1.87E+00 +/- 1.87E-01	1.32E+00	3.76E-04 +/- 3.78E-05
9	244.70	1.92E-01 +/- 8.87E-02	1.30E+00	3.62E-04 +/- 2.67E-05
10	375.61	1.28E-01 +/- 6.55E-02	1.25E+00	2.86E-04 +/- 1.46E-05
11	413.70	1.12E-01 +/- 4.10E-02	1.24E+00	2.66E-04 +/- 1.54E-05
12	778.90	2.99E-02 +/- 2.50E-02	1.17E+00	1.59E-04 +/- 7.73E-06
13	1239.14	7.03E-02 +/- 2.48E-02	1.13E+00	1.04E-04 +/- 4.64E-06

Segment: 9 Detector: DET01 (# 1) Position: 9

Elapsed Live Time: 113.61 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.405 +/- 0.0242
SE-75	264.65	0.000 +/- 0.0000	0.490 +/- 0.0047
SE-75	279.53	0.000 +/- 0.0000	0.502 +/- 0.0064
SE-75	400.65	0.000 +/- 0.0000	0.548 +/- 0.0081

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.16	2.90E+00 +/- 2.40E-01	2.32E+00	2.28E-06 +/- 2.30E-05
2	35.10	1.01E+03 +/- 4.77E+00	1.74E+00	1.75E-05 +/- 8.88E-05
3	59.58	2.34E+01 +/- 5.81E-01	1.50E+00	9.99E-05 +/- 1.59E-04
4	98.82	2.23E+00 +/- 3.30E-01	1.42E+00	2.51E-04 +/- 6.06E-05
5	129.29	1.47E+00 +/- 2.89E-01	1.39E+00	3.23E-04 +/- 1.97E-05
6	144.05	4.71E+00 +/- 3.17E-01	1.38E+00	3.43E-04 +/- 3.12E-05
7	163.57	2.59E+00 +/- 2.77E-01	1.36E+00	3.59E-04 +/- 4.04E-05
8	185.71	2.93E+01 +/- 5.64E-01	1.34E+00	3.67E-04 +/- 4.18E-05

9	205.67	2.42E+00 +/-	2.32E-01	1.33E+00	3.66E-04 +/-	3.83E-05
10	311.90	1.39E-01 +/-	9.34E-02	1.27E+00	3.20E-04 +/-	1.45E-05
11	332.89	1.71E-01 +/-	1.02E-01	1.27E+00	3.08E-04 +/-	1.39E-05
12	375.67	4.18E-01 +/-	8.41E-02	1.25E+00	2.85E-04 +/-	1.49E-05
13	413.70	4.58E-01 +/-	7.92E-02	1.24E+00	2.67E-04 +/-	1.59E-05
14	662.42	2.88E-02 +/-	1.86E-02	1.19E+00	1.82E-04 +/-	1.04E-05

Segment: 10 Detector: DET01 (# 1) Position: 10

Elapsed Live Time: 113.27 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.435 +/- 0.0243
SE-75	264.65	0.000 +/- 0.0000	0.473 +/- 0.0046
SE-75	279.53	0.000 +/- 0.0000	0.475 +/- 0.0062
SE-75	400.65	0.000 +/- 0.0000	0.538 +/- 0.0080

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.21	6.98E+00 +/- 3.88E-01	2.19E+00	3.41E-07 +/- 4.83E-07
2	35.10	1.01E+03 +/- 4.79E+00	1.67E+00	5.68E-06 +/- 4.74E-06
3	59.59	1.00E+02 +/- 1.17E+00	1.46E+00	6.37E-05 +/- 2.21E-05
4	98.79	9.29E+00 +/- 5.57E-01	1.38E+00	2.31E-04 +/- 2.33E-05
5	111.47	1.09E+00 +/- 4.58E-01	1.37E+00	2.78E-04 +/- 1.98E-05
6	129.29	8.96E+00 +/- 4.81E-01	1.35E+00	3.30E-04 +/- 1.70E-05
7	144.02	5.10E+00 +/- 3.77E-01	1.35E+00	3.60E-04 +/- 1.71E-05
8	163.61	3.06E+00 +/- 3.39E-01	1.34E+00	3.86E-04 +/- 1.89E-05
9	185.71	3.10E+01 +/- 6.06E-01	1.33E+00	4.00E-04 +/- 2.05E-05
10	195.68	7.37E-01 +/- 2.38E-01	1.33E+00	4.02E-04 +/- 2.08E-05
11	205.62	8.48E-01 +/- 3.25E-01	1.33E+00	4.02E-04 +/- 2.09E-05
12	208.38	1.04E+00 +/- 2.95E-01	1.33E+00	4.01E-04 +/- 2.09E-05
13	333.15	8.53E-01 +/- 1.77E-01	1.28E+00	3.31E-04 +/- 1.38E-05
14	345.40	1.30E+00 +/- 1.60E-01	1.28E+00	3.22E-04 +/- 1.32E-05
15	369.04	6.52E-01 +/- 1.16E-01	1.27E+00	3.06E-04 +/- 1.22E-05
16	375.66	3.15E+00 +/- 2.08E-01	1.26E+00	3.02E-04 +/- 1.20E-05
17	393.46	1.14E+00 +/- 1.19E-01	1.26E+00	2.91E-04 +/- 1.15E-05
18	413.70	2.88E+00 +/- 1.70E-01	1.25E+00	2.79E-04 +/- 1.11E-05
19	451.95	2.17E-01 +/- 5.80E-02	1.24E+00	2.58E-04 +/- 1.05E-05
20	662.42	1.39E-01 +/- 5.13E-02	1.20E+00	1.80E-04 +/- 8.83E-06
21	964.13	2.65E-02 +/- 1.53E-02	1.16E+00	1.31E-04 +/- 5.40E-06

Segment: 11 Detector: DET01 (# 1) Position: 11

Elapsed Live Time: 112.68 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.191 +/- 0.0207
SE-75	264.65	0.000 +/- 0.0000	0.302 +/- 0.0035
SE-75	279.53	0.000 +/- 0.0000	0.298 +/- 0.0048
SE-75	400.65	0.000 +/- 0.0000	0.345 +/- 0.0062

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	5.74E+00 +/- 3.60E-01	4.10E+00	2.54E-07 +/- 3.92E-07
2	23.17	8.92E+00 +/- 4.49E-01	3.78E+00	4.63E-07 +/- 6.54E-07
3	35.10	1.01E+03 +/- 4.80E+00	2.52E+00	6.75E-06 +/- 5.60E-06
4	59.59	2.13E+02 +/- 1.76E+00	2.01E+00	6.69E-05 +/- 2.31E-05
5	98.77	2.40E+01 +/- 8.05E-01	1.83E+00	2.28E-04 +/- 2.30E-05
6	111.41	4.85E+00 +/- 5.74E-01	1.80E+00	2.72E-04 +/- 1.93E-05
7	129.29	2.34E+01 +/- 6.45E-01	1.77E+00	3.21E-04 +/- 1.65E-05
8	144.06	6.11E+00 +/- 4.40E-01	1.74E+00	3.50E-04 +/- 1.66E-05
9	163.58	3.15E+00 +/- 3.97E-01	1.69E+00	3.74E-04 +/- 1.83E-05
10	185.71	3.14E+01 +/- 6.47E-01	1.65E+00	3.87E-04 +/- 1.99E-05
11	195.51	1.05E+00 +/- 2.90E-01	1.63E+00	3.89E-04 +/- 2.03E-05
12	208.34	6.10E+00 +/- 3.19E-01	1.61E+00	3.89E-04 +/- 2.04E-05
13	300.10	5.55E-01 +/- 1.91E-01	1.52E+00	3.45E-04 +/- 1.56E-05
14	311.90	3.89E-01 +/- 1.68E-01	1.51E+00	3.37E-04 +/- 1.49E-05
15	333.32	1.82E+00 +/- 2.75E-01	1.50E+00	3.24E-04 +/- 1.37E-05
16	336.43	5.47E-01 +/- 2.01E-01	1.49E+00	3.22E-04 +/- 1.35E-05
17	345.64	2.82E+00 +/- 2.02E-01	1.49E+00	3.16E-04 +/- 1.31E-05
18	356.76	3.28E-01 +/- 1.29E-01	1.48E+00	3.09E-04 +/- 1.26E-05
19	369.44	1.23E+00 +/- 1.76E-01	1.47E+00	3.01E-04 +/- 1.21E-05
20	375.66	7.36E+00 +/- 3.18E-01	1.47E+00	2.97E-04 +/- 1.19E-05
21	383.53	7.43E-01 +/- 1.52E-01	1.47E+00	2.92E-04 +/- 1.17E-05
22	393.61	2.29E+00 +/- 1.78E-01	1.46E+00	2.86E-04 +/- 1.14E-05
23	400.66	9.55E-02 +/- 5.90E-02	1.46E+00	2.82E-04 +/- 1.12E-05
24	413.70	7.06E+00 +/- 2.67E-01	1.45E+00	2.75E-04 +/- 1.09E-05
25	423.25	4.10E-01 +/- 1.11E-01	1.45E+00	2.70E-04 +/- 1.08E-05
26	452.15	8.88E-01 +/- 9.79E-02	1.43E+00	2.55E-04 +/- 1.03E-05
27	662.42	2.49E-01 +/- 6.11E-02	1.35E+00	1.80E-04 +/- 8.65E-06
28	1112.12	8.80E-03 +/- 1.60E-02	1.26E+00	1.20E-04 +/- 4.37E-06

Segment: 12 Detector: DET01 (# 1) Position: 12

Elapsed Live Time: 112.22 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.296 +/- 0.0234
SE-75	264.65	0.000 +/- 0.0000	0.386 +/- 0.0041
SE-75	279.53	0.000 +/- 0.0000	0.389 +/- 0.0056
SE-75	400.65	0.000 +/- 0.0000	0.437 +/- 0.0072

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.21	1.98E+01 +/- 6.28E-01	2.89E+00	6.37E-07 +/- 8.96E-07
2	35.10	1.01E+03 +/- 4.83E+00	2.05E+00	7.63E-06 +/- 6.33E-06
3	49.64	7.79E+00 +/- 9.23E-01	1.78E+00	3.54E-05 +/- 1.71E-05
4	59.59	3.32E+02 +/- 2.32E+00	1.70E+00	6.64E-05 +/- 2.30E-05
5	98.76	2.85E+01 +/- 1.04E+00	1.58E+00	2.16E-04 +/- 2.20E-05
6	111.33	6.86E+00 +/- 6.78E-01	1.56E+00	2.57E-04 +/- 1.86E-05
7	129.29	3.56E+01 +/- 7.81E-01	1.54E+00	3.04E-04 +/- 1.59E-05
8	144.10	5.51E+00 +/- 4.82E-01	1.52E+00	3.32E-04 +/- 1.60E-05
9	163.73	3.63E+00 +/- 4.84E-01	1.50E+00	3.57E-04 +/- 1.77E-05
10	171.65	8.90E-01 +/- 3.91E-01	1.49E+00	3.64E-04 +/- 1.84E-05
11	185.71	3.06E+01 +/- 6.67E-01	1.48E+00	3.72E-04 +/- 1.93E-05
12	208.30	1.01E+01 +/- 3.86E-01	1.45E+00	3.76E-04 +/- 1.99E-05
13	244.70	4.18E-01 +/- 2.57E-01	1.42E+00	3.70E-04 +/- 1.88E-05
14	256.19	5.07E-01 +/- 2.36E-01	1.41E+00	3.65E-04 +/- 1.82E-05
15	297.76	5.02E-01 +/- 2.84E-01	1.39E+00	3.44E-04 +/- 1.57E-05
16	311.90	9.32E-01 +/- 2.27E-01	1.39E+00	3.36E-04 +/- 1.48E-05
17	324.10	5.62E-01 +/- 2.07E-01	1.38E+00	3.29E-04 +/- 1.42E-05
18	333.21	4.46E+00 +/- 3.28E-01	1.38E+00	3.24E-04 +/- 1.37E-05
19	336.47	3.52E-01 +/- 2.48E-01	1.37E+00	3.22E-04 +/- 1.35E-05
20	345.45	4.21E+00 +/- 2.84E-01	1.37E+00	3.17E-04 +/- 1.31E-05
21	368.96	1.80E+00 +/- 2.19E-01	1.36E+00	3.04E-04 +/- 1.21E-05
22	375.63	1.08E+01 +/- 3.92E-01	1.36E+00	3.00E-04 +/- 1.19E-05
23	383.37	9.37E-01 +/- 1.82E-01	1.35E+00	2.95E-04 +/- 1.17E-05
24	393.44	4.43E+00 +/- 2.30E-01	1.35E+00	2.90E-04 +/- 1.14E-05
25	413.70	1.07E+01 +/- 3.34E-01	1.34E+00	2.79E-04 +/- 1.09E-05
26	423.17	5.48E-01 +/- 1.35E-01	1.34E+00	2.74E-04 +/- 1.07E-05
27	452.14	1.19E+00 +/- 1.33E-01	1.33E+00	2.60E-04 +/- 1.03E-05
28	662.42	4.52E-01 +/- 8.33E-02	1.27E+00	1.85E-04 +/- 8.58E-06
29	722.82	2.58E-01 +/- 5.93E-02	1.25E+00	1.71E-04 +/- 7.96E-06

Segment: 13 Detector: DET01 (# 1) Position: 13

Elapsed Live Time: 112.48 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.447 +/- 0.0259
SE-75	264.65	0.000 +/- 0.0000	0.507 +/- 0.0049
SE-75	279.53	0.000 +/- 0.0000	0.506 +/- 0.0065
SE-75	400.65	0.000 +/- 0.0000	0.547 +/- 0.0081

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.19	1.57E+01 +/- 5.81E-01	2.15E+00	1.11E-06 +/- 1.62E-06
2	35.10	1.01E+03 +/- 4.81E+00	1.65E+00	1.10E-05 +/- 9.51E-06
3	59.58	2.85E+02 +/- 2.09E+00	1.44E+00	8.08E-05 +/- 2.88E-05
4	98.77	2.84E+01 +/- 8.85E-01	1.37E+00	2.37E-04 +/- 2.43E-05
5	111.29	5.17E+00 +/- 6.53E-01	1.35E+00	2.77E-04 +/- 2.00E-05
6	129.29	2.91E+01 +/- 7.00E-01	1.34E+00	3.21E-04 +/- 1.67E-05
7	144.12	5.74E+00 +/- 4.49E-01	1.33E+00	3.46E-04 +/- 1.68E-05
8	163.71	4.06E+00 +/- 4.31E-01	1.32E+00	3.68E-04 +/- 1.87E-05
9	185.71	3.13E+01 +/- 6.48E-01	1.31E+00	3.79E-04 +/- 2.03E-05
10	203.73	8.81E-01 +/- 6.74E-01	1.30E+00	3.81E-04 +/- 2.07E-05
11	208.29	8.15E+00 +/- 3.52E-01	1.30E+00	3.80E-04 +/- 2.07E-05
12	244.70	3.93E-01 +/- 2.16E-01	1.29E+00	3.70E-04 +/- 1.94E-05
13	255.65	4.49E-01 +/- 2.15E-01	1.28E+00	3.65E-04 +/- 1.87E-05
14	279.54	3.40E-01 +/- 1.55E-01	1.28E+00	3.52E-04 +/- 1.71E-05
15	297.64	4.92E-01 +/- 1.93E-01	1.28E+00	3.42E-04 +/- 1.59E-05
16	311.90	7.55E-01 +/- 1.96E-01	1.27E+00	3.33E-04 +/- 1.50E-05
17	333.20	3.11E+00 +/- 3.07E-01	1.26E+00	3.20E-04 +/- 1.38E-05
18	336.43	5.64E-01 +/- 2.27E-01	1.26E+00	3.18E-04 +/- 1.36E-05
19	345.45	3.51E+00 +/- 2.57E-01	1.26E+00	3.13E-04 +/- 1.32E-05
20	368.61	1.43E+00 +/- 1.91E-01	1.25E+00	2.99E-04 +/- 1.22E-05
21	375.48	1.07E+01 +/- 3.49E-01	1.25E+00	2.95E-04 +/- 1.20E-05
22	383.36	7.44E-01 +/- 2.27E-01	1.25E+00	2.91E-04 +/- 1.18E-05
23	393.38	3.50E+00 +/- 2.05E-01	1.25E+00	2.85E-04 +/- 1.15E-05
24	413.70	9.37E+00 +/- 3.04E-01	1.24E+00	2.74E-04 +/- 1.10E-05
25	423.04	6.32E-01 +/- 1.31E-01	1.24E+00	2.69E-04 +/- 1.09E-05
26	452.02	1.08E+00 +/- 1.20E-01	1.23E+00	2.55E-04 +/- 1.05E-05
27	662.42	3.40E-01 +/- 7.90E-02	1.19E+00	1.80E-04 +/- 8.87E-06
28	723.31	1.52E-01 +/- 6.11E-02	1.18E+00	1.65E-04 +/- 8.21E-06
29	867.39	3.53E-02 +/- 1.77E-02	1.16E+00	1.40E-04 +/- 6.42E-06
30	1085.91	8.83E-03 +/- 8.83E-03	1.14E+00	1.15E-04 +/- 4.30E-06
31	1408.01	1.77E-02 +/- 1.25E-02	1.12E+00	9.60E-05 +/- 6.10E-06

Segment: 14 Detector: DET01 (# 1) Position: 14

Elapsed Live Time: 113.26 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.780 +/- 0.0312
SE-75	264.65	0.000 +/- 0.0000	0.780 +/- 0.0067
SE-75	279.53	0.000 +/- 0.0000	0.762 +/- 0.0084
SE-75	400.65	0.000 +/- 0.0000	0.809 +/- 0.0103

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.23	8.58E+00 +/- 4.07E-01	1.30E+00	5.92E-07 +/- 5.79E-06
2	35.10	1.01E+03 +/- 4.80E+00	1.18E+00	8.94E-06 +/- 4.41E-05
3	59.59	1.28E+02 +/- 1.31E+00	1.13E+00	8.05E-05 +/- 1.25E-04
4	98.84	1.20E+01 +/- 5.82E-01	1.11E+00	2.39E-04 +/- 5.62E-05
5	111.16	3.55E+00 +/- 4.52E-01	1.10E+00	2.76E-04 +/- 2.94E-05
6	115.44	1.65E+00 +/- 4.43E-01	1.10E+00	2.87E-04 +/- 2.27E-05
7	129.29	1.23E+01 +/- 4.65E-01	1.10E+00	3.17E-04 +/- 1.90E-05
8	143.94	3.76E+00 +/- 3.33E-01	1.10E+00	3.39E-04 +/- 2.99E-05
9	163.53	2.10E+00 +/- 3.01E-01	1.10E+00	3.56E-04 +/- 3.90E-05
10	185.71	2.18E+01 +/- 5.15E-01	1.10E+00	3.64E-04 +/- 4.04E-05
11	208.27	2.86E+00 +/- 2.59E-01	1.10E+00	3.63E-04 +/- 3.63E-05
12	311.90	2.47E-01 +/- 1.17E-01	1.10E+00	3.18E-04 +/- 1.42E-05
13	333.29	1.34E+00 +/- 1.92E-01	1.10E+00	3.07E-04 +/- 1.37E-05
14	336.10	2.30E-01 +/- 1.28E-01	1.09E+00	3.05E-04 +/- 1.37E-05
15	345.42	1.39E+00 +/- 1.66E-01	1.09E+00	3.01E-04 +/- 1.38E-05
16	375.38	4.22E+00 +/- 2.25E-01	1.09E+00	2.85E-04 +/- 1.46E-05
17	393.18	1.30E+00 +/- 1.33E-01	1.08E+00	2.76E-04 +/- 1.52E-05
18	400.66	1.72E-01 +/- 7.65E-02	1.08E+00	2.73E-04 +/- 1.53E-05
19	413.70	4.00E+00 +/- 1.98E-01	1.08E+00	2.67E-04 +/- 1.56E-05
20	422.94	1.15E-01 +/- 8.18E-02	1.08E+00	2.63E-04 +/- 1.57E-05
21	451.92	5.23E-01 +/- 8.32E-02	1.08E+00	2.50E-04 +/- 1.58E-05
22	662.42	1.53E-01 +/- 4.47E-02	1.06E+00	1.83E-04 +/- 1.04E-05

Segment: 15 Detector: DET01 (# 1) Position: 15

Elapsed Live Time: 113.77 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.918 +/- 0.0322
SE-75	264.65	0.000 +/- 0.0000	0.868 +/- 0.0072
SE-75	279.53	0.000 +/- 0.0000	0.868 +/- 0.0091
SE-75	400.65	0.000 +/- 0.0000	0.885 +/- 0.0108

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.19	1.51E+00 +/- 1.91E-01	1.10E+00	1.65E-12 +/- 1.58E-11
2	35.10	1.01E+03 +/- 4.76E+00	1.06E+00	1.45E-08 +/- 6.96E-08
3	59.54	1.72E+01 +/- 4.87E-01	1.04E+00	1.08E-05 +/- 1.63E-05
4	98.65	8.11E-01 +/- 2.84E-01	1.04E+00	1.82E-04 +/- 4.22E-05
5	129.29	9.88E-01 +/- 2.01E-01	1.03E+00	3.37E-04 +/- 1.99E-05
6	144.00	6.91E-01 +/- 1.90E-01	1.03E+00	3.82E-04 +/- 3.28E-05
7	185.71	6.37E+00 +/- 2.81E-01	1.04E+00	4.24E-04 +/- 4.51E-05
8	205.70	5.11E-01 +/- 1.49E-01	1.05E+00	4.17E-04 +/- 4.05E-05
9	244.70	1.10E-01 +/- 7.31E-02	1.05E+00	3.85E-04 +/- 2.72E-05
10	413.70	1.68E-01 +/- 5.19E-02	1.05E+00	2.52E-04 +/- 1.49E-05

Segment: 16 Detector: DET01 (# 1) Position: 16

Elapsed Live Time: 113.86 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.733 +/- 0.0295
SE-75	264.65	0.000 +/- 0.0000	0.767 +/- 0.0065
SE-75	279.53	0.000 +/- 0.0000	0.761 +/- 0.0083
SE-75	400.65	0.000 +/- 0.0000	0.790 +/- 0.0101

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.12	9.67E-01 +/- 1.38E-01	1.39E+00	1.15E-14 +/- 1.29E-13
2	35.10	1.01E+03 +/- 4.78E+00	1.23E+00	9.52E-10 +/- 5.35E-09
3	59.54	6.16E+00 +/- 3.37E-01	1.16E+00	3.30E-06 +/- 5.84E-06
4	129.29	2.10E-01 +/- 1.31E-01	1.12E+00	2.29E-04 +/- 1.54E-05
5	185.71	2.05E-01 +/- 1.22E-01	1.11E+00	3.10E-04 +/- 3.88E-05
6	964.13	1.75E-02 +/- 1.24E-02	1.06E+00	1.01E-04 +/- 4.92E-06
7	1001.03	8.77E-03 +/- 8.77E-03	1.06E+00	9.85E-05 +/- 4.77E-06

Summed Spectrum

Peak Locate Report

Sample ID: LL85701015
Peak Locate Performed on: 2-01-02 11:17:33 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192
Peak Search Sensitivity: 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
1	46.54	0.1545	23.19	22.74
2	70.17	0.0400	35.00	517.12
3	119.39	0.0713	59.59	120.44
4	197.83	0.1382	98.78	30.45
5	222.89	0.1959	111.30	12.15
6	259.31	0.1129	129.50	45.93
7	288.45	0.1492	144.05	24.92
8	327.59	0.1855	163.61	15.55
9	372.47	0.0859	186.03	71.82
10	391.62	0.2892	195.60	6.11
11	407.85	0.2842	203.73	10.55
12	411.68	0.1940	205.50	18.18
13	417.09	0.1354	208.33	29.76
14	625.29	0.2314	312.34	9.07
15	667.05	0.1615	333.21	18.19
16	673.30	0.2526	336.34	7.22
17	691.65	0.1638	345.50	18.15
18	738.88	0.2818	369.10	6.61
19	751.87	0.1190	375.59	32.92
20	767.51	0.2396	383.40	8.81
21	787.62	0.1676	393.45	14.60
22	829.19	0.1216	414.22	30.83
23	847.06	0.2285	423.15	8.85
24	904.98	0.2095	452.08	10.33
25	1327.81	0.2479	663.34	6.45

Errors quoted at 1.000 sigma

Summed Spectrum

Peak Analysis Report

Sample ID: LL85701015
Peak Analysis Performed on: 2-01-02 11:17:33 AM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

	Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
	1	43-	49	46.54	23.19	9.24E+03	147.21	5.60E+03
	2	66-	73	70.17	35.00	1.84E+06	1360.92	4.56E+03
	3	115-	122	119.39	59.59	1.44E+05	438.86	2.34E+04
	4	194-	201	197.83	98.78	1.37E+04	218.43	1.70E+04
	5	219-	226	222.89	111.30	2.99E+03	161.87	1.12E+04
	6	255-	263	259.31	129.50	1.36E+04	180.83	8.79E+03
	7	284-	292	288.45	144.05	5.79E+03	138.94	6.33E+03
	8	323-	331	327.59	163.61	3.46E+03	124.52	5.66E+03
	9	368-	376	372.47	186.03	3.43E+04	209.06	4.43E+03
	10	387-	396	391.62	195.60	7.71E+02	88.36	3.12E+03
M	11	403-	416	407.90	203.73	1.12E+03	77.22	3.47E+03
m	12	403-	416	411.44	205.50	1.03E+03	80.34	5.22E+03
	13	416-	421	417.09	208.33	3.57E+03	91.32	2.12E+03
	14	620-	630	625.29	312.34	4.85E+02	55.51	1.09E+03
	15	662-	672	667.05	333.21	1.46E+03	72.92	1.56E+03
	16	672-	678	673.30	336.34	2.14E+02	52.69	9.88E+02
	17	686-	696	691.65	345.50	1.58E+03	62.78	9.86E+02
	18	733-	744	738.88	369.10	7.19E+02	49.78	6.94E+02
	19	746-	757	751.87	375.59	4.36E+03	84.25	1.08E+03
	20	767-	772	767.51	383.40	3.71E+02	39.72	3.65E+02
	21	782-	792	787.62	393.45	1.54E+03	48.38	3.35E+02
	22	823-	834	829.19	414.22	4.22E+03	69.84	2.63E+02
	23	841-	852	847.06	423.15	2.32E+02	31.64	2.92E+02
	24	899-	910	904.98	452.08	4.70E+02	29.97	1.71E+02
	25	1321-	1333	1327.81	663.34	1.94E+02	20.69	8.92E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Summed Spectrum

Nuclide Identification Report

Sample ID: LL85701015
Nuclide Library Used: C:\WAS\NLIB\LLNL.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/)	Activity Uncertainty
Pulser	0.999	35.10*	100.00	1.970E+05	5.219E+05
U-235	0.993	185.71*	57.20	4.642E+01	9.745E-01
Np-237	0.752	300.10	6.63		
		311.90*	38.60	1.090E+00	1.252E-01
Pu-239	0.981	413.70*	0.00	2.949E+05	7.290E+03
Pu-239A	0.997	129.29*	0.01	2.036E+05	5.880E+03
Am-241	0.942	662.42*	0.00	7.328E+04	7.854E+03

* = Energy line found in the spectrum.
Energy Tolerance : 1.500 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 1.000 sigma

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 2-01-02 11:17:33 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192

	Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
	1	23.19	8.0911E+01	1.60
	3	59.59	1.2585E+03	0.32
	4	98.78	1.1984E+02	1.60
	5	111.30	2.6194E+01	5.41
	7	144.05	5.0710E+01	2.40
	8	163.61	3.0272E+01	3.60
	10	195.60	6.7563E+00	11.46
M	11	203.73	9.7866E+00	6.91
m	12	205.50	9.0618E+00	7.77
	13	208.33	3.1301E+01	2.56
	15	333.21	1.2795E+01	4.99
	16	336.34	1.8767E+00	24.59
	17	345.50	1.3805E+01	3.98
	18	369.10	6.2963E+00	6.93
	19	375.59	3.8210E+01	1.93
	20	383.40	3.2503E+00	10.71
	21	393.45	1.3522E+01	3.14
	23	423.15	2.0348E+00	13.62
	24	452.08	4.1162E+00	6.38

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Combined Segment NID

NID Results Combiner Mode: Sum Activities

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		3.75E+07	+/-	1.98E+08	2.18E+03	+/-	1.15E+04
SE-75	<	1.07E-01	+/-	5.28E-03	< 6.24E-06	+/-	3.07E-07
EU-152x	<	1.98E-01	+/-	1.51E-02	< 1.15E-05	+/-	8.76E-07
U-233	<	5.45E+03	+/-	2.80E+02	< 3.17E-01	+/-	1.63E-02
U-235		5.03E+01	+/-	1.22E+00	2.93E-03	+/-	7.09E-05
Np-237		1.25E+00	+/-	1.22E-01	7.28E-05	+/-	7.12E-06
Pu-238	<	1.34E+04	+/-	6.47E+02	< 7.77E-01	+/-	3.76E-02
U-238		2.33E+00	+/-	9.59E-01	1.36E-04	+/-	5.57E-05
Pu-239		3.15E+05	+/-	8.28E+03	1.83E+01	+/-	4.82E-01
Pu-239A		2.35E+05	+/-	6.80E+03	1.37E+01	+/-	3.95E-01
Am-241		7.15E+04	+/-	7.45E+03	4.16E+00	+/-	4.33E-01
Pu-241	<	7.71E+04	+/-	3.73E+03	< 4.49E+00	+/-	2.17E-01

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
U-235	2.33E+01	+/-	5.64E-01
Np-237	1.78E-03	+/-	1.74E-04
U-238	6.95E+00	+/-	2.86E+00
Pu-239	5.08E+00	+/-	1.33E-01
Pu-239A	3.78E+00	+/-	1.09E-01
Am-241	2.09E-02	+/-	2.17E-03

Summed Spectrum

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		1.97E+05	+/-	5.22E+05	1.15E+01	+/-	3.03E+01
SE-75	<	2.72E-01	+/-	2.48E-03	< 1.58E-05	+/-	1.44E-07
EU-152x	<	3.88E-01	+/-	7.76E-03	< 2.26E-05	+/-	4.51E-07
U-233	<	1.63E+04	+/-	3.54E+02	< 9.50E-01	+/-	2.06E-02
U-235		4.64E+01	+/-	9.75E-01	2.70E-03	+/-	5.67E-05
Np-237		1.09E+00	+/-	1.25E-01	6.34E-05	+/-	7.28E-06
Pu-238	<	3.76E+04	+/-	5.74E+02	< 2.19E+00	+/-	3.34E-02
U-238	<	9.93E+00	+/-	1.60E-01	< 5.77E-04	+/-	9.31E-06
Pu-239		2.95E+05	+/-	7.29E+03	1.71E+01	+/-	4.24E-01
Pu-239A		2.04E+05	+/-	5.88E+03	1.18E+01	+/-	3.42E-01
Am-241		7.33E+04	+/-	7.85E+03	4.26E+00	+/-	4.57E-01
Pu-241	<	2.10E+05	+/-	3.29E+03	< 1.22E+01	+/-	1.91E-01

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
U-235	2.15E+01	+/-	4.51E-01
Np-237	1.55E-03	+/-	1.78E-04
Pu-239	4.75E+00	+/-	1.17E-01
Pu-239A	3.28E+00	+/-	9.47E-02
Am-241	2.14E-02	+/-	2.29E-03

Final Non-Uniformity Results

Source Longitudinal Ratio:	0.000	+/-	0.0000
Matrix Longitudinal Ratio:	0.863	+/-	0.0561
Source Vertical Ratio:	0.000	+/-	0.0000
Matrix Vertical Ratio:	0.653	+/-	0.0090

NUDS could not find the transmission peak in one radial segment.
NUDS could not find the source peak in any radial segment.

LAWRENCE LIVERMORE NATIONAL LABORATORY

WASTE DISPOSAL REQUISITION

W 211452

H1. Label/Waste Type:
☐ Low-Level (R) ☐ Non-Haz (N) ☐ LLW Mixed (F) ☐ RCRA Haz (H) ☐ LLW Combined (S) ☐ CA Haz (C) ☒ TRU (T) ☐ NTS LLW (L) ☐ TRU Mixed (X)

1. Container ID Number or Tank ID or for TRU Waste, TRU Waste Container Serial No.: Q- LL85-70105 TRU-

H2. CCC: DS

H3. Storage Restrictions
Not acceptable at the following locations:
☐ 233 ☐ 514 ☐ 612 ☐ 693 ☐ 696
CWAA ☑ 169 ☑ 361 ☐ 612-4

2. Container Use/Acceptability: ☐ On-site use only; ☑ Acceptable for off-site use
Container Manufacturer Serial No./Batch No.: B342576 65501 ☐ N/A
Employee No.: 691484 Initials: WAC Date: 10-22-01

3. RMMA: ☑ Yes ☐ No

4. Waste Form: ☒ Solid ☐ Liquid ☐ Gas ☐ Sludge

H4. Hazardous Properties: ☐ Toxic ☐ Corrosive ☐ Ignitable ☐ Reactive

5. Outer Container Type: ☐ Box ☐ Sack ☐ Can ☐ SWB ☐ Carboy ☐ Tub ☒ Drum ☐ Bag ☐ Tank – Fixed ☐ Tank – Portable ☐ Transportainer
Other:

6. Outer Container Size/Vol:
☐ 1 gal ☒ 55 gal ☐ 67 cu ft
☐ 2 gal ☐ 85 gal ☐ 1 × 1 × 1.5
☐ 5 gal ☐ 330 gal ☐ 2 × 4 × 7
☐ 10 gal ☐ 660 gal ☐ 4 × 4 × 7
☐ 12 gal ☐ 750 gal ☐ 1 cu yd
☐ 20 gal ☐ 1000 gal ☐ 8 × 8 × 20
☐ 30 gal ☐ 5000 gal ☐ 8 × 8 × 40
Other: ☐ gal ☐ cu ft

7. Building No.: 332

8. Room No.: 1378

9. Location: ~~TW~~ 12-1-01 ~~TSDW~~ Aisle

10. Workplace Start Date: 10/25/01

11. Workplace End Date: 10/26/01

12. Account No.: 5481-50

13. Directorate: DNT

14. WEF/PKE/SAW/PIW: ☐ WEF ☒ PKE ☐ SAW ☐ PIW
Specify No.: 245, 244, 285 ☐ N/A

15. Source Code: A940

16. Inner Containers: ~~☒ Yes~~ ☒ No 12/26/01

17. Item No.	18. Spent or Unused (S/U)	19. Organic or Inorganic (O/I)	20. Waste Form (S,SL,L,G)	21. Waste Description (For multiple parcels, list Parcel Card Nos.)	22. Hazardous Constituents and Concentrations	23. Item Container Size	24. Quantity per Item Amount	24. Quantity per Item Units	25. Analysis Sample No.	Physical Waste Data: 26. Aqueous Only pH	26. Aqueous Only Normality	27. Flash Point
				P050467								
				P050466								
				P050358								
				P050357								

28. Does the waste contain radioactive components?
☒ Yes ☐ No ☐ To be analyzed
(If yes or TBA, complete Page 3 as applicable to waste type.)

This section (Steps 29–30) is required for Hazardous Waste generated in a RMMA

29. Was the waste kept isolated from any operation that could have produced radioactive contamination (using a glove box, vent hood, etc.)?
☐ Yes ☐ No (If no, full rad analysis required)

30. Was the waste exposed to particle beams capable of inducing radioactivity by activation?
☐ Yes ☐ No (If yes, full rad analysis required)

31. ☒ Generator: I certify, to the best of my knowledge, that the information provided on this requisition is correct. I understand that I may be liable to State and Federal prosecution by intentionally providing false information. I have obtained this information by:
☒ Direct knowledge of the waste generating process ☐ Analytical Data
☐ Obtaining sufficient information from others knowledgeable of the waste generating process
☐ Container Custodian: I certify that the waste parcels identified on this form are contained in this waste container and have been packaged in accordance with the requirements specified in the appropriate LLNL TRU or Low-Level Waste Program Certification and Quality Assurance Program.

Generator or Container Custodian Name (Print – Last, First): Close Walter
Signature: Walt Close
Employee No.: 164212 L-Code: 361 Ext.: 2-6075 Date: 10/26/01

H5. Inspected By: Signature: | Employee No.: | Date:

H6. Characterization Chemist Approval:
☐ Acceptable for Sampling SMP (Initials) Exempt: ☐ OP ☐ SA ☒ DE
Signature: ☐ WEF E Mesta Rederd | Employee No.: 690278 | Date: 12-20-01

H7. RCA Approval: ☐ Overpack for final shipment to NTS ☐ Meets SCAL
☐ Decay Program (Initials) ☐ NTS Certified (Initials) ☐ WIPP Certified (Initials)
☐ On-site Treatment
Signature: ☐ WEF | Employee No.: | Date:

32. Waste Profile No., TRU Waste Form No., or Bin No.: 1, 2b

☐ On Hold – Pending S&A
☐ Released

31A. Gross Weight: 49.0 Kg

Radioactive page attached: ☒ Yes ☐ N/A
Continuation page(s) attached: ☐ Yes ☒ N/A

☐ HWM Use Only

LL-5344 (4/01)

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
2-01-02 1:33:20 PM

QA File: C:\WAS\CTRS\CTR1\ARR1\S11_BCK.QA
Sample ID: B846
Sample Quantity: 1.0000E+00
Sample Date: 2-01-02 1:27:41 PM
Measurement Date: 2-01-02 1:27:39 PM
Elapsed Live Time: 200.0 seconds
Elapsed Real Time: 201.9 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
Ref. Peak	3.5021E+01	0.00
[0.00+/-0.00]		< : : : >
Upper CPS Reg	2.4035E+01	0.00
[0.00+/-0.00]		< : : : >
Peak counts/second	1.0088E+03	0.00
[0.00+/-0.00]		< : : : >
Pulser FWHM	9.7451E-01	0.00
[0.00+/-0.00]		< : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
2-01-02 1:33:13 PM

QA File: C:\WAS\CTRS\CTR1\ARR1\T11_BCK.QA
Sample ID: B846
Sample Quantity: 1.0000E+00
Sample Date: 2-01-02 1:27:41 PM
Measurement Date: 2-01-02 1:31:07 PM
Elapsed Live Time: 100.0 seconds
Elapsed Real Time: 104.2 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >

519A

400.6 keV Centroid	8.0325E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>
400.6 keV FWHM	1.5130E+00			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak centroid 136 KeV	2.7276E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak area 400 keV	1.8662E+04			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak counts/second	1.8662E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>

Flags Key:
- LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
- SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
- UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
- BS = Measurement Bias Test (In = Investigate, Ac = Action)

OK RL 2-1-02

JN 4-24-02

5198 7-16-02 KG

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS 2.3A

****
* DRUM INFORMATION *
****

Drum Package ID: S100_847
Sequence Number: 847
Assay Date & Time: 2-04-2002 8:24:27 AM
Drum Package GROSS Weight: 54.00 kg NET Weight: 22.20 kg

IDC Number: S100_847

QC Replicate (Yes/No): NO Passed (Yes/No): _____

Operator Name (Printed): Russell Ratti

Operator Signature: _____ Date: 2-4-02

Independent Reviewer: _____ Date: 4-24-02

Expert Reviewer: (NOT REQUIRED) Date: _____

Tech. Supv/QA Officer: _____ Date: 7/17/02

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 9.436E+00 +/- 2.166E+00 Ci

ISOTOPIC INFORMATION

Isotope	Measured Mass (g)	Mass Uncertainty (g)	MDC (g)
Pu-238	9.414E-03	3.29E-03	2.190E-05
Pu-239	1.009E+02	3.30E+01	2.347E-01
Pu-240	5.999E+00	1.97E+00	1.396E-02
Pu-241	2.580E-01	8.45E-02	6.118E-03
Pu-242	3.313E-02	1.26E-02	7.709E-05
Am-241	4.694E-01	1.54E-01	6.623E-03
Am-243	0.000E+00	0.00E+00	0.000E+00
Np-237	0.000E+00	0.00E+00	1.170E-03
U-235	0.000E+00	0.00E+00	2.581E-01
U-238	1.378E+01	4.53E+00	1.378E+01
U-233	1.642E+00	5.49E-01	1.642E+00

Total Pu Mass: 1.07E+02 +/- 5.92E+00 g

MGA RESULTS

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	8.785E-03	6.31E+00
Pu-239	9.412E+01	4.78E-02
Pu-240	5.599E+00	7.96E-01
Pu-241	2.408E-01	5.19E-01
Pu-242	3.092E-02	1.00E+01
Am-241	4.380E-01	4.39E-01

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005

Assay Date & Time: 2-04-2002 8:24:27 AM

Drum Package ID: S100_847
Sequence Number: 847

Waste Classification (TRU or LLW): TRU

		Errors at 1.96 sigma	
Total Alpha Activity :	9.436E+00	+/- 2.17E+00	Ci
Total TRU Activity :	4.251E+05	+/- 9.76E+04	nCi/g
Pu-239 Equiv Activity:	9.948E+00	+/- 2.17E+00	Ci
Fissile Gram Equiv Mass:	1.016E+02	+/- 3.30E+01	g
Total Decay Heat:	3.003E-01	+/- 6.83E-02	W
TMU Value:	32.72 %		

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error	MDA gm
Pu-238	1.63E-01	5.70E-02	9.41E-03	3.29E-03	2.19E-05
Pu-239	6.26E+00	2.05E+00	1.01E+02	3.30E+01	2.35E-01
Pu-240	1.38E+00	4.52E-01	6.00E+00	1.97E+00	1.40E-02
Pu-241	2.68E+01	8.78E+00	2.58E-01	8.45E-02	6.12E-03
Pu-242	1.32E-04	5.02E-05	3.31E-02	1.26E-02	7.71E-05
Am-241	1.63E+00	5.33E-01	4.69E-01	1.54E-01	6.62E-03
Am-243	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Np-237	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.17E-03
U-235	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.58E-01
U-238	4.69E-06	1.54E-06	1.38E+01	4.53E+00	1.38E+01
U-233	1.60E-02	5.35E-03	1.64E+00	5.49E-01	1.64E+00

Total Pu Mass: 1.07E+02 +/- 5.92E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	8.785E-03	6.31E+00
Pu-239	9.412E+01	4.78E-02
Pu-240	5.599E+00	7.96E-01
Pu-241	2.408E-01	5.19E-01
Pu-242	3.092E-02	1.00E+01
Am-241	4.380E-01	4.39E-01

****
***** M G A R E P O R T *****
****

Report generated on: 2-04-02 9:21:17 AM

MGA version: MGA V9.5 CI

Spectrum ID: 11200847.CNF Sens : 30.0% LT: 51.2 Mins DT: 8.81
Measurement date: 2-04-02 Declared date: 2-04-02

Sample ID: S100_847 Detector: Total counts: 1.526E+07

Pu g/cm2 = 0.8081 Cd g/cm2 = 1.7901 FWHM at 122 keV = 685 eV
QFIT = 1.24 FWHM at 208 keV = 867 eV
NQFIT = 1.01

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	Meas. date %Err	Decl. date % weight	Decl. date %Err
Pu-238	0.000093	6.3	6.3	0.0365	6.3	0.00879	6.31	0.00879	6.31
Pu-239	1.000000	0.0	0.3	390.9359	0.5	94.12096	0.05	94.12096	0.05
Pu-240	0.059483	0.8	0.8	23.2540	0.9	5.59858	0.80	5.59858	0.80
Pu-241	0.002558	0.5	0.4	1.0000	0.0	0.24076	0.52	0.24076	0.52
Pu-242	(New alg.)			0.1284	(10)	0.03092	(10)	0.03092	(10)
Am-241	0.004654	0.5	0.3	1.8194	0.5	0.43804	0.44	0.43804	0.44

Pu-240 effective (meas. date) = 5.673 +/- 0.86%
Am-241 separated about 21.420 +/- 0.139 years ago
Am/Pu-241 weight ratio = 1.81944 +/- 0.55%

Messages :

Lead x-rays detected.
Calculations in MGAABS didn't converge : results may be suspect.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Betw 2003-03-523

Gamma Waste Assay

Sample Information

File Name: C:\WAS\DATA\900\11100847.S11
Sample ID: S100_847 Count Sequence Number: 847
Assay Start: 2-04-02 8:24:29 AM
Description 1: 100g source
Description 2:
Location: 7715
Comment:
Waste Type:
Weight: Gross: 54000.0 g Net: 22200.0 g
Density: 0.107 g /ml

Container Type: 55 Gal Galv
Container: Volume: 208000. ml Full: 100.0 %

System Configuration

Counter ID Number: SGS
Arrangement Description: SGS
Segments: Number: 16 Offset: 0
Scanning Platform: Start: 934 mm Delta: -51 mm
Count Type: Daily 100 g Drum Check
Collimator/Geometry Setting: 0
Transmission Mode: Two pass
Transmission Source: 0

Errors quoted at 1.000 sigma
Reference Source Date: Reference Source Rate: 1.01E+03 cps
Geometric Correction Factor(SWCONTGCF): 0.760
Date of efficiency calibration approval: 4-18-2001 12:41:36 PM
Mu Factors response file: Lucite
Transmission Calib. Time: 5-11-2001 2:20:42 PM 59052

Reviewed by: _____ Date: 7/16/02

Segment Results

Segment: 1 Detector: DET01 (# 1) Position: 1

Elapsed Live Time: 113.38 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.392 +/- 0.0265
SE-75	264.65	0.000 +/- 0.0000	0.448 +/- 0.0045
SE-75	279.53	0.000 +/- 0.0000	0.449 +/- 0.0061
SE-75	400.65	0.000 +/- 0.0000	0.483 +/- 0.0075

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.21	2.74E+00 +/- 2.46E-01	2.38E+00	9.43E-08 +/- 1.18E-06
2	35.10	1.01E+03 +/- 4.79E+00	1.77E+00	2.61E-06 +/- 1.64E-05
3	48.65	7.65E+00 +/- 4.23E-01	1.59E+00	1.62E-05 +/- 5.25E-05
4	59.62	3.96E+00 +/- 3.79E-01	1.52E+00	3.76E-05 +/- 7.40E-05
5	75.24	6.76E-01 +/- 3.98E-01	1.47E+00	7.78E-05 +/- 7.59E-05
6	136.00	7.77E-01 +/- 4.42E-01	1.41E+00	2.03E-04 +/- 1.81E-05
7	413.70	7.03E-02 +/- 4.74E-02	1.30E+00	1.65E-04 +/- 1.27E-05
8	867.39	2.64E-02 +/- 1.52E-02	1.20E+00	8.96E-05 +/- 4.69E-06
9	1408.01	8.79E-03 +/- 8.79E-03	1.15E+00	6.19E-05 +/- 4.71E-06

Segment: 2 Detector: DET01 (# 1) Position: 2

Elapsed Live Time: 113.21 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.421 +/- 0.0270
SE-75	264.65	0.000 +/- 0.0000	0.505 +/- 0.0049
SE-75	279.53	0.000 +/- 0.0000	0.521 +/- 0.0067
SE-75	400.65	0.000 +/- 0.0000	0.565 +/- 0.0083

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.25	3.35E+00 +/- 3.00E-01	2.25E+00	5.77E-10 +/- 5.49E-09
2	35.10	1.01E+03 +/- 4.78E+00	1.70E+00	2.21E-07 +/- 1.06E-06
3	59.63	7.64E+00 +/- 4.20E-01	1.48E+00	2.20E-05 +/- 3.32E-05
4	279.54	5.48E-01 +/- 2.60E-01	1.27E+00	3.43E-04 +/- 1.77E-05
5	1085.91	8.73E-03 +/- 8.73E-03	1.13E+00	1.13E-04 +/- 4.92E-06

Segment: 3 Detector: DET01 (# 1) Position: 3

Elapsed Live Time: 112.46 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.399 +/- 0.0285
SE-75	264.65	0.000 +/- 0.0000	0.474 +/- 0.0047
SE-75	279.53	0.000 +/- 0.0000	0.485 +/- 0.0065
SE-75	400.65	0.000 +/- 0.0000	0.526 +/- 0.0080

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	3.67E+00 +/- 3.35E-01	2.57E+00	3.50E-09 +/- 3.85E-08
2	23.21	4.02E+00 +/- 3.45E-01	2.34E+00	1.07E-08 +/- 1.04E-07
3	35.10	1.01E+03 +/- 4.80E+00	1.75E+00	1.07E-06 +/- 5.27E-06
4	47.90	5.75E+00 +/- 5.46E-01	1.58E+00	1.14E-05 +/- 2.99E-05
5	59.59	3.04E+01 +/- 7.36E-01	1.51E+00	3.79E-05 +/- 5.87E-05
6	98.71	1.28E+01 +/- 1.01E+00	1.42E+00	2.00E-04 +/- 4.76E-05
7	103.43	7.44E+00 +/- 8.26E-01	1.42E+00	2.20E-04 +/- 3.93E-05

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8	111.34	3.06E+00	+/- 7.10E-01	1.41E+00	2.49E-04	+/- 2.65E-05
9	117.41	1.86E+00	+/- 7.24E-01	1.40E+00	2.69E-04	+/- 1.92E-05
10	129.29	8.93E+00	+/- 6.57E-01	1.39E+00	3.02E-04	+/- 1.84E-05
11	148.57	1.37E+00	+/- 5.51E-01	1.38E+00	3.39E-04	+/- 3.24E-05
12	185.71	8.71E-01	+/- 5.21E-01	1.35E+00	3.67E-04	+/- 4.05E-05
13	208.39	7.85E+00	+/- 5.36E-01	1.34E+00	3.66E-04	+/- 3.64E-05
14	244.70	9.42E-01	+/- 3.37E-01	1.32E+00	3.52E-04	+/- 2.60E-05
15	255.62	6.74E-01	+/- 3.24E-01	1.31E+00	3.46E-04	+/- 2.31E-05
16	311.90	5.06E-01	+/- 3.39E-01	1.29E+00	3.13E-04	+/- 1.40E-05
17	333.28	2.78E+00	+/- 3.55E-01	1.28E+00	3.00E-04	+/- 1.35E-05
18	345.62	1.59E+00	+/- 3.15E-01	1.28E+00	2.93E-04	+/- 1.36E-05
19	375.66	5.45E+00	+/- 3.38E-01	1.27E+00	2.76E-04	+/- 1.44E-05
20	383.38	5.73E-01	+/- 2.26E-01	1.27E+00	2.72E-04	+/- 1.46E-05
21	393.49	1.97E+00	+/- 2.04E-01	1.27E+00	2.67E-04	+/- 1.48E-05
22	413.70	5.74E+00	+/- 2.55E-01	1.26E+00	2.57E-04	+/- 1.52E-05
23	423.27	3.57E-01	+/- 1.12E-01	1.26E+00	2.53E-04	+/- 1.53E-05
24	452.38	6.55E-01	+/- 9.75E-02	1.25E+00	2.40E-04	+/- 1.54E-05
25	662.42	3.17E-01	+/- 6.17E-02	1.20E+00	1.78E-04	+/- 1.02E-05
26	867.39	2.64E-02	+/- 1.52E-02	1.17E+00	1.45E-04	+/- 6.61E-06
27	1112.12	2.64E-02	+/- 1.52E-02	1.15E+00	1.21E-04	+/- 5.09E-06

Segment: 4 Detector: DET01 (# 1) Position: 4

Elapsed Live Time: 107.87 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.462 +/- 0.0364
SE-75	264.65	0.000 +/- 0.0000	0.530 +/- 0.0054
SE-75	279.53	0.000 +/- 0.0000	0.541 +/- 0.0074
SE-75	400.65	0.000 +/- 0.0000	0.580 +/- 0.0088

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	1.33E+01 +/- 6.48E-01	2.27E+00	2.23E-06 +/- 3.43E-06
2	23.21	1.76E+01 +/- 7.09E-01	2.09E+00	3.35E-06 +/- 4.70E-06
3	35.10	1.01E+03 +/- 4.94E+00	1.62E+00	2.00E-05 +/- 1.66E-05
4	59.58	2.54E+02 +/- 2.02E+00	1.42E+00	9.82E-05 +/- 3.39E-05
5	75.22	3.87E+00 +/- 9.50E-01	1.38E+00	1.59E-04 +/- 3.31E-05
6	77.38	1.50E+00 +/- 6.91E-01	1.38E+00	1.67E-04 +/- 3.25E-05
7	98.80	1.59E+02 +/- 2.23E+00	1.35E+00	2.40E-04 +/- 2.42E-05
8	103.49	1.25E+02 +/- 1.63E+00	1.35E+00	2.53E-04 +/- 2.24E-05
9	111.26	2.30E+01 +/- 1.62E+00	1.34E+00	2.74E-04 +/- 1.97E-05
10	117.15	1.85E+01 +/- 1.26E+00	1.33E+00	2.88E-04 +/- 1.81E-05

Batch: 3-903-03-S37

	11	129.29	9.95E+01	+/- 1.41E+00	1.33E+00	3.12E-04	+/-	1.61E-05
	12	148.57	1.63E+01	+/- 1.05E+00	1.31E+00	3.40E-04	+/-	1.63E-05
	13	164.88	6.30E+00	+/- 7.43E-01	1.31E+00	3.56E-04	+/-	1.76E-05
	14	171.59	5.21E+00	+/- 8.33E-01	1.30E+00	3.60E-04	+/-	1.81E-05
	15	179.59	3.17E+00	+/- 8.11E-01	1.30E+00	3.64E-04	+/-	1.86E-05
	16	189.60	2.31E+00	+/- 8.74E-01	1.29E+00	3.68E-04	+/-	1.91E-05
	17	196.09	6.26E+00	+/- 8.52E-01	1.29E+00	3.69E-04	+/-	1.93E-05
	18	208.34	1.01E+02	+/- 1.50E+00	1.28E+00	3.71E-04	+/-	1.94E-05
	19	244.70	2.81E+00	+/- 6.05E-01	1.27E+00	3.65E-04	+/-	1.85E-05
	20	255.78	4.17E+00	+/- 5.72E-01	1.26E+00	3.62E-04	+/-	1.80E-05
	21	268.06	3.65E+00	+/- 5.69E-01	1.26E+00	3.57E-04	+/-	1.73E-05
	22	297.98	2.17E+00	+/- 6.96E-01	1.25E+00	3.45E-04	+/-	1.56E-05
	23	311.90	3.56E+00	+/- 5.51E-01	1.24E+00	3.38E-04	+/-	1.48E-05
	24	321.43	2.95E+00	+/- 5.47E-01	1.24E+00	3.33E-04	+/-	1.43E-05
	25	324.18	1.01E+00	+/- 3.83E-01	1.24E+00	3.32E-04	+/-	1.41E-05
	26	333.23	2.81E+01	+/- 8.91E-01	1.24E+00	3.27E-04	+/-	1.37E-05
	27	336.35	4.49E+00	+/- 6.77E-01	1.24E+00	3.26E-04	+/-	1.36E-05
	28	345.62	2.53E+01	+/- 7.02E-01	1.23E+00	3.21E-04	+/-	1.32E-05
	29	368.78	1.09E+01	+/- 5.52E-01	1.23E+00	3.10E-04	+/-	1.23E-05
	30	375.66	7.53E+01	+/- 1.06E+00	1.23E+00	3.06E-04	+/-	1.21E-05
	31	383.45	8.08E+00	+/- 5.03E-01	1.23E+00	3.02E-04	+/-	1.18E-05
	32	393.59	2.90E+01	+/- 6.10E-01	1.22E+00	2.97E-04	+/-	1.16E-05
	33	413.70	7.40E+01	+/- 9.16E-01	1.22E+00	2.87E-04	+/-	1.11E-05
	34	423.33	5.06E+00	+/- 3.35E-01	1.22E+00	2.83E-04	+/-	1.10E-05
	35	452.18	9.05E+00	+/- 3.43E-01	1.21E+00	2.70E-04	+/-	1.06E-05
	36	620.17	6.57E-01	+/- 1.23E-01	1.18E+00	2.07E-04	+/-	9.43E-06
	37	653.70	5.38E-01	+/- 1.24E-01	1.17E+00	1.97E-04	+/-	9.12E-06
M	38	659.92	1.53E-01	+/- 6.10E-02	1.17E+00	1.95E-04	+/-	9.06E-06
m	39	663.64	3.26E+00	+/- 2.39E-01	1.17E+00	1.94E-04	+/-	9.02E-06
	40	723.22	1.75E+00	+/- 1.44E-01	1.16E+00	1.79E-04	+/-	8.36E-06
	41	770.63	6.45E-01	+/- 8.83E-02	1.16E+00	1.69E-04	+/-	7.77E-06
	42	778.90	3.77E-02	+/- 2.70E-02	1.16E+00	1.67E-04	+/-	7.66E-06

Batch 2002-03-538

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
43	1001.03	4.16E-02 +/- 3.25E-02	1.13E+00	1.30E-04 +/- 4.96E-06
44	1112.12	2.65E-02 +/- 2.06E-02	1.13E+00	1.17E-04 +/- 4.26E-06

Segment: 5 Detector: DET01 (# 1) Position: 5

Elapsed Live Time: 100.78 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.203 +/- 0.0035
SE-75	279.53	0.000 +/- 0.0000	0.223 +/- 0.0055
SE-75	400.65	0.000 +/- 0.0000	0.346 +/- 0.0073

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	3.57E+01 +/- 9.79E-01	4.10E+00	1.08E-06 +/- 1.72E-06
2	23.15	3.39E+01 +/- 1.07E+00	4.10E+00	1.74E-06 +/- 2.54E-06
3	35.10	1.01E+03 +/- 5.12E+00	4.10E+00	1.48E-05 +/- 1.27E-05
4	59.54	6.93E+02 +/- 3.99E+00	4.10E+00	9.31E-05 +/- 3.29E-05
5	75.05	5.30E+00 +/- 9.85E-01	4.10E+00	1.59E-04 +/- 3.39E-05
6	98.74	3.28E+02 +/- 3.75E+00	4.10E+00	2.49E-04 +/- 2.52E-05
7	103.36	2.86E+02 +/- 2.51E+00	4.10E+00	2.64E-04 +/- 2.33E-05
8	111.17	5.46E+01 +/- 2.48E+00	4.10E+00	2.86E-04 +/- 2.04E-05
9	114.46	1.14E+01 +/- 2.47E+00	4.10E+00	2.94E-04 +/- 1.94E-05
10	117.00	3.58E+01 +/- 1.92E+00	4.10E+00	3.01E-04 +/- 1.87E-05
11	129.29	2.45E+02 +/- 2.26E+00	4.10E+00	3.26E-04 +/- 1.67E-05
12	146.36	4.88E+01 +/- 1.56E+00	3.23E+00	3.52E-04 +/- 1.70E-05
13	148.57	1.81E+01 +/- 1.21E+00	3.13E+00	3.54E-04 +/- 1.71E-05
14	161.03	4.84E+00 +/- 1.29E+00	2.74E+00	3.65E-04 +/- 1.83E-05
15	164.81	6.46E+00 +/- 1.26E+00	2.66E+00	3.68E-04 +/- 1.86E-05
16	171.58	1.21E+01 +/- 1.15E+00	2.53E+00	3.71E-04 +/- 1.92E-05
17	179.55	5.17E+00 +/- 1.11E+00	2.41E+00	3.74E-04 +/- 1.97E-05
18	189.63	7.62E+00 +/- 1.11E+00	2.28E+00	3.76E-04 +/- 2.02E-05
19	195.87	1.13E+01 +/- 1.20E+00	2.21E+00	3.76E-04 +/- 2.03E-05
20	208.27	2.42E+02 +/- 2.37E+00	2.09E+00	3.75E-04 +/- 2.04E-05

Ref: 2002-03-539

21	225.79	1.57E+00 +/-	9.12E-01	1.95E+00	3.70E-04 +/-	1.99E-05
22	244.70	3.69E+00 +/-	8.41E-01	1.83E+00	3.63E-04 +/-	1.90E-05
23	255.68	1.12E+01 +/-	8.27E-01	1.77E+00	3.58E-04 +/-	1.84E-05
24	267.91	8.32E+00 +/-	8.11E-01	1.71E+00	3.51E-04 +/-	1.76E-05
25	297.85	7.48E+00 +/-	9.41E-01	1.64E+00	3.34E-04 +/-	1.56E-05
26	311.90	7.04E+00 +/-	6.53E-01	1.61E+00	3.26E-04 +/-	1.48E-05
27	321.26	7.23E+00 +/-	7.77E-01	1.59E+00	3.21E-04 +/-	1.42E-05
28	324.14	3.29E+00 +/-	5.49E-01	1.58E+00	3.19E-04 +/-	1.41E-05
29	333.19	6.43E+01 +/-	1.37E+00	1.57E+00	3.13E-04 +/-	1.36E-05
30	336.28	1.02E+01 +/-	1.00E+00	1.56E+00	3.12E-04 +/-	1.34E-05
31	345.53	6.42E+01 +/-	9.87E-01	1.54E+00	3.06E-04 +/-	1.30E-05
32	368.74	2.58E+01 +/-	8.37E-01	1.51E+00	2.93E-04 +/-	1.20E-05
33	375.60	1.67E+02 +/-	1.71E+00	1.49E+00	2.89E-04 +/-	1.18E-05
34	383.38	1.61E+01 +/-	7.84E-01	1.48E+00	2.85E-04 +/-	1.16E-05
35	393.52	6.41E+01 +/-	9.38E-01	1.47E+00	2.80E-04 +/-	1.13E-05
36	413.70	1.69E+02 +/-	1.49E+00	1.45E+00	2.69E-04 +/-	1.09E-05
37	423.16	1.01E+01 +/-	5.43E-01	1.45E+00	2.64E-04 +/-	1.07E-05
38	452.13	1.93E+01 +/-	5.19E-01	1.43E+00	2.51E-04 +/-	1.03E-05
39	620.14	1.82E+00 +/-	1.64E-01	1.36E+00	1.90E-04 +/-	9.14E-06
40	641.09	5.49E-01 +/-	1.71E-01	1.36E+00	1.84E-04 +/-	8.96E-06
41	647.02	6.04E-01 +/-	1.90E-01	1.35E+00	1.83E-04 +/-	8.91E-06
42	653.65	1.25E+00 +/-	1.75E-01	1.35E+00	1.81E-04 +/-	8.85E-06

Batch 2002-02-530

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
M 43	659.94	3.18E-01 +/- 8.72E-02	1.35E+00	1.79E-04 +/- 8.79E-06
m 44	663.55	7.48E+00 +/- 3.96E-01	1.35E+00	1.78E-04 +/- 8.76E-06
45	689.85	9.36E-01 +/- 1.37E-01	1.34E+00	1.72E-04 +/- 8.50E-06
46	723.17	4.02E+00 +/- 2.28E-01	1.33E+00	1.65E-04 +/- 8.15E-06
47	770.54	1.30E+00 +/- 1.30E-01	1.32E+00	1.56E-04 +/- 7.61E-06
48	964.13	5.83E-02 +/- 2.38E-02	1.28E+00	1.28E-04 +/- 5.33E-06
49	1085.91	9.72E-03 +/- 3.57E-02	1.26E+00	1.16E-04 +/- 4.36E-06

Segment: 6 Detector: DET01 (# 1) Position: 6

Elapsed Live Time: 99.48 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.187 +/- 0.0035
SE-75	279.53	0.000 +/- 0.0000	0.217 +/- 0.0055
SE-75	400.65	0.000 +/- 0.0000	0.327 +/- 0.0073

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	4.00E+01 +/- 1.04E+00	4.10E+00	3.85E-07 +/- 5.97E-07
2	23.15	3.62E+01 +/- 1.12E+00	4.10E+00	6.67E-07 +/- 9.48E-07
3	35.10	1.01E+03 +/- 5.15E+00	4.10E+00	8.04E-06 +/- 6.71E-06
4	59.54	7.32E+02 +/- 4.18E+00	4.10E+00	6.88E-05 +/- 2.39E-05
5	75.11	1.25E+01 +/- 1.49E+00	4.10E+00	1.30E-04 +/- 2.73E-05
6	98.72	3.68E+02 +/- 4.02E+00	4.10E+00	2.22E-04 +/- 2.26E-05
7	103.37	3.15E+02 +/- 2.70E+00	4.10E+00	2.38E-04 +/- 2.12E-05
8	111.14	5.89E+01 +/- 2.63E+00	4.10E+00	2.63E-04 +/- 1.90E-05
9	114.45	1.34E+01 +/- 2.60E+00	4.10E+00	2.72E-04 +/- 1.82E-05
10	117.07	3.68E+01 +/- 2.02E+00	4.10E+00	2.80E-04 +/- 1.77E-05
11	129.29	2.79E+02 +/- 2.44E+00	4.10E+00	3.10E-04 +/- 1.61E-05
12	146.33	2.31E+00 +/- 1.21E+00	3.28E+00	3.42E-04 +/- 1.65E-05
13	148.57	4.47E+01 +/- 1.58E+00	3.18E+00	3.45E-04 +/- 1.67E-05
14	161.03	3.77E+00 +/- 1.36E+00	2.80E+00	3.60E-04 +/- 1.78E-05
15	164.70	7.31E+00 +/- 1.32E+00	2.72E+00	3.64E-04 +/- 1.82E-05

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16	171.60	1.50E+01 +/-	1.22E+00	2.59E+00	3.69E-04 +/-	1.88E-05
17	179.55	7.70E+00 +/-	1.18E+00	2.46E+00	3.74E-04 +/-	1.94E-05
18	189.50	8.13E+00 +/-	1.19E+00	2.33E+00	3.78E-04 +/-	1.99E-05
19	196.02	1.18E+01 +/-	1.17E+00	2.26E+00	3.80E-04 +/-	2.01E-05
20	208.26	2.74E+02 +/-	2.55E+00	2.14E+00	3.81E-04 +/-	2.03E-05
21	244.70	2.59E+00 +/-	8.97E-01	1.88E+00	3.73E-04 +/-	1.92E-05
22	248.89	1.27E+00 +/-	7.91E-01	1.85E+00	3.71E-04 +/-	1.89E-05
23	255.68	1.15E+01 +/-	8.72E-01	1.82E+00	3.69E-04 +/-	1.86E-05
24	267.91	8.89E+00 +/-	8.54E-01	1.75E+00	3.63E-04 +/-	1.78E-05
25	297.76	4.57E+00 +/-	1.00E+00	1.65E+00	3.47E-04 +/-	1.59E-05
26	311.90	8.30E+00 +/-	7.88E-01	1.63E+00	3.39E-04 +/-	1.51E-05
27	321.25	5.03E+00 +/-	8.80E-01	1.61E+00	3.33E-04 +/-	1.45E-05
28	324.22	3.52E+00 +/-	6.31E-01	1.60E+00	3.31E-04 +/-	1.44E-05
29	333.19	7.33E+01 +/-	1.47E+00	1.59E+00	3.26E-04 +/-	1.39E-05
30	336.27	1.27E+01 +/-	1.08E+00	1.58E+00	3.24E-04 +/-	1.37E-05
31	345.54	7.21E+01 +/-	1.06E+00	1.57E+00	3.19E-04 +/-	1.33E-05
32	368.70	2.90E+01 +/-	8.99E-01	1.53E+00	3.05E-04 +/-	1.23E-05
33	375.60	1.88E+02 +/-	1.85E+00	1.52E+00	3.02E-04 +/-	1.21E-05
34	383.38	1.92E+01 +/-	8.11E-01	1.51E+00	2.97E-04 +/-	1.18E-05
35	393.53	7.31E+01 +/-	1.01E+00	1.49E+00	2.92E-04 +/-	1.16E-05
36	413.70	1.91E+02 +/-	1.63E+00	1.48E+00	2.81E-04 +/-	1.11E-05
37	423.17	1.00E+01 +/-	5.75E-01	1.47E+00	2.76E-04 +/-	1.09E-05
38	446.20	5.27E-01 +/-	3.94E-01	1.46E+00	2.64E-04 +/-	1.06E-05
39	452.11	2.17E+01 +/-	5.51E-01	1.46E+00	2.62E-04 +/-	1.05E-05
40	482.24	5.47E-01 +/-	2.08E-01	1.44E+00	2.48E-04 +/-	1.02E-05
41	619.93	1.82E+00 +/-	1.80E-01	1.38E+00	1.98E-04 +/-	9.16E-06
42	646.78	8.93E-01 +/-	1.88E-01	1.37E+00	1.90E-04 +/-	8.92E-06

Batch 2002-02-532

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
	43	653.78	1.44E+00 +/- 1.82E-01	1.37E+00	1.89E-04 +/- 8.86E-06
M	44	659.97	5.19E-01 +/- 1.02E-01	1.37E+00	1.87E-04 +/- 8.80E-06
m	45	663.50	8.69E+00 +/- 4.29E-01	1.37E+00	1.86E-04 +/- 8.76E-06
	46	689.86	8.13E-01 +/- 1.59E-01	1.36E+00	1.80E-04 +/- 8.49E-06
	47	704.97	3.93E-01 +/- 1.07E-01	1.35E+00	1.76E-04 +/- 8.33E-06
	48	723.19	4.10E+00 +/- 2.38E-01	1.35E+00	1.72E-04 +/- 8.13E-06
	49	738.83	1.88E-01 +/- 8.38E-02	1.34E+00	1.69E-04 +/- 7.95E-06
	50	757.09	3.99E-01 +/- 9.86E-02	1.34E+00	1.65E-04 +/- 7.74E-06
	51	770.60	1.42E+00 +/- 1.36E-01	1.34E+00	1.62E-04 +/- 7.58E-06

Segment: 7 Detector: DET01 (# 1) Position: 7

Elapsed Live Time: 104.41 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.230 +/- 0.0035
SE-75	279.53	0.000 +/- 0.0000	0.253 +/- 0.0052
SE-75	400.65	0.000 +/- 0.0000	0.362 +/- 0.0072

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	2.63E+01 +/- 8.34E-01	4.10E+00	2.18E-09 +/- 2.40E-08
2	23.16	2.98E+01 +/- 9.19E-01	4.10E+00	6.97E-09 +/- 6.85E-08
3	35.10	1.01E+03 +/- 5.02E+00	4.10E+00	9.59E-07 +/- 4.73E-06
4	59.57	5.43E+02 +/- 3.29E+00	4.10E+00	4.01E-05 +/- 6.21E-05
5	75.08	6.38E+00 +/- 9.37E-01	4.10E+00	1.05E-04 +/- 8.11E-05
6	98.78	2.63E+02 +/- 2.96E+00	4.10E+00	2.21E-04 +/- 5.19E-05
7	103.41	1.99E+02 +/- 2.03E+00	4.10E+00	2.41E-04 +/- 4.29E-05
8	111.20	3.96E+01 +/- 2.07E+00	4.10E+00	2.73E-04 +/- 2.89E-05
9	117.12	2.49E+01 +/- 1.58E+00	4.10E+00	2.94E-04 +/- 2.09E-05
10	129.29	1.73E+02 +/- 1.86E+00	4.10E+00	3.30E-04 +/- 1.98E-05
11	146.45	3.22E+01 +/- 1.32E+00	3.15E+00	3.65E-04 +/- 3.35E-05
12	148.57	1.38E+01 +/- 1.02E+00	3.05E+00	3.68E-04 +/- 3.49E-05
13	161.04	3.49E+00 +/- 1.08E+00	2.66E+00	3.83E-04 +/- 4.09E-05

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14	164.83	3.36E+00 +/-	1.06E+00	2.58E+00	3.86E-04 +/-	4.19E-05
15	171.64	3.54E+00 +/-	1.07E+00	2.45E+00	3.90E-04 +/-	4.31E-05
16	179.50	1.79E+00 +/-	9.44E-01	2.33E+00	3.93E-04 +/-	4.34E-05
17	189.49	6.18E+00 +/-	8.72E-01	2.20E+00	3.94E-04 +/-	4.25E-05
18	195.99	8.50E+00 +/-	9.54E-01	2.13E+00	3.94E-04 +/-	4.14E-05
19	208.31	1.64E+02 +/-	1.91E+00	2.01E+00	3.91E-04 +/-	3.83E-05
20	244.70	1.94E+00 +/-	7.17E-01	1.76E+00	3.73E-04 +/-	2.70E-05
21	255.65	7.22E+00 +/-	7.00E-01	1.70E+00	3.66E-04 +/-	2.39E-05
22	267.85	5.06E+00 +/-	6.28E-01	1.65E+00	3.58E-04 +/-	2.08E-05
23	297.89	3.12E+00 +/-	8.15E-01	1.58E+00	3.37E-04 +/-	1.58E-05
24	311.90	4.37E+00 +/-	6.38E-01	1.56E+00	3.27E-04 +/-	1.48E-05
25	321.34	3.73E+00 +/-	6.97E-01	1.54E+00	3.21E-04 +/-	1.45E-05
26	324.32	1.28E+00 +/-	5.04E-01	1.54E+00	3.19E-04 +/-	1.44E-05
27	333.22	4.27E+01 +/-	1.10E+00	1.52E+00	3.13E-04 +/-	1.44E-05
28	336.37	6.18E+00 +/-	8.37E-01	1.52E+00	3.11E-04 +/-	1.44E-05
29	345.56	4.12E+01 +/-	8.76E-01	1.51E+00	3.05E-04 +/-	1.46E-05
30	368.83	1.58E+01 +/-	6.71E-01	1.47E+00	2.91E-04 +/-	1.52E-05
31	375.65	1.17E+02 +/-	1.36E+00	1.47E+00	2.87E-04 +/-	1.54E-05
32	383.43	1.21E+01 +/-	6.18E-01	1.46E+00	2.83E-04 +/-	1.57E-05
33	393.58	4.36E+01 +/-	7.60E-01	1.44E+00	2.77E-04 +/-	1.59E-05
34	400.66	6.04E-01 +/-	3.56E-01	1.44E+00	2.74E-04 +/-	1.60E-05
35	413.70	1.13E+02 +/-	1.17E+00	1.43E+00	2.67E-04 +/-	1.63E-05
36	423.18	6.34E+00 +/-	4.51E-01	1.42E+00	2.62E-04 +/-	1.63E-05
37	452.18	1.38E+01 +/-	4.17E-01	1.41E+00	2.49E-04 +/-	1.63E-05
38	482.28	6.62E-01 +/-	1.38E-01	1.40E+00	2.36E-04 +/-	1.60E-05
39	619.98	1.24E+00 +/-	1.43E-01	1.34E+00	1.92E-04 +/-	1.19E-05
40	647.06	4.04E-01 +/-	1.53E-01	1.34E+00	1.86E-04 +/-	1.11E-05
41	653.60	7.27E-01 +/-	1.46E-01	1.33E+00	1.84E-04 +/-	1.09E-05
42	662.42	5.17E+00 +/-	2.57E-01	1.33E+00	1.82E-04 +/-	1.06E-05

Batch 2002-02-534

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
43	704.74	2.69E-01 +/- 8.45E-02	1.32E+00	1.73E-04 +/- 9.46E-06
44	723.19	2.67E+00 +/- 1.82E-01	1.31E+00	1.70E-04 +/- 9.01E-06

Segment: 8 Detector: DET01 (# 1) Position: 8

Elapsed Live Time: 110.44 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.385 +/- 0.0316
SE-75	264.65	0.000 +/- 0.0000	0.486 +/- 0.0049
SE-75	279.53	0.000 +/- 0.0000	0.500 +/- 0.0068
SE-75	400.65	0.000 +/- 0.0000	0.551 +/- 0.0084

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	8.43E+00 +/- 5.09E-01	2.64E+00	1.22E-09 +/- 1.33E-08
2	23.20	1.22E+01 +/- 5.68E-01	2.41E+00	4.21E-09 +/- 4.10E-08
3	35.10	1.01E+03 +/- 4.88E+00	1.79E+00	6.89E-07 +/- 3.37E-06
4	59.61	1.85E+02 +/- 1.65E+00	1.53E+00	3.35E-05 +/- 5.14E-05
5	75.15	5.82E+00 +/- 7.98E-01	1.48E+00	9.12E-05 +/- 7.00E-05
6	98.82	8.47E+01 +/- 1.66E+00	1.44E+00	1.99E-04 +/- 4.65E-05
7	103.46	6.42E+01 +/- 1.19E+00	1.44E+00	2.18E-04 +/- 3.87E-05
8	111.32	1.69E+01 +/- 1.16E+00	1.43E+00	2.49E-04 +/- 2.63E-05
9	117.63	3.65E+00 +/- 1.01E+00	1.42E+00	2.71E-04 +/- 1.89E-05
10	129.29	5.74E+01 +/- 1.08E+00	1.41E+00	3.05E-04 +/- 1.85E-05
11	148.57	9.45E+00 +/- 7.71E-01	1.39E+00	3.45E-04 +/- 3.27E-05
12	164.97	1.40E+00 +/- 7.13E-01	1.38E+00	3.64E-04 +/- 3.97E-05
13	171.88	3.23E+00 +/- 7.10E-01	1.37E+00	3.69E-04 +/- 4.10E-05
14	179.77	1.60E+00 +/- 6.83E-01	1.36E+00	3.73E-04 +/- 4.15E-05
15	189.65	1.49E+00 +/- 6.28E-01	1.35E+00	3.76E-04 +/- 4.08E-05
16	195.93	3.24E+00 +/- 6.78E-01	1.35E+00	3.77E-04 +/- 3.99E-05
17	208.38	4.99E+01 +/- 1.06E+00	1.34E+00	3.76E-04 +/- 3.72E-05
18	255.74	1.73E+00 +/- 4.40E-01	1.31E+00	3.56E-04 +/- 2.36E-05
19	267.96	1.72E+00 +/- 4.33E-01	1.30E+00	3.49E-04 +/- 2.06E-05
20	298.11	1.63E+00 +/- 5.49E-01	1.28E+00	3.31E-04 +/- 1.55E-05
21	311.90	1.15E+00 +/- 4.29E-01	1.27E+00	3.23E-04 +/- 1.44E-05
22	324.26	2.04E+00 +/- 4.35E-01	1.27E+00	3.15E-04 +/- 1.39E-05
23	333.36	1.18E+01 +/- 6.24E-01	1.27E+00	3.10E-04 +/- 1.38E-05

Batch 2002-03-535

24	336.46	1.54E+00	+/- 4.85E-01	1.26E+00	3.08E-04	+/- 1.38E-05
25	345.61	1.35E+01	+/- 4.42E-01	1.26E+00	3.03E-04	+/- 1.38E-05
26	369.17	5.64E+00	+/- 4.23E-01	1.25E+00	2.89E-04	+/- 1.44E-05
27	375.69	3.52E+01	+/- 7.15E-01	1.25E+00	2.86E-04	+/- 1.46E-05
28	383.51	3.83E+00	+/- 3.53E-01	1.25E+00	2.82E-04	+/- 1.48E-05
29	393.63	1.27E+01	+/- 4.06E-01	1.25E+00	2.76E-04	+/- 1.50E-05
30	413.70	3.45E+01	+/- 6.05E-01	1.24E+00	2.66E-04	+/- 1.54E-05
31	423.19	2.09E+00	+/- 2.38E-01	1.24E+00	2.62E-04	+/- 1.55E-05
32	452.16	4.12E+00	+/- 2.36E-01	1.23E+00	2.49E-04	+/- 1.56E-05
33	619.95	3.78E-01	+/- 8.94E-02	1.19E+00	1.93E-04	+/- 1.16E-05
34	653.82	2.83E-01	+/- 8.00E-02	1.19E+00	1.85E-04	+/- 1.06E-05
35	662.42	1.42E+00	+/- 1.40E-01	1.19E+00	1.83E-04	+/- 1.03E-05
36	723.36	7.76E-01	+/- 9.41E-02	1.18E+00	1.70E-04	+/- 8.79E-06

Segment: 9 Detector: DET01 (# 1) Position: 9

Elapsed Live Time: 113.02 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.378 +/- 0.0272
SE-75	264.65	0.000 +/- 0.0000	0.514 +/- 0.0050
SE-75	279.53	0.000 +/- 0.0000	0.519 +/- 0.0067
SE-75	400.65	0.000 +/- 0.0000	0.573 +/- 0.0083

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.26	5.06E+00 +/- 3.55E-01	2.43E+00	2.33E-06 +/- 2.34E-05
2	35.10	1.01E+03 +/- 4.78E+00	1.81E+00	1.75E-05 +/- 8.88E-05
3	59.57	2.33E+01 +/- 6.21E-01	1.54E+00	9.99E-05 +/- 1.59E-04
4	99.01	5.96E+00 +/- 7.79E-01	1.45E+00	2.52E-04 +/- 6.00E-05
5	103.61	1.41E+00 +/- 5.52E-01	1.45E+00	2.66E-04 +/- 4.79E-05
6	129.29	2.64E+00 +/- 5.01E-01	1.42E+00	3.23E-04 +/- 1.97E-05
7	208.38	1.29E+00 +/- 3.61E-01	1.33E+00	3.66E-04 +/- 3.76E-05
8	244.70	7.84E-01 +/- 2.71E-01	1.29E+00	3.54E-04 +/- 2.70E-05
9	375.39	8.74E-01 +/- 1.89E-01	1.23E+00	2.86E-04 +/- 1.49E-05
10	393.57	2.44E-01 +/- 1.34E-01	1.23E+00	2.76E-04 +/- 1.55E-05
11	413.70	7.54E-01 +/- 1.02E-01	1.22E+00	2.67E-04 +/- 1.59E-05
12	1001.03	1.42E-02 +/- 1.30E-02	1.14E+00	1.30E-04 +/- 5.63E-06
13	1112.12	2.19E-02 +/- 1.60E-02	1.13E+00	1.21E-04 +/- 5.10E-06

Batch 2002-02-536

Segment: 10 Detector: DET01 (# 1) Position: 10

Elapsed Live Time: 113.38 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.312 +/- 0.0262
SE-75	264.65	0.000 +/- 0.0000	0.473 +/- 0.0047
SE-75	279.53	0.000 +/- 0.0000	0.473 +/- 0.0063
SE-75	400.65	0.000 +/- 0.0000	0.521 +/- 0.0079

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.21	2.74E+00 +/- 2.63E-01	2.79E+00	3.42E-07 +/- 4.84E-07
2	35.10	1.01E+03 +/- 4.79E+00	1.99E+00	5.68E-06 +/- 4.74E-06
3	59.58	1.00E+01 +/- 4.24E-01	1.67E+00	6.36E-05 +/- 2.21E-05
4	74.88	9.44E-01 +/- 3.75E-01	1.60E+00	1.27E-04 +/- 2.69E-05
5	443.98	9.61E-02 +/- 4.25E-02	1.26E+00	2.62E-04 +/- 1.06E-05
6	662.42	4.53E-02 +/- 3.32E-02	1.21E+00	1.80E-04 +/- 8.83E-06
7	778.90	1.76E-02 +/- 1.25E-02	1.19E+00	1.56E-04 +/- 7.55E-06
8	964.13	4.40E-02 +/- 1.97E-02	1.17E+00	1.31E-04 +/- 5.40E-06
9	1112.12	8.81E-03 +/- 8.81E-03	1.15E+00	1.20E-04 +/- 4.35E-06

Segment: 11 Detector: DET01 (# 1) Position: 11

Elapsed Live Time: 113.50 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.295 +/- 0.0244
SE-75	264.65	0.000 +/- 0.0000	0.460 +/- 0.0046
SE-75	279.53	0.000 +/- 0.0000	0.469 +/- 0.0062
SE-75	400.65	0.000 +/- 0.0000	0.508 +/- 0.0077

Batch 2002-02-537

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.77E+00	2.05E+00	6.75E-06 +/- 5.60E-06
2	49.34	3.57E+00 +/- 3.56E-01	1.79E+00	3.36E-05 +/- 1.64E-05
3	59.58	3.58E+00 +/- 3.20E-01	1.71E+00	6.69E-05 +/- 2.31E-05
4	129.29	6.15E-01 +/- 3.49E-01	1.54E+00	3.21E-04 +/- 1.65E-05
5	413.70	7.82E-02 +/- 4.18E-02	1.27E+00	2.75E-04 +/- 1.09E-05
6	964.13	5.22E-02 +/- 2.13E-02	1.17E+00	1.32E-04 +/- 5.35E-06
7	1001.03	4.35E-02 +/- 1.95E-02	1.17E+00	1.28E-04 +/- 5.01E-06

Segment: 12 Detector: DET01 (# 1) Position: 12

Elapsed Live Time: 113.61 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Some transmission peaks rejected.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	0.121 +/- 0.0021
SE-75	279.53	0.000 +/- 0.0000	0.130 +/- 0.0031
SE-75	400.65	0.000 +/- 0.0000	0.167 +/- 0.0042

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.25	1.90E+00 +/- 1.99E-01	4.10E+00	6.44E-07 +/- 9.04E-07
2	35.10	1.01E+03 +/- 4.79E+00	3.55E+00	7.63E-06 +/- 6.33E-06
3	49.55	5.18E+00 +/- 3.61E-01	2.88E+00	3.51E-05 +/- 1.71E-05
4	59.83	1.27E+00 +/- 2.75E-01	2.67E+00	6.72E-05 +/- 2.31E-05
5	185.71	5.67E-01 +/- 2.73E-01	2.14E+00	3.72E-04 +/- 1.93E-05
6	279.54	3.38E-01 +/- 1.87E-01	1.97E+00	3.54E-04 +/- 1.68E-05
7	867.39	1.98E-02 +/- 1.78E-02	1.53E+00	1.45E-04 +/- 6.27E-06
8	964.13	8.81E-03 +/- 8.81E-03	1.49E+00	1.33E-04 +/- 5.22E-06

Batch 2002-02-538

Segment: 13 Detector: DET01 (# 1) Position: 13

Elapsed Live Time: 113.68 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.193 +/- 0.0190
SE-75	264.65	0.000 +/- 0.0000	0.268 +/- 0.0032
SE-75	279.53	0.000 +/- 0.0000	0.267 +/- 0.0045
SE-75	400.65	0.000 +/- 0.0000	0.322 +/- 0.0060

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	2.51E+00	1.10E-05 +/- 9.51E-06
2	152.68	5.17E-01 +/- 2.49E-01	1.72E+00	3.57E-04 +/- 1.76E-05
3	311.90	1.69E-01 +/- 1.10E-01	1.56E+00	3.33E-04 +/- 1.50E-05
4	400.66	5.00E-02 +/- 3.58E-02	1.49E+00	2.81E-04 +/- 1.13E-05
5	413.70	7.82E-02 +/- 4.96E-02	1.48E+00	2.74E-04 +/- 1.10E-05
6	964.13	3.26E-02 +/- 2.28E-02	1.30E+00	1.27E-04 +/- 5.29E-06
7	1001.03	8.69E-03 +/- 8.69E-03	1.29E+00	1.23E-04 +/- 4.91E-06

Segment: 14 Detector: DET01 (# 1) Position: 14

Elapsed Live Time: 113.76 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.761 +/- 0.0305
SE-75	264.65	0.000 +/- 0.0000	0.773 +/- 0.0066
SE-75	279.53	0.000 +/- 0.0000	0.776 +/- 0.0085
SE-75	400.65	0.000 +/- 0.0000	0.805 +/- 0.0102

Batch 2002-02-535

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.20E+00	8.94E-06 +/- 4.41E-05
2	400.66	5.00E-02 +/- 3.48E-02	1.08E+00	2.73E-04 +/- 1.53E-05

Segment: 15 Detector: DET01 (# 1) Position: 15

Elapsed Live Time: 113.80 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.814 +/- 0.0322
SE-75	264.65	0.000 +/- 0.0000	0.857 +/- 0.0071
SE-75	279.53	0.000 +/- 0.0000	0.855 +/- 0.0090
SE-75	400.65	0.000 +/- 0.0000	0.880 +/- 0.0108

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.15E+00	1.45E-08 +/- 6.96E-08
2	121.11	3.51E-01 +/- 1.83E-01	1.08E+00	3.03E-04 +/- 1.76E-05
3	148.57	3.34E-01 +/- 2.02E-01	1.08E+00	3.93E-04 +/- 3.63E-05
4	400.66	6.61E-02 +/- 4.95E-02	1.05E+00	2.59E-04 +/- 1.48E-05

Segment: 16 Detector: DET01 (# 1) Position: 16

Elapsed Live Time: 113.81 sec Elapsed Real Time: 115.00 sec

Batch 2002-02-540

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.801 +/- 0.0322
SE-75	264.65	0.000 +/- 0.0000	0.797 +/- 0.0067
SE-75	279.53	0.000 +/- 0.0000	0.788 +/- 0.0086
SE-75	400.65	0.000 +/- 0.0000	0.818 +/- 0.0103

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.16E+00	9.52E-10 +/- 5.35E-09
2	300.10	1.17E-01 +/- 8.10E-02	1.09E+00	2.42E-04 +/- 1.22E-05
3	778.90	1.88E-02 +/- 1.72E-02	1.06E+00	1.14E-04 +/- 6.23E-06
4	964.13	3.47E-02 +/- 1.74E-02	1.05E+00	1.01E-04 +/- 4.92E-06
5	1085.91	8.68E-03 +/- 8.68E-03	1.05E+00	9.33E-05 +/- 4.42E-06
6	1112.12	1.74E-02 +/- 1.23E-02	1.05E+00	9.17E-05 +/- 4.32E-06

Batch 2003-03-541

Summed Spectrum

Peak Locate Report

Sample ID: S100_847
Peak Locate Performed on: 2-04-02 9:21:18 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192
Peak Search Sensitivity: 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
1	43.00	0.2619	21.42	14.58
2	46.50	0.1354	23.17	27.51
3	70.19	0.0402	35.01	501.19
4	119.34	0.0648	59.57	156.50
5	150.46	0.2313	75.11	10.07
6	197.78	0.0823	98.76	79.67
7	207.08	0.0818	103.40	61.28
8	222.67	0.1042	111.19	46.40
9	229.27	0.1526	114.49	25.47
10	234.50	0.1771	117.10	13.95
11	259.23	0.0721	129.46	110.26
12	293.24	0.3381	146.45	6.61
13	297.80	0.1211	148.73	40.24
14	322.52	0.2149	161.08	8.16
15	329.94	0.1670	164.78	20.07
16	343.53	0.2333	171.57	9.70
17	359.53	0.2429	179.57	9.05
18	379.49	0.2511	189.54	7.32
19	392.37	0.2000	195.97	13.83
20	417.02	0.0607	208.29	137.49
21	487.64	0.3237	243.58	5.29
22	511.89	0.1614	255.69	19.11
23	536.35	0.1646	267.91	19.19
24	596.30	0.1901	297.86	14.30
25	625.07	0.1703	312.24	16.32
26	643.26	0.2405	321.32	9.83
27	649.08	0.2153	324.23	11.01
28	667.06	0.0827	333.21	68.96
29	673.24	0.1279	336.31	31.23
30	691.76	0.0852	345.56	64.43
31	738.25	0.1305	368.78	22.11
32	751.94	0.0623	375.62	118.38
33	767.52	0.1178	383.41	36.21
34	787.85	0.0864	393.56	58.59
35	829.45	0.0627	414.35	105.63
36	847.14	0.1209	423.18	30.49

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
37	905.10	0.1046	452.14	40.74
38	965.47	0.3080	482.31	5.27
39	1241.12	0.2104	620.03	8.47
40	1295.09	0.2158	646.99	9.41
41	1308.47	0.2316	653.67	6.99
42	1328.19	0.1270	663.53	24.56
43	1380.96	0.2597	689.89	5.92
44	1447.63	0.1471	723.20	16.27
45	1542.55	0.2218	770.63	7.09

Errors quoted at 1.000 sigma

Summed Spectrum

Peak Analysis Report

Sample ID: S100_847
Peak Analysis Performed on: 2-04-02 9:21:18 AM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	39-	46	43.00	21.42	1.44E+04	204.39	1.37E+04
2	46-	49	46.50	23.17	1.53E+04	221.79	2.03E+04
3	66-	73	70.19	35.01	1.81E+06	1358.61	2.01E+04
4	115-	122	119.34	59.57	2.60E+05	586.10	4.12E+04
5	149-	154	150.46	75.11	3.45E+03	248.38	3.26E+04
6	193-	201	197.78	98.76	1.21E+05	720.10	1.87E+05
7	206-	210	207.08	103.40	1.04E+05	454.77	5.62E+04
8	218-	226	222.67	111.19	2.01E+04	510.02	1.04E+05
9	226-	233	229.27	114.49	2.30E+03	503.42	1.24E+05
10	233-	238	234.50	117.10	1.25E+04	386.70	6.36E+04
11	255-	263	259.23	129.46	9.05E+04	438.52	4.72E+04
12	291-	300	293.24	146.45	1.79E+04	336.94	4.21E+04
13	298-	304	297.80	148.73	6.15E+03	259.63	2.99E+04
14	318-	326	322.52	161.08	1.72E+03	287.08	3.72E+04
15	326-	334	329.94	164.78	2.25E+03	281.07	3.57E+04
16	339-	347	343.53	171.57	4.88E+03	262.82	3.00E+04
17	355-	363	359.53	179.57	2.01E+03	253.48	2.91E+04
18	375-	383	379.49	189.54	2.93E+03	249.98	2.79E+04
19	387-	396	392.37	195.97	4.19E+03	265.86	2.95E+04
20	412-	421	417.02	208.29	8.76E+04	436.18	4.38E+04
21	483-	492	487.64	243.58	1.30E+03	187.96	1.51E+04
22	507-	516	511.89	255.69	3.84E+03	182.16	1.30E+04
23	533-	541	536.35	267.91	2.96E+03	164.79	1.13E+04
24	591-	601	596.30	297.86	1.90E+03	170.50	1.14E+04
25	620-	630	625.07	312.24	2.20E+03	168.88	1.10E+04
26	639-	648	643.26	321.32	2.36E+03	166.37	1.11E+04
27	648-	654	649.08	324.23	8.41E+02	127.26	7.56E+03
28	662-	672	667.06	333.21	2.34E+04	265.43	1.88E+04
29	672-	678	673.24	336.31	3.53E+03	199.73	1.14E+04
30	689-	696	691.76	345.56	2.33E+04	191.65	6.58E+03
31	733-	743	738.25	368.78	9.14E+03	164.06	7.38E+03
32	746-	757	751.94	375.62	6.14E+04	308.62	1.34E+04
33	767-	772	767.52	383.41	6.26E+03	149.83	4.38E+03
34	782-	793	787.85	393.56	2.34E+04	178.54	3.38E+03
35	824-	834	829.45	414.35	6.15E+04	258.43	2.24E+03
36	841-	852	847.14	423.18	3.56E+03	106.32	3.02E+03
37	899-	910	905.10	452.14	7.14E+03	100.87	1.21E+03

Batch 2002-02-544

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
38	962-	971	965.47	482.31	1.34E+02	36.96	5.40E+02
39	1235-	1247	1241.12	620.03	6.36E+02	35.67	2.38E+02
40	1290-	1301	1295.09	646.99	2.45E+02	36.98	4.46E+02
41	1302-	1314	1308.47	653.67	4.47E+02	37.15	3.55E+02
42	1326-	1334	1328.19	663.53	2.68E+03	56.70	2.49E+02
43	1374-	1387	1380.96	689.89	2.63E+02	30.84	2.39E+02
44	1441-	1453	1447.63	723.20	1.40E+03	44.51	2.19E+02
45	1536-	1548	1542.55	770.63	4.83E+02	26.87	9.08E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-02-545

Summed Spectrum

Nuclide Identification Report

Sample ID: S100_847
Nuclide Library Used: C:\WAS\NLIB\LLNL.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/)	Activity Uncertainty
Pulser	0.999	35.10*	100.00	2.867E+05	7.208E+05
Np-237	0.757	300.10	6.63		
		311.90*	38.60	5.294E+00	4.079E-01
Pu-239	0.970	413.70*	0.00	4.584E+06	8.569E+04
Pu-239A	0.998	129.29*	0.01	1.462E+06	3.678E+04
Am-241	0.917	662.42*	0.00	1.074E+06	2.454E+04
Pu-241	0.998	148.57*	0.00	2.983E+06	1.337E+05

* = Energy line found in the spectrum.
Energy Tolerance : 1.500 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 1.000 sigma

Batch 2002-02-546

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 2-04-02 9:21:18 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	21.42	1.2874E+02	1.42
2	23.17	1.3639E+02	1.46
4	59.57	2.3269E+03	0.24
5	75.11	3.0829E+01	7.20
6	98.76	1.0860E+03	0.60
7	103.40	9.3051E+02	0.45
8	111.19	1.7959E+02	2.54
9	114.49	2.0535E+01	21.92
10	117.10	1.1181E+02	3.09
12	146.45	1.6039E+02	1.88
14	161.08	1.5365E+01	16.71
15	164.78	2.0081E+01	12.52
16	171.57	4.3651E+01	5.38
17	179.57	1.7961E+01	12.62
18	189.54	2.6228E+01	8.52
19	195.97	3.7423E+01	6.35
20	208.29	7.8356E+02	0.51
21	243.58	1.1605E+01	14.48
22	255.69	3.4293E+01	4.75
23	267.91	2.6469E+01	5.57
24	297.86	1.6981E+01	8.98
26	321.32	2.1120E+01	7.04
27	324.23	7.5205E+00	15.13
28	333.21	2.0909E+02	1.14
29	336.31	3.1537E+01	5.66
30	345.56	2.0853E+02	0.83
31	368.78	8.1754E+01	1.80
32	375.62	5.4936E+02	0.51
33	383.41	5.5937E+01	2.40
34	393.56	2.0957E+02	0.77
36	423.18	3.1813E+01	2.99
37	452.14	6.3886E+01	1.41
38	482.31	1.1985E+00	27.57
39	620.03	5.6864E+00	5.61
40	646.99	2.1943E+00	15.07
41	653.67	3.9924E+00	8.32
43	689.89	2.3539E+00	11.72
44	723.20	1.2493E+01	3.19
45	770.63	4.3205E+00	5.56

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-02-547

Combined Segment NID

NID Results Combiner Mode: Sum Activities

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		3.59E+07	+/-	1.87E+08	1.62E+03	+/-	8.42E+03
SE-75	<	3.78E-01	+/-	1.87E-02	< 1.70E-05	+/-	8.43E-07
EU-152x		4.01E-02	+/-	1.50E-02	1.81E-06	+/-	6.74E-07
U-233		6.29E+03	+/-	3.62E+03	2.83E-01	+/-	1.63E-01
U-235		3.06E-01	+/-	1.19E-01	1.38E-05	+/-	5.35E-06
Np-237		8.10E+00	+/-	5.00E-01	3.65E-04	+/-	2.25E-05
Pu-238		7.19E+03	+/-	3.49E+03	3.24E-01	+/-	1.57E-01
U-238		3.13E+00	+/-	1.18E+00	1.41E-04	+/-	5.30E-05
Pu-239		5.51E+06	+/-	1.33E+05	2.48E+02	+/-	6.01E+00
Pu-239A		4.15E+06	+/-	1.28E+05	1.87E+02	+/-	5.75E+00
Am-241		1.28E+06	+/-	4.70E+04	5.77E+01	+/-	2.12E+00
Pu-241		1.15E+07	+/-	4.63E+05	5.16E+02	+/-	2.08E+01

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
U-233	6.54E-01	+/-	3.77E-01
U-235	1.42E-01	+/-	5.50E-02
Np-237	1.15E-02	+/-	7.10E-04
Pu-238	4.20E-04	+/-	2.04E-04
U-238	9.34E+00	+/-	3.51E+00
Pu-239	8.87E+01	+/-	2.15E+00
Pu-239A	6.68E+01	+/-	2.06E+00
Am-241	3.74E-01	+/-	1.37E-02
Pu-241	1.11E-01	+/-	4.47E-03

Batch 2002-02-548

Summed Spectrum

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		2.87E+05	+/-	7.21E+05	1.29E+01	+/-	3.25E+01
SE-75	<	8.97E-01	+/-	7.82E-03	< 4.04E-05	+/-	3.52E-07
EU-152x	<	4.58E-01	+/-	8.82E-03	< 2.06E-05	+/-	3.97E-07
U-233	<	4.05E+04	+/-	8.45E+02	< 1.82E+00	+/-	3.81E-02
U-235	<	1.35E+00	+/-	2.67E-02	< 6.10E-05	+/-	1.20E-06
Np-237		5.29E+00	+/-	4.08E-01	2.38E-04	+/-	1.84E-05
Pu-238	<	9.78E+04	+/-	1.42E+03	< 4.41E+00	+/-	6.42E-02
U-238	<	1.20E+01	+/-	1.91E-01	< 5.39E-04	+/-	8.61E-06
Pu-239		4.58E+06	+/-	8.57E+04	2.07E+02	+/-	3.86E+00
Pu-239A		1.46E+06	+/-	3.68E+04	6.59E+01	+/-	1.66E+00
Am-241		1.07E+06	+/-	2.45E+04	4.84E+01	+/-	1.11E+00
Pu-241		2.98E+06	+/-	1.34E+05	1.34E+02	+/-	6.02E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
Np-237	7.52E-03	+/-	5.79E-04
Pu-239	7.38E+01	+/-	1.38E+00
Pu-239A	2.35E+01	+/-	5.92E-01
Am-241	3.14E-01	+/-	7.17E-03
Pu-241	2.88E-02	+/-	1.29E-03

Batch 2002-02-549

Final Non-Uniformity Results

Source Longitudinal Ratio:	0.000	+/-	0.0000
Matrix Longitudinal Ratio:	0.589	+/-	0.0249
Source Vertical Ratio:	0.000	+/-	0.0000
Matrix Vertical Ratio:	0.859	+/-	0.0159

NUDS could not find the transmission peak in one radial segment.
NUDS could not find the source peak in any radial segment.

****
***** M G A R E P O R T *****
****

Report generated on: 2-04-02 9:21:17 AM

MGA version: MGA V9.5 CI

Spectrum ID: 11200847.CNF Sens : 30.0% LT: 51.2 Mins DT: 8.81
Measurement date: 2-04-02 Declared date: 2-04-02

Sample ID: S100_847 Detector: Total counts: 1.526E+07

Pu g/cm2 = 0.8081 Cd g/cm2 = 1.7901 FWHM at 122 keV = 685 eV
QFIT = 1.24 FWHM at 208 keV = 867 eV
NQFIT = 1.01

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	Meas. date %Err	Decl. date % weight	Decl. date %Err
Pu-238	0.000093	6.3	6.3	.0365	6.3	0.00879	6.31	0.00879	6.31
Pu-239	1.000000	0.0	0.3	39.9359	0.5	94.12096	0.05	94.12096	0.05
Pu-240	0.059483	0.8	0.8	23.2540	0.9	5.59858	0.80	5.59858	0.80
Pu-241	0.002558	0.5	0.4	1.0000	0.0	0.24076	0.52	0.24076	0.52
Pu-242	(New alg.)			0.1284	(10)	0.03092	(10)	0.03092	(10)
Am-241	0.004654	0.5	0.3	1.8194	0.5	0.43804	0.44	0.43804	0.44

Pu-240 effective (meas. date) = 5.673 +/- 0.86%
Am-241 separated about 21.420 +/- 0.139 years ago
Am/Pu-241 weight ratio = 1.81944 +/- 0.55%

Messages :

Lead x-rays detected.
Calculations in MGAABS didn't converge : results may be suspect.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Batch 2002-02-551

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS 2.3A

****
* DRUM INFORMATION *
****

Drum Package ID: S100_848
Sequence Number: 848
Assay Date & Time: 2-05-2002 10:45:49 AM
Drum Package GROSS Weight: 54.00 kg NET Weight: 22.20 kg

IDC Number: S100_848

QC Replicate (Yes/No): No Passed (Yes/No): _____

Operator Name (Printed): Russell Rath

Operator Signature: _____ Date: 2-5-02

Independent Reviewer: _____ Date: 4-24-02

Expert Reviewer: (NOT REQUIRED) Date: _____

Tech. Supv/QA Officer: _____ Date: 7/17/02

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 9.420E+00 +/- 2.168E+00 Ci

****
* I S O T O P I C I N F O R M A T I O N *
****

Isotope	Measured Mass (g)	Mass Uncertainty (g)	MDC (g)
Pu-238	7.913E-03	2.90E-03	1.751E-05
Pu-239	1.010E+02	3.30E+01	2.235E-01
Pu-240	5.997E+00	1.96E+00	1.327E-02
Pu-241	2.551E-01	8.35E-02	6.126E-03
Pu-242	3.307E-02	1.26E-02	7.318E-05
Am-241	4.704E-01	1.54E-01	7.160E-03
Am-243	0.000E+00	0.00E+00	0.000E+00
Np-237	0.000E+00	0.00E+00	1.112E-03
U-235	0.000E+00	0.00E+00	2.585E-01
U-238	1.978E+01	1.14E+01	1.276E+01
U-233	4.123E+00	1.32E+00	4.123E+00

Total Pu Mass: 1.07E+02 +/- 5.92E+00 g

****
* M G A R E S U L T S *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	7.378E-03	8.37E+00
Pu-239	9.413E+01	5.35E-02
Pu-240	5.592E+00	8.92E-01
Pu-241	2.379E-01	5.82E-01
Pu-242	3.083E-02	1.00E+01
Am-241	4.386E-01	4.93E-01

Batch 2002-02-553

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005

Assay Date & Time: 2-05-2002 10:45:49 AM

Drum Package ID: S100_848
Sequence Number: 848

Waste Classification (TRU or LLW): TRU

		Errors at 1.96 sigma	
Total Alpha Activity :	9.420E+00	+/- 2.17E+00	Ci
Total TRU Activity :	4.243E+05	+/- 9.77E+04	nCi/g
Pu-239 Equiv Activity:	9.927E+00	+/- 2.17E+00	Ci
Fissile Gram Equiv Mass:	1.017E+02	+/- 3.30E+01	g
Total Decay Heat:	2.998E-01	+/- 6.83E-02	W
TMU Value:	32.72 %		

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error	MDA gm
Pu-238	1.37E-01	5.01E-02	7.91E-03	2.90E-03	1.75E-05
Pu-239	6.27E+00	2.05E+00	1.01E+02	3.30E+01	2.23E-01
Pu-240	1.38E+00	4.52E-01	6.00E+00	1.96E+00	1.33E-02
Pu-241	2.65E+01	8.69E+00	2.55E-01	8.35E-02	6.13E-03
Pu-242	1.31E-04	5.01E-05	3.31E-02	1.26E-02	7.32E-05
Am-241	1.63E+00	5.34E-01	4.70E-01	1.54E-01	7.16E-03
Am-243	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Np-237	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.11E-03
U-235	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.58E-01
U-238	6.73E-06	3.88E-06	1.98E+01	1.14E+01	1.28E+01
U-233	4.02E-02	1.29E-02	4.12E+00	1.32E+00	4.12E+00

Total Pu Mass: 1.07E+02 +/- 5.92E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	7.378E-03	8.37E+00
Pu-239	9.413E+01	5.35E-02
Pu-240	5.592E+00	8.92E-01
Pu-241	2.379E-01	5.82E-01
Pu-242	3.083E-02	1.00E+01
Am-241	4.386E-01	4.93E-01

Batch 2002-02-554

****
***** M G A R E P O R T *****
****

Report generated on: 2-05-02 11:42:24 AM

MGA version: MGA V9.5 CI

Spectrum ID: 11200848.CNF Sens : 30.0% LT: 50.9 Mins DT: 8.81
Measurement date: 2-05-02 Declared date: 2-05-02

Sample ID: S100_848 Detector: Total counts: 1.519E+07

Pu g/cm2 = 0.8467 Cd g/cm2 = 1.7738 FWHM at 122 keV = 683 eV
QFIT = 1.57 FWHM at 208 keV = 852 eV
NQFIT = 1.03

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	Meas. date %Err	Decl. date % weight	Decl. date %Err
Pu-238	0.000078	8.4	8.4	0.0310	8.3	0.00738	8.37	0.00738	8.37
Pu-239	1.000000	0.0	0.4	395.7214	0.6	94.13214	0.05	94.13214	0.05
Pu-240	0.059404	0.9	0.9	23.5073	1.0	5.59178	0.89	5.59178	0.89
Pu-241	0.002527	0.6	0.5	1.0000	0.0	0.23787	0.58	0.23787	0.58
Pu-242	(New alg.)			0.1296	(10)	0.03083	(10)	0.03083	(10)
Am-241	0.004659	0.5	0.4	1.8436	0.6	0.43855	0.49	0.43855	0.49

Pu-240 effective (meas. date) = 5.662 +/- 0.96%
Am-241 separated about 21.588 +/- 0.152 years ago
Am/Pu-241 weight ratio = 1.84362 +/- 0.62%

Messages :

Lead x-rays detected.
Calculations in MGAABS didn't converge : results may be suspect.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Batch 2002-02-555

Gamma Waste Assay

Sample Information

File Name: C:\WAS\DATA\900\11100848.S11
Sample ID: S100_848 Count Sequence Number: 848
Assay Start: 2-05-02 10:45:52 AM
Description 1: 100g source drum
Description 2:
Location: 7715
Comment:
Waste Type:
Weight: Gross: 54000.0 g Net: 22200.0 g
Density: 0.107 g /ml

Container Type: 55 Gal Galv
Container: Volume: 208000. ml Full: 100.0 %

System Configuration

Counter ID Number: SGS
Arrangement Description: SGS
Segments: Number: 16 Offset: 0
Scanning Platform: Start: 934 mm Delta: -51 mm
Count Type: Daily 100 g Drum Check
Collimator/Geometry Setting: 0
Transmission Mode: Two pass
Transmission Source: 0

Errors quoted at 1.000 sigma
Reference Source Date: Reference Source Rate: 1.01E+03 cps
Geometric Correction Factor(SWCONTGCF): 0.760
Date of efficiency calibration approval: 4-18-2001 12:41:36 PM
Mu Factors response file: Lucite
Transmission Calib. Time: 5-11-2001 2:20:42 PM 59052

Reviewed by: _____ Date: 7/16/02

Batch 2002-02-556

Segment Results

Segment: 1 Detector: DET01 (# 1) Position: 1

Elapsed Live Time: 113.39 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.384 +/- 0.0268
SE-75	264.65	0.000 +/- 0.0000	0.442 +/- 0.0045
SE-75	279.53	0.000 +/- 0.0000	0.453 +/- 0.0061
SE-75	400.65	0.000 +/- 0.0000	0.503 +/- 0.0077

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.13	2.64E+00 +/- 2.48E-01	2.42E+00	9.12E-08 +/- 1.15E-06
2	35.10	1.01E+03 +/- 4.79E+00	1.79E+00	2.61E-06 +/- 1.64E-05
3	59.59	4.19E+00 +/- 3.78E-01	1.53E+00	3.75E-05 +/- 7.40E-05
4	867.39	8.78E-03 +/- 8.78E-03	1.19E+00	8.96E-05 +/- 4.69E-06
5	964.13	2.80E-02 +/- 1.94E-02	1.17E+00	8.22E-05 +/- 4.17E-06
6	1001.03	4.39E-02 +/- 1.96E-02	1.17E+00	7.98E-05 +/- 4.04E-06

Segment: 2 Detector: DET01 (# 1) Position: 2

Elapsed Live Time: 113.22 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.400 +/- 0.0268
SE-75	264.65	0.000 +/- 0.0000	0.509 +/- 0.0049
SE-75	279.53	0.000 +/- 0.0000	0.507 +/- 0.0066
SE-75	400.65	0.000 +/- 0.0000	0.559 +/- 0.0082

Batch 2002-02-557

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.21	3.80E+00 +/- 2.91E-01	2.34E+00	5.61E-10 +/- 5.35E-09
2	35.10	1.01E+03 +/- 4.78E+00	1.75E+00	2.21E-07 +/- 1.06E-06
3	48.55	7.81E+00 +/- 4.59E-01	1.57E+00	5.22E-06 +/- 1.30E-05
4	59.59	8.26E+00 +/- 4.50E-01	1.51E+00	2.20E-05 +/- 3.31E-05
5	74.92	7.13E-01 +/- 4.35E-01	1.46E+00	7.18E-05 +/- 5.45E-05
6	185.71	1.03E+00 +/- 3.89E-01	1.34E+00	3.89E-04 +/- 4.14E-05
7	279.54	4.88E-01 +/- 2.19E-01	1.28E+00	3.43E-04 +/- 1.77E-05
8	311.90	3.78E-01 +/- 2.56E-01	1.27E+00	3.18E-04 +/- 1.39E-05

Segment: 3 Detector: DET01 (# 1) Position: 3

Elapsed Live Time: 112.48 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.404 +/- 0.0289
SE-75	264.65	0.000 +/- 0.0000	0.471 +/- 0.0047
SE-75	279.53	0.000 +/- 0.0000	0.482 +/- 0.0065
SE-75	400.65	0.000 +/- 0.0000	0.525 +/- 0.0080

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.24	7.60E+00 +/- 4.23E-01	2.32E+00	1.09E-08 +/- 1.06E-07
2	35.10	1.01E+03 +/- 4.82E+00	1.74E+00	1.07E-06 +/- 5.27E-06
3	59.55	3.06E+01 +/- 7.35E-01	1.50E+00	3.78E-05 +/- 5.86E-05
4	98.83	1.60E+01 +/- 9.36E-01	1.42E+00	2.01E-04 +/- 4.74E-05
5	103.44	6.64E+00 +/- 8.28E-01	1.41E+00	2.20E-04 +/- 3.93E-05
6	111.21	2.16E+00 +/- 7.71E-01	1.40E+00	2.48E-04 +/- 2.67E-05
7	129.29	7.78E+00 +/- 6.48E-01	1.39E+00	3.02E-04 +/- 1.84E-05
8	148.57	2.54E+00 +/- 5.41E-01	1.38E+00	3.39E-04 +/- 3.24E-05
9	208.36	8.54E+00 +/- 5.37E-01	1.34E+00	3.66E-04 +/- 3.64E-05
10	244.70	7.72E-01 +/- 3.42E-01	1.32E+00	3.52E-04 +/- 2.60E-05
11	311.90	6.65E-01 +/- 3.33E-01	1.29E+00	3.13E-04 +/- 1.40E-05
12	333.26	1.77E+00 +/- 3.75E-01	1.28E+00	3.00E-04 +/- 1.35E-05
13	345.64	2.23E+00 +/- 3.36E-01	1.28E+00	2.93E-04 +/- 1.36E-05

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14	375.63	5.73E+00	+/- 3.32E-01	1.27E+00	2.76E-04	+/- 1.44E-05
15	383.42	3.40E-01	+/- 1.71E-01	1.27E+00	2.72E-04	+/- 1.46E-05
16	393.35	2.36E+00	+/- 2.07E-01	1.27E+00	2.67E-04	+/- 1.48E-05
17	413.70	5.77E+00	+/- 2.46E-01	1.26E+00	2.57E-04	+/- 1.52E-05
18	423.24	3.19E-01	+/- 1.04E-01	1.26E+00	2.53E-04	+/- 1.53E-05
19	452.15	7.97E-01	+/- 1.10E-01	1.25E+00	2.40E-04	+/- 1.54E-05
20	662.42	2.71E-01	+/- 6.11E-02	1.20E+00	1.78E-04	+/- 1.02E-05
21	1001.03	7.99E-02	+/- 3.00E-02	1.16E+00	1.31E-04	+/- 5.70E-06

Segment: 4 Detector: DET01 (# 1) Position: 4

Elapsed Live Time: 107.83 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.453 +/- 0.0366
SE-75	264.65	0.000 +/- 0.0000	0.530 +/- 0.0053
SE-75	279.53	0.000 +/- 0.0000	0.533 +/- 0.0074
SE-75	400.65	0.000 +/- 0.0000	0.603 +/- 0.0090

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	1.53E+01 +/- 6.52E-01	2.31E+00	2.23E-06 +/- 3.43E-06
2	23.17	1.60E+01 +/- 6.98E-01	2.13E+00	3.32E-06 +/- 4.67E-06
3	35.10	1.01E+03 +/- 4.93E+00	1.63E+00	2.00E-05 +/- 1.66E-05
4	59.58	2.52E+02 +/- 2.01E+00	1.43E+00	9.82E-05 +/- 3.39E-05
5	74.91	4.94E+00 +/- 9.28E-01	1.39E+00	1.58E-04 +/- 3.32E-05
6	98.82	1.54E+02 +/- 2.21E+00	1.36E+00	2.40E-04 +/- 2.42E-05
7	103.50	1.24E+02 +/- 1.62E+00	1.35E+00	2.53E-04 +/- 2.24E-05
8	111.27	2.35E+01 +/- 1.61E+00	1.35E+00	2.74E-04 +/- 1.97E-05
9	117.28	1.58E+01 +/- 1.24E+00	1.34E+00	2.88E-04 +/- 1.80E-05
10	129.29	1.01E+02 +/- 1.40E+00	1.33E+00	3.12E-04 +/- 1.61E-05
11	148.57	2.19E+01 +/- 9.96E-01	1.32E+00	3.40E-04 +/- 1.63E-05
12	160.55	7.35E+00 +/- 8.73E-01	1.31E+00	3.52E-04 +/- 1.72E-05
13	164.90	1.79E+00 +/- 9.74E-01	1.31E+00	3.56E-04 +/- 1.76E-05
14	171.79	5.75E+00 +/- 9.08E-01	1.31E+00	3.60E-04 +/- 1.81E-05
15	179.56	3.31E+00 +/- 8.06E-01	1.30E+00	3.64E-04 +/- 1.86E-05
16	189.71	3.40E+00 +/- 8.00E-01	1.30E+00	3.68E-04 +/- 1.91E-05
17	196.00	5.31E+00 +/- 8.02E-01	1.29E+00	3.69E-04 +/- 1.93E-05
18	208.35	1.03E+02 +/- 1.49E+00	1.29E+00	3.71E-04 +/- 1.94E-05
19	244.70	1.82E+00 +/- 6.00E-01	1.27E+00	3.65E-04 +/- 1.85E-05
20	255.71	4.61E+00 +/- 5.89E-01	1.26E+00	3.62E-04 +/- 1.80E-05
21	268.02	2.86E+00 +/- 4.73E-01	1.26E+00	3.57E-04 +/- 1.73E-05
22	298.15	2.99E+00 +/- 6.83E-01	1.25E+00	3.44E-04 +/- 1.56E-05

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23	311.90	3.02E+00	+/- 5.49E-01	1.24E+00	3.38E-04	+/- 1.48E-05
24	324.41	2.59E+00	+/- 4.58E-01	1.24E+00	3.32E-04	+/- 1.41E-05
25	333.27	2.69E+01	+/- 8.88E-01	1.23E+00	3.27E-04	+/- 1.37E-05
26	336.40	3.72E+00	+/- 6.74E-01	1.23E+00	3.26E-04	+/- 1.36E-05
27	345.62	2.69E+01	+/- 7.05E-01	1.23E+00	3.21E-04	+/- 1.32E-05
28	368.97	1.19E+01	+/- 5.40E-01	1.22E+00	3.09E-04	+/- 1.23E-05
29	375.67	7.47E+01	+/- 1.05E+00	1.21E+00	3.06E-04	+/- 1.21E-05
30	383.54	7.07E+00	+/- 5.38E-01	1.21E+00	3.02E-04	+/- 1.18E-05
31	393.61	2.80E+01	+/- 6.08E-01	1.21E+00	2.97E-04	+/- 1.16E-05
32	413.70	7.56E+01	+/- 9.15E-01	1.20E+00	2.87E-04	+/- 1.11E-05
33	423.24	4.08E+00	+/- 3.47E-01	1.20E+00	2.83E-04	+/- 1.10E-05
34	452.23	8.84E+00	+/- 3.36E-01	1.19E+00	2.70E-04	+/- 1.06E-05
35	482.41	3.21E-01	+/- 1.41E-01	1.19E+00	2.57E-04	+/- 1.04E-05
36	619.94	7.97E-01	+/- 1.19E-01	1.16E+00	2.07E-04	+/- 9.43E-06
37	641.50	4.22E-01	+/- 1.25E-01	1.16E+00	2.01E-04	+/- 9.24E-06
38	653.99	6.86E-01	+/- 1.24E-01	1.16E+00	1.97E-04	+/- 9.12E-06
39	662.42	3.17E+00	+/- 1.98E-01	1.16E+00	1.95E-04	+/- 9.03E-06
40	704.87	1.74E-01	+/- 5.96E-02	1.15E+00	1.84E-04	+/- 8.57E-06
41	723.27	1.51E+00	+/- 1.43E-01	1.15E+00	1.79E-04	+/- 8.35E-06

Segment: 5 Detector: DET01 (# 1) Position: 5

Elapsed Live Time: 100.91 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.201 +/- 0.0035
SE-75	279.53	0.000 +/- 0.0000	0.223 +/- 0.0055
SE-75	400.65	0.000 +/- 0.0000	0.366 +/- 0.0075

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	3.85E+01 +/- 9.81E-01	4.10E+00	1.08E-06 +/- 1.72E-06
2	23.13	3.13E+01 +/- 1.07E+00	4.10E+00	1.73E-06 +/- 2.52E-06
3	35.10	1.01E+03 +/- 5.12E+00	4.10E+00	1.48E-05 +/- 1.27E-05
4	50.06	1.48E+01 +/- 1.38E+00	4.10E+00	5.63E-05 +/- 2.75E-05
5	59.53	6.91E+02 +/- 3.98E+00	4.10E+00	9.30E-05 +/- 3.29E-05
6	75.11	6.74E+00 +/- 1.10E+00	4.10E+00	1.59E-04 +/- 3.39E-05
7	98.75	3.21E+02 +/- 3.74E+00	4.10E+00	2.49E-04 +/- 2.52E-05
8	103.37	2.44E+02 +/- 3.22E+00	4.10E+00	2.64E-04 +/- 2.33E-05

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9	111.16	5.57E+01	+/-	2.47E+00	4.10E+00	2.86E-04	+/-	2.04E-05
10	114.47	4.29E+00	+/-	2.45E+00	4.10E+00	2.94E-04	+/-	1.94E-05
11	117.11	3.58E+01	+/-	1.91E+00	4.10E+00	3.01E-04	+/-	1.87E-05
12	129.29	2.45E+02	+/-	2.26E+00	4.10E+00	3.26E-04	+/-	1.67E-05
13	144.29	4.27E+00	+/-	2.00E+00	3.34E+00	3.49E-04	+/-	1.68E-05
14	148.57	3.99E+01	+/-	1.49E+00	3.14E+00	3.54E-04	+/-	1.71E-05
15	160.93	4.91E+00	+/-	1.29E+00	2.75E+00	3.65E-04	+/-	1.83E-05
16	164.79	5.83E+00	+/-	1.25E+00	2.67E+00	3.68E-04	+/-	1.86E-05
17	171.55	1.42E+01	+/-	1.17E+00	2.54E+00	3.71E-04	+/-	1.92E-05
18	179.55	6.04E+00	+/-	1.11E+00	2.41E+00	3.74E-04	+/-	1.97E-05
19	189.54	1.05E+01	+/-	1.12E+00	2.29E+00	3.76E-04	+/-	2.02E-05
20	195.90	1.07E+01	+/-	1.20E+00	2.22E+00	3.76E-04	+/-	2.03E-05
21	208.27	2.41E+02	+/-	2.37E+00	2.10E+00	3.75E-04	+/-	2.04E-05
22	244.70	3.55E+00	+/-	8.59E-01	1.84E+00	3.63E-04	+/-	1.90E-05
23	255.72	1.06E+01	+/-	8.33E-01	1.78E+00	3.58E-04	+/-	1.84E-05
24	267.88	7.83E+00	+/-	7.98E-01	1.72E+00	3.51E-04	+/-	1.76E-05
25	297.82	4.13E+00	+/-	9.61E-01	1.63E+00	3.34E-04	+/-	1.56E-05
26	311.90	8.37E+00	+/-	7.43E-01	1.60E+00	3.26E-04	+/-	1.48E-05
27	321.30	5.20E+00	+/-	8.21E-01	1.57E+00	3.20E-04	+/-	1.42E-05
28	324.12	3.17E+00	+/-	5.46E-01	1.57E+00	3.19E-04	+/-	1.41E-05
29	333.19	6.45E+01	+/-	1.37E+00	1.55E+00	3.13E-04	+/-	1.36E-05
30	336.28	1.04E+01	+/-	1.00E+00	1.54E+00	3.12E-04	+/-	1.34E-05
31	345.53	6.25E+01	+/-	9.79E-01	1.52E+00	3.06E-04	+/-	1.30E-05
32	368.80	2.64E+01	+/-	8.08E-01	1.48E+00	2.93E-04	+/-	1.20E-05
33	375.61	1.69E+02	+/-	1.71E+00	1.47E+00	2.89E-04	+/-	1.18E-05
34	383.38	1.65E+01	+/-	7.72E-01	1.46E+00	2.85E-04	+/-	1.16E-05
35	393.53	6.33E+01	+/-	9.32E-01	1.44E+00	2.80E-04	+/-	1.13E-05
36	413.70	1.68E+02	+/-	1.50E+00	1.42E+00	2.69E-04	+/-	1.09E-05
37	423.18	8.84E+00	+/-	4.81E-01	1.42E+00	2.64E-04	+/-	1.07E-05
38	452.14	1.96E+01	+/-	5.27E-01	1.40E+00	2.51E-04	+/-	1.03E-05
39	482.05	5.16E-01	+/-	1.66E-01	1.39E+00	2.37E-04	+/-	1.00E-05
40	619.94	1.58E+00	+/-	1.74E-01	1.34E+00	1.90E-04	+/-	9.14E-06
41	640.95	7.59E-01	+/-	1.71E-01	1.33E+00	1.84E-04	+/-	8.96E-06
42	647.02	8.82E-01	+/-	1.69E-01	1.33E+00	1.83E-04	+/-	8.91E-06

Batch 2002-02-561

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
	43	653.46	1.50E+00 +/- 1.55E-01	1.33E+00	1.81E-04 +/- 8.85E-06
M	44	660.07	4.94E-01 +/- 1.01E-01	1.33E+00	1.79E-04 +/- 8.79E-06
m	45	663.46	7.65E+00 +/- 3.95E-01	1.33E+00	1.78E-04 +/- 8.76E-06
	46	690.08	7.84E-01 +/- 1.37E-01	1.32E+00	1.72E-04 +/- 8.50E-06
	47	723.14	4.16E+00 +/- 2.21E-01	1.31E+00	1.65E-04 +/- 8.15E-06
	48	770.64	1.01E+00 +/- 1.24E-01	1.30E+00	1.56E-04 +/- 7.61E-06
	49	1112.12	2.93E-02 +/- 1.69E-02	1.24E+00	1.14E-04 +/- 4.26E-06

Segment: 6 Detector: DET01 (# 1) Position: 6

Elapsed Live Time: 99.39 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.186 +/- 0.0035
SE-75	279.53	0.000 +/- 0.0000	0.206 +/- 0.0055
SE-75	400.65	0.000 +/- 0.0000	0.327 +/- 0.0073

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	4.17E+01 +/- 1.03E+00	4.10E+00	3.85E-07 +/- 5.97E-07
2	23.11	3.78E+01 +/- 1.12E+00	4.10E+00	6.59E-07 +/- 9.39E-07
3	35.10	1.01E+03 +/- 5.14E+00	4.10E+00	8.04E-06 +/- 6.71E-06
4	59.53	7.36E+02 +/- 4.18E+00	4.10E+00	6.87E-05 +/- 2.39E-05
5	74.96	4.68E+00 +/- 1.03E+00	4.10E+00	1.29E-04 +/- 2.73E-05
6	98.71	3.62E+02 +/- 4.00E+00	4.10E+00	2.22E-04 +/- 2.26E-05
7	103.36	3.15E+02 +/- 2.69E+00	4.10E+00	2.38E-04 +/- 2.12E-05
8	111.16	6.09E+01 +/- 2.64E+00	4.10E+00	2.63E-04 +/- 1.90E-05
9	117.01	5.61E+01 +/- 2.23E+00	4.10E+00	2.80E-04 +/- 1.77E-05
10	129.29	2.53E+02 +/- 2.51E+00	4.10E+00	3.10E-04 +/- 1.61E-05
11	144.24	2.36E+00 +/- 1.39E+00	3.38E+00	3.38E-04 +/- 1.63E-05
12	148.57	4.59E+01 +/- 1.57E+00	3.18E+00	3.45E-04 +/- 1.67E-05
13	161.04	2.68E+00 +/- 1.36E+00	2.80E+00	3.60E-04 +/- 1.78E-05
14	164.72	8.70E+00 +/- 1.32E+00	2.72E+00	3.64E-04 +/- 1.82E-05
15	171.59	1.60E+01 +/- 1.22E+00	2.59E+00	3.69E-04 +/- 1.88E-05

Batch 2002-02-562

16	179.47	7.88E+00 +/-	1.17E+00	2.46E+00	3.74E-04 +/-	1.94E-05
17	189.61	8.44E+00 +/-	1.09E+00	2.33E+00	3.78E-04 +/-	1.99E-05
18	195.93	1.50E+01 +/-	1.27E+00	2.26E+00	3.80E-04 +/-	2.01E-05
19	208.26	2.69E+02 +/-	2.54E+00	2.14E+00	3.81E-04 +/-	2.03E-05
20	244.70	6.14E+00 +/-	8.87E-01	1.88E+00	3.73E-04 +/-	1.92E-05
21	255.68	1.09E+01 +/-	8.74E-01	1.82E+00	3.69E-04 +/-	1.86E-05
22	267.87	8.24E+00 +/-	8.42E-01	1.76E+00	3.63E-04 +/-	1.78E-05
23	297.69	7.43E+00 +/-	8.80E-01	1.67E+00	3.47E-04 +/-	1.59E-05
24	311.90	8.43E+00 +/-	7.28E-01	1.64E+00	3.39E-04 +/-	1.51E-05
25	321.31	7.82E+00 +/-	8.10E-01	1.62E+00	3.33E-04 +/-	1.45E-05
26	324.15	3.51E+00 +/-	5.75E-01	1.62E+00	3.32E-04 +/-	1.44E-05
27	333.19	7.34E+01 +/-	1.47E+00	1.60E+00	3.26E-04 +/-	1.39E-05
28	336.30	1.08E+01 +/-	1.07E+00	1.59E+00	3.24E-04 +/-	1.37E-05
29	345.53	7.20E+01 +/-	1.05E+00	1.58E+00	3.19E-04 +/-	1.33E-05
30	368.73	2.98E+01 +/-	8.87E-01	1.54E+00	3.05E-04 +/-	1.23E-05
31	375.60	1.90E+02 +/-	1.84E+00	1.52E+00	3.02E-04 +/-	1.21E-05
32	383.38	1.89E+01 +/-	8.16E-01	1.51E+00	2.97E-04 +/-	1.18E-05
33	393.53	7.37E+01 +/-	1.01E+00	1.50E+00	2.92E-04 +/-	1.16E-05
34	413.70	1.91E+02 +/-	1.62E+00	1.48E+00	2.81E-04 +/-	1.11E-05
35	423.20	1.04E+01 +/-	5.77E-01	1.47E+00	2.76E-04 +/-	1.09E-05
36	452.13	2.21E+01 +/-	5.66E-01	1.46E+00	2.62E-04 +/-	1.05E-05
37	481.96	8.23E-01 +/-	2.03E-01	1.44E+00	2.48E-04 +/-	1.02E-05
38	619.85	1.91E+00 +/-	1.83E-01	1.38E+00	1.98E-04 +/-	9.16E-06
39	640.93	8.50E-01 +/-	1.88E-01	1.38E+00	1.92E-04 +/-	8.98E-06
40	647.28	6.04E-01 +/-	2.00E-01	1.37E+00	1.90E-04 +/-	8.92E-06
41	653.68	1.53E+00 +/-	1.88E-01	1.37E+00	1.89E-04 +/-	8.86E-06
42	662.42	1.00E+01 +/-	3.46E-01	1.37E+00	1.86E-04 +/-	8.77E-06

Batch 2002-02-563

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
43	689.79	8.92E-01 +/- 1.32E-01	1.36E+00	1.80E-04 +/- 8.49E-06
44	704.86	2.09E-01 +/- 1.31E-01	1.36E+00	1.76E-04 +/- 8.33E-06
45	723.27	4.32E+00 +/- 2.34E-01	1.35E+00	1.72E-04 +/- 8.13E-06
46	770.48	1.40E+00 +/- 1.38E-01	1.34E+00	1.62E-04 +/- 7.58E-06
47	1085.91	1.96E-02 +/- 1.39E-02	1.27E+00	1.22E-04 +/- 4.37E-06

Segment: 7 Detector: DET01 (# 1) Position: 7

Elapsed Live Time: 104.50 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.229 +/- 0.0035
SE-75	279.53	0.000 +/- 0.0000	0.258 +/- 0.0054
SE-75	400.65	0.000 +/- 0.0000	0.366 +/- 0.0072

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	2.69E+01 +/- 8.37E-01	4.10E+00	2.18E-09 +/- 2.40E-08
2	23.17	2.64E+01 +/- 9.12E-01	4.10E+00	7.03E-09 +/- 6.90E-08
3	35.10	1.01E+03 +/- 5.03E+00	4.10E+00	9.59E-07 +/- 4.73E-06
4	49.77	8.94E+00 +/- 1.19E+00	4.10E+00	1.47E-05 +/- 3.55E-05
5	59.57	5.43E+02 +/- 3.31E+00	4.10E+00	4.01E-05 +/- 6.21E-05
6	74.91	3.06E+00 +/- 8.42E-01	4.10E+00	1.04E-04 +/- 8.11E-05
7	77.06	1.82E+00 +/- 8.30E-01	4.10E+00	1.14E-04 +/- 8.08E-05
8	98.76	2.61E+02 +/- 2.97E+00	4.10E+00	2.20E-04 +/- 5.19E-05
9	103.43	1.98E+02 +/- 2.03E+00	4.10E+00	2.41E-04 +/- 4.29E-05
10	111.22	4.30E+01 +/- 2.06E+00	4.10E+00	2.73E-04 +/- 2.89E-05
11	117.12	2.50E+01 +/- 1.58E+00	4.10E+00	2.94E-04 +/- 2.09E-05
12	129.29	1.77E+02 +/- 1.87E+00	4.10E+00	3.30E-04 +/- 1.98E-05
13	146.42	3.51E+01 +/- 1.32E+00	3.16E+00	3.65E-04 +/- 3.34E-05
14	148.57	1.19E+01 +/- 1.02E+00	3.06E+00	3.68E-04 +/- 3.49E-05
15	161.02	3.35E+00 +/- 1.09E+00	2.67E+00	3.83E-04 +/- 4.08E-05
16	164.90	3.94E+00 +/- 1.07E+00	2.58E+00	3.86E-04 +/- 4.19E-05
17	171.57	9.45E+00 +/- 9.88E-01	2.46E+00	3.90E-04 +/- 4.31E-05

18	179.52	5.36E+00	+/- 9.47E-01	2.33E+00	3.93E-04	+/- 4.34E-05
19	189.59	5.90E+00	+/- 9.49E-01	2.20E+00	3.94E-04	+/- 4.25E-05
20	196.00	8.54E+00	+/- 9.52E-01	2.13E+00	3.94E-04	+/- 4.14E-05
21	208.31	1.61E+02	+/- 1.91E+00	2.02E+00	3.91E-04	+/- 3.83E-05
22	244.70	2.35E+00	+/- 7.12E-01	1.77E+00	3.73E-04	+/- 2.70E-05
23	255.74	6.74E+00	+/- 7.02E-01	1.71E+00	3.66E-04	+/- 2.39E-05
24	268.00	4.79E+00	+/- 6.81E-01	1.65E+00	3.58E-04	+/- 2.08E-05
25	298.01	4.47E+00	+/- 7.94E-01	1.57E+00	3.37E-04	+/- 1.58E-05
26	311.90	4.79E+00	+/- 6.46E-01	1.55E+00	3.27E-04	+/- 1.48E-05
27	324.27	2.49E+00	+/- 6.10E-01	1.53E+00	3.19E-04	+/- 1.44E-05
28	333.22	4.31E+01	+/- 1.09E+00	1.52E+00	3.13E-04	+/- 1.44E-05
29	336.37	5.09E+00	+/- 8.34E-01	1.51E+00	3.11E-04	+/- 1.44E-05
30	345.58	4.02E+01	+/- 8.75E-01	1.50E+00	3.05E-04	+/- 1.46E-05
31	368.84	1.63E+01	+/- 6.79E-01	1.47E+00	2.91E-04	+/- 1.52E-05
32	375.64	1.14E+02	+/- 1.36E+00	1.46E+00	2.87E-04	+/- 1.54E-05
33	383.41	1.17E+01	+/- 6.30E-01	1.45E+00	2.83E-04	+/- 1.57E-05
34	393.58	4.44E+01	+/- 7.74E-01	1.44E+00	2.77E-04	+/- 1.59E-05
35	400.66	7.91E-01	+/- 3.70E-01	1.43E+00	2.74E-04	+/- 1.60E-05
36	413.70	1.13E+02	+/- 1.18E+00	1.42E+00	2.67E-04	+/- 1.63E-05
37	423.22	6.06E+00	+/- 4.42E-01	1.42E+00	2.62E-04	+/- 1.63E-05
38	452.18	1.24E+01	+/- 4.24E-01	1.41E+00	2.49E-04	+/- 1.63E-05
39	620.12	9.28E-01	+/- 1.42E-01	1.34E+00	1.92E-04	+/- 1.19E-05
40	641.26	5.21E-01	+/- 1.45E-01	1.33E+00	1.87E-04	+/- 1.13E-05
41	646.98	2.74E-01	+/- 1.64E-01	1.33E+00	1.86E-04	+/- 1.11E-05
42	653.70	9.72E-01	+/- 1.40E-01	1.33E+00	1.84E-04	+/- 1.09E-05

Batch 2002-02-565

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
M 43	660.01	5.87E-01 +/- 9.19E-02	1.33E+00	1.83E-04 +/- 1.07E-05
m 44	663.60	5.03E+00 +/- 3.19E-01	1.33E+00	1.82E-04 +/- 1.06E-05
45	689.88	4.86E-01 +/- 1.01E-01	1.32E+00	1.76E-04 +/- 9.85E-06
46	705.28	2.04E-01 +/- 9.33E-02	1.32E+00	1.73E-04 +/- 9.45E-06
47	723.33	2.39E+00 +/- 1.74E-01	1.31E+00	1.69E-04 +/- 9.01E-06
48	757.73	3.49E-01 +/- 6.92E-02	1.30E+00	1.63E-04 +/- 8.27E-06
49	770.30	5.65E-01 +/- 9.87E-02	1.30E+00	1.61E-04 +/- 8.04E-06
50	778.90	4.27E-02 +/- 2.79E-02	1.30E+00	1.60E-04 +/- 7.89E-06
51	964.13	3.04E-02 +/- 2.56E-02	1.26E+00	1.35E-04 +/- 6.00E-06
52	1085.91	9.50E-03 +/- 9.50E-03	1.24E+00	1.23E-04 +/- 5.27E-06

Segment: 8 Detector: DET01 (# 1) Position: 8

Elapsed Live Time: 110.40 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.346 +/- 0.0315
SE-75	264.65	0.000 +/- 0.0000	0.487 +/- 0.0049
SE-75	279.53	0.000 +/- 0.0000	0.494 +/- 0.0068
SE-75	400.65	0.000 +/- 0.0000	0.548 +/- 0.0084

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	8.54E+00 +/- 5.03E-01	2.87E+00	1.22E-09 +/- 1.33E-08
2	23.20	1.18E+01 +/- 5.56E-01	2.60E+00	4.20E-09 +/- 4.09E-08
3	35.10	1.01E+03 +/- 4.86E+00	1.89E+00	6.89E-07 +/- 3.37E-06
4	59.59	1.89E+02 +/- 1.66E+00	1.60E+00	3.34E-05 +/- 5.14E-05
5	98.84	8.51E+01 +/- 1.67E+00	1.50E+00	1.99E-04 +/- 4.65E-05
6	103.43	6.30E+01 +/- 1.11E+00	1.49E+00	2.18E-04 +/- 3.88E-05
7	111.27	1.28E+01 +/- 1.21E+00	1.48E+00	2.49E-04 +/- 2.64E-05
8	129.29	5.84E+01 +/- 1.08E+00	1.46E+00	3.05E-04 +/- 1.85E-05
9	148.57	1.18E+01 +/- 7.74E-01	1.44E+00	3.45E-04 +/- 3.27E-05
10	164.92	2.75E+00 +/- 6.39E-01	1.41E+00	3.64E-04 +/- 3.97E-05
11	179.52	1.70E+00 +/- 6.35E-01	1.39E+00	3.73E-04 +/- 4.15E-05
12	189.48	2.40E+00 +/- 5.80E-01	1.38E+00	3.76E-04 +/- 4.08E-05
13	196.11	2.57E+00 +/- 6.69E-01	1.37E+00	3.77E-04 +/- 3.98E-05
14	208.39	4.84E+01 +/- 1.04E+00	1.36E+00	3.76E-04 +/- 3.71E-05
15	255.75	2.63E+00 +/- 4.44E-01	1.31E+00	3.56E-04 +/- 2.36E-05

Batch 2002-02-5(a)

16	268.02	9.57E-01 +/-	3.71E-01	1.30E+00	3.49E-04 +/-	2.06E-05
17	298.07	1.01E+00 +/-	4.49E-01	1.28E+00	3.31E-04 +/-	1.55E-05
18	311.90	2.20E+00 +/-	4.25E-01	1.28E+00	3.23E-04 +/-	1.44E-05
19	324.38	1.34E+00 +/-	3.20E-01	1.27E+00	3.15E-04 +/-	1.39E-05
20	333.29	1.26E+01 +/-	5.99E-01	1.27E+00	3.10E-04 +/-	1.38E-05
21	336.49	1.97E+00 +/-	4.84E-01	1.27E+00	3.08E-04 +/-	1.38E-05
22	345.67	1.24E+01 +/-	5.24E-01	1.27E+00	3.03E-04 +/-	1.38E-05
23	368.97	5.07E+00 +/-	3.88E-01	1.26E+00	2.89E-04 +/-	1.44E-05
24	375.69	3.54E+01 +/-	7.06E-01	1.25E+00	2.86E-04 +/-	1.46E-05
25	383.42	3.24E+00 +/-	3.48E-01	1.25E+00	2.82E-04 +/-	1.48E-05
26	393.62	1.31E+01 +/-	4.11E-01	1.25E+00	2.76E-04 +/-	1.50E-05
27	413.70	3.35E+01 +/-	5.96E-01	1.24E+00	2.66E-04 +/-	1.54E-05
28	423.29	1.60E+00 +/-	2.33E-01	1.24E+00	2.62E-04 +/-	1.55E-05
29	452.27	3.91E+00 +/-	2.30E-01	1.23E+00	2.49E-04 +/-	1.56E-05
30	619.97	5.83E-01 +/-	9.70E-02	1.20E+00	1.93E-04 +/-	1.16E-05
31	647.28	2.26E-01 +/-	8.62E-02	1.19E+00	1.86E-04 +/-	1.07E-05
32	662.42	1.73E+00 +/-	1.36E-01	1.19E+00	1.83E-04 +/-	1.03E-05
33	723.20	7.06E-01 +/-	9.95E-02	1.18E+00	1.70E-04 +/-	8.79E-06
34	778.90	7.62E-02 +/-	3.82E-02	1.17E+00	1.59E-04 +/-	7.73E-06
35	867.39	1.57E-02 +/-	2.43E-02	1.16E+00	1.45E-04 +/-	6.62E-06
36	964.13	2.69E-02 +/-	1.55E-02	1.15E+00	1.32E-04 +/-	5.87E-06
37	1001.03	3.18E-02 +/-	2.46E-02	1.15E+00	1.28E-04 +/-	5.62E-06

Segment: 9 Detector: DET01 (# 1) Position: 9

Elapsed Live Time: 113.03 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.325 +/- 0.0277
SE-75	264.65	0.000 +/- 0.0000	0.523 +/- 0.0050
SE-75	279.53	0.000 +/- 0.0000	0.523 +/- 0.0068
SE-75	400.65	0.000 +/- 0.0000	0.574 +/- 0.0084

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.16	4.75E+00 +/- 3.50E-01	2.73E+00	2.27E-06 +/- 2.29E-05
2	35.10	1.01E+03 +/- 4.79E+00	1.96E+00	1.75E-05 +/- 8.88E-05
3	59.58	2.37E+01 +/- 6.19E-01	1.64E+00	9.99E-05 +/- 1.59E-04
4	67.36	6.61E-01 +/- 3.51E-01	1.61E+00	1.33E-04 +/- 1.50E-04
5	98.91	6.05E+00 +/- 7.33E-01	1.53E+00	2.52E-04 +/- 6.03E-05
6	129.29	3.35E+00 +/- 4.22E-01	1.49E+00	3.23E-04 +/- 1.97E-05
7	208.55	2.41E+00 +/- 3.26E-01	1.34E+00	3.66E-04 +/- 3.75E-05
8	345.46	7.00E-01 +/- 1.85E-01	1.24E+00	3.01E-04 +/- 1.41E-05

9	375.74	9.52E-01	+/- 1.87E-01	1.23E+00	2.85E-04	+/- 1.49E-05
10	393.68	4.25E-01	+/- 1.24E-01	1.23E+00	2.76E-04	+/- 1.55E-05
11	413.70	8.44E-01	+/- 1.11E-01	1.22E+00	2.67E-04	+/- 1.59E-05
12	662.42	6.81E-02	+/- 4.37E-02	1.17E+00	1.82E-04	+/- 1.04E-05
13	1085.91	3.60E-02	+/- 2.73E-02	1.13E+00	1.23E-04	+/- 5.22E-06
14	1112.12	8.79E-03	+/- 3.23E-02	1.13E+00	1.21E-04	+/- 5.10E-06

Segment: 10 Detector: DET01 (# 1) Position: 10

Elapsed Live Time: 113.37 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.334 +/- 0.0252
SE-75	264.65	0.000 +/- 0.0000	0.462 +/- 0.0046
SE-75	279.53	0.000 +/- 0.0000	0.477 +/- 0.0064
SE-75	400.65	0.000 +/- 0.0000	0.527 +/- 0.0080

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.13	2.63E+00 +/- 2.68E-01	2.68E+00	3.33E-07 +/- 4.73E-07
2	35.10	1.01E+03 +/- 4.77E+00	1.93E+00	5.68E-06 +/- 4.74E-06
3	59.59	8.31E+00 +/- 4.21E-01	1.62E+00	6.37E-05 +/- 2.21E-05
4	244.70	3.76E-01 +/- 2.26E-01	1.34E+00	3.89E-04 +/- 1.95E-05
5	662.42	1.96E-02 +/- 1.76E-02	1.20E+00	1.80E-04 +/- 8.83E-06
6	964.13	8.71E-03 +/- 8.71E-03	1.16E+00	1.31E-04 +/- 5.40E-06
7	1112.12	2.11E-02 +/- 1.66E-02	1.15E+00	1.20E-04 +/- 4.35E-06

Segment: 11 Detector: DET01 (# 1) Position: 11

Elapsed Live Time: 113.52 sec Elapsed Real Time: 115.00 sec

Batch 2002-02-568

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.328 +/- 0.0243
SE-75	264.65	0.000 +/- 0.0000	0.469 +/- 0.0046
SE-75	279.53	0.000 +/- 0.0000	0.474 +/- 0.0063
SE-75	400.65	0.000 +/- 0.0000	0.514 +/- 0.0078

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	1.01E+00 +/- 1.72E-01	2.99E+00	2.54E-07 +/- 3.92E-07
2	23.14	9.90E-01 +/- 1.72E-01	2.71E+00	4.59E-07 +/- 6.49E-07
3	35.10	1.01E+03 +/- 4.78E+00	1.95E+00	6.75E-06 +/- 5.60E-06
4	59.62	3.69E+00 +/- 3.33E-01	1.64E+00	6.71E-05 +/- 2.31E-05
5	244.70	5.22E-01 +/- 2.19E-01	1.34E+00	3.77E-04 +/- 1.91E-05
6	400.66	5.68E-02 +/- 4.15E-02	1.27E+00	2.82E-04 +/- 1.12E-05
7	413.70	6.77E-02 +/- 4.54E-02	1.27E+00	2.75E-04 +/- 1.09E-05
8	1001.03	4.93E-02 +/- 2.64E-02	1.17E+00	1.28E-04 +/- 5.01E-06
9	1085.91	3.45E-02 +/- 2.29E-02	1.16E+00	1.22E-04 +/- 4.46E-06

Segment: 12 Detector: DET01 (# 1) Position: 12

Elapsed Live Time: 113.58 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.080 +/- 0.0154
SE-75	264.65	0.000 +/- 0.0000	0.124 +/- 0.0021
SE-75	279.53	0.000 +/- 0.0000	0.129 +/- 0.0031
SE-75	400.65	0.000 +/- 0.0000	0.165 +/- 0.0042

Batch 2002-02-569

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	3.56E+00	7.63E-06 +/- 6.33E-06
2	59.60	1.88E+00 +/- 2.71E-01	2.68E+00	6.64E-05 +/- 2.30E-05
3	129.29	6.25E-01 +/- 3.20E-01	2.27E+00	3.04E-04 +/- 1.59E-05
4	279.54	3.85E-01 +/- 1.87E-01	1.97E+00	3.54E-04 +/- 1.68E-05
5	413.70	9.17E-02 +/- 3.92E-02	1.82E+00	2.79E-04 +/- 1.09E-05
6	1112.12	8.69E-03 +/- 8.69E-03	1.45E+00	1.19E-04 +/- 4.27E-06

Segment: 13 Detector: DET01 (# 1) Position: 13

Elapsed Live Time: 113.69 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.192 +/- 0.0185
SE-75	264.65	0.000 +/- 0.0000	0.271 +/- 0.0033
SE-75	279.53	0.000 +/- 0.0000	0.277 +/- 0.0046
SE-75	400.65	0.000 +/- 0.0000	0.323 +/- 0.0060

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.26	1.25E+00 +/- 1.66E-01	3.74E+00	1.13E-06 +/- 1.65E-06
2	35.10	1.01E+03 +/- 4.76E+00	2.51E+00	1.10E-05 +/- 9.51E-06
3	59.54	8.08E-01 +/- 2.31E-01	2.00E+00	8.07E-05 +/- 2.88E-05
4	152.68	5.88E-01 +/- 2.53E-01	1.73E+00	3.57E-04 +/- 1.76E-05
5	185.71	3.52E-01 +/- 2.24E-01	1.67E+00	3.79E-04 +/- 2.03E-05
6	244.70	2.95E-01 +/- 1.74E-01	1.60E+00	3.70E-04 +/- 1.94E-05
7	264.66	3.85E-01 +/- 1.64E-01	1.58E+00	3.60E-04 +/- 1.81E-05
8	300.10	2.93E-01 +/- 1.29E-01	1.55E+00	3.40E-04 +/- 1.57E-05
9	400.66	5.35E-02 +/- 4.00E-02	1.49E+00	2.81E-04 +/- 1.13E-05
10	867.39	3.48E-02 +/- 1.74E-02	1.32E+00	1.40E-04 +/- 6.42E-06
11	1112.12	2.61E-02 +/- 1.51E-02	1.27E+00	1.13E-04 +/- 4.19E-06

Batch 2002-82-520

Segment: 14 Detector: DET01 (# 1) Position: 14

Elapsed Live Time: 113.76 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.734 +/- 0.0305
SE-75	264.65	0.000 +/- 0.0000	0.767 +/- 0.0066
SE-75	279.53	0.000 +/- 0.0000	0.773 +/- 0.0085
SE-75	400.65	0.000 +/- 0.0000	0.780 +/- 0.0101

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.23E+00	8.94E-06 +/- 4.41E-05
2	59.73	4.60E-01 +/- 1.90E-01	1.16E+00	8.11E-05 +/- 1.25E-04
3	1085.91	1.74E-02 +/- 1.23E-02	1.06E+00	1.18E-04 +/- 5.01E-06

Segment: 15 Detector: DET01 (# 1) Position: 15

Elapsed Live Time: 113.80 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.817 +/- 0.0321
SE-75	264.65	0.000 +/- 0.0000	0.852 +/- 0.0071
SE-75	279.53	0.000 +/- 0.0000	0.857 +/- 0.0091
SE-75	400.65	0.000 +/- 0.0000	0.871 +/- 0.0108

Batch 2002-02-571

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.14E+00	1.45E-08 +/- 6.96E-08
2	129.29	3.55E-01 +/- 2.23E-01	1.08E+00	3.37E-04 +/- 1.99E-05
3	264.66	2.30E-01 +/- 1.07E-01	1.06E+00	3.66E-04 +/- 2.14E-05
4	400.66	5.80E-02 +/- 4.34E-02	1.05E+00	2.59E-04 +/- 1.48E-05
5	559.24	1.09E-01 +/- 3.49E-02	1.05E+00	1.97E-04 +/- 1.27E-05

Segment: 16 Detector: DET01 (# 1) Position: 16

Elapsed Live Time: 113.81 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.823 +/- 0.0312
SE-75	264.65	0.000 +/- 0.0000	0.794 +/- 0.0067
SE-75	279.53	0.000 +/- 0.0000	0.791 +/- 0.0086
SE-75	400.65	0.000 +/- 0.0000	0.818 +/- 0.0104

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.14E+00	9.52E-10 +/- 5.35E-09
2	59.39	4.40E-01 +/- 1.71E-01	1.10E+00	3.22E-06 +/- 5.73E-06
3	400.66	6.57E-02 +/- 4.44E-02	1.08E+00	1.86E-04 +/- 1.20E-05
4	867.39	3.56E-02 +/- 2.21E-02	1.05E+00	1.07E-04 +/- 5.41E-06
5	1112.12	1.41E-02 +/- 1.45E-02	1.05E+00	9.17E-05 +/- 4.32E-06

Batch 2002-02-572

Summed Spectrum

Peak Locate Report

Sample ID: S100_848
Peak Locate Performed on: 2-05-02 11:42:24 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192
Peak Search Sensitivity: 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
1	43.00	0.2702	21.42	13.70
2	46.45	0.1358	23.15	29.56
3	70.18	0.0404	35.00	502.53
4	119.33	0.0648	59.56	158.80
5	150.29	0.2457	75.03	11.61
6	197.79	0.0822	98.76	80.96
7	207.09	0.0820	103.41	61.36
8	222.68	0.1030	111.20	47.62
9	229.24	0.1520	114.47	27.25
10	234.57	0.1785	117.13	14.51
11	259.21	0.0718	129.45	110.44
12	293.17	0.3639	146.41	6.28
13	297.80	0.1227	148.73	38.98
14	322.42	0.2143	161.03	6.71
15	329.99	0.1643	164.81	21.07
16	343.51	0.2340	171.57	9.36
17	359.48	0.2535	179.54	8.05
18	379.60	0.2234	189.59	10.69
19	392.37	0.1952	195.98	13.62
20	417.03	0.0607	208.30	136.22
21	511.96	0.1645	255.72	19.24
22	536.44	0.1693	267.95	17.50
23	596.23	0.2024	297.83	11.87
24	625.09	0.1605	312.25	19.61
25	643.19	0.2360	321.29	10.12
26	649.17	0.2251	324.28	9.54
27	667.06	0.0822	333.21	70.13
28	673.30	0.1298	336.33	31.65
29	691.78	0.0846	345.57	66.05
30	738.34	0.1316	368.83	22.23
31	751.94	0.0623	375.62	118.32
32	767.52	0.1183	383.41	35.63
33	787.85	0.0869	393.57	57.75
34	829.42	0.0629	414.33	105.96
35	847.17	0.1226	423.20	29.86
36	905.13	0.1050	452.16	40.26

Batch 7882-02-523

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
37	1240.96	0.2149	619.95	8.64
38	1283.21	0.3172	641.06	5.11
39	1295.35	0.2138	647.12	9.03
40	1308.46	0.2295	653.67	6.55
41	1328.18	0.1270	663.52	24.83
42	1381.05	0.2523	689.94	6.39
43	1411.08	0.2808	704.94	5.31
44	1447.70	0.1490	723.24	16.69
45	1542.40	0.2269	770.55	7.21

Errors quoted at 1.000 sigma

Batch 2002-02-574

Summed Spectrum

Peak Analysis Report

Sample ID: S100_848
Peak Analysis Performed on: 2-05-02 11:42:25 AM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	39-	46	43.00	21.42	1.51E+04	203.74	1.33E+04
2	46-	49	46.45	23.15	1.46E+04	220.88	2.04E+04
3	66-	73	70.18	35.00	1.81E+06	1359.30	2.00E+04
4	115-	122	119.33	59.56	2.61E+05	586.39	4.11E+04
5	149-	153	150.29	75.03	2.26E+03	220.87	2.78E+04
6	194-	201	197.79	98.76	1.35E+05	673.34	1.58E+05
7	206-	210	207.09	103.41	1.04E+05	455.02	5.63E+04
8	218-	226	222.68	111.20	2.05E+04	509.16	1.03E+05
9	226-	233	229.24	114.47	1.41E+03	502.79	1.24E+05
10	233-	238	234.57	117.13	1.16E+04	385.70	6.38E+04
11	255-	263	259.21	129.45	9.03E+04	437.78	4.70E+04
12	291-	300	293.17	146.41	1.81E+04	337.55	4.21E+04
13	298-	304	297.80	148.73	6.24E+03	259.81	2.98E+04
14	318-	326	322.42	161.03	1.63E+03	285.96	3.70E+04
15	326-	334	329.99	164.81	2.33E+03	280.41	3.55E+04
16	339-	347	343.51	171.57	5.39E+03	263.78	3.00E+04
17	355-	363	359.48	179.54	2.39E+03	252.59	2.87E+04
18	375-	383	379.60	189.59	3.15E+03	250.30	2.78E+04
19	387-	396	392.37	195.98	4.43E+03	266.25	2.95E+04
20	412-	421	417.03	208.30	8.71E+04	435.53	4.38E+04
21	507-	516	511.96	255.72	3.80E+03	183.57	1.32E+04
22	533-	541	536.44	267.95	2.90E+03	164.33	1.12E+04
23	591-	601	596.23	297.83	2.04E+03	169.20	1.12E+04
24	620-	630	625.09	312.25	2.25E+03	168.71	1.10E+04
25	638-	648	643.19	321.29	1.70E+03	178.15	1.26E+04
26	648-	654	649.17	324.28	1.04E+03	127.01	7.47E+03
27	662-	672	667.06	333.21	2.33E+04	266.16	1.90E+04
28	672-	678	673.30	336.33	3.20E+03	199.09	1.17E+04
29	687-	696	691.78	345.57	2.18E+04	210.33	9.86E+03
30	733-	743	738.34	368.83	9.45E+03	162.64	7.07E+03
31	746-	757	751.94	375.62	6.16E+04	307.59	1.31E+04
32	767-	772	767.52	383.41	6.07E+03	149.58	4.36E+03
33	782-	793	787.85	393.57	2.35E+04	179.28	3.46E+03
34	824-	834	829.42	414.33	6.13E+04	258.29	2.29E+03
35	841-	852	847.17	423.20	3.26E+03	106.30	3.14E+03
36	899-	910	905.13	452.16	7.05E+03	102.53	1.38E+03
37	1234-	1246	1240.96	619.95	6.14E+02	36.70	2.79E+02

Batch 2002-02-575

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
38	1277-	1289	1283.21	641.06	3.08E+02	35.09	3.47E+02
39	1291-	1301	1295.35	647.12	2.71E+02	34.12	3.72E+02
40	1302-	1314	1308.46	653.67	5.29E+02	35.42	2.75E+02
41	1326-	1334	1328.18	663.52	2.68E+03	57.08	2.70E+02
42	1374-	1387	1381.05	689.94	2.70E+02	28.67	1.98E+02
43	1406-	1417	1411.08	704.94	8.28E+01	22.80	1.73E+02
44	1441-	1454	1447.70	723.24	1.37E+03	44.37	2.17E+02
45	1535-	1548	1542.40	770.55	3.78E+02	26.67	1.21E+02

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-02-576

Summed Spectrum

Nuclide Identification Report

Sample ID: S100_848
Nuclide Library Used: C:\WAS\NLIB\LLNL.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/)	Activity Uncertainty
Pulser	0.999	35.10*	100.00	2.870E+05	7.218E+05
Np-237	0.756	300.10	6.63		
		311.90*	38.60	5.411E+00	4.071E-01
Pu-239	0.972	413.70*	0.00	4.566E+06	8.535E+04
Pu-239A	0.998	129.29*	0.01	1.456E+06	3.664E+04
Am-241	0.917	662.42*	0.00	1.072E+06	2.465E+04
Pu-241	0.998	148.57*	0.00	3.022E+06	1.338E+05

* = Energy line found in the spectrum.
Energy Tolerance : 1.500 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 1.000 sigma

Batch 2002-02-577

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 2-05-02 11:42:24 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	21.42	1.3478E+02	1.35
2	23.15	1.3055E+02	1.51
4	59.56	2.3278E+03	0.24
5	75.03	2.0160E+01	9.78
6	98.76	1.2078E+03	0.51
7	103.41	9.2875E+02	0.45
8	111.20	1.8316E+02	2.48
9	114.47	1.2597E+01	35.65
10	117.13	1.0403E+02	3.31
12	146.41	1.6136E+02	1.87
14	161.03	1.4521E+01	17.59
15	164.81	2.0824E+01	12.03
16	171.57	4.8145E+01	4.89
17	179.54	2.1358E+01	10.56
18	189.59	2.8140E+01	7.94
19	195.98	3.9533E+01	6.02
20	208.30	7.7799E+02	0.51
21	255.72	3.3960E+01	4.83
22	267.95	2.5897E+01	5.67
23	297.83	1.8220E+01	8.29
25	321.29	1.5174E+01	10.49
26	324.28	9.3326E+00	12.15
27	333.21	2.0785E+02	1.15
28	336.33	2.8589E+01	6.22
29	345.57	1.9450E+02	0.97
30	368.83	8.4408E+01	1.72
31	375.62	5.4995E+02	0.51
32	383.41	5.4246E+01	2.46
33	393.57	2.0977E+02	0.77
35	423.20	2.9140E+01	3.26
36	452.16	6.2958E+01	1.46
37	619.95	5.4793E+00	5.98
38	641.06	2.7483E+00	11.40
39	647.12	2.4239E+00	12.57
40	653.67	4.7238E+00	6.70
42	689.94	2.4109E+00	10.62
43	704.94	7.3988E-01	27.52
44	723.24	1.2237E+01	3.24
45	770.55	3.3787E+00	7.05

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-02-578

Combined Segment NID

NID Results Combiner Mode: Sum Activities

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		3.53E+07	+/-	1.84E+08	1.59E+03	+/-	8.27E+03
SE-75	<	3.83E-01	+/-	1.90E-02	< 1.72E-05	+/-	8.54E-07
EU-152x		4.15E-02	+/-	2.05E-02	1.87E-06	+/-	9.23E-07
U-233	<	1.60E+04	+/-	8.21E+02	< 7.22E-01	+/-	3.70E-02
U-235		2.42E-01	+/-	8.09E-02	1.09E-05	+/-	3.64E-06
Np-237		9.00E+00	+/-	5.16E-01	4.05E-04	+/-	2.33E-05
Pu-238		8.19E+03	+/-	3.56E+03	3.69E-01	+/-	1.60E-01
U-238		6.73E+00	+/-	1.65E+00	3.03E-04	+/-	7.44E-05
Pu-239		5.46E+06	+/-	1.32E+05	2.46E+02	+/-	5.96E+00
Pu-239A		4.03E+06	+/-	1.23E+05	1.81E+02	+/-	5.55E+00
Am-241		1.35E+06	+/-	4.71E+04	6.08E+01	+/-	2.12E+00
Pu-241		1.47E+07	+/-	5.27E+05	6.64E+02	+/-	2.37E+01

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
U-235	1.12E-01	+/-	3.74E-02
Np-237	1.28E-02	+/-	7.33E-04
Pu-238	4.78E-04	+/-	2.08E-04
U-238	2.00E+01	+/-	4.92E+00
Pu-239	8.79E+01	+/-	2.13E+00
Pu-239A	6.49E+01	+/-	1.98E+00
Am-241	3.94E-01	+/-	1.38E-02
Pu-241	1.43E-01	+/-	5.09E-03

Batch 2002-02-579

Summed Spectrum

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		2.87E+05	+/-	7.22E+05	1.29E+01	+/-	3.25E+01
SE-75	<	8.98E-01	+/-	7.83E-03	< 4.04E-05	+/-	3.53E-07
EU-152x	<	5.20E-01	+/-	1.00E-02	< 2.34E-05	+/-	4.52E-07
U-233	<	4.02E+04	+/-	8.39E+02	< 1.81E+00	+/-	3.78E-02
U-235	<	1.35E+00	+/-	2.66E-02	< 6.09E-05	+/-	1.20E-06
Np-237		5.41E+00	+/-	4.07E-01	2.44E-04	+/-	1.83E-05
Pu-238	<	9.77E+04	+/-	1.42E+03	< 4.40E+00	+/-	6.41E-02
U-238	<	1.18E+01	+/-	1.89E-01	< 5.33E-04	+/-	8.52E-06
Pu-239		4.57E+06	+/-	8.54E+04	2.06E+02	+/-	3.84E+00
Pu-239A		1.46E+06	+/-	3.66E+04	6.56E+01	+/-	1.65E+00
Am-241		1.07E+06	+/-	2.47E+04	4.83E+01	+/-	1.11E+00
Pu-241		3.02E+06	+/-	1.34E+05	1.36E+02	+/-	6.03E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
Np-237	7.68E-03	+/-	5.78E-04
Pu-239	7.35E+01	+/-	1.37E+00
Pu-239A	2.34E+01	+/-	5.90E-01
Am-241	3.13E-01	+/-	7.20E-03
Pu-241	2.92E-02	+/-	1.29E-03

Batch 2002-02-580

Final Non-Uniformity Results

Source Longitudinal Ratio:	0.865	+/-	4.2544
Matrix Longitudinal Ratio:	0.606	+/-	0.0441
Source Vertical Ratio:	0.917	+/-	0.5120
Matrix Vertical Ratio:	0.857	+/-	0.0159

NUDS could not find the transmission peak in one radial segment.

Batch 2002-02-581

****
***** M G A R E P O R T *****
****

Report generated on: 2-05-02 11:42:24 AM

MGA version: MGA V9.5 CI

Spectrum ID: 11200848.CNF Sens : 30.0% LT: 50.9 Mins DT: 8.81
Measurement date: 2-05-02 Declared date: 2-05-02

Sample ID: S100_848 Detector: Total counts: 1.519E+07

Pu g/cm2 = 0.8467 Cd g/cm2 = 1.7738 FWHM at 122 keV = 683 eV
QFIT = 1.57 FWHM at 208 keV = 852 eV
NQFIT = 1.03

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	Meas. date %Err	Decl. date % weight	Decl. date %Err
Pu-238	0.000078	8.4	8.4	0.0310	8.3	0.00738	8.37	0.00738	8.37
Pu-239	1.000000	0.0	0.4	395.7214	0.6	94.13214	0.05	94.13214	0.05
Pu-240	0.059404	0.9	0.9	23.5073	1.0	5.59178	0.89	5.59178	0.89
Pu-241	0.002527	0.6	0.5	1.0000	0.0	0.23787	0.58	0.23787	0.58
Pu-242	(New alg.)			0.1296	(10)	0.03083	(10)	0.03083	(10)
Am-241	0.004659	0.5	0.4	1.8436	0.6	0.43855	0.49	0.43855	0.49

Pu-240 effective (meas. date) = 5.662 +/- 0.96%
Am-241 separated about 21.588 +/- 0.152 years ago
Am/Pu-241 weight ratio = 1.84362 +/- 0.62%

Messages :

Lead x-rays detected.
Calculations in MGAABS didn't converge : results may be suspect.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Batch 2002-02-582

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS 2.3A

****
* DRUM INFORMATION *
****

Drum Package ID: S100_849
Sequence Number: 849
Assay Date & Time: 2-06-2002 7:39:43 AM
Drum Package GROSS Weight: 54.00 kg NET Weight: 22.20 kg

IDC Number: SGS100

QC Replicate (Yes/No): No Passed (Yes/No): _____

Operator Name (Printed): Russell Ratliff

Operator Signature: _____ Date: 2-6-02

Independent Reviewer: _____ Date: 4-24-02

Expert Reviewer: (NOT REQUIRED) Date: _____

Tech. Supv/QA Officer: _____ Date: 7/17/02

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 9.243E+00 +/- 2.128E+00 Ci

Batch 2002-02-SR3

ISOTOPIC INFORMATION

Isotope	Measured Mass (g)	Mass Uncertainty (g)	MDC (g)
Pu-238	8.947E-03	3.13E-03	2.089E-05
Pu-239	9.919E+01	3.24E+01	2.316E-01
Pu-240	5.793E+00	1.90E+00	1.352E-02
Pu-241	2.502E-01	8.19E-02	5.255E-03
Pu-242	3.197E-02	1.22E-02	7.465E-05
Am-241	4.595E-01	1.50E-01	1.549E-02
Am-243	0.000E+00	0.00E+00	0.000E+00
Np-237	0.000E+00	0.00E+00	1.203E-03
U-235	0.000E+00	0.00E+00	2.580E-01
U-238	1.477E+01	4.86E+00	1.477E+01
U-233	1.667E+00	5.57E-01	1.667E+00

Total Pu Mass: 1.05E+02 +/- 5.87E+00 g

MGA RESULTS

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	8.499E-03	6.36E+00
Pu-239	9.422E+01	4.68E-02
Pu-240	5.502E+00	7.95E-01
Pu-241	2.377E-01	5.10E-01
Pu-242	3.037E-02	1.00E+01
Am-241	4.365E-01	4.34E-01

Batch 2002-02-584

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005

Assay Date & Time: 2-06-2002 7:39:43 AM

Drum Package ID: S100_849
Sequence Number: 849

Waste Classification (TRU or LLW): TRU

		Errors at 1.96 sigma	
Total Alpha Activity :	9.243E+00	+/- 2.13E+00	Ci
Total TRU Activity :	4.163E+05	+/- 9.58E+04	nCi/g
Pu-239 Equiv Activity:	9.739E+00	+/- 2.13E+00	Ci
Fissile Gram Equiv Mass:	9.989E+01	+/- 3.24E+01	g
Total Decay Heat:	2.942E-01	+/- 6.70E-02	W
TMU Value:	32.71 %		

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error	MDA gm
Pu-238	1.55E-01	5.42E-02	8.95E-03	3.13E-03	2.09E-05
Pu-239	6.16E+00	2.02E+00	9.92E+01	3.24E+01	2.32E-01
Pu-240	1.33E+00	4.36E-01	5.79E+00	1.90E+00	1.35E-02
Pu-241	2.60E+01	8.52E+00	2.50E-01	8.19E-02	5.26E-03
Pu-242	1.27E-04	4.84E-05	3.20E-02	1.22E-02	7.47E-05
Am-241	1.59E+00	5.22E-01	4.60E-01	1.50E-01	1.55E-02
Am-243	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Np-237	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-03
U-235	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.58E-01
U-238	5.02E-06	1.65E-06	1.48E+01	4.86E+00	1.48E+01
U-233	1.63E-02	5.44E-03	1.67E+00	5.57E-01	1.67E+00

Total Pu Mass: 1.05E+02 +/- 5.87E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	8.499E-03	6.36E+00
Pu-239	9.422E+01	4.68E-02
Pu-240	5.502E+00	7.95E-01
Pu-241	2.377E-01	5.10E-01
Pu-242	3.037E-02	1.00E+01
Am-241	4.365E-01	4.34E-01

****
***** M G A R E P O R T *****
****

Report generated on: 2-06-02 8:36:16 AM

MGA version: MGA V9.5 CI

Spectrum ID: 11200849.CNF Sens : 30.0% LT: 50.9 Mins DT: 8.80
Measurement date: 2-06-02 Declared date: 2-06-02

Sample ID: S100_849 Detector: Total counts: 1.518E+07

Pu g/cm2 = 0.8406 Cd g/cm2 = 1.7792 FWHM at 122 keV = 683 eV
QFIT = 1.22 FWHM at 208 keV = 852 eV
NQFIT = 1.01

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	%Err	Decl. date % weight	%Err
Pu-238	0.000090	6.4	6.4	0.0358	6.3	0.00850	6.36	0.00850	6.36
Pu-239	1.000000	0.0	0.3	396.3817	0.5	94.22099	0.05	94.22099	0.05
Pu-240	0.058399	0.8	0.8	23.1484	0.9	5.50244	0.79	5.50244	0.79
Pu-241	0.002523	0.5	0.4	1.0000	0.0	0.23770	0.51	0.23770	0.51
Pu-242	(New alg.)			0.1278	(10)	0.03037	(10)	0.03037	(10)
Am-241	0.004633	0.4	0.3	1.8364	0.5	0.43651	0.43	0.43651	0.43

Pu-240 effective (meas. date) = 5.575 +/- 0.85%
Am-241 separated about 21.581 +/- 0.138 years ago
Am/Pu-241 weight ratio = 1.83638 +/- 0.54%

Messages :

Lead x-rays detected.
Calculations in MGAABS didn't converge : results may be suspect.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Batch 2002-02-SB4

Gamma Waste Assay

Sample Information

File Name: C:\WAS\DATA\900\11100849.S11
Sample ID: S100_849 Count Sequence Number: 849
Assay Start: 2-06-02 7:39:45 AM
Description 1: 100g source drum
Description 2:
Location: 7715
Comment:
Waste Type:
Weight: Gross: 54000.0 g Net: 22200.0 g
Density: 0.107 g /ml

Container Type: 55 Gal Galv
Container: Volume: 208000. ml Full: 100.0 %

System Configuration

Counter ID Number: SGS
Arrangement Description: SGS
Segments: Number: 16 Offset: 0
Scanning Platform: Start: 934 mm Delta: -51 mm
Count Type: Daily 100 g Drum Check
Collimator/Geometry Setting: 0
Transmission Mode: Two pass
Transmission Source: 0

Errors quoted at 1.000 sigma
Reference Source Date: Reference Source Rate: 1.01E+03 cps
Geometric Correction Factor(SWCONTGCF): 0.760
Date of efficiency calibration approval: 4-18-2001 12:41:36 PM
Mu Factors response file: Lucite
Transmission Calib. Time: 5-11-2001 2:20:42 PM 59052

Reviewed by: Lee P Cole Date: 7/16/02

Batch 2002-03-582

Segment Results

Segment: 1 Detector: DET01 (# 1) Position: 1

Elapsed Live Time: 113.39 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.366 +/- 0.0259
SE-75	264.65	0.000 +/- 0.0000	0.445 +/- 0.0045
SE-75	279.53	0.000 +/- 0.0000	0.454 +/- 0.0062
SE-75	400.65	0.000 +/- 0.0000	0.495 +/- 0.0077

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.17	3.11E+00 +/- 2.50E-01	2.50E+00	9.27E-08 +/- 1.16E-06
2	35.10	1.01E+03 +/- 4.79E+00	1.84E+00	2.61E-06 +/- 1.64E-05
3	48.76	8.85E+00 +/- 4.58E-01	1.63E+00	1.64E-05 +/- 5.28E-05
4	59.63	3.65E+00 +/- 3.44E-01	1.56E+00	3.76E-05 +/- 7.40E-05
5	413.70	8.41E-02 +/- 3.93E-02	1.29E+00	1.65E-04 +/- 1.27E-05
6	443.98	6.92E-02 +/- 5.07E-02	1.28E+00	1.57E-04 +/- 1.30E-05
7	1085.91	7.51E-02 +/- 3.08E-02	1.17E+00	7.49E-05 +/- 3.78E-06

Segment: 2 Detector: DET01 (# 1) Position: 2

Elapsed Live Time: 113.21 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.476 +/- 0.0291
SE-75	264.65	0.000 +/- 0.0000	0.505 +/- 0.0049
SE-75	279.53	0.000 +/- 0.0000	0.529 +/- 0.0068
SE-75	400.65	0.000 +/- 0.0000	0.568 +/- 0.0083

Batch 2-02-03-588

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.29	3.89E+00 +/- 2.96E-01	2.03E+00	5.98E-10 +/- 5.67E-09
2	35.10	1.01E+03 +/- 4.78E+00	1.59E+00	2.21E-07 +/- 1.06E-06
3	59.64	6.90E+00 +/- 4.26E-01	1.40E+00	2.21E-05 +/- 3.32E-05
4	135.30	1.02E+00 +/- 4.71E-01	1.31E+00	3.24E-04 +/- 2.28E-05
5	244.70	3.97E-01 +/- 2.46E-01	1.29E+00	3.69E-04 +/- 2.61E-05
6	1085.91	2.62E-02 +/- 1.51E-02	1.13E+00	1.13E-04 +/- 4.92E-06

Segment: 3 Detector: DET01 (# 1) Position: 3

Elapsed Live Time: 112.49 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.420 +/- 0.0290
SE-75	264.65	0.000 +/- 0.0000	0.479 +/- 0.0048
SE-75	279.53	0.000 +/- 0.0000	0.475 +/- 0.0065
SE-75	400.65	0.000 +/- 0.0000	0.524 +/- 0.0080

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	3.19E+00 +/- 3.25E-01	2.46E+00	3.50E-09 +/- 3.85E-08
2	23.24	4.11E+00 +/- 3.42E-01	2.25E+00	1.09E-08 +/- 1.06E-07
3	35.10	1.01E+03 +/- 4.82E+00	1.70E+00	1.07E-06 +/- 5.27E-06
4	59.59	3.04E+01 +/- 7.29E-01	1.48E+00	3.79E-05 +/- 5.87E-05
5	75.00	1.86E+00 +/- 5.75E-01	1.43E+00	9.60E-05 +/- 7.46E-05
6	98.81	1.46E+01 +/- 9.29E-01	1.40E+00	2.01E-04 +/- 4.74E-05
7	103.43	9.56E+00 +/- 5.95E-01	1.39E+00	2.20E-04 +/- 3.93E-05
8	111.33	3.88E+00 +/- 7.21E-01	1.38E+00	2.49E-04 +/- 2.65E-05
9	129.29	6.99E+00 +/- 6.55E-01	1.37E+00	3.02E-04 +/- 1.84E-05
10	148.57	1.79E+00 +/- 5.47E-01	1.36E+00	3.39E-04 +/- 3.24E-05
11	208.31	8.54E+00 +/- 5.33E-01	1.33E+00	3.66E-04 +/- 3.64E-05
12	333.18	2.24E+00 +/- 3.79E-01	1.29E+00	3.00E-04 +/- 1.35E-05
13	345.54	2.05E+00 +/- 3.22E-01	1.28E+00	2.93E-04 +/- 1.36E-05
14	375.64	5.93E+00 +/- 3.38E-01	1.27E+00	2.76E-04 +/- 1.44E-05
15	393.62	2.23E+00 +/- 2.05E-01	1.27E+00	2.67E-04 +/- 1.48E-05

Batch 2002-02-585

16	413.70	5.95E+00	+/- 2.50E-01	1.26E+00	2.57E-04	+/- 1.52E-05
17	423.32	4.22E-01	+/- 1.11E-01	1.26E+00	2.53E-04	+/- 1.53E-05
18	452.51	7.55E-01	+/- 1.05E-01	1.25E+00	2.40E-04	+/- 1.54E-05
19	662.42	2.12E-01	+/- 6.39E-02	1.20E+00	1.78E-04	+/- 1.02E-05
20	723.16	1.26E-01	+/- 4.61E-02	1.19E+00	1.66E-04	+/- 8.74E-06
21	1085.91	1.78E-02	+/- 1.26E-02	1.15E+00	1.23E-04	+/- 5.23E-06

Segment: 4 Detector: DET01 (# 1) Position: 4

Elapsed Live Time: 107.78 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.450 +/- 0.0296
SE-75	264.65	0.000 +/- 0.0000	0.537 +/- 0.0054
SE-75	279.53	0.000 +/- 0.0000	0.540 +/- 0.0074
SE-75	400.65	0.000 +/- 0.0000	0.585 +/- 0.0090

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	1.48E+01 +/- 6.55E-01	2.32E+00	2.23E-06 +/- 3.43E-06
2	23.20	1.63E+01 +/- 7.08E-01	2.14E+00	3.34E-06 +/- 4.69E-06
3	35.10	1.01E+03 +/- 4.93E+00	1.64E+00	2.00E-05 +/- 1.66E-05
4	49.40	8.51E+00 +/- 9.39E-01	1.49E+00	6.08E-05 +/- 2.96E-05
5	59.59	2.52E+02 +/- 2.01E+00	1.44E+00	9.83E-05 +/- 3.39E-05
6	74.95	4.85E+00 +/- 9.28E-01	1.40E+00	1.58E-04 +/- 3.32E-05
7	98.83	1.51E+02 +/- 2.22E+00	1.36E+00	2.40E-04 +/- 2.42E-05
8	103.43	1.21E+02 +/- 1.53E+00	1.36E+00	2.53E-04 +/- 2.24E-05
9	111.31	2.66E+01 +/- 1.54E+00	1.35E+00	2.74E-04 +/- 1.97E-05
10	117.27	1.28E+01 +/- 1.24E+00	1.35E+00	2.88E-04 +/- 1.80E-05
11	129.29	1.03E+02 +/- 1.41E+00	1.34E+00	3.12E-04 +/- 1.61E-05
12	148.57	2.22E+01 +/- 9.92E-01	1.32E+00	3.40E-04 +/- 1.63E-05
13	164.91	4.28E+00 +/- 7.39E-01	1.31E+00	3.56E-04 +/- 1.76E-05
14	171.83	4.81E+00 +/- 9.00E-01	1.31E+00	3.60E-04 +/- 1.81E-05
15	179.47	3.30E+00 +/- 8.07E-01	1.30E+00	3.64E-04 +/- 1.86E-05
16	189.83	3.83E+00 +/- 8.13E-01	1.30E+00	3.68E-04 +/- 1.91E-05
17	195.98	5.28E+00 +/- 8.68E-01	1.29E+00	3.69E-04 +/- 1.93E-05
18	208.35	1.03E+02 +/- 1.49E+00	1.29E+00	3.71E-04 +/- 1.94E-05
19	244.70	1.80E+00 +/- 6.00E-01	1.27E+00	3.65E-04 +/- 1.85E-05
20	255.81	3.98E+00 +/- 6.02E-01	1.26E+00	3.62E-04 +/- 1.80E-05
21	268.07	4.12E+00 +/- 5.71E-01	1.25E+00	3.57E-04 +/- 1.73E-05
22	297.92	1.81E+00 +/- 7.05E-01	1.25E+00	3.45E-04 +/- 1.56E-05
23	311.90	3.57E+00 +/- 5.48E-01	1.24E+00	3.38E-04 +/- 1.48E-05
24	321.37	1.67E+00 +/- 5.95E-01	1.24E+00	3.33E-04 +/- 1.43E-05

	25	324.31	1.69E+00	+/- 4.30E-01	1.24E+00	3.32E-04	+/-	1.41E-05
	26	333.24	2.78E+01	+/- 8.93E-01	1.24E+00	3.27E-04	+/-	1.37E-05
	27	336.47	3.75E+00	+/- 6.73E-01	1.23E+00	3.26E-04	+/-	1.36E-05
	28	345.58	2.65E+01	+/- 7.11E-01	1.23E+00	3.21E-04	+/-	1.32E-05
	29	368.90	1.22E+01	+/- 5.46E-01	1.23E+00	3.09E-04	+/-	1.23E-05
	30	375.65	7.70E+01	+/- 1.06E+00	1.22E+00	3.06E-04	+/-	1.21E-05
	31	383.46	7.68E+00	+/- 4.99E-01	1.22E+00	3.02E-04	+/-	1.18E-05
	32	393.62	2.91E+01	+/- 6.13E-01	1.22E+00	2.97E-04	+/-	1.16E-05
	33	413.70	7.59E+01	+/- 9.23E-01	1.21E+00	2.87E-04	+/-	1.11E-05
	34	423.32	4.06E+00	+/- 2.93E-01	1.21E+00	2.83E-04	+/-	1.10E-05
	35	452.18	8.95E+00	+/- 3.43E-01	1.21E+00	2.70E-04	+/-	1.06E-05
	36	482.44	3.96E-01	+/- 1.32E-01	1.20E+00	2.57E-04	+/-	1.04E-05
	37	633.54	1.19E-01	+/- 6.03E-02	1.17E+00	2.03E-04	+/-	9.31E-06
	38	646.91	3.08E-01	+/- 1.19E-01	1.17E+00	1.99E-04	+/-	9.19E-06
	39	653.87	5.96E-01	+/- 1.08E-01	1.17E+00	1.97E-04	+/-	9.12E-06
M	40	660.04	3.35E-01	+/- 6.89E-02	1.17E+00	1.95E-04	+/-	9.06E-06
m	41	663.47	3.46E+00	+/- 2.52E-01	1.17E+00	1.95E-04	+/-	9.02E-06
	42	690.28	3.06E-01	+/- 9.43E-02	1.16E+00	1.87E-04	+/-	8.74E-06

Batch 2002-02-591

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
43	723.18	1.25E+00 +/- 1.34E-01	1.16E+00	1.79E-04 +/- 8.36E-06

Segment: 5 Detector: DET01 (# 1) Position: 5

Elapsed Live Time: 100.74 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.198 +/- 0.0035
SE-75	279.53	0.000 +/- 0.0000	0.222 +/- 0.0055
SE-75	400.65	0.000 +/- 0.0000	0.351 +/- 0.0074

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	3.61E+01 +/- 9.70E-01	4.10E+00	1.08E-06 +/- 1.72E-06
2	23.14	3.33E+01 +/- 1.07E+00	4.10E+00	1.74E-06 +/- 2.53E-06
3	35.10	1.01E+03 +/- 5.11E+00	4.10E+00	1.48E-05 +/- 1.27E-05
4	59.56	6.91E+02 +/- 3.98E+00	4.10E+00	9.31E-05 +/- 3.29E-05
5	74.88	7.53E+00 +/- 9.90E-01	4.10E+00	1.58E-04 +/- 3.39E-05
6	98.75	3.29E+02 +/- 3.75E+00	4.10E+00	2.49E-04 +/- 2.52E-05
7	103.38	2.87E+02 +/- 2.52E+00	4.10E+00	2.64E-04 +/- 2.33E-05
8	111.18	5.49E+01 +/- 2.48E+00	4.10E+00	2.86E-04 +/- 2.04E-05
9	114.47	9.58E+00 +/- 2.47E+00	4.10E+00	2.94E-04 +/- 1.94E-05
10	117.06	3.50E+01 +/- 1.93E+00	4.10E+00	3.01E-04 +/- 1.87E-05
11	129.29	2.43E+02 +/- 2.25E+00	4.10E+00	3.26E-04 +/- 1.67E-05
12	146.33	5.00E+01 +/- 1.35E+00	3.24E+00	3.52E-04 +/- 1.70E-05
13	148.57	1.45E+01 +/- 1.20E+00	3.15E+00	3.54E-04 +/- 1.71E-05
14	161.19	2.01E+00 +/- 1.28E+00	2.76E+00	3.65E-04 +/- 1.83E-05
15	164.75	7.25E+00 +/- 1.25E+00	2.68E+00	3.68E-04 +/- 1.86E-05
16	171.58	6.22E+00 +/- 1.54E+00	2.55E+00	3.71E-04 +/- 1.92E-05
17	179.33	6.29E+00 +/- 1.19E+00	2.43E+00	3.74E-04 +/- 1.97E-05
18	189.56	9.98E+00 +/- 1.03E+00	2.30E+00	3.76E-04 +/- 2.02E-05
19	195.90	1.23E+01 +/- 1.19E+00	2.23E+00	3.76E-04 +/- 2.03E-05
20	208.27	2.37E+02 +/- 2.36E+00	2.11E+00	3.75E-04 +/- 2.04E-05
21	244.70	3.50E+00 +/- 8.52E-01	1.85E+00	3.63E-04 +/- 1.90E-05

22	255.70	1.05E+01	+/-	8.32E-01	1.79E+00	3.58E-04	+/-	1.84E-05
23	267.84	8.32E+00	+/-	7.43E-01	1.73E+00	3.51E-04	+/-	1.76E-05
24	297.86	6.86E+00	+/-	9.31E-01	1.64E+00	3.34E-04	+/-	1.56E-05
25	311.90	6.65E+00	+/-	7.40E-01	1.61E+00	3.26E-04	+/-	1.48E-05
26	321.19	3.23E+00	+/-	7.42E-01	1.59E+00	3.21E-04	+/-	1.42E-05
27	324.18	5.35E+00	+/-	6.09E-01	1.58E+00	3.19E-04	+/-	1.41E-05
28	333.21	6.75E+01	+/-	1.34E+00	1.56E+00	3.13E-04	+/-	1.36E-05
29	336.25	8.54E+00	+/-	1.02E+00	1.56E+00	3.12E-04	+/-	1.34E-05
30	345.55	6.50E+01	+/-	9.79E-01	1.54E+00	3.06E-04	+/-	1.30E-05
31	368.73	2.73E+01	+/-	8.33E-01	1.50E+00	2.93E-04	+/-	1.20E-05
32	375.60	1.68E+02	+/-	1.70E+00	1.49E+00	2.89E-04	+/-	1.18E-05
33	383.38	1.60E+01	+/-	7.72E-01	1.48E+00	2.85E-04	+/-	1.16E-05
34	393.52	6.55E+01	+/-	9.42E-01	1.46E+00	2.80E-04	+/-	1.13E-05
35	413.70	1.69E+02	+/-	1.50E+00	1.44E+00	2.69E-04	+/-	1.09E-05
36	423.20	8.88E+00	+/-	5.41E-01	1.44E+00	2.64E-04	+/-	1.07E-05
37	452.13	1.90E+01	+/-	5.17E-01	1.42E+00	2.51E-04	+/-	1.03E-05
38	619.85	1.72E+00	+/-	1.78E-01	1.36E+00	1.90E-04	+/-	9.14E-06
39	634.55	2.03E-01	+/-	9.83E-02	1.35E+00	1.86E-04	+/-	9.02E-06
40	653.50	1.42E+00	+/-	1.78E-01	1.35E+00	1.81E-04	+/-	8.85E-06
M 41	660.02	5.78E-01	+/-	1.01E-01	1.34E+00	1.79E-04	+/-	8.79E-06
m 42	663.47	8.05E+00	+/-	4.03E-01	1.34E+00	1.78E-04	+/-	8.76E-06

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
43	690.11	7.44E-01 +/- 1.26E-01	1.33E+00	1.72E-04 +/- 8.50E-06
44	723.28	3.73E+00 +/- 2.20E-01	1.33E+00	1.65E-04 +/- 8.15E-06
45	738.77	1.52E-01 +/- 7.72E-02	1.32E+00	1.62E-04 +/- 7.97E-06
46	770.64	8.97E-01 +/- 1.26E-01	1.31E+00	1.56E-04 +/- 7.61E-06
47	964.13	4.92E-02 +/- 3.26E-02	1.27E+00	1.28E-04 +/- 5.33E-06
48	1112.12	4.85E-02 +/- 2.17E-02	1.25E+00	1.14E-04 +/- 4.26E-06

Segment: 6 Detector: DET01 (# 1) Position: 6

Elapsed Live Time: 99.39 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.179 +/- 0.0035
SE-75	279.53	0.000 +/- 0.0000	0.200 +/- 0.0055
SE-75	400.65	0.000 +/- 0.0000	0.336 +/- 0.0074

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	4.10E+01 +/- 1.04E+00	4.10E+00	3.85E-07 +/- 5.97E-07
2	23.16	3.70E+01 +/- 1.11E+00	4.10E+00	6.68E-07 +/- 9.49E-07
3	35.10	1.01E+03 +/- 5.15E+00	4.10E+00	8.04E-06 +/- 6.71E-06
4	49.74	1.37E+01 +/- 1.41E+00	4.10E+00	3.72E-05 +/- 1.80E-05
5	59.55	7.40E+02 +/- 4.20E+00	4.10E+00	6.88E-05 +/- 2.39E-05
6	74.99	5.84E+00 +/- 1.03E+00	4.10E+00	1.29E-04 +/- 2.73E-05
7	98.73	3.68E+02 +/- 4.01E+00	4.10E+00	2.22E-04 +/- 2.26E-05
8	103.39	3.13E+02 +/- 2.68E+00	4.10E+00	2.38E-04 +/- 2.12E-05
9	111.15	6.43E+01 +/- 2.62E+00	4.10E+00	2.63E-04 +/- 1.90E-05
10	114.50	1.02E+01 +/- 2.60E+00	4.10E+00	2.73E-04 +/- 1.82E-05
11	117.07	3.71E+01 +/- 2.02E+00	4.10E+00	2.80E-04 +/- 1.77E-05
12	129.29	2.81E+02 +/- 2.44E+00	4.10E+00	3.10E-04 +/- 1.61E-05
13	146.46	5.41E+01 +/- 1.64E+00	3.29E+00	3.42E-04 +/- 1.65E-05
14	148.57	1.72E+01 +/- 1.27E+00	3.20E+00	3.45E-04 +/- 1.67E-05
15	161.02	5.93E+00 +/- 1.36E+00	2.82E+00	3.60E-04 +/- 1.78E-05
16	164.74	6.54E+00 +/- 1.31E+00	2.74E+00	3.64E-04 +/- 1.82E-05

17	171.54	1.42E+01 +/-	1.20E+00	2.61E+00	3.69E-04 +/-	1.88E-05
18	179.41	6.52E+00 +/-	1.26E+00	2.49E+00	3.74E-04 +/-	1.94E-05
19	189.57	1.03E+01 +/-	1.09E+00	2.36E+00	3.78E-04 +/-	1.99E-05
20	195.96	1.35E+01 +/-	1.26E+00	2.28E+00	3.80E-04 +/-	2.01E-05
21	208.26	2.73E+02 +/-	2.55E+00	2.16E+00	3.81E-04 +/-	2.03E-05
22	244.70	4.16E+00 +/-	9.03E-01	1.90E+00	3.73E-04 +/-	1.92E-05
23	255.61	1.21E+01 +/-	8.81E-01	1.84E+00	3.69E-04 +/-	1.86E-05
24	267.89	8.89E+00 +/-	8.59E-01	1.78E+00	3.63E-04 +/-	1.78E-05
25	297.86	6.45E+00 +/-	9.96E-01	1.68E+00	3.47E-04 +/-	1.59E-05
26	311.90	6.83E+00 +/-	7.84E-01	1.65E+00	3.39E-04 +/-	1.51E-05
27	321.23	7.28E+00 +/-	8.73E-01	1.62E+00	3.33E-04 +/-	1.45E-05
28	324.21	2.90E+00 +/-	6.31E-01	1.62E+00	3.31E-04 +/-	1.44E-05
29	333.18	7.71E+01 +/-	1.47E+00	1.60E+00	3.26E-04 +/-	1.39E-05
30	336.26	1.21E+01 +/-	1.08E+00	1.59E+00	3.24E-04 +/-	1.37E-05
31	345.53	7.11E+01 +/-	1.05E+00	1.57E+00	3.19E-04 +/-	1.33E-05
32	368.83	2.91E+01 +/-	8.59E-01	1.53E+00	3.05E-04 +/-	1.23E-05
33	375.60	1.86E+02 +/-	1.83E+00	1.51E+00	3.02E-04 +/-	1.21E-05
34	383.38	1.74E+01 +/-	8.23E-01	1.50E+00	2.97E-04 +/-	1.18E-05
35	393.49	7.11E+01 +/-	9.91E-01	1.48E+00	2.92E-04 +/-	1.16E-05
36	413.70	1.90E+02 +/-	1.62E+00	1.46E+00	2.81E-04 +/-	1.11E-05
37	423.20	9.60E+00 +/-	4.98E-01	1.46E+00	2.76E-04 +/-	1.09E-05
38	452.14	2.27E+01 +/-	5.57E-01	1.44E+00	2.62E-04 +/-	1.05E-05
39	619.89	1.90E+00 +/-	1.83E-01	1.37E+00	1.98E-04 +/-	9.16E-06
40	640.98	9.74E-01 +/-	2.03E-01	1.37E+00	1.92E-04 +/-	8.97E-06
41	646.94	6.97E-01 +/-	1.65E-01	1.36E+00	1.90E-04 +/-	8.92E-06
42	653.80	1.43E+00 +/-	1.87E-01	1.36E+00	1.89E-04 +/-	8.85E-06

Batch 2002-02-595

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
43	662.42	7.87E+00 +/- 4.22E-01	1.36E+00	1.86E-04 +/- 8.77E-06
44	689.82	8.49E-01 +/- 1.43E-01	1.35E+00	1.80E-04 +/- 8.49E-06
45	723.13	3.83E+00 +/- 2.35E-01	1.34E+00	1.72E-04 +/- 8.13E-06
46	757.42	3.20E-01 +/- 1.01E-01	1.33E+00	1.65E-04 +/- 7.74E-06
47	770.68	1.50E+00 +/- 1.39E-01	1.33E+00	1.62E-04 +/- 7.58E-06
48	1001.03	6.66E-02 +/- 3.06E-02	1.28E+00	1.30E-04 +/- 4.95E-06
49	1085.91	2.95E-02 +/- 1.70E-02	1.27E+00	1.22E-04 +/- 4.37E-06

Segment: 7 Detector: DET01 (# 1) Position: 7

Elapsed Live Time: 104.48 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.226 +/- 0.0035
SE-75	279.53	0.000 +/- 0.0000	0.258 +/- 0.0054
SE-75	400.65	0.000 +/- 0.0000	0.372 +/- 0.0072

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	2.52E+01 +/- 8.29E-01	4.10E+00	2.18E-09 +/- 2.40E-08
2	23.17	2.75E+01 +/- 9.19E-01	4.10E+00	7.03E-09 +/- 6.90E-08
3	35.10	1.01E+03 +/- 5.03E+00	4.10E+00	9.59E-07 +/- 4.73E-06
4	49.75	1.08E+01 +/- 1.17E+00	4.10E+00	1.47E-05 +/- 3.54E-05
5	59.58	5.37E+02 +/- 3.28E+00	4.10E+00	4.01E-05 +/- 6.21E-05
6	75.06	8.78E+00 +/- 1.12E+00	4.10E+00	1.05E-04 +/- 8.11E-05
7	98.78	2.65E+02 +/- 2.97E+00	4.10E+00	2.21E-04 +/- 5.18E-05
8	103.41	2.00E+02 +/- 2.03E+00	4.10E+00	2.41E-04 +/- 4.29E-05
9	111.27	3.84E+01 +/- 2.05E+00	4.10E+00	2.73E-04 +/- 2.88E-05
10	117.10	2.61E+01 +/- 1.59E+00	4.10E+00	2.94E-04 +/- 2.09E-05
11	129.29	1.75E+02 +/- 1.87E+00	4.10E+00	3.30E-04 +/- 1.98E-05
12	148.57	2.84E+01 +/- 1.27E+00	3.06E+00	3.68E-04 +/- 3.49E-05
13	161.20	4.84E+00 +/- 1.09E+00	2.67E+00	3.83E-04 +/- 4.09E-05
14	164.81	1.85E+00 +/- 1.07E+00	2.59E+00	3.86E-04 +/- 4.19E-05
15	171.69	8.64E+00 +/- 1.06E+00	2.46E+00	3.90E-04 +/- 4.31E-05

	16	179.44	3.83E+00	+/- 1.03E+00	2.34E+00	3.93E-04	+/-	4.34E-05
	17	189.60	4.89E+00	+/- 9.59E-01	2.21E+00	3.94E-04	+/-	4.25E-05
	18	196.00	7.53E+00	+/- 8.09E-01	2.14E+00	3.94E-04	+/-	4.14E-05
	19	208.30	1.62E+02	+/- 1.89E+00	2.03E+00	3.91E-04	+/-	3.83E-05
	20	244.70	2.36E+00	+/- 7.16E-01	1.77E+00	3.73E-04	+/-	2.70E-05
	21	255.65	7.12E+00	+/- 7.02E-01	1.71E+00	3.66E-04	+/-	2.39E-05
	22	267.90	5.80E+00	+/- 6.82E-01	1.65E+00	3.58E-04	+/-	2.08E-05
	23	297.90	3.54E+00	+/- 7.26E-01	1.57E+00	3.37E-04	+/-	1.58E-05
	24	311.90	5.59E+00	+/- 6.43E-01	1.55E+00	3.27E-04	+/-	1.48E-05
	25	321.27	3.89E+00	+/- 7.11E-01	1.53E+00	3.21E-04	+/-	1.45E-05
	26	324.21	2.67E+00	+/- 5.08E-01	1.53E+00	3.19E-04	+/-	1.44E-05
	27	333.24	4.46E+01	+/- 1.10E+00	1.51E+00	3.13E-04	+/-	1.44E-05
	28	336.36	5.37E+00	+/- 8.47E-01	1.51E+00	3.11E-04	+/-	1.44E-05
	29	345.57	4.06E+01	+/- 8.74E-01	1.49E+00	3.05E-04	+/-	1.46E-05
	30	368.78	1.82E+01	+/- 6.69E-01	1.46E+00	2.91E-04	+/-	1.52E-05
	31	375.62	1.14E+02	+/- 1.34E+00	1.45E+00	2.87E-04	+/-	1.54E-05
	32	383.42	1.15E+01	+/- 6.05E-01	1.44E+00	2.83E-04	+/-	1.57E-05
	33	393.57	4.38E+01	+/- 7.56E-01	1.43E+00	2.77E-04	+/-	1.59E-05
	34	413.70	1.11E+02	+/- 1.16E+00	1.42E+00	2.67E-04	+/-	1.63E-05
	35	423.19	6.52E+00	+/- 4.43E-01	1.41E+00	2.62E-04	+/-	1.63E-05
	36	452.18	1.33E+01	+/- 4.25E-01	1.40E+00	2.49E-04	+/-	1.63E-05
	37	620.16	1.14E+00	+/- 1.44E-01	1.33E+00	1.92E-04	+/-	1.19E-05
	38	647.04	5.13E-01	+/- 1.48E-01	1.33E+00	1.86E-04	+/-	1.11E-05
	39	653.85	9.32E-01	+/- 1.33E-01	1.32E+00	1.84E-04	+/-	1.09E-05
M	40	660.02	4.28E-01	+/- 8.66E-02	1.32E+00	1.83E-04	+/-	1.07E-05
m	41	663.57	5.55E+00	+/- 3.34E-01	1.32E+00	1.82E-04	+/-	1.06E-05
	42	689.70	6.15E-01	+/- 1.07E-01	1.31E+00	1.76E-04	+/-	9.86E-06

Batch 2002-08-582

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
43	723.41	2.47E+00 +/- 1.84E-01	1.31E+00	1.69E-04 +/- 9.01E-06
44	757.23	1.75E-01 +/- 6.51E-02	1.30E+00	1.63E-04 +/- 8.28E-06
45	770.79	6.61E-01 +/- 9.46E-02	1.29E+00	1.61E-04 +/- 8.03E-06
46	778.90	3.93E-02 +/- 2.29E-02	1.29E+00	1.60E-04 +/- 7.89E-06
47	964.13	1.54E-02 +/- 1.58E-02	1.26E+00	1.35E-04 +/- 6.00E-06

Segment: 8 Detector: DET01 (# 1) Position: 8

Elapsed Live Time: 110.41 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.293 +/- 0.0317
SE-75	264.65	0.000 +/- 0.0000	0.488 +/- 0.0050
SE-75	279.53	0.000 +/- 0.0000	0.506 +/- 0.0069
SE-75	400.65	0.000 +/- 0.0000	0.543 +/- 0.0084

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	8.83E+00 +/- 5.10E-01	3.24E+00	1.22E-09 +/- 1.33E-08
2	23.20	1.22E+01 +/- 5.64E-01	2.92E+00	4.22E-09 +/- 4.10E-08
3	35.10	1.01E+03 +/- 4.86E+00	2.06E+00	6.89E-07 +/- 3.37E-06
4	49.40	3.94E+00 +/- 7.45E-01	1.79E+00	1.12E-05 +/- 2.73E-05
5	59.60	1.90E+02 +/- 1.66E+00	1.71E+00	3.35E-05 +/- 5.14E-05
6	75.05	3.39E+00 +/- 7.35E-01	1.64E+00	9.08E-05 +/- 7.00E-05
7	98.86	8.19E+01 +/- 1.65E+00	1.59E+00	1.99E-04 +/- 4.65E-05
8	103.43	6.41E+01 +/- 1.11E+00	1.58E+00	2.18E-04 +/- 3.88E-05
9	111.33	1.42E+01 +/- 1.14E+00	1.57E+00	2.49E-04 +/- 2.63E-05
10	117.02	7.05E+00 +/- 9.08E-01	1.56E+00	2.69E-04 +/- 1.94E-05
11	129.29	5.72E+01 +/- 1.07E+00	1.55E+00	3.05E-04 +/- 1.85E-05
12	148.57	1.11E+01 +/- 7.59E-01	1.51E+00	3.45E-04 +/- 3.27E-05
13	165.01	2.95E+00 +/- 5.87E-01	1.47E+00	3.64E-04 +/- 3.97E-05
14	189.64	1.95E+00 +/- 6.73E-01	1.42E+00	3.76E-04 +/- 4.08E-05
15	196.25	2.20E+00 +/- 6.69E-01	1.40E+00	3.77E-04 +/- 3.98E-05
16	208.35	4.98E+01 +/- 1.05E+00	1.38E+00	3.76E-04 +/- 3.72E-05
17	255.84	2.66E+00 +/- 4.48E-01	1.31E+00	3.56E-04 +/- 2.36E-05
18	267.97	1.39E+00 +/- 4.41E-01	1.29E+00	3.49E-04 +/- 2.06E-05
19	279.54	7.25E-01 +/- 4.19E-01	1.28E+00	3.42E-04 +/- 1.83E-05
20	297.75	1.19E+00 +/- 5.40E-01	1.28E+00	3.31E-04 +/- 1.56E-05

21	311.90	1.21E+00	+/- 4.16E-01	1.27E+00	3.23E-04	+/- 1.44E-05
22	333.28	1.24E+01	+/- 6.31E-01	1.27E+00	3.10E-04	+/- 1.38E-05
23	336.34	1.60E+00	+/- 4.82E-01	1.27E+00	3.08E-04	+/- 1.38E-05
24	345.61	1.22E+01	+/- 5.09E-01	1.26E+00	3.03E-04	+/- 1.38E-05
25	368.71	4.81E+00	+/- 4.06E-01	1.26E+00	2.90E-04	+/- 1.44E-05
26	375.67	3.44E+01	+/- 7.03E-01	1.26E+00	2.86E-04	+/- 1.46E-05
27	383.52	3.46E+00	+/- 3.41E-01	1.25E+00	2.82E-04	+/- 1.48E-05
28	393.60	1.30E+01	+/- 4.15E-01	1.25E+00	2.76E-04	+/- 1.50E-05
29	413.70	3.33E+01	+/- 5.92E-01	1.25E+00	2.66E-04	+/- 1.54E-05
30	423.30	2.20E+00	+/- 2.40E-01	1.24E+00	2.62E-04	+/- 1.55E-05
31	452.18	3.70E+00	+/- 2.36E-01	1.24E+00	2.49E-04	+/- 1.56E-05
32	641.65	1.96E-01	+/- 7.24E-02	1.20E+00	1.88E-04	+/- 1.09E-05
33	647.07	2.47E-01	+/- 5.93E-02	1.19E+00	1.86E-04	+/- 1.07E-05
34	662.42	1.58E+00	+/- 1.39E-01	1.19E+00	1.83E-04	+/- 1.03E-05
35	723.19	7.18E-01	+/- 9.84E-02	1.18E+00	1.70E-04	+/- 8.79E-06
36	757.40	1.59E-01	+/- 5.48E-02	1.18E+00	1.63E-04	+/- 8.10E-06
37	770.85	2.55E-01	+/- 5.53E-02	1.18E+00	1.61E-04	+/- 7.87E-06

Segment: 9 Detector: DET01 (# 1) Position: 9

Elapsed Live Time: 113.02 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.348 +/- 0.0271
SE-75	264.65	0.000 +/- 0.0000	0.510 +/- 0.0050
SE-75	279.53	0.000 +/- 0.0000	0.523 +/- 0.0068
SE-75	400.65	0.000 +/- 0.0000	0.596 +/- 0.0086

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	2.05E+00 +/- 2.59E-01	2.85E+00	1.44E-06 +/- 1.63E-05
2	23.17	3.10E+00 +/- 2.76E-01	2.60E+00	2.28E-06 +/- 2.30E-05
3	35.10	1.01E+03 +/- 4.78E+00	1.89E+00	1.75E-05 +/- 8.88E-05
4	59.60	2.28E+01 +/- 6.19E-01	1.60E+00	1.00E-04 +/- 1.59E-04
5	98.91	5.87E+00 +/- 7.23E-01	1.49E+00	2.52E-04 +/- 6.03E-05
6	129.29	2.44E+00 +/- 4.96E-01	1.46E+00	3.23E-04 +/- 1.97E-05
7	208.41	1.49E+00 +/- 3.57E-01	1.34E+00	3.66E-04 +/- 3.76E-05
8	290.68	3.67E-01 +/- 2.27E-01	1.26E+00	3.31E-04 +/- 1.66E-05
9	345.49	4.29E-01 +/- 2.26E-01	1.23E+00	3.01E-04 +/- 1.41E-05
10	375.67	9.21E-01 +/- 1.98E-01	1.22E+00	2.85E-04 +/- 1.49E-05
11	413.70	7.46E-01 +/- 1.20E-01	1.21E+00	2.67E-04 +/- 1.59E-05
12	443.98	7.37E-02 +/- 5.10E-02	1.20E+00	2.53E-04 +/- 1.61E-05
13	662.42	1.07E-01 +/- 3.63E-02	1.16E+00	1.82E-04 +/- 1.04E-05

14	867.39	4.63E-02 +/-	2.30E-02	1.14E+00	1.46E-04 +/- 6.48E-06

Segment: 10 Detector: DET01 (# 1) Position: 10

Elapsed Live Time: 113.36 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.356 +/- 0.0250
SE-75	264.65	0.000 +/- 0.0000	0.474 +/- 0.0047
SE-75	279.53	0.000 +/- 0.0000	0.484 +/- 0.0064
SE-75	400.65	0.000 +/- 0.0000	0.526 +/- 0.0080

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.29	2.82E+00 +/- 2.65E-01	2.54E+00	3.51E-07 +/- 4.95E-07
2	35.10	1.01E+03 +/- 4.77E+00	1.86E+00	5.68E-06 +/- 4.74E-06
3	59.58	9.18E+00 +/- 4.26E-01	1.58E+00	6.36E-05 +/- 2.21E-05
4	75.25	6.20E-01 +/- 3.68E-01	1.53E+00	1.29E-04 +/- 2.69E-05
5	129.29	1.23E+00 +/- 3.17E-01	1.45E+00	3.30E-04 +/- 1.70E-05
6	136.00	7.08E-01 +/- 4.35E-01	1.38E+00	3.45E-04 +/- 1.68E-05
7	185.71	6.23E-01 +/- 3.53E-01	1.38E+00	4.00E-04 +/- 2.05E-05
8	400.66	9.68E-02 +/- 5.98E-02	1.26E+00	2.87E-04 +/- 1.13E-05
9	867.39	8.71E-03 +/- 8.71E-03	1.17E+00	1.42E-04 +/- 6.49E-06
10	1408.01	8.71E-03 +/- 8.71E-03	1.13E+00	1.08E-04 +/- 6.60E-06

Segment: 11 Detector: DET01 (# 1) Position: 11

Elapsed Live Time: 113.51 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.367 +/- 0.0245
SE-75	264.65	0.000 +/- 0.0000	0.466 +/- 0.0046
SE-75	279.53	0.000 +/- 0.0000	0.469 +/- 0.0063
SE-75	400.65	0.000 +/- 0.0000	0.515 +/- 0.0079

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	8.36E-01 +/- 1.66E-01	2.74E+00	2.54E-07 +/- 3.92E-07
2	23.19	9.65E-01 +/- 1.73E-01	2.50E+00	4.68E-07 +/- 6.59E-07
3	35.10	1.01E+03 +/- 4.77E+00	1.83E+00	6.75E-06 +/- 5.60E-06
4	59.62	4.30E+00 +/- 3.24E-01	1.56E+00	6.70E-05 +/- 2.31E-05
5	400.66	9.10E-02 +/- 4.48E-02	1.27E+00	2.82E-04 +/- 1.12E-05
6	662.42	5.67E-02 +/- 2.83E-02	1.21E+00	1.80E-04 +/- 8.65E-06
7	778.90	8.72E-03 +/- 8.72E-03	1.19E+00	1.56E-04 +/- 7.41E-06
8	964.13	4.14E-02 +/- 2.44E-02	1.17E+00	1.32E-04 +/- 5.35E-06
9	1001.03	8.72E-03 +/- 1.59E-02	1.16E+00	1.28E-04 +/- 5.01E-06
10	1408.01	8.72E-03 +/- 8.72E-03	1.14E+00	1.08E-04 +/- 6.61E-06

Segment: 12 Detector: DET01 (# 1) Position: 12

Elapsed Live Time: 113.58 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Some transmission peaks rejected.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	0.127 +/- 0.0021
SE-75	279.53	0.000 +/- 0.0000	0.130 +/- 0.0031
SE-75	400.65	0.000 +/- 0.0000	0.178 +/- 0.0044

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	5.79E-01 +/- 1.57E-01	4.10E+00	3.60E-07 +/- 5.55E-07
2	35.10	1.01E+03 +/- 4.77E+00	3.48E+00	7.63E-06 +/- 6.33E-06
3	59.52	1.62E+00 +/- 2.75E-01	2.63E+00	6.61E-05 +/- 2.29E-05
4	1112.12	8.70E-03 +/- 8.70E-03	1.43E+00	1.19E-04 +/- 4.27E-06

Segment: 13 Detector: DET01 (# 1) Position: 13

Elapsed Live Time: 113.69 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.215 +/- 0.0190
SE-75	264.65	0.000 +/- 0.0000	0.274 +/- 0.0033
SE-75	279.53	0.000 +/- 0.0000	0.284 +/- 0.0046
SE-75	400.65	0.000 +/- 0.0000	0.326 +/- 0.0060

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.42	9.91E-01 +/- 1.90E-01	3.48E+00	1.18E-06 +/- 1.71E-06
2	35.10	1.01E+03 +/- 4.76E+00	2.39E+00	1.10E-05 +/- 9.51E-06
3	59.58	1.19E+00 +/- 2.36E-01	1.92E+00	8.09E-05 +/- 2.88E-05
4	136.00	5.65E-01 +/- 3.03E-01	1.70E+00	3.33E-04 +/- 1.65E-05
5	185.71	4.74E-01 +/- 2.22E-01	1.64E+00	3.79E-04 +/- 2.03E-05
6	400.66	5.22E-02 +/- 3.26E-02	1.49E+00	2.81E-04 +/- 1.13E-05

Segment: 14 Detector: DET01 (# 1) Position: 14

Elapsed Live Time: 113.76 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.736 +/- 0.0307
SE-75	264.65	0.000 +/- 0.0000	0.767 +/- 0.0066
SE-75	279.53	0.000 +/- 0.0000	0.770 +/- 0.0085
SE-75	400.65	0.000 +/- 0.0000	0.806 +/- 0.0103

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.42	8.28E-01 +/- 1.53E-01	1.37E+00	6.32E-07 +/- 6.11E-06
2	35.10	1.01E+03 +/- 4.76E+00	1.22E+00	8.94E-06 +/- 4.41E-05
3	778.90	1.74E-02 +/- 1.23E-02	1.06E+00	1.59E-04 +/- 7.64E-06

Segment: 15 Detector: DET01 (# 1) Position: 15

Elapsed Live Time: 113.79 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.870 +/- 0.0339
SE-75	264.65	0.000 +/- 0.0000	0.852 +/- 0.0071
SE-75	279.53	0.000 +/- 0.0000	0.851 +/- 0.0090
SE-75	400.65	0.000 +/- 0.0000	0.877 +/- 0.0108

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.10E+00	1.45E-08 +/- 6.96E-08
2	136.00	5.45E-01 +/- 2.38E-01	1.07E+00	3.60E-04 +/- 2.57E-05
3	1001.03	3.47E-02 +/- 1.74E-02	1.03E+00	1.32E-04 +/- 5.58E-06

Segment: 16 Detector: DET01 (# 1) Position: 16

Elapsed Live Time: 113.80 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.763 +/- 0.0310
SE-75	264.65	0.000 +/- 0.0000	0.793 +/- 0.0068
SE-75	279.53	0.000 +/- 0.0000	0.797 +/- 0.0087
SE-75	400.65	0.000 +/- 0.0000	0.811 +/- 0.0104

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.20E+00	9.52E-10 +/- 5.35E-09
2	87.37	5.07E-01 +/- 2.26E-01	1.12E+00	6.13E-05 +/- 3.02E-05
3	152.68	3.93E-01 +/- 1.86E-01	1.10E+00	2.85E-04 +/- 3.25E-05
4	279.54	1.25E-01 +/- 8.46E-02	1.09E+00	2.56E-04 +/- 1.50E-05
5	400.66	6.05E-02 +/- 3.15E-02	1.08E+00	1.86E-04 +/- 1.20E-05
6	778.90	2.55E-02 +/- 2.10E-02	1.06E+00	1.14E-04 +/- 6.23E-06

Batch 2002-02-604

Summed Spectrum

Peak Locate Report

Sample ID: S100_849
Peak Locate Performed on: 2-06-02 8:36:17 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192
Peak Search Sensitivity: 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
1	43.00	0.2692	21.42	13.79
2	46.51	0.1356	23.18	27.46
3	70.21	0.0398	35.02	495.61
4	119.35	0.0644	59.57	156.31
5	150.37	0.2238	75.07	12.66
6	197.81	0.0820	98.77	79.70
7	207.08	0.0823	103.40	62.98
8	222.73	0.1027	111.22	47.44
9	229.29	0.1511	114.50	27.22
10	234.49	0.1764	117.10	13.88
11	259.24	0.0718	129.46	110.94
12	293.14	0.3036	146.40	9.29
13	297.81	0.1221	148.73	39.14
14	322.58	0.2223	161.11	7.12
15	329.99	0.1709	164.81	19.19
16	343.68	0.2302	171.65	10.16
17	359.28	0.2705	179.44	9.26
18	379.65	0.2424	189.62	9.22
19	392.42	0.1963	196.00	15.01
20	417.02	0.0606	208.29	139.13
21	511.87	0.1652	255.68	18.36
22	536.32	0.1633	267.90	17.96
23	596.37	0.2038	297.90	11.52
24	625.19	0.1670	312.29	18.19
25	643.06	0.2310	321.23	10.30
26	649.09	0.2150	324.23	9.70
27	667.05	0.0823	333.21	68.54
28	673.24	0.1294	336.30	30.26
29	691.76	0.0845	345.56	66.01
30	738.26	0.1322	368.79	21.86
31	751.92	0.0622	375.62	118.90
32	767.52	0.1187	383.41	35.32
33	787.82	0.0861	393.55	57.93
34	829.39	0.0627	414.32	108.32
35	847.18	0.1206	423.21	31.60
36	905.12	0.1049	452.16	40.27

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
37	1240.99	0.2224	619.96	8.46
38	1295.01	0.2219	646.95	8.63
39	1308.54	0.2361	653.71	6.18
40	1328.09	0.1278	663.48	25.25
41	1380.98	0.2597	689.90	6.22
42	1447.67	0.1541	723.22	14.62
43	1516.03	0.2843	757.38	5.58
44	1542.68	0.2199	770.69	8.13

Errors quoted at 1.000 sigma

Batch 2002-02-606

Summed Spectrum

Peak Analysis Report

Sample ID: S100_849
Peak Analysis Performed on: 2-06-02 8:36:17 AM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	39-	46	43.00	21.42	1.45E+04	204.15	1.36E+04
2	46-	49	46.51	23.18	1.50E+04	221.90	2.05E+04
3	67-	73	70.21	35.02	1.81E+06	1357.13	1.83E+04
4	115-	122	119.35	59.57	2.61E+05	587.46	4.15E+04
5	149-	153	150.37	75.07	2.84E+03	221.85	2.76E+04
6	194-	201	197.81	98.77	1.37E+05	674.53	1.58E+05
7	206-	210	207.08	103.40	1.04E+05	455.52	5.65E+04
8	218-	226	222.73	111.22	2.04E+04	509.53	1.04E+05
9	226-	233	229.29	114.50	1.58E+03	504.15	1.25E+05
10	233-	238	234.49	117.10	1.18E+04	387.02	6.39E+04
11	255-	263	259.24	129.46	9.09E+04	438.95	4.72E+04
12	291-	300	293.14	146.40	1.80E+04	336.21	4.18E+04
13	298-	304	297.81	148.73	5.99E+03	259.35	2.99E+04
14	318-	326	322.58	161.11	1.86E+03	286.59	3.70E+04
15	326-	334	329.99	164.81	2.07E+03	281.57	3.59E+04
16	339-	347	343.68	171.65	4.43E+03	262.25	3.01E+04
17	354-	363	359.28	179.44	2.25E+03	273.90	3.22E+04
18	375-	384	379.65	189.62	3.53E+03	270.92	3.09E+04
19	388-	396	392.42	196.00	4.04E+03	246.75	2.66E+04
20	412-	421	417.02	208.29	8.73E+04	435.68	4.37E+04
21	507-	516	511.87	255.68	3.95E+03	184.83	1.34E+04
22	533-	541	536.32	267.90	3.17E+03	165.41	1.12E+04
23	591-	601	596.37	297.90	2.19E+03	170.07	1.12E+04
24	620-	630	625.19	312.29	2.39E+03	167.90	1.08E+04
25	638-	648	643.06	321.23	1.97E+03	179.83	1.27E+04
26	648-	654	649.09	324.23	1.19E+03	128.27	7.52E+03
27	662-	672	667.05	333.21	2.43E+04	265.73	1.85E+04
28	672-	678	673.24	336.30	3.03E+03	200.68	1.18E+04
29	689-	696	691.76	345.56	2.34E+04	191.75	6.54E+03
30	733-	743	738.26	368.79	9.61E+03	162.86	7.05E+03
31	746-	757	751.92	375.62	6.13E+04	307.28	1.31E+04
32	767-	772	767.52	383.41	5.91E+03	148.93	4.50E+03
33	782-	793	787.82	393.55	2.35E+04	179.02	3.41E+03
34	824-	834	829.39	414.32	6.14E+04	258.08	2.18E+03
35	841-	852	847.18	423.21	3.36E+03	106.44	3.12E+03
36	899-	910	905.12	452.16	7.13E+03	101.96	1.30E+03
37	1234-	1247	1240.99	619.96	6.28E+02	37.80	2.91E+02

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
38	1290-	1301	1295.01	646.95	1.95E+02	35.65	4.26E+02
39	1302-	1314	1308.54	653.71	5.19E+02	34.59	2.58E+02
40	1326-	1334	1328.09	663.48	2.69E+03	57.00	2.61E+02
41	1374-	1387	1380.98	689.90	2.77E+02	28.38	1.90E+02
42	1441-	1453	1447.67	723.22	1.26E+03	43.72	2.42E+02
43	1509-	1522	1516.03	757.38	1.68E+02	20.67	9.44E+01
44	1536-	1549	1542.68	770.69	4.21E+02	26.07	9.38E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Summed Spectrum

Nuclide Identification Report

Sample ID: S100_849
Nuclide Library Used: C:\WAS\NLIB\LLNL.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/)	Activity Uncertainty
Pulser	1.000	35.10*	100.00	2.859E+05	7.183E+05
Np-237	0.754	300.10	6.63		
		311.90*	38.60	5.731E+00	4.055E-01
Pu-239	0.973	413.70*	0.00	4.577E+06	8.555E+04
Pu-239A	0.998	129.29*	0.01	1.467E+06	3.689E+04
Am-241	0.923	662.42*	0.00	1.074E+06	2.463E+04
Pu-241	0.998	148.57*	0.00	2.900E+06	1.330E+05

* = Energy line found in the spectrum.
Energy Tolerance : 1.500 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 1.000 sigma

Batch 2002-02-609

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 2-06-02 8:36:17 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	21.42	1.2926E+02	1.41
2	23.18	1.3391E+02	1.48
4	59.57	2.3314E+03	0.24
5	75.07	2.5324E+01	7.82
6	98.77	1.2192E+03	0.50
7	103.40	9.3252E+02	0.45
8	111.22	1.8263E+02	2.49
9	114.50	1.4121E+01	31.89
10	117.10	1.0545E+02	3.28
12	146.40	1.6082E+02	1.87
14	161.11	1.6613E+01	15.41
15	164.81	1.8513E+01	13.58
16	171.65	3.9553E+01	5.92
17	179.44	2.0078E+01	12.18
18	189.62	3.1523E+01	7.68
19	196.00	3.6075E+01	6.11
20	208.29	7.7987E+02	0.51
21	255.68	3.5303E+01	4.68
22	267.90	2.8310E+01	5.22
23	297.90	1.9603E+01	7.75
25	321.23	1.7581E+01	9.14
26	324.23	1.0625E+01	10.78
27	333.21	2.1662E+02	1.10
28	336.30	2.7104E+01	6.61
29	345.56	2.0926E+02	0.82
30	368.79	8.5794E+01	1.70
31	375.62	5.4716E+02	0.51
32	383.41	5.2738E+01	2.52
33	393.55	2.1014E+02	0.77
35	423.21	2.9978E+01	3.17
36	452.16	6.3720E+01	1.43
37	619.96	5.6068E+00	6.02
38	646.95	1.7424E+00	18.27
39	653.71	4.6341E+00	6.67
41	689.90	2.4718E+00	10.25
42	723.22	1.1267E+01	3.47
43	757.38	1.4968E+00	12.33
44	770.69	3.7621E+00	6.19

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-02-619

Combined Segment NID

NID Results Combiner Mode: Sum Activities

Nuclide		Total Activity (uCi)				Concentration (uCi/g)		
Pulser		3.68E+07	+/-	1.93E+08		1.66E+03	+/-	8.68E+03
SE-75	<	3.90E-01	+/-	1.93E-02	<	1.76E-05	+/-	8.71E-07
EU-152x	<	2.18E-01	+/-	1.34E-02	<	9.82E-06	+/-	6.05E-07
U-233		1.34E+04	+/-	3.62E+03		6.02E-01	+/-	1.63E-01
U-235		1.99E-01	+/-	7.38E-02		8.95E-06	+/-	3.32E-06
Np-237		7.72E+00	+/-	5.00E-01		3.48E-04	+/-	2.25E-05
Pu-238		4.39E+03	+/-	2.13E+03		1.98E-01	+/-	9.61E-02
U-238		3.24E+00	+/-	1.16E+00		1.46E-04	+/-	5.24E-05
Pu-239		5.45E+06	+/-	1.32E+05		2.46E+02	+/-	5.93E+00
Pu-239A		4.16E+06	+/-	1.28E+05		1.88E+02	+/-	5.76E+00
Am-241		1.30E+06	+/-	4.82E+04		5.84E+01	+/-	2.17E+00
Pu-241		9.63E+06	+/-	4.65E+05		4.34E+02	+/-	2.10E+01

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
U-233	1.39E+00	+/-	3.77E-01
U-235	9.20E-02	+/-	3.42E-02
Np-237	1.10E-02	+/-	7.09E-04
Pu-238	2.56E-04	+/-	1.25E-04
U-238	9.66E+00	+/-	3.47E+00
Pu-239	8.78E+01	+/-	2.12E+00
Pu-239A	6.70E+01	+/-	2.06E+00
Am-241	3.78E-01	+/-	1.41E-02
Pu-241	9.32E-02	+/-	4.50E-03

Batch 2002-02-64

Summed Spectrum

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		2.86E+05	+/-	7.18E+05	1.29E+01	+/-	3.24E+01
SE-75	<	9.04E-01	+/-	7.89E-03	< 4.07E-05	+/-	3.55E-07
EU-152x	<	4.30E-01	+/-	8.28E-03	< 1.94E-05	+/-	3.73E-07
U-233	<	4.07E+04	+/-	8.49E+02	< 1.83E+00	+/-	3.83E-02
U-235	<	1.35E+00	+/-	2.67E-02	< 6.10E-05	+/-	1.20E-06
Np-237		5.73E+00	+/-	4.05E-01	2.58E-04	+/-	1.83E-05
Pu-238	<	9.78E+04	+/-	1.42E+03	< 4.41E+00	+/-	6.42E-02
U-238	<	1.24E+01	+/-	1.98E-01	< 5.59E-04	+/-	8.94E-06
Pu-239		4.58E+06	+/-	8.56E+04	2.06E+02	+/-	3.85E+00
Pu-239A		1.47E+06	+/-	3.69E+04	6.61E+01	+/-	1.66E+00
Am-241		1.07E+06	+/-	2.46E+04	4.84E+01	+/-	1.11E+00
Pu-241		2.90E+06	+/-	1.33E+05	1.31E+02	+/-	5.99E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
Np-237	8.14E-03	+/-	5.76E-04
Pu-239	7.37E+01	+/-	1.38E+00
Pu-239A	2.36E+01	+/-	5.94E-01
Am-241	3.14E-01	+/-	7.19E-03
Pu-241	2.80E-02	+/-	1.29E-03

Retd. 2002-02-612

Final Non-Uniformity Results

Source Longitudinal Ratio:	0.000	+/-	0.0000
Matrix Longitudinal Ratio:	0.596	+/-	0.0253
Source Vertical Ratio:	0.000	+/-	0.0000
Matrix Vertical Ratio:	0.856	+/-	0.0159

NUDS could not find the transmission peak in one radial segment.
NUDS could not find the source peak in any radial segment.

Batch 2202-02-13

****
***** M G A R E P O R T *****
****

Report generated on: 2-06-02 8:36:16 AM

MGA version: MGA V9.5 CI

Spectrum ID: 11200849.CNF Sens : 30.0% LT: 50.9 Mins DT: 8.80
Measurement date: 2-06-02 Declared date: 2-06-02

Sample ID: S100_849 Detector: Total counts: 1.518E+07

Pu g/cm2 = 0.8406 Cd g/cm2 = 1.7792 FWHM at 122 keV = 683 eV
QFIT = 1.22 FWHM at 208 keV = 852 eV
NQFIT = 1.01

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	Meas. date %Err	Decl. date % weight	Decl. date %Err
Pu-238	0.000090	6.4	6.4	0.0358	6.3	0.00850	6.36	0.00850	6.36
Pu-239	1.000000	0.0	0.3	396.3817	0.5	94.22099	0.05	94.22099	0.05
Pu-240	0.058399	0.8	0.8	23.1484	0.9	5.50244	0.79	5.50244	0.79
Pu-241	0.002523	0.5	0.4	1.0000	0.0	0.23770	0.51	0.23770	0.51
Pu-242	(New alg.)			0.1278	(10)	0.03037	(10)	0.03037	(10)
Am-241	0.004633	0.4	0.3	1.8364	0.5	0.43651	0.43	0.43651	0.43

Pu-240 effective (meas. date) = 5.575 +/- 0.85%
Am-241 separated about 21.581 +/- 0.138 years ago
Am/Pu-241 weight ratio = 1.83638 +/- 0.54%

Messages :

Lead x-rays detected.
Calculations in MGAABS didn't converge : results may be suspect.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
2-06-02 8:48:58 AM

QA File: C:\WAS\CTRS\CTR1\ARR1\S11_BCK.QA
Sample ID: B850
Sample Quantity: 1.0000E+00
Sample Date: 2-06-02 8:43:19 AM
Measurement Date: 2-06-02 8:43:17 AM
Elapsed Live Time: 200.0 seconds
Elapsed Real Time: 201.9 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
Ref. Peak	3.5032E+01	0.00
[0.00+/-0.00]		< : : : >
Upper CPS Reg	2.0210E+01	0.00
[0.00+/-0.00]		< : : : >
Peak counts/second	1.0090E+03	0.00
[0.00+/-0.00]		< : : : >
Pulser FWHM	9.8617E-01	0.00
[0.00+/-0.00]		< : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
2-06-02 8:48:51 AM

QA File: C:\WAS\CTRS\CTR1\ARR1\T11_BCK.QA
Sample ID: B850
Sample Quantity: 1.0000E+00
Sample Date: 2-06-02 8:43:19 AM
Measurement Date: 2-06-02 8:46:46 AM
Elapsed Live Time: 100.0 seconds
Elapsed Real Time: 104.1 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >

Batch 2202-02-415

400.6 keV Centroid	8.0348E+02			0.00			
[0.00+/-0.00]		<	:	:	:	>	
400.6 keV FWHM	1.5185E+00			0.00			
[0.00+/-0.00]		<	:	:	:	>	
Peak centroid 136 KeV	2.7286E+02			0.00			
[0.00+/-0.00]		<	:	:	:	>	
Peak area 400 keV	1.8056E+04			0.00			
[0.00+/-0.00]		<	:	:	:	>	
Peak counts/second	1.8056E+02			0.00			
[0.00+/-0.00]		<	:	:	:	>	

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

OK RM 2-6-02

JRS

Batch 2002-02-116

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS V2.3A RADA V2.1

****
* DRUM INFORMATION *
****

Drum Package ID: LL85801109
Sequence Number: 851
Assay Date & Time: 2-06-2002 8:54:29 AM
Report Generated: 6-07-2002 3:29:33 PM
Drum Package GROSS Weight: 56.40 kg NET Weight: 24.60 kg

IDC Number: LL85801109

QC Replicate (Yes/No): NO Passed (Yes/No): _____

Operator Name (Printed): Russell Ratti

Operator Signature: For: Russell Ratti By: [signature] Date: 6-20-02

Independent Reviewer: [signature] Date: 6-27-02

Expert Reviewer: Kenneth Raschke Date: 6/7/02

Tech. Supv/QA Officer: [signature] Date: 6/27/02

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 5.924E+00 +/- 1.439E+00 Ci

****
* I S O T O P I C I N F O R M A T I O N *
****

Isotope	Measured Mass (g)	Mass Uncertainty (g)
Pu-238	1.662E-02	6.434E-03
Pu-239	6.329E+01	2.204E+01
Pu-240	3.762E+00	1.346E+00
Pu-241	1.962E-01	8.398E-02
Pu-242	2.036E-02	8.557E-03
Am-241	2.421E-01	8.644E-02
*Am-243	N/A	N/A
*Np-237	N/A	N/A
*U-235	N/A	N/A
*U-238	N/A	N/A
*U-233	N/A	N/A

* = Activity/Mass below detectable limit.

Total Pu Mass: 6.73E+01 +/- 2.21E+01 g

****
* M G A R E S U L T S *
****

NUCLIDE	% Weight	% Error(1-Sigma)
Pu-238	2.470E-02	8.64E+00
Pu-239	9.406E+01	2.84E-01
Pu-240	5.591E+00	4.19E+00
Pu-241	2.916E-01	1.27E+01
Pu-242	3.026E-02	1.20E+01
Am-241	3.597E-01	4.05E+00

Batch 2002-03-618

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005
Software Version: GWAS V2.3A RADA V2.1

Assay Date & Time: 2-06-2002 8:54:29 AM
Report Generated: 6-07-2002 3:29:36 PM

Drum Package ID: LL85801109
Sequence Number: 851

Waste Classification (TRU or LLW): TRU

		Errors at 1.96 sigma	
Total Alpha Activity :	5.924E+00	+/- 1.439E+00	Ci
Total TRU Activity :	2.408E+05	+/- 5.851E+04	nCi/g
Pu-239 Equiv Activity:	6.298E+00	+/- 1.449E+00	Ci
Fissile Gram Equiv Mass:	6.383E+01	+/- 2.204E+01	g
Total Decay Heat:	1.886E-01	+/- 4.531E-02	W
TMU Value:	34.81 %		

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error
Pu-238	2.88E-01	1.11E-01	1.66E-02	6.43E-03
Pu-239	3.93E+00	1.37E+00	6.33E+01	2.20E+01
Pu-240	8.65E-01	3.10E-01	3.76E+00	1.35E+00
Pu-241	2.04E+01	8.73E+00	1.96E-01	8.40E-02
Pu-242	8.08E-05	3.40E-05	2.04E-02	8.56E-03
Am-241	8.40E-01	3.00E-01	2.42E-01	8.64E-02
*Am-243	N/A	N/A	N/A	N/A
*Np-237	N/A	N/A	N/A	N/A
*U-235	N/A	N/A	N/A	N/A
*U-238	N/A	N/A	N/A	N/A
*U-233	N/A	N/A	N/A	N/A

* = Activity/Mass below detectable limit.

Total Pu Mass: 6.73E+01 +/- 2.21E+01 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sigma)
Pu-238	2.470E-02	8.64E+00
Pu-239	9.406E+01	2.84E-01
Pu-240	5.591E+00	4.19E+00
Pu-241	2.916E-01	1.27E+01
Pu-242	3.026E-02	1.20E+01
Am-241	3.597E-01	4.05E+00

Batch 2002-173-618

****
***** MGA REPORT *****
****

Report generated on: 6-07-02 3:17:02 PM

MGA version: MGA V9.5 CI

Spectrum ID: 11200851.CNF Sens : 30.0% LT: 53.7 Mins DT: 3.88
Measurement date: 2-06-02 Declared date: 2-06-02

Sample ID: LL85801109 Detector: Total counts: 7.390E+06

Pu g/cm2 = 2.2272 Cd g/cm2 = 0.1000 FWHM at 122 keV = 682 eV
QFIT = 2.32 FWHM at 208 keV = 875 eV
NQFIT = 1.09

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	%Err	Decl. date % weight	%Err
Pu-238	0.000263	8.8	7.3	0.0847	9.9	0.02470	8.64	0.02470	8.64
Pu-239	1.000000	0.0	3.5	322.5448	13.1	94.06243	0.28	94.06243	0.28
Pu-240	0.059439	4.5	2.5	19.1717	9.6	5.59098	4.19	5.59098	4.19
Pu-241	0.003100	12.9	9.6	1.0000	0.0	0.29163	12.70	0.29163	12.70
Pu-242	(New alg.)			0.1038	(12)	0.03026	(12)	0.03026	(12)
Am-241	0.003824	4.3	1.2	1.2335	8.9	0.35972	4.05	0.35972	4.05

Pu-240 effective (meas. date) = 5.704 +/- 5.17%
U-237 separated more than 10 days ago
Am-241 separated about 16.636 +/- 1.815 years ago
Am/Pu-241 weight ratio = 1.23349 +/- 9.64%

Messages :

Lead x-rays detected.
Calculations in MGAABS didn't converge : results may be suspect.
Efficiency curvature boundary reached.
Pu-241/Pu-239 efficiency changed in MGACAL by 1%.
16 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

SGS Expert Review Checklist

Container Identification #: LL85801109_____ Original Assay Date:2-06-2002__

1. *WCP-41, §6.1:* A MGA report ☒ is present or ☐ expert review has provided isotopic ratios from SGS or AK. Comment: Reran MGA with a reasonable detector volume and a fixed cadmium thickness to get better fitting results. ☐ No comments
2. *WCP-41, §6.1:* MGA and AK ☒ agree as to radiological composition or, if not, ☐ expert review has resolved this. Comment: ☒ No comments
3. *WCP-41, §6.2.1:* ☒ Pu-238 ≤ 2% by weight of total Pu or, if not, ☐ expert review has addressed this and assigned a Pu-240 value. Comment: ☒ No comments
4. *WCP-41, §6.2.2:* ☒ Neither Np-237 nor U-235 is identified by MGA or ☐ expert review has addressed possible interferences from these radionuclides.
   Comment: ☒ No comments
5. *WCP-41, §6.2.2.2:* ☒ Am-241 separation date is 1950 or later or ☐ expert review has addressed possible interferences. Comment: ☒ No comments
6. *WCP-41, §6.3.1.1.a:* ☒ Bulk density of waste ≤ 0.6 g/ml or ☐ expert review has addressed the high density of the drum. Comment: ☒ No comments
7. *WCP-41, §6.3.1.2.a:* ☒ Transmission in every segment ≥ 0.1% for the Se-75 peaks at 136 keV or 265 keV or ☐ expert review has addressed the low transmission.
   Comment: ☒ No comments
8. *WCP-41, §6.3.1.2.a:* ☒ Transmission in every segment ≥1% for the Se-75 peak at 401 keV or ☐ expert review has addressed the low transmission.
   Comment: ☒ No comments
9. *WCP-41, §6.3.1.3.b:* ☒ Dead time in every segment ≤ 50% or ☐ expert review has addressed the high dead time. Comment: ☒ No comments
10. *WCP-41, §6.3.1.3.c:* ☒ Pu-239 masses determined from the 414 keV peak and the 129 keV peak agree by a factor of < 2.5 or ☐ expert review has addressed possible matrix inhomogeneity. Comment: Reran GWAS with interactive peak-fit to give better values. ☐ No comments
11. *WCP-41, §6.3.2.3:* Cs-137 (☐ has) (☒ has not) been identified by expert review. If it has, Sr-90 is reported ☐ at an activity ratio to Cs-137of 0.39 for Pu fission or ☐ at a ratio of 1 for U-235 fission or, ☐ if both Pu and U are present, the expert reviewer has determined the ratio. Comment: ☒ No comments
12. *WCP-41, §6.3.2.4:* ☒ No unusual nuclides are identified (none other than the 10 required to be reported to WIPP) or ☐ the expert reviewer has checked for interferences from unusual nuclides. Comment: ☒ No comments

CONTROLLED FORM

Batch 2002-02-621

SGS Expert Review Checklist

Container Identification #: LL85801109_____ Original Assay Date:2-06-2002__

13. *WCP-41, §6.3.3:* For waste drums (☐ NA for standards), ☐ the Summed Spectrum report value for Pu-239 and the Combined Segment NID report for Pu-239 agree within 95% confidence limits (the same as for replicates of unknowns) or ☒ expert review has addressed the difference. Comment: The combined NID to the summed NID ratio is quite large. This should be expected as most of the drum activity is localized in the first three segments.☐ No comments
14. *WCP-41, §6.4:* ☐ The SGS Summed Spectrum and Combined Segment NID reports agree as to the ratios by weight of several radionuclides, such as those of Am-241, Pu-241, Np-237, Am-243, and U-235 to Pu-239, and MGA results agree as to identifying these radionuclides or ☒ expert review has resolved this. Comment: See comment to #13. ☐ No comments
15. *WCP-41, §6.6.1:* ☒ All reported radionuclide masses are above 2.5 times the uncorrected MDA or ☐ expert review has calculated transmission-corrected MDA's and taken appropriate action. Comment: ☒ No comments
16. *WCP-41, §6.6.2:* ☒ Any changes to reported quantities of individual radionuclides have been entered into the RADA program and a new radioassay data sheet has been produced, showing revised derivative quantities, and included in the batch data report, along with the marked up original. Comment: ☒ No comments
17. *CP-41, §6.7:* ☒ Counting statistics are adequate for normal passive count time of 120 seconds per segment or ☐ Counting statistics are adequate for long passive count time of 600 seconds per segment or ☐ expert review has rejected the count and ordered a longer count time. Comment: ☒ No comments

Kenneth Raschke — Expert Reviewer (print)

Kenneth Raschke — Signature

6/07/02 — Date

Batch 2002-02-622

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-02

NOT VALID
KER 6/7/02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS 2.3A

****
* DRUM INFORMATION *
****

Drum Package ID: LL85801109
Sequence Number: 851
Assay Date & Time: 2-06-2002 8:54:29 AM
Drum Package GROSS Weight: 56.40 kg NET Weight: 24.60 kg

IDC Number: LL85801109

QC Replicate (Yes/No): NO Passed (Yes/No): _____

Operator Name (Printed): Russell Rath

Operator Signature: RRath Date: 2-6-02

Independent Reviewer: _____ Date: _____

Expert Reviewer: _____ Date: _____

Tech. Supv/QA Officer: _____ Date: _____

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 5.727E+00 +/- 1.463E+00 Ci

Batch 2002-02-6

Gamma Waste Assay

Sample Information

File Name: C:\WAS\DATA\900\11100851.S11
Sample ID: LL85801109 Count Sequence Number: 851
Assay Start: 2-06-02 8:54:31 AM
Description 1: unknown
Description 2:
Location: 7715
Comment:
Waste Type:
Weight: Gross: 56400.0 g Net: 24600.0 g
Density: 0.118 g /ml

Container Type: 55 Gal Galv
Container: Volume: 208000. ml Full: 100.0 %

System Configuration

Counter ID Number: SGS
Arrangement Description: SGS
Segments: Number: 16 Offset: 0
Scanning Platform: Start: 934 mm Delta: -51 mm
Count Type: 55 Gal Galv
Collimator/Geometry Setting: 0
Transmission Mode: Two pass
Transmission Source: 0

Errors quoted at 1.000 sigma
Reference Source Date: Reference Source Rate: 1.01E+03 cps
Geometric Correction Factor(SWCONTGCF): 0.760
Date of efficiency calibration approval: 4-18-2001 12:41:36 PM
Mu Factors response file: Lucite
Transmission Calib. Time: 5-11-2001 2:20:42 PM 59052

Reviewed by: _____ Date: 6/26/02

Batch 2002-06-626

Segment Results

Segment: 1 Detector: DET01 (# 1) Position: 1

Elapsed Live Time: 105.81 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.196 +/- 0.0387
SE-75	264.65	0.000 +/- 0.0000	0.343 +/- 0.0043
SE-75	279.53	0.000 +/- 0.0000	0.352 +/- 0.0064
SE-75	400.65	0.000 +/- 0.0000	0.413 +/- 0.0078

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
M	1	21.64	9.24E+00 +/- 3.55E-02	4.10E+00	4.71E-08 +/- 6.54E-07
m	2	23.14	3.34E+01 +/- 1.28E-01	3.74E+00	9.14E-08 +/- 1.15E-06
m	3	23.92	1.63E+01 +/- 6.24E-02	3.58E+00	1.25E-07 +/- 1.50E-06
m	4	26.02	1.78E+01 +/- 6.82E-02	3.23E+00	2.68E-07 +/- 2.80E-06
	5	35.10	1.01E+03 +/- 4.99E+00	2.49E+00	2.61E-06 +/- 1.64E-05
	6	59.56	5.51E+02 +/- 3.38E+00	1.99E+00	3.75E-05 +/- 7.39E-05
	7	74.88	4.23E+00 +/- 1.02E+00	1.89E+00	7.69E-05 +/- 7.62E-05
	8	86.87	4.07E+00 +/- 1.22E+00	1.85E+00	1.09E-04 +/- 6.11E-05
	9	98.71	1.30E+02 +/- 2.37E+00	1.81E+00	1.39E-04 +/- 4.09E-05
	10	103.40	1.04E+02 +/- 1.48E+00	1.80E+00	1.49E-04 +/- 3.30E-05
	11	111.16	2.63E+01 +/- 1.70E+00	1.79E+00	1.65E-04 +/- 2.11E-05
	12	114.62	3.08E+00 +/- 1.65E+00	1.78E+00	1.72E-04 +/- 1.69E-05
	13	116.92	7.71E+00 +/- 1.26E+00	1.78E+00	1.76E-04 +/- 1.46E-05
M	14	125.42	1.63E+01 +/- 7.14E-01	1.76E+00	1.89E-04 +/- 1.21E-05
m	15	129.45	1.46E+02 +/- 2.05E+00	1.76E+00	1.95E-04 +/- 1.39E-05
	16	144.27	4.22E+00 +/- 1.09E+00	1.72E+00	2.11E-04 +/- 2.33E-05
	17	148.57	1.58E+01 +/- 1.24E+00	1.71E+00	2.15E-04 +/- 2.55E-05
	18	161.10	4.42E+00 +/- 1.07E+00	1.67E+00	2.23E-04 +/- 3.00E-05
	19	164.78	2.25E+00 +/- 1.05E+00	1.66E+00	2.25E-04 +/- 3.08E-05
	20	171.54	7.64E+00 +/- 9.84E-01	1.65E+00	2.27E-04 +/- 3.17E-05
	21	179.31	3.02E+00 +/- 1.02E+00	1.63E+00	2.29E-04 +/- 3.19E-05
	22	189.46	4.76E+00 +/- 8.59E-01	1.60E+00	2.31E-04 +/- 3.13E-05
	23	195.96	5.25E+00 +/- 9.98E-01	1.59E+00	2.31E-04 +/- 3.04E-05
	24	208.29	8.60E+01 +/- 1.52E+00	1.56E+00	2.30E-04 +/- 2.81E-05
	25	244.70	2.98E+00 +/- 7.33E-01	1.49E+00	2.23E-04 +/- 1.95E-05
	26	255.69	5.66E+00 +/- 7.14E-01	1.48E+00	2.19E-04 +/- 1.71E-05
	27	267.86	2.64E+00 +/- 7.00E-01	1.46E+00	2.15E-04 +/- 1.47E-05

M	28	297.97	2.47E+00	+/- 3.44E-01	1.44E+00	2.05E-04	+/-	1.10E-05
m	29	300.56	1.39E+01	+/- 7.45E-01	1.43E+00	2.04E-04	+/-	1.08E-05
	30	311.90	8.44E+01	+/- 1.14E+00	1.43E+00	2.00E-04	+/-	1.03E-05
	31	324.19	1.59E+00	+/- 4.78E-01	1.42E+00	1.95E-04	+/-	1.03E-05
	32	333.25	3.13E+01	+/- 9.51E-01	1.41E+00	1.92E-04	+/-	1.04E-05
	33	345.59	2.93E+01	+/- 7.62E-01	1.41E+00	1.88E-04	+/-	1.07E-05
	34	368.77	1.24E+01	+/- 6.17E-01	1.39E+00	1.80E-04	+/-	1.16E-05
	35	375.62	8.80E+01	+/- 1.19E+00	1.39E+00	1.77E-04	+/-	1.18E-05
	36	383.38	8.94E+00	+/- 5.22E-01	1.38E+00	1.75E-04	+/-	1.21E-05
	37	393.52	3.19E+01	+/- 6.87E-01	1.38E+00	1.72E-04	+/-	1.23E-05
	38	413.70	8.89E+01	+/- 1.05E+00	1.37E+00	1.65E-04	+/-	1.27E-05
	39	423.21	4.87E+00	+/- 3.89E-01	1.36E+00	1.62E-04	+/-	1.29E-05
	40	452.15	1.03E+01	+/- 3.72E-01	1.35E+00	1.54E-04	+/-	1.30E-05
	41	620.17	8.76E-01	+/- 1.28E-01	1.30E+00	1.19E-04	+/-	9.29E-06
	42	640.92	6.24E-01	+/- 1.31E-01	1.29E+00	1.16E-04	+/-	8.72E-06

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
43	647.01	4.46E-01 +/- 1.41E-01	1.29E+00	1.15E-04 +/- 8.55E-06
44	653.49	4.53E-01 +/- 1.44E-01	1.29E+00	1.14E-04 +/- 8.38E-06
45	662.42	3.20E+00 +/- 2.10E-01	1.29E+00	1.12E-04 +/- 8.14E-06
46	723.23	1.79E+00 +/- 1.56E-01	1.27E+00	1.04E-04 +/- 6.70E-06
47	770.51	3.57E-01 +/- 8.38E-02	1.26E+00	9.88E-05 +/- 5.82E-06
48	1085.91	2.02E-02 +/- 1.85E-02	1.21E+00	7.49E-05 +/- 3.78E-06

Segment: 2 Detector: DET01 (# 1) Position: 2

Elapsed Live Time: 105.38 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.316 +/- 0.0404
SE-75	264.65	0.000 +/- 0.0000	0.426 +/- 0.0048
SE-75	279.53	0.000 +/- 0.0000	0.440 +/- 0.0069
SE-75	400.65	0.000 +/- 0.0000	0.490 +/- 0.0085

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
M	1	21.61	9.61E+00 +/- 3.70E-02	3.03E+00	1.55E-10 +/- 1.64E-09
m	2	23.11	3.68E+01 +/- 1.42E-01	2.79E+00	5.22E-10 +/- 5.00E-09
m	3	25.37	1.25E+01 +/- 4.83E-02	2.52E+00	2.51E-09 +/- 2.08E-08
m	4	26.37	2.00E+01 +/- 7.69E-02	2.43E+00	4.62E-09 +/- 3.61E-08
	5	35.10	1.01E+03 +/- 5.01E+00	1.98E+00	2.21E-07 +/- 1.06E-06
	6	59.55	6.51E+02 +/- 3.80E+00	1.66E+00	2.19E-05 +/- 3.30E-05
	7	75.00	5.18E+00 +/- 1.05E+00	1.60E+00	7.21E-05 +/- 5.45E-05
	8	98.73	1.42E+02 +/- 2.51E+00	1.55E+00	1.84E-04 +/- 4.24E-05
	9	103.40	1.16E+02 +/- 1.57E+00	1.54E+00	2.06E-04 +/- 3.60E-05
	10	111.18	2.77E+01 +/- 1.77E+00	1.53E+00	2.40E-04 +/- 2.53E-05
	11	115.37	4.00E+01 +/- 1.68E+00	1.52E+00	2.58E-04 +/- 2.05E-05
M	12	125.36	2.01E+01 +/- 7.38E-01	1.51E+00	2.95E-04 +/- 1.66E-05
m	13	129.44	1.58E+02 +/- 2.13E+00	1.51E+00	3.08E-04 +/- 1.85E-05
	14	144.26	3.25E+00 +/- 1.11E+00	1.49E+00	3.46E-04 +/- 2.98E-05
	15	148.57	2.08E+01 +/- 1.17E+00	1.48E+00	3.54E-04 +/- 3.27E-05
	16	160.96	4.03E+00 +/- 1.09E+00	1.47E+00	3.73E-04 +/- 3.87E-05
	17	164.75	2.02E+00 +/- 1.06E+00	1.46E+00	3.77E-04 +/- 3.99E-05
	18	171.60	8.40E+00 +/- 9.98E-01	1.45E+00	3.83E-04 +/- 4.12E-05
	19	189.65	3.87E+00 +/- 9.40E-01	1.43E+00	3.90E-04 +/- 4.10E-05

	20	195.93	5.09E+00	+/- 1.01E+00	1.43E+00	3.90E-04	+/-	3.99E-05
	21	208.27	9.59E+01	+/- 1.56E+00	1.41E+00	3.88E-04	+/-	3.71E-05
	22	255.66	3.87E+00	+/- 7.20E-01	1.37E+00	3.61E-04	+/-	2.31E-05
	23	267.95	2.27E+00	+/- 6.93E-01	1.36E+00	3.52E-04	+/-	2.00E-05
M	24	297.92	3.45E+00	+/- 3.69E-01	1.34E+00	3.29E-04	+/-	1.50E-05
m	25	300.55	1.52E+01	+/- 7.54E-01	1.33E+00	3.27E-04	+/-	1.48E-05
	26	311.90	8.96E+01	+/- 1.16E+00	1.33E+00	3.18E-04	+/-	1.39E-05
	27	321.15	1.79E+00	+/- 5.44E-01	1.33E+00	3.11E-04	+/-	1.36E-05
	28	324.31	1.96E+00	+/- 5.20E-01	1.32E+00	3.09E-04	+/-	1.35E-05
	29	333.25	3.14E+01	+/- 9.61E-01	1.32E+00	3.02E-04	+/-	1.34E-05
	30	345.55	2.96E+01	+/- 7.63E-01	1.32E+00	2.94E-04	+/-	1.34E-05
	31	368.77	1.33E+01	+/- 6.12E-01	1.31E+00	2.78E-04	+/-	1.39E-05
	32	375.61	8.80E+01	+/- 1.19E+00	1.30E+00	2.74E-04	+/-	1.40E-05
	33	383.40	8.33E+00	+/- 5.51E-01	1.30E+00	2.69E-04	+/-	1.42E-05
	34	393.58	3.19E+01	+/- 6.84E-01	1.30E+00	2.63E-04	+/-	1.43E-05
	35	413.70	8.91E+01	+/- 1.05E+00	1.29E+00	2.51E-04	+/-	1.46E-05
	36	423.19	4.64E+00	+/- 3.95E-01	1.29E+00	2.46E-04	+/-	1.46E-05
	37	443.98	3.37E-01	+/- 1.69E-01	1.28E+00	2.36E-04	+/-	1.45E-05
	38	452.20	1.03E+01	+/- 3.80E-01	1.28E+00	2.32E-04	+/-	1.45E-05
	39	619.75	7.94E-01	+/- 1.22E-01	1.24E+00	1.75E-04	+/-	1.03E-05
	40	647.11	6.36E-01	+/- 1.30E-01	1.23E+00	1.68E-04	+/-	9.58E-06
	41	653.81	5.97E-01	+/- 1.16E-01	1.23E+00	1.67E-04	+/-	9.40E-06
	42	662.42	4.13E+00	+/- 2.13E-01	1.23E+00	1.65E-04	+/-	9.18E-06

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Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
43	690.18	3.38E-01 +/- 9.60E-02	1.22E+00	1.59E-04 +/- 8.52E-06
44	723.04	1.71E+00 +/- 1.62E-01	1.22E+00	1.53E-04 +/- 7.83E-06
45	770.52	4.58E-01 +/- 9.21E-02	1.21E+00	1.45E-04 +/- 7.04E-06
46	964.13	4.59E-02 +/- 3.88E-02	1.18E+00	1.23E-04 +/- 5.48E-06
47	1408.01	4.69E-02 +/- 2.10E-02	1.15E+00	9.61E-05 +/- 6.36E-06

Segment: 3 Detector: DET01 (# 1) Position: 3

Elapsed Live Time: 111.01 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.518 +/- 0.0340
SE-75	264.65	0.000 +/- 0.0000	0.590 +/- 0.0056
SE-75	279.53	0.000 +/- 0.0000	0.596 +/- 0.0076
SE-75	400.65	0.000 +/- 0.0000	0.640 +/- 0.0092

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
M	1	21.62	4.46E+00 +/- 2.09E-01	2.03E+00	3.99E-09 +/- 4.33E-08
m	2	23.17	1.78E+01 +/- 4.24E-01	1.91E+00	1.05E-08 +/- 1.02E-07
m	3	26.22	7.51E+00 +/- 3.22E-01	1.74E+00	5.06E-08 +/- 4.09E-07
	4	35.10	1.01E+03 +/- 4.85E+00	1.51E+00	1.07E-06 +/- 5.27E-06
	5	59.59	1.88E+02 +/- 1.71E+00	1.35E+00	3.79E-05 +/- 5.87E-05
	6	74.88	2.62E+00 +/- 6.65E-01	1.32E+00	9.55E-05 +/- 7.46E-05
	7	98.79	5.36E+01 +/- 1.33E+00	1.29E+00	2.01E-04 +/- 4.75E-05
	8	103.50	2.41E+01 +/- 1.27E+00	1.29E+00	2.20E-04 +/- 3.92E-05
	9	111.35	9.31E+00 +/- 9.65E-01	1.28E+00	2.49E-04 +/- 2.65E-05
M	10	125.53	6.35E+00 +/- 4.39E-01	1.28E+00	2.93E-04 +/- 1.67E-05
m	11	129.52	4.73E+01 +/- 1.16E+00	1.27E+00	3.03E-04 +/- 1.86E-05
	12	148.57	5.81E+00 +/- 7.08E-01	1.26E+00	3.39E-04 +/- 3.24E-05
	13	160.98	2.52E+00 +/- 6.74E-01	1.26E+00	3.53E-04 +/- 3.80E-05
	14	171.73	1.79E+00 +/- 6.74E-01	1.25E+00	3.61E-04 +/- 4.03E-05
	15	208.38	2.65E+01 +/- 8.45E-01	1.24E+00	3.66E-04 +/- 3.64E-05
	16	255.99	1.81E+00 +/- 4.53E-01	1.22E+00	3.46E-04 +/- 2.30E-05
	17	268.18	8.89E-01 +/- 4.23E-01	1.21E+00	3.39E-04 +/- 2.00E-05
	18	279.54	1.37E+00 +/- 4.21E-01	1.21E+00	3.32E-04 +/- 1.78E-05
	19	300.10	7.92E+00 +/- 4.75E-01	1.20E+00	3.20E-04 +/- 1.49E-05
	20	311.90	3.62E+01 +/- 6.99E-01	1.20E+00	3.13E-04 +/- 1.40E-05

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21	324.41	6.41E-01 +/-	2.98E-01	1.20E+00	3.05E-04 +/-	1.36E-05
22	333.34	7.62E+00 +/-	5.33E-01	1.19E+00	3.00E-04 +/-	1.35E-05
23	345.65	5.89E+00 +/-	4.97E-01	1.19E+00	2.93E-04 +/-	1.36E-05
24	368.93	3.35E+00 +/-	3.30E-01	1.19E+00	2.80E-04 +/-	1.42E-05
25	375.69	2.56E+01 +/-	6.03E-01	1.18E+00	2.76E-04 +/-	1.44E-05
26	383.49	2.83E+00 +/-	2.85E-01	1.18E+00	2.72E-04 +/-	1.46E-05
27	393.57	8.73E+00 +/-	3.56E-01	1.18E+00	2.67E-04 +/-	1.48E-05
28	413.70	2.51E+01 +/-	5.24E-01	1.18E+00	2.57E-04 +/-	1.52E-05
29	423.22	1.40E+00 +/-	1.94E-01	1.17E+00	2.53E-04 +/-	1.53E-05
30	452.18	2.55E+00 +/-	1.93E-01	1.17E+00	2.40E-04 +/-	1.54E-05
31	640.81	2.21E-01 +/-	6.61E-02	1.14E+00	1.82E-04 +/-	1.08E-05
32	662.42	1.01E+00 +/-	1.09E-01	1.14E+00	1.78E-04 +/-	1.02E-05
33	723.32	4.49E-01 +/-	7.42E-02	1.13E+00	1.66E-04 +/-	8.74E-06
34	867.39	2.51E-02 +/-	2.16E-02	1.12E+00	1.45E-04 +/-	6.61E-06
35	1085.91	2.68E-02 +/-	1.55E-02	1.10E+00	1.23E-04 +/-	5.23E-06

Segment: 4 Detector: DET01 (# 1) Position: 4

Elapsed Live Time: 113.13 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.459 +/- 0.0287
SE-75	264.65	0.000 +/- 0.0000	0.576 +/- 0.0054
SE-75	279.53	0.000 +/- 0.0000	0.587 +/- 0.0073
SE-75	400.65	0.000 +/- 0.0000	0.625 +/- 0.0088

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.19	5.18E+00 +/- 3.41E-01	2.10E+00	3.33E-06 +/- 4.69E-06
2	35.10	1.01E+03 +/- 4.78E+00	1.62E+00	2.00E-05 +/- 1.66E-05
3	59.63	3.23E+01 +/- 7.25E-01	1.42E+00	9.84E-05 +/- 3.39E-05
4	98.85	4.76E+00 +/- 6.21E-01	1.35E+00	2.40E-04 +/- 2.42E-05
5	103.38	2.79E+00 +/- 5.56E-01	1.35E+00	2.53E-04 +/- 2.24E-05
6	111.35	1.27E+00 +/- 4.90E-01	1.34E+00	2.74E-04 +/- 1.96E-05
7	129.29	3.57E+00 +/- 4.83E-01	1.33E+00	3.12E-04 +/- 1.61E-05
8	135.30	9.33E-01 +/- 4.78E-01	1.33E+00	3.22E-04 +/- 1.59E-05
9	208.45	2.11E+00 +/- 3.55E-01	1.26E+00	3.71E-04 +/- 1.94E-05
10	311.90	1.88E+00 +/- 2.59E-01	1.21E+00	3.38E-04 +/- 1.48E-05
11	333.02	5.76E-01 +/- 2.17E-01	1.20E+00	3.28E-04 +/- 1.37E-05
12	345.65	9.48E-01 +/- 1.76E-01	1.20E+00	3.21E-04 +/- 1.31E-05
13	375.52	1.88E+00 +/- 1.82E-01	1.19E+00	3.06E-04 +/- 1.21E-05
14	393.46	6.17E-01 +/- 1.14E-01	1.19E+00	2.97E-04 +/- 1.16E-05
15	400.66	1.45E-01 +/- 9.85E-02	1.19E+00	2.94E-04 +/- 1.14E-05

16	413.70	2.11E+00	+/- 1.58E-01	1.19E+00	2.87E-04	+/- 1.11E-05
17	443.98	1.26E-01	+/- 5.06E-02	1.18E+00	2.73E-04	+/- 1.07E-05
18	452.53	1.75E-01	+/- 6.12E-02	1.18E+00	2.70E-04	+/- 1.06E-05
19	662.42	6.55E-02	+/- 3.17E-02	1.15E+00	1.95E-04	+/- 9.03E-06

Segment: 5 Detector: DET01 (# 1) Position: 5

Elapsed Live Time: 113.37 sec Elapsed Real Time: 115.00 sec

T R A N S M I S S I O N R E S U L T S

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.511 +/- 0.0271
SE-75	264.65	0.000 +/- 0.0000	0.558 +/- 0.0053
SE-75	279.53	0.000 +/- 0.0000	0.558 +/- 0.0070
SE-75	400.65	0.000 +/- 0.0000	0.621 +/- 0.0088

P E A K A N A L Y S I S R E S U L T S

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.19	4.35E+00 +/- 2.77E-01	1.92E+00	1.76E-06 +/- 2.56E-06
2	35.10	1.01E+03 +/- 4.77E+00	1.53E+00	1.48E-05 +/- 1.27E-05
3	48.67	4.90E+00 +/- 4.67E-01	1.40E+00	5.14E-05 +/- 2.64E-05
4	59.61	2.72E+01 +/- 6.47E-01	1.36E+00	9.34E-05 +/- 3.30E-05
5	98.72	1.92E+00 +/- 5.56E-01	1.30E+00	2.49E-04 +/- 2.52E-05
6	129.29	2.73E+00 +/- 4.10E-01	1.28E+00	3.26E-04 +/- 1.67E-05
7	208.24	5.09E-01 +/- 2.88E-01	1.25E+00	3.75E-04 +/- 2.04E-05
8	264.66	3.83E-01 +/- 2.15E-01	1.24E+00	3.53E-04 +/- 1.78E-05
9	311.90	3.57E-01 +/- 1.80E-01	1.22E+00	3.26E-04 +/- 1.48E-05
10	333.44	2.94E-01 +/- 1.43E-01	1.22E+00	3.13E-04 +/- 1.36E-05
11	345.65	3.04E-01 +/- 1.53E-01	1.21E+00	3.06E-04 +/- 1.30E-05
12	375.67	4.54E-01 +/- 1.30E-01	1.20E+00	2.89E-04 +/- 1.18E-05
13	413.70	7.16E-01 +/- 9.26E-02	1.19E+00	2.69E-04 +/- 1.09E-05
14	778.90	1.74E-02 +/- 1.23E-02	1.13E+00	1.54E-04 +/- 7.51E-06
15	964.13	1.42E-02 +/- 1.46E-02	1.12E+00	1.28E-04 +/- 5.33E-06
16	1001.03	2.62E-02 +/- 1.51E-02	1.12E+00	1.24E-04 +/- 4.97E-06
17	1085.91	4.11E-02 +/- 2.49E-02	1.11E+00	1.16E-04 +/- 4.36E-06
18	1112.12	8.72E-03 +/- 8.73E-03	1.11E+00	1.14E-04 +/- 4.26E-06

Segment: 6 Detector: DET01 (# 1) Position: 6

Elapsed Live Time: 113.41 sec Elapsed Real Time: 115.00 sec

Batch 2002-01-133

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.454 +/- 0.0272
SE-75	264.65	0.000 +/- 0.0000	0.573 +/- 0.0053
SE-75	279.53	0.000 +/- 0.0000	0.575 +/- 0.0071
SE-75	400.65	0.000 +/- 0.0000	0.614 +/- 0.0087

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.20	3.39E+00 +/- 2.81E-01	2.12E+00	6.77E-07 +/- 9.60E-07
2	35.10	1.01E+03 +/- 4.77E+00	1.63E+00	8.04E-06 +/- 6.71E-06
3	48.40	6.35E+00 +/- 5.04E-01	1.48E+00	3.35E-05 +/- 1.70E-05
4	59.61	4.00E+01 +/- 7.32E-01	1.43E+00	6.90E-05 +/- 2.40E-05
5	98.94	4.24E+00 +/- 5.17E-01	1.36E+00	2.23E-04 +/- 2.25E-05
6	129.29	5.44E+00 +/- 4.22E-01	1.33E+00	3.10E-04 +/- 1.61E-05
7	148.57	5.67E-01 +/- 2.79E-01	1.32E+00	3.45E-04 +/- 1.67E-05
8	208.36	2.23E+00 +/- 3.05E-01	1.27E+00	3.81E-04 +/- 2.03E-05
9	345.63	4.10E-01 +/- 1.27E-01	1.21E+00	3.19E-04 +/- 1.33E-05
10	375.69	1.15E+00 +/- 1.42E-01	1.20E+00	3.02E-04 +/- 1.21E-05
11	393.64	5.47E-01 +/- 8.19E-02	1.20E+00	2.92E-04 +/- 1.16E-05
12	413.70	1.38E+00 +/- 1.18E-01	1.19E+00	2.81E-04 +/- 1.11E-05
13	443.98	8.68E-02 +/- 3.91E-02	1.19E+00	2.65E-04 +/- 1.06E-05
14	662.42	4.05E-02 +/- 2.83E-02	1.15E+00	1.86E-04 +/- 8.77E-06
15	867.39	1.74E-02 +/- 1.23E-02	1.13E+00	1.46E-04 +/- 6.40E-06

Segment: 7 Detector: DET01 (# 1) Position: 7

Elapsed Live Time: 113.30 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.420 +/- 0.0271
SE-75	264.65	0.000 +/- 0.0000	0.511 +/- 0.0049
SE-75	279.53	0.000 +/- 0.0000	0.507 +/- 0.0066
SE-75	400.65	0.000 +/- 0.0000	0.565 +/- 0.0083

Batch 2002-02-1-34

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.12	4.32E+00 +/- 3.15E-01	2.26E+00	6.82E-09 +/- 6.72E-08
2	35.10	1.01E+03 +/- 4.80E+00	1.70E+00	9.59E-07 +/- 4.73E-06
3	59.62	6.11E+01 +/- 9.02E-01	1.48E+00	4.03E-05 +/- 6.22E-05
4	98.75	8.21E+00 +/- 6.50E-01	1.40E+00	2.20E-04 +/- 5.19E-05
5	103.54	4.91E+00 +/- 4.13E-01	1.39E+00	2.42E-04 +/- 4.27E-05
6	111.49	9.81E-01 +/- 5.15E-01	1.38E+00	2.74E-04 +/- 2.84E-05
7	114.68	1.49E+00 +/- 4.20E-01	1.38E+00	2.85E-04 +/- 2.37E-05
8	129.29	1.24E+01 +/- 4.85E-01	1.37E+00	3.30E-04 +/- 1.98E-05
9	135.30	5.31E-01 +/- 3.26E-01	1.37E+00	3.44E-04 +/- 2.46E-05
M 10	146.70	6.96E-01 +/- 1.98E-01	1.36E+00	3.65E-04 +/- 3.36E-05
m 11	148.98	1.61E+00 +/- 3.06E-01	1.35E+00	3.69E-04 +/- 3.51E-05
12	164.94	7.40E-01 +/- 3.16E-01	1.34E+00	3.86E-04 +/- 4.20E-05
13	208.45	6.19E+00 +/- 4.02E-01	1.31E+00	3.91E-04 +/- 3.83E-05
14	300.10	4.49E-01 +/- 1.67E-01	1.27E+00	3.36E-04 +/- 1.56E-05
15	311.90	6.10E-01 +/- 1.71E-01	1.27E+00	3.27E-04 +/- 1.48E-05
16	333.23	7.48E-01 +/- 2.16E-01	1.26E+00	3.13E-04 +/- 1.44E-05
17	345.56	1.38E+00 +/- 1.54E-01	1.25E+00	3.05E-04 +/- 1.46E-05
18	369.06	6.06E-01 +/- 1.32E-01	1.24E+00	2.91E-04 +/- 1.52E-05
19	375.67	4.04E+00 +/- 2.28E-01	1.24E+00	2.87E-04 +/- 1.54E-05
20	383.62	3.53E-01 +/- 1.10E-01	1.24E+00	2.83E-04 +/- 1.57E-05
21	393.67	1.32E+00 +/- 1.34E-01	1.23E+00	2.77E-04 +/- 1.59E-05
22	400.66	1.16E-01 +/- 7.16E-02	1.23E+00	2.74E-04 +/- 1.60E-05
23	407.45	8.84E-02 +/- 5.45E-02	1.23E+00	2.70E-04 +/- 1.62E-05
24	413.70	4.01E+00 +/- 2.04E-01	1.23E+00	2.67E-04 +/- 1.63E-05
25	452.17	4.77E-01 +/- 8.11E-02	1.22E+00	2.49E-04 +/- 1.63E-05
26	662.42	1.59E-01 +/- 4.34E-02	1.18E+00	1.82E-04 +/- 1.06E-05
27	964.13	8.84E-03 +/- 8.84E-03	1.14E+00	1.35E-04 +/- 6.00E-06
28	1085.91	3.54E-02 +/- 1.77E-02	1.13E+00	1.23E-04 +/- 5.27E-06
29	1112.12	8.84E-03 +/- 8.84E-03	1.13E+00	1.20E-04 +/- 5.13E-06
30	1408.01	1.77E-02 +/- 1.25E-02	1.12E+00	9.90E-05 +/- 6.54E-06

Segment: 8 Detector: DET01 (# 1) Position: 8

Elapsed Live Time: 113.13 sec Elapsed Real Time: 115.00 sec

Batch 2002-02-635

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.176 +/- 0.0221
SE-75	264.65	0.000 +/- 0.0000	0.330 +/- 0.0037
SE-75	279.53	0.000 +/- 0.0000	0.331 +/- 0.0051
SE-75	400.65	0.000 +/- 0.0000	0.400 +/- 0.0068

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	2.31E+00 +/- 2.66E-01	4.10E+00	1.22E-09 +/- 1.33E-08
2	23.23	4.11E+00 +/- 3.04E-01	3.93E+00	4.30E-09 +/- 4.17E-08
3	35.10	1.01E+03 +/- 4.78E+00	2.61E+00	6.89E-07 +/- 3.37E-06
4	59.61	8.40E+01 +/- 1.05E+00	2.07E+00	3.35E-05 +/- 5.15E-05
5	98.80	1.14E+01 +/- 6.59E-01	1.88E+00	1.99E-04 +/- 4.66E-05
6	103.44	6.56E+00 +/- 4.15E-01	1.86E+00	2.18E-04 +/- 3.88E-05
7	111.39	2.88E+00 +/- 4.95E-01	1.85E+00	2.49E-04 +/- 2.62E-05
8	129.29	1.75E+01 +/- 5.56E-01	1.81E+00	3.05E-04 +/- 1.85E-05
9	144.22	5.89E-01 +/- 3.65E-01	1.77E+00	3.38E-04 +/- 2.98E-05
10	148.57	2.07E+00 +/- 3.88E-01	1.76E+00	3.45E-04 +/- 3.27E-05
11	196.54	7.79E-01 +/- 2.82E-01	1.62E+00	3.77E-04 +/- 3.98E-05
12	208.43	9.33E+00 +/- 4.88E-01	1.59E+00	3.75E-04 +/- 3.71E-05
13	300.10	4.15E-01 +/- 1.85E-01	1.46E+00	3.30E-04 +/- 1.53E-05
14	311.90	6.38E-01 +/- 1.72E-01	1.45E+00	3.23E-04 +/- 1.44E-05
15	333.27	2.49E+00 +/- 2.59E-01	1.43E+00	3.10E-04 +/- 1.38E-05
16	345.66	2.23E+00 +/- 2.21E-01	1.43E+00	3.03E-04 +/- 1.38E-05
17	369.46	9.12E-01 +/- 1.60E-01	1.41E+00	2.89E-04 +/- 1.44E-05
18	375.66	7.53E+00 +/- 3.05E-01	1.40E+00	2.86E-04 +/- 1.46E-05
19	383.49	6.29E-01 +/- 1.41E-01	1.40E+00	2.82E-04 +/- 1.48E-05
20	393.61	2.58E+00 +/- 1.72E-01	1.39E+00	2.76E-04 +/- 1.50E-05
21	413.70	6.68E+00 +/- 2.56E-01	1.38E+00	2.66E-04 +/- 1.54E-05
22	423.46	2.36E-01 +/- 1.19E-01	1.38E+00	2.62E-04 +/- 1.55E-05
23	427.56	1.79E-01 +/- 7.44E-02	1.38E+00	2.60E-04 +/- 1.55E-05
24	452.38	7.08E-01 +/- 1.03E-01	1.37E+00	2.49E-04 +/- 1.56E-05
25	662.42	2.20E-01 +/- 5.91E-02	1.30E+00	1.83E-04 +/- 1.03E-05
26	1001.03	8.74E-03 +/- 8.74E-03	1.23E+00	1.28E-04 +/- 5.62E-06
27	1085.91	8.74E-03 +/- 8.74E-03	1.22E+00	1.18E-04 +/- 5.10E-06
28	1408.01	2.04E-02 +/- 1.76E-02	1.19E+00	9.08E-05 +/- 6.30E-06

Segment: 9 Detector: DET01 (# 1) Position: 9

Elapsed Live Time: 113.10 sec Elapsed Real Time: 115.00 sec

Batch 2002-03-131

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.308 +/- 0.0237
SE-75	264.65	0.000 +/- 0.0000	0.390 +/- 0.0041
SE-75	279.53	0.000 +/- 0.0000	0.395 +/- 0.0056
SE-75	400.65	0.000 +/- 0.0000	0.457 +/- 0.0073

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.19	8.41E+00 +/- 3.98E-01	2.82E+00	2.30E-06 +/- 2.31E-05
2	35.10	1.01E+03 +/- 4.79E+00	2.01E+00	1.75E-05 +/- 8.88E-05
3	59.60	1.33E+02 +/- 1.33E+00	1.68E+00	1.00E-04 +/- 1.59E-04
4	98.84	1.47E+01 +/- 6.74E-01	1.56E+00	2.51E-04 +/- 6.05E-05
5	103.26	8.72E+00 +/- 4.26E-01	1.55E+00	2.65E-04 +/- 4.88E-05
6	111.32	3.24E+00 +/- 4.81E-01	1.54E+00	2.86E-04 +/- 3.06E-05
7	129.29	1.59E+01 +/- 5.46E-01	1.52E+00	3.23E-04 +/- 1.97E-05
8	148.57	2.90E+00 +/- 3.72E-01	1.50E+00	3.48E-04 +/- 3.41E-05
9	208.38	8.12E+00 +/- 4.43E-01	1.44E+00	3.66E-04 +/- 3.76E-05
10	279.54	3.83E-01 +/- 1.69E-01	1.39E+00	3.37E-04 +/- 1.85E-05
11	311.90	2.73E-01 +/- 1.63E-01	1.37E+00	3.20E-04 +/- 1.45E-05
12	333.39	2.02E+00 +/- 2.42E-01	1.36E+00	3.08E-04 +/- 1.39E-05
13	336.52	2.53E-01 +/- 2.01E-01	1.36E+00	3.06E-04 +/- 1.39E-05
14	345.69	2.29E+00 +/- 2.03E-01	1.35E+00	3.01E-04 +/- 1.41E-05
15	375.69	5.91E+00 +/- 2.77E-01	1.34E+00	2.85E-04 +/- 1.49E-05
16	383.51	7.11E-01 +/- 1.36E-01	1.34E+00	2.81E-04 +/- 1.52E-05
17	393.53	2.21E+00 +/- 1.66E-01	1.33E+00	2.76E-04 +/- 1.55E-05
18	413.70	5.22E+00 +/- 2.27E-01	1.32E+00	2.67E-04 +/- 1.59E-05
19	423.03	3.20E-01 +/- 9.92E-02	1.32E+00	2.62E-04 +/- 1.60E-05
20	452.25	6.41E-01 +/- 8.58E-02	1.31E+00	2.49E-04 +/- 1.61E-05
21	662.42	2.08E-01 +/- 5.94E-02	1.25E+00	1.82E-04 +/- 1.04E-05
22	1001.03	2.63E-02 +/- 1.52E-02	1.20E+00	1.30E-04 +/- 5.63E-06

Segment: 10 Detector: DET01 (# 1) Position: 10

Elapsed Live Time: 113.09 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.139 +/- 0.0192
SE-75	264.65	0.000 +/- 0.0000	0.269 +/- 0.0033
SE-75	279.53	0.000 +/- 0.0000	0.279 +/- 0.0046
SE-75	400.65	0.000 +/- 0.0000	0.327 +/- 0.0061

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.19	9.18E+00 +/- 4.16E-01	4.10E+00	3.39E-07 +/- 4.81E-07
2	35.10	1.01E+03 +/- 4.78E+00	2.88E+00	5.68E-06 +/- 4.74E-06
3	59.61	1.65E+02 +/- 1.50E+00	2.24E+00	6.38E-05 +/- 2.21E-05
4	98.81	1.55E+01 +/- 6.83E-01	2.02E+00	2.31E-04 +/- 2.33E-05
5	111.46	1.59E+00 +/- 5.31E-01	1.98E+00	2.78E-04 +/- 1.98E-05
6	129.29	1.49E+01 +/- 5.19E-01	1.94E+00	3.30E-04 +/- 1.70E-05
7	148.57	2.29E+00 +/- 3.52E-01	1.88E+00	3.68E-04 +/- 1.75E-05
8	208.39	7.43E+00 +/- 4.10E-01	1.70E+00	4.01E-04 +/- 2.09E-05
9	244.70	3.34E-01 +/- 1.86E-01	1.62E+00	3.89E-04 +/- 1.95E-05
10	311.90	3.16E-01 +/- 1.50E-01	1.54E+00	3.45E-04 +/- 1.50E-05
11	333.38	1.38E+00 +/- 2.17E-01	1.52E+00	3.30E-04 +/- 1.38E-05
12	336.62	2.47E-01 +/- 1.67E-01	1.52E+00	3.28E-04 +/- 1.36E-05
13	345.65	1.64E+00 +/- 1.81E-01	1.52E+00	3.22E-04 +/- 1.32E-05
14	375.68	4.24E+00 +/- 2.31E-01	1.50E+00	3.02E-04 +/- 1.20E-05
15	383.51	3.21E-01 +/- 1.41E-01	1.49E+00	2.97E-04 +/- 1.18E-05
16	393.58	1.52E+00 +/- 1.38E-01	1.49E+00	2.91E-04 +/- 1.15E-05
17	400.66	1.36E-01 +/- 6.16E-02	1.48E+00	2.87E-04 +/- 1.13E-05
18	413.70	4.12E+00 +/- 1.97E-01	1.48E+00	2.79E-04 +/- 1.11E-05
19	443.98	7.69E-02 +/- 5.11E-02	1.46E+00	2.62E-04 +/- 1.06E-05
20	452.34	4.64E-01 +/- 7.79E-02	1.46E+00	2.58E-04 +/- 1.05E-05
21	662.42	2.24E-01 +/- 4.70E-02	1.37E+00	1.80E-04 +/- 8.83E-06
22	1001.03	1.75E-02 +/- 1.24E-02	1.29E+00	1.28E-04 +/- 5.05E-06
23	1085.91	8.75E-03 +/- 8.75E-03	1.27E+00	1.21E-04 +/- 4.45E-06

Segment: 11 Detector: DET01 (# 1) Position: 11

Elapsed Live Time: 113.13 sec Elapsed Real Time: 115.00 sec

Batch 2002-02-638

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.212 +/- 0.0208
SE-75	264.65	0.000 +/- 0.0000	0.305 +/- 0.0035
SE-75	279.53	0.000 +/- 0.0000	0.309 +/- 0.0049
SE-75	400.65	0.000 +/- 0.0000	0.362 +/- 0.0064

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	3.27E+00 +/- 2.93E-01	3.98E+00	2.54E-07 +/- 3.92E-07
2	23.21	6.40E+00 +/- 3.56E-01	3.55E+00	4.70E-07 +/- 6.61E-07
3	35.10	1.01E+03 +/- 4.80E+00	2.40E+00	6.75E-06 +/- 5.60E-06
4	59.61	1.26E+02 +/- 1.31E+00	1.93E+00	6.70E-05 +/- 2.31E-05
5	98.80	1.44E+01 +/- 6.92E-01	1.77E+00	2.28E-04 +/- 2.29E-05
6	111.35	1.71E+00 +/- 4.95E-01	1.74E+00	2.72E-04 +/- 1.94E-05
7	129.29	1.57E+01 +/- 5.32E-01	1.71E+00	3.21E-04 +/- 1.65E-05
8	148.57	1.96E+00 +/- 3.68E-01	1.68E+00	3.56E-04 +/- 1.70E-05
9	208.40	5.74E+00 +/- 4.10E-01	1.59E+00	3.89E-04 +/- 2.04E-05
10	311.90	5.12E-01 +/- 1.32E-01	1.49E+00	3.37E-04 +/- 1.49E-05
11	333.51	1.69E+00 +/- 2.16E-01	1.47E+00	3.23E-04 +/- 1.37E-05
12	345.64	1.57E+00 +/- 1.88E-01	1.47E+00	3.16E-04 +/- 1.31E-05
13	368.95	7.07E-01 +/- 1.40E-01	1.45E+00	3.01E-04 +/- 1.21E-05
14	375.73	4.20E+00 +/- 2.42E-01	1.45E+00	2.97E-04 +/- 1.19E-05
15	383.57	4.17E-01 +/- 1.39E-01	1.44E+00	2.92E-04 +/- 1.17E-05
16	393.66	1.56E+00 +/- 1.45E-01	1.44E+00	2.86E-04 +/- 1.14E-05
17	413.70	3.93E+00 +/- 1.98E-01	1.43E+00	2.75E-04 +/- 1.09E-05
18	423.62	1.38E-01 +/- 9.32E-02	1.42E+00	2.70E-04 +/- 1.07E-05
19	443.98	1.15E-01 +/- 5.46E-02	1.41E+00	2.59E-04 +/- 1.04E-05
20	452.20	4.01E-01 +/- 7.88E-02	1.41E+00	2.55E-04 +/- 1.03E-05
21	662.42	1.40E-01 +/- 4.82E-02	1.33E+00	1.80E-04 +/- 8.65E-06

Segment: 12 Detector: DET01 (# 1) Position: 12

Elapsed Live Time: 112.85 sec Elapsed Real Time: 115.00 sec

Batch 2002-02-639

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.154 +/- 0.0210
SE-75	264.65	0.000 +/- 0.0000	0.256 +/- 0.0032
SE-75	279.53	0.000 +/- 0.0000	0.258 +/- 0.0045
SE-75	400.65	0.000 +/- 0.0000	0.309 +/- 0.0059

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.17	9.46E+00 +/- 4.58E-01	4.10E+00	6.30E-07 +/- 8.88E-07
2	35.10	1.01E+03 +/- 4.79E+00	2.77E+00	7.63E-06 +/- 6.33E-06
3	59.60	1.65E+02 +/- 1.53E+00	2.17E+00	6.64E-05 +/- 2.30E-05
4	98.76	1.57E+01 +/- 8.73E-01	1.96E+00	2.16E-04 +/- 2.20E-05
5	103.27	9.01E+00 +/- 4.86E-01	1.94E+00	2.32E-04 +/- 2.08E-05
6	111.30	4.27E+00 +/- 5.92E-01	1.92E+00	2.57E-04 +/- 1.86E-05
7	129.29	2.05E+01 +/- 6.07E-01	1.89E+00	3.04E-04 +/- 1.59E-05
8	148.57	1.20E+00 +/- 4.47E-01	1.84E+00	3.39E-04 +/- 1.64E-05
9	152.68	9.96E-01 +/- 2.67E-01	1.83E+00	3.45E-04 +/- 1.67E-05
10	160.45	6.69E-01 +/- 3.45E-01	1.81E+00	3.54E-04 +/- 1.74E-05
11	208.42	9.44E+00 +/- 4.79E-01	1.70E+00	3.76E-04 +/- 1.99E-05
12	244.70	3.84E-01 +/- 2.17E-01	1.64E+00	3.70E-04 +/- 1.88E-05
13	311.90	4.39E-01 +/- 1.77E-01	1.58E+00	3.36E-04 +/- 1.48E-05
14	333.34	2.37E+00 +/- 2.50E-01	1.56E+00	3.24E-04 +/- 1.37E-05
15	345.70	2.48E+00 +/- 2.24E-01	1.55E+00	3.17E-04 +/- 1.31E-05
16	375.70	5.49E+00 +/- 2.84E-01	1.53E+00	3.00E-04 +/- 1.19E-05
17	383.38	7.80E-01 +/- 1.45E-01	1.52E+00	2.95E-04 +/- 1.17E-05
18	393.57	2.35E+00 +/- 1.62E-01	1.52E+00	2.90E-04 +/- 1.14E-05
19	413.70	5.53E+00 +/- 2.43E-01	1.50E+00	2.79E-04 +/- 1.09E-05
20	423.46	3.40E-01 +/- 9.69E-02	1.50E+00	2.74E-04 +/- 1.07E-05
21	443.98	8.46E-02 +/- 5.58E-02	1.49E+00	2.64E-04 +/- 1.04E-05
22	662.42	2.08E-01 +/- 5.00E-02	1.39E+00	1.85E-04 +/- 8.58E-06

Segment: 13 Detector: DET01 (# 1) Position: 13

Elapsed Live Time: 112.74 sec Elapsed Real Time: 115.00 sec

Batch 2002-02-640

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.288 +/- 0.0209
SE-75	264.65	0.000 +/- 0.0000	0.339 +/- 0.0038
SE-75	279.53	0.000 +/- 0.0000	0.340 +/- 0.0052
SE-75	400.65	0.000 +/- 0.0000	0.375 +/- 0.0066

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.24	1.20E+01 +/- 5.04E-01	2.94E+00	1.12E-06 +/- 1.64E-06
2	35.10	1.01E+03 +/- 4.81E+00	2.08E+00	1.10E-05 +/- 9.51E-06
3	59.60	2.03E+02 +/- 1.72E+00	1.72E+00	8.09E-05 +/- 2.88E-05
4	98.83	2.21E+01 +/- 8.69E-01	1.60E+00	2.37E-04 +/- 2.43E-05
5	111.29	3.20E+00 +/- 6.36E-01	1.58E+00	2.77E-04 +/- 2.00E-05
6	114.73	1.79E+00 +/- 6.11E-01	1.57E+00	2.86E-04 +/- 1.90E-05
7	129.29	2.35E+01 +/- 6.38E-01	1.55E+00	3.21E-04 +/- 1.67E-05
8	144.45	1.02E+00 +/- 4.03E-01	1.54E+00	3.47E-04 +/- 1.69E-05
9	148.57	2.40E+00 +/- 4.13E-01	1.54E+00	3.52E-04 +/- 1.72E-05
10	195.94	6.59E-01 +/- 2.48E-01	1.50E+00	3.80E-04 +/- 2.06E-05
11	208.43	1.07E+01 +/- 5.10E-01	1.50E+00	3.80E-04 +/- 2.07E-05
12	256.06	7.04E-01 +/- 2.20E-01	1.47E+00	3.65E-04 +/- 1.87E-05
13	267.96	3.97E-01 +/- 1.64E-01	1.47E+00	3.59E-04 +/- 1.79E-05
14	279.54	2.98E-01 +/- 1.81E-01	1.46E+00	3.52E-04 +/- 1.71E-05
15	300.10	2.46E-01 +/- 1.61E-01	1.46E+00	3.40E-04 +/- 1.57E-05
16	311.90	5.17E-01 +/- 1.91E-01	1.45E+00	3.33E-04 +/- 1.50E-05
17	333.32	2.69E+00 +/- 2.56E-01	1.44E+00	3.20E-04 +/- 1.38E-05
18	345.58	2.46E+00 +/- 2.16E-01	1.44E+00	3.13E-04 +/- 1.32E-05
19	375.71	6.42E+00 +/- 2.99E-01	1.43E+00	2.95E-04 +/- 1.20E-05
20	393.62	2.34E+00 +/- 1.79E-01	1.42E+00	2.85E-04 +/- 1.15E-05
21	400.66	1.43E-01 +/- 8.67E-02	1.42E+00	2.81E-04 +/- 1.13E-05
22	413.70	6.16E+00 +/- 2.53E-01	1.41E+00	2.74E-04 +/- 1.10E-05
23	423.40	3.24E-01 +/- 1.01E-01	1.41E+00	2.69E-04 +/- 1.09E-05
24	452.22	6.91E-01 +/- 1.04E-01	1.39E+00	2.55E-04 +/- 1.05E-05
25	662.42	2.99E-01 +/- 6.12E-02	1.32E+00	1.80E-04 +/- 8.87E-06
26	778.90	4.42E-02 +/- 1.98E-02	1.29E+00	1.54E-04 +/- 7.54E-06
27	1408.01	8.85E-03 +/- 8.85E-03	1.20E+00	9.60E-05 +/- 6.10E-06

Segment: 14 Detector: DET01 (# 1) Position: 14

Elapsed Live Time: 113.08 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.406 +/- 0.0248
SE-75	264.65	0.000 +/- 0.0000	0.484 +/- 0.0048
SE-75	279.53	0.000 +/- 0.0000	0.489 +/- 0.0064
SE-75	400.65	0.000 +/- 0.0000	0.531 +/- 0.0080

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.23	8.87E+00 +/- 4.24E-01	2.31E+00	5.94E-07 +/- 5.80E-06
2	35.10	1.01E+03 +/- 4.78E+00	1.74E+00	8.94E-06 +/- 4.41E-05
3	59.61	1.45E+02 +/- 1.41E+00	1.50E+00	8.06E-05 +/- 1.25E-04
4	98.76	1.40E+01 +/- 7.74E-01	1.41E+00	2.39E-04 +/- 5.64E-05
5	103.48	2.39E+00 +/- 6.84E-01	1.41E+00	2.54E-04 +/- 4.52E-05
6	111.42	1.19E+00 +/- 5.53E-01	1.40E+00	2.77E-04 +/- 2.90E-05
7	114.67	2.09E+00 +/- 4.53E-01	1.40E+00	2.85E-04 +/- 2.38E-05
8	129.29	1.61E+01 +/- 5.32E-01	1.39E+00	3.17E-04 +/- 1.90E-05
9	148.57	2.33E+00 +/- 3.59E-01	1.37E+00	3.44E-04 +/- 3.29E-05
10	164.82	5.72E-01 +/- 2.71E-01	1.36E+00	3.57E-04 +/- 3.93E-05
11	208.45	7.37E+00 +/- 4.01E-01	1.33E+00	3.63E-04 +/- 3.63E-05
12	267.97	3.61E-01 +/- 1.35E-01	1.30E+00	3.41E-04 +/- 2.03E-05
13	311.90	4.25E-01 +/- 1.22E-01	1.29E+00	3.18E-04 +/- 1.42E-05
14	333.37	1.20E+00 +/- 2.17E-01	1.28E+00	3.07E-04 +/- 1.37E-05
15	345.72	1.61E+00 +/- 1.91E-01	1.27E+00	3.00E-04 +/- 1.38E-05
16	375.63	4.38E+00 +/- 2.29E-01	1.27E+00	2.85E-04 +/- 1.47E-05
17	383.55	4.77E-01 +/- 1.38E-01	1.26E+00	2.81E-04 +/- 1.49E-05
18	393.71	1.65E+00 +/- 1.54E-01	1.26E+00	2.76E-04 +/- 1.52E-05
19	413.70	4.48E+00 +/- 2.10E-01	1.26E+00	2.67E-04 +/- 1.56E-05
20	423.30	2.35E-01 +/- 9.24E-02	1.25E+00	2.62E-04 +/- 1.57E-05
21	452.22	4.79E-01 +/- 9.15E-02	1.24E+00	2.50E-04 +/- 1.58E-05
22	662.42	2.63E-01 +/- 5.37E-02	1.20E+00	1.83E-04 +/- 1.04E-05
23	1001.03	8.75E-03 +/- 8.75E-03	1.16E+00	1.27E-04 +/- 5.50E-06
24	1112.12	2.63E-02 +/- 1.52E-02	1.15E+00	1.16E-04 +/- 4.88E-06

Segment: 15 Detector: DET01 (# 1) Position: 15

Elapsed Live Time: 113.57 sec Elapsed Real Time: 115.00 sec

Batch 2002-02-642

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.813 +/- 0.0320
SE-75	264.65	0.000 +/- 0.0000	0.830 +/- 0.0070
SE-75	279.53	0.000 +/- 0.0000	0.822 +/- 0.0089
SE-75	400.65	0.000 +/- 0.0000	0.840 +/- 0.0106

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.25	3.97E+00 +/- 2.88E-01	1.25E+00	1.77E-12 +/- 1.69E-11
2	35.10	1.01E+03 +/- 4.78E+00	1.15E+00	1.45E-08 +/- 6.96E-08
3	49.38	4.66E+00 +/- 5.37E-01	1.11E+00	1.74E-06 +/- 4.18E-06
4	59.60	5.81E+01 +/- 8.73E-01	1.10E+00	1.09E-05 +/- 1.64E-05
5	98.84	6.69E+00 +/- 4.58E-01	1.09E+00	1.83E-04 +/- 4.20E-05
6	111.45	9.44E-01 +/- 3.57E-01	1.08E+00	2.55E-04 +/- 2.61E-05
7	114.73	6.21E-01 +/- 2.90E-01	1.08E+00	2.72E-04 +/- 2.22E-05
8	129.29	5.53E+00 +/- 3.61E-01	1.08E+00	3.37E-04 +/- 1.99E-05
9	148.57	9.98E-01 +/- 2.54E-01	1.08E+00	3.93E-04 +/- 3.63E-05
10	208.43	2.67E+00 +/- 2.55E-01	1.08E+00	4.15E-04 +/- 3.96E-05
11	333.27	6.96E-01 +/- 1.27E-01	1.07E+00	3.04E-04 +/- 1.37E-05
12	345.70	4.80E-01 +/- 1.24E-01	1.07E+00	2.95E-04 +/- 1.38E-05
13	375.82	1.61E+00 +/- 1.46E-01	1.07E+00	2.74E-04 +/- 1.44E-05
14	400.66	7.80E-02 +/- 5.69E-02	1.07E+00	2.59E-04 +/- 1.48E-05
15	413.70	1.21E+00 +/- 1.15E-01	1.07E+00	2.52E-04 +/- 1.49E-05
16	662.42	6.17E-02 +/- 3.55E-02	1.05E+00	1.74E-04 +/- 9.76E-06

Segment: 16 Detector: DET01 (# 1) Position: 16

Elapsed Live Time: 113.78 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.691 +/- 0.0302
SE-75	264.65	0.000 +/- 0.0000	0.777 +/- 0.0066
SE-75	279.53	0.000 +/- 0.0000	0.779 +/- 0.0085
SE-75	400.65	0.000 +/- 0.0000	0.797 +/- 0.0102

Batch 2002-02-643

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.15	1.40E+00 +/- 1.67E-01	1.47E+00	1.21E-14 +/- 1.36E-13
2	35.10	1.01E+03 +/- 4.76E+00	1.27E+00	9.52E-10 +/- 5.35E-09
3	59.63	1.16E+01 +/- 4.08E-01	1.19E+00	3.35E-06 +/- 5.91E-06
4	129.29	9.89E-01 +/- 2.20E-01	1.15E+00	2.29E-04 +/- 1.54E-05
5	208.43	8.43E-01 +/- 1.45E-01	1.12E+00	3.05E-04 +/- 3.42E-05
6	264.66	1.43E-01 +/- 8.73E-02	1.10E+00	2.68E-04 +/- 1.80E-05
7	375.92	1.56E-01 +/- 6.81E-02	1.09E+00	1.97E-04 +/- 1.15E-05
8	413.70	1.40E-01 +/- 4.76E-02	1.09E+00	1.81E-04 +/- 1.21E-05
9	867.39	4.34E-02 +/- 1.94E-02	1.06E+00	1.07E-04 +/- 5.41E-06

Batch 20020702-644

Summed Spectrum

Peak Locate Report

Sample ID: LL85801109
Peak Locate Performed on: 6-07-02 3:17:04 PM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192
Peak Search Sensitivity: 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
1	43.00	0.2811	21.66	12.66
2	46.51	0.1333	23.16	28.51
3	52.40	0.2811	26.12	12.66
4	53.80	0.2811	26.82	12.66
5	70.21	0.0395	35.02	506.79
6	119.39	0.0608	59.59	166.30
7	150.31	0.2893	75.04	8.28
8	197.78	0.1015	98.76	53.91
9	207.05	0.1107	103.39	37.66
10	222.82	0.1291	111.26	30.11
11	229.48	0.1919	114.59	14.22
12	247.00	0.0830	123.41	83.44
13	251.00	0.0830	125.44	83.44
14	259.35	0.0830	129.49	83.44
15	297.92	0.1532	148.78	26.40
16	322.28	0.2483	160.96	5.86
17	330.01	0.2141	164.82	12.68
18	343.60	0.2852	171.61	7.43
19	379.61	0.2840	189.60	7.56
20	392.31	0.2548	195.95	7.63
21	417.10	0.0781	208.33	83.74
22	512.04	0.2221	255.77	11.01
23	536.48	0.2362	267.98	8.67
24	601.78	0.1482	300.60	22.02
25	625.27	0.0850	312.34	65.72
26	642.96	0.2411	321.17	9.66
27	649.19	0.2709	324.28	6.51
28	667.17	0.1030	333.27	43.86
29	691.85	0.1029	345.60	45.28
30	738.31	0.1688	368.81	13.59
31	751.97	0.0760	375.64	79.64
32	767.54	0.1411	383.42	24.52
33	787.87	0.1076	393.57	38.16
34	829.49	0.0776	414.37	69.35
35	847.21	0.1500	423.22	20.27
36	905.17	0.1299	452.18	26.61

Batch 2002-02-645

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
37	1295.37	0.2434	647.13	6.76
38	1328.13	0.1613	663.50	16.39
39	1447.62	0.1902	723.20	9.95

Errors quoted at 1.000 sigma

Batch 2002-02-644

Summed Spectrum

Peak Analysis Report

Sample ID: LL85801109
Peak Analysis Performed on: 6-07-02 3:17:04 PM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

	Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
M	1	41-	56	43.48	21.66	3.60E+03	0.00	4.93E+02
m	2	41-	56	46.48	23.16	1.60E+04	0.00	2.68E+03
m	3	41-	56	52.40	26.12	8.14E+03	0.00	7.41E+03
m	4	41-	56	53.80	26.82	5.59E+03	0.00	8.53E+03
	5	67-	73	70.21	35.02	1.83E+06	1359.48	1.21E+04
	6	115-	122	119.39	59.59	2.92E+05	630.93	5.12E+04
	7	146-	153	150.31	75.04	2.39E+03	226.05	2.37E+04
	8	193-	201	197.78	98.76	4.79E+04	484.81	8.79E+04
	9	206-	210	207.05	103.39	3.60E+04	291.23	2.76E+04
	10	218-	226	222.82	111.26	9.56E+03	350.91	5.07E+04
	11	226-	233	229.48	114.59	1.01E+03	339.85	5.59E+04
M	12	245-	265	247.13	123.41	3.15E+02	123.05	2.10E+04
m	13	245-	265	251.19	125.44	7.12E+03	148.47	3.04E+04
m	14	245-	265	259.29	129.49	5.72E+04	398.44	2.54E+04
	15	293-	302	297.92	148.78	6.37E+03	259.81	2.70E+04
	16	318-	326	322.28	160.96	1.59E+03	222.98	2.24E+04
	17	326-	334	330.01	164.82	6.56E+02	218.72	2.20E+04
	18	339-	347	343.60	171.61	2.53E+03	204.70	1.84E+04
	19	375-	383	379.61	189.60	1.59E+03	190.83	1.63E+04
	20	387-	396	392.31	195.95	1.77E+03	202.86	1.74E+04
	21	412-	421	417.10	208.33	3.07E+04	292.59	2.34E+04
	22	507-	516	512.04	255.77	1.63E+03	141.72	8.17E+03
	23	532-	541	536.48	267.98	8.39E+02	137.29	7.96E+03
	24	601-	606	601.78	300.60	2.79E+03	102.90	4.17E+03
	25	620-	630	625.27	312.34	2.33E+04	194.77	6.17E+03
	26	639-	647	642.96	321.17	2.44E+02	111.91	5.67E+03
	27	647-	654	649.19	324.28	5.41E+02	99.93	4.47E+03
	28	662-	672	667.17	333.27	9.43E+03	177.04	8.84E+03
	29	688-	696	691.85	345.60	9.24E+03	139.94	4.79E+03
	30	733-	743	738.31	368.81	3.95E+03	113.33	3.71E+03
	31	746-	757	751.97	375.64	2.71E+04	206.25	6.15E+03
	32	767-	772	767.54	383.42	2.79E+03	97.89	2.12E+03
	33	782-	793	787.87	393.57	9.78E+03	122.47	2.08E+03
	34	824-	834	829.49	414.37	2.76E+04	176.66	1.52E+03
	35	841-	852	847.21	423.22	1.44E+03	71.37	1.43E+03
	36	899-	910	905.17	452.18	3.08E+03	68.64	6.52E+02
	37	1289-	1301	1295.37	647.13	1.60E+02	29.11	2.58E+02

Batch 3803-52-147

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
38	1321-	1334	1328.13	663.50	1.11E+03	40.55	1.94E+02
39	1441-	1453	1447.62	723.20	4.96E+02	29.70	1.46E+02

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Summed Spectrum

Nuclide Identification Report

Sample ID: LL85801109
Nuclide Library Used: C:\WAS\NLIB\LLNL.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/)	Activity Uncertainty
Pulser	1.000	35.10*	100.00	3.401E+05	8.350E+05
Np-237	0.986	300.10*	6.63	3.873E+01	1.458E+00
		311.90*	38.60	5.657E+01	6.339E-01
Pu-239	0.969	413.70*	0.00	2.078E+06	4.000E+04
Pu-239A	0.997	129.29*	0.01	9.378E+05	2.366E+04
Am-241	0.921	662.42*	0.00	4.476E+05	1.678E+04
Pu-241	0.997	148.57*	0.00	3.130E+06	1.358E+05

* = Energy line found in the spectrum.
Energy Tolerance : 1.500 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 1.000 sigma

Batch 2003-02-645

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 6-07-02 3:17:04 PM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192

	Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
M	1	21.66	3.1808E+01	0.09
m	2	23.16	1.4157E+02	0.09
m	3	26.12	7.1988E+01	0.09
m	4	26.82	4.9464E+01	0.09
	6	59.59	2.5821E+03	0.24
	7	75.04	2.1108E+01	9.47
	8	98.76	4.2380E+02	1.02
	9	103.39	3.1864E+02	0.81
	10	111.26	8.4557E+01	3.67
	11	114.59	8.9366E+00	33.63
M	12	123.41	2.7877E+00	39.03
m	13	125.44	6.2987E+01	2.09
	16	160.96	1.4104E+01	13.98
	17	164.82	5.7986E+00	33.36
	18	171.61	2.2377E+01	8.09
	19	189.60	1.4025E+01	12.03
	20	195.95	1.5678E+01	11.44
	21	208.33	2.7135E+02	0.96
	22	255.77	1.4392E+01	8.71
	23	267.98	7.4225E+00	16.36
	26	321.17	2.1595E+00	45.83
	27	324.28	4.7817E+00	18.48
	28	333.27	8.3360E+01	1.88
	29	345.60	8.1693E+01	1.52
	30	368.81	3.4889E+01	2.87
	31	375.64	2.3927E+02	0.77
	32	383.42	2.4702E+01	3.51
	33	393.57	8.6485E+01	1.26
	35	423.22	1.2743E+01	4.95
	36	452.18	2.7221E+01	2.23
	37	647.13	1.4119E+00	18.23
	39	723.20	4.3886E+00	5.99

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Rev. 2002-02-450

Combined Segment NID

NID Results Combiner Mode: Sum Activities

Nuclide		Total Activity (uCi)				Concentration (uCi/g)		
Pulser		3.91E+07	+/-	2.05E+08		1.59E+03	+/-	8.34E+03
SE-75	<	5.32E-01	+/-	3.77E-02	<	2.16E-05	+/-	1.53E-06
EU-152x		4.50E-02	+/-	1.43E-02		1.83E-06	+/-	5.81E-07
U-233		6.92E+03	+/-	2.76E+03		2.81E-01	+/-	1.12E-01
U-235	<	7.35E-01	+/-	1.01E-01	<	2.99E-05	+/-	4.12E-06
Np-237		7.92E+01	+/-	2.19E+00		3.22E-03	+/-	8.89E-05
Pu-238		1.52E+04	+/-	4.16E+03		6.20E-01	+/-	1.69E-01
U-238		2.63E+00	+/-	8.35E-01		1.07E-04	+/-	3.39E-05
Pu-239		2.79E+06	+/-	1.20E+05		1.14E+02	+/-	4.86E+00
Pu-239A		1.32E+06	+/-	4.78E+04		5.36E+01	+/-	1.94E+00
Am-241		5.88E+05	+/-	3.04E+04		2.39E+01	+/-	1.24E+00
Pu-241		4.56E+06	+/-	3.12E+05		1.85E+02	+/-	1.27E+01

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
U-233	7.20E-01	+/-	2.87E-01
Np-237	1.12E-01	+/-	3.10E-03
Pu-238	8.90E-04	+/-	2.43E-04
U-238	7.84E+00	+/-	2.49E+00
Pu-239	4.50E+01	+/-	1.92E+00
Pu-239A	2.12E+01	+/-	7.70E-01
Am-241	1.72E-01	+/-	8.87E-03
Pu-241	4.41E-02	+/-	3.02E-03

Batch 2002-03-651

Summed Spectrum

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		3.40E+05	+/-	8.35E+05	1.38E+01	+/-	3.39E+01
SE-75	<	7.65E-01	+/-	6.53E-03	< 3.11E-05	+/-	2.65E-07
EU-152x	<	4.34E-01	+/-	8.21E-03	< 1.76E-05	+/-	3.34E-07
U-233	<	3.63E+04	+/-	7.46E+02	< 1.48E+00	+/-	3.03E-02
U-235	<	1.14E+00	+/-	2.24E-02	< 4.64E-05	+/-	9.09E-07
Np-237		5.37E+01	+/-	5.81E-01	2.18E-03	+/-	2.36E-05
Pu-238	<	8.68E+04	+/-	1.24E+03	< 3.53E+00	+/-	5.04E-02
U-238	<	1.09E+01	+/-	1.73E-01	< 4.43E-04	+/-	7.05E-06
Pu-239		2.08E+06	+/-	4.00E+04	8.45E+01	+/-	1.63E+00
Pu-239A		9.38E+05	+/-	2.37E+04	3.81E+01	+/-	9.62E-01
Am-241		4.48E+05	+/-	1.68E+04	1.82E+01	+/-	6.82E-01
Pu-241		3.13E+06	+/-	1.36E+05	1.27E+02	+/-	5.52E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
Np-237	7.63E-02	+/-	8.25E-04
Pu-239	3.35E+01	+/-	6.44E-01
Pu-239A	1.51E+01	+/-	3.81E-01
Am-241	1.31E-01	+/-	4.90E-03
Pu-241	3.03E-02	+/-	1.31E-03

Batch 2002-02-652

Final Non-Uniformity Results

Source Longitudinal Ratio:	0.973	+/-	14.6376
Matrix Longitudinal Ratio:	0.814	+/-	0.0633
Source Vertical Ratio:	0.932	+/-	0.5012
Matrix Vertical Ratio:	0.697	+/-	0.0102

NUDS could not find the transmission peak in one radial segment.

LAWRENCE LIVERMORE NATIONAL LABORATORY

WASTE DISPOSAL REQUISITION

Waste Run Date:

Label/waste Type: (Must check)
- ☐ Non-Haz
- ☐ Haz
- ☐ Low-Level
- ☒ TRU

RCRA ☐ CA ☐

☐ No Disposal Option

W 154361

1. Container Serial Number or Retention Tank ID:

2. For TRU Waste, TRU Waste Container Serial No.: LL858 01109 TRU

3. Container Acceptable: ☐ Yes ☐ N/A Initials: 8-23-00

DS

Chemical Compatibility Code:

Storage Restrictions
☐ No Storage Restrictions
Not acceptable at the following locations:
☐ 233 ☐ 514 ☐ 612 ☑ 693
CWAA ☑ 169 ☑ 361 ☐ 612-4

4. Building No.: 332
5. Room No.: 1378
6. RMMA: ☒ Yes ☐ No
7. WAA No.: 332 A
14. Waste Package Seals Applied: ☑ Yes ☐ N/A (If yes, complete Step 15)

Hazardous Properties:
☐ Toxic ☐ Corrosive ☐ Ignitable ☐ Reactive

19. Outer Container Type:
☐ Box ☐ Sack ☐ Can ☐ SWB ☐ Carboy ☐ Tub ☒ Drum ☐ Tank - Fixed ☐ Tank - Portable ☐ Transportainer
Other:

20. Outer Container Size/Vol:
☐ 1 gal ☐ 750 gal ☐ 2 gal ☐ 1000 gal ☐ 5 gal ☐ 5000 gal ☐ 30 gal ☐ 67 cu ft ☒ 55 gal ☐ 1 × 1 × 1.5 ☐ 85 gal ☐ 2 × 4 × 7 ☐ 330 gal ☐ 4 × 4 × 7 ☐ 660 gal ☐ gal
Other: ☐ cu ft

8. Workplace Start Date: 8/23/00
9. Workplace End Date: 9/13/00
10. Account No.: 5484-70
11. Directorate: DNT
15. Waste Package Seal Nos.: J875 T10609 5/3/21
16. Source Code: A940

☐ Lab Pack ☐ Over Pack

18. Waste Form:
☒ Solid ☐ Liquid ☐ Gas ☐ Sludge

12. Did Waste Minimization Effort Practices Begin in Current Calendar Year? ☐ Yes ☒ No
If yes, enter Activity Code: W_____
Comments:_____

13. WEF/PKE/SAW No.: ☐ WEF No. ☒ PKE No. ☐ SAW No. ☐ N/A
Specify: 243,245

17. LLW Waste Stream No. or TRU Waste Form No.: 1, 2 B,

21. Item No.	22. Spent or Unused (S/U)	23. Organic or Inorganic (O/I)	24. Waste Form (S, SL, L, G)	25. Waste Description (For multiple parcels, also list Parcel Card Nos.)	26. Hazardous Constituents and Concentrations	27. Item Container Size	28. Quantity per Item Amount	28. Quantity per Item Units	29. Analysis Sample No.	Physical Waste Data: 30. Aqueous Only pH	30. Aqueous Only Normality	31. Flash Point
				P021812 / ~~P021853~~ 9/18/00								
				P021816 / P021852								
				P021822 / P021846								
				P021832								
				P021842								
				P021793								

USE CONTINUATION FORM FOR ADDITIONAL ITEMS

32. Does the waste contain radioactive components? ☒ Yes ☐ No ☐ To be analyzed
(If yes or TBA, complete Steps 36–41 as applicable to waste type.)

36. Radionuclides:
Check all Plutonium grades present:
☒ Weapons ☐ Fuel ☐ Reactor ☐ Am-enriched ☐ Mixed

☐ Enriched Uranium (Identify the % of each of the following:)
_____% U-234
_____% U-235
_____% U-238
(List additional radionuclides in Step 38.)

38. Radiological Data:
(For certified LLW and TRU waste, list totals from Parcel Cards.)

Item	Radionuclide(s)	Quantity	Units/Activity (Ci,g)	PE - Ci	Fissile g

This section (Steps 33–35) is required for Hazardous Waste generated in a RMMA

33. Was the waste kept isolated from any operation that could have produced radioactive contamination (using a glove box, vent hood, etc.)? ☐ Yes ☐ No (If no, full rad analysis required)

34. Was the waste exposed to particle beams capable of inducing radioactivity by activation? ☐ Yes ☐ No (If yes, full rad analysis required)

35. Describe other controls used to prevent radioactive contamination:

39. Rad. Survey mr/hr: | β-γ @ Contact | β-γ @ 1 Meter | Neutron @ Contact

40. Swipe Data: ☐ Complies with 10 CFR 835 criteria for unrestricted release

41. Rad Swipe/Survey Performed By: (Print Name–Last, First) | Employee No.: | L-Code:

Signature: | Date: | Ext.:

37. Gross weight of waste package: 56.4 kgs

Tare weight of container: 31.8 kgs

42. Generator: I certify, to the best of my knowledge, that the information provided on this requisition is correct. I understand that I may be liable to State and Federal prosecution by intentionally providing false information. I have obtained this information by:
☐ Direct knowledge of the waste generating process ☐ Analytical Data
☒ Obtaining sufficient information from others knowledgeable of the waste generating process.

☒ Container Custodian: I certify that the waste parcels identified on this form are contained in this waste container and have been packaged in accordance with the requirements specified in the appropriate LLNL TRU Waste or Low-Level Waste Program Certification and Quality Assurance Program.

Generator or Container Custodian Name (Print – Last, First): Meceri, Tom
Signature: Tom Meceri
Employee No.: 553224 | L-Code: 361 | Ext.: 3-2217 | Date: 9-19-00

Inspected By: Signature: | Employee No.: | Date:

Characterization Chemist Approval ☐ Acceptable ☐ NOT for Sampling (Initials) ☐ WEF
Signature: K Rae Ruhlette | Employee No.: 211102 | Date: 4/18/01

RCA Approval ☐ Decay ☐ NTS ☐ WIPP ☐ WEF Program (Initials) Certified (Initials) Certified (Initials)
Signature: | Employee No.: | Date:

RMMA Certification: Shipping | CC | RSDR #:

☐ HWM Use Only

****
***** GENIE QUALITY ASSURANCE *****
****

Last Results Report
2-06-02 11:11:57 AM

QA File: C:\WAS\CTRS\CTR1\ARR1\S11_BCK.QA
Sample ID: B852
Sample Quantity: 1.0000E+00
Sample Date: 2-06-02 11:06:19 AM
Measurement Date: 2-06-02 11:06:17 AM
Elapsed Live Time: 200.0 seconds
Elapsed Real Time: 201.9 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
Ref. Peak	3.5018E+01	0.00
[0.00+/-0.00]		< : : : >
Upper CPS Reg	1.8280E+01	0.00
[0.00+/-0.00]		< : : : >
Peak counts/second	1.0087E+03	0.00
[0.00+/-0.00]		< : : : >
Pulser FWHM	9.7811E-01	0.00
[0.00+/-0.00]		< : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

****
***** GENIE QUALITY ASSURANCE *****
****

Last Results Report
2-06-02 11:11:50 AM

QA File: C:\WAS\CTRS\CTR1\ARR1\T11_BCK.QA
Sample ID: B852
Sample Quantity: 1.0000E+00
Sample Date: 2-06-02 11:06:19 AM
Measurement Date: 2-06-02 11:09:45 AM
Elapsed Live Time: 100.0 seconds
Elapsed Real Time: 104.1 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >

Batch 2002-02-455

400.6 keV Centroid	8.0338E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>
400.6 keV FWHM	1.4901E+00			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak centroid 136 KeV	2.7282E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak area 400 keV	1.7928E+04			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak counts/second	1.7928E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

OK RM 2-6-02

4.24.02

Batch 2002-02-656

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS V2.3A RADA V2.1

****
* DRUM INFORMATION *
****

Drum Package ID: LL85801109R
Sequence Number: 853
Assay Date & Time: 2-06-2002 11:17:21 AM
Report Generated: 6-07-2002 4:30:15 PM
Drum Package GROSS Weight: 56.40 kg NET Weight: 24.60 kg

IDC Number: LL85801109R

QC Replicate (Yes/No): Yes Passed (Yes/No): Yes

Operator Name (Printed): Russell Ratti
For: Russell Ratti
Operator Signature: By: [signature] Date: 6-20-02

Independent Reviewer: [signature] Date: 6-27-02

Expert Reviewer: Kenneth Rasche Date: 6/27/02

Tech. Supv/QA Officer: [signature] Date: 6/27/02

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 5.799E+00 +/- 1.410E+00 Ci

Batch 2002-02-657

****
* I S O T O P I C I N F O R M A T I O N *
****

Isotope	Measured Mass (g)	Mass Uncertainty (g)
Pu-238	1.324E-02	4.791E-03
Pu-239	6.210E+01	2.162E+01
Pu-240	3.872E+00	1.352E+00
Pu-241	1.384E-01	4.826E-02
Pu-242	1.948E-02	7.784E-03
Am-241	2.368E-01	8.252E-02
*Am-243	N/A	N/A
*Np-237	N/A	N/A
*U-235	N/A	N/A
*U-238	N/A	N/A
*U-233	N/A	N/A

* = Activity/Mass below detectable limit.

Total Pu Mass: 6.61E+01 +/- 2.17E+01 g

****
* M G A R E S U L T S *
****

NUCLIDE	% Weight	% Error(1-Sigma)
Pu-238	2.002E-02	5.02E+00
Pu-239	9.389E+01	8.15E-02
Pu-240	5.854E+00	1.30E+00
Pu-241	2.092E-01	1.01E+00
Pu-242	2.946E-02	1.00E+01
Am-241	3.580E-01	7.92E-01

Batch 2002-02-658

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005
Software Version: GWAS V2.3A RADA V2.1

Assay Date & Time: 2-06-2002 11:17:21 AM
Report Generated: 6-07-2002 4:30:18 PM

Drum Package ID: LL85801109R
Sequence Number: 853

Waste Classification (TRU or LLW): TRU

		Errors at 1.96 sigma	
Total Alpha Activity :	5.799E+00	+/- 1.410E+00	Ci
Total TRU Activity :	2.357E+05	+/- 5.733E+04	nCi/g
Pu-239 Equiv Activity:	6.060E+00	+/- 1.413E+00	Ci
Fissile Gram Equiv Mass:	6.251E+01	+/- 2.162E+01	g
Total Decay Heat:	1.843E-01	+/- 4.439E-02	W
TMU Value:	34.81 %		

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error
Pu-238	2.29E-01	8.29E-02	1.32E-02	4.79E-03
Pu-239	3.86E+00	1.34E+00	6.21E+01	2.16E+01
Pu-240	8.91E-01	3.11E-01	3.87E+00	1.35E+00
Pu-241	1.44E+01	5.02E+00	1.38E-01	4.83E-02
Pu-242	7.74E-05	3.09E-05	1.95E-02	7.78E-03
Am-241	8.22E-01	2.86E-01	2.37E-01	8.25E-02
*Am-243	N/A	N/A	N/A	N/A
*Np-237	N/A	N/A	N/A	N/A
*U-235	N/A	N/A	N/A	N/A
*U-238	N/A	N/A	N/A	N/A
*U-233	N/A	N/A	N/A	N/A

* = Activity/Mass below detectable limit.

Total Pu Mass: 6.61E+01 +/- 2.17E+01 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sigma)
Pu-238	2.002E-02	5.02E+00
Pu-239	9.389E+01	8.15E-02
Pu-240	5.854E+00	1.30E+00
Pu-241	2.092E-01	1.01E+00
Pu-242	2.946E-02	1.00E+01
Am-241	3.580E-01	7.92E-01

Batch 2002-02-659

SGS Expert Review Checklist

Container Identification #: LL85801109R_____ Original Assay Date:2-06-2002__

1. *WCP-41, §6.1:* A MGA report ☒ is present or ☐ expert review has provided isotopic ratios from SGS or AK. Comment: Reran MGA with a reasonable detector volume to get better fits. ☐ No comments
2. *WCP-41, §6.1:* MGA and AK ☒ agree as to radiological composition or, if not, ☐ expert review has resolved this. Comment: ☒ No comments
3. *WCP-41, §6.2.1:* ☒ Pu-238 ≤ 2% by weight of total Pu or, if not, ☐ expert review has addressed this and assigned a Pu-240 value. Comment: ☒ No comments
4. *WCP-41, §6.2.2:* ☒ Neither Np-237 nor U-235 is identified by MGA or ☐ expert review has addressed possible interferences from these radionuclides.
   Comment: ☒ No comments
5. *WCP-41, §6.2.2.2:* ☒ Am-241 separation date is 1950 or later or ☐ expert review has addressed possible interferences. Comment: ☒ No comments
6. *WCP-41, §6.3.1.1.a:* ☒ Bulk density of waste ≤ 0.6 g/ml or ☐ expert review has addressed the high density of the drum. Comment: ☒ No comments
7. *WCP-41, §6.3.1.2.a:* ☒ Transmission in every segment ≥ 0.1% for the Se-75 peaks at 136 keV or 265 keV or ☐ expert review has addressed the low transmission.
   Comment: ☒ No comments
8. *WCP-41, §6.3.1.2.a:* ☒ Transmission in every segment ≥1% for the Se-75 peak at 401 keV or ☐ expert review has addressed the low transmission.
   Comment: ☒ No comments
9. *WCP-41, §6.3.1.3.b:* ☒ Dead time in every segment ≤ 50% or ☐ expert review has addressed the high dead time. Comment: ☒ No comments KER 6/1/02
10. *WCP-41, §6.3.1.3.c:* ☒ Pu-239 masses determined from the 414 keV peak and the 129 keV peak agree by a factor of < 2.5 or ☐ expert review has addressed possible matrix inhomogeneity. Comment: Reran GWAS with the interactive peak-fit routine to give better inhomogeneity corrections. ☒ No comments 99 6-27-02
11. *WCP-41, §6.3.2.3:* Cs-137 (☐ has) (☒ has not) been identified by expert review. If it has, Sr-90 is reported ☐ at an activity ratio to Cs-137of 0.39 for Pu fission or ☐ at a ratio of 1 for U-235 fission or, ☐ if both Pu and U are present, the expert reviewer has determined the ratio. Comment: ☒ No comments
12. *WCP-41, §6.3.2.4:* ☒ No unusual nuclides are identified (none other than the 10 required to be reported to WIPP) or ☐ the expert reviewer has checked for interferences from unusual nuclides. Comment: ☒ No comments

Batch 2002-02-660

SGS Expert Review Checklist

Container Identification #: LL85801109R_____ Original Assay Date:2-06-2002__

13. *WCP-41, §6.3.3:* For waste drums (☐ NA for standards), ☐ the Summed Spectrum report value for Pu-239 and the Combined Segment NID report for Pu-239 agree within 95% confidence limits (the same as for replicates of unknowns) or ☒ expert review has addressed the difference. Comment: The combined NID to the summed NID is quite large. This should be expected as the uniformity measurements indicate and most of the activity is in the first 3 segments of the drum.☐ No comments
14. *WCP-41, §6.4:* ☐ The SGS Summed Spectrum and Combined Segment NID reports agree as to the ratios by weight of several radionuclides, such as those of Am-241, Pu-241, Np-237, Am-243, and U-235 to Pu-239, and MGA results agree as to identifying these radionuclides or ☒ expert review has resolved this. Comment: See comment to #13. ☐ No comments
15. *WCP-41, §6.6.1:* ☒ All reported radionuclide masses are above 2.5 times the uncorrected MDA or ☐ expert review has calculated transmission-corrected MDA's and taken appropriate action. Comment: ☒ No comments
16. *WCP-41, §6.6.2:* ☒ Any changes to reported quantities of individual radionuclides have been entered into the RADA program and a new radioassay data sheet has been produced, showing revised derivative quantities, and included in the batch data report, along with the marked up original. Comment: ☒ No comments
17. *CP-41, §6.7:* ☒ Counting statistics are adequate for normal passive count time of 120 seconds per segment or ☐ Counting statistics are adequate for long passive count time of 600 seconds per segment or ☐ expert review has rejected the count and ordered a longer count time. Comment: ☒ No comments

Kenneth Raschke	Kenneth Raschke	6/07/02
Expert Reviewer (print)	Signature	Date

Rpt'n 2002-02-661

****
***** M G A R E P O R T *****
****

Report generated on: 6-07-02 4:22:58 PM

MGA version: MGA V9.5 CI

Spectrum ID: 11200853.CNF Sens : 30.0% LT: 53.7 Mins DT: 3.86
Measurement date: 2-06-02 Declared date: 2-06-02

Sample ID: LL85801109R Detector: Total counts: 7.364E+06

Pu g/cm2 = 0.2961 Cd g/cm2 = 1.6663 FWHM at 122 keV = 683 eV
QFIT = 1.30 FWHM at 208 keV = 854 eV
NQFIT = 1.02

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	%Err	Decl. date % weight	%Err
Pu-238	0.000213	5.0	5.0	0.0957	5.0	0.02002	5.02	0.02002	5.02
Pu-239	1.000000	0.0	0.6	448.7153	1.0	93.88768	0.08	93.88768	0.08
Pu-240	0.062347	1.4	1.3	27.9760	1.5	5.85360	1.30	5.85360	1.30
Pu-241	0.002229	1.0	0.9	1.0000	0.0	0.20924	1.01	0.20924	1.01
Pu-242	(New alg.)			0.1408	(10)	0.02946	(10)	0.02946	(10)
Am-241	0.003813	0.8	0.6	1.7109	1.0	0.35799	0.79	0.35799	0.79

Pu-240 effective (meas. date) = 5.954 +/- 1.39%
Am-241 separated about 20.636 +/- 0.236 years ago
Am/Pu-241 weight ratio = 1.71093 +/- 1.05%

Messages :

Lead x-rays detected.
Calculations in MGAABS didn't converge : results may be suspect.
16 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Batch 2002-02-662

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-02

INVALID
KER
6/7/02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS 2.3A

****
* DRUM INFORMATION *
****

Drum Package ID: LL85801109R
Sequence Number: 853
Assay Date & Time: 2-06-2002 11:17:21 AM
Drum Package GROSS Weight: 56.40 kg NET Weight: 24.60 kg

IDC Number: LL85801109

QC Replicate (Yes/No): YES Passed (Yes/No): _____

Operator Name (Printed): ~~LL85801109R~~ RM 2-6-02 Russell Ratti

Operator Signature: _____ Date: 2-6-02

Independent Reviewer: _____ Date: _____

Expert Reviewer: _____ Date: _____

Tech. Supv/QA Officer: _____ Date: _____

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 5.860E+00 +/- 1.443E+00 Ci

Batch 2002-02-LL3

INVALID
KER
6/7/02

****
* ISOTOPIC INFORMATION *
****

Isotope	Measured Mass (g)	Mass Uncertainty (g)	MDC (g)
Pu-238	1.494E-02	5.60E-03	7.109E-05
Pu-239	6.394E+01	2.23E+01	3.042E-01
Pu-240	3.663E+00	1.29E+00	1.742E-02
Pu-241	1.414E-01	4.93E-02	3.798E-03
Pu-242	1.820E-02	7.27E-03	8.659E-05
Am-241	2.269E-01	7.92E-02	8.125E-03
Am-243	0.000E+00	0.00E+00	0.000E+00
Np-237	0.000E+00	0.00E+00	1.500E-03
U-235	0.000E+00	0.00E+00	3.366E-01
U-238	1.781E+01	6.07E+00	1.781E+01
U-233	2.206E+00	8.11E-01	2.206E+00

Total Pu Mass: 6.78E+01 +/- 4.86E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	2.205E-02	7.13E+00
Pu-239	9.434E+01	1.37E-01
Pu-240	5.404E+00	2.38E+00
Pu-241	2.087E-01	1.03E+00
Pu-242	2.685E-02	1.00E+01
Am-241	3.348E-01	1.46E+00

Batch 2003-03-464

INVALID
KER
6/3/02

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005

Assay Date & Time: 2-06-2002 11:17:21 AM

Drum Package ID: LL85801109R
Sequence Number: 853

Waste Classification (TRU or LLW): TRU

		Errors at 1.96 sigma	
Total Alpha Activity :	5.860E+00	+/- 1.44E+00	Ci
Total TRU Activity :	2.382E+05	+/- 5.87E+04	nCi/g
Pu-239 Equiv Activity:	6.125E+00	+/- 1.45E+00	Ci
Fissile Gram Equiv Mass:	6.435E+01	+/- 2.23E+01	g
Total Decay Heat:	1.863E-01	+/- 4.54E-02	W
TMU Value:	34.80 %		

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error	MDA gm
Pu-238	2.59E-01	9.70E-02	1.49E-02	5.60E-03	7.11E-05
Pu-239	3.97E+00	1.38E+00	6.39E+01	2.23E+01	3.04E-01
Pu-240	8.42E-01	2.96E-01	3.66E+00	1.29E+00	1.74E-02
Pu-241	1.47E+01	5.13E+00	1.41E-01	4.93E-02	3.80E-03
Pu-242	7.23E-05	2.89E-05	1.82E-02	7.27E-03	8.66E-05
Am-241	7.87E-01	2.75E-01	2.27E-01	7.92E-02	8.12E-03
Am-243	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Np-237	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.50E-03
U-235	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.37E-01
U-238	6.06E-06	2.06E-06	1.78E+01	6.07E+00	1.78E+01
U-233	2.15E-02	7.92E-03	2.21E+00	8.11E-01	2.21E+00

Total Pu Mass: 6.78E+01 +/- 4.86E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	2.205E-02	7.13E+00
Pu-239	9.434E+01	1.37E-01
Pu-240	5.404E+00	2.38E+00
Pu-241	2.087E-01	1.03E+00
Pu-242	2.685E-02	1.00E+01
Am-241	3.348E-01	1.46E+00

Batch 2002-03-665

INVALID

KER

****
***** M G A R E P O R T *****
****

6/7/02

Report generated on: 2-06-02 12:13:55 PM

MGA version: MGA V9.5 CI

Spectrum ID: 11200853.CNF Sens : 30.0% LT: 53.7 Mins DT: 3.86
Measurement date: 2-06-02 Declared date: 2-06-02

Sample ID: LL85801109R Detector: Total counts: 7.364E+06

Pu g/cm2 = 0.0020 Cd g/cm2 = 3.0916 FWHM at 122 keV = 683 eV
QFIT = 4.52 FWHM at 208 keV = 854 eV
NQFIT = 1.24

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	Meas. date %Err	Decl. date % weight	Decl. date %Err
Pu-238	0.000234	7.2	7.2	0.1057	7.1	0.02205	7.13	0.02205	7.13
Pu-239	1.000000	0.0	0.9	452.1314	1.0	94.33843	0.14	94.33843	0.14
Pu-240	0.057283	2.5	2.4	25.8996	2.6	5.40402	2.38	5.40402	2.38
Pu-241	0.002212	1.0	1.1	1.0000	0.0	0.20865	1.03	0.20865	1.03
Pu-242	(New alg.)			0.1287	(10)	0.02685	(10)	0.02685	(10)
Am-241	0.003549	1.5	1.2	1.6045	1.6	0.33479	1.46	0.33479	1.46

Pu-240 effective (meas. date) = 5.505 +/- 2.50%
Am-241 separated about 19.901 +/- 0.389 years ago
Am/Pu-241 weight ratio = 1.60451 +/- 1.66%

Messages :

Lead x-rays detected.
Calculations in MGAABS didn't converge : results may be suspect.
Pu-241/Pu-239 efficiency changed in MGACAL by 1%.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Batch 38?-03-466

Gamma Waste Assay

Sample Information

File Name: C:\WAS\DATA\900\11100853.S11
Sample ID: LL85801109R Count Sequence Number: 853
Assay Start: 2-06-02 11:17:23 AM
Description 1: unknown Replicate
Description 2:
Location: 7715
Comment:
Waste Type:
Weight: Gross: 56400.0 g Net: 24600.0 g
Density: 0.118 g /ml

Container Type: 55 Gal Galv
Container: Volume: 208000. ml Full: 100.0 %

System Configuration

Counter ID Number: SGS
Arrangement Description: SGS
Segments: Number: 16 Offset: 0
Scanning Platform: Start: 934 mm Delta: -51 mm
Count Type: 55 Gal Galv
Collimator/Geometry Setting: 0
Transmission Mode: Two pass
Transmission Source: 0

Errors quoted at 1.000 sigma
Reference Source Date: Reference Source Rate: 1.01E+03 cps
Geometric Correction Factor(SWCONTGCF): 0.760
Date of efficiency calibration approval: 4-18-2001 12:41:36 PM
Mu Factors response file: Lucite
Transmission Calib. Time: 5-11-2001 2:20:42 PM 59052

Reviewed by: _____ Date: 6/26/02

Batch 2002-02-667

Segment Results

Segment: 1 Detector: DET01 (# 1) Position: 1

Elapsed Live Time: 105.78 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.294 +/- 0.0391
SE-75	264.65	0.000 +/- 0.0000	0.352 +/- 0.0043
SE-75	279.53	0.000 +/- 0.0000	0.367 +/- 0.0064
SE-75	400.65	0.000 +/- 0.0000	0.425 +/- 0.0078

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
M	1	21.63	8.94E+00 +/- 3.43E-02	3.19E+00	4.70E-08 +/- 6.53E-07
m	2	23.13	3.24E+01 +/- 1.25E-01	2.92E+00	9.12E-08 +/- 1.15E-06
m	3	26.12	1.89E+01 +/- 7.26E-02	2.56E+00	2.77E-07 +/- 2.88E-06
	4	35.10	1.01E+03 +/- 4.99E+00	2.06E+00	2.61E-06 +/- 1.64E-05
	5	59.53	5.56E+02 +/- 3.39E+00	1.71E+00	3.74E-05 +/- 7.39E-05
	6	74.86	2.24E+00 +/- 7.53E-01	1.64E+00	7.68E-05 +/- 7.62E-05
	7	98.70	1.30E+02 +/- 2.38E+00	1.59E+00	1.39E-04 +/- 4.10E-05
	8	103.42	8.19E+01 +/- 1.98E+00	1.58E+00	1.49E-04 +/- 3.29E-05
M	9	111.11	7.27E+01 +/- 1.53E+00	1.57E+00	1.65E-04 +/- 2.12E-05
m	10	114.62	5.19E+01 +/- 1.40E+00	1.56E+00	1.72E-04 +/- 1.69E-05
m	11	116.63	4.23E+01 +/- 1.26E+00	1.56E+00	1.75E-04 +/- 1.49E-05
M	12	125.43	1.75E+01 +/- 7.16E-01	1.55E+00	1.89E-04 +/- 1.21E-05
m	13	129.42	1.47E+02 +/- 2.06E+00	1.54E+00	1.95E-04 +/- 1.39E-05
	14	144.26	2.36E+00 +/- 1.10E+00	1.53E+00	2.11E-04 +/- 2.33E-05
	15	148.57	1.64E+01 +/- 1.21E+00	1.53E+00	2.15E-04 +/- 2.55E-05
	16	171.63	4.15E+00 +/- 9.96E-01	1.51E+00	2.27E-04 +/- 3.17E-05
	17	189.51	3.83E+00 +/- 8.59E-01	1.49E+00	2.31E-04 +/- 3.13E-05
	18	195.85	6.75E+00 +/- 9.94E-01	1.49E+00	2.31E-04 +/- 3.04E-05
	19	208.29	8.59E+01 +/- 1.53E+00	1.48E+00	2.30E-04 +/- 2.81E-05
	20	244.70	3.80E+00 +/- 7.38E-01	1.46E+00	2.23E-04 +/- 1.95E-05
	21	255.78	6.35E+00 +/- 7.04E-01	1.45E+00	2.19E-04 +/- 1.71E-05
	22	300.10	1.68E+01 +/- 7.72E-01	1.42E+00	2.04E-04 +/- 1.08E-05
	23	311.90	8.34E+01 +/- 1.14E+00	1.41E+00	2.00E-04 +/- 1.03E-05
	24	333.23	3.22E+01 +/- 9.67E-01	1.40E+00	1.92E-04 +/- 1.04E-05
	25	345.54	2.54E+01 +/- 8.23E-01	1.39E+00	1.88E-04 +/- 1.07E-05
	26	368.77	1.24E+01 +/- 6.16E-01	1.38E+00	1.80E-04 +/- 1.16E-05
	27	375.61	8.65E+01 +/- 1.19E+00	1.37E+00	1.77E-04 +/- 1.18E-05

	28	383.42	8.26E+00	+/- 5.44E-01	1.37E+00	1.75E-04	+/-	1.21E-05
	29	393.51	3.23E+01	+/- 6.81E-01	1.36E+00	1.72E-04	+/-	1.23E-05
	30	400.66	3.12E+00	+/- 3.85E-01	1.36E+00	1.69E-04	+/-	1.25E-05
	31	413.70	8.75E+01	+/- 1.03E+00	1.35E+00	1.65E-04	+/-	1.27E-05
	32	423.19	5.08E+00	+/- 3.91E-01	1.35E+00	1.62E-04	+/-	1.29E-05
	33	443.98	3.52E-01	+/- 2.15E-01	1.34E+00	1.57E-04	+/-	1.30E-05
	34	452.10	1.06E+01	+/- 3.81E-01	1.34E+00	1.54E-04	+/-	1.30E-05
	35	482.58	5.23E-01	+/- 1.57E-01	1.33E+00	1.47E-04	+/-	1.27E-05
	36	619.75	7.88E-01	+/- 1.25E-01	1.29E+00	1.19E-04	+/-	9.31E-06
	37	646.97	3.47E-01	+/- 1.31E-01	1.28E+00	1.15E-04	+/-	8.55E-06
	38	653.04	7.60E-01	+/- 1.40E-01	1.28E+00	1.14E-04	+/-	8.39E-06
M	39	659.81	3.30E-01	+/- 8.01E-02	1.28E+00	1.13E-04	+/-	8.21E-06
m	40	663.55	3.21E+00	+/- 2.59E-01	1.28E+00	1.12E-04	+/-	8.11E-06
	41	723.17	1.46E+00	+/- 1.50E-01	1.26E+00	1.04E-04	+/-	6.70E-06
	42	757.34	2.09E-01	+/- 6.83E-02	1.25E+00	1.00E-04	+/-	6.04E-06

Rich 2002-02-665

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
43	770.63	7.75E-01 +/- 9.81E-02	1.25E+00	9.88E-05 +/- 5.82E-06
44	867.39	4.12E-02 +/- 2.79E-02	1.24E+00	8.96E-05 +/- 4.69E-06
45	1085.91	9.34E-03 +/- 2.99E-02	1.21E+00	7.49E-05 +/- 3.78E-06

Segment: 2 Detector: DET01 (# 1) Position: 2

Elapsed Live Time: 105.46 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.294 +/- 0.0402
SE-75	264.65	0.000 +/- 0.0000	0.417 +/- 0.0048
SE-75	279.53	0.000 +/- 0.0000	0.437 +/- 0.0069
SE-75	400.65	0.000 +/- 0.0000	0.488 +/- 0.0083

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
M	1	21.64	1.17E+01 +/- 4.53E-02	3.18E+00	1.58E-10 +/- 1.67E-09
m	2	23.14	3.55E+01 +/- 1.37E-01	2.92E+00	5.31E-10 +/- 5.08E-09
m	3	26.17	2.02E+01 +/- 7.82E-02	2.55E+00	4.10E-09 +/- 3.25E-08
	4	35.10	1.01E+03 +/- 5.03E+00	2.05E+00	2.21E-07 +/- 1.06E-06
	5	49.44	2.31E+01 +/- 1.55E+00	1.79E+00	6.02E-06 +/- 1.43E-05
	6	59.52	6.61E+02 +/- 3.85E+00	1.71E+00	2.18E-05 +/- 3.29E-05
	7	74.89	2.44E+00 +/- 7.82E-01	1.64E+00	7.16E-05 +/- 5.44E-05
	8	98.70	1.44E+02 +/- 2.54E+00	1.58E+00	1.84E-04 +/- 4.25E-05
	9	103.39	9.67E+01 +/- 2.12E+00	1.58E+00	2.06E-04 +/- 3.60E-05
M	10	111.13	8.30E+01 +/- 1.66E+00	1.56E+00	2.40E-04 +/- 2.54E-05
m	11	115.57	9.10E+01 +/- 1.60E+00	1.56E+00	2.59E-04 +/- 2.03E-05
M	12	125.37	2.09E+01 +/- 7.52E-01	1.55E+00	2.95E-04 +/- 1.66E-05
m	13	129.42	1.60E+02 +/- 2.14E+00	1.54E+00	3.08E-04 +/- 1.85E-05
	14	144.24	3.36E+00 +/- 1.13E+00	1.52E+00	3.46E-04 +/- 2.98E-05
	15	148.57	2.09E+01 +/- 1.19E+00	1.51E+00	3.54E-04 +/- 3.27E-05
	16	160.66	6.23E+00 +/- 1.08E+00	1.50E+00	3.72E-04 +/- 3.86E-05
	17	164.78	2.34E+00 +/- 1.17E+00	1.49E+00	3.77E-04 +/- 3.99E-05
	18	171.63	7.52E+00 +/- 9.99E-01	1.48E+00	3.83E-04 +/- 4.12E-05
	19	179.48	1.59E+00 +/- 9.61E-01	1.47E+00	3.87E-04 +/- 4.17E-05
	20	189.61	4.66E+00 +/- 8.70E-01	1.45E+00	3.90E-04 +/- 4.10E-05
	21	196.03	8.29E+00 +/- 9.33E-01	1.45E+00	3.90E-04 +/- 3.99E-05
	22	208.28	9.63E+01 +/- 1.57E+00	1.43E+00	3.88E-04 +/- 3.71E-05

Batch 2002-92-672

	23	244.70	1.30E+00	+/- 7.36E-01	1.39E+00	3.69E-04	+/-	2.61E-05
	24	255.58	5.53E+00	+/- 7.76E-01	1.38E+00	3.61E-04	+/-	2.31E-05
	25	267.88	2.22E+00	+/- 7.04E-01	1.36E+00	3.52E-04	+/-	2.00E-05
	26	285.21	1.18E+00	+/- 6.15E-01	1.35E+00	3.39E-04	+/-	1.67E-05
M	27	298.00	3.23E+00	+/- 3.65E-01	1.34E+00	3.29E-04	+/-	1.50E-05
m	28	300.53	1.44E+01	+/- 7.57E-01	1.34E+00	3.27E-04	+/-	1.48E-05
	29	311.90	8.97E+01	+/- 1.17E+00	1.33E+00	3.18E-04	+/-	1.39E-05
	30	324.20	1.52E+00	+/- 5.29E-01	1.33E+00	3.09E-04	+/-	1.35E-05
	31	333.22	3.17E+01	+/- 9.75E-01	1.32E+00	3.02E-04	+/-	1.34E-05
	32	345.53	2.55E+01	+/- 8.51E-01	1.32E+00	2.94E-04	+/-	1.34E-05
	33	368.87	1.40E+01	+/- 6.23E-01	1.31E+00	2.78E-04	+/-	1.39E-05
	34	375.59	8.94E+01	+/- 1.20E+00	1.31E+00	2.74E-04	+/-	1.40E-05
	35	383.40	8.59E+00	+/- 5.55E-01	1.30E+00	2.69E-04	+/-	1.42E-05
	36	393.53	3.27E+01	+/- 6.99E-01	1.30E+00	2.63E-04	+/-	1.43E-05
	37	400.66	3.41E+00	+/- 3.96E-01	1.30E+00	2.59E-04	+/-	1.44E-05
	38	413.70	8.72E+01	+/- 1.05E+00	1.29E+00	2.51E-04	+/-	1.46E-05
	39	423.19	4.48E+00	+/- 4.03E-01	1.29E+00	2.46E-04	+/-	1.46E-05
	40	452.14	1.03E+01	+/- 3.78E-01	1.28E+00	2.32E-04	+/-	1.45E-05
	41	619.95	8.56E-01	+/- 1.24E-01	1.24E+00	1.74E-04	+/-	1.03E-05
	42	646.79	4.21E-01	+/- 1.18E-01	1.23E+00	1.68E-04	+/-	9.59E-06

Batch 2002-02-671

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
43	662.42	3.55E+00 +/- 2.19E-01	1.23E+00	1.65E-04 +/- 9.18E-06
44	689.82	4.77E-01 +/- 9.56E-02	1.22E+00	1.59E-04 +/- 8.53E-06
45	723.08	1.76E+00 +/- 1.57E-01	1.22E+00	1.53E-04 +/- 7.83E-06
46	757.25	2.25E-01 +/- 6.74E-02	1.21E+00	1.47E-04 +/- 7.24E-06
47	770.54	6.38E-01 +/- 9.07E-02	1.21E+00	1.45E-04 +/- 7.04E-06
48	964.13	3.08E-02 +/- 2.43E-02	1.18E+00	1.23E-04 +/- 5.48E-06
49	1112.12	5.76E-02 +/- 2.72E-02	1.17E+00	1.11E-04 +/- 4.80E-06

Segment: 3 Detector: DET01 (# 1) Position: 3

Elapsed Live Time: 110.99 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.487 +/- 0.0332
SE-75	264.65	0.000 +/- 0.0000	0.597 +/- 0.0057
SE-75	279.53	0.000 +/- 0.0000	0.583 +/- 0.0075
SE-75	400.65	0.000 +/- 0.0000	0.651 +/- 0.0093

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
M	1	21.64	3.99E+00 +/- 1.49E-02	2.14E+00	4.04E-09 +/- 4.38E-08
m	2	23.14	1.33E+01 +/- 4.97E-02	2.01E+00	1.03E-08 +/- 1.01E-07
m	3	26.22	7.93E+00 +/- 2.97E-02	1.82E+00	5.06E-08 +/- 4.10E-07
	4	35.10	1.01E+03 +/- 4.85E+00	1.57E+00	1.07E-06 +/- 5.27E-06
	5	59.60	1.92E+02 +/- 1.73E+00	1.39E+00	3.79E-05 +/- 5.87E-05
	6	75.09	2.44E+00 +/- 7.16E-01	1.35E+00	9.64E-05 +/- 7.46E-05
	7	98.80	5.09E+01 +/- 1.32E+00	1.32E+00	2.01E-04 +/- 4.74E-05
	8	103.47	3.55E+01 +/- 9.29E-01	1.32E+00	2.20E-04 +/- 3.93E-05
	9	111.34	1.11E+01 +/- 9.77E-01	1.31E+00	2.49E-04 +/- 2.65E-05
M	10	125.48	5.75E+00 +/- 4.34E-01	1.30E+00	2.92E-04 +/- 1.67E-05
m	11	129.51	4.81E+01 +/- 1.16E+00	1.30E+00	3.03E-04 +/- 1.86E-05
	12	148.57	6.55E+00 +/- 7.16E-01	1.29E+00	3.39E-04 +/- 3.24E-05
	13	164.86	1.04E+00 +/- 6.01E-01	1.27E+00	3.57E-04 +/- 3.91E-05
	14	189.83	1.96E+00 +/- 5.77E-01	1.26E+00	3.67E-04 +/- 4.00E-05
	15	208.36	2.72E+01 +/- 8.59E-01	1.24E+00	3.66E-04 +/- 3.64E-05
	16	244.70	1.16E+00 +/- 4.42E-01	1.22E+00	3.52E-04 +/- 2.60E-05
	17	255.74	1.74E+00 +/- 4.32E-01	1.21E+00	3.46E-04 +/- 2.30E-05
	18	300.10	6.88E+00 +/- 4.80E-01	1.21E+00	3.20E-04 +/- 1.49E-05

19	311.90	3.56E+01	+/- 7.00E-01	1.21E+00	3.13E-04	+/- 1.40E-05
20	333.28	8.17E+00	+/- 5.32E-01	1.20E+00	3.00E-04	+/- 1.35E-05
21	345.60	6.84E+00	+/- 4.68E-01	1.19E+00	2.93E-04	+/- 1.36E-05
22	369.01	3.55E+00	+/- 3.42E-01	1.18E+00	2.80E-04	+/- 1.42E-05
23	375.66	2.56E+01	+/- 6.05E-01	1.18E+00	2.76E-04	+/- 1.44E-05
24	383.50	1.51E+00	+/- 3.76E-01	1.18E+00	2.72E-04	+/- 1.46E-05
25	393.57	9.58E+00	+/- 3.57E-01	1.17E+00	2.67E-04	+/- 1.48E-05
26	400.66	8.44E-01	+/- 1.97E-01	1.17E+00	2.63E-04	+/- 1.50E-05
27	413.70	2.40E+01	+/- 5.15E-01	1.17E+00	2.57E-04	+/- 1.52E-05
28	423.24	1.02E+00	+/- 2.03E-01	1.17E+00	2.53E-04	+/- 1.53E-05
29	452.15	2.77E+00	+/- 1.92E-01	1.16E+00	2.40E-04	+/- 1.54E-05
30	662.42	8.21E-01	+/- 1.17E-01	1.13E+00	1.78E-04	+/- 1.02E-05
31	723.12	4.04E-01	+/- 7.51E-02	1.13E+00	1.66E-04	+/- 8.74E-06
32	867.39	4.02E-02	+/- 2.58E-02	1.11E+00	1.45E-04	+/- 6.61E-06

Segment: 4 Detector: DET01 (# 1) Position: 4

Elapsed Live Time: 113.13 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.404 +/- 0.0284
SE-75	264.65	0.000 +/- 0.0000	0.570 +/- 0.0053
SE-75	279.53	0.000 +/- 0.0000	0.587 +/- 0.0072
SE-75	400.65	0.000 +/- 0.0000	0.623 +/- 0.0088

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.16	5.38E+00 +/- 3.40E-01	2.33E+00	3.31E-06 +/- 4.66E-06
2	35.10	1.01E+03 +/- 4.79E+00	1.74E+00	2.00E-05 +/- 1.66E-05
3	59.61	3.32E+01 +/- 7.39E-01	1.50E+00	9.83E-05 +/- 3.39E-05
4	98.83	4.75E+00 +/- 6.22E-01	1.42E+00	2.40E-04 +/- 2.42E-05
5	129.29	4.12E+00 +/- 4.90E-01	1.39E+00	3.12E-04 +/- 1.61E-05
6	148.57	8.94E-01 +/- 4.12E-01	1.36E+00	3.40E-04 +/- 1.63E-05
7	208.39	1.56E+00 +/- 3.67E-01	1.29E+00	3.71E-04 +/- 1.94E-05
8	300.10	4.08E-01 +/- 2.41E-01	1.21E+00	3.44E-04 +/- 1.54E-05
9	311.90	1.48E+00 +/- 2.31E-01	1.21E+00	3.38E-04 +/- 1.48E-05
10	333.45	6.33E-01 +/- 2.23E-01	1.20E+00	3.27E-04 +/- 1.37E-05
11	375.68	1.79E+00 +/- 2.02E-01	1.20E+00	3.06E-04 +/- 1.21E-05
12	380.85	3.71E-01 +/- 1.25E-01	1.19E+00	3.03E-04 +/- 1.19E-05
13	393.49	6.82E-01 +/- 1.22E-01	1.19E+00	2.97E-04 +/- 1.16E-05
14	400.66	2.47E-01 +/- 9.93E-02	1.19E+00	2.94E-04 +/- 1.14E-05
15	413.70	1.80E+00 +/- 1.40E-01	1.19E+00	2.87E-04 +/- 1.11E-05
16	451.95	2.62E-01 +/- 6.38E-02	1.18E+00	2.70E-04 +/- 1.06E-05

17	662.42	2.02E-01	+/- 4.20E-02	1.15E+00	1.95E-04	+/- 9.03E-06
18	778.90	2.52E-02	+/- 2.07E-02	1.13E+00	1.67E-04	+/- 7.66E-06
19	1085.91	3.91E-02	+/- 2.60E-02	1.11E+00	1.20E-04	+/- 4.36E-06
20	1408.01	8.76E-03	+/- 8.76E-03	1.10E+00	9.34E-05	+/- 5.87E-06

Segment: 5 Detector: DET01 (# 1) Position: 5

Elapsed Live Time: 113.38 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.477 +/- 0.0276
SE-75	264.65	0.000 +/- 0.0000	0.563 +/- 0.0053
SE-75	279.53	0.000 +/- 0.0000	0.567 +/- 0.0071
SE-75	400.65	0.000 +/- 0.0000	0.617 +/- 0.0088

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.19	3.57E+00 +/- 2.92E-01	2.04E+00	1.76E-06 +/- 2.56E-06
2	35.10	1.01E+03 +/- 4.77E+00	1.59E+00	1.48E-05 +/- 1.27E-05
3	48.65	5.28E+00 +/- 4.61E-01	1.45E+00	5.14E-05 +/- 2.64E-05
4	59.61	2.72E+01 +/- 6.54E-01	1.40E+00	9.34E-05 +/- 3.30E-05
5	98.88	2.47E+00 +/- 5.07E-01	1.33E+00	2.49E-04 +/- 2.52E-05
6	129.29	2.84E+00 +/- 4.11E-01	1.31E+00	3.26E-04 +/- 1.67E-05
7	148.57	7.51E-01 +/- 3.47E-01	1.30E+00	3.54E-04 +/- 1.71E-05
8	208.46	1.19E+00 +/- 2.91E-01	1.26E+00	3.75E-04 +/- 2.04E-05
9	311.90	4.43E-01 +/- 1.72E-01	1.22E+00	3.26E-04 +/- 1.48E-05
10	345.47	2.47E-01 +/- 1.08E-01	1.21E+00	3.06E-04 +/- 1.30E-05
11	375.79	4.52E-01 +/- 1.20E-01	1.20E+00	2.89E-04 +/- 1.18E-05
12	393.68	2.35E-01 +/- 9.44E-02	1.20E+00	2.79E-04 +/- 1.13E-05
13	413.70	6.50E-01 +/- 9.31E-02	1.19E+00	2.69E-04 +/- 1.09E-05
14	443.98	7.97E-02 +/- 3.45E-02	1.19E+00	2.54E-04 +/- 1.04E-05
15	1112.12	8.72E-03 +/- 8.72E-03	1.11E+00	1.14E-04 +/- 4.26E-06

Segment: 6 Detector: DET01 (# 1) Position: 6

Elapsed Live Time: 113.41 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.467 +/- 0.0270
SE-75	264.65	0.000 +/- 0.0000	0.571 +/- 0.0053
SE-75	279.53	0.000 +/- 0.0000	0.571 +/- 0.0070
SE-75	400.65	0.000 +/- 0.0000	0.617 +/- 0.0087

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.15	4.38E+00 +/- 2.91E-01	2.08E+00	6.66E-07 +/- 9.47E-07
2	35.10	1.01E+03 +/- 4.77E+00	1.61E+00	8.04E-06 +/- 6.71E-06
3	48.77	7.09E+00 +/- 5.12E-01	1.46E+00	3.45E-05 +/- 1.73E-05
4	59.59	4.10E+01 +/- 7.37E-01	1.41E+00	6.90E-05 +/- 2.40E-05
5	98.91	3.90E+00 +/- 5.05E-01	1.34E+00	2.22E-04 +/- 2.25E-05
6	103.35	2.83E+00 +/- 3.25E-01	1.34E+00	2.38E-04 +/- 2.12E-05
7	111.26	9.47E-01 +/- 4.34E-01	1.33E+00	2.63E-04 +/- 1.90E-05
8	129.29	4.83E+00 +/- 4.28E-01	1.32E+00	3.10E-04 +/- 1.61E-05
9	148.57	1.20E+00 +/- 3.39E-01	1.31E+00	3.45E-04 +/- 1.67E-05
10	208.43	2.21E+00 +/- 2.96E-01	1.26E+00	3.81E-04 +/- 2.03E-05
11	333.64	5.29E-01 +/- 1.64E-01	1.21E+00	3.26E-04 +/- 1.39E-05
12	345.43	5.58E-01 +/- 1.37E-01	1.21E+00	3.19E-04 +/- 1.33E-05
13	375.67	1.43E+00 +/- 1.52E-01	1.20E+00	3.02E-04 +/- 1.21E-05
14	393.55	4.79E-01 +/- 8.04E-02	1.20E+00	2.92E-04 +/- 1.16E-05
15	413.70	1.21E+00 +/- 1.22E-01	1.19E+00	2.81E-04 +/- 1.11E-05
16	662.42	1.12E-01 +/- 4.17E-02	1.15E+00	1.86E-04 +/- 8.77E-06
17	867.39	8.72E-03 +/- 8.72E-03	1.13E+00	1.46E-04 +/- 6.40E-06
18	964.13	2.83E-02 +/- 1.89E-02	1.12E+00	1.34E-04 +/- 5.31E-06

Segment: 7 Detector: DET01 (# 1) Position: 7

Elapsed Live Time: 113.28 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.368 +/- 0.0254
SE-75	264.65	0.000 +/- 0.0000	0.513 +/- 0.0050
SE-75	279.53	0.000 +/- 0.0000	0.515 +/- 0.0066
SE-75	400.65	0.000 +/- 0.0000	0.576 +/- 0.0084

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PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.16	5.08E+00 +/- 3.30E-01	2.49E+00	7.00E-09 +/- 6.88E-08
2	35.10	1.01E+03 +/- 4.77E+00	1.83E+00	9.59E-07 +/- 4.73E-06
3	49.29	7.11E+00 +/- 5.69E-01	1.63E+00	1.38E-05 +/- 3.41E-05
4	59.58	6.24E+01 +/- 8.97E-01	1.56E+00	4.01E-05 +/- 6.21E-05
5	98.69	6.79E+00 +/- 6.36E-01	1.47E+00	2.20E-04 +/- 5.20E-05
6	103.30	5.04E+00 +/- 3.73E-01	1.46E+00	2.41E-04 +/- 4.31E-05
7	111.27	2.53E+00 +/- 4.89E-01	1.45E+00	2.73E-04 +/- 2.88E-05
8	129.29	1.23E+01 +/- 4.82E-01	1.43E+00	3.30E-04 +/- 1.98E-05
9	144.67	8.89E-01 +/- 3.48E-01	1.41E+00	3.62E-04 +/- 3.22E-05
10	148.57	1.03E+00 +/- 3.57E-01	1.41E+00	3.68E-04 +/- 3.49E-05
11	208.38	5.44E+00 +/- 3.98E-01	1.33E+00	3.91E-04 +/- 3.83E-05
12	297.41	2.70E-01 +/- 1.76E-01	1.26E+00	3.37E-04 +/- 1.59E-05
13	311.90	1.94E-01 +/- 1.24E-01	1.26E+00	3.27E-04 +/- 1.48E-05
14	333.27	1.36E+00 +/- 2.20E-01	1.25E+00	3.13E-04 +/- 1.44E-05
15	345.53	1.48E+00 +/- 1.75E-01	1.24E+00	3.05E-04 +/- 1.46E-05
16	375.65	4.05E+00 +/- 2.35E-01	1.23E+00	2.87E-04 +/- 1.54E-05
17	383.46	5.10E-01 +/- 1.19E-01	1.23E+00	2.83E-04 +/- 1.57E-05
18	393.57	1.49E+00 +/- 1.40E-01	1.23E+00	2.77E-04 +/- 1.59E-05
19	413.70	3.95E+00 +/- 1.98E-01	1.22E+00	2.67E-04 +/- 1.63E-05
20	452.07	4.19E-01 +/- 8.07E-02	1.21E+00	2.49E-04 +/- 1.63E-05
21	662.42	1.74E-01 +/- 5.65E-02	1.17E+00	1.82E-04 +/- 1.06E-05

Segment: 8 Detector: DET01 (# 1) Position: 8

Elapsed Live Time: 113.12 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.211 +/- 0.0225
SE-75	264.65	0.000 +/- 0.0000	0.333 +/- 0.0037
SE-75	279.53	0.000 +/- 0.0000	0.345 +/- 0.0052
SE-75	400.65	0.000 +/- 0.0000	0.406 +/- 0.0069

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PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	2.60E+00 +/- 2.69E-01	3.99E+00	1.22E-09 +/- 1.33E-08
2	23.20	3.91E+00 +/- 3.08E-01	3.56E+00	4.22E-09 +/- 4.10E-08
3	35.10	1.01E+03 +/- 4.78E+00	2.41E+00	6.89E-07 +/- 3.37E-06
4	59.60	8.43E+01 +/- 1.05E+00	1.94E+00	3.34E-05 +/- 5.14E-05
5	98.83	1.28E+01 +/- 6.59E-01	1.77E+00	1.99E-04 +/- 4.65E-05
6	103.47	7.64E+00 +/- 4.60E-01	1.76E+00	2.18E-04 +/- 3.87E-05
7	111.25	2.29E+00 +/- 5.35E-01	1.74E+00	2.49E-04 +/- 2.64E-05
8	129.29	1.65E+01 +/- 5.44E-01	1.71E+00	3.05E-04 +/- 1.85E-05
9	148.57	3.07E+00 +/- 3.92E-01	1.67E+00	3.45E-04 +/- 3.27E-05
10	164.76	8.32E-01 +/- 3.71E-01	1.64E+00	3.64E-04 +/- 3.97E-05
11	208.41	1.00E+01 +/- 4.84E-01	1.56E+00	3.76E-04 +/- 3.71E-05
12	244.70	4.62E-01 +/- 2.29E-01	1.50E+00	3.62E-04 +/- 2.67E-05
13	255.83	4.91E-01 +/- 2.16E-01	1.49E+00	3.56E-04 +/- 2.36E-05
14	333.28	2.36E+00 +/- 2.58E-01	1.42E+00	3.10E-04 +/- 1.38E-05
15	345.63	2.17E+00 +/- 2.12E-01	1.41E+00	3.03E-04 +/- 1.38E-05
16	369.15	1.30E+00 +/- 1.78E-01	1.40E+00	2.89E-04 +/- 1.44E-05
17	375.70	6.74E+00 +/- 2.95E-01	1.40E+00	2.86E-04 +/- 1.46E-05
18	393.69	2.48E+00 +/- 1.72E-01	1.39E+00	2.76E-04 +/- 1.50E-05
19	413.70	6.38E+00 +/- 2.54E-01	1.38E+00	2.66E-04 +/- 1.54E-05
20	423.12	4.81E-01 +/- 1.02E-01	1.37E+00	2.62E-04 +/- 1.55E-05
21	452.36	6.51E-01 +/- 1.08E-01	1.36E+00	2.49E-04 +/- 1.56E-05
22	662.42	3.07E-01 +/- 5.70E-02	1.29E+00	1.83E-04 +/- 1.03E-05

Segment: 9 Detector: DET01 (# 1) Position: 9

Elapsed Live Time: 113.09 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.251 +/- 0.0222
SE-75	264.65	0.000 +/- 0.0000	0.393 +/- 0.0041
SE-75	279.53	0.000 +/- 0.0000	0.400 +/- 0.0057
SE-75	400.65	0.000 +/- 0.0000	0.460 +/- 0.0074

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PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.22	7.53E+00 +/- 4.07E-01	3.21E+00	2.31E-06 +/- 2.32E-05
2	35.10	1.01E+03 +/- 4.78E+00	2.22E+00	1.75E-05 +/- 8.88E-05
3	59.60	1.33E+02 +/- 1.32E+00	1.81E+00	1.00E-04 +/- 1.59E-04
4	98.81	1.47E+01 +/- 6.73E-01	1.67E+00	2.51E-04 +/- 6.06E-05
5	111.26	2.11E+00 +/- 5.17E-01	1.65E+00	2.86E-04 +/- 3.07E-05
6	114.67	1.19E+00 +/- 5.04E-01	1.64E+00	2.94E-04 +/- 2.48E-05
7	129.29	1.65E+01 +/- 5.37E-01	1.62E+00	3.23E-04 +/- 1.97E-05
8	144.20	6.00E-01 +/- 3.44E-01	1.60E+00	3.43E-04 +/- 3.13E-05
9	148.57	2.36E+00 +/- 3.72E-01	1.59E+00	3.48E-04 +/- 3.41E-05
10	171.97	5.91E-01 +/- 2.96E-01	1.54E+00	3.63E-04 +/- 4.19E-05
11	208.42	8.21E+00 +/- 4.50E-01	1.48E+00	3.66E-04 +/- 3.76E-05
12	249.99	2.75E-01 +/- 1.64E-01	1.42E+00	3.52E-04 +/- 2.55E-05
13	300.10	3.32E-01 +/- 1.72E-01	1.38E+00	3.26E-04 +/- 1.55E-05
14	311.90	4.91E-01 +/- 1.62E-01	1.37E+00	3.20E-04 +/- 1.45E-05
15	333.23	1.99E+00 +/- 2.36E-01	1.36E+00	3.08E-04 +/- 1.39E-05
16	336.42	2.61E-01 +/- 1.79E-01	1.36E+00	3.06E-04 +/- 1.39E-05
17	345.65	1.62E+00 +/- 2.16E-01	1.35E+00	3.01E-04 +/- 1.41E-05
18	369.18	1.05E+00 +/- 1.59E-01	1.34E+00	2.89E-04 +/- 1.47E-05
19	375.68	5.61E+00 +/- 2.72E-01	1.34E+00	2.85E-04 +/- 1.49E-05
20	383.41	5.33E-01 +/- 1.27E-01	1.33E+00	2.82E-04 +/- 1.52E-05
21	393.79	1.91E+00 +/- 1.52E-01	1.33E+00	2.76E-04 +/- 1.55E-05
22	400.66	8.81E-02 +/- 4.84E-02	1.32E+00	2.73E-04 +/- 1.56E-05
23	413.70	5.23E+00 +/- 2.30E-01	1.32E+00	2.67E-04 +/- 1.59E-05
24	423.38	3.56E-01 +/- 9.46E-02	1.32E+00	2.62E-04 +/- 1.60E-05
25	452.28	6.64E-01 +/- 9.65E-02	1.31E+00	2.49E-04 +/- 1.61E-05
26	559.57	6.24E-02 +/- 3.52E-02	1.27E+00	2.10E-04 +/- 1.38E-05
27	662.42	3.28E-01 +/- 5.63E-02	1.25E+00	1.82E-04 +/- 1.04E-05
28	1112.12	8.75E-03 +/- 8.75E-03	1.18E+00	1.21E-04 +/- 5.10E-06

Segment: 10 Detector: DET01 (# 1) Position: 10

Elapsed Live Time: 113.09 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.156 +/- 0.0192
SE-75	264.65	0.000 +/- 0.0000	0.271 +/- 0.0033
SE-75	279.53	0.000 +/- 0.0000	0.281 +/- 0.0046
SE-75	400.65	0.000 +/- 0.0000	0.330 +/- 0.0061

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PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.18	9.42E+00 +/- 4.29E-01	4.10E+00	3.38E-07 +/- 4.80E-07
2	35.10	1.01E+03 +/- 4.78E+00	2.75E+00	5.68E-06 +/- 4.74E-06
3	59.60	1.65E+02 +/- 1.49E+00	2.16E+00	6.38E-05 +/- 2.21E-05
4	98.86	1.46E+01 +/- 6.83E-01	1.95E+00	2.31E-04 +/- 2.33E-05
5	103.21	8.47E+00 +/- 4.31E-01	1.94E+00	2.48E-04 +/- 2.21E-05
6	111.20	1.58E+00 +/- 5.08E-01	1.92E+00	2.77E-04 +/- 1.99E-05
7	114.42	1.25E+00 +/- 4.99E-01	1.91E+00	2.87E-04 +/- 1.91E-05
8	129.29	1.41E+01 +/- 5.17E-01	1.88E+00	3.30E-04 +/- 1.70E-05
9	148.57	3.01E+00 +/- 3.55E-01	1.83E+00	3.68E-04 +/- 1.75E-05
10	208.39	7.39E+00 +/- 4.11E-01	1.68E+00	4.01E-04 +/- 2.09E-05
11	268.16	3.33E-01 +/- 1.47E-01	1.57E+00	3.75E-04 +/- 1.79E-05
12	300.10	2.73E-01 +/- 1.64E-01	1.54E+00	3.54E-04 +/- 1.57E-05
13	311.90	4.24E-01 +/- 1.48E-01	1.54E+00	3.45E-04 +/- 1.50E-05
14	333.27	1.55E+00 +/- 2.20E-01	1.52E+00	3.30E-04 +/- 1.38E-05
15	336.43	2.51E-01 +/- 1.60E-01	1.52E+00	3.28E-04 +/- 1.36E-05
16	345.56	1.65E+00 +/- 1.73E-01	1.51E+00	3.22E-04 +/- 1.32E-05
17	369.18	6.52E-01 +/- 1.35E-01	1.50E+00	3.06E-04 +/- 1.22E-05
18	375.72	3.78E+00 +/- 2.24E-01	1.49E+00	3.02E-04 +/- 1.20E-05
19	383.38	5.48E-01 +/- 1.14E-01	1.49E+00	2.97E-04 +/- 1.18E-05
20	393.61	1.60E+00 +/- 1.37E-01	1.48E+00	2.91E-04 +/- 1.15E-05
21	413.70	4.11E+00 +/- 1.98E-01	1.47E+00	2.79E-04 +/- 1.11E-05
22	452.26	5.54E-01 +/- 8.66E-02	1.45E+00	2.58E-04 +/- 1.05E-05
23	662.42	2.11E-01 +/- 4.75E-02	1.37E+00	1.80E-04 +/- 8.83E-06
24	867.39	1.75E-02 +/- 1.24E-02	1.31E+00	1.42E-04 +/- 6.49E-06

Segment: 11 Detector: DET01 (# 1) Position: 11

Elapsed Live Time: 113.11 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.210 +/- 0.0204
SE-75	264.65	0.000 +/- 0.0000	0.310 +/- 0.0036
SE-75	279.53	0.000 +/- 0.0000	0.315 +/- 0.0049
SE-75	400.65	0.000 +/- 0.0000	0.368 +/- 0.0065

Batch 2002-02-679

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.25	8.11E+00 +/- 4.07E-01	3.57E+00	4.76E-07 +/- 6.69E-07
2	35.10	1.01E+03 +/- 4.78E+00	2.42E+00	6.75E-06 +/- 5.60E-06
3	59.59	1.26E+02 +/- 1.31E+00	1.94E+00	6.69E-05 +/- 2.31E-05
4	98.76	1.26E+01 +/- 7.50E-01	1.77E+00	2.28E-04 +/- 2.30E-05
5	111.43	1.20E+00 +/- 5.48E-01	1.75E+00	2.72E-04 +/- 1.93E-05
6	114.66	2.39E+00 +/- 4.47E-01	1.74E+00	2.82E-04 +/- 1.86E-05
7	129.29	1.47E+01 +/- 5.27E-01	1.72E+00	3.21E-04 +/- 1.65E-05
8	148.57	2.26E+00 +/- 3.56E-01	1.68E+00	3.56E-04 +/- 1.70E-05
9	195.87	4.09E-01 +/- 2.20E-01	1.60E+00	3.89E-04 +/- 2.03E-05
10	208.40	7.48E+00 +/- 4.08E-01	1.58E+00	3.89E-04 +/- 2.04E-05
11	311.90	3.37E-01 +/- 1.46E-01	1.48E+00	3.37E-04 +/- 1.49E-05
12	333.24	1.80E+00 +/- 2.18E-01	1.47E+00	3.24E-04 +/- 1.37E-05
13	345.64	1.88E+00 +/- 1.86E-01	1.46E+00	3.16E-04 +/- 1.31E-05
14	375.70	4.35E+00 +/- 2.41E-01	1.44E+00	2.97E-04 +/- 1.19E-05
15	383.67	3.93E-01 +/- 1.17E-01	1.44E+00	2.92E-04 +/- 1.17E-05
16	393.59	1.53E+00 +/- 1.42E-01	1.43E+00	2.86E-04 +/- 1.14E-05
17	400.66	1.50E-01 +/- 8.06E-02	1.43E+00	2.82E-04 +/- 1.12E-05
18	413.70	4.06E+00 +/- 2.01E-01	1.42E+00	2.75E-04 +/- 1.09E-05
19	423.41	3.03E-01 +/- 7.88E-02	1.42E+00	2.70E-04 +/- 1.08E-05
20	443.98	8.10E-02 +/- 5.44E-02	1.41E+00	2.59E-04 +/- 1.04E-05
21	452.29	5.34E-01 +/- 8.35E-02	1.40E+00	2.55E-04 +/- 1.03E-05
22	662.42	1.33E-01 +/- 5.22E-02	1.33E+00	1.80E-04 +/- 8.65E-06
23	867.39	8.75E-03 +/- 8.75E-03	1.28E+00	1.43E-04 +/- 6.39E-06
24	1001.03	1.75E-02 +/- 1.24E-02	1.25E+00	1.28E-04 +/- 5.01E-06
25	1085.91	8.75E-03 +/- 8.75E-03	1.24E+00	1.22E-04 +/- 4.46E-06
26	1112.12	8.75E-03 +/- 8.75E-03	1.24E+00	1.20E-04 +/- 4.37E-06
27	1408.01	1.75E-02 +/- 1.24E-02	1.21E+00	1.08E-04 +/- 6.61E-06

Segment: 12 Detector: DET01 (# 1) Position: 12

Elapsed Live Time: 112.86 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.177 +/- 0.0199
SE-75	264.65	0.000 +/- 0.0000	0.255 +/- 0.0032
SE-75	279.53	0.000 +/- 0.0000	0.263 +/- 0.0045
SE-75	400.65	0.000 +/- 0.0000	0.310 +/- 0.0059

Batch 2002-03-1650

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.14	1.01E+01 +/- 4.69E-01	3.94E+00	6.24E-07 +/- 8.81E-07
2	35.10	1.01E+03 +/- 4.79E+00	2.61E+00	7.63E-06 +/- 6.33E-06
3	49.73	1.07E+01 +/- 8.15E-01	2.19E+00	3.56E-05 +/- 1.72E-05
4	59.59	1.67E+02 +/- 1.53E+00	2.06E+00	6.64E-05 +/- 2.30E-05
5	98.74	1.74E+01 +/- 8.69E-01	1.87E+00	2.16E-04 +/- 2.20E-05
6	111.32	3.13E+00 +/- 5.69E-01	1.84E+00	2.57E-04 +/- 1.86E-05
7	114.61	1.54E+00 +/- 5.77E-01	1.84E+00	2.67E-04 +/- 1.79E-05
8	129.29	2.13E+01 +/- 6.08E-01	1.81E+00	3.04E-04 +/- 1.59E-05
9	148.57	2.26E+00 +/- 4.05E-01	1.77E+00	3.39E-04 +/- 1.64E-05
10	208.41	9.64E+00 +/- 4.74E-01	1.68E+00	3.76E-04 +/- 1.99E-05
11	244.70	3.98E-01 +/- 2.16E-01	1.63E+00	3.70E-04 +/- 1.88E-05
12	279.54	4.26E-01 +/- 1.73E-01	1.59E+00	3.54E-04 +/- 1.68E-05
13	311.90	7.31E-01 +/- 1.48E-01	1.57E+00	3.36E-04 +/- 1.48E-05
14	333.38	1.86E+00 +/- 2.49E-01	1.55E+00	3.24E-04 +/- 1.37E-05
15	336.41	2.56E-01 +/- 1.91E-01	1.55E+00	3.22E-04 +/- 1.35E-05
16	345.58	2.24E+00 +/- 2.08E-01	1.54E+00	3.17E-04 +/- 1.31E-05
17	369.40	1.11E+00 +/- 1.61E-01	1.53E+00	3.03E-04 +/- 1.21E-05
18	375.68	5.57E+00 +/- 2.79E-01	1.52E+00	3.00E-04 +/- 1.19E-05
19	383.41	5.63E-01 +/- 1.42E-01	1.52E+00	2.95E-04 +/- 1.17E-05
20	393.62	2.46E+00 +/- 1.70E-01	1.51E+00	2.90E-04 +/- 1.14E-05
21	413.70	5.16E+00 +/- 2.30E-01	1.50E+00	2.79E-04 +/- 1.09E-05
22	423.09	3.44E-01 +/- 9.72E-02	1.50E+00	2.74E-04 +/- 1.07E-05
23	452.05	9.08E-01 +/- 1.03E-01	1.48E+00	2.60E-04 +/- 1.03E-05
24	778.90	3.51E-02 +/- 1.75E-02	1.35E+00	1.60E-04 +/- 7.32E-06
25	867.39	2.05E-02 +/- 1.66E-02	1.33E+00	1.45E-04 +/- 6.27E-06

Segment: 13 Detector: DET01 (# 1) Position: 13

Elapsed Live Time: 112.74 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.270 +/- 0.0223
SE-75	264.65	0.000 +/- 0.0000	0.337 +/- 0.0038
SE-75	279.53	0.000 +/- 0.0000	0.340 +/- 0.0052
SE-75	400.65	0.000 +/- 0.0000	0.378 +/- 0.0066

Batch 2002-64

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.18	1.28E+01 +/- 5.07E-01	3.08E+00	1.10E-06 +/- 1.62E-06
2	35.10	1.01E+03 +/- 4.82E+00	2.15E+00	1.10E-05 +/- 9.51E-06
3	59.59	2.04E+02 +/- 1.73E+00	1.77E+00	8.09E-05 +/- 2.88E-05
4	98.71	1.92E+01 +/- 9.37E-01	1.63E+00	2.37E-04 +/- 2.43E-05
5	103.23	1.13E+01 +/- 5.30E-01	1.62E+00	2.52E-04 +/- 2.26E-05
6	111.35	4.11E+00 +/- 6.01E-01	1.61E+00	2.77E-04 +/- 1.99E-05
7	114.61	2.05E+00 +/- 6.12E-01	1.61E+00	2.86E-04 +/- 1.90E-05
8	129.29	2.39E+01 +/- 6.41E-01	1.59E+00	3.21E-04 +/- 1.67E-05
9	148.57	3.64E+00 +/- 4.15E-01	1.57E+00	3.52E-04 +/- 1.72E-05
10	208.29	1.27E+01 +/- 4.99E-01	1.51E+00	3.80E-04 +/- 2.07E-05
11	300.10	3.28E-01 +/- 1.61E-01	1.46E+00	3.40E-04 +/- 1.57E-05
12	311.90	7.73E-01 +/- 1.80E-01	1.45E+00	3.33E-04 +/- 1.50E-05
13	333.27	2.59E+00 +/- 2.62E-01	1.44E+00	3.20E-04 +/- 1.38E-05
14	345.57	2.35E+00 +/- 2.11E-01	1.44E+00	3.13E-04 +/- 1.32E-05
15	375.65	6.67E+00 +/- 3.07E-01	1.42E+00	2.95E-04 +/- 1.20E-05
16	383.50	5.57E-01 +/- 1.54E-01	1.42E+00	2.91E-04 +/- 1.18E-05
17	393.57	2.52E+00 +/- 1.84E-01	1.42E+00	2.85E-04 +/- 1.15E-05
18	413.70	6.02E+00 +/- 2.45E-01	1.41E+00	2.74E-04 +/- 1.10E-05
19	423.35	4.56E-01 +/- 1.04E-01	1.40E+00	2.69E-04 +/- 1.09E-05
20	452.29	8.46E-01 +/- 1.10E-01	1.39E+00	2.55E-04 +/- 1.05E-05
21	662.42	2.90E-01 +/- 6.47E-02	1.32E+00	1.80E-04 +/- 8.87E-06
22	964.13	8.90E-03 +/- 8.90E-03	1.25E+00	1.27E-04 +/- 5.29E-06

Segment: 14 Detector: DET01 (# 1) Position: 14

Elapsed Live Time: 112.95 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.418 +/- 0.0259
SE-75	264.65	0.000 +/- 0.0000	0.489 +/- 0.0049
SE-75	279.53	0.000 +/- 0.0000	0.491 +/- 0.0065
SE-75	400.65	0.000 +/- 0.0000	0.548 +/- 0.0084

Batch 2002-02-682

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	8.48E+00 +/- 5.04E-01	2.47E+00	3.08E-07 +/- 3.39E-06
2	23.16	6.10E+00 +/- 4.85E-01	2.27E+00	5.79E-07 +/- 5.68E-06
3	35.10	1.01E+03 +/- 4.91E+00	1.71E+00	8.94E-06 +/- 4.41E-05
4	49.78	6.86E+00 +/- 8.19E-01	1.53E+00	4.38E-05 +/- 1.06E-04
5	59.59	1.44E+02 +/- 1.46E+00	1.48E+00	8.05E-05 +/- 1.25E-04
6	98.76	1.38E+01 +/- 8.01E-01	1.40E+00	2.39E-04 +/- 5.64E-05
7	103.45	3.62E+00 +/- 7.03E-01	1.40E+00	2.54E-04 +/- 4.52E-05
8	111.31	2.19E+00 +/- 5.14E-01	1.39E+00	2.77E-04 +/- 2.92E-05
9	114.45	1.37E+00 +/- 5.17E-01	1.38E+00	2.85E-04 +/- 2.41E-05
10	129.29	1.49E+01 +/- 5.72E-01	1.37E+00	3.17E-04 +/- 1.90E-05
11	148.57	2.74E+00 +/- 3.62E-01	1.36E+00	3.44E-04 +/- 3.29E-05
12	185.71	5.20E-01 +/- 2.88E-01	1.34E+00	3.64E-04 +/- 4.04E-05
13	208.22	7.58E+00 +/- 4.06E-01	1.32E+00	3.63E-04 +/- 3.64E-05
14	244.70	3.13E-01 +/- 1.93E-01	1.31E+00	3.52E-04 +/- 2.62E-05
15	333.10	1.37E+00 +/- 2.28E-01	1.27E+00	3.07E-04 +/- 1.37E-05
16	345.32	1.76E+00 +/- 1.72E-01	1.27E+00	3.01E-04 +/- 1.38E-05
17	375.40	4.53E+00 +/- 2.47E-01	1.26E+00	2.85E-04 +/- 1.46E-05
18	383.04	4.30E-01 +/- 1.38E-01	1.25E+00	2.81E-04 +/- 1.49E-05
19	393.27	1.66E+00 +/- 1.54E-01	1.25E+00	2.76E-04 +/- 1.52E-05
20	413.70	4.17E+00 +/- 2.11E-01	1.24E+00	2.67E-04 +/- 1.56E-05
21	423.05	3.81E-01 +/- 9.91E-02	1.24E+00	2.63E-04 +/- 1.57E-05
22	867.39	4.52E-02 +/- 2.02E-02	1.16E+00	1.44E-04 +/- 6.47E-06
23	1112.12	1.47E-02 +/- 1.35E-02	1.14E+00	1.16E-04 +/- 4.88E-06
24	1408.01	1.81E-02 +/- 1.28E-02	1.12E+00	9.39E-05 +/- 6.30E-06

Segment: 15 Detector: DET01 (# 1) Position: 15

Elapsed Live Time: 113.55 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.801 +/- 0.0320
SE-75	264.65	0.000 +/- 0.0000	0.825 +/- 0.0070
SE-75	279.53	0.000 +/- 0.0000	0.811 +/- 0.0088
SE-75	400.65	0.000 +/- 0.0000	0.845 +/- 0.0106

Batch 2002-07-683

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	2.86E+00 +/- 3.00E-01	1.31E+00	1.78E-13 +/- 1.91E-12
2	23.22	2.69E+00 +/- 2.97E-01	1.27E+00	1.72E-12 +/- 1.64E-11
3	35.10	1.01E+03 +/- 4.84E+00	1.16E+00	1.45E-08 +/- 6.96E-08
4	59.59	5.92E+01 +/- 8.93E-01	1.11E+00	1.09E-05 +/- 1.64E-05
5	98.74	4.34E+00 +/- 4.94E-01	1.09E+00	1.83E-04 +/- 4.21E-05
6	111.43	8.85E-01 +/- 3.65E-01	1.09E+00	2.55E-04 +/- 2.61E-05
7	129.29	5.17E+00 +/- 3.62E-01	1.09E+00	3.37E-04 +/- 1.99E-05
8	136.00	6.60E-01 +/- 2.63E-01	1.09E+00	3.60E-04 +/- 2.57E-05
9	148.57	8.23E-01 +/- 2.56E-01	1.09E+00	3.93E-04 +/- 3.63E-05
10	208.35	3.05E+00 +/- 2.46E-01	1.08E+00	4.16E-04 +/- 3.97E-05
11	279.54	1.77E-01 +/- 1.12E-01	1.08E+00	3.51E-04 +/- 1.80E-05
12	300.10	1.94E-01 +/- 1.05E-01	1.08E+00	3.32E-04 +/- 1.51E-05
13	333.23	7.29E-01 +/- 1.35E-01	1.07E+00	3.04E-04 +/- 1.37E-05
14	345.21	6.16E-01 +/- 9.51E-02	1.07E+00	2.95E-04 +/- 1.37E-05
15	375.49	1.49E+00 +/- 1.43E-01	1.07E+00	2.74E-04 +/- 1.44E-05
16	393.23	6.97E-01 +/- 9.28E-02	1.07E+00	2.63E-04 +/- 1.47E-05
17	413.70	1.43E+00 +/- 1.24E-01	1.06E+00	2.52E-04 +/- 1.49E-05
18	451.93	2.05E-01 +/- 6.02E-02	1.06E+00	2.34E-04 +/- 1.49E-05
19	583.96	1.61E-01 +/- 3.78E-02	1.05E+00	1.90E-04 +/- 1.20E-05
20	662.42	5.80E-02 +/- 3.11E-02	1.05E+00	1.74E-04 +/- 9.76E-06
21	1112.12	1.78E-02 +/- 1.26E-02	1.04E+00	1.22E-04 +/- 5.05E-06
22	1408.01	1.78E-02 +/- 1.26E-02	1.03E+00	9.82E-05 +/- 6.51E-06

Segment: 16 Detector: DET01 (# 1) Position: 16

Elapsed Live Time: 113.77 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.745 +/- 0.0304
SE-75	264.65	0.000 +/- 0.0000	0.763 +/- 0.0066
SE-75	279.53	0.000 +/- 0.0000	0.795 +/- 0.0087
SE-75	400.65	0.000 +/- 0.0000	0.812 +/- 0.0104

Batch 2002-52-684

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.44	1.08E+00 +/- 2.35E-01	1.42E+00	8.42E-16 +/- 1.06E-14
2	35.10	1.01E+03 +/- 4.80E+00	1.21E+00	9.52E-10 +/- 5.35E-09
3	59.58	1.27E+01 +/- 4.47E-01	1.15E+00	3.33E-06 +/- 5.87E-06
4	129.29	8.09E-01 +/- 2.19E-01	1.12E+00	2.29E-04 +/- 1.54E-05
5	185.71	2.89E-01 +/- 1.62E-01	1.11E+00	3.10E-04 +/- 3.88E-05
6	300.10	1.37E-01 +/- 7.85E-02	1.09E+00	2.42E-04 +/- 1.22E-05
7	413.70	1.92E-01 +/- 5.54E-02	1.08E+00	1.81E-04 +/- 1.21E-05
8	778.90	1.76E-02 +/- 1.24E-02	1.06E+00	1.14E-04 +/- 6.23E-06
9	867.39	8.78E-03 +/- 8.78E-03	1.05E+00	1.07E-04 +/- 5.41E-06
10	1001.03	2.90E-02 +/- 2.41E-02	1.05E+00	9.85E-05 +/- 4.77E-06

Batch 2002-02-685

Summed Spectrum

Peak Locate Report

Sample ID: LL85801109R
Peak Locate Performed on: 6-07-02 4:23:00 PM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192
Peak Search Sensitivity: 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
1	43.00	0.2838	21.65	12.41
2	46.49	0.1366	23.15	27.26
3	52.90	0.2838	26.37	12.41
4	70.19	0.0404	35.01	496.93
5	119.37	0.0615	59.58	166.64
6	150.31	0.2902	75.04	8.21
7	197.75	0.1013	98.74	52.04
8	207.05	0.1119	103.38	34.73
9	222.77	0.1293	111.24	31.16
10	229.38	0.1954	114.54	16.13
11	250.80	0.0829	125.45	84.56
12	259.29	0.0829	129.47	84.56
13	288.90	0.3502	144.40	5.24
14	293.36	0.3502	146.56	5.24
15	297.91	0.1511	148.77	24.74
16	305.90	0.3502	152.94	5.24
17	329.97	0.2250	164.80	12.01
18	343.68	0.2930	171.65	7.69
19	359.42	0.3340	179.52	5.16
20	379.52	0.2964	189.55	5.89
21	392.37	0.2636	195.97	8.04
22	417.07	0.0778	208.32	84.43
23	511.96	0.2245	255.73	11.36
24	536.38	0.2512	267.93	7.99
25	601.71	0.1501	300.56	22.44
26	625.24	0.0846	312.32	66.26
27	649.00	0.2842	324.19	5.67
28	667.10	0.1030	333.24	44.21
29	691.75	0.1056	345.55	42.24
30	738.36	0.1695	368.84	13.59
31	751.94	0.0762	375.62	79.31
32	767.52	0.1443	383.41	23.79
33	787.84	0.1058	393.56	38.93
34	829.39	0.0780	414.32	71.16
35	847.16	0.1488	423.20	20.32
36	905.08	0.1284	452.13	26.77

Batch 7002-02-686

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
37	1241.02	0.2625	619.98	5.04
38	1328.09	0.1673	663.48	14.27
39	1447.51	0.1875	723.14	9.97

Errors quoted at 1.000 sigma

Batch 2003-03-482

Summed Spectrum

Peak Analysis Report

Sample ID: LL85801109R
Peak Analysis Performed on: 6-07-02 4:23:00 PM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

	Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
M	1	41-	56	43.46	21.65	4.31E+03	0.00	6.23E+02
m	2	41-	56	46.46	23.15	1.65E+04	0.00	3.05E+03
m	3	41-	56	52.90	26.37	9.46E+03	0.00	8.92E+03
	4	66-	73	70.19	35.01	1.82E+06	1361.52	1.67E+04
	5	115-	122	119.37	59.58	2.93E+05	631.80	5.12E+04
	6	149-	153	150.31	75.04	1.04E+03	167.85	1.62E+04
	7	193-	201	197.75	98.74	4.76E+04	484.41	8.79E+04
	8	206-	210	207.05	103.38	3.50E+04	290.26	2.77E+04
	9	218-	226	222.77	111.24	9.47E+03	351.64	5.09E+04
	10	226-	233	229.38	114.54	1.53E+03	339.91	5.56E+04
M	11	249-	263	251.20	125.45	6.83E+03	151.31	2.01E+04
m	12	249-	263	259.25	129.47	5.75E+04	407.12	2.50E+04
M	13	286-	309	289.13	144.40	3.00E+03	107.92	1.65E+04
m	14	286-	309	293.46	146.56	2.25E+03	102.94	1.87E+04
m	15	286-	309	297.89	148.77	7.90E+03	126.34	1.62E+04
m	16	286-	309	306.23	152.94	5.34E+02	95.26	1.82E+04
	17	325-	334	329.97	164.80	6.89E+02	238.17	2.47E+04
	18	339-	347	343.68	171.65	2.05E+03	205.08	1.87E+04
	19	355-	363	359.42	179.52	1.03E+03	196.31	1.76E+04
	20	375-	383	379.52	189.55	1.34E+03	191.19	1.65E+04
	21	387-	396	392.37	195.97	2.23E+03	202.66	1.72E+04
	22	412-	421	417.07	208.32	3.11E+04	292.62	2.33E+04
	23	507-	516	511.96	255.73	1.74E+03	141.42	8.08E+03
	24	533-	541	536.38	267.93	8.08E+02	126.22	7.05E+03
	25	596-	606	601.71	300.56	4.50E+03	146.21	7.08E+03
	26	620-	630	625.24	312.32	2.31E+04	194.56	6.23E+03
	27	647-	653	649.00	324.19	6.46E+02	91.49	3.94E+03
	28	662-	672	667.10	333.24	9.64E+03	178.64	8.95E+03
	29	687-	696	691.75	345.55	8.07E+03	151.91	6.41E+03
	30	733-	743	738.36	368.84	4.04E+03	114.18	3.75E+03
	31	746-	757	751.94	375.62	2.68E+04	206.75	6.33E+03
	32	767-	772	767.52	383.41	2.59E+03	98.94	2.16E+03
	33	782-	793	787.84	393.56	1.00E+04	122.70	2.01E+03
	34	824-	834	829.39	414.32	2.69E+04	173.89	1.41E+03
	35	841-	852	847.16	423.20	1.48E+03	72.26	1.46E+03
	36	899-	910	905.08	452.13	3.18E+03	69.08	6.34E+02
	37	1235-	1247	1241.02	619.98	2.48E+02	26.13	1.65E+02

Batch 2002-03-688

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
38	1321-	1334	1328.09	663.48	1.06E+03	41.65	2.46E+02
39	1441-	1453	1447.51	723.14	4.71E+02	29.61	1.52E+02

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-02-689

Summed Spectrum

Nuclide Identification Report

Sample ID: LL85801109R
Nuclide Library Used: C:\WAS\NLIB\LLNL.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/)	Activity Uncertainty
Pulser	0.999	35.10*	100.00	3.410E+05	8.378E+05
Np-237	0.987	300.10*	6.63	6.260E+01	2.089E+00
		311.90*	38.60	5.620E+01	6.327E-01
Pu-238	0.995	152.68*	0.00	5.162E+04	9.240E+03
Pu-239	0.973	413.70*	0.00	2.031E+06	3.913E+04
Pu-239A	0.998	129.29*	0.01	9.453E+05	2.389E+04
Am-241	0.923	662.42*	0.00	4.270E+05	1.722E+04
Pu-241	0.997	148.57*	0.00	3.894E+06	8.465E+04

* = Energy line found in the spectrum.
Energy Tolerance : 1.500 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 1.000 sigma

Batch 2882-02-690

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 6-07-02 4:23:00 PM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192

	Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
M	1	21.65	3.8205E+01	0.09
m	2	23.15	1.4664E+02	0.09
m	3	26.37	8.3924E+01	0.09
	5	59.58	2.6015E+03	0.23
	6	75.04	9.2579E+00	16.08
	7	98.74	4.2223E+02	1.02
	8	103.38	3.1076E+02	0.83
	9	111.24	8.4009E+01	3.71
	10	114.54	1.3552E+01	22.24
M	11	125.45	6.0554E+01	2.22
M	13	144.40	2.6627E+01	3.60
m	14	146.56	1.9930E+01	4.58
	17	164.80	6.1060E+00	34.59
	18	171.65	1.8168E+01	10.01
	19	179.52	9.1003E+00	19.13
	20	189.55	1.1924E+01	14.22
	21	195.97	1.9748E+01	9.10
	22	208.32	2.7606E+02	0.94
	23	255.73	1.5426E+01	8.13
	24	267.93	7.1679E+00	15.62
	27	324.19	5.7292E+00	14.16
	28	333.24	8.5479E+01	1.86
	29	345.55	7.1531E+01	1.89
	30	368.84	3.5836E+01	2.83
	31	375.62	2.3754E+02	0.78
	32	383.41	2.2961E+01	3.82
	33	393.56	8.8714E+01	1.23
	35	423.20	1.3157E+01	4.87
	36	452.13	2.8239E+01	2.17
	37	619.98	2.2038E+00	10.52
	39	723.14	4.1740E+00	6.29

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-02-691

Combined Segment NID

NID Results Combiner Mode: Sum Activities

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		3.75E+07	+/-	1.96E+08	1.52E+03	+/-	7.96E+03
SE-75	<	5.23E-01	+/-	3.70E-02	< 2.12E-05	+/-	1.50E-06
EU-152x	<	2.97E-01	+/-	2.26E-02	< 1.21E-05	+/-	9.20E-07
U-233		2.33E+03	+/-	9.44E+02	9.47E-02	+/-	3.84E-02
U-235		1.39E-01	+/-	5.83E-02	5.66E-06	+/-	2.37E-06
Np-237		8.00E+01	+/-	2.21E+00	3.25E-03	+/-	9.00E-05
Pu-238	<	5.28E+04	+/-	6.63E+03	< 2.15E+00	+/-	2.69E-01
U-238		1.55E+00	+/-	9.15E-01	6.28E-05	+/-	3.72E-05
Pu-239		2.72E+06	+/-	1.17E+05	1.11E+02	+/-	4.74E+00
Pu-239A		1.26E+06	+/-	4.42E+04	5.13E+01	+/-	1.80E+00
Am-241		5.45E+05	+/-	3.19E+04	2.21E+01	+/-	1.30E+00
Pu-241		4.89E+06	+/-	2.98E+05	1.99E+02	+/-	1.21E+01

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
U-233	2.42E-01	+/-	9.81E-02
U-235	6.44E-02	+/-	2.70E-02
Np-237	1.14E-01	+/-	3.14E-03
U-238	4.61E+00	+/-	2.73E+00
Pu-239	4.38E+01	+/-	1.88E+00
Pu-239A	2.03E+01	+/-	7.11E-01
Am-241	1.59E-01	+/-	9.31E-03
Pu-241	4.73E-02	+/-	2.88E-03

Batch 2002-02-692

Summed Spectrum

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		3.41E+05	+/-	8.38E+05	1.39E+01	+/-	3.41E+01
SE-75	<	7.64E-01	+/-	6.52E-03	< 3.11E-05	+/-	2.65E-07
EU-152x	<	4.72E-01	+/-	8.93E-03	< 1.92E-05	+/-	3.63E-07
U-233	<	3.63E+04	+/-	7.45E+02	< 1.48E+00	+/-	3.03E-02
U-235	<	1.14E+00	+/-	2.24E-02	< 4.64E-05	+/-	9.09E-07
Np-237		5.67E+01	+/-	6.06E-01	2.31E-03	+/-	2.46E-05
Pu-238		5.16E+04	+/-	9.24E+03	2.10E+00	+/-	3.76E-01
U-238	<	1.14E+01	+/-	1.82E-01	< 4.63E-04	+/-	7.38E-06
Pu-239		2.03E+06	+/-	3.91E+04	8.25E+01	+/-	1.59E+00
Pu-239A		9.45E+05	+/-	2.39E+04	3.84E+01	+/-	9.71E-01
Am-241		4.27E+05	+/-	1.72E+04	1.74E+01	+/-	7.00E-01
Pu-241		3.89E+06	+/-	8.46E+04	1.58E+02	+/-	3.44E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
Np-237	8.06E-02	+/-	8.60E-04
Pu-238	3.01E-03	+/-	5.40E-04
Pu-239	3.27E+01	+/-	6.30E-01
Pu-239A	1.52E+01	+/-	3.85E-01
Am-241	1.25E-01	+/-	5.03E-03
Pu-241	3.77E-02	+/-	8.19E-04

Batch 2002-02-493

Final Non-Uniformity Results

Source Longitudinal Ratio:	0.000	+/-	0.0000
Matrix Longitudinal Ratio:	0.807	+/-	0.0562
Source Vertical Ratio:	0.000	+/-	0.0000
Matrix Vertical Ratio:	0.693	+/-	0.0101

NUDS could not find the transmission peak in one radial segment.
NUDS could not find the source peak in any radial segment.

Batch 2002-02-494

LAWRENCE LIVERMORE NATIONAL LABORATORY

WASTE DISPOSAL REQUISITION

Waste Run Date:

W 154361

Batch 2002-02-165

Label/waste Type: (Must check)
- ☐ Non-Haz
- ☐ Haz
- ☐ Low-Level
- ☒ TRU

RCRA ☐ CA ☐

☐ No Disposal Option

1. Container Serial Number or Retention Tank ID:

2. For TRU Waste, TRU Waste Container Serial No.: LL858 01109 TRU

3. Container Acceptable: ☒ Yes ☐ N/A Initials: RL 8-23-00

DS

Chemical Compatibility Code:

Storage Restrictions
☐ No Storage Restrictions
Not acceptable at the following locations:
☐ 233 ☐ 514 ☐ 612 ☑ 693
CWAA ☑ 169 ☐ 361 ☐ 612-4

4. Building No.: 332
5. Room No.: 1378
6. RMMA: ☒ Yes ☐ No
7. WAA No.: 332 A
14. Waste Package Seals Applied: ☑ Yes ☐ N/A (If yes, complete Step 15)

Hazardous Properties: ☐ Toxic ☐ Corrosive ☐ Ignitable ☐ Reactive

19. Outer Container Type: ☐ Box ☐ Sack ☐ Can ☐ SWB ☐ Carboy ☐ Tub ☒ Drum ☐ Tank - Fixed ☐ Tank - Portable ☐ Transportainer Other:

20. Outer Container Size/Vol: ☐ 1 gal ☐ 750 gal ☐ 2 gal ☐ 1000 gal ☐ 5 gal ☐ 5000 gal ☐ 30 gal ☐ 67 cu ft ☒ 55 gal ☐ 1 × 1 × 1.5 ☐ 85 gal ☐ 2 × 4 × 7 ☐ 330 gal ☐ 4 × 4 × 7 ☐ 660 gal ☐ gal ☐ cu ft Other:

8. Workplace Start Date: 8/23/00
9. Workplace End Date: 9/13/00
10. Account No.: 5484-70
11. Directorate: DNT
15. Waste Package Seal Nos.: J875 T10609 TC 5/3/21
16. Source Code: A940
☐ Lab Pack ☐ Over Pack

18. Waste Form: ☒ Solid ☐ Liquid ☐ Gas ☐ Sludge

12. Did Waste Minimization Effort Practices Begin in Current Calendar Year? ☐ Yes ☒ No
If yes, enter Activity Code: W_____
Comments:

13. WEF/PKE/SAW No.: ☐ WEF No. ☒ PKE No. ☐ SAW No. ☐ N/A
Specify: 243, 245

17. LLW Waste Stream No. or TRU Waste Form No.: 1, 2 B,

21. Item No.	22. Spent or Unused (S/U)	23. Organic or Inorganic (O/I)	24. Waste Form (S, SL, L, G)	25. Waste Description (For multiple parcels, also list Parcel Card Nos.)	26. Hazardous Constituents and Concentrations	27. Item Container Size	28. Quantity per Item Amount	28. Quantity per Item Units	29. Analysis Sample No.	Physical Waste Data: 30. Aqueous Only pH	30. Aqueous Only Normality	31. Flash Point
				P021812 P021838 9/18/00								
				P021816 P021852								
				P021822 P021846								
				P021832								
				P021842								
				P021793								

USE CONTINUATION FORM FOR ADDITIONAL ITEMS

32. Does the waste contain radioactive components? ☒ Yes ☐ No ☐ To be analyzed
(If yes or TBA, complete Steps 36–41 as applicable to waste type.)

This section (Steps 33–35) is required for Hazardous Waste generated in a RMMA

33. Was the waste kept isolated from any operation that could have produced radioactive contamination (using a glove box, vent hood, etc.)? ☐ Yes ☐ No (If no, full rad analysis required)

34. Was the waste exposed to particle beams capable of inducing radioactivity by activation? ☐ Yes ☐ No (If yes, full rad analysis required)

35. Describe other controls used to prevent radioactive contamination:

RMMA Certification: Shipping ☐ CC ☐ **RSDR #:**

36. Radionuclides:
Check all Plutonium grades present:
☒ Weapons ☐ Fuel ☐ Reactor ☐ Am-enriched ☐ Mixed
☐ Enriched Uranium (Identify the % of each of the following:)
_____% U-234
_____% U-235
_____% U-238
(List additional radionuclides in Step 38.)

37. Gross weight of waste package: 56.4 kgs

Tare weight of container: 31.8 kgs

38. Radiological Data:
(For certified LLW and TRU waste, list totals from Parcel Cards.)

Item	Radionuclide(s)	Quantity	Units/Activity (Ci,g)	PE - Ci	Fissile g

39. Rad. Survey mr/hr: | β-γ @ Contact | β-γ @ 1 Meter | Neutron @ Contact

40. Swipe Data: ☐ Complies with 10 CFR 835 criteria for unrestricted release

41. Rad Swipe/Survey Performed By: (Print Name–Last, First) | Employee No.: | L-Code:

Signature: | Date: | Ext.:

42. Generator: I certify, to the best of my knowledge, that the information provided on this requisition is correct. I understand that I may be liable to State and Federal prosecution by intentionally providing false information. I have obtained this information by:
NL 1-8-01 ☐ Direct knowledge of the waste generating process ☐ Analytical Data
☒ Obtaining sufficient information from others knowledgeable of the waste generating process.

☒ Container Custodian: I certify that the waste parcels identified on this form are contained in this waste container and have been packaged in accordance with the requirements specified in the appropriate LLNL TRU Waste or Low-Level Waste Program Certification and Quality Assurance Program.

Generator or Container Custodian Name (Print – Last, First): Meeker, Tom
Signature: Tom Meeker

Employee No.:	L-Code:	Ext.:	Date:
553224	361	3-2217	9-19-00

Inspected By: Signature:	Employee No.:	Date:

Characterization Chemist Approval ☐ Acceptable ☐ WEF
NOT for Sampling RL (Initials) EX-DE

Signature:	Employee No.:	Date:
R Rob Labalette	211106	9/18/01

RCA Approval ☐ Decay Program (Initials) ☐ NTS Certified (Initials) ☐ WIPP Certified (Initials) ☐ WEF

Signature:	Employee No.:	Date:

☐ HWM Use Only

LL-5344 (Rev. 06/96) Page 1 of _____

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
2-06-02 2:23:54 PM

OK (RR) 2-6-02
JW 4-24-02

QA File: C:\WAS\CTRS\CTR1\ARR1\S11_BCK.QA
Sample ID: B854
Sample Quantity: 1.0000E+00
Sample Date: 2-06-02 2:18:15 PM
Measurement Date: 2-06-02 2:18:13 PM
Elapsed Live Time: 200.0 seconds
Elapsed Real Time: 201.9 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
Ref. Peak [0.00+/-0.00]	3.4989E+01	0.00 < : : : >
Upper CPS Reg [0.00+/-0.00]	2.6735E+01	0.00 < : : : >
Peak counts/second [0.00+/-0.00]	1.0060E+03	0.00 < : : : >
Pulser FWHM [0.00+/-0.00]	9.7202E-01	0.00 < : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
2-06-02 2:23:47 PM

QA File: C:\WAS\CTRS\CTR1\ARR1\T11_BCK.QA
Sample ID: B854
Sample Quantity: 1.0000E+00
Sample Date: 2-06-02 2:18:15 PM
Measurement Date: 2-06-02 2:21:41 PM
Elapsed Live Time: 100.0 seconds
Elapsed Real Time: 104.1 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >

400.6 keV Centroid	8.0264E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>
400.6 keV FWHM	1.5762E+00			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak centroid 136 KeV	2.7254E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak area 400 keV	1.8113E+04			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak counts/second	1.8113E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>

Flags Key:
LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

Batch 2003-03-167

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
2-07-02 7:44:22 AM

OK NR 2-7-02 JN

QA File: C:\WAS\CTRS\CTR1\ARR1\S11_BCK.QA
Sample ID: B855
Sample Quantity: 1.0000E+00
Sample Date: 2-07-02 7:38:42 AM
Measurement Date: 2-07-02 7:38:41 AM
Elapsed Live Time: 200.0 seconds
Elapsed Real Time: 201.9 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
Ref. Peak	3.5057E+01	0.00
[0.00+/-0.00]		< : : : >
Upper CPS Reg	2.8795E+01	0.00
[0.00+/-0.00]		< : : : >
Peak counts/second	1.0088E+03	0.00
[0.00+/-0.00]		< : : : >
Pulser FWHM	1.0093E+00	0.00
[0.00+/-0.00]		< : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
2-07-02 7:44:15 AM

QA File: C:\WAS\CTRS\CTR1\ARR1\T11_BCK.QA
Sample ID: B855
Sample Quantity: 1.0000E+00
Sample Date: 2-07-02 7:38:42 AM
Measurement Date: 2-07-02 7:42:09 AM
Elapsed Live Time: 100.0 seconds
Elapsed Real Time: 104.1 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >

Batch 3B03-03466

400.6 keV Centroid	8.0349E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>
400.6 keV FWHM	1.5098E+00			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak centroid 136 KeV	2.7284E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak area 400 keV	1.8034E+04			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak counts/second	1.8034E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>

Flags Key:
- LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
- SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
- UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
- BS = Measurement Bias Test (In = Investigate, Ac = Action)

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS 2.3A

****
* DRUM INFORMATION *
****

Drum Package ID: S20_856
Sequence Number: 856
Assay Date & Time: 2-07-2002 7:50:05 AM
Drum Package GROSS Weight: 45.00 kg NET Weight: 13.20 kg

IDC Number: STDADH-2

QC Replicate (Yes/No): NO Passed (Yes/No): _____

Operator Name (Printed): Russell Ratti

Operator Signature: _____ Date: 2-7-02

Independent Reviewer: _____ Date: 7-8-02

Expert Reviewer: (NOT REQUIRED) Date: _____

Tech. Supv/QA Officer: _____ Date: 7/17/02

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 1.616E+00 +/- 3.738E-01 Ci

Batch 2002-02-700

ISOTOPIC INFORMATION

Isotope	Measured Mass (g)	Mass Uncertainty (g)	MDC (g)
Pu-238	1.927E-03	6.59E-04	1.127E-05
Pu-239	1.841E+01	5.80E+00	1.076E-01
Pu-240	1.143E+00	3.61E-01	6.682E-03
Pu-241	1.648E-02	5.21E-03	2.453E-03
Pu-242	4.722E-03	1.75E-03	2.761E-05
Am-241	5.096E-02	1.61E-02	3.768E-03
Am-243	0.000E+00	0.00E+00	0.000E+00
Np-237	0.000E+00	0.00E+00	4.573E-04
U-235	0.000E+00	0.00E+00	2.626E-01
U-238	1.739E+01	5.48E+00	1.739E+01
U-233	1.803E+00	5.42E-01	1.803E+00

Total Pu Mass: 1.96E+01 +/- 2.48E+00 g

MGA RESULTS

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	9.846E-03	6.81E+00
Pu-239	9.404E+01	6.33E-02
Pu-240	5.840E+00	1.01E+00
Pu-241	8.418E-02	1.28E+00
Pu-242	2.413E-02	1.00E+01
Am-241	2.604E-01	7.22E-01

Batch 2002-02-781

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005

Assay Date & Time: 2-07-2002 7:50:05 AM

Drum Package ID: S20_856
Sequence Number: 856

Waste Classification (TRU or LLW): TRU

		Errors at 1.96 sigma	
Total Alpha Activity :	1.616E+00	+/- 3.74E-01	Ci
Total TRU Activity :	1.224E+05	+/- 2.83E+04	nCi/g
Pu-239 Equiv Activity:	1.647E+00	+/- 3.74E-01	Ci
Fissile Gram Equiv Mass:	1.847E+01	+/- 5.80E+00	g
Total Decay Heat:	5.114E-02	+/- 1.18E-02	W
TMU Value:	31.50 %		

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error	MDA gm
Pu-238	3.33E-02	1.14E-02	1.93E-03	6.59E-04	1.13E-05
Pu-239	1.14E+00	3.60E-01	1.84E+01	5.80E+00	1.08E-01
Pu-240	2.63E-01	8.30E-02	1.14E+00	3.61E-01	6.68E-03
Pu-241	1.71E+00	5.41E-01	1.65E-02	5.21E-03	2.45E-03
Pu-242	1.87E-05	6.95E-06	4.72E-03	1.75E-03	2.76E-05
Am-241	1.77E-01	5.57E-02	5.10E-02	1.61E-02	3.77E-03
Am-243	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Np-237	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.57E-04
U-235	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.63E-01
U-238	5.91E-06	1.86E-06	1.74E+01	5.48E+00	1.74E+01
U-233	1.76E-02	5.29E-03	1.80E+00	5.42E-01	1.80E+00

Total Pu Mass: 1.96E+01 +/- 2.48E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	9.846E-03	6.81E+00
Pu-239	9.404E+01	6.33E-02
Pu-240	5.840E+00	1.01E+00
Pu-241	8.418E-02	1.28E+00
Pu-242	2.413E-02	1.00E+01
Am-241	2.604E-01	7.22E-01

Batch 3003-03-782

****
***** M G A R E P O R T *****
****

Report generated on: 2-07-02 8:46:45 AM

MGA version: MGA V9.5 CI

Spectrum ID: 11200856.CNF Sens : 30.0% LT: 55.0 Mins DT: 1.71
Measurement date: 2-07-02 Declared date: 2-07-02

Sample ID: S20_856 Detector: Total counts: 3.595E+06

Pu g/cm2 = 0.4169 Cd g/cm2 = 1.6825 FWHM at 122 keV = 685 eV
QFIT = 1.00 FWHM at 208 keV = 867 eV
NQFIT = 1.00

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	Meas. date %Err	Decl. date % weight	Decl. date %Err
Pu-238	0.000105	6.8	6.8	0.1170	6.8	0.00985	6.81	0.00985	6.81
Pu-239	1.000000	0.0	0.5	1117.091	1.3	94.04192	0.06	94.04192	0.06
Pu-240	0.062099	1.1	1.0	69.3704	1.6	5.83992	1.01	5.83992	1.01
Pu-241	0.000895	1.3	1.2	1.0000	0.0	0.08418	1.28	0.08418	1.28
Pu-242	(New alg.)			0.2866	(10)	0.02413	(10)	0.02413	(10)
Am-241	0.002769	0.7	0.6	3.0928	1.3	0.26037	0.72	0.26037	0.72

Pu-240 effective (meas. date) = 5.905 +/- 1.10%
Am-241 separated about 29.115 +/- 0.259 years ago
Am/Pu-241 weight ratio = 3.09282 +/- 1.35%

Messages :

Lead x-rays detected.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Batch 2003-03-703

Gamma Waste Assay

Sample Information

File Name: C:\WAS\DATA\900\11100856.S11
Sample ID: S20_856 Count Sequence Number: 856
Assay Start: 2-07-02 7:50:07 AM
Description 1: 20g source
Description 2:
Location: 7715
Comment:
Waste Type:
Weight: Gross: 45000.0 g Net: 13200.0 g
Density: 0.063 g /ml

Container Type: 55 Gal Galv
Container: Volume: 208000. ml Full: 100.0 %

System Configuration

Counter ID Number: SGS
Arrangement Description: SGS
Segments: Number: 16 Offset: 0
Scanning Platform: Start: 934 mm Delta: -51 mm
Count Type: Daily 20 g Drum Check
Collimator/Geometry Setting: 0
Transmission Mode: Two pass
Transmission Source: 0

Errors quoted at 1.000 sigma
Reference Source Date: Reference Source Rate: 1.01E+03 cps
Geometric Correction Factor(SWCONTGCF): 0.760
Date of efficiency calibration approval: 4-18-2001 12:41:36 PM
Mu Factors response file: Lucite
Transmission Calib. Time: 5-11-2001 2:20:42 PM 59052

Reviewed by: _____ Date: 2-7-02

Batch 2002-02-204

Segment Results

Segment: 1 Detector: DET01 (# 1) Position: 1

Elapsed Live Time: 113.81 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.483 +/- 0.0266
SE-75	264.65	0.000 +/- 0.0000	0.555 +/- 0.0052
SE-75	279.53	0.000 +/- 0.0000	0.567 +/- 0.0070
SE-75	400.65	0.000 +/- 0.0000	0.600 +/- 0.0086

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.42	6.77E-01 +/- 1.40E-01	2.00E+00	1.03E-07 +/- 1.27E-06
2	35.10	1.01E+03 +/- 4.76E+00	1.58E+00	2.61E-06 +/- 1.64E-05
3	129.29	4.25E-01 +/- 1.66E-01	1.31E+00	1.95E-04 +/- 1.38E-05
4	400.66	1.15E-01 +/- 5.68E-02	1.21E+00	1.69E-04 +/- 1.25E-05
5	559.68	1.75E-01 +/- 4.47E-02	1.17E+00	1.30E-04 +/- 1.10E-05
6	867.39	3.54E-02 +/- 2.60E-02	1.14E+00	8.96E-05 +/- 4.69E-06

Segment: 2 Detector: DET01 (# 1) Position: 2

Elapsed Live Time: 113.80 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.552 +/- 0.0272
SE-75	264.65	0.000 +/- 0.0000	0.634 +/- 0.0057
SE-75	279.53	0.000 +/- 0.0000	0.638 +/- 0.0075
SE-75	400.65	0.000 +/- 0.0000	0.689 +/- 0.0093

Batch 2882-01-205

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.46E+00	2.21E-07 +/- 1.06E-06
2	59.61	3.14E+00 +/- 2.76E-01	1.32E+00	2.20E-05 +/- 3.31E-05
3	121.11	3.62E-01 +/- 1.78E-01	1.25E+00	2.80E-04 +/- 1.66E-05
4	135.30	4.47E-01 +/- 1.95E-01	1.24E+00	3.24E-04 +/- 2.28E-05
5	279.54	1.78E-01 +/- 9.82E-02	1.18E+00	3.43E-04 +/- 1.77E-05
6	400.66	6.95E-02 +/- 4.81E-02	1.15E+00	2.59E-04 +/- 1.44E-05
7	495.07	5.44E-02 +/- 2.69E-02	1.13E+00	2.14E-04 +/- 1.38E-05
8	559.52	1.67E-01 +/- 5.26E-02	1.13E+00	1.91E-04 +/- 1.21E-05
9	1001.03	6.10E-02 +/- 2.30E-02	1.09E+00	1.20E-04 +/- 5.31E-06

Segment: 3 Detector: DET01 (# 1) Position: 3

Elapsed Live Time: 113.76 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.650 +/- 0.0287
SE-75	264.65	0.000 +/- 0.0000	0.682 +/- 0.0060
SE-75	279.53	0.000 +/- 0.0000	0.680 +/- 0.0078
SE-75	400.65	0.000 +/- 0.0000	0.729 +/- 0.0097

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.32E+00	1.07E-06 +/- 5.27E-06
2	59.59	4.82E+00 +/- 3.20E-01	1.22E+00	3.79E-05 +/- 5.86E-05
3	400.66	8.52E-02 +/- 5.19E-02	1.13E+00	2.63E-04 +/- 1.50E-05
4	443.98	5.48E-02 +/- 3.75E-02	1.12E+00	2.43E-04 +/- 1.54E-05
5	559.62	2.43E-01 +/- 5.37E-02	1.11E+00	2.03E-04 +/- 1.32E-05
6	662.42	4.56E-02 +/- 3.09E-02	1.10E+00	1.78E-04 +/- 1.02E-05
7	867.39	4.52E-02 +/- 3.83E-02	1.08E+00	1.45E-04 +/- 6.61E-06
8	964.13	3.47E-02 +/- 1.74E-02	1.08E+00	1.34E-04 +/- 5.92E-06

Bates 2002-07-296

Segment: 4 Detector: DET01 (# 1) Position: 4

Elapsed Live Time: 113.70 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.584 +/- 0.0288
SE-75	264.65	0.000 +/- 0.0000	0.668 +/- 0.0060
SE-75	279.53	0.000 +/- 0.0000	0.674 +/- 0.0078
SE-75	400.65	0.000 +/- 0.0000	0.700 +/- 0.0094

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.18	1.67E+00 +/- 1.82E-01	1.72E+00	3.32E-06 +/- 4.68E-06
2	35.10	1.01E+03 +/- 4.76E+00	1.41E+00	2.00E-05 +/- 1.66E-05
3	59.64	8.32E+00 +/- 3.85E-01	1.28E+00	9.84E-05 +/- 3.39E-05
4	129.29	4.73E-01 +/- 2.09E-01	1.22E+00	3.12E-04 +/- 1.61E-05
5	300.10	2.31E-01 +/- 1.35E-01	1.15E+00	3.44E-04 +/- 1.54E-05
6	413.70	9.88E-02 +/- 3.99E-02	1.14E+00	2.87E-04 +/- 1.11E-05
7	964.13	5.15E-02 +/- 2.54E-02	1.09E+00	1.35E-04 +/- 5.34E-06

Segment: 5 Detector: DET01 (# 1) Position: 5

Elapsed Live Time: 113.06 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.582 +/- 0.0294
SE-75	264.65	0.000 +/- 0.0000	0.666 +/- 0.0060
SE-75	279.53	0.000 +/- 0.0000	0.669 +/- 0.0078
SE-75	400.65	0.000 +/- 0.0000	0.716 +/- 0.0097

Batch 2002-02-707

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.27	6.90E+00 +/- 3.89E-01	1.71E+00	1.80E-06 +/- 2.60E-06
2	35.10	1.01E+03 +/- 4.81E+00	1.41E+00	1.48E-05 +/- 1.27E-05
3	59.61	6.34E+01 +/- 9.28E-01	1.29E+00	9.33E-05 +/- 3.30E-05
4	75.26	1.20E+00 +/- 4.20E-01	1.26E+00	1.60E-04 +/- 3.38E-05
5	98.82	2.04E+01 +/- 7.82E-01	1.24E+00	2.49E-04 +/- 2.52E-05
6	103.63	7.48E+00 +/- 7.45E-01	1.24E+00	2.64E-04 +/- 2.32E-05
7	111.39	5.80E+00 +/- 5.60E-01	1.23E+00	2.87E-04 +/- 2.03E-05
8	115.96	7.17E+00 +/- 5.82E-01	1.23E+00	2.98E-04 +/- 1.90E-05
9	129.29	2.03E+01 +/- 5.81E-01	1.22E+00	3.26E-04 +/- 1.67E-05
10	189.79	1.22E+00 +/- 3.09E-01	1.19E+00	3.76E-04 +/- 2.02E-05
11	204.02	1.98E+00 +/- 3.62E-01	1.19E+00	3.76E-04 +/- 2.04E-05
12	208.30	2.58E+00 +/- 4.32E-01	1.18E+00	3.75E-04 +/- 2.04E-05
13	244.70	6.49E-01 +/- 2.34E-01	1.17E+00	3.63E-04 +/- 1.90E-05
14	255.55	6.19E-01 +/- 2.42E-01	1.17E+00	3.58E-04 +/- 1.84E-05
15	311.90	4.03E-01 +/- 1.77E-01	1.15E+00	3.26E-04 +/- 1.48E-05
16	333.32	2.78E+00 +/- 2.95E-01	1.15E+00	3.13E-04 +/- 1.36E-05
17	345.64	3.20E+00 +/- 2.72E-01	1.14E+00	3.06E-04 +/- 1.30E-05
18	368.91	1.38E+00 +/- 1.96E-01	1.14E+00	2.93E-04 +/- 1.20E-05
19	375.67	9.22E+00 +/- 3.49E-01	1.14E+00	2.89E-04 +/- 1.18E-05
20	383.53	7.29E-01 +/- 2.25E-01	1.14E+00	2.85E-04 +/- 1.16E-05
21	393.56	3.43E+00 +/- 2.08E-01	1.13E+00	2.79E-04 +/- 1.13E-05
22	413.70	8.63E+00 +/- 2.91E-01	1.13E+00	2.69E-04 +/- 1.09E-05
23	423.35	4.75E-01 +/- 1.20E-01	1.13E+00	2.64E-04 +/- 1.07E-05
24	443.98	1.16E-01 +/- 7.45E-02	1.13E+00	2.54E-04 +/- 1.04E-05
25	452.48	9.45E-01 +/- 1.09E-01	1.13E+00	2.50E-04 +/- 1.03E-05
26	662.42	3.07E-01 +/- 7.69E-02	1.10E+00	1.79E-04 +/- 8.77E-06
27	964.13	4.43E-02 +/- 1.98E-02	1.08E+00	1.28E-04 +/- 5.33E-06
28	1408.01	2.66E-02 +/- 1.54E-02	1.07E+00	9.75E-05 +/- 6.10E-06

Segment: 6 Detector: DET01 (# 1) Position: 6

Elapsed Live Time: 110.81 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.146 +/- 0.0241
SE-75	264.65	0.000 +/- 0.0000	0.306 +/- 0.0036
SE-75	279.53	0.000 +/- 0.0000	0.308 +/- 0.0052
SE-75	400.65	0.000 +/- 0.0000	0.384 +/- 0.0068

Batch 2002-02-708

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	8.62E+00 +/- 5.09E-01	4.10E+00	3.85E-07 +/- 5.97E-07
2	23.22	1.49E+01 +/- 5.96E-01	4.10E+00	6.82E-07 +/- 9.65E-07
3	35.10	1.01E+03 +/- 4.84E+00	2.83E+00	8.04E-06 +/- 6.71E-06
4	59.62	2.91E+02 +/- 2.09E+00	2.21E+00	6.90E-05 +/- 2.40E-05
5	75.01	1.73E+00 +/- 6.29E-01	2.09E+00	1.29E-04 +/- 2.73E-05
6	98.80	1.02E+02 +/- 1.60E+00	1.99E+00	2.22E-04 +/- 2.25E-05
7	103.64	3.70E+01 +/- 1.53E+00	1.97E+00	2.39E-04 +/- 2.11E-05
8	111.35	2.55E+01 +/- 1.07E+00	1.95E+00	2.63E-04 +/- 1.89E-05
9	115.37	1.55E+01 +/- 1.12E+00	1.95E+00	2.75E-04 +/- 1.80E-05
10	129.29	9.83E+01 +/- 1.21E+00	1.92E+00	3.10E-04 +/- 1.61E-05
11	144.45	3.61E+00 +/- 5.03E-01	1.87E+00	3.39E-04 +/- 1.63E-05
12	148.57	4.51E+00 +/- 6.46E-01	1.85E+00	3.45E-04 +/- 1.67E-05
13	161.29	2.88E+00 +/- 6.36E-01	1.80E+00	3.60E-04 +/- 1.78E-05
14	171.59	4.14E+00 +/- 5.40E-01	1.76E+00	3.69E-04 +/- 1.88E-05
15	179.56	2.33E+00 +/- 5.12E-01	1.74E+00	3.74E-04 +/- 1.94E-05
16	189.61	2.08E+00 +/- 4.67E-01	1.70E+00	3.78E-04 +/- 1.99E-05
17	196.04	3.59E+00 +/- 5.10E-01	1.68E+00	3.80E-04 +/- 2.01E-05
18	203.95	1.15E+01 +/- 7.48E-01	1.66E+00	3.81E-04 +/- 2.02E-05
19	208.43	1.25E+01 +/- 9.13E-01	1.65E+00	3.81E-04 +/- 2.03E-05
20	244.70	1.26E+00 +/- 4.03E-01	1.56E+00	3.73E-04 +/- 1.92E-05
21	255.92	2.37E+00 +/- 4.09E-01	1.54E+00	3.68E-04 +/- 1.85E-05
22	297.97	1.45E+00 +/- 4.40E-01	1.49E+00	3.47E-04 +/- 1.59E-05
23	311.90	2.33E+00 +/- 3.45E-01	1.48E+00	3.39E-04 +/- 1.51E-05
24	321.24	9.66E-01 +/- 3.84E-01	1.47E+00	3.33E-04 +/- 1.45E-05
25	333.36	1.36E+01 +/- 5.90E-01	1.46E+00	3.26E-04 +/- 1.39E-05
26	345.66	1.70E+01 +/- 4.67E-01	1.45E+00	3.19E-04 +/- 1.33E-05
27	368.73	5.74E+00 +/- 3.92E-01	1.43E+00	3.05E-04 +/- 1.23E-05
28	375.70	4.50E+01 +/- 7.68E-01	1.43E+00	3.02E-04 +/- 1.21E-05
29	383.49	4.64E+00 +/- 3.78E-01	1.42E+00	2.97E-04 +/- 1.18E-05
30	393.62	1.60E+01 +/- 4.33E-01	1.41E+00	2.92E-04 +/- 1.16E-05
31	413.70	4.34E+01 +/- 6.69E-01	1.40E+00	2.81E-04 +/- 1.11E-05
32	423.41	2.71E+00 +/- 2.38E-01	1.40E+00	2.76E-04 +/- 1.09E-05
33	452.25	5.31E+00 +/- 2.39E-01	1.38E+00	2.61E-04 +/- 1.05E-05
34	482.05	1.25E-01 +/- 7.47E-02	1.37E+00	2.48E-04 +/- 1.02E-05
35	559.55	2.93E-01 +/- 6.97E-02	1.34E+00	2.17E-04 +/- 9.62E-06
36	620.11	3.32E-01 +/- 7.51E-02	1.32E+00	1.98E-04 +/- 9.16E-06
37	662.42	1.04E+00 +/- 1.22E-01	1.31E+00	1.86E-04 +/- 8.77E-06
38	723.05	7.51E-01 +/- 9.70E-02	1.30E+00	1.72E-04 +/- 8.13E-06
39	1112.12	2.86E-02 +/- 2.54E-02	1.23E+00	1.20E-04 +/- 4.28E-06

Segment: 7 Detector: DET01 (# 1) Position: 7

Elapsed Live Time: 110.12 sec Elapsed Real Time: 115.00 sec

Batch 2002-02-709

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.278 +/- 0.0035
SE-75	279.53	0.000 +/- 0.0000	0.297 +/- 0.0051
SE-75	400.65	0.000 +/- 0.0000	0.396 +/- 0.0071

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	1.24E+01 +/- 5.82E-01	4.10E+00	2.18E-09 +/- 2.40E-08
2	23.20	2.08E+01 +/- 6.88E-01	4.10E+00	7.15E-09 +/- 7.01E-08
3	35.10	1.01E+03 +/- 4.88E+00	4.10E+00	9.59E-07 +/- 4.73E-06
4	49.90	6.80E+00 +/- 9.09E-01	4.10E+00	1.49E-05 +/- 3.58E-05
5	59.61	4.44E+02 +/- 2.77E+00	4.10E+00	4.02E-05 +/- 6.22E-05
6	74.96	1.32E+00 +/- 5.29E-01	4.10E+00	1.04E-04 +/- 8.11E-05
7	98.80	1.25E+02 +/- 1.79E+00	4.10E+00	2.21E-04 +/- 5.18E-05
8	103.60	4.90E+01 +/- 1.69E+00	4.10E+00	2.42E-04 +/- 4.26E-05
9	111.33	3.16E+01 +/- 1.19E+00	4.10E+00	2.73E-04 +/- 2.87E-05
10	129.29	1.19E+02 +/- 1.36E+00	4.10E+00	3.30E-04 +/- 1.98E-05
11	144.36	5.96E+00 +/- 7.22E-01	3.15E+00	3.62E-04 +/- 3.20E-05
12	148.57	4.81E+00 +/- 6.97E-01	2.94E+00	3.68E-04 +/- 3.49E-05
13	161.29	4.17E+00 +/- 6.93E-01	2.53E+00	3.83E-04 +/- 4.09E-05
14	171.64	3.88E+00 +/- 5.86E-01	2.33E+00	3.90E-04 +/- 4.31E-05
15	189.82	3.26E+00 +/- 5.53E-01	2.08E+00	3.94E-04 +/- 4.25E-05
16	196.08	4.08E+00 +/- 5.55E-01	2.01E+00	3.94E-04 +/- 4.13E-05
17	203.96	1.10E+01 +/- 8.13E-01	1.94E+00	3.92E-04 +/- 3.95E-05
18	208.38	1.55E+01 +/- 9.77E-01	1.90E+00	3.91E-04 +/- 3.83E-05
19	244.70	1.13E+00 +/- 4.28E-01	1.66E+00	3.73E-04 +/- 2.70E-05
20	255.87	2.95E+00 +/- 4.17E-01	1.60E+00	3.66E-04 +/- 2.38E-05
21	297.89	1.47E+00 +/- 4.83E-01	1.51E+00	3.37E-04 +/- 1.58E-05
22	311.90	3.05E+00 +/- 3.42E-01	1.49E+00	3.27E-04 +/- 1.48E-05
23	324.51	1.39E+00 +/- 3.64E-01	1.47E+00	3.19E-04 +/- 1.44E-05
24	333.35	1.57E+01 +/- 6.50E-01	1.46E+00	3.13E-04 +/- 1.44E-05
25	336.57	1.25E+00 +/- 5.52E-01	1.46E+00	3.11E-04 +/- 1.44E-05
26	345.62	1.78E+01 +/- 5.52E-01	1.45E+00	3.05E-04 +/- 1.46E-05
27	368.75	7.72E+00 +/- 4.00E-01	1.42E+00	2.91E-04 +/- 1.52E-05
28	375.69	5.13E+01 +/- 8.29E-01	1.42E+00	2.87E-04 +/- 1.54E-05
29	383.46	5.59E+00 +/- 4.08E-01	1.41E+00	2.83E-04 +/- 1.57E-05
30	393.60	1.91E+01 +/- 4.73E-01	1.40E+00	2.77E-04 +/- 1.59E-05
31	413.70	4.95E+01 +/- 7.26E-01	1.39E+00	2.67E-04 +/- 1.63E-05
32	423.21	2.50E+00 +/- 2.70E-01	1.38E+00	2.62E-04 +/- 1.63E-05
33	443.98	2.37E-01 +/- 1.32E-01	1.37E+00	2.52E-04 +/- 1.64E-05
34	452.31	5.76E+00 +/- 2.63E-01	1.37E+00	2.49E-04 +/- 1.63E-05
35	640.85	2.71E-01 +/- 9.64E-02	1.31E+00	1.87E-04 +/- 1.13E-05
36	647.37	1.98E-01 +/- 8.50E-02	1.30E+00	1.85E-04 +/- 1.11E-05

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37	662.42	1.60E+00	+/- 1.30E-01	1.30E+00	1.82E-04	+/- 1.06E-05
38	723.55	4.76E-01	+/- 1.10E-01	1.29E+00	1.69E-04	+/- 9.01E-06
39	964.13	4.34E-02	+/- 2.51E-02	1.24E+00	1.35E-04	+/- 6.00E-06
40	1408.01	5.44E-02	+/- 2.22E-02	1.19E+00	9.90E-05	+/- 6.54E-06

Segment: 8 Detector: DET01 (# 1) Position: 8

Elapsed Live Time: 112.19 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.328 +/- 0.0251
SE-75	264.65	0.000 +/- 0.0000	0.432 +/- 0.0045
SE-75	279.53	0.000 +/- 0.0000	0.426 +/- 0.0060
SE-75	400.65	0.000 +/- 0.0000	0.504 +/- 0.0079

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.20	1.39E+01 +/- 5.33E-01	2.70E+00	4.22E-09 +/- 4.10E-08
2	35.10	1.01E+03 +/- 4.80E+00	1.94E+00	6.89E-07 +/- 3.37E-06
3	59.63	1.88E+02 +/- 1.62E+00	1.64E+00	3.35E-05 +/- 5.15E-05
4	75.30	1.37E+00 +/- 5.11E-01	1.57E+00	9.19E-05 +/- 7.00E-05
5	98.83	4.87E+01 +/- 1.14E+00	1.53E+00	1.99E-04 +/- 4.65E-05
6	103.62	2.02E+01 +/- 1.09E+00	1.52E+00	2.19E-04 +/- 3.85E-05
7	111.41	1.27E+01 +/- 7.70E-01	1.51E+00	2.49E-04 +/- 2.62E-05
8	115.39	6.11E+00 +/- 8.08E-01	1.50E+00	2.63E-04 +/- 2.11E-05
9	129.29	4.72E+01 +/- 8.41E-01	1.49E+00	3.05E-04 +/- 1.85E-05
10	144.44	2.34E+00 +/- 4.65E-01	1.47E+00	3.38E-04 +/- 3.00E-05
11	148.57	1.32E+00 +/- 4.72E-01	1.47E+00	3.45E-04 +/- 3.27E-05
12	171.59	1.83E+00 +/- 4.22E-01	1.44E+00	3.69E-04 +/- 4.10E-05
13	179.66	8.84E-01 +/- 4.22E-01	1.43E+00	3.73E-04 +/- 4.15E-05
14	189.58	1.11E+00 +/- 3.51E-01	1.42E+00	3.76E-04 +/- 4.08E-05
15	196.11	1.53E+00 +/- 4.14E-01	1.41E+00	3.77E-04 +/- 3.98E-05
16	203.96	5.08E+00 +/- 5.20E-01	1.41E+00	3.76E-04 +/- 3.82E-05
17	208.42	6.41E+00 +/- 6.22E-01	1.40E+00	3.76E-04 +/- 3.71E-05
18	244.70	7.69E-01 +/- 2.99E-01	1.37E+00	3.62E-04 +/- 2.67E-05
19	255.87	1.64E+00 +/- 2.88E-01	1.36E+00	3.56E-04 +/- 2.36E-05
20	264.66	4.66E-01 +/- 2.80E-01	1.35E+00	3.51E-04 +/- 2.14E-05
21	297.79	1.02E+00 +/- 3.45E-01	1.35E+00	3.31E-04 +/- 1.56E-05
22	311.90	9.35E-01 +/- 2.65E-01	1.34E+00	3.23E-04 +/- 1.44E-05
23	324.85	5.79E-01 +/- 2.27E-01	1.33E+00	3.15E-04 +/- 1.39E-05
24	333.46	6.84E+00 +/- 4.19E-01	1.32E+00	3.10E-04 +/- 1.38E-05
25	345.64	7.33E+00 +/- 3.57E-01	1.31E+00	3.03E-04 +/- 1.38E-05
26	368.98	3.16E+00 +/- 2.65E-01	1.30E+00	2.89E-04 +/- 1.44E-05

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27	375.71	2.03E+01	+/- 5.02E-01	1.30E+00	2.86E-04	+/- 1.46E-05
28	383.50	2.33E+00	+/- 2.44E-01	1.29E+00	2.82E-04	+/- 1.48E-05
29	393.69	7.50E+00	+/- 2.92E-01	1.29E+00	2.76E-04	+/- 1.50E-05
30	413.70	1.98E+01	+/- 4.45E-01	1.28E+00	2.66E-04	+/- 1.54E-05
31	423.28	7.97E-01	+/- 1.75E-01	1.28E+00	2.62E-04	+/- 1.55E-05
32	452.18	2.37E+00	+/- 1.68E-01	1.27E+00	2.49E-04	+/- 1.56E-05
33	559.58	2.13E-01	+/- 6.47E-02	1.24E+00	2.10E-04	+/- 1.34E-05
34	662.42	5.74E-01	+/- 1.02E-01	1.22E+00	1.83E-04	+/- 1.03E-05
35	867.39	2.28E-02	+/- 1.67E-02	1.19E+00	1.45E-04	+/- 6.62E-06
36	1085.91	3.13E-02	+/- 2.42E-02	1.16E+00	1.18E-04	+/- 5.10E-06

Segment: 9 Detector: DET01 (# 1) Position: 9

Elapsed Live Time: 113.59 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.585 +/- 0.0281
SE-75	264.65	0.000 +/- 0.0000	0.637 +/- 0.0057
SE-75	279.53	0.000 +/- 0.0000	0.636 +/- 0.0075
SE-75	400.65	0.000 +/- 0.0000	0.667 +/- 0.0092

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.25	3.35E+00 +/- 2.40E-01	1.71E+00	2.33E-06 +/- 2.33E-05
2	35.10	1.01E+03 +/- 4.76E+00	1.41E+00	1.75E-05 +/- 8.88E-05
3	59.60	2.00E+01 +/- 5.52E-01	1.28E+00	1.00E-04 +/- 1.59E-04
4	98.78	2.35E+00 +/- 4.33E-01	1.24E+00	2.51E-04 +/- 6.07E-05
5	129.29	1.23E+00 +/- 3.07E-01	1.22E+00	3.23E-04 +/- 1.97E-05
6	413.70	3.31E-01 +/- 7.17E-02	1.16E+00	2.67E-04 +/- 1.59E-05
7	443.98	7.09E-02 +/- 3.06E-02	1.15E+00	2.53E-04 +/- 1.61E-05
8	559.44	1.72E-01 +/- 6.22E-02	1.14E+00	2.10E-04 +/- 1.38E-05
9	662.42	5.15E-02 +/- 2.51E-02	1.12E+00	1.82E-04 +/- 1.04E-05
10	867.39	1.74E-02 +/- 1.23E-02	1.11E+00	1.46E-04 +/- 6.48E-06
11	1112.12	8.70E-03 +/- 8.70E-03	1.09E+00	1.21E-04 +/- 5.10E-06

Segment: 10 Detector: DET01 (# 1) Position: 10

Elapsed Live Time: 113.74 sec Elapsed Real Time: 115.00 sec

Batch 2002-02-712

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.571 +/- 0.0290
SE-75	264.65	0.000 +/- 0.0000	0.614 +/- 0.0056
SE-75	279.53	0.000 +/- 0.0000	0.623 +/- 0.0074
SE-75	400.65	0.000 +/- 0.0000	0.653 +/- 0.0091

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.30	1.41E+00 +/- 1.66E-01	1.74E+00	3.52E-07 +/- 4.96E-07
2	35.10	1.01E+03 +/- 4.76E+00	1.43E+00	5.68E-06 +/- 4.74E-06
3	59.58	6.58E+00 +/- 3.55E-01	1.30E+00	6.37E-05 +/- 2.21E-05
4	129.29	3.82E-01 +/- 2.11E-01	1.23E+00	3.30E-04 +/- 1.70E-05
5	311.90	2.73E-01 +/- 1.09E-01	1.18E+00	3.45E-04 +/- 1.50E-05
6	400.66	5.92E-02 +/- 3.65E-02	1.17E+00	2.87E-04 +/- 1.13E-05
7	413.70	8.68E-02 +/- 5.54E-02	1.17E+00	2.79E-04 +/- 1.11E-05
8	1112.12	8.68E-03 +/- 8.68E-03	1.10E+00	1.20E-04 +/- 4.35E-06
9	1408.01	2.61E-02 +/- 1.50E-02	1.09E+00	1.08E-04 +/- 6.60E-06

Segment: 11 Detector: DET01 (# 1) Position: 11

Elapsed Live Time: 113.79 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.477 +/- 0.0258
SE-75	264.65	0.000 +/- 0.0000	0.585 +/- 0.0054
SE-75	279.53	0.000 +/- 0.0000	0.590 +/- 0.0072
SE-75	400.65	0.000 +/- 0.0000	0.645 +/- 0.0090

Batch 2002-02-713

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.18	1.16E+00 +/- 1.53E-01	2.04E+00	4.65E-07 +/- 6.56E-07
2	35.10	1.01E+03 +/- 4.76E+00	1.59E+00	6.75E-06 +/- 5.60E-06
3	59.43	2.92E+00 +/- 2.72E-01	1.40E+00	6.63E-05 +/- 2.30E-05
4	121.11	6.34E-01 +/- 2.14E-01	1.32E+00	3.01E-04 +/- 1.73E-05
5	559.37	1.77E-01 +/- 5.38E-02	1.15E+00	2.11E-04 +/- 9.49E-06
6	867.39	4.59E-02 +/- 2.33E-02	1.12E+00	1.43E-04 +/- 6.39E-06

Segment: 12 Detector: DET01 (# 1) Position: 12

Elapsed Live Time: 113.83 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.612 +/- 0.0285
SE-75	264.65	0.000 +/- 0.0000	0.634 +/- 0.0057
SE-75	279.53	0.000 +/- 0.0000	0.635 +/- 0.0075
SE-75	400.65	0.000 +/- 0.0000	0.682 +/- 0.0093

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.25	9.70E-01 +/- 1.24E-01	1.64E+00	6.44E-07 +/- 9.05E-07
2	35.10	1.01E+03 +/- 4.76E+00	1.37E+00	7.63E-06 +/- 6.33E-06
3	59.69	1.38E+00 +/- 2.27E-01	1.26E+00	6.67E-05 +/- 2.30E-05
4	778.90	2.18E-02 +/- 1.65E-02	1.11E+00	1.60E-04 +/- 7.32E-06

Segment: 13 Detector: DET01 (# 1) Position: 13

Elapsed Live Time: 113.84 sec Elapsed Real Time: 115.00 sec

Batch 1003-03-714

T R A N S M I S S I O N R E S U L T S

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.678 +/- 0.0303
SE-75	264.65	0.000 +/- 0.0000	0.685 +/- 0.0061
SE-75	279.53	0.000 +/- 0.0000	0.683 +/- 0.0079
SE-75	400.65	0.000 +/- 0.0000	0.733 +/- 0.0097

P E A K A N A L Y S I S R E S U L T S

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.29E+00	1.10E-05 +/- 9.51E-06
2	300.10	1.43E-01 +/- 6.88E-02	1.15E+00	3.40E-04 +/- 1.57E-05
3	400.66	4.89E-02 +/- 3.90E-02	1.12E+00	2.81E-04 +/- 1.13E-05
4	443.98	1.13E-01 +/- 3.94E-02	1.12E+00	2.59E-04 +/- 1.06E-05
5	964.13	3.47E-02 +/- 1.74E-02	1.08E+00	1.27E-04 +/- 5.29E-06
6	1001.03	8.68E-03 +/- 8.68E-03	1.08E+00	1.23E-04 +/- 4.91E-06

Segment: 14 Detector: DET01 (# 1) Position: 14

Elapsed Live Time: 113.86 sec Elapsed Real Time: 115.00 sec

T R A N S M I S S I O N R E S U L T S

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.598 +/- 0.0300
SE-75	264.65	0.000 +/- 0.0000	0.711 +/- 0.0062
SE-75	279.53	0.000 +/- 0.0000	0.718 +/- 0.0081
SE-75	400.65	0.000 +/- 0.0000	0.746 +/- 0.0098

P E A K A N A L Y S I S R E S U L T S

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.39E+00	8.94E-06 +/- 4.41E-05
2	279.54	2.70E-01 +/- 8.66E-02	1.13E+00	3.36E-04 +/- 1.80E-05
3	413.70	6.18E-02 +/- 3.64E-02	1.11E+00	2.67E-04 +/- 1.56E-05
4	559.48	1.79E-01 +/- 4.24E-02	1.10E+00	2.11E-04 +/- 1.36E-05

Batch 2002-02-715

Segment: 15 Detector: DET01 (# 1) Position: 15

Elapsed Live Time: 113.88 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.750 +/- 0.0304
SE-75	264.65	0.000 +/- 0.0000	0.784 +/- 0.0067
SE-75	279.53	0.000 +/- 0.0000	0.776 +/- 0.0085
SE-75	400.65	0.000 +/- 0.0000	0.788 +/- 0.0102

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.77E+00	1.21E+00	1.45E-08 +/- 6.96E-08
2	59.89	2.57E-01 +/- 1.37E-01	1.15E+00	1.13E-05 +/- 1.69E-05
3	244.70	1.61E-01 +/- 8.39E-02	1.10E+00	3.85E-04 +/- 2.72E-05
4	400.66	9.47E-02 +/- 5.14E-02	1.09E+00	2.59E-04 +/- 1.48E-05
5	559.37	2.19E-01 +/- 5.44E-02	1.08E+00	1.97E-04 +/- 1.27E-05
6	778.90	2.62E-02 +/- 1.52E-02	1.07E+00	1.56E-04 +/- 7.35E-06

Segment: 16 Detector: DET01 (# 1) Position: 16

Elapsed Live Time: 113.87 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.864 +/- 0.0327
SE-75	264.65	0.000 +/- 0.0000	0.894 +/- 0.0074
SE-75	279.53	0.000 +/- 0.0000	0.884 +/- 0.0093
SE-75	400.65	0.000 +/- 0.0000	0.890 +/- 0.0110

Batch 2002-02-716

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	1.43E-01 +/- 7.03E-02	1.19E+00	8.14E-16 +/- 1.02E-14
2	35.10	1.01E+03 +/- 4.76E+00	1.10E+00	9.52E-10 +/- 5.35E-09
3	148.57	2.08E-01 +/- 1.30E-01	1.05E+00	2.78E-04 +/- 3.01E-05
4	400.66	9.75E-02 +/- 4.39E-02	1.04E+00	1.86E-04 +/- 1.20E-05
5	559.37	1.90E-01 +/- 4.78E-02	1.04E+00	1.42E-04 +/- 1.05E-05
6	1175.51	6.07E-02 +/- 2.29E-02	1.03E+00	8.79E-05 +/- 4.10E-06

Batch 2002-02-717

Summed Spectrum

Peak Locate Report

Sample ID: S20_856
Peak Locate Performed on: 5-07-02 2:02:02 PM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192
Peak Search Sensitivity: 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
1	43.00	0.3971	21.42	6.34
2	46.59	0.1595	23.22	23.16
3	70.28	0.0381	35.05	497.23
4	119.44	0.0743	59.62	101.00
5	150.44	0.3084	75.10	5.93
6	197.89	0.1093	98.81	48.11
7	207.51	0.1212	103.62	25.52
8	223.01	0.1375	111.36	24.72
9	259.45	0.0916	129.57	65.49
10	289.18	0.2533	144.42	11.69
11	293.54	0.3031	146.60	5.87
12	298.09	0.2341	148.87	11.94
13	343.60	0.2911	171.61	6.75
14	359.57	0.3172	179.59	5.70
15	379.75	0.3076	189.67	6.30
16	392.54	0.2432	196.06	9.05
17	408.36	0.1300	203.96	30.65
18	417.24	0.1108	208.40	43.25
19	512.22	0.2473	255.86	8.23
20	596.44	0.2784	297.93	6.93
21	625.45	0.2310	312.43	9.07
22	649.77	0.3207	324.58	5.31
23	667.37	0.1253	333.37	30.35
24	673.65	0.2010	336.51	11.47
25	691.92	0.1173	345.64	34.52
26	738.32	0.1917	368.82	9.12
27	752.09	0.0883	375.70	59.18
28	767.67	0.1569	383.48	20.33
29	787.95	0.1237	393.62	29.42
30	829.68	0.0902	414.46	53.57
31	847.37	0.1748	423.30	13.47
32	905.34	0.1493	452.26	19.94
33	1119.96	0.2093	559.49	10.57
34	1328.30	0.2060	663.58	9.39
35	1447.79	0.2599	723.28	6.27

Errors quoted at 1.000 sigma

Batch 2002-02-718

Summed Spectrum

Peak Analysis Report

Sample ID: S20_856
Peak Analysis Performed on: 5-07-02 2:02:02 PM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	40-	46	43.00	21.42	3.61E+03	110.82	4.29E+03
2	46-	49	46.59	23.22	6.58E+03	128.33	5.75E+03
3	67-	73	70.28	35.05	1.85E+06	1361.82	4.74E+03
4	115-	122	119.44	59.62	1.15E+05	387.98	1.70E+04
5	146-	154	150.44	75.10	1.29E+03	166.93	1.22E+04
6	194-	201	197.89	98.81	3.36E+04	317.44	3.34E+04
7	203-	211	207.51	103.62	1.27E+04	307.94	3.39E+04
8	219-	226	223.01	111.36	8.63E+03	223.71	1.96E+04
9	255-	263	259.45	129.57	3.21E+04	239.63	1.18E+04
10	285-	293	289.18	144.42	1.36E+03	140.35	8.50E+03
11	291-	300	293.54	146.60	1.50E+03	154.82	9.83E+03
12	298-	305	298.09	148.87	3.73E+02	124.34	7.31E+03
13	339-	347	343.60	171.61	1.19E+03	124.46	6.69E+03
14	355-	363	359.57	179.59	4.92E+02	118.22	6.32E+03
15	375-	384	379.75	189.67	7.87E+02	124.40	6.50E+03
16	388-	396	392.54	196.06	1.06E+03	113.52	5.54E+03
17	403-	412	408.36	203.96	3.22E+03	152.40	8.57E+03
18	412-	421	417.24	208.40	4.22E+03	177.99	1.10E+04
19	507-	516	512.22	255.86	8.37E+02	87.16	2.99E+03
20	591-	601	596.44	297.93	3.55E+02	82.49	2.71E+03
21	620-	630	625.45	312.43	7.95E+02	80.57	2.39E+03
22	648-	654	649.77	324.58	1.97E+02	60.55	1.74E+03
23	662-	672	667.37	333.37	4.34E+03	118.92	3.95E+03
24	672-	678	673.65	336.51	1.36E+02	95.91	2.85E+03
25	687-	696	691.92	345.64	4.98E+03	101.24	2.31E+03
26	733-	743	738.32	368.82	1.97E+03	76.82	1.64E+03
27	746-	757	752.09	375.70	1.41E+04	142.96	2.53E+03
28	767-	772	767.67	383.48	1.49E+03	70.91	1.05E+03
29	782-	793	787.95	393.62	5.18E+03	84.19	7.65E+02
30	824-	835	829.68	414.46	1.36E+04	122.93	6.05E+02
31	842-	852	847.37	423.30	6.87E+02	48.62	6.84E+02
32	899-	910	905.34	452.26	1.62E+03	48.80	3.03E+02
33	1114-	1125	1119.96	559.49	3.50E+02	25.80	1.26E+02
34	1324-	1334	1328.30	663.58	3.28E+02	26.75	1.58E+02
35	1441-	1454	1447.79	723.28	1.64E+02	24.21	1.53E+02

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-02-719

Summed Spectrum

Nuclide Identification Report

Sample ID: S20_856
Nuclide Library Used: C:\WAS\NLIB\LLNL.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/)	Activity Uncertainty
Pulser	1.000	35.10*	100.00	1.420E+05	3.916E+05
Np-237	0.747	300.10	6.63		
		311.90*	38.60	1.720E+00	1.750E-01
Pu-239	0.959	413.70*	0.00	9.175E+05	1.888E+04
Pu-239A	0.995	129.29*	0.01	4.574E+05	1.259E+04
Am-241	0.909	662.42*	0.00	1.203E+05	9.875E+03
Pu-241	0.994	148.57*	0.00	1.609E+05	5.376E+04

* = Energy line found in the spectrum.
Energy Tolerance : 1.500 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 1.000 sigma

Batch 2002-02-720

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 5-07-02 2:02:02 PM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	21.42	3.1591E+01	3.07
2	23.22	5.7520E+01	1.95
4	59.62	1.0095E+03	0.35
5	75.10	1.1246E+01	12.98
6	98.81	2.9386E+02	0.95
7	103.62	1.1145E+02	2.42
8	111.36	7.5497E+01	2.59
10	144.42	1.1895E+01	10.32
11	146.60	1.3110E+01	10.33
13	171.61	1.0398E+01	10.47
14	179.59	4.3043E+00	24.02
15	189.67	6.8855E+00	15.80
16	196.06	9.2671E+00	10.72
17	203.96	2.8160E+01	4.73
18	208.40	3.6941E+01	4.22
19	255.86	7.3222E+00	10.41
20	297.93	3.1025E+00	23.26
22	324.58	1.7226E+00	30.74
23	333.37	3.7976E+01	2.74
24	336.51	1.1914E+00	70.41
25	345.64	4.3594E+01	2.03
26	368.82	1.7233E+01	3.90
27	375.70	1.2343E+02	1.02
28	383.48	1.3057E+01	4.75
29	393.62	4.5281E+01	1.63
31	423.30	6.0130E+00	7.07
32	452.26	1.4195E+01	3.01
33	559.49	3.0580E+00	7.38
35	723.28	1.4333E+00	14.77

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-02-721

Combined Segment NID

NID Results Combiner Mode: Sum Activities

Nuclide		Total Activity (uCi)				Concentration (uCi/g)		
Pulser		3.43E+07	+/-	1.78E+08		2.60E+03	+/-	1.35E+04
SE-75		7.87E-02	+/-	2.23E-02		5.96E-06	+/-	1.69E-06
EU-152x	<	2.17E-01	+/-	1.57E-02	<	1.64E-05	+/-	1.19E-06
U-233	<	7.10E+03	+/-	3.63E+02	<	5.38E-01	+/-	2.75E-02
U-235	<	2.50E-01	+/-	2.75E-02	<	1.89E-05	+/-	2.09E-06
Np-237		2.12E+00	+/-	1.87E-01		1.61E-04	+/-	1.42E-05
Pu-238	<	1.77E+04	+/-	8.57E+02	<	1.34E+00	+/-	6.49E-02
U-238		2.03E+00	+/-	7.24E-01		1.54E-04	+/-	5.49E-05
Pu-239		1.11E+06	+/-	3.72E+04		8.38E+01	+/-	2.82E+00
Pu-239A		1.03E+06	+/-	4.31E+04		7.81E+01	+/-	3.27E+00
Am-241		1.69E+05	+/-	1.16E+04		1.28E+01	+/-	8.82E-01
Pu-241		9.96E+05	+/-	1.14E+05		7.55E+01	+/-	8.64E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
SE-75	5.41E-12	+/-	1.54E-12
Np-237	3.01E-03	+/-	2.66E-04
U-238	6.06E+00	+/-	2.16E+00
Pu-239	1.78E+01	+/-	5.99E-01
Pu-239A	1.66E+01	+/-	6.94E-01
Am-241	4.94E-02	+/-	3.40E-03
Pu-241	9.63E-03	+/-	1.10E-03

Batch 2002-02-722

Summed Spectrum

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		1.42E+05	+/-	3.92E+05	1.08E+01	+/-	2.97E+01
SE-75	<	3.88E-01	+/-	3.69E-03	< 2.94E-05	+/-	2.80E-07
EU-152x	<	5.03E-01	+/-	1.04E-02	< 3.81E-05	+/-	7.84E-07
U-233	<	1.76E+04	+/-	3.94E+02	< 1.33E+00	+/-	2.98E-02
U-235	<	5.75E-01	+/-	1.18E-02	< 4.36E-05	+/-	8.91E-07
Np-237		1.72E+00	+/-	1.75E-01	1.30E-04	+/-	1.33E-05
Pu-238	<	4.17E+04	+/-	6.63E+02	< 3.16E+00	+/-	5.02E-02
U-238	<	1.19E+01	+/-	1.93E-01	< 8.98E-04	+/-	1.46E-05
Pu-239		9.18E+05	+/-	1.89E+04	6.95E+01	+/-	1.43E+00
Pu-239A		4.57E+05	+/-	1.26E+04	3.46E+01	+/-	9.54E-01
Am-241		1.20E+05	+/-	9.88E+03	9.11E+00	+/-	7.48E-01
Pu-241		1.61E+05	+/-	5.38E+04	1.22E+01	+/-	4.07E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
Np-237	2.44E-03	+/-	2.48E-04
Pu-239	1.48E+01	+/-	3.04E-01
Pu-239A	7.36E+00	+/-	2.03E-01
Am-241	3.51E-02	+/-	2.88E-03
Pu-241	1.56E-03	+/-	5.20E-04

Batch 2002-02-723

Final Non-Uniformity Results

Source Longitudinal Ratio:	0.876	+/-	4.4929
Matrix Longitudinal Ratio:	0.252	+/-	0.0103
Source Vertical Ratio:	0.796	+/-	0.4029
Matrix Vertical Ratio:	0.674	+/-	0.0098

NUDS could not find the transmission peak in one radial segment.

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS V2.3A RADA V2.1

****
* DRUM INFORMATION *
****

Drum Package ID: LL85400748
Sequence Number: 857
Assay Date & Time: 2-07-2002 9:08:40 AM
Report Generated: 7-02-2002 9:21:34 AM
Drum Package GROSS Weight: 53.60 kg NET Weight: 19.10 kg

IDC Number: LL85400748

QC Replicate (Yes/No): NO Passed (Yes/No): _____

Operator Name (Printed): LEE P. CALDEIRA

Operator Signature: [signature] Date: 7/8/02

Independent Reviewer: [signature] Date: 7/9/02

Expert Reviewer: [signature] Date: 7/2/02

Tech. Supv/QA Officer: [signature] Date: 7/17/02

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 2.003E+01 +/- 1.465E+01 Ci

Batch 2002-02-725

****
* I S O T O P I C I N F O R M A T I O N *
****

Isotope	Measured Mass (g)	Mass Uncertainty (g)
Pu-238	1.152E+00	8.466E-01
Pu-239	3.887E-01	2.705E-01
Pu-240	4.433E-02	3.345E-02
Pu-241	1.767E-02	1.792E-02
Pu-242	3.229E-03	2.436E-03
Am-241	2.168E-02	2.648E-02
*Am-243	N/A	N/A
*Np-237	N/A	N/A
*U-235	N/A	N/A
*U-238	N/A	N/A
*U-233	N/A	N/A

* = Activity/Mass below detectable limit.

Total Pu Mass: 1.61E+00 +/- 8.90E-01 g

****
* Default Isotopics *
****

NUCLIDE	% Weight	% Error(1-Sigma)
Pu-238	7.170E+01	5.00E+00
Pu-239	2.420E+01	1.10E+01
Pu-240	2.760E+00	1.00E+01
Pu-241	1.100E+00	3.60E+01
Pu-242	2.010E-01	1.00E+01
Am-241	1.350E+00	5.00E+01

Batch 2002-02-726

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005
Software Version: GWAS V2.3A RADA V2.1

Assay Date & Time: 2-07-2002 9:08:40 AM
Report Generated: 7-02-2002 9:21:37 AM

Drum Package ID: LL85400748
Sequence Number: 857

Waste Classification (TRU or LLW): TRU

			Errors at 1.96 sigma	
Total Alpha Activity :	2.003E+01	+/-	1.465E+01	Ci
Total TRU Activity :	1.049E+06	+/-	7.668E+05	nCi/g
Pu-239 Equiv Activity:	1.826E+01	+/-	1.331E+01	Ci
Fissile Gram Equiv Mass:	5.600E-01	+/-	2.897E-01	g
Total Decay Heat:	6.636E-01	+/-	4.851E-01	W
TMU Value:	69.59 %			

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error
Pu-238	1.99E+01	1.46E+01	1.15E+00	8.47E-01
Pu-239	2.41E-02	1.68E-02	3.89E-01	2.71E-01
Pu-240	1.02E-02	7.69E-03	4.43E-02	3.34E-02
Pu-241	1.84E+00	1.86E+00	1.77E-02	1.79E-02
Pu-242	1.28E-05	9.67E-06	3.23E-03	2.44E-03
Am-241	7.52E-02	9.19E-02	2.17E-02	2.65E-02
*Am-243	N/A	N/A	N/A	N/A
*Np-237	N/A	N/A	N/A	N/A
*U-235	N/A	N/A	N/A	N/A
*U-238	N/A	N/A	N/A	N/A
*U-233	N/A	N/A	N/A	N/A

* = Activity/Mass below detectable limit.

Total Pu Mass: 1.61E+00 +/- 8.90E-01 g

****
* Default Isotopics *
****

NUCLIDE	% Weight	% Error(1-Sigma)
Pu-238	7.170E+01	5.00E+00
Pu-239	2.420E+01	1.10E+01
Pu-240	2.760E+00	1.00E+01
Pu-241	1.100E+00	3.60E+01
Pu-242	2.010E-01	1.00E+01
Am-241	1.350E+00	5.00E+01

Batch 2002-02-727

SGS Expert Review Checklist

Container Identification #: LL85400748_____ Original Assay Date:2-07-2002__

1. *WCP-41, §6.1:* A MGA report ☐ is present or ☒ expert review has provided isotopic ratios from SGS or AK. Comment: A high Pu-238 prevented MGA from running. The abundance ratio from GWAS indicated that the Pu-238 value was like 'heat' grade. An analysis for Materials Management done in May of 1995 was used to obtain isotopics. ☐ No comments
2. *WCP-41, §6.1:* MGA and AK ☐ agree as to radiological composition or, if not, ☒ expert review has resolved this. Comment: See comment to #1. ☐ No comments
3. *WCP-41, §6.2.1:* ☐ Pu-238 ≤ 2% by weight of total Pu or, if not, ☒ expert review has addressed this and assigned a Pu-240 value. Comment: See comment to #1. The Pu-240 and the Pu-242 values were obtained from a mass spectroscopy analysis. ☐ No comments
4. *WCP-41, §6.2.2:* ☐ Neither Np-237 nor U-235 is identified by MGA or ☒ expert review has addressed possible interferences from these radionuclides.
   Comment: This is not applicable. ☐ No comments
5. *WCP-41, §6.2.2.2:* ☐ Am-241 separation date is 1950 or later or ☒ expert review has addressed possible interferences. Comment: This is not applicable because the chemical separation performed in producing the parent sample destroyed any relationship between Pu-241 and Am-241. ☐ No comments
6. *WCP-41, §6.3.1.1.a:* ☒ Bulk density of waste ≤ 0.6 g/ml or ☐ expert review has addressed the high density of the drum. Comment: ☒ No comments
7. *WCP-41, §6.3.1.2.a:* ☐ Transmission in every segment ≥ 0.1% for the Se-75 peaks at 136 keV or 265 keV or ☒ expert review has addressed the low transmission.
   Comment: The 136 keV transmission was zero in one segment and low in several others. However, both the 265 keV transmission and the Pu-239/Pu239a ratio were okay. ☐ No comments
8. *WCP-41, §6.3.1.2.a:* ☒ Transmission in every segment ≥1% for the Se-75 peak at 401 keV or ☐ expert review has addressed the low transmission. Comment: ☒ No comments
9. *WCP-41, §6.3.1.3.b:* ☒ Dead time in every segment ≤ 50% or ☐ expert review has addressed the high dead time. Comment: ☒ No comments
10. *WCP-41, §6.3.1.3.c:* ☒ Pu-239 masses determined from the 414 keV peak and the 129 keV peak agree by a factor of < 2.5 or ☐ expert review has addressed possible matrix inhomogeneity. Comment: The ratio was different for the combined NID and the summed NID, 1.03 and 2.43. However if one uses peak-fit to evaluate the 129 keV region of the spectra this value drops to less than two for the summed while remaining the same for the combined. ☐ No comments

CONTROLLED FORM

Batch 2002-02-728

SGS Expert Review Checklist

Container Identification #: LL85400748_____ Original Assay Date:2-07-2002__

11. *WCP-41, §6.3.2.3:* Cs-137 (☐ has) (☒ has not) been identified by expert review. If it has, Sr-90 is reported ☐ at an activity ratio to Cs-137of 0.39 for Pu fission or ☐ at a ratio of 1 for U-235 fission or, ☐ if both Pu and U are present, the expert reviewer has determined the ratio. Comment: ☒ No comments

12. *WCP-41, §6.3.2.4:* ☐ No unusual nuclides are identified (none other than the 10 required to be reported to WIPP) or ☒ the expert reviewer has checked for interferences from unusual nuclides. Comment: U-238 was originally identified by GWAS but this is a decay product of Pu-238. ☐ No comments

13. *WCP-41, §6.3.3:* For waste drums (☐ NA for standards), ☒ the Summed Spectrum report value for Pu-239 and the Combined Segment NID report for Pu-239 agree within 95% confidence limits (the same as for replicates of unknowns) or ☐ expert review has addressed the difference. Comment: ☒ No comments

14. *WCP-41, §6.4:* ☒ The SGS Summed Spectrum and Combined Segment NID reports agree as to the ratios by weight of several radionuclides, such as those of Am-241, Pu-241, Np-237, Am-243, and U-235 to Pu-239, and MGA results agree as to identifying these radionuclides or ☐ expert review has resolved this. Comment: ☒ No comments

15. *WCP-41, §6.6.1:* ☐ All reported radionuclide masses are above 2.5 times the uncorrected MDA or ☒ expert review has calculated transmission-corrected MDA's and taken appropriate action. Comment: The transmission is computed to be less than two and all values fall below the corrected MDA. ☐ No comments

16. *WCP-41, §6.6.2:* ☒ Any changes to reported quantities of individual radionuclides have been entered into the RADA program and a new radioassay data sheet has been produced, showing revised derivative quantities, and included in the batch data report, along with the marked up original. Comment: ☒ No comments

17. *CP-41, §6.7:* ☒ Counting statistics are adequate for normal passive count time of 120 seconds per segment or ☐ Counting statistics are adequate for long passive count time of 600 seconds per segment or ☐ expert review has rejected the count and ordered a longer count time. Comment: ☒ No comments

Kenneth Raschke — Expert Reviewer (print)

Kenneth Raschke — Signature

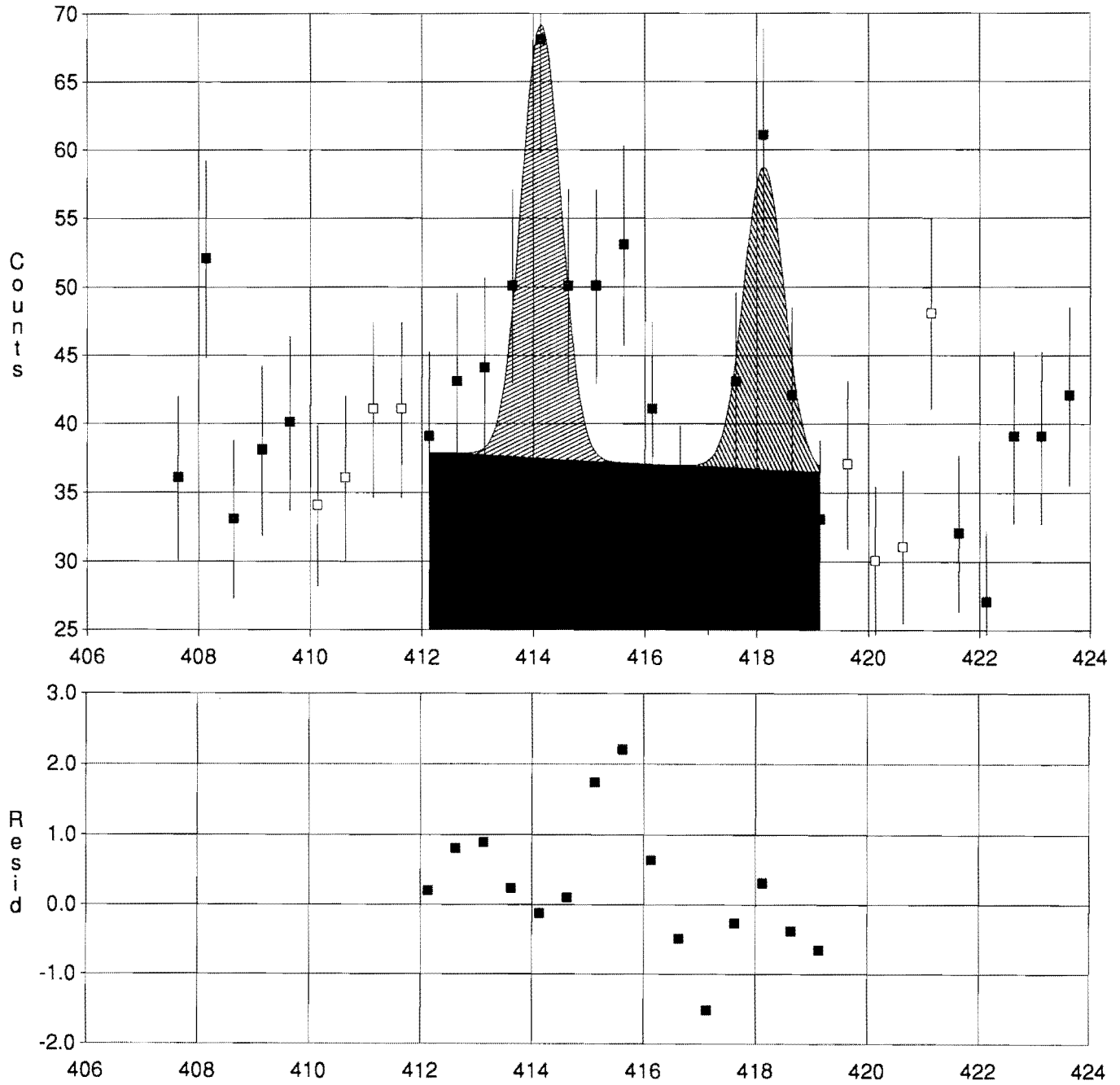
7/03/02 — Date

Batch 2002-02-729

Datasource : C:\WAS\DATA\900\11100857.S19
Sample ID : LL85400748
Sample Date : 2-07-02 9:08:44 AM
Fit Engine : Sum / Non-Linear LSQ Fit
Bkgnd Type : Step

Iterations : 7
Chi-square : 1.15
Region Start : 412.125 keV
Region End : 419.120 keV

Nbr	Energy	Centroid	Area	%Error	FWHM	Ratio
1	414.137	829.03	55.82	31.82	0.825	0.62
2	418.120	837.00	39.05	37.97	0.829	0.62

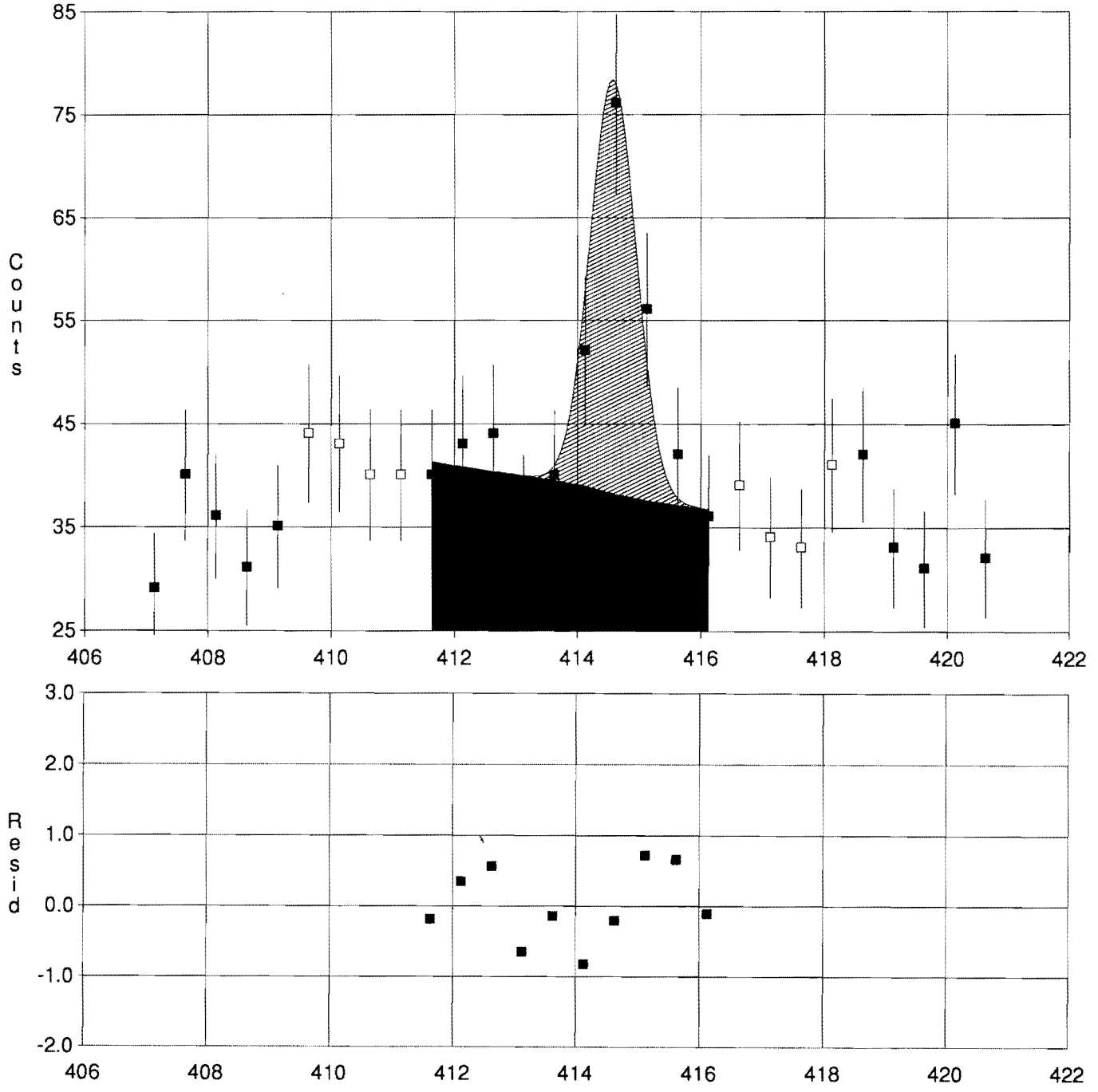


Batch 2002-02-730

Datasource : C:\WAS\DATA\900\11100857.S1A
Sample ID : LL85400748
Sample Date : 2-07-02 9:08:44 AM
Fit Engine : Sum / Non-Linear LSQ Fit
Bkgnd Type : Step

Iterations : 0
Chi-square : 0.00
Region Start : 411.626 keV
Region End : 416.122 keV

Nbr	Energy	Centroid	Area	%Error	FWHM	Ratio
1	414.574	829.90	74.20	41.65	0.868	0.65



Batch 2002-02-731

Gamma Waste Assay

Sample Information

File Name: C:\WAS\DATA\900\11100857.S11
Sample ID: LL85400748 Count Sequence Number: 857
Assay Start: 2-07-02 9:08:42 AM
Description 1: unknown
Description 2:
Location: 7715
Comment:
Waste Type:
Weight: Gross: 53600.0 g Net: 19100.0 g
Density: 0.092 g /ml

Container Type: 55 TRU White
Container: Volume: 208000. ml Full: 100.0 %

System Configuration

Counter ID Number: SGS
Arrangement Description: SGS
Segments: Number: 16 Offset: 0
Scanning Platform: Start: 934 mm Delta: -51 mm
Count Type: 55 TRU White
Collimator/Geometry Setting: 0
Transmission Mode: Two pass
Transmission Source: 0

Errors quoted at 1.000 sigma
Reference Source Date: Reference Source Rate: 1.01E+03 cps
Geometric Correction Factor(SWCONTGCF): 0.760
Date of efficiency calibration approval: 4-18-2001 12:41:36 PM
Mu Factors response file: Lucite
Transmission Calib. Time: 5-18-2001 2:33:27 PM 49384

Reviewed by: [signature] Date: 7/8/02

Batch 2002-02-732

Segment Results

Segment: 1 Detector: DET01 (# 1) Position: 1

Elapsed Live Time: 113.73 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.791 +/- 0.0366
SE-75	264.65	0.000 +/- 0.0000	0.845 +/- 0.0073
SE-75	279.53	0.000 +/- 0.0000	0.852 +/- 0.0094
SE-75	400.65	0.000 +/- 0.0000	0.856 +/- 0.0111

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	9.38E-01 +/- 1.88E-01	1.32E+00	4.26E-08 +/- 6.00E-07
2	35.10	1.01E+03 +/- 4.76E+00	1.17E+00	2.61E-06 +/- 1.64E-05
3	197.69	5.35E-01 +/- 1.70E-01	1.08E+00	2.31E-04 +/- 3.01E-05
4	443.98	2.75E-01 +/- 9.83E-02	1.06E+00	1.57E-04 +/- 1.30E-05
5	512.07	9.16E-01 +/- 1.27E-01	1.05E+00	1.40E-04 +/- 1.22E-05
6	559.28	5.53E-01 +/- 1.07E-01	1.05E+00	1.30E-04 +/- 1.10E-05
7	1017.64	6.19E-02 +/- 3.58E-02	1.04E+00	7.87E-05 +/- 3.99E-06
8	2621.67	7.69E-02 +/- 3.43E-02	1.02E+00	4.28E-05 +/- 4.58E-05

Segment: 2 Detector: DET01 (# 1) Position: 2

Elapsed Live Time: 113.73 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.731 +/- 0.0326
SE-75	264.65	0.000 +/- 0.0000	0.759 +/- 0.0067
SE-75	279.53	0.000 +/- 0.0000	0.766 +/- 0.0088
SE-75	400.65	0.000 +/- 0.0000	0.787 +/- 0.0105

Batch 2002-02-733

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.56	1.08E+00 +/- 1.95E-01	1.44E+00	1.48E-10 +/- 1.57E-09
2	35.10	1.01E+03 +/- 4.77E+00	1.23E+00	2.21E-07 +/- 1.06E-06
3	100.31	5.61E-01 +/- 2.18E-01	1.13E+00	1.91E-04 +/- 4.03E-05
4	264.66	2.28E-01 +/- 1.14E-01	1.11E+00	3.54E-04 +/- 2.08E-05
5	559.25	6.12E-01 +/- 1.09E-01	1.08E+00	1.91E-04 +/- 1.21E-05
6	848.70	2.16E-01 +/- 8.56E-02	1.06E+00	1.35E-04 +/- 6.18E-06

Segment: 3 Detector: DET01 (# 1) Position: 3

Elapsed Live Time: 113.71 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.690 +/- 0.0333
SE-75	264.65	0.000 +/- 0.0000	0.747 +/- 0.0067
SE-75	279.53	0.000 +/- 0.0000	0.758 +/- 0.0088
SE-75	400.65	0.000 +/- 0.0000	0.771 +/- 0.0104

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.49	1.29E+00 +/- 1.91E-01	1.53E+00	3.67E-09 +/- 4.02E-08
2	35.10	1.01E+03 +/- 4.77E+00	1.27E+00	1.07E-06 +/- 5.27E-06
3	100.10	8.74E-01 +/- 2.73E-01	1.16E+00	2.06E-04 +/- 4.52E-05
4	152.68	3.68E-01 +/- 1.79E-01	1.14E+00	3.44E-04 +/- 3.46E-05
5	400.66	1.15E-01 +/- 7.88E-02	1.10E+00	2.63E-04 +/- 1.50E-05
6	511.76	5.97E-01 +/- 1.22E-01	1.09E+00	2.18E-04 +/- 1.45E-05
7	559.53	5.08E-01 +/- 1.02E-01	1.09E+00	2.03E-04 +/- 1.33E-05
8	964.13	8.04E-02 +/- 4.69E-02	1.06E+00	1.34E-04 +/- 5.92E-06

Segment: 4 Detector: DET01 (# 1) Position: 4

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Elapsed Live Time: 113.68 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.825 +/- 0.0350
SE-75	264.65	0.000 +/- 0.0000	0.802 +/- 0.0070
SE-75	279.53	0.000 +/- 0.0000	0.818 +/- 0.0092
SE-75	400.65	0.000 +/- 0.0000	0.818 +/- 0.0108

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.53	1.20E+00 +/- 1.97E-01	1.26E+00	2.28E-06 +/- 3.50E-06
2	35.10	1.01E+03 +/- 4.78E+00	1.14E+00	2.00E-05 +/- 1.66E-05
3	100.12	1.47E+00 +/- 2.98E-01	1.08E+00	2.44E-04 +/- 2.37E-05
4	197.39	3.97E-01 +/- 1.90E-01	1.08E+00	3.70E-04 +/- 1.93E-05
5	511.18	7.66E-01 +/- 1.26E-01	1.07E+00	2.45E-04 +/- 1.02E-05
6	559.38	7.68E-01 +/- 9.91E-02	1.07E+00	2.27E-04 +/- 9.88E-06
7	610.66	1.53E-01 +/- 9.09E-02	1.06E+00	2.10E-04 +/- 9.51E-06
8	964.13	4.37E-02 +/- 3.16E-02	1.05E+00	1.35E-04 +/- 5.34E-06

Segment: 5 Detector: DET01 (# 1) Position: 5

Elapsed Live Time: 113.67 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.759 +/- 0.0352
SE-75	264.65	0.000 +/- 0.0000	0.852 +/- 0.0073
SE-75	279.53	0.000 +/- 0.0000	0.837 +/- 0.0093
SE-75	400.65	0.000 +/- 0.0000	0.856 +/- 0.0111

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PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
	1	35.10	1.01E+03 +/- 4.81E+00	1.20E+00	1.48E-05 +/- 1.27E-05
	2	100.06	1.26E+00 +/- 3.31E-01	1.12E+00	2.53E-04 +/- 2.47E-05
	3	152.68	4.85E-01 +/- 1.93E-01	1.10E+00	3.58E-04 +/- 1.75E-05
	4	197.48	6.59E-01 +/- 1.94E-01	1.08E+00	3.76E-04 +/- 2.04E-05
	5	279.54	1.81E-01 +/- 1.08E-01	1.07E+00	3.45E-04 +/- 1.68E-05
M	6	511.18	4.67E-01 +/- 9.44E-02	1.05E+00	2.26E-04 +/- 9.85E-06
m	7	513.30	4.32E-01 +/- 1.07E-01	1.05E+00	2.25E-04 +/- 9.84E-06
	8	559.67	5.77E-01 +/- 1.10E-01	1.05E+00	2.08E-04 +/- 9.56E-06

Segment: 6 Detector: DET01 (# 1) Position: 6

Elapsed Live Time: 113.62 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.997 +/- 0.0374
SE-75	264.65	0.000 +/- 0.0000	0.916 +/- 0.0077
SE-75	279.53	0.000 +/- 0.0000	0.936 +/- 0.0100
SE-75	400.65	0.000 +/- 0.0000	0.938 +/- 0.0117

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	1.38E+00 +/- 2.12E-01	1.00E+00	3.85E-07 +/- 5.97E-07
2	35.10	1.01E+03 +/- 4.79E+00	1.00E+00	8.04E-06 +/- 6.71E-06
3	71.87	8.89E-01 +/- 3.16E-01	1.00E+00	1.16E-04 +/- 2.72E-05
4	100.09	1.96E+00 +/- 3.75E-01	1.00E+00	2.27E-04 +/- 2.21E-05
5	152.68	4.85E-01 +/- 2.25E-01	1.01E+00	3.51E-04 +/- 1.70E-05
6	512.09	9.10E-01 +/- 1.42E-01	1.02E+00	2.35E-04 +/- 9.95E-06
7	559.38	5.45E-01 +/- 1.01E-01	1.02E+00	2.17E-04 +/- 9.63E-06
8	867.39	1.01E-01 +/- 7.23E-02	1.02E+00	1.46E-04 +/- 6.40E-06
9	1112.12	5.98E-02 +/- 4.68E-02	1.01E+00	1.20E-04 +/- 4.28E-06

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Segment: 7 Detector: DET01 (# 1) Position: 7

Elapsed Live Time: 113.47 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.915 +/- 0.0383
SE-75	264.65	0.000 +/- 0.0000	0.928 +/- 0.0078
SE-75	279.53	0.000 +/- 0.0000	0.923 +/- 0.0100
SE-75	400.65	0.000 +/- 0.0000	0.926 +/- 0.0117

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.40	3.42E+00 +/- 2.86E-01	1.10E+00	8.07E-09 +/- 7.81E-08
2	35.10	1.01E+03 +/- 4.78E+00	1.06E+00	9.59E-07 +/- 4.73E-06
3	100.10	1.38E+01 +/- 5.62E-01	1.04E+00	2.27E-04 +/- 4.93E-05
4	110.22	1.00E+00 +/- 3.12E-01	1.04E+00	2.69E-04 +/- 3.05E-05
5	152.68	4.71E+00 +/- 3.35E-01	1.03E+00	3.74E-04 +/- 3.73E-05
6	197.59	1.16E+00 +/- 2.48E-01	1.03E+00	3.93E-04 +/- 4.10E-05
7	439.56	2.27E-01 +/- 1.38E-01	1.03E+00	2.54E-04 +/- 1.64E-05
8	511.88	2.25E+00 +/- 1.87E-01	1.03E+00	2.25E-04 +/- 1.53E-05
9	559.34	5.70E-01 +/- 1.17E-01	1.03E+00	2.09E-04 +/- 1.39E-05
10	583.92	2.54E-01 +/- 1.03E-01	1.02E+00	2.02E-04 +/- 1.31E-05
11	1201.67	3.90E-02 +/- 2.66E-02	1.02E+00	1.13E-04 +/- 4.79E-06
12	1276.80	6.36E-01 +/- 9.96E-02	1.02E+00	1.08E-04 +/- 4.91E-06

Segment: 8 Detector: DET01 (# 1) Position: 8

Elapsed Live Time: 112.31 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Some transmission peaks rejected.

Batch 2002-02-737

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	0.261 +/- 0.0034
SE-75	279.53	0.000 +/- 0.0000	0.269 +/- 0.0050
SE-75	400.65	0.000 +/- 0.0000	0.302 +/- 0.0063

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	2.99E+00 +/- 3.59E-01	4.10E+00	1.22E-09 +/- 1.33E-08
2	23.39	2.78E+00 +/- 3.41E-01	3.63E+00	4.75E-09 +/- 4.56E-08
3	35.10	1.01E+03 +/- 4.80E+00	2.46E+00	6.89E-07 +/- 3.37E-06
4	59.61	5.25E+00 +/- 4.00E-01	1.97E+00	3.35E-05 +/- 5.14E-05
5	100.09	1.89E+02 +/- 1.65E+00	1.80E+00	2.04E-04 +/- 4.44E-05
6	110.10	5.18E+00 +/- 5.11E-01	1.77E+00	2.44E-04 +/- 2.81E-05
7	152.68	6.77E+01 +/- 9.35E-01	1.71E+00	3.51E-04 +/- 3.50E-05
8	197.53	1.08E+01 +/- 4.44E-01	1.66E+00	3.77E-04 +/- 3.96E-05
9	208.37	1.71E+00 +/- 3.41E-01	1.65E+00	3.76E-04 +/- 3.72E-05
10	239.07	3.57E+00 +/- 3.54E-01	1.62E+00	3.65E-04 +/- 2.83E-05
11	279.54	7.94E-01 +/- 2.92E-01	1.58E+00	3.42E-04 +/- 1.83E-05
12	511.88	1.83E+01 +/- 4.82E-01	1.46E+00	2.26E-04 +/- 1.47E-05
13	559.55	5.36E-01 +/- 1.54E-01	1.44E+00	2.10E-04 +/- 1.34E-05
14	584.16	5.70E+00 +/- 2.96E-01	1.43E+00	2.03E-04 +/- 1.26E-05
15	662.42	2.75E-01 +/- 1.33E-01	1.40E+00	1.83E-04 +/- 1.03E-05
16	728.88	5.31E-01 +/- 1.53E-01	1.37E+00	1.69E-04 +/- 8.67E-06
17	768.07	1.25E+00 +/- 1.88E-01	1.36E+00	1.61E-04 +/- 7.91E-06
18	778.90	2.19E-01 +/- 1.45E-01	1.36E+00	1.59E-04 +/- 7.73E-06
19	848.22	4.00E-01 +/- 1.48E-01	1.34E+00	1.48E-04 +/- 6.81E-06
20	892.27	1.37E+00 +/- 1.83E-01	1.33E+00	1.42E-04 +/- 6.40E-06
21	1238.25	3.00E-01 +/- 1.10E-01	1.27E+00	1.04E-04 +/- 4.64E-06
22	1277.29	9.80E+00 +/- 3.26E-01	1.27E+00	1.01E-04 +/- 4.78E-06
23	2309.27	7.05E-02 +/- 3.06E-02	1.20E+00	4.50E-05 +/- 2.70E-05
24	2621.53	1.09E+00 +/- 1.04E-01	1.20E+00	3.51E-05 +/- 3.11E-05

Segment: 9 Detector: DET01 (# 1) Position: 9

Elapsed Live Time: 109.76 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

Batch 2002-02-738

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.036 +/- 0.0015
SE-75	279.53	0.000 +/- 0.0000	0.040 +/- 0.0027
SE-75	400.65	0.000 +/- 0.0000	0.047 +/- 0.0034

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
M	1	21.67	7.49E+00 +/- 2.73E-01	4.10E+00	1.54E-06 +/- 1.72E-05
m	2	23.18	1.52E+01 +/- 3.99E-01	4.10E+00	2.29E-06 +/- 2.30E-05
m	3	26.16	6.54E+00 +/- 3.16E-01	4.10E+00	4.43E-06 +/- 3.70E-05
	4	35.10	1.01E+03 +/- 4.87E+00	4.10E+00	1.75E-05 +/- 8.88E-05
	5	59.61	1.75E+01 +/- 6.46E-01	4.10E+00	1.00E-04 +/- 1.59E-04
	6	75.00	2.10E+00 +/- 5.89E-01	4.10E+00	1.65E-04 +/- 1.32E-04
	7	100.08	6.86E+02 +/- 3.76E+00	4.10E+00	2.55E-04 +/- 5.71E-05
	8	110.73	1.52E+01 +/- 7.67E-01	4.10E+00	2.85E-04 +/- 3.17E-05
	9	121.11	1.21E+00 +/- 5.52E-01	4.10E+00	3.08E-04 +/- 1.81E-05
	10	129.29	1.65E+00 +/- 6.75E-01	4.10E+00	3.23E-04 +/- 1.97E-05
	11	152.68	2.37E+02 +/- 1.84E+00	3.79E+00	3.52E-04 +/- 3.64E-05
	12	185.71	7.65E-01 +/- 4.83E-01	3.36E+00	3.67E-04 +/- 4.18E-05
	13	197.52	2.18E+01 +/- 6.35E-01	3.25E+00	3.67E-04 +/- 4.01E-05
	14	208.31	5.47E+00 +/- 4.93E-01	3.15E+00	3.66E-04 +/- 3.76E-05
	15	239.02	1.29E+01 +/- 5.64E-01	2.91E+00	3.56E-04 +/- 2.87E-05
	16	279.54	6.00E-01 +/- 3.97E-01	2.67E+00	3.37E-04 +/- 1.85E-05
	17	300.10	9.04E-01 +/- 3.14E-01	2.65E+00	3.26E-04 +/- 1.55E-05
	18	311.90	8.25E-01 +/- 3.39E-01	2.64E+00	3.20E-04 +/- 1.45E-05
	19	375.72	9.87E-01 +/- 3.67E-01	2.59E+00	2.85E-04 +/- 1.49E-05
M	20	414.13	5.47E-01 +/- 1.69E-01	2.55E+00	2.67E-04 +/- 1.59E-05
m	21	418.12	3.62E-01 +/- 1.37E-01	2.54E+00	2.65E-04 +/- 1.60E-05
	22	511.82	4.17E+01 +/- 7.13E-01	2.37E+00	2.26E-04 +/- 1.52E-05
	23	559.39	5.39E-01 +/- 2.59E-01	2.30E+00	2.10E-04 +/- 1.38E-05
	24	584.09	1.47E+01 +/- 4.32E-01	2.26E+00	2.03E-04 +/- 1.30E-05
	25	728.64	1.34E+00 +/- 2.07E-01	2.10E+00	1.68E-04 +/- 8.64E-06
	26	744.19	9.24E-01 +/- 2.42E-01	2.08E+00	1.65E-04 +/- 8.30E-06
	27	767.89	4.05E+00 +/- 2.80E-01	2.06E+00	1.61E-04 +/- 7.82E-06
	28	848.37	4.46E-01 +/- 2.27E-01	1.99E+00	1.48E-04 +/- 6.67E-06
	29	861.86	9.45E-01 +/- 1.74E-01	1.98E+00	1.46E-04 +/- 6.53E-06
	30	892.08	2.59E+00 +/- 2.62E-01	1.96E+00	1.42E-04 +/- 6.27E-06
	31	964.13	3.19E-01 +/- 2.02E-01	1.91E+00	1.34E-04 +/- 5.82E-06
	32	1238.44	9.74E-01 +/- 1.56E-01	1.77E+00	1.13E-04 +/- 4.86E-06
	33	1277.28	1.99E+01 +/- 4.70E-01	1.76E+00	1.10E-04 +/- 5.03E-06
	34	1624.30	2.81E-01 +/- 8.31E-02	1.66E+00	9.80E-05 +/- 1.36E-05
	35	2107.91	1.94E-01 +/- 1.21E-01	1.59E+00	9.21E-05 +/- 3.97E-05
	36	2474.31	6.71E-02 +/- 4.16E-02	1.56E+00	9.24E-05 +/- 6.86E-05
	37	2621.29	2.73E+00 +/- 1.64E-01	1.55E+00	9.34E-05 +/- 8.26E-05

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Segment: 10 Detector: DET01 (# 1) Position: 10

Elapsed Live Time: 109.55 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.102 +/- 0.0021
SE-75	279.53	0.000 +/- 0.0000	0.111 +/- 0.0036
SE-75	400.65	0.000 +/- 0.0000	0.154 +/- 0.0049

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
M	1	21.66	5.45E+00 +/- 2.05E-02	4.10E+00	1.95E-07 +/- 3.00E-07
m	2	23.16	1.20E+01 +/- 4.53E-02	4.10E+00	3.36E-07 +/- 4.77E-07
m	3	26.42	7.64E+00 +/- 2.87E-02	4.10E+00	9.06E-07 +/- 1.10E-06
	4	35.10	1.01E+03 +/- 4.87E+00	4.10E+00	5.68E-06 +/- 4.74E-06
	5	59.62	2.06E+01 +/- 6.72E-01	4.10E+00	6.38E-05 +/- 2.21E-05
	6	75.13	8.34E+00 +/- 8.94E-01	4.10E+00	1.28E-04 +/- 2.69E-05
	7	100.08	7.67E+02 +/- 4.09E+00	4.10E+00	2.36E-04 +/- 2.30E-05
	8	110.74	1.39E+01 +/- 7.94E-01	4.10E+00	2.75E-04 +/- 2.00E-05
	9	129.29	1.47E+00 +/- 6.94E-01	4.10E+00	3.30E-04 +/- 1.70E-05
	10	152.68	2.56E+02 +/- 1.93E+00	3.37E+00	3.74E-04 +/- 1.78E-05
	11	197.52	1.68E+01 +/- 5.86E-01	2.62E+00	4.02E-04 +/- 2.08E-05
	12	208.41	6.06E+00 +/- 4.93E-01	2.51E+00	4.01E-04 +/- 2.09E-05
	13	239.01	1.40E+01 +/- 5.63E-01	2.27E+00	3.91E-04 +/- 1.98E-05
	14	277.65	6.21E-01 +/- 4.48E-01	2.06E+00	3.69E-04 +/- 1.73E-05
	15	300.10	1.13E+00 +/- 3.16E-01	2.02E+00	3.54E-04 +/- 1.57E-05
	16	311.90	1.22E+00 +/- 3.77E-01	2.00E+00	3.45E-04 +/- 1.50E-05
	17	375.90	9.30E-01 +/- 3.27E-01	1.91E+00	3.02E-04 +/- 1.20E-05
	18	400.66	8.59E-01 +/- 3.09E-01	1.87E+00	2.87E-04 +/- 1.13E-05
	19	414.57	6.66E-01 +/- 2.38E-01	1.86E+00	2.78E-04 +/- 1.11E-05
	20	511.79	3.12E+01 +/- 6.27E-01	1.76E+00	2.30E-04 +/- 1.00E-05
	21	547.05	3.81E-01 +/- 2.24E-01	1.74E+00	2.16E-04 +/- 9.79E-06
	22	584.07	1.24E+01 +/- 4.10E-01	1.71E+00	2.03E-04 +/- 9.52E-06
	23	728.61	9.30E-01 +/- 2.21E-01	1.62E+00	1.65E-04 +/- 8.13E-06
	24	744.03	1.15E+00 +/- 2.19E-01	1.61E+00	1.62E-04 +/- 7.96E-06
	25	767.77	4.37E+00 +/- 2.80E-01	1.60E+00	1.58E-04 +/- 7.68E-06
	26	787.51	5.87E-01 +/- 2.01E-01	1.59E+00	1.54E-04 +/- 7.45E-06
	27	853.10	2.48E-01 +/- 1.50E-01	1.56E+00	1.44E-04 +/- 6.66E-06
	28	862.27	8.48E-01 +/- 1.94E-01	1.56E+00	1.43E-04 +/- 6.55E-06
	29	892.25	1.76E+00 +/- 2.19E-01	1.54E+00	1.39E-04 +/- 6.19E-06

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30	1001.03	3.58E-01	+/- 2.05E-01	1.51E+00	1.28E-04	+/- 5.05E-06
31	1238.56	5.38E-01	+/- 1.28E-01	1.44E+00	1.13E-04	+/- 4.61E-06
32	1277.30	1.43E+01	+/- 4.09E-01	1.44E+00	1.12E-04	+/- 4.92E-06
33	1408.01	1.99E-01	+/- 8.64E-02	1.41E+00	1.08E-04	+/- 6.60E-06
34	1596.06	3.70E-01	+/- 8.74E-02	1.38E+00	1.06E-04	+/- 1.01E-05
35	2621.29	2.60E+00	+/- 1.56E-01	1.32E+00	1.33E-04	+/- 4.57E-05

Segment: 11 Detector: DET01 (# 1) Position: 11

Elapsed Live Time: 111.81 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.295 +/- 0.0330
SE-75	264.65	0.000 +/- 0.0000	0.395 +/- 0.0044
SE-75	279.53	0.000 +/- 0.0000	0.398 +/- 0.0062
SE-75	400.65	0.000 +/- 0.0000	0.437 +/- 0.0077

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
M	1	21.65	4.61E+00 +/- 2.14E-01	3.18E+00	2.76E-07 +/- 4.21E-07
m	2	23.16	8.88E+00 +/- 3.06E-01	2.91E+00	4.63E-07 +/- 6.53E-07
m	3	26.24	3.63E+00 +/- 2.46E-01	2.54E+00	1.13E-06 +/- 1.37E-06
	4	35.10	1.01E+03 +/- 4.84E+00	2.05E+00	6.75E-06 +/- 5.60E-06
	5	59.66	6.98E+00 +/- 4.42E-01	1.71E+00	6.72E-05 +/- 2.31E-05
	6	75.08	3.22E+00 +/- 5.74E-01	1.64E+00	1.30E-04 +/- 2.72E-05
	7	100.09	2.78E+02 +/- 2.13E+00	1.58E+00	2.33E-04 +/- 2.26E-05
	8	152.68	9.82E+01 +/- 1.15E+00	1.51E+00	3.62E-04 +/- 1.73E-05
	9	197.53	4.96E+00 +/- 4.18E-01	1.46E+00	3.89E-04 +/- 2.03E-05
	10	208.51	1.36E+00 +/- 3.83E-01	1.45E+00	3.89E-04 +/- 2.04E-05
	11	239.05	5.91E+00 +/- 4.22E-01	1.42E+00	3.80E-04 +/- 1.94E-05
	12	300.10	5.40E-01 +/- 3.00E-01	1.38E+00	3.45E-04 +/- 1.56E-05
	13	311.90	1.51E+00 +/- 3.03E-01	1.38E+00	3.37E-04 +/- 1.49E-05
M	14	413.02	1.73E-01 +/- 1.14E-01	1.34E+00	2.76E-04 +/- 1.09E-05
m	15	414.66	1.59E-01 +/- 1.09E-01	1.34E+00	2.75E-04 +/- 1.09E-05
	16	511.74	1.29E+01 +/- 4.17E-01	1.31E+00	2.29E-04 +/- 9.82E-06
	17	559.63	5.70E-01 +/- 1.99E-01	1.29E+00	2.11E-04 +/- 9.49E-06
	18	584.15	4.64E+00 +/- 2.72E-01	1.29E+00	2.03E-04 +/- 9.31E-06
	19	728.33	4.58E-01 +/- 1.38E-01	1.25E+00	1.66E-04 +/- 7.98E-06
	20	744.31	4.91E-01 +/- 1.26E-01	1.25E+00	1.63E-04 +/- 7.80E-06
	21	767.80	1.40E+00 +/- 1.90E-01	1.24E+00	1.58E-04 +/- 7.54E-06
	22	1277.20	5.17E+00 +/- 2.46E-01	1.18E+00	1.12E-04 +/- 4.98E-06
	23	2621.14	1.41E+00 +/- 1.36E-01	1.14E+00	1.24E-04 +/- 4.22E-05

Batch 2002-02-741

Segment: 12 Detector: DET01 (# 1) Position: 12

Elapsed Live Time: 109.06 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.309 +/- 0.0392
SE-75	264.65	0.000 +/- 0.0000	0.412 +/- 0.0046
SE-75	279.53	0.000 +/- 0.0000	0.440 +/- 0.0067
SE-75	400.65	0.000 +/- 0.0000	0.476 +/- 0.0083

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
M	1	21.71	8.44E+00 +/- 2.90E-01	3.06E+00	3.97E-07 +/- 6.03E-07
m	2	23.22	1.83E+01 +/- 4.37E-01	2.81E+00	6.39E-07 +/- 8.99E-07
m	3	26.24	7.32E+00 +/- 3.31E-01	2.47E+00	1.44E-06 +/- 1.75E-06
	4	35.10	1.01E+03 +/- 4.88E+00	2.01E+00	7.63E-06 +/- 6.33E-06
	5	59.61	1.30E+01 +/- 6.21E-01	1.68E+00	6.65E-05 +/- 2.30E-05
	6	75.13	4.72E+00 +/- 7.58E-01	1.61E+00	1.26E-04 +/- 2.64E-05
	7	100.09	8.13E+02 +/- 4.30E+00	1.56E+00	2.21E-04 +/- 2.17E-05
	8	111.08	1.10E+01 +/- 8.52E-01	1.54E+00	2.57E-04 +/- 1.87E-05
	9	152.68	3.12E+02 +/- 2.19E+00	1.49E+00	3.45E-04 +/- 1.67E-05
	10	197.53	1.17E+01 +/- 5.68E-01	1.44E+00	3.75E-04 +/- 1.98E-05
	11	208.39	3.05E+00 +/- 4.93E-01	1.43E+00	3.76E-04 +/- 1.99E-05
	12	239.05	2.32E+01 +/- 6.25E-01	1.40E+00	3.71E-04 +/- 1.91E-05
	13	277.78	1.94E+00 +/- 4.85E-01	1.35E+00	3.55E-04 +/- 1.69E-05
	14	300.10	2.26E+00 +/- 3.40E-01	1.34E+00	3.43E-04 +/- 1.55E-05
	15	311.90	4.88E+00 +/- 4.21E-01	1.33E+00	3.36E-04 +/- 1.48E-05
	16	414.12	3.50E-01 +/- 2.35E-01	1.30E+00	2.79E-04 +/- 1.09E-05
	17	511.92	3.81E+01 +/- 6.84E-01	1.27E+00	2.34E-04 +/- 9.75E-06
	18	559.43	3.69E-01 +/- 2.42E-01	1.26E+00	2.16E-04 +/- 9.42E-06
	19	584.22	1.46E+01 +/- 4.32E-01	1.25E+00	2.08E-04 +/- 9.24E-06
	20	662.42	5.77E-01 +/- 1.99E-01	1.24E+00	1.85E-04 +/- 8.58E-06
	21	728.61	1.98E+00 +/- 2.29E-01	1.22E+00	1.70E-04 +/- 7.89E-06
	22	744.25	9.91E-01 +/- 2.19E-01	1.22E+00	1.66E-04 +/- 7.72E-06
	23	767.76	4.64E+00 +/- 2.90E-01	1.22E+00	1.62E-04 +/- 7.45E-06
	24	787.46	1.19E+00 +/- 2.10E-01	1.21E+00	1.58E-04 +/- 7.22E-06
	25	862.07	1.32E+00 +/- 2.11E-01	1.20E+00	1.46E-04 +/- 6.34E-06
	26	892.13	1.07E+00 +/- 2.31E-01	1.20E+00	1.42E-04 +/- 5.99E-06
	27	1238.17	4.88E-01 +/- 1.16E-01	1.16E+00	1.10E-04 +/- 4.57E-06
	28	1277.21	1.53E+01 +/- 4.14E-01	1.16E+00	1.08E-04 +/- 4.86E-06
	29	1381.91	1.38E-01 +/- 6.35E-02	1.15E+00	1.03E-04 +/- 6.00E-06
	30	1403.29	3.39E-01 +/- 1.13E-01	1.15E+00	1.02E-04 +/- 6.28E-06
	31	1624.25	1.61E-01 +/- 1.01E-01	1.14E+00	9.60E-05 +/- 9.69E-06

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32	2621.44	4.17E+00	+/- 2.12E-01	1.12E+00	9.61E-05	+/- 3.26E-05

Segment: 13 Detector: DET01 (# 1) Position: 13

Elapsed Live Time: 107.54 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.330 +/- 0.0441
SE-75	264.65	0.000 +/- 0.0000	0.492 +/- 0.0052
SE-75	279.53	0.000 +/- 0.0000	0.510 +/- 0.0074
SE-75	400.65	0.000 +/- 0.0000	0.555 +/- 0.0091

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	1.11E+01 +/- 6.16E-01	2.97E+00	6.56E-07 +/- 1.05E-06
2	23.24	1.27E+01 +/- 6.35E-01	2.68E+00	1.12E-06 +/- 1.64E-06
3	35.10	1.01E+03 +/- 4.92E+00	1.94E+00	1.10E-05 +/- 9.51E-06
4	59.61	1.62E+01 +/- 7.04E-01	1.63E+00	8.10E-05 +/- 2.88E-05
5	75.10	7.27E+00 +/- 8.67E-01	1.57E+00	1.45E-04 +/- 3.11E-05
6	100.07	1.08E+03 +/- 5.38E+00	1.52E+00	2.42E-04 +/- 2.38E-05
7	111.16	1.60E+01 +/- 9.49E-01	1.51E+00	2.76E-04 +/- 2.00E-05
8	129.29	3.18E+00 +/- 8.61E-01	1.49E+00	3.21E-04 +/- 1.67E-05
9	152.68	4.18E+02 +/- 2.66E+00	1.45E+00	3.57E-04 +/- 1.76E-05
10	197.52	1.36E+01 +/- 6.47E-01	1.38E+00	3.81E-04 +/- 2.06E-05
11	208.33	4.52E+00 +/- 5.51E-01	1.36E+00	3.80E-04 +/- 2.07E-05
12	239.01	3.04E+01 +/- 7.55E-01	1.32E+00	3.72E-04 +/- 1.97E-05
13	300.10	3.42E+00 +/- 4.64E-01	1.27E+00	3.40E-04 +/- 1.57E-05
14	311.90	6.47E+00 +/- 4.90E-01	1.27E+00	3.33E-04 +/- 1.50E-05
15	375.57	1.88E+00 +/- 3.88E-01	1.25E+00	2.95E-04 +/- 1.20E-05
16	417.65	9.47E-01 +/- 2.95E-01	1.24E+00	2.72E-04 +/- 1.10E-05
17	440.60	1.20E+00 +/- 3.28E-01	1.23E+00	2.61E-04 +/- 1.06E-05
18	511.82	6.02E+01 +/- 8.63E-01	1.21E+00	2.29E-04 +/- 1.00E-05
19	584.16	1.96E+01 +/- 4.97E-01	1.20E+00	2.03E-04 +/- 9.55E-06
20	728.54	2.56E+00 +/- 2.71E-01	1.17E+00	1.64E-04 +/- 8.15E-06
21	744.01	1.29E+00 +/- 2.40E-01	1.17E+00	1.61E-04 +/- 7.96E-06
22	767.80	6.10E+00 +/- 3.15E-01	1.17E+00	1.56E-04 +/- 7.68E-06
23	787.51	1.40E+00 +/- 2.42E-01	1.17E+00	1.53E-04 +/- 7.43E-06
24	862.06	1.36E+00 +/- 2.19E-01	1.16E+00	1.41E-04 +/- 6.49E-06
25	892.25	1.41E+00 +/- 2.52E-01	1.16E+00	1.36E-04 +/- 6.12E-06
26	1238.42	5.18E-01 +/- 1.51E-01	1.13E+00	1.04E-04 +/- 4.39E-06
27	1277.25	2.21E+01 +/- 4.96E-01	1.13E+00	1.02E-04 +/- 4.67E-06
28	2621.15	5.52E+00 +/- 2.41E-01	1.09E+00	8.42E-05 +/- 2.99E-05

Segment: 14 Detector: DET01 (# 1) Position: 14

Elapsed Live Time: 110.37 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.482 +/- 0.0407
SE-75	264.65	0.000 +/- 0.0000	0.647 +/- 0.0061
SE-75	279.53	0.000 +/- 0.0000	0.669 +/- 0.0084
SE-75	400.65	0.000 +/- 0.0000	0.705 +/- 0.0102

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	6.35E+00 +/- 4.86E-01	2.19E+00	3.08E-07 +/- 3.39E-06
2	23.24	8.17E+00 +/- 4.99E-01	2.02E+00	5.95E-07 +/- 5.81E-06
3	35.10	1.01E+03 +/- 4.85E+00	1.58E+00	8.94E-06 +/- 4.41E-05
4	59.59	9.70E+00 +/- 5.46E-01	1.40E+00	8.05E-05 +/- 1.25E-04
5	75.21	4.49E+00 +/- 6.79E-01	1.36E+00	1.47E-04 +/- 1.14E-04
6	100.08	5.89E+02 +/- 3.38E+00	1.33E+00	2.43E-04 +/- 5.32E-05
7	111.57	7.68E+00 +/- 7.35E-01	1.32E+00	2.77E-04 +/- 2.87E-05
8	152.68	2.13E+02 +/- 1.73E+00	1.28E+00	3.48E-04 +/- 3.50E-05
9	197.55	7.15E+00 +/- 4.85E-01	1.23E+00	3.65E-04 +/- 3.87E-05
10	208.53	2.52E+00 +/- 3.87E-01	1.22E+00	3.63E-04 +/- 3.63E-05
11	239.02	1.55E+01 +/- 5.66E-01	1.20E+00	3.55E-04 +/- 2.78E-05
12	279.54	9.78E-01 +/- 3.28E-01	1.16E+00	3.36E-04 +/- 1.80E-05
13	300.10	1.89E+00 +/- 2.98E-01	1.16E+00	3.25E-04 +/- 1.51E-05
14	311.90	3.05E+00 +/- 3.73E-01	1.15E+00	3.18E-04 +/- 1.42E-05
15	511.87	3.90E+01 +/- 6.76E-01	1.12E+00	2.27E-04 +/- 1.49E-05
16	559.41	5.51E-01 +/- 2.29E-01	1.12E+00	2.11E-04 +/- 1.36E-05
17	584.17	9.50E+00 +/- 3.54E-01	1.11E+00	2.04E-04 +/- 1.28E-05
18	728.56	1.17E+00 +/- 2.05E-01	1.10E+00	1.68E-04 +/- 8.64E-06
19	743.99	6.63E-01 +/- 1.91E-01	1.10E+00	1.65E-04 +/- 8.31E-06
20	767.73	3.16E+00 +/- 2.44E-01	1.10E+00	1.61E-04 +/- 7.84E-06
21	787.04	4.80E-01 +/- 1.62E-01	1.10E+00	1.57E-04 +/- 7.50E-06
22	861.88	9.72E-01 +/- 1.85E-01	1.09E+00	1.45E-04 +/- 6.53E-06
23	892.26	1.05E+00 +/- 1.79E-01	1.09E+00	1.41E-04 +/- 6.24E-06
24	1238.79	3.77E-01 +/- 1.13E-01	1.08E+00	1.05E-04 +/- 4.59E-06
25	1277.30	1.40E+01 +/- 3.82E-01	1.07E+00	1.02E-04 +/- 4.73E-06
26	1624.35	1.24E-01 +/- 7.45E-02	1.07E+00	8.29E-05 +/- 1.17E-05
27	1812.81	1.74E-01 +/- 1.05E-01	1.06E+00	7.54E-05 +/- 1.78E-05
28	2621.19	3.23E+00 +/- 1.75E-01	1.06E+00	5.48E-05 +/- 4.80E-05

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Segment: 15 Detector: DET01 (# 1) Position: 15

Elapsed Live Time: 112.98 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.751 +/- 0.0375
SE-75	264.65	0.000 +/- 0.0000	0.844 +/- 0.0073
SE-75	279.53	0.000 +/- 0.0000	0.843 +/- 0.0094
SE-75	400.65	0.000 +/- 0.0000	0.845 +/- 0.0110

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	2.73E+00 +/- 2.79E-01	1.40E+00	1.78E-13 +/- 1.91E-12
2	23.21	2.69E+00 +/- 2.79E-01	1.35E+00	1.69E-12 +/- 1.62E-11
3	35.10	1.01E+03 +/- 4.78E+00	1.21E+00	1.45E-08 +/- 6.96E-08
4	59.59	2.53E+00 +/- 3.15E-01	1.14E+00	1.09E-05 +/- 1.64E-05
5	75.18	2.17E+00 +/- 5.49E-01	1.13E+00	5.53E-05 +/- 4.16E-05
6	100.09	9.40E+01 +/- 1.18E+00	1.12E+00	1.91E-04 +/- 4.06E-05
7	152.68	2.91E+01 +/- 6.36E-01	1.11E+00	4.00E-04 +/- 3.89E-05
8	185.71	5.11E-01 +/- 2.90E-01	1.09E+00	4.24E-04 +/- 4.51E-05
9	197.42	1.01E+00 +/- 2.98E-01	1.09E+00	4.21E-04 +/- 4.28E-05
10	239.02	1.64E+00 +/- 2.79E-01	1.07E+00	3.90E-04 +/- 2.91E-05
11	279.54	4.04E-01 +/- 2.17E-01	1.07E+00	3.51E-04 +/- 1.80E-05
12	511.95	9.71E+00 +/- 3.32E-01	1.06E+00	2.11E-04 +/- 1.39E-05
13	559.17	5.47E-01 +/- 1.22E-01	1.06E+00	1.97E-04 +/- 1.27E-05
14	584.06	1.16E+00 +/- 1.63E-01	1.05E+00	1.90E-04 +/- 1.20E-05
15	1277.37	3.28E+00 +/- 1.81E-01	1.04E+00	1.08E-04 +/- 4.95E-06
16	1408.01	7.73E-02 +/- 3.68E-02	1.03E+00	9.82E-05 +/- 6.51E-06
17	2621.39	3.38E-01 +/- 6.07E-02	1.03E+00	2.71E-05 +/- 2.35E-05

Segment: 16 Detector: DET01 (# 1) Position: 16

Elapsed Live Time: 113.48 sec Elapsed Real Time: 115.00 sec

Batch 2002-02-745

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.862 +/- 0.0370
SE-75	264.65	0.000 +/- 0.0000	0.849 +/- 0.0073
SE-75	279.53	0.000 +/- 0.0000	0.830 +/- 0.0093
SE-75	400.65	0.000 +/- 0.0000	0.855 +/- 0.0111

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	1.30E+00 +/- 2.18E-01	1.20E+00	8.14E-16 +/- 1.02E-14
2	35.10	1.01E+03 +/- 4.77E+00	1.10E+00	9.52E-10 +/- 5.35E-09
3	100.11	1.18E+01 +/- 5.81E-01	1.06E+00	1.13E-04 +/- 2.79E-05
4	152.68	2.99E+00 +/- 3.03E-01	1.06E+00	2.85E-04 +/- 3.25E-05
5	244.70	3.06E-01 +/- 1.72E-01	1.06E+00	2.82E-04 +/- 2.33E-05
6	413.70	1.62E-01 +/- 1.10E-01	1.06E+00	1.81E-04 +/- 1.21E-05
7	511.86	1.60E+00 +/- 1.65E-01	1.05E+00	1.51E-04 +/- 1.15E-05
8	559.21	5.19E-01 +/- 1.05E-01	1.05E+00	1.42E-04 +/- 1.06E-05
9	662.42	1.30E-01 +/- 9.00E-02	1.05E+00	1.26E-04 +/- 8.22E-06
10	1276.90	3.92E-01 +/- 7.24E-02	1.03E+00	8.18E-05 +/- 4.11E-06
11	1408.01	1.74E-02 +/- 1.23E-02	1.03E+00	7.39E-05 +/- 5.32E-06

Batch 2002-02-746

Summed Spectrum

Peak Locate Report

Sample ID: LL85400748
Peak Locate Performed on: 7-01-02 5:57:16 PM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192
Peak Search Sensitivity: 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
1	43.00	0.2240	21.66	19.94
2	46.63	0.1800	23.20	19.31
3	53.10	0.2240	26.19	19.94
4	70.30	0.0384	35.06	477.05
5	119.44	0.1482	59.61	25.68
6	150.48	0.2318	75.12	9.73
7	200.44	0.0473	100.08	252.54
8	221.98	0.1772	110.85	8.80
9	259.34	0.3201	129.51	5.14
10	306.42	0.0565	153.03	171.65
11	395.47	0.1227	197.53	35.05
12	417.20	0.1775	208.38	16.89
13	478.53	0.1143	239.02	40.31
14	601.93	0.2085	300.68	11.69
15	625.52	0.1852	312.46	13.06
16	752.11	0.2950	375.71	5.43
17	830.00	<NA>	414.34	<NA>
18	836.20	<NA>	417.54	<NA>
19	1024.62	0.0993	511.86	28.96
20	1119.84	0.1773	559.43	13.65
21	1169.30	0.0966	584.14	42.32
22	1458.39	0.1854	728.58	10.79
23	1489.52	0.1972	744.13	9.11
24	1536.89	0.1282	767.80	24.20
25	1576.18	0.2221	787.43	7.98
26	1698.14	0.2536	848.36	6.42
27	1725.51	0.1940	862.04	8.89
28	1785.88	0.1805	892.20	12.18
29	2478.88	0.2112	1238.43	7.35
30	2556.60	0.0826	1277.26	46.73
31	3194.86	0.2220	1596.15	5.28
32	3251.13	0.2540	1624.26	5.11
33	5246.65	0.1101	2621.26	19.52

Errors quoted at 1.000 sigma

Batch 2002-02-747

Summed Spectrum

Peak Analysis Report

Sample ID: LL85400748
Peak Analysis Performed on: 7-01-02 5:57:16 PM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

	Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
M	1	41-	57	43.47	21.66	6.75E+03	85.06	7.11E+02
m	2	41-	57	46.55	23.20	1.29E+04	121.35	2.67E+03
m	3	41-	57	52.55	26.19	5.56E+03	97.05	6.15E+03
	4	67-	73	70.30	35.06	1.82E+06	1358.65	1.16E+04
	5	115-	122	119.44	59.61	1.07E+04	187.88	1.23E+04
	6	149-	154	150.48	75.12	3.31E+03	219.61	2.52E+04
	7	196-	204	200.44	100.08	5.01E+05	795.60	6.24E+04
	8	218-	225	221.98	110.85	9.49E+03	222.44	1.99E+04
	9	255-	263	259.34	129.51	8.53E+02	223.80	2.30E+04
	10	302-	310	306.42	153.03	1.83E+05	469.94	1.81E+04
	11	391-	399	395.47	197.53	1.03E+04	173.66	9.33E+03
	12	412-	421	417.20	208.38	2.74E+03	148.35	8.55E+03
	13	473-	483	478.53	239.02	1.19E+04	177.58	8.27E+03
	14	597-	606	601.93	300.68	1.32E+03	114.64	5.22E+03
	15	620-	630	625.52	312.46	2.01E+03	122.73	5.48E+03
	16	746-	757	752.11	375.71	6.08E+02	106.98	4.31E+03
M	17	824-	839	829.43	414.34	4.45E+02	70.14	3.18E+03
m	18	824-	839	835.85	417.54	2.77E+02	52.23	4.02E+03
	19	1018-	1030	1024.62	511.86	2.89E+04	196.12	3.64E+03
	20	1114-	1125	1119.84	559.43	9.64E+02	76.68	1.96E+03
	21	1163-	1175	1169.30	584.14	9.16E+03	119.22	1.92E+03
	22	1452-	1464	1458.39	728.58	1.08E+03	66.78	1.29E+03
	23	1483-	1495	1489.52	744.13	5.97E+02	64.01	1.33E+03
	24	1530-	1543	1536.89	767.80	2.80E+03	80.65	1.34E+03
	25	1569-	1582	1576.18	787.43	5.09E+02	63.32	1.27E+03
	26	1691-	1704	1698.14	848.36	1.71E+02	68.90	1.65E+03
	27	1718-	1732	1725.51	862.04	6.76E+02	66.05	1.28E+03
	28	1779-	1792	1785.88	892.20	1.15E+03	66.94	1.21E+03
	29	2471-	2486	2478.88	1238.43	3.66E+02	43.78	5.16E+02
	30	2548-	2564	2556.60	1277.26	1.18E+04	120.12	8.52E+02
	31	3186-	3203	3194.86	1596.15	3.55E+02	34.33	2.52E+02
	32	3242-	3259	3251.13	1624.26	1.61E+02	30.18	2.30E+02
	33	5236-	5256	5246.65	2621.26	2.48E+03	53.06	9.32E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-02-748

Summed Spectrum

Nuclide Identification Report

Sample ID: LL85400748
Nuclide Library Used: C:\WAS\NLIB\LLNL.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/)	Activity Uncertainty
Pulser	1.000	35.10*	100.00	2.251E+05	5.821E+05
Np-237	0.978	300.10*	6.63	1.750E+01	1.521E+00
		311.90*	38.60	4.646E+00	2.863E-01
Pu-238	0.991	152.68*	0.00	1.665E+07	2.534E+05
Pu-239	0.971	413.70*	0.00	3.201E+04	5.075E+03
Pu-239A	0.997	129.29*	0.01	1.316E+04	3.471E+03

* = Energy line found in the spectrum.
Energy Tolerance : 1.500 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 1.000 sigma

Batch 2002-82-749

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 7-01-02 5:57:16 PM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192

	Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
M	1	21.66	5.9693E+01	1.26
m	2	23.20	1.1438E+02	0.94
m	3	26.19	4.9167E+01	1.75
	5	59.61	9.4775E+01	1.76
	6	75.12	2.9252E+01	6.64
	7	100.08	4.4303E+03	0.18
	8	110.85	8.3970E+01	2.35
	11	197.53	9.0859E+01	1.69
	12	208.38	2.4277E+01	5.41
	13	239.02	1.0519E+02	1.50
	16	375.71	5.3836E+00	17.59
m	18	417.54	2.4535E+00	18.84
	19	511.86	2.5590E+02	0.68
	20	559.43	8.5324E+00	7.95
	21	584.14	8.1094E+01	1.30
	22	728.58	9.5231E+00	6.21
	23	744.13	5.2834E+00	10.72
	24	767.80	2.4823E+01	2.88
	25	787.43	4.5028E+00	12.45
	26	848.36	1.5166E+00	40.21
	27	862.04	5.9845E+00	9.77
	28	892.20	1.0146E+01	5.84
	29	1238.43	3.2410E+00	11.95
	30	1277.26	1.0415E+02	1.02
	31	1596.15	3.1416E+00	9.67
	32	1624.26	1.4265E+00	18.72
	33	2621.26	2.1945E+01	2.14

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-02-750

Combined Segment NID

NID Results Combiner Mode: Sum Activities

Nuclide		Total Activity (uCi)				Concentration (uCi/g)		
Pulser		3.43E+07	+/-	1.78E+08		1.80E+03	+/-	9.33E+03
SE-75	<	1.93E-01	+/-	9.74E-03	<	1.01E-05	+/-	5.10E-07
EU-152x	<	5.12E-01	+/-	3.19E-02	<	2.68E-05	+/-	1.67E-06
U-233	<	1.20E+04	+/-	6.15E+02	<	6.27E-01	+/-	3.22E-02
U-235		3.94E-01	+/-	2.16E-01		2.06E-05	+/-	1.13E-05
Np-237		5.79E+00	+/-	3.42E-01		3.03E-04	+/-	1.79E-05
Pu-238		2.75E+07	+/-	9.32E+05		1.44E+03	+/-	4.88E+01
U-238		1.36E+01	+/-	7.80E+00		7.11E-04	+/-	4.09E-04
Pu-239		2.38E+04	+/-	4.89E+03		1.25E+00	+/-	2.56E-01
Pu-239A		2.32E+04	+/-	5.55E+03		1.21E+00	+/-	2.91E-01
Am-241		4.75E+04	+/-	1.25E+04		2.49E+00	+/-	6.53E-01
Pu-241	<	1.60E+05	+/-	7.81E+03	<	8.36E+00	+/-	4.09E-01

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
U-235	1.82E-01	+/-	1.00E-01
Np-237	8.22E-03	+/-	4.86E-04
Pu-238	1.61E+00	+/-	5.44E-02
U-238	4.05E+01	+/-	2.33E+01
Pu-239	3.84E-01	+/-	7.87E-02
Pu-239A	3.73E-01	+/-	8.94E-02
Am-241	1.39E-02	+/-	3.64E-03

Batch 2002-02-751

Summed Spectrum

Nuclide		Total Activity (uCi)				Concentration (uCi/g)		
Pulser		2.25E+05	+/-	5.82E+05		1.18E+01	+/-	3.05E+01
SE-75	<	5.63E-01	+/-	5.05E-03	<	2.95E-05	+/-	2.65E-07
EU-152x	<	1.42E+00	+/-	2.79E-02	<	7.42E-05	+/-	1.46E-06
U-233	<	3.46E+04	+/-	7.39E+02	<	1.81E+00	+/-	3.87E-02
U-235	<	7.52E-01	+/-	1.50E-02	<	3.93E-05	+/-	7.84E-07
Np-237		5.09E+00	+/-	2.81E-01		2.66E-04	+/-	1.47E-05
Pu-238		1.67E+07	+/-	2.53E+05		8.72E+02	+/-	1.33E+01
U-238	<	5.64E+01	+/-	9.06E-01	<	2.95E-03	+/-	4.74E-05
Pu-239		3.20E+04	+/-	5.07E+03		1.68E+00	+/-	2.66E-01
Pu-239A		1.32E+04	+/-	3.47E+03		6.89E-01	+/-	1.82E-01
Am-241	<	8.79E+04	+/-	7.80E+02	<	4.60E+00	+/-	4.08E-02
Pu-241	<	4.32E+05	+/-	6.67E+03	<	2.26E+01	+/-	3.49E-01

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
Np-237	7.22E-03	+/-	4.00E-04
Pu-238	9.73E-01	+/-	1.48E-02
Pu-239	5.15E-01	+/-	8.17E-02
Pu-239A	2.12E-01	+/-	5.59E-02

Batch 2002-02-752

Final Non-Uniformity Results

Source Longitudinal Ratio:	0.774	+/-	1.4757
Matrix Longitudinal Ratio:	0.995	+/-	5.1243
Source Vertical Ratio:	0.741	+/-	0.3424
Matrix Vertical Ratio:	0.961	+/-	0.0477

NUDS could not find the transmission peak in one radial segment.

Batch 2002-02-753

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
2-07-02 11:10:07 AM

OK
2-7-02

QA File: C:\WAS\CTRS\CTR1\ARR1\S11_BCK.QA
Sample ID: B858
Sample Quantity: 1.0000E+00
Sample Date: 2-07-02 11:04:28 AM
Measurement Date: 2-07-02 11:04:26 AM
Elapsed Live Time: 200.0 seconds
Elapsed Real Time: 201.9 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
Ref. Peak	3.5075E+01	0.00
[0.00+/-0.00]		< : : : >
Upper CPS Reg	2.2990E+01	0.00
[0.00+/-0.00]		< : : : >
Peak counts/second	1.0088E+03	0.00
[0.00+/-0.00]		< : : : >
Pulser FWHM	1.0282E+00	0.00
[0.00+/-0.00]		< : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
2-07-02 11:10:00 AM

QA File: C:\WAS\CTRS\CTR1\ARR1\T11_BCK.QA
Sample ID: B858
Sample Quantity: 1.0000E+00
Sample Date: 2-07-02 11:04:28 AM
Measurement Date: 2-07-02 11:07:54 AM
Elapsed Live Time: 100.0 seconds
Elapsed Real Time: 104.1 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >

Batch 2002-02-754

400.6 keV Centroid	8.0348E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>
400.6 keV FWHM	1.4719E+00			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak centroid 136 KeV	2.7289E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak area 400 keV	1.8238E+04			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak counts/second	1.8238E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

Batch 2002-02-755

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS V2.3A RADA V2.1

****
* DRUM INFORMATION *
****

Drum Package ID: LL85100556
Sequence Number: 859
Assay Date & Time: 2-07-2002 11:15:25 AM
Report Generated: 6-10-2002 2:34:30 PM
Drum Package GROSS Weight: 80.00 kg NET Weight: 41.20 kg

IDC Number: LL85100556

QC Replicate (Yes/No): No Passed (Yes/No): _____

Operator Name (Printed): RUSSELL RATTI

Operator Signature: FOR: RUSSELL RATTI BY: DAVE HILAND Date: 6/14/02

Independent Reviewer: [signature] Date: 6-20-02

Expert Reviewer: Kenneth Raschke Date: 6/10/02

Tech. Supv/QA Officer: [signature] Date: 7/17/02

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 1.034E+01 +/- 2.093E+00 Ci

Batch 2002-02.756

****
* I S O T O P I C I N F O R M A T I O N *
****

Isotope	Measured Mass (g)	Mass Uncertainty (g)
Pu-238	4.073E-02	1.528E-02
Pu-239	5.542E+01	2.066E+01
Pu-240	1.359E+01	5.067E+00
Pu-241	4.566E-01	1.703E-01
Pu-242	3.888E-01	1.638E-01
Am-241	8.827E-01	3.292E-01
*Am-243	N/A	N/A
*Np-237	N/A	N/A
*U-235	N/A	N/A
*U-238	N/A	N/A
*U-233	N/A	N/A

* = Activity/Mass below detectable limit.

Total Pu Mass: 6.99E+01 +/- 2.13E+01 g

****
* M G A R E S U L T S *
****

NUCLIDE	% Weight	% Error(1-Sigma)
Pu-238	5.828E-02	2.12E+00
Pu-239	7.929E+01	1.66E-01
Pu-240	1.944E+01	6.12E-01
Pu-241	6.533E-01	5.32E-01
Pu-242	5.564E-01	1.00E+01
Am-241	1.263E+00	5.17E-01

Batch 2002-02-757

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005
Software Version: GWAS V2.3A RADA V2.1

Assay Date & Time: 2-07-2002 11:15:25 AM
Report Generated: 6-10-2002 2:34:33 PM

Drum Package ID: LL85100556
Sequence Number: 859

Waste Classification (TRU or LLW): TRU

			Errors at 1.96 sigma	
Total Alpha Activity :	1.034E+01	+/-	2.093E+00	Ci
Total TRU Activity :	2.509E+05	+/-	5.079E+04	nCi/g
Pu-239 Equiv Activity:	1.120E+01	+/-	2.118E+00	Ci
Fissile Gram Equiv Mass:	5.677E+01	+/-	2.066E+01	g
Total Decay Heat:	3.326E-01	+/-	6.689E-02	W
TMU Value:	37.28 %			

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error
Pu-238	7.05E-01	2.64E-01	4.07E-02	1.53E-02
Pu-239	3.44E+00	1.28E+00	5.54E+01	2.07E+01
Pu-240	3.12E+00	1.17E+00	1.36E+01	5.07E+00
Pu-241	4.75E+01	1.77E+01	4.57E-01	1.70E-01
Pu-242	1.54E-03	6.50E-04	3.89E-01	1.64E-01
Am-241	3.06E+00	1.14E+00	8.83E-01	3.29E-01
*Am-243	N/A	N/A	N/A	N/A
*Np-237	N/A	N/A	N/A	N/A
*U-235	N/A	N/A	N/A	N/A
*U-238	N/A	N/A	N/A	N/A
*U-233	N/A	N/A	N/A	N/A

* = Activity/Mass below detectable limit.

Total Pu Mass: 6.99E+01 +/- 2.13E+01 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sigma)
Pu-238	5.828E-02	2.12E+00
Pu-239	7.929E+01	1.66E-01
Pu-240	1.944E+01	6.12E-01
Pu-241	6.533E-01	5.32E-01
Pu-242	5.564E-01	1.00E+01
Am-241	1.263E+00	5.17E-01

Ratio 2002-02-758

SGS Expert Review Checklist

Container Identification #: LL85100556_____ Original Assay Date:2-07-2002__

1. *WCP-41, §6.1:* A MGA report ☒ is present or ☐ expert review has provided isotopic ratios from SGS or AK. Comment: Reran MGA with a reasonable detector volume and a fixed plutonium thickness to get better fits and more consistent values.☐ No comments
2. *WCP-41, §6.1:* MGA and AK ☒ agree as to radiological composition or, if not, ☐ expert review has resolved this. Comment: This is reactor grade plutonium. ☐ No comments
3. *WCP-41, §6.2.1:* ☒ Pu-238 ≤ 2% by weight of total Pu or, if not, ☐ expert review has addressed this and assigned a Pu-240 value. Comment: ☒ No comments
4. *WCP-41, §6.2.2:* ☒ Neither Np-237 nor U-235 is identified by MGA or ☐ expert review has addressed possible interferences from these radionuclides.
   Comment: ☒ No comments
5. *WCP-41, §6.2.2.2:* ☒ Am-241 separation date is 1950 or later or ☐ expert review has addressed possible interferences. Comment: ☒ No comments
6. *WCP-41, §6.3.1.1.a:* ☒ Bulk density of waste ≤ 0.6 g/ml or ☐ expert review has addressed the high density of the drum. Comment: ☒ No comments
7. *WCP-41, §6.3.1.2.a:* ☐ Transmission in every segment ≥ 0.1% for the Se-75 peaks at 136 keV or 265 keV or ☒ expert review has addressed the low transmission.
   Comment: the 136 keV is zero in five segments, however the 265 keV transmission is okay and the Pu-239/Pu239a ratio is less than 1.9.☐ No comments
8. *WCP-41, §6.3.1.2.a:* ☒ Transmission in every segment ≥1% for the Se-75 peak at 401 keV or ☐ expert review has addressed the low transmission. Comment: ☒ No comments
9. *WCP-41, §6.3.1.3.b:* ☒ Dead time in every segment ≤ 50% or ☐ expert review has addressed the high dead time. Comment: ☒ No comments
10. *WCP-41, §6.3.1.3.c:* ☒ Pu-239 masses determined from the 414 keV peak and the 129 keV peak agree by a factor of < 2.5 or ☐ expert review has addressed possible matrix inhomogeneity. Comment: The first nine segments were refit using interactive peak fit to give better values. ☐ No comments
11. *WCP-41, §6.3.2.3:* Cs-137 (☐ has) (☒ has not) been identified by expert review. If it has, Sr-90 is reported ☐ at an activity ratio to Cs-137of 0.39 for Pu fission or ☐ at a ratio of 1 for U-235 fission or, ☐ if both Pu and U are present, the expert reviewer has determined the ratio. Comment: ☒ No comments

CONTROLLED FORM

Batch 2002-02-764

SGS Expert Review Checklist

Container Identification #: LL85100556_____ Original Assay Date:2-07-2002__

12. *WCP-41, §6.3.2.4:* ☒ No unusual nuclides are identified (none other than the 10 required to be reported to WIPP) or ☐ the expert reviewer has checked for interferences from unusual nuclides. Comment: ☒ No comments

13. *WCP-41, §6.3.3:* For waste drums (☐ NA for standards), ☐ the Summed Spectrum report value for Pu-239 and the Combined Segment NID report for Pu-239 agree within 95% confidence limits (the same as for replicates of unknowns) or ☒ expert review has addressed the difference. Comment: The ratio of the combined NID to that of the summed NID is 1.11 or approximately five-sigma. The uniformity measurements indicate that the combined NID should not be expected to equal the summed NID. ☐ No comments

14. *WCP-41, §6.4:* ☐ The SGS Summed Spectrum and Combined Segment NID reports agree as to the ratios by weight of several radionuclides, such as those of Am-241, Pu-241, Np-237, Am-243, and U-235 to Pu-239, and MGA results agree as to identifying these radionuclides or ☒ expert review has resolved this. Comment: See comment to #13. ☐ No comments

15. *WCP-41, §6.6.1:* ☒ All reported radionuclide masses are above 2.5 times the uncorrected MDA or ☐ expert review has calculated transmission-corrected MDA's and taken appropriate action. Comment: ☒ No comments

16. *WCP-41, §6.6.2:* ☒ Any changes to reported quantities of individual radionuclides have been entered into the RADA program and a new radioassay data sheet has been produced, showing revised derivative quantities, and included in the batch data report, along with the marked up original. Comment: ☒ No comments

17. *CP-41, §6.7:* ☒ Counting statistics are adequate for normal passive count time of 120 seconds per segment or ☐ Counting statistics are adequate for long passive count time of 600 seconds per segment or ☐ expert review has rejected the count and ordered a longer count time. Comment: ☒ No comments

Kenneth Raschke — Expert Reviewer (print)

Kenneth Raschke — Signature

6/10/02 — Date

Batch 2002-02-765

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-02

INVALID
KER
6-10-02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS 2.3A

****
* DRUM INFORMATION *
****

Drum Package ID: LL85100556
Sequence Number: 859
Assay Date & Time: 2-07-2002 11:15:25 AM
Drum Package GROSS Weight: 80.00 kg NET Weight: 41.20 kg

IDC Number: LL85100556

QC Replicate (Yes/No): NO Passed (Yes/No): _____

Operator Name (Printed): Russell Ratti

Operator Signature: RRuA Date: 2-7-02

Independent Reviewer: _____ Date: _____

Expert Reviewer: _____ Date: _____

Tech. Supv/QA Officer: _____ Date: _____

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 1.219E+01 +/- 2.497E+00 Ci

INVALID
KER
6-10-02

****
* ISOTOPIC INFORMATION *
****

Isotope	Measured Mass (g)	Mass Uncertainty (g)	MDC (g)
Pu-238	4.120E-02	1.56E-02	1.167E-04
Pu-239	6.945E+01	2.59E+01	1.968E-01
Pu-240	1.589E+01	5.93E+00	4.501E-02
Pu-241	4.985E-01	1.86E-01	3.570E-03
Pu-242	4.030E-01	1.74E-01	1.142E-03
Am-241	1.012E+00	3.78E-01	6.599E-03
Am-243	0.000E+00	0.00E+00	0.000E+00
Np-237	0.000E+00	0.00E+00	9.345E-04
U-235	0.000E+00	0.00E+00	2.018E-01
U-238	1.844E+01	7.03E+00	1.844E+01
U-233	5.405E+00	1.99E+00	5.405E+00

Total Pu Mass: 8.63E+01 +/- 5.67E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	4.776E-02	3.58E+00
Pu-239	8.049E+01	2.35E-01
Pu-240	1.841E+01	9.41E-01
Pu-241	5.778E-01	8.25E-01
Pu-242	4.671E-01	1.10E+01
Am-241	1.173E+00	7.91E-01

Batch 2002-03-760

INVALID
KER
6-10-02

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005

Assay Date & Time: 2-07-2002 11:15:25 AM

Drum Package ID: LL85100556
Sequence Number: 859

Waste Classification (TRU or LLW): TRU

		Errors at 1.96 sigma	
Total Alpha Activity :	1.219E+01	+/- 2.50E+00	Ci
Total TRU Activity :	2.959E+05	+/- 6.06E+04	nCi/g
Pu-239 Equiv Activity:	1.314E+01	+/- 2.52E+00	Ci
Fissile Gram Equiv Mass:	7.095E+01	+/- 2.59E+01	g
Total Decay Heat:	3.918E-01	+/- 7.97E-02	W
TMU Value:	37.28 %		

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error	MDA gm
Pu-238	7.13E-01	2.70E-01	4.12E-02	1.56E-02	1.17E-04
Pu-239	4.31E+00	1.61E+00	6.94E+01	2.59E+01	1.97E-01
Pu-240	3.65E+00	1.36E+00	1.59E+01	5.93E+00	4.50E-02
Pu-241	5.18E+01	1.93E+01	4.99E-01	1.86E-01	3.57E-03
Pu-242	1.60E-03	6.89E-04	4.03E-01	1.74E-01	1.14E-03
Am-241	3.51E+00	1.31E+00	1.01E+00	3.78E-01	6.60E-03
Am-243	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Np-237	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.35E-04
U-235	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.02E-01
U-238	6.27E-06	2.39E-06	1.84E+01	7.03E+00	1.84E+01
U-233	5.28E-02	1.94E-02	5.40E+00	1.99E+00	5.40E+00

Total Pu Mass: 8.63E+01 +/- 5.67E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	4.776E-02	3.58E+00
Pu-239	8.049E+01	2.35E-01
Pu-240	1.841E+01	9.41E-01
Pu-241	5.778E-01	8.25E-01
Pu-242	4.671E-01	1.10E+01
Am-241	1.173E+00	7.91E-01

Batch 2002-02-761

INVALID
KER 6-10-02

****
***** M G A R E P O R T *****
****

Report generated on: 2-07-02 12:12:03 PM

MGA version: MGA V9.5 CI

Spectrum ID: 11200859.CNF Sens : 30.0% LT: 52.0 Mins DT: 7.00
Measurement date: 2-07-02 Declared date: 2-07-02

Sample ID: LL85100556 Detector: Total counts: 1.274E+07

Pu g/cm2 = 0.8143 Cd g/cm2 = 2.3447 FWHM at 122 keV = 687 eV
QFIT = 2.98 FWHM at 208 keV = 870 eV
NQFIT = 1.10

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	%Err	Decl. date % weight	%Err
Pu-238	0.000593	3.6	3.6	0.0826	3.5	0.04776	3.58	0.04776	3.58
Pu-239	1.000000	0.0	0.8	139.3078	0.9	80.49310	0.24	80.49310	0.24
Pu-240	0.228768	1.2	0.8	31.8691	1.0	18.41421	0.94	18.41421	0.94
Pu-241	0.007178	0.9	0.6	1.0000	0.0	0.57781	0.82	0.57781	0.82
Pu-242	(New alg.)			0.8085	(11)	0.46713	(11)	0.46713	(11)
Am-241	0.014569	0.9	0.4	2.0295	0.7	1.17268	0.79	1.17268	0.79

Pu-240 effective (meas. date) = 19.319 +/- 1.20%
Am-241 separated about 22.902 +/- 0.173 years ago
Am/Pu-241 weight ratio = 2.02953 +/- 0.75%

Messages :

Lead x-rays detected.
Calculations in MGAABS didn't converge : results may be suspect.
Pu-241/Pu-239 efficiency changed in MGACAL by 10%.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Batch 2002-02-762

****
***** M G A R E P O R T *****
****

Report generated on: 6-10-02 2:22:07 PM

MGA version: MGA V9.5 CI

Spectrum ID: 11200859.CNF Sens : 30.0% LT: 52.0 Mins DT: 7.00
Measurement date: 2-07-02 Declared date: 2-07-02

Sample ID: LL85100556 Detector: Total counts: 1.274E+07

Pu g/cm2 = 0.1600 Cd g/cm2 = 1.8164 FWHM at 122 keV = 687 eV
QFIT = 1.27 FWHM at 208 keV = 870 eV
NQFIT = 1.01

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	%Err	Decl. date % weight	%Err
Pu-238	0.000735	2.1	2.1	0.0892	2.1	0.05828	2.12	0.05828	2.12
Pu-239	1.000000	0.0	0.5	121.3648	0.6	79.29190	0.17	79.29190	0.17
Pu-240	0.245172	0.8	0.5	29.7552	0.7	19.44013	0.61	19.44013	0.61
Pu-241	0.008240	0.6	0.4	1.0000	0.0	0.65334	0.53	0.65334	0.53
Pu-242	(New alg.)			0.8516	(10)	0.55636	(10)	0.55636	(10)
Am-241	0.015929	0.6	0.3	1.9332	0.5	1.26303	0.52	1.26303	0.52

Pu-240 effective (meas. date) = 20.522 +/- 0.86%
Am-241 separated about 22.256 +/- 0.122 years ago
Am/Pu-241 weight ratio = 1.93320 +/- 0.48%

Messages :

Lead x-rays detected.
Calculations in MGAABS didn't converge : results may be suspect.
16 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Batch 2002-02-763

Gamma Waste Assay

Sample Information

File Name: C:\WAS\DATA\900\11100859.S11
Sample ID: LL85100556 Count Sequence Number: 859
Assay Start: 2-07-02 11:15:27 AM
Description 1: unknown
Description 2:
Location: 7715
Comment:
Waste Type:
Weight: Gross: 80000.0 g Net: 41200.0 g
Density: 0.198 g /ml

Container Type: 55 TRU GALV 87#
Container: Volume: 208000. ml Full: 100.0 %

System Configuration

Counter ID Number: SGS
Arrangement Description: SGS
Segments: Number: 16 Offset: 0
Scanning Platform: Start: 934 mm Delta: -51 mm
Count Type: 55 TRU GALV 87#
Collimator/Geometry Setting: 0
Transmission Mode: Two pass
Transmission Source: 0

Errors quoted at 1.000 sigma
Reference Source Date: Reference Source Rate: 1.01E+03 cps
Geometric Correction Factor(SWCONTGCF): 0.760
Date of efficiency calibration approval: 4-18-2001 12:41:36 PM
Mu Factors response file: Lucite
Transmission Calib. Time: 5-18-2001 2:02:56 PM 46625

Reviewed by: Lee P Ell Date: 7/16/02

Batch 2002-02-766

Segment Results

Segment: 1 Detector: DET01 (# 1) Position: 1

Elapsed Live Time: 112.20 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Some transmission peaks rejected.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	0.218 +/- 0.0031
SE-75	279.53	0.000 +/- 0.0000	0.225 +/- 0.0045
SE-75	400.65	0.000 +/- 0.0000	0.255 +/- 0.0056

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
M	1	21.67	2.47E+00 +/- 1.53E-01	4.10E+00	4.80E-08 +/- 6.64E-07
m	2	23.20	1.43E+01 +/- 3.71E-01	4.10E+00	9.39E-08 +/- 1.18E-06
m	3	26.27	5.98E+00 +/- 2.67E-01	3.52E+00	2.90E-07 +/- 3.00E-06
	4	35.10	1.01E+03 +/- 4.81E+00	2.71E+00	2.61E-06 +/- 1.64E-05
	5	48.88	2.02E+01 +/- 9.20E-01	2.28E+00	1.66E-05 +/- 5.31E-05
	6	59.62	1.90E+02 +/- 1.66E+00	2.13E+00	3.76E-05 +/- 7.40E-05
	7	99.05	1.84E+01 +/- 1.10E+00	1.93E+00	1.40E-04 +/- 4.04E-05
	8	103.17	1.15E+01 +/- 1.14E+00	1.92E+00	1.49E-04 +/- 3.34E-05
	9	114.44	2.27E+00 +/- 6.79E-01	1.89E+00	1.71E-04 +/- 1.71E-05
M	10	123.29	2.08E+00 +/- 2.90E-01	1.87E+00	1.86E-04 +/- 1.18E-05
m	11	125.51	9.49E+00 +/- 3.84E-01	1.87E+00	1.89E-04 +/- 1.21E-05
m	12	129.54	9.24E+00 +/- 3.77E-01	1.86E+00	1.95E-04 +/- 1.39E-05
M	13	146.72	1.90E+00 +/- 3.30E-01	1.83E+00	2.13E-04 +/- 2.46E-05
m	14	148.89	5.07E+00 +/- 5.27E-01	1.83E+00	2.15E-04 +/- 2.57E-05
	15	208.40	2.22E+01 +/- 6.28E-01	1.75E+00	2.30E-04 +/- 2.81E-05
	16	268.03	6.46E-01 +/- 2.92E-01	1.68E+00	2.15E-04 +/- 1.47E-05
	17	300.10	5.87E-01 +/- 2.78E-01	1.66E+00	2.04E-04 +/- 1.08E-05
	18	311.90	1.50E+00 +/- 2.78E-01	1.65E+00	2.00E-04 +/- 1.03E-05
	19	333.07	8.09E-01 +/- 3.52E-01	1.64E+00	1.92E-04 +/- 1.04E-05
	20	336.09	1.17E+00 +/- 2.59E-01	1.64E+00	1.91E-04 +/- 1.05E-05
	21	345.67	1.81E+00 +/- 2.58E-01	1.63E+00	1.88E-04 +/- 1.07E-05
	22	369.19	1.56E+00 +/- 2.30E-01	1.62E+00	1.80E-04 +/- 1.16E-05
	23	375.71	4.73E+00 +/- 3.07E-01	1.62E+00	1.77E-04 +/- 1.18E-05
	24	383.34	4.50E-01 +/- 1.43E-01	1.62E+00	1.75E-04 +/- 1.21E-05

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25	393.64	1.70E+00	+/- 1.86E-01	1.61E+00	1.72E-04	+/- 1.23E-05
26	413.70	4.59E+00	+/- 2.45E-01	1.60E+00	1.65E-04	+/- 1.27E-05
27	452.10	6.30E-01	+/- 1.21E-01	1.57E+00	1.54E-04	+/- 1.30E-05
28	620.31	2.13E-01	+/- 6.84E-02	1.48E+00	1.19E-04	+/- 9.29E-06
29	662.42	1.38E+00	+/- 1.15E-01	1.46E+00	1.12E-04	+/- 8.14E-06
30	723.57	4.45E-01	+/- 7.39E-02	1.44E+00	1.04E-04	+/- 6.69E-06

Segment: 2 Detector: DET01 (# 1) Position: 2

Elapsed Live Time: 108.89 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.156 +/- 0.0029
SE-75	279.53	0.000 +/- 0.0000	0.171 +/- 0.0044
SE-75	400.65	0.000 +/- 0.0000	0.207 +/- 0.0053

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
M	1	21.68	5.94E+00 +/- 2.26E-02	4.10E+00	1.63E-10 +/- 1.72E-09
m	2	23.18	2.76E+01 +/- 1.05E-01	4.10E+00	5.47E-10 +/- 5.23E-09
m	3	26.27	1.58E+01 +/- 6.02E-02	4.10E+00	4.35E-09 +/- 3.42E-08
	4	35.10	1.01E+03 +/- 4.93E+00	4.10E+00	2.21E-07 +/- 1.06E-06
	5	59.61	5.11E+02 +/- 3.17E+00	4.10E+00	2.20E-05 +/- 3.31E-05
	6	75.17	6.30E+00 +/- 9.08E-01	4.10E+00	7.28E-05 +/- 5.46E-05
	7	99.02	6.09E+01 +/- 1.68E+00	4.10E+00	1.85E-04 +/- 4.21E-05
	8	103.23	5.59E+01 +/- 2.11E+00	4.10E+00	2.05E-04 +/- 3.63E-05
	9	111.33	2.58E+00 +/- 1.24E+00	4.10E+00	2.41E-04 +/- 2.51E-05
	10	114.45	5.84E+00 +/- 1.25E+00	4.10E+00	2.54E-04 +/- 2.15E-05
M	11	123.35	3.84E+00 +/- 4.96E-01	4.10E+00	2.88E-04 +/- 1.63E-05
m	12	125.49	2.63E+01 +/- 8.15E-01	4.10E+00	2.95E-04 +/- 1.66E-05
m	13	129.53	4.39E+01 +/- 1.12E+00	4.10E+00	3.08E-04 +/- 1.85E-05
M	14	146.64	5.31E+00 +/- 5.01E-01	3.36E+00	3.51E-04 +/- 3.15E-05
m	15	148.83	2.40E+01 +/- 9.93E-01	3.27E+00	3.55E-04 +/- 3.29E-05
	16	160.57	4.89E+00 +/- 8.28E-01	2.92E+00	3.72E-04 +/- 3.86E-05
	17	164.83	3.28E+00 +/- 9.11E-01	2.83E+00	3.77E-04 +/- 3.99E-05
	18	179.31	1.95E+00 +/- 8.06E-01	2.58E+00	3.87E-04 +/- 4.17E-05
	19	208.36	1.30E+02 +/- 1.45E+00	2.25E+00	3.88E-04 +/- 3.70E-05
	20	244.70	9.88E-01 +/- 5.13E-01	1.98E+00	3.69E-04 +/- 2.61E-05
	21	255.47	1.32E+00 +/- 5.33E-01	1.92E+00	3.61E-04 +/- 2.31E-05

Batch 2002-02-768

22	268.05	4.50E+00 +/-	5.07E-01	1.86E+00	3.52E-04 +/-	2.00E-05
23	300.10	1.46E+00 +/-	4.49E-01	1.80E+00	3.27E-04 +/-	1.48E-05
24	311.90	6.34E+00 +/-	4.82E-01	1.79E+00	3.18E-04 +/-	1.39E-05
25	323.63	1.75E+00 +/-	3.22E-01	1.78E+00	3.09E-04 +/-	1.35E-05
26	333.15	1.18E+01 +/-	7.32E-01	1.77E+00	3.02E-04 +/-	1.34E-05
27	336.16	2.67E+00 +/-	6.26E-01	1.77E+00	3.00E-04 +/-	1.34E-05
28	345.58	1.13E+01 +/-	5.06E-01	1.76E+00	2.94E-04 +/-	1.34E-05
29	369.05	6.82E+00 +/-	4.48E-01	1.74E+00	2.78E-04 +/-	1.39E-05
30	375.67	3.37E+01 +/-	6.77E-01	1.73E+00	2.74E-04 +/-	1.40E-05
31	383.50	3.61E+00 +/-	3.36E-01	1.73E+00	2.69E-04 +/-	1.42E-05
32	393.59	1.21E+01 +/-	4.26E-01	1.72E+00	2.63E-04 +/-	1.43E-05
33	400.66	4.87E-01 +/-	2.27E-01	1.72E+00	2.59E-04 +/-	1.44E-05
34	413.70	3.31E+01 +/-	6.13E-01	1.70E+00	2.51E-04 +/-	1.46E-05
35	423.22	1.08E+00 +/-	2.35E-01	1.70E+00	2.46E-04 +/-	1.46E-05
36	443.98	3.37E-01 +/-	1.73E-01	1.68E+00	2.36E-04 +/-	1.45E-05
37	452.17	4.07E+00 +/-	2.51E-01	1.67E+00	2.32E-04 +/-	1.45E-05
38	584.46	3.63E-01 +/-	1.05E-01	1.58E+00	1.84E-04 +/-	1.14E-05
39	619.94	7.72E-01 +/-	1.26E-01	1.56E+00	1.74E-04 +/-	1.03E-05
40	654.45	4.18E-01 +/-	1.19E-01	1.54E+00	1.66E-04 +/-	9.39E-06
41	662.42	4.69E+00 +/-	2.20E-01	1.54E+00	1.65E-04 +/-	9.18E-06
42	690.04	4.11E-01 +/-	1.04E-01	1.53E+00	1.59E-04 +/-	8.52E-06

Batch 2002-02-769

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
43	723.28	2.22E+00 +/- 1.55E-01	1.51E+00	1.53E-04 +/- 7.83E-06
44	757.64	2.26E-01 +/- 6.10E-02	1.50E+00	1.47E-04 +/- 7.23E-06

Segment: 3 Detector: DET01 (# 1) Position: 3

Elapsed Live Time: 106.04 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Some transmission peaks rejected.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	0.161 +/- 0.0032
SE-75	279.53	0.000 +/- 0.0000	0.180 +/- 0.0048
SE-75	400.65	0.000 +/- 0.0000	0.219 +/- 0.0058

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
M	1	21.66	8.61E+00 +/- 3.31E-02	4.10E+00	4.10E-09 +/- 4.44E-08
m	2	23.16	3.91E+01 +/- 1.50E-01	4.10E+00	1.04E-08 +/- 1.02E-07
m	3	26.27	2.24E+01 +/- 8.60E-02	4.10E+00	5.18E-08 +/- 4.18E-07
	4	35.10	1.01E+03 +/- 4.99E+00	3.13E+00	1.07E-06 +/- 5.27E-06
	5	59.59	7.95E+02 +/- 4.36E+00	2.40E+00	3.79E-05 +/- 5.87E-05
	6	74.92	5.28E+00 +/- 1.02E+00	2.26E+00	9.56E-05 +/- 7.46E-05
	7	98.95	1.49E+02 +/- 2.40E+00	2.15E+00	2.01E-04 +/- 4.72E-05
	8	103.25	1.54E+02 +/- 1.78E+00	2.13E+00	2.19E-04 +/- 3.97E-05
	9	114.50	1.56E+01 +/- 1.60E+00	2.10E+00	2.60E-04 +/- 2.23E-05
M	10	123.30	4.34E+00 +/- 5.96E-01	2.08E+00	2.86E-04 +/- 1.65E-05
m	11	125.46	3.90E+01 +/- 9.71E-01	2.07E+00	2.92E-04 +/- 1.67E-05
m	12	129.48	8.07E+01 +/- 1.51E+00	2.06E+00	3.02E-04 +/- 1.86E-05
M	13	146.56	3.63E+00 +/- 4.18E-01	2.03E+00	3.36E-04 +/- 3.11E-05
m	14	148.81	4.19E+01 +/- 1.33E+00	2.02E+00	3.39E-04 +/- 3.25E-05
	15	160.45	6.26E+00 +/- 1.01E+00	2.00E+00	3.53E-04 +/- 3.79E-05
	16	164.81	8.45E+00 +/- 1.12E+00	1.99E+00	3.57E-04 +/- 3.91E-05
	17	189.24	2.13E+00 +/- 8.19E-01	1.95E+00	3.67E-04 +/- 4.01E-05
	18	195.94	3.01E+00 +/- 9.61E-01	1.94E+00	3.67E-04 +/- 3.91E-05
	19	208.32	2.10E+02 +/- 1.91E+00	1.92E+00	3.66E-04 +/- 3.64E-05
	20	255.71	2.68E+00 +/- 5.93E-01	1.86E+00	3.46E-04 +/- 2.30E-05

Batch 2002-02-770

	21	267.93	8.17E+00	+/- 5.29E-01	1.84E+00	3.39E-04	+/-	2.01E-05
M	22	298.04	1.26E+00	+/- 3.46E-01	1.77E+00	3.21E-04	+/-	1.51E-05
m	23	300.86	1.23E+00	+/- 3.32E-01	1.77E+00	3.19E-04	+/-	1.48E-05
	24	311.90	1.01E+01	+/- 5.90E-01	1.76E+00	3.13E-04	+/-	1.40E-05
	25	323.36	7.25E+00	+/- 5.56E-01	1.75E+00	3.06E-04	+/-	1.36E-05
	26	333.13	1.91E+01	+/- 9.21E-01	1.74E+00	3.00E-04	+/-	1.35E-05
	27	336.13	4.04E+00	+/- 7.78E-01	1.74E+00	2.98E-04	+/-	1.35E-05
	28	345.57	1.78E+01	+/- 6.27E-01	1.73E+00	2.93E-04	+/-	1.36E-05
	29	369.23	1.25E+01	+/- 5.88E-01	1.71E+00	2.79E-04	+/-	1.42E-05
	30	375.61	5.20E+01	+/- 9.36E-01	1.70E+00	2.76E-04	+/-	1.44E-05
	31	383.48	4.89E+00	+/- 4.16E-01	1.70E+00	2.72E-04	+/-	1.46E-05
	32	393.55	2.07E+01	+/- 5.52E-01	1.69E+00	2.67E-04	+/-	1.48E-05
	33	413.70	5.33E+01	+/- 7.95E-01	1.67E+00	2.57E-04	+/-	1.52E-05
	34	423.23	2.50E+00	+/- 2.99E-01	1.67E+00	2.53E-04	+/-	1.53E-05
	35	452.15	6.48E+00	+/- 3.22E-01	1.64E+00	2.40E-04	+/-	1.54E-05
	36	584.06	4.23E-01	+/- 1.46E-01	1.56E+00	1.96E-04	+/-	1.25E-05
	37	620.04	1.23E+00	+/- 1.50E-01	1.54E+00	1.87E-04	+/-	1.14E-05
	38	647.21	2.28E-01	+/- 1.34E-01	1.52E+00	1.81E-04	+/-	1.07E-05
	39	654.15	8.24E-01	+/- 1.42E-01	1.52E+00	1.79E-04	+/-	1.05E-05
	40	662.42	7.27E+00	+/- 2.85E-01	1.52E+00	1.78E-04	+/-	1.02E-05
	41	689.85	5.78E-01	+/- 1.18E-01	1.50E+00	1.72E-04	+/-	9.52E-06
	42	723.10	3.19E+00	+/- 1.97E-01	1.49E+00	1.66E-04	+/-	8.74E-06

Batch 2002-02-771

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
43	739.00	1.39E-01 +/- 8.04E-02	1.48E+00	1.63E-04 +/- 8.41E-06
44	757.11	1.54E-01 +/- 6.94E-02	1.48E+00	1.60E-04 +/- 8.07E-06
45	1001.03	8.92E-02 +/- 4.17E-02	1.40E+00	1.31E-04 +/- 5.70E-06

Segment: 4 Detector: DET01 (# 1) Position: 4

Elapsed Live Time: 107.76 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.235 +/- 0.0035
SE-75	279.53	0.000 +/- 0.0000	0.253 +/- 0.0052
SE-75	400.65	0.000 +/- 0.0000	0.295 +/- 0.0063

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
M 1	21.65	6.31E+00 +/- 2.40E-02	4.10E+00	2.35E-06 +/- 3.58E-06
m 2	23.15	4.08E+01 +/- 1.55E-01	4.10E+00	3.31E-06 +/- 4.66E-06
m 3	26.17	1.91E+01 +/- 7.26E-02	4.10E+00	5.94E-06 +/- 7.23E-06
4	35.10	1.01E+03 +/- 4.94E+00	4.10E+00	2.00E-05 +/- 1.66E-05
5	49.68	2.59E+01 +/- 1.55E+00	4.10E+00	6.18E-05 +/- 2.98E-05
6	59.60	8.85E+02 +/- 4.69E+00	4.10E+00	9.83E-05 +/- 3.39E-05
7	75.05	4.03E+00 +/- 9.14E-01	4.10E+00	1.58E-04 +/- 3.32E-05
8	99.02	8.73E+01 +/- 2.30E+00	4.10E+00	2.40E-04 +/- 2.41E-05
9	103.15	6.29E+01 +/- 2.34E+00	4.10E+00	2.52E-04 +/- 2.25E-05
10	114.44	1.09E+01 +/- 1.32E+00	4.10E+00	2.81E-04 +/- 1.87E-05
M 11	123.20	7.41E+00 +/- 5.47E-01	4.10E+00	3.01E-04 +/- 1.69E-05
m 12	125.47	3.96E+01 +/- 9.65E-01	4.10E+00	3.05E-04 +/- 1.65E-05
m 13	129.51	6.06E+01 +/- 1.26E+00	4.10E+00	3.12E-04 +/- 1.61E-05
M 14	146.78	3.93E+00 +/- 4.45E-01	3.12E+00	3.38E-04 +/- 1.62E-05
m 15	148.81	2.80E+01 +/- 1.11E+00	3.03E+00	3.41E-04 +/- 1.63E-05
16	160.49	4.44E+00 +/- 8.81E-01	2.66E+00	3.52E-04 +/- 1.72E-05
17	164.92	2.85E+00 +/- 9.68E-01	2.56E+00	3.56E-04 +/- 1.76E-05
18	189.50	1.99E+00 +/- 7.04E-01	2.19E+00	3.68E-04 +/- 1.91E-05
19	195.94	2.19E+00 +/- 8.12E-01	2.12E+00	3.69E-04 +/- 1.93E-05

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	20	208.34	1.28E+02	+/- 1.45E+00	2.00E+00	3.71E-04	+/-	1.94E-05
	21	244.70	8.15E-01	+/- 4.35E-01	1.75E+00	3.65E-04	+/-	1.85E-05
	22	268.03	4.54E+00	+/- 4.36E-01	1.64E+00	3.57E-04	+/-	1.73E-05
M	23	297.97	7.10E-01	+/- 2.61E-01	1.60E+00	3.45E-04	+/-	1.56E-05
m	24	300.62	1.06E+00	+/- 3.09E-01	1.60E+00	3.43E-04	+/-	1.54E-05
	25	311.90	6.23E+00	+/- 4.98E-01	1.59E+00	3.38E-04	+/-	1.48E-05
	26	333.12	9.29E+00	+/- 7.10E-01	1.58E+00	3.27E-04	+/-	1.37E-05
	27	336.15	3.33E+00	+/- 5.75E-01	1.57E+00	3.26E-04	+/-	1.36E-05
	28	345.58	8.62E+00	+/- 4.72E-01	1.57E+00	3.21E-04	+/-	1.32E-05
	29	369.11	6.33E+00	+/- 4.49E-01	1.55E+00	3.09E-04	+/-	1.23E-05
	30	375.66	2.59E+01	+/- 6.62E-01	1.55E+00	3.06E-04	+/-	1.21E-05
	31	383.51	2.70E+00	+/- 3.09E-01	1.54E+00	3.02E-04	+/-	1.18E-05
	32	393.56	1.04E+01	+/- 4.03E-01	1.54E+00	2.97E-04	+/-	1.16E-05
	33	413.70	2.64E+01	+/- 5.49E-01	1.53E+00	2.87E-04	+/-	1.11E-05
	34	423.30	1.15E+00	+/- 2.66E-01	1.52E+00	2.83E-04	+/-	1.10E-05
	35	452.34	3.05E+00	+/- 2.34E-01	1.50E+00	2.70E-04	+/-	1.06E-05
	36	619.84	7.11E-01	+/- 1.19E-01	1.42E+00	2.07E-04	+/-	9.43E-06
	37	646.87	1.83E-01	+/- 8.97E-02	1.41E+00	1.99E-04	+/-	9.19E-06
	38	653.96	6.30E-01	+/- 9.92E-02	1.41E+00	1.97E-04	+/-	9.12E-06
	39	662.42	4.17E+00	+/- 2.05E-01	1.41E+00	1.95E-04	+/-	9.03E-06
	40	689.93	3.32E-01	+/- 9.05E-02	1.40E+00	1.87E-04	+/-	8.74E-06
	41	723.18	2.03E+00	+/- 1.55E-01	1.39E+00	1.79E-04	+/-	8.36E-06
	42	1001.03	1.85E-02	+/- 1.31E-02	1.32E+00	1.30E-04	+/-	4.96E-06

Batch 2002-02-773

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)

Segment: 5 Detector: DET01 (# 1) Position: 5

Elapsed Live Time: 107.26 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Some transmission peaks rejected.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	0.268 +/- 0.0037
SE-75	279.53	0.000 +/- 0.0000	0.287 +/- 0.0055
SE-75	400.65	0.000 +/- 0.0000	0.327 +/- 0.0067

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
M	1	21.69	8.96E+00 +/- 3.42E-02	3.96E+00	1.17E-06 +/- 1.84E-06
m	2	23.19	5.16E+01 +/- 1.97E-01	3.60E+00	1.76E-06 +/- 2.56E-06
m	3	26.02	2.36E+01 +/- 9.01E-02	3.13E+00	3.40E-06 +/- 4.31E-06
	4	35.10	1.01E+03 +/- 4.96E+00	2.43E+00	1.48E-05 +/- 1.27E-05
	5	49.72	4.27E+01 +/- 1.87E+00	2.06E+00	5.51E-05 +/- 2.73E-05
	6	59.59	1.17E+03 +/- 5.82E+00	1.95E+00	9.33E-05 +/- 3.30E-05
	7	75.04	6.57E+00 +/- 9.31E-01	1.86E+00	1.59E-04 +/- 3.39E-05
	8	99.01	9.93E+01 +/- 2.52E+00	1.78E+00	2.50E-04 +/- 2.51E-05
	9	103.13	8.71E+01 +/- 2.57E+00	1.77E+00	2.63E-04 +/- 2.34E-05
	10	114.49	1.08E+01 +/- 1.37E+00	1.75E+00	2.95E-04 +/- 1.94E-05
	11	125.53	4.88E+00 +/- 1.25E+00	1.73E+00	3.19E-04 +/- 1.71E-05
	12	129.29	2.96E+01 +/- 1.40E+00	1.72E+00	3.26E-04 +/- 1.67E-05
M	13	146.74	5.02E+00 +/- 4.56E-01	1.70E+00	3.52E-04 +/- 1.70E-05
m	14	148.81	3.34E+01 +/- 1.18E+00	1.70E+00	3.54E-04 +/- 1.72E-05
	15	160.42	3.13E+00 +/- 8.58E-01	1.68E+00	3.65E-04 +/- 1.82E-05
	16	164.83	4.99E+00 +/- 9.51E-01	1.68E+00	3.68E-04 +/- 1.86E-05
	17	208.33	1.44E+02 +/- 1.51E+00	1.63E+00	3.75E-04 +/- 2.04E-05
	18	244.70	7.79E-01 +/- 4.79E-01	1.60E+00	3.63E-04 +/- 1.90E-05
	19	255.81	1.62E+00 +/- 4.57E-01	1.59E+00	3.58E-04 +/- 1.84E-05
	20	267.97	4.52E+00 +/- 4.19E-01	1.57E+00	3.51E-04 +/- 1.76E-05
	21	300.10	1.37E+00 +/- 4.40E-01	1.54E+00	3.33E-04 +/- 1.55E-05
	22	311.90	7.80E+00 +/- 4.80E-01	1.53E+00	3.26E-04 +/- 1.48E-05

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23	323.15	4.83E+00 +/-	4.31E-01	1.52E+00	3.19E-04 +/-	1.41E-05
24	333.08	7.63E+00 +/-	7.16E-01	1.52E+00	3.14E-04 +/-	1.36E-05
25	336.10	5.80E+00 +/-	5.64E-01	1.52E+00	3.12E-04 +/-	1.34E-05
26	345.61	8.37E+00 +/-	4.73E-01	1.51E+00	3.06E-04 +/-	1.30E-05
27	369.16	7.48E+00 +/-	4.31E-01	1.50E+00	2.93E-04 +/-	1.20E-05
28	375.62	2.59E+01 +/-	6.05E-01	1.50E+00	2.89E-04 +/-	1.18E-05
29	383.45	2.06E+00 +/-	3.89E-01	1.49E+00	2.85E-04 +/-	1.16E-05
30	393.59	8.80E+00 +/-	3.68E-01	1.49E+00	2.79E-04 +/-	1.13E-05
31	413.70	2.40E+01 +/-	5.23E-01	1.48E+00	2.69E-04 +/-	1.09E-05
32	423.21	7.96E-01 +/-	2.09E-01	1.47E+00	2.64E-04 +/-	1.07E-05
33	452.19	2.53E+00 +/-	2.28E-01	1.46E+00	2.51E-04 +/-	1.03E-05
34	583.90	2.11E-01 +/-	9.85E-02	1.40E+00	2.00E-04 +/-	9.41E-06
35	619.98	8.86E-01 +/-	1.24E-01	1.38E+00	1.90E-04 +/-	9.14E-06
36	654.04	6.27E-01 +/-	1.14E-01	1.37E+00	1.81E-04 +/-	8.85E-06
37	662.42	4.27E+00 +/-	2.14E-01	1.37E+00	1.79E-04 +/-	8.77E-06
38	689.96	1.94E-01 +/-	9.85E-02	1.36E+00	1.72E-04 +/-	8.50E-06
39	723.31	2.14E+00 +/-	1.70E-01	1.35E+00	1.65E-04 +/-	8.15E-06

Segment: 6 Detector: DET01 (# 1) Position: 6

Elapsed Live Time: 106.96 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Some transmission peaks rejected.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	0.232 +/- 0.0035
SE-75	279.53	0.000 +/- 0.0000	0.247 +/- 0.0052
SE-75	400.65	0.000 +/- 0.0000	0.300 +/- 0.0065

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.19	6.04E+01 +/- 1.16E+00	3.97E+00	6.75E-07 +/- 9.58E-07
2	35.10	1.01E+03 +/- 4.96E+00	2.63E+00	8.04E-06 +/- 6.71E-06
3	49.61	2.89E+01 +/- 1.54E+00	2.20E+00	3.68E-05 +/- 1.79E-05
4	59.60	9.26E+02 +/- 4.85E+00	2.08E+00	6.90E-05 +/- 2.40E-05
5	75.03	5.50E+00 +/- 9.51E-01	1.97E+00	1.29E-04 +/- 2.73E-05
6	98.94	1.56E+02 +/- 2.38E+00	1.88E+00	2.23E-04 +/- 2.25E-05
7	103.16	4.15E+01 +/- 3.03E+00	1.87E+00	2.37E-04 +/- 2.12E-05
8	114.47	1.65E+01 +/- 1.48E+00	1.85E+00	2.73E-04 +/- 1.82E-05
M 9	123.23	1.10E+01 +/- 5.98E-01	1.83E+00	2.96E-04 +/- 1.67E-05
m 10	125.48	5.43E+01 +/- 1.06E+00	1.83E+00	3.01E-04 +/- 1.64E-05

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m	11	129.46	9.28E+01	+/- 1.49E+00	1.82E+00	3.11E-04	+/-	1.61E-05
M	12	144.35	3.56E+00	+/- 3.71E-01	1.79E+00	3.39E-04	+/-	1.63E-05
m	13	146.56	8.13E+00	+/- 5.65E-01	1.79E+00	3.42E-04	+/-	1.65E-05
m	14	148.84	4.94E+01	+/- 1.29E+00	1.79E+00	3.45E-04	+/-	1.67E-05
m	15	153.04	4.38E+00	+/- 3.76E-01	1.78E+00	3.51E-04	+/-	1.71E-05
	16	160.51	6.32E+00	+/- 9.01E-01	1.77E+00	3.60E-04	+/-	1.78E-05
	17	164.83	5.06E+00	+/- 9.99E-01	1.77E+00	3.64E-04	+/-	1.82E-05
	18	195.91	3.11E+00	+/- 8.30E-01	1.73E+00	3.80E-04	+/-	2.01E-05
	19	208.31	1.89E+02	+/- 1.74E+00	1.71E+00	3.81E-04	+/-	2.03E-05
	20	244.70	8.15E-01	+/- 5.00E-01	1.68E+00	3.73E-04	+/-	1.92E-05
	21	255.75	2.04E+00	+/- 4.74E-01	1.66E+00	3.69E-04	+/-	1.86E-05
	22	267.91	6.52E+00	+/- 4.45E-01	1.65E+00	3.63E-04	+/-	1.78E-05
M	23	297.93	1.73E+00	+/- 3.18E-01	1.61E+00	3.47E-04	+/-	1.59E-05
m	24	300.56	1.20E+00	+/- 2.67E-01	1.60E+00	3.45E-04	+/-	1.57E-05
	25	311.90	8.38E+00	+/- 5.00E-01	1.59E+00	3.39E-04	+/-	1.51E-05
	26	322.99	5.66E+00	+/- 4.51E-01	1.59E+00	3.32E-04	+/-	1.44E-05
	27	333.12	1.27E+01	+/- 7.88E-01	1.58E+00	3.26E-04	+/-	1.39E-05
	28	336.10	4.88E+00	+/- 6.57E-01	1.57E+00	3.24E-04	+/-	1.37E-05
	29	345.56	1.18E+01	+/- 5.00E-01	1.57E+00	3.19E-04	+/-	1.33E-05
	30	369.14	8.65E+00	+/- 4.63E-01	1.55E+00	3.05E-04	+/-	1.23E-05
	31	375.63	3.24E+01	+/- 7.38E-01	1.54E+00	3.02E-04	+/-	1.21E-05
	32	383.51	3.34E+00	+/- 3.34E-01	1.54E+00	2.97E-04	+/-	1.18E-05
	33	393.60	1.22E+01	+/- 4.23E-01	1.53E+00	2.92E-04	+/-	1.16E-05
	34	413.70	3.07E+01	+/- 5.94E-01	1.52E+00	2.81E-04	+/-	1.11E-05
	35	423.23	1.46E+00	+/- 2.83E-01	1.51E+00	2.76E-04	+/-	1.09E-05
	36	443.98	2.64E-01	+/- 1.67E-01	1.50E+00	2.65E-04	+/-	1.06E-05
	37	452.21	3.34E+00	+/- 2.46E-01	1.50E+00	2.61E-04	+/-	1.05E-05
	38	620.22	1.02E+00	+/- 1.22E-01	1.42E+00	1.98E-04	+/-	9.16E-06
	39	654.15	7.56E-01	+/- 1.17E-01	1.40E+00	1.89E-04	+/-	8.85E-06
	40	662.42	4.86E+00	+/- 2.34E-01	1.40E+00	1.86E-04	+/-	8.77E-06
	41	689.78	6.08E-01	+/- 9.45E-02	1.39E+00	1.80E-04	+/-	8.49E-06
	42	723.14	2.55E+00	+/- 1.66E-01	1.38E+00	1.72E-04	+/-	8.13E-06

Batch 2002-02-776

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
43	738.43	1.03E-01 +/- 4.45E-02	1.38E+00	1.69E-04 +/- 7.96E-06
44	757.45	1.62E-01 +/- 6.76E-02	1.37E+00	1.65E-04 +/- 7.74E-06

Segment: 7 Detector: DET01 (# 1) Position: 7

Elapsed Live Time: 106.99 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Some transmission peaks rejected.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	0.287 +/- 0.0039
SE-75	279.53	0.000 +/- 0.0000	0.303 +/- 0.0057
SE-75	400.65	0.000 +/- 0.0000	0.347 +/- 0.0070

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
M	1	21.69	8.36E+00 +/- 3.20E-02	3.78E+00	2.64E-09 +/- 2.86E-08
m	2	23.19	3.97E+01 +/- 1.52E-01	3.44E+00	7.13E-09 +/- 6.99E-08
m	3	26.37	2.12E+01 +/- 8.13E-02	2.96E+00	4.06E-08 +/- 3.26E-07
	4	35.10	1.01E+03 +/- 4.97E+00	2.34E+00	9.59E-07 +/- 4.73E-06
	5	49.59	2.23E+01 +/- 1.40E+00	1.99E+00	1.44E-05 +/- 3.50E-05
	6	59.60	7.14E+02 +/- 4.02E+00	1.89E+00	4.02E-05 +/- 6.21E-05
	7	75.12	3.63E+00 +/- 8.03E-01	1.80E+00	1.05E-04 +/- 8.11E-05
	8	98.89	1.52E+02 +/- 2.46E+00	1.73E+00	2.21E-04 +/- 5.16E-05
	9	103.40	1.47E+02 +/- 1.77E+00	1.72E+00	2.41E-04 +/- 4.29E-05
	10	114.44	2.05E+01 +/- 1.58E+00	1.70E+00	2.85E-04 +/- 2.41E-05
M	11	123.15	7.22E+00 +/- 5.94E-01	1.69E+00	3.13E-04 +/- 1.76E-05
m	12	125.45	4.27E+01 +/- 9.33E-01	1.69E+00	3.20E-04 +/- 1.79E-05
m	13	129.48	1.07E+02 +/- 1.66E+00	1.68E+00	3.31E-04 +/- 1.99E-05
	14	148.57	6.13E+01 +/- 1.22E+00	1.66E+00	3.68E-04 +/- 3.49E-05
	15	160.55	9.77E+00 +/- 9.26E-01	1.64E+00	3.82E-04 +/- 4.07E-05
	16	164.87	4.56E+00 +/- 1.05E+00	1.64E+00	3.86E-04 +/- 4.19E-05
	17	196.04	4.04E+00 +/- 7.72E-01	1.61E+00	3.94E-04 +/- 4.14E-05
	18	208.32	2.28E+02 +/- 1.93E+00	1.60E+00	3.91E-04 +/- 3.83E-05
	19	255.73	3.19E+00 +/- 4.84E-01	1.56E+00	3.66E-04 +/- 2.39E-05
	20	268.03	6.62E+00 +/- 5.24E-01	1.54E+00	3.58E-04 +/- 2.08E-05

Batch 2002-02-777

M	21	298.17	1.45E+00	+/- 2.99E-01	1.51E+00	3.37E-04	+/-	1.58E-05
m	22	300.64	1.05E+00	+/- 2.48E-01	1.51E+00	3.35E-04	+/-	1.55E-05
	23	311.90	7.57E+00	+/- 4.83E-01	1.50E+00	3.27E-04	+/-	1.48E-05
	24	333.15	1.64E+01	+/- 7.91E-01	1.49E+00	3.13E-04	+/-	1.44E-05
	25	336.17	1.71E+00	+/- 7.79E-01	1.49E+00	3.11E-04	+/-	1.44E-05
	26	345.60	1.31E+01	+/- 5.24E-01	1.48E+00	3.05E-04	+/-	1.46E-05
	27	369.03	8.42E+00	+/- 4.52E-01	1.47E+00	2.91E-04	+/-	1.52E-05
	28	375.64	3.67E+01	+/- 7.81E-01	1.47E+00	2.87E-04	+/-	1.54E-05
	29	383.39	3.68E+00	+/- 3.57E-01	1.46E+00	2.83E-04	+/-	1.57E-05
	30	393.56	1.44E+01	+/- 4.41E-01	1.46E+00	2.77E-04	+/-	1.59E-05
	31	400.66	5.03E-01	+/- 2.13E-01	1.46E+00	2.74E-04	+/-	1.60E-05
	32	413.70	3.67E+01	+/- 6.45E-01	1.45E+00	2.67E-04	+/-	1.63E-05
	33	423.38	1.63E+00	+/- 2.63E-01	1.44E+00	2.62E-04	+/-	1.63E-05
	34	452.15	3.95E+00	+/- 2.52E-01	1.43E+00	2.49E-04	+/-	1.63E-05
	35	511.73	4.23E-01	+/- 1.16E-01	1.40E+00	2.25E-04	+/-	1.53E-05
	36	620.01	1.05E+00	+/- 1.27E-01	1.36E+00	1.92E-04	+/-	1.19E-05
	37	653.95	4.93E-01	+/- 1.19E-01	1.35E+00	1.84E-04	+/-	1.09E-05
	38	662.42	4.35E+00	+/- 2.22E-01	1.35E+00	1.82E-04	+/-	1.06E-05
	39	689.87	4.04E-01	+/- 1.01E-01	1.34E+00	1.76E-04	+/-	9.85E-06
	40	723.31	1.92E+00	+/- 1.57E-01	1.33E+00	1.69E-04	+/-	9.01E-06
	41	872.36	8.42E-02	+/- 5.08E-02	1.29E+00	1.46E-04	+/-	6.68E-06
	42	1112.12	2.02E-02	+/- 1.85E-02	1.25E+00	1.20E-04	+/-	5.13E-06

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Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
43	1408.01	2.34E-02 +/- 1.87E-02	1.22E+00	9.90E-05 +/- 6.54E-06

Segment: 8 Detector: DET01 (# 1) Position: 8

Elapsed Live Time: 108.49 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.258 +/- 0.0387
SE-75	264.65	0.000 +/- 0.0000	0.324 +/- 0.0041
SE-75	279.53	0.000 +/- 0.0000	0.334 +/- 0.0058
SE-75	400.65	0.000 +/- 0.0000	0.392 +/- 0.0073

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
M	1	21.68	6.25E+00 +/- 2.37E-02	3.47E+00	1.47E-09 +/- 1.58E-08
m	2	23.18	2.79E+01 +/- 1.06E-01	3.17E+00	4.15E-09 +/- 4.04E-08
m	3	26.52	1.61E+01 +/- 6.09E-02	2.72E+00	2.76E-08 +/- 2.18E-07
	4	35.10	1.01E+03 +/- 4.91E+00	2.19E+00	6.89E-07 +/- 3.37E-06
	5	49.90	2.29E+01 +/- 1.33E+00	1.88E+00	1.20E-05 +/- 2.85E-05
	6	59.61	5.00E+02 +/- 3.10E+00	1.80E+00	3.35E-05 +/- 5.14E-05
	7	75.11	3.68E+00 +/- 7.10E-01	1.72E+00	9.10E-05 +/- 7.00E-05
	8	98.88	1.16E+02 +/- 2.15E+00	1.66E+00	1.99E-04 +/- 4.64E-05
	9	103.49	1.19E+02 +/- 1.64E+00	1.65E+00	2.18E-04 +/- 3.87E-05
	10	111.30	2.92E+00 +/- 1.51E+00	1.63E+00	2.49E-04 +/- 2.63E-05
	11	114.45	1.53E+01 +/- 1.41E+00	1.63E+00	2.60E-04 +/- 2.22E-05
M	12	123.26	5.30E+00 +/- 4.96E-01	1.62E+00	2.89E-04 +/- 1.64E-05
m	13	125.47	3.06E+01 +/- 7.81E-01	1.61E+00	2.95E-04 +/- 1.67E-05
m	14	129.51	8.64E+01 +/- 1.48E+00	1.61E+00	3.06E-04 +/- 1.86E-05
	15	148.57	4.11E+01 +/- 1.13E+00	1.59E+00	3.45E-04 +/- 3.27E-05
	16	160.58	6.10E+00 +/- 8.29E-01	1.57E+00	3.60E-04 +/- 3.84E-05
	17	164.83	5.87E+00 +/- 9.39E-01	1.57E+00	3.64E-04 +/- 3.97E-05
	18	208.36	1.90E+02 +/- 1.71E+00	1.53E+00	3.76E-04 +/- 3.72E-05
	19	255.75	2.17E+00 +/- 4.19E-01	1.49E+00	3.56E-04 +/- 2.36E-05
	20	268.03	5.63E+00 +/- 4.53E-01	1.49E+00	3.49E-04 +/- 2.06E-05
M	21	297.90	1.01E+00 +/- 2.58E-01	1.46E+00	3.31E-04 +/- 1.55E-05
m	22	300.56	8.71E-01 +/- 2.42E-01	1.46E+00	3.30E-04 +/- 1.53E-05
	23	311.90	5.74E+00 +/- 4.19E-01	1.45E+00	3.23E-04 +/- 1.44E-05
	24	323.73	4.06E+00 +/- 4.00E-01	1.44E+00	3.16E-04 +/- 1.39E-05

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25	333.14	1.28E+01 +/-	6.88E-01	1.44E+00	3.10E-04 +/-	1.38E-05
26	336.21	1.07E+00 +/-	6.81E-01	1.44E+00	3.08E-04 +/-	1.38E-05
27	345.58	1.04E+01 +/-	4.50E-01	1.43E+00	3.03E-04 +/-	1.38E-05
28	369.16	6.17E+00 +/-	4.16E-01	1.42E+00	2.89E-04 +/-	1.44E-05
29	375.64	3.05E+01 +/-	6.78E-01	1.41E+00	2.86E-04 +/-	1.46E-05
30	383.45	3.17E+00 +/-	3.22E-01	1.41E+00	2.82E-04 +/-	1.48E-05
31	393.56	1.12E+01 +/-	3.90E-01	1.40E+00	2.76E-04 +/-	1.50E-05
32	400.66	3.45E-01 +/-	2.09E-01	1.40E+00	2.73E-04 +/-	1.52E-05
33	413.70	2.87E+01 +/-	5.63E-01	1.39E+00	2.66E-04 +/-	1.54E-05
34	423.24	1.13E+00 +/-	2.45E-01	1.39E+00	2.62E-04 +/-	1.55E-05
35	452.14	3.44E+00 +/-	2.30E-01	1.37E+00	2.49E-04 +/-	1.56E-05
36	620.02	4.72E-01 +/-	1.05E-01	1.32E+00	1.93E-04 +/-	1.16E-05
37	654.10	2.89E-01 +/-	9.52E-02	1.31E+00	1.85E-04 +/-	1.05E-05
38	662.42	2.91E+00 +/-	1.79E-01	1.30E+00	1.83E-04 +/-	1.03E-05
39	689.95	2.53E-01 +/-	8.62E-02	1.30E+00	1.77E-04 +/-	9.58E-06
40	723.16	1.49E+00 +/-	1.31E-01	1.29E+00	1.70E-04 +/-	8.80E-06
41	1112.12	3.56E-02 +/-	2.29E-02	1.22E+00	1.16E-04 +/-	4.95E-06

Segment: 9 Detector: DET01 (# 1) Position: 9

Elapsed Live Time: 110.66 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.177 +/- 0.0326
SE-75	264.65	0.000 +/- 0.0000	0.288 +/- 0.0037
SE-75	279.53	0.000 +/- 0.0000	0.304 +/- 0.0054
SE-75	400.65	0.000 +/- 0.0000	0.362 +/- 0.0068

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
M	1	21.71	4.62E+00 +/- 1.74E-02	4.10E+00	1.56E-06 +/- 1.73E-05
m	2	23.21	1.87E+01 +/- 7.01E-02	3.92E+00	2.31E-06 +/- 2.32E-05
m	3	26.37	9.81E+00 +/- 3.68E-02	3.35E+00	4.62E-06 +/- 3.81E-05
	4	35.10	1.01E+03 +/- 4.86E+00	2.60E+00	1.75E-05 +/- 8.88E-05
	5	49.71	1.61E+01 +/- 9.80E-01	2.18E+00	6.07E-05 +/- 1.51E-04
	6	59.62	3.10E+02 +/- 2.25E+00	2.06E+00	1.00E-04 +/- 1.59E-04
	7	74.97	3.64E+00 +/- 6.83E-01	1.96E+00	1.65E-04 +/- 1.32E-04
	8	98.95	6.82E+01 +/- 1.63E+00	1.87E+00	2.52E-04 +/- 6.02E-05
	9	103.49	7.16E+01 +/- 1.25E+00	1.86E+00	2.65E-04 +/- 4.81E-05
	10	114.50	8.57E+00 +/- 1.09E+00	1.83E+00	2.94E-04 +/- 2.50E-05
M	11	123.34	3.65E+00 +/- 4.00E-01	1.82E+00	3.12E-04 +/- 1.75E-05
m	12	125.50	1.97E+01 +/- 6.28E-01	1.81E+00	3.16E-04 +/- 1.78E-05
m	13	129.55	5.11E+01 +/- 1.13E+00	1.81E+00	3.23E-04 +/- 1.98E-05

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14	148.57	2.85E+01 +/-	8.36E-01	1.76E+00	3.48E-04 +/-	3.41E-05
15	160.51	4.24E+00 +/-	6.52E-01	1.74E+00	3.58E-04 +/-	3.96E-05
16	164.92	2.93E+00 +/-	7.46E-01	1.73E+00	3.60E-04 +/-	4.08E-05
17	195.85	1.27E+00 +/-	4.59E-01	1.66E+00	3.67E-04 +/-	4.04E-05
18	208.39	1.07E+02 +/-	1.25E+00	1.64E+00	3.66E-04 +/-	3.76E-05
19	244.70	8.93E-01 +/-	3.51E-01	1.58E+00	3.54E-04 +/-	2.70E-05
20	268.12	3.11E+00 +/-	3.54E-01	1.54E+00	3.43E-04 +/-	2.08E-05
21	300.10	7.74E-01 +/-	3.01E-01	1.50E+00	3.26E-04 +/-	1.55E-05
22	311.90	2.99E+00 +/-	3.21E-01	1.49E+00	3.20E-04 +/-	1.45E-05
23	323.19	2.95E+00 +/-	3.09E-01	1.49E+00	3.13E-04 +/-	1.40E-05
24	333.16	8.05E+00 +/-	5.26E-01	1.48E+00	3.08E-04 +/-	1.39E-05
25	345.59	5.83E+00 +/-	3.52E-01	1.47E+00	3.01E-04 +/-	1.41E-05
26	369.12	4.26E+00 +/-	3.10E-01	1.45E+00	2.89E-04 +/-	1.47E-05
27	375.69	1.86E+01 +/-	5.13E-01	1.45E+00	2.85E-04 +/-	1.49E-05
28	383.48	2.00E+00 +/-	2.46E-01	1.45E+00	2.81E-04 +/-	1.52E-05
29	393.58	6.32E+00 +/-	2.91E-01	1.44E+00	2.76E-04 +/-	1.55E-05
30	413.70	1.63E+01 +/-	4.19E-01	1.43E+00	2.67E-04 +/-	1.59E-05
31	423.34	7.72E-01 +/-	1.80E-01	1.42E+00	2.62E-04 +/-	1.60E-05
32	452.22	1.66E+00 +/-	1.73E-01	1.41E+00	2.49E-04 +/-	1.61E-05
33	620.02	5.06E-01 +/-	8.79E-02	1.35E+00	1.93E-04 +/-	1.18E-05
34	653.99	2.08E-01 +/-	6.25E-02	1.33E+00	1.84E-04 +/-	1.07E-05
35	662.42	1.90E+00 +/-	1.43E-01	1.33E+00	1.82E-04 +/-	1.04E-05
36	723.54	7.78E-01 +/-	1.04E-01	1.32E+00	1.69E-04 +/-	8.76E-06
37	964.13	2.70E-02 +/-	2.06E-02	1.26E+00	1.34E-04 +/-	5.82E-06
38	1001.03	1.80E-02 +/-	1.27E-02	1.26E+00	1.30E-04 +/-	5.63E-06
39	1085.91	4.42E-02 +/-	2.45E-02	1.25E+00	1.23E-04 +/-	5.22E-06
40	1408.01	3.82E-02 +/-	2.18E-02	1.21E+00	1.05E-04 +/-	6.85E-06

Segment: 10 Detector: DET01 (# 1) Position: 10

Elapsed Live Time: 112.47 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Some transmission peaks rejected.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	0.235 +/- 0.0032
SE-75	279.53	0.000 +/- 0.0000	0.243 +/- 0.0046
SE-75	400.65	0.000 +/- 0.0000	0.298 +/- 0.0060

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	3.39E+00 +/- 3.51E-01	4.10E+00	1.78E-07 +/- 2.77E-07
2	23.20	7.37E+00 +/- 4.06E-01	3.92E+00	3.40E-07 +/- 4.82E-07
3	35.10	1.01E+03 +/- 4.80E+00	2.60E+00	5.68E-06 +/- 4.74E-06
4	59.62	1.31E+02 +/- 1.35E+00	2.06E+00	6.38E-05 +/- 2.21E-05
5	75.13	1.91E+00 +/- 5.28E-01	1.96E+00	1.28E-04 +/- 2.69E-05
6	99.03	2.23E+01 +/- 1.13E+00	1.87E+00	2.32E-04 +/- 2.33E-05
7	103.48	2.60E+01 +/- 7.78E-01	1.86E+00	2.49E-04 +/- 2.20E-05
8	114.51	4.03E+00 +/- 7.04E-01	1.84E+00	2.88E-04 +/- 1.91E-05
9	129.29	1.17E+01 +/- 6.66E-01	1.81E+00	3.30E-04 +/- 1.70E-05
10	148.57	1.04E+01 +/- 5.65E-01	1.78E+00	3.68E-04 +/- 1.75E-05
11	160.80	1.25E+00 +/- 5.29E-01	1.76E+00	3.83E-04 +/- 1.86E-05
12	165.03	1.35E+00 +/- 4.81E-01	1.76E+00	3.87E-04 +/- 1.90E-05
13	208.45	3.78E+01 +/- 7.31E-01	1.70E+00	4.01E-04 +/- 2.09E-05
14	268.07	1.49E+00 +/- 2.54E-01	1.64E+00	3.75E-04 +/- 1.79E-05
15	311.90	9.53E-01 +/- 1.82E-01	1.60E+00	3.45E-04 +/- 1.50E-05
16	333.22	3.88E+00 +/- 3.27E-01	1.58E+00	3.31E-04 +/- 1.38E-05
17	336.23	8.20E-01 +/- 2.43E-01	1.58E+00	3.28E-04 +/- 1.36E-05
18	345.67	2.26E+00 +/- 2.49E-01	1.57E+00	3.22E-04 +/- 1.32E-05
19	369.28	1.42E+00 +/- 2.06E-01	1.55E+00	3.06E-04 +/- 1.22E-05
20	375.69	6.47E+00 +/- 3.27E-01	1.55E+00	3.02E-04 +/- 1.20E-05
21	383.56	7.51E-01 +/- 2.13E-01	1.54E+00	2.97E-04 +/- 1.18E-05
22	393.63	2.16E+00 +/- 1.78E-01	1.54E+00	2.91E-04 +/- 1.15E-05
23	413.70	5.94E+00 +/- 2.48E-01	1.52E+00	2.79E-04 +/- 1.11E-05
24	423.24	3.96E-01 +/- 1.16E-01	1.52E+00	2.74E-04 +/- 1.09E-05
25	452.20	8.16E-01 +/- 1.17E-01	1.50E+00	2.58E-04 +/- 1.05E-05
26	662.42	8.29E-01 +/- 9.78E-02	1.40E+00	1.80E-04 +/- 8.83E-06

Segment: 11 Detector: DET01 (# 1) Position: 11

Elapsed Live Time: 113.34 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.179 +/- 0.0243
SE-75	264.65	0.000 +/- 0.0000	0.337 +/- 0.0039
SE-75	279.53	0.000 +/- 0.0000	0.345 +/- 0.0055
SE-75	400.65	0.000 +/- 0.0000	0.406 +/- 0.0071

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PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.24	3.28E+00 +/- 2.85E-01	3.89E+00	4.75E-07 +/- 6.68E-07
2	35.10	1.01E+03 +/- 4.77E+00	2.59E+00	6.75E-06 +/- 5.60E-06
3	59.65	3.23E+01 +/- 6.58E-01	2.05E+00	6.72E-05 +/- 2.31E-05
4	99.02	5.68E+00 +/- 6.28E-01	1.87E+00	2.29E-04 +/- 2.29E-05
5	103.16	2.75E+00 +/- 6.16E-01	1.85E+00	2.44E-04 +/- 2.16E-05
6	114.52	7.71E-01 +/- 3.90E-01	1.83E+00	2.82E-04 +/- 1.86E-05
7	129.29	2.93E+00 +/- 4.03E-01	1.80E+00	3.21E-04 +/- 1.65E-05
8	148.57	2.24E+00 +/- 3.71E-01	1.75E+00	3.56E-04 +/- 1.70E-05
9	208.47	7.85E+00 +/- 3.73E-01	1.58E+00	3.89E-04 +/- 2.04E-05
10	323.07	2.47E-01 +/- 1.46E-01	1.43E+00	3.30E-04 +/- 1.42E-05
11	333.17	3.82E-01 +/- 1.89E-01	1.42E+00	3.24E-04 +/- 1.37E-05
12	336.21	2.50E-01 +/- 1.54E-01	1.42E+00	3.22E-04 +/- 1.35E-05
13	345.63	7.07E-01 +/- 1.26E-01	1.41E+00	3.16E-04 +/- 1.31E-05
14	375.59	1.19E+00 +/- 1.52E-01	1.40E+00	2.97E-04 +/- 1.19E-05
15	393.69	5.23E-01 +/- 1.04E-01	1.39E+00	2.86E-04 +/- 1.14E-05
16	413.70	1.16E+00 +/- 1.20E-01	1.38E+00	2.75E-04 +/- 1.09E-05
17	511.66	2.67E-01 +/- 6.11E-02	1.34E+00	2.29E-04 +/- 9.82E-06
18	559.91	9.84E-02 +/- 4.59E-02	1.32E+00	2.11E-04 +/- 9.49E-06
19	662.42	2.07E-01 +/- 4.51E-02	1.29E+00	1.80E-04 +/- 8.65E-06

Segment: 12 Detector: DET01 (# 1) Position: 12

Elapsed Live Time: 113.62 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.246 +/- 0.0239
SE-75	264.65	0.000 +/- 0.0000	0.349 +/- 0.0040
SE-75	279.53	0.000 +/- 0.0000	0.346 +/- 0.0054
SE-75	400.65	0.000 +/- 0.0000	0.400 +/- 0.0070

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PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.15	1.86E+00 +/- 2.09E-01	3.27E+00	6.25E-07 +/- 8.82E-07
2	35.10	1.01E+03 +/- 4.77E+00	2.24E+00	7.63E-06 +/- 6.33E-06
3	59.65	1.09E+01 +/- 4.20E-01	1.83E+00	6.66E-05 +/- 2.30E-05
4	67.39	4.18E-01 +/- 2.26E-01	1.78E+00	9.51E-05 +/- 2.56E-05
5	99.10	7.81E-01 +/- 4.09E-01	1.68E+00	2.18E-04 +/- 2.19E-05
6	185.71	3.87E-01 +/- 2.39E-01	1.55E+00	3.72E-04 +/- 1.93E-05
7	208.48	1.18E+00 +/- 2.03E-01	1.52E+00	3.76E-04 +/- 1.99E-05
8	413.70	3.13E-01 +/- 6.24E-02	1.38E+00	2.79E-04 +/- 1.09E-05
9	867.39	2.61E-02 +/- 1.51E-02	1.25E+00	1.45E-04 +/- 6.27E-06
10	1001.03	1.74E-02 +/- 1.23E-02	1.23E+00	1.29E-04 +/- 4.89E-06

Segment: 13 Detector: DET01 (# 1) Position: 13

Elapsed Live Time: 113.72 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.718 +/- 0.0340
SE-75	264.65	0.000 +/- 0.0000	0.740 +/- 0.0066
SE-75	279.53	0.000 +/- 0.0000	0.760 +/- 0.0087
SE-75	400.65	0.000 +/- 0.0000	0.771 +/- 0.0103

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.32	1.13E+00 +/- 1.61E-01	1.41E+00	1.15E-06 +/- 1.67E-06
2	35.10	1.01E+03 +/- 4.76E+00	1.24E+00	1.10E-05 +/- 9.51E-06
3	59.65	4.34E+00 +/- 3.12E-01	1.17E+00	8.11E-05 +/- 2.89E-05
4	121.11	5.24E-01 +/- 2.66E-01	1.13E+00	3.03E-04 +/- 1.76E-05
5	219.27	1.86E-01 +/- 1.07E-01	1.12E+00	3.78E-04 +/- 2.05E-05
6	559.55	1.26E-01 +/- 5.03E-02	1.09E+00	2.11E-04 +/- 9.72E-06
7	778.90	1.74E-02 +/- 1.23E-02	1.07E+00	1.54E-04 +/- 7.54E-06
8	867.39	5.11E-02 +/- 2.97E-02	1.07E+00	1.40E-04 +/- 6.42E-06
9	1085.91	3.48E-02 +/- 1.74E-02	1.06E+00	1.15E-04 +/- 4.30E-06

Batch 2002-03-284

Segment: 14 Detector: DET01 (# 1) Position: 14

Elapsed Live Time: 113.76 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.823 +/- 0.0372
SE-75	264.65	0.000 +/- 0.0000	0.781 +/- 0.0068
SE-75	279.53	0.000 +/- 0.0000	0.789 +/- 0.0089
SE-75	400.65	0.000 +/- 0.0000	0.809 +/- 0.0106

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.78E+00	1.14E+00	8.94E-06 +/- 4.41E-05
2	59.64	2.21E+00 +/- 2.65E-01	1.10E+00	8.07E-05 +/- 1.25E-04
3	244.70	1.74E-01 +/- 1.16E-01	1.09E+00	3.52E-04 +/- 2.62E-05
4	662.42	3.52E-02 +/- 1.76E-02	1.06E+00	1.83E-04 +/- 1.04E-05

Segment: 15 Detector: DET01 (# 1) Position: 15

Elapsed Live Time: 113.76 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.684 +/- 0.0336
SE-75	264.65	0.000 +/- 0.0000	0.717 +/- 0.0064
SE-75	279.53	0.000 +/- 0.0000	0.719 +/- 0.0084
SE-75	400.65	0.000 +/- 0.0000	0.743 +/- 0.0101

Batch 2002-02-785

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.28E+00	1.45E-08 +/- 6.96E-08
2	59.53	1.91E+00 +/- 2.57E-01	1.20E+00	1.08E-05 +/- 1.63E-05
3	311.90	1.12E-01 +/- 7.99E-02	1.13E+00	3.22E-04 +/- 1.42E-05
4	778.90	1.41E-02 +/- 1.30E-02	1.08E+00	1.56E-04 +/- 7.35E-06
5	1085.91	1.74E-02 +/- 1.23E-02	1.07E+00	1.24E-04 +/- 5.17E-06

Segment: 16 Detector: DET01 (# 1) Position: 16

Elapsed Live Time: 113.78 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.680 +/- 0.0335
SE-75	264.65	0.000 +/- 0.0000	0.701 +/- 0.0063
SE-75	279.53	0.000 +/- 0.0000	0.701 +/- 0.0083
SE-75	400.65	0.000 +/- 0.0000	0.728 +/- 0.0100

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.77E+00	1.29E+00	9.52E-10 +/- 5.35E-09
2	59.68	8.14E-01 +/- 2.36E-01	1.20E+00	3.38E-06 +/- 5.95E-06
3	311.90	1.02E-01 +/- 5.67E-02	1.14E+00	2.34E-04 +/- 1.14E-05
4	559.51	1.61E-01 +/- 4.34E-02	1.11E+00	1.42E-04 +/- 1.05E-05
5	867.39	2.04E-02 +/- 1.76E-02	1.08E+00	1.07E-04 +/- 5.41E-06
6	1085.91	3.49E-02 +/- 1.75E-02	1.07E+00	9.33E-05 +/- 4.42E-06
7	1408.01	2.78E-02 +/- 1.95E-02	1.06E+00	7.39E-05 +/- 5.32E-06

Batch 2002-02-251-

Summed Spectrum

Peak Locate Report

Sample ID: LL85100556
Peak Locate Performed on: 6-10-02 2:22:09 PM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192
Peak Search Sensitivity: 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
1	43.00	0.2642	21.68	14.32
2	46.53	0.1108	23.18	43.11
3	52.80	0.2642	26.32	14.32
4	70.28	0.0389	35.06	472.94
5	99.13	0.2242	49.47	9.02
6	119.41	0.0488	59.60	246.74
7	150.39	0.2212	75.08	12.43
8	198.20	0.0846	98.96	84.02
9	206.72	0.0829	103.22	73.68
10	229.23	0.1268	114.47	34.03
11	247.00	0.0810	123.24	88.83
12	251.30	0.0810	125.48	88.83
13	259.39	0.0810	129.50	88.83
14	289.10	0.2603	144.45	7.43
15	293.80	0.2603	146.59	7.43
16	297.80	0.2603	148.87	7.43
17	306.18	0.2338	152.98	10.27
18	321.43	0.1739	160.53	19.00
19	330.08	0.1318	164.85	32.56
20	379.48	0.3082	189.53	5.49
21	392.37	0.2613	195.98	8.73
22	417.12	0.0539	208.34	175.91
23	444.46	0.3190	222.00	5.31
24	511.90	0.2214	255.69	10.38
25	536.55	0.1454	268.01	22.88
26	586.30	0.2701	293.12	6.96
27	596.50	0.2701	297.98	6.96
28	601.96	0.2783	300.63	7.29
29	625.30	0.1249	312.35	30.50
30	647.22	0.2208	323.30	9.21
31	666.90	0.0911	333.13	56.49
32	672.93	0.1167	336.15	35.78
33	691.82	0.1013	345.59	46.06
34	738.97	0.1423	369.15	24.01
35	751.98	0.0759	375.64	80.42
36	767.65	0.1410	383.47	24.24

Batch 1882-02-787

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
37	787.88	0.1039	393.58	41.81
38	829.53	0.0756	414.39	73.69
39	847.28	0.1515	423.25	19.57
40	905.16	0.1300	452.17	26.44
41	1024.57	0.2639	511.83	5.93
42	1119.95	0.2781	559.49	5.34
43	1169.46	0.2482	584.22	5.29
44	1241.12	0.1931	620.03	11.24
45	1309.20	0.2085	654.04	10.19
46	1328.15	0.1151	663.51	31.24
47	1381.08	0.2295	689.95	7.99
48	1447.66	0.1393	723.22	19.23
49	1516.25	0.2711	757.49	5.49

Errors quoted at 1.000 sigma

Batch 2002-02-788

Summed Spectrum

Peak Analysis Report

Sample ID: LL85100556
Peak Analysis Performed on: 6-10-02 2:22:09 PM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

	Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
M	1	41-	56	43.51	21.68	7.14E+03	0.00	7.21E+02
m	2	41-	56	46.52	23.18	3.40E+04	0.00	4.42E+03
m	3	41-	56	52.80	26.32	1.87E+04	0.00	1.35E+04
	4	67-	73	70.28	35.06	1.80E+06	1354.65	1.97E+04
	5	95-	102	99.13	49.47	3.43E+04	502.24	1.02E+05
	6	115-	122	119.41	59.60	6.70E+05	937.38	1.00E+05
	7	149-	153	150.39	75.08	2.60E+03	220.76	2.76E+04
	8	194-	201	198.20	98.96	1.13E+05	673.20	1.67E+05
	9	206-	210	206.72	103.22	1.13E+05	479.44	6.11E+04
	10	226-	233	229.23	114.47	1.19E+04	447.89	9.30E+04
M	11	244-	264	246.79	123.24	6.41E+03	175.13	3.92E+04
m	12	244-	264	251.27	125.48	3.60E+04	289.86	4.76E+04
m	13	244-	264	259.32	129.50	6.81E+04	429.24	3.97E+04
M	14	286-	309	289.23	144.45	3.69E+03	122.87	2.69E+04
m	15	286-	309	293.52	146.59	6.00E+03	167.48	4.20E+04
m	16	286-	309	298.09	148.87	3.75E+04	358.69	4.48E+04
m	17	286-	309	306.31	152.98	2.78E+03	113.74	4.31E+04
	18	317-	325	321.43	160.53	5.16E+03	284.23	3.52E+04
	19	325-	334	330.08	164.85	4.37E+03	315.59	4.14E+04
	20	375-	383	379.48	189.53	1.21E+03	244.28	2.74E+04
	21	387-	396	392.37	195.98	1.92E+03	261.22	2.94E+04
	22	412-	421	417.12	208.34	1.51E+05	474.51	3.22E+04
	23	439-	448	444.46	222.00	3.97E+02	179.44	1.41E+04
	24	507-	516	511.90	255.69	1.60E+03	155.22	9.96E+03
	25	533-	541	536.55	268.01	5.00E+03	150.63	8.24E+03
M	26	584-	607	586.80	293.12	4.27E+02	56.99	4.97E+03
m	27	584-	607	596.54	297.98	1.02E+03	62.74	7.01E+03
m	28	584-	607	601.85	300.63	8.85E+02	60.08	6.95E+03
	29	620-	630	625.30	312.35	6.08E+03	153.77	7.38E+03
	30	642-	652	647.22	323.30	4.59E+03	142.84	6.62E+03
	31	661-	671	666.90	333.13	1.10E+04	234.46	1.72E+04
	32	671-	677	672.93	336.15	2.94E+03	198.26	1.09E+04
	33	687-	696	691.82	345.59	9.98E+03	155.33	6.21E+03
	34	733-	744	738.97	369.15	7.18E+03	144.11	5.39E+03
	35	749-	757	751.98	375.64	3.02E+04	207.76	5.72E+03
	36	767-	772	767.65	383.47	2.92E+03	104.29	2.64E+03
	37	782-	793	787.88	393.58	1.09E+04	131.21	2.51E+03

Batch 2002-07-789

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
38	824-	834	829.53	414.39	2.86E+04	180.60	1.70E+03
39	845-	852	847.28	423.25	1.21E+03	72.51	1.83E+03
40	899-	910	905.16	452.17	3.24E+03	78.45	1.17E+03
41	1018-	1030	1024.57	511.83	4.77E+02	49.50	7.51E+02
42	1114-	1125	1119.95	559.49	2.63E+02	35.60	4.01E+02
43	1163-	1175	1169.46	584.22	2.15E+02	36.31	4.19E+02
44	1235-	1247	1241.12	620.03	7.65E+02	39.87	3.13E+02
45	1303-	1315	1309.20	654.04	5.15E+02	36.21	3.03E+02
46	1322-	1334	1328.15	663.51	3.84E+03	68.52	3.28E+02
47	1374-	1387	1381.08	689.95	3.11E+02	32.34	2.64E+02
48	1441-	1453	1447.66	723.22	1.88E+03	49.67	2.23E+02
49	1509-	1522	1516.25	757.49	1.49E+02	21.92	1.20E+02

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Summed Spectrum

Nuclide Identification Report

Sample ID: LL85100556
Nuclide Library Used: C:\WAS\NLIB\LLNL.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/)	Activity Uncertainty
Pulser	1.000	35.10*	100.00	9.782E+05	2.104E+06
Np-237	0.985	300.10*	6.63	1.443E+01	9.847E-01
		311.90*	38.60	1.736E+01	4.529E-01
Pu-238	0.994	152.68*	0.00	3.193E+05	1.373E+04
Pu-239	0.967	413.70*	0.00	2.512E+06	4.757E+04
Pu-239A	0.997	129.29*	0.01	1.350E+06	3.108E+04
Am-241	0.919	662.42*	0.00	1.768E+06	3.424E+04
Pu-241	0.993	148.57*	0.00	2.202E+07	3.636E+05

* = Energy line found in the spectrum.
Energy Tolerance : 1.500 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 1.000 sigma

Batch 2002-02-791

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 6-10-02 2:22:09 PM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192

	Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
M	1	21.68	6.4148E+01	0.09
m	2	23.18	3.0564E+02	0.09
m	3	26.32	1.6818E+02	0.09
	5	49.47	3.0805E+02	1.47
	6	59.60	6.0164E+03	0.17
	7	75.08	2.3301E+01	8.51
	8	98.96	1.0130E+03	0.60
	9	103.22	1.0174E+03	0.43
	10	114.47	1.0662E+02	3.77
M	11	123.24	5.7505E+01	2.74
m	12	125.48	3.2305E+02	0.81
M	14	144.45	3.3106E+01	3.33
m	15	146.59	5.3852E+01	2.79
	18	160.53	4.6289E+01	5.51
	19	164.85	3.9258E+01	7.22
	20	189.53	1.0832E+01	20.25
	21	195.98	1.7236E+01	13.61
	22	208.34	1.3581E+03	0.33
	23	222.00	3.5621E+00	45.23
	24	255.69	1.4408E+01	9.67
	25	268.01	4.4894E+01	3.01
M	26	293.12	3.8293E+00	13.36
m	27	297.98	9.1913E+00	6.13
	30	323.30	4.1221E+01	3.11
	31	333.13	9.8939E+01	2.13
	32	336.15	2.6420E+01	6.74
	33	345.59	8.9594E+01	1.56
	34	369.15	6.4428E+01	2.01
	35	375.64	2.7077E+02	0.70
	36	383.47	2.6214E+01	3.57
	37	393.58	9.8230E+01	1.20
	39	423.25	1.0875E+01	5.99
	40	452.17	2.9059E+01	2.43
	41	511.83	4.2810E+00	10.38
	42	559.49	2.3586E+00	13.55
	43	584.22	1.9328E+00	16.87
	44	620.03	6.8660E+00	5.21
	45	654.04	4.6225E+00	7.03
	47	689.95	2.7919E+00	10.40
	48	723.22	1.6899E+01	2.64
	49	757.49	1.3422E+00	14.66

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-02-782

Summed Spectrum

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		9.78E+05	+/-	2.10E+06	2.37E+01	+/-	5.11E+01
SE-75	<	9.45E-01	+/-	7.14E-03	< 2.29E-05	+/-	1.73E-07
EU-152x	<	6.32E-01	+/-	1.07E-02	< 1.53E-05	+/-	2.59E-07
U-233	<	5.28E+04	+/-	9.97E+02	< 1.28E+00	+/-	2.42E-02
U-235	<	1.60E+00	+/-	3.03E-02	< 3.87E-05	+/-	7.36E-07
Np-237		1.69E+01	+/-	4.11E-01	4.09E-04	+/-	9.99E-06
Pu-238		3.19E+05	+/-	1.37E+04	7.75E+00	+/-	3.33E-01
U-238	<	1.56E+01	+/-	2.42E-01	< 3.78E-04	+/-	5.88E-06
Pu-239		2.51E+06	+/-	4.76E+04	6.10E+01	+/-	1.15E+00
Pu-239A		1.35E+06	+/-	3.11E+04	3.28E+01	+/-	7.54E-01
Am-241		1.77E+06	+/-	3.42E+04	4.29E+01	+/-	8.31E-01
Pu-241		2.20E+07	+/-	3.64E+05	5.35E+02	+/-	8.82E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
Np-237	2.39E-02	+/-	5.84E-04
Pu-238	1.86E-02	+/-	8.02E-04
Pu-239	4.04E+01	+/-	7.66E-01
Pu-239A	2.17E+01	+/-	5.00E-01
Am-241	5.16E-01	+/-	1.00E-02
Pu-241	2.13E-01	+/-	3.52E-03

Batch 2002-02-794

Final Non-Uniformity Results

Source Longitudinal Ratio:	0.000	+/-	0.0000
Matrix Longitudinal Ratio:	0.760	+/-	0.0521
Source Vertical Ratio:	0.000	+/-	0.0000
Matrix Vertical Ratio:	0.766	+/-	0.0148

NUDS could not find the transmission peak in one radial segment.
NUDS could not find the source peak in any radial segment.

Combined Segment NID

NID Results Combiner Mode: Sum Activities

Nuclide		Total Activity (uCi)				Concentration (uCi/g)		
Pulser		4.01E+07	+/-	2.07E+08		9.72E+02	+/-	5.03E+03
SE-75	<	2.81E-01	+/-	1.72E-02	<	6.81E-06	+/-	4.16E-07
EU-152x		6.34E-02	+/-	2.30E-02		1.54E-06	+/-	5.59E-07
U-233	<	1.35E+04	+/-	9.94E+02	<	3.29E-01	+/-	2.41E-02
U-235		7.61E-02	+/-	4.73E-02		1.85E-06	+/-	1.15E-06
Np-237		2.01E+01	+/-	5.81E-01		4.87E-04	+/-	1.41E-05
Pu-238		6.41E+04	+/-	6.33E+03		1.56E+00	+/-	1.54E-01
U-238		4.78E+00	+/-	1.61E+00		1.16E-04	+/-	3.90E-05
Pu-239		2.79E+06	+/-	6.16E+04		6.76E+01	+/-	1.50E+00
Pu-239A		1.75E+06	+/-	3.98E+04		4.25E+01	+/-	9.65E-01
Am-241		2.01E+06	+/-	5.24E+04		4.89E+01	+/-	1.27E+00
Pu-241		2.67E+07	+/-	7.98E+05		6.49E+02	+/-	1.94E+01

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
U-235	3.52E-02	+/-	2.19E-02
Np-237	2.85E-02	+/-	8.25E-04
Pu-238	3.74E-03	+/-	3.70E-04
U-238	1.43E+01	+/-	4.79E+00
Pu-239	4.49E+01	+/-	9.92E-01
Pu-239A	2.82E+01	+/-	6.40E-01
Am-241	5.88E-01	+/-	1.53E-02
Pu-241	2.59E-01	+/-	7.72E-03

Batch 2002-02-793

LAWRENCE LIVERMORE NATIONAL LABORATORY

WASTE DISPOSAL REQUISITION

Waste Run Date:

W 108645

DS

Page 1 of

1. Label/Waste Type: ☐ Federal ☐ State
☐ Hazardous ☐ Non-Hazardous ☒ Radioactive ☐ Mixed ☐ LLW ☒ TRU

2. Container QA Serial Number: Q

3. For TRU Waste, TRU Waste Container Serial No.: LL851 00 556 TRU

Retention Tank ID:

Chemical Compatibility Code:

4. Building No.: 332
5. Room No.: 1010
6. RMMA: ☒ Yes ☐ No
7. WAA No.: 332A
15. Waste Package Seal Nos.: E-450
RSDR #:
16. Source Code: A-740
17. Profile/PKE No.: ☐ Profile No. ☐ PKE No. ☒ N/A Specify:
8. Workplace Start Date: 1/22/88
9. Workplace End Date: 5/19/91
10. Account No.: 3665-01
11. Directorate: LAS
12. Did Waste Minimization Effort Practices Begin in Current Calendar Year? ☒ No ☐ Yes
If yes, enter Activity Code: W
Comments:
13. Container Inspection Card Attached: ☒ Yes ☐ No
14. Waste Package Seals Applied: ☒ Yes ☐ No If yes, complete Step 15.
18. LLW Waste Stream No. or TRU Waste Form No.: a1-Glovebox Waste

19. Waste Form: ☒ Solid ☐ Sludge ☐ Liquid ☐ Gas
20. Hazardous Properties: ☐ Toxic ☐ Corrosive ☐ Ignitable ☐ Reactive
21. Outer Container Type: ☐ Box ☐ Can ☐ Carboy ☒ Drum ☐ Tank - Fixed ☐ Tank - Portable ☐ Transportainer Other:
22. Outer Container Size: ☐ 1 gal ☐ 5 gal ☐ 7 gal ☐ 30 gal ☒ 55 gal ☐ 85 gal ☐ 330 gal ☐ 660 gal ☐ 750 gal ☐ 1000 gal ☐ 5000 gal ☐ 1x1x1.5 ☐ 2x4x7 ☐ 4x4x7 Other: ☐ gal ☐ cu ft

23. Item No.	24. Spent or Unused (S/U)	25. Waste Description / Parcel Card Nos. (For certified LLW and TRU waste, list Parcel Card Nos.)	28. Hazardous Constituents	27. Item Container Size	26. Quantity per Item Amount	26. Quantity per Item Units	29. Analysis Sample No.	Physical Waste Data: 30. Aqueous Only pH	30. Aqueous Only Normality †	31. Flash Point
		#25917 / #26099	a1-Glovebox Waste 7-9-96							
		#25922 / #26167								
TM 6-26-96		#26396 / TM 6-26-96								
		#29984								
		#29168								
		#29982								

USE CONTINUATION FORM FOR ADDITIONAL ITEMS

† Normality Required if pH ≤ 2 or pH ≥ 12.5

32. Does the waste contain radioactive components? ☒ Yes ☐ No (If yes, complete Steps 36-41 as applicable to waste type.)

This section (Steps 33-35) is required for Hazardous Waste generated in a RMMA

33. Was the waste kept isolated from any operation that could have produced radioactive contamination (using a glove box, vent hood, etc.)? ☐ Yes ☐ No (If no, full rad analysis required)

34. Was the waste exposed to particle beams capable of inducing radioactivity by activation? ☐ Yes ☐ No (If yes, full rad analysis required)

35. Describe other controls used to prevent radioactive contamination:

RMMA Certification:

36. Radionuclides:
Check all Plutonium grades present: ☒ Weapons ☒ Fuel ☒ Reactor ☐ Am-enriched ☐ Mixed
Check all Uranium grades present: ☐ Depleted ☐ Natural ☐ Low-enriched
(List additional radionuclides in Step 37.)
80.0 Kg
Weight of waste package: 176 Lbs
Tare weight of container: 38.8 Kg

37. Radiological Data:
(For certified LLW and TRU waste, list totals from Parcel Cards.)

Item	Radionuclide(s)	Quantity	Units/Activity
A	239Pu	53.85 53.85 (TRU)	g
8/23/94 (TRU)		+0.858 −0.64 (TRU)	

38. Rad. Survey MR/HR:
β-γ @ Contact: 120
β-γ @ 1 Meter: 30
Neutron @ Contact: 1.0

39. Swipe Survey DPM/100cm²:

α	β-γ	3H
<20	<200	N/A

40. Swipe Survey Performed By: (Print Name–Last, First) NAYFORD, DEWAYNE
Employee No.: 734196 L-Code: 360
Signature: DeWayne A. Nayford
Date: 3-17-97 Ext.: 3-1477

41. Radioassay Performed/Approved By: (Print Name–Last, First) Midtown, Ted B
Employee No.: 605619 L-Code: 347
Signature: Ted B. Midtown
Date: 7/29/96 8/28/97 Ext.: 3-9535

☒ Pu ☐ 3H ☐ Other Radioassay Results Attached? ☒ Yes ☐ No

42. Generator: I certify, to the best of my knowledge, that the information provided on this requisition is correct. I understand that I may be liable to State and Federal prosecution by intentionally providing false information.
Container Custodian: I certify that the waste parcels identified on this form are contained in this waste container and have been packaged in accordance with the requirements specified in the appropriate LLNL TRU Waste or Low-Level Waste Program Certification and Quality Assurance Program.

Generator or Container Custodian Name (Print – Last, First): Aceves, Susan
Signature: See Attached Waste Package Control Record
Employee No.: 002475 L-Code: 360 Ext.: 2-8231 Date: 5-9-91

Inspected By (Print Name – Last, First): Macari, Thomas Ext.: 3-2217
Signature: Tom Macari Employee No.: 553224 Date: 6-26-96

HWM Requisition Approval: (Signature) Employee No.: 299424 Date: 9-3-97

Waste Certification Use Only
Waste Package Certified By: (Print Name – Last, First):
Signature:
Employee No.: L-Code: Ext.: Date:

☐ HWM Use Only

LL 5344 (Rev. 3/96)

Rotate 2002-02-26

W 108645

Item	RCH Prefix	RCH	P	Origin Code	Form Code	EPA No.	DTSC No.	MSDS No.	Hazardous Properties T	C	I	R
1	U	8A	N	1	B409	-	-		☐	☐	☐	☐
									☐	☐	☐	☐
									☐	☐	☐	☐
									☐	☐	☐	☐
									☐	☐	☐	☐
									☐	☐	☐	☐

Waste Status: **For each waste item, check all that apply.**

Item No.:	1					
RCRA Hazardous Waste						
nonRCRA Hazardous Waste						
Acutely/Extremely Hazardous Waste						
Medical Waste (T = Treated, U = Untreated)						
PCBs (5 ppm to < 50 ppm)						
TSCA/PCBs (≥ 50 ppm)						
TSCA/Asbestos						
Ozone-Depleting Substances						
Explosive Waste						
Originating from CHEW						

Scheduled Date: / /

- ☐ **HWM Waste Run**
- ☐ **Site 300 to LLNL**
- ☐ **Commercial Shipment**
- ☐ **Processed Waste**
- ☐ **Secured Pickup**
- ☐ **HWM Field Pump Out**
- ☐ **HWM Generated Waste**

☐ **Sewer:** _____

Date: / /

Void Requisition:

☐ **Date:** / /

Initials/Date:

RTO _____ /

WTO _____ /

Batch 2002-02-796A

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS 2.3A

****
* DRUM INFORMATION *
****

Drum Package ID: LL85200711
Sequence Number: 860
Assay Date & Time: 2-07-2002 1:31:01 PM
Drum Package GROSS Weight: 55.60 kg NET Weight: 21.10 kg

IDC Number: LL85200711

QC Replicate (Yes (No)): No Passed (Yes/No): _____

Operator Name (Printed): FOR: RUSSELL RATTI BY: DAVE HILAND

Operator Signature: Dave Hiland Date: 3/1/02

Independent Reviewer: [signature] Date: 3/6/02

Expert Reviewer: Kenneth Rasch Date: 2/28/02

Tech. Supv/QA Officer: Bryan Pinkay II Date: 3/6/02

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 6.884E+00 +/- 1.444E+00 Ci

Batch 2002-02-797

ISOTOPIC INFORMATION

Isotope	Measured Mass (g)	Mass Uncertainty (g)	MDC (g)
Pu-238	1.732E-02	6.06E-03	1.069E-04
Pu-239	5.791E+01	1.99E+01	3.576E-01
Pu-240	4.974E+00	1.71E+00	3.071E-02
Pu-241	1.678E-01	5.76E-02	7.596E-03
Pu-242	3.234E-02	1.28E-02	1.997E-04
Am-241	5.311E-01	1.82E-01	2.641E-02
Am-243	0.000E+00	0.00E+00	0.000E+00
Np-237	0.000E+00	0.00E+00	2.051E-03
U-235	0.000E+00	0.00E+00	2.752E-01
U-238	0.000E+00	0.00E+00	0.000E+00
U-233	0.000E+00	0.00E+00	0.000E+00

Total Pu Mass: 6.31E+01 +/- 4.65E+00 g

MGA RESULTS

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	2.744E-02	3.58E+00
Pu-239	9.177E+01	8.84E-02
Pu-240	7.882E+00	1.02E+00
Pu-241	2.660E-01	8.43E-01
Pu-242	5.125E-02	1.00E+01
Am-241	8.417E-01	6.06E-01

Batch 2002-02-798

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005

Assay Date & Time: 2-07-2002 1:31:01 PM

Drum Package ID: LL85200711
Sequence Number: 860

Waste Classification (TRU or LLW): TRU

		Errors at 1.96 sigma	
Total Alpha Activity :	6.884E+00	+/- 1.44E+00	Ci
Total TRU Activity :	3.262E+05	+/- 6.84E+04	nCi/g
Pu-239 Equiv Activity:	7.199E+00	+/- 1.45E+00	Ci
Fissile Gram Equiv Mass:	5.841E+01	+/- 1.99E+01	g
Total Decay Heat:	2.206E-01	+/- 4.59E-02	W
TMU Value:	34.28 %		

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error	MDA gm
Pu-238	3.00E-01	1.05E-01	1.73E-02	6.06E-03	1.07E-04
Pu-239	3.60E+00	1.23E+00	5.79E+01	1.99E+01	3.58E-01
Pu-240	1.14E+00	3.93E-01	4.97E+00	1.71E+00	3.07E-02
Pu-241	1.75E+01	5.99E+00	1.68E-01	5.76E-02	7.60E-03
Pu-242	1.28E-04	5.07E-05	3.23E-02	1.28E-02	2.00E-04
Am-241	1.84E+00	6.32E-01	5.31E-01	1.82E-01	2.64E-02
Am-243	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Np-237	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.05E-03
U-235	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.75E-01
U-238	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
U-233	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Total Pu Mass: 6.31E+01 +/- 4.65E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	2.744E-02	3.58E+00
Pu-239	9.177E+01	8.84E-02
Pu-240	7.882E+00	1.02E+00
Pu-241	2.660E-01	8.43E-01
Pu-242	5.125E-02	1.00E+01
Am-241	8.417E-01	6.06E-01

Batch 2002-02-799

SGS Expert Review Checklist

Container Identification Number: LL85200711_____

1. *WCP-41, §6.1:* A MGA report ☒ is present or ☐ expert review has provided isotopic ratios from SGS or AK. Comment: ☐ No comments
2. *WCP-41, §6.1:* MGA and AK ☒ agree as to radiological composition or, if not, ☐ expert review has resolved this. Comment: ☐ No comments
3. *WCP-41, §6.2.1:* ☒ Pu-238 < 2% by weight of total Pu or, if not, ☐ expert review has addressed this and assigned a Pu-240 value. Comment: ☐ No comments
4. *WCP-41, §6.2.2:* ☒ Neither Np-237 nor U-235 is identified by MGA or ☐ expert review has addressed possible interferences from these radionuclides.
   Comment: ☐ No comments
5. *WCP-41, §6.2.2.2:* ☒ Am-241 separation date is 1950 or later or ☐ expert review has addressed possible interferences. Comment: ☐ No comments
6. *WCP-41, §6.3.1.1.a:* ☒ Bulk density of waste < 0.6 g/ml or ☐ expert review has addressed the high density of the drum. Comment: ☐ No comments
7. *WCP-41, §6.3.1.2.a:* ☒ Transmission in every segment > 0.1% for the Se-75 peaks at 136 keV or 265 keV or ☐ expert review has addressed the low transmission.
   Comment: However the transmission is low in the first two segments. ☐ No comments
8. *WCP-41, §6.3.1.2.a:* ☒ Transmission in every segment >1% for the Se-75 peak at 401 keV or ☐ expert review has addressed the low transmission.
   Comment: ☐ No comments
9. *WCP-41, §6.3.1.3.b:* ☒ Dead time in every segment < 50% or ☐ expert review has addressed the high dead time. Comment: ☐ No comments
10. *WCP-41, §6.3.1.3.c:* ☒ Pu-239 masses determined from the 414 keV peak and the 129 keV peak agree by a factor of < 2.5 or ☐ expert review has addressed possible matrix inhomogeneity. Comment: ☐ No comments
11. *WCP-41, §6.3.2.3:* Cs-137 (☐ has) (☒ has not) been identified by expert review. If it has, Sr-90 is reported ☐ at an activity ratio to Cs-137of 0.39 for Pu fission or ☐ at a ratio of 1 for U-235 fission or, ☐ if both Pu and U are present, the expert reviewer has determined the ratio. Comment: ☐ No comments
12. *WCP-41, §6.3.2.4:* ☐ No unusual nuclides are identified (none other than the 10 required to be reported to WIPP) or ☒ the expert reviewer has checked for interferences from unusual nuclides. Comment: Neither U-233 or U-238 are in the spectra. ☐ No comments

CONTROLLED FORM

Batch 2002-02-800

SGS Expert Review Checklist

Container Identification Number: LL85200711_____

13. *WCP-41, §6.3.3:* For waste drums (☐ NA for standards), ☐ the Summed Spectrum report value for Pu-239 and the Combined Segment NID report for Pu-239 agree within 95% confidence limits (the same as for replicates of unknowns) or ☒ expert review has addressed the difference. Comment: Although the combined NID does not agree with the summed NID, the uniformity measurements and the distribution of the sample indicate that one should not expect the two to agree and the combined results should be relied on. ☐ No comments
14. *WCP-41, §6.4:* ☒ The SGS Summed Spectrum and Combined Segment NID reports agree as to the ratios by weight of several radionuclides, such as those of Am-241, Pu-241, Np-237, Am-243, and U-235 to Pu-239, and MGA results agree as to identifying these radionuclides or ☐ expert review has resolved this. Comment: ☐ No comments
15. *WCP-41, §6.6.1:* ☒ All reported radionuclide masses are above 2.5 times the uncorrected MDA or ☐ expert review has calculated transmission-corrected MDAs and taken appropriate action. Comment: ☐ No comments
16. *WCP-41, §6.6.2:* ☒ Any changes to reported quantities of individual radionuclides have been entered into the RADA program and a new radioassay data sheet has been produced, showing revised derivative quantities, and included in the batch data report, along with the marked up original. Comment: ☐ No comments
17. *CP-41, §6.7:* ☒ Counting statistics are adequate for normal passive count time of 120 seconds per segment or ☐ Counting statistics are adequate for long passive count time of 600 seconds per segment or ☐ expert review has rejected the count and ordered a longer count time. Comment: ☐ No comments

Kenneth Raschke — Expert Reviewer (print)

Kenneth Raschke — Signature

2/28/02 — Date

Batch 2002-02-801

****
***** M G A R E P O R T *****
****

Report generated on: 2-07-02 2:27:37 PM

MGA version: MGA V9.5 CI

Spectrum ID: 11200860.CNF Sens : 30.0% LT: 54.0 Mins DT: 3.40
Measurement date: 2-07-02 Declared date: 2-07-02

Sample ID: LL85200711 Detector: Total counts: 6.704E+06

Pu g/cm2 = 0.2081 Cd g/cm2 = 1.7066 FWHM at 122 keV = 676 eV
QFIT = 1.11 FWHM at 208 keV = 851 eV
NQFIT = 1.01

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	%Err	Decl. date % weight	%Err
Pu-238	0.000299	3.6	3.6	0.1032	3.5	0.02744	3.58	0.02744	3.58
Pu-239	1.000000	0.0	0.6	345.0517	0.9	91.77313	0.09	91.77313	0.09
Pu-240	0.085888	1.1	1.0	29.6358	1.2	7.88220	1.02	7.88220	1.02
Pu-241	0.002898	0.9	0.7	1.0000	0.0	0.26597	0.84	0.26597	0.84
Pu-242	(New alg.)			0.1927	(10)	0.05125	(10)	0.05125	(10)
Am-241	0.009172	0.6	0.3	3.1647	0.8	0.84170	0.61	0.84170	0.61

Pu-240 effective (meas. date) = 8.037 +/- 1.13%
Am-241 separated about 29.626 +/- 0.162 years ago
Am/Pu-241 weight ratio = 3.16466 +/- 0.79%

Messages :

Lead x-rays detected.
Calculations in MGAABS didn't converge : results may be suspect.
Pu-241/Pu-239 efficiency changed in MGACAL by 2%.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Batch 2002-02-802

Gamma Waste Assay

Sample Information

File Name: C:\WAS\DATA\900\11100860.S11
Sample ID: LL85200711 Count Sequence Number: 860
Assay Start: 2-07-02 1:31:03 PM
Description 1: unknown
Description 2:
Location: 7715
Comment:
Waste Type:
Weight: Gross: 55600.0 g Net: 21100.0 g
Density: 0.101 g /ml

Container Type: 55 TRU White
Container: Volume: 208000. ml Full: 100.0 %

System Configuration

Counter ID Number: SGS
Arrangement Description: SGS
Segments: Number: 16 Offset: 0
Scanning Platform: Start: 934 mm Delta: -51 mm
Count Type: 55 TRU White
Collimator/Geometry Setting: 0
Transmission Mode: Two pass
Transmission Source: 0

Errors quoted at 1.000 sigma
Reference Source Date: Reference Source Rate: 1.01E+03 cps
Geometric Correction Factor(SWCONTGCF): 0.760
Date of efficiency calibration approval: 4-18-2001 12:41:36 PM
Mu Factors response file: Lucite
Transmission Calib. Time: 5-18-2001 2:33:27 PM 49384

Reviewed by: _____ Date: 2-7-02

Batch 2002-02-503

Segment Results

Segment: 1 Detector: DET01 (# 1) Position: 1

Elapsed Live Time: 107.78 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.030 +/- 0.0018
SE-75	279.53	0.000 +/- 0.0000	0.043 +/- 0.0031
SE-75	400.65	0.000 +/- 0.0000	0.057 +/- 0.0034

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	1.81E+01 +/- 7.07E-01	4.10E+00	4.26E-08 +/- 6.00E-07
2	23.18	2.58E+01 +/- 8.13E-01	4.10E+00	9.33E-08 +/- 1.17E-06
3	35.10	1.01E+03 +/- 4.94E+00	4.10E+00	2.61E-06 +/- 1.64E-05
4	48.71	2.11E+01 +/- 1.29E+00	4.10E+00	1.63E-05 +/- 5.26E-05
5	59.61	5.82E+02 +/- 3.46E+00	4.10E+00	3.76E-05 +/- 7.40E-05
6	74.99	3.62E+00 +/- 9.04E-01	4.10E+00	7.71E-05 +/- 7.61E-05
7	98.80	1.23E+02 +/- 2.06E+00	4.10E+00	1.39E-04 +/- 4.08E-05
8	103.38	9.17E+01 +/- 1.37E+00	4.10E+00	1.49E-04 +/- 3.30E-05
9	111.33	2.26E+01 +/- 1.43E+00	4.10E+00	1.66E-04 +/- 2.09E-05
10	114.65	2.53E+00 +/- 1.49E+00	4.10E+00	1.72E-04 +/- 1.68E-05
11	129.29	1.18E+02 +/- 1.53E+00	4.10E+00	1.95E-04 +/- 1.38E-05
12	148.57	2.08E+01 +/- 1.00E+00	3.90E+00	2.15E-04 +/- 2.55E-05
13	160.93	4.34E+00 +/- 8.97E-01	3.74E+00	2.23E-04 +/- 3.00E-05
14	164.71	1.76E+00 +/- 8.71E-01	3.69E+00	2.25E-04 +/- 3.08E-05
15	171.59	6.44E+00 +/- 7.98E-01	3.61E+00	2.27E-04 +/- 3.17E-05
16	189.66	1.86E+00 +/- 7.72E-01	3.43E+00	2.31E-04 +/- 3.12E-05
17	195.83	3.96E+00 +/- 8.23E-01	3.37E+00	2.31E-04 +/- 3.04E-05
18	208.35	8.01E+01 +/- 1.36E+00	3.26E+00	2.30E-04 +/- 2.81E-05
19	244.70	1.53E+00 +/- 5.75E-01	3.00E+00	2.23E-04 +/- 1.95E-05
20	255.65	4.23E+00 +/- 5.48E-01	2.93E+00	2.19E-04 +/- 1.71E-05
21	268.05	2.83E+00 +/- 5.42E-01	2.81E+00	2.15E-04 +/- 1.47E-05
22	297.93	2.84E+00 +/- 6.45E-01	2.60E+00	2.05E-04 +/- 1.10E-05
23	311.90	3.11E+00 +/- 5.09E-01	2.58E+00	2.00E-04 +/- 1.03E-05
24	324.07	5.21E+00 +/- 5.23E-01	2.56E+00	1.95E-04 +/- 1.03E-05

Batch 2002-02-004

25	333.25	2.18E+01	+/- 7.99E-01	2.55E+00	1.92E-04	+/- 1.04E-05
26	336.32	3.06E+00	+/- 6.09E-01	2.54E+00	1.91E-04	+/- 1.05E-05
27	345.56	2.03E+01	+/- 6.38E-01	2.53E+00	1.88E-04	+/- 1.07E-05
28	369.21	9.90E+00	+/- 5.31E-01	2.50E+00	1.80E-04	+/- 1.16E-05
29	375.63	5.77E+01	+/- 9.40E-01	2.49E+00	1.77E-04	+/- 1.18E-05
30	383.47	6.25E+00	+/- 4.34E-01	2.48E+00	1.75E-04	+/- 1.21E-05
31	393.58	2.18E+01	+/- 5.49E-01	2.47E+00	1.72E-04	+/- 1.23E-05
32	400.66	4.40E-01	+/- 2.56E-01	2.46E+00	1.69E-04	+/- 1.25E-05
33	413.70	5.84E+01	+/- 8.04E-01	2.44E+00	1.65E-04	+/- 1.27E-05
34	423.28	3.24E+00	+/- 3.19E-01	2.42E+00	1.62E-04	+/- 1.29E-05
35	452.16	6.36E+00	+/- 3.02E-01	2.37E+00	1.54E-04	+/- 1.30E-05
36	620.05	6.88E-01	+/- 1.18E-01	2.13E+00	1.19E-04	+/- 9.30E-06
37	654.48	5.32E-01	+/- 1.15E-01	2.09E+00	1.14E-04	+/- 8.35E-06
38	662.42	3.00E+00	+/- 2.70E-01	2.08E+00	1.12E-04	+/- 8.14E-06
39	690.15	3.07E-01	+/- 7.96E-02	2.06E+00	1.08E-04	+/- 7.44E-06
40	704.94	1.06E-01	+/- 6.37E-02	2.04E+00	1.07E-04	+/- 7.10E-06
41	723.12	1.48E+00	+/- 1.40E-01	2.02E+00	1.04E-04	+/- 6.70E-06
42	1001.03	1.84E-02	+/- 1.30E-02	1.83E+00	7.98E-05	+/- 4.04E-06

Batch 2002-02-805

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
43	1112.12	2.07E-02 +/- 1.78E-02	1.77E+00	7.35E-05 +/- 3.70E-06

Segment: 2 Detector: DET01 (# 1) Position: 2

Elapsed Live Time: 107.94 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.078 +/- 0.0023
SE-75	279.53	0.000 +/- 0.0000	0.084 +/- 0.0038
SE-75	400.65	0.000 +/- 0.0000	0.122 +/- 0.0044

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	1.79E+01 +/- 7.02E-01	4.10E+00	1.31E-10 +/- 1.40E-09
2	23.18	2.79E+01 +/- 8.16E-01	4.10E+00	5.50E-10 +/- 5.25E-09
3	35.10	1.01E+03 +/- 4.94E+00	4.10E+00	2.21E-07 +/- 1.06E-06
4	59.60	5.90E+02 +/- 3.50E+00	4.10E+00	2.20E-05 +/- 3.31E-05
5	98.86	1.26E+02 +/- 2.02E+00	4.10E+00	1.84E-04 +/- 4.23E-05
6	103.32	9.08E+01 +/- 1.35E+00	4.10E+00	2.05E-04 +/- 3.61E-05
7	111.26	1.99E+01 +/- 1.47E+00	4.10E+00	2.41E-04 +/- 2.52E-05
8	129.29	1.16E+02 +/- 1.52E+00	4.10E+00	3.07E-04 +/- 1.84E-05
9	146.50	2.14E+01 +/- 1.07E+00	3.68E+00	3.50E-04 +/- 3.14E-05
10	148.57	6.98E+00 +/- 8.25E-01	3.61E+00	3.54E-04 +/- 3.27E-05
11	160.99	1.61E+00 +/- 8.84E-01	3.32E+00	3.73E-04 +/- 3.88E-05
12	179.55	2.47E+00 +/- 7.59E-01	3.01E+00	3.87E-04 +/- 4.17E-05
13	189.72	3.05E+00 +/- 7.55E-01	2.88E+00	3.90E-04 +/- 4.10E-05
14	195.98	3.85E+00 +/- 8.16E-01	2.81E+00	3.90E-04 +/- 3.99E-05
15	208.36	8.43E+01 +/- 1.37E+00	2.68E+00	3.88E-04 +/- 3.71E-05
16	244.70	1.61E+00 +/- 5.62E-01	2.39E+00	3.69E-04 +/- 2.61E-05
17	255.73	3.47E+00 +/- 4.69E-01	2.32E+00	3.61E-04 +/- 2.30E-05
18	268.10	2.88E+00 +/- 5.27E-01	2.26E+00	3.52E-04 +/- 2.00E-05
M 19	297.90	2.09E+00 +/- 3.92E-01	2.18E+00	3.29E-04 +/- 1.50E-05
m 20	300.85	7.09E-01 +/- 2.33E-01	2.18E+00	3.26E-04 +/- 1.47E-05
21	311.90	3.92E+00 +/- 5.05E-01	2.15E+00	3.18E-04 +/- 1.39E-05

22	321.70	3.94E+00	+/- 5.28E-01	2.14E+00	3.11E-04	+/- 1.35E-05
23	333.26	1.98E+01	+/- 7.89E-01	2.12E+00	3.02E-04	+/- 1.34E-05
24	336.27	4.09E+00	+/- 5.99E-01	2.11E+00	3.00E-04	+/- 1.34E-05
25	345.59	2.01E+01	+/- 5.44E-01	2.09E+00	2.94E-04	+/- 1.34E-05
26	368.85	8.73E+00	+/- 5.06E-01	2.05E+00	2.78E-04	+/- 1.39E-05
27	375.65	5.60E+01	+/- 9.27E-01	2.04E+00	2.74E-04	+/- 1.40E-05
28	383.53	6.29E+00	+/- 4.26E-01	2.03E+00	2.69E-04	+/- 1.42E-05
29	393.57	2.04E+01	+/- 5.34E-01	2.02E+00	2.63E-04	+/- 1.43E-05
30	413.70	5.51E+01	+/- 7.89E-01	1.99E+00	2.51E-04	+/- 1.46E-05
31	423.25	3.41E+00	+/- 3.15E-01	1.98E+00	2.46E-04	+/- 1.46E-05
32	452.16	6.51E+00	+/- 3.03E-01	1.94E+00	2.32E-04	+/- 1.45E-05
33	619.97	7.01E-01	+/- 1.26E-01	1.78E+00	1.74E-04	+/- 1.03E-05
34	647.27	2.99E-01	+/- 1.00E-01	1.76E+00	1.68E-04	+/- 9.57E-06
35	653.16	3.55E-01	+/- 1.22E-01	1.76E+00	1.67E-04	+/- 9.42E-06
36	662.42	3.96E+00	+/- 2.03E-01	1.75E+00	1.65E-04	+/- 9.18E-06
37	690.09	1.99E-01	+/- 9.80E-02	1.73E+00	1.59E-04	+/- 8.52E-06
38	723.29	1.86E+00	+/- 1.49E-01	1.71E+00	1.53E-04	+/- 7.83E-06
39	757.54	1.70E-01	+/- 5.19E-02	1.69E+00	1.47E-04	+/- 7.23E-06
40	770.36	3.31E-01	+/- 9.01E-02	1.68E+00	1.45E-04	+/- 7.04E-06
41	1085.91	3.73E-02	+/- 2.27E-02	1.55E+00	1.13E-04	+/- 4.92E-06

Segment: 3 Detector: DET01 (# 1) Position: 3

Elapsed Live Time: 109.83 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.281 +/- 0.0381
SE-75	264.65	0.000 +/- 0.0000	0.448 +/- 0.0049
SE-75	279.53	0.000 +/- 0.0000	0.450 +/- 0.0068
SE-75	400.65	0.000 +/- 0.0000	0.512 +/- 0.0084

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	1.12E+01 +/- 5.93E-01	3.33E+00	3.50E-09 +/- 3.85E-08
2	23.23	2.20E+01 +/- 7.09E-01	2.99E+00	1.09E-08 +/- 1.06E-07
3	35.10	1.01E+03 +/- 4.88E+00	2.10E+00	1.07E-06 +/- 5.27E-06
4	59.62	4.64E+02 +/- 2.94E+00	1.74E+00	3.80E-05 +/- 5.87E-05
5	98.89	8.14E+01 +/- 1.64E+00	1.61E+00	2.01E-04 +/- 4.73E-05
6	103.29	6.26E+01 +/- 1.11E+00	1.60E+00	2.19E-04 +/- 3.96E-05
7	111.36	1.52E+01 +/- 1.14E+00	1.59E+00	2.49E-04 +/- 2.65E-05
8	129.29	7.02E+01 +/- 1.21E+00	1.57E+00	3.02E-04 +/- 1.84E-05
9	148.57	1.32E+01 +/- 8.03E-01	1.53E+00	3.39E-04 +/- 3.24E-05
10	164.88	3.46E+00 +/- 6.42E-01	1.49E+00	3.57E-04 +/- 3.91E-05

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11	171.82	3.70E+00	+/- 6.93E-01	1.48E+00	3.61E-04	+/- 4.04E-05
12	179.36	2.57E+00	+/- 6.73E-01	1.47E+00	3.65E-04	+/- 4.08E-05
13	189.58	1.83E+00	+/- 5.67E-01	1.45E+00	3.67E-04	+/- 4.01E-05
14	196.09	2.50E+00	+/- 6.61E-01	1.44E+00	3.67E-04	+/- 3.91E-05
15	208.39	4.95E+01	+/- 1.08E+00	1.42E+00	3.66E-04	+/- 3.64E-05
16	244.70	1.19E+00	+/- 4.59E-01	1.36E+00	3.52E-04	+/- 2.60E-05
17	255.78	2.07E+00	+/- 4.49E-01	1.35E+00	3.46E-04	+/- 2.30E-05
18	268.06	1.70E+00	+/- 4.15E-01	1.34E+00	3.39E-04	+/- 2.01E-05
19	297.74	1.42E+00	+/- 5.11E-01	1.32E+00	3.21E-04	+/- 1.52E-05
20	311.90	2.03E+00	+/- 3.68E-01	1.32E+00	3.13E-04	+/- 1.40E-05
21	321.34	1.30E+00	+/- 4.29E-01	1.31E+00	3.07E-04	+/- 1.36E-05
22	333.26	1.27E+01	+/- 6.25E-01	1.31E+00	3.00E-04	+/- 1.35E-05
23	336.43	1.83E+00	+/- 4.79E-01	1.30E+00	2.98E-04	+/- 1.35E-05
24	345.62	1.32E+01	+/- 5.03E-01	1.30E+00	2.93E-04	+/- 1.36E-05
25	375.64	3.74E+01	+/- 6.93E-01	1.29E+00	2.76E-04	+/- 1.44E-05
26	383.38	3.94E+00	+/- 3.50E-01	1.28E+00	2.72E-04	+/- 1.46E-05
27	393.61	1.34E+01	+/- 4.28E-01	1.28E+00	2.67E-04	+/- 1.48E-05
28	413.70	3.53E+01	+/- 6.17E-01	1.27E+00	2.57E-04	+/- 1.52E-05
29	423.26	2.14E+00	+/- 2.10E-01	1.27E+00	2.53E-04	+/- 1.53E-05
30	452.31	4.43E+00	+/- 2.42E-01	1.26E+00	2.40E-04	+/- 1.54E-05
31	482.46	2.82E-01	+/- 1.04E-01	1.25E+00	2.28E-04	+/- 1.51E-05
32	662.42	1.67E+00	+/- 1.49E-01	1.21E+00	1.78E-04	+/- 1.02E-05
33	723.27	8.80E-01	+/- 1.10E-01	1.20E+00	1.66E-04	+/- 8.74E-06

Segment: 4 Detector: DET01 (# 1) Position: 4

Elapsed Live Time: 111.15 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.278 +/- 0.0329
SE-75	264.65	0.000 +/- 0.0000	0.390 +/- 0.0044
SE-75	279.53	0.000 +/- 0.0000	0.396 +/- 0.0061
SE-75	400.65	0.000 +/- 0.0000	0.442 +/- 0.0076

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	9.15E+00 +/- 5.34E-01	3.35E+00	2.23E-06 +/- 3.43E-06
2	23.23	2.01E+01 +/- 6.51E-01	3.01E+00	3.36E-06 +/- 4.72E-06
3	35.10	1.01E+03 +/- 4.86E+00	2.11E+00	2.00E-05 +/- 1.66E-05
4	49.63	1.98E+01 +/- 1.15E+00	1.83E+00	6.16E-05 +/- 2.98E-05
5	59.62	4.28E+02 +/- 2.77E+00	1.74E+00	9.84E-05 +/- 3.39E-05
6	98.90	5.29E+01 +/- 1.33E+00	1.61E+00	2.40E-04 +/- 2.42E-05
7	111.26	8.14E+00 +/- 9.64E-01	1.59E+00	2.74E-04 +/- 1.97E-05

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8	115.07	4.29E+00	+/- 1.01E+00	1.59E+00	2.83E-04	+/- 1.86E-05
9	129.29	4.51E+01	+/- 9.70E-01	1.57E+00	3.12E-04	+/- 1.61E-05
10	148.57	9.05E+00	+/- 6.43E-01	1.54E+00	3.40E-04	+/- 1.63E-05
11	171.68	2.75E+00	+/- 5.65E-01	1.51E+00	3.60E-04	+/- 1.81E-05
12	196.13	1.99E+00	+/- 5.19E-01	1.48E+00	3.69E-04	+/- 1.93E-05
13	208.44	2.88E+01	+/- 7.96E-01	1.46E+00	3.71E-04	+/- 1.94E-05
14	239.28	1.08E+00	+/- 3.64E-01	1.43E+00	3.67E-04	+/- 1.87E-05
15	255.87	1.01E+00	+/- 3.42E-01	1.41E+00	3.62E-04	+/- 1.80E-05
16	268.08	1.27E+00	+/- 2.85E-01	1.40E+00	3.57E-04	+/- 1.73E-05
17	279.54	6.58E-01	+/- 3.14E-01	1.39E+00	3.53E-04	+/- 1.66E-05
18	311.90	1.83E+00	+/- 3.15E-01	1.38E+00	3.38E-04	+/- 1.48E-05
19	333.35	6.36E+00	+/- 4.56E-01	1.37E+00	3.27E-04	+/- 1.37E-05
20	336.53	5.83E-01	+/- 3.51E-01	1.37E+00	3.26E-04	+/- 1.36E-05
21	345.67	6.16E+00	+/- 3.76E-01	1.36E+00	3.21E-04	+/- 1.31E-05
22	369.14	2.39E+00	+/- 3.06E-01	1.35E+00	3.09E-04	+/- 1.23E-05
23	375.67	1.87E+01	+/- 5.10E-01	1.35E+00	3.06E-04	+/- 1.21E-05
24	383.49	1.74E+00	+/- 2.38E-01	1.35E+00	3.02E-04	+/- 1.18E-05
25	393.65	6.89E+00	+/- 3.06E-01	1.35E+00	2.97E-04	+/- 1.16E-05
26	413.70	1.78E+01	+/- 4.29E-01	1.34E+00	2.87E-04	+/- 1.11E-05
27	423.44	8.36E-01	+/- 1.85E-01	1.33E+00	2.83E-04	+/- 1.10E-05
28	452.20	1.90E+00	+/- 1.76E-01	1.32E+00	2.70E-04	+/- 1.06E-05
29	662.42	7.90E-01	+/- 1.12E-01	1.26E+00	1.95E-04	+/- 9.03E-06
30	723.13	3.82E-01	+/- 8.77E-02	1.25E+00	1.79E-04	+/- 8.36E-06
31	1408.01	9.01E-03	+/- 9.01E-03	1.17E+00	9.34E-05	+/- 5.87E-06

Segment: 5 Detector: DET01 (# 1) Position: 5

Elapsed Live Time: 111.32 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.393 +/- 0.0319
SE-75	264.65	0.000 +/- 0.0000	0.510 +/- 0.0052
SE-75	279.53	0.000 +/- 0.0000	0.523 +/- 0.0072
SE-75	400.65	0.000 +/- 0.0000	0.559 +/- 0.0087

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	1.13E+01 +/- 5.52E-01	2.60E+00	1.08E-06 +/- 1.72E-06
2	23.22	2.32E+01 +/- 6.99E-01	2.37E+00	1.78E-06 +/- 2.57E-06
3	35.10	1.01E+03 +/- 4.84E+00	1.77E+00	1.48E-05 +/- 1.27E-05
4	49.59	2.31E+01 +/- 1.28E+00	1.58E+00	5.46E-05 +/- 2.71E-05
5	59.62	5.88E+02 +/- 3.42E+00	1.52E+00	9.34E-05 +/- 3.30E-05
6	75.22	1.21E+00 +/- 5.80E-01	1.47E+00	1.60E-04 +/- 3.39E-05

7	98.99	3.95E+01 +/-	1.35E+00	1.43E+00	2.50E-04 +/-	2.51E-05
8	103.22	6.26E+00 +/-	1.40E+00	1.43E+00	2.63E-04 +/-	2.34E-05
9	111.36	3.94E+00 +/-	8.07E-01	1.42E+00	2.86E-04 +/-	2.04E-05
10	114.57	2.90E+00 +/-	8.17E-01	1.41E+00	2.95E-04 +/-	1.94E-05
11	129.29	3.28E+01 +/-	8.62E-01	1.40E+00	3.26E-04 +/-	1.67E-05
12	148.57	8.64E+00 +/-	5.69E-01	1.38E+00	3.54E-04 +/-	1.71E-05
13	196.09	1.32E+00 +/-	3.68E-01	1.33E+00	3.76E-04 +/-	2.03E-05
14	208.38	2.65E+01 +/-	7.18E-01	1.32E+00	3.75E-04 +/-	2.04E-05
15	239.00	6.04E-01 +/-	2.63E-01	1.30E+00	3.65E-04 +/-	1.94E-05
16	267.75	5.39E-01 +/-	2.51E-01	1.28E+00	3.51E-04 +/-	1.76E-05
17	300.10	9.66E-01 +/-	2.57E-01	1.26E+00	3.33E-04 +/-	1.55E-05
18	311.90	8.15E-01 +/-	2.54E-01	1.26E+00	3.26E-04 +/-	1.48E-05
19	333.27	4.04E+00 +/-	3.74E-01	1.25E+00	3.13E-04 +/-	1.36E-05
20	336.28	1.12E+00 +/-	2.75E-01	1.25E+00	3.12E-04 +/-	1.34E-05
21	345.56	3.96E+00 +/-	2.91E-01	1.25E+00	3.06E-04 +/-	1.30E-05
22	369.23	1.66E+00 +/-	2.42E-01	1.24E+00	2.93E-04 +/-	1.20E-05
23	375.67	1.01E+01 +/-	3.88E-01	1.24E+00	2.89E-04 +/-	1.18E-05
24	393.68	3.74E+00 +/-	2.35E-01	1.24E+00	2.79E-04 +/-	1.13E-05
25	413.70	9.33E+00 +/-	3.12E-01	1.23E+00	2.69E-04 +/-	1.09E-05
26	423.22	4.81E-01 +/-	1.57E-01	1.23E+00	2.64E-04 +/-	1.07E-05
27	452.20	8.63E-01 +/-	1.35E-01	1.22E+00	2.50E-04 +/-	1.03E-05
28	584.35	2.24E-01 +/-	6.86E-02	1.20E+00	2.00E-04 +/-	9.40E-06
29	662.42	6.16E-01 +/-	8.55E-02	1.18E+00	1.79E-04 +/-	8.77E-06
30	723.14	3.81E-01 +/-	6.82E-02	1.17E+00	1.65E-04 +/-	8.15E-06

Segment: 6 Detector: DET01 (# 1) Position: 6

Elapsed Live Time: 111.10 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.273 +/- 0.0296
SE-75	264.65	0.000 +/- 0.0000	0.381 +/- 0.0043
SE-75	279.53	0.000 +/- 0.0000	0.396 +/- 0.0061
SE-75	400.65	0.000 +/- 0.0000	0.432 +/- 0.0075

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.23	3.90E+01 +/- 8.75E-01	3.05E+00	6.83E-07 +/- 9.67E-07
2	35.10	1.01E+03 +/- 4.85E+00	2.13E+00	8.04E-06 +/- 6.71E-06
3	49.78	3.37E+01 +/- 1.55E+00	1.84E+00	3.73E-05 +/- 1.81E-05
4	59.61	7.98E+02 +/- 4.25E+00	1.76E+00	6.90E-05 +/- 2.40E-05
5	98.98	4.46E+01 +/- 1.41E+00	1.63E+00	2.23E-04 +/- 2.25E-05
6	103.16	1.30E+01 +/- 1.47E+00	1.62E+00	2.37E-04 +/- 2.12E-05

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7	111.37	5.14E+00	+/- 7.80E-01	1.60E+00	2.63E-04	+/- 1.89E-05
8	114.59	3.08E+00	+/- 7.95E-01	1.60E+00	2.73E-04	+/- 1.82E-05
9	129.29	2.75E+01	+/- 8.51E-01	1.58E+00	3.10E-04	+/- 1.61E-05
10	148.57	9.48E+00	+/- 5.53E-01	1.55E+00	3.45E-04	+/- 1.67E-05
11	164.75	1.54E+00	+/- 4.92E-01	1.53E+00	3.64E-04	+/- 1.82E-05
12	208.38	2.61E+01	+/- 6.79E-01	1.47E+00	3.81E-04	+/- 2.03E-05
13	267.86	6.61E-01	+/- 2.37E-01	1.41E+00	3.63E-04	+/- 1.78E-05
14	300.10	4.43E-01	+/- 2.30E-01	1.39E+00	3.46E-04	+/- 1.58E-05
15	311.90	9.73E-01	+/- 2.31E-01	1.38E+00	3.39E-04	+/- 1.51E-05
16	333.29	3.61E+00	+/- 3.51E-01	1.37E+00	3.26E-04	+/- 1.39E-05
17	336.16	1.38E+00	+/- 2.41E-01	1.37E+00	3.24E-04	+/- 1.37E-05
18	345.63	3.15E+00	+/- 2.58E-01	1.37E+00	3.19E-04	+/- 1.33E-05
19	369.16	1.95E+00	+/- 2.18E-01	1.36E+00	3.05E-04	+/- 1.23E-05
20	375.71	8.87E+00	+/- 3.64E-01	1.36E+00	3.02E-04	+/- 1.21E-05
21	383.34	6.93E-01	+/- 1.61E-01	1.36E+00	2.97E-04	+/- 1.18E-05
22	393.57	3.56E+00	+/- 2.13E-01	1.36E+00	2.92E-04	+/- 1.16E-05
23	413.70	8.41E+00	+/- 2.97E-01	1.35E+00	2.81E-04	+/- 1.11E-05
24	423.23	3.13E-01	+/- 1.52E-01	1.34E+00	2.76E-04	+/- 1.09E-05
25	443.98	1.72E-01	+/- 8.55E-02	1.34E+00	2.65E-04	+/- 1.06E-05
26	452.15	7.95E-01	+/- 1.19E-01	1.33E+00	2.61E-04	+/- 1.05E-05
27	662.42	9.07E-01	+/- 1.10E-01	1.27E+00	1.86E-04	+/- 8.77E-06
28	723.29	4.24E-01	+/- 8.28E-02	1.26E+00	1.72E-04	+/- 8.13E-06
29	1001.03	2.75E-02	+/- 2.03E-02	1.21E+00	1.30E-04	+/- 4.95E-06

Segment: 7 Detector: DET01 (# 1) Position: 7

Elapsed Live Time: 111.51 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.282 +/- 0.0275
SE-75	264.65	0.000 +/- 0.0000	0.365 +/- 0.0042
SE-75	279.53	0.000 +/- 0.0000	0.370 +/- 0.0058
SE-75	400.65	0.000 +/- 0.0000	0.419 +/- 0.0074

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.20	3.82E+01 +/- 8.45E-01	2.99E+00	7.17E-09 +/- 7.03E-08
2	35.10	1.01E+03 +/- 4.83E+00	2.10E+00	9.59E-07 +/- 4.73E-06
3	49.74	2.90E+01 +/- 1.49E+00	1.82E+00	1.46E-05 +/- 3.54E-05
4	59.62	7.48E+02 +/- 4.05E+00	1.73E+00	4.02E-05 +/- 6.22E-05
5	99.06	3.56E+01 +/- 1.26E+00	1.61E+00	2.22E-04 +/- 5.13E-05
6	103.14	1.04E+01 +/- 1.34E+00	1.60E+00	2.40E-04 +/- 4.34E-05
7	111.19	2.48E+00 +/- 7.00E-01	1.59E+00	2.73E-04 +/- 2.89E-05

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8	114.57	2.80E+00 +/-	6.65E-01	1.58E+00	2.85E-04 +/-	2.39E-05
9	129.29	1.51E+01 +/-	7.40E-01	1.56E+00	3.30E-04 +/-	1.98E-05
M 10	146.54	9.80E-01 +/-	1.85E-01	1.54E+00	3.65E-04 +/-	3.35E-05
m 11	148.96	5.88E+00 +/-	4.92E-01	1.54E+00	3.69E-04 +/-	3.51E-05
12	164.96	8.34E-01 +/-	3.80E-01	1.52E+00	3.86E-04 +/-	4.20E-05
13	208.37	1.92E+01 +/-	5.72E-01	1.48E+00	3.91E-04 +/-	3.83E-05
14	255.96	7.32E-01 +/-	2.39E-01	1.44E+00	3.66E-04 +/-	2.38E-05
15	267.99	5.65E-01 +/-	1.86E-01	1.43E+00	3.58E-04 +/-	2.08E-05
16	300.10	4.16E-01 +/-	1.92E-01	1.41E+00	3.36E-04 +/-	1.56E-05
17	311.90	1.11E+00 +/-	2.13E-01	1.41E+00	3.27E-04 +/-	1.48E-05
18	333.25	2.61E+00 +/-	3.08E-01	1.40E+00	3.13E-04 +/-	1.44E-05
19	336.19	1.49E+00 +/-	2.32E-01	1.40E+00	3.11E-04 +/-	1.44E-05
20	345.57	2.20E+00 +/-	2.15E-01	1.39E+00	3.05E-04 +/-	1.46E-05
21	369.13	1.53E+00 +/-	1.92E-01	1.38E+00	2.91E-04 +/-	1.52E-05
22	375.64	6.43E+00 +/-	2.97E-01	1.38E+00	2.87E-04 +/-	1.54E-05
23	383.66	2.96E-01 +/-	2.00E-01	1.37E+00	2.83E-04 +/-	1.57E-05
24	393.62	2.39E+00 +/-	1.82E-01	1.37E+00	2.77E-04 +/-	1.59E-05
25	400.66	1.94E-01 +/-	9.65E-02	1.37E+00	2.74E-04 +/-	1.60E-05
26	413.70	5.43E+00 +/-	2.47E-01	1.36E+00	2.67E-04 +/-	1.63E-05
27	423.46	3.82E-01 +/-	1.25E-01	1.36E+00	2.62E-04 +/-	1.63E-05
28	452.21	7.70E-01 +/-	1.07E-01	1.35E+00	2.49E-04 +/-	1.63E-05
29	662.42	1.03E+00 +/-	1.05E-01	1.28E+00	1.82E-04 +/-	1.06E-05
30	723.40	5.24E-01 +/-	8.85E-02	1.27E+00	1.69E-04 +/-	9.01E-06

Segment: 8 Detector: DET01 (# 1) Position: 8

Elapsed Live Time: 112.19 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.212 +/- 0.0258
SE-75	264.65	0.000 +/- 0.0000	0.372 +/- 0.0042
SE-75	279.53	0.000 +/- 0.0000	0.389 +/- 0.0059
SE-75	400.65	0.000 +/- 0.0000	0.440 +/- 0.0075

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.24	2.86E+01 +/- 7.12E-01	3.54E+00	4.32E-09 +/- 4.19E-08
2	35.10	1.01E+03 +/- 4.81E+00	2.40E+00	6.89E-07 +/- 3.37E-06
3	49.73	2.62E+01 +/- 1.29E+00	2.04E+00	1.17E-05 +/- 2.81E-05
4	59.63	5.76E+02 +/- 3.33E+00	1.93E+00	3.35E-05 +/- 5.15E-05
5	99.12	2.15E+01 +/- 1.08E+00	1.77E+00	2.00E-04 +/- 4.60E-05
6	103.14	1.12E+01 +/- 1.18E+00	1.76E+00	2.17E-04 +/- 3.93E-05
7	114.62	2.27E+00 +/- 4.83E-01	1.73E+00	2.61E-04 +/- 2.20E-05

8	125.56	9.20E+00 +/-	5.10E-01	1.72E+00	2.95E-04 +/-	1.67E-05
M 9	146.72	1.95E+00 +/-	2.84E-01	1.67E+00	3.42E-04 +/-	3.15E-05
m 10	148.97	1.88E+00 +/-	2.80E-01	1.66E+00	3.45E-04 +/-	3.29E-05
11	165.11	7.18E-01 +/-	3.04E-01	1.62E+00	3.64E-04 +/-	3.98E-05
12	208.46	1.00E+01 +/-	4.14E-01	1.52E+00	3.75E-04 +/-	3.71E-05
13	244.70	2.74E-01 +/-	1.78E-01	1.45E+00	3.62E-04 +/-	2.67E-05
14	300.10	2.37E-01 +/-	1.60E-01	1.39E+00	3.30E-04 +/-	1.53E-05
15	311.90	1.38E+00 +/-	1.74E-01	1.38E+00	3.23E-04 +/-	1.44E-05
16	323.18	9.12E-01 +/-	1.65E-01	1.38E+00	3.16E-04 +/-	1.39E-05
17	333.20	1.52E+00 +/-	2.47E-01	1.37E+00	3.10E-04 +/-	1.38E-05
18	336.03	1.43E+00 +/-	1.80E-01	1.37E+00	3.08E-04 +/-	1.38E-05
19	345.65	7.10E-01 +/-	1.53E-01	1.37E+00	3.03E-04 +/-	1.38E-05
20	369.19	1.41E+00 +/-	1.57E-01	1.36E+00	2.89E-04 +/-	1.44E-05
21	375.65	1.99E+00 +/-	2.08E-01	1.35E+00	2.86E-04 +/-	1.46E-05
22	383.51	2.92E-01 +/-	1.22E-01	1.35E+00	2.82E-04 +/-	1.48E-05
23	393.68	7.35E-01 +/-	1.15E-01	1.35E+00	2.76E-04 +/-	1.50E-05
24	413.70	2.05E+00 +/-	1.50E-01	1.34E+00	2.66E-04 +/-	1.54E-05
25	452.27	1.22E-01 +/-	7.53E-02	1.32E+00	2.49E-04 +/-	1.56E-05
26	620.14	2.50E-01 +/-	6.06E-02	1.27E+00	1.93E-04 +/-	1.15E-05
27	662.42	8.15E-01 +/-	1.00E-01	1.26E+00	1.83E-04 +/-	1.03E-05
28	723.35	4.17E-01 +/-	7.20E-02	1.25E+00	1.70E-04 +/-	8.79E-06
29	964.13	1.77E-02 +/-	1.25E-02	1.21E+00	1.32E-04 +/-	5.87E-06
30	1001.03	3.54E-02 +/-	1.77E-02	1.21E+00	1.28E-04 +/-	5.62E-06
31	1112.12	4.42E-02 +/-	1.98E-02	1.19E+00	1.16E-04 +/-	4.95E-06
32	1408.01	8.85E-03 +/-	8.85E-03	1.17E+00	9.08E-05 +/-	6.30E-06

Segment: 9 Detector: DET01 (# 1) Position: 9

Elapsed Live Time: 112.38 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.517 +/- 0.0308
SE-75	264.65	0.000 +/- 0.0000	0.659 +/- 0.0061
SE-75	279.53	0.000 +/- 0.0000	0.667 +/- 0.0081
SE-75	400.65	0.000 +/- 0.0000	0.697 +/- 0.0098

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.23	2.60E+01 +/- 7.02E-01	1.90E+00	2.32E-06 +/- 2.33E-05
2	35.10	1.01E+03 +/- 4.81E+00	1.52E+00	1.75E-05 +/- 8.88E-05
3	49.84	2.69E+01 +/- 1.27E+00	1.39E+00	6.12E-05 +/- 1.51E-04
4	59.63	5.70E+02 +/- 3.29E+00	1.35E+00	1.00E-04 +/- 1.59E-04
5	75.08	1.33E+00 +/- 4.06E-01	1.32E+00	1.65E-04 +/- 1.31E-04

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6	99.12	1.88E+01 +/-	1.01E+00	1.29E+00	2.52E-04 +/-	5.97E-05
7	103.14	1.18E+01 +/-	1.14E+00	1.29E+00	2.64E-04 +/-	4.91E-05
8	114.64	1.62E+00 +/-	4.40E-01	1.28E+00	2.94E-04 +/-	2.48E-05
9	125.57	1.31E+01 +/-	4.81E-01	1.28E+00	3.16E-04 +/-	1.78E-05
M 10	146.87	2.26E+00 +/-	2.98E-01	1.26E+00	3.46E-04 +/-	3.31E-05
m 11	149.28	1.02E+00 +/-	1.87E-01	1.26E+00	3.49E-04 +/-	3.46E-05
12	170.04	6.79E-01 +/-	2.61E-01	1.24E+00	3.62E-04 +/-	4.17E-05
13	208.35	6.88E+00 +/-	3.13E-01	1.21E+00	3.66E-04 +/-	3.76E-05
14	268.20	3.42E-01 +/-	1.33E-01	1.17E+00	3.43E-04 +/-	2.08E-05
15	311.90	9.54E-01 +/-	1.59E-01	1.16E+00	3.20E-04 +/-	1.45E-05
16	323.23	7.43E-01 +/-	1.47E-01	1.15E+00	3.13E-04 +/-	1.40E-05
17	336.07	1.95E+00 +/-	1.75E-01	1.15E+00	3.06E-04 +/-	1.39E-05
18	369.17	1.32E+00 +/-	1.40E-01	1.15E+00	2.89E-04 +/-	1.47E-05
19	413.70	7.71E-01 +/-	1.05E-01	1.14E+00	2.67E-04 +/-	1.59E-05
20	620.32	2.07E-01 +/-	6.10E-02	1.12E+00	1.93E-04 +/-	1.18E-05
21	662.42	1.01E+00 +/-	1.03E-01	1.11E+00	1.82E-04 +/-	1.04E-05
22	723.04	5.46E-01 +/-	7.72E-02	1.11E+00	1.69E-04 +/-	8.78E-06

Segment: 10 Detector: DET01 (# 1) Position: 10

Elapsed Live Time: 112.91 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.916 +/- 0.0367
SE-75	264.65	0.000 +/- 0.0000	0.877 +/- 0.0075
SE-75	279.53	0.000 +/- 0.0000	0.881 +/- 0.0097
SE-75	400.65	0.000 +/- 0.0000	0.887 +/- 0.0113

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.22	1.80E+01 +/- 5.62E-01	1.10E+00	3.43E-07 +/- 4.85E-07
2	35.10	1.01E+03 +/- 4.79E+00	1.06E+00	5.68E-06 +/- 4.74E-06
3	59.63	3.65E+02 +/- 2.38E+00	1.04E+00	6.38E-05 +/- 2.21E-05
4	99.15	1.23E+01 +/- 7.74E-01	1.04E+00	2.32E-04 +/- 2.32E-05
5	103.15	6.46E+00 +/- 8.98E-01	1.04E+00	2.48E-04 +/- 2.21E-05
6	125.59	8.23E+00 +/- 3.74E-01	1.03E+00	3.20E-04 +/- 1.73E-05
7	146.86	1.40E+00 +/- 3.19E-01	1.04E+00	3.65E-04 +/- 1.73E-05
8	170.09	1.16E+00 +/- 2.10E-01	1.04E+00	3.92E-04 +/- 1.95E-05
9	208.46	3.35E+00 +/- 2.34E-01	1.04E+00	4.01E-04 +/- 2.09E-05
10	311.90	7.42E-01 +/- 1.23E-01	1.05E+00	3.45E-04 +/- 1.50E-05
11	323.20	3.42E-01 +/- 1.08E-01	1.05E+00	3.37E-04 +/- 1.43E-05
12	336.13	8.50E-01 +/- 1.49E-01	1.05E+00	3.29E-04 +/- 1.36E-05
13	400.66	9.66E-02 +/- 6.57E-02	1.05E+00	2.87E-04 +/- 1.13E-05

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14	413.70	2.31E-01 +/-	7.68E-02	1.05E+00	2.79E-04 +/-	1.11E-05
15	511.57	3.16E-01 +/-	6.29E-02	1.04E+00	2.30E-04 +/-	1.00E-05
16	662.42	5.42E-01 +/-	7.66E-02	1.04E+00	1.80E-04 +/-	8.83E-06
17	723.24	2.10E-01 +/-	5.55E-02	1.03E+00	1.66E-04 +/-	8.19E-06

Segment: 11 Detector: DET01 (# 1) Position: 11

Elapsed Live Time: 113.57 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Absorption Error Code: 11 (see manual for error code description)

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	1.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	1.000 +/- 0.0000
SE-75	279.53	0.000 +/- 0.0000	1.000 +/- 0.0000
SE-75	400.65	0.000 +/- 0.0000	1.000 +/- 0.0000

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.19	5.65E+00 +/- 3.17E-01	1.00E+00	4.67E-07 +/- 6.58E-07
2	35.10	1.01E+03 +/- 4.78E+00	1.00E+00	6.75E-06 +/- 5.60E-06
3	59.64	9.62E+01 +/- 1.09E+00	1.00E+00	6.71E-05 +/- 2.31E-05
4	99.11	2.81E+00 +/- 4.52E-01	1.00E+00	2.29E-04 +/- 2.29E-05
5	103.12	2.51E+00 +/- 4.86E-01	1.00E+00	2.44E-04 +/- 2.17E-05
6	125.61	2.77E+00 +/- 2.65E-01	1.00E+00	3.12E-04 +/- 1.68E-05
7	148.57	3.36E-01 +/- 2.01E-01	1.00E+00	3.56E-04 +/- 1.70E-05
8	208.42	9.69E-01 +/- 1.67E-01	1.00E+00	3.89E-04 +/- 2.04E-05
9	311.90	1.61E-01 +/- 7.81E-02	1.00E+00	3.37E-04 +/- 1.49E-05
10	335.92	6.10E-01 +/- 9.11E-02	1.00E+00	3.22E-04 +/- 1.35E-05
11	413.70	9.09E-02 +/- 4.29E-02	1.00E+00	2.75E-04 +/- 1.09E-05
12	662.42	1.66E-01 +/- 4.81E-02	1.00E+00	1.80E-04 +/- 8.65E-06
13	867.39	4.37E-02 +/- 1.96E-02	1.00E+00	1.43E-04 +/- 6.39E-06
14	1001.03	8.75E-03 +/- 8.75E-03	1.00E+00	1.28E-04 +/- 5.01E-06
15	1408.01	8.75E-03 +/- 8.75E-03	1.00E+00	1.08E-04 +/- 6.61E-06

Segment: 12 Detector: DET01 (# 1) Position: 12

Elapsed Live Time: 113.76 sec Elapsed Real Time: 115.00 sec

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Analysis Warnings:
Absorption Error Code: 11 (see manual for error code description)

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	1.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	1.000 +/- 0.0000
SE-75	279.53	0.000 +/- 0.0000	1.000 +/- 0.0000
SE-75	400.65	0.000 +/- 0.0000	1.000 +/- 0.0000

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.11	1.80E+00 +/- 1.80E-01	1.00E+00	6.19E-07 +/- 8.75E-07
2	35.10	1.01E+03 +/- 4.76E+00	1.00E+00	7.63E-06 +/- 6.33E-06
3	59.65	1.49E+01 +/- 4.80E-01	1.00E+00	6.66E-05 +/- 2.30E-05
4	135.30	3.99E-01 +/- 1.96E-01	1.00E+00	3.17E-04 +/- 1.57E-05
5	185.71	2.07E-01 +/- 1.29E-01	1.00E+00	3.72E-04 +/- 1.93E-05
6	400.66	9.23E-02 +/- 4.69E-02	1.00E+00	2.86E-04 +/- 1.12E-05
7	662.42	4.39E-02 +/- 3.31E-02	1.00E+00	1.85E-04 +/- 8.58E-06
8	1085.91	4.34E-02 +/- 1.94E-02	1.00E+00	1.21E-04 +/- 4.35E-06

Segment: 13 Detector: DET01 (# 1) Position: 13

Elapsed Live Time: 113.79 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Absorption Error Code: 11 (see manual for error code description)

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	1.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	1.000 +/- 0.0000
SE-75	279.53	0.000 +/- 0.0000	1.000 +/- 0.0000
SE-75	400.65	0.000 +/- 0.0000	1.000 +/- 0.0000

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PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	5.22E-01 +/- 1.11E-01	1.00E+00	6.56E-07 +/- 1.05E-06
2	23.14	8.68E-01 +/- 1.21E-01	1.00E+00	1.09E-06 +/- 1.60E-06
3	35.10	1.01E+03 +/- 4.76E+00	1.00E+00	1.10E-05 +/- 9.51E-06
4	48.40	7.15E+00 +/- 5.31E-01	1.00E+00	4.15E-05 +/- 2.17E-05
5	59.64	7.74E+00 +/- 3.69E-01	1.00E+00	8.11E-05 +/- 2.88E-05
6	121.11	2.88E-01 +/- 1.80E-01	1.00E+00	3.03E-04 +/- 1.76E-05
7	400.66	3.18E-02 +/- 2.50E-02	1.00E+00	2.81E-04 +/- 1.13E-05
8	559.62	1.70E-01 +/- 4.17E-02	1.00E+00	2.11E-04 +/- 9.72E-06
9	1001.03	1.74E-02 +/- 1.23E-02	1.00E+00	1.23E-04 +/- 4.91E-06
10	1112.12	8.68E-03 +/- 8.68E-03	1.00E+00	1.13E-04 +/- 4.19E-06

Segment: 14 Detector: DET01 (# 1) Position: 14

Elapsed Live Time: 113.81 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Absorption Error Code: 11 (see manual for error code description)

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	1.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	1.000 +/- 0.0000
SE-75	279.53	0.000 +/- 0.0000	1.000 +/- 0.0000
SE-75	400.65	0.000 +/- 0.0000	1.000 +/- 0.0000

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.00E+00	8.94E-06 +/- 4.41E-05
2	59.67	4.14E+00 +/- 3.37E-01	1.00E+00	8.08E-05 +/- 1.25E-04
3	264.66	1.62E-01 +/- 7.49E-02	1.00E+00	3.43E-04 +/- 2.10E-05
4	1408.01	2.60E-02 +/- 1.50E-02	1.00E+00	9.39E-05 +/- 6.30E-06

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Segment: 15 Detector: DET01 (# 1) Position: 15

Elapsed Live Time: 113.81 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Absorption Error Code: 11 (see manual for error code description)

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	1.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	1.000 +/- 0.0000
SE-75	279.53	0.000 +/- 0.0000	1.000 +/- 0.0000
SE-75	400.65	0.000 +/- 0.0000	1.000 +/- 0.0000

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.00E+00	1.45E-08 +/- 6.96E-08
2	59.68	2.45E+00 +/- 2.89E-01	1.00E+00	1.10E-05 +/- 1.66E-05
3	152.68	2.62E-01 +/- 1.49E-01	1.00E+00	4.00E-04 +/- 3.89E-05
4	279.54	1.58E-01 +/- 5.49E-02	1.00E+00	3.51E-04 +/- 1.80E-05
5	413.70	6.13E-02 +/- 3.58E-02	1.00E+00	2.52E-04 +/- 1.49E-05
6	662.42	1.74E-02 +/- 1.23E-02	1.00E+00	1.74E-04 +/- 9.76E-06
7	778.90	5.21E-02 +/- 2.13E-02	1.00E+00	1.56E-04 +/- 7.35E-06
8	964.13	4.09E-02 +/- 2.45E-02	1.00E+00	1.35E-04 +/- 5.77E-06

Segment: 16 Detector: DET01 (# 1) Position: 16

Elapsed Live Time: 113.82 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.985 +/- 0.0380
SE-75	264.65	0.000 +/- 0.0000	0.997 +/- 0.0082
SE-75	279.53	0.000 +/- 0.0000	1.000 +/- 0.0000
SE-75	400.65	0.000 +/- 0.0000	0.988 +/- 0.0121

Batch 2002-02-818

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.01E+00	9.52E-10 +/- 5.35E-09
2	59.67	1.40E+00 +/- 2.77E-01	1.01E+00	3.38E-06 +/- 5.94E-06
3	129.29	2.91E-01 +/- 1.57E-01	1.01E+00	2.29E-04 +/- 1.54E-05
4	279.54	1.35E-01 +/- 6.32E-02	1.00E+00	2.56E-04 +/- 1.50E-05
5	778.90	2.87E-02 +/- 2.31E-02	1.00E+00	1.14E-04 +/- 6.23E-06
6	867.39	2.61E-02 +/- 1.51E-02	1.00E+00	1.07E-04 +/- 5.41E-06
7	1001.03	2.17E-02 +/- 1.59E-02	1.00E+00	9.85E-05 +/- 4.77E-06
8	1085.91	8.69E-03 +/- 1.58E-02	1.00E+00	9.33E-05 +/- 4.42E-06
9	1112.12	2.61E-02 +/- 1.51E-02	1.00E+00	9.17E-05 +/- 4.32E-06

Summed Spectrum

Peak Locate Report

Sample ID: LL85200711
Peak Locate Performed on: 2-07-02 2:27:38 PM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192
Peak Search Sensitivity: 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
1	43.00	0.3385	21.42	8.73
2	46.59	0.1104	23.22	48.12
3	70.31	0.0382	35.07	474.71
4	99.37	0.2150	49.59	9.79
5	119.45	0.0480	59.62	238.54
6	150.39	0.2706	75.08	8.31
7	198.19	0.0921	98.96	66.66
8	222.93	0.1293	111.32	28.86
9	229.47	0.1811	114.59	16.41
10	259.43	0.0823	129.55	84.65
11	293.53	0.2466	146.59	8.64
12	298.07	0.1424	148.86	31.59
13	306.09	0.3182	152.87	6.82
14	330.04	0.1933	164.83	15.84
15	343.78	0.3242	171.70	6.37
16	379.73	0.3046	189.66	6.82
17	392.50	0.2596	196.04	7.42
18	417.19	0.0746	208.37	91.83
19	512.01	0.2124	255.75	11.18
20	536.61	0.2134	268.04	11.00
21	596.38	0.2704	297.90	7.66
22	625.36	0.1816	312.38	14.72
23	667.15	0.1066	333.26	41.38
24	673.17	0.1445	336.27	23.97
25	691.84	0.1094	345.59	39.01
26	739.09	0.1685	369.20	17.37
27	751.99	0.0808	375.65	70.04
28	767.65	0.1448	383.47	22.88
29	787.91	0.1116	393.60	35.33
30	829.57	0.0813	414.41	64.65
31	847.34	0.1582	423.29	17.83
32	905.22	0.1381	452.20	22.71
33	1120.06	0.2691	559.54	6.10
34	1241.14	0.2332	620.04	7.99
35	1328.17	0.1453	663.52	19.26
36	1447.71	0.1703	723.24	13.16

Batch 2002-02-820

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance

Errors quoted at 1.000 sigma

Summed Spectrum

Peak Analysis Report

Sample ID: LL85200711
Peak Analysis Performed on: 2-07-02 2:27:38 PM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	40-	46	43.00	21.42	1.35E+04	202.22	1.41E+04
2	46-	49	46.59	23.22	2.71E+04	250.02	2.00E+04
3	67-	73	70.31	35.07	1.82E+06	1358.04	1.25E+04
4	96-	102	99.37	49.59	3.20E+04	459.95	8.91E+04
5	115-	122	119.45	59.62	6.51E+05	920.07	9.31E+04
6	146-	153	150.39	75.08	2.10E+03	223.99	2.33E+04
7	194-	201	198.19	98.96	6.95E+04	479.23	7.98E+04
8	219-	226	222.93	111.32	8.47E+03	320.81	4.38E+04
9	226-	233	229.47	114.59	2.43E+03	330.61	5.20E+04
10	255-	263	259.43	129.55	4.35E+04	352.07	3.56E+04
11	291-	300	293.53	146.59	1.08E+04	247.40	2.22E+04
12	298-	305	298.07	148.86	3.42E+03	208.40	1.85E+04
13	305-	310	306.09	152.87	7.52E+02	140.31	1.07E+04
14	325-	334	330.04	164.83	7.33E+02	216.41	2.02E+04
15	339-	348	343.78	171.70	2.80E+03	197.74	1.60E+04
16	375-	384	379.73	189.66	9.22E+02	185.30	1.48E+04
17	388-	396	392.50	196.04	1.44E+03	169.21	1.27E+04
18	412-	421	417.19	208.37	3.69E+04	290.40	2.01E+04
19	507-	516	512.01	255.75	1.38E+03	121.39	5.92E+03
20	533-	541	536.61	268.04	1.25E+03	109.11	4.97E+03
21	591-	601	596.38	297.90	4.80E+02	113.25	5.17E+03
22	620-	630	625.36	312.38	1.70E+03	113.50	4.69E+03
23	662-	672	667.15	333.26	7.97E+03	169.48	8.35E+03
24	672-	678	673.17	336.27	2.00E+03	127.74	4.72E+03
25	687-	696	691.84	345.59	7.49E+03	130.61	4.21E+03
26	733-	744	739.09	369.20	4.03E+03	112.37	3.41E+03
27	746-	757	751.99	375.65	2.17E+04	186.33	5.20E+03
28	767-	772	767.65	383.47	2.34E+03	88.40	1.80E+03
29	782-	793	787.91	393.60	8.05E+03	110.78	1.69E+03
30	824-	834	829.57	414.41	2.12E+04	153.69	1.03E+03
31	846-	852	847.34	423.29	1.04E+03	55.97	9.74E+02
32	899-	910	905.22	452.20	2.42E+03	63.85	6.61E+02
33	1114-	1125	1120.06	559.54	2.00E+02	26.22	1.95E+02
34	1235-	1247	1241.14	620.04	3.59E+02	29.56	1.95E+02
35	1322-	1334	1328.17	663.52	1.59E+03	47.50	2.54E+02
36	1441-	1454	1447.71	723.24	7.92E+02	35.37	1.67E+02

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Summed Spectrum

Nuclide Identification Report

Sample ID: LL85200711
Nuclide Library Used: C:\WAS\NLIB\LLNL.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/)	Activity Uncertainty
Pulser	1.000	35.10*	100.00	2.610E+05	6.609E+05
Np-237	0.750	300.10	6.63		
		311.90*	38.60	4.013E+00	2.697E-01
Pu-238	0.997	152.68*	0.00	7.020E+04	1.314E+04
Pu-239	0.965	413.70*	0.00	1.552E+06	3.047E+04
Pu-239A	0.995	129.29*	0.01	6.873E+05	1.796E+04
Am-241	0.918	662.42*	0.00	6.276E+05	1.950E+04
Pu-241	0.994	148.57*	0.00	1.626E+06	1.021E+05

* = Energy line found in the spectrum.
Energy Tolerance : 1.500 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 1.000 sigma

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 2-07-02 2:27:38 PM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	21.42	1.1970E+02	1.50
2	23.22	2.4071E+02	0.93
4	49.59	2.8398E+02	1.44
5	59.62	5.7742E+03	0.17
6	75.08	1.8635E+01	10.66
7	98.96	6.1590E+02	0.70
8	111.32	7.5082E+01	3.79
9	114.59	2.1515E+01	13.63
11	146.59	9.5627E+01	2.30
14	164.83	6.5021E+00	29.51
15	171.70	2.4818E+01	7.07
16	189.66	8.1730E+00	20.10
17	196.04	1.2792E+01	11.73
18	208.37	3.2736E+02	0.79
19	255.75	1.2269E+01	8.77
20	268.04	1.1062E+01	8.75
21	297.90	4.2562E+00	23.59
23	333.26	7.0624E+01	2.13
24	336.27	1.7698E+01	6.40
25	345.59	6.6408E+01	1.75
26	369.20	3.5736E+01	2.79
27	375.65	1.9238E+02	0.86
28	383.47	2.0732E+01	3.78
29	393.60	7.1405E+01	1.38
31	423.29	9.2618E+00	5.36
32	452.20	2.1437E+01	2.64
33	559.54	1.7741E+00	13.10
34	620.04	3.1863E+00	8.23
36	723.24	7.0208E+00	4.47

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-02-824

Combined Segment NID

NID Results Combiner Mode: Sum Activities

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		3.16E+07	+/-	1.63E+08	1.50E+03	+/-	7.72E+03
SE-75	<	4.07E-01	+/-	2.88E-02	< 1.93E-05	+/-	1.37E-06
EU-152x		2.64E-02	+/-	1.17E-02	1.25E-06	+/-	5.54E-07
U-233		1.47E+03	+/-	7.25E+02	6.95E-02	+/-	3.44E-02
U-235		2.63E-02	+/-	1.65E-02	1.24E-06	+/-	7.82E-07
Np-237		7.55E+00	+/-	5.74E-01	3.58E-04	+/-	2.72E-05
Pu-238		1.89E+03	+/-	1.09E+03	8.95E-02	+/-	5.15E-02
U-238		4.65E+00	+/-	1.42E+00	2.20E-04	+/-	6.73E-05
Pu-239		3.06E+06	+/-	1.37E+05	1.45E+02	+/-	6.48E+00
Pu-239A		2.14E+06	+/-	9.02E+04	1.01E+02	+/-	4.27E+00
Am-241		1.00E+06	+/-	5.10E+04	4.74E+01	+/-	2.42E+00
Pu-241		9.60E+06	+/-	7.31E+05	4.55E+02	+/-	3.47E+01

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
U-233	1.53E-01	+/-	7.54E-02
U-235	1.22E-02	+/-	7.64E-03
Np-237	1.07E-02	+/-	8.15E-04
Pu-238	1.10E-04	+/-	6.35E-05
U-238	1.38E+01	+/-	4.23E+00
Pu-239	4.92E+01	+/-	2.20E+00
Pu-239A	3.44E+01	+/-	1.45E+00
Am-241	2.92E-01	+/-	1.49E-02
Pu-241	9.28E-02	+/-	7.07E-03

Batch 2002-02-825

Summed Spectrum

Nuclide		Total Activity (uCi)			Concentration (uCi/g)	
Pulser		2.61E+05	+/-	6.61E+05	1.24E+01	+/- 3.13E+01
SE-75	<	6.15E-01	+/-	5.41E-03	< 2.91E-05	+/- 2.57E-07
EU-152x	<	5.44E-01	+/-	1.06E-02	< 2.58E-05	+/- 5.01E-07
U-233	<	3.08E+04	+/-	6.46E+02	< 1.46E+00	+/- 3.06E-02
U-235	<	9.68E-01	+/-	1.92E-02	< 4.59E-05	+/- 9.08E-07
Np-237		4.01E+00	+/-	2.70E-01	1.90E-04	+/- 1.28E-05
Pu-238		7.02E+04	+/-	1.31E+04	3.33E+00	+/- 6.23E-01
U-238	<	1.29E+01	+/-	2.07E-01	< 6.12E-04	+/- 9.80E-06
Pu-239		1.55E+06	+/-	3.05E+04	7.35E+01	+/- 1.44E+00
Pu-239A		6.87E+05	+/-	1.80E+04	3.26E+01	+/- 8.51E-01
Am-241		6.28E+05	+/-	1.95E+04	2.97E+01	+/- 9.24E-01
Pu-241		1.63E+06	+/-	1.02E+05	7.71E+01	+/- 4.84E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
Np-237	5.70E-03	+/-	3.83E-04
Pu-238	4.10E-03	+/-	7.67E-04
Pu-239	2.50E+01	+/-	4.91E-01
Pu-239A	1.11E+01	+/-	2.89E-01
Am-241	1.83E-01	+/-	5.70E-03
Pu-241	1.57E-02	+/-	9.87E-04

Final Non-Uniformity Results

Source Longitudinal Ratio:	0.573	+/-	0.8107
Matrix Longitudinal Ratio:	0.726	+/-	0.0410
Source Vertical Ratio:	0.920	+/-	0.4673
Matrix Vertical Ratio:	0.959	+/-	0.0503

NUDS could not find the transmission peak in one radial segment.

Bldg. 332 MBA Inventory Change Request

(one transaction only per page)

Page ___ of ___

150

e	Mat'l Type	MBA	Serial Number	Net Weight	Element Weight	Isotopic Weight	Comp. Code	Status	Enrichment %	Shape	Quota	TID #
lete the following items:												
	50	150	LL852 00711	55842	35.0	33.0	791	0	12.141	89	1	G-333
			Delete Total:	55842	35.0	33.0						
ld the following items:												
	50	150	LL852 00711	55842	46.25	43.02	791	0	6.0	89	1	G-333
			Add Total:	55842	46.25	43.02						
			Total Changes:	0	-11.25	-10.02						

planation: Adjustment for Cleanout of 332-S

erator Signature: Date: 6/12/97

countability Signature: Date:

countability Signature: Date: 6/12/97

G Label Changer Signature: Date:

a Entry Changer Signature: Date: 6/12/97

Bldg 2082-93-828

****

* SGS ASSAY REPORT *

****

CANBERRA Segmented Gamma Scanner Ver: V2.0D 18-SEP-97 15:19:39

Instrument Name : WS 7715 IDC : 117G

Sample Number : 768
Item ID : LL852 00711
TID Seal Number : G-333
Sample Location : 7715

AFTER SGS UPGRADE PER T. MIDTAUNE 2/14/02

Container Type : GALVANIZED Assay Date : 18-SEP-97
Net Weight (g) : 55842.00 Assay Time : 15:19:39
Operator ID : 394136
Segment Size (in) : 3.500 Number of Segments : 10

Count Time/Seg (sec) : 300 Assay Type (S/D) : Dual
Xmit Src Number : 1 Sigma Level : 1.950
Weight Percent Pu-239 : 0.00

****

Seg #	Isotope	Xmit	Cor CPS	Cor Fac	Grams/Segment
1	PU-239	0.138	124.964	2.03	22.57 +/- 0.718
	AM-241	0.138	6.443	2.03	0.12 +/- 0.016
2	PU-239	0.342	74.032	1.51	13.37 +/- 0.435
	AM-241	0.342	3.775	1.51	0.07 +/- 0.011
3	PU-239	0.508	20.165	1.30	3.64 +/- 0.155
	AM-241	0.508	1.075	1.30	0.02 +/- 0.007
4	PU-239	0.438	14.076	1.38	2.54 +/- 0.124
	AM-241	0.438	1.263	1.38	0.02 +/- 0.007
5	PU-239	0.402	4.409	1.42	0.80 +/- 0.069
	AM-241	0.402	1.435	1.42	0.03 +/- 0.007
6	PU-239	0.701	0.460	1.15	0.08 +/- 0.033
	AM-241	0.701	1.112	1.15	0.02 +/- 0.007
7	PU-239	1.010	0.000	1.00	0.00 +/- 0.021
	AM-241	1.010	0.139	1.00	0.00 +/- 0.006
8	PU-239	1.044	0.000	0.98	0.00 +/- 0.020
	AM-241	1.044	0.021	0.98	0.00 +/- 0.006
9	PU-239	1.048	0.008	0.98	0.00 +/- 0.021
	AM-241	1.048	0.000	0.98	-0.00 +/- 0.006
10	PU-239	0.560	0.000	1.26	0.00 +/- 0.021
	AM-241	0.560	0.000	1.26	-0.00 +/- 0.006

Assay Summary for Item LL852 00711

IDC : 117G
Net Weight (g) : 55842.00
Total Grams PU-239 : 43.02 +/- 0.867
Concentration (g/g) : 7.7031e-004
Total Grams AM-241 : 0.29 +/- 0.026
Concentration (g/g) : 5.1496e-006

SEP 22 1997

55842 | 46.25 | 43.02
0.197 | Ecc | ISO

B332 MBA Inventory Change Request 150 #034 Page ___ of ___

Line	Mat'l Type	Vault Location	Transaction ID #	Serial Number	Net Weight	Element Weight	Isotopic Weight	Comp. Code	Status	Enrichment %	Shape	Quota	TID #
Delete the following items:													
1	50	M100		LL852 00711	635.2	72.000	63.000	G00	7	12.141	00	1	G-333
2													
3													
4													
5													
				Delete Total:	635.2	72	63						
Add the following items:													
1	50	M100		LL852 00711	55455	35	33	G00	7	12.141	89	1	G-333
2													
3													
4													
5													
				Add Total:	55455	35	33						
				Total Changes:	-54820	+37	+30						

Explanation 1: AS MEASURED BY SGS

Explanation 2:

Explanation 3:

Explanation 4:

Explanation 5:

Generator Signature: [signature] Date: 4/1/96

Accountability Signature: [signature] BM-77 AL-92 Date: 4/1/96 4/3/96

VOG Label Changer Signature: [signature] Date: 4/4/96

Data Entry Changer Signature: [signature] Date: 4/4/96

Batch 2002-02-853

150081607 B

```
RUN SCANB
CANSCAN V04.02 FOR LARGE TABLE

MCA# ? 1
USE HOW MANY CHANNELS (K)? 4
IF 8100, SET PRESET TO 00
IS TODAY'S DATE 09-SEP-93? Y
LINE PRINTER OUTPUT? N
CALIB GEOMETRY# ? 40
PRINT CALIB? Y
CALIB PMTRS FOR LARGE TABLE GEOMETRY # 40
CAL 40

LIVE-TIME CONSTANT = (533.62 +- 2.39)*1.00

ASSAY          XM-1          XM-2          CONT XM       MIN XM LEV
PU-239         SE-75         NO             .702923        .02

XM-PK          ASSAY-PK      MU CF      WT      XM INTENS
SE-75          PU-239         1          1     (416.81 +- 3.33)*.922

PU-239 RESPONSE:
CPS = (11.5748 +- .0552552)*GRAMS

SET.TIMER PRESET TO 0350
CONFIDENCE LEVEL (%)? 95
SIGMA MULTIPLIER = 1.96
LONG OR SHORT FORM? L

IDENTIFY THIS CONTAINER:
? LL852 00711 SEAL G333 WT.122LB TIME 15:00 CML
START LARGE TABLE ROTATION
SUBTRACT XMISSION INTRFRNCE? Y
```

D. Dr

R. Stroukis

9/9/93

ORIGINAL VERSION OF SGS
PER T. MIDTAUNE
2/14/02

Batch 2002-02-854

2-*ASS ASSAY DONE AT 15:00:00 ON 09-SEP-93
USING LARGE TABLE GEOMETRY # 40

	TR	ASSAY	CF
SEGMENT# 1			
PU-239	.27313	113.522	1.71627
SEGMENT# 2			
PU-239	.283263	111.374	1.69393
SEGMENT# 3			
PU-239	.466971	71.4432	1.40471
SEGMENT# 4			
PU-239	.453187	44.7342	1.42112
SEGMENT# 5			
PU-239	.460079	23.9928	1.41284
SEGMENT# 6			
PU-239	.638968	9.596	1.24017
SEGMENT# 7			
PU-239	.869288 H	2.89369	1.19274
SEGMENT# 8			
PU-239	.964436 H	1.095	1.19274
SEGMENT# 9			
PU-239	.95931 H	.0119238	1.19274
SEGMENT# 10			
PU-239	.397741	.0999466	1.49398

H - WARNING: THESE SEGMENTS HAVE XMISSION > EMPTY CONTAINER
TOTAL GRAMS PU-239 = 32.7231 +- .50244 (1.54% UNCNTY @ 95% CONF LEV)

D. Dale
R. Stanley
9/9/93

Batch 2002-03-855

LAWRENCE LIVERMORE NATIONAL LABORATORY

WASTE DISPOSAL REQUISITION

W 120611

Waste Run Date:

[redacted]

Chemical Compatibility Code:

Storage Locations Based on SCL
☐ No Storage Restrictions
Not acceptable at the following locations:
☐ 233 ☐ 514 ☐ 612-1 ☐ 693
☐ 612 (other than -1) ☐ WAA ____

1. Label/Waste Type: (Must check)
☐ Non-Haz ☐ Haz ☐ Low-Level ☒ TRU
RCRA ☐ CA ☐
☐ No Disposal Option

2. Container Serial Number or Retention Tank ID:

3. For TRU Waste, TRU Waste Container Serial No.: LL852 00711 TRU

4. Container Acceptable: ☒ Yes ☐ N/A Initials: JW

5. Building No.: 332
6. Room No.: 1010
7. RMMA: ☒ Yes ☐ No
8. WAA No.: 332A
15. Waste Package Seals Applied: ☒ Yes ☐ N/A (if yes, complete Step 16)
9. Workplace Start Date: 2/19/93
10. Workplace End Date: 6/16/93
11. Account No.: 3665-01
12. Directorate: LAS
16. Waste Package Seal Nos.: G-333
17. Source Code: A740
19. Hazardous Properties: ☐ Toxic ☐ Corrosive ☐ Ignitable ☐ Reactive
20. Waste Form: ☒ Solid ☐ Liquid ☐ Gas ☐ Sludge
21. Outer Container Type: ☐ Box ☐ Sack ☐ Can ☐ SWB ☐ Carboy ☐ Tub ☒ Drum ☐ Tank - Fixed ☐ Tank - Portable ☐ Transportainer Other: ____
22. Outer Container Size/Vol: ☐ 1 gal ☐ 750 gal ☐ 5 gal ☐ 1000 gal ☐ 30 gal ☐ 5000 gal ☒ 55 gal ☐ 67 cu ft ☐ 85 gal ☐ 1 x 1 x 1.5 ☐ 330 gal ☐ 2 x 4 x 7 ☐ 660 gal ☐ 4 x 4 x 7 ☐ gal ☐ cu ft Other: ____
13. Did Waste Minimization Effort Practices Begin in Current Calendar Year? ☐ Yes ☒ No
If yes, enter Activity Code: W____
Comments: ____
14. WEF/PKE No.: ☐ WEF No. ☐ PKE No. ☒ N/A Specify: ____
18. LLW Waste Stream No. or TRU Waste Form No.: (1) Glovebox Waste

23. Item No.	24. Spent or Unused (S/U)	25. Organic or Inorganic (O/I)	26. Waste Description (For multiple parcels, also list Parcel Card Nos.)	27. Hazardous Constituents and Concentrations	28. Quantity per Item Amount	28. Quantity per Item Units	29. Analysis Sample No.	Physical Waste Data: 30. Aqueous Only pH	30. Aqueous Only Normality	31. Flash Point
			#35747 #36046 #36455							
			#35748 #36404 #36456							
			#35749 #36405 #36457							
			#35800 #36418 #36470							
			#36044 #36431 #36497							
			#36045 #36451 #36500							

USE CONTINUATION FORM FOR ADDITIONAL ITEMS

32. Does the waste contain radioactive components? ☒ Yes ☐ No (If yes, complete Steps 36-42 as applicable to waste type.)

This section (Steps 33-35) is required for Hazardous Waste generated in a RMMA

33. Was the waste kept isolated from any operation that could have produced radioactive contamination (using a glove box, vent hood, etc.)? ☐ Yes ☐ No (If no, full rad analysis required)

34. Was the waste exposed to particle beams capable of inducing radioactivity by activation? ☐ Yes ☐ No (If yes, full rad analysis required)

35. Describe other controls used to prevent radioactive contamination:
123.1 16
10/15/96

36. Radionuclides:
Check all Plutonium grades present: ☒ Weapons ☒ Fuel ☐ Reactor ☐ Am-enriched ☐ Mixed
Check all Uranium grades present: ☐ Depleted ☐ Natural ☐ Enriched ____%234 ____%235 ____%238
(List additional radionuclides in Step 38.)

37. Gross weight of waste package: 55,842 g

Tare weight of container: 7614

38. Radiological Data:
(For certified LLW and TRU waste, list totals from Parcel Cards.)

Item	Radionuclide(s)	Quantity	Units/Activity (Ci,g)	PE - Ci	Fissile g
A	239 Pu	43.02	g		
		± 0.867	9/22/97 T.Twitchell		

39. Rad. Survey mr/hr: β-γ @ Contact 6.0; β-γ @ 1 Meter <1.0; Neutron @ Contact <1.0

40. Swipe Data dpm/100cm²: α <20; β-γ 1000 <20 9-9-97 W; ³H A

41. Rad Swipe/Survey Performed By: (Print Name–Last, First) Harbat, Richard; Employee No.: 386694; L-Code: 359
Signature: [signature]; Date: 9-10-97; Ext.: 3159

42. ☒ Generator: I certify, to the best of my knowledge, that the information provided on this requisition is correct. I understand that I may be liable to State and Federal prosecution by intentionally providing false information.
☐ Container Custodian: I certify that the waste parcels identified on this form are contained in this waste container and have been packaged in accordance with the requirements specified in the appropriate LLNL TRU Waste or Low-Level Waste Program Certification and Quality Assurance Program.

Generator or Container Custodian Name (Print – Last, First): McAraw, Doug
Signature: [signature]
Employee No.: 519425; L-Code: 361; Ext.: 3719; Date: 6/2/97

Inspected By (Print Name – Last, First): Macari, Thomas; Ext.: J-2217
Signature: [signature]; Employee No.: 553224; Date: 5/21/97

Characterization Chemist Approval ☐ N/A (Initials) ____
Signature: ____; Employee No.: ____; Date: ____

RCA Approval ☐ N/A (Initials) ____ ☐ NTS Certified (Initials) ____ ☐ WIPP Certified (Initials) ____
Signature: ____; Employee No.: ____; Date: ____

RMMA Certification: ____ RSDR #: ____

☐ HWM Use Only

Batch 2002-02-829

w 120611

Generator: Complete items 43 - 47, only if container contains a single parcel of solid radioactive waste, and there is no Parcel Card attached.

43. Waste Generating Procedure:

Procedure #: ❒ 332 FSP ❒ B-360 Complex FSP ❒ 331 FSP ❒ AVLIS HPP ❒ EX-404 ❒ _____

❒ SAP #: _____ ❒ Instruction #: _____

44. Method(s) used to identify radionuclides and/or determine activity: *(Check all that apply)*

❒ Process knowledge ❒ Mass ❒ Mass balance ❒ Alpha spectrometry ❒ Gamma spectrometry

❒ Liquid scintillation counting ❒ AVLIS method (❒ A ❒ B ❒ C) ❒ Tritium off gas measurement (attach results)

❒ High Sensitivity Neutron Instrument (attach results) ❒ Other _____

45. Total Parcel Weight (g, lb):

Note: If AVLIS Method C, mass or mass balance is used, use a calibrated scale.

_____ _____ Units

❒ Scale: Serial #: _____

Calibration due date: _____

❒ Estimated weight

Comments: _____

46. Will the final waste form contain any of the following? (Explain all "yes" answers)

Chelating Agents: ❒ Yes ❒ No (e.g., Radiac Wash, > 1% by weight / pkg)

Free Liquids: ❒ Yes ❒ No

Fine Particles: ❒ Yes ❒ No [> 1% of <10 micrometer particles (compare to flour) or >15% of <300-micrometer particles (compare to sand)]

Compressed Gases: ❒ Yes ❒ No (e.g., non-pressured aerosol cans)

Pyrophorics: ❒ Yes ❒ No (e.g., uranium turnings that could spontaneously combust if exposed to air)

Explosives: ❒ Yes ❒ No (e.g., TNT, PETN, HMX, that exhibit explosive properties)

Classified Material: ❒ Yes ❒ No

Friable Asbestos: ❒ Yes ❒ No

PCBs: ❒ Yes ❒ No

Explanations: _____

47. Verifier Certification: I verify that, to the best of my knowledge, the information supplied by the waste generator on this form is complete and accurate.

Verifier Name (Print):	Verification Date:
Signature:	Employee No.:

Hazardous Appendix

SCIL (Single Container Inventory Limits) Exceeded ❒ No ❒ Yes

pH Results obtained by: *(Check all that apply)*

❒ Meter *(Calibrated)* ❒ Field Technician ❒ Sample Team

❒ Paper ❒ Analytical ❒ Chemist

Initial: _____

CC Rule (VOC's greater or less than 500 ppm Level 1, 2, 3):

❒ CC / > 500 / A ❒ CC / < 500 / A

❒ CC / > 500 / B ❒ CC / < 500 / B

A = Generator Knowledge B = Analytical Data

Storage Locations:

❒ No storage restrictions

Waste is not acceptable for storage at the following locations: *(Check all that apply)*

❒ 233 ❒ 514 ❒ 612-1 ❒ 612 (other than 612-1)

❒ Bldg. 693 ❒ CWAA 169 ❒ CWAA 361

CC initials: _____

Radiological Appendix

❒ No storage restrictions, based on Single Container Acceptable Limits.

Waste is not acceptable for storage at the following locations, based on SCAL: *(Check all that apply)*

❒ 233 ❒ 514 ❒ 612-1 ❒ 612 (other than 612-1) ❒ Bldg. 693

❒ CWAA 169 ❒ CWAA 361

❒ Contains > 1 curie and/or is > the amount identified per radionuclide on attachment B of Procedure HWM 800.

❒ Contains > than 10 grams of fissile material (U-233, U-235, or Pu-239)

RCA initials: _____

Scheduled Date: __/__/__

❒ HWM Waste Run ❒ Processed Waste

❒ Site 300 to LLNL ❒ Commercial Shipment

❒ Secured Pickup ❒ HWM Field Pump Out

❒ HWM GeneratedWaste: Loc: _____

TWMS: Initial: _____ Date: _____

Item	RCH Prefix	RCH	P	Origin Code	Form Code	EPA No.	DTSC No.	MSDS No.	Hazardous Properties T	C	I	R
									❒	❒	❒	❒
									❒	❒	❒	❒
									❒	❒	❒	❒
									❒	❒	❒	❒
									❒	❒	❒	❒
									❒	❒	❒	❒

1/97

Batch 2002-02-830

No. 36404

LLNL TRU WASTE PARCEL LOG CARD

(Fill out using dark, indelible ink only)

Date: 5-5-93 Card 1 of 1

Continued from: _____

Bldg: 332 Room: 1010 Workstation (if available): 1001

Container Serial No.: LL85 2 00 7 1 1 TRU

Batch 2002-02-831

LLNL WASTE FORM(S):

No. 1	Glove Box Waste	☒ Yes	☐ No
No. 2	Solidified Liquid Waste	☐ Yes	☒ No
No. 3	Metal Scrap Waste	☐ Yes	☒ No
No. 4	Waste Salt Blocks	☐ Yes	☒ No
No. 5	HEPA Filters	☐ Yes	☒ No

HAZARDOUS MATERIAL CHARACTERIZATION:

Hazardous Material(s)*: ☐ Yes ☒ No (list)

MATERIAL	AMOUNT	UNITS (g, l)

*Mixed waste to be deposited in a mixed waste container only.

To be filled out by HWM Review Chemist:

EPA/CA Hazardous Waste Code	EPA/CA Hazardous Waste Form Code

9-24-94

HWM Review Chemist's Initials DDS

RADIOACTIVITY CHARACTERIZATION:

Weapons Pu (Pu-240≤6% + Am-241≤1%)	☐ Yes	☒ No
Fuel Pu (6%<Pu-240≤12% + Am-241≤1%)	☒ Yes	☐ No
Reactor Pu (12%<Pu-240≤25% + Am-241≤1%)	☐ Yes	☒ No
Am-Enriched Pu (Pu-240≤15% + 1%<Am-241≤25%)	☐ Yes	☒ No
Mixed Pu (15%<Pu-240≤50% + 1%<Am-241≤25%) (The percentages are fractions of total mass of radionuclides)	☐ Yes	☒ No

Other Radionuclide(s): ☐ Yes ☒ No (list)

NUCLIDE	AMOUNT	UNITS (g, Ci)

Physical Description and Inventory of Waste: CARBON BLOCKS, PLASTIC, 2 ~~METAL~~ CANS STEEL PEH 11-18-94

This parcel DOES NOT contain classified material, free liquids, fine particles (> 1% by weight of particles < 10 μm diameter or > 15% by weight of particles < 200 μm diameter), compressed gas, explosives, pyrophorics, or ignitable, corrosive, or reactive materials.

Generator: Phil Hickman (Printed Name) [signature] (Signature) 45A450 (Employee #)

VERIFICATION: (Every parcel must be verified.)

Visually inspect the waste to be packaged, the waste packaging operations, and each waste parcel, according to procedure and training to answer the following questions:

1. Is the waste characterization and other information supplied by the waste generator on this form complete and accurate? ☒ Yes ☐ No
2. Does the waste parcel contain any of the following?

Classified Material	☐ Yes	☒ No	Compressed Gas	☐ Yes	☒ No	Ignitable Materials	☐ Yes	☒ No
Free Liquids	☐ Yes	☒ No	Explosives	☐ Yes	☒ No	Corrosive Materials	☐ Yes	☒ No
Fine Particles	☐ Yes	☒ No	Pyrophorics	☐ Yes	☒ No	Reactive Materials	☐ Yes	☒ No

3. Is this a mixed waste parcel, based on any RCRA or CA hazardous materials listed on this form? ☐ Yes ☒ No

Verifier: ELVIS SPENCER (Printed Name) Elvis Spencer (Signature) 844874 (Employee #) Date: 5-5-93

TRU WASTE CERTIFICATION ENGINEER REVIEW AND APPROVAL: KLH (Initials) 10-21-93 (Date)

LL 5586 (Rev. 3/93)

LLNL TRU WASTE PACKAGE CONTROL RECORD

(Fill out using dark, indelible ink only)

Card 1 of 1

Batch 2002-02-832

— GENERATOR / COMPILER SECTION —

Container Serial No.: LL85 200711 TRU

Bldg. 332

Container Type (check one): ☒ 55 gal. drum ☐ Standard Waste Box (SWB)

Compiled by:

Doug McAvoy — Printed Name — Signature

579425 — Employee #

Generator who ordered the container closed:

Doug McAvoy — Printed Name — Signature

579425 — Employee #

Compiled from LLNL TRU Waste Parcel Log Card Nos.

36500	35800	35747	36470
36044	35749	36405	
36497	36431	36456	
[redacted]	36418	36457	
[redacted]	36451	36455	
36045	36046	[redacted] DH 5-1-5-93	
35748	36404	[redacted] DH 5/15/93	

All LLNL TRU Waste Parcel Log Cards enclosed: ☒ Yes ☐ No

LLNL TRU Container Inspection Card enclosed: ☒ Yes ☐ No

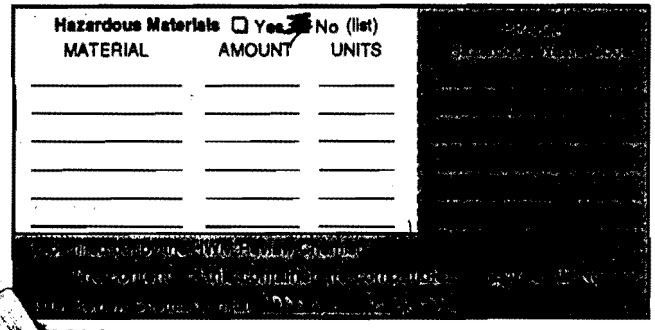
Waste Form(s) in this container*:

No. 1	Glove Box Waste	☒ Yes ☐ No
No. 2	Solidified Liquid Waste	☐ Yes ☒ No
No. 3	Metal Scrap Waste	☐ Yes ☒ No
No. 4	Waste Salt Blocks	☐ Yes ☒ No
No. 5	HEPA Filters	☐ Yes ☒ No

*Only one waste form per container, except waste forms No.1 and No. 3 may be combined.

Hazardous Materials ☐ Yes ☒ No (list)

MATERIAL	AMOUNT	UNITS



5567 A (Rev. 8/92)

WAC Requirements

Classified Material	☐ Yes ☒ No	Pyrophorics	☐ Yes ☒ No
Free Liquids	☐ Yes ☒ No	Ignitable Materials	☐ Yes ☒ No
Fine Particles	☐ Yes ☒ No	Corrosive Materials	☐ Yes ☒ No
Compressed Gases	☐ Yes ☒ No	Reactive Materials	☐ Yes ☒ No
Explosives	☐ Yes ☒ No		

RADIONUCLIDES — Check all Pu grades present

Weapons	☒ Yes ☐ No	
Fuel	☒ Yes ☐ No	
Reactor	☐ Yes ☒ No	
Am - enriched	☐ Yes ☒ No	
Mixed	☐ Yes ☒ No	

Other Radionuclides ☐ Yes ☒ No (list)

NUCLIDE	CURIES or	GRAMS

— HAZARDS CONTROL SECTION —

Container Closed and Bolted by:

Richard Herbst — Printed Name — 9-8-93 Date

Signature — 386694 Employee #

Drum lid bolt torqued to 40 ft-lbs.

Torque wrench identification no. 42800813

Radiological Measurements:

Dose (mrem/hr) at contact: β,γ: _____ N: _____

β,γ-Survey Instrument:

Performance Check: ☐ Satisfactory ☐ Not Done

Comments (if check was not done): _____

Manufacturer: _____ Model No. _____

Serial No. _____ Calibration Date: _____

Neutron Survey Instrument:

Performance Check: ☐ Satisfactory ☐ Not Done

Comments (if check was not done): _____

Manufacturer: _____ Model No. _____

Serial No. _____ Calibration Date: _____

Swipe results (dpm/100cm²): α: _____ β,γ: _____

Swipe Survey Instrument:

Performance Check: ☐ Satisfactory ☐ Not Done

Comments (if check was not done): _____

Manufacturer: _____ Model No. _____

Serial No. _____ Calibration Date: _____

Radiological Surveys Performed by:

_____ Printed Name _____ Date

_____ Signature _____ Employee #

— MATERIALS MANAGEMENT SECTION* —

*or B-251 Personnel

Security Seal (TID) No(s). G 333

Date Sealed: 9-8-93 Sealed by:

1. K. MANZ — Printed Name — Signature — 562118 Employee #

2. C. VENTSPARGAR — Printed Name — Signature — 536250 Employee #

To be completed for B-332 waste containers only:

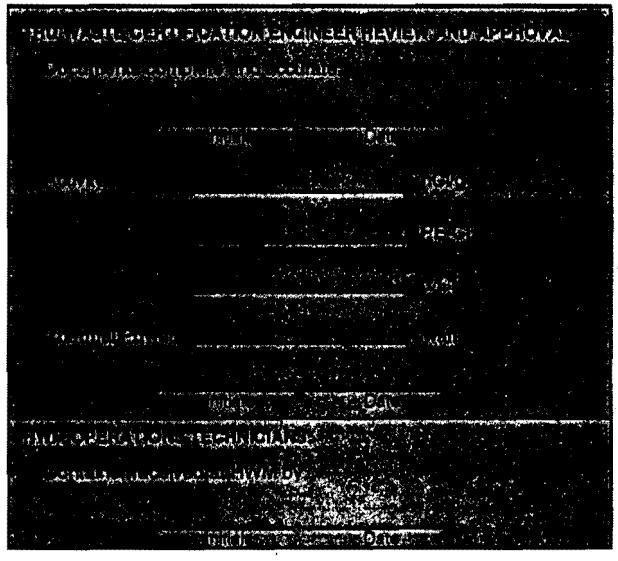
Container Weight (lbs): _____

Amt. of Pu-239 (g): _____ Date Assayed: _____

Assayed by:

_____ Printed Name _____ Signature

_____ Employee #



No. 35747

LLNL TRU WASTE PARCEL LOG CARD

(Fill out using dark, indelible ink only)

Date: 2-9-93 Card 1 of 1

Continued from: _____

Bldg: 332 Room: 1010 Workstation (optional): 1024

Container Serial No.: LL85200711 TRU

LLNL WASTE FORM(S)*:

No. 1	Glove Box Waste	☒ Yes ☐ No
No. 2	Solidified Liquid Waste	☐ Yes ☒ No
No. 3	Metal Scrap Waste	☐ Yes ☒ No
No. 4	Waste Salt Blocks	☐ Yes ☒ No
No. 5	HEPA Filters	☐ Yes ☒ No

*Only one waste form per container, except that waste forms No. 1 and No. 3 may be combined.

THIS PARCEL CONTAINS:

Hazardous Material(s)**: ☐ Yes ☒ No (list)

Material	Amount	Units

**Mixed waste to be deposited in a mixed waste container only.

THIS PARCEL CONTAINS:

Weapons Pu (Pu-240≤6% + Am-241≤1%)	☒ Yes ☐ No
Fuel Pu (6%<Pu-240≤12% + Am-241≤1%)	☐ Yes ☒ No
Reactor Pu (12%<Pu-240≤25% + Am-241≤1%)	☐ Yes ☒ No
Am-Enriched Pu (Pu-240≤15% + 1%<Am-241≤25%)	☐ Yes ☒ No
Mixed Pu (15%<Pu-240≤50% + 1%<Am-241≤25%) (The percentages are fractions of total mass of radionuclides)	☐ Yes ☒ No

Other Radionuclide(s): ☐ Yes ☒ No (list)

Nuclide	Amount	Units

Physical Description of Waste: MSA FILTER (HEPA)

This parcel DOES NOT contain classified material, free liquids, fine particles (>1% by weight of particles < 10 μm diameter) or > 15% by weight of particles < 200 μm diameter), compressed gas, explosives, pyrophorics, or ignitable, corrosive, or reactive materials.

Generator: T. LUDLOW (Printed Name) T Z Ludlow (Signature) 548406 (Employee #)

VERIFICATION: Parcel verified: ☒ Yes ☐ No

Visually inspect the waste to be packaged, the waste packaging operations, and each waste parcel, according to procedure and training to answer the following questions:

1. Is the information supplied by the waste generator on this form complete and accurate? ☒ Yes ☐ No
2. Does the waste parcel contain any of the following?

Classified Material	☐ Yes ☒ No	Compressed Gas	☐ Yes ☒ No	Ignitable Materials	☐ Yes ☒ No
Free Liquids	☐ Yes ☒ No	Explosives	☐ Yes ☒ No	Corrosive Materials	☐ Yes ☒ No
Fine Particles	☐ Yes ☒ No	Pyrophorics	☐ Yes ☒ No	Reactive Materials	☐ Yes ☒ No

3. Is this a mixed waste parcel? ☐ Yes ☒ No

Verifier: A.J. ROMERO (Printed Name) A J R (Signature) 761218 (Employee #) Date: 2-9-93

LL 5586 (Rev. 8/92)

No. 35748

LLNL TRU WASTE PARCEL LOG CARD

(Fill out using dark, indelible ink only)

Date: 2/10/93 Card 1 of 1

Continued from: _____

Bldg: 332 Room: 1010 Workstation (optional): 1012

Container Serial No.: LL85 2 00711 TRU

Batch 2002-02

LLNL WASTE FORM(S)*:

No. 1	Glove Box Waste	☒ Yes ☐ No
No. 2	Solidified Liquid Waste	☐ Yes ☒ No
No. 3	Metal Scrap Waste	☐ Yes ☒ No
No. 4	Waste Salt Blocks	☐ Yes ☒ No
No. 5	HEPA Filters	☐ Yes ☒ No

*Only one waste form per container, except that waste forms No. 1 and No. 3 may be combined.

THIS PARCEL CONTAINS:

Hazardous Material(s)**: ☐ Yes ☒ No (list)

Material	Amount	Units

**Mixed waste to be deposited in a mixed waste container only.

THIS PARCEL CONTAINS:

Weapons Pu (Pu-240≤6% + Am-241≤1%)	☐ Yes ☒ No
Fuel Pu (6%<Pu-240≤12% + Am-241≤1%)	☒ Yes ☐ No
Reactor Pu (12%<Pu-240≤25% + Am-241≤1%)	☐ Yes ☒ No
Am-Enriched Pu (Pu-240≤15% + 1%<Am-241≤25%)	☐ Yes ☒ No
Mixed Pu (15%<Pu-240≤50% + 1%<Am-241≤25%) (The percentages are fractions of total mass of radionuclides)	☐ Yes ☒ No

Other Radionuclide(s): ☐ Yes ☒ No (list)

Nuclide	Amount	Units

Physical Description of Waste: Quartz wool from $PuCl_3$ volitility experiments Plutonium Tri Chloride

This parcel DOES NOT contain classified material, free liquids, fine particles (>1% by weight of particles < 10 μm diameter) or > 15% by weight of particles < 200 μm diameter), compressed gas, explosives, pyrophorics, or ignitable, corrosive, or reactive materials.

Generator: James M Lawson (Printed Name) James M Lawson (Signature) 516530 (Employee #)

VERIFICATION: Parcel verified: ☒ Yes ☐ No

Visually inspect the waste to be packaged, the waste packaging operations, and each waste parcel, according to procedure and training to answer the following questions:

1. Is the information supplied by the waste generator on this form complete and accurate? ☒ Yes ☐ No
2. Does the waste parcel contain any of the following?

Classified Material	☐ Yes ☒ No	Compressed Gas	☐ Yes ☒ No	Ignitable Materials	☐ Yes ☒ No
Free Liquids	☐ Yes ☒ No	Explosives	☐ Yes ☒ No	Corrosive Materials	☐ Yes ☒ No
Fine Particles	☐ Yes ☒ No	Pyrophorics	☐ Yes ☒ No	Reactive Materials	☐ Yes ☒ No

3. Is this a mixed waste parcel? ☐ Yes ☒ No

Verifier: Doug McAvoy (Printed Name) _____ (Signature) 579425 (Employee #) Date: 2/10/93

DPM

LL 5566 (Rev. 8/92)

LLNL TRU WASTE PARCEL LOG CARD

(Fill out using dark, indelible ink only)

Date: 2/10/93 Card 1 of 1

Bldg: 332 Room: 1010 Workstation (optional): 1012

Container Serial No: [illegible] 2 0 7 1 1 TRU

LLNL WASTE FORM(S)*:

No. 1	Glove Box Waste	☒ Yes ☐ No
No. 2	Solidified Liquid Waste	☐ Yes ☒ No
No. 3	Metal Scrap Waste	☐ Yes ☒ No
No. 4	Waste Salt Blocks	☐ Yes ☒ No
No. 5	HEPA Filters	☐ Yes ☒ No

*Only one waste form per container, except that waste forms No. 1 and No. 3 may be combined.

THIS PARCEL CONTAINS:

Hazardous Material(s)**:	☐ Yes ☒ No	(list)
Material	Amount	Units

**Mixed waste to be deposited in a mixed waste container only.

THIS PARCEL CONTAINS:

			Other Radionuclide(s):	☐ Yes ☒ No	(list)
			Nuclide	Amount	Units
Weapons Pu (Pu-240≤6% + Am-241≤1%)	☐ Yes	☒ No			
Fuel Pu (6%<Pu-240≤12% + Am-241≤1%)	☒ Yes	☐ No			
Reactor Pu (12%<Pu-240≤25% + Am-241≤1%)	☐ Yes	☒ No			
Am-Enriched Pu (Pu-240≤15% + 1%<Am-241≤25%)	☐ Yes	☒ No			
Mixed Pu (15%<Pu-240≤50% + 1%<Am-241≤25%)	☐ Yes	☒ No			

(The percentages are fractions of total mass of radionuclides)

Physical Description of Waste: Quartz wool from $PuCl_3$ volatility experiments Plutonium Trichloride

This parcel DOES NOT contain classified material, free liquids, fine particles (>1% by weight of particles < 10 μm diameter) or > 15% by weight of particles < 200 μm diameter), compressed gas, explosives, pyrophorics, or ignitable, corrosive, or reactive materials.

Generator: James M. Lawson (Printed Name) James M. Lawson (Signature) 516550 (Employee #)

VERIFICATION: Parcel verified: ☒ Yes ☐ No

Visually inspect the waste to be packaged, the waste packaging operations, and each waste parcel, according to procedure and training to answer the following questions:

1. Is the information supplied by the waste generator on this form complete and accurate? ☒ Yes ☐ No
2. Does the waste parcel contain any of the following?

Classified Material	☐ Yes ☒ No	Compressed Gas	☐ Yes ☒ No	Ignitable Materials	☐ Yes ☒ No
Free Liquids	☐ Yes ☒ No	Explosives	☐ Yes ☒ No	Corrosive Materials	☐ Yes ☒ No
Fine Particles	☐ Yes ☒ No	Pyrophorics	☐ Yes ☒ No	Reactive Materials	☐ Yes ☒ No

3. Is this a mixed waste parcel? ☐ Yes ☒ No

Verifier: Doug McCoy (Printed Name) [signature] (Signature) 579425 (Employee #) Date: 2/10/93

DPM

[illegible]

EG&G 2566 (Rev. 6/92)

No. 35800

LLNL TRU WASTE PARCEL LOG CARD

(Fill out using dark, indelible ink only)

Date: 3/24/93 Card 1 of 1

Continued from: _____

Bldg: 332 Room: 1010 Workstation (optional): 1001

Container Serial No.: LL85 2 0071 L TRU

LLNL WASTE FORM(S)*:

No. 1	Glove Box Waste	☒ Yes ☐ No
No. 2	Solidified Liquid Waste	☐ Yes ☒ No
No. 3	Metal Scrap Waste	☐ Yes ☒ No
No. 4	Waste Salt Blocks	☐ Yes ☒ No
No. 5	HEPA Filters	☐ Yes ☒ No

*Only one waste form per container, except that waste forms No. 1 and No. 3 may be combined.

THIS PARCEL CONTAINS:

Hazardous Material(s)**: ☐ Yes ☒ No (list)

Material	Amount	Units

**Mixed waste to be deposited in a mixed waste container only.

THIS PARCEL CONTAINS:

Weapons Pu (Pu-240≤6% + Am-241≤1%)	☐ Yes ☒ No
Fuel Pu (6%<Pu-240≤12% + Am-241≤1%)	☒ Yes ☐ No
Reactor Pu (12%<Pu-240≤25% + Am-241≤1%)	☐ Yes ☒ No
Am-Enriched Pu (Pu-240≤15% + 1%<Am-241≤25%)	☐ Yes ☒ No
Mixed Pu (15%<Pu-240≤50% + 1%<Am-241≤25%) (The percentages are fractions of total mass of radionuclides)	☐ Yes ☒ No

Other Radionuclide(s): ☐ Yes ☒ No

Nuclide	Amount	(list) Units

Physical Description of Waste: CANS, PLASTIC, TAPE (Steel)

This parcel DOES NOT contain classified material, free liquids, fine particles (>1% by weight of particles < 10 μm diameter) or > 15% by weight of particles < 200 μm diameter), compressed gas, explosives, pyrophorics, or ignitable, corrosive, or reactive materials.

Generator: Doug McAvoy (Printed Name) _____ (Signature) 579425 (Employee #)

VERIFICATION: Parcel verified: ☒ Yes ☐ No

Visually inspect the waste to be packaged, the waste packaging operations, and each waste parcel, according to procedure and training to answer the following questions:

1. Is the information supplied by the waste generator on this form complete and accurate? ☒ Yes ☐ No
2. Does the waste parcel contain any of the following?

Classified Material	☐ Yes ☒ No	Compressed Gas	☐ Yes ☒ No	Ignitable Materials	☐ Yes ☒ No
Free Liquids	☐ Yes ☒ No	Explosives	☐ Yes ☒ No	Corrosive Materials	☐ Yes ☒ No
Fine Particles	☐ Yes ☒ No	Pyrophorics	☐ Yes ☒ No	Reactive Materials	☐ Yes ☒ No

3. Is this a mixed waste parcel? ☐ Yes ☒ No

Verifier: Dale Holt (Printed Name) _____ (Signature) 402632 (Employee #) Date: 3/24/93

LL 5586 (Rev. 8/92)

No. 36044

LLNL TRU WASTE PARCEL LOG CARD

(Fill out using dark, indelible ink only)

Date: 3/30/93 Card 1 of 1

Continued from: _____

Bldg: 332 Room: 1010 Workstation (optional): 1001

Container Serial No.: LL852 00711 TRU

LLNL WASTE FORM(S)*:

No. 1	Glove Box Waste	☒ Yes ☐ No
No. 2	Solidified Liquid Waste	☐ Yes ☒ No
No. 3	Metal Scrap Waste	☐ Yes ☒ No
No. 4	Waste Salt Blocks	☐ Yes ☒ No
No. 5	HEPA Filters	☐ Yes ☒ No

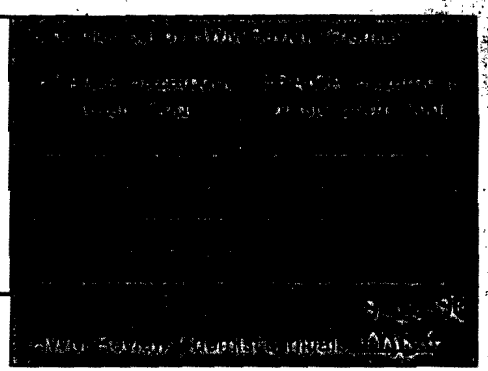
*Only one waste form per container, except that waste forms No. 1 and No. 3 may be combined.

THIS PARCEL CONTAINS:

Hazardous Material(s)**: ☐ Yes ☒ No (list)

Material	Amount	Units

**Mixed waste to be deposited in a mixed waste container only.



THIS PARCEL CONTAINS:

Weapons Pu (Pu-240≤6% + Am-241≤1%)	☐ Yes ☒ No
Fuel Pu (6%<Pu-240≤12% + Am-241≤1%)	☒ Yes ☐ No
Reactor Pu (12%<Pu-240≤25% + Am-241≤1%)	☐ Yes ☒ No
Am-Enriched Pu (Pu-240≤15% + 1%<Am-241≤25%)	☐ Yes ☒ No
Mixed Pu (15%<Pu-240≤50% + 1%<Am-241≤25%)	☐ Yes ☒ No

(The percentages are fractions of total mass of radionuclides)

Other Radionuclide(s): ☐ Yes ☒ No (list)

Nuclide	Amount	Units

Physical Description of Waste: PLASTIC, CANS, TAPE, VIALS (Steel)

This parcel DOES NOT contain classified material, free liquids, fine particles (>1% by weight of particles < 10 μm diameter) or > 15% by weight of particles < 200 μm diameter), compressed gas, explosives, pyrophorics, or ignitable, corrosive, or reactive materials.

Generator: Dave McAvoy (Printed Name) _____ (Signature) 579425 (Employee #)

VERIFICATION: Parcel verified: ☒ Yes ☐ No

Visually inspect the waste to be packaged, the waste packaging operations, and each waste parcel, according to procedure and training to answer the following questions:

1. Is the information supplied by the waste generator on this form complete and accurate? ☒ Yes ☐ No
2. Does the waste parcel contain any of the following?

Classified Material	☐ Yes ☒ No	Compressed Gas	☐ Yes ☒ No	Ignitable Materials	☐ Yes ☒ No
Free Liquids	☐ Yes ☒ No	Explosives	☐ Yes ☒ No	Corrosive Materials	☐ Yes ☒ No
Fine Particles	☐ Yes ☒ No	Pyrophorics	☐ Yes ☒ No	Reactive Materials	☐ Yes ☒ No

3. Is this a mixed waste parcel? ☐ Yes ☒ No

Verifier: DALE HACK (Printed Name) Dale Hack (Signature) 402632 (Employee #) Date: 3/30/93

LL 5586 (Rev. 8/92)

No. 36045

LLNL TRU WASTE PARCEL LOG CARD

(Fill out using dark, indelible ink only)

Date: 3/30/93 Card 1 of 1

Continued from: _____

Bldg: 332 Room: 1010 Workstation (optional): 1001

Container Serial No.: LL85 2 0 0 7 1 1 TRU

Batch 20022-638

LLNL WASTE FORM(S)*:

No. 1	Glove Box Waste	☒ Yes ☐ No
No. 2	Solidified Liquid Waste	☐ Yes ☒ No
No. 3	Metal Scrap Waste	☐ Yes ☒ No
No. 4	Waste Salt Blocks	☐ Yes ☒ No
No. 5	HEPA Filters	☐ Yes ☒ No

*Only one waste form per container, except that waste forms No. 1 and No. 3 may be combined.

THIS PARCEL CONTAINS:

Hazardous Material(s)**: ☐ Yes ☒ No (list)

Material	Amount	Units

**Mixed waste to be deposited in a mixed waste container only.

THIS PARCEL CONTAINS:

Weapons Pu (Pu-240≤6% + Am-241≤1%)	☐ Yes ☒ No
Fuel Pu (6%<Pu-240≤12% + Am-241≤1%)	☒ Yes ☐ No
Reactor Pu (12%<Pu-240≤25% + Am-241≤1%)	☐ Yes ☒ No
Am-Enriched Pu (Pu-240≤15% + 1%<Am-241≤25%)	☐ Yes ☒ No
Mixed Pu (15%<Pu-240≤50% + 1%<Am-241≤25%)	☐ Yes ☒ No

(The percentages are fractions of total mass of radionuclides)

Other Radionuclide(s): ☐ Yes ☒ No (list)

Nuclide	Amount	Units

Physical Description of Waste: Fuel pcs Tantalum pieces

DDM 11/20/96

This parcel DOES NOT contain classified material, free liquids, fine particles (>1% by weight of particles < 10 μm diameter) or > 15% by weight of particles < 200 μm diameter), compressed gas, explosives, pyrophorics, or ignitable, corrosive, or reactive materials.

Generator: Doug McAvoy (Printed Name) _____ (Signature) 579425 (Employee #)

VERIFICATION: Parcel verified: ☒ Yes ☐ No

Visually inspect the waste to be packaged, the waste packaging operations, and each waste parcel, according to procedure and training to answer the following questions:

1. Is the information supplied by the waste generator on this form complete and accurate? ☒ Yes ☐ No
2. Does the waste parcel contain any of the following?

Classified Material	☐ Yes ☒ No	Compressed Gas	☐ Yes ☒ No	Ignitable Materials	☐ Yes ☒ No
Free Liquids	☐ Yes ☒ No	Explosives	☐ Yes ☒ No	Corrosive Materials	☐ Yes ☒ No
Fine Particles	☐ Yes ☒ No	Pyrophorics	☐ Yes ☒ No	Reactive Materials	☐ Yes ☒ No

3. Is this a mixed waste parcel? ☐ Yes ☒ No

Verifier: DALE HECK (Printed Name) _____ (Signature) 402632 (Employee #) Date: 3/30/93

LL 5586 (Rev. 8/92)

No. 36046

LLNL TRU WASTE PARCEL LOG CARD

(Fill out using dark, indelible ink only)

Date: 3/30/93 Card 1 of 1

Continued from: _____

Bldg: 332 Room: 1010 Workstation (optional): 1001

Container Serial No.: LL85 2 0 0 7 1 1 TRU

LLNL WASTE FORM(S)*:

No. 1	Glove Box Waste	☒ Yes ☐ No
No. 2	Solidified Liquid Waste	☐ Yes ☒ No
No. 3	Metal Scrap Waste	☐ Yes ☒ No
No. 4	Waste Salt Blocks	☐ Yes ☒ No
No. 5	HEPA Filters	☐ Yes ☒ No

*Only one waste form per container, except that waste forms No. 1 and No. 3 may be combined.

THIS PARCEL CONTAINS:

Hazardous Material(s)**: ☐ Yes ☒ No (list)

Material	Amount	Units

**Mixed waste to be deposited in a mixed waste container only.

THIS PARCEL CONTAINS:

Weapons Pu (Pu-240≤6% + Am-241≤1%)	☐ Yes ☒ No
Fuel Pu (6%<Pu-240≤12% + Am-241≤1%)	☒ Yes ☐ No
Reactor Pu (12%<Pu-240≤25% + Am-241≤1%)	☐ Yes ☒ No
Am-Enriched Pu (Pu-240≤15% + 1%<Am-241≤25%)	☐ Yes ☒ No
Mixed Pu (15%<Pu-240≤50% + 1%<Am-241≤25%) (The percentages are fractions of total mass of radionuclides)	☐ Yes ☒ No

Other Radionuclide(s): ☐ Yes ☒ No (list)

Nuclide	Amount	Units

Physical Description of Waste: ~~MgO pcs in can~~ 11/20/96 Magnesium Oxide PIECES

This parcel DOES NOT contain classified material, free liquids, fine particles (>1% by weight of particles < 10 μm diameter) or > 15% by weight of particles < 200 μm diameter), compressed gas, explosives, pyrophorics, or ignitable, corrosive, or reactive materials.

Generator: DOUG McAVOY (Printed Name) _____ (Signature) 579425 (Employee #)

VERIFICATION: Parcel verified: ☒ Yes ☐ No

Visually inspect the waste to be packaged, the waste packaging operations, and each waste parcel, according to procedure and training to answer the following questions:

1. Is the information supplied by the waste generator on this form complete and accurate? ☒ Yes ☐ No
2. Does the waste parcel contain any of the following?

Classified Material	☐ Yes ☒ No	Compressed Gas	☐ Yes ☒ No	Ignitable Materials	☐ Yes ☒ No
Free Liquids	☐ Yes ☒ No	Explosives	☐ Yes ☒ No	Corrosive Materials	☐ Yes ☒ No
Fine Particles	☐ Yes ☒ No	Pyrophorics	☐ Yes ☒ No	Reactive Materials	☐ Yes ☒ No

3. Is this a mixed waste parcel? ☐ Yes ☒ No

Verifier: DALE HOLCK (Printed Name) Dale Holck (Signature) 402632 (Employee #) Date: 3/30/93 ✓

LL 5566 (Rev. 8/92)

No. 36405

LLNL TRU WASTE PARCEL LOG CARD

(Fill out using dark, indelible ink only)

Date: 5-5-93 Card 1 of 1

Continued from: _____

Bldg: 332 Room: 1010 Workstation (if available): 1001

Container Serial No.: LL85 2 0 0 7 1 1 TRU

LLNL WASTE FORM(S):

No. 1	Glove Box Waste	☒ Yes ☐ No
No. 2	Solidified Liquid Waste	☐ Yes ☒ No
No. 3	Metal Scrap Waste	☐ Yes ☒ No
No. 4	Waste Salt Blocks	☐ Yes ☒ No
No. 5	HEPA Filters	☐ Yes ☒ No

HAZARDOUS MATERIAL CHARACTERIZATION:

Hazardous Material(s)*: ☐ Yes ☒ No (list)

MATERIAL	AMOUNT	UNITS (g, l)

*Mixed waste to be deposited in a mixed waste container only.

To be filled out by HWM Review Chemist:

EPA/CA Hazardous Waste Code	EPA/CA Hazardous Waste Form Code

9-21-96

HWM Review Chemist's Initials MDG

RADIOACTIVITY CHARACTERIZATION:

Weapons Pu (Pu-240≤6% + Am-241≤1%)	☐ Yes ☒ No
Fuel Pu (6%<Pu-240≤12% + Am-241≤1%)	☒ Yes ☐ No
Reactor Pu (12%<Pu-240≤25% + Am-241≤1%)	☐ Yes ☒ No
Am-Enriched Pu (Pu-240≤15% + 1%<Am-241≤25%)	☐ Yes ☒ No
Mixed Pu (15%<Pu-240≤50% + 1%<Am-241≤25%)	☐ Yes ☒ No

(The percentages are fractions of total mass of radionuclides)

Other Radionuclide(s): ☐ Yes ☒ No (list)

NUCLIDE	AMOUNT	UNITS (g, Ci)

Physical Description and Inventory of Waste: QUARTZ, ~~METAL~~ CAN, PLASTIC, TAPE - STEEL BEH 11-18-96

This parcel DOES NOT contain classified material, free liquids, fine particles (> 1% by weight of particles < 10 μm diameter or > 15% by weight of particles < 200 μm diameter), compressed gas, explosives, pyrophorics, or ignitable, corrosive, or reactive materials.

Generator: Phil Hickman (Printed Name) _____ (Signature) 45A450 (Employee #)

VERIFICATION: (Every parcel must be verified.)

Visually inspect the waste to be packaged, the waste packaging operations, and each waste parcel, according to procedure and training to answer the following questions:

1. Is the waste characterization and other information supplied by the waste generator on this form complete and accurate? ☑ Yes ☐ No
2. Does the waste parcel contain any of the following?

Classified Material	☐ Yes ☑ No	Compressed Gas	☐ Yes ☑ No	Ignitable Materials	☐ Yes ☑ No
Free Liquids	☐ Yes ☑ No	Explosives	☐ Yes ☑ No	Corrosive Materials	☐ Yes ☑ No
Fine Particles	☐ Yes ☑ No	Pyrophorics	☐ Yes ☑ No	Reactive Materials	☐ Yes ☑ No

3. Is this a mixed waste parcel, based on any RCRA or CA hazardous materials listed on this form? ☐ Yes ☒ No

Verifier: EWIS SPENCER (Printed Name) Ewis Spencer (Signature) 844814 (Employee #) Date: EW 5-5-93 ES

TRU WASTE CERTIFICATION ENGINEER REVIEW AND APPROVAL: LEL (Initials) 10-26-93 (Date)

LL 5566 (Rev. 3/93)

No. 36418

LLNL TRU WASTE PARCEL LOG CARD

(Fill out using dark, indelible ink only)

Date: 5-11-93 Card 1 of 1

Continued from: _____

Bldg: 332 Room: 1010 Workstation (if available): 1001

Container Serial No.: LL85 2 0072 1 1 TRU

LLNL WASTE FORM(S):

No. 1	Glove Box Waste	☒ Yes ☐ No
No. 2	Solidified Liquid Waste	☐ Yes ☒ No
No. 3	Metal Scrap Waste	☐ Yes ☒ No
No. 4	Waste Salt Blocks	☐ Yes ☒ No
No. 5	HEPA Filters	☐ Yes ☒ No

HAZARDOUS MATERIAL CHARACTERIZATION:

Hazardous Material(s)*: ☐ Yes ☒ No (list)

MATERIAL	AMOUNT	UNITS (g, l)

*Mixed waste to be deposited in a mixed waste container only.

To be filled out by HWM Review Chemist:

EPA/CA Hazardous Waste Code	EPA/CA Hazardous Waste Form Code

9-24-96

HWM Review Chemist's Initials mpg

RADIOACTIVITY CHARACTERIZATION:

Weapons Pu (Pu-240≤6% + Am-241≤1%)	☐ Yes ☒ No
Fuel Pu (6%<Pu-240≤12% + Am-241≤1%)	☒ Yes ☐ No
Reactor Pu (12%<Pu-240≤25% + Am-241≤1%)	☐ Yes ☒ No
Am-Enriched Pu (Pu-240≤15% + 1%<Am-241≤25%)	☐ Yes ☒ No
Mixed Pu (15%<Pu-240≤50% + 1%<Am-241≤25%)	☐ Yes ☒ No

(The percentages are fractions of total mass of radionuclides)

Other Radionuclide(s): ☐ Yes ☒ No (list)

NUCLIDE	AMOUNT	UNITS (g, Ci)

Physical Description and Inventory of Waste: Plastic, Trays, rubber, Inner Pieces Steel, Magnesium Oxide BCN 12-18-96

This parcel DOES NOT contain classified material, free liquids, fine particles (> 1% by weight of particles < 10 μm diameter or > 15% by weight of particles < 200 μm diameter), compressed gas, explosives, pyrophorics, or ignitable, corrosive, or reactive materials.

Generator: Phil Hickman (Printed Name) Phil Hickman (Signature) 458450 (Employee #)

VERIFICATION: (Every parcel must be verified.)

Visually inspect the waste to be packaged, the waste packaging operations, and each waste parcel, according to procedure and training to answer the following questions:

1. Is the waste characterization and other information supplied by the waste generator on this form complete and accurate? ☒ Yes ☐ No
2. Does the waste parcel contain any of the following?

Classified Material	☐ Yes ☒ No	Compressed Gas	☐ Yes ☒ No	Ignitable Materials	☐ Yes ☒ No
Free Liquids	☐ Yes ☒ No	Explosives	☐ Yes ☒ No	Corrosive Materials	☐ Yes ☒ No
Fine Particles	☐ Yes ☒ No	Pyrophorics	☐ Yes ☒ No	Reactive Materials	☐ Yes ☒ No

3. Is this a mixed waste parcel, based on any RCRA or CA hazardous materials listed on this form? ☐ Yes ☒ No

Verifier: T. E. Lundon (Printed Name) T E Lundon (Signature) 548406 (Employee #) Date: 5-11-93

TRU WASTE CERTIFICATION ENGINEER REVIEW AND APPROVAL: KH (Initials) 10-21-93 (Date)

LL 5586 (Rev. 3/93)

No. 36431

LLNL TRU WASTE PARCEL LOG CARD

(Fill out using dark, indelible ink only)

Date: 5-12-93 Card 1 of 1

Continued from: _____

Bldg: 332 Room: 1010 Workstation (if available): 1001

Container Serial No.: LL85200711 TRU

LLNL WASTE FORM(S):

No. 1	Glove Box Waste	☒ Yes ☐ No
No. 2	Solidified Liquid Waste	☐ Yes ☒ No
No. 3	Metal Scrap Waste	☐ Yes ☒ No
No. 4	Waste Salt Blocks	☐ Yes ☒ No
No. 5	HEPA Filters	☐ Yes ☒ No

HAZARDOUS MATERIAL CHARACTERIZATION:

Hazardous Material(s)*: ☐ Yes ☒ No (list)

MATERIAL	AMOUNT	UNITS (g, l)

*Mixed waste to be deposited in a mixed waste container only.

To be filled out by HWM Review Chemist:

EPA/CA Hazardous Waste Code	EPA/CA Hazardous Waste Form Code

9-24-96

HWM Review Chemist's initials MDG

RADIOACTIVITY CHARACTERIZATION:

Weapons Pu (Pu-240≤6% + Am-241≤1%)	☐ Yes ☒ No
Fuel Pu (6%<Pu-240≤12% + Am-241≤1%)	☒ Yes ☐ No
Reactor Pu (12%<Pu-240≤25% + Am-241≤1%)	☐ Yes ☒ No
Am-Enriched Pu (Pu-240≤15% + 1%<Am-241≤25%)	☐ Yes ☒ No
Mixed Pu (15%<Pu-240≤50% + 1%<Am-241≤25%)	☐ Yes ☒ No

(The percentages are fractions of total mass of radionuclides)

Other Radionuclide(s): ☐ Yes ☒ No (list)

NUCLIDE	AMOUNT	UNITS (g, Ci)

Physical Description and Inventory of Waste: ~~METAL~~, CANS, PLASTIC, TOOLS
STEEL BEH 11-18-96

This parcel DOES NOT contain classified material, free liquids, fine particles (> 1% by weight of particles < 10 μm diameter or > 15% by weight of particles < 200 μm diameter), compressed gas, explosives, pyrophorics, or ignitable, corrosive, or reactive materials.

Generator: R. L. Hickman (Printed Name) _____ (Signature) 457450 (Employee #)

VERIFICATION: (Every parcel must be verified.)

Visually inspect the waste to be packaged, the waste packaging operations, and each waste parcel, according to procedure and training to answer the following questions:

1. Is the waste characterization and other information supplied by the waste generator on this form complete and accurate? ☐ Yes ☒ No
2. Does the waste parcel contain any of the following?

Classified Material	☐ Yes ☒ No	Compressed Gas	☐ Yes ☒ No	Ignitable Materials	☐ Yes ☒ No
Free Liquids	☐ Yes ☒ No	Explosives	☐ Yes ☒ No	Corrosive Materials	☐ Yes ☒ No
Fine Particles	☐ Yes ☒ No	Pyrophorics	☐ Yes ☒ No	Reactive Materials	☐ Yes ☒ No

3. Is this a mixed waste parcel, based on any RCRA or CA hazardous materials listed on this form? ☐ Yes ☒ No

Verifier: James M. Lawson (Printed Name) _____ (Signature) 516550 (Employee #) Date: 5/12/93

TRU WASTE CERTIFICATION ENGINEER REVIEW AND APPROVAL: LLH (Initials) 10-21-93 (Date)

LL 5566 (Rev. 3/93)

No. 36451

LLNL TRU WASTE PARCEL LOG CARD

(Fill out using dark, indelible ink only)

Date: 5-26-93 Card 1 of 1

Continued from: _____

Bldg: 332 Room: 1010 Workstation (if available): 1001

Container Serial No.: LL85 2 00 7 1 1 TRU

LLNL WASTE FORM(S):

No. 1	Glove Box Waste	☒ Yes ☐ No
No. 2	Solidified Liquid Waste	☐ Yes ☒ No
No. 3	Metal Scrap Waste	☐ Yes ☒ No
No. 4	Waste Salt Blocks	☐ Yes ☒ No
No. 5	HEPA Filters	☐ Yes ☒ No

HAZARDOUS MATERIAL CHARACTERIZATION:

Hazardous Material(s)*: ☐ Yes ☒ No (list)

MATERIAL	AMOUNT	UNITS (g, l)

*Mixed waste to be deposited in a mixed waste container only.

To be filled out by HWM Review Chemist:

EPA/CA Hazardous Waste Code	EPA/CA Hazardous Waste Form Code

9-24-96

HWM Review Chemist's Initials DMG

RADIOACTIVITY CHARACTERIZATION:

Weapons Pu (Pu-240≤6% + Am-241≤1%)	☐ Yes ☒ No
Fuel Pu (6%<Pu-240≤12% + Am-241≤1%)	☒ Yes ☐ No
Reactor Pu (12%<Pu-240≤25% + Am-241≤1%)	☐ Yes ☒ No
Am-Enriched Pu (Pu-240≤15% + 1%<Am-241≤25%)	☐ Yes ☒ No
Mixed Pu (15%<Pu-240≤50% + 1%<Am-241≤25%)	☐ Yes ☒ No

(The percentages are fractions of total mass of radionuclides)

Other Radionuclide(s): ☐ Yes ☒ No (list)

NUCLIDE	AMOUNT	UNITS (g, Ci)

Physical Description and Inventory of Waste: ~~Metal~~ Steel 30JH012901

STEEL BOX 11-18-96

This parcel DOES NOT contain classified material, free liquids, fine particles (>1% by weight of particles < 10 μm diameter or > 15% by weight of particles < 200 μm diameter), compressed gas, explosives, pyrophorics, or ignitable, corrosive, or reactive materials.

Generator: Phil Hickman (Printed Name) _____ (Signature) 454450 (Employee #)

VERIFICATION: (Every parcel must be verified.)

Visually inspect the waste to be packaged, the waste packaging operations, and each waste parcel, according to procedure and training to answer the following questions:

1. Is the waste characterization and other information supplied by the waste generator on this form complete and accurate? ☒ Yes ☐ No

2. Does the waste parcel contain any of the following?

Classified Material	☐ Yes ☒ No	Compressed Gas	☐ Yes ☒ No	Ignitable Materials	☐ Yes ☒ No
Free Liquids	☐ Yes ☒ No	Explosives	☐ Yes ☒ No	Corrosive Materials	☐ Yes ☒ No
Fine Particles	☐ Yes ☒ No	Pyrophorics	☐ Yes ☒ No	Reactive Materials	☐ Yes ☒ No

3. Is this a mixed waste parcel, based on any RCRA or CA hazardous materials listed on this form? ☐ Yes ☒ No

Verifier: Doug McAvoy (Printed Name) _____ (Signature) 579425 (Employee #) Date: 5-21-93 ✓

TRU WASTE CERTIFICATION ENGINEER REVIEW AND APPROVAL: KLH (Initials) 10-21-93 (Date)

LL 5586 (Rev. 3/93)

No. 36455

LLNL TRU WASTE PARCEL LOG CARD

(Fill out using dark, indelible ink only)

Date: 6/4/93 Card 1 of 1

Continued from: _____

Bldg: 332 Room: 1010 Workstation (if available): 1024

Container Serial No.: LL85 2 0071 L TRU

LLNL WASTE FORM(S):

No. 1	Glove Box Waste	☒ Yes ☐ No
No. 2	Solidified Liquid Waste	☐ Yes ☒ No
No. 3	Metal Scrap Waste	☐ Yes ☒ No
No. 4	Waste Salt Blocks	☐ Yes ☒ No
No. 5	HEPA Filters	☐ Yes ☒ No

HAZARDOUS MATERIAL CHARACTERIZATION:

Hazardous Material(s)*: ☐ Yes ☒ No (list)

MATERIAL	AMOUNT	UNITS (g, l)

*Mixed waste to be deposited in a mixed waste container only.

To be filled out by HWM Review Chemist:

EPA/CA Hazardous Waste Code	EPA/CA Hazardous Waste Form Code

HWM Review Chemist's Initials 9-26-96 MDG

RADIOACTIVITY CHARACTERIZATION:

Weapons Pu (Pu-240≤6% + Am-241≤1%)	☐ Yes ☒ No
Fuel Pu (6%<Pu-240≤12% + Am-241≤1%)	☒ Yes ☐ No
Reactor Pu (12%<Pu-240≤25% + Am-241≤1%)	☐ Yes ☒ No
Am-Enriched Pu (Pu-240≤15% + 1%<Am-241≤25%)	☐ Yes ☒ No
Mixed Pu (15%<Pu-240≤50% + 1%<Am-241≤25%)	☐ Yes ☒ No

(The percentages are fractions of total mass of radionuclides)

Other Radionuclide(s): ☐ Yes ☒ No (list)

NUCLIDE	AMOUNT	UNITS (g, Ci)

Physical Description and Inventory of Waste: PLASTIC, CANS, PAPER, FOIL (ALUMINUM) AK 12/16/96 AK 12/16/96

This parcel DOES NOT contain classified material, free liquids, fine particles (> 1% by weight of particles < 10 μm diameter or > 15% by weight of particles < 200 μm diameter), compressed gas, explosives, pyrophorics, or ignitable, corrosive, or reactive materials.

Generator: A J Romero (Printed Name) _____ (Signature) 761218 (Employee #)

VERIFICATION: (Every parcel must be verified.)

Visually inspect the waste to be packaged, the waste packaging operations, and each waste parcel, according to procedure and training to answer the following questions:

1. Is the waste characterization and other information supplied by the waste generator on this form complete and accurate? ☒ Yes ☐ No
2. Does the waste parcel contain any of the following?

Classified Material	☐ Yes ☒ No	Compressed Gas	☐ Yes ☒ No	Ignitable Materials	☐ Yes ☒ No
Free Liquids	☐ Yes ☒ No	Explosives	☐ Yes ☒ No	Corrosive Materials	☐ Yes ☒ No
Fine Particles	☐ Yes ☒ No	Pyrophorics	☐ Yes ☒ No	Reactive Materials	☐ Yes ☒ No

3. Is this a mixed waste parcel, based on any RCRA or CA hazardous materials listed on this form? ☐ Yes ☒ No

Verifier: ELVIS SPENCER (Printed Name) Elvis Spencer (Signature) 944874 (Employee #) Date: 6-4-93 ✓ OK 90 day grace period

TRU WASTE CERTIFICATION ENGINEER REVIEW AND APPROVAL: KH (Initials) 10-21-93 (Date)

LL 5566 (Rev. 3/93)

No. 36456

LLNL TRU WASTE PARCEL LOG CARD

(Fill out using dark, indelible ink only)

Date: 6/4/93 Card 1 of 1

Continued from: _____

Bldg: 332 Room: 1010 Workstation (if available): 1024

Container Serial No.: LL85 2 0 0 7 1 1 TRU

LLNL WASTE FORM(S):

No. 1	Glove Box Waste	☒ Yes ☐ No
No. 2	Solidified Liquid Waste	☐ Yes ☒ No
No. 3	Metal Scrap Waste	☐ Yes ☒ No
No. 4	Waste Salt Blocks	☐ Yes ☒ No
No. 5	HEPA Filters	☐ Yes ☒ No

HAZARDOUS MATERIAL CHARACTERIZATION:

Hazardous Material(s)*: ☐ Yes ☒ No (list)

MATERIAL	AMOUNT	UNITS (g, l)

*Mixed waste to be deposited in a mixed waste container only.

To be filled out by HWM Review Chemist:

EPA/CA Hazardous Waste Code	EPA/CA Hazardous Waste Form Code

HWM Review Chemist's Initials mbG 9-26-96

RADIOACTIVITY CHARACTERIZATION:

Weapons Pu (Pu-240≤6% + Am-241≤1%)	☐ Yes ☒ No
Fuel Pu (6%<Pu-240≤12% + Am-241≤1%)	☒ Yes ☐ No
Reactor Pu (12%<Pu-240≤25% + Am-241≤1%)	☐ Yes ☒ No
Am-Enriched Pu (Pu-240≤15% + 1%<Am-241≤25%)	☐ Yes ☒ No
Mixed Pu (15%<Pu-240≤50% + 1%<Am-241≤25%)	☐ Yes ☒ No

(The percentages are fractions of total mass of radionuclides)

Other Radionuclide(s): ☐ Yes ☒ No (list)

NUCLIDE	AMOUNT	UNITS (g, Ci)

Physical Description and Inventory of Waste: PLASTIC, PAPER, FOIL (ALUMINIUM) AR 11/18/96

This parcel DOES NOT contain classified material, free liquids, fine particles (> 1% by weight of particles < 10 μm diameter or > 15% by weight of particles < 200 μm diameter), compressed gas, explosives, pyrophorics, or ignitable, corrosive, or reactive materials.

Generator: AJ ROMERO (Printed Name) AJ R (Signature) 761218 (Employee #)

VERIFICATION: (Every parcel must be verified.)

Visually inspect the waste to be packaged, the waste packaging operations, and each waste parcel, according to procedure and training to answer the following questions:

1. Is the waste characterization and other information supplied by the waste generator on this form complete and accurate? ☒ Yes ☐ No
2. Does the waste parcel contain any of the following?

Classified Material	☐ Yes ☒ No	Compressed Gas	☐ Yes ☒ No	Ignitable Materials	☐ Yes ☒ No
Free Liquids	☐ Yes ☒ No	Explosives	☐ Yes ☒ No	Corrosive Materials	☐ Yes ☒ No
Fine Particles	☐ Yes ☒ No	Pyrophorics	☐ Yes ☒ No	Reactive Materials	☐ Yes ☒ No

3. Is this a mixed waste parcel, based on any RCRA or CA hazardous materials listed on this form? ☐ Yes ☒ No

OK -90 day grace period

Verifier: ELVIS SPENCER (Printed Name) Elvis Spencer (Signature) 844874 (Employee #) Date: 6-4-93

TRU WASTE CERTIFICATION ENGINEER REVIEW AND APPROVAL: KLH (Initials) 10-21-93 (Date)

LL 5586 (Rev. 3/93)

Ruth 2002-02-8465

No. 36457

LLNL TRU WASTE PARCEL LOG CARD

(Fill out using dark, indelible ink only)

Date: 6/4/93 Card 1 of 1

Continued from: _____

Bldg: 332 Room: 1010 Workstation (if available): 1024

Container Serial No.: LL85 2 00 7 L L TRU

LLNL WASTE FORM(S):

No. 1	Glove Box Waste	☒ Yes ☐ No
No. 2	Solidified Liquid Waste	☐ Yes ☒ No
No. 3	Metal Scrap Waste	☐ Yes ☒ No
No. 4	Waste Salt Blocks	☐ Yes ☒ No
No. 5	HEPA Filters	☐ Yes ☒ No

HAZARDOUS MATERIAL CHARACTERIZATION:

Hazardous Material(s)*: ☐ Yes ☒ No (list)

MATERIAL	AMOUNT	UNITS (g, l)

*Mixed waste to be deposited in a mixed waste container only.

To be filled out by HWM Review Chemist:

EPA/CA Hazardous Waste Code	EPA/CA Hazardous Waste Form Code

HWM Review Chemist's Initials MDG

RADIOACTIVITY CHARACTERIZATION:

Weapons Pu (Pu-240≤6% + Am-241≤1%)	☐ Yes ☒ No
Fuel Pu (6%<Pu-240≤12% + Am-241≤1%)	☒ Yes ☐ No
Reactor Pu (12%<Pu-240≤25% + Am-241≤1%)	☐ Yes ☒ No
Am-Enriched Pu (Pu-240≤15% + 1%<Am-241≤25%)	☐ Yes ☒ No
Mixed Pu (15%<Pu-240≤50% + 1%<Am-241≤25%) (The percentages are fractions of total mass of radionuclides)	☐ Yes ☒ No

Other Radionuclide(s): ☐ Yes ☒ No (list)

NUCLIDE	AMOUNT	UNITS (g, Ci)

Physical Description and Inventory of Waste: PLASTIC, PAPER, FOIL (ALUMINUM) AR 12/16/96

This parcel DOES NOT contain classified material, free liquids, fine particles (> 1% by weight of particles < 10 μm diameter or > 15% by weight of particles < 200 μm diameter), compressed gas, explosives, pyrophorics, or ignitable, corrosive, or reactive materials.

Generator: AJ ROMERO (Printed Name) _____ (Signature) 761218 (Employee #)

VERIFICATION: (Every parcel must be verified.)

Visually inspect the waste to be packaged, the waste packaging operations, and each waste parcel, according to procedure and training to answer the following questions:

1. Is the waste characterization and other information supplied by the waste generator on this form complete and accurate? ☒ Yes ☐ No
2. Does the waste parcel contain any of the following?

Classified Material	☐ Yes ☒ No	Compressed Gas	☐ Yes ☒ No	Ignitable Materials	☐ Yes ☒ No
Free Liquids	☐ Yes ☒ No	Explosives	☐ Yes ☒ No	Corrosive Materials	☐ Yes ☒ No
Fine Particles	☐ Yes ☒ No	Pyrophorics	☐ Yes ☒ No	Reactive Materials	☐ Yes ☒ No

3. Is this a mixed waste parcel, based on any RCRA or CA hazardous materials listed on this form? ☐ Yes ☒ No

OK 90 day grace period

Verifier: Elvis Spencer (Printed Name) ELVIS SPENCER Elvis Spencer (Signature) 644874 (Employee #) Date: 6-4-93

TRU WASTE CERTIFICATION ENGINEER REVIEW AND APPROVAL: HLH (Initials) 10-21-93 (Date)

LL 5566 (Rev. 3/93)

No. 36470

LLNL TRU WASTE PARCEL LOG CARD

(Fill out using dark, indelible ink only)

Date: 6/16/93 Card 1 of 1

Continued from: _____

Bldg: 332 Room: 1010 Workstation (if available): 1001

Container Serial No.: LL85 2 0 0 7 / / TRU

LLNL WASTE FORM(S):

No. 1	Glove Box Waste	☒ Yes ☐ No
No. 2	Solidified Liquid Waste	☐ Yes ☒ No
No. 3	Metal Scrap Waste	☐ Yes ☒ No
No. 4	Waste Salt Blocks	☐ Yes ☒ No
No. 5	HEPA Filters	☐ Yes ☒ No

HAZARDOUS MATERIAL CHARACTERIZATION:

Hazardous Material(s)*: ☐ Yes ☒ No (list)

MATERIAL	AMOUNT	UNITS (g, l)

*Mixed waste to be deposited in a mixed waste container only.

To be filled out by HWM Review Chemist:

EPA/CA Hazardous Waste Code	EPA/CA Hazardous Waste Form Code

HWM Review Chemist's initials MDG 9-26-96

RADIOACTIVITY CHARACTERIZATION:

Weapons Pu (Pu-240≤6% + Am-241≤1%)	☒ Yes ☐ No
Fuel Pu (6%<Pu-240≤12% + Am-241≤1%)	☐ Yes ☒ No
Reactor Pu (12%<Pu-240≤25% + Am-241≤1%)	☐ Yes ☒ No
Am-Enriched Pu (Pu-240≤15% + 1%<Am-241≤25%)	☐ Yes ☒ No
Mixed Pu (15%<Pu-240≤50% + 1%<Am-241≤25%)	☐ Yes ☒ No

(The percentages are fractions of total mass of radionuclides)

Other Radionuclide(s): ☐ Yes ☒ No (list)

NUCLIDE	AMOUNT	UNITS (g, Ci)

Physical Description and Inventory of Waste: ~~EMPTY SST CANS~~ DDM 11/20/96

Empty STAINLESS STEEL CANS

This parcel DOES NOT contain classified material, free liquids, fine particles (> 1% by weight of particles < 10 μm diameter or > 15% by weight of particles < 200 μm diameter), compressed gas, explosives, pyrophorics, or ignitable, corrosive, or reactive materials.

Generator: Dale McAVOY (Printed Name) _____ (Signature) 579425 (Employee #)

VERIFICATION: (Every parcel must be verified.)

Visually inspect the waste to be packaged, the waste packaging operations, and each waste parcel, according to procedure and training to answer the following questions:

1. Is the waste characterization and other information supplied by the waste generator on this form complete and accurate? ☒ Yes ☐ No
2. Does the waste parcel contain any of the following?

Classified Material	☐ Yes ☒ No	Compressed Gas	☐ Yes ☒ No	Ignitable Materials	☐ Yes ☒ No
Free Liquids	☐ Yes ☒ No	Explosives	☐ Yes ☒ No	Corrosive Materials	☐ Yes ☒ No
Fine Particles	☐ Yes ☒ No	Pyrophorics	☐ Yes ☒ No	Reactive Materials	☐ Yes ☒ No

3. Is this a mixed waste parcel, based on any RCRA or CA hazardous materials listed on this form? ☐ Yes ☒ No

OK - 90 day grace period KBH - 10-21-93

Verifier: Dale Holck (Printed Name) _____ (Signature) H02632 (Employee #) Date: 6/16/93

TRU WASTE CERTIFICATION ENGINEER REVIEW AND APPROVAL: KBH (Initials) 10-21-93 (Date)

LL 5566 (Rev. 3/93)

4-8-20-2002 mwd

No. 36497

LLNL TRU WASTE PARCEL LOG CARD

(Fill out using dark, indelible ink only)

Date: 5/27/93 Card 1 of 1

Continued from: _____

Bldg: 332 Room: 1010 Workstation (if available): 1031

Container Serial No.: LL852 00711 TRU

LLNL WASTE FORM(S):

No. 1	Glove Box Waste	☑ Yes ☐ No
No. 2	Solidified Liquid Waste	☐ Yes ☑ No
No. 3	Metal Scrap Waste	☐ Yes ☑ No
No. 4	Waste Salt Blocks	☐ Yes ☑ No
No. 5	HEPA Filters	☐ Yes ☑ No

HAZARDOUS MATERIAL CHARACTERIZATION:

Hazardous Material(s)*: ☐ Yes ☑ No (list)

MATERIAL	AMOUNT	UNITS (g, l)

*Mixed waste to be deposited in a mixed waste container only.

To be filled out by HWM Review Chemist:

EPA/CA Hazardous Waste Code	EPA/CA Hazardous Waste Form Code

9-26-96

HWM Review Chemist's Initials MD G

RADIOACTIVITY CHARACTERIZATION:

Weapons Pu (Pu-240≤6% + Am-241≤1%)	☑ Yes ☐ No
Fuel Pu (6%<Pu-240≤12% + Am-241≤1%)	☐ Yes ☑ No
Reactor Pu (12%<Pu-240≤25% + Am-241≤1%)	☐ Yes ☑ No
Am-Enriched Pu (Pu-240≤15% + 1%<Am-241≤25%)	☐ Yes ☑ No
Mixed Pu (15%<Pu-240≤50% + 1%<Am-241≤25%)	☐ Yes ☑ No

(The percentages are fractions of total mass of radionuclides)

Other Radionuclide(s): ☐ Yes ☑ No (list)

NUCLIDE	AMOUNT	UNITS (g, Ci)

Physical Description and Inventory of Waste: MgO Pcs (Pieces) 31 JH051902 (Magnesium Oxide)

This parcel DOES NOT contain classified material, free liquids, fine particles (> 1% by weight of particles < 10 μm diameter or > 15% by weight of particles < 200 μm diameter), compressed gas, explosives, pyrophorics, or ignitable, corrosive, or reactive materials.

Generator: Dale Holck (Printed Name) Dale Holck (Signature) 402632 (Employee #)

VERIFICATION: (Every parcel must be verified.)

Visually inspect the waste to be packaged, the waste packaging operations, and each waste parcel, according to procedure and training to answer the following questions:

1. Is the waste characterization and other information supplied by the waste generator on this form complete and accurate? ☑ Yes ☐ No
2. Does the waste parcel contain any of the following?

Classified Material	☐ Yes ☑ No	Compressed Gas	☐ Yes ☑ No	Ignitable Materials	☐ Yes ☑ No
Free Liquids	☐ Yes ☑ No	Explosives	☐ Yes ☑ No	Corrosive Materials	☐ Yes ☑ No
Fine Particles	☐ Yes ☑ No	Pyrophorics	☐ Yes ☑ No	Reactive Materials	☐ Yes ☑ No

3. Is this a mixed waste parcel, based on any RCRA or CA hazardous materials listed on this form? ☐ Yes ☑ No

Verifier: A J Romero (Printed Name) _____ (Signature) 761218 (Employee #) Date: 5/27/93 ✓

TRU WASTE CERTIFICATION ENGINEER REVIEW AND APPROVAL: _____ (Initials) 10-21-93 (Date)

LL 5586 (Rev. 3/93)

No. 36500

LLNL TRU WASTE PARCEL LOG CARD

(Fill out using dark, indelible ink only)

Date: 5-25-93 Card 1 of 1

Continued from: ------

Bldg: 332 Room: 1010 Workstation (if available): 1001

Container Serial No.: LL852 00711 TRU

LLNL WASTE FORM(S):

No. 1	Glove Box Waste	■ Yes ☐ No
No. 2	Solidified Liquid Waste	☐ Yes ■ No
No. 3	Metal Scrap Waste	☐ Yes ■ No
No. 4	Waste Salt Blocks	☐ Yes ■ No
No. 5	HEPA Filters	☐ Yes ■ No

HAZARDOUS MATERIAL CHARACTERIZATION:

Hazardous Material(s)*: ☐ Yes ■ No (list)

MATERIAL	AMOUNT	UNITS (g, l)

*Mixed waste to be deposited in a mixed waste container only.

To be filled out by HWM Review Chemist:

EPA/CA Hazardous Waste Code	EPA/CA Hazardous Waste Form Code

5-26-93

HWM Review Chemist's Initials [illegible]

RADIOACTIVITY CHARACTERIZATION:

Weapons Pu (Pu-240≤6% + Am-241≤1%)	■ Yes ☐ No
Fuel Pu (6%<Pu-240≤12% + Am-241≤1%)	☐ Yes ■ No
Reactor Pu (12%<Pu-240≤25% + Am-241≤1%)	☐ Yes ■ No
Am-Enriched Pu (Pu-240≤15% + 1%<Am-241≤25%)	☐ Yes ■ No
Mixed Pu (15%<Pu-240≤50% + 1%<Am-241≤25%)	☐ Yes ■ No

(The percentages are fractions of total mass of radionuclides)

Other Radionuclide(s): ☐ Yes ■ No (list)

NUCLIDE	AMOUNT	UNITS (g, Ci)

Physical Description and Inventory of Waste: ~~Rubble~~ off of 01RH052401

Magnesium Oxide pieces OH 11/13/96

This parcel DOES NOT contain classified material, free liquids, fine particles (> 1% by weight of particles < 10 μm diameter or > 15% by weight of particles < 200 μm diameter), compressed gas, explosives, pyrophorics, or ignitable, corrosive, or reactive materials.

Generator: Dale Holk (Printed Name) Dale Holk (Signature) 402632 (Employee #)

VERIFICATION: (Every parcel must be verified.)

Visually inspect the waste to be packaged, the waste packaging operations, and each waste parcel, according to procedure and training to answer the following questions:

1. Is the waste characterization and other information supplied by the waste generator on this form complete and accurate? ■ Yes ☐ No
2. Does the waste parcel contain any of the following?

Classified Material	☐ Yes ■ No	Compressed Gas	☐ Yes ■ No	Ignitable Materials	☐ Yes ■ No
Free Liquids	☐ Yes ■ No	Explosives	☐ Yes ■ No	Corrosive Materials	☐ Yes ■ No
Fine Particles	☐ Yes ■ No	Pyrophorics	☐ Yes ■ No	Reactive Materials	☐ Yes ■ No

3. Is this a mixed waste parcel, based on any RCRA or CA hazardous materials listed on this form? ☐ Yes ■ No

Verifier: Dan McAboy (Printed Name) [signature] (Signature) 579425 (Employee #) Date: 5/25/93 ✓

TRU WASTE CERTIFICATION ENGINEER REVIEW AND APPROVAL: KLH (Initials) 10-21-93 (Date)

LL 5586 (Rev. 3/93)

958-20-2002 WHP

NUCLEAR MATERIAL
CONTROLLED ITEM

Material 50 Net wt. 55455

Ele. wt. 35

Iso wt. 33

Serial no. LL852 00711

Enrichment _____ Category _____

Classification _____ Date rec. _____

Plastic wt. _____ Hold for _____

Description/shot _____

Contaminants _____

Remarks/reason for storage _____

Packager Sig. 1 _____

Packager Sig. 2 _____

Gamma _____ Neutron _____

Packaging or storage comments _____

Comments BIDR

☆ U.S. GOVERNMENT PRINTING OFFICE: 1992 – 688-124

LLNL TRU WASTE CONTAINER INSPECTION CARD

(Fill out using dark, indelible ink only)

(Note abbreviations: Sat. = Satisfactory, Unsat. = Unsatisfactory)

CONTAINER SERIAL NO.: LL85 200711 L TRU **DATE:** 21/May/93

INSPECTED BY: Donavon Day (Printed Name) Donavon Day (Signature) 206874 (Employee #)

INSPECTED AT (check one): ☐ 1. HWM FACILITY ☑ 2. GENERATOR FACILITY

FOR DRUM OR BOX, VERIFY THAT THE CONTAINER HAS:

NO HOLES ☑ Sat. ☐ Unsat. NO SIGNIFICANT RUST ☑ Sat. ☐ Unsat. NO BAD SEAMS/WELDS ☑ Sat. ☐ Unsat.

NO OTHER DEFECTS ☑ Sat. ☐ Unsat.

FOR DRUMS ONLY, VERIFY THAT THE DRUM IS:

55 GAL. ☑ Sat. ☐ Unsat. MARKED "17C" ☑ Sat. ☐ Unsat.

VERIFY THAT THE DRUM HAS:

A FILTER VENT ☑ Sat. ☐ Unsat. AN INTACT GASKET ☑ Sat. ☐ Unsat.

A PLASTIC LINER ☑ Sat. ☐ Unsat. A ≥ 0.3 " VENT HOLE IN LINER LID ☑ Sat. ☐ Unsat. NO LINER DEFECTS ☑ Sat. ☐ Unsat.

FOR BOXES ONLY, VERIFY THAT THE BOX:

IS A TRU STANDARD WASTE BOX (SWB) ☐ Sat. ☐ Unsat. HAS TWO FILTER VENTS ☐ Sat. ☐ Unsat.

REPORT DEFECTIVE CONTAINERS/LINERS TO TRU WASTE CERTIFICATION ENGINEER

DESCRIBE ANY UNSATISFACTORY CONDITION IN COMMENTS, BELOW.

COMMENTS: New style drum. Drums are now painted white with grey primer spots. 29oct93 DZD

TRU WASTE CERTIFICATION ENGINEER REVIEW AND APPROVAL: JEL (Initials) 10-29-93 (Date)

LL 5584A (Rev. 8/92)

Batch 2002-0248

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
2-07-02 2:37:55 PM

OK (RE) 2-7-02
GRS 4-24-02

QA File: C:\WAS\CTRS\CTR1\ARR1\S11_BCK.QA
Sample ID: B861
Sample Quantity: 1.0000E+00
Sample Date: 2-07-02 2:32:17 PM
Measurement Date: 2-07-02 2:32:14 PM
Elapsed Live Time: 200.0 seconds
Elapsed Real Time: 201.9 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
Ref. Peak [0.00+/-0.00]	3.5084E+01	0.00 < : : : >
Upper CPS Reg [0.00+/-0.00]	2.0980E+01	0.00 < : : : >
Peak counts/second [0.00+/-0.00]	1.0089E+03	0.00 < : : : >
Pulser FWHM [0.00+/-0.00]	1.0373E+00	0.00 < : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
2-07-02 2:37:48 PM

QA File: C:\WAS\CTRS\CTR1\ARR1\T11_BCK.QA
Sample ID: B861
Sample Quantity: 1.0000E+00
Sample Date: 2-07-02 2:32:17 PM
Measurement Date: 2-07-02 2:35:42 PM
Elapsed Live Time: 100.0 seconds
Elapsed Real Time: 104.1 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >

Batch 2002-02-856

400.6 keV Centroid	8.0340E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>
400.6 keV FWHM	1.4896E+00			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak centroid 136 KeV	2.7293E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak area 400 keV	1.8122E+04			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak counts/second	1.8122E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

Batch 2002-02-857

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
2-08-02 10:53:21 AM

OK (KW) 2-8-02
2-8-02
JW 2-24-02

QA File: C:\WAS\CTRS\CTR1\ARR1\S11_BCK.QA
Sample ID: B862
Sample Quantity: 1.0000E+00
Sample Date: 2-08-02 10:47:43 AM
Measurement Date: 2-08-02 10:47:41 AM
Elapsed Live Time: 200.0 seconds
Elapsed Real Time: 201.9 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
Ref. Peak	3.5019E+01	0.00
[0.00+/-0.00]		< : : : >
Upper CPS Reg	2.0760E+01	0.00
[0.00+/-0.00]		< : : : >
Peak counts/second	1.0089E+03	0.00
[0.00+/-0.00]		< : : : >
Pulser FWHM	9.7796E-01	0.00
[0.00+/-0.00]		< : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
2-08-02 10:53:14 AM

QA File: C:\WAS\CTRS\CTR1\ARR1\T11_BCK.QA
Sample ID: B862
Sample Quantity: 1.0000E+00
Sample Date: 2-08-02 10:47:43 AM
Measurement Date: 2-08-02 10:51:09 AM
Elapsed Live Time: 100.0 seconds
Elapsed Real Time: 104.0 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >

Batch 2002-02-858

400.6 keV Centroid	8.0365E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>
400.6 keV FWHM	1.5238E+00			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak centroid 136 KeV	2.7280E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak area 400 keV	1.7818E+04			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak counts/second	1.7818E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

Batch 2002-02-859

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
2-12-02 8:04:47 AM

OK PM 2-12-02

JNS 4-24-02

QA File: C:\WAS\CTRS\CTR1\ARR1\S11_BCK.QA
Sample ID: B863
Sample Quantity: 1.0000E+00
Sample Date: 2-12-02 7:59:09 AM
Measurement Date: 2-12-02 7:59:07 AM
Elapsed Live Time: 200.0 seconds
Elapsed Real Time: 201.9 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
Ref. Peak	3.5071E+01	0.00
[0.00+/-0.00]		< : : : >
Upper CPS Reg	2.1610E+01	0.00
[0.00+/-0.00]		< : : : >
Peak counts/second	1.0089E+03	0.00
[0.00+/-0.00]		< : : : >
Pulser FWHM	1.0248E+00	0.00
[0.00+/-0.00]		< : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
2-12-02 8:04:40 AM

QA File: C:\WAS\CTRS\CTR1\ARR1\T11_BCK.QA
Sample ID: B863
Sample Quantity: 1.0000E+00
Sample Date: 2-12-02 7:59:09 AM
Measurement Date: 2-12-02 8:02:35 AM
Elapsed Live Time: 100.0 seconds
Elapsed Real Time: 104.0 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >

Batch 2002-02-860

400.6 keV Centroid	8.0368E+02			0.00			
[0.00+/-0.00]		<	:	:	:	>	
400.6 keV FWHM	1.4861E+00			0.00			
[0.00+/-0.00]		<	:	:	:	>	
Peak centroid 136 KeV	2.7300E+02			0.00			
[0.00+/-0.00]		<	:	:	:	>	
Peak area 400 keV	1.7664E+04			0.00			
[0.00+/-0.00]		<	:	:	:	>	
Peak counts/second	1.7664E+02			0.00			
[0.00+/-0.00]		<	:	:	:	>	

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

Batch 2002-03-861

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS 2.3A

****
* DRUM INFORMATION *
****

Drum Package ID: S100_864
Sequence Number: 864
Assay Date & Time: 2-12-2002 8:16:36 AM
Drum Package GROSS Weight: 54.00 kg NET Weight: 22.20 kg

IDC Number: S100-864

QC Replicate (Yes/No): NO Passed (Yes/No): _____

Operator Name (Printed): Russell Ratti

Operator Signature: _____ Date: 2-12-02

Independent Reviewer: _____ Date: 4-24-02

Expert Reviewer: (NOT REQUIRED) Date: _____

Tech. Supv/QA Officer: _____ Date: 7/17/02

****
* ACTIVITY INFORMATION *
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Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 9.351E+00 +/- 2.135E+00 Ci

Batch 2002-02-862

****
* I S O T O P I C I N F O R M A T I O N *
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Isotope	Measured Mass (g)	Mass Uncertainty (g)	MDC (g)
Pu-238	1.005E-02	3.65E-03	2.251E-05
Pu-239	9.922E+01	3.25E+01	2.223E-01
Pu-240	6.060E+00	1.99E+00	1.358E-02
Pu-241	2.508E-01	8.22E-02	6.157E-03
Pu-242	3.335E-02	1.27E-02	7.470E-05
Am-241	4.670E-01	1.53E-01	7.612E-03
Am-243	0.000E+00	0.00E+00	0.000E+00
Np-237	0.000E+00	0.00E+00	1.164E-03
U-235	0.000E+00	0.00E+00	2.562E-01
U-238	1.900E+01	1.23E+01	1.477E+01
U-233	4.149E+00	1.33E+00	4.149E+00

Total Pu Mass: 1.06E+02 +/- 5.88E+00 g

****
* M G A R E S U L T S *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	9.516E-03	8.11E+00
Pu-239	9.398E+01	6.41E-02
Pu-240	5.740E+00	1.04E+00
Pu-241	2.375E-01	1.10E+00
Pu-242	3.158E-02	1.00E+01
Am-241	4.424E-01	5.72E-01

Batch 2002-02-863

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005

Assay Date & Time: 2-12-2002 8:16:36 AM

Drum Package ID: S100_864
Sequence Number: 864

Waste Classification (TRU or LLW): TRU

		Errors at 1.96 sigma	
Total Alpha Activity :	9.351E+00	+/- 2.14E+00	Ci
Total TRU Activity :	4.212E+05	+/- 9.62E+04	nCi/g
Pu-239 Equiv Activity:	9.847E+00	+/- 2.14E+00	Ci
Fissile Gram Equiv Mass:	9.994E+01	+/- 3.25E+01	g
Total Decay Heat:	2.976E-01	+/- 6.73E-02	W
TMU Value:	32.72 %		

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error	MDA gm
Pu-238	1.74E-01	6.32E-02	1.00E-02	3.65E-03	2.25E-05
Pu-239	6.16E+00	2.02E+00	9.92E+01	3.25E+01	2.22E-01
Pu-240	1.39E+00	4.57E-01	6.06E+00	1.99E+00	1.36E-02
Pu-241	2.61E+01	8.55E+00	2.51E-01	8.22E-02	6.16E-03
Pu-242	1.32E-04	5.05E-05	3.33E-02	1.27E-02	7.47E-05
Am-241	1.62E+00	5.31E-01	4.67E-01	1.53E-01	7.61E-03
Am-243	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Np-237	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.16E-03
U-235	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.56E-01
U-238	6.46E-06	4.20E-06	1.90E+01	1.23E+01	1.48E+01
U-233	4.05E-02	1.30E-02	4.15E+00	1.33E+00	4.15E+00

Total Pu Mass: 1.06E+02 +/- 5.88E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	9.516E-03	8.11E+00
Pu-239	9.398E+01	6.41E-02
Pu-240	5.740E+00	1.04E+00
Pu-241	2.375E-01	1.10E+00
Pu-242	3.158E-02	1.00E+01
Am-241	4.424E-01	5.72E-01

Batch 2002-02-864

****
***** M G A R E P O R T *****
****

Report generated on: 2-12-02 9:13:08 AM

MGA version: MGA V9.5 CI

Spectrum ID: 11200864.CNF Sens : 30.0% LT: 42.1 Mins DT: 24.59
Measurement date: 2-12-02 Declared date: 2-12-02

Sample ID: S100_864 Detector: Total counts: 1.511E+07

Pu g/cm2 = 0.8244 Cd g/cm2 = 1.7386 FWHM at 122 keV = 683 eV
QFIT = 1.39 FWHM at 208 keV = 867 eV
NQFIT = 1.02

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	%Err	Decl. date % weight	%Err
Pu-238	0.000101	8.1	8.1	0.0401	8.1	0.00952	8.11	0.00952	8.11
Pu-239	1.000000	0.0	0.5	395.6525	1.1	93.98120	0.06	93.98120	0.06
Pu-240	0.061078	1.1	1.1	24.1656	1.4	5.74017	1.04	5.74017	1.04
Pu-241	0.002527	1.1	1.0	1.0000	0.0	0.23753	1.10	0.23753	1.10
Pu-242	(New alg.)			0.1330	(10)	0.03158	(10)	0.03158	(10)
Am-241	0.004707	0.6	0.4	1.8623	1.0	0.44236	0.57	0.44236	0.57

Pu-240 effective (meas. date) = 5.817 +/- 1.11%
U-237 separated more than 10 days ago
Am-241 separated about 21.736 +/- 0.207 years ago
Am/Pu-241 weight ratio = 1.86229 +/- 1.04%

Messages :

Lead x-rays detected.
Calculations in MGAABS didn't converge : results may be suspect.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Batch 2002-02-865

Gamma Waste Assay

Sample Information

File Name: C:\WAS\DATA\900\11100864.S11
Sample ID: S100_864 Count Sequence Number: 864
Assay Start: 2-12-02 8:16:38 AM
Description 1: sgs100
Description 2:
Location: 7715
Comment:
Waste Type:
Weight: Gross: 54000.0 g Net: 22200.0 g
Density: 0.107 g /ml

Container Type: 55 Gal Galv
Container: Volume: 208000. ml Full: 100.0 %

System Configuration

Counter ID Number: SGS
Arrangement Description: SGS
Segments: Number: 16 Offset: 0
Scanning Platform: Start: 934 mm Delta: -51 mm
Count Type: Daily 100 g Drum Check
Collimator/Geometry Setting: 0
Transmission Mode: Two pass
Transmission Source: 0

Errors quoted at 1.000 sigma
Reference Source Date: Reference Source Rate: 1.01E+03 cps
Geometric Correction Factor(SWCONTGCF): 0.760
Date of efficiency calibration approval: 4-18-2001 12:41:36 PM
Mu Factors response file: Lucite
Transmission Calib. Time: 5-11-2001 2:20:42 PM 59052

Reviewed by: _____ Date: 7/16/02

Batch 2002-02-866

Segment Results

Segment: 1 Detector: DET01 (# 1) Position: 1

Elapsed Live Time: 113.38 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.363 +/- 0.0275
SE-75	264.65	0.000 +/- 0.0000	0.432 +/- 0.0045
SE-75	279.53	0.000 +/- 0.0000	0.449 +/- 0.0063
SE-75	400.65	0.000 +/- 0.0000	0.500 +/- 0.0078

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.28	2.38E+00 +/- 2.61E-01	2.50E+00	9.69E-08 +/- 1.21E-06
2	35.10	1.01E+03 +/- 4.77E+00	1.84E+00	2.61E-06 +/- 1.64E-05
3	48.59	7.76E+00 +/- 4.27E-01	1.64E+00	1.61E-05 +/- 5.23E-05
4	59.62	4.05E+00 +/- 3.72E-01	1.57E+00	3.76E-05 +/- 7.40E-05
5	346.55	2.24E-01 +/- 1.08E-01	1.31E+00	1.87E-04 +/- 1.08E-05
6	413.70	1.05E-01 +/- 5.04E-02	1.28E+00	1.65E-04 +/- 1.27E-05
7	964.13	2.61E-02 +/- 1.51E-02	1.18E+00	8.22E-05 +/- 4.17E-06
8	1085.91	8.71E-03 +/- 8.71E-03	1.16E+00	7.49E-05 +/- 3.78E-06
9	1112.12	8.71E-03 +/- 8.71E-03	1.16E+00	7.35E-05 +/- 3.70E-06
10	1408.01	1.74E-02 +/- 1.23E-02	1.14E+00	6.19E-05 +/- 4.71E-06

Segment: 2 Detector: DET01 (# 1) Position: 2

Elapsed Live Time: 113.21 sec Elapsed Real Time: 115.00 sec

Batch 2002-02-867

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.459 +/- 0.0277
SE-75	264.65	0.000 +/- 0.0000	0.510 +/- 0.0050
SE-75	279.53	0.000 +/- 0.0000	0.513 +/- 0.0067
SE-75	400.65	0.000 +/- 0.0000	0.558 +/- 0.0084

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.33	3.87E+00 +/- 2.89E-01	2.09E+00	6.14E-10 +/- 5.80E-09
2	35.10	1.01E+03 +/- 4.78E+00	1.62E+00	2.21E-07 +/- 1.06E-06
3	48.23	7.72E+00 +/- 4.66E-01	1.48E+00	4.94E-06 +/- 1.25E-05
4	59.56	8.24E+00 +/- 4.61E-01	1.42E+00	2.19E-05 +/- 3.30E-05
5	264.66	4.36E-01 +/- 2.45E-01	1.28E+00	3.54E-04 +/- 2.08E-05
6	279.54	4.49E-01 +/- 2.51E-01	1.27E+00	3.43E-04 +/- 1.77E-05
7	511.77	2.36E-01 +/- 6.44E-02	1.21E+00	2.07E-04 +/- 1.34E-05
8	549.39	8.18E-02 +/- 4.45E-02	1.20E+00	1.94E-04 +/- 1.24E-05
9	1408.01	1.75E-02 +/- 1.24E-02	1.12E+00	9.61E-05 +/- 6.36E-06

Segment: 3 Detector: DET01 (# 1) Position: 3

Elapsed Live Time: 112.46 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.394 +/- 0.0298
SE-75	264.65	0.000 +/- 0.0000	0.478 +/- 0.0049
SE-75	279.53	0.000 +/- 0.0000	0.485 +/- 0.0066
SE-75	400.65	0.000 +/- 0.0000	0.532 +/- 0.0083

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	3.01E+00 +/- 3.31E-01	2.59E+00	3.50E-09 +/- 3.85E-08
2	23.23	4.41E+00 +/- 3.40E-01	2.36E+00	1.08E-08 +/- 1.06E-07
3	35.10	1.01E+03 +/- 4.80E+00	1.76E+00	1.07E-06 +/- 5.27E-06
4	59.60	3.14E+01 +/- 7.33E-01	1.52E+00	3.79E-05 +/- 5.87E-05
5	75.19	1.19E+00 +/- 5.70E-01	1.47E+00	9.68E-05 +/- 7.46E-05
6	98.94	1.38E+01 +/- 9.23E-01	1.43E+00	2.01E-04 +/- 4.72E-05
7	103.39	1.03E+01 +/- 6.02E-01	1.42E+00	2.19E-04 +/- 3.94E-05
8	111.27	2.51E+00 +/- 7.67E-01	1.42E+00	2.49E-04 +/- 2.66E-05
9	129.29	9.03E+00 +/- 6.03E-01	1.40E+00	3.02E-04 +/- 1.84E-05
10	148.57	1.52E+00 +/- 5.40E-01	1.38E+00	3.39E-04 +/- 3.24E-05
11	208.38	8.08E+00 +/- 5.27E-01	1.34E+00	3.66E-04 +/- 3.64E-05
12	244.70	7.56E-01 +/- 3.37E-01	1.32E+00	3.52E-04 +/- 2.60E-05
13	311.90	5.10E-01 +/- 2.58E-01	1.29E+00	3.13E-04 +/- 1.40E-05
14	333.34	2.19E+00 +/- 3.71E-01	1.28E+00	3.00E-04 +/- 1.35E-05
15	345.64	2.49E+00 +/- 3.30E-01	1.28E+00	2.93E-04 +/- 1.36E-05
16	375.70	5.34E+00 +/- 3.25E-01	1.27E+00	2.76E-04 +/- 1.44E-05
17	383.58	5.01E-01 +/- 1.74E-01	1.26E+00	2.72E-04 +/- 1.46E-05
18	393.66	2.11E+00 +/- 2.20E-01	1.26E+00	2.67E-04 +/- 1.48E-05
19	413.70	5.19E+00 +/- 2.40E-01	1.25E+00	2.57E-04 +/- 1.52E-05
20	423.10	2.71E-01 +/- 1.05E-01	1.25E+00	2.53E-04 +/- 1.53E-05
21	452.30	6.24E-01 +/- 1.09E-01	1.24E+00	2.40E-04 +/- 1.54E-05
22	662.42	2.12E-01 +/- 5.85E-02	1.20E+00	1.78E-04 +/- 1.02E-05
23	1085.91	2.64E-02 +/- 1.52E-02	1.15E+00	1.23E-04 +/- 5.23E-06
24	1408.01	8.78E-03 +/- 1.98E-02	1.13E+00	1.03E-04 +/- 6.77E-06

Segment: 4 Detector: DET01 (# 1) Position: 4

Elapsed Live Time: 107.83 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.455 +/- 0.0380
SE-75	264.65	0.000 +/- 0.0000	0.527 +/- 0.0054
SE-75	279.53	0.000 +/- 0.0000	0.551 +/- 0.0076
SE-75	400.65	0.000 +/- 0.0000	0.598 +/- 0.0092

Batch 2002-02-869

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	1.39E+01 +/- 6.57E-01	2.30E+00	2.23E-06 +/- 3.43E-06
2	23.20	1.74E+01 +/- 7.15E-01	2.12E+00	3.34E-06 +/- 4.69E-06
3	35.10	1.01E+03 +/- 4.94E+00	1.63E+00	2.00E-05 +/- 1.66E-05
4	59.61	2.53E+02 +/- 2.02E+00	1.43E+00	9.83E-05 +/- 3.39E-05
5	75.09	3.34E+00 +/- 7.87E-01	1.39E+00	1.58E-04 +/- 3.31E-05
6	98.84	1.52E+02 +/- 2.22E+00	1.36E+00	2.40E-04 +/- 2.42E-05
7	103.52	1.25E+02 +/- 1.63E+00	1.35E+00	2.53E-04 +/- 2.23E-05
8	111.30	2.39E+01 +/- 1.61E+00	1.35E+00	2.74E-04 +/- 1.97E-05
9	117.21	1.65E+01 +/- 1.24E+00	1.34E+00	2.88E-04 +/- 1.80E-05
10	129.29	1.01E+02 +/- 1.41E+00	1.33E+00	3.12E-04 +/- 1.61E-05
11	148.57	1.69E+01 +/- 1.03E+00	1.32E+00	3.40E-04 +/- 1.63E-05
12	164.89	4.13E+00 +/- 8.14E-01	1.31E+00	3.56E-04 +/- 1.76E-05
13	171.89	4.49E+00 +/- 9.02E-01	1.31E+00	3.60E-04 +/- 1.81E-05
14	179.64	1.41E+00 +/- 8.10E-01	1.30E+00	3.64E-04 +/- 1.86E-05
15	189.62	3.57E+00 +/- 8.13E-01	1.30E+00	3.68E-04 +/- 1.91E-05
16	196.07	5.42E+00 +/- 8.03E-01	1.29E+00	3.69E-04 +/- 1.93E-05
17	208.38	9.97E+01 +/- 1.50E+00	1.29E+00	3.71E-04 +/- 1.94E-05
18	244.70	2.61E+00 +/- 6.02E-01	1.27E+00	3.65E-04 +/- 1.85E-05
19	256.01	3.80E+00 +/- 6.17E-01	1.27E+00	3.62E-04 +/- 1.79E-05
20	267.96	3.23E+00 +/- 5.60E-01	1.26E+00	3.57E-04 +/- 1.73E-05
21	297.98	2.20E+00 +/- 6.98E-01	1.24E+00	3.45E-04 +/- 1.56E-05
22	311.90	3.53E+00 +/- 5.45E-01	1.23E+00	3.38E-04 +/- 1.48E-05
23	321.44	2.20E+00 +/- 5.92E-01	1.23E+00	3.33E-04 +/- 1.43E-05
24	324.38	8.51E-01 +/- 4.28E-01	1.23E+00	3.32E-04 +/- 1.41E-05
25	333.27	2.75E+01 +/- 8.91E-01	1.23E+00	3.27E-04 +/- 1.37E-05
26	336.52	3.70E+00 +/- 7.03E-01	1.23E+00	3.26E-04 +/- 1.36E-05
27	345.65	2.57E+01 +/- 7.34E-01	1.22E+00	3.21E-04 +/- 1.31E-05
28	368.97	1.22E+01 +/- 5.39E-01	1.22E+00	3.09E-04 +/- 1.23E-05
29	375.71	7.77E+01 +/- 1.06E+00	1.21E+00	3.06E-04 +/- 1.21E-05
30	383.52	8.25E+00 +/- 5.04E-01	1.21E+00	3.02E-04 +/- 1.18E-05
31	393.64	2.87E+01 +/- 6.11E-01	1.21E+00	2.97E-04 +/- 1.16E-05
32	400.66	4.37E-01 +/- 2.41E-01	1.21E+00	2.94E-04 +/- 1.14E-05
33	413.70	7.40E+01 +/- 9.16E-01	1.21E+00	2.87E-04 +/- 1.11E-05
34	423.28	4.01E+00 +/- 3.04E-01	1.20E+00	2.83E-04 +/- 1.10E-05
35	452.21	8.54E+00 +/- 3.45E-01	1.20E+00	2.70E-04 +/- 1.06E-05
36	647.02	5.67E-01 +/- 1.19E-01	1.16E+00	1.99E-04 +/- 9.19E-06
37	662.42	3.45E+00 +/- 2.05E-01	1.16E+00	1.95E-04 +/- 9.03E-06
38	705.53	1.31E-01 +/- 7.24E-02	1.15E+00	1.84E-04 +/- 8.56E-06
39	723.41	1.63E+00 +/- 1.46E-01	1.15E+00	1.79E-04 +/- 8.35E-06
40	757.78	1.96E-01 +/- 6.30E-02	1.15E+00	1.71E-04 +/- 7.93E-06
41	770.99	3.39E-01 +/- 8.10E-02	1.15E+00	1.69E-04 +/- 7.76E-06
42	1085.91	2.48E-02 +/- 2.30E-02	1.12E+00	1.20E-04 +/- 4.36E-06

Batch 2002-83-879

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)

Segment: 5 Detector: DET01 (# 1) Position: 5

Elapsed Live Time: 100.76 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.197 +/- 0.0036
SE-75	279.53	0.000 +/- 0.0000	0.225 +/- 0.0058
SE-75	400.65	0.000 +/- 0.0000	0.357 +/- 0.0076

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	3.53E+01 +/- 9.80E-01	4.10E+00	1.08E-06 +/- 1.72E-06
2	23.15	3.55E+01 +/- 1.08E+00	4.10E+00	1.75E-06 +/- 2.54E-06
3	35.10	1.01E+03 +/- 5.11E+00	4.10E+00	1.48E-05 +/- 1.27E-05
4	59.58	6.96E+02 +/- 3.99E+00	4.10E+00	9.32E-05 +/- 3.29E-05
5	75.00	9.56E+00 +/- 1.32E+00	4.10E+00	1.59E-04 +/- 3.39E-05
6	98.77	3.72E+02 +/- 3.61E+00	4.10E+00	2.49E-04 +/- 2.52E-05
7	103.44	2.34E+02 +/- 3.24E+00	4.10E+00	2.64E-04 +/- 2.33E-05
8	111.19	5.89E+01 +/- 2.46E+00	4.10E+00	2.86E-04 +/- 2.04E-05
9	117.13	3.69E+01 +/- 1.92E+00	4.10E+00	3.01E-04 +/- 1.87E-05
10	129.29	2.43E+02 +/- 2.26E+00	4.10E+00	3.26E-04 +/- 1.67E-05
11	148.57	4.01E+01 +/- 1.48E+00	3.15E+00	3.54E-04 +/- 1.71E-05
12	164.81	1.16E+01 +/- 1.14E+00	2.68E+00	3.68E-04 +/- 1.86E-05
13	171.63	1.26E+01 +/- 1.16E+00	2.55E+00	3.71E-04 +/- 1.92E-05
14	179.42	4.95E+00 +/- 1.20E+00	2.43E+00	3.74E-04 +/- 1.97E-05
15	189.55	9.44E+00 +/- 1.03E+00	2.30E+00	3.76E-04 +/- 2.02E-05
16	195.89	1.40E+01 +/- 1.19E+00	2.23E+00	3.76E-04 +/- 2.03E-05
17	208.30	2.35E+02 +/- 2.36E+00	2.11E+00	3.75E-04 +/- 2.04E-05
18	225.82	2.87E+00 +/- 9.11E-01	1.97E+00	3.70E-04 +/- 1.99E-05
19	244.70	3.90E+00 +/- 8.49E-01	1.85E+00	3.63E-04 +/- 1.90E-05
20	255.77	1.13E+01 +/- 8.24E-01	1.79E+00	3.58E-04 +/- 1.84E-05
21	267.96	7.29E+00 +/- 8.05E-01	1.72E+00	3.51E-04 +/- 1.76E-05
22	297.96	4.91E+00 +/- 8.35E-01	1.63E+00	3.34E-04 +/- 1.56E-05

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23	311.90	8.52E+00	+/-	7.40E-01	1.60E+00	3.26E-04	+/-	1.48E-05
24	321.30	5.15E+00	+/-	8.33E-01	1.58E+00	3.20E-04	+/-	1.42E-05
25	324.32	2.93E+00	+/-	6.01E-01	1.57E+00	3.19E-04	+/-	1.40E-05
26	333.24	6.28E+01	+/-	1.34E+00	1.55E+00	3.13E-04	+/-	1.36E-05
27	336.31	1.18E+01	+/-	1.03E+00	1.55E+00	3.12E-04	+/-	1.34E-05
28	345.57	5.89E+01	+/-	1.06E+00	1.53E+00	3.06E-04	+/-	1.30E-05
29	368.91	2.64E+01	+/-	8.10E-01	1.49E+00	2.93E-04	+/-	1.20E-05
30	375.65	1.70E+02	+/-	1.69E+00	1.48E+00	2.89E-04	+/-	1.18E-05
31	383.48	1.77E+01	+/-	7.73E-01	1.47E+00	2.85E-04	+/-	1.16E-05
32	393.61	6.50E+01	+/-	9.31E-01	1.45E+00	2.79E-04	+/-	1.13E-05
33	413.70	1.69E+02	+/-	1.49E+00	1.43E+00	2.69E-04	+/-	1.09E-05
34	423.27	8.68E+00	+/-	5.35E-01	1.43E+00	2.64E-04	+/-	1.07E-05
35	452.19	1.95E+01	+/-	5.18E-01	1.42E+00	2.51E-04	+/-	1.03E-05
36	620.28	1.78E+00	+/-	1.82E-01	1.35E+00	1.90E-04	+/-	9.14E-06
37	647.30	6.35E-01	+/-	2.03E-01	1.34E+00	1.82E-04	+/-	8.91E-06
38	653.43	7.03E-01	+/-	2.06E-01	1.34E+00	1.81E-04	+/-	8.85E-06
39	662.42	8.12E+00	+/-	3.18E-01	1.34E+00	1.79E-04	+/-	8.77E-06
40	689.69	6.96E-01	+/-	1.18E-01	1.33E+00	1.72E-04	+/-	8.50E-06
41	705.02	4.05E-01	+/-	1.06E-01	1.32E+00	1.69E-04	+/-	8.34E-06
42	723.30	3.84E+00	+/-	2.27E-01	1.32E+00	1.65E-04	+/-	8.15E-06

Batch 2002-02-872

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
43	757.80	3.62E-01 +/- 1.06E-01	1.31E+00	1.58E-04 +/- 7.76E-06
44	770.62	9.01E-01 +/- 1.28E-01	1.31E+00	1.56E-04 +/- 7.61E-06
45	1001.03	1.02E-01 +/- 3.69E-02	1.26E+00	1.24E-04 +/- 4.97E-06
46	1085.91	3.30E-02 +/- 2.64E-02	1.25E+00	1.16E-04 +/- 4.36E-06
47	1408.01	5.82E-02 +/- 2.37E-02	1.22E+00	9.75E-05 +/- 6.10E-06

Segment: 6 Detector: DET01 (# 1) Position: 6

Elapsed Live Time: 99.43 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.191 +/- 0.0036
SE-75	279.53	0.000 +/- 0.0000	0.218 +/- 0.0057
SE-75	400.65	0.000 +/- 0.0000	0.341 +/- 0.0076

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	4.11E+01 +/- 1.03E+00	4.10E+00	3.85E-07 +/- 5.97E-07
2	23.11	3.64E+01 +/- 1.11E+00	4.10E+00	6.58E-07 +/- 9.37E-07
3	35.10	1.01E+03 +/- 5.16E+00	4.10E+00	8.04E-06 +/- 6.71E-06
4	59.57	7.37E+02 +/- 4.20E+00	4.10E+00	6.89E-05 +/- 2.39E-05
5	74.95	9.53E+00 +/- 1.38E+00	4.10E+00	1.29E-04 +/- 2.73E-05
6	87.31	2.65E+00 +/- 1.63E+00	4.10E+00	1.79E-04 +/- 2.57E-05
7	98.76	3.65E+02 +/- 4.00E+00	4.10E+00	2.22E-04 +/- 2.25E-05
8	103.39	3.19E+02 +/- 2.70E+00	4.10E+00	2.38E-04 +/- 2.12E-05
9	111.19	6.55E+01 +/- 2.61E+00	4.10E+00	2.63E-04 +/- 1.90E-05
10	117.06	4.35E+01 +/- 2.04E+00	4.10E+00	2.80E-04 +/- 1.77E-05
11	129.29	2.79E+02 +/- 2.44E+00	4.10E+00	3.10E-04 +/- 1.61E-05
12	144.29	3.38E+00 +/- 2.12E+00	3.37E+00	3.39E-04 +/- 1.63E-05
13	148.57	4.23E+01 +/- 1.58E+00	3.17E+00	3.45E-04 +/- 1.67E-05
14	161.10	6.44E+00 +/- 1.35E+00	2.78E+00	3.60E-04 +/- 1.78E-05
15	164.80	4.46E+00 +/- 1.32E+00	2.70E+00	3.64E-04 +/- 1.82E-05
16	169.39	2.16E+00 +/- 1.13E+00	2.61E+00	3.68E-04 +/- 1.86E-05
17	171.60	7.54E+00 +/- 1.31E+00	2.57E+00	3.69E-04 +/- 1.88E-05

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18	179.63	7.33E+00	+/-	1.17E+00	2.45E+00	3.74E-04	+/-	1.94E-05
19	189.64	9.71E+00	+/-	1.19E+00	2.32E+00	3.78E-04	+/-	1.99E-05
20	195.82	1.39E+01	+/-	1.27E+00	2.25E+00	3.80E-04	+/-	2.01E-05
21	208.30	2.69E+02	+/-	2.55E+00	2.13E+00	3.81E-04	+/-	2.03E-05
22	244.70	4.52E+00	+/-	9.02E-01	1.87E+00	3.73E-04	+/-	1.92E-05
23	255.74	1.24E+01	+/-	8.82E-01	1.80E+00	3.69E-04	+/-	1.86E-05
24	267.92	9.55E+00	+/-	8.46E-01	1.74E+00	3.63E-04	+/-	1.78E-05
25	297.89	8.33E+00	+/-	9.78E-01	1.65E+00	3.47E-04	+/-	1.59E-05
26	311.90	8.87E+00	+/-	7.92E-01	1.62E+00	3.39E-04	+/-	1.51E-05
27	321.23	5.39E+00	+/-	8.85E-01	1.60E+00	3.33E-04	+/-	1.45E-05
28	324.17	5.42E+00	+/-	5.84E-01	1.59E+00	3.32E-04	+/-	1.44E-05
29	333.24	7.35E+01	+/-	1.44E+00	1.57E+00	3.26E-04	+/-	1.39E-05
30	336.39	9.61E+00	+/-	1.12E+00	1.57E+00	3.24E-04	+/-	1.37E-05
31	345.58	6.86E+01	+/-	1.14E+00	1.55E+00	3.19E-04	+/-	1.33E-05
32	368.97	2.95E+01	+/-	8.71E-01	1.51E+00	3.05E-04	+/-	1.23E-05
33	375.63	1.92E+02	+/-	1.78E+00	1.50E+00	3.02E-04	+/-	1.21E-05
34	383.45	1.88E+01	+/-	8.38E-01	1.49E+00	2.97E-04	+/-	1.18E-05
35	393.58	7.39E+01	+/-	1.02E+00	1.47E+00	2.92E-04	+/-	1.16E-05
36	404.71	5.70E-01	+/-	3.61E-01	1.46E+00	2.86E-04	+/-	1.13E-05
37	413.70	1.90E+02	+/-	1.62E+00	1.46E+00	2.81E-04	+/-	1.11E-05
38	423.32	1.10E+01	+/-	5.69E-01	1.45E+00	2.76E-04	+/-	1.09E-05
39	452.17	2.32E+01	+/-	5.76E-01	1.44E+00	2.61E-04	+/-	1.05E-05
40	482.33	3.99E-01	+/-	1.84E-01	1.42E+00	2.48E-04	+/-	1.02E-05
41	620.01	1.87E+00	+/-	1.80E-01	1.37E+00	1.98E-04	+/-	9.16E-06
42	641.14	6.59E-01	+/-	1.95E-01	1.36E+00	1.92E-04	+/-	8.97E-06

Batch 2002-02-804

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
	43	647.02	9.07E-01 +/- 2.02E-01	1.36E+00	1.90E-04 +/- 8.92E-06
	44	653.45	1.20E+00 +/- 2.03E-01	1.36E+00	1.89E-04 +/- 8.86E-06
M	45	660.11	7.47E-01 +/- 1.14E-01	1.35E+00	1.87E-04 +/- 8.79E-06
m	46	663.61	8.45E+00 +/- 4.24E-01	1.35E+00	1.86E-04 +/- 8.76E-06
	47	690.21	7.89E-01 +/- 1.48E-01	1.35E+00	1.79E-04 +/- 8.49E-06
	48	723.17	4.37E+00 +/- 2.46E-01	1.34E+00	1.72E-04 +/- 8.13E-06
	49	757.48	5.75E-01 +/- 9.99E-02	1.33E+00	1.65E-04 +/- 7.73E-06
	50	770.50	1.25E+00 +/- 1.39E-01	1.32E+00	1.62E-04 +/- 7.58E-06
	51	1001.03	5.73E-02 +/- 3.96E-02	1.28E+00	1.30E-04 +/- 4.95E-06

Segment: 7 Detector: DET01 (# 1) Position: 7

Elapsed Live Time: 104.44 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.235 +/- 0.0036
SE-75	279.53	0.000 +/- 0.0000	0.255 +/- 0.0055
SE-75	400.65	0.000 +/- 0.0000	0.365 +/- 0.0074

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
	1	21.42	2.53E+01 +/- 8.31E-01	4.10E+00	2.18E-09 +/- 2.40E-08
	2	23.17	2.87E+01 +/- 9.22E-01	4.10E+00	7.01E-09 +/- 6.88E-08
	3	35.10	1.01E+03 +/- 5.02E+00	4.10E+00	9.59E-07 +/- 4.73E-06
	4	59.59	5.42E+02 +/- 3.29E+00	4.10E+00	4.01E-05 +/- 6.21E-05
	5	75.06	2.42E+00 +/- 8.39E-01	4.10E+00	1.05E-04 +/- 8.11E-05
	6	98.81	2.58E+02 +/- 2.95E+00	4.10E+00	2.21E-04 +/- 5.18E-05
	7	103.46	2.03E+02 +/- 2.14E+00	4.10E+00	2.41E-04 +/- 4.28E-05
	8	111.28	4.46E+01 +/- 2.04E+00	4.10E+00	2.73E-04 +/- 2.88E-05
M	9	115.57	3.79E+01 +/- 2.33E+00	4.10E+00	2.89E-04 +/- 2.26E-05
m	10	117.24	4.82E+01 +/- 2.28E+00	4.10E+00	2.94E-04 +/- 2.08E-05
	11	129.29	1.74E+02 +/- 1.86E+00	4.10E+00	3.30E-04 +/- 1.98E-05
	12	146.43	3.43E+01 +/- 1.32E+00	3.14E+00	3.65E-04 +/- 3.35E-05
	13	148.57	1.57E+01 +/- 1.02E+00	3.04E+00	3.68E-04 +/- 3.49E-05

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	14	164.91	5.55E+00	+/- 9.69E-01	2.56E+00	3.86E-04	+/-	4.19E-05
	15	171.70	3.80E+00	+/- 7.50E-01	2.44E+00	3.90E-04	+/-	4.31E-05
	16	179.58	6.07E+00	+/- 9.46E-01	2.31E+00	3.93E-04	+/-	4.34E-05
	17	189.70	5.78E+00	+/- 9.51E-01	2.19E+00	3.94E-04	+/-	4.25E-05
	18	196.01	7.33E+00	+/- 9.47E-01	2.12E+00	3.94E-04	+/-	4.14E-05
	19	208.34	1.59E+02	+/- 1.91E+00	2.00E+00	3.91E-04	+/-	3.83E-05
	20	244.70	1.61E+00	+/- 7.22E-01	1.75E+00	3.73E-04	+/-	2.70E-05
	21	255.85	8.09E+00	+/- 6.98E-01	1.69E+00	3.66E-04	+/-	2.38E-05
	22	268.01	5.88E+00	+/- 6.79E-01	1.64E+00	3.58E-04	+/-	2.08E-05
	23	298.13	3.12E+00	+/- 8.19E-01	1.57E+00	3.37E-04	+/-	1.58E-05
	24	311.90	5.55E+00	+/- 6.40E-01	1.55E+00	3.27E-04	+/-	1.48E-05
	25	321.19	1.85E+00	+/- 6.30E-01	1.54E+00	3.21E-04	+/-	1.45E-05
	26	324.30	2.34E+00	+/- 5.64E-01	1.53E+00	3.19E-04	+/-	1.44E-05
	27	333.29	4.28E+01	+/- 1.10E+00	1.52E+00	3.13E-04	+/-	1.44E-05
	28	336.41	5.30E+00	+/- 8.63E-01	1.51E+00	3.11E-04	+/-	1.44E-05
	29	345.64	4.21E+01	+/- 9.05E-01	1.50E+00	3.05E-04	+/-	1.46E-05
	30	368.92	1.82E+01	+/- 6.73E-01	1.47E+00	2.91E-04	+/-	1.52E-05
	31	375.68	1.18E+02	+/- 1.35E+00	1.46E+00	2.87E-04	+/-	1.54E-05
	32	383.48	1.20E+01	+/- 6.18E-01	1.45E+00	2.83E-04	+/-	1.57E-05
	33	393.63	4.16E+01	+/- 7.51E-01	1.44E+00	2.77E-04	+/-	1.59E-05
	34	413.70	1.13E+02	+/- 1.17E+00	1.42E+00	2.67E-04	+/-	1.63E-05
	35	423.34	6.14E+00	+/- 4.12E-01	1.42E+00	2.62E-04	+/-	1.63E-05
M	36	443.40	1.64E-01	+/- 8.08E-02	1.41E+00	2.53E-04	+/-	1.64E-05
m	37	446.38	2.90E-01	+/- 1.14E-01	1.41E+00	2.51E-04	+/-	1.64E-05
	38	452.25	1.33E+01	+/- 4.15E-01	1.41E+00	2.49E-04	+/-	1.63E-05
	39	619.89	1.23E+00	+/- 1.32E-01	1.34E+00	1.92E-04	+/-	1.19E-05
	40	647.00	3.69E-01	+/- 1.50E-01	1.33E+00	1.86E-04	+/-	1.11E-05
	41	654.05	8.76E-01	+/- 1.45E-01	1.33E+00	1.84E-04	+/-	1.09E-05
M	42	659.97	2.47E-01	+/- 7.92E-02	1.33E+00	1.83E-04	+/-	1.07E-05

Batch 2002-02-876

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
m 43	663.72	5.12E+00 +/- 3.29E-01	1.33E+00	1.82E-04 +/- 1.06E-05
44	690.21	6.46E-01 +/- 1.07E-01	1.32E+00	1.76E-04 +/- 9.84E-06
45	723.28	2.33E+00 +/- 1.75E-01	1.31E+00	1.70E-04 +/- 9.01E-06
46	771.11	9.12E-01 +/- 1.07E-01	1.30E+00	1.61E-04 +/- 8.02E-06
47	964.13	6.24E-02 +/- 3.00E-02	1.26E+00	1.35E-04 +/- 6.00E-06
48	1085.91	2.83E-02 +/- 1.63E-02	1.24E+00	1.23E-04 +/- 5.27E-06
49	1408.01	9.42E-03 +/- 5.77E-02	1.21E+00	9.90E-05 +/- 6.54E-06

Segment: 8 Detector: DET01 (# 1) Position: 8

Elapsed Live Time: 110.40 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.312 +/- 0.0326
SE-75	264.65	0.000 +/- 0.0000	0.484 +/- 0.0050
SE-75	279.53	0.000 +/- 0.0000	0.500 +/- 0.0069
SE-75	400.65	0.000 +/- 0.0000	0.545 +/- 0.0085

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	7.84E+00 +/- 5.09E-01	3.10E+00	1.22E-09 +/- 1.33E-08
2	23.22	1.18E+01 +/- 5.61E-01	2.80E+00	4.28E-09 +/- 4.15E-08
3	35.10	1.01E+03 +/- 4.87E+00	2.00E+00	6.89E-07 +/- 3.37E-06
4	50.09	4.58E+00 +/- 7.04E-01	1.74E+00	1.23E-05 +/- 2.89E-05
5	59.61	1.90E+02 +/- 1.67E+00	1.67E+00	3.35E-05 +/- 5.15E-05
6	75.11	1.95E+00 +/- 6.23E-01	1.60E+00	9.10E-05 +/- 7.00E-05
7	98.87	8.17E+01 +/- 1.66E+00	1.55E+00	1.99E-04 +/- 4.64E-05
8	103.53	6.47E+01 +/- 1.19E+00	1.55E+00	2.19E-04 +/- 3.86E-05
9	111.36	1.58E+01 +/- 1.15E+00	1.54E+00	2.49E-04 +/- 2.62E-05
10	129.29	5.68E+01 +/- 1.08E+00	1.51E+00	3.05E-04 +/- 1.85E-05
11	148.57	9.66E+00 +/- 7.67E-01	1.48E+00	3.45E-04 +/- 3.27E-05
12	164.90	2.88E+00 +/- 5.73E-01	1.45E+00	3.64E-04 +/- 3.97E-05
13	189.57	1.88E+00 +/- 5.76E-01	1.40E+00	3.76E-04 +/- 4.08E-05
14	195.85	2.50E+00 +/- 6.81E-01	1.39E+00	3.76E-04 +/- 3.99E-05
15	208.41	4.93E+01 +/- 1.06E+00	1.38E+00	3.76E-04 +/- 3.71E-05
16	244.70	8.69E-01 +/- 4.61E-01	1.33E+00	3.62E-04 +/- 2.67E-05
17	255.83	1.57E+00 +/- 4.63E-01	1.31E+00	3.56E-04 +/- 2.36E-05
18	268.03	1.99E+00 +/- 4.34E-01	1.30E+00	3.49E-04 +/- 2.06E-05

Batch 2002-02-822

19	297.94	1.42E+00	+/- 5.45E-01	1.28E+00	3.31E-04	+/- 1.55E-05
20	311.90	1.24E+00	+/- 4.29E-01	1.28E+00	3.23E-04	+/- 1.44E-05
21	324.32	8.47E-01	+/- 3.42E-01	1.27E+00	3.15E-04	+/- 1.39E-05
22	333.26	1.27E+01	+/- 6.38E-01	1.27E+00	3.10E-04	+/- 1.38E-05
23	336.53	1.12E+00	+/- 4.84E-01	1.27E+00	3.08E-04	+/- 1.38E-05
24	345.66	1.25E+01	+/- 5.22E-01	1.26E+00	3.03E-04	+/- 1.38E-05
25	368.71	5.27E+00	+/- 4.06E-01	1.26E+00	2.90E-04	+/- 1.44E-05
26	375.73	3.64E+01	+/- 7.07E-01	1.26E+00	2.86E-04	+/- 1.46E-05
27	393.69	1.30E+01	+/- 4.13E-01	1.25E+00	2.76E-04	+/- 1.50E-05
28	413.70	3.41E+01	+/- 6.00E-01	1.24E+00	2.66E-04	+/- 1.54E-05
29	423.49	2.15E+00	+/- 2.49E-01	1.24E+00	2.62E-04	+/- 1.55E-05
30	452.34	3.98E+00	+/- 2.26E-01	1.23E+00	2.49E-04	+/- 1.56E-05
31	647.01	1.98E-01	+/- 7.75E-02	1.19E+00	1.86E-04	+/- 1.07E-05
32	653.58	2.72E-01	+/- 8.90E-02	1.19E+00	1.85E-04	+/- 1.06E-05
33	662.42	1.64E+00	+/- 1.48E-01	1.19E+00	1.83E-04	+/- 1.03E-05
34	723.60	7.80E-01	+/- 1.06E-01	1.18E+00	1.70E-04	+/- 8.79E-06

Segment: 9 Detector: DET01 (# 1) Position: 9

Elapsed Live Time: 113.00 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.402 +/- 0.0281
SE-75	264.65	0.000 +/- 0.0000	0.516 +/- 0.0051
SE-75	279.53	0.000 +/- 0.0000	0.538 +/- 0.0070
SE-75	400.65	0.000 +/- 0.0000	0.574 +/- 0.0086

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	1.87E+00 +/- 2.57E-01	2.55E+00	1.44E-06 +/- 1.63E-05
2	23.24	3.09E+00 +/- 2.76E-01	2.33E+00	2.32E-06 +/- 2.33E-05
3	35.10	1.01E+03 +/- 4.78E+00	1.75E+00	1.75E-05 +/- 8.88E-05
4	49.90	2.99E+00 +/- 4.88E-01	1.56E+00	6.14E-05 +/- 1.52E-04
5	59.60	2.27E+01 +/- 6.30E-01	1.51E+00	1.00E-04 +/- 1.59E-04
6	98.82	4.88E+00 +/- 7.30E-01	1.42E+00	2.51E-04 +/- 6.06E-05
7	129.29	3.13E+00 +/- 5.06E-01	1.39E+00	3.23E-04 +/- 1.97E-05
8	208.37	1.39E+00 +/- 3.71E-01	1.32E+00	3.66E-04 +/- 3.76E-05
9	221.27	5.18E-01 +/- 2.98E-01	1.30E+00	3.63E-04 +/- 3.40E-05
10	375.59	1.07E+00 +/- 1.93E-01	1.23E+00	2.85E-04 +/- 1.49E-05
11	393.37	2.23E-01 +/- 1.28E-01	1.23E+00	2.77E-04 +/- 1.55E-05
12	413.70	9.24E-01 +/- 1.15E-01	1.22E+00	2.67E-04 +/- 1.59E-05
13	964.13	2.63E-02 +/- 1.52E-02	1.14E+00	1.34E-04 +/- 5.82E-06
14	1001.03	1.97E-02 +/- 1.70E-02	1.14E+00	1.30E-04 +/- 5.63E-06

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15	1112.12	2.04E-02 +/- 1.76E-02	1.13E+00	1.21E-04 +/-	5.10E-06

Segment: 10 Detector: DET01 (# 1) Position: 10

Elapsed Live Time: 113.37 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.304 +/- 0.0255
SE-75	264.65	0.000 +/- 0.0000	0.460 +/- 0.0047
SE-75	279.53	0.000 +/- 0.0000	0.471 +/- 0.0064
SE-75	400.65	0.000 +/- 0.0000	0.529 +/- 0.0081

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.29	2.81E+00 +/- 2.62E-01	2.83E+00	3.50E-07 +/- 4.94E-07
2	35.10	1.01E+03 +/- 4.78E+00	2.02E+00	5.68E-06 +/- 4.74E-06
3	59.62	9.47E+00 +/- 4.39E-01	1.68E+00	6.38E-05 +/- 2.21E-05
4	75.02	8.33E-01 +/- 3.72E-01	1.62E+00	1.28E-04 +/- 2.69E-05
5	121.11	7.84E-01 +/- 4.43E-01	1.53E+00	3.08E-04 +/- 1.78E-05
6	413.70	1.08E-01 +/- 5.66E-02	1.26E+00	2.79E-04 +/- 1.11E-05
7	778.90	1.98E-02 +/- 1.70E-02	1.18E+00	1.56E-04 +/- 7.55E-06

Segment: 11 Detector: DET01 (# 1) Position: 11

Elapsed Live Time: 113.50 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.372 +/- 0.0251
SE-75	264.65	0.000 +/- 0.0000	0.464 +/- 0.0047
SE-75	279.53	0.000 +/- 0.0000	0.478 +/- 0.0064
SE-75	400.65	0.000 +/- 0.0000	0.531 +/- 0.0081

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	8.92E-01 +/- 1.61E-01	2.71E+00	2.54E-07 +/- 3.92E-07
2	35.10	1.01E+03 +/- 4.77E+00	1.82E+00	6.75E-06 +/- 5.60E-06
3	48.40	3.12E+00 +/- 3.68E-01	1.62E+00	3.11E-05 +/- 1.57E-05
4	59.58	3.48E+00 +/- 3.23E-01	1.55E+00	6.69E-05 +/- 2.31E-05
5	185.71	5.73E-01 +/- 3.13E-01	1.38E+00	3.87E-04 +/- 1.99E-05
6	662.42	6.79E-02 +/- 4.10E-02	1.20E+00	1.80E-04 +/- 8.65E-06
7	1112.12	2.83E-02 +/- 2.23E-02	1.15E+00	1.20E-04 +/- 4.37E-06
8	1408.01	2.61E-02 +/- 1.51E-02	1.13E+00	1.08E-04 +/- 6.61E-06

Segment: 12 Detector: DET01 (# 1) Position: 12

Elapsed Live Time: 113.58 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.096 +/- 0.0159
SE-75	264.65	0.000 +/- 0.0000	0.128 +/- 0.0022
SE-75	279.53	0.000 +/- 0.0000	0.138 +/- 0.0032
SE-75	400.65	0.000 +/- 0.0000	0.173 +/- 0.0044

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.37	1.55E+00 +/- 2.03E-01	4.10E+00	6.67E-07 +/- 9.32E-07
2	35.10	1.01E+03 +/- 4.77E+00	3.33E+00	7.63E-06 +/- 6.33E-06
3	59.63	1.16E+00 +/- 2.54E-01	2.53E+00	6.65E-05 +/- 2.30E-05
4	121.11	1.05E+00 +/- 3.42E-01	2.18E+00	2.85E-04 +/- 1.67E-05
5	279.54	2.97E-01 +/- 1.94E-01	1.94E+00	3.54E-04 +/- 1.68E-05
6	778.90	2.62E-02 +/- 1.51E-02	1.55E+00	1.60E-04 +/- 7.32E-06
7	1112.12	4.37E-02 +/- 1.95E-02	1.44E+00	1.19E-04 +/- 4.27E-06
8	1408.01	8.74E-03 +/- 8.74E-03	1.38E+00	1.02E-04 +/- 6.34E-06

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Segment: 13 Detector: DET01 (# 1) Position: 13

Elapsed Live Time: 113.68 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.178 +/- 0.0190
SE-75	264.65	0.000 +/- 0.0000	0.280 +/- 0.0034
SE-75	279.53	0.000 +/- 0.0000	0.290 +/- 0.0048
SE-75	400.65	0.000 +/- 0.0000	0.324 +/- 0.0061

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	2.60E+00	1.10E-05 +/- 9.51E-06
2	300.10	2.52E-01 +/- 1.32E-01	1.53E+00	3.40E-04 +/- 1.57E-05
3	964.13	8.69E-03 +/- 8.69E-03	1.30E+00	1.27E-04 +/- 5.29E-06
4	1001.03	8.69E-03 +/- 8.69E-03	1.29E+00	1.23E-04 +/- 4.91E-06

Segment: 14 Detector: DET01 (# 1) Position: 14

Elapsed Live Time: 113.76 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.692 +/- 0.0328
SE-75	264.65	0.000 +/- 0.0000	0.769 +/- 0.0066
SE-75	279.53	0.000 +/- 0.0000	0.783 +/- 0.0086
SE-75	400.65	0.000 +/- 0.0000	0.806 +/- 0.0104

Batch 2002-02-881

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.77E+00	1.27E+00	8.94E-06 +/- 4.41E-05
2	400.66	5.46E-02 +/- 3.28E-02	1.08E+00	2.73E-04 +/- 1.53E-05
3	443.98	4.72E-02 +/- 3.78E-02	1.08E+00	2.53E-04 +/- 1.58E-05
4	662.42	1.42E-02 +/- 3.28E-02	1.07E+00	1.83E-04 +/- 1.04E-05
5	964.13	2.46E-02 +/- 2.10E-02	1.05E+00	1.31E-04 +/- 5.72E-06
6	1001.03	1.75E-02 +/- 1.24E-02	1.05E+00	1.27E-04 +/- 5.50E-06
7	1112.12	2.62E-02 +/- 1.51E-02	1.05E+00	1.16E-04 +/- 4.88E-06

Segment: 15 Detector: DET01 (# 1) Position: 15

Elapsed Live Time: 113.79 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.803 +/- 0.0343
SE-75	264.65	0.000 +/- 0.0000	0.849 +/- 0.0072
SE-75	279.53	0.000 +/- 0.0000	0.857 +/- 0.0092
SE-75	400.65	0.000 +/- 0.0000	0.875 +/- 0.0110

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.16E+00	1.45E-08 +/- 6.96E-08

Segment: 16 Detector: DET01 (# 1) Position: 16

Elapsed Live Time: 113.81 sec Elapsed Real Time: 115.00 sec

Batch 2002-02-582

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.703 +/- 0.0332
SE-75	264.65	0.000 +/- 0.0000	0.797 +/- 0.0068
SE-75	279.53	0.000 +/- 0.0000	0.783 +/- 0.0087
SE-75	400.65	0.000 +/- 0.0000	0.813 +/- 0.0105

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.77E+00	1.26E+00	9.52E-10 +/- 5.35E-09
2	148.57	3.39E-01 +/- 2.03E-01	1.13E+00	2.78E-04 +/- 3.01E-05
3	662.42	3.50E-02 +/- 2.70E-02	1.06E+00	1.26E-04 +/- 8.22E-06
4	778.90	8.75E-03 +/- 1.59E-02	1.06E+00	1.14E-04 +/- 6.23E-06

Batch 2003-02-583

Summed Spectrum

Peak Locate Report

Sample ID: S100_864
Peak Locate Performed on: 2-12-02 9:13:09 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192
Peak Search Sensitivity: 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
1	43.00	0.2502	21.42	15.98
2	46.49	0.1356	23.17	27.75
3	70.27	0.0392	35.05	475.78
4	119.38	0.0640	59.59	150.96
5	150.35	0.2304	75.06	12.32
6	197.86	0.0822	98.80	80.46
7	207.16	0.0822	103.44	62.98
8	222.77	0.1028	111.24	46.87
9	234.53	0.1753	117.12	12.74
10	259.31	0.0724	129.49	108.72
11	297.91	0.1219	148.78	39.20
12	322.73	0.2226	161.18	6.46
13	330.05	0.1641	164.84	21.86
14	343.70	0.2241	171.66	12.14
15	359.53	0.2758	179.57	6.94
16	379.59	0.2297	189.59	9.58
17	392.28	0.2008	195.93	13.45
18	417.09	0.0612	208.33	134.82
19	487.92	0.3300	243.71	5.28
20	512.14	0.1676	255.82	18.05
21	536.47	0.1724	267.97	17.44
22	596.46	0.2134	297.94	10.46
23	625.22	0.1688	312.31	16.39
24	643.16	0.2480	321.28	9.08
25	649.12	0.2198	324.25	9.76
26	667.14	0.0836	333.26	66.38
27	673.44	0.1316	336.40	28.85
28	691.86	0.0838	345.61	66.77
29	738.55	0.1328	368.94	22.56
30	752.02	0.0624	375.67	118.03
31	767.66	0.1132	383.48	37.98
32	787.95	0.0865	393.61	59.19
33	829.63	0.0627	414.44	108.91
34	847.39	0.1216	423.31	28.30
35	905.22	0.1052	452.20	39.80
36	965.70	0.3164	482.42	5.08

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
37	1119.77	0.2882	559.40	5.04
38	1241.27	0.2227	620.10	7.43
39	1295.27	0.2125	647.08	8.43
40	1308.30	0.2355	653.59	6.15
41	1328.40	0.1249	663.63	23.93
42	1381.37	0.2585	690.10	5.66
43	1447.82	0.1469	723.30	17.87
44	1516.80	0.2665	757.76	5.20
45	1542.74	0.2395	770.72	6.57

Errors quoted at 1.000 sigma

Summed Spectrum

Peak Analysis Report

Sample ID: S100_864
Peak Analysis Performed on: 2-12-02 9:13:09 AM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	39-	46	43.00	21.42	1.42E+04	204.02	1.37E+04
2	46-	49	46.49	23.17	1.53E+04	222.35	2.04E+04
3	67-	73	70.27	35.05	1.81E+06	1356.27	1.82E+04
4	115-	122	119.38	59.59	2.62E+05	587.81	4.14E+04
5	149-	153	150.35	75.06	2.43E+03	221.58	2.79E+04
6	194-	201	197.86	98.80	1.35E+05	672.98	1.58E+05
7	206-	210	207.16	103.44	1.05E+05	456.06	5.68E+04
8	218-	226	222.77	111.24	2.20E+04	506.30	1.02E+05
9	233-	238	234.53	117.12	1.30E+04	387.32	6.37E+04
10	255-	263	259.31	129.49	9.07E+04	439.43	4.75E+04
11	297-	302	297.91	148.78	1.43E+04	241.49	2.37E+04
12	318-	326	322.73	161.18	2.21E+03	286.02	3.67E+04
13	326-	334	330.05	164.84	1.87E+03	280.93	3.58E+04
14	339-	347	343.70	171.66	5.09E+03	263.69	3.01E+04
15	355-	363	359.53	179.57	2.25E+03	253.27	2.90E+04
16	375-	383	379.59	189.59	3.47E+03	250.70	2.78E+04
17	387-	396	392.28	195.93	4.80E+03	266.37	2.93E+04
18	412-	421	417.09	208.33	8.59E+04	437.69	4.49E+04
19	483-	492	487.92	243.71	1.70E+03	189.03	1.51E+04
20	507-	516	512.14	255.82	3.94E+03	183.62	1.32E+04
21	533-	541	536.47	267.97	3.15E+03	164.39	1.11E+04
22	591-	601	596.46	297.94	2.21E+03	169.23	1.11E+04
23	620-	630	625.22	312.31	2.52E+03	168.48	1.09E+04
24	638-	648	643.16	321.28	1.63E+03	180.75	1.30E+04
25	648-	654	649.12	324.25	1.10E+03	128.25	7.58E+03
26	662-	672	667.14	333.26	2.30E+04	266.96	1.92E+04
27	672-	678	673.44	336.40	3.12E+03	205.94	1.21E+04
28	687-	696	691.86	345.61	2.21E+04	210.96	9.85E+03
29	733-	743	738.55	368.94	9.62E+03	163.55	7.13E+03
30	746-	757	752.02	375.67	6.26E+04	306.31	1.25E+04
31	767-	772	767.66	383.48	6.39E+03	150.82	4.49E+03
32	782-	793	787.95	393.61	2.35E+04	178.84	3.41E+03
33	824-	834	829.63	414.44	6.13E+04	258.31	2.29E+03
34	842-	852	847.39	423.31	3.41E+03	102.83	2.93E+03
35	899-	910	905.22	452.20	7.22E+03	102.67	1.32E+03
36	960-	971	965.70	482.42	1.00E+02	44.46	7.50E+02
37	1113-	1125	1119.77	559.40	1.74E+02	36.24	4.34E+02

Batch 2002-02-886

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
38	1235-	1247	1241.27	620.10	6.96E+02	36.41	2.39E+02
39	1289-	1301	1295.27	647.08	2.71E+02	39.38	4.81E+02
40	1302-	1314	1308.30	653.59	4.59E+02	36.57	3.35E+02
41	1322-	1334	1328.40	663.63	2.75E+03	63.19	4.72E+02
42	1375-	1387	1381.37	690.10	2.72E+02	28.35	1.98E+02
43	1441-	1454	1447.82	723.30	1.35E+03	45.47	2.58E+02
44	1510-	1523	1516.80	757.76	1.60E+02	22.38	1.21E+02
45	1536-	1549	1542.74	770.72	4.11E+02	27.66	1.28E+02

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2882-93-887

Summed Spectrum

Nuclide Identification Report

Sample ID: S100_864
Nuclide Library Used: C:\WAS\NLIB\LLNL.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/)	Activity Uncertainty
Pulser	1.000	35.10*	100.00	2.841E+05	7.126E+05
Np-237	0.753	300.10	6.63		
		311.90*	38.60	6.056E+00	4.076E-01
Pu-239	0.962	413.70*	0.00	4.572E+06	8.547E+04
Pu-239A	0.997	129.29*	0.01	1.464E+06	3.680E+04
Am-241	0.901	662.42*	0.00	1.102E+06	2.706E+04
Pu-241	0.997	148.57*	0.00	6.945E+06	1.568E+05

* = Energy line found in the spectrum.
Energy Tolerance : 1.500 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 1.000 sigma

Batch 2002-02-888

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 2-12-02 9:13:09 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	21.42	1.2658E+02	1.44
2	23.17	1.3681E+02	1.46
4	59.59	2.3395E+03	0.24
5	75.06	2.1723E+01	9.12
6	98.80	1.2102E+03	0.51
7	103.44	9.3868E+02	0.44
8	111.24	1.9642E+02	2.31
9	117.12	1.1595E+02	2.99
12	161.18	1.9791E+01	12.92
13	164.84	1.6736E+01	15.01
14	171.66	4.5514E+01	5.18
15	179.57	2.0154E+01	11.24
16	189.59	3.1006E+01	7.23
17	195.93	4.2883E+01	5.56
18	208.33	7.6833E+02	0.52
19	243.71	1.5160E+01	11.15
20	255.82	3.5242E+01	4.66
21	267.97	2.8206E+01	5.21
22	297.94	1.9720E+01	7.67
24	321.28	1.4578E+01	11.09
25	324.25	9.8149E+00	11.68
26	333.26	2.0600E+02	1.16
27	336.40	2.7918E+01	6.60
28	345.61	1.9721E+02	0.96
29	368.94	8.6034E+01	1.70
30	375.67	5.5936E+02	0.50
31	383.48	5.7100E+01	2.36
32	393.61	2.0984E+02	0.77
34	423.31	3.0488E+01	3.02
35	452.20	6.4524E+01	1.43
36	482.42	8.9373E-01	44.48
37	559.40	1.5594E+00	20.78
38	620.10	6.2222E+00	5.23
39	647.08	2.4202E+00	14.55
40	653.59	4.1082E+00	7.96
42	690.10	2.4313E+00	10.43
43	723.30	1.2097E+01	3.36
44	757.76	1.4291E+00	14.01
45	770.72	3.6741E+00	6.73

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-B2-889

Combined Segment NID

NID Results Combiner Mode: Sum Activities

Nuclide		Total Activity (uCi)				Concentration (uCi/g)		
Pulser		3.88E+07	+/-	2.03E+08		1.75E+03	+/-	9.15E+03
SE-75	<	3.79E-01	+/-	1.88E-02	<	1.71E-05	+/-	8.46E-07
EU-152x		1.28E-01	+/-	3.60E-02		5.78E-06	+/-	1.62E-06
U-233	<	1.60E+04	+/-	8.17E+02	<	7.19E-01	+/-	3.68E-02
U-235		9.64E-02	+/-	5.30E-02		4.34E-06	+/-	2.39E-06
Np-237		9.12E+00	+/-	5.19E-01		4.11E-04	+/-	2.34E-05
Pu-238	<	4.08E+04	+/-	1.98E+03	<	1.84E+00	+/-	8.92E-02
U-238		6.46E+00	+/-	1.87E+00		2.91E-04	+/-	8.40E-05
Pu-239		5.45E+06	+/-	1.32E+05		2.45E+02	+/-	5.95E+00
Pu-239A		4.15E+06	+/-	1.28E+05		1.87E+02	+/-	5.75E+00
Am-241		1.30E+06	+/-	4.64E+04		5.88E+01	+/-	2.09E+00
Pu-241		1.43E+07	+/-	5.25E+05		6.44E+02	+/-	2.36E+01

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
U-235	4.46E-02	+/-	2.45E-02
Np-237	1.30E-02	+/-	7.37E-04
U-238	1.92E+01	+/-	5.56E+00
Pu-239	8.77E+01	+/-	2.13E+00
Pu-239A	6.69E+01	+/-	2.06E+00
Am-241	3.81E-01	+/-	1.35E-02
Pu-241	1.38E-01	+/-	5.08E-03

Batch 2002-02-890

Summed Spectrum

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		2.84E+05	+/-	7.13E+05	1.28E+01	+/-	3.21E+01
SE-75	<	8.97E-01	+/-	7.82E-03	< 4.04E-05	+/-	3.52E-07
EU-152x	<	5.20E-01	+/-	1.00E-02	< 2.34E-05	+/-	4.52E-07
U-233	<	4.05E+04	+/-	8.45E+02	< 1.82E+00	+/-	3.80E-02
U-235	<	1.35E+00	+/-	2.67E-02	< 6.10E-05	+/-	1.20E-06
Np-237		6.06E+00	+/-	4.08E-01	2.73E-04	+/-	1.84E-05
Pu-238	<	9.89E+04	+/-	1.44E+03	< 4.46E+00	+/-	6.49E-02
U-238	<	1.28E+01	+/-	2.05E-01	< 5.78E-04	+/-	9.25E-06
Pu-239		4.57E+06	+/-	8.55E+04	2.06E+02	+/-	3.85E+00
Pu-239A		1.46E+06	+/-	3.68E+04	6.59E+01	+/-	1.66E+00
Am-241		1.10E+06	+/-	2.71E+04	4.97E+01	+/-	1.22E+00
Pu-241		6.94E+06	+/-	1.57E+05	3.13E+02	+/-	7.06E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
Np-237	8.60E-03	+/-	5.79E-04
Pu-239	7.36E+01	+/-	1.38E+00
Pu-239A	2.36E+01	+/-	5.93E-01
Am-241	3.22E-01	+/-	7.90E-03
Pu-241	6.72E-02	+/-	1.52E-03

Batch 2002-BZ-891

Final Non-Uniformity Results

Source Longitudinal Ratio:	0.323	+/-	0.3063
Matrix Longitudinal Ratio:	0.537	+/-	0.0210
Source Vertical Ratio:	0.885	+/-	0.4435
Matrix Vertical Ratio:	0.850	+/-	0.0158

NUDS could not find the transmission peak in one radial segment.

Batch 2002-02-892

****
***** M G A R E P O R T *****
****

Report generated on: 2-12-02 9:13:08 AM

MGA version: MGA V9.5 CI

Spectrum ID: 11200864.CNF Sens : 30.0% LT: 42.1 Mins DT: 24.59
Measurement date: 2-12-02 Declared date: 2-12-02

Sample ID: S100_864 Detector: Total counts: 1.511E+07

Pu g/cm2 = 0.8244 Cd g/cm2 = 1.7386 FWHM at 122 keV = 683 eV
QFIT = 1.39 FWHM at 208 keV = 867 eV
NQFIT = 1.02

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	%Err	Decl. date % weight	%Err
Pu-238	0.000101	8.1	8.1	0.0401	8.1	0.00952	8.11	0.00952	8.11
Pu-239	1.000000	0.0	0.5	395.6525	1.1	93.98120	0.06	93.98120	0.06
Pu-240	0.061078	1.1	1.1	24.1656	1.4	5.74017	1.04	5.74017	1.04
Pu-241	0.002527	1.1	1.0	1.0000	0.0	0.23753	1.10	0.23753	1.10
Pu-242	(New alg.)			0.1330	(10)	0.03158	(10)	0.03158	(10)
Am-241	0.004707	0.6	0.4	1.8623	1.0	0.44236	0.57	0.44236	0.57

Pu-240 effective (meas. date) = 5.817 +/- 1.11%
U-237 separated more than 10 days ago
Am-241 separated about 21.736 +/- 0.207 years ago
Am/Pu-241 weight ratio = 1.86229 +/- 1.04%

Messages :

Lead x-rays detected.
Calculations in MGAABS didn't converge : results may be suspect.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Batch 2002-02-893

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
2-12-02 11:41:35 AM

OK (PM) 2-12-02

QA File: C:\WAS\CTRS\CTR1\ARR1\S11_BCK.QA
Sample ID: B865
Sample Quantity: 1.0000E+00
Sample Date: 2-12-02 11:35:56 AM
Measurement Date: 2-12-02 11:35:55 AM
Elapsed Live Time: 200.0 seconds
Elapsed Real Time: 201.9 seconds

QM 4-24-02

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
Ref. Peak	3.5053E+01	0.00
[0.00+/-0.00]		< : : : >
Upper CPS Reg	2.2690E+01	0.00
[0.00+/-0.00]		< : : : >
Peak counts/second	1.0089E+03	0.00
[0.00+/-0.00]		< : : : >
Pulser FWHM	1.0085E+00	0.00
[0.00+/-0.00]		< : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
2-12-02 11:41:28 AM

QA File: C:\WAS\CTRS\CTR1\ARR1\T11_BCK.QA
Sample ID: B865
Sample Quantity: 1.0000E+00
Sample Date: 2-12-02 11:35:56 AM
Measurement Date: 2-12-02 11:39:22 AM
Elapsed Live Time: 100.0 seconds
Elapsed Real Time: 104.0 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >

Batch 2002-02-894

400.6 keV Centroid	8.0368E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>
400.6 keV FWHM	1.5010E+00			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak centroid 136 KeV	2.7294E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak area 400 keV	1.7599E+04			0.00		
[0.00+/-0.00]		<	:	:	:	>
Peak counts/second	1.7599E+02			0.00		
[0.00+/-0.00]		<	:	:	:	>

Flags Key:
- LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
- SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
- UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
- BS = Measurement Bias Test (In = Investigate, Ac = Action)

Batch 2002-02-895

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS 2.3A

****
* DRUM INFORMATION *
****

Drum Package ID: LL85801147
Sequence Number: 866
Assay Date & Time: 2-12-2002 11:45:50 AM
Drum Package GROSS Weight: 69.60 kg NET Weight: 37.80 kg

IDC Number: LL85801147

QC Replicate (Yes/No): NO Passed (Yes/No): _____

Operator Name (Printed): Russell Rath

Operator Signature: _____ Date: 2-12-02

Independent Reviewer: _____ Date: 6-27-02

Expert Reviewer: Kenneth Rasche Date: 6/19/02

Tech. Supv/QA Officer: _____ Date: 6/27/02

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 1.802E-01 +/- 4.531E-02 Ci

Batch 2002-02-896

****
* I S O T O P I C I N F O R M A T I O N *
****

Isotope	Measured Mass (g)	Mass Uncertainty (g)	MDC (g)
Pu-238	5.547E-03	2.20E-03	1.945E-04
Pu-239	9.751E-01	3.82E-01	3.419E-02
Pu-240	5.865E-02	2.39E-02	2.056E-03
Pu-241	1.701E-03	6.84E-04	4.502E-04
Pu-242	2.671E-04	1.25E-04	9.365E-06
Am-241	2.946E-03	1.18E-03	1.705E-03
Am-243	0.000E+00	0.00E+00	0.000E+00
Np-237	0.000E+00	0.00E+00	1.126E-04
U-235	0.000E+00	0.00E+00	3.488E-02
U-238	1.411E+01	8.99E+00	1.062E+01
U-233	2.145E-01	8.53E-02	2.145E-01

Total Pu Mass: 1.04E+00 +/- 6.40E-01 g

****
* M G A R E S U L T S *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	5.327E-01	2.90E+00
Pu-239	9.365E+01	3.57E-01
Pu-240	5.633E+00	5.84E+00
Pu-241	1.633E-01	4.56E+00
Pu-242	2.565E-02	1.30E+01
Am-241	2.830E-01	3.86E+00

Batch 2002-03-897

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005

Assay Date & Time: 2-12-2002 11:45:50 AM

Drum Package ID: LL85801147
Sequence Number: 866

Waste Classification (TRU or LLW): TRU

		Errors at 1.96 sigma	
Total Alpha Activity :	1.802E-01	+/- 4.53E-02	Ci
Total TRU Activity :	4.768E+03	+/- 1.20E+03	nCi/g
Pu-239 Equiv Activity:	1.750E-01	+/- 4.25E-02	Ci
Fissile Gram Equiv Mass:	9.809E-01	+/- 3.82E-01	g
Total Decay Heat:	5.847E-03	+/- 1.48E-03	W
TMU Value:	39.18 %		

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error	MDA gm
Pu-238	9.60E-02	3.80E-02	5.55E-03	2.20E-03	1.94E-04
Pu-239	6.06E-02	2.37E-02	9.75E-01	3.82E-01	3.42E-02
Pu-240	1.35E-02	5.51E-03	5.86E-02	2.39E-02	2.06E-03
Pu-241	1.77E-01	7.11E-02	1.70E-03	6.84E-04	4.50E-04
Pu-242	1.06E-06	4.96E-07	2.67E-04	1.25E-04	9.37E-06
Am-241	1.02E-02	4.08E-03	2.95E-03	1.18E-03	1.70E-03
Am-243	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Np-237	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.13E-04
U-235	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.49E-02
U-238	4.80E-06	3.06E-06	1.41E+01	8.99E+00	1.06E+01
U-233	2.09E-03	8.32E-04	2.14E-01	8.53E-02	2.14E-01

Total Pu Mass: 1.04E+00 +/- 6.40E-01 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	5.327E-01	2.90E+00
Pu-239	9.365E+01	3.57E-01
Pu-240	5.633E+00	5.84E+00
Pu-241	1.633E-01	4.56E+00
Pu-242	2.565E-02	1.30E+01
Am-241	2.830E-01	3.86E+00

Batch 2802-RD-598

SGS Expert Review Checklist

Container Identification #: LL85801147_____ Original Assay Date:2-12-2002__

1. *WCP-41, §6.1:* A MGA report ☒ is present or ☐ expert review has provided isotopic ratios from SGS or AK. Comment: ☒ No comments
2. *WCP-41, §6.1:* MGA and AK ☒ agree as to radiological composition or, if not, ☐ expert review has resolved this. Comment: ☒ No comments
3. *WCP-41, §6.2.1:* ☒ Pu-238 ≤ 2% by weight of total Pu or, if not, ☐ expert review has addressed this and assigned a Pu-240 value. Comment: ☒ No comments
4. *WCP-41, §6.2.2:* ☒ Neither Np-237 nor U-235 is identified by MGA or ☐ expert review has addressed possible interferences from these radionuclides.
   Comment: ☒ No comments
5. *WCP-41, §6.2.2.2:* ☒ Am-241 separation date is 1950 or later or ☐ expert review has addressed possible interferences. Comment: ☒ No comments
6. *WCP-41, §6.3.1.1.a:* ☒ Bulk density of waste ≤ 0.6 g/ml or ☐ expert review has addressed the high density of the drum. Comment: ☒ No comments
7. *WCP-41, §6.3.1.2.a:* ☐ Transmission in every segment ≥ 0.1% for the Se-75 peaks at 136 keV or 265 keV or ☒ expert review has addressed the low transmission.
   Comment: The 136 keV transmission is zero in one segment and low in two others. However, both the 265 keV transmission and the Pu-239/Pu-239a ratio are okay.☐ No comments
8. *WCP-41, §6.3.1.2.a:* ☒ Transmission in every segment ≥1% for the Se-75 peak at 401 keV or ☐ expert review has addressed the low transmission. Comment: ☒ No comments
9. *WCP-41, §6.3.1.3.b:* ☒ Dead time in every segment ≤ 50% or ☐ expert review has addressed the high dead time. Comment: ☒ No comments
10. *WCP-41, §6.3.1.3.c:* ☒ Pu-239 masses determined from the 414 keV peak and the 129 keV peak agree by a factor of < 2.5 or ☐ expert review has addressed possible matrix inhomogeneity. Comment: ☒ No comments
11. *WCP-41, §6.3.2.3:* Cs-137 (☐ has) (☒ has not) been identified by expert review. If it has, Sr-90 is reported ☐ at an activity ratio to Cs-137of 0.39 for Pu fission or ☐ at a ratio of 1 for U-235 fission or, ☐ if both Pu and U are present, the expert reviewer has determined the ratio. Comment: ☒ No comments
12. *WCP-41, §6.3.2.4:* ☒ No unusual nuclides are identified (none other than the 10 required to be reported to WIPP) or ☐ the expert reviewer has checked for interferences from unusual nuclides. Comment: ☒ No comments

CONTROLLED FORM

Batch 2002-02-899

SGS Expert Review Checklist

Container Identification #: LL85801147_____ Original Assay Date:2-12-2002__

13. *WCP-41, §6.3.3:* For waste drums (☐ NA for standards), ☒ the Summed Spectrum report value for Pu-239 and the Combined Segment NID report for Pu-239 agree within 95% confidence limits (the same as for replicates of unknowns) or ☐ expert review has addressed the difference. Comment: ☒ No comments
14. *WCP-41, §6.4:* ☒ The SGS Summed Spectrum and Combined Segment NID reports agree as to the ratios by weight of several radionuclides, such as those of Am-241, Pu-241, Np-237, Am-243, and U-235 to Pu-239, and MGA results agree as to identifying these radionuclides or ☐ expert review has resolved this. Comment: ☒ No comments
15. *WCP-41, §6.6.1:* ☒ All reported radionuclide masses are above 2.5 times the uncorrected MDA or ☐ expert review has calculated transmission-corrected MDA's and taken appropriate action. Comment: ☒ No comments
16. *WCP-41, §6.6.2:* ☒ Any changes to reported quantities of individual radionuclides have been entered into the RADA program and a new radioassay data sheet has been produced, showing revised derivative quantities, and included in the batch data report, along with the marked up original. Comment: ☒ No comments
17. *CP-41, §6.7:* ☒ Counting statistics are adequate for normal passive count time of 120 seconds per segment or ☐ Counting statistics are adequate for long passive count time of 600 seconds per segment or ☐ expert review has rejected the count and ordered a longer count time. Comment: ☒ No comments

Kenneth Raschke	Kenneth Raschke	6/19/02
Expert Reviewer (print)	Signature	Date

Batch 2002-02-400

****
***** M G A R E P O R T *****
****

Report generated on: 2-12-02 12:42:25 PM

MGA version: MGA V9.5 CI

Spectrum ID: 11200866.CNF Sens : 30.0% LT: 55.8 Mins DT: 0.17
Measurement date: 2-12-02 Declared date: 2-12-02

Sample ID: LL85801147 Detector: Total counts: 2.792E+05

Pu g/cm2 = 0.0020 Cd g/cm2 = 1.6850 FWHM at 122 keV = 537 eV
QFIT = 1.28 FWHM at 208 keV = 665 eV
NQFIT = 1.03

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	%Err	Decl. date % weight	%Err
Pu-238	0.005688	3.0	2.0	3.2612	4.1	0.53269	2.90	0.53269	2.90
Pu-239	1.000000	0.0	2.5	573.3043	4.6	93.64576	0.36	93.64576	0.36
Pu-240	0.060147	6.2	5.7	34.4827	6.8	5.63254	5.84	5.63254	5.84
Pu-241	0.001744	4.7	4.0	1.0000	0.0	0.16334	4.56	0.16334	4.56
Pu-242	(New alg.)			0.1571	(13)	0.02565	(13)	0.02565	(13)
Am-241	0.003022	4.0	3.0	1.7324	5.0	0.28298	3.86	0.28298	3.86

Pu-240 effective (meas. date) = 7.018 +/- 5.27%
Am-241 separated about 20.316 +/- 1.014 years ago
Am/Pu-241 weight ratio = 1.73241 +/- 4.98%

Messages :

Lead x-rays detected.
Calculations in MGAABS didn't converge : results may be suspect.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Gamma Waste Assay

Sample Information

File Name: C:\WAS\DATA\900\11100866.S11
Sample ID: LL85801147 Count Sequence Number: 866
Assay Start: 2-12-02 11:45:52 AM
Description 1: unknown
Description 2:
Location: 7715
Comment:
Waste Type:
Weight: Gross: 69600.0 g Net: 37800.0 g
Density: 0.182 g /ml

Container Type: 55 Gal Galv
Container: Volume: 208000. ml Full: 100.0 %

System Configuration

Counter ID Number: SGS
Arrangement Description: SGS
Segments: Number: 16 Offset: 0
Scanning Platform: Start: 934 mm Delta: -51 mm
Count Type: 55 Gal Galv
Collimator/Geometry Setting: 0
Transmission Mode: Two pass
Transmission Source: 0

Errors quoted at 1.000 sigma
Reference Source Date: Reference Source Rate: 1.01E+03 cps
Geometric Correction Factor(SWCONTGCF): 0.760
Date of efficiency calibration approval: 4-18-2001 12:41:36 PM
Mu Factors response file: Lucite
Transmission Calib. Time: 5-11-2001 2:20:42 PM 59052

Reviewed by: _____ Date: 2-12-02

Batch 2002-03-902

Segment Results

Segment: 1 Detector: DET01 (# 1) Position: 1

Elapsed Live Time: 113.93 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.315 +/- 0.0204
SE-75	264.65	0.000 +/- 0.0000	0.376 +/- 0.0040
SE-75	279.53	0.000 +/- 0.0000	0.383 +/- 0.0055
SE-75	400.65	0.000 +/- 0.0000	0.423 +/- 0.0071

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.78E+00	1.99E+00	2.61E-06 +/- 1.64E-05
2	400.66	6.81E-02 +/- 2.88E-02	1.36E+00	1.69E-04 +/- 1.25E-05
3	867.39	2.63E-02 +/- 1.52E-02	1.24E+00	8.96E-05 +/- 4.69E-06
4	1001.03	1.76E-02 +/- 1.24E-02	1.22E+00	7.98E-05 +/- 4.04E-06

Segment: 2 Detector: DET01 (# 1) Position: 2

Elapsed Live Time: 113.92 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.019 +/- 0.0008
SE-75	279.53	0.000 +/- 0.0000	0.020 +/- 0.0012
SE-75	400.65	0.000 +/- 0.0000	0.034 +/- 0.0019

Batch 2002-02-903

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.75E+00	4.10E+00	2.21E-07 +/- 1.06E-06
2	59.34	5.52E-01 +/- 1.10E-01	4.10E+00	2.14E-05 +/- 3.26E-05
3	413.70	3.90E-02 +/- 2.76E-02	2.75E+00	2.51E-04 +/- 1.46E-05
4	1408.01	8.67E-03 +/- 8.67E-03	1.80E+00	9.61E-05 +/- 6.36E-06

Segment: 3 Detector: DET01 (# 1) Position: 3

Elapsed Live Time: 113.92 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Some transmission peaks rejected.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	0.152 +/- 0.0023
SE-75	279.53	0.000 +/- 0.0000	0.163 +/- 0.0034
SE-75	400.65	0.000 +/- 0.0000	0.208 +/- 0.0048

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	3.22E+00	1.07E-06 +/- 5.27E-06
2	59.68	4.75E-01 +/- 1.09E-01	2.46E+00	3.82E-05 +/- 5.88E-05
3	121.11	1.40E-01 +/- 9.22E-02	2.12E+00	2.80E-04 +/- 1.69E-05
4	129.29	1.36E-01 +/- 9.29E-02	2.10E+00	3.02E-04 +/- 1.84E-05
5	279.54	9.63E-02 +/- 5.33E-02	1.84E+00	3.32E-04 +/- 1.78E-05
6	778.90	6.10E-02 +/- 2.31E-02	1.49E+00	1.57E-04 +/- 7.69E-06
7	964.13	1.74E-02 +/- 1.23E-02	1.43E+00	1.34E-04 +/- 5.92E-06
8	1085.91	1.74E-02 +/- 1.23E-02	1.40E+00	1.23E-04 +/- 5.23E-06

Batch 2002-02-904

Segment: 4 Detector: DET01 (# 1) Position: 4

Elapsed Live Time: 113.91 sec Elapsed Real Time: 115.00 sec

T R A N S M I S S I O N R E S U L T S

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.106 +/- 0.0123
SE-75	264.65	0.000 +/- 0.0000	0.143 +/- 0.0023
SE-75	279.53	0.000 +/- 0.0000	0.142 +/- 0.0032
SE-75	400.65	0.000 +/- 0.0000	0.181 +/- 0.0045

P E A K A N A L Y S I S R E S U L T S

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.75E+00	3.21E+00	2.00E-05 +/- 1.66E-05
2	59.67	7.37E-01 +/- 1.21E-01	2.45E+00	9.86E-05 +/- 3.39E-05
3	300.10	1.15E-01 +/- 5.89E-02	1.89E+00	3.44E-04 +/- 1.54E-05
4	662.42	5.72E-02 +/- 2.81E-02	1.59E+00	1.95E-04 +/- 9.03E-06
5	964.13	1.73E-02 +/- 1.23E-02	1.47E+00	1.35E-04 +/- 5.34E-06
6	1085.91	8.67E-03 +/- 8.67E-03	1.43E+00	1.20E-04 +/- 4.36E-06

Segment: 5 Detector: DET01 (# 1) Position: 5

Elapsed Live Time: 113.91 sec Elapsed Real Time: 115.00 sec

T R A N S M I S S I O N R E S U L T S

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.130 +/- 0.0155
SE-75	264.65	0.000 +/- 0.0000	0.215 +/- 0.0028
SE-75	279.53	0.000 +/- 0.0000	0.215 +/- 0.0040
SE-75	400.65	0.000 +/- 0.0000	0.270 +/- 0.0055

Batch 2002-02-905

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	22.92	2.39E-01 +/- 6.02E-02	4.10E+00	1.64E-06 +/- 2.42E-06
2	35.10	1.01E+03 +/- 4.75E+00	2.96E+00	1.48E-05 +/- 1.27E-05
3	59.66	1.33E+00 +/- 1.42E-01	2.29E+00	9.36E-05 +/- 3.30E-05
4	279.54	1.02E-01 +/- 6.72E-02	1.70E+00	3.45E-04 +/- 1.68E-05
5	311.90	7.01E-02 +/- 4.06E-02	1.66E+00	3.26E-04 +/- 1.48E-05
6	413.70	4.15E-02 +/- 2.38E-02	1.57E+00	2.69E-04 +/- 1.09E-05
7	964.13	4.15E-02 +/- 2.40E-02	1.35E+00	1.28E-04 +/- 5.33E-06
8	1001.03	8.67E-03 +/- 8.67E-03	1.34E+00	1.24E-04 +/- 4.97E-06
9	1085.91	5.20E-02 +/- 2.12E-02	1.32E+00	1.16E-04 +/- 4.36E-06

Segment: 6 Detector: DET01 (# 1) Position: 6

Elapsed Live Time: 113.88 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.042 +/- 0.0012
SE-75	279.53	0.000 +/- 0.0000	0.044 +/- 0.0018
SE-75	400.65	0.000 +/- 0.0000	0.065 +/- 0.0026

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.75E+00	4.10E+00	8.04E-06 +/- 6.71E-06
2	59.64	7.50E+00 +/- 2.93E-01	4.10E+00	6.91E-05 +/- 2.40E-05
3	129.29	5.69E-01 +/- 1.38E-01	4.10E+00	3.10E-04 +/- 1.61E-05
4	375.53	1.61E-01 +/- 5.22E-02	2.42E+00	3.02E-04 +/- 1.21E-05
5	413.70	1.20E-01 +/- 4.73E-02	2.36E+00	2.81E-04 +/- 1.11E-05
6	511.80	1.39E-01 +/- 5.63E-02	2.20E+00	2.35E-04 +/- 9.95E-06
7	559.49	1.69E-01 +/- 4.21E-02	2.14E+00	2.17E-04 +/- 9.62E-06
8	1085.91	2.60E-02 +/- 1.50E-02	1.74E+00	1.22E-04 +/- 4.37E-06

Batch 2002-02-906

Segment: 7 Detector: DET01 (# 1) Position: 7

Elapsed Live Time: 113.81 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.190 +/- 0.0175
SE-75	264.65	0.000 +/- 0.0000	0.271 +/- 0.0033
SE-75	279.53	0.000 +/- 0.0000	0.275 +/- 0.0046
SE-75	400.65	0.000 +/- 0.0000	0.341 +/- 0.0063

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.23	1.46E+00 +/- 1.65E-01	3.78E+00	7.27E-09 +/- 7.12E-08
2	35.10	1.01E+03 +/- 4.76E+00	2.53E+00	9.59E-07 +/- 4.73E-06
3	49.79	1.09E+00 +/- 2.87E-01	2.13E+00	1.47E-05 +/- 3.55E-05
4	59.62	2.63E+01 +/- 5.56E-01	2.01E+00	4.02E-05 +/- 6.22E-05
5	98.96	2.48E+00 +/- 2.62E-01	1.83E+00	2.21E-04 +/- 5.15E-05
6	125.21	3.12E-01 +/- 1.79E-01	1.78E+00	3.19E-04 +/- 1.78E-05
7	129.29	1.78E+00 +/- 2.20E-01	1.77E+00	3.30E-04 +/- 1.98E-05
8	152.68	1.63E-01 +/- 1.02E-01	1.73E+00	3.74E-04 +/- 3.73E-05
9	208.60	9.71E-01 +/- 1.46E-01	1.65E+00	3.91E-04 +/- 3.82E-05
10	311.90	1.07E-01 +/- 7.28E-02	1.54E+00	3.27E-04 +/- 1.48E-05
11	345.70	3.23E-01 +/- 8.81E-02	1.51E+00	3.05E-04 +/- 1.46E-05
12	375.78	6.08E-01 +/- 8.51E-02	1.48E+00	2.87E-04 +/- 1.54E-05
13	413.70	7.25E-01 +/- 8.86E-02	1.46E+00	2.67E-04 +/- 1.63E-05
14	662.42	5.64E-02 +/- 3.06E-02	1.35E+00	1.82E-04 +/- 1.06E-05
15	964.13	3.30E-02 +/- 2.28E-02	1.28E+00	1.35E-04 +/- 6.00E-06
16	1085.91	3.47E-02 +/- 1.73E-02	1.26E+00	1.23E-04 +/- 5.27E-06
17	1112.12	1.95E-02 +/- 1.75E-02	1.26E+00	1.20E-04 +/- 5.13E-06

Segment: 8 Detector: DET01 (# 1) Position: 8

Elapsed Live Time: 113.70 sec Elapsed Real Time: 115.00 sec

Batch 2002-03-902

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.142 +/- 0.0162
SE-75	264.65	0.000 +/- 0.0000	0.258 +/- 0.0032
SE-75	279.53	0.000 +/- 0.0000	0.271 +/- 0.0045
SE-75	400.65	0.000 +/- 0.0000	0.317 +/- 0.0060

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.30	2.68E+00 +/- 2.19E-01	4.10E+00	4.49E-09 +/- 4.34E-08
2	35.10	1.01E+03 +/- 4.76E+00	2.86E+00	6.89E-07 +/- 3.37E-06
3	59.64	4.23E+01 +/- 6.85E-01	2.23E+00	3.36E-05 +/- 5.15E-05
4	98.71	7.55E+00 +/- 4.76E-01	2.01E+00	1.98E-04 +/- 4.67E-05
5	111.30	8.35E-01 +/- 2.84E-01	1.97E+00	2.49E-04 +/- 2.63E-05
6	114.82	5.65E-01 +/- 2.84E-01	1.96E+00	2.61E-04 +/- 2.17E-05
7	129.29	7.02E+00 +/- 3.14E-01	1.93E+00	3.05E-04 +/- 1.85E-05
8	152.68	5.34E-01 +/- 2.11E-01	1.86E+00	3.51E-04 +/- 3.50E-05
9	203.99	4.57E-01 +/- 1.81E-01	1.73E+00	3.76E-04 +/- 3.82E-05
10	208.48	1.81E+00 +/- 2.35E-01	1.72E+00	3.75E-04 +/- 3.71E-05
11	333.36	4.30E-01 +/- 1.37E-01	1.54E+00	3.10E-04 +/- 1.38E-05
12	336.44	2.44E-01 +/- 9.86E-02	1.54E+00	3.08E-04 +/- 1.38E-05
13	345.79	7.39E-01 +/- 1.12E-01	1.53E+00	3.02E-04 +/- 1.38E-05
14	375.79	1.98E+00 +/- 1.61E-01	1.51E+00	2.86E-04 +/- 1.46E-05
15	383.59	2.09E-01 +/- 9.58E-02	1.51E+00	2.82E-04 +/- 1.48E-05
16	393.72	7.70E-01 +/- 1.10E-01	1.50E+00	2.76E-04 +/- 1.50E-05
17	413.70	1.84E+00 +/- 1.36E-01	1.49E+00	2.66E-04 +/- 1.54E-05
18	452.02	3.03E-01 +/- 7.03E-02	1.47E+00	2.49E-04 +/- 1.56E-05
19	559.59	1.74E-01 +/- 3.89E-02	1.42E+00	2.10E-04 +/- 1.34E-05
20	662.42	8.69E-02 +/- 2.75E-02	1.38E+00	1.83E-04 +/- 1.03E-05
21	778.90	4.35E-02 +/- 1.94E-02	1.34E+00	1.59E-04 +/- 7.73E-06
22	1085.91	1.74E-02 +/- 1.23E-02	1.28E+00	1.18E-04 +/- 5.10E-06
23	1408.01	8.69E-03 +/- 8.69E-03	1.24E+00	9.08E-05 +/- 6.30E-06

Segment: 9 Detector: DET01 (# 1) Position: 9

Elapsed Live Time: 113.70 sec Elapsed Real Time: 115.00 sec

Batch 2002-02-908

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.191 +/- 0.0171
SE-75	264.65	0.000 +/- 0.0000	0.272 +/- 0.0033
SE-75	279.53	0.000 +/- 0.0000	0.275 +/- 0.0046
SE-75	400.65	0.000 +/- 0.0000	0.334 +/- 0.0062

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.31	2.27E+00 +/- 2.08E-01	3.75E+00	2.36E-06 +/- 2.36E-05
2	35.10	1.01E+03 +/- 4.76E+00	2.52E+00	1.75E-05 +/- 8.88E-05
3	59.62	3.33E+01 +/- 6.34E-01	2.01E+00	1.00E-04 +/- 1.59E-04
4	98.69	1.06E+01 +/- 4.78E-01	1.83E+00	2.51E-04 +/- 6.09E-05
5	111.33	1.36E+00 +/- 2.77E-01	1.80E+00	2.86E-04 +/- 3.06E-05
6	129.29	7.90E+00 +/- 3.21E-01	1.77E+00	3.23E-04 +/- 1.97E-05
7	148.57	6.27E-01 +/- 2.02E-01	1.74E+00	3.48E-04 +/- 3.41E-05
8	152.68	1.27E+00 +/- 2.41E-01	1.73E+00	3.52E-04 +/- 3.64E-05
9	208.47	2.41E+00 +/- 2.39E-01	1.64E+00	3.66E-04 +/- 3.75E-05
10	300.10	1.20E-01 +/- 8.49E-02	1.55E+00	3.26E-04 +/- 1.55E-05
11	333.46	6.39E-01 +/- 1.38E-01	1.52E+00	3.08E-04 +/- 1.39E-05
12	345.68	9.14E-01 +/- 1.30E-01	1.51E+00	3.01E-04 +/- 1.41E-05
13	375.84	2.18E+00 +/- 1.64E-01	1.49E+00	2.85E-04 +/- 1.49E-05
14	383.69	1.66E-01 +/- 8.69E-02	1.49E+00	2.81E-04 +/- 1.52E-05
15	393.55	8.52E-01 +/- 1.12E-01	1.48E+00	2.76E-04 +/- 1.55E-05
16	413.70	2.01E+00 +/- 1.39E-01	1.47E+00	2.67E-04 +/- 1.59E-05
17	423.39	1.44E-01 +/- 6.18E-02	1.46E+00	2.62E-04 +/- 1.60E-05
18	452.25	1.69E-01 +/- 6.78E-02	1.45E+00	2.49E-04 +/- 1.61E-05
19	964.13	2.10E-02 +/- 1.92E-02	1.29E+00	1.34E-04 +/- 5.82E-06
20	1001.03	4.34E-02 +/- 1.94E-02	1.28E+00	1.30E-04 +/- 5.63E-06
21	1112.12	1.74E-02 +/- 1.23E-02	1.26E+00	1.21E-04 +/- 5.10E-06
22	1408.01	8.69E-03 +/- 8.69E-03	1.23E+00	1.05E-04 +/- 6.85E-06

Segment: 10 Detector: DET01 (# 1) Position: 10

Elapsed Live Time: 113.84 sec Elapsed Real Time: 115.00 sec

Batch 2853-93-909

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.153 +/- 0.0166
SE-75	264.65	0.000 +/- 0.0000	0.269 +/- 0.0033
SE-75	279.53	0.000 +/- 0.0000	0.278 +/- 0.0046
SE-75	400.65	0.000 +/- 0.0000	0.325 +/- 0.0061

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.13	9.58E-01 +/- 1.38E-01	4.10E+00	3.32E-07 +/- 4.72E-07
2	35.10	1.01E+03 +/- 4.78E+00	2.77E+00	5.68E-06 +/- 4.74E-06
3	48.99	5.58E-01 +/- 2.14E-01	2.32E+00	3.00E-05 +/- 1.49E-05
4	59.60	1.00E+01 +/- 3.58E-01	2.17E+00	6.37E-05 +/- 2.21E-05
5	100.16	6.01E+00 +/- 3.35E-01	1.96E+00	2.36E-04 +/- 2.29E-05
6	111.46	4.74E-01 +/- 2.01E-01	1.93E+00	2.78E-04 +/- 1.98E-05
7	129.29	1.94E+00 +/- 2.03E-01	1.89E+00	3.30E-04 +/- 1.70E-05
8	152.68	1.30E+00 +/- 1.79E-01	1.83E+00	3.74E-04 +/- 1.78E-05
9	185.71	2.18E-01 +/- 1.14E-01	1.74E+00	4.00E-04 +/- 2.05E-05
10	208.58	9.07E-01 +/- 1.41E-01	1.69E+00	4.01E-04 +/- 2.09E-05
11	333.16	2.56E-01 +/- 8.82E-02	1.53E+00	3.31E-04 +/- 1.38E-05
12	375.75	8.52E-01 +/- 9.67E-02	1.50E+00	3.02E-04 +/- 1.20E-05
13	400.66	5.26E-02 +/- 3.64E-02	1.49E+00	2.87E-04 +/- 1.13E-05
14	413.70	6.36E-01 +/- 8.75E-02	1.48E+00	2.79E-04 +/- 1.11E-05
15	964.13	2.63E-02 +/- 1.52E-02	1.29E+00	1.31E-04 +/- 5.40E-06
16	1001.03	8.77E-03 +/- 8.77E-03	1.29E+00	1.28E-04 +/- 5.05E-06
17	1112.12	2.63E-02 +/- 1.52E-02	1.27E+00	1.20E-04 +/- 4.35E-06
18	1408.01	2.63E-02 +/- 1.52E-02	1.24E+00	1.08E-04 +/- 6.60E-06

Segment: 11 Detector: DET01 (# 1) Position: 11

Elapsed Live Time: 113.89 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.292 +/- 0.0200
SE-75	264.65	0.000 +/- 0.0000	0.366 +/- 0.0040
SE-75	279.53	0.000 +/- 0.0000	0.356 +/- 0.0053
SE-75	400.65	0.000 +/- 0.0000	0.409 +/- 0.0070

Batch 2002-02-910

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.75E+00	2.06E+00	6.75E-06 +/- 5.60E-06
2	59.63	2.49E+00 +/- 1.93E-01	1.71E+00	6.71E-05 +/- 2.31E-05
3	100.12	2.87E+00 +/- 2.27E-01	1.59E+00	2.33E-04 +/- 2.25E-05
4	129.29	8.23E-01 +/- 1.44E-01	1.55E+00	3.21E-04 +/- 1.65E-05
5	152.68	6.31E-01 +/- 1.35E-01	1.52E+00	3.62E-04 +/- 1.73E-05
6	264.66	9.10E-02 +/- 6.19E-02	1.43E+00	3.67E-04 +/- 1.79E-05
7	345.42	1.38E-01 +/- 6.16E-02	1.41E+00	3.16E-04 +/- 1.31E-05
8	375.74	1.09E-01 +/- 5.72E-02	1.39E+00	2.97E-04 +/- 1.19E-05
9	413.70	2.02E-01 +/- 5.47E-02	1.37E+00	2.75E-04 +/- 1.09E-05

Segment: 12 Detector: DET01 (# 1) Position: 12

Elapsed Live Time: 113.91 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.374 +/- 0.0232
SE-75	264.65	0.000 +/- 0.0000	0.446 +/- 0.0045
SE-75	279.53	0.000 +/- 0.0000	0.447 +/- 0.0061
SE-75	400.65	0.000 +/- 0.0000	0.505 +/- 0.0078

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.77E+00	1.82E+00	7.63E-06 +/- 6.33E-06
2	59.53	1.43E+00 +/- 1.54E-01	1.55E+00	6.62E-05 +/- 2.29E-05
3	99.90	8.10E-01 +/- 1.43E-01	1.46E+00	2.20E-04 +/- 2.17E-05
4	185.71	1.35E-01 +/- 7.82E-02	1.38E+00	3.72E-04 +/- 1.93E-05
5	778.90	2.62E-02 +/- 1.51E-02	1.20E+00	1.60E-04 +/- 7.32E-06
6	1001.03	2.35E-02 +/- 2.17E-02	1.17E+00	1.29E-04 +/- 4.89E-06
7	1408.01	1.75E-02 +/- 1.24E-02	1.14E+00	1.02E-04 +/- 6.34E-06

Batch 2002-03-94

Segment: 13 Detector: DET01 (# 1) Position: 13

Elapsed Live Time: 113.90 sec Elapsed Real Time: 115.00 sec

T R A N S M I S S I O N R E S U L T S

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.342 +/- 0.0209
SE-75	264.65	0.000 +/- 0.0000	0.405 +/- 0.0042
SE-75	279.53	0.000 +/- 0.0000	0.410 +/- 0.0058
SE-75	400.65	0.000 +/- 0.0000	0.467 +/- 0.0075

P E A K A N A L Y S I S R E S U L T S

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.75E+00	1.90E+00	1.10E-05 +/- 9.51E-06
2	59.89	3.56E-01 +/- 1.18E-01	1.61E+00	8.21E-05 +/- 2.90E-05
3	135.30	1.53E-01 +/- 1.08E-01	1.46E+00	3.32E-04 +/- 1.65E-05
4	400.66	5.11E-02 +/- 2.51E-02	1.32E+00	2.81E-04 +/- 1.13E-05
5	559.55	8.10E-02 +/- 3.66E-02	1.27E+00	2.11E-04 +/- 9.72E-06
6	867.39	4.98E-02 +/- 2.83E-02	1.21E+00	1.40E-04 +/- 6.42E-06
7	1001.03	1.73E-02 +/- 1.23E-02	1.19E+00	1.23E-04 +/- 4.91E-06
8	1085.91	2.31E-02 +/- 1.64E-02	1.18E+00	1.15E-04 +/- 4.30E-06

Segment: 14 Detector: DET01 (# 1) Position: 14

Elapsed Live Time: 113.92 sec Elapsed Real Time: 115.00 sec

T R A N S M I S S I O N R E S U L T S

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.499 +/- 0.0252
SE-75	264.65	0.000 +/- 0.0000	0.566 +/- 0.0053
SE-75	279.53	0.000 +/- 0.0000	0.575 +/- 0.0071
SE-75	400.65	0.000 +/- 0.0000	0.603 +/- 0.0087

Batch 2002-03-912

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.55E+00	8.94E-06 +/- 4.41E-05
2	311.90	7.07E-02 +/- 3.91E-02	1.22E+00	3.18E-04 +/- 1.42E-05
3	1001.03	2.62E-02 +/- 1.51E-02	1.12E+00	1.27E-04 +/- 5.50E-06

Segment: 15 Detector: DET01 (# 1) Position: 15

Elapsed Live Time: 113.91 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.965 +/- 0.0353
SE-75	264.65	0.000 +/- 0.0000	0.897 +/- 0.0075
SE-75	279.53	0.000 +/- 0.0000	0.911 +/- 0.0095
SE-75	400.65	0.000 +/- 0.0000	0.894 +/- 0.0111

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.75E+00	1.02E+00	1.45E-08 +/- 6.96E-08
2	59.39	2.09E-01 +/- 8.53E-02	1.02E+00	1.06E-05 +/- 1.61E-05
3	778.90	1.73E-02 +/- 1.23E-02	1.03E+00	1.56E-04 +/- 7.35E-06

Segment: 16 Detector: DET01 (# 1) Position: 16

Elapsed Live Time: 113.92 sec Elapsed Real Time: 115.00 sec

Batch 2002-02-513

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.762 +/- 0.0319
SE-75	264.65	0.000 +/- 0.0000	0.772 +/- 0.0067
SE-75	279.53	0.000 +/- 0.0000	0.779 +/- 0.0086
SE-75	400.65	0.000 +/- 0.0000	0.821 +/- 0.0105

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.20E+00	9.52E-10 +/- 5.35E-09
2	264.66	9.17E-02 +/- 5.29E-02	1.10E+00	2.68E-04 +/- 1.80E-05
3	279.54	6.09E-02 +/- 3.87E-02	1.10E+00	2.56E-04 +/- 1.50E-05
4	413.70	5.07E-02 +/- 3.52E-02	1.08E+00	1.81E-04 +/- 1.21E-05
5	662.42	3.70E-02 +/- 2.65E-02	1.06E+00	1.26E-04 +/- 8.22E-06
6	1085.91	2.10E-02 +/- 1.62E-02	1.05E+00	9.33E-05 +/- 4.42E-06
7	1408.01	8.70E-03 +/- 8.70E-03	1.04E+00	7.39E-05 +/- 5.32E-06

Batch 2002-02-914

Summed Spectrum

Peak Locate Report

Sample ID: LL85801147
Peak Locate Performed on: 2-12-02 12:42:26 PM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192
Peak Search Sensitivity: 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
1	46.66	0.2789	23.25	8.52
2	70.30	0.0379	35.06	488.14
3	119.46	0.1218	59.63	36.24
4	200.50	0.2613	100.11	7.33
5	222.98	0.2709	111.34	6.67
6	259.47	0.1757	129.58	17.08
7	306.48	0.2379	153.07	9.11
8	417.46	0.2015	208.51	12.42
9	667.56	0.2827	333.47	6.30
10	692.07	0.2487	345.71	7.62
11	752.25	0.1917	375.78	12.76
12	768.01	0.3286	383.65	5.24
13	787.94	0.2716	393.61	5.65
14	829.99	0.1895	414.62	12.82
15	1119.99	0.2546	559.51	7.12
16	2931.13	0.2534	1464.38	5.03

Errors quoted at 1.000 sigma

Batch 2002-02-915

Summed Spectrum

Peak Analysis Report

Sample ID: LL85801147
Peak Analysis Performed on: 2-12-02 12:42:26 PM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	43-	49	46.66	23.25	1.12E+03	51.07	6.76E+02
2	67-	73	70.30	35.06	1.86E+06	1362.91	6.78E+02
3	116-	122	119.46	59.63	1.46E+04	137.94	2.29E+03
4	193-	204	200.50	100.11	3.14E+03	127.72	5.27E+03
5	219-	226	222.98	111.34	4.58E+02	65.52	1.84E+03
6	255-	263	259.47	129.58	2.41E+03	74.46	1.46E+03
7	302-	310	306.48	153.07	5.75E+02	56.12	1.20E+03
8	413-	421	417.46	208.51	8.97E+02	49.57	7.29E+02
9	662-	672	667.56	333.47	1.92E+02	33.52	3.75E+02
10	686-	697	692.07	345.71	2.98E+02	31.84	2.86E+02
11	747-	757	752.25	375.78	7.02E+02	35.13	2.23E+02
12	762-	773	768.01	383.65	2.12E+02	27.55	2.11E+02
13	782-	793	787.94	393.61	2.44E+02	26.79	1.89E+02
14	824-	835	829.99	414.62	6.56E+02	31.75	1.41E+02
15	1114-	1125	1119.99	559.51	1.94E+02	18.71	6.18E+01
16	2923-	2936	2931.13	1464.38	8.36E+01	12.01	2.14E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-02-916

Summed Spectrum

Nuclide Identification Report

Sample ID: LL85801147
Nuclide Library Used: C:\WAS\NLIB\LLNL.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/)	Activity Uncertainty
Pulser	1.000	35.10*	100.00	7.987E+05	1.755E+06
Pu-238	0.989	152.68*	0.00	6.201E+04	6.105E+03
Pu-239	0.942	413.70*	0.00	5.437E+04	2.805E+03
Pu-239A	0.994	129.29*	0.01	4.465E+04	1.706E+03

* = Energy line found in the spectrum.
Energy Tolerance : 1.500 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 1.000 sigma

Batch 2002-02-917

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 2-12-02 12:42:26 PM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	23.25	9.7676E+00	4.55
3	59.63	1.2724E+02	0.95
4	100.11	2.7341E+01	4.06
5	111.34	3.9789E+00	14.32
8	208.51	7.8014E+00	5.53
9	333.47	1.6687E+00	17.47
10	345.71	2.5912E+00	10.69
11	375.78	6.1090E+00	5.00
12	383.65	1.8427E+00	13.00
13	393.61	2.1208E+00	10.98
15	559.51	1.6885E+00	9.64
16	1464.38	7.2693E-01	14.37

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-02-918

Combined Segment NID

NID Results Combiner Mode: Sum Activities

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		3.71E+07	+/-	1.93E+08	9.81E+02	+/-	5.10E+03
SE-75	<	5.00E-02	+/-	3.54E-03	< 1.32E-06	+/-	9.36E-08
EU-152x	<	1.77E-01	+/-	8.96E-03	< 4.67E-06	+/-	2.37E-07
U-233		7.87E+02	+/-	5.54E+02	2.08E-02	+/-	1.47E-02
U-235		6.85E-02	+/-	2.74E-02	1.81E-06	+/-	7.24E-07
Np-237		7.90E-02	+/-	3.00E-02	2.09E-06	+/-	7.93E-07
Pu-238		5.44E+04	+/-	6.21E+03	1.44E+00	+/-	1.64E-01
U-238		4.80E+00	+/-	1.29E+00	1.27E-04	+/-	3.41E-05
Pu-239		5.77E+04	+/-	3.12E+03	1.53E+00	+/-	8.25E-02
Pu-239A		5.18E+04	+/-	2.35E+03	1.37E+00	+/-	6.22E-02
Am-241		1.25E+04	+/-	3.02E+03	3.31E-01	+/-	7.99E-02
Pu-241		4.52E+04	+/-	1.52E+04	1.19E+00	+/-	4.03E-01

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
U-233	8.18E-02	+/-	5.76E-02
U-235	3.17E-02	+/-	1.27E-02
Np-237	1.12E-04	+/-	4.25E-05
Pu-238	3.18E-03	+/-	3.63E-04
U-238	1.43E+01	+/-	3.85E+00
Pu-239	9.29E-01	+/-	5.02E-02
Pu-239A	8.34E-01	+/-	3.79E-02
Am-241	3.66E-03	+/-	8.82E-04
Pu-241	4.37E-04	+/-	1.47E-04

Batch 2DB2-B2-914

Summed Spectrum

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		7.99E+05	+/-	1.75E+06	2.11E+01	+/-	4.64E+01
SE-75	<	1.75E-01	+/-	1.35E-03	< 4.64E-06	+/-	3.58E-08
EU-152x	<	4.63E-01	+/-	7.99E-03	< 1.22E-05	+/-	2.11E-07
U-233	<	8.96E+03	+/-	1.72E+02	< 2.37E-01	+/-	4.54E-03
U-235	<	2.60E-01	+/-	4.96E-03	< 6.88E-06	+/-	1.31E-07
Np-237	<	2.72E-01	+/-	1.78E-03	< 7.20E-06	+/-	4.71E-08
Pu-238		6.20E+04	+/-	6.10E+03	1.64E+00	+/-	1.61E-01
U-238	<	1.17E+01	+/-	1.83E-01	< 3.10E-04	+/-	4.85E-06
Pu-239		5.44E+04	+/-	2.81E+03	1.44E+00	+/-	7.42E-02
Pu-239A		4.46E+04	+/-	1.71E+03	1.18E+00	+/-	4.51E-02
Am-241	<	2.37E+04	+/-	1.82E+02	< 6.28E-01	+/-	4.82E-03
Pu-241	<	1.15E+05	+/-	1.57E+03	< 3.05E+00	+/-	4.14E-02

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
Pu-238	3.62E-03	+/-	3.57E-04
Pu-239	8.75E-01	+/-	4.52E-02
Pu-239A	7.19E-01	+/-	2.75E-02

Final Non-Uniformity Results

Source Longitudinal Ratio:	0.955	+/-	11.3027
Matrix Longitudinal Ratio:	0.887	+/-	0.0688
Source Vertical Ratio:	0.602	+/-	0.3499
Matrix Vertical Ratio:	0.980	+/-	0.0420

NUDS could not find the transmission peak in one radial segment.

Batch 2002-02-021

LAWRENCE LIVERMORE NATIONAL LABORATORY

WASTE DISPOSAL REQUISITION

Waste Run Date:

W 200597

Label/waste Type: (Must check)
- ☐ Non-Haz
- ☐ Haz
- ☐ Low-Level
- ☒ TRU

RCRA ☐ CA ☐

☐ No Disposal Option

1. Container Serial Number or Retention Tank ID:

2. For TRU Waste, TRU Waste Container Serial No.: LL85801141TRU

3. Container Acceptable: ☒ Yes ☐ N/A Initials: RHC 11-31-00

Chemical Compatibility Code: DS

Storage Restrictions
☐ No Storage Restrictions
Not acceptable at the following locations:
☐ 233 ☐ 514 ☐ 612 ☑ 693
CWAA ☑ 169 ☑ 361 ☐ 612-4

4. Building No.: 332
5. Room No.: 1010
6. RMMA: ☒ Yes ☐ No
7. WAA No.: 332-A
14. Waste Package Seals Applied: ☑ Yes ☐ N/A (If yes, complete Step 15)

Hazardous Properties: ☐ Toxic ☐ Corrosive ☐ Ignitable ☐ Reactive

19. Outer Container Type: ☐ Box ☐ Sack ☐ Can ☐ SWB ☐ Carboy ☐ Tub ☒ Drum ☐ Tank - Fixed ☐ Tank - Portable ☐ Transportainer

20. Outer Container Size/Vol: ☐ 1 gal ☐ 750 gal ☐ 2 gal ☐ 1000 gal ☐ 5 gal ☐ 5000 gal ☐ 30 gal ☐ 67 cu ft ☒ 55 gal ☐ 1 × 1 × 1.5 ☐ 85 gal ☐ 2 × 4 × 7 ☐ 330 gal ☐ 4 × 4 × 7 ☐ 660 gal ☐ gal ☐ cu ft Other:

8. Workplace Start Date: 10/31/00
9. Workplace End Date: 11/27/00
10. Account No.: 5501-61
11. Directorate: DNT
15. Waste Package Seal Nos.: K265 T10620 5/24/01
16. Source Code: A940

☐ Lab Pack ☐ Over Pack

18. Waste Form: ☒ Solid ☐ Liquid ☐ Gas ☐ Sludge

12. Did Waste Minimization Effort Practices Begin in Current Calendar Year? ☐ Yes ☒ No
If yes, enter Activity Code: W_____
Comments:

13. WEF/PKE/SAW No.: ☐ WEF No. ☒ PKE No. ☐ SAW No. ☐ N/A
Specify: 0256, 0259, 0153

17. LLW Waste Stream No. or TRU Waste Form No.: /

21. Item No.	22. Spent or Unused (S/U)	23. Organic or Inorganic (O/I)	24. Waste Form (S, SL, L, G)	25. Waste Description (For multiple parcels, also list Parcel Card Nos.) 0151	26. Hazardous Constituents and Concentrations	27. Item Container Size	28. Quantity per Item Amount	28. Quantity per Item Units	29. Analysis Sample No.	Physical Waste Data: 30. Aqueous Only pH	30. Aqueous Only Normality	31. Flash Point
				PØ21719								
				PØ21707								
				PØ21708								
				PØ21709								
				PØ21726								
				PØ21724								

USE CONTINUATION FORM FOR ADDITIONAL ITEMS

32. Does the waste contain radioactive components? ☒ Yes ☐ No ☐ To be analyzed
(If yes or TBA, complete Steps 36–41 as applicable to waste type.)

This section (Steps 33–35) is required for Hazardous Waste generated in a RMMA

33. Was the waste kept isolated from any operation that could have produced radioactive contamination (using a glove box, vent hood, etc.)? ☐ Yes ☐ No (If no, full rad analysis required)

34. Was the waste exposed to particle beams capable of inducing radioactivity by activation? ☐ Yes ☐ No (If yes, full rad analysis required)

35. Describe other controls used to prevent radioactive contamination:

36. Radionuclides:
Check all Plutonium grades present:
☒ Weapons ☐ Fuel ☐ Reactor ☐ Am-enriched ☐ Mixed

☐ Enriched Uranium (Identify the % of each of the following:)
_____% U-234
_____% U-235
_____% U-238
(List additional radionuclides in Step 38.)

37. Gross weight of waste package: 69.6 Kg

Tare weight of container: 31.8 Kg 70.4 lbs

38. Radiological Data:
(For certified LLW and TRU waste, list totals from Parcel Cards.)

Item	Radionuclide(s)	Quantity	Units/Activity (Ci,g)	PE - Ci	Fissile g

39. Rad. Survey mr/hr: | β-γ @ Contact | β-γ @ 1 Meter | Neutron @ Contact

40. Swipe Data: ☐ Complies with 10 CFR 835 criteria for unrestricted release

41. Rad Swipe/Survey Performed By: (Print Name–Last, First) | Employee No.: | L-Code:

Signature: | Date: | Ext.:

42. Generator: I certify, to the best of my knowledge, that the information provided on this requisition is correct. I understand that I may be liable to State and Federal prosecution by intentionally providing false information. I have obtained this information by:
☐ Direct knowledge of the waste generating process ☐ Analytical Data
☐ Obtaining sufficient information from others knowledgeable of the waste generating process.

☒ Container Custodian: I certify that the waste parcels identified on this form are contained in this waste container and have been packaged in accordance with the requirements specified in the appropriate LLNL TRU Waste or Low-Level Waste Program Certification and Quality Assurance Program.

Generator or Container Custodian Name (Print – Last, First): MCAVOY, DOUGLAS

Signature:

Employee No.: 579425 | L-Code: 361 | Ext.: 31719 | Date: 12/12/2000

Inspected By: Signature: | **Employee No.:** | **Date:**

Characterization Chemist Approval ☐ Acceptable for Sampling (Initials) ☐ WEF

Signature: G Nuta Reviewed | **Employee No.:** 691278 | **Date:** 5-10-01

RCA Approval ☐ Decay ☐ NTS ☐ WIPP ☐ WEF Program (Initials) Certified (Initials) Certified (Initials)

Signature: | **Employee No.:** | **Date:**

RMMA Certification: Shipping | CC

RSDR #: DMH

☐ HWM Use Only

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Batch 2002-02-922

6/25/02

W 200597

Generator: Complete items 43–47, only if container contains a single parcel of solid radioactive waste, and there is no Parcel Card attached.

43. Waste Generating Procedure:

Procedure #: ☐ 332 FSP ☐ B-360 Complex FSP ☐ 331 FSP ☐ AVLIS HPP ☐ EX-404 ☐ _____

☐ SAP #: _____ ☐ Instruction #: _____

44. Method(s) used to identify radionuclides and/or determine activity: *(Check all that apply)*

☐ Process knowledge ☐ Mass ☐ Mass balance ☐ Alpha spectrometry ☐ Other _____

☐ Liquid scintillation counting ☐ Tritium off gas measurement (attach results) _____

☐ High Sensitivity Neutron Instrument (attach results) ☐ Gamma spectrometry _____

☐ AVLIS method (☐ A ☐ B ☐ C)
(Complete the following for method A and B)
This method to be used in conjunction with an authorized procedure.

D/A see card TC 5/9/01

Survey meter model: _____ Check source jig no. _____

Serial number: _____ _____ Detector response (±30%)

Calibration due date: _____ *(Specify amount and units) (e.g., dpm, cpm, mR/hr)* ☐ Satisfactory

45. Total Parcel Weight (g, lb):

Note: If AVLIS Method C, mass or mass balance is used, use a calibrated scale. _____ _____ Units ☐ Estimated Weight ☐ Scale: Serial #: _____ Calibration due date: _____

46. Will the final waste form contain any of the following? (Explain all "yes" answers)

Chelating Agents: ☐ Yes ☐ No (e.g., Radiac Wash, > 1% by weight / pkg)

Free Liquids: ☐ Yes ☐ No

Fine Particles: ☐ Yes ☐ No [> 1% of <10-micrometer particles (compare to flour) or >15% of <200-micrometer particles (compare to sand)]

Compressed Gases: ☐ Yes ☐ No (e.g., non-punctured aerosol cans)

Pyrophorics: ☐ Yes ☐ No (e.g., uranium turnings that could spontaneously combust if exposed to air)

Explosives: ☐ Yes ☐ No (e.g., TNT, PETN, HMX, that exhibit explosive properties)

Classified Material: ☐ Yes ☐ No

Friable Asbestos: ☐ Yes ☐ No

PCBs: ☐ Yes ☐ No

Explanations: _____

47. Verifier Certification: I verify that, to the best of my knowledge, the information supplied by the waste generator on this form is complete and accurate.

Verifier Name (Print):	Verification Date:
Signature:	Employee No.:

Hazardous Appendix
HWM-601 Review

SCIL (Single Container Inventory Limits) Exceeded ☒ No ☐ Yes

pH Results obtained by: *(Check all that apply)* NA

☐ Meter *(Calibrated)* ☐ Field Technician ☐ Sample Team

☐ Paper ☐ Analytical ☐ Chemist

Initial: _____

CC Rule (VOC's greater or less than 500 ppm Level 1, 2, 3): NA

☐ CC / > 500 / A ☐ CC / < 500 / A

☐ CC / > 500 / B ☐ CC / < 500 / B

A = Generator Knowledge B = Analytical Data

Storage Locations:

☐ No storage restrictions

Waste is not acceptable for storage at the following locations: *(Check all that apply)*

☐ 233 ☐ 514 ☐ 612 ☐ Bldg. 693

☒ 169 CWAA ☒ 361 CWAA ☐ 612-4 CWAA

STP Code: _____

☐ WEF CC Initials: EMF

6/98

Radiological Appendix HWM-800 Review

☐ No storage restrictions, based on Single Container Acceptable Limits.

Waste is not acceptable for storage at the following locations, based on SCAL: *(Check all that apply)* ☐ 233 ☐ 514 ☐ 612-1 ☐ Bldg. 693

☐ 612 (other than 612-1) ☐ 169 CWAA ☐ 361 CWAA

☐ Contains > 1 curie and/or is > the amount identified per radionuclide on attachment B of Procedure HWM 800.

☐ Contains > than 10 grams of fissile material (U-233, U-235, or Pu-239)

☐ Weight Dependent (Activity is dependent on weight)

STP Code: _____ ☐ WEF RCA initials: _____

Scheduled Date: __/__/__

☐ HWM Waste Run ☐ Processed Waste

☐ Site 300 to LLNL ☐ Commercial Shipment

☐ Secured Pickup ☐ HWM Field Pump Out

☐ HWM GeneratedWaste: Loc: _____

TWMS: Initial: _____ Date: _____

Item	RCH Prefix	RCH	P	Origin Code	Form Code	EPA No.	DTSC No.	MSDS No.	Hazardous Properties T C I R
1	U	8E	N		B4.29	—	—		☐ ☐ ☐ ☐
									☐ ☐ ☐ ☐
									☐ ☐ ☐ ☐
									☐ ☐ ☐ ☐
									☐ ☐ ☐ ☐
									☐ ☐ ☐ ☐

Retain 2002-07-923

****
***** GENIE QUALITY ASSURANCE *****
****

Last Results Report
2-12-02 1:12:55 PM

OK RM 2-12-02
JKS 4-24-02

QA File: C:\WAS\CTRS\CTR1\ARR1\S11_BCK.QA
Sample ID: B867
Sample Quantity: 1.0000E+00
Sample Date: 2-12-02 1:07:17 PM
Measurement Date: 2-12-02 1:07:15 PM
Elapsed Live Time: 200.0 seconds
Elapsed Real Time: 201.9 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
Ref. Peak	3.5070E+01	0.00
[0.00+/-0.00]		< : : : >
Upper CPS Reg	2.2170E+01	0.00
[0.00+/-0.00]		< : : : >
Peak counts/second	1.0089E+03	0.00
[0.00+/-0.00]		< : : : >
Pulser FWHM	1.0236E+00	0.00
[0.00+/-0.00]		< : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

****
***** GENIE QUALITY ASSURANCE *****
****

Last Results Report
2-12-02 1:12:48 PM

QA File: C:\WAS\CTRS\CTR1\ARR1\T11_BCK.QA
Sample ID: B867
Sample Quantity: 1.0000E+00
Sample Date: 2-12-02 1:07:17 PM
Measurement Date: 2-12-02 1:10:43 PM
Elapsed Live Time: 100.0 seconds
Elapsed Real Time: 103.9 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >

Batch 2002-02-924

400.6 keV Centroid	8.0368E+02			0.00			
[0.00+/-0.00]		<	:	:	:	>	
400.6 keV FWHM	1.4792E+00			0.00			
[0.00+/-0.00]		<	:	:	:	>	
Peak centroid 136 KeV	2.7299E+02			0.00			
[0.00+/-0.00]		<	:	:	:	>	
Peak area 400 keV	1.7531E+04			0.00			
[0.00+/-0.00]		<	:	:	:	>	
Peak counts/second	1.7531E+02			0.00			
[0.00+/-0.00]		<	:	:	:	>	

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

Batch 2002-02-925

****
***** GENIE QUALITY ASSURANCE *****
****

Last Results Report
2-13-02 8:04:28 AM

QA File: C:\WAS\CTRS\CTR1\ARR1\T11_BCK.QA
Sample ID: B869
Sample Quantity: 1.0000E+00
Sample Date: 2-13-02 7:58:57 AM
Measurement Date: 2-13-02 8:02:23 AM
Elapsed Live Time: 100.0 seconds
Elapsed Real Time: 104.0 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
400.6 keV Centroid [0.00+/-0.00]	8.0362E+02	0.00 < : : : >
400.6 keV FWHM [0.00+/-0.00]	1.5150E+00	0.00 < : : : >
Peak centroid 136 KeV [0.00+/-0.00]	2.7291E+02	0.00 < : : : >
Peak area 400 keV [0.00+/-0.00]	1.7260E+04	0.00 < : : : >
Peak counts/second [0.00+/-0.00]	1.7260E+02	0.00 < : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

****
***** GENIE QUALITY ASSURANCE *****
****

Last Results Report
2-13-02 8:04:35 AM

QA File: C:\WAS\CTRS\CTR1\ARR1\S11_BCK.QA
Sample ID: B869
Sample Quantity: 1.0000E+00
Sample Date: 2-13-02 7:58:57 AM
Measurement Date: 2-13-02 7:58:55 AM
Elapsed Live Time: 200.0 seconds
Elapsed Real Time: 201.9 seconds

Parameter Description	Value	Deviation/Flags

Batch 2002-02-926

[Mean +/- Std. Dev.]		< LU : SD : UD : BS >
Ref. Peak	3.5064E+01	0.00
[0.00+/-0.00]		< : : : >
Upper CPS Reg	2.5030E+01	0.00
[0.00+/-0.00]		< : : : >
Peak counts/second	1.0090E+03	0.00
[0.00+/-0.00]		< : : : >
Pulser FWHM	1.0187E+00	0.00
[0.00+/-0.00]		< : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

Batch 2002-02-927

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS 2.3A

****
* DRUM INFORMATION *
****

Drum Package ID: S100_870
Sequence Number: 870
Assay Date & Time: 2-13-2002 8:09:38 AM
Drum Package GROSS Weight: 54.00 kg NET Weight: 22.20 kg

IDC Number: SGS100

QC Replicate (Yes/No): NO Passed (Yes/No): _____

Operator Name (Printed): Russell Rath

Operator Signature: _____ Date: 2-13-02

Independent Reviewer: _____ Date: 4-24-02

Expert Reviewer: (NOT REQUIRED) Date: _____

Tech. Supv/QA Officer: _____ Date: 7/17/02

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 9.296E+00 +/- 2.130E+00 Ci

Batch 2002-02-628

ISOTOPIC INFORMATION

Isotope	Measured Mass (g)	Mass Uncertainty (g)	MDC (g)
Pu-238	1.018E-02	3.50E-03	2.244E-05
Pu-239	9.920E+01	3.25E+01	2.187E-01
Pu-240	5.895E+00	1.93E+00	1.300E-02
Pu-241	2.517E-01	8.24E-02	6.007E-03
Pu-242	3.252E-02	1.24E-02	7.169E-05
Am-241	4.619E-01	1.51E-01	7.651E-03
Am-243	0.000E+00	0.00E+00	0.000E+00
Np-237	0.000E+00	0.00E+00	1.149E-03
U-235	0.000E+00	0.00E+00	6.203E-01
U-238	1.526E+01	1.03E+01	1.341E+01
U-233	1.643E+00	5.49E-01	1.643E+00

Total Pu Mass: 1.05E+02 +/- 5.87E+00 g

MGA RESULTS

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	9.658E-03	5.41E+00
Pu-239	9.413E+01	4.49E-02
Pu-240	5.594E+00	7.48E-01
Pu-241	2.388E-01	4.86E-01
Pu-242	3.086E-02	1.00E+01
Am-241	4.383E-01	4.10E-01

Batch 2003-03-929

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005

Assay Date & Time: 2-13-2002 8:09:38 AM

Drum Package ID: S100_870
Sequence Number: 870

Waste Classification (TRU or LLW): TRU

		Errors at 1.96 sigma	
Total Alpha Activity :	9.296E+00	+/- 2.13E+00	Ci
Total TRU Activity :	4.187E+05	+/- 9.60E+04	nCi/g
Pu-239 Equiv Activity:	9.793E+00	+/- 2.14E+00	Ci
Fissile Gram Equiv Mass:	9.990E+01	+/- 3.25E+01	g
Total Decay Heat:	2.959E-01	+/- 6.71E-02	W
TMU Value:	32.71 %		

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error	MDA gm
Pu-238	1.76E-01	6.06E-02	1.02E-02	3.50E-03	2.24E-05
Pu-239	6.16E+00	2.02E+00	9.92E+01	3.25E+01	2.19E-01
Pu-240	1.36E+00	4.44E-01	5.89E+00	1.93E+00	1.30E-02
Pu-241	2.62E+01	8.57E+00	2.52E-01	8.24E-02	6.01E-03
Pu-242	1.29E-04	4.92E-05	3.25E-02	1.24E-02	7.17E-05
Am-241	1.60E+00	5.25E-01	4.62E-01	1.51E-01	7.65E-03
Am-243	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Np-237	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.15E-03
U-235	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.20E-01
U-238	5.19E-06	3.49E-06	1.53E+01	1.03E+01	1.34E+01
U-233	1.60E-02	5.36E-03	1.64E+00	5.49E-01	1.64E+00

Total Pu Mass: 1.05E+02 +/- 5.87E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	9.658E-03	5.41E+00
Pu-239	9.413E+01	4.49E-02
Pu-240	5.594E+00	7.48E-01
Pu-241	2.388E-01	4.86E-01
Pu-242	3.086E-02	1.00E+01
Am-241	4.383E-01	4.10E-01

Batch 2002-02-93B

****
***** M G A R E P O R T *****
****

Report generated on: 2-13-02 9:06:17 AM

MGA version: MGA V9.5 CI

Spectrum ID: 11200870.CNF Sens : 30.0% LT: 51.0 Mins DT: 8.80
Measurement date: 2-13-02 Declared date: 2-13-02

Sample ID: S100_870 Detector: Total counts: 1.520E+07

Pu g/cm2 = 0.8595 Cd g/cm2 = 1.7869 FWHM at 122 keV = 691 eV
QFIT = 1.10 FWHM at 208 keV = 869 eV
NQFIT = 1.00

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	Meas. date %Err	Decl. date % weight	Decl. date %Err
Pu-238	0.000103	5.4	5.4	0.0404	5.4	0.00966	5.41	0.00966	5.41
Pu-239	1.000000	0.0	0.3	394.1799	0.5	94.12691	0.04	94.12691	0.04
Pu-240	0.059428	0.8	0.8	23.4253	0.8	5.59377	0.75	5.59377	0.75
Pu-241	0.002537	0.5	0.4	1.0000	0.0	0.23879	0.49	0.23879	0.49
Pu-242	(New alg.)			0.1292	(10)	0.03086	(10)	0.03086	(10)
Am-241	0.004657	0.4	0.3	1.8356	0.5	0.43833	0.41	0.43833	0.41

Pu-240 effective (meas. date) = 5.670 +/- 0.80%
Am-241 separated about 21.599 +/- 0.132 years ago
Am/Pu-241 weight ratio = 1.83562 +/- 0.51%

Messages :

Lead x-rays detected.
Calculations in MGAABS didn't converge : results may be suspect.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Gamma Waste Assay

Sample Information

File Name: C:\WAS\DATA\900\11100870.S11
Sample ID: S100_870 Count Sequence Number: 870
Assay Start: 2-13-02 8:09:40 AM
Description 1: 100g source
Description 2:
Location: 7715
Comment:
Waste Type:
Weight: Gross: 54000.0 g Net: 22200.0 g
Density: 0.107 g /ml

Container Type: 55 Gal Galv
Container: Volume: 208000. ml Full: 100.0 %

System Configuration

Counter ID Number: SGS
Arrangement Description: SGS
Segments: Number: 16 Offset: 0
Scanning Platform: Start: 934 mm Delta: -51 mm
Count Type: Daily 100 g Drum Check
Collimator/Geometry Setting: 0
Transmission Mode: Two pass
Transmission Source: 0

Errors quoted at 1.000 sigma
Reference Source Date: Reference Source Rate: 1.01E+03 cps
Geometric Correction Factor(SWCONTGCF): 0.760
Date of efficiency calibration approval: 4-18-2001 12:41:36 PM
Mu Factors response file: Lucite
Transmission Calib. Time: 5-11-2001 2:20:42 PM 59052

Reviewed by: _____ Date: 2-13-02

Batch 2002-93-832

Segment Results

Segment: 1 Detector: DET01 (# 1) Position: 1

Elapsed Live Time: 113.38 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.395 +/- 0.0261
SE-75	264.65	0.000 +/- 0.0000	0.441 +/- 0.0045
SE-75	279.53	0.000 +/- 0.0000	0.441 +/- 0.0062
SE-75	400.65	0.000 +/- 0.0000	0.497 +/- 0.0078

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.11	2.78E+00 +/- 2.59E-01	2.37E+00	9.03E-08 +/- 1.14E-06
2	35.10	1.01E+03 +/- 4.79E+00	1.76E+00	2.61E-06 +/- 1.64E-05
3	59.50	4.22E+00 +/- 3.73E-01	1.52E+00	3.73E-05 +/- 7.39E-05
4	1001.03	3.52E-02 +/- 2.21E-02	1.17E+00	7.98E-05 +/- 4.04E-06
5	1085.91	1.43E-02 +/- 1.31E-02	1.17E+00	7.49E-05 +/- 3.78E-06

Segment: 2 Detector: DET01 (# 1) Position: 2

Elapsed Live Time: 113.21 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.455 +/- 0.0288
SE-75	264.65	0.000 +/- 0.0000	0.494 +/- 0.0049
SE-75	279.53	0.000 +/- 0.0000	0.506 +/- 0.0067
SE-75	400.65	0.000 +/- 0.0000	0.561 +/- 0.0084

Batch 2002-02-533

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.33	3.60E+00 +/- 2.95E-01	2.11E+00	6.14E-10 +/- 5.80E-09
2	35.10	1.01E+03 +/- 4.78E+00	1.63E+00	2.21E-07 +/- 1.06E-06
3	48.72	7.08E+00 +/- 4.40E-01	1.48E+00	5.36E-06 +/- 1.32E-05
4	59.64	7.54E+00 +/- 4.23E-01	1.43E+00	2.21E-05 +/- 3.32E-05
5	778.90	3.40E-02 +/- 2.22E-02	1.17E+00	1.44E-04 +/- 6.92E-06
6	1001.03	1.96E-02 +/- 1.69E-02	1.14E+00	1.20E-04 +/- 5.31E-06

Segment: 3 Detector: DET01 (# 1) Position: 3

Elapsed Live Time: 112.47 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.404 +/- 0.0297
SE-75	264.65	0.000 +/- 0.0000	0.470 +/- 0.0048
SE-75	279.53	0.000 +/- 0.0000	0.476 +/- 0.0066
SE-75	400.65	0.000 +/- 0.0000	0.512 +/- 0.0081

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	3.17E+00 +/- 3.35E-01	2.54E+00	3.50E-09 +/- 3.85E-08
2	23.28	4.40E+00 +/- 3.43E-01	2.32E+00	1.11E-08 +/- 1.08E-07
3	35.10	1.01E+03 +/- 4.81E+00	1.74E+00	1.07E-06 +/- 5.27E-06
4	59.61	3.06E+01 +/- 7.34E-01	1.50E+00	3.79E-05 +/- 5.87E-05
5	74.82	1.50E+00 +/- 5.74E-01	1.46E+00	9.52E-05 +/- 7.46E-05
6	98.93	1.40E+01 +/- 9.32E-01	1.42E+00	2.01E-04 +/- 4.72E-05
7	103.51	1.05E+01 +/- 6.60E-01	1.41E+00	2.20E-04 +/- 3.92E-05
8	111.23	4.09E+00 +/- 7.66E-01	1.40E+00	2.49E-04 +/- 2.66E-05
9	129.29	7.86E+00 +/- 6.49E-01	1.39E+00	3.02E-04 +/- 1.84E-05
10	148.57	1.53E+00 +/- 5.35E-01	1.38E+00	3.39E-04 +/- 3.24E-05
11	208.40	9.27E+00 +/- 4.90E-01	1.34E+00	3.66E-04 +/- 3.64E-05
12	300.10	5.69E-01 +/- 3.55E-01	1.30E+00	3.20E-04 +/- 1.49E-05
13	333.23	2.18E+00 +/- 3.56E-01	1.29E+00	3.00E-04 +/- 1.35E-05
14	345.56	2.32E+00 +/- 3.14E-01	1.29E+00	2.93E-04 +/- 1.36E-05
15	375.65	5.20E+00 +/- 3.30E-01	1.28E+00	2.76E-04 +/- 1.44E-05

Batch 2002-02-934

16	383.56	5.18E-01	+/- 1.76E-01	1.28E+00	2.72E-04	+/- 1.46E-05
17	393.54	2.38E+00	+/- 2.13E-01	1.28E+00	2.67E-04	+/- 1.48E-05
18	413.70	5.42E+00	+/- 2.53E-01	1.27E+00	2.57E-04	+/- 1.52E-05
19	423.45	4.29E-01	+/- 1.33E-01	1.27E+00	2.53E-04	+/- 1.53E-05
20	443.98	1.23E-01	+/- 8.33E-02	1.26E+00	2.43E-04	+/- 1.54E-05
21	452.13	6.89E-01	+/- 1.06E-01	1.26E+00	2.40E-04	+/- 1.54E-05
22	662.42	2.03E-01	+/- 5.34E-02	1.21E+00	1.78E-04	+/- 1.02E-05
23	723.39	1.70E-01	+/- 5.13E-02	1.20E+00	1.66E-04	+/- 8.74E-06
24	1001.03	6.17E-02	+/- 2.33E-02	1.17E+00	1.31E-04	+/- 5.70E-06
25	1112.12	3.09E-02	+/- 2.13E-02	1.16E+00	1.21E-04	+/- 5.09E-06

Segment: 4 Detector: DET01 (# 1) Position: 4

Elapsed Live Time: 107.82 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.414 +/- 0.0382
SE-75	264.65	0.000 +/- 0.0000	0.537 +/- 0.0055
SE-75	279.53	0.000 +/- 0.0000	0.548 +/- 0.0076
SE-75	400.65	0.000 +/- 0.0000	0.597 +/- 0.0092

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	1.40E+01 +/- 6.43E-01	2.49E+00	2.23E-06 +/- 3.43E-06
2	23.18	1.79E+01 +/- 7.06E-01	2.28E+00	3.33E-06 +/- 4.68E-06
3	35.10	1.01E+03 +/- 4.93E+00	1.72E+00	2.00E-05 +/- 1.66E-05
4	59.60	2.48E+02 +/- 1.99E+00	1.49E+00	9.83E-05 +/- 3.39E-05
5	75.03	2.05E+00 +/- 6.96E-01	1.44E+00	1.58E-04 +/- 3.32E-05
6	98.86	1.50E+02 +/- 2.20E+00	1.40E+00	2.40E-04 +/- 2.42E-05
7	103.48	1.24E+02 +/- 1.61E+00	1.40E+00	2.53E-04 +/- 2.24E-05
8	111.31	2.61E+01 +/- 1.53E+00	1.39E+00	2.74E-04 +/- 1.97E-05
9	117.27	1.48E+01 +/- 1.25E+00	1.39E+00	2.88E-04 +/- 1.80E-05
10	129.29	9.84E+01 +/- 1.40E+00	1.38E+00	3.12E-04 +/- 1.61E-05
11	148.57	2.16E+01 +/- 9.96E-01	1.36E+00	3.40E-04 +/- 1.63E-05
12	164.87	2.14E+00 +/- 9.65E-01	1.34E+00	3.56E-04 +/- 1.76E-05
13	171.91	4.04E+00 +/- 8.92E-01	1.33E+00	3.60E-04 +/- 1.81E-05
14	189.60	4.62E+00 +/- 8.03E-01	1.32E+00	3.68E-04 +/- 1.91E-05
15	196.03	5.25E+00 +/- 7.91E-01	1.31E+00	3.69E-04 +/- 1.93E-05
16	208.36	9.70E+01 +/- 1.49E+00	1.30E+00	3.71E-04 +/- 1.94E-05
17	225.49	1.00E+00 +/- 5.50E-01	1.28E+00	3.69E-04 +/- 1.92E-05
18	244.70	2.68E+00 +/- 6.10E-01	1.27E+00	3.65E-04 +/- 1.85E-05
19	255.90	5.13E+00 +/- 6.24E-01	1.26E+00	3.62E-04 +/- 1.80E-05
20	267.90	3.89E+00 +/- 5.74E-01	1.25E+00	3.58E-04 +/- 1.73E-05

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21	298.00	3.96E+00	+/- 6.93E-01	1.24E+00	3.45E-04	+/- 1.56E-05
22	311.90	3.18E+00	+/- 5.46E-01	1.23E+00	3.38E-04	+/- 1.48E-05
23	321.29	1.91E+00	+/- 5.51E-01	1.23E+00	3.33E-04	+/- 1.43E-05
24	324.34	1.58E+00	+/- 4.19E-01	1.23E+00	3.32E-04	+/- 1.41E-05
25	333.29	2.73E+01	+/- 8.83E-01	1.23E+00	3.27E-04	+/- 1.37E-05
26	336.45	3.00E+00	+/- 6.99E-01	1.23E+00	3.26E-04	+/- 1.36E-05
27	345.61	2.61E+01	+/- 7.05E-01	1.22E+00	3.21E-04	+/- 1.32E-05
28	368.90	1.14E+01	+/- 5.39E-01	1.22E+00	3.09E-04	+/- 1.23E-05
29	375.68	7.68E+01	+/- 1.05E+00	1.22E+00	3.06E-04	+/- 1.21E-05
30	383.49	7.75E+00	+/- 5.07E-01	1.21E+00	3.02E-04	+/- 1.18E-05
31	393.63	2.81E+01	+/- 5.99E-01	1.21E+00	2.97E-04	+/- 1.16E-05
32	413.70	7.49E+01	+/- 9.17E-01	1.21E+00	2.87E-04	+/- 1.11E-05
33	423.28	4.20E+00	+/- 3.55E-01	1.20E+00	2.83E-04	+/- 1.10E-05
34	452.27	8.82E+00	+/- 3.44E-01	1.20E+00	2.70E-04	+/- 1.06E-05
35	620.09	1.01E+00	+/- 1.22E-01	1.17E+00	2.07E-04	+/- 9.43E-06
36	653.68	8.71E-01	+/- 1.14E-01	1.16E+00	1.97E-04	+/- 9.12E-06
37	662.42	3.47E+00	+/- 1.98E-01	1.16E+00	1.95E-04	+/- 9.03E-06
38	690.05	5.82E-01	+/- 1.01E-01	1.16E+00	1.87E-04	+/- 8.74E-06
39	723.27	1.77E+00	+/- 1.54E-01	1.15E+00	1.79E-04	+/- 8.35E-06
40	757.04	2.21E-01	+/- 5.87E-02	1.15E+00	1.72E-04	+/- 7.94E-06
41	771.10	4.34E-01	+/- 8.62E-02	1.15E+00	1.68E-04	+/- 7.76E-06

Segment: 5 Detector: DET01 (# 1) Position: 5

Elapsed Live Time: 100.79 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.190 +/- 0.0036
SE-75	279.53	0.000 +/- 0.0000	0.228 +/- 0.0057
SE-75	400.65	0.000 +/- 0.0000	0.365 +/- 0.0077

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	3.57E+01 +/- 9.75E-01	4.10E+00	1.08E-06 +/- 1.72E-06
2	23.15	3.55E+01 +/- 1.08E+00	4.10E+00	1.74E-06 +/- 2.54E-06
3	35.10	1.01E+03 +/- 5.11E+00	4.10E+00	1.48E-05 +/- 1.27E-05
4	49.58	1.13E+01 +/- 1.36E+00	4.10E+00	5.46E-05 +/- 2.71E-05
5	59.57	6.96E+02 +/- 3.99E+00	4.10E+00	9.32E-05 +/- 3.29E-05
6	74.94	6.62E+00 +/- 9.77E-01	4.10E+00	1.58E-04 +/- 3.39E-05

Batch 2003-03-934

	7	98.77	3.69E+02	+/-	3.60E+00	4.10E+00	2.49E-04	+/- 2.52E-05
	8	103.41	2.37E+02	+/-	3.24E+00	4.10E+00	2.64E-04	+/- 2.33E-05
	9	111.19	6.16E+01	+/-	2.46E+00	4.10E+00	2.86E-04	+/- 2.04E-05
	10	117.10	3.58E+01	+/-	1.90E+00	4.10E+00	3.01E-04	+/- 1.87E-05
	11	129.29	2.42E+02	+/-	2.24E+00	4.10E+00	3.26E-04	+/- 1.67E-05
	12	146.39	4.57E+01	+/-	1.56E+00	3.26E+00	3.52E-04	+/- 1.70E-05
	13	148.57	1.86E+01	+/-	1.19E+00	3.17E+00	3.54E-04	+/- 1.71E-05
	14	160.95	3.41E+00	+/-	1.28E+00	2.79E+00	3.65E-04	+/- 1.83E-05
	15	164.85	7.92E+00	+/-	1.24E+00	2.70E+00	3.68E-04	+/- 1.86E-05
	16	171.54	5.32E+00	+/-	1.54E+00	2.58E+00	3.71E-04	+/- 1.92E-05
	17	179.38	5.39E+00	+/-	1.20E+00	2.45E+00	3.74E-04	+/- 1.97E-05
	18	189.58	9.17E+00	+/-	1.10E+00	2.32E+00	3.76E-04	+/- 2.02E-05
	19	195.98	1.27E+01	+/-	1.19E+00	2.25E+00	3.76E-04	+/- 2.03E-05
	20	208.30	2.39E+02	+/-	2.37E+00	2.13E+00	3.75E-04	+/- 2.04E-05
	21	244.70	3.98E+00	+/-	8.47E-01	1.87E+00	3.63E-04	+/- 1.90E-05
	22	255.72	1.11E+01	+/-	8.31E-01	1.81E+00	3.58E-04	+/- 1.84E-05
	23	267.88	7.48E+00	+/-	8.01E-01	1.74E+00	3.51E-04	+/- 1.76E-05
	24	297.89	5.19E+00	+/-	9.35E-01	1.62E+00	3.34E-04	+/- 1.56E-05
	25	311.90	7.08E+00	+/-	7.53E-01	1.59E+00	3.26E-04	+/- 1.48E-05
	26	321.29	5.25E+00	+/-	8.13E-01	1.57E+00	3.20E-04	+/- 1.42E-05
	27	324.22	2.11E+00	+/-	5.91E-01	1.56E+00	3.19E-04	+/- 1.41E-05
	28	333.21	6.54E+01	+/-	1.35E+00	1.55E+00	3.13E-04	+/- 1.36E-05
	29	336.35	9.94E+00	+/-	1.04E+00	1.54E+00	3.12E-04	+/- 1.34E-05
	30	345.56	5.94E+01	+/-	1.06E+00	1.52E+00	3.06E-04	+/- 1.30E-05
	31	368.88	2.73E+01	+/-	8.05E-01	1.48E+00	2.93E-04	+/- 1.20E-05
	32	375.63	1.70E+02	+/-	1.70E+00	1.47E+00	2.89E-04	+/- 1.18E-05
	33	383.43	1.70E+01	+/-	7.68E-01	1.46E+00	2.85E-04	+/- 1.16E-05
	34	393.55	6.45E+01	+/-	9.34E-01	1.44E+00	2.79E-04	+/- 1.13E-05
	35	413.70	1.71E+02	+/-	1.51E+00	1.43E+00	2.69E-04	+/- 1.09E-05
	36	423.20	8.34E+00	+/-	4.54E-01	1.42E+00	2.64E-04	+/- 1.07E-05
	37	452.20	1.90E+01	+/-	5.27E-01	1.41E+00	2.50E-04	+/- 1.03E-05
	38	619.99	1.69E+00	+/-	1.79E-01	1.34E+00	1.90E-04	+/- 9.14E-06
	39	641.03	6.69E-01	+/-	1.66E-01	1.34E+00	1.84E-04	+/- 8.96E-06
	40	646.97	5.88E-01	+/-	1.85E-01	1.33E+00	1.83E-04	+/- 8.91E-06
	41	653.65	1.59E+00	+/-	1.75E-01	1.33E+00	1.81E-04	+/- 8.85E-06
M	42	660.18	7.50E-01	+/-	1.12E-01	1.33E+00	1.79E-04	+/- 8.79E-06

Batch 2002-02-937

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
m 43	663.53	7.87E+00 +/- 4.03E-01	1.33E+00	1.78E-04 +/- 8.76E-06
44	689.77	6.17E-01 +/- 1.14E-01	1.32E+00	1.72E-04 +/- 8.50E-06
45	705.03	2.15E-01 +/- 1.14E-01	1.32E+00	1.69E-04 +/- 8.34E-06
46	723.35	3.43E+00 +/- 2.26E-01	1.31E+00	1.65E-04 +/- 8.15E-06
47	757.71	3.81E-01 +/- 1.01E-01	1.30E+00	1.58E-04 +/- 7.76E-06
48	770.91	1.02E+00 +/- 1.21E-01	1.30E+00	1.56E-04 +/- 7.60E-06
49	1408.01	2.97E-02 +/- 2.42E-02	1.21E+00	9.75E-05 +/- 6.10E-06

Segment: 6 Detector: DET01 (# 1) Position: 6

Elapsed Live Time: 99.58 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.190 +/- 0.0036
SE-75	279.53	0.000 +/- 0.0000	0.207 +/- 0.0057
SE-75	400.65	0.000 +/- 0.0000	0.354 +/- 0.0077

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	3.87E+01 +/- 1.04E+00	4.10E+00	3.85E-07 +/- 5.97E-07
2	23.18	3.65E+01 +/- 1.12E+00	4.10E+00	6.72E-07 +/- 9.54E-07
3	35.10	1.01E+03 +/- 5.17E+00	4.10E+00	8.04E-06 +/- 6.71E-06
4	49.44	1.29E+01 +/- 1.39E+00	4.10E+00	3.64E-05 +/- 1.78E-05
5	59.57	7.37E+02 +/- 4.21E+00	4.10E+00	6.89E-05 +/- 2.39E-05
6	75.02	4.97E+00 +/- 1.03E+00	4.10E+00	1.29E-04 +/- 2.73E-05
7	98.75	3.68E+02 +/- 4.02E+00	4.10E+00	2.22E-04 +/- 2.25E-05
8	103.41	3.14E+02 +/- 2.69E+00	4.10E+00	2.38E-04 +/- 2.11E-05
9	111.20	6.00E+01 +/- 2.62E+00	4.10E+00	2.63E-04 +/- 1.90E-05
10	114.42	7.37E+00 +/- 2.62E+00	4.10E+00	2.72E-04 +/- 1.82E-05
11	117.12	4.10E+01 +/- 2.03E+00	4.10E+00	2.80E-04 +/- 1.77E-05
12	129.29	2.77E+02 +/- 2.44E+00	4.10E+00	3.10E-04 +/- 1.61E-05
13	144.26	2.61E+00 +/- 1.39E+00	3.37E+00	3.38E-04 +/- 1.63E-05
14	148.57	4.80E+01 +/- 1.58E+00	3.17E+00	3.45E-04 +/- 1.67E-05
15	161.08	4.55E+00 +/- 1.37E+00	2.78E+00	3.60E-04 +/- 1.78E-05

Batch Jan-3-02:639

16	164.78	6.19E+00	+/-	1.33E+00	2.70E+00	3.64E-04	+/-	1.82E-05
17	171.60	1.26E+01	+/-	1.23E+00	2.57E+00	3.69E-04	+/-	1.88E-05
18	179.40	6.20E+00	+/-	1.28E+00	2.45E+00	3.74E-04	+/-	1.94E-05
19	189.58	8.77E+00	+/-	1.18E+00	2.32E+00	3.78E-04	+/-	1.99E-05
20	196.03	1.52E+01	+/-	1.19E+00	2.25E+00	3.80E-04	+/-	2.01E-05
21	208.29	2.70E+02	+/-	2.56E+00	2.13E+00	3.81E-04	+/-	2.03E-05
22	244.70	4.21E+00	+/-	9.06E-01	1.87E+00	3.73E-04	+/-	1.92E-05
23	255.76	1.14E+01	+/-	8.84E-01	1.81E+00	3.69E-04	+/-	1.86E-05
24	267.94	9.48E+00	+/-	8.48E-01	1.75E+00	3.63E-04	+/-	1.78E-05
25	297.93	7.97E+00	+/-	9.80E-01	1.66E+00	3.47E-04	+/-	1.59E-05
26	311.90	9.84E+00	+/-	7.88E-01	1.63E+00	3.39E-04	+/-	1.51E-05
27	321.33	6.29E+00	+/-	8.30E-01	1.60E+00	3.33E-04	+/-	1.45E-05
28	324.26	3.88E+00	+/-	6.31E-01	1.60E+00	3.31E-04	+/-	1.44E-05
29	333.20	7.57E+01	+/-	1.44E+00	1.58E+00	3.26E-04	+/-	1.39E-05
30	336.31	9.35E+00	+/-	1.10E+00	1.57E+00	3.24E-04	+/-	1.37E-05
31	345.59	7.20E+01	+/-	1.06E+00	1.55E+00	3.19E-04	+/-	1.33E-05
32	368.84	2.83E+01	+/-	8.67E-01	1.50E+00	3.05E-04	+/-	1.23E-05
33	375.63	1.90E+02	+/-	1.85E+00	1.49E+00	3.02E-04	+/-	1.21E-05
34	383.41	1.83E+01	+/-	8.23E-01	1.48E+00	2.97E-04	+/-	1.18E-05
35	393.56	7.21E+01	+/-	1.00E+00	1.46E+00	2.92E-04	+/-	1.16E-05
36	413.70	1.91E+02	+/-	1.63E+00	1.44E+00	2.81E-04	+/-	1.11E-05
37	423.19	1.03E+01	+/-	5.02E-01	1.43E+00	2.76E-04	+/-	1.09E-05
38	452.17	2.36E+01	+/-	5.64E-01	1.42E+00	2.61E-04	+/-	1.05E-05
39	482.66	6.58E-01	+/-	2.16E-01	1.41E+00	2.48E-04	+/-	1.02E-05
40	620.13	1.65E+00	+/-	1.96E-01	1.35E+00	1.98E-04	+/-	9.16E-06
41	641.33	1.15E+00	+/-	1.77E-01	1.35E+00	1.92E-04	+/-	8.97E-06
42	646.99	4.95E-01	+/-	2.01E-01	1.34E+00	1.90E-04	+/-	8.92E-06

Batch 2002-02-639

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
43	653.73	1.44E+00 +/- 1.84E-01	1.34E+00	1.89E-04 +/- 8.86E-06
44	662.42	9.12E+00 +/- 3.40E-01	1.34E+00	1.86E-04 +/- 8.77E-06
45	690.02	7.95E-01 +/- 1.34E-01	1.33E+00	1.80E-04 +/- 8.49E-06
46	723.24	4.26E+00 +/- 2.38E-01	1.32E+00	1.72E-04 +/- 8.13E-06
47	770.50	9.57E-01 +/- 1.30E-01	1.31E+00	1.62E-04 +/- 7.58E-06
48	1112.12	4.31E-02 +/- 2.36E-02	1.25E+00	1.20E-04 +/- 4.28E-06

Segment: 7 Detector: DET01 (# 1) Position: 7

Elapsed Live Time: 104.42 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.232 +/- 0.0036
SE-75	279.53	0.000 +/- 0.0000	0.263 +/- 0.0056
SE-75	400.65	0.000 +/- 0.0000	0.365 +/- 0.0073

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
	1	21.42	2.31E+01 +/- 8.28E-01	4.10E+00	2.18E-09 +/- 2.40E-08
	2	23.19	3.11E+01 +/- 9.18E-01	4.10E+00	7.09E-09 +/- 6.96E-08
	3	35.10	1.01E+03 +/- 5.02E+00	4.10E+00	9.59E-07 +/- 4.73E-06
	4	59.59	5.38E+02 +/- 3.28E+00	4.10E+00	4.01E-05 +/- 6.21E-05
	5	75.01	7.45E+00 +/- 1.13E+00	4.10E+00	1.04E-04 +/- 8.11E-05
	6	98.82	2.60E+02 +/- 2.95E+00	4.10E+00	2.21E-04 +/- 5.18E-05
	7	103.46	2.06E+02 +/- 2.15E+00	4.10E+00	2.41E-04 +/- 4.28E-05
	8	111.28	4.08E+01 +/- 2.05E+00	4.10E+00	2.73E-04 +/- 2.88E-05
	9	117.13	2.32E+01 +/- 1.58E+00	4.10E+00	2.94E-04 +/- 2.09E-05
	10	129.29	1.75E+02 +/- 1.87E+00	4.10E+00	3.30E-04 +/- 1.98E-05
M	11	146.33	1.49E+00 +/- 3.19E-02	3.15E+00	3.65E-04 +/- 3.34E-05
m	12	148.85	3.22E+01 +/- 1.58E-01	3.04E+00	3.69E-04 +/- 3.50E-05
	13	161.15	5.45E+00 +/- 1.08E+00	2.66E+00	3.83E-04 +/- 4.09E-05
	14	164.97	2.54E+00 +/- 1.07E+00	2.57E+00	3.86E-04 +/- 4.20E-05
	15	171.63	8.33E+00 +/- 9.95E-01	2.45E+00	3.90E-04 +/- 4.31E-05
	16	179.40	3.46E+00 +/- 1.03E+00	2.33E+00	3.93E-04 +/- 4.34E-05

17	189.54	6.88E+00	+/-	8.72E-01	2.20E+00	3.94E-04	+/-	4.25E-05
18	196.01	8.26E+00	+/-	9.43E-01	2.13E+00	3.94E-04	+/-	4.14E-05
19	208.34	1.64E+02	+/-	1.92E+00	2.01E+00	3.91E-04	+/-	3.83E-05
20	244.70	4.36E+00	+/-	7.15E-01	1.76E+00	3.73E-04	+/-	2.70E-05
21	255.79	7.44E+00	+/-	6.95E-01	1.70E+00	3.66E-04	+/-	2.38E-05
22	267.98	5.33E+00	+/-	6.73E-01	1.64E+00	3.58E-04	+/-	2.08E-05
23	297.96	3.08E+00	+/-	7.19E-01	1.56E+00	3.37E-04	+/-	1.58E-05
24	311.90	4.54E+00	+/-	6.40E-01	1.54E+00	3.27E-04	+/-	1.48E-05
25	321.22	3.22E+00	+/-	6.57E-01	1.53E+00	3.21E-04	+/-	1.45E-05
26	324.21	3.16E+00	+/-	5.03E-01	1.52E+00	3.19E-04	+/-	1.44E-05
27	333.28	4.43E+01	+/-	1.10E+00	1.51E+00	3.13E-04	+/-	1.44E-05
28	336.39	5.43E+00	+/-	8.68E-01	1.51E+00	3.11E-04	+/-	1.44E-05
29	345.61	4.02E+01	+/-	8.72E-01	1.50E+00	3.05E-04	+/-	1.46E-05
30	361.89	1.70E+00	+/-	5.02E-01	1.48E+00	2.95E-04	+/-	1.50E-05
31	368.89	1.69E+01	+/-	6.69E-01	1.47E+00	2.91E-04	+/-	1.52E-05
32	375.65	1.16E+02	+/-	1.35E+00	1.46E+00	2.87E-04	+/-	1.54E-05
33	383.47	1.16E+01	+/-	6.43E-01	1.45E+00	2.83E-04	+/-	1.57E-05
34	393.61	4.28E+01	+/-	7.65E-01	1.44E+00	2.77E-04	+/-	1.59E-05
35	413.70	1.12E+02	+/-	1.17E+00	1.42E+00	2.67E-04	+/-	1.63E-05
36	423.34	5.82E+00	+/-	4.15E-01	1.42E+00	2.62E-04	+/-	1.63E-05
37	452.23	1.28E+01	+/-	4.28E-01	1.41E+00	2.49E-04	+/-	1.63E-05
38	482.23	2.26E-01	+/-	1.52E-01	1.39E+00	2.36E-04	+/-	1.60E-05
39	620.03	1.01E+00	+/-	1.44E-01	1.34E+00	1.92E-04	+/-	1.19E-05
40	641.29	4.06E-01	+/-	1.30E-01	1.33E+00	1.87E-04	+/-	1.13E-05
41	647.20	6.16E-01	+/-	1.50E-01	1.33E+00	1.85E-04	+/-	1.11E-05
42	653.63	1.05E+00	+/-	1.41E-01	1.33E+00	1.84E-04	+/-	1.09E-05

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
43	662.42	5.46E+00 +/- 2.54E-01	1.33E+00	1.82E-04 +/- 1.06E-05
44	689.94	3.95E-01 +/- 9.81E-02	1.32E+00	1.76E-04 +/- 9.85E-06
45	723.42	2.19E+00 +/- 1.78E-01	1.31E+00	1.69E-04 +/- 9.01E-06
46	757.57	3.03E-01 +/- 7.27E-02	1.30E+00	1.63E-04 +/- 8.28E-06
47	770.92	4.80E-01 +/- 9.05E-02	1.30E+00	1.61E-04 +/- 8.03E-06
48	867.39	4.58E-02 +/- 3.51E-02	1.28E+00	1.47E-04 +/- 6.73E-06

Segment: 8 Detector: DET01 (# 1) Position: 8

Elapsed Live Time: 110.40 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.353 +/- 0.0332
SE-75	264.65	0.000 +/- 0.0000	0.487 +/- 0.0050
SE-75	279.53	0.000 +/- 0.0000	0.494 +/- 0.0069
SE-75	400.65	0.000 +/- 0.0000	0.559 +/- 0.0086

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	8.30E+00 +/- 5.07E-01	2.82E+00	1.22E-09 +/- 1.33E-08
2	23.23	1.25E+01 +/- 5.70E-01	2.56E+00	4.28E-09 +/- 4.16E-08
3	35.10	1.01E+03 +/- 4.87E+00	1.87E+00	6.89E-07 +/- 3.37E-06
4	49.90	5.39E+00 +/- 7.58E-01	1.65E+00	1.20E-05 +/- 2.85E-05
5	59.61	1.91E+02 +/- 1.67E+00	1.59E+00	3.35E-05 +/- 5.14E-05
6	74.95	2.92E+00 +/- 7.43E-01	1.53E+00	9.04E-05 +/- 6.99E-05
7	98.84	8.40E+01 +/- 1.66E+00	1.49E+00	1.99E-04 +/- 4.65E-05
8	103.46	6.69E+01 +/- 1.19E+00	1.48E+00	2.18E-04 +/- 3.87E-05
9	111.35	1.64E+01 +/- 1.15E+00	1.47E+00	2.49E-04 +/- 2.63E-05
M 10	115.73	1.12E+01 +/- 1.41E+00	1.47E+00	2.65E-04 +/- 2.07E-05
m 11	117.36	1.38E+01 +/- 1.44E+00	1.46E+00	2.70E-04 +/- 1.91E-05
12	129.29	5.76E+01 +/- 1.07E+00	1.45E+00	3.05E-04 +/- 1.85E-05
13	148.57	8.90E+00 +/- 8.10E-01	1.43E+00	3.45E-04 +/- 3.27E-05
14	164.98	1.40E+00 +/- 6.92E-01	1.41E+00	3.64E-04 +/- 3.97E-05
15	171.63	3.15E+00 +/- 6.54E-01	1.40E+00	3.69E-04 +/- 4.10E-05
16	189.59	1.46E+00 +/- 5.85E-01	1.38E+00	3.76E-04 +/- 4.08E-05
17	195.93	3.88E+00 +/- 6.80E-01	1.37E+00	3.77E-04 +/- 3.99E-05
18	208.42	4.96E+01 +/- 1.05E+00	1.35E+00	3.76E-04 +/- 3.71E-05
19	244.70	7.85E-01 +/- 4.61E-01	1.32E+00	3.62E-04 +/- 2.67E-05

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20	255.75	2.33E+00 +/-	4.48E-01	1.31E+00	3.56E-04 +/-	2.36E-05
21	268.00	1.94E+00 +/-	4.33E-01	1.30E+00	3.49E-04 +/-	2.06E-05
22	311.90	2.11E+00 +/-	4.17E-01	1.28E+00	3.23E-04 +/-	1.44E-05
23	333.28	1.24E+01 +/-	6.38E-01	1.27E+00	3.10E-04 +/-	1.38E-05
24	336.49	1.46E+00 +/-	4.90E-01	1.26E+00	3.08E-04 +/-	1.38E-05
25	345.65	1.24E+01 +/-	5.24E-01	1.26E+00	3.03E-04 +/-	1.38E-05
26	375.72	3.53E+01 +/-	6.71E-01	1.25E+00	2.86E-04 +/-	1.46E-05
27	383.58	4.19E+00 +/-	3.79E-01	1.24E+00	2.82E-04 +/-	1.48E-05
28	393.66	1.28E+01 +/-	4.11E-01	1.24E+00	2.76E-04 +/-	1.50E-05
29	413.70	3.50E+01 +/-	6.07E-01	1.23E+00	2.66E-04 +/-	1.54E-05
30	423.28	1.93E+00 +/-	2.42E-01	1.23E+00	2.62E-04 +/-	1.55E-05
31	452.40	3.47E+00 +/-	2.14E-01	1.22E+00	2.49E-04 +/-	1.56E-05
32	619.95	3.92E-01 +/-	8.65E-02	1.19E+00	1.93E-04 +/-	1.16E-05
M 33	660.02	1.12E-01 +/-	4.23E-02	1.18E+00	1.83E-04 +/-	1.04E-05
m 34	663.70	1.66E+00 +/-	1.76E-01	1.18E+00	1.82E-04 +/-	1.03E-05
35	723.44	8.15E-01 +/-	1.06E-01	1.17E+00	1.70E-04 +/-	8.79E-06
36	771.20	1.69E-01 +/-	5.58E-02	1.17E+00	1.61E-04 +/-	7.86E-06
37	964.13	4.79E-02 +/-	2.88E-02	1.15E+00	1.32E-04 +/-	5.87E-06
38	1001.03	3.94E-02 +/-	2.74E-02	1.14E+00	1.28E-04 +/-	5.62E-06
39	1408.01	9.01E-03 +/-	9.01E-03	1.12E+00	9.08E-05 +/-	6.30E-06

Segment: 9 Detector: DET01 (# 1) Position: 9

Elapsed Live Time: 113.02 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.399 +/- 0.0282
SE-75	264.65	0.000 +/- 0.0000	0.519 +/- 0.0051
SE-75	279.53	0.000 +/- 0.0000	0.528 +/- 0.0069
SE-75	400.65	0.000 +/- 0.0000	0.571 +/- 0.0085

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	2.03E+00 +/- 2.54E-01	2.57E+00	1.44E-06 +/- 1.63E-05
2	23.20	3.01E+00 +/- 2.83E-01	2.35E+00	2.30E-06 +/- 2.31E-05
3	35.10	1.01E+03 +/- 4.78E+00	1.75E+00	1.75E-05 +/- 8.88E-05
4	59.59	2.21E+01 +/- 6.11E-01	1.51E+00	9.99E-05 +/- 1.59E-04
5	94.81	2.09E+00 +/- 7.27E-01	1.43E+00	2.39E-04 +/- 7.21E-05
6	98.90	4.08E+00 +/- 7.25E-01	1.42E+00	2.52E-04 +/- 6.03E-05
7	129.29	3.32E+00 +/- 5.07E-01	1.40E+00	3.23E-04 +/- 1.97E-05
8	148.57	8.44E-01 +/- 4.38E-01	1.37E+00	3.48E-04 +/- 3.41E-05
9	208.39	1.39E+00 +/- 3.63E-01	1.32E+00	3.66E-04 +/- 3.76E-05
10	375.57	9.72E-01 +/- 1.93E-01	1.23E+00	2.85E-04 +/- 1.49E-05

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11	393.46	2.66E-01 +/-	1.00E-01	1.23E+00	2.76E-04 +/-	1.55E-05
12	413.70	8.64E-01 +/-	1.05E-01	1.22E+00	2.67E-04 +/-	1.59E-05
13	452.31	8.14E-02 +/-	5.52E-02	1.22E+00	2.49E-04 +/-	1.61E-05
14	512.77	1.15E-01 +/-	6.24E-02	1.20E+00	2.26E-04 +/-	1.52E-05
15	662.42	8.31E-02 +/-	4.15E-02	1.18E+00	1.82E-04 +/-	1.04E-05
16	778.90	2.62E-02 +/-	1.51E-02	1.16E+00	1.59E-04 +/-	7.62E-06
17	1085.91	3.50E-02 +/-	1.75E-02	1.13E+00	1.23E-04 +/-	5.22E-06

Segment: 10 Detector: DET01 (# 1) Position: 10

Elapsed Live Time: 113.36 sec Elapsed Real Time: 115.00 sec

T R A N S M I S S I O N R E S U L T S

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.324 +/- 0.0254
SE-75	264.65	0.000 +/- 0.0000	0.467 +/- 0.0047
SE-75	279.53	0.000 +/- 0.0000	0.479 +/- 0.0064
SE-75	400.65	0.000 +/- 0.0000	0.517 +/- 0.0080

P E A K A N A L Y S I S R E S U L T S

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.19	2.90E+00 +/- 2.68E-01	2.73E+00	3.38E-07 +/- 4.80E-07
2	35.10	1.01E+03 +/- 4.77E+00	1.96E+00	5.68E-06 +/- 4.74E-06
3	59.68	8.14E+00 +/- 4.23E-01	1.64E+00	6.40E-05 +/- 2.21E-05
4	75.36	7.85E-01 +/- 3.76E-01	1.58E+00	1.29E-04 +/- 2.69E-05
5	413.70	1.37E-01 +/- 5.99E-02	1.27E+00	2.79E-04 +/- 1.11E-05

Segment: 11 Detector: DET01 (# 1) Position: 11

Elapsed Live Time: 113.51 sec Elapsed Real Time: 115.00 sec

Batch 2002-03-944

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.367 +/- 0.0270
SE-75	264.65	0.000 +/- 0.0000	0.466 +/- 0.0047
SE-75	279.53	0.000 +/- 0.0000	0.476 +/- 0.0064
SE-75	400.65	0.000 +/- 0.0000	0.518 +/- 0.0080

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.23	1.96E+00 +/- 2.27E-01	2.49E+00	4.74E-07 +/- 6.66E-07
2	35.10	1.01E+03 +/- 4.79E+00	1.83E+00	6.75E-06 +/- 5.60E-06
3	49.35	4.06E+00 +/- 3.68E-01	1.63E+00	3.37E-05 +/- 1.64E-05
4	59.47	3.73E+00 +/- 3.22E-01	1.56E+00	6.65E-05 +/- 2.30E-05
5	93.37	1.24E+00 +/- 4.81E-01	1.47E+00	2.07E-04 +/- 2.45E-05
6	136.00	6.25E-01 +/- 3.87E-01	1.39E+00	3.35E-04 +/- 1.63E-05
7	778.90	1.76E-02 +/- 1.25E-02	1.19E+00	1.56E-04 +/- 7.41E-06
8	964.13	2.37E-02 +/- 2.19E-02	1.17E+00	1.32E-04 +/- 5.35E-06
9	1085.91	8.82E-03 +/- 1.60E-02	1.16E+00	1.22E-04 +/- 4.46E-06
10	1112.12	8.82E-03 +/- 8.82E-03	1.15E+00	1.20E-04 +/- 4.37E-06

Segment: 12 Detector: DET01 (# 1) Position: 12

Elapsed Live Time: 113.59 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.132 +/- 0.0022
SE-75	279.53	0.000 +/- 0.0000	0.133 +/- 0.0032
SE-75	400.65	0.000 +/- 0.0000	0.182 +/- 0.0045

Batch 2002-02-845

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	9.39E-01 +/- 1.60E-01	4.10E+00	3.60E-07 +/- 5.55E-07
2	23.12	8.71E-01 +/- 1.62E-01	4.10E+00	6.21E-07 +/- 8.77E-07
3	35.10	1.01E+03 +/- 4.77E+00	4.10E+00	7.63E-06 +/- 6.33E-06
4	59.64	1.38E+00 +/- 2.56E-01	4.10E+00	6.65E-05 +/- 2.30E-05
5	121.11	8.08E-01 +/- 3.44E-01	4.10E+00	2.85E-04 +/- 1.67E-05
6	443.98	5.87E-02 +/- 3.73E-02	1.74E+00	2.64E-04 +/- 1.04E-05
7	778.90	8.70E-03 +/- 8.70E-03	1.53E+00	1.60E-04 +/- 7.32E-06

Segment: 13 Detector: DET01 (# 1) Position: 13

Elapsed Live Time: 113.69 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.195 +/- 0.0192
SE-75	264.65	0.000 +/- 0.0000	0.280 +/- 0.0034
SE-75	279.53	0.000 +/- 0.0000	0.287 +/- 0.0048
SE-75	400.65	0.000 +/- 0.0000	0.323 +/- 0.0061

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.38	1.12E+00 +/- 1.68E-01	3.69E+00	1.16E-06 +/- 1.69E-06
2	35.10	1.01E+03 +/- 4.77E+00	2.50E+00	1.10E-05 +/- 9.51E-06
3	400.66	1.07E-01 +/- 4.45E-02	1.49E+00	2.81E-04 +/- 1.13E-05
4	413.70	5.24E-02 +/- 3.80E-02	1.48E+00	2.74E-04 +/- 1.10E-05
5	778.90	5.24E-02 +/- 2.14E-02	1.34E+00	1.54E-04 +/- 7.54E-06

Segment: 14 Detector: DET01 (# 1) Position: 14

Elapsed Live Time: 113.76 sec Elapsed Real Time: 115.00 sec

Batch 2002-02-946

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.762 +/- 0.0332
SE-75	264.65	0.000 +/- 0.0000	0.774 +/- 0.0067
SE-75	279.53	0.000 +/- 0.0000	0.766 +/- 0.0086
SE-75	400.65	0.000 +/- 0.0000	0.811 +/- 0.0105

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.20E+00	8.94E-06 +/- 4.41E-05
2	264.66	2.03E-01 +/- 1.11E-01	1.10E+00	3.43E-04 +/- 2.10E-05
3	400.66	1.39E-01 +/- 4.83E-02	1.08E+00	2.73E-04 +/- 1.53E-05
4	778.90	2.60E-02 +/- 2.05E-02	1.06E+00	1.59E-04 +/- 7.64E-06
5	1408.01	1.74E-02 +/- 1.23E-02	1.04E+00	9.39E-05 +/- 6.30E-06

Segment: 15 Detector: DET01 (# 1) Position: 15

Elapsed Live Time: 113.79 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.784 +/- 0.0329
SE-75	264.65	0.000 +/- 0.0000	0.846 +/- 0.0072
SE-75	279.53	0.000 +/- 0.0000	0.858 +/- 0.0093
SE-75	400.65	0.000 +/- 0.0000	0.885 +/- 0.0111

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.18E+00	1.45E-08 +/- 6.96E-08
2	48.90	3.80E+00 +/- 3.27E-01	1.14E+00	1.56E-06 +/- 3.84E-06
3	59.43	3.80E-01 +/- 1.78E-01	1.12E+00	1.06E-05 +/- 1.62E-05
4	662.42	1.15E-01 +/- 3.73E-02	1.04E+00	1.74E-04 +/- 9.76E-06
5	778.90	3.21E-02 +/- 2.34E-02	1.03E+00	1.56E-04 +/- 7.35E-06

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Segment: 16 Detector: DET01 (# 1) Position: 16

Elapsed Live Time: 113.80 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.760 +/- 0.0315
SE-75	264.65	0.000 +/- 0.0000	0.788 +/- 0.0068
SE-75	279.53	0.000 +/- 0.0000	0.788 +/- 0.0087
SE-75	400.65	0.000 +/- 0.0000	0.824 +/- 0.0106

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.20E+00	9.52E-10 +/- 5.35E-09
2	413.70	6.73E-02 +/- 3.10E-02	1.07E+00	1.81E-04 +/- 1.21E-05
3	443.98	4.12E-02 +/- 2.69E-02	1.07E+00	1.70E-04 +/- 1.22E-05
4	778.90	2.60E-02 +/- 1.50E-02	1.05E+00	1.14E-04 +/- 6.23E-06
5	964.13	3.47E-02 +/- 1.74E-02	1.05E+00	1.01E-04 +/- 4.92E-06
6	1085.91	2.71E-02 +/- 1.92E-02	1.04E+00	9.33E-05 +/- 4.42E-06

Summed Spectrum

Peak Locate Report

Sample ID: S100_870
Peak Locate Performed on: 2-13-02 9:06:18 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192
Peak Search Sensitivity: 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
1	43.00	0.2573	21.42	15.11
2	46.52	0.1342	23.18	28.79
3	70.26	0.0392	35.05	478.79
4	119.38	0.0641	59.58	151.50
5	150.31	0.2483	75.04	11.22
6	197.86	0.0825	98.80	81.04
7	207.15	0.0821	103.44	63.33
8	222.79	0.1031	111.25	48.16
9	234.57	0.1763	117.14	15.32
10	259.28	0.0723	129.48	108.54
11	293.30	0.3034	146.48	7.63
12	297.89	0.1216	148.77	40.75
13	322.44	0.2157	161.04	6.88
14	330.06	0.1642	164.84	21.23
15	343.57	0.2255	171.59	11.24
16	359.19	0.2657	179.40	5.96
17	379.59	0.2465	189.59	9.68
18	392.46	0.2005	196.02	13.49
19	417.08	0.0608	208.32	137.45
20	487.86	0.3005	243.68	6.60
21	512.06	0.1656	255.78	18.87
22	536.38	0.1691	267.92	17.62
23	596.43	0.1975	297.93	12.31
24	625.22	0.1718	312.31	16.23
25	643.33	0.2529	321.36	8.01
26	649.15	0.2136	324.27	10.29
27	667.10	0.0824	333.24	68.44
28	673.36	0.1339	336.36	29.03
29	691.83	0.0845	345.59	65.75
30	738.49	0.1337	368.91	22.60
31	751.99	0.0622	375.65	118.96
32	767.62	0.1148	383.46	37.20
33	787.90	0.0870	393.59	57.14
34	829.54	0.0627	414.39	105.07
35	847.22	0.1226	423.23	29.92
36	905.24	0.1040	452.22	40.01

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Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
37	1241.21	0.2104	620.07	9.35
38	1295.15	0.2145	647.02	9.23
39	1308.35	0.2284	653.62	6.73
40	1328.25	0.1271	663.56	24.43
41	1381.08	0.2447	689.95	7.20
42	1447.85	0.1520	723.31	16.82
43	1516.13	0.2710	757.43	5.43
44	1543.05	0.2493	770.87	6.81

Errors quoted at 1.000 sigma

Summed Spectrum

Peak Analysis Report

Sample ID: S100_870
Peak Analysis Performed on: 2-13-02 9:06:18 AM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	39-	46	43.00	21.42	1.39E+04	203.72	1.38E+04
2	46-	49	46.52	23.18	1.58E+04	222.61	2.02E+04
3	67-	73	70.26	35.05	1.81E+06	1356.18	1.82E+04
4	115-	122	119.38	59.58	2.61E+05	586.50	4.12E+04
5	149-	153	150.31	75.04	2.34E+03	221.25	2.78E+04
6	194-	201	197.86	98.80	1.35E+05	672.60	1.58E+05
7	206-	210	207.15	103.44	1.05E+05	455.79	5.66E+04
8	218-	226	222.79	111.25	2.13E+04	507.24	1.03E+05
9	233-	238	234.57	117.14	1.23E+04	385.93	6.36E+04
10	255-	263	259.28	129.48	8.99E+04	438.34	4.74E+04
11	291-	300	293.30	146.48	1.80E+04	337.52	4.22E+04
12	298-	305	297.89	148.77	6.28E+03	281.26	3.36E+04
13	318-	326	322.44	161.04	1.72E+03	285.34	3.68E+04
14	326-	334	330.06	164.84	2.23E+03	279.87	3.54E+04
15	339-	347	343.57	171.59	4.78E+03	263.45	3.02E+04
16	354-	363	359.19	179.40	2.07E+03	275.24	3.26E+04
17	375-	383	379.59	189.59	3.23E+03	249.51	2.76E+04
18	388-	396	392.46	196.02	4.95E+03	246.63	2.62E+04
19	412-	421	417.08	208.32	8.65E+04	437.18	4.45E+04
20	483-	492	487.86	243.68	1.91E+03	188.92	1.49E+04
21	507-	516	512.06	255.78	3.93E+03	183.94	1.33E+04
22	532-	541	536.38	267.92	2.93E+03	178.43	1.28E+04
23	591-	601	596.43	297.93	2.07E+03	170.07	1.13E+04
24	620-	630	625.22	312.31	2.36E+03	169.23	1.10E+04
25	639-	648	643.33	321.36	2.01E+03	167.19	1.14E+04
26	648-	654	649.15	324.27	1.13E+03	127.26	7.41E+03
27	662-	672	667.10	333.24	2.37E+04	266.63	1.90E+04
28	672-	678	673.36	336.36	2.84E+03	205.09	1.21E+04
29	687-	696	691.83	345.59	2.17E+04	209.81	9.78E+03
30	733-	743	738.49	368.91	9.45E+03	162.84	7.12E+03
31	746-	757	751.99	375.65	6.20E+04	306.42	1.27E+04
32	767-	772	767.62	383.46	6.19E+03	150.53	4.47E+03
33	782-	793	787.90	393.59	2.32E+04	177.99	3.38E+03
34	824-	834	829.54	414.39	6.17E+04	258.68	2.18E+03
35	841-	852	847.22	423.23	3.46E+03	106.41	3.08E+03
36	899-	910	905.24	452.22	7.12E+03	102.39	1.33E+03
37	1235-	1247	1241.21	620.07	6.01E+02	37.90	3.17E+02

Betw 2003-03-951

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
38	1289-	1301	1295.15	647.02	1.67E+02	39.34	5.20E+02
39	1302-	1314	1308.35	653.62	5.98E+02	36.26	2.73E+02
40	1322-	1334	1328.25	663.56	2.80E+03	61.99	3.99E+02
41	1374-	1387	1381.08	689.95	2.87E+02	29.58	2.09E+02
42	1441-	1454	1447.85	723.31	1.32E+03	46.05	2.92E+02
43	1509-	1522	1516.13	757.43	1.56E+02	21.37	1.09E+02
44	1536-	1549	1543.05	770.87	3.61E+02	26.29	1.19E+02

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2003-02-953

Summed Spectrum

Nuclide Identification Report

Sample ID: S100_870
Nuclide Library Used: C:\WAS\NLIB\LLNL.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/)	Activity Uncertainty
Pulser	1.000	35.10*	100.00	2.843E+05	7.131E+05
Np-237	0.753	300.10	6.63		
		311.90*	38.60	5.677E+00	4.092E-01
Pu-239	0.966	413.70*	0.00	4.607E+06	8.610E+04
Pu-239A	0.997	129.29*	0.01	1.452E+06	3.653E+04
Am-241	0.912	662.42*	0.00	1.121E+06	2.667E+04
Pu-241	0.997	148.57*	0.00	3.046E+06	1.439E+05

* = Energy line found in the spectrum.
Energy Tolerance : 1.500 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 1.000 sigma

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 2-13-02 9:06:18 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	21.42	1.2396E+02	1.47
2	23.18	1.4113E+02	1.41
4	59.58	2.3303E+03	0.24
5	75.04	2.0895E+01	9.47
6	98.80	1.2084E+03	0.51
7	103.44	9.3883E+02	0.44
8	111.25	1.9054E+02	2.38
9	117.14	1.0962E+02	3.15
11	146.48	1.6079E+02	1.88
13	161.04	1.5421E+01	16.55
14	164.84	1.9914E+01	12.57
15	171.59	4.2776E+01	5.51
16	179.40	1.8520E+01	13.29
17	189.59	2.8882E+01	7.73
18	196.02	4.4267E+01	4.98
19	208.32	7.7356E+02	0.51
20	243.68	1.7089E+01	9.89
21	255.78	3.5159E+01	4.68
22	267.92	2.6220E+01	6.09
23	297.93	1.8475E+01	8.23
25	321.36	1.7964E+01	8.32
26	324.27	1.0089E+01	11.28
27	333.24	2.1171E+02	1.13
28	336.36	2.5372E+01	7.23
29	345.59	1.9448E+02	0.97
30	368.91	8.4554E+01	1.72
31	375.65	5.5456E+02	0.50
32	383.46	5.5362E+01	2.43
33	393.59	2.0789E+02	0.77
35	423.23	3.0964E+01	3.07
36	452.22	6.3710E+01	1.44
37	620.07	5.3709E+00	6.31
38	647.02	1.4965E+00	23.51
39	653.62	5.3493E+00	6.06
41	689.95	2.5692E+00	10.30
42	723.31	1.1761E+01	3.50
43	757.43	1.3983E+00	13.67
44	770.87	3.2256E+00	7.29

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2D2-03-554

Combined Segment NID

NID Results Combiner Mode: Sum Activities

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		3.71E+07	+/-	1.93E+08	1.67E+03	+/-	8.71E+03
SE-75	<	3.79E-01	+/-	1.88E-02	< 1.71E-05	+/-	8.46E-07
EU-152x	<	1.98E-01	+/-	1.22E-02	< 8.93E-06	+/-	5.50E-07
U-233		3.01E+03	+/-	1.87E+03	1.36E-01	+/-	8.42E-02
U-235	<	5.58E-01	+/-	3.04E-02	< 2.52E-05	+/-	1.37E-06
Np-237		8.62E+00	+/-	5.10E-01	3.88E-04	+/-	2.30E-05
Pu-238	<	4.03E+04	+/-	1.95E+03	< 1.81E+00	+/-	8.80E-02
U-238		5.19E+00	+/-	1.57E+00	2.34E-04	+/-	7.07E-05
Pu-239		5.44E+06	+/-	1.32E+05	2.45E+02	+/-	5.93E+00
Pu-239A		4.14E+06	+/-	1.27E+05	1.86E+02	+/-	5.73E+00
Am-241		1.34E+06	+/-	4.58E+04	6.03E+01	+/-	2.06E+00
Pu-241		1.45E+07	+/-	5.69E+05	6.55E+02	+/-	2.56E+01

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
U-233	3.13E-01	+/-	1.95E-01
Np-237	1.22E-02	+/-	7.24E-04
U-238	1.55E+01	+/-	4.68E+00
Pu-239	8.76E+01	+/-	2.12E+00
Pu-239A	6.66E+01	+/-	2.05E+00
Am-241	3.91E-01	+/-	1.34E-02
Pu-241	1.41E-01	+/-	5.50E-03

Batch 2002-03-555

Summed Spectrum

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		2.84E+05	+/-	7.13E+05	1.28E+01	+/-	3.21E+01
SE-75	<	9.00E-01	+/-	7.84E-03	< 4.05E-05	+/-	3.53E-07
EU-152x	<	4.71E-01	+/-	9.07E-03	< 2.12E-05	+/-	4.09E-07
U-233	<	4.06E+04	+/-	8.47E+02	< 1.83E+00	+/-	3.82E-02
U-235	<	1.36E+00	+/-	2.68E-02	< 6.12E-05	+/-	1.21E-06
Np-237		5.68E+00	+/-	4.09E-01	2.56E-04	+/-	1.84E-05
Pu-238	<	9.79E+04	+/-	1.43E+03	< 4.41E+00	+/-	6.42E-02
U-238	<	1.27E+01	+/-	2.03E-01	< 5.73E-04	+/-	9.16E-06
Pu-239		4.61E+06	+/-	8.61E+04	2.08E+02	+/-	3.88E+00
Pu-239A		1.45E+06	+/-	3.65E+04	6.54E+01	+/-	1.65E+00
Am-241		1.12E+06	+/-	2.67E+04	5.05E+01	+/-	1.20E+00
Pu-241		3.05E+06	+/-	1.44E+05	1.37E+02	+/-	6.48E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
Np-237	8.06E-03	+/-	5.81E-04
Pu-239	7.42E+01	+/-	1.39E+00
Pu-239A	2.34E+01	+/-	5.88E-01
Am-241	3.27E-01	+/-	7.79E-03
Pu-241	2.95E-02	+/-	1.39E-03

Batch 2003-02-956

Final Non-Uniformity Results

Source Longitudinal Ratio:	0.918	+/-	6.9716
Matrix Longitudinal Ratio:	0.497	+/-	0.0193
Source Vertical Ratio:	0.874	+/-	0.4459
Matrix Vertical Ratio:	0.848	+/-	0.0159

NUDS could not find the transmission peak in one radial segment.

****
***** M G A R E P O R T *****
****

Report generated on: 2-13-02 9:06:17 AM

MGA version: MGA V9.5 CI

Spectrum ID: 11200870.CNF Sens : 30.0% LT: 51.0 Mins DT: 8.80
Measurement date: 2-13-02 Declared date: 2-13-02

Sample ID: S100_870 Detector: Total counts: 1.520E+07

Pu g/cm2 = 0.8595 Cd g/cm2 = 1.7869 FWHM at 122 keV = 691 eV
QFIT = 1.10 FWHM at 208 keV = 869 eV
NQFIT = 1.00

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	Meas. date %Err	Decl. date % weight	Decl. date %Err
Pu-238	0.000103	5.4	5.4	0.0404	5.4	0.00966	5.41	0.00966	5.41
Pu-239	1.000000	0.0	0.3	394.1799	0.5	94.12691	0.04	94.12691	0.04
Pu-240	0.059428	0.8	0.8	23.4253	0.8	5.59377	0.75	5.59377	0.75
Pu-241	0.002537	0.5	0.4	1.0000	0.0	0.23879	0.49	0.23879	0.49
Pu-242	(New alg.)			0.1292	(10)	0.03086	(10)	0.03086	(10)
Am-241	0.004657	0.4	0.3	1.8356	0.5	0.43833	0.41	0.43833	0.41

Pu-240 effective (meas. date) = 5.670 +/- 0.80%
Am-241 separated about 21.599 +/- 0.132 years ago
Am/Pu-241 weight ratio = 1.83562 +/- 0.51%

Messages :

Lead x-rays detected.
Calculations in MGAABS didn't converge : results may be suspect.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Batch 2002 D3-958

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS 2.3A

****
* DRUM INFORMATION *
****

Drum Package ID: S100_871
Sequence Number: 871
Assay Date & Time: 2-14-2002 9:48:11 AM
Drum Package GROSS Weight: 54.00 kg NET Weight: 22.20 kg

IDC Number: SGS100

QC Replicate (Yes/No): No Passed (Yes/No): _____

Operator Name (Printed): Russell Rathi

Operator Signature: _____ Date: 2-14-02

Independent Reviewer: _____ Date: 4-24-02

Expert Reviewer: (NOT REQUIRED) Date: _____

Tech. Supv/QA Officer: _____ Date: 7/17/02

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 9.196E+00 +/- 2.114E+00 Ci

ISOTOPIC INFORMATION

Isotope	Measured Mass (g)	Mass Uncertainty (g)	MDC (g)
Pu-238	9.321E-03	3.24E-03	2.134E-05
Pu-239	9.851E+01	3.22E+01	2.255E-01
Pu-240	5.831E+00	1.91E+00	1.335E-02
Pu-241	2.488E-01	8.14E-02	6.183E-03
Pu-242	3.205E-02	1.22E-02	7.337E-05
Am-241	4.538E-01	1.49E-01	1.039E-02
Am-243	0.000E+00	0.00E+00	0.000E+00
Np-237	0.000E+00	0.00E+00	1.198E-03
U-235	0.000E+00	0.00E+00	2.575E-01
U-238	1.825E+01	6.11E+00	1.825E+01
U-233	1.662E+00	5.55E-01	1.662E+00

Total Pu Mass: 1.05E+02 +/- 5.85E+00 g

MGA RESULTS

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	8.908E-03	6.06E+00
Pu-239	9.415E+01	4.64E-02
Pu-240	5.573E+00	7.77E-01
Pu-241	2.378E-01	5.06E-01
Pu-242	3.063E-02	1.00E+01
Am-241	4.337E-01	4.29E-01

Batch 2002-02-960

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005

Assay Date & Time: 2-14-2002 9:48:11 AM

Drum Package ID: S100_871
Sequence Number: 871

Waste Classification (TRU or LLW): TRU

		Errors at 1.96 sigma	
Total Alpha Activity :	9.196E+00	+/- 2.11E+00	Ci
Total TRU Activity :	4.142E+05	+/- 9.52E+04	nCi/g
Pu-239 Equiv Activity:	9.689E+00	+/- 2.12E+00	Ci
Fissile Gram Equiv Mass:	9.922E+01	+/- 3.22E+01	g
Total Decay Heat:	2.927E-01	+/- 6.66E-02	W
TMU Value:	32.71 %		

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error	MDA gm
Pu-238	1.61E-01	5.61E-02	9.32E-03	3.24E-03	2.13E-05
Pu-239	6.12E+00	2.00E+00	9.85E+01	3.22E+01	2.26E-01
Pu-240	1.34E+00	4.39E-01	5.83E+00	1.91E+00	1.33E-02
Pu-241	2.59E+01	8.47E+00	2.49E-01	8.14E-02	6.18E-03
Pu-242	1.27E-04	4.85E-05	3.20E-02	1.22E-02	7.34E-05
Am-241	1.57E+00	5.15E-01	4.54E-01	1.49E-01	1.04E-02
Am-243	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Np-237	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-03
U-235	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.58E-01
U-238	6.20E-06	2.08E-06	1.82E+01	6.11E+00	1.82E+01
U-233	1.62E-02	5.42E-03	1.66E+00	5.55E-01	1.66E+00

Total Pu Mass: 1.05E+02 +/- 5.85E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	8.908E-03	6.06E+00
Pu-239	9.415E+01	4.64E-02
Pu-240	5.573E+00	7.77E-01
Pu-241	2.378E-01	5.06E-01
Pu-242	3.063E-02	1.00E+01
Am-241	4.337E-01	4.29E-01

Batch 2002-02-961

****
***** M·G A R E P O R T *****
****

Report generated on: 2-14-02 10:44:46 AM

MGA version: MGA V9.5 CI

Spectrum ID: 11200871.CNF Sens : 30.0% LT: 50.9 Mins DT: 8.80
Measurement date: 2-14-02 Declared date: 2-14-02

Sample ID: S100_871 Detector: Total counts: 1.518E+07

Pu g/cm2 = 0.8795 Cd g/cm2 = 1.7823 FWHM at 122 keV = 689 eV
QFIT = 1.19 FWHM at 208 keV = 872 eV
NQFIT = 1.01

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	%Err	Decl. date % weight	%Err
Pu-238	0.000095	6.1	6.1	0.0375	6.0	0.00891	6.06	0.00891	6.06
Pu-239	1.000000	0.0	0.3	395.9172	0.5	94.14990	0.05	94.14990	0.05
Pu-240	0.059190	0.8	0.8	23.4344	0.9	5.57275	0.78	5.57275	0.78
Pu-241	0.002526	0.5	0.4	1.0000	0.0	0.23780	0.51	0.23780	0.51
Pu-242	(New alg.)			0.1288	(10)	0.03063	(10)	0.03063	(10)
Am-241	0.004607	0.4	0.3	1.8239	0.5	0.43373	0.43	0.43373	0.43

Pu-240 effective (meas. date) = 5.647 +/- 0.83%
Am-241 separated about 21.531 +/- 0.136 years ago
Am/Pu-241 weight ratio = 1.82390 +/- 0.53%

Messages :

Lead x-rays detected.
Calculations in MGAABS didn't converge : results may be suspect.
Pu-241/Pu-239 efficiency changed in MGACAL by 1%.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Batch 2003-03-943

Gamma Waste Assay

Sample Information

File Name: C:\WAS\DATA\900\11100871.S11
Sample ID: S100_871 Count Sequence Number: 871
Assay Start: 2-14-02 9:48:13 AM
Description 1: 100g source drum
Description 2:
Location: 7715
Comment:
Waste Type:
Weight: Gross: 54000.0 g Net: 22200.0 g
Density: 0.107 g /ml

Container Type: 55 Gal Galv
Container: Volume: 208000. ml Full: 100.0 %

System Configuration

Counter ID Number: SGS
Arrangement Description: SGS
Segments: Number: 16 Offset: 0
Scanning Platform: Start: 934 mm Delta: -51 mm
Count Type: Daily 100 g Drum Check
Collimator/Geometry Setting: 0
Transmission Mode: Two pass
Transmission Source: 0

Errors quoted at 1.000 sigma
Reference Source Date: Reference Source Rate: 1.01E+03 cps
Geometric Correction Factor(SWCONTGCF): 0.760
Date of efficiency calibration approval: 4-18-2001 12:41:36 PM
Mu Factors response file: Lucite
Transmission Calib. Time: 5-11-2001 2:20:42 PM 59052

Reviewed by: Lee P Cole Date: 7/16/02

Batch 3002-03-963

Segment Results

Segment: 1 Detector: DET01 (# 1) Position: 1

Elapsed Live Time: 113.38 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.335 +/- 0.0260
SE-75	264.65	0.000 +/- 0.0000	0.439 +/- 0.0045
SE-75	279.53	0.000 +/- 0.0000	0.452 +/- 0.0063
SE-75	400.65	0.000 +/- 0.0000	0.493 +/- 0.0078

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.26	2.43E+00 +/- 2.48E-01	2.66E+00	9.62E-08 +/- 1.20E-06
2	35.10	1.01E+03 +/- 4.77E+00	1.92E+00	2.61E-06 +/- 1.64E-05
3	48.48	8.78E+00 +/- 4.45E-01	1.70E+00	1.59E-05 +/- 5.20E-05
4	59.61	4.13E+00 +/- 3.78E-01	1.62E+00	3.76E-05 +/- 7.40E-05
5	152.68	1.16E+00 +/- 3.55E-01	1.45E+00	2.18E-04 +/- 2.73E-05
6	1085.91	2.61E-02 +/- 1.51E-02	1.17E+00	7.49E-05 +/- 3.78E-06

Segment: 2 Detector: DET01 (# 1) Position: 2

Elapsed Live Time: 113.20 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.410 +/- 0.0282
SE-75	264.65	0.000 +/- 0.0000	0.511 +/- 0.0050
SE-75	279.53	0.000 +/- 0.0000	0.510 +/- 0.0068
SE-75	400.65	0.000 +/- 0.0000	0.568 +/- 0.0085

Batch 2002-02-564

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	1.32E+00 +/- 2.31E-01	2.51E+00	1.31E-10 +/- 1.40E-09
2	23.25	1.65E+00 +/- 2.35E-01	2.29E+00	5.80E-10 +/- 5.51E-09
3	35.10	1.01E+03 +/- 4.78E+00	1.73E+00	2.21E-07 +/- 1.06E-06
4	48.27	7.60E+00 +/- 4.70E-01	1.56E+00	4.97E-06 +/- 1.25E-05
5	59.59	8.74E+00 +/- 4.54E-01	1.49E+00	2.20E-05 +/- 3.31E-05
6	264.66	4.60E-01 +/- 2.33E-01	1.28E+00	3.54E-04 +/- 2.08E-05
7	413.70	1.66E-01 +/- 5.86E-02	1.23E+00	2.51E-04 +/- 1.46E-05
8	778.90	3.49E-02 +/- 1.75E-02	1.16E+00	1.44E-04 +/- 6.92E-06
9	1085.91	3.49E-02 +/- 1.75E-02	1.13E+00	1.13E-04 +/- 4.92E-06
10	1408.01	2.78E-02 +/- 1.92E-02	1.12E+00	9.61E-05 +/- 6.36E-06

Segment: 3 Detector: DET01 (# 1) Position: 3

Elapsed Live Time: 112.46 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.376 +/- 0.0296
SE-75	264.65	0.000 +/- 0.0000	0.474 +/- 0.0048
SE-75	279.53	0.000 +/- 0.0000	0.472 +/- 0.0066
SE-75	400.65	0.000 +/- 0.0000	0.531 +/- 0.0083

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.20	7.77E+00 +/- 4.34E-01	2.45E+00	1.06E-08 +/- 1.04E-07
2	35.10	1.01E+03 +/- 4.80E+00	1.81E+00	1.07E-06 +/- 5.27E-06
3	59.59	3.14E+01 +/- 7.31E-01	1.55E+00	3.79E-05 +/- 5.86E-05
4	98.87	1.50E+01 +/- 9.31E-01	1.45E+00	2.01E-04 +/- 4.73E-05
5	103.45	7.05E+00 +/- 8.92E-01	1.45E+00	2.20E-04 +/- 3.93E-05
6	111.36	2.97E+00 +/- 6.98E-01	1.44E+00	2.49E-04 +/- 2.65E-05
7	129.29	8.66E+00 +/- 5.99E-01	1.42E+00	3.02E-04 +/- 1.84E-05
8	148.57	2.04E+00 +/- 5.43E-01	1.40E+00	3.39E-04 +/- 3.24E-05
9	208.40	7.33E+00 +/- 5.31E-01	1.35E+00	3.66E-04 +/- 3.64E-05
10	333.29	2.32E+00 +/- 3.60E-01	1.29E+00	3.00E-04 +/- 1.35E-05
11	345.80	1.35E+00 +/- 3.18E-01	1.28E+00	2.92E-04 +/- 1.36E-05

Batch 2002-02-945

12	375.64	5.44E+00	+/- 3.39E-01	1.27E+00	2.76E-04	+/- 1.44E-05
13	383.68	4.30E-01	+/- 1.69E-01	1.27E+00	2.72E-04	+/- 1.46E-05
14	393.61	1.84E+00	+/- 2.15E-01	1.26E+00	2.67E-04	+/- 1.48E-05
15	413.70	5.71E+00	+/- 2.51E-01	1.26E+00	2.57E-04	+/- 1.52E-05
16	423.19	5.05E-01	+/- 1.21E-01	1.25E+00	2.53E-04	+/- 1.53E-05
17	452.18	8.76E-01	+/- 1.04E-01	1.24E+00	2.40E-04	+/- 1.54E-05
18	662.42	1.97E-01	+/- 5.48E-02	1.20E+00	1.78E-04	+/- 1.02E-05
19	964.13	2.86E-02	+/- 1.93E-02	1.16E+00	1.34E-04	+/- 5.92E-06
20	1408.01	8.79E-03	+/- 8.79E-03	1.13E+00	1.03E-04	+/- 6.77E-06

Segment: 4 Detector: DET01 (# 1) Position: 4

Elapsed Live Time: 107.85 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.447 +/- 0.0388
SE-75	264.65	0.000 +/- 0.0000	0.534 +/- 0.0055
SE-75	279.53	0.000 +/- 0.0000	0.553 +/- 0.0076
SE-75	400.65	0.000 +/- 0.0000	0.593 +/- 0.0092

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	1.42E+01 +/- 6.46E-01	2.33E+00	2.23E-06 +/- 3.43E-06
2	23.18	1.70E+01 +/- 7.03E-01	2.15E+00	3.33E-06 +/- 4.68E-06
3	35.10	1.01E+03 +/- 4.93E+00	1.65E+00	2.00E-05 +/- 1.66E-05
4	59.59	2.52E+02 +/- 2.01E+00	1.44E+00	9.83E-05 +/- 3.39E-05
5	74.91	5.61E+00 +/- 9.33E-01	1.40E+00	1.58E-04 +/- 3.32E-05
6	98.85	1.51E+02 +/- 2.21E+00	1.37E+00	2.40E-04 +/- 2.42E-05
7	103.48	1.24E+02 +/- 1.62E+00	1.36E+00	2.53E-04 +/- 2.24E-05
8	111.28	2.66E+01 +/- 1.62E+00	1.35E+00	2.74E-04 +/- 1.97E-05
9	117.33	1.72E+01 +/- 1.25E+00	1.35E+00	2.88E-04 +/- 1.80E-05
10	129.29	1.02E+02 +/- 1.42E+00	1.34E+00	3.12E-04 +/- 1.61E-05
11	144.27	2.06E+00 +/- 9.09E-01	1.33E+00	3.35E-04 +/- 1.60E-05
12	148.57	2.03E+01 +/- 1.07E+00	1.33E+00	3.40E-04 +/- 1.63E-05
13	164.96	3.89E+00 +/- 8.90E-01	1.31E+00	3.56E-04 +/- 1.76E-05
14	171.67	4.97E+00 +/- 8.36E-01	1.31E+00	3.60E-04 +/- 1.81E-05
15	179.53	2.75E+00 +/- 7.95E-01	1.31E+00	3.64E-04 +/- 1.86E-05
16	189.54	3.60E+00 +/- 8.03E-01	1.30E+00	3.68E-04 +/- 1.91E-05
17	195.99	3.86E+00 +/- 8.62E-01	1.29E+00	3.69E-04 +/- 1.93E-05
18	208.37	9.95E+01 +/- 1.49E+00	1.29E+00	3.71E-04 +/- 1.94E-05
19	244.70	1.41E+00 +/- 5.94E-01	1.27E+00	3.65E-04 +/- 1.85E-05
20	255.90	3.25E+00 +/- 6.35E-01	1.26E+00	3.62E-04 +/- 1.80E-05
21	267.88	3.66E+00 +/- 5.63E-01	1.25E+00	3.58E-04 +/- 1.73E-05

Batch 2002-02-966

22	279.54	6.80E-01 +/-	4.21E-01	1.24E+00	3.53E-04 +/-	1.66E-05
23	298.05	2.58E+00 +/-	6.91E-01	1.24E+00	3.45E-04 +/-	1.56E-05
24	311.90	2.99E+00 +/-	5.46E-01	1.23E+00	3.38E-04 +/-	1.48E-05
25	321.20	1.16E+00 +/-	5.52E-01	1.23E+00	3.33E-04 +/-	1.43E-05
26	324.29	1.96E+00 +/-	4.64E-01	1.23E+00	3.32E-04 +/-	1.41E-05
27	333.27	2.67E+01 +/-	8.91E-01	1.23E+00	3.27E-04 +/-	1.37E-05
28	336.53	3.80E+00 +/-	6.83E-01	1.23E+00	3.26E-04 +/-	1.36E-05
29	345.65	2.72E+01 +/-	7.30E-01	1.22E+00	3.21E-04 +/-	1.31E-05
30	368.89	1.13E+01 +/-	5.42E-01	1.22E+00	3.09E-04 +/-	1.23E-05
31	375.70	7.68E+01 +/-	1.05E+00	1.22E+00	3.06E-04 +/-	1.21E-05
32	383.49	8.04E+00 +/-	5.08E-01	1.22E+00	3.02E-04 +/-	1.18E-05
33	393.64	2.76E+01 +/-	6.01E-01	1.21E+00	2.97E-04 +/-	1.16E-05
34	413.70	7.47E+01 +/-	9.12E-01	1.21E+00	2.87E-04 +/-	1.11E-05
35	423.31	4.27E+00 +/-	3.31E-01	1.21E+00	2.83E-04 +/-	1.10E-05
36	452.27	8.24E+00 +/-	3.37E-01	1.20E+00	2.70E-04 +/-	1.06E-05
37	620.06	7.26E-01 +/-	1.16E-01	1.17E+00	2.07E-04 +/-	9.43E-06
38	662.42	3.93E+00 +/-	2.07E-01	1.16E+00	1.95E-04 +/-	9.03E-06
39	723.30	1.54E+00 +/-	1.40E-01	1.16E+00	1.79E-04 +/-	8.35E-06

Segment: 5 Detector: DET01 (# 1) Position: 5

Elapsed Live Time: 100.92 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.195 +/- 0.0036
SE-75	279.53	0.000 +/- 0.0000	0.228 +/- 0.0057
SE-75	400.65	0.000 +/- 0.0000	0.352 +/- 0.0076

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	3.56E+01 +/- 9.77E-01	4.10E+00	1.08E-06 +/- 1.72E-06
2	23.14	3.40E+01 +/- 1.07E+00	4.10E+00	1.74E-06 +/- 2.53E-06
3	35.10	1.01E+03 +/- 5.14E+00	4.10E+00	1.48E-05 +/- 1.27E-05
4	49.66	1.26E+01 +/- 1.26E+00	4.10E+00	5.49E-05 +/- 2.72E-05
5	59.57	6.98E+02 +/- 4.02E+00	4.10E+00	9.32E-05 +/- 3.29E-05
6	75.07	9.75E+00 +/- 1.33E+00	4.10E+00	1.59E-04 +/- 3.39E-05
7	98.76	3.30E+02 +/- 3.77E+00	4.10E+00	2.49E-04 +/- 2.52E-05
8	103.41	2.83E+02 +/- 2.52E+00	4.10E+00	2.64E-04 +/- 2.33E-05
9	111.21	6.01E+01 +/- 2.49E+00	4.10E+00	2.86E-04 +/- 2.04E-05

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10	117.10	3.80E+01	+/-	1.92E+00	4.10E+00	3.01E-04	+/-	1.87E-05
11	129.29	2.40E+02	+/-	2.26E+00	4.10E+00	3.26E-04	+/-	1.67E-05
12	146.46	4.98E+01	+/-	1.57E+00	3.24E+00	3.52E-04	+/-	1.70E-05
13	148.57	1.78E+01	+/-	1.21E+00	3.15E+00	3.54E-04	+/-	1.71E-05
14	160.88	2.37E+00	+/-	1.39E+00	2.77E+00	3.65E-04	+/-	1.83E-05
15	164.76	6.71E+00	+/-	1.26E+00	2.69E+00	3.68E-04	+/-	1.86E-05
16	171.54	3.44E+00	+/-	1.57E+00	2.56E+00	3.71E-04	+/-	1.92E-05
17	179.28	7.40E+00	+/-	1.21E+00	2.44E+00	3.74E-04	+/-	1.97E-05
18	189.64	9.63E+00	+/-	1.12E+00	2.30E+00	3.76E-04	+/-	2.02E-05
19	195.91	1.22E+01	+/-	1.21E+00	2.23E+00	3.76E-04	+/-	2.03E-05
20	208.28	2.39E+02	+/-	2.37E+00	2.11E+00	3.75E-04	+/-	2.04E-05
21	244.70	4.02E+00	+/-	8.58E-01	1.85E+00	3.63E-04	+/-	1.90E-05
22	255.73	8.56E+00	+/-	8.43E-01	1.79E+00	3.58E-04	+/-	1.84E-05
23	267.97	8.88E+00	+/-	8.07E-01	1.73E+00	3.51E-04	+/-	1.76E-05
24	297.94	6.71E+00	+/-	9.53E-01	1.62E+00	3.34E-04	+/-	1.56E-05
25	311.90	6.58E+00	+/-	6.58E-01	1.60E+00	3.26E-04	+/-	1.48E-05
26	321.17	1.50E+00	+/-	8.36E-01	1.58E+00	3.21E-04	+/-	1.42E-05
27	324.04	4.39E+00	+/-	6.10E-01	1.57E+00	3.19E-04	+/-	1.41E-05
28	333.21	6.68E+01	+/-	1.36E+00	1.55E+00	3.13E-04	+/-	1.36E-05
29	336.34	9.46E+00	+/-	1.05E+00	1.55E+00	3.12E-04	+/-	1.34E-05
30	345.54	6.05E+01	+/-	1.06E+00	1.53E+00	3.06E-04	+/-	1.30E-05
31	368.73	2.59E+01	+/-	8.46E-01	1.50E+00	2.93E-04	+/-	1.20E-05
32	375.63	1.68E+02	+/-	1.71E+00	1.48E+00	2.89E-04	+/-	1.18E-05
33	383.42	1.70E+01	+/-	7.75E-01	1.47E+00	2.85E-04	+/-	1.16E-05
34	393.54	6.35E+01	+/-	9.39E-01	1.46E+00	2.80E-04	+/-	1.13E-05
35	413.70	1.66E+02	+/-	1.49E+00	1.44E+00	2.69E-04	+/-	1.09E-05
36	423.23	9.35E+00	+/-	5.45E-01	1.44E+00	2.64E-04	+/-	1.07E-05
37	452.14	2.00E+01	+/-	5.34E-01	1.42E+00	2.51E-04	+/-	1.03E-05
38	512.40	3.44E-01	+/-	1.85E-01	1.40E+00	2.25E-04	+/-	9.84E-06
39	619.98	1.94E+00	+/-	1.74E-01	1.35E+00	1.90E-04	+/-	9.14E-06
40	641.34	5.66E-01	+/-	1.81E-01	1.35E+00	1.84E-04	+/-	8.96E-06
41	646.90	8.25E-01	+/-	1.82E-01	1.35E+00	1.83E-04	+/-	8.91E-06
42	653.63	1.15E+00	+/-	1.60E-01	1.34E+00	1.81E-04	+/-	8.85E-06

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
43	662.42	8.03E+00 +/- 3.07E-01	1.34E+00	1.79E-04 +/- 8.77E-06
44	690.10	6.08E-01 +/- 1.29E-01	1.33E+00	1.72E-04 +/- 8.50E-06
45	705.06	4.22E-01 +/- 9.05E-02	1.33E+00	1.69E-04 +/- 8.34E-06
46	723.23	3.49E+00 +/- 2.26E-01	1.32E+00	1.65E-04 +/- 8.15E-06
47	739.18	1.54E-01 +/- 8.02E-02	1.32E+00	1.62E-04 +/- 7.97E-06
48	770.49	1.16E+00 +/- 1.30E-01	1.31E+00	1.56E-04 +/- 7.61E-06
49	1085.91	3.07E-02 +/- 2.19E-02	1.25E+00	1.16E-04 +/- 4.36E-06

Segment: 6 Detector: DET01 (# 1) Position: 6

Elapsed Live Time: 99.36 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.185 +/- 0.0036
SE-75	279.53	0.000 +/- 0.0000	0.213 +/- 0.0058
SE-75	400.65	0.000 +/- 0.0000	0.345 +/- 0.0077

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	4.03E+01 +/- 1.02E+00	4.10E+00	3.85E-07 +/- 5.97E-07
2	23.13	3.59E+01 +/- 1.11E+00	4.10E+00	6.63E-07 +/- 9.43E-07
3	35.10	1.01E+03 +/- 5.14E+00	4.10E+00	8.04E-06 +/- 6.71E-06
4	59.56	7.29E+02 +/- 4.16E+00	4.10E+00	6.88E-05 +/- 2.39E-05
5	75.00	4.04E+00 +/- 1.02E+00	4.10E+00	1.29E-04 +/- 2.73E-05
6	98.75	3.65E+02 +/- 4.01E+00	4.10E+00	2.22E-04 +/- 2.25E-05
7	103.40	3.23E+02 +/- 2.71E+00	4.10E+00	2.38E-04 +/- 2.11E-05
8	111.16	6.00E+01 +/- 2.62E+00	4.10E+00	2.63E-04 +/- 1.90E-05
9	114.51	1.05E+01 +/- 2.60E+00	4.10E+00	2.73E-04 +/- 1.82E-05
10	117.01	4.03E+01 +/- 2.02E+00	4.10E+00	2.80E-04 +/- 1.77E-05
11	129.29	2.77E+02 +/- 2.44E+00	4.10E+00	3.10E-04 +/- 1.61E-05
12	144.25	2.81E+00 +/- 1.39E+00	3.39E+00	3.38E-04 +/- 1.63E-05
13	148.57	4.44E+01 +/- 1.58E+00	3.19E+00	3.45E-04 +/- 1.67E-05
14	161.11	5.32E+00 +/- 1.35E+00	2.80E+00	3.60E-04 +/- 1.78E-05
15	164.75	6.04E+00 +/- 1.32E+00	2.72E+00	3.64E-04 +/- 1.82E-05

16	171.73	1.60E+01	+/-	1.32E+00	2.59E+00	3.69E-04	+/-	1.88E-05
17	179.22	8.70E+00	+/-	1.26E+00	2.47E+00	3.74E-04	+/-	1.93E-05
18	189.50	8.13E+00	+/-	1.09E+00	2.34E+00	3.78E-04	+/-	1.99E-05
19	196.00	1.20E+01	+/-	1.18E+00	2.27E+00	3.80E-04	+/-	2.01E-05
20	208.29	2.71E+02	+/-	2.55E+00	2.15E+00	3.81E-04	+/-	2.03E-05
21	238.03	1.59E+00	+/-	9.83E-01	1.93E+00	3.75E-04	+/-	1.95E-05
22	244.70	4.72E+00	+/-	9.03E-01	1.88E+00	3.73E-04	+/-	1.92E-05
23	255.72	1.15E+01	+/-	8.82E-01	1.82E+00	3.69E-04	+/-	1.86E-05
24	267.84	8.44E+00	+/-	7.93E-01	1.76E+00	3.63E-04	+/-	1.78E-05
25	297.92	6.61E+00	+/-	8.78E-01	1.65E+00	3.47E-04	+/-	1.59E-05
26	311.90	7.21E+00	+/-	7.94E-01	1.62E+00	3.39E-04	+/-	1.51E-05
27	321.36	5.27E+00	+/-	8.75E-01	1.60E+00	3.33E-04	+/-	1.45E-05
28	324.31	3.07E+00	+/-	6.32E-01	1.59E+00	3.31E-04	+/-	1.44E-05
29	333.22	7.25E+01	+/-	1.43E+00	1.58E+00	3.26E-04	+/-	1.39E-05
30	336.28	1.24E+01	+/-	1.10E+00	1.57E+00	3.24E-04	+/-	1.37E-05
31	345.56	7.41E+01	+/-	1.06E+00	1.55E+00	3.19E-04	+/-	1.33E-05
32	368.71	3.03E+01	+/-	8.89E-01	1.51E+00	3.05E-04	+/-	1.23E-05
33	375.62	1.88E+02	+/-	1.83E+00	1.50E+00	3.02E-04	+/-	1.21E-05
34	383.41	1.91E+01	+/-	8.17E-01	1.49E+00	2.97E-04	+/-	1.18E-05
35	393.57	7.23E+01	+/-	1.00E+00	1.47E+00	2.92E-04	+/-	1.16E-05
36	413.70	1.89E+02	+/-	1.61E+00	1.45E+00	2.81E-04	+/-	1.11E-05
37	423.19	1.06E+01	+/-	5.87E-01	1.45E+00	2.76E-04	+/-	1.09E-05
38	452.17	2.14E+01	+/-	5.54E-01	1.43E+00	2.61E-04	+/-	1.05E-05
39	583.46	3.60E-01	+/-	1.45E-01	1.38E+00	2.09E-04	+/-	9.45E-06
40	598.58	6.70E-01	+/-	1.42E-01	1.37E+00	2.04E-04	+/-	9.34E-06
41	620.00	1.82E+00	+/-	1.80E-01	1.36E+00	1.98E-04	+/-	9.16E-06
42	641.49	2.92E-01	+/-	2.30E-01	1.36E+00	1.92E-04	+/-	8.97E-06

Batch 3003-07-979

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
43	646.92	8.81E-01 +/- 1.91E-01	1.35E+00	1.90E-04 +/- 8.92E-06
44	653.64	1.41E+00 +/- 1.78E-01	1.35E+00	1.89E-04 +/- 8.86E-06
45	662.42	9.09E+00 +/- 3.33E-01	1.35E+00	1.86E-04 +/- 8.77E-06
46	690.00	9.68E-01 +/- 1.36E-01	1.34E+00	1.80E-04 +/- 8.49E-06
47	710.67	1.99E-01 +/- 7.67E-02	1.33E+00	1.75E-04 +/- 8.27E-06
48	723.31	4.29E+00 +/- 2.45E-01	1.33E+00	1.72E-04 +/- 8.13E-06
49	757.59	4.30E-01 +/- 9.96E-02	1.32E+00	1.65E-04 +/- 7.73E-06
50	770.81	1.14E+00 +/- 1.31E-01	1.32E+00	1.62E-04 +/- 7.58E-06
51	1408.01	2.70E-02 +/- 2.37E-02	1.22E+00	1.04E-04 +/- 6.39E-06

Segment: 7 Detector: DET01 (# 1) Position: 7

Elapsed Live Time: 104.52 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.230 +/- 0.0036
SE-75	279.53	0.000 +/- 0.0000	0.269 +/- 0.0056
SE-75	400.65	0.000 +/- 0.0000	0.386 +/- 0.0074

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	2.46E+01 +/- 8.25E-01	4.10E+00	2.18E-09 +/- 2.40E-08
2	23.18	2.79E+01 +/- 9.17E-01	4.10E+00	7.08E-09 +/- 6.95E-08
3	35.10	1.01E+03 +/- 5.03E+00	4.10E+00	9.59E-07 +/- 4.73E-06
4	59.58	5.40E+02 +/- 3.30E+00	4.10E+00	4.01E-05 +/- 6.21E-05
5	74.99	4.77E+00 +/- 8.35E-01	4.10E+00	1.04E-04 +/- 8.11E-05
6	98.78	2.61E+02 +/- 2.96E+00	4.10E+00	2.21E-04 +/- 5.19E-05
7	103.42	2.00E+02 +/- 2.03E+00	4.10E+00	2.41E-04 +/- 4.29E-05
8	111.30	4.68E+01 +/- 1.95E+00	4.10E+00	2.73E-04 +/- 2.87E-05
9	117.10	2.61E+01 +/- 1.59E+00	4.10E+00	2.94E-04 +/- 2.09E-05
10	129.29	1.75E+02 +/- 1.87E+00	4.10E+00	3.30E-04 +/- 1.98E-05
11	148.57	2.90E+01 +/- 1.25E+00	3.05E+00	3.68E-04 +/- 3.49E-05
12	161.04	4.35E+00 +/- 1.09E+00	2.66E+00	3.83E-04 +/- 4.09E-05
13	164.83	3.13E+00 +/- 1.07E+00	2.58E+00	3.86E-04 +/- 4.19E-05

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14	171.61	2.46E+00 +/-	1.33E+00	2.45E+00	3.90E-04 +/-	4.31E-05
15	179.40	3.73E+00 +/-	1.02E+00	2.33E+00	3.93E-04 +/-	4.34E-05
16	189.64	6.35E+00 +/-	9.60E-01	2.20E+00	3.94E-04 +/-	4.25E-05
17	195.92	8.13E+00 +/-	1.03E+00	2.13E+00	3.94E-04 +/-	4.14E-05
18	208.33	1.60E+02 +/-	1.91E+00	2.02E+00	3.91E-04 +/-	3.83E-05
19	244.70	1.98E+00 +/-	6.11E-01	1.76E+00	3.73E-04 +/-	2.70E-05
20	255.83	7.64E+00 +/-	6.96E-01	1.70E+00	3.66E-04 +/-	2.38E-05
21	267.95	4.59E+00 +/-	6.72E-01	1.64E+00	3.58E-04 +/-	2.08E-05
22	297.93	4.47E+00 +/-	8.07E-01	1.55E+00	3.37E-04 +/-	1.58E-05
23	311.90	4.64E+00 +/-	6.41E-01	1.52E+00	3.27E-04 +/-	1.48E-05
24	324.41	6.77E+00 +/-	6.79E-01	1.51E+00	3.19E-04 +/-	1.44E-05
25	333.26	4.40E+01 +/-	1.10E+00	1.49E+00	3.13E-04 +/-	1.44E-05
26	336.33	5.65E+00 +/-	8.64E-01	1.49E+00	3.11E-04 +/-	1.44E-05
27	345.57	4.02E+01 +/-	8.78E-01	1.47E+00	3.05E-04 +/-	1.46E-05
28	368.97	1.69E+01 +/-	6.73E-01	1.44E+00	2.91E-04 +/-	1.52E-05
29	375.64	1.18E+02 +/-	1.38E+00	1.43E+00	2.87E-04 +/-	1.54E-05
30	383.44	1.21E+01 +/-	6.26E-01	1.43E+00	2.83E-04 +/-	1.57E-05
31	393.59	4.25E+01 +/-	7.54E-01	1.41E+00	2.77E-04 +/-	1.59E-05
32	413.70	1.14E+02 +/-	1.17E+00	1.40E+00	2.67E-04 +/-	1.63E-05
33	423.28	6.88E+00 +/-	4.44E-01	1.39E+00	2.62E-04 +/-	1.63E-05
34	452.19	1.35E+01 +/-	4.29E-01	1.38E+00	2.49E-04 +/-	1.63E-05
35	620.21	1.32E+00 +/-	1.40E-01	1.32E+00	1.92E-04 +/-	1.19E-05
36	634.36	1.57E-01 +/-	6.73E-02	1.32E+00	1.89E-04 +/-	1.15E-05
37	646.83	4.99E-01 +/-	1.26E-01	1.31E+00	1.86E-04 +/-	1.11E-05
38	653.96	9.34E-01 +/-	1.53E-01	1.31E+00	1.84E-04 +/-	1.09E-05
39	662.42	4.87E+00 +/-	3.06E-01	1.31E+00	1.82E-04 +/-	1.06E-05
40	689.85	4.50E-01 +/-	1.02E-01	1.30E+00	1.76E-04 +/-	9.85E-06
41	723.38	2.30E+00 +/-	1.90E-01	1.29E+00	1.69E-04 +/-	9.01E-06
42	757.12	3.49E-01 +/-	7.43E-02	1.29E+00	1.63E-04 +/-	8.29E-06

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
43	771.08	7.39E-01 +/- 9.97E-02	1.28E+00	1.61E-04 +/- 8.03E-06

Segment: 8 Detector: DET01 (# 1) Position: 8

Elapsed Live Time: 110.38 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.292 +/- 0.0326
SE-75	264.65	0.000 +/- 0.0000	0.483 +/- 0.0050
SE-75	279.53	0.000 +/- 0.0000	0.488 +/- 0.0069
SE-75	400.65	0.000 +/- 0.0000	0.548 +/- 0.0086

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	8.58E+00 +/- 5.16E-01	3.24E+00	1.22E-09 +/- 1.33E-08
2	23.21	1.24E+01 +/- 5.73E-01	2.92E+00	4.24E-09 +/- 4.12E-08
3	35.10	1.01E+03 +/- 4.86E+00	2.06E+00	6.89E-07 +/- 3.37E-06
4	59.61	1.89E+02 +/- 1.66E+00	1.71E+00	3.35E-05 +/- 5.14E-05
5	75.24	3.09E+00 +/- 7.42E-01	1.64E+00	9.16E-05 +/- 7.00E-05
6	98.89	8.57E+01 +/- 1.66E+00	1.59E+00	1.99E-04 +/- 4.64E-05
7	103.47	6.37E+01 +/- 1.18E+00	1.58E+00	2.18E-04 +/- 3.87E-05
8	111.32	1.62E+01 +/- 1.15E+00	1.57E+00	2.49E-04 +/- 2.63E-05
9	129.29	5.85E+01 +/- 1.07E+00	1.55E+00	3.05E-04 +/- 1.85E-05
10	148.57	1.08E+01 +/- 7.69E-01	1.51E+00	3.45E-04 +/- 3.27E-05
11	171.65	2.45E+00 +/- 6.66E-01	1.46E+00	3.69E-04 +/- 4.10E-05
12	189.85	2.02E+00 +/- 6.34E-01	1.42E+00	3.76E-04 +/- 4.08E-05
13	196.01	2.08E+00 +/- 6.28E-01	1.41E+00	3.77E-04 +/- 3.99E-05
14	208.40	4.92E+01 +/- 1.05E+00	1.39E+00	3.76E-04 +/- 3.71E-05
15	244.70	1.83E+00 +/- 4.51E-01	1.33E+00	3.62E-04 +/- 2.67E-05
16	255.90	1.46E+00 +/- 4.79E-01	1.31E+00	3.56E-04 +/- 2.36E-05
17	268.01	1.82E+00 +/- 4.37E-01	1.30E+00	3.49E-04 +/- 2.06E-05
18	297.95	1.52E+00 +/- 5.50E-01	1.29E+00	3.31E-04 +/- 1.55E-05
19	311.90	1.70E+00 +/- 4.32E-01	1.28E+00	3.23E-04 +/- 1.44E-05
20	333.30	1.32E+01 +/- 6.29E-01	1.27E+00	3.10E-04 +/- 1.38E-05
21	336.37	1.49E+00 +/- 4.78E-01	1.27E+00	3.08E-04 +/- 1.38E-05
22	345.66	1.18E+01 +/- 5.18E-01	1.27E+00	3.03E-04 +/- 1.38E-05
23	369.24	5.63E+00 +/- 4.13E-01	1.26E+00	2.89E-04 +/- 1.44E-05
24	375.70	3.55E+01 +/- 7.07E-01	1.26E+00	2.86E-04 +/- 1.46E-05

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25	383.44	3.44E+00 +/-	3.50E-01	1.25E+00	2.82E-04 +/-	1.48E-05
26	393.63	1.30E+01 +/-	4.19E-01	1.25E+00	2.76E-04 +/-	1.50E-05
27	413.70	3.50E+01 +/-	6.03E-01	1.24E+00	2.66E-04 +/-	1.54E-05
28	423.42	2.07E+00 +/-	2.25E-01	1.24E+00	2.62E-04 +/-	1.55E-05
29	452.37	4.09E+00 +/-	2.28E-01	1.23E+00	2.49E-04 +/-	1.56E-05
30	512.17	3.01E-01 +/-	1.07E-01	1.22E+00	2.26E-04 +/-	1.47E-05
31	620.42	3.08E-01 +/-	9.26E-02	1.20E+00	1.93E-04 +/-	1.15E-05
32	654.03	2.29E-01 +/-	8.25E-02	1.19E+00	1.85E-04 +/-	1.05E-05
M 33	660.12	2.23E-01 +/-	5.66E-02	1.19E+00	1.83E-04 +/-	1.04E-05
m 34	663.64	1.70E+00 +/-	1.76E-01	1.19E+00	1.82E-04 +/-	1.03E-05
35	723.45	8.92E-01 +/-	1.07E-01	1.18E+00	1.70E-04 +/-	8.79E-06

Segment: 9 Detector: DET01 (# 1) Position: 9

Elapsed Live Time: 113.04 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.394 +/- 0.0289
SE-75	264.65	0.000 +/- 0.0000	0.514 +/- 0.0051
SE-75	279.53	0.000 +/- 0.0000	0.526 +/- 0.0069
SE-75	400.65	0.000 +/- 0.0000	0.567 +/- 0.0085

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	2.10E+00 +/- 2.66E-01	2.59E+00	1.44E-06 +/- 1.63E-05
2	23.22	3.58E+00 +/- 2.82E-01	2.37E+00	2.31E-06 +/- 2.32E-05
3	35.10	1.01E+03 +/- 4.80E+00	1.77E+00	1.75E-05 +/- 8.88E-05
4	59.62	2.39E+01 +/- 6.30E-01	1.52E+00	1.00E-04 +/- 1.59E-04
5	67.29	1.09E+00 +/- 3.54E-01	1.49E+00	1.32E-04 +/- 1.50E-04
6	98.78	5.00E+00 +/- 7.21E-01	1.43E+00	2.51E-04 +/- 6.07E-05
7	103.43	2.14E+00 +/- 6.35E-01	1.42E+00	2.65E-04 +/- 4.83E-05
8	129.29	2.58E+00 +/- 5.02E-01	1.40E+00	3.23E-04 +/- 1.97E-05
9	208.37	1.25E+00 +/- 3.69E-01	1.32E+00	3.66E-04 +/- 3.76E-05
10	375.60	1.39E+00 +/- 1.80E-01	1.24E+00	2.85E-04 +/- 1.49E-05
11	380.85	1.96E-01 +/- 1.17E-01	1.24E+00	2.83E-04 +/- 1.51E-05
12	393.70	3.47E-01 +/- 1.33E-01	1.23E+00	2.76E-04 +/- 1.55E-05
13	413.70	6.48E-01 +/- 1.24E-01	1.23E+00	2.67E-04 +/- 1.59E-05
14	1001.03	4.42E-02 +/- 1.98E-02	1.14E+00	1.30E-04 +/- 5.63E-06

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Segment: 10 Detector: DET01 (# 1) Position: 10

Elapsed Live Time: 113.37 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.345 +/- 0.0256
SE-75	264.65	0.000 +/- 0.0000	0.469 +/- 0.0047
SE-75	279.53	0.000 +/- 0.0000	0.468 +/- 0.0064
SE-75	400.65	0.000 +/- 0.0000	0.531 +/- 0.0081

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.24	3.09E+00 +/- 2.65E-01	2.60E+00	3.45E-07 +/- 4.87E-07
2	35.10	1.01E+03 +/- 4.77E+00	1.89E+00	5.68E-06 +/- 4.74E-06
3	59.62	9.55E+00 +/- 4.32E-01	1.60E+00	6.38E-05 +/- 2.21E-05
4	77.38	1.16E+00 +/- 3.78E-01	1.54E+00	1.38E-04 +/- 2.70E-05
5	103.41	1.34E+00 +/- 4.79E-01	1.49E+00	2.49E-04 +/- 2.20E-05
6	185.71	7.31E-01 +/- 3.54E-01	1.39E+00	4.00E-04 +/- 2.05E-05
7	400.66	9.45E-02 +/- 5.58E-02	1.26E+00	2.87E-04 +/- 1.13E-05
8	558.88	1.39E-01 +/- 5.36E-02	1.22E+00	2.12E-04 +/- 9.71E-06
9	778.90	3.75E-02 +/- 2.06E-02	1.18E+00	1.56E-04 +/- 7.55E-06
10	1085.91	8.72E-03 +/- 8.72E-03	1.15E+00	1.21E-04 +/- 4.45E-06

Segment: 11 Detector: DET01 (# 1) Position: 11

Elapsed Live Time: 113.52 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.318 +/- 0.0268
SE-75	264.65	0.000 +/- 0.0000	0.465 +/- 0.0047
SE-75	279.53	0.000 +/- 0.0000	0.473 +/- 0.0064
SE-75	400.65	0.000 +/- 0.0000	0.528 +/- 0.0081

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.30	2.17E+00 +/- 2.21E-01	2.74E+00	4.84E-07 +/- 6.78E-07
2	35.10	1.01E+03 +/- 4.78E+00	1.97E+00	6.75E-06 +/- 5.60E-06
3	49.42	4.66E+00 +/- 3.73E-01	1.73E+00	3.39E-05 +/- 1.65E-05
4	59.61	3.08E+00 +/- 3.27E-01	1.65E+00	6.70E-05 +/- 2.31E-05
5	867.39	4.49E-02 +/- 2.93E-02	1.17E+00	1.43E-04 +/- 6.39E-06

Segment: 12 Detector: DET01 (# 1) Position: 12

Elapsed Live Time: 113.58 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.086 +/- 0.0161
SE-75	264.65	0.000 +/- 0.0000	0.131 +/- 0.0022
SE-75	279.53	0.000 +/- 0.0000	0.129 +/- 0.0032
SE-75	400.65	0.000 +/- 0.0000	0.170 +/- 0.0044

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.29	1.71E+00 +/- 1.99E-01	4.10E+00	6.52E-07 +/- 9.14E-07
2	35.10	1.01E+03 +/- 4.77E+00	3.47E+00	7.63E-06 +/- 6.33E-06
3	59.88	1.11E+00 +/- 2.78E-01	2.62E+00	6.74E-05 +/- 2.31E-05
4	264.66	3.36E-01 +/- 1.94E-01	1.96E+00	3.61E-04 +/- 1.77E-05
5	279.54	4.54E-01 +/- 1.90E-01	1.97E+00	3.54E-04 +/- 1.68E-05
6	400.66	9.95E-02 +/- 5.95E-02	1.82E+00	2.86E-04 +/- 1.12E-05
7	559.92	5.66E-02 +/- 3.89E-02	1.68E+00	2.16E-04 +/- 9.42E-06
8	778.90	4.40E-02 +/- 3.74E-02	1.56E+00	1.60E-04 +/- 7.32E-06
9	867.39	3.48E-02 +/- 1.74E-02	1.52E+00	1.45E-04 +/- 6.27E-06
10	964.13	2.61E-02 +/- 1.99E-02	1.49E+00	1.33E-04 +/- 5.22E-06
11	1001.03	1.74E-02 +/- 1.23E-02	1.48E+00	1.29E-04 +/- 4.89E-06
12	1085.91	8.70E-03 +/- 8.70E-03	1.45E+00	1.21E-04 +/- 4.35E-06
13	1112.12	3.48E-02 +/- 1.74E-02	1.45E+00	1.19E-04 +/- 4.27E-06

Segment: 13 Detector: DET01 (# 1) Position: 13

Elapsed Live Time: 113.68 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.198 +/- 0.0200
SE-75	264.65	0.000 +/- 0.0000	0.277 +/- 0.0034
SE-75	279.53	0.000 +/- 0.0000	0.280 +/- 0.0047
SE-75	400.65	0.000 +/- 0.0000	0.333 +/- 0.0062

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.29	9.40E-01 +/- 1.75E-01	3.68E+00	1.14E-06 +/- 1.66E-06
2	35.10	1.01E+03 +/- 4.77E+00	2.48E+00	1.10E-05 +/- 9.51E-06
3	413.70	4.36E-02 +/- 3.16E-02	1.47E+00	2.74E-04 +/- 1.10E-05
4	964.13	4.36E-02 +/- 1.95E-02	1.29E+00	1.27E-04 +/- 5.29E-06
5	1001.03	4.36E-02 +/- 1.95E-02	1.28E+00	1.23E-04 +/- 4.91E-06
6	1085.91	3.48E-02 +/- 1.74E-02	1.27E+00	1.15E-04 +/- 4.30E-06

Segment: 14 Detector: DET01 (# 1) Position: 14

Elapsed Live Time: 113.75 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.745 +/- 0.0318
SE-75	264.65	0.000 +/- 0.0000	0.772 +/- 0.0067
SE-75	279.53	0.000 +/- 0.0000	0.780 +/- 0.0087
SE-75	400.65	0.000 +/- 0.0000	0.810 +/- 0.0105

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PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.21E+00	8.94E-06 +/- 4.41E-05

Segment: 15 Detector: DET01 (# 1) Position: 15

Elapsed Live Time: 113.80 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.878 +/- 0.0349
SE-75	264.65	0.000 +/- 0.0000	0.855 +/- 0.0072
SE-75	279.53	0.000 +/- 0.0000	0.845 +/- 0.0092
SE-75	400.65	0.000 +/- 0.0000	0.878 +/- 0.0111

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.09E+00	1.45E-08 +/- 6.96E-08
2	136.00	3.89E-01 +/- 2.46E-01	1.07E+00	3.60E-04 +/- 2.57E-05
3	279.54	2.15E-01 +/- 1.02E-01	1.07E+00	3.51E-04 +/- 1.80E-05
4	1001.03	4.17E-02 +/- 2.42E-02	1.03E+00	1.32E-04 +/- 5.58E-06

Segment: 16 Detector: DET01 (# 1) Position: 16

Elapsed Live Time: 113.80 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.746 +/- 0.0319
SE-75	264.65	0.000 +/- 0.0000	0.799 +/- 0.0069
SE-75	279.53	0.000 +/- 0.0000	0.797 +/- 0.0088
SE-75	400.65	0.000 +/- 0.0000	0.828 +/- 0.0107

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.21E+00	9.52E-10 +/- 5.35E-09
2	400.66	5.83E-02 +/- 4.34E-02	1.07E+00	1.86E-04 +/- 1.20E-05
3	443.98	4.68E-02 +/- 3.69E-02	1.07E+00	1.70E-04 +/- 1.22E-05
4	964.13	2.10E-02 +/- 1.74E-02	1.05E+00	1.01E-04 +/- 4.92E-06
5	1112.12	2.60E-02 +/- 2.85E-02	1.04E+00	9.17E-05 +/- 4.32E-06

Batch 2002-02-979

Summed Spectrum

Peak Locate Report

Sample ID: S100_871
Peak Locate Performed on: 2-14-02 10:44:47 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192
Peak Search Sensitivity: 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
1	43.00	0.2602	21.42	14.77
2	46.50	0.1346	23.17	27.85
3	70.26	0.0394	35.04	477.81
4	119.37	0.0645	59.58	151.07
5	150.35	0.2412	75.06	11.23
6	197.84	0.0822	98.78	79.36
7	207.13	0.0819	103.43	61.45
8	222.77	0.1044	111.24	45.25
9	234.48	0.1720	117.09	13.83
10	259.27	0.0720	129.47	108.36
11	293.17	0.3113	146.41	8.55
12	297.85	0.1217	148.75	40.36
13	322.29	0.2076	160.96	8.57
14	330.00	0.1681	164.81	18.98
15	343.61	0.2288	171.61	10.54
16	359.08	0.2648	179.34	8.26
17	379.62	0.2324	189.61	9.63
18	392.34	0.2012	195.96	12.85
19	417.07	0.0610	208.31	136.21
20	487.71	0.3343	243.61	5.06
21	512.05	0.1648	255.77	18.72
22	536.36	0.1672	267.92	18.10
23	596.46	0.2104	297.94	11.13
24	625.20	0.1748	312.30	15.40
25	643.20	0.2630	321.29	7.11
26	649.17	0.2383	324.27	7.67
27	667.10	0.0826	333.24	68.55
28	673.31	0.1302	336.34	30.50
29	691.81	0.0849	345.58	64.12
30	738.28	0.1309	368.80	22.65
31	751.98	0.0624	375.64	117.44
32	767.57	0.1153	383.43	37.85
33	787.91	0.0869	393.59	58.28
34	829.51	0.0629	414.38	104.05
35	847.26	0.1222	423.25	30.27
36	905.19	0.1067	452.19	38.43

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
37	1241.25	0.2074	620.09	8.98
38	1294.95	0.2150	646.92	9.47
39	1308.44	0.2412	653.66	5.57
40	1328.15	0.1286	663.51	24.84
41	1381.15	0.2627	689.99	6.41
42	1447.81	0.1500	723.29	16.85
43	1542.73	0.2381	770.72	6.19

Errors quoted at 1.000 sigma

Summed Spectrum

Peak Analysis Report

Sample ID: S100_871
Peak Analysis Performed on: 2-14-02 10:44:47 AM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	39-	46	43.00	21.42	1.42E+04	202.88	1.35E+04
2	46-	49	46.50	23.17	1.51E+04	221.53	2.03E+04
3	67-	73	70.26	35.04	1.81E+06	1356.18	1.82E+04
4	115-	122	119.37	59.58	2.60E+05	586.54	4.14E+04
5	149-	153	150.35	75.06	2.33E+03	220.67	2.78E+04
6	194-	201	197.84	98.78	1.36E+05	672.57	1.57E+05
7	206-	210	207.13	103.43	1.05E+05	454.90	5.62E+04
8	218-	226	222.77	111.24	2.16E+04	507.47	1.03E+05
9	233-	238	234.48	117.09	1.31E+04	386.38	6.34E+04
10	255-	263	259.27	129.47	8.97E+04	438.42	4.75E+04
11	291-	300	293.17	146.41	1.81E+04	336.78	4.20E+04
12	298-	304	297.85	148.75	6.59E+03	259.12	2.96E+04
13	318-	326	322.29	160.96	1.56E+03	285.21	3.68E+04
14	326-	334	330.00	164.81	2.12E+03	280.41	3.56E+04
15	339-	347	343.61	171.61	4.62E+03	264.14	3.04E+04
16	354-	363	359.08	179.34	2.41E+03	273.24	3.20E+04
17	375-	383	379.62	189.61	3.15E+03	250.58	2.79E+04
18	387-	396	392.34	195.96	4.14E+03	266.23	2.96E+04
19	412-	421	417.07	208.31	8.62E+04	435.61	4.41E+04
20	483-	492	487.71	243.61	1.62E+03	188.52	1.50E+04
21	507-	516	512.05	255.77	3.44E+03	184.78	1.36E+04
22	533-	541	536.36	267.92	3.19E+03	163.91	1.10E+04
23	591-	601	596.46	297.94	2.04E+03	170.08	1.13E+04
24	620-	630	625.20	312.30	2.42E+03	167.94	1.08E+04
25	638-	648	643.20	321.29	1.89E+03	178.12	1.25E+04
26	648-	654	649.17	324.27	9.63E+02	127.30	7.51E+03
27	662-	672	667.10	333.24	2.35E+04	265.97	1.89E+04
28	672-	678	673.31	336.34	3.23E+03	203.81	1.18E+04
29	687-	696	691.81	345.58	2.20E+04	210.47	9.83E+03
30	733-	743	738.28	368.80	9.56E+03	163.10	7.09E+03
31	746-	757	751.98	375.64	6.18E+04	307.21	1.30E+04
32	767-	772	767.57	383.43	6.25E+03	149.58	4.48E+03
33	782-	793	787.91	393.59	2.30E+04	177.97	3.48E+03
34	824-	834	829.51	414.38	6.11E+04	257.46	2.20E+03
35	841-	852	847.26	423.25	3.56E+03	106.52	3.04E+03
36	899-	910	905.19	452.19	7.12E+03	102.10	1.32E+03
37	1235-	1247	1241.25	620.09	6.50E+02	36.69	2.63E+02

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Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
38	1291-	1301	1294.95	646.92	2.98E+02	33.99	3.55E+02
39	1302-	1314	1308.44	653.66	4.82E+02	35.13	2.86E+02
40	1326-	1334	1328.15	663.51	2.56E+03	56.19	2.74E+02
41	1374-	1387	1381.15	689.99	2.23E+02	28.78	2.18E+02
42	1441-	1454	1447.81	723.29	1.30E+03	46.39	3.10E+02
43	1536-	1549	1542.73	770.72	3.76E+02	26.39	1.17E+02

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Summed Spectrum

Nuclide Identification Report

Sample ID: S100_871
Nuclide Library Used: C:\WAS\NLIB\LLNL.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/)	Activity Uncertainty
Pulser	1.000	35.10*	100.00	2.845E+05	7.138E+05
Np-237	0.754	300.10	6.63		
		311.90*	38.60	5.817E+00	4.062E-01
Pu-239	0.968	413.70*	0.00	4.556E+06	8.517E+04
Pu-239A	0.998	129.29*	0.01	1.448E+06	3.643E+04
Am-241	0.920	662.42*	0.00	1.027E+06	2.421E+04
Pu-241	0.998	148.57*	0.00	3.195E+06	1.345E+05

* = Energy line found in the spectrum.
Energy Tolerance : 1.500 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 1.000 sigma

Batch 2003-03-984

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 2-14-02 10:44:47 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	21.42	1.2709E+02	1.43
2	23.17	1.3483E+02	1.47
4	59.58	2.3260E+03	0.24
5	75.06	2.0820E+01	9.48
6	98.78	1.2144E+03	0.50
7	103.43	9.3511E+02	0.45
8	111.24	1.9287E+02	2.35
9	117.09	1.1688E+02	2.96
11	146.41	1.6208E+02	1.86
13	160.96	1.3955E+01	18.28
14	164.81	1.8980E+01	13.21
15	171.61	4.1355E+01	5.71
16	179.34	2.1523E+01	11.35
17	189.61	2.8167E+01	7.96
18	195.96	3.6984E+01	6.44
19	208.31	7.7098E+02	0.51
20	243.61	1.4450E+01	11.67
21	255.77	3.0744E+01	5.38
22	267.92	2.8546E+01	5.14
23	297.94	1.8225E+01	8.35
25	321.29	1.6926E+01	9.41
26	324.27	8.6162E+00	13.21
27	333.24	2.1034E+02	1.13
28	336.34	2.8900E+01	6.31
29	345.58	1.9643E+02	0.96
30	368.80	8.5531E+01	1.71
31	375.64	5.5240E+02	0.51
32	383.43	5.5928E+01	2.39
33	393.59	2.0563E+02	0.78
35	423.25	3.1809E+01	3.00
36	452.19	6.3699E+01	1.44
37	620.09	5.8106E+00	5.65
38	646.92	2.6681E+00	11.39
39	653.66	4.3148E+00	7.28
41	689.99	1.9956E+00	12.90
42	723.29	1.1595E+01	3.58
43	770.72	3.3661E+00	7.01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-02-985

Combined Segment NID

NID Results Combiner Mode: Sum Activities

Nuclide	Total Activity (uCi)	Concentration (uCi/g)
Pulser	3.73E+07 +/- 1.96E+08	1.68E+03 +/- 8.81E+03
SE-75	1.20E-01 +/- 4.00E-02	5.39E-06 +/- 1.80E-06
EU-152x	5.60E-02 +/- 1.97E-02	2.52E-06 +/- 8.85E-07
U-233	1.35E+03 +/- 8.59E+02	6.09E-02 +/- 3.87E-02
U-235	1.20E-01 +/- 5.87E-02	5.42E-06 +/- 2.65E-06
Np-237	7.42E+00 +/- 4.82E-01	3.34E-04 +/- 2.17E-05
Pu-238	2.24E+04 +/- 7.40E+03	1.01E+00 +/- 3.33E-01
U-238	4.40E+00 +/- 1.15E+00	1.98E-04 +/- 5.19E-05
Pu-239	5.41E+06 +/- 1.31E+05	2.44E+02 +/- 5.89E+00
Pu-239A	4.13E+06 +/- 1.27E+05	1.86E+02 +/- 5.71E+00
Am-241	1.33E+06 +/- 4.44E+04	6.00E+01 +/- 2.00E+00
Pu-241	1.36E+07 +/- 5.56E+05	6.15E+02 +/- 2.51E+01

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)
SE-75	8.23E-12 +/- 2.75E-12
U-233	1.41E-01 +/- 8.94E-02
U-235	5.57E-02 +/- 2.72E-02
Np-237	1.05E-02 +/- 6.84E-04
Pu-238	1.31E-03 +/- 4.32E-04
U-238	1.31E+01 +/- 3.43E+00
Pu-239	8.71E+01 +/- 2.11E+00
Pu-239A	6.65E+01 +/- 2.04E+00
Am-241	3.89E-01 +/- 1.30E-02
Pu-241	1.32E-01 +/- 5.38E-03

Batch 2002-02-986

Summed Spectrum

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		2.84E+05	+/-	7.14E+05	1.28E+01	+/-	3.22E+01
SE-75	<	8.93E-01	+/-	7.79E-03	< 4.02E-05	+/-	3.51E-07
EU-152x	<	5.24E-01	+/-	1.01E-02	< 2.36E-05	+/-	4.55E-07
U-233	<	4.05E+04	+/-	8.45E+02	< 1.82E+00	+/-	3.81E-02
U-235	<	1.35E+00	+/-	2.66E-02	< 6.08E-05	+/-	1.20E-06
Np-237		5.82E+00	+/-	4.06E-01	2.62E-04	+/-	1.83E-05
Pu-238	<	9.80E+04	+/-	1.43E+03	< 4.41E+00	+/-	6.43E-02
U-238	<	1.24E+01	+/-	1.98E-01	< 5.59E-04	+/-	8.94E-06
Pu-239		4.56E+06	+/-	8.52E+04	2.05E+02	+/-	3.84E+00
Pu-239A		1.45E+06	+/-	3.64E+04	6.52E+01	+/-	1.64E+00
Am-241		1.03E+06	+/-	2.42E+04	4.63E+01	+/-	1.09E+00
Pu-241		3.19E+06	+/-	1.35E+05	1.44E+02	+/-	6.06E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
Np-237	8.26E-03	+/-	5.77E-04
Pu-239	7.34E+01	+/-	1.37E+00
Pu-239A	2.33E+01	+/-	5.87E-01
Am-241	3.00E-01	+/-	7.07E-03
Pu-241	3.09E-02	+/-	1.30E-03

Batch 2002-02-587

Final Non-Uniformity Results

Source Longitudinal Ratio:	0.892	+/-	4.3719
Matrix Longitudinal Ratio:	0.505	+/-	0.0367
Source Vertical Ratio:	0.892	+/-	0.4474
Matrix Vertical Ratio:	0.848	+/-	0.0157

NUDS could not find the transmission peak in one radial segment.

****
***** M G A R E P O R T *****
****

Report generated on: 2-14-02 10:44:46 AM

MGA version: MGA V9.5 CI

Spectrum ID: 11200871.CNF Sens : 30.0% LT: 50.9 Mins DT: 8.80
Measurement date: 2-14-02 Declared date: 2-14-02

Sample ID: S100_871 Detector: Total counts: 1.518E+07

Pu g/cm2 = 0.8795 Cd g/cm2 = 1.7823 FWHM at 122 keV = 689 eV
QFIT = 1.19 FWHM at 208 keV = 872 eV
NQFIT = 1.01

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	Meas. date %Err	Decl. date % weight	Decl. date %Err
Pu-238	0.000095	6.1	6.1	0.0375	6.0	0.00891	6.06	0.00891	6.06
Pu-239	1.000000	0.0	0.3	395.9172	0.5	94.14990	0.05	94.14990	0.05
Pu-240	0.059190	0.8	0.8	23.4344	0.9	5.57275	0.78	5.57275	0.78
Pu-241	0.002526	0.5	0.4	1.0000	0.0	0.23780	0.51	0.23780	0.51
Pu-242	(New alg.)			0.1288	(10)	0.03063	(10)	0.03063	(10)
Am-241	0.004607	0.4	0.3	1.8239	0.5	0.43373	0.43	0.43373	0.43

Pu-240 effective (meas. date) = 5.647 +/- 0.83%
Am-241 separated about 21.531 +/- 0.136 years ago
Am/Pu-241 weight ratio = 1.82390 +/- 0.53%

Messages :

Lead x-rays detected.
Calculations in MGAABS didn't converge : results may be suspect.
Pu-241/Pu-239 efficiency changed in MGACAL by 1%.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
2-14-02 10:52:27 AM

OK NW 2-14-02 JWS 4-24-02

QA File: C:\WAS\CTRS\CTR1\ARR1\T11_BCK.QA
Sample ID: B872
Sample Quantity: 1.0000E+00
Sample Date: 2-14-02 10:46:56 AM
Measurement Date: 2-14-02 10:50:22 AM
Elapsed Live Time: 100.0 seconds
Elapsed Real Time: 103.9 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
400.6 keV Centroid [0.00+/-0.00]	8.0357E+02	0.00 < : : : >
400.6 keV FWHM [0.00+/-0.00]	1.5219E+00	0.00 < : : : >
Peak centroid 136 KeV [0.00+/-0.00]	2.7287E+02	0.00 < : : : >
Peak area 400 keV [0.00+/-0.00]	1.7324E+04	0.00 < : : : >
Peak counts/second [0.00+/-0.00]	1.7324E+02	0.00 < : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
2-14-02 10:52:34 AM

QA File: C:\WAS\CTRS\CTR1\ARR1\S11_BCK.QA
Sample ID: B872
Sample Quantity: 1.0000E+00
Sample Date: 2-14-02 10:46:56 AM
Measurement Date: 2-14-02 10:46:54 AM
Elapsed Live Time: 200.0 seconds
Elapsed Real Time: 201.9 seconds

Parameter Description	Value	Deviation/Flags

Batch 2002-03-990

[Mean +/- Std. Dev.]		< LU : SD : UD : BS >
Ref. Peak	3.5061E+01	0.00
[0.00+/-0.00]		< : : : : >
Upper CPS Reg	2.2655E+01	0.00
[0.00+/-0.00]		< : : : : >
Peak counts/second	1.0087E+03	0.00
[0.00+/-0.00]		< : : : : >
Pulser FWHM	1.0162E+00	0.00
[0.00+/-0.00]		< : : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS V2.3A RADA V2.1

****
* DRUM INFORMATION *
****

Drum Package ID: LL85800567
Sequence Number: 873
Assay Date & Time: 2-14-2002 10:57:39 AM
Report Generated: 6-19-2002 4:12:38 PM
Drum Package GROSS Weight: 60.60 kg NET Weight: 21.80 kg

IDC Number: LL85800567

QC Replicate (Yes/No): No Passed (Yes/No): _____

Operator Name (Printed): Russell Ratti

Operator Signature: FOR: RUSSELL RATTI BY: [signature] Date: 6/20/02

Independent Reviewer: [signature] Date: 6-27-02

Expert Reviewer: Kenneth Raschke Date: 6/19/02

Tech. Supv/QA Officer: [signature] Date: 6/27/02

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 1.204E-01 +/- 2.865E-02 Ci

****
* I S O T O P I C I N F O R M A T I O N *
****

Isotope	Measured Mass (g)	Mass Uncertainty (g)
Pu-238	1.242E-04	9.948E-05
Pu-239	8.707E-01	3.318E-01
Pu-240	6.508E-02	2.587E-02
Pu-241	1.999E-03	7.878E-04
Pu-242	5.731E-04	2.510E-04
Am-241	1.417E-02	5.449E-03
*Am-243	N/A	N/A
*Np-237	N/A	N/A
U-235	3.523E-01	1.457E-01
*U-238	N/A	N/A
*U-233	N/A	N/A

* = Activity/Mass below detectable limit.

Total Pu Mass: 9.39E-01 +/- 3.33E-01 g

****
* M G A R E S U L T S *
****

NUCLIDE	% Weight	% Error(1-Sigma)
Pu-238	1.324E-02	3.59E+01
Pu-239	9.278E+01	4.34E-01
Pu-240	6.934E+00	5.76E+00
Pu-241	2.130E-01	5.11E+00
Pu-242	6.107E-02	1.10E+01
Am-241	1.510E+00	2.58E+00
U-235	3.754E+01	8.18E+00

Batch 2002-02-993

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005
Software Version: GWAS V2.3A RADA V2.1

Assay Date & Time: 2-14-2002 10:57:39 AM
Report Generated: 6-19-2002 4:12:42 PM

Drum Package ID: LL85800567
Sequence Number: 873

Waste Classification (TRU or LLW): TRU

			Errors at 1.96 sigma	
Total Alpha Activity :	1.204E-01	+/-	2.865E-02	Ci
Total TRU Activity :	5.522E+03	+/-	1.314E+03	nCi/g
Pu-239 Equiv Activity:	1.243E-01	+/-	2.868E-02	Ci
Fissile Gram Equiv Mass:	1.229E+00	+/-	4.168E-01	g
Total Decay Heat:	3.886E-03	+/-	9.250E-04	W
TMU Value:	38.11 %			

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error
Pu-238	2.15E-03	1.72E-03	1.24E-04	9.95E-05
Pu-239	5.41E-02	2.06E-02	8.71E-01	3.32E-01
Pu-240	1.50E-02	5.95E-03	6.51E-02	2.59E-02
Pu-241	2.08E-01	8.19E-02	2.00E-03	7.88E-04
Pu-242	2.28E-06	9.96E-07	5.73E-04	2.51E-04
Am-241	4.92E-02	1.89E-02	1.42E-02	5.45E-03
*Am-243	N/A	N/A	N/A	N/A
*Np-237	N/A	N/A	N/A	N/A
U-235	7.72E-07	3.19E-07	3.52E-01	1.46E-01
*U-238	N/A	N/A	N/A	N/A
*U-233	N/A	N/A	N/A	N/A

* = Activity/Mass below detectable limit.

Total Pu Mass: 9.39E-01 +/- 3.33E-01 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sigma)
Pu-238	1.324E-02	3.59E+01
Pu-239	9.278E+01	4.34E-01
Pu-240	6.934E+00	5.76E+00
Pu-241	2.130E-01	5.11E+00
Pu-242	6.107E-02	1.10E+01
Am-241	1.510E+00	2.58E+00
U-235	3.754E+01	8.18E+00

Retrv. 2002-02-994

SGS Expert Review Checklist

Container Identification #: LL85800567_____ Original Assay Date:2-14-2002__

1. *WCP-41, §6.1:* A MGA report ☒ is present or ☐ expert review has provided isotopic ratios from SGS or AK. Comment: Reran MGA to understand the FWHM message. I also ran interactive peak fit on file 11200873.cnf and got 675 eV at 129keV not greater than 700 eV. ☐ No comments
2. *WCP-41, §6.1:* MGA and AK ☒ agree as to radiological composition or, if not, ☐ expert review has resolved this. Comment: ☒ No comments
3. *WCP-41, §6.2.1:* ☒ Pu-238 ≤ 2% by weight of total Pu or, if not, ☐ expert review has addressed this and assigned a Pu-240 value. Comment: ☒ No comments
4. *WCP-41, §6.2.2:* ☐ Neither Np-237 nor U-235 is identified by MGA or ☒ expert review has addressed possible interferences from these radionuclides.
   Comment: U-235 is identified by MGA. There is no interference.☐ No comments
5. *WCP-41, §6.2.2.2:* ☒ Am-241 separation date is 1950 or later or ☐ expert review has addressed possible interferences. Comment: ☒ No comments
6. *WCP-41, §6.3.1.1.a:* ☒ Bulk density of waste ≤ 0.6 g/ml or ☐ expert review has addressed the high density of the drum. Comment: ☒ No comments
7. *WCP-41, §6.3.1.2.a:* ☒ Transmission in every segment ≥ 0.1% for the Se-75 peaks at 136 keV or 265 keV or ☐ expert review has addressed the low transmission.
   Comment: ☒ No comments
8. *WCP-41, §6.3.1.2.a:* ☒ Transmission in every segment ≥1% for the Se-75 peak at 401 keV or ☐ expert review has addressed the low transmission.
   Comment: ☒ No comments
9. *WCP-41, §6.3.1.3.b:* ☒ Dead time in every segment ≤ 50% or ☐ expert review has addressed the high dead time. Comment: ☒ No comments
10. *WCP-41, §6.3.1.3.c:* ☐ Pu-239 masses determined from the 414 keV peak and the 129 keV peak agree by a factor of < 2.5 or ☒ expert review has addressed possible matrix inhomogeneity. Comment: The Pu-239/Pu239a ratio is 2.61 and 2.96 for the two different types of analysis. However, in each case the error is so large as to bring the ratio below 2.5. ☐ No comments
11. *WCP-41, §6.3.2.3:* Cs-137 (☐ has) (☒ has not) been identified by expert review. If it has, Sr-90 is reported ☐ at an activity ratio to Cs-137of 0.39 for Pu fission or ☐ at a ratio of 1 for U-235 fission or, ☐ if both Pu and U are present, the expert reviewer has determined the ratio. Comment: ☒ No comments

CONTROLLED FORM

Batch 2002-02-995

SGS Expert Review Checklist

Container Identification #: LL85800567_____ Original Assay Date:2-14-2002__

12. *WCP-41, §6.3.2.4:* ☐ No unusual nuclides are identified (none other than the 10 required to be reported to WIPP) or ☒ the expert reviewer has checked for interferences from unusual nuclides. Comment: U-235 is identified and quantified by MGA and RADA.☐ No comments
13. *WCP-41, §6.3.3:* For waste drums (☐ NA for standards), ☒ the Summed Spectrum report value for Pu-239 and the Combined Segment NID report for Pu-239 agree within 95% confidence limits (the same as for replicates of unknowns) or ☐ expert review has addressed the difference. Comment: ☒ No comments
14. *WCP-41, §6.4:* ☒ The SGS Summed Spectrum and Combined Segment NID reports agree as to the ratios by weight of several radionuclides, such as those of Am-241, Pu-241, Np-237, Am-243, and U-235 to Pu-239, and MGA results agree as to identifying these radionuclides or ☐ expert review has resolved this. Comment: ☒ No comments
15. *WCP-41, §6.6.1:* ☒ All reported radionuclide masses are above 2.5 times the uncorrected MDA or ☐ expert review has calculated transmission-corrected MDA's and taken appropriate action. Comment: ☒ No comments
16. *WCP-41, §6.6.2:* ☒ Any changes to reported quantities of individual radionuclides have been entered into the RADA program and a new radioassay data sheet has been produced, showing revised derivative quantities, and included in the batch data report, along with the marked up original. Comment: ☒ No comments
17. *CP-41, §6.7:* ☒ Counting statistics are adequate for normal passive count time of 120 seconds per segment or ☐ Counting statistics are adequate for long passive count time of 600 seconds per segment or ☐ expert review has rejected the count and ordered a longer count time. Comment: ☒ No comments

Kenneth Raschke	Kenneth Raschke	6/19/02
Expert Reviewer (print)	Signature	Date

Batch 2002-02-996

****
***** M G A R E P O R T *****
****

Report generated on: 6-19-02 4:10:10 PM

MGA version: MGA V9.5 CI

Spectrum ID: 11200873.CNF Sens : 30.0% LT: 55.8 Mins DT: 0.18
Measurement date: 2-14-02 Declared date: 2-14-02

Sample ID: LL85800567 Detector: Total counts: 3.139E+05

Pu g/cm2 = 0.1900 Cd g/cm2 = 1.5000 FWHM at 122 keV = 751 eV
QFIT = 1.00 FWHM at 208 keV = 919 eV
NQFIT = 1.00

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	%Err	Decl. date % weight	%Err
Pu-238	0.000143	36.0	36.0	0.0621	35.6	0.01324	35.94	0.01324	35.94
Pu-239	1.000000	0.0	2.6	435.5849	5.2	92.77860	0.43	92.77860	0.43
Pu-240	0.074738	6.2	5.4	32.5548	7.0	6.93410	5.76	6.93410	5.76
Pu-241	0.002296	5.2	4.4	1.0000	0.0	0.21300	5.11	0.21300	5.11
Pu-242	(New alg.)			0.2867	(11)	0.06107	(11)	0.06107	(11)
Am-241	0.016276	2.8	1.1	7.0897	4.6	1.51009	2.58	1.51009	2.58
U-235	0.404608	7.8	8.2			37.53896	8.18	37.53896	8.18

Pu-240 effective (meas. date) = 7.070 +/- 6.17%
Am-241 separated about 43.085 +/- 0.477 years ago
Am/Pu-241 weight ratio = 7.08970 +/- 4.51%

Messages :

Lead x-rays detected.
Error in GFIT routine : probable weak peak in location 2.
Efficiency curvature boundary reached.
Pu-241/Pu-239 efficiency changed in MGACAL by 5%.
FWHM of the low energy detector > 700 eV.
16 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Batch 2002-02-997

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 200202

NOT VALID
KER
6-19-02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS 2.3A

****
* DRUM INFORMATION *
****

Drum Package ID: LL85800567
Sequence Number: 873
Assay Date & Time: 2-14-2002 10:57:39 AM
Drum Package GROSS Weight: 60.60 kg NET Weight: 21.80 kg

IDC Number: LL85800567

QC Replicate (Yes/No): NO Passed (Yes/No): _____

Operator Name (Printed): Russell Rath

Operator Signature: RRath Date: 2-14-02

Independent Reviewer: _____ Date: _____

Expert Reviewer: _____ Date: _____

Tech. Supv/QA Officer: _____ Date: _____

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 1.207E-01 +/- 2.872E-02 Ci

Batch 200202-888

NOT VALID
KER
6-19-02

****
* ISOTOPIC INFORMATION *
****

Isotope	Measured Mass (g)	Mass Uncertainty (g)	MDC (g)
Pu-238	1.231E-04	9.95E-05	6.846E-06
Pu-239	8.707E-01	3.32E-01	4.844E-02
Pu-240	6.555E-02	2.61E-02	3.646E-03
Pu-241	2.003E-03	7.89E-04	4.303E-04
Pu-242	5.769E-04	2.53E-04	3.209E-05
Am-241	1.424E-02	5.48E-03	2.258E-03
Am-243	0.000E+00	0.00E+00	0.000E+00
Np-237	0.000E+00	0.00E+00	1.649E-04
U-235	3.429E-01	1.43E-01	4.935E-02
U-238	1.656E+01	5.53E+00	1.656E+01
U-233	8.440E-01	2.70E-01	8.440E-01

Total Pu Mass: 9.39E-01 +/- 5.99E-01 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	1.311E-02	3.64E+01
Pu-239	9.273E+01	4.37E-01
Pu-240	6.981E+00	5.75E+00
Pu-241	2.133E-01	5.10E+00
Pu-242	6.144E-02	1.10E+01
Am-241	1.517E+00	2.58E+00
U-235	3.652E+01	8.52E+00

Batch 2002-03-999

NOT VALID
KER
6-19-02

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005

Assay Date & Time: 2-14-2002 10:57:39 AM

Drum Package ID: LL85800567
Sequence Number: 873

Waste Classification (TRU or LLW): TRU

		Errors at 1.96 sigma	
Total Alpha Activity :	1.207E-01	+/- 2.87E-02	Ci
Total TRU Activity :	5.537E+03	+/- 1.32E+03	nCi/g
Pu-239 Equiv Activity:	1.246E-01	+/- 2.88E-02	Ci
Fissile Gram Equiv Mass:	1.220E+00	+/- 4.14E-01	g
Total Decay Heat:	3.897E-03	+/- 9.27E-04	W
TMU Value:	38.11 %		

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error	MDA gm
Pu-238	2.13E-03	1.72E-03	1.23E-04	9.95E-05	6.85E-06
Pu-239	5.41E-02	2.06E-02	8.71E-01	3.32E-01	4.84E-02
Pu-240	1.51E-02	5.99E-03	6.56E-02	2.61E-02	3.65E-03
Pu-241	2.08E-01	8.21E-02	2.00E-03	7.89E-04	4.30E-04
Pu-242	2.29E-06	1.00E-06	5.77E-04	2.53E-04	3.21E-05
Am-241	4.94E-02	1.90E-02	1.42E-02	5.48E-03	2.26E-03
Am-243	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Np-237	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.65E-04
U-235	7.51E-07	3.12E-07	3.43E-01	1.43E-01	4.93E-02
U-238	5.63E-06	1.88E-06	1.66E+01	5.53E+00	1.66E+01
U-233	8.24E-03	2.64E-03	8.44E-01	2.70E-01	8.44E-01

Total Pu Mass: 9.39E-01 +/- 5.99E-01 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	1.311E-02	3.64E+01
Pu-239	9.273E+01	4.37E-01
Pu-240	6.981E+00	5.75E+00
Pu-241	2.133E-01	5.10E+00
Pu-242	6.144E-02	1.10E+01
Am-241	1.517E+00	2.58E+00
U-235	3.652E+01	8.52E+00

Batch 2002-02-1000

Gamma Waste Assay

Sample Information

File Name: C:\WAS\DATA\900\11100873.S11
Sample ID: LL85800567 Count Sequence Number: 873
Assay Start: 2-14-02 10:57:41 AM
Description 1: unknown
Description 2:
Location: 7715
Comment:
Waste Type:
Weight: Gross: 60600.0 g Net: 21800.0 g
Density: 0.105 g /ml

Container Type: 55 TRU GALV 87#
Container: Volume: 208000. ml Full: 100.0 %

System Configuration

Counter ID Number: SGS
Arrangement Description: SGS
Segments: Number: 16 Offset: 0
Scanning Platform: Start: 934 mm Delta: -51 mm
Count Type: 55 TRU GALV 87#
Collimator/Geometry Setting: 0
Transmission Mode: Two pass
Transmission Source: 0

Errors quoted at 1.000 sigma
Reference Source Date: Reference Source Rate: 1.01E+03 cps
Geometric Correction Factor(SWCONTGCF): 0.760
Date of efficiency calibration approval: 4-18-2001 12:41:36 PM
Mu Factors response file: Lucite
Transmission Calib. Time: 5-18-2001 2:02:56 PM 46625

Reviewed by: _____ Date: 6/26/02

Batch 2002-03-1881

Segment Results

Segment: 1 Detector: DET01 (# 1) Position: 1

Elapsed Live Time: 113.76 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.241 +/- 0.0228
SE-75	264.65	0.000 +/- 0.0000	0.341 +/- 0.0039
SE-75	279.53	0.000 +/- 0.0000	0.345 +/- 0.0055
SE-75	400.65	0.000 +/- 0.0000	0.406 +/- 0.0072

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.25	2.79E+00 +/- 2.23E-01	3.29E+00	9.58E-08 +/- 1.19E-06
2	35.10	1.01E+03 +/- 4.76E+00	2.26E+00	2.61E-06 +/- 1.64E-05
3	59.64	5.10E+01 +/- 7.71E-01	1.84E+00	3.76E-05 +/- 7.40E-05
4	99.14	1.53E+00 +/- 2.82E-01	1.69E+00	1.40E-04 +/- 4.02E-05
5	103.24	5.40E-01 +/- 3.11E-01	1.68E+00	1.49E-04 +/- 3.32E-05
6	125.60	7.59E-01 +/- 1.42E-01	1.65E+00	1.90E-04 +/- 1.21E-05
7	148.57	3.40E-01 +/- 1.22E-01	1.61E+00	2.15E-04 +/- 2.55E-05
8	185.71	2.48E-01 +/- 9.33E-02	1.56E+00	2.30E-04 +/- 3.16E-05
9	208.55	5.71E-01 +/- 1.16E-01	1.53E+00	2.30E-04 +/- 2.81E-05
10	300.10	9.64E-02 +/- 6.26E-02	1.44E+00	2.04E-04 +/- 1.08E-05
11	311.90	9.12E-01 +/- 1.09E-01	1.44E+00	2.00E-04 +/- 1.03E-05
12	413.70	1.18E-01 +/- 5.68E-02	1.38E+00	1.65E-04 +/- 1.27E-05
13	559.44	1.74E-01 +/- 5.14E-02	1.32E+00	1.30E-04 +/- 1.10E-05
14	662.42	8.68E-02 +/- 2.75E-02	1.29E+00	1.12E-04 +/- 8.14E-06
15	1085.91	3.08E-02 +/- 2.38E-02	1.22E+00	7.49E-05 +/- 3.78E-06

Segment: 2 Detector: DET01 (# 1) Position: 2

Elapsed Live Time: 113.62 sec Elapsed Real Time: 115.00 sec

Batch 3983-02-1883

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.138 +/- 0.0183
SE-75	264.65	0.000 +/- 0.0000	0.210 +/- 0.0029
SE-75	279.53	0.000 +/- 0.0000	0.212 +/- 0.0042
SE-75	400.65	0.000 +/- 0.0000	0.258 +/- 0.0056

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.17	4.80E+00 +/- 2.91E-01	4.10E+00	5.46E-10 +/- 5.22E-09
2	35.10	1.01E+03 +/- 4.76E+00	2.89E+00	2.21E-07 +/- 1.06E-06
3	59.62	9.78E+01 +/- 1.10E+00	2.25E+00	2.20E-05 +/- 3.31E-05
4	99.06	4.24E+00 +/- 4.30E-01	2.02E+00	1.85E-04 +/- 4.20E-05
5	103.17	1.46E+00 +/- 4.73E-01	2.01E+00	2.05E-04 +/- 3.63E-05
6	111.17	3.61E-01 +/- 2.24E-01	1.99E+00	2.40E-04 +/- 2.53E-05
7	148.57	4.69E-01 +/- 1.78E-01	1.91E+00	3.54E-04 +/- 3.27E-05
8	162.32	2.46E-01 +/- 1.38E-01	1.88E+00	3.74E-04 +/- 3.92E-05
9	185.71	1.19E+00 +/- 1.72E-01	1.83E+00	3.89E-04 +/- 4.14E-05
10	208.48	2.31E+00 +/- 1.86E-01	1.79E+00	3.88E-04 +/- 3.70E-05
11	300.10	6.37E-01 +/- 1.08E-01	1.68E+00	3.27E-04 +/- 1.48E-05
12	311.90	2.43E+00 +/- 1.66E-01	1.67E+00	3.18E-04 +/- 1.39E-05
13	333.62	2.55E-01 +/- 1.11E-01	1.65E+00	3.02E-04 +/- 1.34E-05
14	375.75	7.63E-01 +/- 1.09E-01	1.62E+00	2.74E-04 +/- 1.40E-05
15	413.70	5.81E-01 +/- 8.54E-02	1.59E+00	2.51E-04 +/- 1.46E-05
16	662.42	1.44E-01 +/- 4.12E-02	1.46E+00	1.65E-04 +/- 9.18E-06
17	964.13	2.78E-02 +/- 2.59E-02	1.36E+00	1.23E-04 +/- 5.48E-06

Segment: 3 Detector: DET01 (# 1) Position: 3

Elapsed Live Time: 113.64 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.236 +/- 0.0206
SE-75	264.65	0.000 +/- 0.0000	0.286 +/- 0.0036
SE-75	279.53	0.000 +/- 0.0000	0.300 +/- 0.0050
SE-75	400.65	0.000 +/- 0.0000	0.338 +/- 0.0065

Batch 2003-03-1083

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.26	4.35E+00 +/- 2.89E-01	3.33E+00	1.10E-08 +/- 1.08E-07
2	35.10	1.01E+03 +/- 4.78E+00	2.29E+00	1.07E-06 +/- 5.27E-06
3	59.63	8.83E+01 +/- 1.03E+00	1.86E+00	3.80E-05 +/- 5.87E-05
4	99.13	3.57E+00 +/- 4.25E-01	1.71E+00	2.02E-04 +/- 4.69E-05
5	103.16	9.03E-01 +/- 4.58E-01	1.70E+00	2.19E-04 +/- 3.98E-05
6	129.29	1.08E+00 +/- 2.43E-01	1.66E+00	3.02E-04 +/- 1.84E-05
7	148.57	7.20E-01 +/- 1.81E-01	1.63E+00	3.39E-04 +/- 3.24E-05
8	185.71	1.75E+00 +/- 1.91E-01	1.60E+00	3.67E-04 +/- 4.05E-05
9	208.52	2.03E+00 +/- 1.88E-01	1.59E+00	3.66E-04 +/- 3.63E-05
10	279.54	2.22E-01 +/- 9.25E-02	1.53E+00	3.32E-04 +/- 1.78E-05
11	300.10	4.60E-01 +/- 9.63E-02	1.52E+00	3.20E-04 +/- 1.49E-05
12	311.90	2.25E+00 +/- 1.65E-01	1.51E+00	3.13E-04 +/- 1.40E-05
13	375.75	1.03E+00 +/- 1.22E-01	1.48E+00	2.76E-04 +/- 1.44E-05
14	393.71	2.31E-01 +/- 8.70E-02	1.47E+00	2.67E-04 +/- 1.48E-05
15	400.66	1.22E-01 +/- 5.92E-02	1.47E+00	2.63E-04 +/- 1.50E-05
16	413.70	5.89E-01 +/- 1.08E-01	1.46E+00	2.57E-04 +/- 1.52E-05
17	662.42	1.94E-01 +/- 4.63E-02	1.36E+00	1.78E-04 +/- 1.02E-05

Segment: 4 Detector: DET01 (# 1) Position: 4

Elapsed Live Time: 113.77 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.317 +/- 0.0228
SE-75	264.65	0.000 +/- 0.0000	0.331 +/- 0.0039
SE-75	279.53	0.000 +/- 0.0000	0.343 +/- 0.0054
SE-75	400.65	0.000 +/- 0.0000	0.374 +/- 0.0069

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.20	2.25E+00 +/- 2.03E-01	2.77E+00	3.34E-06 +/- 4.70E-06
2	35.10	1.01E+03 +/- 4.76E+00	1.98E+00	2.00E-05 +/- 1.66E-05
3	59.63	4.03E+01 +/- 6.87E-01	1.66E+00	9.84E-05 +/- 3.39E-05
4	99.17	1.58E+00 +/- 2.97E-01	1.54E+00	2.41E-04 +/- 2.41E-05

5	103.15	6.45E-01 +/-	3.17E-01	1.54E+00	2.52E-04 +/-	2.25E-05
6	125.54	5.83E-01 +/-	1.90E-01	1.51E+00	3.05E-04 +/-	1.65E-05
7	185.71	7.85E-01 +/-	1.47E-01	1.49E+00	3.67E-04 +/-	1.89E-05
8	208.39	7.26E-01 +/-	1.47E-01	1.48E+00	3.71E-04 +/-	1.94E-05
9	244.70	1.49E-01 +/-	7.83E-02	1.48E+00	3.65E-04 +/-	1.85E-05
10	300.10	2.42E-01 +/-	8.25E-02	1.45E+00	3.44E-04 +/-	1.54E-05
11	311.90	5.75E-01 +/-	9.35E-02	1.45E+00	3.38E-04 +/-	1.48E-05
12	413.70	4.21E-01 +/-	7.26E-02	1.41E+00	2.87E-04 +/-	1.11E-05
13	443.98	8.26E-02 +/-	4.62E-02	1.40E+00	2.73E-04 +/-	1.07E-05
14	1085.91	1.74E-02 +/-	1.23E-02	1.24E+00	1.20E-04 +/-	4.36E-06

Segment: 5 Detector: DET01 (# 1) Position: 5

Elapsed Live Time: 113.88 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.349 +/- 0.0248
SE-75	264.65	0.000 +/- 0.0000	0.447 +/- 0.0047
SE-75	279.53	0.000 +/- 0.0000	0.454 +/- 0.0064
SE-75	400.65	0.000 +/- 0.0000	0.524 +/- 0.0083

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.77E+00	1.88E+00	1.48E-05 +/- 1.27E-05
2	59.62	1.12E+01 +/- 3.95E-01	1.59E+00	9.34E-05 +/- 3.30E-05
3	129.29	4.03E-01 +/- 1.45E-01	1.46E+00	3.26E-04 +/- 1.67E-05
4	208.45	2.65E-01 +/- 9.52E-02	1.38E+00	3.75E-04 +/- 2.04E-05
5	244.70	1.61E-01 +/- 7.68E-02	1.35E+00	3.63E-04 +/- 1.90E-05
6	311.90	1.75E-01 +/- 5.25E-02	1.31E+00	3.26E-04 +/- 1.48E-05
7	413.70	1.22E-01 +/- 4.79E-02	1.26E+00	2.69E-04 +/- 1.09E-05
8	778.90	1.75E-02 +/- 1.24E-02	1.19E+00	1.54E-04 +/- 7.51E-06
9	867.39	4.37E-02 +/- 1.95E-02	1.17E+00	1.40E-04 +/- 6.44E-06
10	1112.12	1.89E-02 +/- 1.74E-02	1.15E+00	1.14E-04 +/- 4.26E-06

Segment: 6 Detector: DET01 (# 1) Position: 6

Elapsed Live Time: 113.87 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.400 +/- 0.0262
SE-75	264.65	0.000 +/- 0.0000	0.464 +/- 0.0048
SE-75	279.53	0.000 +/- 0.0000	0.469 +/- 0.0065
SE-75	400.65	0.000 +/- 0.0000	0.511 +/- 0.0082

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.22	9.05E-01 +/- 1.21E-01	2.34E+00	6.81E-07 +/- 9.64E-07
2	35.10	1.01E+03 +/- 4.76E+00	1.75E+00	8.04E-06 +/- 6.71E-06
3	59.63	8.73E+00 +/- 3.40E-01	1.51E+00	6.91E-05 +/- 2.40E-05
4	98.81	9.68E-01 +/- 1.85E-01	1.42E+00	2.22E-04 +/- 2.25E-05
5	129.29	8.90E-01 +/- 1.54E-01	1.39E+00	3.10E-04 +/- 1.61E-05
6	208.28	2.39E-01 +/- 1.15E-01	1.35E+00	3.81E-04 +/- 2.03E-05
7	311.90	1.91E-01 +/- 6.14E-02	1.30E+00	3.39E-04 +/- 1.51E-05
8	400.66	5.13E-02 +/- 3.51E-02	1.28E+00	2.88E-04 +/- 1.14E-05
9	413.70	2.28E-01 +/- 5.40E-02	1.27E+00	2.81E-04 +/- 1.11E-05
10	1112.12	8.68E-03 +/- 8.68E-03	1.16E+00	1.20E-04 +/- 4.28E-06

Segment: 7 Detector: DET01 (# 1) Position: 7

Elapsed Live Time: 113.85 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.455 +/- 0.0275
SE-75	264.65	0.000 +/- 0.0000	0.510 +/- 0.0051
SE-75	279.53	0.000 +/- 0.0000	0.506 +/- 0.0069
SE-75	400.65	0.000 +/- 0.0000	0.572 +/- 0.0088

Batch 2002-02-1886

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.37	9.10E-01 +/- 1.43E-01	2.10E+00	7.93E-09 +/- 7.69E-08
2	35.10	1.01E+03 +/- 4.77E+00	1.63E+00	9.59E-07 +/- 4.73E-06
3	59.65	1.41E+01 +/- 4.13E-01	1.43E+00	4.03E-05 +/- 6.23E-05
4	98.92	1.87E+00 +/- 2.33E-01	1.36E+00	2.21E-04 +/- 5.16E-05
5	103.34	7.31E-01 +/- 2.08E-01	1.35E+00	2.41E-04 +/- 4.30E-05
6	129.29	2.01E+00 +/- 2.00E-01	1.33E+00	3.30E-04 +/- 1.98E-05
7	208.57	6.55E-01 +/- 1.27E-01	1.30E+00	3.91E-04 +/- 3.82E-05
8	244.70	1.49E-01 +/- 7.97E-02	1.28E+00	3.73E-04 +/- 2.70E-05
9	300.10	1.57E-01 +/- 5.79E-02	1.27E+00	3.36E-04 +/- 1.56E-05
10	311.90	5.25E-01 +/- 8.98E-02	1.26E+00	3.27E-04 +/- 1.48E-05
11	375.65	4.00E-01 +/- 8.10E-02	1.24E+00	2.87E-04 +/- 1.54E-05
12	413.70	4.37E-01 +/- 7.63E-02	1.22E+00	2.67E-04 +/- 1.63E-05
13	867.39	8.72E-03 +/- 8.72E-03	1.15E+00	1.47E-04 +/- 6.73E-06
14	1001.03	1.74E-02 +/- 1.23E-02	1.14E+00	1.31E-04 +/- 5.77E-06
15	1112.12	1.74E-02 +/- 1.23E-02	1.13E+00	1.20E-04 +/- 5.13E-06

Segment: 8 Detector: DET01 (# 1) Position: 8

Elapsed Live Time: 113.85 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.402 +/- 0.0269
SE-75	264.65	0.000 +/- 0.0000	0.438 +/- 0.0046
SE-75	279.53	0.000 +/- 0.0000	0.434 +/- 0.0063
SE-75	400.65	0.000 +/- 0.0000	0.477 +/- 0.0079

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.28	1.07E+00 +/- 1.42E-01	2.32E+00	4.44E-09 +/- 4.29E-08
2	35.10	1.01E+03 +/- 4.76E+00	1.75E+00	6.89E-07 +/- 3.37E-06
3	59.61	1.39E+01 +/- 4.20E-01	1.51E+00	3.35E-05 +/- 5.15E-05
4	98.80	1.27E+00 +/- 2.25E-01	1.42E+00	1.99E-04 +/- 4.66E-05
5	111.21	3.98E-01 +/- 1.74E-01	1.41E+00	2.49E-04 +/- 2.64E-05
6	129.29	1.30E+00 +/- 1.81E-01	1.39E+00	3.05E-04 +/- 1.85E-05

7	148.57	4.62E-01 +/-	1.19E-01	1.38E+00	3.45E-04 +/-	3.27E-05
8	208.40	6.09E-01 +/-	1.27E-01	1.36E+00	3.76E-04 +/-	3.71E-05
9	300.10	1.39E-01 +/-	5.88E-02	1.34E+00	3.30E-04 +/-	1.53E-05
10	311.90	6.29E-01 +/-	9.92E-02	1.34E+00	3.23E-04 +/-	1.44E-05
11	333.21	1.30E-01 +/-	7.03E-02	1.33E+00	3.10E-04 +/-	1.38E-05
12	375.64	4.43E-01 +/-	8.83E-02	1.32E+00	2.86E-04 +/-	1.46E-05
13	393.66	1.23E-01 +/-	5.31E-02	1.31E+00	2.76E-04 +/-	1.50E-05
14	413.70	3.90E-01 +/-	7.12E-02	1.30E+00	2.66E-04 +/-	1.54E-05
15	1112.12	8.68E-03 +/-	1.58E-02	1.17E+00	1.16E-04 +/-	4.95E-06
16	1408.01	8.68E-03 +/-	8.68E-03	1.15E+00	9.08E-05 +/-	6.30E-06

Segment: 9 Detector: DET01 (# 1) Position: 9

Elapsed Live Time: 113.85 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.413 +/- 0.0267
SE-75	264.65	0.000 +/- 0.0000	0.485 +/- 0.0050
SE-75	279.53	0.000 +/- 0.0000	0.487 +/- 0.0067
SE-75	400.65	0.000 +/- 0.0000	0.530 +/- 0.0084

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.20	1.45E+00 +/- 1.57E-01	2.29E+00	2.30E-06 +/- 2.31E-05
2	35.10	1.01E+03 +/- 4.76E+00	1.72E+00	1.75E-05 +/- 8.88E-05
3	59.61	1.90E+01 +/- 4.94E-01	1.49E+00	1.00E-04 +/- 1.59E-04
4	99.11	1.01E+00 +/- 2.16E-01	1.41E+00	2.52E-04 +/- 5.98E-05
5	103.37	4.87E-01 +/- 1.89E-01	1.40E+00	2.65E-04 +/- 4.85E-05
6	129.29	6.63E-01 +/- 1.68E-01	1.38E+00	3.23E-04 +/- 1.97E-05
7	208.54	3.45E-01 +/- 1.09E-01	1.33E+00	3.66E-04 +/- 3.75E-05
8	300.10	8.68E-02 +/- 5.78E-02	1.29E+00	3.26E-04 +/- 1.55E-05
9	311.90	2.10E-01 +/- 6.83E-02	1.29E+00	3.20E-04 +/- 1.45E-05
10	375.76	3.09E-01 +/- 7.91E-02	1.27E+00	2.85E-04 +/- 1.49E-05
11	413.70	2.76E-01 +/- 5.24E-02	1.26E+00	2.67E-04 +/- 1.59E-05
12	778.90	3.72E-02 +/- 2.67E-02	1.18E+00	1.59E-04 +/- 7.62E-06
13	964.13	2.17E-02 +/- 1.59E-02	1.16E+00	1.34E-04 +/- 5.82E-06
14	1085.91	1.74E-02 +/- 1.23E-02	1.15E+00	1.23E-04 +/- 5.22E-06

Segment: 10 Detector: DET01 (# 1) Position: 10

Elapsed Live Time: 113.79 sec Elapsed Real Time: 115.00 sec

T R A N S M I S S I O N R E S U L T S

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.437 +/- 0.0273
SE-75	264.65	0.000 +/- 0.0000	0.499 +/- 0.0051
SE-75	279.53	0.000 +/- 0.0000	0.511 +/- 0.0069
SE-75	400.65	0.000 +/- 0.0000	0.551 +/- 0.0086

P E A K A N A L Y S I S R E S U L T S

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.19	2.43E+00 +/- 2.18E-01	2.19E+00	3.39E-07 +/- 4.81E-07
2	35.10	1.01E+03 +/- 4.78E+00	1.67E+00	5.68E-06 +/- 4.74E-06
3	59.61	4.88E+01 +/- 7.65E-01	1.45E+00	6.38E-05 +/- 2.21E-05
4	99.19	1.88E+00 +/- 2.73E-01	1.38E+00	2.32E-04 +/- 2.32E-05
5	125.62	3.50E-01 +/- 1.78E-01	1.35E+00	3.20E-04 +/- 1.73E-05
6	208.45	4.27E-01 +/- 1.06E-01	1.31E+00	4.01E-04 +/- 2.09E-05
7	244.70	1.17E-01 +/- 8.00E-02	1.29E+00	3.89E-04 +/- 1.95E-05
8	375.69	1.47E-01 +/- 5.88E-02	1.25E+00	3.02E-04 +/- 1.20E-05
9	413.70	6.15E-02 +/- 4.24E-02	1.24E+00	2.79E-04 +/- 1.11E-05
10	662.42	3.69E-02 +/- 2.14E-02	1.19E+00	1.80E-04 +/- 8.83E-06
11	964.13	4.80E-02 +/- 2.73E-02	1.15E+00	1.31E-04 +/- 5.40E-06
12	1085.91	2.75E-02 +/- 2.05E-02	1.14E+00	1.21E-04 +/- 4.45E-06
13	1112.12	1.76E-02 +/- 1.24E-02	1.14E+00	1.20E-04 +/- 4.35E-06

Segment: 11 Detector: DET01 (# 1) Position: 11

Elapsed Live Time: 113.71 sec Elapsed Real Time: 115.00 sec

T R A N S M I S S I O N R E S U L T S

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.388 +/- 0.0272
SE-75	264.65	0.000 +/- 0.0000	0.459 +/- 0.0048
SE-75	279.53	0.000 +/- 0.0000	0.468 +/- 0.0065
SE-75	400.65	0.000 +/- 0.0000	0.518 +/- 0.0083

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.27	4.28E+00 +/- 2.68E-01	2.39E+00	4.80E-07 +/- 6.73E-07
2	35.10	1.01E+03 +/- 4.76E+00	1.78E+00	6.75E-06 +/- 5.60E-06
3	59.63	7.96E+01 +/- 9.66E-01	1.53E+00	6.71E-05 +/- 2.31E-05
4	99.15	2.84E+00 +/- 3.27E-01	1.44E+00	2.30E-04 +/- 2.28E-05
5	125.65	1.10E+00 +/- 1.58E-01	1.41E+00	3.12E-04 +/- 1.67E-05
6	148.57	3.74E-01 +/- 1.09E-01	1.39E+00	3.56E-04 +/- 1.70E-05
7	208.55	6.58E-01 +/- 1.10E-01	1.35E+00	3.89E-04 +/- 2.04E-05
8	300.10	1.98E-01 +/- 6.68E-02	1.31E+00	3.45E-04 +/- 1.56E-05
9	311.90	1.67E-01 +/- 5.83E-02	1.30E+00	3.37E-04 +/- 1.49E-05
10	413.70	1.30E-01 +/- 5.85E-02	1.27E+00	2.75E-04 +/- 1.09E-05
11	662.42	9.18E-02 +/- 3.93E-02	1.21E+00	1.80E-04 +/- 8.65E-06
12	778.90	3.48E-02 +/- 1.74E-02	1.19E+00	1.56E-04 +/- 7.41E-06

Segment: 12 Detector: DET01 (# 1) Position: 12

Elapsed Live Time: 113.79 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.318 +/- 0.0252
SE-75	264.65	0.000 +/- 0.0000	0.407 +/- 0.0044
SE-75	279.53	0.000 +/- 0.0000	0.405 +/- 0.0060
SE-75	400.65	0.000 +/- 0.0000	0.458 +/- 0.0077

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.24	2.66E+00 +/- 2.19E-01	2.76E+00	6.42E-07 +/- 9.02E-07
2	35.10	1.01E+03 +/- 4.78E+00	1.98E+00	7.63E-06 +/- 6.33E-06
3	59.63	5.62E+01 +/- 8.05E-01	1.66E+00	6.65E-05 +/- 2.30E-05
4	99.14	2.17E+00 +/- 2.86E-01	1.54E+00	2.18E-04 +/- 2.19E-05
5	125.54	7.73E-01 +/- 1.78E-01	1.51E+00	2.95E-04 +/- 1.62E-05
6	148.57	2.03E-01 +/- 1.13E-01	1.48E+00	3.39E-04 +/- 1.64E-05
7	208.47	4.85E-01 +/- 1.10E-01	1.43E+00	3.76E-04 +/- 1.99E-05
8	244.70	1.18E-01 +/- 5.34E-02	1.40E+00	3.70E-04 +/- 1.88E-05
9	336.39	1.16E-01 +/- 6.27E-02	1.35E+00	3.22E-04 +/- 1.35E-05

10	400.66	2.47E-02	+/- 2.11E-02	1.33E+00	2.86E-04	+/- 1.12E-05
11	413.70	7.99E-02	+/- 4.73E-02	1.32E+00	2.79E-04	+/- 1.09E-05
12	662.42	9.29E-02	+/- 3.56E-02	1.25E+00	1.85E-04	+/- 8.58E-06
13	867.39	8.78E-03	+/- 8.78E-03	1.21E+00	1.45E-04	+/- 6.27E-06
14	1001.03	8.78E-03	+/- 8.78E-03	1.20E+00	1.29E-04	+/- 4.89E-06
15	1085.91	1.76E-02	+/- 1.24E-02	1.19E+00	1.21E-04	+/- 4.35E-06

Segment: 13 Detector: DET01 (# 1) Position: 13

Elapsed Live Time: 113.86 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.602 +/- 0.0308
SE-75	264.65	0.000 +/- 0.0000	0.595 +/- 0.0057
SE-75	279.53	0.000 +/- 0.0000	0.609 +/- 0.0077
SE-75	400.65	0.000 +/- 0.0000	0.642 +/- 0.0093

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.43	1.24E+00 +/- 1.68E-01	1.66E+00	1.18E-06 +/- 1.71E-06
2	35.10	1.01E+03 +/- 4.76E+00	1.39E+00	1.10E-05 +/- 9.51E-06
3	59.62	1.87E+01 +/- 4.81E-01	1.27E+00	8.10E-05 +/- 2.88E-05
4	99.27	5.86E-01 +/- 1.72E-01	1.22E+00	2.39E-04 +/- 2.41E-05
5	103.38	5.57E-01 +/- 1.68E-01	1.22E+00	2.53E-04 +/- 2.26E-05
6	129.29	3.32E-01 +/- 1.13E-01	1.21E+00	3.21E-04 +/- 1.67E-05
7	185.71	1.21E-01 +/- 7.22E-02	1.21E+00	3.79E-04 +/- 2.03E-05
8	208.49	1.64E-01 +/- 8.08E-02	1.21E+00	3.80E-04 +/- 2.07E-05
9	413.70	1.63E-01 +/- 4.72E-02	1.18E+00	2.74E-04 +/- 1.10E-05
10	559.46	1.42E-01 +/- 3.96E-02	1.15E+00	2.11E-04 +/- 9.72E-06
11	1001.03	8.67E-03 +/- 8.67E-03	1.11E+00	1.23E-04 +/- 4.91E-06
12	1112.12	8.67E-03 +/- 8.67E-03	1.10E+00	1.13E-04 +/- 4.19E-06

Segment: 14 Detector: DET01 (# 1) Position: 14

Elapsed Live Time: 113.91 sec Elapsed Real Time: 115.00 sec

Batch 2002-02-1811

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.806 +/- 0.0355
SE-75	264.65	0.000 +/- 0.0000	0.793 +/- 0.0070
SE-75	279.53	0.000 +/- 0.0000	0.805 +/- 0.0092
SE-75	400.65	0.000 +/- 0.0000	0.820 +/- 0.0109

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	22.99	5.18E-01 +/- 1.09E-01	1.26E+00	5.46E-07 +/- 5.43E-06
2	35.10	1.01E+03 +/- 4.77E+00	1.15E+00	8.94E-06 +/- 4.41E-05
3	59.65	5.76E+00 +/- 2.51E-01	1.11E+00	8.07E-05 +/- 1.25E-04
4	99.32	4.27E-01 +/- 1.28E-01	1.09E+00	2.41E-04 +/- 5.50E-05
5	121.11	2.76E-01 +/- 1.09E-01	1.09E+00	3.00E-04 +/- 1.76E-05
6	129.29	4.12E-01 +/- 1.22E-01	1.09E+00	3.17E-04 +/- 1.90E-05
7	148.57	1.71E-01 +/- 8.91E-02	1.08E+00	3.44E-04 +/- 3.29E-05
8	264.66	9.54E-02 +/- 4.95E-02	1.09E+00	3.43E-04 +/- 2.10E-05
9	279.54	9.15E-02 +/- 5.64E-02	1.08E+00	3.36E-04 +/- 1.80E-05
10	413.70	9.39E-02 +/- 4.11E-02	1.08E+00	2.67E-04 +/- 1.56E-05
11	559.66	4.94E-02 +/- 3.52E-02	1.07E+00	2.11E-04 +/- 1.36E-05
12	964.13	2.90E-02 +/- 1.94E-02	1.05E+00	1.31E-04 +/- 5.72E-06
13	1001.03	3.50E-02 +/- 1.75E-02	1.05E+00	1.27E-04 +/- 5.50E-06
14	1085.91	2.74E-02 +/- 1.98E-02	1.05E+00	1.18E-04 +/- 5.01E-06

Segment: 15 Detector: DET01 (# 1) Position: 15

Elapsed Live Time: 113.91 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.931 +/- 0.0396
SE-75	264.65	0.000 +/- 0.0000	0.894 +/- 0.0076
SE-75	279.53	0.000 +/- 0.0000	0.894 +/- 0.0098
SE-75	400.65	0.000 +/- 0.0000	0.883 +/- 0.0114

Batch 2002-02-1813

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.42	1.69E-01 +/- 8.20E-02	1.08E+00	2.16E-12 +/- 2.03E-11
2	35.10	1.01E+03 +/- 4.75E+00	1.05E+00	1.45E-08 +/- 6.96E-08
3	59.54	1.87E+00 +/- 1.73E-01	1.04E+00	1.08E-05 +/- 1.63E-05
4	152.68	1.52E-01 +/- 8.20E-02	1.03E+00	4.00E-04 +/- 3.89E-05
5	244.70	9.49E-02 +/- 4.58E-02	1.04E+00	3.85E-04 +/- 2.72E-05
6	279.54	1.09E-01 +/- 5.38E-02	1.04E+00	3.51E-04 +/- 1.80E-05
7	400.66	8.16E-02 +/- 4.72E-02	1.05E+00	2.59E-04 +/- 1.48E-05
8	559.70	1.44E-01 +/- 5.04E-02	1.04E+00	1.96E-04 +/- 1.27E-05
9	867.39	1.73E-02 +/- 1.23E-02	1.03E+00	1.45E-04 +/- 6.37E-06
10	1085.91	8.67E-03 +/- 8.67E-03	1.03E+00	1.24E-04 +/- 5.17E-06

Segment: 16 Detector: DET01 (# 1) Position: 16

Elapsed Live Time: 113.92 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.916 +/- 0.0381
SE-75	264.65	0.000 +/- 0.0000	0.913 +/- 0.0078
SE-75	279.53	0.000 +/- 0.0000	0.918 +/- 0.0100
SE-75	400.65	0.000 +/- 0.0000	0.915 +/- 0.0116

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.77E+00	1.06E+00	9.52E-10 +/- 5.35E-09
2	59.78	5.45E-01 +/- 1.37E-01	1.04E+00	3.44E-06 +/- 6.03E-06
3	400.66	6.33E-02 +/- 3.82E-02	1.03E+00	1.86E-04 +/- 1.20E-05
4	867.39	8.76E-03 +/- 1.59E-02	1.02E+00	1.07E-04 +/- 5.41E-06
5	1001.03	8.76E-03 +/- 8.76E-03	1.02E+00	9.85E-05 +/- 4.77E-06

Batch 2002-02-1013

Summed Spectrum

Peak Locate Report

Sample ID: LL85800567
Peak Locate Performed on: 2-14-02 11:54:19 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192
Peak Search Sensitivity: 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
1	46.61	0.1953	23.23	16.11
2	70.29	0.0379	35.06	494.70
3	119.47	0.0844	59.63	74.84
4	198.50	0.1857	99.12	14.63
5	206.63	0.1715	103.18	21.35
6	222.76	0.3391	111.23	6.22
7	251.50	0.2267	125.59	9.75
8	259.47	0.1901	129.58	14.61
9	372.75	0.2567	186.17	8.57
10	417.45	0.1852	208.51	15.95
11	625.79	0.1765	312.60	16.16
12	667.29	0.2808	333.33	5.78
13	692.04	0.2916	345.70	6.06
14	752.14	0.2128	375.72	10.61
15	829.82	0.2147	414.53	10.05
16	1120.03	0.2514	559.53	6.84

Errors quoted at 1.000 sigma

Batch 2002-02-1914

Summed Spectrum

Peak Analysis Report

Sample ID: LL85800567
Peak Analysis Performed on: 2-14-02 11:54:19 AM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	43-	49	46.61	23.23	3.57E+03	86.19	1.79E+03
2	67-	73	70.29	35.06	1.85E+06	1361.65	1.13E+03
3	116-	122	119.47	59.63	6.31E+04	282.44	8.59E+03
4	194-	202	198.50	99.12	2.72E+03	120.64	5.44E+03
5	202-	210	206.63	103.18	4.75E+02	130.82	6.17E+03
6	218-	226	222.76	111.23	2.62E+02	72.49	2.26E+03
7	247-	255	251.50	125.59	1.81E+02	80.21	2.73E+03
8	255-	263	259.47	129.58	7.17E+02	80.01	2.46E+03
9	368-	377	372.75	186.17	4.23E+02	51.70	9.95E+02
10	412-	421	417.45	208.51	1.06E+03	56.98	9.51E+02
11	620-	630	625.79	312.60	9.55E+02	41.53	3.24E+02
12	662-	672	667.29	333.33	1.01E+02	35.85	4.81E+02
13	689-	697	692.04	345.70	1.27E+02	24.55	2.19E+02
14	746-	757	752.14	375.72	5.23E+02	34.81	2.73E+02
15	824-	835	829.82	414.53	4.59E+02	30.29	1.83E+02
16	1114-	1125	1120.03	559.53	1.52E+02	20.12	1.01E+02

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-02-1015

Summed Spectrum

Nuclide Identification Report

Sample ID: LL85800567
Nuclide Library Used: C:\WAS\NLIB\LLNL.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/)	Activity Uncertainty
Pulser	1.000	35.10*	100.00	2.753E+05	6.927E+05
U-235	0.985	185.71*	57.20	5.958E-01	7.372E-02
Np-237	0.735	300.10	6.63		
		311.90*	38.60	2.230E+00	9.853E-02
Pu-239	0.952	413.70*	0.00	3.325E+04	2.278E+03
Pu-239A	0.994	129.29*	0.01	1.123E+04	1.283E+03

* = Energy line found in the spectrum.
Energy Tolerance : 1.500 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 1.000 sigma

Batch 2002-02-1014

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 2-14-02 11:54:19 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	23.23	3.1099E+01	2.42
3	59.63	5.4997E+02	0.46
4	99.12	2.3704E+01	4.44
5	103.18	4.1436E+00	27.52
6	111.23	2.2848E+00	27.66
7	125.59	1.5757E+00	44.37
10	208.51	9.1986E+00	5.40
12	333.33	8.8191E-01	35.43
13	345.70	1.1104E+00	19.27
14	375.72	4.5569E+00	6.66
16	559.53	1.3278E+00	13.21

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-02-1917

Combined Segment NID

NID Results Combiner Mode: Sum Activities

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		3.30E+07	+/-	1.71E+08	1.51E+03	+/-	7.85E+03
SE-75		1.77E-02	+/-	6.79E-03	8.11E-07	+/-	3.11E-07
EU-152x	<	1.77E-01	+/-	8.74E-03	< 8.13E-06	+/-	4.01E-07
U-233	<	2.84E+03	+/-	2.51E+02	< 1.30E-01	+/-	1.15E-02
U-235		8.75E-01	+/-	8.67E-02	4.01E-05	+/-	3.98E-06
Np-237		2.88E+00	+/-	1.25E-01	1.32E-04	+/-	5.75E-06
Pu-238		1.13E+03	+/-	6.18E+02	5.19E-02	+/-	2.84E-02
U-238		2.23E+00	+/-	7.46E-01	1.02E-04	+/-	3.42E-05
Pu-239		3.50E+04	+/-	2.45E+03	1.60E+00	+/-	1.12E-01
Pu-239A		1.34E+04	+/-	1.01E+03	6.16E-01	+/-	4.62E-02
Am-241		3.54E+04	+/-	4.89E+03	1.62E+00	+/-	2.24E-01
Pu-241		1.92E+05	+/-	2.73E+04	8.81E+00	+/-	1.25E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
SE-75	1.22E-12	+/-	4.67E-13
U-235	4.05E-01	+/-	4.01E-02
Np-237	4.09E-03	+/-	1.78E-04
Pu-238	6.60E-05	+/-	3.61E-05
U-238	6.63E+00	+/-	2.22E+00
Pu-239	5.63E-01	+/-	3.94E-02
Pu-239A	2.16E-01	+/-	1.62E-02
Am-241	1.03E-02	+/-	1.43E-03
Pu-241	1.86E-03	+/-	2.64E-04

Summed Spectrum

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		2.75E+05	+/-	6.93E+05	1.26E+01	+/-	3.18E+01
SE-75	<	1.60E-01	+/-	1.40E-03	< 7.35E-06	+/-	6.43E-08
EU-152x	<	4.03E-01	+/-	7.79E-03	< 1.85E-05	+/-	3.57E-07
U-233	<	8.24E+03	+/-	1.72E+02	< 3.78E-01	+/-	7.90E-03
U-235		5.96E-01	+/-	7.37E-02	2.73E-05	+/-	3.38E-06
Np-237		2.23E+00	+/-	9.85E-02	1.02E-04	+/-	4.52E-06
Pu-238	<	1.80E+04	+/-	2.64E+02	< 8.27E-01	+/-	1.21E-02
U-238	<	1.10E+01	+/-	1.76E-01	< 5.05E-04	+/-	8.08E-06
Pu-239		3.33E+04	+/-	2.28E+03	1.53E+00	+/-	1.05E-01
Pu-239A		1.12E+04	+/-	1.28E+03	5.15E-01	+/-	5.89E-02
Am-241	<	2.48E+04	+/-	2.15E+02	< 1.14E+00	+/-	9.85E-03
Pu-241	<	1.03E+05	+/-	1.55E+03	< 4.73E+00	+/-	7.11E-02

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
U-235	2.76E-01	+/-	3.41E-02
Np-237	3.17E-03	+/-	1.40E-04
Pu-239	5.35E-01	+/-	3.67E-02
Pu-239A	1.81E-01	+/-	2.07E-02

Rpt 2002-02-1019

Final Non-Uniformity Results

Source Longitudinal Ratio:	0.840	+/-	3.0571
Matrix Longitudinal Ratio:	0.557	+/-	0.0332
Source Vertical Ratio:	0.577	+/-	0.2973
Matrix Vertical Ratio:	0.773	+/-	0.0123

NUDS could not find the transmission peak in one radial segment.

LAWRENCE LIVERMORE NATIONAL LABORATORY

WASTE DISPOSAL REQUISITION

Waste Run Date:

W 122883

1. Label/Waste Type: (Must check)
☐ Non-Haz ☐ Haz ☐ Low-Level ☒ TRU
RCRA ☐ CA ☐
☐ No Disposal Option

2. Container Serial Number or Retention Tank ID:

3. For TRU Waste, TRU Waste Container Serial No.: LL858 00567 TRU

4. Container Acceptable: ☒ Yes ☐ N/A Initials: TM

Chemical Compatibility Code: D [redacted]

Storage Locations Based on SCL
☐ No Storage Restrictions
Not acceptable at the following locations:
☐ 233 ☑ 514 ☐ 612-1 ☑ 693
☐ 612 (other than -1) ☐ WAA ____

5. Building No.: 332
6. Room No.: 1329 1321
7. RMMA: ☒ Yes ☐ No
8. WAA No.: 332 14
15. Waste Package Seals Applied: ☑ Yes ☐ N/A (if yes, complete Step 16)
19. Hazardous Properties: ☐ Toxic ☐ Corrosive ☐ Ignitable ☐ Reactive
21. Outer Container Type: ☐ Box ☐ Sack ☐ Can ☐ SWB ☐ Carboy ☐ Tub ☒ Drum ☐ Tank - Fixed ☐ Tank - Portable ☐ Transportainer Other: ____
22. Outer Container Size/Vol: ☐ 1 gal ☐ 750 gal ☐ 5 gal ☐ 1000 gal ☐ 30 gal ☐ 5000 gal ☒ 55 gal ☐ 67 cu ft ☐ 65 gal ☐ 1 × 1 × 1.5 ☐ 330 gal ☐ 2 × 4 × 7 ☐ 660 gal ☐ 4 × 4 × 7 ☐ gal ☐ cu ft Other: ____

9. Workplace Start Date: 9/23/93
10. Workplace End Date: 9/18/97
11. Account No.: 5425-13
12. Directorate: DNT
16. Waste Package Seal Nos.: K390 / 10645 / TC 4/18/01
17. Source Code: A-940
20. Waste Form: ☒ Solid ☐ Liquid ☐ Gas ☐ Sludge
16. LLW Waste Stream No. or TRU Waste Form No.: (3) (1) Glovebox Metal Scrap Waste

13. Did Waste Minimization Effort Practices Begin in Current Calendar Year? ☐ Yes ☒ No 2-29-00 (2)
If yes, enter Activity Code: W____ 2-29-00
Comments: 8/7/01

14. WEF/PKE No.: ☐ WEF No. ☒ PKE No. ☐ N/A
Specify: 0184

23. Item No.	24. Spent or Unused (S/U)	25. Organic or Inorganic (O/I)	26. Waste Description (For multiple parcels, also list Parcel Card Nos.)	27. Hazardous Constituents and Concentrations	28. Quantity per Item Amount	Units	29. Analysis Sample No.	Physical Waste Data: 30. Aqueous Only pH	Normality	31. Flash Point
			# 36677 # 37959 PO40652							
			# 36718 # 37966 PO42279							
			# 36719 # 37961 PO42286							
			# 36821 # 37970 PO42289							
			# 37957 # 37971 PO50386							
			# 37958 # 38143							

USE CONTINUATION FORM FOR ADDITIONAL ITEMS

32. Does the waste contain radioactive components? ☒ Yes ☐ No (If yes, complete Steps 36-42 as applicable to waste type.)

This section (Steps 33-35) is required for Hazardous Waste generated in a RMMA

33. Was the waste kept isolated from any operation that could have produced radioactive contamination (using a glove box, vent hood, etc.)? ☐ Yes ☐ No (If no, full rad analysis required)

34. Was the waste exposed to particle beams capable of inducing radioactivity by activation? ☐ Yes ☐ No (If yes, full rad analysis required)

35. Describe other controls used to prevent radioactive contamination:

36. Radionuclides:
Check all Plutonium grades present: ☒ Weapons ☐ Fuel ☐ Reactor ☐ Am-enriched ☒ Mixed
Check all Uranium grades present: ☐ Depleted ☐ Natural ☐ Enriched ____ %234 ____ %235 ____ %238
(List additional radionuclides in Step 38.)

37. Gross weight of waste package: 60.6Kg

Tare weight of container: 38.8kg

38. Radiological Data:
(For certified LLW and TRU waste, list totals from Parcel Cards.)

Item	Radionuclide(s)	Quantity	Units/Activity (Ci,g)	PE - Ci	Fissile g

39. Rad. Survey mr/hr:	β-γ @ Contact	β-γ @ 1 Meter	Neutron @ Contact
40. Swipe Data dpm/100cm²:	α	β-γ	³H

41. Rad Swipe/Survey Performed By: (Print Name--Last, First) | Employee No.: | L-Code:
Signature: | Date: | Ext.:

42. Generator: I certify, to the best of my knowledge, that the information provided on this requisition is correct. I understand that I may be liable to State and Federal prosecution by intentionally providing false information. Jm 8/7/01
☒ Container Custodian: I certify that the waste parcels identified on this form are contained in this waste container and have been packaged in accordance with the requirements specified in the appropriate LLNL TRU Waste or Low-Level Waste Program Certification and Quality Assurance Program.

Generator or Container Custodian Name (Print – Last, First): Mazana, Joseph
Signature: Joseph Mazana
Employee No.: 557975 | L-Code: 318 | Ext.: 3-1731 | Date: 2-29-00 ~~9-8-97~~ 7-30-01

Inspected By (Print Name – Last, First): Macari, Thomas | Ext.: 3-2217
Signature: Tom Macari | Employee No.: 553224 | Date: 2-29-00 ~~11-2-97~~ 7-30-01

Characterization Chemist Approval ☐ N/A ____ (Initials) Ex. DE (MJF)
Signature: | Employee No.: 299424 | Date: 8-7-01

RCA Approval ☐ N/A ____ (Initials) ☐ NTS Certified ____ (Initials) ☐ WIPP Certified ____ (Initials)
Signature: | Employee No.: | Date:

RMMA Certification: | RSDR #:

☐ HWM Use Only

LL-5344 (Rev. 01/97) Page 1 of ____

Batch 2002-02-1021

W 122883

Generator: Complete items 43 - 47, only if container contains a single parcel of solid radioactive waste, and there is no Parcel Card attached.

43. Waste Generating Procedure:

Procedure #: ☐ 332 FSP ☐ B-360 Complex FSP ☐ 331 FSP ☐ AVLIS HPP ☐ EX-404 ☐ _____

☐ SAP #: _____ ☐ Instruction #: _____

44. Method(s) used to identify radionuclides and/or determine activity: *(Check all that apply)*

☐ Process knowledge ☐ Mass ☐ Mass balance ☐ Alpha spectrometry ☐ Gamma spectrometry

☐ Liquid scintillation counting ☐ AVLIS method (☐ A ☐ B ☐ C) ☐ Tritium off gas measurement (attach results)

☐ High Sensitivity Neutron Instrument (attach results) ☐ Other

N/A

See attached Curtis JC 8/7/01

45. Total Parcel Weight (g, lb):

Note: If AVLIS Method C, mass or mass balance is used, use a calibrated scale.

_____ _____ Units

☐ Scale: Serial #: _____

Calibration due date: _____

☐ Estimated weight

Comments: _____

46. Will the final waste form contain any of the following? (Explain all "yes" answers)

Chelating Agents: ☐ Yes ☐ No (e.g., Radiac Wash, > 1% by weight / pkg)

Free Liquids: ☐ Yes ☐ No

Fine Particles: ☐ Yes ☐ No [> 1% of <10-micrometer particles (compare to flour) or >15% of <200-micrometer particles (compare to sand)]

Compressed Gases: ☐ Yes ☐ No (e.g., non-punctured aerosol cans)

Pyrophorics: ☐ Yes ☐ No (e.g., uranium turnings that could spontaneously combust if exposed to air)

Explosives: ☐ Yes ☐ No (e.g., TNT, PETN, HMX, that exhibit explosive properties)

Classified Material: ☐ Yes ☐ No

Friable Asbestos: ☐ Yes ☐ No

PCBs: ☐ Yes ☐ No

Explanations: _____

47. Verifier Certification: I verify that, to the best of my knowledge, the information supplied by the waste generator on this form is complete and accurate.

Verifier Name (Print): | Verification Date:

Signature: | Employee No.:

Hazardous Appendix

SCIL (Single Container Inventory Limits) Exceeded ☐ No ☐ Yes

pH Results obtained by: *(Check all that apply)* N/A

☐ Meter *(Calibrated)* ☐ Field Technician ☐ Sample Team

☐ Paper ☐ Analytical ☐ Chemist

Initial: _____

CC Rule (VOC's greater or less than 500 ppm Level 1, 2, 3) N/A

☐ CC / > 500 / A ☐ CC / < 500 / A

☐ CC / > 500 / B ☐ CC / < 500 / B

A = Generator Knowledge B = Analytical Data

Storage Locations: N/A JC 4/7/01

☐ No storage restrictions

Waste is not acceptable for storage at the following locations: *(Check all that apply)*

☐ 233 ☐ 514 ☐ 612-1 ☐ 612 (other than 612-1)

☐ Bldg. 693 ☐ CWAA 169 ☐ CWAA 361

CC initials: _____

1/97

Radiological Appendix

☐ No storage restrictions, based on Single Container Acceptable Limits.

Waste is not acceptable for storage at the following locations, based on SCAL: *(Check all that apply)*

☐ 233 ☑ 514 ☐ 612-1 ☐ 612 (other than 612-1) ☐ Bldg. 693

☑ CWAA 169 ☑ CWAA 361

☐ Contains > 1 curie and/or is > the amount identified per radionuclide on attachment B of Procedure HWM 800.

☐ Contains > than 10 grams of fissile material (U-233, U-235, or Pu-239)

RCA initials: _____

Scheduled Date: / /

☐ HWM Waste Run ☐ Processed Waste

☐ Site 300 to LLNL ☐ Commercial Shipment

☐ Secured Pickup ☐ HWM Field Pump Out

☐ HWM GeneratedWaste: Loc: _____

TWMS: Initial: _____ Date: _____

Item	RCH Prefix	RCH	P	Origin Code	Form Code	EPA No.	DTSC No.	MSDS No.	Hazardous Properties T	C	I	R
1	U	5A	N	2	1349				☐	☐	☐	☐
									☐	☐	☐	☐
									☐	☐	☐	☐
									☐	☐	☐	☐
									☐	☐	☐	☐
									☐	☐	☐	☐

Rotch 2002-02-1022

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS 2.3A

****
* DRUM INFORMATION *
****

Drum Package ID: LL85801147
Sequence Number: 874
Assay Date & Time: 2-14-2002 1:18:26 PM
Drum Package GROSS Weight: 69.60 kg NET Weight: 37.80 kg

IDC Number: LL85801147

QC Replicate (Yes/No): Yes Passed (Yes/No): Yes

Operator Name (Printed): Russell Ratliff

Operator Signature: [signature] Date: 2-14-02

Independent Reviewer: [signature] Date: 7/9/03

Expert Reviewer: Kenneth Raschke Date: 6/28/02

Tech. Supv/QA Officer: [signature] Date: 7/17/02

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 1.594E-01 +/- 4.243E-02 Ci

Batch 2002-02-1023

****
* I S O T O P I C I N F O R M A T I O N *
****

Isotope	Measured Mass (g)	Mass Uncertainty (g)
Pu-238	5.176E-03	2.060E-03
Pu-239	9.149E-01	3.608E-01
Pu-240	5.659E-02	2.306E-02
Pu-241	1.587E-03	6.404E-04
Pu-242	2.544E-04	1.195E-04
*Am-241	N/A	N/A
*Am-243	N/A	N/A
*Np-237	N/A	N/A
*U-235	N/A	N/A
*U-238	N/A	N/A
*U-233	N/A	N/A

* = Activity/Mass below detectable limit.

Total Pu Mass: 9.78E-01 +/- 3.62E-01 g

****
* M G A R E S U L T S *
****

NUCLIDE	% Weight	% Error(1-Sigma)
Pu-238	5.290E-01	2.69E+00
Pu-239	9.350E+01	3.28E-01
Pu-240	5.783E+00	5.21E+00
Pu-241	1.622E-01	4.34E+00
Pu-242	2.600E-02	1.30E+01
Am-241	2.698E-01	3.67E+00

Batch 2002-02-1024

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005
Software Version: GWAS V2.3A RADA V2.1

Assay Date & Time: 2-14-2002 1:18:26 PM
Report Generated: 6-28-2002 4:49:47 PM

Drum Package ID: LL85801147
Sequence Number: 874

Waste Classification (TRU or LLW): TRU

		Errors at 1.96 sigma	
Total Alpha Activity :	1.594E-01	+/- 4.243E-02	Ci
Total TRU Activity :	4.216E+03	+/- 1.123E+03	nCi/g
Pu-239 Equiv Activity:	1.545E-01	+/- 3.977E-02	Ci
Fissile Gram Equiv Mass:	9.203E-01	+/- 3.608E-01	g
Total Decay Heat:	5.160E-03	+/- 1.384E-03	W
TMU Value:	39.44 %		

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error
Pu-238	8.95E-02	3.56E-02	5.18E-03	2.06E-03
Pu-239	5.68E-02	2.24E-02	9.15E-01	3.61E-01
Pu-240	1.30E-02	5.30E-03	5.66E-02	2.31E-02
Pu-241	1.65E-01	6.66E-02	1.59E-03	6.40E-04
Pu-242	1.01E-06	4.74E-07	2.54E-04	1.19E-04
*Am-241	N/A	N/A	N/A	N/A
*Am-243	N/A	N/A	N/A	N/A
*Np-237	N/A	N/A	N/A	N/A
*U-235	N/A	N/A	N/A	N/A
*U-238	N/A	N/A	N/A	N/A
*U-233	N/A	N/A	N/A	N/A

* = Activity/Mass below detectable limit.

Total Pu Mass: 9.78E-01 +/- 3.62E-01 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sigma)
Pu-238	5.290E-01	2.69E+00
Pu-239	9.350E+01	3.28E-01
Pu-240	5.783E+00	5.21E+00
Pu-241	1.622E-01	4.34E+00
Pu-242	2.600E-02	1.30E+01
Am-241	2.698E-01	3.67E+00

Batch 2002-02-1025

SGS Expert Review Checklist

Container Identification #:LL85801147 _____ Original Assay Date:2-14-2002__

1. *WCP-41, §6.1:* A MGA report ☒ is present or ☐ expert review has provided isotopic ratios from SGS or AK. Comment: ☒ No comments
2. *WCP-41, §6.1:* MGA and AK ☒ agree as to radiological composition or, if not, ☐ expert review has resolved this. Comment: ☒ No comments
3. *WCP-41, §6.2.1:* ☒ Pu-238 ≤ 2% by weight of total Pu or, if not, ☐ expert review has addressed this and assigned a Pu-240 value. Comment: ☒ No comments
4. *WCP-41, §6.2.2:* ☒ Neither Np-237 nor U-235 is identified by MGA or ☐ expert review has addressed possible interferences from these radionuclides.
   Comment: ☒ No comments
5. *WCP-41, §6.2.2.2:* ☒ Am-241 separation date is 1950 or later or ☐ expert review has addressed possible interferences. Comment: ☒ No comments
6. *WCP-41, §6.3.1.1.a:* ☒ Bulk density of waste ≤ 0.6 g/ml or ☐ expert review has addressed the high density of the drum. Comment: ☒ No comments
7. *WCP-41, §6.3.1.2.a:* ☒ Transmission in every segment ≥ 0.1% for the Se-75 peaks at 136 keV or 265 keV or ☐ expert review has addressed the low transmission.
   Comment: ☒ No comments
8. *WCP-41, §6.3.1.2.a:* ☒ Transmission in every segment ≥1% for the Se-75 peak at 401 keV or ☐ expert review has addressed the low transmission.
   Comment: ☒ No comments
9. *WCP-41, §6.3.1.3.b:* ☒ Dead time in every segment ≤ 50% or ☐ expert review has addressed the high dead time. Comment: ☒ No comments
10. *WCP-41, §6.3.1.3.c:* ☒ Pu-239 masses determined from the 414 keV peak and the 129 keV peak agree by a factor of < 2.5 or ☐ expert review has addressed possible matrix inhomogeneity. Comment: ☒ No comments
11. *WCP-41, §6.3.2.3:* Cs-137 (☐ has) (☒ has not) been identified by expert review. If it has, Sr-90 is reported ☐ at an activity ratio to Cs-137of 0.39 for Pu fission or ☐ at a ratio of 1 for U-235 fission or, ☐ if both Pu and U are present, the expert reviewer has determined the ratio. Comment: ☒ No comments
12. *WCP-41, §6.3.2.4:* ☒ No unusual nuclides are identified (none other than the 10 required to be reported to WIPP) or ☐ the expert reviewer has checked for interferences from unusual nuclides. Comment: U-238 was originally identified, however its low value when compared to the

CONTROLLED FORM

Batch 2002-02-1026

transmission corrected MDC indicate that it is not present. ☐ No comments

13. *WCP-41, §6.3.3:* For waste drums (☐ NA for standards), ☒ the Summed Spectrum report value for Pu-239 and the Combined Segment NID report for Pu-239 agree within 95% confidence limits (the same as for replicates of unknowns) or ☐ expert review has addressed the difference. Comment: ☒ No comments
14. *WCP-41, §6.4:* ☒ The SGS Summed Spectrum and Combined Segment NID reports agree as to the ratios by weight of several radionuclides, such as those of Am-241, Pu-241, Np-237, Am-243, and U-235 to Pu-239, and MGA results agree as to identifying these radionuclides or ☐ expert review has resolved this. Comment: ☒ No comments
15. *WCP-41, §6.6.1:* ☒ All reported radionuclide masses are above 2.5 times the uncorrected MDA or ☐ expert review has calculated transmission-corrected MDA's and taken appropriate action. Comment: ☒ No comments
16. *WCP-41, §6.6.2:* ☒ Any changes to reported quantities of individual radionuclides have been entered into the RADA program and a new radioassay data sheet has been produced, showing revised derivative quantities, and included in the batch data report, along with the marked up original. Comment: ☒ No comments
17. *CP-41, §6.7:* ☒ Counting statistics are adequate for normal passive count time of 120 seconds per segment or ☐ Counting statistics are adequate for long passive count time of 600 seconds per segment or ☐ expert review has rejected the count and ordered a longer count time. Comment: ☒ No comments

Kenneth Raschke	Kenneth Raschke	6/28/02
Expert Reviewer (print)	Signature	Date

Batch 2002-02-1027

****
***** M G A R E P O R T *****
****

Report generated on: 2-14-02 2:15:03 PM

MGA version: MGA V9.5 CI

Spectrum ID: 11200874.CNF Sens : 30.0% LT: 55.8 Mins DT: 0.17
Measurement date: 2-14-02 Declared date: 2-14-02

Sample ID: LL85801147 Detector: Total counts: 2.784E+05

Pu g/cm2 = 0.0020 Cd g/cm2 = 1.5821 FWHM at 122 keV = 537 eV
QFIT = 1.12 FWHM at 208 keV = 665 eV
NQFIT = 1.01

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	Meas. date %Err	Decl. date % weight	Decl. date %Err
Pu-238	0.005658	2.8	1.9	3.2617	3.9	0.52898	2.69	0.52898	2.69
Pu-239	1.000000	0.0	2.3	576.5167	4.4	93.49951	0.33	93.49951	0.33
Pu-240	0.061854	5.5	5.1	35.6598	6.2	5.78331	5.21	5.78331	5.21
Pu-241	0.001735	4.4	3.8	1.0000	0.0	0.16218	4.34	0.16218	4.34
Pu-242	(New alg.)			0.1603	(13)	0.02600	(13)	0.02600	(13)
Am-241	0.002886	3.8	2.8	1.6639	4.8	0.26984	3.67	0.26984	3.67

Pu-240 effective (meas. date) = 7.160 +/- 4.75%
Am-241 separated about 19.797 +/- 0.968 years ago
Am/Pu-241 weight ratio = 1.66385 +/- 4.75%

Messages :

Lead x-rays detected.
Calculations in MGAABS didn't converge : results may be suspect.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Batch 2002-02-1028

NOT VALID
KER
6/28/02

****
* ISOTOPIC INFORMATION *
****

Isotope	Measured Mass (g)	Mass Uncertainty (g)	MDC (g)
Pu-238	5.176E-03	2.06E-03	1.877E-04
Pu-239	9.149E-01	3.61E-01	3.317E-02
Pu-240	5.659E-02	2.31E-02	2.052E-03
Pu-241	1.587E-03	6.40E-04	4.749E-04
Pu-242	2.544E-04	1.19E-04	9.225E-06
Am-241	2.640E-03	1.06E-03	3.049E-03
Am-243	0.000E+00	0.00E+00	0.000E+00
Np-237	0.000E+00	0.00E+00	1.330E-04
U-235	0.000E+00	0.00E+00	3.442E-02
U-238	2.146E+01	1.20E+01	1.737E+01
U-233	9.278E-01	3.34E-01	9.278E-01

Total Pu Mass: 9.78E-01 +/- 6.22E-01 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	5.290E-01	2.69E+00
Pu-239	9.350E+01	3.28E-01
Pu-240	5.783E+00	5.21E+00
Pu-241	1.622E-01	4.34E+00
Pu-242	2.600E-02	1.30E+01
Am-241	2.698E-01	3.67E+00

Batch 2002-02-1029

NOT VALID
KER
6/28/02

****
* ACTIVITY INFORMATION *
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Procedure ID & Rev: OP-B332-005

Assay Date & Time: 2-14-2002 1:18:26 PM

Drum Package ID: LL85801147
Sequence Number: 874

Waste Classification (TRU or LLW): TRU

		Errors at 1.96 sigma	
Total Alpha Activity :	1.594E-01	+/- 4.24E-02	Ci
Total TRU Activity :	4.216E+03	+/- 1.12E+03	nCi/g
Pu-239 Equiv Activity:	1.545E-01	+/- 3.98E-02	Ci
Fissile Gram Equiv Mass:	9.203E-01	+/- 3.61E-01	g
Total Decay Heat:	5.160E-03	+/- 1.38E-03	W
TMU Value:	39.44 %		

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* ISOTOPIC INFORMATION *
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Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error	MDA gm
Pu-238	8.95E-02	3.56E-02	5.18E-03	2.06E-03	1.88E-04
Pu-239	5.68E-02	2.24E-02	9.15E-01	3.61E-01	3.32E-02
Pu-240	1.30E-02	5.30E-03	5.66E-02	2.31E-02	2.05E-03
Pu-241	1.65E-01	6.66E-02	1.59E-03	6.40E-04	4.75E-04
Pu-242	1.01E-06	4.74E-07	2.54E-04	1.19E-04	9.23E-06
Am-241	9.16E-03	3.67E-03	2.64E-03	1.06E-03	3.05E-03
Am-243	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Np-237	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.33E-04
U-235	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.44E-02
U-238	7.30E-06	4.08E-06	2.15E+01	1.20E+01	1.74E+01
U-233	9.06E-03	3.26E-03	9.28E-01	3.34E-01	9.28E-01

Total Pu Mass: 9.78E-01 +/- 6.22E-01 g

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* MGA RESULTS *
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NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	5.290E-01	2.69E+00
Pu-239	9.350E+01	3.28E-01
Pu-240	5.783E+00	5.21E+00
Pu-241	1.622E-01	4.34E+00
Pu-242	2.600E-02	1.30E+01
Am-241	2.698E-01	3.67E+00

Batch 2002-07-1030

Gamma Waste Assay

Sample Information

File Name: C:\WAS\DATA\900\11100874.S11
Sample ID: LL85801147 Count Sequence Number: 874
Assay Start: 2-14-02 1:18:28 PM
Description 1: unknown replicate
Description 2: 2002-02
Location: 7715
Comment:
Waste Type:
Weight: Gross: 69600.0 g Net: 37800.0 g
Density: 0.182 g /ml

Container Type: 55 Gal Galv
Container: Volume: 208000. ml Full: 100.0 %

System Configuration

Counter ID Number: SGS
Arrangement Description: SGS
Segments: Number: 16 Offset: 0
Scanning Platform: Start: 934 mm Delta: -51 mm
Count Type: 55 Gal Galv
Collimator/Geometry Setting: 0
Transmission Mode: Two pass
Transmission Source: 0

Errors quoted at 1.000 sigma
Reference Source Date: Reference Source Rate: 1.01E+03 cps
Geometric Correction Factor(SWCONTGCF): 0.760
Date of efficiency calibration approval: 4-18-2001 12:41:36 PM
Mu Factors response file: Lucite
Transmission Calib. Time: 5-11-2001 2:20:42 PM 59052

Reviewed by: _____ Date: 7/16/02

Batch 2002-02-1031

Segment Results

Segment: 1 Detector: DET01 (# 1) Position: 1

Elapsed Live Time: 113.91 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.331 +/- 0.0207
SE-75	264.65	0.000 +/- 0.0000	0.379 +/- 0.0041
SE-75	279.53	0.000 +/- 0.0000	0.386 +/- 0.0056
SE-75	400.65	0.000 +/- 0.0000	0.427 +/- 0.0072

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.75E+00	1.93E+00	2.61E-06 +/- 1.64E-05
2	400.66	5.77E-02 +/- 3.63E-02	1.36E+00	1.69E-04 +/- 1.25E-05
3	662.42	3.47E-02 +/- 1.73E-02	1.27E+00	1.12E-04 +/- 8.14E-06
4	778.90	1.73E-02 +/- 1.23E-02	1.25E+00	9.79E-05 +/- 5.69E-06

Segment: 2 Detector: DET01 (# 1) Position: 2

Elapsed Live Time: 113.91 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.017 +/- 0.0007
SE-75	279.53	0.000 +/- 0.0000	0.020 +/- 0.0012
SE-75	400.65	0.000 +/- 0.0000	0.035 +/- 0.0019

Rptd 2002-02-1032

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.75E+00	4.10E+00	2.21E-07 +/- 1.06E-06
2	129.29	1.36E-01 +/- 8.64E-02	4.10E+00	3.07E-04 +/- 1.84E-05
3	413.70	5.42E-02 +/- 3.23E-02	2.74E+00	2.51E-04 +/- 1.46E-05
4	662.42	4.69E-02 +/- 3.32E-02	2.31E+00	1.65E-04 +/- 9.18E-06
5	964.13	1.73E-02 +/- 1.23E-02	2.02E+00	1.23E-04 +/- 5.48E-06
6	1001.03	1.41E-02 +/- 1.45E-02	1.99E+00	1.20E-04 +/- 5.31E-06

Segment: 3 Detector: DET01 (# 1) Position: 3

Elapsed Live Time: 113.92 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.089 +/- 0.0135
SE-75	264.65	0.000 +/- 0.0000	0.158 +/- 0.0024
SE-75	279.53	0.000 +/- 0.0000	0.167 +/- 0.0035
SE-75	400.65	0.000 +/- 0.0000	0.203 +/- 0.0048

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.77E+00	3.42E+00	1.07E-06 +/- 5.27E-06
2	59.56	8.46E-01 +/- 1.26E-01	2.59E+00	3.78E-05 +/- 5.86E-05
3	152.68	1.17E-01 +/- 7.37E-02	2.13E+00	3.44E-04 +/- 3.46E-05
4	300.10	7.85E-02 +/- 4.86E-02	1.81E+00	3.20E-04 +/- 1.49E-05
5	413.70	4.43E-02 +/- 3.20E-02	1.71E+00	2.57E-04 +/- 1.52E-05
6	559.36	1.20E-01 +/- 4.40E-02	1.60E+00	2.03E-04 +/- 1.33E-05
7	662.42	5.48E-02 +/- 3.13E-02	1.55E+00	1.78E-04 +/- 1.02E-05
8	778.90	1.75E-02 +/- 1.24E-02	1.49E+00	1.57E-04 +/- 7.69E-06
9	1085.91	2.89E-02 +/- 2.55E-02	1.40E+00	1.23E-04 +/- 5.23E-06

Batch 2002-02-1033

Segment: 4 Detector: DET01 (# 1) Position: 4

Elapsed Live Time: 113.91 sec Elapsed Real Time: 115.00 sec

T R A N S M I S S I O N R E S U L T S

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.092 +/- 0.0123
SE-75	264.65	0.000 +/- 0.0000	0.144 +/- 0.0023
SE-75	279.53	0.000 +/- 0.0000	0.149 +/- 0.0033
SE-75	400.65	0.000 +/- 0.0000	0.185 +/- 0.0045

P E A K A N A L Y S I S R E S U L T S

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.75E+00	3.38E+00	2.00E-05 +/- 1.66E-05
2	59.46	7.19E-01 +/- 1.21E-01	2.56E+00	9.78E-05 +/- 3.39E-05
3	129.29	2.07E-01 +/- 9.34E-02	2.18E+00	3.12E-04 +/- 1.61E-05
4	443.98	3.79E-02 +/- 2.59E-02	1.74E+00	2.73E-04 +/- 1.07E-05
5	778.90	8.67E-03 +/- 8.67E-03	1.53E+00	1.67E-04 +/- 7.66E-06
6	867.39	3.47E-02 +/- 1.73E-02	1.49E+00	1.50E-04 +/- 6.50E-06
7	1408.01	8.67E-03 +/- 8.67E-03	1.37E+00	9.34E-05 +/- 5.87E-06

Segment: 5 Detector: DET01 (# 1) Position: 5

Elapsed Live Time: 113.91 sec Elapsed Real Time: 115.00 sec

T R A N S M I S S I O N R E S U L T S

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.129 +/- 0.0148
SE-75	264.65	0.000 +/- 0.0000	0.214 +/- 0.0029
SE-75	279.53	0.000 +/- 0.0000	0.216 +/- 0.0040
SE-75	400.65	0.000 +/- 0.0000	0.257 +/- 0.0054

Batch 2002-02-1834

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	2.98E+00	1.48E-05 +/- 1.27E-05
2	59.58	1.46E+00 +/- 1.51E-01	2.30E+00	9.32E-05 +/- 3.30E-05
3	311.90	7.89E-02 +/- 3.56E-02	1.67E+00	3.26E-04 +/- 1.48E-05
4	413.70	7.82E-02 +/- 4.26E-02	1.59E+00	2.69E-04 +/- 1.09E-05
5	443.98	1.88E-02 +/- 1.87E-02	1.57E+00	2.54E-04 +/- 1.04E-05
6	559.27	8.68E-02 +/- 3.66E-02	1.50E+00	2.08E-04 +/- 9.57E-06
7	1112.12	5.21E-02 +/- 2.13E-02	1.33E+00	1.14E-04 +/- 4.26E-06

Segment: 6 Detector: DET01 (# 1) Position: 6

Elapsed Live Time: 113.88 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.042 +/- 0.0012
SE-75	279.53	0.000 +/- 0.0000	0.045 +/- 0.0018
SE-75	400.65	0.000 +/- 0.0000	0.063 +/- 0.0026

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.75E+00	4.10E+00	8.04E-06 +/- 6.71E-06
2	59.63	7.53E+00 +/- 3.06E-01	4.10E+00	6.91E-05 +/- 2.40E-05
3	129.29	2.26E-01 +/- 1.36E-01	4.10E+00	3.10E-04 +/- 1.61E-05
4	148.57	2.56E-01 +/- 9.76E-02	3.82E+00	3.45E-04 +/- 1.67E-05
5	413.70	1.73E-01 +/- 4.90E-02	2.37E+00	2.81E-04 +/- 1.11E-05
6	867.39	2.60E-02 +/- 1.50E-02	1.87E+00	1.46E-04 +/- 6.40E-06
7	1112.12	8.67E-03 +/- 8.67E-03	1.74E+00	1.20E-04 +/- 4.28E-06

Batch 2002-03-1035

Segment: 7 Detector: DET01 (# 1) Position: 7

Elapsed Live Time: 113.80 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.203 +/- 0.0172
SE-75	264.65	0.000 +/- 0.0000	0.275 +/- 0.0033
SE-75	279.53	0.000 +/- 0.0000	0.273 +/- 0.0046
SE-75	400.65	0.000 +/- 0.0000	0.330 +/- 0.0062

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.25	1.28E+00 +/- 1.65E-01	3.64E+00	7.38E-09 +/- 7.21E-08
2	35.10	1.01E+03 +/- 4.76E+00	2.45E+00	9.59E-07 +/- 4.73E-06
3	59.64	2.58E+01 +/- 5.35E-01	1.96E+00	4.03E-05 +/- 6.22E-05
4	99.11	2.72E+00 +/- 2.95E-01	1.79E+00	2.22E-04 +/- 5.12E-05
5	129.29	2.05E+00 +/- 2.06E-01	1.74E+00	3.30E-04 +/- 1.98E-05
6	152.68	2.04E-01 +/- 1.33E-01	1.70E+00	3.74E-04 +/- 3.73E-05
7	185.71	1.64E-01 +/- 1.04E-01	1.66E+00	3.94E-04 +/- 4.30E-05
8	208.50	7.32E-01 +/- 1.34E-01	1.63E+00	3.91E-04 +/- 3.83E-05
9	375.96	7.72E-01 +/- 9.42E-02	1.50E+00	2.87E-04 +/- 1.54E-05
10	381.06	1.31E-01 +/- 6.05E-02	1.49E+00	2.84E-04 +/- 1.56E-05
11	413.70	3.29E-01 +/- 7.25E-02	1.47E+00	2.67E-04 +/- 1.63E-05
12	452.79	1.35E-01 +/- 5.51E-02	1.45E+00	2.48E-04 +/- 1.63E-05
13	559.34	1.28E-01 +/- 3.66E-02	1.40E+00	2.09E-04 +/- 1.39E-05
14	1001.03	3.47E-02 +/- 1.74E-02	1.28E+00	1.31E-04 +/- 5.77E-06
15	1085.91	1.74E-02 +/- 1.23E-02	1.27E+00	1.23E-04 +/- 5.27E-06
16	1408.01	1.74E-02 +/- 1.23E-02	1.23E+00	9.90E-05 +/- 6.54E-06

Segment: 8 Detector: DET01 (# 1) Position: 8

Elapsed Live Time: 113.69 sec Elapsed Real Time: 115.00 sec

Batch 2002-02-1036

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.155 +/- 0.0179
SE-75	264.65	0.000 +/- 0.0000	0.263 +/- 0.0032
SE-75	279.53	0.000 +/- 0.0000	0.264 +/- 0.0045
SE-75	400.65	0.000 +/- 0.0000	0.322 +/- 0.0061

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.27	2.74E+00 +/- 2.25E-01	4.10E+00	4.42E-09 +/- 4.27E-08
2	35.10	1.01E+03 +/- 4.76E+00	2.76E+00	6.89E-07 +/- 3.37E-06
3	59.64	4.27E+01 +/- 6.90E-01	2.16E+00	3.36E-05 +/- 5.15E-05
4	99.14	1.02E+01 +/- 4.85E-01	1.95E+00	2.00E-04 +/- 4.60E-05
5	111.44	8.21E-01 +/- 3.03E-01	1.92E+00	2.49E-04 +/- 2.61E-05
6	114.64	8.45E-01 +/- 2.53E-01	1.91E+00	2.61E-04 +/- 2.19E-05
7	129.29	7.17E+00 +/- 3.16E-01	1.88E+00	3.05E-04 +/- 1.85E-05
8	148.57	4.79E-01 +/- 1.93E-01	1.83E+00	3.45E-04 +/- 3.27E-05
9	208.46	2.09E+00 +/- 2.43E-01	1.69E+00	3.75E-04 +/- 3.71E-05
10	311.90	2.00E-01 +/- 8.75E-02	1.56E+00	3.23E-04 +/- 1.44E-05
11	333.42	8.06E-01 +/- 1.38E-01	1.54E+00	3.10E-04 +/- 1.38E-05
12	345.58	6.34E-01 +/- 1.10E-01	1.53E+00	3.03E-04 +/- 1.38E-05
13	375.68	2.12E+00 +/- 1.65E-01	1.51E+00	2.86E-04 +/- 1.46E-05
14	393.55	7.33E-01 +/- 9.51E-02	1.50E+00	2.76E-04 +/- 1.50E-05
15	413.70	1.91E+00 +/- 1.35E-01	1.48E+00	2.66E-04 +/- 1.54E-05
16	452.59	2.43E-01 +/- 7.04E-02	1.46E+00	2.49E-04 +/- 1.56E-05
17	867.39	3.43E-02 +/- 2.25E-02	1.32E+00	1.45E-04 +/- 6.62E-06
18	1001.03	4.35E-02 +/- 1.94E-02	1.29E+00	1.28E-04 +/- 5.62E-06

Segment: 9 Detector: DET01 (# 1) Position: 9

Elapsed Live Time: 113.70 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.138 +/- 0.0172
SE-75	264.65	0.000 +/- 0.0000	0.270 +/- 0.0033
SE-75	279.53	0.000 +/- 0.0000	0.283 +/- 0.0047
SE-75	400.65	0.000 +/- 0.0000	0.346 +/- 0.0064

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.16	1.83E+00 +/- 2.08E-01	4.10E+00	2.28E-06 +/- 2.30E-05
2	35.10	1.01E+03 +/- 4.76E+00	2.90E+00	1.75E-05 +/- 8.88E-05
3	59.63	3.44E+01 +/- 6.18E-01	2.25E+00	1.00E-04 +/- 1.59E-04
4	98.68	9.21E+00 +/- 5.06E-01	2.02E+00	2.51E-04 +/- 6.10E-05
5	111.28	1.43E+00 +/- 2.83E-01	1.99E+00	2.86E-04 +/- 3.07E-05
6	129.29	7.10E+00 +/- 3.40E-01	1.95E+00	3.23E-04 +/- 1.97E-05
7	144.51	5.08E-01 +/- 1.87E-01	1.90E+00	3.44E-04 +/- 3.15E-05
8	152.68	1.44E+00 +/- 2.25E-01	1.87E+00	3.52E-04 +/- 3.64E-05
9	164.84	2.48E-01 +/- 1.53E-01	1.83E+00	3.60E-04 +/- 4.08E-05
10	208.42	2.11E+00 +/- 2.46E-01	1.70E+00	3.66E-04 +/- 3.76E-05
11	311.90	1.26E-01 +/- 7.76E-02	1.53E+00	3.20E-04 +/- 1.45E-05
12	333.49	6.29E-01 +/- 1.42E-01	1.51E+00	3.08E-04 +/- 1.39E-05
13	345.78	6.54E-01 +/- 1.15E-01	1.50E+00	3.01E-04 +/- 1.41E-05
14	375.71	2.21E+00 +/- 1.66E-01	1.47E+00	2.85E-04 +/- 1.49E-05
15	393.69	8.15E-01 +/- 9.79E-02	1.46E+00	2.76E-04 +/- 1.55E-05
16	413.70	1.84E+00 +/- 1.37E-01	1.45E+00	2.67E-04 +/- 1.59E-05
17	662.42	5.47E-02 +/- 3.92E-02	1.35E+00	1.82E-04 +/- 1.04E-05
18	964.13	1.74E-02 +/- 1.23E-02	1.28E+00	1.34E-04 +/- 5.82E-06
19	1001.03	1.74E-02 +/- 1.23E-02	1.27E+00	1.30E-04 +/- 5.63E-06
20	1408.01	4.16E-02 +/- 2.46E-02	1.22E+00	1.05E-04 +/- 6.85E-06

Segment: 10 Detector: DET01 (# 1) Position: 10

Elapsed Live Time: 113.85 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.146 +/- 0.0170
SE-75	264.65	0.000 +/- 0.0000	0.266 +/- 0.0033
SE-75	279.53	0.000 +/- 0.0000	0.277 +/- 0.0046
SE-75	400.65	0.000 +/- 0.0000	0.324 +/- 0.0061

Batch 2002-02-1838

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.23	8.68E-01 +/- 1.37E-01	4.10E+00	3.44E-07 +/- 4.87E-07
2	35.10	1.01E+03 +/- 4.78E+00	2.83E+00	5.68E-06 +/- 4.74E-06
3	59.60	1.03E+01 +/- 3.58E-01	2.21E+00	6.37E-05 +/- 2.21E-05
4	100.12	5.84E+00 +/- 3.29E-01	1.98E+00	2.36E-04 +/- 2.30E-05
5	111.45	7.03E-01 +/- 1.96E-01	1.95E+00	2.78E-04 +/- 1.98E-05
6	129.29	2.29E+00 +/- 2.15E-01	1.92E+00	3.30E-04 +/- 1.70E-05
7	152.68	1.23E+00 +/- 1.77E-01	1.85E+00	3.74E-04 +/- 1.78E-05
8	185.71	1.67E-01 +/- 1.10E-01	1.75E+00	4.00E-04 +/- 2.05E-05
9	208.51	3.96E-01 +/- 1.51E-01	1.70E+00	4.01E-04 +/- 2.09E-05
10	333.47	2.10E-01 +/- 9.30E-02	1.53E+00	3.30E-04 +/- 1.38E-05
11	345.48	3.02E-01 +/- 8.48E-02	1.52E+00	3.22E-04 +/- 1.32E-05
12	375.78	7.19E-01 +/- 9.81E-02	1.50E+00	3.02E-04 +/- 1.20E-05
13	393.36	2.47E-01 +/- 6.31E-02	1.49E+00	2.91E-04 +/- 1.15E-05
14	413.70	7.38E-01 +/- 9.12E-02	1.48E+00	2.79E-04 +/- 1.11E-05
15	1112.12	8.79E-03 +/- 8.79E-03	1.27E+00	1.20E-04 +/- 4.35E-06

Segment: 11 Detector: DET01 (# 1) Position: 11

Elapsed Live Time: 113.89 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.238 +/- 0.0196
SE-75	264.65	0.000 +/- 0.0000	0.360 +/- 0.0039
SE-75	279.53	0.000 +/- 0.0000	0.367 +/- 0.0055
SE-75	400.65	0.000 +/- 0.0000	0.410 +/- 0.0070

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	2.28E+00	6.75E-06 +/- 5.60E-06
2	59.60	2.44E+00 +/- 2.00E-01	1.85E+00	6.70E-05 +/- 2.31E-05
3	100.08	2.53E+00 +/- 2.18E-01	1.70E+00	2.33E-04 +/- 2.26E-05
4	129.29	6.64E-01 +/- 1.43E-01	1.65E+00	3.21E-04 +/- 1.65E-05
5	152.68	6.65E-01 +/- 1.30E-01	1.61E+00	3.62E-04 +/- 1.73E-05
6	178.30	1.44E-01 +/- 9.58E-02	1.56E+00	3.84E-04 +/- 1.95E-05

Batch 2001-03-1039

7	375.67	1.38E-01 +/- 6.18E-02	1.39E+00	2.97E-04 +/-	1.19E-05
8	400.66	9.56E-02 +/- 4.99E-02	1.38E+00	2.82E-04 +/-	1.12E-05
9	413.70	1.28E-01 +/- 6.48E-02	1.37E+00	2.75E-04 +/-	1.09E-05
10	1001.03	4.34E-02 +/- 1.94E-02	1.23E+00	1.28E-04 +/-	5.01E-06

Segment: 12 Detector: DET01 (# 1) Position: 12

Elapsed Live Time: 113.91 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.386 +/- 0.0234
SE-75	264.65	0.000 +/- 0.0000	0.445 +/- 0.0045
SE-75	279.53	0.000 +/- 0.0000	0.451 +/- 0.0061
SE-75	400.65	0.000 +/- 0.0000	0.501 +/- 0.0078

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency	
1	35.10	1.01E+03 +/- 4.77E+00	1.79E+00	7.63E-06 +/-	6.33E-06
2	59.58	1.39E+00 +/- 1.44E-01	1.53E+00	6.63E-05 +/-	2.30E-05
3	99.88	6.64E-01 +/- 1.49E-01	1.44E+00	2.20E-04 +/-	2.17E-05
4	152.68	2.41E-01 +/- 9.41E-02	1.39E+00	3.45E-04 +/-	1.67E-05
5	185.71	1.68E-01 +/- 7.79E-02	1.38E+00	3.72E-04 +/-	1.93E-05
6	413.70	1.20E-01 +/- 4.95E-02	1.28E+00	2.79E-04 +/-	1.09E-05
7	964.13	2.46E-02 +/- 2.09E-02	1.18E+00	1.33E-04 +/-	5.22E-06

Segment: 13 Detector: DET01 (# 1) Position: 13

Elapsed Live Time: 113.91 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.365 +/- 0.0221
SE-75	264.65	0.000 +/- 0.0000	0.394 +/- 0.0042
SE-75	279.53	0.000 +/- 0.0000	0.404 +/- 0.0058
SE-75	400.65	0.000 +/- 0.0000	0.448 +/- 0.0074

Batch 2002-02-1848

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.75E+00	1.84E+00	1.10E-05 +/- 9.51E-06
2	121.11	1.59E-01 +/- 9.43E-02	1.44E+00	3.03E-04 +/- 1.76E-05
3	148.57	2.87E-01 +/- 9.35E-02	1.43E+00	3.52E-04 +/- 1.72E-05
4	264.66	7.13E-02 +/- 4.78E-02	1.40E+00	3.60E-04 +/- 1.81E-05
5	778.90	2.60E-02 +/- 1.50E-02	1.23E+00	1.54E-04 +/- 7.54E-06
6	867.39	2.09E-02 +/- 1.61E-02	1.22E+00	1.40E-04 +/- 6.42E-06
7	1085.91	2.71E-02 +/- 1.95E-02	1.19E+00	1.15E-04 +/- 4.30E-06
8	1112.12	8.67E-03 +/- 3.60E-02	1.19E+00	1.13E-04 +/- 4.19E-06
9	1408.01	1.73E-02 +/- 1.23E-02	1.17E+00	9.60E-05 +/- 6.10E-06

Segment: 14 Detector: DET01 (# 1) Position: 14

Elapsed Live Time: 113.92 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.491 +/- 0.0262
SE-75	264.65	0.000 +/- 0.0000	0.591 +/- 0.0055
SE-75	279.53	0.000 +/- 0.0000	0.579 +/- 0.0072
SE-75	400.65	0.000 +/- 0.0000	0.626 +/- 0.0089

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.56E+00	8.94E-06 +/- 4.41E-05
2	443.98	2.83E-02 +/- 1.94E-02	1.18E+00	2.53E-04 +/- 1.58E-05
3	1001.03	5.22E-02 +/- 2.13E-02	1.11E+00	1.27E-04 +/- 5.50E-06
4	1085.91	1.52E-02 +/- 1.26E-02	1.11E+00	1.18E-04 +/- 5.01E-06

Segment: 15 Detector: DET01 (# 1) Position: 15

Elapsed Live Time: 113.92 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.931 +/- 0.0337
SE-75	264.65	0.000 +/- 0.0000	0.913 +/- 0.0076
SE-75	279.53	0.000 +/- 0.0000	0.914 +/- 0.0096
SE-75	400.65	0.000 +/- 0.0000	0.920 +/- 0.0114

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.75E+00	1.05E+00	1.45E-08 +/- 6.96E-08
2	443.98	4.12E-02 +/- 2.97E-02	1.03E+00	2.37E-04 +/- 1.50E-05
3	778.90	2.60E-02 +/- 1.50E-02	1.02E+00	1.56E-04 +/- 7.35E-06
4	964.13	5.20E-02 +/- 2.12E-02	1.02E+00	1.35E-04 +/- 5.77E-06
5	1112.12	1.73E-02 +/- 1.23E-02	1.02E+00	1.22E-04 +/- 5.05E-06

Segment: 16 Detector: DET01 (# 1) Position: 16

Elapsed Live Time: 113.91 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.749 +/- 0.0308
SE-75	264.65	0.000 +/- 0.0000	0.783 +/- 0.0067
SE-75	279.53	0.000 +/- 0.0000	0.776 +/- 0.0086
SE-75	400.65	0.000 +/- 0.0000	0.797 +/- 0.0104

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.75E+00	1.21E+00	9.52E-10 +/- 5.35E-09
2	185.71	1.58E-01 +/- 7.81E-02	1.11E+00	3.10E-04 +/- 3.88E-05
3	559.45	1.73E-01 +/- 4.47E-02	1.08E+00	1.42E-04 +/- 1.05E-05
4	1001.03	1.95E-02 +/- 1.75E-02	1.05E+00	9.85E-05 +/- 4.77E-06
5	1112.12	1.88E-02 +/- 1.81E-02	1.05E+00	9.17E-05 +/- 4.32E-06
6	1335.85	6.07E-02 +/- 2.29E-02	1.05E+00	7.83E-05 +/- 4.48E-06

Batch 2003-03-1843

Batch 2002-02-1943

Summed Spectrum

Peak Locate Report

Sample ID: LL85801147
Peak Locate Performed on: 2-14-02 2:15:04 PM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192
Peak Search Sensitivity: 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
1	46.60	0.2779	23.22	7.72
2	70.30	0.0377	35.06	492.85
3	119.47	0.1207	59.63	36.24
4	200.41	0.2593	100.07	8.74
5	223.15	0.2941	111.43	6.01
6	259.49	0.1760	129.59	16.51
7	306.50	0.2284	153.07	9.62
8	408.36	0.2711	203.97	6.32
9	417.35	0.1956	208.46	13.73
10	667.42	0.2667	333.40	7.11
11	691.87	0.2609	345.61	7.95
12	752.13	0.1878	375.72	13.15
13	788.00	0.2754	393.64	5.81
14	829.78	0.1884	414.51	13.26
15	1119.87	0.2500	559.45	7.03

Errors quoted at 1.000 sigma

Batch 2002-02-1044

Summed Spectrum

Peak Analysis Report

Sample ID: LL85801147
Peak Analysis Performed on: 2-14-02 2:15:04 PM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	43-	49	46.60	23.22	1.04E+03	50.59	6.87E+02
2	67-	73	70.30	35.06	1.86E+06	1363.24	7.56E+02
3	116-	122	119.47	59.63	1.48E+04	138.51	2.28E+03
4	193-	204	200.41	100.07	3.15E+03	129.39	5.43E+03
5	219-	227	223.15	111.43	4.24E+02	71.91	2.12E+03
6	255-	263	259.49	129.59	2.40E+03	74.35	1.46E+03
7	302-	310	306.50	153.07	5.49E+02	55.19	1.16E+03
8	403-	412	408.36	203.97	1.10E+02	48.50	9.71E+02
9	412-	421	417.35	208.46	6.46E+02	55.29	1.02E+03
10	662-	672	667.42	333.40	1.95E+02	34.29	4.09E+02
11	686-	696	691.87	345.61	2.80E+02	28.86	2.29E+02
12	746-	757	752.13	375.72	7.09E+02	37.50	2.79E+02
13	782-	793	788.00	393.64	2.53E+02	25.89	1.67E+02
14	824-	835	829.78	414.51	6.43E+02	31.12	1.30E+02
15	1114-	1125	1119.87	559.45	1.79E+02	19.15	7.48E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-03-1045

Summed Spectrum

Nuclide Identification Report

Sample ID: LL85801147
Nuclide Library Used: C:\WAS\NLIB\LLNL.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/)	Activity Uncertainty
Pulser	1.000	35.10*	100.00	7.989E+05	1.755E+06
Pu-238	0.989	152.68*	0.00	5.920E+04	5.997E+03
Pu-239	0.954	413.70*	0.00	5.323E+04	2.748E+03
Pu-239A	0.994	129.29*	0.01	4.442E+04	1.700E+03

* = Energy line found in the spectrum.
Energy Tolerance : 1.500 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 1.000 sigma

Batch 2002-02-1846

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 2-14-02 2:15:04 PM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	23.22	9.0544E+00	4.86
3	59.63	1.2884E+02	0.94
4	100.07	2.7379E+01	4.11
5	111.43	3.6847E+00	16.97
8	203.97	9.5676E-01	44.07
9	208.46	5.6125E+00	8.56
10	333.40	1.6925E+00	17.61
11	345.61	2.4304E+00	10.32
12	375.72	6.1635E+00	5.29
13	393.64	2.2032E+00	10.22
15	559.45	1.5576E+00	10.69

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 1802-82-1847

Combined Segment NID

NID Results Combiner Mode: Sum Activities

Nuclide		Total Activity (uCi)				Concentration (uCi/g)		
Pulser		3.75E+07	+/-	1.95E+08		9.92E+02	+/-	5.16E+03
SE-75	<	4.74E-02	+/-	2.98E-03	<	1.25E-06	+/-	7.89E-08
EU-152x		3.77E-02	+/-	1.43E-02		9.97E-07	+/-	3.79E-07
U-233	<	2.15E+03	+/-	1.60E+02	<	5.68E-02	+/-	4.23E-03
U-235		1.23E-01	+/-	3.66E-02		3.26E-06	+/-	9.68E-07
Np-237		1.38E-01	+/-	4.16E-02		3.65E-06	+/-	1.10E-06
Pu-238		5.57E+04	+/-	5.80E+03		1.47E+00	+/-	1.53E-01
U-238		7.30E+00	+/-	1.60E+00		1.93E-04	+/-	4.23E-05
Pu-239		5.52E+04	+/-	3.11E+03		1.46E+00	+/-	8.21E-02
Pu-239A		5.18E+04	+/-	2.43E+03		1.37E+00	+/-	6.44E-02
Am-241		1.31E+04	+/-	4.37E+03		3.45E-01	+/-	1.15E-01
Pu-241		9.45E+04	+/-	2.26E+04		2.50E+00	+/-	5.98E-01

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
U-235	5.71E-02	+/-	1.69E-02
Np-237	1.96E-04	+/-	5.91E-05
Pu-238	3.25E-03	+/-	3.39E-04
U-238	2.17E+01	+/-	4.76E+00
Pu-239	8.89E-01	+/-	5.00E-02
Pu-239A	8.34E-01	+/-	3.92E-02
Am-241	3.81E-03	+/-	1.27E-03
Pu-241	9.14E-04	+/-	2.19E-04

Summed Spectrum

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		7.99E+05	+/-	1.75E+06	2.11E+01	+/-	4.64E+01
SE-75	<	1.69E-01	+/-	1.31E-03	< 4.48E-06	+/-	3.45E-08
EU-152x	<	4.68E-01	+/-	8.08E-03	< 1.24E-05	+/-	2.14E-07
U-233	<	9.06E+03	+/-	1.73E+02	< 2.40E-01	+/-	4.58E-03
U-235	<	2.60E-01	+/-	4.95E-03	< 6.87E-06	+/-	1.31E-07
Np-237	<	2.73E-01	+/-	1.79E-03	< 7.23E-06	+/-	4.72E-08
Pu-238		5.92E+04	+/-	6.00E+03	1.57E+00	+/-	1.59E-01
U-238	<	1.26E+01	+/-	1.96E-01	< 3.32E-04	+/-	5.20E-06
Pu-239		5.32E+04	+/-	2.75E+03	1.41E+00	+/-	7.27E-02
Pu-239A		4.44E+04	+/-	1.70E+03	1.18E+00	+/-	4.50E-02
Am-241	<	2.53E+04	+/-	1.94E+02	< 6.68E-01	+/-	5.13E-03
Pu-241	<	1.12E+05	+/-	1.52E+03	< 2.97E+00	+/-	4.03E-02

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
Pu-238	3.46E-03	+/-	3.50E-04
Pu-239	8.57E-01	+/-	4.42E-02
Pu-239A	7.15E-01	+/-	2.74E-02

Batch 2002-02-1049

Final Non-Uniformity Results

Source Longitudinal Ratio:	0.864	+/-	2.2356
Matrix Longitudinal Ratio:	0.871	+/-	0.0650
Source Vertical Ratio:	0.629	+/-	0.3296
Matrix Vertical Ratio:	0.982	+/-	0.0455

NUDS could not find the transmission peak in one radial segment.

Batch 2002-02-1050

LAWRENCE LIVERMORE NATIONAL LABORATORY

WASTE DISPOSAL REQUISITION

Waste Run Date:

Label/waste Type: (Must check)
- ☐ Non-Haz
- ☐ Haz
- ☐ Low-Level
- ☒ TRU

RCRA ☐ CA ☐

☐ No Disposal Option

W 200597

Chemical Compatibility Code: DS

Storage Restrictions
☐ No Storage Restrictions
Not acceptable at the following locations:
☐ 233 ☐ 514 ☐ 612 ☑ 693
CWAA ☑ 169 ☑ 361 ☐ 612-4

1. Container Serial Number or Retention Tank ID:	2. For TRU Waste, TRU Waste Container Serial No.:	3. Container Acceptable:
	LL85801147TRU	☒ Yes ☐ N/A Initials:

4. Building No.:	5. Room No.:	6. RMMA:	7. WAA No.:
332	1010	☒ Yes ☐ No	332-A

14. Waste Package Seals Applied: ☑ Yes ☐ N/A (If yes, complete Step 15)

8. Workplace Start Date:	9. Workplace End Date:	10. Account No.:	11. Directorate:
10/31/00	11/27/00	5501-61	DNT

15. Waste Package Seal Nos.: K265, T10620, 5/24/01

16. Source Code: A940

Hazardous Properties: ☐ Toxic ☐ Corrosive ☐ Ignitable ☐ Reactive

18. Waste Form: ☒ Solid ☐ Liquid ☐ Gas ☐ Sludge

☐ Lab Pack ☐ Over Pack

19. Outer Container Type: ☐ Box ☐ Sack ☐ Can ☐ SWB ☐ Carboy ☐ Tub ☒ Drum ☐ Tank - Fixed ☐ Tank - Portable ☐ Transportainer Other:

20. Outer Container Size/Vol: ☐ 1 gal ☐ 750 gal ☐ 2 gal ☐ 1000 gal ☐ 5 gal ☐ 5000 gal ☐ 30 gal ☐ 67 cu ft ☒ 55 gal ☐ 1 × 1 × 1.5 ☐ 85 gal ☐ 2 × 4 × 7 ☐ 330 gal ☐ 4 × 4 × 7 ☐ 660 gal ☐ gal ☐ cu ft Other:

12. Did Waste Minimization Effort Practices Begin in Current Calendar Year? ☐ Yes ☒ No

If yes, enter Activity Code: W_____

Comments:

13. WEF/PKE/SAW No.: ☐ WEF No. ☒ PKE No. ☐ SAW No. ☐ N/A

Specify: 0256, 0259, 0153

17. LLW Waste Stream No. or TRU Waste Form No.: 1

21. Item No.	22. Spent or Unused (S/U)	23. Organic or Inorganic (O/I)	24. Waste Form (S, SL, L, G)	25. Waste Description 0151 (For multiple parcels, also list Parcel Card Nos.)	26. Hazardous Constituents and Concentrations	27. Item Container Size	28. Quantity per Item Amount	28. Quantity per Item Units	29. Analysis Sample No.	Physical Waste Data: 30. Aqueous Only pH	30. Aqueous Only Normality	31. Flash Point
				P021710								
				P021707								
				P021708								
				P021709								
				P021726								
				P021724								

USE CONTINUATION FORM FOR ADDITIONAL ITEMS

32. Does the waste contain radioactive components? ☒ Yes ☐ No ☐ To be analyzed
(If yes or TBA, complete Steps 36–41 as applicable to waste type.)

This section (Steps 33–35) is required for Hazardous Waste generated in a RMMA

33. Was the waste kept isolated from any operation that could have produced radioactive contamination (using a glove box, vent hood, etc.)? ☐ Yes ☐ No (If no, full rad analysis required)

34. Was the waste exposed to particle beams capable of inducing radioactivity by activation? ☐ Yes ☐ No (If yes, full rad analysis required)

35. Describe other controls used to prevent radioactive contamination:

36. Radionuclides: Check all Plutonium grades present: ☒ Weapons ☐ Fuel ☐ Reactor ☐ Am-enriched ☐ Mixed

☐ Enriched Uranium (Identify the % of each of the following:)
_____% U-234
_____% U-235
_____% U-238
(List additional radionuclides in Step 38.)

37. Gross weight of waste package: 69.6 Kg

Tare weight of container: 31.8 Kg 70 Lbs

38. Radiological Data: (For certified LLW and TRU waste, list totals from Parcel Cards.)

Item	Radionuclide(s)	Quantity	Units/Activity (Ci,g)	PE - Ci	Fissile g

39. Rad. Survey mr/hr: | β-γ @ Contact | β-γ @ 1 Meter | Neutron @ Contact

40. Swipe Data: ☐ Complies with 10 CFR 835 criteria for unrestricted release

41. Rad Swipe/Survey Performed By: (Print Name–Last, First) | Employee No.: | L-Code:

Signature: | Date: | Ext.:

42. Generator: I certify, to the best of my knowledge, that the information provided on this requisition is correct. I understand that I may be liable to State and Federal prosecution by intentionally providing false information. I have obtained this information by:
☐ Direct knowledge of the waste generating process ☐ Analytical Data
☐ Obtaining sufficient information from others knowledgeable of the waste generating process.

☑ Container Custodian: I certify that the waste parcels identified on this form are contained in this waste container and have been packaged in accordance with the requirements specified in the appropriate LLNL TRU Waste or Low-Level Waste Program Certification and Quality Assurance Program.

Generator or Container Custodian Name (Print – Last, First): MCAHON, DOUGLAS

Signature:

Employee No.:	L-Code:	Ext.:	Date:
579425	361	31719	12/12/2000

Inspected By: Signature:	Employee No.:	Date:

Characterization Chemist Approval ☐ Acceptable for Sampling (Initials) ☐ WEF

Signature:	Employee No.:	Date:
S. Mutz Reviewed	690278	5-10-01

RCA Approval ☐ Decay ☐ NTS ☐ WIPP ☐ WEF Program (Initials) Certified (Initials) Certified (Initials)

Signature:	Employee No.:	Date:

RMMA Certification: Shipping ☐ CC ☐ RSDR #: DAM

☐ HWM Use Only

LL-5344 (Rev. 08/98) Page 1 of 1

Batch 2002-02-1051

6/25/02

W 200597

Generator: Complete items 43–47, only if container contains a single parcel of solid radioactive waste, and there is no Parcel Card attached.

43. Waste Generating Procedure:

Procedure #: ☐ 332 FSP ☐ B-360 Complex FSP ☐ 331 FSP ☐ AVLIS HPP ☐ EX-404 ☐ _____

☐ SAP #: _____ ☐ Instruction #: _____

44. Method(s) used to identify radionuclides and/or determine activity: *(Check all that apply)*

☐ Process knowledge ☐ Mass ☐ Mass balance ☐ Alpha spectrometry ☐ Other _____

☐ Liquid scintillation counting ☐ Tritium off gas measurement (attach results) _____

☐ High Sensitivity Neutron Instrument (attach results) ☐ Gamma spectrometry _____

☐ AVLIS method (☐ A ☐ B ☐ C)

(Complete the following for method A and B)

This method to be used in conjunction with an authorized procedure.

Survey meter model: _____ Check source jig no. _____

Serial number: _____ _____ Detector response (±30%)

(Specify amount and units) (e.g., dpm, cpm, mR/hr)

Calibration due date: _____ ☐ Satisfactory

45. Total Parcel Weight (g, lb):

Note: If AVLIS Method C, mass or mass balance is used, use a calibrated scale. _____ _____ Units ☐ Estimated Weight ☐ Scale: Serial #: _____ Calibration due date: _____

46. Will the final waste form contain any of the following? (Explain all "yes" answers)

Chelating Agents: ☐ Yes ☐ No (e.g., Radiac Wash, > 1% by weight / pkg)

Free Liquids: ☐ Yes ☐ No

Fine Particles: ☐ Yes ☐ No [> 1% of <10-micrometer particles (compare to flour) or >15% of <200-micrometer particles (compare to sand)]

Compressed Gases: ☐ Yes ☐ No (e.g., non-punctured aerosol cans)

Pyrophorics: ☐ Yes ☐ No (e.g., uranium turnings that could spontaneously combust if exposed to air)

Explosives: ☐ Yes ☐ No (e.g., TNT, PETN, HMX, that exhibit explosive properties)

Classified Material: ☐ Yes ☐ No

Friable Asbestos: ☐ Yes ☐ No

PCBs: ☐ Yes ☐ No

Explanations: _____

47. Verifier Certification: I verify that, to the best of my knowledge, the information supplied by the waste generator on this form is complete and accurate.

Verifier Name (Print):	Verification Date:
Signature:	Employee No.:

Hazardous Appendix
HWM-801 Review

SCIL (Single Container Inventory Limits) Exceeded ☒ No ☐ Yes

pH Results obtained by: *(Check all that apply)* NA

☐ Meter *(Calibrated)* ☐ Field Technician ☐ Sample Team

☐ Paper ☐ Analytical ☐ Chemist

Initial: _____

CC Rule (VOC's greater or less than 500 ppm Level 1, 2, 3): NC

☐ CC / > 500 / A ☐ CC / < 500 / A

☐ CC / > 500 / B ☐ CC / < 500 / B

A = Generator Knowledge B = Analytical Data

Storage Locations:

☐ No storage restrictions

Waste is not acceptable for storage at the following locations: *(Check all that apply)*

☐ 233 ☐ 514 ☐ 612 ☐ Bldg. 693

☒ 169 CWAA ☒ 361 CWAA ☐ 612-4 CWAA

STP Code: _____

☐ WEF CC Initials: EMR

6/98

Radiological Appendix HWM-800 Review

☐ No storage restrictions, based on Single Container Acceptable Limits.

Waste is not acceptable for storage at the following locations, based on SCAL: *(Check all that apply)* ☐ 233 ☐ 514 ☐ 612-1 ☐ Bldg. 693

☐ 612 (other than 612-1) ☐ 169 CWAA ☐ 361 CWAA

☐ Contains > 1 curie and/or is > the amount identified per radionuclide on attachment B of Procedure HWM 800.

☐ Contains > than 10 grams of fissile material (U-233, U-235, or Pu-239)

☐ Weight Dependent (Activity is dependent on weight)

STP Code: _____ ☐ WEF RCA Initials: _____

Scheduled Date: / /

☐ HWM Waste Run ☐ Processed Waste

☐ Site 300 to LLNL ☐ Commercial Shipment

☐ Secured Pickup ☐ HWM Field Pump Out

☐ HWM GeneratedWaste: Loc: _____

TWMS: Initial: _____ Date: _____

Item	RCH Prefix	RCH	P	Origin Code	Form Code	EPA No.	DTSC No.	MSDS No.	Hazardous Properties T C I R
1	U	8E	N		12.4	—	—		☐ ☐ ☐ ☐
									☐ ☐ ☐ ☐
									☐ ☐ ☐ ☐
									☐ ☐ ☐ ☐
									☐ ☐ ☐ ☐
									☐ ☐ ☐ ☐

Ratch 2002-02-1052

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
2-14-02 2:40:59 PM

OK
PK
2-14-02
4-24-02

QA File: C:\WAS\CTRS\CTR1\ARR1\T11_BCK.QA
Sample ID: B875
Sample Quantity: 1.0000E+00
Sample Date: 2-14-02 2:35:27 PM
Measurement Date: 2-14-02 2:38:53 PM
Elapsed Live Time: 100.0 seconds
Elapsed Real Time: 103.9 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
400.6 keV Centroid [0.00+/-0.00]	8.0356E+02	0.00 < : : : >
400.6 keV FWHM [0.00+/-0.00]	1.5162E+00	0.00 < : : : >
Peak centroid 136 KeV [0.00+/-0.00]	2.7288E+02	0.00 < : : : >
Peak area 400 keV [0.00+/-0.00]	1.7241E+04	0.00 < : : : >
Peak counts/second [0.00+/-0.00]	1.7241E+02	0.00 < : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
2-14-02 2:41:06 PM

QA File: C:\WAS\CTRS\CTR1\ARR1\S11_BCK.QA
Sample ID: B875
Sample Quantity: 1.0000E+00
Sample Date: 2-14-02 2:35:27 PM
Measurement Date: 2-14-02 2:35:25 PM
Elapsed Live Time: 200.0 seconds
Elapsed Real Time: 201.9 seconds

Parameter Description	Value	Deviation/Flags

[Mean +/- Std. Dev.]		< LU : SD : UD : BS >
Ref. Peak	3.5068E+01	0.00
[0.00+/-0.00]		< : : : >
Upper CPS Reg	2.1910E+01	0.00
[0.00+/-0.00]		< : : : >
Peak counts/second	1.0088E+03	0.00
[0.00+/-0.00]		< : : : >
Pulser FWHM	1.0254E+00	0.00
[0.00+/-0.00]		< : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS 2.3A

****
* DRUM INFORMATION *
****

Drum Package ID: S100_876
Sequence Number: 876
Assay Date & Time: 2-20-2002 8:13:00 AM
Drum Package GROSS Weight: 54.00 kg NET Weight: 22.20 kg

IDC Number: S100-876 NC 2-20-02

QC Replicate (Yes/No): ~~S S100~~ Passed (Yes/No): _____

Operator Name (Printed): Russell Rath

Operator Signature: _____ Date: 2-20-02

Independent Reviewer: _____ Date: 4-24-02

Expert Reviewer: (NOT REQUIRED) Date: _____

Tech. Supv/QA Officer: _____ Date: 7/17/02

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 9.413E+00 +/- 2.160E+00 Ci

****
* I S O T O P I C I N F O R M A T I O N *
****

Isotope	Measured Mass (g)	Mass Uncertainty (g)	MDC (g)
Pu-238	9.690E-03	3.43E-03	2.251E-05
Pu-239	1.006E+02	3.29E+01	2.336E-01
Pu-240	5.924E+00	1.94E+00	1.376E-02
Pu-241	2.550E-01	8.35E-02	6.154E-03
Pu-242	3.280E-02	1.25E-02	7.618E-05
Am-241	4.713E-01	1.54E-01	6.826E-03
Am-243	0.000E+00	0.00E+00	0.000E+00
Np-237	0.000E+00	0.00E+00	1.176E-03
U-235	0.000E+00	0.00E+00	6.169E-01
U-238	1.269E+01	4.23E+00	1.269E+01
U-233	4.164E+00	1.34E+00	4.164E+00

Total Pu Mass: 1.07E+02 +/- 5.91E+00 g

****
* M G A R E S U L T S *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	9.072E-03	6.95E+00
Pu-239	9.418E+01	5.32E-02
Pu-240	5.546E+00	8.95E-01
Pu-241	2.388E-01	5.79E-01
Pu-242	3.071E-02	1.00E+01
Am-241	4.412E-01	4.89E-01

Batch 2002-02-1056

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005

Assay Date & Time: 2-20-2002 8:13:00 AM

Drum Package ID: S100_876
Sequence Number: 876

Waste Classification (TRU or LLW): TRU

		Errors at 1.96 sigma	
Total Alpha Activity :	9.413E+00	+/- 2.16E+00	Ci
Total TRU Activity :	4.240E+05	+/- 9.73E+04	nCi/g
Pu-239 Equiv Activity:	9.917E+00	+/- 2.17E+00	Ci
Fissile Gram Equiv Mass:	1.013E+02	+/- 3.29E+01	g
Total Decay Heat:	2.996E-01	+/- 6.81E-02	W
TMU Value:	32.71 %		

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error	MDA gm
Pu-238	1.68E-01	5.94E-02	9.69E-03	3.43E-03	2.25E-05
Pu-239	6.25E+00	2.04E+00	1.01E+02	3.29E+01	2.34E-01
Pu-240	1.36E+00	4.46E-01	5.92E+00	1.94E+00	1.38E-02
Pu-241	2.65E+01	8.68E+00	2.55E-01	8.35E-02	6.15E-03
Pu-242	1.30E-04	4.96E-05	3.28E-02	1.25E-02	7.62E-05
Am-241	1.64E+00	5.35E-01	4.71E-01	1.54E-01	6.83E-03
Am-243	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Np-237	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.18E-03
U-235	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.17E-01
U-238	4.31E-06	1.44E-06	1.27E+01	4.23E+00	1.27E+01
U-233	4.06E-02	1.31E-02	4.16E+00	1.34E+00	4.16E+00

Total Pu Mass: 1.07E+02 +/- 5.91E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	9.072E-03	6.95E+00
Pu-239	9.418E+01	5.32E-02
Pu-240	5.546E+00	8.95E-01
Pu-241	2.388E-01	5.79E-01
Pu-242	3.071E-02	1.00E+01
Am-241	4.412E-01	4.89E-01

Beth 2003-03-1057

****
***** M G A R E P O R T *****
****

Report generated on: 2-20-02 9:09:35 AM

MGA version: MGA V9.5 CI

Spectrum ID: 11200876.CNF Sens : 30.0% LT: 50.9 Mins DT: 8.80
Measurement date: 2-20-02 Declared date: 2-20-02

Sample ID: S100_876 Detector: Total counts: 1.518E+07

Pu g/cm2 = 0.7837 Cd g/cm2 = 1.7895 FWHM at 122 keV = 686 eV
QFIT = 1.54 FWHM at 208 keV = 872 eV
NQFIT = 1.02

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	Meas. date %Err	Decl. date % weight	Decl. date %Err
Pu-238	0.000096	7.0	7.0	0.0380	6.9	0.00907	6.95	0.00907	6.95
Pu-239	1.000000	0.0	0.4	394.4297	0.6	94.17521	0.05	94.17521	0.05
Pu-240	0.058893	0.9	0.9	23.2291	1.0	5.54625	0.89	5.54625	0.89
Pu-241	0.002535	0.6	0.5	1.0000	0.0	0.23876	0.58	0.23876	0.58
Pu-242	(New alg.)			0.1286	(10)	0.03071	(10)	0.03071	(10)
Am-241	0.004685	0.5	0.4	1.8480	0.6	0.44124	0.49	0.44124	0.49

Pu-240 effective (meas. date) = 5.621 +/- 0.96%
Am-241 separated about 21.668 +/- 0.151 years ago
Am/Pu-241 weight ratio = 1.84801 +/- 0.61%

Messages :

Lead x-rays detected.
Calculations in MGAABS didn't converge : results may be suspect.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Gamma Waste Assay

Sample Information

File Name: C:\WAS\DATA\900\11100876.S11
Sample ID: S100_876 Count Sequence Number: 876
Assay Start: 2-20-02 8:13:03 AM
Description 1: 100g source drum
Description 2:
Location: 7715
Comment:
Waste Type:
Weight: Gross: 54000.0 g Net: 22200.0 g
Density: 0.107 g /ml

Container Type: 55 Gal Galv
Container: Volume: 208000. ml Full: 100.0 %

System Configuration

Counter ID Number: SGS
Arrangement Description: SGS
Segments: Number: 16 Offset: 0
Scanning Platform: Start: 934 mm Delta: -51 mm
Count Type: Daily 100 g Drum Check
Collimator/Geometry Setting: 0
Transmission Mode: Two pass
Transmission Source: 0

Errors quoted at 1.000 sigma
Reference Source Date: Reference Source Rate: 1.01E+03 cps
Geometric Correction Factor(SWCONTGCF): 0.760
Date of efficiency calibration approval: 4-18-2001 12:41:36 PM
Mu Factors response file: Lucite
Transmission Calib. Time: 5-11-2001 2:20:42 PM 59052

Reviewed by: _____ Date: 2-20-02

Batch 2002-03-1959

Segment Results

Segment: 1 Detector: DET01 (# 1) Position: 1

Elapsed Live Time: 113.37 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.367 +/- 0.0269
SE-75	264.65	0.000 +/- 0.0000	0.440 +/- 0.0046
SE-75	279.53	0.000 +/- 0.0000	0.443 +/- 0.0063
SE-75	400.65	0.000 +/- 0.0000	0.502 +/- 0.0080

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	1.07E+00 +/- 2.02E-01	2.74E+00	4.26E-08 +/- 6.00E-07
2	23.25	1.40E+00 +/- 2.04E-01	2.49E+00	9.57E-08 +/- 1.19E-06
3	35.10	1.01E+03 +/- 4.77E+00	1.83E+00	2.61E-06 +/- 1.64E-05
4	48.65	8.16E+00 +/- 4.32E-01	1.63E+00	1.62E-05 +/- 5.25E-05
5	59.63	3.85E+00 +/- 3.79E-01	1.56E+00	3.76E-05 +/- 7.40E-05
6	121.11	7.36E-01 +/- 4.22E-01	1.44E+00	1.83E-04 +/- 1.21E-05
7	662.42	8.71E-03 +/- 8.71E-03	1.22E+00	1.12E-04 +/- 8.14E-06
8	778.90	4.35E-02 +/- 1.95E-02	1.20E+00	9.79E-05 +/- 5.69E-06
9	1112.12	1.74E-02 +/- 1.23E-02	1.16E+00	7.35E-05 +/- 3.70E-06

Segment: 2 Detector: DET01 (# 1) Position: 2

Elapsed Live Time: 113.21 sec Elapsed Real Time: 115.00 sec

Batch 2002-02-1960

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.410 +/- 0.0306
SE-75	264.65	0.000 +/- 0.0000	0.511 +/- 0.0051
SE-75	279.53	0.000 +/- 0.0000	0.514 +/- 0.0069
SE-75	400.65	0.000 +/- 0.0000	0.551 +/- 0.0085

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.20	3.73E+00 +/- 2.91E-01	2.30E+00	5.57E-10 +/- 5.31E-09
2	35.10	1.01E+03 +/- 4.79E+00	1.73E+00	2.21E-07 +/- 1.06E-06
3	59.59	8.53E+00 +/- 4.57E-01	1.49E+00	2.20E-05 +/- 3.31E-05
4	413.70	1.61E-01 +/- 6.87E-02	1.24E+00	2.51E-04 +/- 1.46E-05
5	559.40	1.06E-01 +/- 4.88E-02	1.21E+00	1.91E-04 +/- 1.21E-05
6	778.90	2.36E-02 +/- 2.18E-02	1.17E+00	1.44E-04 +/- 6.92E-06
7	964.13	3.51E-02 +/- 1.75E-02	1.15E+00	1.23E-04 +/- 5.48E-06
8	1001.03	1.75E-02 +/- 1.24E-02	1.15E+00	1.20E-04 +/- 5.31E-06
9	1112.12	8.77E-03 +/- 8.77E-03	1.14E+00	1.11E-04 +/- 4.80E-06

Segment: 3 Detector: DET01 (# 1) Position: 3

Elapsed Live Time: 112.45 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.361 +/- 0.0305
SE-75	264.65	0.000 +/- 0.0000	0.474 +/- 0.0049
SE-75	279.53	0.000 +/- 0.0000	0.480 +/- 0.0068
SE-75	400.65	0.000 +/- 0.0000	0.533 +/- 0.0084

Batch 2002-02-1961

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	3.11E+00 +/- 3.24E-01	2.78E+00	3.50E-09 +/- 3.85E-08
2	23.18	4.04E+00 +/- 3.40E-01	2.53E+00	1.05E-08 +/- 1.03E-07
3	35.10	1.01E+03 +/- 4.80E+00	1.85E+00	1.07E-06 +/- 5.27E-06
4	59.61	3.12E+01 +/- 7.33E-01	1.57E+00	3.79E-05 +/- 5.87E-05
5	98.88	1.24E+01 +/- 9.29E-01	1.48E+00	2.01E-04 +/- 4.73E-05
6	103.51	6.89E+00 +/- 8.93E-01	1.47E+00	2.20E-04 +/- 3.92E-05
7	111.14	3.20E+00 +/- 7.64E-01	1.46E+00	2.48E-04 +/- 2.68E-05
8	129.29	9.64E+00 +/- 6.42E-01	1.44E+00	3.02E-04 +/- 1.84E-05
9	148.57	2.19E+00 +/- 5.35E-01	1.42E+00	3.39E-04 +/- 3.24E-05
10	188.20	1.12E+00 +/- 3.59E-01	1.38E+00	3.67E-04 +/- 4.02E-05
11	208.36	8.06E+00 +/- 5.33E-01	1.36E+00	3.66E-04 +/- 3.64E-05
12	333.37	1.70E+00 +/- 3.58E-01	1.28E+00	3.00E-04 +/- 1.35E-05
13	345.62	2.00E+00 +/- 3.20E-01	1.28E+00	2.93E-04 +/- 1.36E-05
14	369.00	1.05E+00 +/- 2.51E-01	1.27E+00	2.80E-04 +/- 1.42E-05
15	375.64	5.21E+00 +/- 3.32E-01	1.27E+00	2.76E-04 +/- 1.44E-05
16	383.38	5.17E-01 +/- 1.66E-01	1.26E+00	2.72E-04 +/- 1.46E-05
17	393.63	2.33E+00 +/- 2.22E-01	1.26E+00	2.67E-04 +/- 1.48E-05
18	400.66	1.87E-01 +/- 9.71E-02	1.26E+00	2.63E-04 +/- 1.50E-05
19	413.70	6.19E+00 +/- 2.63E-01	1.25E+00	2.57E-04 +/- 1.52E-05
20	423.20	3.53E-01 +/- 1.19E-01	1.25E+00	2.53E-04 +/- 1.53E-05
21	452.30	6.64E-01 +/- 1.12E-01	1.24E+00	2.40E-04 +/- 1.54E-05
22	559.57	2.37E-01 +/- 6.64E-02	1.22E+00	2.03E-04 +/- 1.32E-05
23	662.42	2.61E-01 +/- 5.85E-02	1.20E+00	1.78E-04 +/- 1.02E-05
24	778.90	2.86E-02 +/- 1.93E-02	1.18E+00	1.57E-04 +/- 7.69E-06

Segment: 4 Detector: DET01 (# 1) Position: 4

Elapsed Live Time: 107.81 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.370 +/- 0.0308
SE-75	264.65	0.000 +/- 0.0000	0.535 +/- 0.0056
SE-75	279.53	0.000 +/- 0.0000	0.546 +/- 0.0077
SE-75	400.65	0.000 +/- 0.0000	0.584 +/- 0.0092

Rpt# 2002-02-1062

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)		Correction Factor	Original Efficiency		
	1	21.42	1.33E+01	+/- 6.47E-01	2.72E+00	2.23E-06	+/-	3.43E-06
	2	23.22	1.80E+01	+/- 7.08E-01	2.48E+00	3.36E-06	+/-	4.71E-06
	3	35.10	1.01E+03	+/- 4.93E+00	1.83E+00	2.00E-05	+/-	1.66E-05
	4	48.40	5.89E+00	+/- 9.06E-01	1.63E+00	5.74E-05	+/-	2.89E-05
	5	59.60	2.54E+02	+/- 2.02E+00	1.56E+00	9.83E-05	+/-	3.39E-05
	6	75.18	4.20E+00	+/- 7.89E-01	1.50E+00	1.59E-04	+/-	3.31E-05
	7	98.84	1.54E+02	+/- 2.22E+00	1.46E+00	2.40E-04	+/-	2.42E-05
	8	103.50	1.23E+02	+/- 1.62E+00	1.46E+00	2.53E-04	+/-	2.24E-05
	9	111.31	2.54E+01	+/- 1.55E+00	1.45E+00	2.74E-04	+/-	1.97E-05
	10	117.23	1.59E+01	+/- 1.26E+00	1.44E+00	2.88E-04	+/-	1.80E-05
	11	129.29	1.00E+02	+/- 1.41E+00	1.43E+00	3.12E-04	+/-	1.61E-05
	12	148.57	2.11E+01	+/- 9.93E-01	1.40E+00	3.40E-04	+/-	1.63E-05
	13	164.90	3.89E+00	+/- 8.18E-01	1.38E+00	3.56E-04	+/-	1.76E-05
	14	171.65	4.72E+00	+/- 8.42E-01	1.37E+00	3.60E-04	+/-	1.81E-05
	15	179.61	2.76E+00	+/- 8.10E-01	1.36E+00	3.64E-04	+/-	1.86E-05
	16	195.92	4.40E+00	+/- 8.75E-01	1.33E+00	3.69E-04	+/-	1.93E-05
	17	208.36	1.02E+02	+/- 1.50E+00	1.32E+00	3.71E-04	+/-	1.94E-05
	18	225.41	1.22E+00	+/- 4.92E-01	1.30E+00	3.69E-04	+/-	1.92E-05
	19	244.70	1.72E+00	+/- 6.00E-01	1.28E+00	3.65E-04	+/-	1.85E-05
	20	255.77	4.69E+00	+/- 5.94E-01	1.27E+00	3.62E-04	+/-	1.80E-05
	21	268.02	2.68E+00	+/- 5.66E-01	1.25E+00	3.57E-04	+/-	1.73E-05
M	22	297.98	2.81E+00	+/- 4.42E-01	1.24E+00	3.45E-04	+/-	1.56E-05
m	23	300.48	8.35E-01	+/- 2.53E-01	1.24E+00	3.43E-04	+/-	1.54E-05
	24	311.90	3.36E+00	+/- 4.70E-01	1.24E+00	3.38E-04	+/-	1.48E-05
M	25	321.56	2.71E+00	+/- 4.49E-01	1.24E+00	3.33E-04	+/-	1.43E-05
m	26	323.83	4.43E+00	+/- 5.04E-01	1.24E+00	3.32E-04	+/-	1.42E-05
	27	333.27	2.80E+01	+/- 9.00E-01	1.23E+00	3.27E-04	+/-	1.37E-05
	28	336.43	4.03E+00	+/- 7.01E-01	1.23E+00	3.26E-04	+/-	1.36E-05
	29	345.62	2.74E+01	+/- 7.19E-01	1.23E+00	3.21E-04	+/-	1.32E-05
	30	368.88	1.22E+01	+/- 5.46E-01	1.23E+00	3.09E-04	+/-	1.23E-05
	31	375.68	7.80E+01	+/- 1.07E+00	1.22E+00	3.06E-04	+/-	1.21E-05
	32	383.50	8.01E+00	+/- 5.02E-01	1.22E+00	3.02E-04	+/-	1.18E-05
	33	393.62	2.89E+01	+/- 6.13E-01	1.22E+00	2.97E-04	+/-	1.16E-05
	34	413.70	7.78E+01	+/- 9.32E-01	1.22E+00	2.87E-04	+/-	1.11E-05
	35	423.18	4.20E+00	+/- 3.53E-01	1.21E+00	2.83E-04	+/-	1.10E-05
	36	452.19	8.72E+00	+/- 3.39E-01	1.21E+00	2.70E-04	+/-	1.06E-05
	37	481.88	1.80E-01	+/- 1.17E-01	1.20E+00	2.57E-04	+/-	1.04E-05
	38	620.37	7.35E-01	+/- 1.13E-01	1.17E+00	2.07E-04	+/-	9.43E-06
	39	647.21	2.31E-01	+/- 1.26E-01	1.17E+00	1.99E-04	+/-	9.18E-06
	40	653.64	6.08E-01	+/- 1.11E-01	1.17E+00	1.97E-04	+/-	9.12E-06
M	41	659.97	2.59E-01	+/- 6.79E-02	1.17E+00	1.95E-04	+/-	9.06E-06
m	42	663.66	3.43E+00	+/- 2.57E-01	1.17E+00	1.94E-04	+/-	9.02E-06

Batch 2002-02-1063

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
43	689.98	1.66E-01 +/- 8.15E-02	1.16E+00	1.87E-04 +/- 8.74E-06
44	723.34	1.72E+00 +/- 1.45E-01	1.16E+00	1.79E-04 +/- 8.35E-06
45	757.73	2.69E-01 +/- 5.92E-02	1.16E+00	1.71E-04 +/- 7.93E-06
46	770.78	5.14E-01 +/- 7.97E-02	1.15E+00	1.69E-04 +/- 7.76E-06
47	1001.03	1.84E-02 +/- 1.30E-02	1.13E+00	1.30E-04 +/- 4.96E-06
48	1085.91	2.70E-02 +/- 2.18E-02	1.13E+00	1.20E-04 +/- 4.36E-06

Segment: 5 Detector: DET01 (# 1) Position: 5

Elapsed Live Time: 100.71 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.203 +/- 0.0037
SE-75	279.53	0.000 +/- 0.0000	0.234 +/- 0.0059
SE-75	400.65	0.000 +/- 0.0000	0.361 +/- 0.0079

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	3.65E+01 +/- 9.82E-01	4.10E+00	1.08E-06 +/- 1.72E-06
2	23.17	3.48E+01 +/- 1.06E+00	4.10E+00	1.75E-06 +/- 2.55E-06
3	35.10	1.01E+03 +/- 5.11E+00	4.10E+00	1.48E-05 +/- 1.27E-05
4	59.56	6.97E+02 +/- 4.00E+00	4.10E+00	9.32E-05 +/- 3.29E-05
5	75.04	8.27E+00 +/- 1.32E+00	4.10E+00	1.59E-04 +/- 3.39E-05
6	98.75	3.29E+02 +/- 3.76E+00	4.10E+00	2.49E-04 +/- 2.52E-05
7	103.40	2.41E+02 +/- 3.23E+00	4.10E+00	2.64E-04 +/- 2.33E-05
8	111.14	5.22E+01 +/- 2.48E+00	4.10E+00	2.86E-04 +/- 2.04E-05
9	114.45	6.66E+00 +/- 2.47E+00	4.10E+00	2.94E-04 +/- 1.94E-05
10	117.21	3.54E+01 +/- 1.92E+00	4.10E+00	3.01E-04 +/- 1.87E-05
11	129.29	2.44E+02 +/- 2.26E+00	4.10E+00	3.26E-04 +/- 1.67E-05
12	148.57	4.03E+01 +/- 1.49E+00	3.13E+00	3.54E-04 +/- 1.71E-05
13	160.89	2.49E+00 +/- 1.38E+00	2.75E+00	3.65E-04 +/- 1.83E-05
14	164.77	5.25E+00 +/- 1.26E+00	2.66E+00	3.68E-04 +/- 1.86E-05
M 15	169.88	1.97E+00 +/- 5.81E-01	2.56E+00	3.70E-04 +/- 1.91E-05
m 16	171.68	8.73E+00 +/- 1.00E+00	2.53E+00	3.71E-04 +/- 1.92E-05

Batch 2002-03-1064

	17	179.45	7.83E+00	+/- 1.22E+00	2.41E+00	3.74E-04	+/-	1.97E-05
	18	189.56	9.78E+00	+/- 1.03E+00	2.28E+00	3.76E-04	+/-	2.02E-05
	19	196.03	1.12E+01	+/- 1.11E+00	2.21E+00	3.76E-04	+/-	2.03E-05
	20	208.28	2.40E+02	+/- 2.37E+00	2.09E+00	3.75E-04	+/-	2.04E-05
	21	244.70	4.25E+00	+/- 8.48E-01	1.83E+00	3.63E-04	+/-	1.90E-05
	22	255.66	9.97E+00	+/- 8.30E-01	1.77E+00	3.58E-04	+/-	1.84E-05
	23	267.88	7.28E+00	+/- 8.04E-01	1.71E+00	3.51E-04	+/-	1.76E-05
M	24	297.87	5.98E+00	+/- 6.30E-01	1.61E+00	3.34E-04	+/-	1.56E-05
m	25	300.46	1.10E+00	+/- 3.33E-01	1.61E+00	3.33E-04	+/-	1.55E-05
	26	311.90	8.43E+00	+/- 7.57E-01	1.58E+00	3.26E-04	+/-	1.48E-05
	27	321.31	5.18E+00	+/- 8.27E-01	1.56E+00	3.20E-04	+/-	1.42E-05
	28	324.19	3.69E+00	+/- 5.46E-01	1.56E+00	3.19E-04	+/-	1.41E-05
	29	333.21	6.56E+01	+/- 1.34E+00	1.54E+00	3.13E-04	+/-	1.36E-05
	30	336.32	1.05E+01	+/- 1.02E+00	1.54E+00	3.12E-04	+/-	1.34E-05
	31	345.58	6.31E+01	+/- 9.85E-01	1.52E+00	3.06E-04	+/-	1.30E-05
	32	368.85	2.78E+01	+/- 8.14E-01	1.48E+00	2.93E-04	+/-	1.20E-05
	33	375.62	1.69E+02	+/- 1.71E+00	1.47E+00	2.89E-04	+/-	1.18E-05
	34	383.44	1.71E+01	+/- 7.60E-01	1.46E+00	2.85E-04	+/-	1.16E-05
	35	393.56	6.29E+01	+/- 9.36E-01	1.45E+00	2.79E-04	+/-	1.13E-05
	36	413.70	1.69E+02	+/- 1.50E+00	1.43E+00	2.69E-04	+/-	1.09E-05
	37	423.29	8.80E+00	+/- 5.44E-01	1.42E+00	2.64E-04	+/-	1.07E-05
	38	452.15	1.93E+01	+/- 5.03E-01	1.41E+00	2.51E-04	+/-	1.03E-05
	39	591.08	2.03E-01	+/- 9.97E-02	1.36E+00	1.98E-04	+/-	9.36E-06
	40	619.76	1.51E+00	+/- 1.81E-01	1.35E+00	1.90E-04	+/-	9.14E-06
	41	641.15	4.09E-01	+/- 1.90E-01	1.34E+00	1.84E-04	+/-	8.96E-06
	42	647.10	7.03E-01	+/- 1.96E-01	1.34E+00	1.83E-04	+/-	8.91E-06

Batch 2002-03-1065

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
43	662.42	8.38E+00 +/- 3.12E-01	1.33E+00	1.79E-04 +/- 8.77E-06
44	689.72	6.13E-01 +/- 1.26E-01	1.32E+00	1.72E-04 +/- 8.50E-06
45	723.31	3.57E+00 +/- 2.15E-01	1.32E+00	1.65E-04 +/- 8.15E-06
46	757.37	3.98E-01 +/- 9.03E-02	1.31E+00	1.58E-04 +/- 7.76E-06
47	770.60	8.64E-01 +/- 1.25E-01	1.30E+00	1.56E-04 +/- 7.61E-06
48	1112.12	9.04E-02 +/- 3.68E-02	1.24E+00	1.14E-04 +/- 4.26E-06

Segment: 6 Detector: DET01 (# 1) Position: 6

Elapsed Live Time: 99.32 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.184 +/- 0.0037
SE-75	279.53	0.000 +/- 0.0000	0.215 +/- 0.0059
SE-75	400.65	0.000 +/- 0.0000	0.338 +/- 0.0077

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	4.09E+01 +/- 1.02E+00	4.10E+00	3.85E-07 +/- 5.97E-07
2	23.12	3.49E+01 +/- 1.12E+00	4.10E+00	6.62E-07 +/- 9.41E-07
3	35.10	1.01E+03 +/- 5.14E+00	4.10E+00	8.04E-06 +/- 6.71E-06
4	49.70	1.18E+01 +/- 1.27E+00	4.10E+00	3.71E-05 +/- 1.80E-05
5	59.55	7.35E+02 +/- 4.18E+00	4.10E+00	6.88E-05 +/- 2.39E-05
6	74.73	5.75E+00 +/- 1.03E+00	4.10E+00	1.28E-04 +/- 2.73E-05
7	98.74	3.66E+02 +/- 4.00E+00	4.10E+00	2.22E-04 +/- 2.25E-05
8	103.39	2.64E+02 +/- 3.43E+00	4.10E+00	2.38E-04 +/- 2.12E-05
9	111.16	6.13E+01 +/- 2.61E+00	4.10E+00	2.63E-04 +/- 1.90E-05
10	114.40	7.65E+00 +/- 2.60E+00	4.10E+00	2.72E-04 +/- 1.82E-05
11	117.10	4.07E+01 +/- 2.01E+00	4.10E+00	2.80E-04 +/- 1.77E-05
12	129.29	2.73E+02 +/- 2.42E+00	4.10E+00	3.10E-04 +/- 1.61E-05
13	144.32	6.34E+00 +/- 2.11E+00	3.38E+00	3.39E-04 +/- 1.63E-05
14	148.57	4.72E+01 +/- 1.58E+00	3.19E+00	3.45E-04 +/- 1.67E-05
15	161.01	6.04E+00 +/- 1.35E+00	2.81E+00	3.60E-04 +/- 1.78E-05
16	164.76	7.15E+00 +/- 1.32E+00	2.72E+00	3.64E-04 +/- 1.82E-05

Batch 2002-02-19/6

17	171.54	1.49E+01 +/-	1.22E+00	2.60E+00	3.69E-04 +/-	1.88E-05
18	179.38	8.05E+00 +/-	1.26E+00	2.47E+00	3.74E-04 +/-	1.94E-05
19	189.45	1.07E+01 +/-	1.10E+00	2.34E+00	3.78E-04 +/-	1.99E-05
20	195.89	1.42E+01 +/-	1.28E+00	2.27E+00	3.80E-04 +/-	2.01E-05
21	208.27	2.70E+02 +/-	2.54E+00	2.15E+00	3.81E-04 +/-	2.03E-05
22	244.70	4.15E+00 +/-	9.05E-01	1.89E+00	3.73E-04 +/-	1.92E-05
23	255.74	1.14E+01 +/-	8.73E-01	1.82E+00	3.69E-04 +/-	1.86E-05
24	267.88	9.09E+00 +/-	8.52E-01	1.76E+00	3.63E-04 +/-	1.78E-05
25	297.85	6.26E+00 +/-	8.86E-01	1.65E+00	3.47E-04 +/-	1.59E-05
26	311.90	8.58E+00 +/-	7.88E-01	1.62E+00	3.39E-04 +/-	1.51E-05
27	321.27	6.86E+00 +/-	8.11E-01	1.60E+00	3.33E-04 +/-	1.45E-05
28	324.04	4.39E+00 +/-	5.75E-01	1.60E+00	3.32E-04 +/-	1.44E-05
29	333.21	7.50E+01 +/-	1.43E+00	1.58E+00	3.26E-04 +/-	1.39E-05
30	336.35	9.18E+00 +/-	1.08E+00	1.57E+00	3.24E-04 +/-	1.37E-05
31	345.54	6.77E+01 +/-	1.13E+00	1.56E+00	3.19E-04 +/-	1.33E-05
32	368.86	2.95E+01 +/-	8.64E-01	1.52E+00	3.05E-04 +/-	1.23E-05
33	375.62	1.90E+02 +/-	1.83E+00	1.51E+00	3.02E-04 +/-	1.21E-05
34	383.40	1.90E+01 +/-	8.18E-01	1.49E+00	2.97E-04 +/-	1.18E-05
35	393.53	7.11E+01 +/-	1.00E+00	1.48E+00	2.92E-04 +/-	1.16E-05
36	413.70	1.91E+02 +/-	1.62E+00	1.46E+00	2.81E-04 +/-	1.11E-05
37	423.23	1.01E+01 +/-	5.77E-01	1.46E+00	2.76E-04 +/-	1.09E-05
38	452.16	2.23E+01 +/-	5.58E-01	1.44E+00	2.61E-04 +/-	1.05E-05
39	481.87	3.63E-01 +/-	1.74E-01	1.43E+00	2.48E-04 +/-	1.02E-05
40	598.57	2.23E-01 +/-	1.10E-01	1.38E+00	2.04E-04 +/-	9.34E-06
41	619.98	1.80E+00 +/-	1.85E-01	1.37E+00	1.98E-04 +/-	9.16E-06
42	641.40	8.56E-01 +/-	1.93E-01	1.36E+00	1.92E-04 +/-	8.97E-06

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
	43	646.93	6.49E-01 +/- 2.12E-01	1.36E+00	1.90E-04 +/- 8.92E-06
	44	653.59	1.54E+00 +/- 1.80E-01	1.36E+00	1.89E-04 +/- 8.86E-06
M	45	659.82	4.38E-01 +/- 1.04E-01	1.36E+00	1.87E-04 +/- 8.80E-06
m	46	663.61	8.72E+00 +/- 4.35E-01	1.36E+00	1.86E-04 +/- 8.76E-06
	47	689.59	8.79E-01 +/- 1.38E-01	1.35E+00	1.80E-04 +/- 8.50E-06
	48	723.25	4.40E+00 +/- 2.32E-01	1.34E+00	1.72E-04 +/- 8.13E-06
	49	770.58	1.33E+00 +/- 1.35E-01	1.33E+00	1.62E-04 +/- 7.58E-06
	50	1085.91	6.71E-02 +/- 3.03E-02	1.26E+00	1.22E-04 +/- 4.37E-06
	51	1408.01	8.31E-02 +/- 3.53E-02	1.23E+00	1.04E-04 +/- 6.39E-06

Segment: 7 Detector: DET01 (# 1) Position: 7

Elapsed Live Time: 104.41 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.240 +/- 0.0037
SE-75	279.53	0.000 +/- 0.0000	0.260 +/- 0.0058
SE-75	400.65	0.000 +/- 0.0000	0.377 +/- 0.0077

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	2.64E+01 +/- 8.31E-01	4.10E+00	2.18E-09 +/- 2.40E-08
2	23.15	2.82E+01 +/- 9.21E-01	4.10E+00	6.92E-09 +/- 6.81E-08
3	35.10	1.01E+03 +/- 5.01E+00	4.10E+00	9.59E-07 +/- 4.73E-06
4	49.61	7.32E+00 +/- 1.07E+00	4.10E+00	1.44E-05 +/- 3.50E-05
5	59.58	5.41E+02 +/- 3.29E+00	4.10E+00	4.01E-05 +/- 6.21E-05
6	67.39	2.26E+00 +/- 8.60E-01	4.10E+00	6.98E-05 +/- 7.63E-05
7	75.00	2.17E+00 +/- 8.35E-01	4.10E+00	1.04E-04 +/- 8.11E-05
8	98.77	2.59E+02 +/- 2.94E+00	4.10E+00	2.21E-04 +/- 5.19E-05
9	103.44	1.97E+02 +/- 2.02E+00	4.10E+00	2.41E-04 +/- 4.29E-05
10	111.24	4.29E+01 +/- 2.05E+00	4.10E+00	2.73E-04 +/- 2.88E-05
11	117.05	2.45E+01 +/- 1.58E+00	4.10E+00	2.94E-04 +/- 2.10E-05
12	129.29	1.72E+02 +/- 1.86E+00	4.10E+00	3.30E-04 +/- 1.98E-05
13	146.38	3.50E+01 +/- 1.31E+00	3.13E+00	3.65E-04 +/- 3.34E-05

Batch 3SD2-02-1048

14	148.57	1.26E+01	+/-	1.01E+00	3.03E+00	3.68E-04	+/-	3.49E-05
15	160.99	4.09E+00	+/-	1.08E+00	2.64E+00	3.83E-04	+/-	4.08E-05
16	164.81	5.20E+00	+/-	1.06E+00	2.55E+00	3.86E-04	+/-	4.19E-05
17	171.72	1.06E+01	+/-	1.06E+00	2.42E+00	3.90E-04	+/-	4.31E-05
18	179.51	4.37E+00	+/-	9.52E-01	2.30E+00	3.93E-04	+/-	4.34E-05
19	189.55	5.55E+00	+/-	8.66E-01	2.18E+00	3.94E-04	+/-	4.25E-05
20	195.98	9.41E+00	+/-	1.03E+00	2.11E+00	3.94E-04	+/-	4.14E-05
21	208.31	1.60E+02	+/-	1.91E+00	1.99E+00	3.91E-04	+/-	3.83E-05
22	244.70	2.75E+00	+/-	7.15E-01	1.74E+00	3.73E-04	+/-	2.70E-05
23	255.63	7.49E+00	+/-	6.96E-01	1.68E+00	3.66E-04	+/-	2.39E-05
24	267.92	5.41E+00	+/-	6.73E-01	1.63E+00	3.58E-04	+/-	2.08E-05
25	297.94	4.55E+00	+/-	8.03E-01	1.56E+00	3.37E-04	+/-	1.58E-05
26	311.90	5.56E+00	+/-	5.21E-01	1.54E+00	3.27E-04	+/-	1.48E-05
27	321.05	1.13E+00	+/-	7.12E-01	1.53E+00	3.21E-04	+/-	1.45E-05
28	324.19	2.87E+00	+/-	5.16E-01	1.52E+00	3.19E-04	+/-	1.44E-05
29	333.25	4.26E+01	+/-	1.10E+00	1.51E+00	3.13E-04	+/-	1.44E-05
30	336.33	6.89E+00	+/-	8.50E-01	1.50E+00	3.11E-04	+/-	1.44E-05
31	345.59	4.19E+01	+/-	8.77E-01	1.49E+00	3.05E-04	+/-	1.46E-05
32	368.82	1.88E+01	+/-	6.68E-01	1.46E+00	2.91E-04	+/-	1.52E-05
33	375.66	1.16E+02	+/-	1.35E+00	1.45E+00	2.87E-04	+/-	1.54E-05
34	383.48	1.21E+01	+/-	6.26E-01	1.44E+00	2.83E-04	+/-	1.57E-05
35	393.60	4.32E+01	+/-	7.61E-01	1.42E+00	2.77E-04	+/-	1.59E-05
36	413.70	1.14E+02	+/-	1.18E+00	1.41E+00	2.67E-04	+/-	1.63E-05
37	423.23	6.66E+00	+/-	4.35E-01	1.41E+00	2.62E-04	+/-	1.63E-05
38	452.18	1.37E+01	+/-	4.25E-01	1.39E+00	2.49E-04	+/-	1.63E-05
39	620.11	8.69E-01	+/-	1.42E-01	1.33E+00	1.92E-04	+/-	1.19E-05
40	647.11	7.61E-01	+/-	1.59E-01	1.32E+00	1.86E-04	+/-	1.11E-05
41	653.64	1.00E+00	+/-	1.40E-01	1.32E+00	1.84E-04	+/-	1.09E-05
M 42	660.11	3.57E-01	+/-	8.54E-02	1.32E+00	1.83E-04	+/-	1.07E-05

Batch 2002-02-1D6-9

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
m 43	663.61	5.10E+00 +/- 3.27E-01	1.32E+00	1.82E-04 +/- 1.06E-05
44	690.01	7.27E-01 +/- 1.12E-01	1.31E+00	1.76E-04 +/- 9.85E-06
45	723.31	2.60E+00 +/- 1.75E-01	1.30E+00	1.70E-04 +/- 9.01E-06
46	770.73	7.77E-01 +/- 9.95E-02	1.29E+00	1.61E-04 +/- 8.03E-06

Segment: 8 Detector: DET01 (# 1) Position: 8

Elapsed Live Time: 110.40 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.332 +/- 0.0337
SE-75	264.65	0.000 +/- 0.0000	0.491 +/- 0.0051
SE-75	279.53	0.000 +/- 0.0000	0.496 +/- 0.0071
SE-75	400.65	0.000 +/- 0.0000	0.543 +/- 0.0086

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	7.89E+00 +/- 5.09E-01	2.96E+00	1.22E-09 +/- 1.33E-08
2	23.19	1.25E+01 +/- 5.61E-01	2.68E+00	4.19E-09 +/- 4.08E-08
3	35.10	1.01E+03 +/- 4.86E+00	1.93E+00	6.89E-07 +/- 3.37E-06
4	59.62	1.87E+02 +/- 1.65E+00	1.63E+00	3.35E-05 +/- 5.15E-05
5	75.16	4.33E+00 +/- 8.05E-01	1.57E+00	9.13E-05 +/- 7.00E-05
6	98.86	8.45E+01 +/- 1.66E+00	1.52E+00	1.99E-04 +/- 4.65E-05
7	103.50	6.46E+01 +/- 1.18E+00	1.51E+00	2.18E-04 +/- 3.87E-05
8	111.38	1.50E+01 +/- 1.15E+00	1.50E+00	2.49E-04 +/- 2.62E-05
9	116.81	1.00E+01 +/- 8.27E-01	1.50E+00	2.68E-04 +/- 1.96E-05
10	129.29	5.70E+01 +/- 1.07E+00	1.48E+00	3.05E-04 +/- 1.85E-05
11	148.57	1.14E+01 +/- 7.76E-01	1.45E+00	3.45E-04 +/- 3.27E-05
12	164.95	1.90E+00 +/- 6.96E-01	1.42E+00	3.64E-04 +/- 3.97E-05
13	171.64	3.66E+00 +/- 6.65E-01	1.41E+00	3.69E-04 +/- 4.10E-05
14	196.17	2.35E+00 +/- 6.71E-01	1.38E+00	3.77E-04 +/- 3.98E-05
15	208.38	4.82E+01 +/- 1.05E+00	1.36E+00	3.76E-04 +/- 3.72E-05
16	244.70	7.46E-01 +/- 4.62E-01	1.32E+00	3.62E-04 +/- 2.67E-05
17	255.83	1.63E+00 +/- 4.43E-01	1.30E+00	3.56E-04 +/- 2.36E-05
18	268.10	1.98E+00 +/- 3.71E-01	1.29E+00	3.49E-04 +/- 2.06E-05
19	297.88	1.29E+00 +/- 5.51E-01	1.28E+00	3.31E-04 +/- 1.56E-05
20	311.90	1.99E+00 +/- 4.23E-01	1.28E+00	3.23E-04 +/- 1.44E-05
21	333.35	1.25E+01 +/- 6.30E-01	1.27E+00	3.10E-04 +/- 1.38E-05

Batch 2002-02-1878

22	336.54	7.20E-01 +/-	4.93E-01	1.27E+00	3.08E-04 +/-	1.38E-05
23	345.67	1.24E+01 +/-	5.23E-01	1.27E+00	3.03E-04 +/-	1.38E-05
24	369.30	5.14E+00 +/-	3.92E-01	1.26E+00	2.89E-04 +/-	1.44E-05
25	375.70	3.36E+01 +/-	7.01E-01	1.26E+00	2.86E-04 +/-	1.46E-05
26	383.49	3.74E+00 +/-	3.51E-01	1.25E+00	2.82E-04 +/-	1.48E-05
27	393.63	1.30E+01 +/-	4.12E-01	1.25E+00	2.76E-04 +/-	1.50E-05
28	413.70	3.32E+01 +/-	5.93E-01	1.25E+00	2.66E-04 +/-	1.54E-05
29	423.34	2.11E+00 +/-	2.31E-01	1.24E+00	2.62E-04 +/-	1.55E-05
30	452.24	4.36E+00 +/-	2.45E-01	1.24E+00	2.49E-04 +/-	1.56E-05
31	620.34	4.68E-01 +/-	8.55E-02	1.20E+00	1.93E-04 +/-	1.15E-05
32	662.42	1.37E+00 +/-	1.32E-01	1.19E+00	1.83E-04 +/-	1.03E-05
33	723.27	9.57E-01 +/-	1.04E-01	1.18E+00	1.70E-04 +/-	8.79E-06
34	964.13	2.01E-02 +/-	1.81E-02	1.15E+00	1.32E-04 +/-	5.87E-06
35	1408.01	1.79E-02 +/-	1.27E-02	1.12E+00	9.08E-05 +/-	6.30E-06

Segment: 9 Detector: DET01 (# 1) Position: 9

Elapsed Live Time: 113.02 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.351 +/- 0.0288
SE-75	264.65	0.000 +/- 0.0000	0.515 +/- 0.0051
SE-75	279.53	0.000 +/- 0.0000	0.518 +/- 0.0070
SE-75	400.65	0.000 +/- 0.0000	0.570 +/- 0.0086

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	2.12E+00 +/- 2.60E-01	2.84E+00	1.44E-06 +/- 1.63E-05
2	23.19	2.73E+00 +/- 2.75E-01	2.58E+00	2.29E-06 +/- 2.31E-05
3	35.10	1.01E+03 +/- 4.78E+00	1.88E+00	1.75E-05 +/- 8.88E-05
4	59.63	2.29E+01 +/- 6.23E-01	1.59E+00	1.00E-04 +/- 1.59E-04
5	98.81	5.93E+00 +/- 7.24E-01	1.49E+00	2.51E-04 +/- 6.06E-05
6	129.29	2.97E+00 +/- 5.05E-01	1.46E+00	3.23E-04 +/- 1.97E-05
7	208.40	1.47E+00 +/- 3.64E-01	1.34E+00	3.66E-04 +/- 3.76E-05
8	244.70	4.82E-01 +/- 2.77E-01	1.29E+00	3.54E-04 +/- 2.70E-05
9	333.38	9.14E-01 +/- 2.57E-01	1.25E+00	3.08E-04 +/- 1.39E-05
10	375.65	8.76E-01 +/- 2.03E-01	1.24E+00	2.85E-04 +/- 1.49E-05
11	393.50	4.45E-01 +/- 1.25E-01	1.23E+00	2.76E-04 +/- 1.55E-05
12	413.70	8.53E-01 +/- 1.17E-01	1.23E+00	2.67E-04 +/- 1.59E-05
13	1408.01	5.15E-02 +/- 2.59E-02	1.11E+00	1.05E-04 +/- 6.85E-06

Beth 2002-03-1971

Segment: 10 Detector: DET01 (# 1) Position: 10

Elapsed Live Time: 113.36 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.283 +/- 0.0276
SE-75	264.65	0.000 +/- 0.0000	0.459 +/- 0.0047
SE-75	279.53	0.000 +/- 0.0000	0.471 +/- 0.0066
SE-75	400.65	0.000 +/- 0.0000	0.518 +/- 0.0082

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.42	2.93E+00 +/- 2.85E-01	2.95E+00	3.67E-07 +/- 5.14E-07
2	35.10	1.01E+03 +/- 4.77E+00	2.10E+00	5.68E-06 +/- 4.74E-06
3	59.54	9.05E+00 +/- 4.28E-01	1.73E+00	6.35E-05 +/- 2.20E-05
4	400.66	1.13E-01 +/- 6.55E-02	1.27E+00	2.87E-04 +/- 1.13E-05
5	778.90	3.56E-02 +/- 2.79E-02	1.19E+00	1.56E-04 +/- 7.55E-06
6	867.39	1.74E-02 +/- 1.23E-02	1.18E+00	1.42E-04 +/- 6.49E-06
7	1408.01	8.71E-03 +/- 8.71E-03	1.13E+00	1.08E-04 +/- 6.60E-06

Segment: 11 Detector: DET01 (# 1) Position: 11

Elapsed Live Time: 113.50 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.352 +/- 0.0260
SE-75	264.65	0.000 +/- 0.0000	0.477 +/- 0.0048
SE-75	279.53	0.000 +/- 0.0000	0.472 +/- 0.0065
SE-75	400.65	0.000 +/- 0.0000	0.513 +/- 0.0081

Batch 20202-82-1823

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.42	1.59E+00 +/- 2.49E-01	2.54E+00	5.03E-07 +/- 7.00E-07
2	35.10	1.01E+03 +/- 4.77E+00	1.87E+00	6.75E-06 +/- 5.60E-06
3	59.48	3.09E+00 +/- 3.26E-01	1.59E+00	6.65E-05 +/- 2.30E-05
4	148.57	7.22E-01 +/- 3.19E-01	1.43E+00	3.56E-04 +/- 1.70E-05
5	264.66	3.13E-01 +/- 2.03E-01	1.31E+00	3.67E-04 +/- 1.79E-05
6	411.27	1.46E-01 +/- 6.19E-02	1.27E+00	2.77E-04 +/- 1.10E-05
7	778.90	1.74E-02 +/- 1.23E-02	1.19E+00	1.56E-04 +/- 7.41E-06
8	1112.12	1.74E-02 +/- 1.54E-02	1.16E+00	1.20E-04 +/- 4.37E-06

Segment: 12 Detector: DET01 (# 1) Position: 12

Elapsed Live Time: 113.58 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.112 +/- 0.0170
SE-75	264.65	0.000 +/- 0.0000	0.133 +/- 0.0022
SE-75	279.53	0.000 +/- 0.0000	0.135 +/- 0.0033
SE-75	400.65	0.000 +/- 0.0000	0.174 +/- 0.0045

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.33	1.53E+00 +/- 1.98E-01	4.10E+00	6.60E-07 +/- 9.23E-07
2	35.10	1.01E+03 +/- 4.76E+00	3.14E+00	7.63E-06 +/- 6.33E-06
3	59.56	1.44E+00 +/- 2.82E-01	2.41E+00	6.63E-05 +/- 2.30E-05
4	74.88	6.33E-01 +/- 3.22E-01	2.27E+00	1.25E-04 +/- 2.64E-05
5	300.10	3.28E-01 +/- 1.70E-01	1.92E+00	3.43E-04 +/- 1.55E-05
6	964.13	4.35E-02 +/- 1.94E-02	1.48E+00	1.33E-04 +/- 5.22E-06
7	1001.03	2.61E-02 +/- 1.51E-02	1.47E+00	1.29E-04 +/- 4.89E-06
8	1085.91	1.74E-02 +/- 1.54E-02	1.44E+00	1.21E-04 +/- 4.35E-06
9	1408.01	8.69E-03 +/- 8.69E-03	1.38E+00	1.02E-04 +/- 6.34E-06

Batch 2002-02-1923

Segment: 13 Detector: DET01 (# 1) Position: 13

Elapsed Live Time: 113.68 sec Elapsed Real Time: 115.00 sec

T R A N S M I S S I O N R E S U L T S

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.163 +/- 0.0197
SE-75	264.65	0.000 +/- 0.0000	0.275 +/- 0.0034
SE-75	279.53	0.000 +/- 0.0000	0.281 +/- 0.0048
SE-75	400.65	0.000 +/- 0.0000	0.329 +/- 0.0063

P E A K A N A L Y S I S R E S U L T S

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	2.70E+00	1.10E-05 +/- 9.51E-06
2	59.60	7.22E-01 +/- 2.23E-01	2.12E+00	8.09E-05 +/- 2.88E-05
3	400.66	4.34E-02 +/- 2.93E-02	1.48E+00	2.81E-04 +/- 1.13E-05
4	413.70	9.06E-02 +/- 3.74E-02	1.47E+00	2.74E-04 +/- 1.10E-05

Segment: 14 Detector: DET01 (# 1) Position: 14

Elapsed Live Time: 113.76 sec Elapsed Real Time: 115.00 sec

T R A N S M I S S I O N R E S U L T S

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.647 +/- 0.0318
SE-75	264.65	0.000 +/- 0.0000	0.788 +/- 0.0068
SE-75	279.53	0.000 +/- 0.0000	0.782 +/- 0.0088
SE-75	400.65	0.000 +/- 0.0000	0.796 +/- 0.0105

Batch 2002-02-0734

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.33E+00	8.94E-06 +/- 4.41E-05
2	662.42	8.68E-03 +/- 8.68E-03	1.07E+00	1.83E-04 +/- 1.04E-05
3	867.39	6.08E-02 +/- 2.30E-02	1.06E+00	1.44E-04 +/- 6.47E-06
4	964.13	2.10E-02 +/- 1.69E-02	1.06E+00	1.31E-04 +/- 5.72E-06
5	1085.91	1.74E-02 +/- 1.23E-02	1.05E+00	1.18E-04 +/- 5.01E-06
6	1408.01	8.68E-03 +/- 8.68E-03	1.05E+00	9.39E-05 +/- 6.30E-06

Segment: 15 Detector: DET01 (# 1) Position: 15

Elapsed Live Time: 113.79 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.797 +/- 0.0353
SE-75	264.65	0.000 +/- 0.0000	0.866 +/- 0.0074
SE-75	279.53	0.000 +/- 0.0000	0.854 +/- 0.0094
SE-75	400.65	0.000 +/- 0.0000	0.880 +/- 0.0112

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.16E+00	1.45E-08 +/- 6.96E-08
2	279.54	1.48E-01 +/- 9.95E-02	1.06E+00	3.51E-04 +/- 1.80E-05
3	778.90	2.60E-02 +/- 1.50E-02	1.04E+00	1.56E-04 +/- 7.35E-06

Segment: 16 Detector: DET01 (# 1) Position: 16

Elapsed Live Time: 113.80 sec Elapsed Real Time: 115.00 sec

Batch 2002-03-1025

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.698 +/- 0.0305
SE-75	264.65	0.000 +/- 0.0000	0.795 +/- 0.0069
SE-75	279.53	0.000 +/- 0.0000	0.804 +/- 0.0089
SE-75	400.65	0.000 +/- 0.0000	0.811 +/- 0.0106

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	3.41E-01 +/- 9.87E-02	1.52E+00	8.14E-16 +/- 1.02E-14
2	35.10	1.01E+03 +/- 4.76E+00	1.26E+00	9.52E-10 +/- 5.35E-09
3	443.98	6.53E-02 +/- 2.93E-02	1.08E+00	1.70E-04 +/- 1.22E-05

Summed Spectrum

Peak Locate Report

Sample ID: S100_876
Peak Locate Performed on: 2-20-02 9:09:36 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192
Peak Search Sensitivity: 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
1	43.00	0.2503	21.42	15.96
2	46.49	0.1355	23.17	27.50
3	70.24	0.0397	35.04	480.96
4	119.36	0.0645	59.58	153.47
5	134.76	0.3805	67.27	5.22
6	150.35	0.2459	75.06	10.73
7	197.82	0.0823	98.77	78.90
8	207.13	0.0819	103.43	64.26
9	222.72	0.1033	111.22	47.11
10	229.29	0.1508	114.50	26.21
11	234.51	0.1752	117.10	13.95
12	259.26	0.0721	129.47	108.60
13	293.24	0.3429	146.45	6.50
14	297.87	0.1216	148.76	39.06
15	322.35	0.2180	160.99	7.23
16	330.01	0.1669	164.82	20.41
17	343.64	0.2338	171.63	11.64
18	359.50	0.2741	179.55	6.69
19	379.46	0.2395	189.53	9.34
20	392.41	0.2047	196.00	12.54
21	417.04	0.0609	208.30	136.05
22	487.91	0.3320	243.71	5.05
23	511.95	0.1755	255.72	16.53
24	536.41	0.1685	267.94	17.40
25	596.39	0.2033	297.91	12.82
26	625.20	0.1734	312.30	15.39
27	643.11	0.2317	321.25	10.59
28	648.76	0.2079	324.07	8.82
29	667.10	0.0824	333.23	68.89
30	673.36	0.1313	336.36	29.41
31	691.81	0.0837	345.58	67.91
32	738.48	0.1343	368.90	21.75
33	751.97	0.0624	375.64	117.20
34	767.60	0.1147	383.45	37.61
35	787.89	0.0866	393.58	58.71
36	829.49	0.0625	414.37	104.33

Batch 2002-02-0727

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
37	847.23	0.1217	423.23	30.90
38	905.14	0.1057	452.16	39.16
39	1241.18	0.2126	620.06	9.01
40	1283.71	0.2970	641.31	5.40
41	1295.33	0.2090	647.11	8.77
42	1308.36	0.2408	653.62	5.90
43	1328.35	0.1259	663.61	23.92
44	1380.76	0.2569	689.79	6.24
45	1447.80	0.1508	723.29	16.86
46	1542.61	0.2323	770.66	6.95

Errors quoted at 1.000 sigma

Summed Spectrum

Peak Analysis Report

Sample ID: S100_876
Peak Analysis Performed on: 2-20-02 9:09:36 AM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	39-	46	43.00	21.42	1.43E+04	203.89	1.36E+04
2	46-	49	46.49	23.17	1.51E+04	222.03	2.04E+04
3	67-	73	70.24	35.04	1.81E+06	1357.83	1.79E+04
4	115-	122	119.36	59.58	2.62E+05	588.52	4.18E+04
5	131-	138	134.76	67.27	5.45E+02	232.89	2.62E+04
6	149-	153	150.35	75.06	2.42E+03	222.43	2.81E+04
7	194-	201	197.82	98.77	1.36E+05	674.53	1.58E+05
8	206-	210	207.13	103.43	1.05E+05	455.76	5.65E+04
9	218-	226	222.72	111.22	2.07E+04	510.24	1.04E+05
10	226-	233	229.29	114.50	1.05E+03	504.57	1.25E+05
11	233-	238	234.51	117.10	1.24E+04	386.81	6.38E+04
12	255-	263	259.26	129.47	8.99E+04	439.23	4.77E+04
13	291-	300	293.24	146.45	1.82E+04	337.82	4.22E+04
14	298-	304	297.87	148.76	6.69E+03	260.61	2.99E+04
15	318-	326	322.35	160.99	2.08E+03	286.61	3.69E+04
16	326-	334	330.01	164.82	2.06E+03	281.37	3.59E+04
17	339-	347	343.64	171.63	5.16E+03	264.81	3.04E+04
18	355-	363	359.50	179.55	2.75E+03	254.80	2.91E+04
19	375-	383	379.46	189.53	3.56E+03	251.28	2.79E+04
20	388-	396	392.41	196.00	4.56E+03	248.16	2.67E+04
21	412-	421	417.04	208.30	8.69E+04	437.66	4.46E+04
22	483-	492	487.91	243.71	1.49E+03	188.87	1.51E+04
23	507-	516	511.95	255.72	3.86E+03	183.95	1.33E+04
24	533-	541	536.41	267.94	2.78E+03	165.37	1.14E+04
25	591-	601	596.39	297.91	2.26E+03	171.11	1.13E+04
26	620-	630	625.20	312.30	2.42E+03	169.36	1.10E+04
27	638-	648	643.11	321.25	2.02E+03	179.41	1.26E+04
28	648-	653	648.76	324.07	1.24E+03	116.02	6.38E+03
29	662-	672	667.10	333.23	2.36E+04	266.60	1.90E+04
30	672-	678	673.36	336.36	3.08E+03	202.80	1.20E+04
31	687-	696	691.81	345.58	2.21E+04	211.20	9.89E+03
32	733-	743	738.48	368.90	9.93E+03	164.10	7.08E+03
33	746-	757	751.97	375.64	6.21E+04	308.08	1.30E+04
34	767-	772	767.60	383.45	6.29E+03	149.67	4.46E+03
35	782-	793	787.89	393.58	2.32E+04	179.50	3.61E+03
36	824-	834	829.49	414.37	6.22E+04	260.00	2.28E+03
37	841-	852	847.23	423.23	3.35E+03	106.91	3.16E+03

Rotch 2002-02-1079

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
38	899-	910	905.14	452.16	7.18E+03	102.44	1.32E+03
39	1235-	1247	1241.18	620.06	5.99E+02	36.82	2.88E+02
40	1277-	1289	1283.71	641.31	2.19E+02	37.41	4.31E+02
41	1289-	1301	1295.33	647.11	2.39E+02	40.25	5.22E+02
42	1302-	1314	1308.36	653.62	5.44E+02	35.44	2.71E+02
43	1322-	1334	1328.35	663.61	2.79E+03	62.38	4.18E+02
44	1374-	1386	1380.76	689.79	2.64E+02	28.53	2.03E+02
45	1441-	1454	1447.80	723.29	1.39E+03	44.09	2.01E+02
46	1536-	1549	1542.61	770.66	3.97E+02	27.35	1.28E+02

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Summed Spectrum

Nuclide Identification Report

Sample ID: S100_876
Nuclide Library Used: C:\WAS\NLIB\LLNL.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/)	Activity Uncertainty
Pulser	1.000	35.10*	100.00	2.849E+05	7.151E+05
Np-237	0.754	300.10	6.63		
		311.90*	38.60	5.813E+00	4.085E-01
Pu-239	0.969	413.70*	0.00	4.626E+06	8.645E+04
Pu-239A	0.998	129.29*	0.01	1.448E+06	3.644E+04
Am-241	0.905	662.42*	0.00	1.116E+06	2.673E+04
Pu-241	0.997	148.57*	0.00	3.238E+06	1.351E+05

* = Energy line found in the spectrum.
Energy Tolerance : 1.500 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 1.000 sigma

Rtkh 2002-03-1081

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 2-20-02 9:09:36 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	21.42	1.2797E+02	1.42
2	23.17	1.3505E+02	1.47
4	59.58	2.3334E+03	0.24
5	67.27	4.8623E+00	42.72
6	75.06	2.1593E+01	9.19
7	98.77	1.2124E+03	0.50
8	103.43	9.3337E+02	0.45
9	111.22	1.8446E+02	2.47
10	114.50	9.3243E+00	48.26
11	117.10	1.1075E+02	3.12
13	146.45	1.6253E+02	1.86
15	160.99	1.8556E+01	13.77
16	164.82	1.8413E+01	13.63
17	171.63	4.6034E+01	5.13
18	179.55	2.4511E+01	9.27
19	189.53	3.1709E+01	7.07
20	196.00	4.0695E+01	5.44
21	208.30	7.7517E+02	0.51
22	243.71	1.3271E+01	12.69
23	255.72	3.4384E+01	4.77
24	267.94	2.4828E+01	5.94
25	297.91	2.0141E+01	7.58
27	321.25	1.8055E+01	8.86
28	324.07	1.1078E+01	9.34
29	333.23	2.1018E+02	1.14
30	336.36	2.7482E+01	6.58
31	345.58	1.9722E+02	0.96
32	368.90	8.8564E+01	1.66
33	375.64	5.5409E+02	0.50
34	383.45	5.6069E+01	2.38
35	393.58	2.0703E+02	0.78
37	423.23	2.9860E+01	3.19
38	452.16	6.4055E+01	1.43
39	620.06	5.3446E+00	6.14
40	641.31	1.9539E+00	17.08
41	647.11	2.1325E+00	16.83
42	653.62	4.8492E+00	6.52
44	689.79	2.3502E+00	10.83
45	723.29	1.2416E+01	3.17
46	770.66	3.5433E+00	6.88

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Rekk 2002-08-1083

Combined Segment NID

NID Results Combiner Mode: Sum Activities

Nuclide		Total Activity (uCi)				Concentration (uCi/g)		
Pulser		3.90E+07	+/-	2.04E+08		1.76E+03	+/-	9.18E+03
SE-75	<	3.83E-01	+/-	1.90E-02	<	1.73E-05	+/-	8.55E-07
EU-152x	<	2.42E-01	+/-	1.84E-02	<	1.09E-05	+/-	8.30E-07
U-233	<	1.61E+04	+/-	8.25E+02	<	7.26E-01	+/-	3.72E-02
U-235	<	5.64E-01	+/-	3.07E-02	<	2.54E-05	+/-	1.38E-06
Np-237		8.91E+00	+/-	4.77E-01		4.02E-04	+/-	2.15E-05
Pu-238	<	4.07E+04	+/-	1.97E+03	<	1.83E+00	+/-	8.89E-02
U-238		2.01E+00	+/-	7.67E-01		9.08E-05	+/-	3.45E-05
Pu-239		5.49E+06	+/-	1.32E+05		2.47E+02	+/-	5.97E+00
Pu-239A		4.12E+06	+/-	1.26E+05		1.86E+02	+/-	5.69E+00
Am-241		1.31E+06	+/-	4.72E+04		5.92E+01	+/-	2.12E+00
Pu-241		1.51E+07	+/-	5.35E+05		6.79E+02	+/-	2.41E+01

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
Np-237	1.27E-02	+/-	6.77E-04
U-238	6.00E+00	+/-	2.29E+00
Pu-239	8.83E+01	+/-	2.13E+00
Pu-239A	6.64E+01	+/-	2.03E+00
Am-241	3.84E-01	+/-	1.38E-02
Pu-241	1.46E-01	+/-	5.18E-03

Batch 8202-02-1083

Summed Spectrum

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		2.85E+05	+/-	7.15E+05	1.28E+01	+/-	3.22E+01
SE-75	<	9.01E-01	+/-	7.86E-03	< 4.06E-05	+/-	3.54E-07
EU-152x	<	5.36E-01	+/-	1.03E-02	< 2.41E-05	+/-	4.65E-07
U-233	<	4.06E+04	+/-	8.48E+02	< 1.83E+00	+/-	3.82E-02
U-235	<	1.35E+00	+/-	2.66E-02	< 6.09E-05	+/-	1.20E-06
Np-237		5.81E+00	+/-	4.08E-01	2.62E-04	+/-	1.84E-05
Pu-238	<	9.86E+04	+/-	1.44E+03	< 4.44E+00	+/-	6.47E-02
U-238	<	1.10E+01	+/-	1.76E-01	< 4.96E-04	+/-	7.92E-06
Pu-239		4.63E+06	+/-	8.65E+04	2.08E+02	+/-	3.89E+00
Pu-239A		1.45E+06	+/-	3.64E+04	6.52E+01	+/-	1.64E+00
Am-241		1.12E+06	+/-	2.67E+04	5.03E+01	+/-	1.20E+00
Pu-241		3.24E+06	+/-	1.35E+05	1.46E+02	+/-	6.09E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
Np-237	8.25E-03	+/-	5.80E-04
Pu-239	7.45E+01	+/-	1.39E+00
Pu-239A	2.33E+01	+/-	5.87E-01
Am-241	3.26E-01	+/-	7.81E-03
Pu-241	3.13E-02	+/-	1.31E-03

Batch 2002-02-0514

Final Non-Uniformity Results

Source Longitudinal Ratio:	0.799	+/-	2.6613
Matrix Longitudinal Ratio:	0.557	+/-	0.0230
Source Vertical Ratio:	0.877	+/-	0.4395
Matrix Vertical Ratio:	0.851	+/-	0.0161

NUDS could not find the transmission peak in one radial segment.

Batch 2002-02-1085

****
***** M G A R E P O R T *****
****

Report generated on: 2-20-02 9:09:35 AM

MGA version: MGA V9.5 CI

Spectrum ID: 11200876.CNF Sens : 30.0% LT: 50.9 Mins DT: 8.80
Measurement date: 2-20-02 Declared date: 2-20-02

Sample ID: S100_876 Detector: Total counts: 1.518E+07

Pu g/cm2 = 0.7837 Cd g/cm2 = 1.7895 FWHM at 122 keV = 686 eV
QFIT = 1.54 FWHM at 208 keV = 872 eV
NQFIT = 1.02

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	Meas. date %Err	Decl. date % weight	Decl. date %Err
Pu-238	0.000096	7.0	7.0	0.0380	6.9	0.00907	6.95	0.00907	6.95
Pu-239	1.000000	0.0	0.4	394.4297	0.6	94.17521	0.05	94.17521	0.05
Pu-240	0.058893	0.9	0.9	23.2291	1.0	5.54625	0.89	5.54625	0.89
Pu-241	0.002535	0.6	0.5	1.0000	0.0	0.23876	0.58	0.23876	0.58
Pu-242	(New alg.)			0.1286	(10)	0.03071	(10)	0.03071	(10)
Am-241	0.004685	0.5	0.4	1.8480	0.6	0.44124	0.49	0.44124	0.49

Pu-240 effective (meas. date) = 5.621 +/- 0.96%
Am-241 separated about 21.668 +/- 0.151 years ago
Am/Pu-241 weight ratio = 1.84801 +/- 0.61%

Messages :

Lead x-rays detected.
Calculations in MGAABS didn't converge : results may be suspect.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
2-20-02 9:28:16 AM

OK PW 4-24-02

QA File: C:\WAS\CTRS\CTR1\ARR1\T11_BCK.QA
Sample ID: B877
Sample Quantity: 1.0000E+00
Sample Date: 2-20-02 9:22:44 AM
Measurement Date: 2-20-02 9:26:10 AM
Elapsed Live Time: 100.0 seconds
Elapsed Real Time: 103.8 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
400.6 keV Centroid [0.00+/-0.00]	8.0355E+02	0.00 < : : : >
400.6 keV FWHM [0.00+/-0.00]	1.5201E+00	0.00 < : : : >
Peak centroid 136 KeV [0.00+/-0.00]	2.7291E+02	0.00 < : : : >
Peak area 400 keV [0.00+/-0.00]	1.6654E+04	0.00 < : : : >
Peak counts/second [0.00+/-0.00]	1.6654E+02	0.00 < : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
2-20-02 9:28:23 AM

QA File: C:\WAS\CTRS\CTR1\ARR1\S11_BCK.QA
Sample ID: B877
Sample Quantity: 1.0000E+00
Sample Date: 2-20-02 9:22:44 AM
Measurement Date: 2-20-02 9:22:42 AM
Elapsed Live Time: 200.0 seconds
Elapsed Real Time: 201.9 seconds

Parameter Description	Value	Deviation/Flags

Batch 2002-02-1087

[Mean +/- Std. Dev.]		< LU : SD : UD : BS >
Ref. Peak	3.5052E+01	0.00
[0.00+/-0.00]		< : : : >
Upper CPS Reg	2.4390E+01	0.00
[0.00+/-0.00]		< : : : >
Peak counts/second	1.0088E+03	0.00
[0.00+/-0.00]		< : : : >
Pulser FWHM	1.0119E+00	0.00
[0.00+/-0.00]		< : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

Batch 2002-02-1088

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS 2.3A

****
* DRUM INFORMATION *
****

Drum Package ID: LL85101099
Sequence Number: 879
Assay Date & Time: 2-20-2002 11:15:54 AM
Drum Package GROSS Weight: 78.40 kg NET Weight: 46.60 kg

IDC Number: LC85101099

QC Replicate (Yes/No): NO Passed (Yes/No): _____

Operator Name (Printed): Russell Ratliff

Operator Signature: _____ Date: 2-20-02

Independent Reviewer: _____ Date: 6-27-02

Expert Reviewer: Kenneth Rasplke Date: 6-14-02

Tech. Supv/QA Officer: _____ Date: 6/27/02

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 1.462E+00 +/- 3.961E-01 Ci

Batch 2002-02-1124

****
* I S O T O P I C I N F O R M A T I O N *
****

Isotope	Measured Mass (g)	Mass Uncertainty (g)
Pu-238	3.529E-03	1.420E-03
Pu-239	1.563E+01	6.063E+00
Pu-240	1.092E+00	4.257E-01
Pu-241	2.773E-02	1.110E-02
Pu-242	5.072E-03	2.205E-03
Am-241	5.163E-02	2.012E-02
*Am-243	N/A	N/A
Np-237	2.344E-01	9.595E-02
*U-235	N/A	N/A
*U-238	N/A	N/A
*U-233	N/A	N/A

* = Activity/Mass below detectable limit.

Total Pu Mass: 1.68E+01 +/- 6.08E+00 g

****
* M G A R E S U L T S *
****

NUCLIDE	% Weight	% Error(1-Sigma)
Pu-238	2.106E-02	5.45E+00
Pu-239	9.326E+01	1.37E-01
Pu-240	6.518E+00	1.90E+00
Pu-241	1.655E-01	5.02E+00
Pu-242	3.027E-02	1.00E+01
Am-241	3.081E-01	1.86E+00
Np-237	1.399E+00	6.66E+00
U-235	1.597E+00	3.36E+01

Batch 2002-02-1125

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005
Software Version: GWAS V2.3A RADA V2.1

Assay Date & Time: 2-20-2002 11:15:54 AM
Report Generated: 6-14-2002 2:22:20 PM

Drum Package ID: LL85101099
Sequence Number: 879

Waste Classification (TRU or LLW): TRU

			Errors at 1.96 sigma	
Total Alpha Activity :	1.462E+00	+/-	3.961E-01	Ci
Total TRU Activity :	3.138E+04	+/-	8.500E+03	nCi/g
Pu-239 Equiv Activity:	1.513E+00	+/-	3.966E-01	Ci
Fissile Gram Equiv Mass:	1.572E+01	+/-	6.063E+00	g
Total Decay Heat:	4.640E-02	+/-	1.246E-02	W
TMU Value:	38.80 %			

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error
Pu-238	6.11E-02	2.46E-02	3.53E-03	1.42E-03
Pu-239	9.71E-01	3.77E-01	1.56E+01	6.06E+00
Pu-240	2.51E-01	9.79E-02	1.09E+00	4.26E-01
Pu-241	2.88E+00	1.15E+00	2.77E-02	1.11E-02
Pu-242	2.01E-05	8.75E-06	5.07E-03	2.20E-03
Am-241	1.79E-01	6.98E-02	5.16E-02	2.01E-02
*Am-243	N/A	N/A	N/A	N/A
Np-237	1.67E-04	6.84E-05	2.34E-01	9.60E-02
*U-235	N/A	N/A	N/A	N/A
*U-238	N/A	N/A	N/A	N/A
*U-233	N/A	N/A	N/A	N/A

* = Activity/Mass below detectable limit.

Total Pu Mass: 1.68E+01 +/- 6.08E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sigma)
Pu-238	2.106E-02	5.45E+00
Pu-239	9.326E+01	1.37E-01
Pu-240	6.518E+00	1.90E+00
Pu-241	1.655E-01	5.02E+00
Pu-242	3.027E-02	1.00E+01
Am-241	3.081E-01	1.86E+00
Np-237	1.399E+00	6.66E+00
U-235	1.597E+00	3.36E+01

Batch 2002-02-U24

****
***** M G A R E P O R T *****
****

Report generated on: 2-20-02 12:12:29 PM

MGA version: MGA V9.5 CI

Spectrum ID: 11200879.CNF Sens : 30.0% LT: 54.8 Mins DT: 1.85
Measurement date: 2-20-02 Declared date: 2-20-02

Sample ID: LL85101099 Detector: Total counts: 3.872E+06

Pu g/cm2 = 4.8399 Cd g/cm2 = 1.4221 FWHM at 122 keV = 675 eV
QFIT = 1.00 FWHM at 208 keV = 842 eV
NQFIT = 1.00

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	%Err	Decl. date % weight	%Err
Pu-238	0.000226	5.5	5.1	0.1273	6.1	0.02106	5.45	0.02106	5.45
Pu-239	1.000000	0.0	1.6	563.4802	5.1	93.26492	0.14	93.26492	0.14
Pu-240	0.069889	2.0	1.3	39.3813	4.6	6.51823	1.90	6.51823	1.90
Pu-241	0.001775	5.1	4.5	1.0000	0.0	0.16552	5.02	0.16552	5.02
Pu-242	(New alg.)			0.1829	(10)	0.03027	(10)	0.03027	(10)
Am-241	0.003304	2.0	0.7	1.8616	4.5	0.30813	1.86	0.30813	1.86
Np-237						1.39886	6.66		
U-235	0.017123	33.6	33.6			1.59698	33.62	1.59698	33.62

Pu-240 effective (meas. date) = 6.622 +/- 2.41%
U-237 separated more than 10 days ago
Am-241 separated about 21.973 +/- 0.705 years ago
Am/Pu-241 weight ratio = 1.86163 +/- 4.58%

Messages :

Lead x-rays observed : Np-237 results could be affected.
Calculations in MGAABS didn't converge : results may be suspect.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Batch 3003-03-4137

SGS Expert Review Checklist

Container Identification #:LL85101099 _____ Original Assay Date:2-20-2002__

1. *WCP-41, §6.1:* A MGA report ☒ is present or ☐ expert review has provided isotopic ratios from SGS or AK. Comment: ☒ No comments
2. *WCP-41, §6.1:* MGA and AK ☒ agree as to radiological composition or, if not, ☐ expert review has resolved this. Comment: ☒ No comments
3. *WCP-41, §6.2.1:* ☒ Pu-238 ≤ 2% by weight of total Pu or, if not, ☐ expert review has addressed this and assigned a Pu-240 value. Comment: ☒ No comments
4. *WCP-41, §6.2.2:* ☐ Neither Np-237 nor U-235 is identified by MGA or ☒ expert review has addressed possible interferences from these radionuclides.
   Comment: Both U-235 and Np-237 are identified by MGA. There is no interference. As to the Np-237, the 300.1 keV gamma of the Np-237 daughter is present and when compared to the 297 keV gamma of Pu-239 the abundance of the calculation and MGA are within 2-sigma of one another.☐ No comments
5. *WCP-41, §6.2.2.2:* ☒ Am-241 separation date is 1950 or later or ☐ expert review has addressed possible interferences. Comment: ☒ No comments
6. *WCP-41, §6.3.1.1.a:* ☒ Bulk density of waste ≤ 0.6 g/ml or ☐ expert review has addressed the high density of the drum. Comment: ☒ No comments
7. *WCP-41, §6.3.1.2.a:* ☐ Transmission in every segment ≥ 0.1% for the Se-75 peaks at 136 keV or 265 keV or ☒ expert review has addressed the low transmission.
   Comment: The 136 keV gamma is zero in two segments however the 265 keV transmission is okay as is the Pu-239/Pu-239a ratio.☐ No comments
8. *WCP-41, §6.3.1.2.a:* ☒ Transmission in every segment ≥1% for the Se-75 peak at 401 keV or ☐ expert review has addressed the low transmission. Comment: ☒ No comments
9. *WCP-41, §6.3.1.3.b:* ☒ Dead time in every segment ≤ 50% or ☐ expert review has addressed the high dead time. Comment: ☒ No comments
10. *WCP-41, §6.3.1.3.c:* ☒ Pu-239 masses determined from the 414 keV peak and the 129 keV peak agree by a factor of < 2.5 or ☐ expert review has addressed possible matrix inhomogeneity. Comment: ☒ No comments
11. *WCP-41, §6.3.2.3:* Cs-137 (☐ has) (☒ has not) been identified by expert review. If it has, Sr-90 is reported ☐ at an activity ratio to Cs-137of 0.39 for Pu fission or ☐ at a ratio of 1 for U-235 fission or, ☐ if both Pu and U are present, the expert reviewer has determined the ratio. Comment: ☒ No comments

CONTROLLED FORM

Batch 2002-02-1128

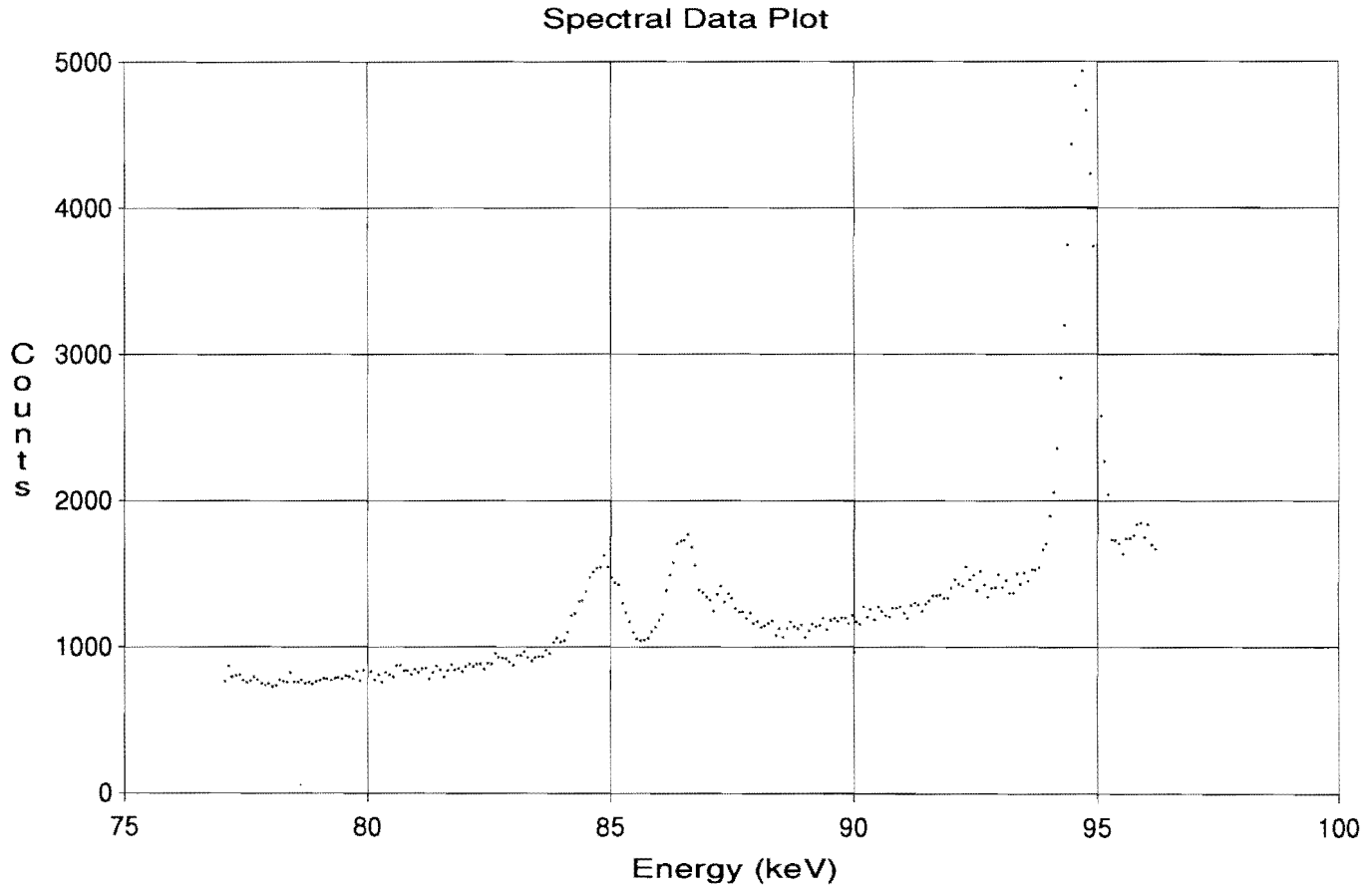
SGS Expert Review Checklist

Container Identification #:LL85101099 _____ Original Assay Date:2-20-2002__

12. *WCP-41, §6.3.2.4:* ☐ No unusual nuclides are identified (none other than the 10 required to be reported to WIPP) or ☒ the expert reviewer has checked for interferences from unusual nuclides. Comment: Np-237 is identified by both MGA and GWAS. ☐ No comments
13. *WCP-41, §6.3.3:* For waste drums (☐ NA for standards), ☒ the Summed Spectrum report value for Pu-239 and the Combined Segment NID report for Pu-239 agree within 95% confidence limits (the same as for replicates of unknowns) or ☐ expert review has addressed the difference. Comment: ☒ No comments
14. *WCP-41, §6.4:* ☒ The SGS Summed Spectrum and Combined Segment NID reports agree as to the ratios by weight of several radionuclides, such as those of Am-241, Pu-241, Np-237, Am-243, and U-235 to Pu-239, and MGA results agree as to identifying these radionuclides or ☐ expert review has resolved this. Comment: ☒ No comments
15. *WCP-41, §6.6.1:* ☒ All reported radionuclide masses are above 2.5 times the uncorrected MDA or ☐ expert review has calculated transmission-corrected MDA's and taken appropriate action. Comment: ☒ No comments
16. *WCP-41, §6.6.2:* ☒ Any changes to reported quantities of individual radionuclides have been entered into the RADA program and a new radioassay data sheet has been produced, showing revised derivative quantities, and included in the batch data report, along with the marked up original. Comment: ☒ No comments
17. *CP-41, §6.7:* ☒ Counting statistics are adequate for normal passive count time of 120 seconds per segment or ☐ Counting statistics are adequate for long passive count time of 600 seconds per segment or ☐ expert review has rejected the count and ordered a longer count time. Comment: ☒ No comments

Kenneth Raschke _____ Kenneth Raschke _____ 6/14/02
Expert Reviewer (print) Signature Date

Batch 2002-02-1126



Datasource:	11200879.CNF
Live Time:	3291 sec
Real Time:	3353 sec
Acq. Start:	2-20-02 11:15:54 AM
Start:	1028 : 77.06 (keV)
Stop:	1283 : 96.19 (keV)

Batch 2002-02-1130

NOT VALID
KER
6-14-02

****
* I S O T O P I C I N F O R M A T I O N *
****

Isotope	Measured Mass (g)	Mass Uncertainty (g)	MDC (g)
Pu-238	3.529E-03	1.42E-03	3.606E-05
Pu-239	1.563E+01	6.06E+00	1.597E-01
Pu-240	1.092E+00	4.26E-01	1.116E-02
Pu-241	2.773E-02	1.11E-02	1.853E-03
Pu-242	5.072E-03	2.20E-03	5.183E-05
Am-241	5.163E-02	2.01E-02	3.972E-03
Am-243	0.000E+00	0.00E+00	0.000E+00
Np-237	2.344E-01	9.60E-02	5.927E-04
U-235	2.676E-01	2.05E-01	4.179E-01
U-238	1.604E+01	1.12E+01	1.132E+01
U-233	3.289E+00	1.26E+00	3.289E+00

Total Pu Mass: 1.68E+01 +/- 2.55E+00 g

****
* M G A R E S U L T S *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	2.106E-02	5.45E+00
Pu-239	9.326E+01	1.37E-01
Pu-240	6.518E+00	1.90E+00
Pu-241	1.655E-01	5.02E+00
Pu-242	3.027E-02	1.00E+01
Am-241	3.081E-01	1.86E+00
Np-237	1.399E+00	6.66E+00
U-235	1.597E+00	3.36E+01

Batch 2002-02-113

NOT VALID
KER
6-14-02

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005

Assay Date & Time: 2-20-2002 11:15:54 AM

Drum Package ID: LL85101099
Sequence Number: 879

Waste Classification (TRU or LLW): TRU

		Errors at 1.96 sigma	
Total Alpha Activity :	1.462E+00	+/- 3.96E-01	Ci
Total TRU Activity :	3.138E+04	+/- 8.50E+03	nCi/g
Pu-239 Equiv Activity:	1.513E+00	+/- 3.97E-01	Ci
Fissile Gram Equiv Mass:	1.572E+01	+/- 6.06E+00	g
Total Decay Heat:	4.640E-02	+/- 1.25E-02	W
TMU Value:	38.80 %		

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error	MDA gm
Pu-238	6.11E-02	2.46E-02	3.53E-03	1.42E-03	3.61E-05
Pu-239	9.71E-01	3.77E-01	1.56E+01	6.06E+00	1.60E-01
Pu-240	2.51E-01	9.79E-02	1.09E+00	4.26E-01	1.12E-02
Pu-241	2.88E+00	1.15E+00	2.77E-02	1.11E-02	1.85E-03
Pu-242	2.01E-05	8.75E-06	5.07E-03	2.20E-03	5.18E-05
Am-241	1.79E-01	6.98E-02	5.16E-02	2.01E-02	3.97E-03
Am-243	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Np-237	1.67E-04	6.84E-05	2.34E-01	9.60E-02	5.93E-04
U-235	5.86E-07	4.48E-07	2.68E-01	2.05E-01	4.18E-01
U-238	5.45E-06	3.80E-06	1.60E+01	1.12E+01	1.13E+01
U-233	3.21E-02	1.23E-02	3.29E+00	1.26E+00	3.29E+00

Total Pu Mass: 1.68E+01 +/- 2.55E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	2.106E-02	5.45E+00
Pu-239	9.326E+01	1.37E-01
Pu-240	6.518E+00	1.90E+00
Pu-241	1.655E-01	5.02E+00
Pu-242	3.027E-02	1.00E+01
Am-241	3.081E-01	1.86E+00
Np-237	1.399E+00	6.66E+00
U-235	1.597E+00	3.36E+01

Zeb 2002-02-1132

Gamma Waste Assay

Sample Information

File Name: C:\WAS\DATA\900\11100879.S11
Sample ID: LL85101099 Count Sequence Number: 879
Assay Start: 2-20-02 11:15:56 AM
Description 1: unknown
Description 2:
Location: 7715
Comment:
Waste Type:
Weight: Gross: 78400.0 g Net: 46600.0 g
Density: 0.224 g /ml

Container Type: 55 Gal Galv
Container: Volume: 208000. ml Full: 100.0 %

System Configuration

Counter ID Number: SGS
Arrangement Description: SGS
Segments: Number: 16 Offset: 0
Scanning Platform: Start: 934 mm Delta: -51 mm
Count Type: 55 Gal Galv
Collimator/Geometry Setting: 0
Transmission Mode: Two pass
Transmission Source: 0

Errors quoted at 1.000 sigma
Reference Source Date: Reference Source Rate: 1.01E+03 cps
Geometric Correction Factor(SWCONTGCF): 0.760
Date of efficiency calibration approval: 4-18-2001 12:41:36 PM
Mu Factors response file: Lucite
Transmission Calib. Time: 5-11-2001 2:20:42 PM 59052

Reviewed by: RWA Date: 2-20-02

RWA 2002-02-1133

Segment Results

Segment: 1 Detector: DET01 (# 1) Position: 1

Elapsed Live Time: 111.82 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.206 +/- 0.0255
SE-75	264.65	0.000 +/- 0.0000	0.315 +/- 0.0038
SE-75	279.53	0.000 +/- 0.0000	0.326 +/- 0.0054
SE-75	400.65	0.000 +/- 0.0000	0.370 +/- 0.0069

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.23	2.22E+01 +/- 6.80E-01	3.61E+00	9.52E-08 +/- 1.19E-06
2	35.10	1.01E+03 +/- 4.82E+00	2.43E+00	2.61E-06 +/- 1.64E-05
3	59.61	3.41E+02 +/- 2.40E+00	1.95E+00	3.76E-05 +/- 7.40E-05
4	98.85	3.27E+01 +/- 1.11E+00	1.78E+00	1.39E-04 +/- 4.07E-05
5	103.28	2.06E+01 +/- 7.01E-01	1.77E+00	1.49E-04 +/- 3.32E-05
6	111.31	6.64E+00 +/- 7.73E-01	1.76E+00	1.66E-04 +/- 2.09E-05
7	129.29	3.48E+01 +/- 8.09E-01	1.73E+00	1.95E-04 +/- 1.38E-05
8	148.57	5.92E+00 +/- 5.54E-01	1.69E+00	2.15E-04 +/- 2.55E-05
9	208.39	1.88E+01 +/- 6.57E-01	1.58E+00	2.30E-04 +/- 2.81E-05
10	244.70	4.48E-01 +/- 2.92E-01	1.53E+00	2.23E-04 +/- 1.95E-05
11	255.73	1.31E+00 +/- 2.80E-01	1.51E+00	2.19E-04 +/- 1.71E-05
12	311.90	1.61E+00 +/- 2.68E-01	1.47E+00	2.00E-04 +/- 1.03E-05
13	324.26	4.95E-01 +/- 2.62E-01	1.46E+00	1.95E-04 +/- 1.03E-05
14	333.34	4.02E+00 +/- 3.69E-01	1.46E+00	1.92E-04 +/- 1.04E-05
15	345.69	3.63E+00 +/- 2.99E-01	1.45E+00	1.88E-04 +/- 1.07E-05
16	369.10	1.86E+00 +/- 2.54E-01	1.44E+00	1.80E-04 +/- 1.16E-05
17	375.73	1.13E+01 +/- 4.05E-01	1.44E+00	1.77E-04 +/- 1.18E-05
18	383.45	6.89E-01 +/- 2.41E-01	1.43E+00	1.75E-04 +/- 1.21E-05
19	393.55	4.15E+00 +/- 2.39E-01	1.43E+00	1.72E-04 +/- 1.23E-05
20	400.66	1.70E-01 +/- 1.06E-01	1.43E+00	1.69E-04 +/- 1.25E-05
21	413.70	1.09E+01 +/- 3.49E-01	1.42E+00	1.65E-04 +/- 1.27E-05
22	423.45	3.10E-01 +/- 1.56E-01	1.41E+00	1.62E-04 +/- 1.29E-05
23	427.22	1.92E-01 +/- 9.41E-02	1.41E+00	1.61E-04 +/- 1.29E-05
24	452.47	1.45E+00 +/- 1.35E-01	1.40E+00	1.54E-04 +/- 1.30E-05
25	559.27	9.04E-02 +/- 4.65E-02	1.36E+00	1.30E-04 +/- 1.10E-05
26	662.42	4.76E-01 +/- 7.90E-02	1.32E+00	1.12E-04 +/- 8.14E-06
27	1001.03	4.62E-02 +/- 2.30E-02	1.25E+00	7.98E-05 +/- 4.04E-06

Batch 2002-02-1134

Segment: 2 Detector: DET01 (# 1) Position: 2

Elapsed Live Time: 111.02 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.236 +/- 0.0274
SE-75	264.65	0.000 +/- 0.0000	0.306 +/- 0.0037
SE-75	279.53	0.000 +/- 0.0000	0.309 +/- 0.0053
SE-75	400.65	0.000 +/- 0.0000	0.354 +/- 0.0067

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.21	3.18E+01 +/- 7.86E-01	3.34E+00	5.63E-10 +/- 5.36E-09
2	35.10	1.01E+03 +/- 4.84E+00	2.29E+00	2.21E-07 +/- 1.06E-06
3	59.61	4.97E+02 +/- 3.07E+00	1.86E+00	2.20E-05 +/- 3.31E-05
4	75.04	1.90E+00 +/- 6.37E-01	1.77E+00	7.22E-05 +/- 5.45E-05
5	98.81	5.17E+01 +/- 1.33E+00	1.71E+00	1.84E-04 +/- 4.23E-05
6	103.30	3.01E+01 +/- 8.32E-01	1.70E+00	2.05E-04 +/- 3.62E-05
7	111.30	9.41E+00 +/- 9.61E-01	1.68E+00	2.41E-04 +/- 2.52E-05
8	129.29	5.03E+01 +/- 9.78E-01	1.66E+00	3.07E-04 +/- 1.84E-05
9	148.57	6.17E+00 +/- 6.71E-01	1.63E+00	3.54E-04 +/- 3.27E-05
10	164.94	1.36E+00 +/- 5.39E-01	1.61E+00	3.77E-04 +/- 3.99E-05
11	171.84	1.89E+00 +/- 5.35E-01	1.60E+00	3.83E-04 +/- 4.12E-05
12	196.36	1.50E+00 +/- 4.99E-01	1.58E+00	3.90E-04 +/- 3.99E-05
13	208.37	2.90E+01 +/- 7.86E-01	1.57E+00	3.88E-04 +/- 3.70E-05
14	244.70	8.83E-01 +/- 3.22E-01	1.53E+00	3.69E-04 +/- 2.61E-05
15	255.71	8.31E-01 +/- 3.20E-01	1.52E+00	3.61E-04 +/- 2.31E-05
16	267.81	1.08E+00 +/- 2.94E-01	1.52E+00	3.52E-04 +/- 2.01E-05
17	297.89	8.90E-01 +/- 3.62E-01	1.50E+00	3.29E-04 +/- 1.50E-05
18	311.90	2.33E+00 +/- 3.03E-01	1.49E+00	3.18E-04 +/- 1.39E-05
19	321.31	9.83E-01 +/- 3.06E-01	1.49E+00	3.11E-04 +/- 1.35E-05
20	333.27	5.71E+00 +/- 4.40E-01	1.48E+00	3.02E-04 +/- 1.34E-05
21	336.45	7.86E-01 +/- 3.28E-01	1.48E+00	3.00E-04 +/- 1.34E-05
22	345.62	5.96E+00 +/- 3.35E-01	1.47E+00	2.93E-04 +/- 1.34E-05
23	369.15	2.58E+00 +/- 2.89E-01	1.46E+00	2.78E-04 +/- 1.39E-05
24	375.69	1.69E+01 +/- 4.92E-01	1.46E+00	2.74E-04 +/- 1.40E-05
25	383.56	1.69E+00 +/- 2.58E-01	1.45E+00	2.69E-04 +/- 1.42E-05
26	393.70	5.89E+00 +/- 2.83E-01	1.45E+00	2.63E-04 +/- 1.43E-05
27	413.70	1.54E+01 +/- 4.08E-01	1.44E+00	2.51E-04 +/- 1.46E-05
28	423.40	8.63E-01 +/- 1.66E-01	1.43E+00	2.46E-04 +/- 1.46E-05
29	452.21	2.24E+00 +/- 1.72E-01	1.42E+00	2.32E-04 +/- 1.45E-05
30	620.32	1.60E-01 +/- 6.14E-02	1.35E+00	1.74E-04 +/- 1.03E-05

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31	662.42	6.03E-01 +/-	9.76E-02	1.34E+00	1.65E-04 +/-	9.18E-06
32	723.35	3.08E-01 +/-	6.81E-02	1.32E+00	1.53E-04 +/-	7.83E-06

Segment: 3 Detector: DET01 (# 1) Position: 3

Elapsed Live Time: 112.22 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.169 +/- 0.0236
SE-75	264.65	0.000 +/- 0.0000	0.303 +/- 0.0037
SE-75	279.53	0.000 +/- 0.0000	0.298 +/- 0.0051
SE-75	400.65	0.000 +/- 0.0000	0.357 +/- 0.0067

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.22	1.77E+01 +/- 6.05E-01	4.02E+00	1.08E-08 +/- 1.05E-07
2	35.10	1.01E+03 +/- 4.81E+00	2.66E+00	1.07E-06 +/- 5.27E-06
3	59.61	2.97E+02 +/- 2.18E+00	2.10E+00	3.80E-05 +/- 5.87E-05
4	74.99	1.39E+00 +/- 4.93E-01	1.99E+00	9.60E-05 +/- 7.46E-05
5	98.90	2.98E+01 +/- 1.01E+00	1.90E+00	2.01E-04 +/- 4.73E-05
6	103.32	1.79E+01 +/- 6.30E-01	1.89E+00	2.19E-04 +/- 3.95E-05
7	111.33	5.89E+00 +/- 6.96E-01	1.87E+00	2.49E-04 +/- 2.65E-05
8	114.68	1.33E+00 +/- 7.13E-01	1.86E+00	2.60E-04 +/- 2.20E-05
9	129.29	2.88E+01 +/- 7.47E-01	1.83E+00	3.02E-04 +/- 1.84E-05
10	148.57	5.55E+00 +/- 4.95E-01	1.78E+00	3.39E-04 +/- 3.24E-05
11	208.44	1.62E+01 +/- 5.99E-01	1.63E+00	3.66E-04 +/- 3.64E-05
12	244.70	3.96E-01 +/- 2.57E-01	1.56E+00	3.52E-04 +/- 2.60E-05
13	255.92	7.43E-01 +/- 2.68E-01	1.54E+00	3.46E-04 +/- 2.30E-05
14	268.08	7.04E-01 +/- 1.99E-01	1.52E+00	3.39E-04 +/- 2.01E-05
15	300.10	4.37E-01 +/- 2.24E-01	1.51E+00	3.20E-04 +/- 1.49E-05
16	311.90	1.25E+00 +/- 2.36E-01	1.50E+00	3.13E-04 +/- 1.40E-05
17	333.33	3.40E+00 +/- 3.33E-01	1.49E+00	3.00E-04 +/- 1.35E-05
18	345.64	3.67E+00 +/- 2.69E-01	1.48E+00	2.93E-04 +/- 1.36E-05
19	369.01	1.42E+00 +/- 2.15E-01	1.46E+00	2.80E-04 +/- 1.42E-05
20	375.70	1.02E+01 +/- 3.74E-01	1.46E+00	2.76E-04 +/- 1.44E-05
21	383.54	9.05E-01 +/- 2.00E-01	1.45E+00	2.72E-04 +/- 1.46E-05
22	393.66	3.53E+00 +/- 2.18E-01	1.45E+00	2.67E-04 +/- 1.48E-05
23	400.66	2.07E-01 +/- 1.21E-01	1.44E+00	2.63E-04 +/- 1.50E-05
24	413.70	9.45E+00 +/- 3.14E-01	1.44E+00	2.57E-04 +/- 1.52E-05
25	423.56	6.78E-01 +/- 1.33E-01	1.43E+00	2.52E-04 +/- 1.53E-05
26	452.20	1.14E+00 +/- 1.19E-01	1.42E+00	2.40E-04 +/- 1.54E-05
27	662.42	7.04E-01 +/- 8.57E-02	1.34E+00	1.78E-04 +/- 1.02E-05
28	722.95	2.77E-01 +/- 6.65E-02	1.32E+00	1.66E-04 +/- 8.75E-06

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29	778.90	3.53E-02	+/- 2.38E-02	1.31E+00	1.57E-04	+/- 7.69E-06
30	1085.91	4.42E-02	+/- 1.98E-02	1.25E+00	1.23E-04	+/- 5.23E-06

Segment: 4 Detector: DET01 (# 1) Position: 4

Elapsed Live Time: 113.28 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.214 +/- 0.0232
SE-75	264.65	0.000 +/- 0.0000	0.343 +/- 0.0039
SE-75	279.53	0.000 +/- 0.0000	0.350 +/- 0.0054
SE-75	400.65	0.000 +/- 0.0000	0.402 +/- 0.0071

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.23	6.95E+00 +/- 3.79E-01	3.53E+00	3.37E-06 +/- 4.72E-06
2	35.10	1.01E+03 +/- 4.77E+00	2.39E+00	2.00E-05 +/- 1.66E-05
3	59.64	9.96E+01 +/- 1.14E+00	1.93E+00	9.84E-05 +/- 3.39E-05
4	98.94	8.45E+00 +/- 5.91E-01	1.76E+00	2.40E-04 +/- 2.42E-05
5	111.44	1.16E+00 +/- 4.64E-01	1.74E+00	2.74E-04 +/- 1.96E-05
6	129.29	8.27E+00 +/- 4.24E-01	1.71E+00	3.12E-04 +/- 1.61E-05
7	148.57	1.42E+00 +/- 3.13E-01	1.67E+00	3.40E-04 +/- 1.63E-05
8	208.46	5.41E+00 +/- 3.16E-01	1.55E+00	3.71E-04 +/- 1.94E-05
9	279.54	1.95E-01 +/- 1.16E-01	1.45E+00	3.53E-04 +/- 1.66E-05
10	311.90	5.34E-01 +/- 1.48E-01	1.43E+00	3.38E-04 +/- 1.48E-05
11	333.31	8.48E-01 +/- 1.81E-01	1.42E+00	3.27E-04 +/- 1.37E-05
12	345.80	6.56E-01 +/- 1.55E-01	1.41E+00	3.21E-04 +/- 1.31E-05
13	375.69	2.56E+00 +/- 1.92E-01	1.40E+00	3.06E-04 +/- 1.21E-05
14	393.62	1.03E+00 +/- 1.21E-01	1.39E+00	2.97E-04 +/- 1.16E-05
15	413.70	2.30E+00 +/- 1.51E-01	1.38E+00	2.87E-04 +/- 1.11E-05
16	452.33	2.70E-01 +/- 5.92E-02	1.36E+00	2.70E-04 +/- 1.06E-05
17	662.42	1.05E-01 +/- 4.21E-02	1.30E+00	1.95E-04 +/- 9.03E-06

Segment: 5 Detector: DET01 (# 1) Position: 5

Elapsed Live Time: 113.61 sec Elapsed Real Time: 115.00 sec

Bkk 2002-02-1137

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.425 +/- 0.0270
SE-75	264.65	0.000 +/- 0.0000	0.496 +/- 0.0049
SE-75	279.53	0.000 +/- 0.0000	0.499 +/- 0.0067
SE-75	400.65	0.000 +/- 0.0000	0.553 +/- 0.0085

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.31	3.50E+00 +/- 2.53E-01	2.23E+00	1.81E-06 +/- 2.62E-06
2	35.10	1.01E+03 +/- 4.78E+00	1.69E+00	1.48E-05 +/- 1.27E-05
3	59.63	3.50E+01 +/- 6.90E-01	1.47E+00	9.34E-05 +/- 3.30E-05
4	98.92	3.05E+00 +/- 4.04E-01	1.39E+00	2.50E-04 +/- 2.52E-05
5	129.29	2.53E+00 +/- 3.13E-01	1.37E+00	3.26E-04 +/- 1.67E-05
6	208.52	1.38E+00 +/- 1.94E-01	1.32E+00	3.75E-04 +/- 2.04E-05
7	345.77	3.02E-01 +/- 9.50E-02	1.26E+00	3.06E-04 +/- 1.30E-05
8	375.75	6.09E-01 +/- 1.09E-01	1.25E+00	2.89E-04 +/- 1.18E-05
9	413.70	4.55E-01 +/- 7.69E-02	1.24E+00	2.69E-04 +/- 1.09E-05
10	452.42	9.48E-02 +/- 4.15E-02	1.23E+00	2.50E-04 +/- 1.03E-05
11	778.90	8.76E-03 +/- 3.64E-02	1.17E+00	1.54E-04 +/- 7.51E-06
12	964.13	1.75E-02 +/- 1.24E-02	1.15E+00	1.28E-04 +/- 5.33E-06

Segment: 6 Detector: DET01 (# 1) Position: 6

Elapsed Live Time: 113.65 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.086 +/- 0.0153
SE-75	264.65	0.000 +/- 0.0000	0.150 +/- 0.0024
SE-75	279.53	0.000 +/- 0.0000	0.155 +/- 0.0035
SE-75	400.65	0.000 +/- 0.0000	0.190 +/- 0.0047

Batch 3-003-02-438

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.31	2.82E+00 +/- 2.30E-01	4.10E+00	7.00E-07 +/- 9.86E-07
2	35.10	1.01E+03 +/- 4.76E+00	3.47E+00	8.04E-06 +/- 6.71E-06
3	59.62	2.31E+01 +/- 5.89E-01	2.62E+00	6.90E-05 +/- 2.40E-05
4	98.96	1.49E+00 +/- 3.62E-01	2.32E+00	2.23E-04 +/- 2.25E-05
5	103.36	8.02E-01 +/- 3.28E-01	2.31E+00	2.38E-04 +/- 2.12E-05
6	129.29	1.95E+00 +/- 2.97E-01	2.23E+00	3.10E-04 +/- 1.61E-05
7	208.38	7.64E-01 +/- 1.99E-01	2.01E+00	3.81E-04 +/- 2.03E-05
8	300.10	1.93E-01 +/- 1.16E-01	1.85E+00	3.46E-04 +/- 1.58E-05
9	333.59	1.92E-01 +/- 1.14E-01	1.82E+00	3.26E-04 +/- 1.39E-05
10	375.76	6.26E-01 +/- 9.70E-02	1.78E+00	3.01E-04 +/- 1.21E-05
11	380.76	1.48E-01 +/- 6.11E-02	1.78E+00	2.99E-04 +/- 1.19E-05
12	393.81	3.12E-01 +/- 6.78E-02	1.77E+00	2.91E-04 +/- 1.15E-05
13	413.70	4.28E-01 +/- 8.36E-02	1.75E+00	2.81E-04 +/- 1.11E-05
14	610.55	4.78E-02 +/- 3.03E-02	1.60E+00	2.01E-04 +/- 9.24E-06
15	867.39	2.17E-02 +/- 1.93E-02	1.48E+00	1.46E-04 +/- 6.40E-06
16	1001.03	8.70E-03 +/- 8.70E-03	1.44E+00	1.30E-04 +/- 4.95E-06

Segment: 7 Detector: DET01 (# 1) Position: 7

Elapsed Live Time: 113.42 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.019 +/- 0.0009
SE-75	279.53	0.000 +/- 0.0000	0.019 +/- 0.0013
SE-75	400.65	0.000 +/- 0.0000	0.040 +/- 0.0022

Batch 2002-02-1139

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	1.36E+00 +/- 2.26E-01	4.10E+00	2.18E-09 +/- 2.40E-08
2	23.25	4.17E+00 +/- 2.83E-01	4.10E+00	7.36E-09 +/- 7.20E-08
3	35.10	1.01E+03 +/- 4.78E+00	4.10E+00	9.59E-07 +/- 4.73E-06
4	59.63	7.75E+01 +/- 1.01E+00	4.10E+00	4.03E-05 +/- 6.22E-05
5	98.85	8.60E+00 +/- 5.27E-01	4.10E+00	2.21E-04 +/- 5.17E-05
6	103.50	2.68E+00 +/- 5.06E-01	4.10E+00	2.41E-04 +/- 4.27E-05
7	111.42	1.09E+00 +/- 4.26E-01	4.10E+00	2.73E-04 +/- 2.85E-05
8	129.29	9.72E+00 +/- 4.19E-01	4.10E+00	3.30E-04 +/- 1.98E-05
9	148.57	8.34E-01 +/- 2.85E-01	3.97E+00	3.68E-04 +/- 3.49E-05
10	208.59	3.62E+00 +/- 2.92E-01	3.50E+00	3.91E-04 +/- 3.82E-05
11	311.90	6.94E-01 +/- 1.37E-01	3.03E+00	3.27E-04 +/- 1.48E-05
12	333.42	8.18E-01 +/- 1.81E-01	2.93E+00	3.13E-04 +/- 1.44E-05
13	345.65	9.43E-01 +/- 1.48E-01	2.88E+00	3.05E-04 +/- 1.46E-05
14	375.75	2.76E+00 +/- 1.96E-01	2.77E+00	2.87E-04 +/- 1.54E-05
15	393.68	9.70E-01 +/- 1.24E-01	2.70E+00	2.77E-04 +/- 1.59E-05
16	413.70	2.81E+00 +/- 1.63E-01	2.65E+00	2.67E-04 +/- 1.63E-05
17	423.43	2.45E-01 +/- 7.10E-02	2.63E+00	2.62E-04 +/- 1.63E-05
18	452.47	3.24E-01 +/- 7.57E-02	2.57E+00	2.48E-04 +/- 1.63E-05
19	964.13	6.12E-02 +/- 2.31E-02	1.97E+00	1.35E-04 +/- 6.00E-06

Segment: 8 Detector: DET01 (# 1) Position: 8

Elapsed Live Time: 113.18 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.012 +/- 0.0007
SE-75	279.53	0.000 +/- 0.0000	0.017 +/- 0.0012
SE-75	400.65	0.000 +/- 0.0000	0.026 +/- 0.0018

Batch 2002-03-1140

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.23	8.00E+00 +/- 3.99E-01	4.10E+00	4.28E-09 +/- 4.16E-08
2	35.10	1.01E+03 +/- 4.78E+00	4.10E+00	6.89E-07 +/- 3.37E-06
3	59.62	1.39E+02 +/- 1.36E+00	4.10E+00	3.35E-05 +/- 5.15E-05
4	98.87	1.48E+01 +/- 6.63E-01	4.10E+00	1.99E-04 +/- 4.65E-05
5	111.44	1.71E+00 +/- 5.13E-01	4.10E+00	2.49E-04 +/- 2.61E-05
6	114.93	2.55E+00 +/- 4.59E-01	4.10E+00	2.62E-04 +/- 2.16E-05
7	129.29	1.55E+01 +/- 5.11E-01	4.10E+00	3.05E-04 +/- 1.85E-05
8	148.57	2.03E+00 +/- 3.21E-01	4.02E+00	3.45E-04 +/- 3.27E-05
9	169.80	3.76E-01 +/- 2.33E-01	3.90E+00	3.68E-04 +/- 4.07E-05
10	204.03	1.33E+00 +/- 3.03E-01	3.72E+00	3.76E-04 +/- 3.82E-05
11	208.52	5.41E+00 +/- 3.50E-01	3.70E+00	3.75E-04 +/- 3.71E-05
12	300.10	3.89E-01 +/- 1.48E-01	3.20E+00	3.30E-04 +/- 1.53E-05
13	311.90	1.27E+00 +/- 1.71E-01	3.17E+00	3.23E-04 +/- 1.44E-05
14	333.31	1.29E+00 +/- 2.06E-01	3.11E+00	3.10E-04 +/- 1.38E-05
15	345.64	1.76E+00 +/- 1.91E-01	3.08E+00	3.03E-04 +/- 1.38E-05
16	375.72	4.64E+00 +/- 2.42E-01	3.01E+00	2.86E-04 +/- 1.46E-05
17	393.69	1.65E+00 +/- 1.48E-01	2.97E+00	2.76E-04 +/- 1.50E-05
18	413.70	4.47E+00 +/- 2.13E-01	2.92E+00	2.66E-04 +/- 1.54E-05
19	423.55	2.13E-01 +/- 8.67E-02	2.90E+00	2.62E-04 +/- 1.55E-05
20	452.53	5.46E-01 +/- 8.92E-02	2.83E+00	2.49E-04 +/- 1.56E-05
21	662.42	1.83E-01 +/- 5.14E-02	2.45E+00	1.83E-04 +/- 1.03E-05
22	778.90	4.18E-02 +/- 2.79E-02	2.30E+00	1.59E-04 +/- 7.73E-06
23	964.13	2.19E-02 +/- 1.60E-02	2.12E+00	1.32E-04 +/- 5.87E-06
24	1001.03	3.50E-02 +/- 1.75E-02	2.10E+00	1.28E-04 +/- 5.62E-06
25	1085.91	8.74E-03 +/- 8.74E-03	2.04E+00	1.18E-04 +/- 5.10E-06

Segment: 9 Detector: DET01 (# 1) Position: 9

Elapsed Live Time: 113.24 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.054 +/- 0.0014
SE-75	279.53	0.000 +/- 0.0000	0.059 +/- 0.0022
SE-75	400.65	0.000 +/- 0.0000	0.082 +/- 0.0031

Batch 2002-02-1141

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.23	7.56E+00 +/- 3.73E-01	4.10E+00	2.31E-06 +/- 2.32E-05
2	35.10	1.01E+03 +/- 4.78E+00	4.10E+00	1.75E-05 +/- 8.88E-05
3	49.72	7.94E+00 +/- 6.78E-01	4.10E+00	6.08E-05 +/- 1.51E-04
4	59.62	1.22E+02 +/- 1.27E+00	4.10E+00	1.00E-04 +/- 1.59E-04
5	98.82	1.22E+01 +/- 6.13E-01	4.10E+00	2.51E-04 +/- 6.06E-05
6	103.36	4.23E+00 +/- 5.41E-01	4.10E+00	2.65E-04 +/- 4.85E-05
7	111.22	2.71E+00 +/- 4.58E-01	4.10E+00	2.86E-04 +/- 3.08E-05
8	129.29	1.19E+01 +/- 4.73E-01	4.10E+00	3.23E-04 +/- 1.97E-05
9	148.57	1.76E+00 +/- 3.07E-01	3.75E+00	3.48E-04 +/- 3.41E-05
10	204.00	6.53E-01 +/- 2.91E-01	2.95E+00	3.66E-04 +/- 3.87E-05
11	208.52	4.40E+00 +/- 3.12E-01	2.91E+00	3.66E-04 +/- 3.75E-05
12	279.54	3.92E-01 +/- 1.64E-01	2.44E+00	3.37E-04 +/- 1.85E-05
13	300.10	6.16E-01 +/- 1.58E-01	2.40E+00	3.26E-04 +/- 1.55E-05
14	311.90	3.33E+00 +/- 2.16E-01	2.38E+00	3.20E-04 +/- 1.45E-05
15	333.38	1.20E+00 +/- 1.88E-01	2.34E+00	3.08E-04 +/- 1.39E-05
16	345.58	1.33E+00 +/- 1.53E-01	2.32E+00	3.01E-04 +/- 1.41E-05
17	375.70	3.45E+00 +/- 2.10E-01	2.27E+00	2.85E-04 +/- 1.49E-05
18	383.68	2.41E-01 +/- 1.23E-01	2.26E+00	2.81E-04 +/- 1.52E-05
19	393.72	1.10E+00 +/- 1.33E-01	2.24E+00	2.76E-04 +/- 1.55E-05
20	413.70	3.42E+00 +/- 1.93E-01	2.21E+00	2.67E-04 +/- 1.59E-05
21	452.34	4.70E-01 +/- 7.61E-02	2.16E+00	2.49E-04 +/- 1.61E-05
22	559.42	1.58E-01 +/- 4.88E-02	2.02E+00	2.10E-04 +/- 1.38E-05
23	662.42	1.56E-01 +/- 4.93E-02	1.92E+00	1.82E-04 +/- 1.04E-05
24	964.13	2.62E-02 +/- 1.51E-02	1.72E+00	1.34E-04 +/- 5.82E-06
25	1112.12	4.31E-02 +/- 3.24E-02	1.66E+00	1.21E-04 +/- 5.10E-06

Segment: 10 Detector: DET01 (# 1) Position: 10

Elapsed Live Time: 113.33 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.195 +/- 0.0204
SE-75	264.65	0.000 +/- 0.0000	0.278 +/- 0.0034
SE-75	279.53	0.000 +/- 0.0000	0.288 +/- 0.0049
SE-75	400.65	0.000 +/- 0.0000	0.338 +/- 0.0064

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.24	5.56E+00 +/- 3.40E-01	3.72E+00	3.45E-07 +/- 4.88E-07
2	35.10	1.01E+03 +/- 4.77E+00	2.50E+00	5.68E-06 +/- 4.74E-06
3	49.40	6.62E+00 +/- 6.03E-01	2.11E+00	3.11E-05 +/- 1.52E-05
4	59.64	9.04E+01 +/- 1.06E+00	1.99E+00	6.39E-05 +/- 2.21E-05
5	98.85	9.49E+00 +/- 5.57E-01	1.82E+00	2.31E-04 +/- 2.33E-05
6	111.47	1.62E+00 +/- 4.48E-01	1.79E+00	2.78E-04 +/- 1.98E-05
7	129.29	8.90E+00 +/- 4.25E-01	1.76E+00	3.30E-04 +/- 1.70E-05
8	148.57	7.53E-01 +/- 2.53E-01	1.72E+00	3.68E-04 +/- 1.75E-05
9	204.06	6.72E-01 +/- 2.58E-01	1.64E+00	4.02E-04 +/- 2.09E-05
10	208.46	1.87E+00 +/- 3.12E-01	1.63E+00	4.01E-04 +/- 2.09E-05
11	300.10	1.21E+00 +/- 1.72E-01	1.53E+00	3.54E-04 +/- 1.57E-05
12	311.90	8.91E+00 +/- 3.15E-01	1.52E+00	3.45E-04 +/- 1.50E-05
13	333.39	4.18E-01 +/- 1.70E-01	1.51E+00	3.30E-04 +/- 1.38E-05
14	345.73	6.37E-01 +/- 1.61E-01	1.50E+00	3.22E-04 +/- 1.32E-05
15	375.73	2.66E+00 +/- 1.90E-01	1.48E+00	3.02E-04 +/- 1.20E-05
16	393.82	8.57E-01 +/- 1.13E-01	1.47E+00	2.91E-04 +/- 1.15E-05
17	400.66	3.59E-01 +/- 8.67E-02	1.47E+00	2.87E-04 +/- 1.13E-05
18	413.70	2.31E+00 +/- 1.75E-01	1.46E+00	2.79E-04 +/- 1.11E-05
19	452.30	3.64E-01 +/- 6.89E-02	1.44E+00	2.58E-04 +/- 1.05E-05
20	662.42	1.55E-01 +/- 4.96E-02	1.36E+00	1.80E-04 +/- 8.83E-06
21	778.90	3.14E-02 +/- 2.33E-02	1.32E+00	1.56E-04 +/- 7.55E-06
22	1085.91	1.75E-02 +/- 1.23E-02	1.26E+00	1.21E-04 +/- 4.45E-06

Segment: 11 Detector: DET01 (# 1) Position: 11

Elapsed Live Time: 113.31 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.083 +/- 0.0165
SE-75	264.65	0.000 +/- 0.0000	0.139 +/- 0.0023
SE-75	279.53	0.000 +/- 0.0000	0.149 +/- 0.0035
SE-75	400.65	0.000 +/- 0.0000	0.180 +/- 0.0046

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.24	5.31E+00 +/- 3.31E-01	4.10E+00	4.74E-07 +/- 6.66E-07
2	35.10	1.01E+03 +/- 4.78E+00	3.50E+00	6.75E-06 +/- 5.60E-06
3	59.63	7.08E+01 +/- 9.37E-01	2.64E+00	6.71E-05 +/- 2.31E-05
4	98.79	8.91E+00 +/- 5.57E-01	2.34E+00	2.28E-04 +/- 2.29E-05
5	103.31	1.95E+00 +/- 4.78E-01	2.32E+00	2.45E-04 +/- 2.16E-05
6	111.30	3.16E+00 +/- 4.15E-01	2.30E+00	2.72E-04 +/- 1.94E-05
7	129.29	1.01E+01 +/- 4.39E-01	2.24E+00	3.21E-04 +/- 1.65E-05
8	148.57	7.22E-01 +/- 3.26E-01	2.19E+00	3.56E-04 +/- 1.70E-05
9	208.48	3.23E+00 +/- 2.94E-01	2.04E+00	3.89E-04 +/- 2.04E-05
10	300.10	1.86E+00 +/- 1.99E-01	1.87E+00	3.45E-04 +/- 1.56E-05
11	311.90	1.18E+01 +/- 3.60E-01	1.86E+00	3.37E-04 +/- 1.49E-05
12	333.47	8.33E-01 +/- 1.62E-01	1.84E+00	3.23E-04 +/- 1.37E-05
13	345.76	2.49E-01 +/- 1.63E-01	1.83E+00	3.16E-04 +/- 1.31E-05
14	375.78	3.07E+00 +/- 1.97E-01	1.81E+00	2.97E-04 +/- 1.19E-05
15	383.56	2.16E-01 +/- 1.45E-01	1.80E+00	2.92E-04 +/- 1.17E-05
16	393.64	1.11E+00 +/- 1.33E-01	1.79E+00	2.86E-04 +/- 1.14E-05
17	400.66	4.10E-01 +/- 9.23E-02	1.79E+00	2.82E-04 +/- 1.12E-05
18	413.70	2.60E+00 +/- 1.77E-01	1.78E+00	2.75E-04 +/- 1.09E-05
19	452.49	2.99E-01 +/- 7.81E-02	1.74E+00	2.55E-04 +/- 1.03E-05
20	662.42	7.01E-02 +/- 5.13E-02	1.59E+00	1.80E-04 +/- 8.65E-06
21	1001.03	2.62E-02 +/- 1.51E-02	1.46E+00	1.28E-04 +/- 5.01E-06

Segment: 12 Detector: DET01 (# 1) Position: 12

Elapsed Live Time: 112.81 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Some transmission peaks rejected.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	0.093 +/- 0.0019
SE-75	279.53	0.000 +/- 0.0000	0.098 +/- 0.0030
SE-75	400.65	0.000 +/- 0.0000	0.138 +/- 0.0040

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.18	7.16E+00 +/- 3.98E-01	4.10E+00	6.31E-07 +/- 8.89E-07
2	35.10	1.01E+03 +/- 4.79E+00	3.96E+00	7.63E-06 +/- 6.33E-06
3	59.63	7.95E+01 +/- 1.00E+00	2.94E+00	6.65E-05 +/- 2.30E-05
4	75.21	7.47E-01 +/- 4.20E-01	2.74E+00	1.26E-04 +/- 2.64E-05
5	86.72	5.16E+00 +/- 5.44E-01	2.65E+00	1.72E-04 +/- 2.51E-05
6	98.66	1.76E+01 +/- 9.27E-01	2.58E+00	2.16E-04 +/- 2.21E-05
7	104.03	7.81E+00 +/- 5.31E-01	2.56E+00	2.34E-04 +/- 2.05E-05
8	111.33	9.37E+00 +/- 6.14E-01	2.53E+00	2.57E-04 +/- 1.86E-05
9	129.29	2.63E+01 +/- 6.40E-01	2.46E+00	3.04E-04 +/- 1.59E-05
10	148.57	1.37E+00 +/- 4.57E-01	2.41E+00	3.39E-04 +/- 1.64E-05
11	204.01	1.29E+00 +/- 3.81E-01	2.28E+00	3.76E-04 +/- 1.99E-05
12	208.46	5.51E+00 +/- 4.77E-01	2.27E+00	3.76E-04 +/- 1.99E-05
13	300.10	9.03E+00 +/- 3.82E-01	2.09E+00	3.43E-04 +/- 1.55E-05
14	311.90	5.30E+01 +/- 7.42E-01	2.07E+00	3.36E-04 +/- 1.48E-05
15	333.42	2.73E+00 +/- 2.53E-01	2.03E+00	3.24E-04 +/- 1.37E-05
16	341.16	2.78E+00 +/- 3.43E-01	2.02E+00	3.19E-04 +/- 1.33E-05
17	345.69	7.73E-01 +/- 2.81E-01	2.01E+00	3.17E-04 +/- 1.31E-05
18	375.74	7.52E+00 +/- 3.03E-01	1.97E+00	3.00E-04 +/- 1.19E-05
19	383.62	6.90E-01 +/- 1.57E-01	1.96E+00	2.95E-04 +/- 1.16E-05
20	393.60	2.31E+00 +/- 1.76E-01	1.94E+00	2.90E-04 +/- 1.14E-05
21	413.70	5.55E+00 +/- 2.74E-01	1.92E+00	2.79E-04 +/- 1.09E-05
22	423.26	2.86E-01 +/- 9.96E-02	1.91E+00	2.74E-04 +/- 1.07E-05
23	452.41	9.33E-01 +/- 1.04E-01	1.88E+00	2.60E-04 +/- 1.03E-05
24	778.90	1.75E-02 +/- 1.24E-02	1.63E+00	1.60E-04 +/- 7.32E-06
25	867.39	5.26E-02 +/- 2.15E-02	1.59E+00	1.45E-04 +/- 6.27E-06
26	1085.91	8.77E-03 +/- 8.77E-03	1.51E+00	1.21E-04 +/- 4.35E-06

Segment: 13 Detector: DET01 (# 1) Position: 13

Elapsed Live Time: 112.31 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Some transmission peaks rejected.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	0.118 +/- 0.0022
SE-75	279.53	0.000 +/- 0.0000	0.125 +/- 0.0035
SE-75	400.65	0.000 +/- 0.0000	0.181 +/- 0.0047

Batch 2002-02-11117

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	3.23E+00 +/- 3.36E-01	4.10E+00	6.56E-07 +/- 1.05E-06
2	23.20	5.21E+00 +/- 3.61E-01	4.10E+00	1.11E-06 +/- 1.62E-06
3	35.10	1.01E+03 +/- 4.81E+00	3.59E+00	1.10E-05 +/- 9.51E-06
4	59.63	8.23E+01 +/- 1.07E+00	2.70E+00	8.10E-05 +/- 2.88E-05
5	75.31	7.04E-01 +/- 4.11E-01	2.53E+00	1.46E-04 +/- 3.11E-05
6	86.66	1.20E+01 +/- 6.54E-01	2.45E+00	1.92E-04 +/- 2.86E-05
7	94.83	2.79E+00 +/- 9.52E-01	2.41E+00	2.23E-04 +/- 2.58E-05
8	98.64	2.56E+01 +/- 1.10E+00	2.39E+00	2.37E-04 +/- 2.43E-05
9	104.06	9.44E+00 +/- 5.86E-01	2.37E+00	2.55E-04 +/- 2.23E-05
10	111.47	9.75E+00 +/- 8.11E-01	2.34E+00	2.77E-04 +/- 1.99E-05
11	129.29	3.02E+01 +/- 7.36E-01	2.28E+00	3.21E-04 +/- 1.67E-05
12	152.68	1.28E+00 +/- 4.34E-01	2.23E+00	3.57E-04 +/- 1.76E-05
13	160.62	1.53E+00 +/- 4.91E-01	2.21E+00	3.65E-04 +/- 1.84E-05
14	203.92	1.79E+00 +/- 4.45E-01	2.12E+00	3.81E-04 +/- 2.07E-05
15	208.46	5.90E+00 +/- 5.19E-01	2.11E+00	3.80E-04 +/- 2.07E-05
16	272.20	9.60E-01 +/- 2.98E-01	2.00E+00	3.56E-04 +/- 1.76E-05
17	292.15	4.82E-01 +/- 2.98E-01	1.96E+00	3.45E-04 +/- 1.63E-05
18	300.10	2.24E+01 +/- 5.49E-01	1.95E+00	3.40E-04 +/- 1.57E-05
19	311.90	1.21E+02 +/- 1.16E+00	1.93E+00	3.33E-04 +/- 1.50E-05
20	324.45	3.01E-01 +/- 1.58E-01	1.91E+00	3.26E-04 +/- 1.43E-05
21	333.43	2.96E+00 +/- 2.66E-01	1.89E+00	3.20E-04 +/- 1.38E-05
22	341.16	9.87E+00 +/- 4.48E-01	1.88E+00	3.15E-04 +/- 1.34E-05
23	369.32	1.15E+00 +/- 1.62E-01	1.83E+00	2.99E-04 +/- 1.22E-05
24	375.72	8.69E+00 +/- 3.36E-01	1.82E+00	2.95E-04 +/- 1.20E-05
25	383.73	5.99E-01 +/- 1.75E-01	1.81E+00	2.91E-04 +/- 1.17E-05
26	393.68	2.58E+00 +/- 2.08E-01	1.80E+00	2.85E-04 +/- 1.15E-05
27	399.15	2.23E+00 +/- 2.86E-01	1.79E+00	2.82E-04 +/- 1.13E-05
28	413.70	6.21E+00 +/- 3.40E-01	1.77E+00	2.74E-04 +/- 1.10E-05
29	416.82	1.90E+00 +/- 4.95E-01	1.77E+00	2.73E-04 +/- 1.10E-05
30	423.27	3.30E-01 +/- 1.08E-01	1.77E+00	2.69E-04 +/- 1.09E-05
31	452.35	9.43E-01 +/- 1.05E-01	1.74E+00	2.55E-04 +/- 1.05E-05
32	662.42	8.67E-02 +/- 6.55E-02	1.59E+00	1.80E-04 +/- 8.87E-06
33	867.39	8.81E-03 +/- 8.81E-03	1.50E+00	1.40E-04 +/- 6.42E-06

Segment: 14 Detector: DET01 (# 1) Position: 14

Elapsed Live Time: 112.64 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.346 +/- 0.0260
SE-75	264.65	0.000 +/- 0.0000	0.360 +/- 0.0041
SE-75	279.53	0.000 +/- 0.0000	0.363 +/- 0.0057
SE-75	400.65	0.000 +/- 0.0000	0.417 +/- 0.0073

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.25	8.80E+00 +/- 4.35E-01	2.59E+00	5.97E-07 +/- 5.83E-06
2	35.10	1.01E+03 +/- 4.82E+00	1.89E+00	8.94E-06 +/- 4.41E-05
3	49.90	6.35E+00 +/- 6.47E-01	1.66E+00	4.42E-05 +/- 1.06E-04
4	59.64	9.16E+01 +/- 1.09E+00	1.60E+00	8.07E-05 +/- 1.25E-04
5	86.67	1.05E+01 +/- 6.02E-01	1.52E+00	1.95E-04 +/- 8.74E-05
6	94.86	2.26E+00 +/- 8.44E-01	1.50E+00	2.25E-04 +/- 6.62E-05
7	98.69	2.09E+01 +/- 9.85E-01	1.50E+00	2.39E-04 +/- 5.66E-05
8	103.89	9.12E+00 +/- 4.97E-01	1.49E+00	2.55E-04 +/- 4.42E-05
9	111.41	1.07E+01 +/- 6.56E-01	1.48E+00	2.77E-04 +/- 2.90E-05
10	129.29	2.24E+01 +/- 6.60E-01	1.46E+00	3.17E-04 +/- 1.90E-05
11	148.57	9.11E-01 +/- 4.92E-01	1.45E+00	3.44E-04 +/- 3.29E-05
12	195.90	2.02E+00 +/- 3.62E-01	1.44E+00	3.65E-04 +/- 3.90E-05
13	203.93	1.24E+00 +/- 3.90E-01	1.44E+00	3.64E-04 +/- 3.74E-05
14	208.48	4.31E+00 +/- 4.58E-01	1.44E+00	3.63E-04 +/- 3.63E-05
15	272.12	8.85E-01 +/- 2.76E-01	1.44E+00	3.39E-04 +/- 1.94E-05
16	300.10	1.64E+01 +/- 4.94E-01	1.42E+00	3.25E-04 +/- 1.51E-05
17	311.90	9.40E+01 +/- 1.01E+00	1.41E+00	3.18E-04 +/- 1.42E-05
18	333.53	2.15E+00 +/- 2.40E-01	1.40E+00	3.07E-04 +/- 1.37E-05
19	341.12	9.84E+00 +/- 3.67E-01	1.40E+00	3.03E-04 +/- 1.37E-05
20	375.80	7.00E+00 +/- 2.94E-01	1.38E+00	2.85E-04 +/- 1.47E-05
21	383.41	5.73E-01 +/- 1.35E-01	1.38E+00	2.81E-04 +/- 1.49E-05
22	393.57	1.75E+00 +/- 1.80E-01	1.37E+00	2.76E-04 +/- 1.52E-05
23	400.66	2.94E+00 +/- 1.83E-01	1.37E+00	2.73E-04 +/- 1.53E-05
24	413.70	5.10E+00 +/- 2.85E-01	1.36E+00	2.67E-04 +/- 1.56E-05
25	416.59	1.50E+00 +/- 4.47E-01	1.36E+00	2.65E-04 +/- 1.56E-05
26	452.53	5.46E-01 +/- 8.49E-02	1.35E+00	2.50E-04 +/- 1.58E-05
27	662.42	1.51E-01 +/- 3.67E-02	1.28E+00	1.83E-04 +/- 1.04E-05
28	867.39	1.78E-02 +/- 1.26E-02	1.24E+00	1.44E-04 +/- 6.47E-06
29	1112.12	8.90E-03 +/- 8.90E-03	1.21E+00	1.16E-04 +/- 4.88E-06

Segment: 15 Detector: DET01 (# 1) Position: 15

Elapsed Live Time: 113.19 sec Elapsed Real Time: 115.00 sec

Batch 3803-03-1147

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.798 +/- 0.0349
SE-75	264.65	0.000 +/- 0.0000	0.867 +/- 0.0074
SE-75	279.53	0.000 +/- 0.0000	0.850 +/- 0.0094
SE-75	400.65	0.000 +/- 0.0000	0.867 +/- 0.0112

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.17	6.18E+00 +/- 3.50E-01	1.27E+00	1.62E-12 +/- 1.55E-11
2	35.10	1.01E+03 +/- 4.78E+00	1.16E+00	1.45E-08 +/- 6.96E-08
3	59.63	9.03E+01 +/- 1.04E+00	1.11E+00	1.09E-05 +/- 1.65E-05
4	98.71	1.21E+01 +/- 7.68E-01	1.10E+00	1.82E-04 +/- 4.21E-05
5	103.76	7.34E+00 +/- 4.24E-01	1.09E+00	2.12E-04 +/- 3.62E-05
6	111.50	4.27E+00 +/- 5.55E-01	1.09E+00	2.55E-04 +/- 2.60E-05
7	114.61	1.09E+00 +/- 4.64E-01	1.09E+00	2.72E-04 +/- 2.23E-05
8	129.29	2.16E+01 +/- 5.38E-01	1.09E+00	3.37E-04 +/- 1.99E-05
9	144.33	1.49E+00 +/- 3.69E-01	1.09E+00	3.83E-04 +/- 3.30E-05
10	148.57	1.46E+00 +/- 3.51E-01	1.08E+00	3.93E-04 +/- 3.63E-05
11	196.12	5.34E-01 +/- 2.64E-01	1.07E+00	4.22E-04 +/- 4.31E-05
12	203.99	6.80E-01 +/- 3.17E-01	1.07E+00	4.18E-04 +/- 4.10E-05
13	208.50	4.39E+00 +/- 3.89E-01	1.07E+00	4.15E-04 +/- 3.96E-05
14	300.10	3.09E+00 +/- 2.49E-01	1.06E+00	3.32E-04 +/- 1.51E-05
15	311.90	1.73E+01 +/- 4.22E-01	1.06E+00	3.22E-04 +/- 1.42E-05
16	333.48	1.72E+00 +/- 2.12E-01	1.06E+00	3.04E-04 +/- 1.37E-05
17	345.63	1.89E+00 +/- 1.96E-01	1.06E+00	2.95E-04 +/- 1.38E-05
18	369.07	6.70E-01 +/- 1.34E-01	1.06E+00	2.78E-04 +/- 1.42E-05
19	375.73	5.67E+00 +/- 2.58E-01	1.06E+00	2.74E-04 +/- 1.44E-05
20	383.62	4.33E-01 +/- 1.88E-01	1.06E+00	2.69E-04 +/- 1.45E-05
21	393.57	2.23E+00 +/- 1.62E-01	1.06E+00	2.63E-04 +/- 1.47E-05
22	400.66	4.17E-01 +/- 1.03E-01	1.06E+00	2.59E-04 +/- 1.48E-05
23	413.70	4.56E+00 +/- 2.24E-01	1.05E+00	2.52E-04 +/- 1.49E-05
24	423.51	3.27E-01 +/- 9.10E-02	1.05E+00	2.47E-04 +/- 1.50E-05
25	452.32	5.79E-01 +/- 8.39E-02	1.05E+00	2.33E-04 +/- 1.49E-05
26	512.68	1.30E-01 +/- 5.57E-02	1.05E+00	2.10E-04 +/- 1.39E-05
27	1112.12	1.75E-02 +/- 1.24E-02	1.03E+00	1.22E-04 +/- 5.05E-06

Segment: 16 Detector: DET01 (# 1) Position: 16

Elapsed Live Time: 113.66 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.707 +/- 0.0310
SE-75	264.65	0.000 +/- 0.0000	0.732 +/- 0.0065
SE-75	279.53	0.000 +/- 0.0000	0.728 +/- 0.0084
SE-75	400.65	0.000 +/- 0.0000	0.760 +/- 0.0103

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.21	1.85E+00 +/- 2.16E-01	1.43E+00	1.32E-14 +/- 1.47E-13
2	35.10	1.01E+03 +/- 4.78E+00	1.25E+00	9.52E-10 +/- 5.35E-09
3	59.64	2.19E+01 +/- 5.31E-01	1.18E+00	3.36E-06 +/- 5.92E-06
4	98.70	4.14E+00 +/- 4.42E-01	1.15E+00	1.07E-04 +/- 2.87E-05
5	103.79	1.87E+00 +/- 3.19E-01	1.15E+00	1.29E-04 +/- 2.54E-05
6	111.36	1.49E+00 +/- 3.13E-01	1.14E+00	1.62E-04 +/- 1.90E-05
7	129.29	5.99E+00 +/- 3.40E-01	1.14E+00	2.29E-04 +/- 1.54E-05
8	148.57	6.96E-01 +/- 2.43E-01	1.14E+00	2.78E-04 +/- 3.01E-05
9	208.45	1.08E+00 +/- 2.36E-01	1.13E+00	3.05E-04 +/- 3.42E-05
10	300.10	4.90E-01 +/- 1.37E-01	1.12E+00	2.42E-04 +/- 1.22E-05
11	311.90	2.02E+00 +/- 1.64E-01	1.12E+00	2.34E-04 +/- 1.14E-05
12	333.34	5.15E-01 +/- 1.22E-01	1.12E+00	2.20E-04 +/- 1.09E-05
13	345.71	3.14E-01 +/- 1.05E-01	1.12E+00	2.13E-04 +/- 1.09E-05
14	375.76	1.47E+00 +/- 1.39E-01	1.11E+00	1.97E-04 +/- 1.15E-05
15	393.65	4.51E-01 +/- 9.15E-02	1.11E+00	1.89E-04 +/- 1.19E-05
16	400.66	1.18E-01 +/- 6.22E-02	1.11E+00	1.86E-04 +/- 1.20E-05
17	413.70	1.60E+00 +/- 1.35E-01	1.11E+00	1.81E-04 +/- 1.21E-05
18	964.13	2.20E-02 +/- 1.95E-02	1.07E+00	1.01E-04 +/- 4.92E-06
19	1408.01	1.76E-02 +/- 1.24E-02	1.05E+00	7.39E-05 +/- 5.32E-06

Summed Spectrum

Peak Locate Report

Sample ID: LL85101099
Peak Locate Performed on: 2-20-02 12:12:30 PM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192
Peak Search Sensitivity: 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
1	43.00	0.3703	21.42	7.29
2	46.60	0.1382	23.22	31.59
3	70.31	0.0380	35.07	477.44
4	99.20	0.2987	49.50	5.14
5	119.45	0.0617	59.62	143.58
6	150.57	0.3056	75.17	6.07
7	173.68	0.2395	86.71	11.80
8	197.82	0.1076	98.78	50.32
9	207.19	0.1408	103.46	23.77
10	223.08	0.1389	111.39	24.18
11	259.46	0.0905	129.57	65.57
12	289.07	0.2629	144.36	8.87
13	298.14	0.1789	148.90	18.93
14	343.69	0.2962	171.65	7.09
15	392.51	0.3104	196.04	5.25
16	417.31	0.0973	208.44	54.63
17	512.20	0.2665	255.84	7.87
18	601.97	0.1151	300.69	36.82
19	625.64	0.0747	312.52	85.11
20	667.35	0.1338	333.36	26.82
21	691.98	0.1311	345.67	27.77
22	738.72	0.2218	369.02	9.09
23	752.14	0.0960	375.72	51.09
24	767.83	0.1738	383.56	16.46
25	788.01	0.1346	393.65	25.08
26	829.73	0.1036	414.49	43.09
27	847.62	0.1886	423.43	11.68
28	905.53	0.1630	452.36	15.06
29	1120.12	0.2493	559.57	7.10
30	1328.44	0.2156	663.65	8.22

Errors quoted at 1.000 sigma

Summed Spectrum

Peak Analysis Report

Sample ID: LL85101099
Peak Analysis Performed on: 2-20-02 12:12:30 PM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	40-	46	43.00	21.42	5.97E+03	140.42	6.92E+03
2	46-	49	46.60	23.22	1.18E+04	168.73	9.53E+03
3	67-	73	70.31	35.07	1.84E+06	1360.92	7.30E+03
4	95-	102	99.20	49.50	1.32E+04	329.72	4.50E+04
5	115-	122	119.45	59.62	2.46E+05	579.24	4.29E+04
6	146-	154	150.57	75.17	1.62E+03	196.04	1.68E+04
7	169-	177	173.68	86.71	3.81E+03	235.94	2.41E+04
8	194-	201	197.82	98.78	3.19E+04	347.60	4.42E+04
9	206-	211	207.19	103.46	1.59E+04	223.52	1.79E+04
10	219-	226	223.08	111.39	9.04E+03	248.19	2.51E+04
11	255-	263	259.46	129.57	3.29E+04	265.14	1.73E+04
12	284-	293	289.07	144.36	1.03E+03	192.64	1.57E+04
13	294-	302	298.14	148.90	3.14E+03	180.18	1.37E+04
14	339-	347	343.69	171.65	1.06E+03	145.00	9.35E+03
15	388-	396	392.51	196.04	1.08E+03	129.89	7.40E+03
16	412-	421	417.31	208.44	1.20E+04	198.59	1.16E+04
17	507-	516	512.20	255.84	6.80E+02	98.56	4.00E+03
18	597-	606	601.97	300.69	6.37E+03	117.44	3.30E+03
19	620-	630	625.64	312.52	3.61E+04	206.32	2.71E+03
20	662-	672	667.35	333.36	3.28E+03	108.48	3.45E+03
21	688-	697	691.98	345.67	2.26E+03	98.17	2.90E+03
22	733-	743	738.72	369.02	1.36E+03	68.40	1.39E+03
23	746-	757	752.14	375.72	1.01E+04	123.61	2.08E+03
24	767-	773	767.83	383.56	9.29E+02	65.08	9.83E+02
25	782-	793	788.01	393.65	3.42E+03	74.68	8.60E+02
26	824-	835	829.73	414.49	1.01E+04	108.94	7.07E+02
27	842-	852	847.62	423.43	4.82E+02	41.69	5.19E+02
28	900-	911	905.53	452.36	1.20E+03	41.85	2.20E+02
29	1114-	1125	1120.12	559.57	2.13E+02	22.58	1.19E+02
30	1322-	1334	1328.44	663.65	3.24E+02	25.65	1.26E+02

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Summed Spectrum

Nuclide Identification Report

Sample ID: LL85101099
Nuclide Library Used: C:\WAS\NLIB\LLNL.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/)	Activity Uncertainty
Pulser	1.000	35.10*	100.00	1.317E+06	2.753E+06
Np-237	0.973	300.10*	6.63	1.063E+02	2.073E+00
		311.90*	38.60	1.056E+02	8.887E-01
Pu-239	0.957	413.70*	0.00	9.073E+05	1.887E+04
Pu-239A	0.995	129.29*	0.01	6.724E+05	1.557E+04
Am-241	0.897	662.42*	0.00	1.512E+05	1.202E+04
Pu-241	0.992	148.57*	0.00	1.897E+06	1.116E+05

* = Energy line found in the spectrum.
Energy Tolerance : 1.500 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 1.000 sigma

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 2-20-02 12:12:30 PM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	21.42	5.2448E+01	2.35
2	23.22	1.0387E+02	1.43
4	49.50	1.1591E+02	2.50
5	59.62	2.1573E+03	0.25
6	75.17	1.4219E+01	12.11
7	86.71	3.3475E+01	6.19
8	98.78	2.8018E+02	1.09
9	103.46	1.3946E+02	1.41
10	111.39	7.9419E+01	2.75
12	144.36	9.0033E+00	18.79
14	171.65	9.2940E+00	13.70
15	196.04	9.4946E+00	12.01
16	208.44	1.0561E+02	1.65
17	255.84	5.9722E+00	14.49
20	333.36	2.8830E+01	3.31
21	345.67	1.9818E+01	4.35
22	369.02	1.1931E+01	5.04
23	375.72	8.8461E+01	1.23
24	383.56	8.1597E+00	7.01
25	393.65	3.0074E+01	2.18
27	423.43	4.2318E+00	8.65
28	452.36	1.0573E+01	3.48
29	559.57	1.8745E+00	10.58

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-02-153

Combined Segment NID

NID Results Combiner Mode: Sum Activities

Nuclide		Total Activity (uCi)				Concentration (uCi/g)		
Pulser		3.89E+07	+/-	2.02E+08		8.34E+02	+/-	4.34E+03
SE-75	<	2.08E-01	+/-	1.47E-02	<	4.46E-06	+/-	3.16E-07
EU-152x	<	2.45E-01	+/-	1.87E-02	<	5.26E-06	+/-	4.01E-07
U-233	<	1.04E+04	+/-	9.17E+02	<	2.23E-01	+/-	1.97E-02
U-235	<	3.30E-01	+/-	4.56E-02	<	7.08E-06	+/-	9.78E-07
Np-237		1.19E+02	+/-	2.37E+00		2.56E-03	+/-	5.08E-05
Pu-238		2.31E+04	+/-	7.88E+03		4.95E-01	+/-	1.69E-01
U-238		5.45E+00	+/-	1.62E+00		1.17E-04	+/-	3.48E-05
Pu-239		9.42E+05	+/-	2.32E+04		2.02E+01	+/-	4.98E-01
Pu-239A		8.81E+05	+/-	1.87E+04		1.89E+01	+/-	4.00E-01
Am-241		1.64E+05	+/-	1.33E+04		3.51E+00	+/-	2.85E-01
Pu-241		2.76E+06	+/-	1.78E+05		5.93E+01	+/-	3.82E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
Np-237	1.69E-01	+/-	3.36E-03
Pu-238	1.35E-03	+/-	4.60E-04
U-238	1.63E+01	+/-	4.84E+00
Pu-239	1.52E+01	+/-	3.73E-01
Pu-239A	1.42E+01	+/-	3.00E-01
Am-241	4.78E-02	+/-	3.87E-03
Pu-241	2.67E-02	+/-	1.72E-03

Summed Spectrum

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		1.32E+06	+/-	2.75E+06	2.83E+01	+/-	5.91E+01
SE-75	<	6.19E-01	+/-	4.56E-03	< 1.33E-05	+/-	9.78E-08
EU-152x	<	5.39E-01	+/-	8.81E-03	< 1.16E-05	+/-	1.89E-07
U-233	<	3.21E+04	+/-	5.97E+02	< 6.89E-01	+/-	1.28E-02
U-235	<	9.15E-01	+/-	1.73E-02	< 1.96E-05	+/-	3.72E-07
Np-237		1.06E+02	+/-	8.17E-01	2.27E-03	+/-	1.75E-05
Pu-238	<	7.61E+04	+/-	9.86E+02	< 1.63E+00	+/-	2.12E-02
U-238	<	1.27E+01	+/-	1.97E-01	< 2.72E-04	+/-	4.22E-06
Pu-239		9.07E+05	+/-	1.89E+04	1.95E+01	+/-	4.05E-01
Pu-239A		6.72E+05	+/-	1.56E+04	1.44E+01	+/-	3.34E-01
Am-241		1.51E+05	+/-	1.20E+04	3.24E+00	+/-	2.58E-01
Pu-241		1.90E+06	+/-	1.12E+05	4.07E+01	+/-	2.40E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
Np-237	1.50E-01	+/-	1.16E-03
Pu-239	1.46E+01	+/-	3.04E-01
Pu-239A	1.08E+01	+/-	2.51E-01
Am-241	4.42E-02	+/-	3.51E-03
Pu-241	1.83E-02	+/-	1.08E-03

Batch 2002-02-1155

Final Non-Uniformity Results

Source Longitudinal Ratio:	0.000	+/-	0.0000
Matrix Longitudinal Ratio:	0.963	+/-	0.2572
Source Vertical Ratio:	0.000	+/-	0.0000
Matrix Vertical Ratio:	0.986	+/-	0.0707

NUDS could not find the transmission peak in one radial segment.
NUDS could not find the source peak in any radial segment.

LAWRENCE LIVERMORE NATIONAL LABORATORY

WASTE DISPOSAL REQUISITION

W 154356

Waste Run Date:

Label/waste Type: (Must check)
- ☐ Non-Haz
- ☐ Haz
- ☐ Low-Level
- ☒ TRU

RCRA ☐ CA ☐

☐ No Disposal Option

1. Container Serial Number or Retention Tank ID:

2. For TRU Waste, TRU Waste Container Serial No.: LL85! 01059 TRU

3. Container Acceptable: ☒ Yes ☐ N/A Initials: [illegible]

Chemical Compatibility Code: DS

Storage Restrictions
- ☐ No Storage Restrictions
- Not acceptable at the following locations: ☐ 233 ☐ 514 ☐ 612 ☑ 693
- CWAA ☑ 169 ☑ 361 ☐ 612-4

4. Building No.: 332

5. Room No.: 1378

6. RMMA: ☒ Yes ☐ No

7. WAA No.: 332A

14. Waste Package Seals Applied: ☑ Yes ☐ N/A (if yes, complete Step 15)

Hazardous Properties: ☐ Toxic ☐ Corrosive ☐ Ignitable ☐ Reactive

19. Outer Container Type: ☐ Box ☐ Sack ☐ Can ☐ SWB ☐ Carboy ☐ Tub ☒ Drum ☐ Tank - Fixed ☐ Tank - Portable ☐ Transportainer Other:

20. Outer Container Size/Vol: ☐ 1 gal ☐ 750 gal ☐ 2 gal ☐ 1000 gal ☐ 5 gal ☐ 5000 gal ☐ 30 gal ☐ 67 cu ft ☒ 55 gal ☐ 1 × 1 × 1.5 ☐ 85 gal ☐ 2 × 4 × 7 ☐ 330 gal ☐ 4 × 4 × 7 ☐ 660 gal ☐ gal ☐ cu ft Other:

8. Workplace Start Date: 6/7/00

9. Workplace End Date: ~~6/6/00~~

10. Account No.: 5484-70

11. Directorate: DNT

15. Waste Package Seal Nos.: K394 T10649 TC 9/18/01

16. Source Code: 7940

☐ Lab Pack ☐ Over Pack

18. Waste Form: ☒ Solid ☐ Liquid ☐ Gas ☐ Sludge

17. LLW Waste Stream No. or TRU Waste Form No.: 1, 2a, 2b / 5544

12. Did Waste Minimization Effort Practices Begin in Current Calendar Year? ☐ Yes ☒ No 5/11/01

If yes, enter Activity Code: W_____ 01/04/01

Comments:

13. WEF/PKE/SAW No.: ☐ WEF No. ☒ PKE No. ☐ SAW No. ☐ N/A

Specify: 247 024, 243, 244

21. Item No.	22. Spent or Unused (S/U)	23. Organic or Inorganic (O/I)	24. Waste Form (S, SL, L, G)	25. Waste Description (For multiple parcels, also list Parcel Card Nos.)	26. Hazardous Constituents and Concentrations	27. Item Container Size	28. Quantity per Item Amount	28. Quantity per Item Units	29. Analysis Sample No.	Physical Waste Data: 30. Aqueous Only pH	30. Aqueous Only Normality	31. Flash Point
			TW 01/10/01	~~P021704~~ P021829		55						
				P021697 P021825		gal						
				P021809 P021819								
				P021815 P021855								
				P021500 P021907								
				P021811								

USE CONTINUATION FORM FOR ADDITIONAL ITEMS

32. Does the waste contain radioactive components? ☒ Yes ☐ No ☐ To be analyzed (If yes or TBA, complete Steps 36–41 as applicable to waste type.)

This section (Steps 33–35) is required for Hazardous Waste generated in a RMMA

33. Was the waste kept isolated from any operation that could have produced radioactive contamination (using a glove box, vent hood, etc.)? ☐ Yes ☐ No (If no, full rad analysis required)

34. Was the waste exposed to particle beams capable of inducing radioactivity by activation? ☐ Yes ☐ No (If yes, full rad analysis required)

35. Describe other controls used to prevent radioactive contamination:

36. Radionuclides: Check all Plutonium grades present: ☒ Weapons ☐ Fuel ☐ Reactor ☐ Am-enriched ☐ Mixed

☐ Enriched Uranium (Identify the % of each of the following)
- _____ % U-234
- _____ % U-235
- _____ % U-238

(List additional radionuclides in Step 38)

38. Radiological Data: (For certified LLW and TRU waste, list totals from Parcel Cards.)

Item	Radionuclide(s)	Quantity	Units/Activity (Ci,g)	PE - Ci	Fissile g
					7/2/01

39. Rad. Survey mr/hr: | β-γ @ Contact | β-γ @ 1 Meter | Neutron @ Contact

37. Gross weight of waste package: 78.4Kg

Tare weight of container: 31.8kg

40. Swipe Data: ☐ Complies with 10 CFR 835 criteria for unrestricted release

41. Rad Swipe/Survey Performed By: (Print Name–Last, First) | Employee No.: | L-Code:

Signature: | Date: | Ext.:

42. Generator: I certify, to the best of my knowledge, that the information provided on this requisition is correct. I understand that I may be liable to State and Federal prosecution by intentionally providing false information. I have obtained this information by:
- ☐ Direct knowledge of the waste generating process ☐ Analytical Data
- ☒ Obtaining sufficient information from others knowledgeable of the waste generating process.

☑ Container Custodian: I certify that the waste parcels identified on this form are contained in this waste container and have been packaged in accordance with the requirements specified in the appropriate LLNL TRU Waste or Low-Le[illegible] Waste Program Certification and Quality Assurance Program.

Generator or Container Custodian Name (Print – Last, First): Macari, Thomas

Signature: Thomas Macari 05/22/01

Employee No.: 553224 L-Code: 361 Ext.: 3-2217 Date: ~~7/2/00~~

Inspected By: Signature: | Employee No.: | Date:

Characterization Chemist Approval ☐ Acceptable for Sampling (Initials) ☐ WEF

Signature: G. Kevin Reed | Employee No.: 69028 | Date: 6-4-01

RCA Approval ☐ Decay ☐ NTS ☐ WIPP ☐ WEF Program (Initials) Certified (Initials) Certified (Initials)

Signature: | Employee No.: | Date:

RMMA Certification: Shipping | CC | RSDR #:

☐ HWM Use Only

LL-5344 (Rev. 06/98) Page 1 of _____

Rec'd 2002-02-11 ST

Rec'd 05/22/01

W 154356

Generator: Complete items 43–47, only if container contains a single parcel of solid radioactive waste, and there is no Parcel Card attached.

43. Waste Generating Procedure:

Procedure #: ☐ 332 FSP ☐ B-360 Complex FSP ☐ 331 FSP ☐ AVLIS HPP ☐ EX-404 ☐ _____

☐ SAP # _____ ☐ Instruction # _____

44. Method(s) used to identify radionuclides and/or determine activity: *(Check all that apply)*

☐ Process knowledge ☐ Mass ☐ Mass balance ☐ Alpha spectrometry ☐ Other _____

☐ Liquid scintillation counting ☐ Tritium off gas measurement (attach results) _____

☐ High Sensitivity Neutron Instrument (attach results) ☐ Gamma spectrometry _____

☐ AVLIS method (☐ A ☐ B ☐ C) N/A See attached Cards TC 5/31/01

(Complete the following for method A and B)

This method to be used in conjunction with an authorized procedure.

Survey meter model: _____ Check source jig no. _____

Serial number: _____ _____ Detector response (±30%)

Calibration due date: _____ *(Specify amount and units) (e.g., dpm, cpm, mR/hr)* ☐ Satisfactory

45. Total Parcel Weight (g, lb):

Note: If AVLIS Method C, mass or mass balance is used, use a calibrated scale. _____ _____ Units ☐ Estimated Weight ☐ Scale: Serial #: _____ Calibration due date: _____

46. Will the final waste form contain any of the following? (Explain all "yes" answers)

Chelating Agents: ☐ Yes ☐ No (e.g., Radiac Wash, > 1% by weight / pkg)

Free Liquids: ☐ Yes ☐ No

Fine Particles: ☐ Yes ☐ No [> 1% of <10-micrometer particles (compare to flour) or >15% of <200-micrometer particles (compare to sand)]

Compressed Gases: ☐ Yes ☐ No (e.g., non-punctured aerosol cans)

Pyrophorics: ☐ Yes ☐ No (e.g., uranium turnings that could spontaneously combust if exposed to air)

Explosives: ☐ Yes ☐ No (e.g., TNT, PETN, HMX, that exhibit explosive properties)

Classified Material: ☐ Yes ☐ No

Friable Asbestos: ☐ Yes ☐ No

PCBs: ☐ Yes ☐ No

Explanations: _____

47. Verifier Certification: I verify that, to the best of my knowledge, the information supplied by the waste generator on this form is complete and accurate.

Verifier Name (Print):	Verification Date:
Signature:	Employee No.:

Hazardous Appendix
HWM-801 Review

SCIL (Single Container Inventory Limits) Exceeded ☒ No ☐ Yes

pH Results obtained by: *(Check all that apply)* N/A

☐ Meter *(Calibrated)* ☐ Field Technician ☐ Sample Team

☐ Paper ☐ Analytical ☐ Chemist

Initial: _____

CC Rule (VOC's greater or less than 500 ppm Level 1, 2, 3): N/A

☐ CC / > 500 / A ☐ CC / < 500 / A

☐ CC / > 500 / B ☐ CC / < 500 / B

A = Generator Knowledge B = Analytical Data

Storage Locations:

☐ No storage restrictions

Waste is not acceptable for storage at the following locations: *(Check all that apply)*

☐ 233 ☐ 514 ☐ 612 ☐ Bldg. 693

☒ 169 CWAA ☒ 361 CWAA ☐ 612-4 CWAA

STP Code: _____

☐ WEF CC initials: EMF

Radiological Appendix HWM-800 Review

☐ No storage restrictions, based on Single Container Acceptable Limits.

Waste is not acceptable for storage at the following locations, based on SCAL: *(Check all that apply)* ☐ 233 ☐ 514 ☐ 612-1 ☐ Bldg. 693

☐ 612 (other than 612-1) ☐ 169 CWAA ☐ 361 CWAA

☐ Contains > 1 curie and/or is > the amount identified per radionuclide on attachment B of Procedure HWM 800.

☐ Contains > than 10 grams of fissile material (U-233, U-235, or Pu-239)

☐ Weight Dependent (Activity is dependent on weight)

STP Code: _____ ☐ WEF RCA initials: _____

Scheduled Date: / /

☐ HWM Waste Run ☐ Processed Waste

☐ Site 300 to LLNL ☐ Commercial Shipment

☐ Secured Pickup ☐ HWM Field Pump Out

☐ HWM GeneratedWaste: Loc: _____

TWMS: Initial: _____ Date: _____

Item	RCH Prefix	RCH	P	Origin Code	Form Code	EPA No.	DTSC No.	MSDS No.	Hazardous Properties T	C	I	R
1		Zr	D		9.09				☐	☐	☐	☐
									☐	☐	☐	☐
									☐	☐	☐	☐
									☐	☐	☐	☐
									☐	☐	☐	☐
									☐	☐	☐	☐

6/98

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS 2.3A

****
* DRUM INFORMATION *
****

Drum Package ID: LL85101099R
Sequence Number: 880
Assay Date & Time: 2-20-2002 1:18:18 PM
Drum Package GROSS Weight: 78.40 kg NET Weight: 46.60 kg

IDC Number: LL85101099

QC Replicate (Yes/No): yes Passed (Yes/No): Yes

Operator Name (Printed): Russell Ratti

Operator Signature: _____ Date: 2-20-02

Independent Reviewer: _____ Date: 6-27-02

Expert Reviewer: Kenneth Rasche Date: 6/17/02

Tech. Supv/QA Officer: _____ Date: 6/27/02

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 1.488E+00 +/- 4.061E-01 Ci

Batch 2002-02-1159

****
* I S O T O P I C I N F O R M A T I O N *
****

Isotope	Measured Mass (g)	Mass Uncertainty (g)
Pu-238	3.088E-03	1.251E-03
Pu-239	1.604E+01	6.223E+00
Pu-240	1.121E+00	4.364E-01
Pu-241	3.258E-02	1.267E-02
Pu-242	5.281E-03	2.296E-03
Am-241	5.200E-02	2.023E-02
*Am-243	N/A	N/A
Np-237	1.965E-01	7.993E-02
U-235	2.098E-01	1.240E-01
*U-238	N/A	N/A
*U-233	N/A	N/A

* = Activity/Mass below detectable limit.

Total Pu Mass: 1.72E+01 +/- 6.24E+00 g

****
* M G A R E S U L T S *
****

NUCLIDE	% Weight	% Error(1-Sigma)
Pu-238	1.795E-02	5.91E+00
Pu-239	9.324E+01	1.12E-01
Pu-240	6.518E+00	1.58E+00
Pu-241	1.894E-01	1.31E+00
Pu-242	3.071E-02	1.00E+01
Am-241	3.023E-01	1.45E+00
Np-237	1.142E+00	6.25E+00
U-235	1.220E+00	2.27E+01

Batch 2002-02-1160

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005
Software Version: GWAS V2.3A RADA V2.1

Assay Date & Time: 2-20-2002 1:18:18 PM
Report Generated: 6-17-2002 1:20:56 PM

Drum Package ID: LL85101099R
Sequence Number: 880

Waste Classification (TRU or LLW): TRU

		Errors at 1.96 sigma	
Total Alpha Activity :	1.488E+00	+/- 4.061E-01	Ci
Total TRU Activity :	3.193E+04	+/- 8.714E+03	nCi/g
Pu-239 Equiv Activity:	1.550E+00	+/- 4.068E-01	Ci
Fissile Gram Equiv Mass:	1.635E+01	+/- 6.227E+00	g
Total Decay Heat:	4.722E-02	+/- 1.277E-02	W
TMU Value:	38.80 %		

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error
Pu-238	5.34E-02	2.16E-02	3.09E-03	1.25E-03
Pu-239	9.96E-01	3.87E-01	1.60E+01	6.22E+00
Pu-240	2.58E-01	1.00E-01	1.12E+00	4.36E-01
Pu-241	3.39E+00	1.32E+00	3.26E-02	1.27E-02
Pu-242	2.10E-05	9.12E-06	5.28E-03	2.30E-03
Am-241	1.80E-01	7.02E-02	5.20E-02	2.02E-02
*Am-243	N/A	N/A	N/A	N/A
Np-237	1.40E-04	5.70E-05	1.96E-01	7.99E-02
U-235	4.60E-07	2.71E-07	2.10E-01	1.24E-01
*U-238	N/A	N/A	N/A	N/A
*U-233	N/A	N/A	N/A	N/A

* = Activity/Mass below detectable limit.

Total Pu Mass: 1.72E+01 +/- 6.24E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sigma)
Pu-238	1.795E-02	5.91E+00
Pu-239	9.324E+01	1.12E-01
Pu-240	6.518E+00	1.58E+00
Pu-241	1.894E-01	1.31E+00
Pu-242	3.071E-02	1.00E+01
Am-241	3.023E-01	1.45E+00
Np-237	1.142E+00	6.25E+00
U-235	1.220E+00	2.27E+01

Batch 2002-02-1161

SGS Expert Review Checklist

Container Identification #: LL85101099R_____ Original Assay Date:2-20-2002__

1. *WCP-41, §6.1:* A MGA report ☒ is present or ☐ expert review has provided isotopic ratios from SGS or AK. Comment: ☒ No comments
2. *WCP-41, §6.1:* MGA and AK ☒ agree as to radiological composition or, if not, ☐ expert review has resolved this. Comment: ☒ No comments
3. *WCP-41, §6.2.1:* ☒ Pu-238 ≤ 2% by weight of total Pu or, if not, ☐ expert review has addressed this and assigned a Pu-240 value. Comment: ☒ No comments
4. *WCP-41, §6.2.2:* ☐ Neither Np-237 nor U-235 is identified by MGA or ☒ expert review has addressed possible interferences from these radionuclides.
   Comment: Both Np-237 and U-235 are identified by MGA and their presence is also confirmed by GWAS. However, there is no interference. ☐ No comments
5. *WCP-41, §6.2.2.2:* ☒ Am-241 separation date is 1950 or later or ☐ expert review has addressed possible interferences. Comment: ☒ No comments
6. *WCP-41, §6.3.1.1.a:* ☒ Bulk density of waste ≤ 0.6 g/ml or ☐ expert review has addressed the high density of the drum. Comment: ☒ No comments
7. *WCP-41, §6.3.1.2.a:* ☐ Transmission in every segment ≥ 0.1% for the Se-75 peaks at 136 keV or 265 keV or ☒ expert review has addressed the low transmission.
   Comment: The 136 keV transmission is zero in two segments, however both the 265 keV transmission is okay as is the Pu-239/Pu239a ratio.☐ No comments
8. *WCP-41, §6.3.1.2.a:* ☒ Transmission in every segment ≥1% for the Se-75 peak at 401 keV or ☐ expert review has addressed the low transmission. Comment: ☒ No comments
9. *WCP-41, §6.3.1.3.b:* ☒ Dead time in every segment ≤ 50% or ☐ expert review has addressed the high dead time. Comment: ☒ No comments
10. *WCP-41, §6.3.1.3.c:* ☒ Pu-239 masses determined from the 414 keV peak and the 129 keV peak agree by a factor of < 2.5 or ☐ expert review has addressed possible matrix inhomogeneity. Comment: ☒ No comments
11. *WCP-41, §6.3.2.3:* Cs-137 (☐ has) (☒ has not) been identified by expert review. If it has, Sr-90 is reported ☐ at an activity ratio to Cs-137of 0.39 for Pu fission or ☐ at a ratio of 1 for U-235 fission or, ☐ if both Pu and U are present, the expert reviewer has determined the ratio. Comment: ☒ No comments

Batch 2002-02-1162

SGS Expert Review Checklist

Container Identification #: LL85101099R_____ Original Assay Date:2-20-2002__

12. *WCP-41, §6.3.2.4:* ☐ No unusual nuclides are identified (none other than the 10 required to be reported to WIPP) or ☒ the expert reviewer has checked for interferences from unusual nuclides. Comment: Both U-235 and Np-237 are identified. The U-238 was taken out because its value was below that of the transmission corrected MDC.☐ No comments
13. *WCP-41, §6.3.3:* For waste drums (☐ NA for standards), ☒ the Summed Spectrum report value for Pu-239 and the Combined Segment NID report for Pu-239 agree within 95% confidence limits (the same as for replicates of unknowns) or ☐ expert review has addressed the difference. Comment: ☒ No comments
14. *WCP-41, §6.4:* ☒ The SGS Summed Spectrum and Combined Segment NID reports agree as to the ratios by weight of several radionuclides, such as those of Am-241, Pu-241, Np-237, Am-243, and U-235 to Pu-239, and MGA results agree as to identifying these radionuclides or ☐ expert review has resolved this. Comment: ☒ No comments
15. *WCP-41, §6.6.1:* ☐ All reported radionuclide masses are above 2.5 times the uncorrected MDA or ☒ expert review has calculated transmission-corrected MDA's and taken appropriate action. Comment: The transmission is approximately 1.4. ☐ No comments
16. *WCP-41, §6.6.2:* ☒ Any changes to reported quantities of individual radionuclides have been entered into the RADA program and a new radioassay data sheet has been produced, showing revised derivative quantities, and included in the batch data report, along with the marked up original. Comment: ☒ No comments
17. *CP-41, §6.7:* ☒ Counting statistics are adequate for normal passive count time of 120 seconds per segment or ☐ Counting statistics are adequate for long passive count time of 600 seconds per segment or ☐ expert review has rejected the count and ordered a longer count time. Comment: ☒ No comments

Kenneth Raschke	Kenneth Raschke	6/12/02
Expert Reviewer (print)	Signature	Date

Batch 2002-02-1163

NOT VALID
KER
6-17-02

****
* ISOTOPIC INFORMATION *
****

Isotope	Measured Mass (g)	Mass Uncertainty (g)	MDC (g)
Pu-238	3.088E-03	1.25E-03	3.044E-05
Pu-239	1.604E+01	6.22E+00	1.581E-01
Pu-240	1.121E+00	4.36E-01	1.105E-02
Pu-241	3.258E-02	1.27E-02	1.724E-03
Pu-242	5.281E-03	2.30E-03	5.206E-05
Am-241	5.200E-02	2.02E-02	4.998E-03
Am-243	0.000E+00	0.00E+00	0.000E+00
Np-237	1.965E-01	7.99E-02	5.289E-04
U-235	2.098E-01	1.24E-01	1.493E-01
U-238	1.780E+01	1.33E+01	1.685E+01
U-233	3.291E+00	1.26E+00	3.291E+00

Total Pu Mass: 1.72E+01 +/- 2.58E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	1.795E-02	5.91E+00
Pu-239	9.324E+01	1.12E-01
Pu-240	6.518E+00	1.58E+00
Pu-241	1.894E-01	1.31E+00
Pu-242	3.071E-02	1.00E+01
Am-241	3.023E-01	1.45E+00
Np-237	1.142E+00	6.25E+00
U-235	1.220E+00	2.27E+01

Batch 3003-03-LL11

NOT VALID

KER

6-17-02

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005

Assay Date & Time: 2-20-2002 1:18:18 PM

Drum Package ID: LL85101099R
Sequence Number: 880

Waste Classification (TRU or LLW): TRU

		Errors at 1.96 sigma	
Total Alpha Activity :	1.488E+00	+/- 4.06E-01	Ci
Total TRU Activity :	3.193E+04	+/- 8.71E+03	nCi/g
Pu-239 Equiv Activity:	1.550E+00	+/- 4.07E-01	Ci
Fissile Gram Equiv Mass:	1.635E+01	+/- 6.22E+00	g
Total Decay Heat:	4.722E-02	+/- 1.28E-02	W
TMU Value:	38.80 %		

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error	MDA gm
Pu-238	5.34E-02	2.16E-02	3.09E-03	1.25E-03	3.04E-05
Pu-239	9.96E-01	3.87E-01	1.60E+01	6.22E+00	1.58E-01
Pu-240	2.58E-01	1.00E-01	1.12E+00	4.36E-01	1.11E-02
Pu-241	3.39E+00	1.32E+00	3.26E-02	1.27E-02	1.72E-03
Pu-242	2.10E-05	9.12E-06	5.28E-03	2.30E-03	5.21E-05
Am-241	1.80E-01	7.02E-02	5.20E-02	2.02E-02	5.00E-03
Am-243	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Np-237	1.40E-04	5.70E-05	1.96E-01	7.99E-02	5.29E-04
U-235	4.60E-07	2.71E-07	2.10E-01	1.24E-01	1.49E-01
U-238	6.05E-06	4.51E-06	1.78E+01	1.33E+01	1.69E+01
U-233	3.21E-02	1.23E-02	3.29E+00	1.26E+00	3.29E+00

Total Pu Mass: 1.72E+01 +/- 2.58E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	1.795E-02	5.91E+00
Pu-239	9.324E+01	1.12E-01
Pu-240	6.518E+00	1.58E+00
Pu-241	1.894E-01	1.31E+00
Pu-242	3.071E-02	1.00E+01
Am-241	3.023E-01	1.45E+00
Np-237	1.142E+00	6.25E+00
U-235	1.220E+00	2.27E+01

****
***** M G A R E P O R T *****
****

Report generated on: 2-20-02 2:14:54 PM

MGA version: MGA V9.5 CI

Spectrum ID: 11200880.CNF Sens : 30.0% LT: 54.9 Mins DT: 1.85
Measurement date: 2-20-02 Declared date: 2-20-02

Sample ID: LL85101099R Detector: Total counts: 3.882E+06

Pu g/cm2 = 0.0550 Cd g/cm2 = 1.6687 FWHM at 122 keV = 686 eV
QFIT = 1.00 FWHM at 208 keV = 866 eV
NQFIT = 1.00

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	Meas. date %Err	Decl. date % weight	Decl. date %Err
Pu-238	0.000193	6.0	5.7	0.0948	5.7	0.01795	5.91	0.01795	5.91
Pu-239	1.000000	0.0	1.2	492.2170	1.4	93.24374	0.11	93.24374	0.11
Pu-240	0.069905	1.7	1.3	34.4082	1.6	6.51817	1.58	6.51817	1.58
Pu-241	0.002032	1.4	1.0	1.0000	0.0	0.18944	1.31	0.18944	1.31
Pu-242	(New alg.)			0.1621	(10)	0.03071	(10)	0.03071	(10)
Am-241	0.003242	1.5	0.8	1.5959	1.3	0.30232	1.45	0.30232	1.45
Np-237						1.14215	6.25		
U-235	0.013084	22.7	22.7			1.21999	22.72	1.21999	22.72

Pu-240 effective (meas. date) = 6.615 +/- 1.93%
Am-241 separated about 19.814 +/- 0.285 years ago
Am/Pu-241 weight ratio = 1.59589 +/- 1.28%

Messages :

Lead x-rays observed : Np-237 results could be affected.
Efficiency curvature boundary reached.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Gamma Waste Assay

Sample Information

File Name: C:\WAS\DATA\900\11100880.S11
Sample ID: LL85101099R Count Sequence Number: 880
Assay Start: 2-20-02 1:18:20 PM
Description 1: unknown replicate
Description 2:
Location: 7715
Comment:
Waste Type:
Weight: Gross: 78400.0 g Net: 46600.0 g
Density: 0.224 g /ml

Container Type: 55 Gal Galv
Container: Volume: 208000. ml Full: 100.0 %

System Configuration

Counter ID Number: SGS
Arrangement Description: SGS
Segments: Number: 16 Offset: 0
Scanning Platform: Start: 934 mm Delta: -51 mm
Count Type: 55 Gal Galv
Collimator/Geometry Setting: 0
Transmission Mode: Two pass
Transmission Source: 0

Errors quoted at 1.000 sigma
Reference Source Date: Reference Source Rate: 1.01E+03 cps
Geometric Correction Factor(SWCONTGCF): 0.760
Date of efficiency calibration approval: 4-18-2001 12:41:36 PM
Mu Factors response file: Lucite
Transmission Calib. Time: 5-11-2001 2:20:42 PM 59052

Reviewed by: _____ Date: 6/26/02

Segment Results

Segment: 1 Detector: DET01 (# 1) Position: 1

Elapsed Live Time: 111.82 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.278 +/- 0.0275
SE-75	264.65	0.000 +/- 0.0000	0.321 +/- 0.0038
SE-75	279.53	0.000 +/- 0.0000	0.320 +/- 0.0054
SE-75	400.65	0.000 +/- 0.0000	0.364 +/- 0.0068

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	7.75E+00 +/- 4.61E-01	3.35E+00	4.26E-08 +/- 6.00E-07
2	23.23	1.58E+01 +/- 5.69E-01	3.01E+00	9.51E-08 +/- 1.19E-06
3	35.10	1.01E+03 +/- 4.82E+00	2.11E+00	2.61E-06 +/- 1.64E-05
4	59.61	3.43E+02 +/- 2.41E+00	1.74E+00	3.76E-05 +/- 7.40E-05
5	98.84	3.62E+01 +/- 1.12E+00	1.61E+00	1.39E-04 +/- 4.07E-05
6	103.27	2.15E+01 +/- 7.05E-01	1.61E+00	1.49E-04 +/- 3.32E-05
7	111.42	3.82E+00 +/- 8.45E-01	1.59E+00	1.66E-04 +/- 2.08E-05
8	114.59	3.87E+00 +/- 7.02E-01	1.59E+00	1.72E-04 +/- 1.69E-05
9	129.29	3.33E+01 +/- 8.14E-01	1.57E+00	1.95E-04 +/- 1.38E-05
10	148.57	5.75E+00 +/- 5.54E-01	1.55E+00	2.15E-04 +/- 2.55E-05
11	164.92	1.36E+00 +/- 3.95E-01	1.54E+00	2.25E-04 +/- 3.08E-05
12	196.07	1.74E+00 +/- 4.07E-01	1.53E+00	2.31E-04 +/- 3.04E-05
13	208.43	1.94E+01 +/- 6.63E-01	1.52E+00	2.30E-04 +/- 2.81E-05
14	255.67	1.33E+00 +/- 2.74E-01	1.50E+00	2.19E-04 +/- 1.71E-05
15	311.90	1.29E+00 +/- 2.38E-01	1.48E+00	2.00E-04 +/- 1.03E-05
16	333.24	4.45E+00 +/- 3.69E-01	1.47E+00	1.92E-04 +/- 1.04E-05
17	336.41	3.96E-01 +/- 2.79E-01	1.46E+00	1.91E-04 +/- 1.05E-05
18	345.67	3.68E+00 +/- 2.51E-01	1.46E+00	1.88E-04 +/- 1.07E-05
19	368.83	1.62E+00 +/- 2.35E-01	1.45E+00	1.80E-04 +/- 1.16E-05
20	375.68	1.17E+01 +/- 4.05E-01	1.44E+00	1.77E-04 +/- 1.18E-05
21	383.47	9.16E-01 +/- 2.48E-01	1.44E+00	1.75E-04 +/- 1.21E-05
22	393.64	3.88E+00 +/- 2.53E-01	1.44E+00	1.72E-04 +/- 1.23E-05
23	413.70	1.11E+01 +/- 3.38E-01	1.43E+00	1.65E-04 +/- 1.27E-05
24	423.43	5.28E-01 +/- 1.44E-01	1.42E+00	1.62E-04 +/- 1.29E-05
25	452.34	1.30E+00 +/- 1.36E-01	1.41E+00	1.54E-04 +/- 1.30E-05
26	511.76	2.71E-01 +/- 7.67E-02	1.38E+00	1.40E-04 +/- 1.22E-05
27	662.42	5.64E-01 +/- 8.33E-02	1.33E+00	1.12E-04 +/- 8.14E-06

28	1112.12	3.55E-02	+/- 1.77E-02	1.24E+00	7.35E-05	+/- 3.70E-06

Segment: 2 Detector: DET01 (# 1) Position: 2

Elapsed Live Time: 111.02 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.181 +/- 0.0270
SE-75	264.65	0.000 +/- 0.0000	0.300 +/- 0.0037
SE-75	279.53	0.000 +/- 0.0000	0.311 +/- 0.0053
SE-75	400.65	0.000 +/- 0.0000	0.344 +/- 0.0066

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	1.15E+01 +/- 5.50E-01	4.10E+00	1.31E-10 +/- 1.40E-09
2	23.20	2.11E+01 +/- 6.77E-01	3.88E+00	5.57E-10 +/- 5.31E-09
3	35.10	1.01E+03 +/- 4.85E+00	2.58E+00	2.21E-07 +/- 1.06E-06
4	49.73	1.86E+01 +/- 1.32E+00	2.17E+00	6.30E-06 +/- 1.48E-05
5	59.60	5.02E+02 +/- 3.09E+00	2.05E+00	2.20E-05 +/- 3.31E-05
6	98.84	4.90E+01 +/- 1.33E+00	1.86E+00	1.84E-04 +/- 4.23E-05
7	111.36	9.87E+00 +/- 9.01E-01	1.83E+00	2.41E-04 +/- 2.51E-05
8	129.29	4.99E+01 +/- 9.79E-01	1.80E+00	3.07E-04 +/- 1.84E-05
9	148.57	8.33E+00 +/- 6.35E-01	1.75E+00	3.54E-04 +/- 3.27E-05
10	164.92	2.48E+00 +/- 4.94E-01	1.71E+00	3.77E-04 +/- 3.99E-05
11	171.62	2.17E+00 +/- 4.91E-01	1.70E+00	3.83E-04 +/- 4.12E-05
12	179.47	1.15E+00 +/- 4.79E-01	1.68E+00	3.87E-04 +/- 4.17E-05
13	208.41	2.96E+01 +/- 7.86E-01	1.62E+00	3.88E-04 +/- 3.70E-05
14	268.27	6.59E-01 +/- 2.62E-01	1.52E+00	3.52E-04 +/- 2.00E-05
15	300.10	7.83E-01 +/- 3.02E-01	1.50E+00	3.27E-04 +/- 1.48E-05
16	311.90	2.59E+00 +/- 3.05E-01	1.49E+00	3.18E-04 +/- 1.39E-05
17	333.36	6.64E+00 +/- 4.23E-01	1.49E+00	3.02E-04 +/- 1.34E-05
18	345.64	5.69E+00 +/- 3.56E-01	1.48E+00	2.93E-04 +/- 1.34E-05
19	368.93	2.35E+00 +/- 2.76E-01	1.47E+00	2.78E-04 +/- 1.39E-05
20	375.71	1.68E+01 +/- 4.84E-01	1.47E+00	2.74E-04 +/- 1.40E-05
21	383.49	1.75E+00 +/- 2.35E-01	1.47E+00	2.69E-04 +/- 1.42E-05
22	393.64	6.40E+00 +/- 2.93E-01	1.46E+00	2.63E-04 +/- 1.43E-05
23	413.70	1.68E+01 +/- 4.23E-01	1.45E+00	2.51E-04 +/- 1.46E-05
24	423.27	7.51E-01 +/- 1.77E-01	1.45E+00	2.46E-04 +/- 1.46E-05
25	452.25	1.40E+00 +/- 1.66E-01	1.43E+00	2.32E-04 +/- 1.45E-05
26	620.01	1.14E-01 +/- 6.20E-02	1.36E+00	1.74E-04 +/- 1.03E-05
27	662.42	7.37E-01 +/- 1.02E-01	1.35E+00	1.65E-04 +/- 9.18E-06
28	723.11	3.63E-01 +/- 7.53E-02	1.33E+00	1.53E-04 +/- 7.83E-06
29	1001.03	2.63E-02 +/- 2.13E-02	1.27E+00	1.20E-04 +/- 5.31E-06

Segment: 3 Detector: DET01 (# 1) Position: 3

Elapsed Live Time: 112.22 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.158 +/- 0.0234
SE-75	264.65	0.000 +/- 0.0000	0.301 +/- 0.0036
SE-75	279.53	0.000 +/- 0.0000	0.305 +/- 0.0052
SE-75	400.65	0.000 +/- 0.0000	0.361 +/- 0.0067

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
	1	23.22	1.87E+01 +/- 6.01E-01	4.10E+00	1.08E-08 +/- 1.05E-07
	2	35.10	1.01E+03 +/- 4.81E+00	2.74E+00	1.07E-06 +/- 5.27E-06
	3	59.62	2.95E+02 +/- 2.17E+00	2.15E+00	3.80E-05 +/- 5.87E-05
	4	98.85	2.99E+01 +/- 1.01E+00	1.94E+00	2.01E-04 +/- 4.74E-05
	5	103.28	1.84E+01 +/- 6.38E-01	1.93E+00	2.19E-04 +/- 3.96E-05
	6	111.27	5.04E+00 +/- 7.39E-01	1.91E+00	2.49E-04 +/- 2.66E-05
	7	129.29	2.90E+01 +/- 7.43E-01	1.87E+00	3.02E-04 +/- 1.84E-05
	8	148.57	4.86E+00 +/- 4.92E-01	1.81E+00	3.39E-04 +/- 3.24E-05
	9	171.96	1.14E+00 +/- 3.86E-01	1.74E+00	3.61E-04 +/- 4.04E-05
	10	208.42	1.55E+01 +/- 5.91E-01	1.64E+00	3.66E-04 +/- 3.64E-05
	11	267.98	5.73E-01 +/- 2.46E-01	1.52E+00	3.39E-04 +/- 2.01E-05
	12	311.90	1.61E+00 +/- 2.33E-01	1.49E+00	3.13E-04 +/- 1.40E-05
	13	333.36	3.61E+00 +/- 3.19E-01	1.48E+00	3.00E-04 +/- 1.35E-05
	14	345.62	3.52E+00 +/- 2.37E-01	1.47E+00	2.93E-04 +/- 1.36E-05
M	15	367.66	6.98E-01 +/- 1.44E-01	1.46E+00	2.80E-04 +/- 1.41E-05
m	16	369.29	7.90E-01 +/- 1.53E-01	1.46E+00	2.79E-04 +/- 1.42E-05
	17	375.74	1.01E+01 +/- 3.74E-01	1.45E+00	2.76E-04 +/- 1.44E-05
	18	383.55	7.66E-01 +/- 2.50E-01	1.45E+00	2.72E-04 +/- 1.46E-05
	19	393.60	3.42E+00 +/- 2.19E-01	1.44E+00	2.67E-04 +/- 1.48E-05
	20	413.70	9.94E+00 +/- 3.19E-01	1.43E+00	2.57E-04 +/- 1.52E-05
	21	423.33	4.84E-01 +/- 1.17E-01	1.42E+00	2.53E-04 +/- 1.53E-05
	22	452.21	9.73E-01 +/- 1.19E-01	1.41E+00	2.40E-04 +/- 1.54E-05
	23	662.42	4.29E-01 +/- 7.74E-02	1.33E+00	1.78E-04 +/- 1.02E-05
	24	723.07	1.81E-01 +/- 5.45E-02	1.32E+00	1.66E-04 +/- 8.75E-06

Batch 2002-03-179

Segment: 4 Detector: DET01 (# 1) Position: 4

Elapsed Live Time: 113.29 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.239 +/- 0.0218
SE-75	264.65	0.000 +/- 0.0000	0.338 +/- 0.0039
SE-75	279.53	0.000 +/- 0.0000	0.349 +/- 0.0054
SE-75	400.65	0.000 +/- 0.0000	0.407 +/- 0.0071

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.26	7.22E+00 +/- 3.75E-01	3.31E+00	3.38E-06 +/- 4.74E-06
2	35.10	1.01E+03 +/- 4.79E+00	2.28E+00	2.00E-05 +/- 1.66E-05
3	59.64	9.77E+01 +/- 1.14E+00	1.85E+00	9.84E-05 +/- 3.39E-05
4	98.93	9.41E+00 +/- 5.99E-01	1.70E+00	2.40E-04 +/- 2.42E-05
5	103.46	4.85E+00 +/- 3.97E-01	1.69E+00	2.53E-04 +/- 2.24E-05
6	111.28	1.24E+00 +/- 4.51E-01	1.68E+00	2.74E-04 +/- 1.97E-05
7	129.29	8.33E+00 +/- 4.37E-01	1.65E+00	3.12E-04 +/- 1.61E-05
8	148.57	1.57E+00 +/- 3.15E-01	1.62E+00	3.40E-04 +/- 1.63E-05
9	208.45	3.79E+00 +/- 3.26E-01	1.53E+00	3.71E-04 +/- 1.94E-05
10	279.54	3.21E-01 +/- 1.45E-01	1.45E+00	3.53E-04 +/- 1.66E-05
11	311.90	3.07E-01 +/- 1.24E-01	1.43E+00	3.38E-04 +/- 1.48E-05
12	333.51	1.01E+00 +/- 1.95E-01	1.42E+00	3.27E-04 +/- 1.37E-05
13	345.52	7.82E-01 +/- 1.39E-01	1.41E+00	3.21E-04 +/- 1.32E-05
14	375.68	2.31E+00 +/- 1.82E-01	1.39E+00	3.06E-04 +/- 1.21E-05
15	393.63	8.44E-01 +/- 1.18E-01	1.38E+00	2.97E-04 +/- 1.16E-05
16	413.70	2.47E+00 +/- 1.60E-01	1.37E+00	2.87E-04 +/- 1.11E-05
17	423.54	1.69E-01 +/- 6.96E-02	1.37E+00	2.83E-04 +/- 1.10E-05
18	452.16	2.43E-01 +/- 7.30E-02	1.36E+00	2.70E-04 +/- 1.06E-05
19	559.54	1.94E-01 +/- 4.79E-02	1.32E+00	2.27E-04 +/- 9.88E-06
20	662.42	1.37E-01 +/- 4.99E-02	1.29E+00	1.95E-04 +/- 9.03E-06

Segment: 5 Detector: DET01 (# 1) Position: 5

Elapsed Live Time: 113.60 sec Elapsed Real Time: 115.00 sec

Batch 2002-03-171

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.360 +/- 0.0268
SE-75	264.65	0.000 +/- 0.0000	0.490 +/- 0.0049
SE-75	279.53	0.000 +/- 0.0000	0.507 +/- 0.0067
SE-75	400.65	0.000 +/- 0.0000	0.557 +/- 0.0085

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.26	3.58E+00 +/- 2.54E-01	2.52E+00	1.79E-06 +/- 2.60E-06
2	35.10	1.01E+03 +/- 4.77E+00	1.85E+00	1.48E-05 +/- 1.27E-05
3	59.61	3.64E+01 +/- 7.20E-01	1.57E+00	9.34E-05 +/- 3.30E-05
4	98.91	2.56E+00 +/- 3.95E-01	1.48E+00	2.49E-04 +/- 2.52E-05
5	103.32	1.22E+00 +/- 3.57E-01	1.47E+00	2.63E-04 +/- 2.33E-05
6	129.29	2.51E+00 +/- 3.09E-01	1.44E+00	3.26E-04 +/- 1.67E-05
7	208.46	1.01E+00 +/- 2.06E-01	1.35E+00	3.75E-04 +/- 2.04E-05
8	311.90	2.49E-01 +/- 1.08E-01	1.27E+00	3.26E-04 +/- 1.48E-05
9	333.36	3.84E-01 +/- 1.09E-01	1.26E+00	3.13E-04 +/- 1.36E-05
10	375.57	3.79E-01 +/- 1.13E-01	1.25E+00	2.89E-04 +/- 1.18E-05
11	413.70	5.31E-01 +/- 7.79E-02	1.23E+00	2.69E-04 +/- 1.09E-05
12	662.42	4.85E-02 +/- 2.66E-02	1.18E+00	1.79E-04 +/- 8.77E-06
13	1112.12	8.70E-03 +/- 8.70E-03	1.14E+00	1.14E-04 +/- 4.26E-06

Segment: 6 Detector: DET01 (# 1) Position: 6

Elapsed Live Time: 113.65 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.075 +/- 0.0150
SE-75	264.65	0.000 +/- 0.0000	0.154 +/- 0.0024
SE-75	279.53	0.000 +/- 0.0000	0.159 +/- 0.0035
SE-75	400.65	0.000 +/- 0.0000	0.192 +/- 0.0047

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.25	2.91E+00 +/- 2.27E-01	4.10E+00	6.88E-07 +/- 9.72E-07
2	35.10	1.01E+03 +/- 4.77E+00	3.63E+00	8.04E-06 +/- 6.71E-06
3	49.04	5.83E+00 +/- 4.65E-01	2.95E+00	3.53E-05 +/- 1.75E-05
4	59.64	2.10E+01 +/- 5.56E-01	2.73E+00	6.91E-05 +/- 2.40E-05
5	98.72	1.60E+00 +/- 3.86E-01	2.41E+00	2.22E-04 +/- 2.26E-05
6	129.29	1.66E+00 +/- 2.84E-01	2.30E+00	3.10E-04 +/- 1.61E-05
7	208.29	7.51E-01 +/- 2.03E-01	2.02E+00	3.81E-04 +/- 2.03E-05
8	279.54	1.96E-01 +/- 1.15E-01	1.86E+00	3.57E-04 +/- 1.71E-05
9	311.90	1.74E-01 +/- 9.73E-02	1.83E+00	3.39E-04 +/- 1.51E-05
10	375.63	6.76E-01 +/- 1.06E-01	1.77E+00	3.02E-04 +/- 1.21E-05
11	413.70	5.23E-01 +/- 8.96E-02	1.74E+00	2.81E-04 +/- 1.11E-05
12	662.42	3.66E-02 +/- 2.04E-02	1.57E+00	1.86E-04 +/- 8.77E-06
13	1001.03	3.00E-02 +/- 2.05E-02	1.44E+00	1.30E-04 +/- 4.95E-06
14	1408.01	8.72E-03 +/- 1.96E-02	1.36E+00	1.04E-04 +/- 6.39E-06

Segment: 7 Detector: DET01 (# 1) Position: 7

Elapsed Live Time: 113.41 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.021 +/- 0.0009
SE-75	279.53	0.000 +/- 0.0000	0.023 +/- 0.0015
SE-75	400.65	0.000 +/- 0.0000	0.034 +/- 0.0020

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.23	5.69E+00 +/- 3.31E-01	4.10E+00	7.28E-09 +/- 7.13E-08
2	35.10	1.01E+03 +/- 4.77E+00	4.10E+00	9.59E-07 +/- 4.73E-06
3	59.63	7.73E+01 +/- 1.01E+00	4.10E+00	4.03E-05 +/- 6.22E-05
4	98.87	8.90E+00 +/- 5.31E-01	4.10E+00	2.21E-04 +/- 5.17E-05

5	103.36	3.19E+00 +/-	4.75E-01	4.10E+00	2.41E-04 +/-	4.30E-05
6	111.51	1.90E+00 +/-	4.17E-01	4.10E+00	2.74E-04 +/-	2.84E-05
7	129.29	9.93E+00 +/-	4.17E-01	4.10E+00	3.30E-04 +/-	1.98E-05
8	148.57	5.17E-01 +/-	2.90E-01	3.96E+00	3.68E-04 +/-	3.49E-05
9	204.00	4.78E-01 +/-	2.71E-01	3.49E+00	3.92E-04 +/-	3.95E-05
10	208.51	2.75E+00 +/-	3.14E-01	3.45E+00	3.91E-04 +/-	3.83E-05
11	279.54	1.85E-01 +/-	1.16E-01	3.04E+00	3.50E-04 +/-	1.84E-05
12	311.90	6.72E-01 +/-	1.33E-01	2.96E+00	3.27E-04 +/-	1.48E-05
13	333.34	1.24E+00 +/-	1.79E-01	2.91E+00	3.13E-04 +/-	1.44E-05
14	345.64	1.14E+00 +/-	1.55E-01	2.88E+00	3.05E-04 +/-	1.46E-05
15	375.77	2.70E+00 +/-	1.88E-01	2.82E+00	2.87E-04 +/-	1.54E-05
16	393.80	8.60E-01 +/-	1.15E-01	2.79E+00	2.77E-04 +/-	1.59E-05
17	413.70	2.85E+00 +/-	1.74E-01	2.75E+00	2.67E-04 +/-	1.63E-05
18	452.38	3.86E-01 +/-	7.43E-02	2.66E+00	2.49E-04 +/-	1.63E-05
19	662.42	1.05E-01 +/-	3.27E-02	2.31E+00	1.82E-04 +/-	1.06E-05
20	778.90	3.16E-02 +/-	1.78E-02	2.18E+00	1.60E-04 +/-	7.89E-06
21	1001.03	3.16E-02 +/-	2.06E-02	2.00E+00	1.31E-04 +/-	5.77E-06
22	1112.12	2.25E-02 +/-	1.81E-02	1.93E+00	1.20E-04 +/-	5.13E-06

Segment: 8 Detector: DET01 (# 1) Position: 8

Elapsed Live Time: 113.17 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.013 +/- 0.0008
SE-75	279.53	0.000 +/- 0.0000	0.015 +/- 0.0013
SE-75	400.65	0.000 +/- 0.0000	0.026 +/- 0.0018

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.22	8.07E+00 +/- 4.03E-01	4.10E+00	4.27E-09 +/- 4.15E-08
2	35.10	1.01E+03 +/- 4.78E+00	4.10E+00	6.89E-07 +/- 3.37E-06
3	59.63	1.40E+02 +/- 1.37E+00	4.10E+00	3.35E-05 +/- 5.15E-05
4	98.89	1.50E+01 +/- 6.52E-01	4.10E+00	1.99E-04 +/- 4.64E-05
5	103.39	4.62E+00 +/- 5.80E-01	4.10E+00	2.18E-04 +/- 3.89E-05
6	111.43	2.02E+00 +/- 4.98E-01	4.10E+00	2.49E-04 +/- 2.61E-05
7	129.29	1.70E+01 +/- 5.23E-01	4.10E+00	3.05E-04 +/- 1.85E-05
8	148.57	1.14E+00 +/- 3.28E-01	4.02E+00	3.45E-04 +/- 3.27E-05
9	171.69	8.91E-01 +/- 2.79E-01	3.88E+00	3.69E-04 +/- 4.10E-05

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10	208.44	4.66E+00	+/- 3.82E-01	3.70E+00	3.75E-04	+/- 3.71E-05
11	300.10	2.41E-01	+/- 1.67E-01	3.26E+00	3.30E-04	+/- 1.53E-05
12	311.90	1.53E+00	+/- 1.74E-01	3.22E+00	3.23E-04	+/- 1.44E-05
13	333.30	1.43E+00	+/- 2.06E-01	3.15E+00	3.10E-04	+/- 1.38E-05
14	345.60	1.33E+00	+/- 1.85E-01	3.11E+00	3.03E-04	+/- 1.38E-05
15	375.68	4.88E+00	+/- 2.52E-01	3.02E+00	2.86E-04	+/- 1.46E-05
16	383.51	6.81E-01	+/- 1.25E-01	3.00E+00	2.82E-04	+/- 1.48E-05
17	393.72	1.51E+00	+/- 1.37E-01	2.97E+00	2.76E-04	+/- 1.50E-05
18	413.70	4.31E+00	+/- 2.12E-01	2.92E+00	2.66E-04	+/- 1.54E-05
19	423.36	3.04E-01	+/- 9.31E-02	2.90E+00	2.62E-04	+/- 1.55E-05
20	452.30	4.99E-01	+/- 8.49E-02	2.83E+00	2.49E-04	+/- 1.56E-05
21	559.37	1.31E-01	+/- 4.51E-02	2.61E+00	2.10E-04	+/- 1.34E-05
22	662.42	1.22E-01	+/- 6.01E-02	2.45E+00	1.83E-04	+/- 1.03E-05
23	964.13	1.97E-02	+/- 1.69E-02	2.12E+00	1.32E-04	+/- 5.87E-06
24	1408.01	1.75E-02	+/- 1.24E-02	1.88E+00	9.08E-05	+/- 6.30E-06

Segment: 9 Detector: DET01 (# 1) Position: 9

Elapsed Live Time: 113.26 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.055 +/- 0.0014
SE-75	279.53	0.000 +/- 0.0000	0.058 +/- 0.0022
SE-75	400.65	0.000 +/- 0.0000	0.079 +/- 0.0030

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.28	7.70E+00 +/- 3.84E-01	4.10E+00	2.34E-06 +/- 2.34E-05
2	35.10	1.01E+03 +/- 4.80E+00	4.10E+00	1.75E-05 +/- 8.88E-05
3	49.23	7.72E+00 +/- 6.75E-01	4.10E+00	5.90E-05 +/- 1.50E-04
4	59.64	1.19E+02 +/- 1.24E+00	4.10E+00	1.00E-04 +/- 1.59E-04
5	98.92	1.13E+01 +/- 6.08E-01	4.10E+00	2.52E-04 +/- 6.03E-05
6	111.44	1.44E+00 +/- 4.82E-01	4.10E+00	2.86E-04 +/- 3.03E-05
7	114.62	1.27E+00 +/- 4.02E-01	4.10E+00	2.94E-04 +/- 2.48E-05
8	129.29	1.31E+01 +/- 4.85E-01	4.10E+00	3.23E-04 +/- 1.97E-05
9	148.57	6.86E-01 +/- 3.08E-01	3.74E+00	3.48E-04 +/- 3.41E-05
10	203.88	4.39E-01 +/- 2.93E-01	2.94E+00	3.66E-04 +/- 3.87E-05
11	208.51	3.07E+00 +/- 3.43E-01	2.90E+00	3.66E-04 +/- 3.75E-05
12	300.10	5.70E-01 +/- 1.35E-01	2.41E+00	3.26E-04 +/- 1.55E-05

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13	311.90	3.07E+00 +/-	2.26E-01	2.39E+00	3.20E-04 +/-	1.45E-05
14	333.25	1.46E+00 +/-	1.96E-01	2.36E+00	3.08E-04 +/-	1.39E-05
15	345.67	9.05E-01 +/-	1.95E-01	2.34E+00	3.01E-04 +/-	1.41E-05
16	375.72	3.80E+00 +/-	2.16E-01	2.29E+00	2.85E-04 +/-	1.49E-05
17	383.59	3.73E-01 +/-	1.54E-01	2.28E+00	2.81E-04 +/-	1.52E-05
18	393.67	1.46E+00 +/-	1.27E-01	2.26E+00	2.76E-04 +/-	1.55E-05
19	413.70	3.33E+00 +/-	1.83E-01	2.23E+00	2.67E-04 +/-	1.59E-05
20	452.45	3.69E-01 +/-	7.79E-02	2.18E+00	2.49E-04 +/-	1.61E-05
21	662.42	1.41E-01 +/-	4.82E-02	1.93E+00	1.82E-04 +/-	1.04E-05
22	867.39	4.20E-02 +/-	2.74E-02	1.78E+00	1.46E-04 +/-	6.48E-06
23	1085.91	8.85E-03 +/-	8.85E-03	1.68E+00	1.23E-04 +/-	5.22E-06

Segment: 10 Detector: DET01 (# 1) Position: 10

Elapsed Live Time: 113.32 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.221 +/- 0.0208
SE-75	264.65	0.000 +/- 0.0000	0.282 +/- 0.0034
SE-75	279.53	0.000 +/- 0.0000	0.294 +/- 0.0049
SE-75	400.65	0.000 +/- 0.0000	0.335 +/- 0.0064

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.25	5.90E+00 +/- 3.44E-01	3.46E+00	3.46E-07 +/- 4.90E-07
2	35.10	1.01E+03 +/- 4.77E+00	2.36E+00	5.68E-06 +/- 4.74E-06
3	59.63	8.95E+01 +/- 1.06E+00	1.90E+00	6.39E-05 +/- 2.21E-05
4	98.89	8.79E+00 +/- 5.54E-01	1.74E+00	2.31E-04 +/- 2.33E-05
5	111.31	3.31E+00 +/- 4.09E-01	1.72E+00	2.77E-04 +/- 1.99E-05
6	129.29	8.88E+00 +/- 4.29E-01	1.69E+00	3.30E-04 +/- 1.70E-05
7	148.57	9.43E-01 +/- 3.12E-01	1.67E+00	3.68E-04 +/- 1.75E-05
8	208.42	2.65E+00 +/- 2.76E-01	1.60E+00	4.01E-04 +/- 2.09E-05
9	256.38	2.49E-01 +/- 1.37E-01	1.56E+00	3.82E-04 +/- 1.87E-05
10	279.54	2.63E-01 +/- 1.69E-01	1.54E+00	3.68E-04 +/- 1.71E-05
11	300.10	1.45E+00 +/- 2.00E-01	1.52E+00	3.54E-04 +/- 1.57E-05
12	311.90	8.39E+00 +/- 3.08E-01	1.52E+00	3.45E-04 +/- 1.50E-05
13	333.49	5.98E-01 +/- 1.69E-01	1.51E+00	3.30E-04 +/- 1.38E-05
14	345.77	6.53E-01 +/- 1.53E-01	1.50E+00	3.22E-04 +/- 1.32E-05
15	375.83	2.65E+00 +/- 1.83E-01	1.48E+00	3.02E-04 +/- 1.20E-05
16	383.50	2.75E-01 +/- 9.12E-02	1.48E+00	2.97E-04 +/- 1.18E-05
17	393.56	8.73E-01 +/- 1.23E-01	1.48E+00	2.91E-04 +/- 1.15E-05
18	400.66	4.10E-01 +/- 8.43E-02	1.47E+00	2.87E-04 +/- 1.13E-05
19	413.70	2.19E+00 +/- 1.65E-01	1.46E+00	2.79E-04 +/- 1.11E-05

20	452.44	3.16E-01	+/- 7.84E-02	1.44E+00	2.58E-04	+/- 1.05E-05
21	662.42	6.31E-02	+/- 4.22E-02	1.36E+00	1.80E-04	+/- 8.83E-06
22	778.90	2.40E-02	+/- 2.26E-02	1.33E+00	1.56E-04	+/- 7.55E-06
23	1001.03	2.62E-02	+/- 2.10E-02	1.28E+00	1.28E-04	+/- 5.05E-06
24	1085.91	3.00E-02	+/- 1.86E-02	1.27E+00	1.21E-04	+/- 4.45E-06

Segment: 11 Detector: DET01 (# 1) Position: 11

Elapsed Live Time: 113.33 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.140 +/- 0.0023
SE-75	279.53	0.000 +/- 0.0000	0.146 +/- 0.0035
SE-75	400.65	0.000 +/- 0.0000	0.179 +/- 0.0046

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.19	4.61E+00 +/- 3.24E-01	4.10E+00	4.67E-07 +/- 6.58E-07
2	35.10	1.01E+03 +/- 4.79E+00	4.10E+00	6.75E-06 +/- 5.60E-06
3	59.63	7.11E+01 +/- 9.40E-01	4.10E+00	6.71E-05 +/- 2.31E-05
4	75.21	8.70E-01 +/- 3.28E-01	4.10E+00	1.31E-04 +/- 2.72E-05
5	94.77	9.58E-01 +/- 5.31E-01	4.10E+00	2.13E-04 +/- 2.41E-05
6	98.84	8.23E+00 +/- 5.66E-01	4.10E+00	2.28E-04 +/- 2.29E-05
7	103.34	2.28E+00 +/- 4.91E-01	4.10E+00	2.45E-04 +/- 2.16E-05
8	111.47	1.43E+00 +/- 4.69E-01	4.10E+00	2.72E-04 +/- 1.93E-05
9	129.29	9.96E+00 +/- 4.75E-01	4.10E+00	3.21E-04 +/- 1.65E-05
10	185.71	4.54E-01 +/- 2.28E-01	2.56E+00	3.87E-04 +/- 1.99E-05
11	208.45	1.88E+00 +/- 3.23E-01	2.31E+00	3.89E-04 +/- 2.04E-05
12	244.70	3.16E-01 +/- 2.04E-01	2.04E+00	3.77E-04 +/- 1.91E-05
13	300.10	2.05E+00 +/- 2.30E-01	1.88E+00	3.45E-04 +/- 1.56E-05
14	311.90	1.17E+01 +/- 3.68E-01	1.87E+00	3.37E-04 +/- 1.49E-05
15	333.45	7.60E-01 +/- 1.77E-01	1.85E+00	3.23E-04 +/- 1.37E-05
16	341.14	6.43E-01 +/- 1.90E-01	1.84E+00	3.19E-04 +/- 1.33E-05
17	375.70	2.96E+00 +/- 1.99E-01	1.81E+00	2.97E-04 +/- 1.19E-05
18	393.78	1.21E+00 +/- 1.26E-01	1.80E+00	2.86E-04 +/- 1.14E-05
19	400.66	3.03E-01 +/- 8.48E-02	1.79E+00	2.82E-04 +/- 1.12E-05
20	413.70	2.40E+00 +/- 1.74E-01	1.78E+00	2.75E-04 +/- 1.09E-05
21	443.98	7.05E-02 +/- 3.47E-02	1.75E+00	2.59E-04 +/- 1.04E-05
22	452.24	2.14E-01 +/- 6.68E-02	1.74E+00	2.55E-04 +/- 1.03E-05

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23	1085.91	1.76E-02	+/- 1.25E-02	1.44E+00	1.22E-04	+/- 4.46E-06
24	1408.01	8.81E-03	+/- 8.81E-03	1.38E+00	1.08E-04	+/- 6.61E-06

Segment: 12 Detector: DET01 (# 1) Position: 12

Elapsed Live Time: 112.79 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Some transmission peaks rejected.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	0.091 +/- 0.0019
SE-75	279.53	0.000 +/- 0.0000	0.102 +/- 0.0030
SE-75	400.65	0.000 +/- 0.0000	0.136 +/- 0.0040

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.31	7.26E+00 +/- 4.00E-01	4.10E+00	6.56E-07 +/- 9.19E-07
2	35.10	1.01E+03 +/- 4.79E+00	3.99E+00	7.63E-06 +/- 6.33E-06
3	59.63	7.77E+01 +/- 9.97E-01	2.97E+00	6.65E-05 +/- 2.30E-05
4	74.97	7.29E-01 +/- 4.20E-01	2.77E+00	1.25E-04 +/- 2.64E-05
5	86.59	5.01E+00 +/- 5.53E-01	2.67E+00	1.71E-04 +/- 2.51E-05
6	94.88	1.49E+00 +/- 7.97E-01	2.62E+00	2.02E-04 +/- 2.31E-05
7	98.68	1.85E+01 +/- 9.29E-01	2.60E+00	2.16E-04 +/- 2.21E-05
8	103.94	8.17E+00 +/- 5.31E-01	2.58E+00	2.34E-04 +/- 2.06E-05
9	111.35	8.80E+00 +/- 6.30E-01	2.55E+00	2.57E-04 +/- 1.86E-05
10	129.29	2.65E+01 +/- 6.34E-01	2.48E+00	3.04E-04 +/- 1.59E-05
11	148.57	1.36E+00 +/- 4.55E-01	2.42E+00	3.39E-04 +/- 1.64E-05
12	172.05	1.54E+00 +/- 3.64E-01	2.36E+00	3.64E-04 +/- 1.84E-05
13	189.90	1.20E+00 +/- 3.29E-01	2.32E+00	3.74E-04 +/- 1.95E-05
14	204.04	9.42E-01 +/- 3.81E-01	2.29E+00	3.76E-04 +/- 1.99E-05
15	208.47	6.49E+00 +/- 4.72E-01	2.28E+00	3.76E-04 +/- 1.99E-05
16	244.70	4.16E-01 +/- 2.58E-01	2.21E+00	3.70E-04 +/- 1.88E-05
17	300.10	1.00E+01 +/- 3.93E-01	2.08E+00	3.43E-04 +/- 1.55E-05
18	311.90	5.20E+01 +/- 7.38E-01	2.06E+00	3.36E-04 +/- 1.48E-05
19	333.45	2.16E+00 +/- 2.45E-01	2.03E+00	3.24E-04 +/- 1.37E-05
20	341.14	4.77E+00 +/- 2.92E-01	2.02E+00	3.19E-04 +/- 1.33E-05
21	375.72	7.65E+00 +/- 3.03E-01	1.97E+00	3.00E-04 +/- 1.19E-05
22	383.64	5.55E-01 +/- 1.64E-01	1.96E+00	2.95E-04 +/- 1.16E-05
23	393.74	2.18E+00 +/- 1.88E-01	1.95E+00	2.90E-04 +/- 1.14E-05
24	400.66	1.76E+00 +/- 1.55E-01	1.94E+00	2.86E-04 +/- 1.12E-05
25	413.70	6.17E+00 +/- 2.91E-01	1.93E+00	2.79E-04 +/- 1.09E-05

26	423.50	3.71E-01 +/-	1.03E-01	1.92E+00	2.74E-04 +/-	1.07E-05
27	452.43	7.52E-01 +/-	1.01E-01	1.89E+00	2.60E-04 +/-	1.03E-05
28	1001.03	4.35E-02 +/-	3.00E-02	1.54E+00	1.29E-04 +/-	4.89E-06
29	1085.91	2.63E-02 +/-	1.52E-02	1.52E+00	1.21E-04 +/-	4.35E-06
30	1408.01	2.63E-02 +/-	1.52E-02	1.44E+00	1.02E-04 +/-	6.34E-06

Segment: 13 Detector: DET01 (# 1) Position: 13

Elapsed Live Time: 112.34 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Some transmission peaks rejected.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	0.122 +/- 0.0022
SE-75	279.53	0.000 +/- 0.0000	0.127 +/- 0.0035
SE-75	400.65	0.000 +/- 0.0000	0.178 +/- 0.0047

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	3.04E+00 +/- 3.42E-01	4.10E+00	6.56E-07 +/- 1.05E-06
2	23.29	4.93E+00 +/- 3.65E-01	4.10E+00	1.14E-06 +/- 1.66E-06
3	35.10	1.01E+03 +/- 4.81E+00	3.55E+00	1.10E-05 +/- 9.51E-06
4	59.63	8.19E+01 +/- 1.07E+00	2.67E+00	8.10E-05 +/- 2.88E-05
5	75.08	1.02E+00 +/- 5.36E-01	2.50E+00	1.45E-04 +/- 3.11E-05
6	86.65	1.15E+01 +/- 6.70E-01	2.43E+00	1.92E-04 +/- 2.86E-05
7	94.88	4.97E+00 +/- 8.41E-01	2.38E+00	2.23E-04 +/- 2.57E-05
8	98.66	2.27E+01 +/- 1.10E+00	2.37E+00	2.37E-04 +/- 2.43E-05
9	104.14	7.27E+00 +/- 5.90E-01	2.34E+00	2.55E-04 +/- 2.23E-05
10	111.36	1.43E+01 +/- 7.37E-01	2.32E+00	2.77E-04 +/- 1.99E-05
11	129.29	3.00E+01 +/- 6.96E-01	2.26E+00	3.21E-04 +/- 1.67E-05
12	195.91	1.65E+00 +/- 4.01E-01	2.12E+00	3.80E-04 +/- 2.06E-05
13	203.98	2.03E+00 +/- 4.48E-01	2.10E+00	3.81E-04 +/- 2.07E-05
14	208.48	5.81E+00 +/- 5.19E-01	2.10E+00	3.80E-04 +/- 2.07E-05
15	244.70	5.90E-01 +/- 3.10E-01	2.04E+00	3.70E-04 +/- 1.94E-05
16	279.54	7.06E-01 +/- 3.21E-01	1.98E+00	3.52E-04 +/- 1.71E-05
17	300.10	2.12E+01 +/- 5.48E-01	1.94E+00	3.40E-04 +/- 1.57E-05
18	311.90	1.21E+02 +/- 1.16E+00	1.92E+00	3.33E-04 +/- 1.50E-05
19	333.34	2.08E+00 +/- 2.68E-01	1.89E+00	3.20E-04 +/- 1.38E-05
20	341.11	1.11E+01 +/- 4.19E-01	1.88E+00	3.15E-04 +/- 1.34E-05
21	368.50	1.06E+00 +/- 1.65E-01	1.84E+00	2.99E-04 +/- 1.22E-05
22	375.77	9.28E+00 +/- 3.33E-01	1.83E+00	2.95E-04 +/- 1.20E-05

23	383.68	6.15E-01 +/-	1.76E-01	1.82E+00	2.91E-04 +/-	1.18E-05
24	393.69	2.27E+00 +/-	2.03E-01	1.80E+00	2.85E-04 +/-	1.15E-05
25	399.14	2.05E+00 +/-	2.74E-01	1.80E+00	2.82E-04 +/-	1.13E-05
26	413.70	6.44E+00 +/-	3.42E-01	1.78E+00	2.74E-04 +/-	1.10E-05
27	416.60	2.51E+00 +/-	4.76E-01	1.78E+00	2.73E-04 +/-	1.10E-05
28	423.25	3.70E-01 +/-	1.02E-01	1.77E+00	2.69E-04 +/-	1.09E-05
29	452.41	8.39E-01 +/-	9.80E-02	1.75E+00	2.55E-04 +/-	1.05E-05
30	778.90	3.58E-02 +/-	2.18E-02	1.54E+00	1.54E-04 +/-	7.54E-06
31	1085.91	8.85E-03 +/-	8.85E-03	1.44E+00	1.15E-04 +/-	4.30E-06

Segment: 14 Detector: DET01 (# 1) Position: 14

Elapsed Live Time: 112.60 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.290 +/- 0.0263
SE-75	264.65	0.000 +/- 0.0000	0.371 +/- 0.0041
SE-75	279.53	0.000 +/- 0.0000	0.369 +/- 0.0057
SE-75	400.65	0.000 +/- 0.0000	0.425 +/- 0.0073

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	3.22E+00 +/- 3.22E-01	3.26E+00	3.08E-07 +/- 3.39E-06
2	23.19	5.09E+00 +/- 3.57E-01	2.94E+00	5.84E-07 +/- 5.73E-06
3	35.10	1.01E+03 +/- 4.80E+00	2.07E+00	8.94E-06 +/- 4.41E-05
4	59.63	9.46E+01 +/- 1.10E+00	1.72E+00	8.06E-05 +/- 1.25E-04
5	86.67	9.28E+00 +/- 6.01E-01	1.62E+00	1.95E-04 +/- 8.74E-05
6	98.64	2.01E+01 +/- 9.84E-01	1.59E+00	2.38E-04 +/- 5.67E-05
7	104.06	6.66E+00 +/- 6.53E-01	1.58E+00	2.56E-04 +/- 4.39E-05
8	111.39	1.04E+01 +/- 6.49E-01	1.57E+00	2.77E-04 +/- 2.90E-05
9	129.29	2.18E+01 +/- 6.15E-01	1.55E+00	3.17E-04 +/- 1.90E-05
10	143.98	2.25E+00 +/- 4.74E-01	1.53E+00	3.39E-04 +/- 3.00E-05
11	195.63	1.12E+00 +/- 3.62E-01	1.48E+00	3.65E-04 +/- 3.91E-05
12	204.04	8.76E-01 +/- 3.70E-01	1.47E+00	3.64E-04 +/- 3.73E-05
13	208.43	4.67E+00 +/- 4.45E-01	1.47E+00	3.63E-04 +/- 3.63E-05
14	271.81	9.61E-01 +/- 2.75E-01	1.43E+00	3.40E-04 +/- 1.95E-05
15	300.10	1.73E+01 +/- 4.95E-01	1.41E+00	3.25E-04 +/- 1.51E-05
16	311.90	9.40E+01 +/- 1.01E+00	1.41E+00	3.18E-04 +/- 1.42E-05
17	333.57	2.14E+00 +/- 2.50E-01	1.39E+00	3.07E-04 +/- 1.37E-05
18	341.12	9.17E+00 +/- 3.74E-01	1.39E+00	3.03E-04 +/- 1.37E-05
19	375.76	7.59E+00 +/- 2.93E-01	1.37E+00	2.85E-04 +/- 1.47E-05
20	383.41	4.20E-01 +/- 1.35E-01	1.37E+00	2.81E-04 +/- 1.49E-05
21	393.64	1.98E+00 +/- 1.86E-01	1.36E+00	2.76E-04 +/- 1.52E-05

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22	400.66	2.59E+00 +/-	1.82E-01	1.36E+00	2.73E-04 +/-	1.53E-05
23	413.70	4.75E+00 +/-	2.91E-01	1.35E+00	2.67E-04 +/-	1.56E-05
24	416.80	1.49E+00 +/-	4.31E-01	1.35E+00	2.65E-04 +/-	1.56E-05
25	423.32	3.18E-01 +/-	8.58E-02	1.35E+00	2.62E-04 +/-	1.57E-05
26	452.38	6.61E-01 +/-	9.31E-02	1.34E+00	2.50E-04 +/-	1.58E-05
27	559.19	1.51E-01 +/-	5.07E-02	1.30E+00	2.11E-04 +/-	1.36E-05
28	662.42	1.41E-01 +/-	4.59E-02	1.28E+00	1.83E-04 +/-	1.04E-05
29	964.13	3.52E-02 +/-	1.76E-02	1.22E+00	1.31E-04 +/-	5.72E-06
30	1112.12	1.43E-02 +/-	1.47E-02	1.20E+00	1.16E-04 +/-	4.88E-06
31	1408.01	8.79E-03 +/-	8.79E-03	1.18E+00	9.39E-05 +/-	6.30E-06

Segment: 15 Detector: DET01 (# 1) Position: 15

Elapsed Live Time: 113.19 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.886 +/- 0.0346
SE-75	264.65	0.000 +/- 0.0000	0.857 +/- 0.0073
SE-75	279.53	0.000 +/- 0.0000	0.847 +/- 0.0094
SE-75	400.65	0.000 +/- 0.0000	0.880 +/- 0.0112

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	1.99E+00 +/- 2.58E-01	1.16E+00	1.78E-13 +/- 1.91E-12
2	23.24	4.33E+00 +/- 3.07E-01	1.14E+00	1.76E-12 +/- 1.68E-11
3	35.10	1.01E+03 +/- 4.79E+00	1.08E+00	1.45E-08 +/- 6.96E-08
4	59.63	9.12E+01 +/- 1.08E+00	1.06E+00	1.09E-05 +/- 1.65E-05
5	86.83	1.29E+00 +/- 3.91E-01	1.05E+00	1.13E-04 +/- 4.90E-05
6	98.74	1.34E+01 +/- 7.67E-01	1.05E+00	1.83E-04 +/- 4.21E-05
7	103.94	7.55E+00 +/- 4.57E-01	1.05E+00	2.13E-04 +/- 3.59E-05
8	111.53	3.61E+00 +/- 5.54E-01	1.05E+00	2.55E-04 +/- 2.60E-05
9	114.74	1.41E+00 +/- 4.70E-01	1.05E+00	2.72E-04 +/- 2.22E-05
10	129.29	2.18E+01 +/- 5.47E-01	1.05E+00	3.37E-04 +/- 1.99E-05
11	148.57	1.20E+00 +/- 3.79E-01	1.05E+00	3.93E-04 +/- 3.63E-05
12	171.93	4.77E-01 +/- 2.99E-01	1.05E+00	4.21E-04 +/- 4.54E-05
13	203.95	5.23E-01 +/- 3.32E-01	1.05E+00	4.18E-04 +/- 4.10E-05
14	208.45	4.57E+00 +/- 3.96E-01	1.05E+00	4.15E-04 +/- 3.96E-05
15	255.68	5.30E-01 +/- 1.98E-01	1.06E+00	3.74E-04 +/- 2.38E-05
16	300.10	3.35E+00 +/- 2.45E-01	1.06E+00	3.32E-04 +/- 1.51E-05
17	311.90	1.71E+01 +/- 4.25E-01	1.06E+00	3.22E-04 +/- 1.42E-05
18	333.55	1.79E+00 +/- 2.09E-01	1.06E+00	3.04E-04 +/- 1.37E-05
19	345.70	1.29E+00 +/- 2.03E-01	1.06E+00	2.95E-04 +/- 1.38E-05
20	375.75	4.92E+00 +/- 2.51E-01	1.05E+00	2.74E-04 +/- 1.44E-05

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21	383.57	5.12E-01 +/-	1.39E-01	1.05E+00	2.69E-04 +/-	1.45E-05
22	393.66	2.04E+00 +/-	1.56E-01	1.05E+00	2.63E-04 +/-	1.47E-05
23	400.66	5.18E-01 +/-	1.05E-01	1.05E+00	2.59E-04 +/-	1.48E-05
24	413.70	4.42E+00 +/-	2.35E-01	1.05E+00	2.52E-04 +/-	1.49E-05
25	423.28	2.40E-01 +/-	9.93E-02	1.05E+00	2.47E-04 +/-	1.50E-05
26	452.30	5.49E-01 +/-	8.94E-02	1.05E+00	2.33E-04 +/-	1.49E-05
27	662.42	9.61E-02 +/-	4.90E-02	1.04E+00	1.74E-04 +/-	9.76E-06
28	778.90	2.63E-02 +/-	1.52E-02	1.04E+00	1.56E-04 +/-	7.35E-06
29	1085.91	3.07E-02 +/-	1.82E-02	1.03E+00	1.24E-04 +/-	5.17E-06

Segment: 16 Detector: DET01 (# 1) Position: 16

Elapsed Live Time: 113.63 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.756 +/- 0.0329
SE-75	264.65	0.000 +/- 0.0000	0.731 +/- 0.0065
SE-75	279.53	0.000 +/- 0.0000	0.728 +/- 0.0084
SE-75	400.65	0.000 +/- 0.0000	0.767 +/- 0.0103

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.21	2.00E+00 +/- 2.12E-01	1.34E+00	1.32E-14 +/- 1.48E-13
2	35.10	1.01E+03 +/- 4.76E+00	1.20E+00	9.52E-10 +/- 5.35E-09
3	59.63	2.17E+01 +/- 5.22E-01	1.14E+00	3.36E-06 +/- 5.92E-06
4	98.80	4.72E+00 +/- 4.11E-01	1.12E+00	1.07E-04 +/- 2.87E-05
5	111.33	1.84E+00 +/- 3.03E-01	1.12E+00	1.61E-04 +/- 1.91E-05
6	129.29	6.41E+00 +/- 3.50E-01	1.11E+00	2.29E-04 +/- 1.54E-05
7	148.57	7.10E-01 +/- 2.49E-01	1.11E+00	2.78E-04 +/- 3.01E-05
8	208.48	1.31E+00 +/- 2.44E-01	1.12E+00	3.05E-04 +/- 3.42E-05
9	300.10	3.61E-01 +/- 1.21E-01	1.12E+00	2.42E-04 +/- 1.22E-05
10	311.90	1.84E+00 +/- 1.60E-01	1.12E+00	2.34E-04 +/- 1.14E-05
11	333.64	5.70E-01 +/- 1.26E-01	1.12E+00	2.20E-04 +/- 1.09E-05
12	345.54	4.24E-01 +/- 1.10E-01	1.11E+00	2.13E-04 +/- 1.09E-05
13	375.73	1.69E+00 +/- 1.47E-01	1.11E+00	1.97E-04 +/- 1.15E-05
14	393.87	6.40E-01 +/- 9.54E-02	1.11E+00	1.89E-04 +/- 1.19E-05
15	413.70	1.46E+00 +/- 1.26E-01	1.10E+00	1.81E-04 +/- 1.21E-05
16	443.98	5.78E-02 +/- 4.36E-02	1.10E+00	1.70E-04 +/- 1.22E-05
17	452.49	1.37E-01 +/- 5.07E-02	1.10E+00	1.68E-04 +/- 1.22E-05
18	964.13	1.74E-02 +/- 1.23E-02	1.07E+00	1.01E-04 +/- 4.92E-06
19	1085.91	3.48E-02 +/- 1.74E-02	1.06E+00	9.33E-05 +/- 4.42E-06
20	1408.01	1.74E-02 +/- 1.23E-02	1.05E+00	7.39E-05 +/- 5.32E-06

Batch 2002-02-1182

Batch 2002-02-1183

Summed Spectrum

Peak Locate Report

Sample ID: LL85101099R
Peak Locate Performed on: 2-20-02 2:14:55 PM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192
Peak Search Sensitivity: 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
1	43.00	0.3373	21.42	8.79
2	46.62	0.1380	23.23	32.40
3	70.32	0.0380	35.07	471.27
4	119.45	0.0615	59.62	145.03
5	150.45	0.2809	75.11	6.96
6	173.63	0.2505	86.69	9.98
7	197.84	0.1076	98.78	49.37
8	207.17	0.1407	103.44	23.29
9	223.07	0.1391	111.39	25.56
10	259.46	0.0904	129.57	65.94
11	289.06	0.2551	144.36	8.30
12	298.11	0.1805	148.88	17.33
13	343.85	0.2930	171.73	8.12
14	380.02	0.3458	189.81	6.55
15	392.36	0.2923	195.97	5.92
16	417.31	0.0975	208.44	55.31
17	512.34	0.3032	255.91	5.17
18	602.00	0.1148	300.71	36.70
19	625.61	0.0749	312.51	85.71
20	667.32	0.1345	333.34	25.54
21	682.94	0.1312	341.15	27.24
22	691.95	0.1303	345.65	28.27
23	738.30	0.2098	368.81	8.20
24	752.14	0.0967	375.72	49.67
25	767.73	0.1774	383.51	15.98
26	788.05	0.1336	393.66	25.34
27	829.74	0.1023	414.49	44.73
28	847.51	0.1892	423.37	11.87
29	905.48	0.1653	452.34	15.35
30	1120.02	0.2458	559.52	7.47
31	1328.40	0.2210	663.63	8.04
32	1447.68	0.2516	723.23	5.80

Errors quoted at 1.000 sigma

Summed Spectrum

Peak Analysis Report

Sample ID: LL85101099R
Peak Analysis Performed on: 2-20-02 2:14:55 PM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	40-	46	43.00	21.42	5.77E+03	140.86	7.02E+03
2	46-	49	46.62	23.23	1.18E+04	168.57	9.53E+03
3	67-	73	70.32	35.07	1.84E+06	1360.44	7.30E+03
4	115-	122	119.45	59.62	2.45E+05	579.90	4.33E+04
5	146-	154	150.45	75.11	1.67E+03	195.94	1.69E+04
6	169-	177	173.63	86.69	3.87E+03	237.09	2.43E+04
7	194-	201	197.84	98.78	3.15E+04	348.25	4.46E+04
8	206-	210	207.17	103.44	1.60E+04	207.27	1.55E+04
9	219-	226	223.07	111.39	8.86E+03	247.62	2.52E+04
10	255-	263	259.46	129.57	3.29E+04	265.59	1.74E+04
11	284-	293	289.06	144.36	1.28E+03	192.48	1.56E+04
12	293-	302	298.11	148.88	3.17E+03	195.21	1.54E+04
13	339-	348	343.85	171.73	1.37E+03	156.98	1.03E+04
14	375-	384	380.02	189.81	5.26E+02	143.33	8.85E+03
15	387-	396	392.36	195.97	1.04E+03	140.50	8.29E+03
16	412-	421	417.31	208.44	1.21E+04	197.19	1.13E+04
17	507-	517	512.34	255.91	6.25E+02	105.26	4.39E+03
18	597-	606	602.00	300.71	6.39E+03	118.36	3.38E+03
19	620-	630	625.61	312.51	3.60E+04	206.55	2.79E+03
20	662-	672	667.32	333.34	3.45E+03	107.68	3.31E+03
21	678-	687	682.94	341.15	2.00E+03	105.11	3.99E+03
22	687-	697	691.95	345.65	1.79E+02	125.98	5.11E+03
23	733-	743	738.30	368.81	1.32E+03	69.50	1.46E+03
24	746-	757	752.14	375.72	1.02E+04	123.00	1.98E+03
25	767-	772	767.73	383.51	1.00E+03	59.99	8.48E+02
26	782-	793	788.05	393.66	3.39E+03	75.55	9.26E+02
27	824-	835	829.74	414.49	1.03E+04	110.09	7.37E+02
28	842-	852	847.51	423.37	5.09E+02	42.19	5.22E+02
29	900-	910	905.48	452.34	1.01E+03	41.12	2.88E+02
30	1114-	1125	1120.02	559.52	2.09E+02	22.73	1.23E+02
31	1322-	1334	1328.40	663.63	2.98E+02	25.43	1.32E+02
32	1441-	1453	1447.68	723.23	1.56E+02	20.09	9.42E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 3003 03-1185

Summed Spectrum

Nuclide Identification Report

Sample ID: LL85101099R
Nuclide Library Used: C:\WAS\NLIB\LLNL.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/)	Activity Uncertainty
Pulser	1.000	35.10*	100.00	1.315E+06	2.748E+06
Np-237	0.974	300.10*	6.63	1.068E+02	2.090E+00
		311.90*	38.60	1.053E+02	8.883E-01
Pu-239	0.956	413.70*	0.00	9.240E+05	1.918E+04
Pu-239A	0.995	129.29*	0.01	6.738E+05	1.560E+04
Am-241	0.900	662.42*	0.00	1.391E+05	1.192E+04
Pu-241	0.993	148.57*	0.00	1.915E+06	1.206E+05

* = Energy line found in the spectrum.
Energy Tolerance : 1.500 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 1.000 sigma

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 2-20-02 2:14:55 PM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	21.42	5.0687E+01	2.44
2	23.23	1.0366E+02	1.43
4	59.62	2.1557E+03	0.25
5	75.11	1.4668E+01	11.74
6	86.69	3.3990E+01	6.13
7	98.78	2.7707E+02	1.11
8	103.44	1.4031E+02	1.30
9	111.39	7.7898E+01	2.79
11	144.36	1.1281E+01	14.99
13	171.73	1.2077E+01	11.42
14	189.81	4.6246E+00	27.24
15	195.97	9.1391E+00	13.51
16	208.44	1.0677E+02	1.63
17	255.91	5.4886E+00	16.85
20	333.34	3.0302E+01	3.12
21	341.15	1.7561E+01	5.26
22	345.65	1.5768E+00	70.21
23	368.81	1.1566E+01	5.28
24	375.72	8.9515E+01	1.21
25	383.51	8.8237E+00	5.97
26	393.66	2.9776E+01	2.23
28	423.37	4.4751E+00	8.29
29	452.34	8.8477E+00	4.09
30	559.52	1.8391E+00	10.86
32	723.23	1.3689E+00	12.89

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Combined Segment NID

NID Results Combiner Mode: Sum Activities

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		3.73E+07	+/-	1.94E+08	8.00E+02	+/-	4.16E+03
SE-75	<	2.04E-01	+/-	1.45E-02	< 4.38E-06	+/-	3.10E-07
EU-152x	<	2.81E-01	+/-	2.14E-02	< 6.03E-06	+/-	4.59E-07
U-233	<	1.05E+04	+/-	9.25E+02	< 2.25E-01	+/-	1.98E-02
U-235		1.42E-01	+/-	7.17E-02	3.05E-06	+/-	1.54E-06
Np-237		1.19E+02	+/-	2.35E+00	2.56E-03	+/-	5.04E-05
Pu-238	<	2.50E+04	+/-	3.14E+03	< 5.37E-01	+/-	6.74E-02
U-238		6.05E+00	+/-	1.98E+00	1.30E-04	+/-	4.24E-05
Pu-239		9.70E+05	+/-	2.39E+04	2.08E+01	+/-	5.14E-01
Pu-239A		9.14E+05	+/-	1.89E+04	1.96E+01	+/-	4.05E-01
Am-241		1.62E+05	+/-	1.34E+04	3.48E+00	+/-	2.89E-01
Pu-241		2.35E+06	+/-	1.68E+05	5.04E+01	+/-	3.61E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
U-235	6.58E-02	+/-	3.32E-02
Np-237	1.69E-01	+/-	3.34E-03
U-238	1.80E+01	+/-	5.89E+00
Pu-239	1.56E+01	+/-	3.85E-01
Pu-239A	1.47E+01	+/-	3.04E-01
Am-241	4.73E-02	+/-	3.93E-03
Pu-241	2.27E-02	+/-	1.63E-03

Summed Spectrum

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		1.32E+06	+/-	2.75E+06	2.82E+01	+/-	5.90E+01
SE-75	<	6.14E-01	+/-	4.52E-03	< 1.32E-05	+/-	9.70E-08
EU-152x	<	4.92E-01	+/-	8.04E-03	< 1.06E-05	+/-	1.72E-07
U-233	<	3.21E+04	+/-	5.98E+02	< 6.89E-01	+/-	1.28E-02
U-235	<	9.23E-01	+/-	1.75E-02	< 1.98E-05	+/-	3.75E-07
Np-237		1.06E+02	+/-	8.17E-01	2.26E-03	+/-	1.75E-05
Pu-238	<	7.61E+04	+/-	9.86E+02	< 1.63E+00	+/-	2.12E-02
U-238	<	1.43E+01	+/-	2.21E-01	< 3.06E-04	+/-	4.74E-06
Pu-239		9.24E+05	+/-	1.92E+04	1.98E+01	+/-	4.12E-01
Pu-239A		6.74E+05	+/-	1.56E+04	1.45E+01	+/-	3.35E-01
Am-241		1.39E+05	+/-	1.19E+04	2.99E+00	+/-	2.56E-01
Pu-241		1.91E+06	+/-	1.21E+05	4.11E+01	+/-	2.59E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
Np-237	1.50E-01	+/-	1.16E-03
Pu-239	1.49E+01	+/-	3.09E-01
Pu-239A	1.08E+01	+/-	2.51E-01
Am-241	4.06E-02	+/-	3.48E-03
Pu-241	1.85E-02	+/-	1.17E-03

Batch 2002-02-1189

Final Non-Uniformity Results

Source Longitudinal Ratio:	0.000	+/-	0.0000
Matrix Longitudinal Ratio:	0.963	+/-	0.1549
Source Vertical Ratio:	0.000	+/-	0.0000
Matrix Vertical Ratio:	0.986	+/-	0.0689

NUDS could not find the transmission peak in one radial segment.
NUDS could not find the source peak in any radial segment.

Batch 2002-02-1190

LAWRENCE LIVERMORE NATIONAL LABORATORY

WASTE DISPOSAL REQUISITION

Waste Run Date:

W 154356

Label/waste Type: (Must check)
- ☐ Non-Haz
- ☐ Haz
- ☐ Low-Level
- ☒ TRU

RCRA ☐ CA ☐

☐ No Disposal Option

1. Container Serial Number or Retention Tank ID:

2. For TRU Waste, TRU Waste Container Serial No.: LL85! 01059 TRU

3. Container Acceptable: ☒ Yes ☐ N/A Initials: [illegible]

Chemical Compatibility Code: DS

Storage Restrictions
☐ No Storage Restrictions
Not acceptable at the following locations:
☐ 233 ☐ 514 ☐ 612 ☑ 693
CWAA ☑ 169 ☑ 361 ☐ 612-4

4. Building No.: 332

5. Room No.: 1378

6. RMMA: ☒ Yes ☐ No

7. WAA No.: 332A

14. Waste Package Seals Applied: ☑ Yes ☐ N/A (if yes, complete Step 15)

Hazardous Properties:
☐ Toxic ☐ Corrosive ☐ Ignitable ☐ Reactive

19. Outer Container Type:
☐ Box ☐ Sack ☐ Can ☐ SWB ☐ Carboy ☐ Tub ☒ Drum ☐ Tank - Fixed ☐ Tank - Portable ☐ Transportainer
Other:

20. Outer Container Size/Vol:
☐ 1 gal ☐ 750 gal ☐ 2 gal ☐ 1000 gal ☐ 5 gal ☐ 5000 gal ☐ 30 gal ☐ 67 cu ft ☒ 55 gal ☐ 1 × 1 × 1.5 ☐ 85 gal ☐ 2 × 4 × 7 ☐ 330 gal ☐ 4 × 4 × 7 ☐ 660 gal ☐ gal ☐ cu ft
Other:

8. Workplace Start Date: 6/7/00

9. Workplace End Date: ~~6/6/00~~

10. Account No.: 5484-20

11. Directorate: DNT

15. Waste Package Seal Nos.: K324 T10649 TC 9/18/01

16. Source Code: 7940

☐ Lab Pack ☐ Over Pack

18. Waste Form: ☑ Solid ☐ Liquid ☐ Gas ☐ Sludge

12. Did Waste Minimization Effort Practices Begin in Current Calendar Year? ☐ Yes ☒ No DM 01/04/01

If yes, enter Activity Code: W_____

Comments: → 01/04/01

13. WEF/PKE/SAW No.: ☐ WEF No. ☒ PKE No. ☐ SAW No. ☐ N/A

Specify: 242 0243, 243, 244

17. LLW Waste Stream No. or TRU Waste Form No.: 1, 2a, 2b / S5440

21. Item No.	22. Spent or Unused (S/U)	23. Organic or Inorganic (O/I)	24. Waste Form (S,SL,L,G)	25. Waste Description (For multiple parcels, also list Parcel Card Nos.)	26. Hazardous Constituents and Concentrations	27. Item Container Size	28. Quantity per Item Amount	28. Quantity per Item Units	29. Analysis Sample No.	Physical Waste Data: 30. Aqueous Only pH	30. Aqueous Only Normality	31. Flash Point
			DM 01/04/01	~~P021504~~ P021829		55						
				P021697 P021825		gal						
				P021809 P021819								
				P021815 P021855								
				P021500 P021907								
				P021811								

USE CONTINUATION FORM FOR ADDITIONAL ITEMS

32. Does the waste contain radioactive components? ☒ Yes ☐ No ☐ To be analyzed
(If yes or TBA, complete Steps 36–41 as applicable to waste type.)

This section (Steps 33–35) is required for Hazardous Waste generated in a RMMA

33. Was the waste kept isolated from any operation that could have produced radioactive contamination (using a glove box, vent hood, etc.)? ☐ Yes ☐ No (If no, full rad analysis required)

34. Was the waste exposed to particle beams capable of inducing radioactivity by activation? ☐ Yes ☐ No (If yes, full rad analysis required)

35. Describe other controls used to prevent radioactive contamination:

36. Radionuclides:
Check all Plutonium grades present:
☒ Weapons ☐ Fuel ☐ Reactor ☐ Am-enriched ☐ Mixed

☐ Enriched Uranium (identify the % of each of the following.)
_____% U-234
_____% U-235
_____% U-238
(List additional radionuclides in Step 38.)

37. Gross weight of waste package: 78.4Kg

38. Radiological Data:
(For certified LLW and TRU waste, list totals from Parcel Cards.)

Item	Radionuclide(s)	Quantity	Units/Activity (Ci,g)	PE - Ci	Fissile g
					7/21/a

39. Rad. Survey mr/hr: | β-γ @ Contact | β-γ @ 1 Meter | Neutron @ Contact

40. Swipe Data: ☐ Complies with 10 CFR 835 criteria for unrestricted release

41. Rad Swipe/Survey Performed By: (Print Name–Last, First) | Employee No.: | L-Code:

Signature: | Date: | Ext.:

42. ☒ Generator: I certify, to the best of my knowledge, that the information provided on this requisition is correct. I understand that I may be liable to State and Federal prosecution by intentionally providing false information. I have obtained this information by:
DM 01/04/01 ☐ Direct knowledge of the waste generating process ☐ Analytical Data
☒ Obtaining sufficient information from others knowledgeable of the waste generating process.

☒ Container Custodian: I certify that the waste parcels identified on this form are contained in this waste container and have been packaged in accordance with the requirements specified in the appropriate LLNL TRU Waste or Low-Le[illegible] Waste Program Certification and Quality Assurance Program.

Generator or Container Custodian Name (Print – Last, First): Macari, Thomas

Signature: DM Tom Macari 05/22/01

Employee No.: 55322 | L-Code: 361 | Ext.: 3-2217 | Date: ~~7/24/00~~

Inspected By: Signature: | Employee No.: | Date:

Characterization Chemist Approval ☐ Acceptable for Sampling (Initials) ☐ WEF

Signature: E. Vern Reed | Employee No.: 69078 | Date: 6-4-01

RCA Approval ☐ Decay Program (Initials) ☐ NTS Certified (Initials) ☐ WIPP Certified (Initials) ☐ WEF

Signature: | Employee No.: | Date:

RMMA Certification: Shipping | CC | RSDR #:

Tare weight of container: 31.8kg

☐ HWM Use Only

LL-5344 (Rev. 06/98) Page 1 of _____

DM 05/22/01

Batch 2002-02-1191

W 154356

Generator: Complete items 43–47, only if container contains a single parcel of solid radioactive waste, and there is no Parcel Card attached.

43. Waste Generating Procedure:

Procedure #: ❒ 332 FSP ❒ B-360 Complex FSP ❒ 331 FSP ❒ AVLIS HPP ❒ EX-404 ❒ _____

❒ SAP #. _____ ❒ Instruction #: _____

44. Method(s) used to identify radionuclides and/or determine activity: *(Check all that apply)*

❒ Process knowledge ❒ Mass ❒ Mass balance ❒ Alpha spectrometry ❒ Other _____

❒ Liquid scintillation counting ❒ Tritium off gas measurement (attach results) _____

❒ High Sensitivity Neutron Instrument (attach results) ❒ Gamma spectrometry _____

❒ AVLIS method (❒ A ❒ B ❒ C)
(Complete the following for method A and B)
This method to be used in conjunction with an authorized procedure.

N/A see attached Cards TC 5/31/01

Survey meter model: _____

Serial number: _____

Calibration due date: _____

_____ *(Specify amount and units) (e.g., dpm, cpm, mR/hr)*

Check source jig no. _____

Detector response (±30%)

❒ Satisfactory

45. Total Parcel Weight (g, lb):

Note: If AVLIS Method C, mass or mass balance is used, use a calibrated scale. _____ _____ Units

❒ Estimated Weight ❒ Scale: Serial #: _____

Calibration due date: _____

46. Will the final waste form contain any of the following? (Explain all "yes" answers)

Chelating Agents: ❒ Yes ❒ No (e.g., Radiac Wash, > 1% by weight / pkg)

Free Liquids: ❒ Yes ❒ No

Fine Particles: ❒ Yes ❒ No [> 1% of <10-micrometer particles (compare to flour) or >15% of <200-micrometer particles (compare to sand)]

Compressed Gases: ❒ Yes ❒ No (e.g., non-punctured aerosol cans)

Pyrophorics: ❒ Yes ❒ No (e.g., uranium turnings that could spontaneously combust if exposed to air)

Explosives: ❒ Yes ❒ No (e.g., TNT, PETN, HMX, that exhibit explosive properties)

Classified Material: ❒ Yes ❒ No

Friable Asbestos: ❒ Yes ❒ No

PCBs: ❒ Yes ❒ No

Explanations: _____

47. Verifier Certification: I verify that, to the best of my knowledge, the information supplied by the waste generator on this form is complete and accurate.

Verifier Name (Print):	Verification Date:
Signature:	Employee No.:

Hazardous Appendix
HWM-801 Review

SCIL (Single Container Inventory Limits) Exceeded ☑ No ❒ Yes

pH Results obtained by: *(Check all that apply)* NP

❒ Meter *(Calibrated)* ❒ Field Technician ❒ Sample Team

❒ Paper ❒ Analytical ❒ Chemist

Initial: _____

CC Rule (VOC's greater or less than 500 ppm Level 1, 2, 3): NP

❒ CC / > 500 / A ❒ CC / < 500 / A

❒ CC / > 500 / B ❒ CC / < 500 / B

A = Generator Knowledge B = Analytical Data

Storage Locations:

❒ No storage restrictions

Waste is not acceptable for storage at the following locations: *(Check all that apply)*

❒ 233 ❒ 514 ❒ 612 ❒ Bldg. 693

☑ 169 CWAA ☑ 361 CWAA ❒ 612-4 CWAA

STP Code: _____

❒ WEF CC initials: GMC

Radiological Appendix HWM-800 Review

❒ No storage restrictions, based on Single Container Acceptable Limits.

Waste is not acceptable for storage at the following locations, based on SCAL: *(Check all that apply)* ❒ 233 ❒ 514 ❒ 612-1 ❒ Bldg. 693

❒ 612 (other than 612-1) ❒ 169 CWAA ❒ 361 CWAA

❒ Contains > 1 curie and/or is > the amount identified per radionuclide on attachment B of Procedure HWM 800.

❒ Contains > than 10 grams of fissile material (U-233, U-235, or Pu-239)

❒ Weight Dependent (Activity is dependent on weight)

STP Code: _____ ❒ WEF RCA initials: _____

Scheduled Date: / /

❒ HWM Waste Run ❒ Processed Waste

❒ Site 300 to LLNL ❒ Commercial Shipment

❒ Secured Pickup ❒ HWM Field Pump Out

❒ HWM GeneratedWaste: Loc: _____

TWMS: Initial: _____ Date: _____

Item	RCH Prefix	RCH	P	Origin Code	Form Code	EPA No.	DTSC No.	MSDS No.	Hazardous Properties T	C	I	R
1		RP	P	1	2,3,29				❒	❒	❒	❒
									❒	❒	❒	❒
									❒	❒	❒	❒
									❒	❒	❒	❒
									❒	❒	❒	❒
									❒	❒	❒	❒

6/98

Rec'd 2002-02-11

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
2-20-02 2:23:43 PM

OK NB
4-24-02

QA File: C:\WAS\CTRS\CTR1\ARR1\T11_BCK.QA
Sample ID: B881
Sample Quantity: 1.0000E+00
Sample Date: 2-20-02 2:18:10 PM
Measurement Date: 2-20-02 2:21:36 PM
Elapsed Live Time: 100.0 seconds
Elapsed Real Time: 103.9 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
400.6 keV Centroid [0.00+/-0.00]	8.0352E+02	0.00 < : : : >
400.6 keV FWHM [0.00+/-0.00]	1.5411E+00	0.00 < : : : >
Peak centroid 136 KeV [0.00+/-0.00]	2.7300E+02	0.00 < : : : >
Peak area 400 keV [0.00+/-0.00]	1.6840E+04	0.00 < : : : >
Peak counts/second [0.00+/-0.00]	1.6840E+02	0.00 < : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
2-20-02 2:23:50 PM

QA File: C:\WAS\CTRS\CTR1\ARR1\S11_BCK.QA
Sample ID: B881
Sample Quantity: 1.0000E+00
Sample Date: 2-20-02 2:18:10 PM
Measurement Date: 2-20-02 2:18:08 PM
Elapsed Live Time: 200.0 seconds
Elapsed Real Time: 201.9 seconds

Parameter Description	Value	Deviation/Flags

Batch 2002-02-1193

[Mean +/- Std. Dev.]		< LU : SD : UD : BS >
Ref. Peak	3.5105E+01	0.00
[0.00+/-0.00]		< : : : >
Upper CPS Reg	2.8245E+01	0.00
[0.00+/-0.00]		< : : : >
Peak counts/second	1.0087E+03	0.00
[0.00+/-0.00]		< : : : >
Pulser FWHM	1.0630E+00	0.00
[0.00+/-0.00]		< : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

Batch 2002-02-1194

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS 2.3A

****
* DRUM INFORMATION *
****

Drum Package ID: S100_882
Sequence Number: 882
Assay Date & Time: 2-21-2002 7:40:31 AM
Drum Package GROSS Weight: 54.00 kg NET Weight: 22.20 kg

IDC Number: SGS100

QC Replicate (Yes/No): no Passed (Yes/No): _____

Operator Name (Printed): Russell Rathi

Operator Signature: _____ Date: 2-21-02

Independent Reviewer: _____ Date: 4-24-02

Expert Reviewer: (NOT REQUIRED) Date: _____

Tech. Supv/QA Officer: _____ Date: 7/17/02

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 9.233E+00 +/- 2.125E+00 Ci

Batch 2002-02-1195

ISOTOPIC INFORMATION

Isotope	Measured Mass (g)	Mass Uncertainty (g)	MDC (g)
Pu-238	8.358E-03	2.94E-03	1.912E-05
Pu-239	9.900E+01	3.24E+01	2.264E-01
Pu-240	5.876E+00	1.92E+00	1.344E-02
Pu-241	2.490E-01	8.15E-02	6.209E-03
Pu-242	3.229E-02	1.23E-02	7.385E-05
Am-241	4.575E-01	1.50E-01	1.568E-02
Am-243	0.000E+00	0.00E+00	0.000E+00
Np-237	0.000E+00	0.00E+00	1.165E-03
U-235	0.000E+00	0.00E+00	2.593E-01
U-238	1.861E+01	1.02E+01	1.573E+01
U-233	4.164E+00	1.34E+00	4.164E+00

Total Pu Mass: 1.05E+02 +/- 5.87E+00 g

MGA RESULTS

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	7.948E-03	6.65E+00
Pu-239	9.414E+01	4.57E-02
Pu-240	5.588E+00	7.63E-01
Pu-241	2.368E-01	4.96E-01
Pu-242	3.071E-02	1.00E+01
Am-241	4.351E-01	4.21E-01

Batch 2003-03-1196

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005

Assay Date & Time: 2-21-2002 7:40:31 AM

Drum Package ID: S100_882
Sequence Number: 882

Waste Classification (TRU or LLW): TRU

			Errors at 1.96 sigma	
Total Alpha Activity :	9.233E+00	+/-	2.12E+00	Ci
Total TRU Activity :	4.159E+05	+/-	9.57E+04	nCi/g
Pu-239 Equiv Activity:	9.727E+00	+/-	2.13E+00	Ci
Fissile Gram Equiv Mass:	9.970E+01	+/-	3.24E+01	g
Total Decay Heat:	2.938E-01	+/-	6.70E-02	W
TMU Value:	32.72 %			

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error	MDA gm
Pu-238	1.45E-01	5.09E-02	8.36E-03	2.94E-03	1.91E-05
Pu-239	6.15E+00	2.01E+00	9.90E+01	3.24E+01	2.26E-01
Pu-240	1.35E+00	4.43E-01	5.88E+00	1.92E+00	1.34E-02
Pu-241	2.59E+01	8.48E+00	2.49E-01	8.15E-02	6.21E-03
Pu-242	1.28E-04	4.89E-05	3.23E-02	1.23E-02	7.39E-05
Am-241	1.59E+00	5.20E-01	4.58E-01	1.50E-01	1.57E-02
Am-243	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Np-237	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.17E-03
U-235	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.59E-01
U-238	6.33E-06	3.48E-06	1.86E+01	1.02E+01	1.57E+01
U-233	4.06E-02	1.31E-02	4.16E+00	1.34E+00	4.16E+00

Total Pu Mass: 1.05E+02 +/- 5.87E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	7.948E-03	6.65E+00
Pu-239	9.414E+01	4.57E-02
Pu-240	5.588E+00	7.63E-01
Pu-241	2.368E-01	4.96E-01
Pu-242	3.071E-02	1.00E+01
Am-241	4.351E-01	4.21E-01

Batch 3903-02-1197

****
***** M G A R E P O R T *****
****

Report generated on: 2-21-02 8:37:06 AM

MGA version: MGA V9.5 CI

Spectrum ID: 11200882.CNF Sens : 30.0% LT: 51.0 Mins DT: 8.81
Measurement date: 2-21-02 Declared date: 2-21-02

Sample ID: S100_882 Detector: Total counts: 1.519E+07

Pu g/cm2 = 0.8507 Cd g/cm2 = 1.7808 FWHM at 122 keV = 691 eV
QFIT = 1.15 FWHM at 208 keV = 887 eV
NQFIT = 1.01

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	Meas. date %Err	Decl. date % weight	Decl. date %Err
Pu-238	0.000084	6.7	6.7	0.0336	6.6	0.00795	6.65	0.00795	6.65
Pu-239	1.000000	0.0	0.3	397.5347	0.5	94.13665	0.05	94.13665	0.05
Pu-240	0.059359	0.8	0.8	23.5974	0.9	5.58790	0.76	5.58790	0.76
Pu-241	0.002516	0.5	0.4	1.0000	0.0	0.23680	0.50	0.23680	0.50
Pu-242	(New alg.)			0.1297	(10)	0.03071	(10)	0.03071	(10)
Am-241	0.004622	0.4	0.3	1.8373	0.5	0.43508	0.42	0.43508	0.42

Pu-240 effective (meas. date) = 5.660 +/- 0.82%
Am-241 separated about 21.565 +/- 0.134 years ago
Am/Pu-241 weight ratio = 1.83733 +/- 0.53%

Messages :

Lead x-rays detected.
Calculations in MGAABS didn't converge : results may be suspect.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Batch 2002-02-1198

Gamma Waste Assay

Sample Information

File Name: C:\WAS\DATA\900\11100882.S11
Sample ID: S100_882 Count Sequence Number: 882
Assay Start: 2-21-02 7:40:33 AM
Description 1: sgs100
Description 2:
Location: 7715
Comment:
Waste Type:
Weight: Gross: 54000.0 g Net: 22200.0 g
Density: 0.107 g /ml

Container Type: 55 Gal Galv
Container: Volume: 208000. ml Full: 100.0 %

System Configuration

Counter ID Number: SGS
Arrangement Description: SGS
Segments: Number: 16 Offset: 0
Scanning Platform: Start: 934 mm Delta: -51 mm
Count Type: Daily 100 g Drum Check
Collimator/Geometry Setting: 0
Transmission Mode: Two pass
Transmission Source: 0

Errors quoted at 1.000 sigma
Reference Source Date: Reference Source Rate: 1.01E+03 cps
Geometric Correction Factor(SWCONTGCF): 0.760
Date of efficiency calibration approval: 4-18-2001 12:41:36 PM
Mu Factors response file: Lucite
Transmission Calib. Time: 5-11-2001 2:20:42 PM 59052

Reviewed by: R Rutt Date: 2.21.02

Batch 2002-02-1199

Segment Results

Segment: 1 Detector: DET01 (# 1) Position: 1

Elapsed Live Time: 113.38 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.373 +/- 0.0270
SE-75	264.65	0.000 +/- 0.0000	0.447 +/- 0.0046
SE-75	279.53	0.000 +/- 0.0000	0.448 +/- 0.0063
SE-75	400.65	0.000 +/- 0.0000	0.501 +/- 0.0080

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.78E+00	1.82E+00	2.61E-06 +/- 1.64E-05
2	48.70	8.73E+00 +/- 4.35E-01	1.62E+00	1.63E-05 +/- 5.26E-05
3	59.63	4.36E+00 +/- 3.76E-01	1.55E+00	3.76E-05 +/- 7.40E-05
4	964.13	5.25E-02 +/- 2.14E-02	1.18E+00	8.22E-05 +/- 4.17E-06
5	1408.01	8.75E-03 +/- 8.75E-03	1.14E+00	6.19E-05 +/- 4.71E-06

Segment: 2 Detector: DET01 (# 1) Position: 2

Elapsed Live Time: 113.20 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.432 +/- 0.0287
SE-75	264.65	0.000 +/- 0.0000	0.515 +/- 0.0051
SE-75	279.53	0.000 +/- 0.0000	0.517 +/- 0.0070
SE-75	400.65	0.000 +/- 0.0000	0.555 +/- 0.0086

Batch 2002-02-1200

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.07	3.42E+00 +/- 2.92E-01	2.22E+00	5.04E-10 +/- 4.84E-09
2	35.10	1.01E+03 +/- 4.78E+00	1.68E+00	2.21E-07 +/- 1.06E-06
3	59.61	7.23E+00 +/- 4.27E-01	1.46E+00	2.20E-05 +/- 3.31E-05
4	185.71	6.33E-01 +/- 3.93E-01	1.32E+00	3.89E-04 +/- 4.14E-05
5	413.70	7.58E-02 +/- 5.15E-02	1.24E+00	2.51E-04 +/- 1.46E-05

Segment: 3 Detector: DET01 (# 1) Position: 3

Elapsed Live Time: 112.47 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.397 +/- 0.0325
SE-75	264.65	0.000 +/- 0.0000	0.473 +/- 0.0049
SE-75	279.53	0.000 +/- 0.0000	0.473 +/- 0.0067
SE-75	400.65	0.000 +/- 0.0000	0.532 +/- 0.0084

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	2.76E+00 +/- 3.30E-01	2.58E+00	3.50E-09 +/- 3.85E-08
2	23.29	4.82E+00 +/- 3.47E-01	2.34E+00	1.12E-08 +/- 1.09E-07
3	35.10	1.01E+03 +/- 4.81E+00	1.76E+00	1.07E-06 +/- 5.27E-06
4	59.59	3.12E+01 +/- 7.40E-01	1.51E+00	3.79E-05 +/- 5.87E-05
5	98.82	1.29E+01 +/- 9.42E-01	1.43E+00	2.01E-04 +/- 4.74E-05
6	103.50	6.23E+00 +/- 9.10E-01	1.42E+00	2.20E-04 +/- 3.92E-05
7	111.17	3.20E+00 +/- 7.75E-01	1.41E+00	2.48E-04 +/- 2.67E-05
8	129.29	7.94E+00 +/- 5.98E-01	1.40E+00	3.02E-04 +/- 1.84E-05
9	148.57	1.75E+00 +/- 5.36E-01	1.38E+00	3.39E-04 +/- 3.24E-05
10	195.73	1.50E+00 +/- 4.93E-01	1.35E+00	3.67E-04 +/- 3.91E-05
11	208.41	7.63E+00 +/- 5.33E-01	1.34E+00	3.66E-04 +/- 3.64E-05
12	244.70	6.51E-01 +/- 3.29E-01	1.32E+00	3.52E-04 +/- 2.60E-05
13	333.25	1.86E+00 +/- 3.67E-01	1.29E+00	3.00E-04 +/- 1.35E-05
14	345.56	2.64E+00 +/- 3.15E-01	1.28E+00	2.93E-04 +/- 1.36E-05
15	375.70	5.67E+00 +/- 3.37E-01	1.27E+00	2.76E-04 +/- 1.44E-05
16	383.35	3.13E-01 +/- 1.58E-01	1.27E+00	2.72E-04 +/- 1.46E-05

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17	393.58	1.95E+00	+/- 2.18E-01	1.26E+00	2.67E-04	+/- 1.48E-05
18	413.70	5.51E+00	+/- 2.55E-01	1.26E+00	2.57E-04	+/- 1.52E-05
19	423.39	5.53E-01	+/- 1.10E-01	1.25E+00	2.53E-04	+/- 1.53E-05
20	452.14	6.69E-01	+/- 1.11E-01	1.24E+00	2.40E-04	+/- 1.54E-05
21	662.42	1.96E-01	+/- 6.66E-02	1.20E+00	1.78E-04	+/- 1.02E-05
22	1085.91	8.83E-03	+/- 8.83E-03	1.15E+00	1.23E-04	+/- 5.23E-06

Segment: 4 Detector: DET01 (# 1) Position: 4

Elapsed Live Time: 107.78 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.400 +/- 0.0396
SE-75	264.65	0.000 +/- 0.0000	0.533 +/- 0.0056
SE-75	279.53	0.000 +/- 0.0000	0.550 +/- 0.0078
SE-75	400.65	0.000 +/- 0.0000	0.613 +/- 0.0095

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	1.34E+01 +/- 6.48E-01	2.56E+00	2.23E-06 +/- 3.43E-06
2	23.19	1.66E+01 +/- 7.07E-01	2.34E+00	3.34E-06 +/- 4.69E-06
3	35.10	1.01E+03 +/- 4.92E+00	1.75E+00	2.00E-05 +/- 1.66E-05
4	59.61	2.52E+02 +/- 2.01E+00	1.51E+00	9.83E-05 +/- 3.39E-05
5	75.10	6.68E+00 +/- 1.02E+00	1.46E+00	1.58E-04 +/- 3.31E-05
6	98.88	1.52E+02 +/- 2.21E+00	1.42E+00	2.40E-04 +/- 2.42E-05
7	103.49	1.25E+02 +/- 1.62E+00	1.42E+00	2.53E-04 +/- 2.24E-05
8	111.31	2.70E+01 +/- 1.53E+00	1.41E+00	2.74E-04 +/- 1.97E-05
9	117.14	1.56E+01 +/- 1.24E+00	1.40E+00	2.88E-04 +/- 1.81E-05
10	129.29	1.01E+02 +/- 1.41E+00	1.39E+00	3.12E-04 +/- 1.61E-05
11	148.57	1.67E+01 +/- 1.04E+00	1.37E+00	3.40E-04 +/- 1.63E-05
12	161.14	2.69E+00 +/- 8.95E-01	1.36E+00	3.53E-04 +/- 1.73E-05
13	164.83	2.10E+00 +/- 8.93E-01	1.35E+00	3.56E-04 +/- 1.76E-05
14	171.80	5.10E+00 +/- 9.05E-01	1.34E+00	3.60E-04 +/- 1.81E-05
15	179.52	2.33E+00 +/- 8.02E-01	1.34E+00	3.64E-04 +/- 1.86E-05
16	189.58	3.72E+00 +/- 7.38E-01	1.33E+00	3.68E-04 +/- 1.91E-05
17	195.98	4.54E+00 +/- 8.61E-01	1.32E+00	3.69E-04 +/- 1.93E-05
18	208.38	9.78E+01 +/- 1.48E+00	1.31E+00	3.71E-04 +/- 1.94E-05
19	244.70	2.43E+00 +/- 5.97E-01	1.27E+00	3.65E-04 +/- 1.85E-05
20	255.84	4.65E+00 +/- 5.90E-01	1.27E+00	3.62E-04 +/- 1.80E-05
21	268.01	2.78E+00 +/- 5.63E-01	1.25E+00	3.57E-04 +/- 1.73E-05
22	297.93	3.08E+00 +/- 6.87E-01	1.24E+00	3.45E-04 +/- 1.56E-05
23	311.90	3.67E+00 +/- 5.41E-01	1.23E+00	3.38E-04 +/- 1.48E-05
24	324.25	4.00E+00 +/- 5.66E-01	1.23E+00	3.32E-04 +/- 1.41E-05

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25	333.28	2.59E+01 +/-	8.95E-01	1.22E+00	3.27E-04 +/-	1.37E-05
26	336.42	4.54E+00 +/-	6.91E-01	1.22E+00	3.26E-04 +/-	1.36E-05
27	345.64	2.83E+01 +/-	6.38E-01	1.22E+00	3.21E-04 +/-	1.31E-05
28	368.82	1.22E+01 +/-	5.41E-01	1.21E+00	3.09E-04 +/-	1.23E-05
29	375.69	7.63E+01 +/-	1.06E+00	1.21E+00	3.06E-04 +/-	1.21E-05
30	383.52	8.13E+00 +/-	5.04E-01	1.20E+00	3.02E-04 +/-	1.18E-05
31	393.66	2.76E+01 +/-	5.98E-01	1.20E+00	2.97E-04 +/-	1.16E-05
32	413.70	7.42E+01 +/-	9.15E-01	1.19E+00	2.87E-04 +/-	1.11E-05
33	423.30	4.24E+00 +/-	3.50E-01	1.19E+00	2.83E-04 +/-	1.10E-05
34	452.26	8.96E+00 +/-	3.42E-01	1.19E+00	2.70E-04 +/-	1.06E-05
35	620.10	8.59E-01 +/-	1.15E-01	1.16E+00	2.07E-04 +/-	9.43E-06
36	646.95	3.54E-01 +/-	1.10E-01	1.15E+00	1.99E-04 +/-	9.19E-06
37	653.50	5.80E-01 +/-	1.29E-01	1.15E+00	1.97E-04 +/-	9.12E-06
38	662.42	3.23E+00 +/-	1.99E-01	1.15E+00	1.95E-04 +/-	9.03E-06
39	723.38	1.90E+00 +/-	1.52E-01	1.14E+00	1.79E-04 +/-	8.35E-06
40	770.63	6.13E-01 +/-	8.21E-02	1.14E+00	1.69E-04 +/-	7.77E-06
41	778.90	3.79E-02 +/-	2.87E-02	1.14E+00	1.67E-04 +/-	7.66E-06
42	1001.03	4.70E-02 +/-	2.98E-02	1.12E+00	1.30E-04 +/-	4.96E-06

Batch 2002-02-1203

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)

Segment: 5 Detector: DET01 (# 1) Position: 5

Elapsed Live Time: 100.75 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.194 +/- 0.0037
SE-75	279.53	0.000 +/- 0.0000	0.221 +/- 0.0057
SE-75	400.65	0.000 +/- 0.0000	0.358 +/- 0.0078

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	3.53E+01 +/- 9.79E-01	4.10E+00	1.08E-06 +/- 1.72E-06
2	23.14	3.78E+01 +/- 1.08E+00	4.10E+00	1.74E-06 +/- 2.53E-06
3	35.10	1.01E+03 +/- 5.11E+00	4.10E+00	1.48E-05 +/- 1.27E-05
4	49.83	1.25E+01 +/- 1.38E+00	4.10E+00	5.55E-05 +/- 2.73E-05
5	59.57	6.92E+02 +/- 3.98E+00	4.10E+00	9.32E-05 +/- 3.29E-05
6	75.04	4.26E+00 +/- 9.86E-01	4.10E+00	1.59E-04 +/- 3.39E-05
7	98.78	3.69E+02 +/- 3.61E+00	4.10E+00	2.49E-04 +/- 2.52E-05
8	103.42	2.88E+02 +/- 2.53E+00	4.10E+00	2.64E-04 +/- 2.33E-05
9	111.22	5.41E+01 +/- 2.46E+00	4.10E+00	2.86E-04 +/- 2.04E-05
10	117.10	3.61E+01 +/- 1.91E+00	4.10E+00	3.01E-04 +/- 1.87E-05
11	129.29	2.42E+02 +/- 2.25E+00	4.10E+00	3.26E-04 +/- 1.67E-05
12	148.57	4.08E+01 +/- 1.49E+00	3.16E+00	3.54E-04 +/- 1.71E-05
13	160.93	3.98E+00 +/- 1.29E+00	2.78E+00	3.65E-04 +/- 1.83E-05
14	164.75	5.85E+00 +/- 1.26E+00	2.69E+00	3.68E-04 +/- 1.86E-05
15	171.57	1.19E+01 +/- 1.16E+00	2.56E+00	3.71E-04 +/- 1.92E-05
16	179.32	4.54E+00 +/- 1.20E+00	2.44E+00	3.74E-04 +/- 1.97E-05
17	189.62	8.30E+00 +/- 1.11E+00	2.31E+00	3.76E-04 +/- 2.02E-05
18	196.02	1.15E+01 +/- 1.11E+00	2.24E+00	3.76E-04 +/- 2.03E-05
19	208.30	2.37E+02 +/- 2.37E+00	2.12E+00	3.75E-04 +/- 2.04E-05
20	244.70	3.69E+00 +/- 8.51E-01	1.86E+00	3.63E-04 +/- 1.90E-05
21	255.76	1.11E+01 +/- 8.28E-01	1.79E+00	3.58E-04 +/- 1.84E-05
22	267.96	8.07E+00 +/- 8.06E-01	1.73E+00	3.51E-04 +/- 1.76E-05

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	23	297.99	7.18E+00	+/- 9.38E-01	1.64E+00	3.34E-04	+/-	1.56E-05
	24	311.90	8.14E+00	+/- 7.33E-01	1.60E+00	3.26E-04	+/-	1.48E-05
	25	321.17	2.68E+00	+/- 7.34E-01	1.58E+00	3.21E-04	+/-	1.42E-05
	26	324.20	4.87E+00	+/- 6.54E-01	1.58E+00	3.19E-04	+/-	1.41E-05
	27	333.23	6.62E+01	+/- 1.34E+00	1.56E+00	3.13E-04	+/-	1.36E-05
	28	336.33	9.79E+00	+/- 1.05E+00	1.55E+00	3.12E-04	+/-	1.34E-05
	29	345.56	6.57E+01	+/- 9.96E-01	1.53E+00	3.06E-04	+/-	1.30E-05
	30	368.88	2.47E+01	+/- 8.03E-01	1.49E+00	2.93E-04	+/-	1.20E-05
	31	375.63	1.71E+02	+/- 1.71E+00	1.48E+00	2.89E-04	+/-	1.18E-05
	32	383.43	1.74E+01	+/- 7.77E-01	1.47E+00	2.85E-04	+/-	1.16E-05
	33	393.56	6.40E+01	+/- 9.33E-01	1.45E+00	2.79E-04	+/-	1.13E-05
	34	413.70	1.69E+02	+/- 1.50E+00	1.43E+00	2.69E-04	+/-	1.09E-05
	35	423.19	8.86E+00	+/- 5.36E-01	1.43E+00	2.64E-04	+/-	1.07E-05
	36	452.18	2.02E+01	+/- 5.25E-01	1.41E+00	2.51E-04	+/-	1.03E-05
	37	598.73	2.05E-01	+/- 1.10E-01	1.36E+00	1.96E-04	+/-	9.30E-06
	38	619.96	1.61E+00	+/- 1.81E-01	1.35E+00	1.90E-04	+/-	9.14E-06
	39	640.96	6.76E-01	+/- 1.74E-01	1.34E+00	1.84E-04	+/-	8.96E-06
	40	647.09	6.43E-01	+/- 1.61E-01	1.34E+00	1.83E-04	+/-	8.91E-06
	41	653.54	1.26E+00	+/- 1.63E-01	1.34E+00	1.81E-04	+/-	8.85E-06
M	42	660.10	6.57E-01	+/- 1.04E-01	1.34E+00	1.79E-04	+/-	8.79E-06

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
m 43	663.57	7.60E+00 +/- 3.98E-01	1.34E+00	1.78E-04 +/- 8.76E-06
44	689.92	6.57E-01 +/- 1.35E-01	1.33E+00	1.72E-04 +/- 8.50E-06
45	705.14	1.54E-01 +/- 9.22E-02	1.32E+00	1.69E-04 +/- 8.34E-06
46	723.23	3.84E+00 +/- 2.21E-01	1.32E+00	1.65E-04 +/- 8.15E-06
47	757.70	3.69E-01 +/- 7.78E-02	1.31E+00	1.58E-04 +/- 7.76E-06
48	770.51	1.14E+00 +/- 1.28E-01	1.31E+00	1.56E-04 +/- 7.61E-06
49	964.13	4.12E-02 +/- 3.20E-02	1.27E+00	1.28E-04 +/- 5.33E-06

Segment: 6 Detector: DET01 (# 1) Position: 6

Elapsed Live Time: 99.32 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.182 +/- 0.0037
SE-75	279.53	0.000 +/- 0.0000	0.211 +/- 0.0059
SE-75	400.65	0.000 +/- 0.0000	0.350 +/- 0.0079

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	3.78E+01 +/- 1.02E+00	4.10E+00	3.85E-07 +/- 5.97E-07
2	23.16	3.77E+01 +/- 1.12E+00	4.10E+00	6.68E-07 +/- 9.49E-07
3	35.10	1.01E+03 +/- 5.15E+00	4.10E+00	8.04E-06 +/- 6.71E-06
4	59.57	7.37E+02 +/- 4.19E+00	4.10E+00	6.89E-05 +/- 2.39E-05
5	75.07	3.84E+00 +/- 1.02E+00	4.10E+00	1.29E-04 +/- 2.73E-05
6	98.76	3.68E+02 +/- 3.99E+00	4.10E+00	2.22E-04 +/- 2.25E-05
7	103.41	2.63E+02 +/- 3.43E+00	4.10E+00	2.38E-04 +/- 2.11E-05
8	111.16	6.36E+01 +/- 2.62E+00	4.10E+00	2.63E-04 +/- 1.90E-05
9	114.41	5.67E+00 +/- 2.60E+00	4.10E+00	2.72E-04 +/- 1.82E-05
10	117.12	4.28E+01 +/- 2.02E+00	4.10E+00	2.80E-04 +/- 1.77E-05
11	129.29	2.77E+02 +/- 2.45E+00	4.10E+00	3.10E-04 +/- 1.61E-05
12	144.34	3.67E+00 +/- 2.11E+00	3.39E+00	3.39E-04 +/- 1.63E-05
13	148.57	4.45E+01 +/- 1.58E+00	3.19E+00	3.45E-04 +/- 1.67E-05
14	161.00	6.11E+00 +/- 1.36E+00	2.81E+00	3.60E-04 +/- 1.78E-05
15	164.79	7.95E+00 +/- 1.32E+00	2.73E+00	3.64E-04 +/- 1.82E-05

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16	171.59	1.55E+01	+/-	1.22E+00	2.60E+00	3.69E-04	+/-	1.88E-05
17	179.31	4.93E+00	+/-	1.27E+00	2.48E+00	3.74E-04	+/-	1.94E-05
18	189.50	9.18E+00	+/-	1.08E+00	2.35E+00	3.78E-04	+/-	1.99E-05
19	196.00	1.38E+01	+/-	1.17E+00	2.27E+00	3.80E-04	+/-	2.01E-05
20	208.28	2.70E+02	+/-	2.55E+00	2.16E+00	3.81E-04	+/-	2.03E-05
21	238.03	3.72E+00	+/-	9.75E-01	1.93E+00	3.75E-04	+/-	1.95E-05
22	244.70	2.94E+00	+/-	8.96E-01	1.89E+00	3.73E-04	+/-	1.92E-05
23	255.75	1.16E+01	+/-	8.71E-01	1.83E+00	3.69E-04	+/-	1.86E-05
24	267.89	9.77E+00	+/-	8.41E-01	1.76E+00	3.63E-04	+/-	1.78E-05
25	297.96	8.02E+00	+/-	9.79E-01	1.66E+00	3.47E-04	+/-	1.59E-05
26	311.90	9.98E+00	+/-	7.92E-01	1.62E+00	3.39E-04	+/-	1.51E-05
27	324.15	5.37E+00	+/-	7.14E-01	1.59E+00	3.32E-04	+/-	1.44E-05
28	333.22	7.46E+01	+/-	1.45E+00	1.57E+00	3.26E-04	+/-	1.39E-05
29	336.33	1.05E+01	+/-	1.10E+00	1.57E+00	3.24E-04	+/-	1.37E-05
30	345.55	7.39E+01	+/-	1.06E+00	1.55E+00	3.19E-04	+/-	1.33E-05
31	368.85	2.95E+01	+/-	8.66E-01	1.50E+00	3.05E-04	+/-	1.23E-05
32	375.63	1.89E+02	+/-	1.83E+00	1.49E+00	3.02E-04	+/-	1.21E-05
33	383.43	1.95E+01	+/-	8.29E-01	1.48E+00	2.97E-04	+/-	1.18E-05
34	393.58	7.17E+01	+/-	1.01E+00	1.46E+00	2.92E-04	+/-	1.16E-05
35	413.70	1.91E+02	+/-	1.62E+00	1.44E+00	2.81E-04	+/-	1.11E-05
36	423.22	1.09E+01	+/-	5.84E-01	1.44E+00	2.76E-04	+/-	1.09E-05
37	452.17	2.33E+01	+/-	5.67E-01	1.42E+00	2.61E-04	+/-	1.05E-05
38	461.66	5.07E-01	+/-	2.11E-01	1.42E+00	2.57E-04	+/-	1.04E-05
39	620.14	1.75E+00	+/-	1.75E-01	1.36E+00	1.98E-04	+/-	9.16E-06
40	646.88	1.28E+00	+/-	1.80E-01	1.35E+00	1.90E-04	+/-	8.92E-06
41	653.87	1.25E+00	+/-	1.82E-01	1.35E+00	1.89E-04	+/-	8.85E-06
42	662.42	7.72E+00	+/-	4.26E-01	1.34E+00	1.86E-04	+/-	8.77E-06

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
43	689.97	7.40E-01 +/- 1.37E-01	1.34E+00	1.80E-04 +/- 8.49E-06
44	723.28	3.89E+00 +/- 2.37E-01	1.33E+00	1.72E-04 +/- 8.13E-06
45	757.53	4.20E-01 +/- 1.03E-01	1.32E+00	1.65E-04 +/- 7.73E-06
46	770.48	1.18E+00 +/- 1.28E-01	1.31E+00	1.62E-04 +/- 7.58E-06
47	1085.91	9.82E-03 +/- 9.82E-03	1.26E+00	1.22E-04 +/- 4.37E-06

Segment: 7 Detector: DET01 (# 1) Position: 7

Elapsed Live Time: 104.42 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.238 +/- 0.0038
SE-75	279.53	0.000 +/- 0.0000	0.258 +/- 0.0058
SE-75	400.65	0.000 +/- 0.0000	0.366 +/- 0.0074

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	2.39E+01 +/- 8.34E-01	4.10E+00	2.18E-09 +/- 2.40E-08
2	23.18	3.00E+01 +/- 9.21E-01	4.10E+00	7.09E-09 +/- 6.96E-08
3	35.10	1.01E+03 +/- 5.02E+00	4.10E+00	9.59E-07 +/- 4.73E-06
4	49.79	1.20E+01 +/- 1.18E+00	4.10E+00	1.47E-05 +/- 3.55E-05
5	59.59	5.45E+02 +/- 3.31E+00	4.10E+00	4.01E-05 +/- 6.21E-05
6	75.03	3.57E+00 +/- 8.44E-01	4.10E+00	1.05E-04 +/- 8.11E-05
7	98.80	2.59E+02 +/- 2.95E+00	4.10E+00	2.21E-04 +/- 5.18E-05
8	103.46	2.05E+02 +/- 2.15E+00	4.10E+00	2.41E-04 +/- 4.28E-05
9	111.29	4.06E+01 +/- 2.05E+00	4.10E+00	2.73E-04 +/- 2.87E-05
10	117.09	2.71E+01 +/- 1.58E+00	4.10E+00	2.94E-04 +/- 2.09E-05
11	129.29	1.76E+02 +/- 1.87E+00	4.10E+00	3.30E-04 +/- 1.98E-05
12	146.48	3.84E+01 +/- 1.32E+00	3.13E+00	3.65E-04 +/- 3.35E-05
13	148.57	1.52E+01 +/- 1.03E+00	3.03E+00	3.68E-04 +/- 3.49E-05
14	161.08	2.54E+00 +/- 1.09E+00	2.64E+00	3.83E-04 +/- 4.09E-05
15	164.77	4.10E+00 +/- 1.06E+00	2.56E+00	3.86E-04 +/- 4.19E-05
M 16	169.86	1.58E+00 +/- 4.97E-01	2.46E+00	3.89E-04 +/- 4.29E-05
m 17	171.64	5.71E+00 +/- 8.33E-01	2.43E+00	3.90E-04 +/- 4.31E-05

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18	179.43	4.60E+00 +/-	1.02E+00	2.31E+00	3.93E-04 +/-	4.34E-05
19	189.64	4.59E+00 +/-	9.57E-01	2.18E+00	3.94E-04 +/-	4.25E-05
20	195.89	8.92E+00 +/-	1.02E+00	2.11E+00	3.94E-04 +/-	4.14E-05
21	208.34	1.61E+02 +/-	1.91E+00	2.00E+00	3.91E-04 +/-	3.83E-05
22	244.70	2.32E+00 +/-	7.24E-01	1.75E+00	3.73E-04 +/-	2.70E-05
23	255.64	6.56E+00 +/-	7.00E-01	1.69E+00	3.66E-04 +/-	2.39E-05
24	267.93	5.19E+00 +/-	6.77E-01	1.63E+00	3.58E-04 +/-	2.08E-05
25	297.92	2.69E+00 +/-	8.11E-01	1.57E+00	3.37E-04 +/-	1.58E-05
26	311.90	5.12E+00 +/-	6.38E-01	1.55E+00	3.27E-04 +/-	1.48E-05
27	321.29	4.16E+00 +/-	7.03E-01	1.53E+00	3.21E-04 +/-	1.45E-05
28	323.99	2.22E+00 +/-	4.65E-01	1.53E+00	3.19E-04 +/-	1.44E-05
29	333.27	4.28E+01 +/-	1.10E+00	1.52E+00	3.13E-04 +/-	1.44E-05
30	336.40	5.45E+00 +/-	8.71E-01	1.51E+00	3.11E-04 +/-	1.44E-05
31	345.61	4.03E+01 +/-	8.73E-01	1.50E+00	3.05E-04 +/-	1.46E-05
32	368.94	1.75E+01 +/-	6.73E-01	1.47E+00	2.91E-04 +/-	1.52E-05
33	375.66	1.18E+02 +/-	1.35E+00	1.46E+00	2.87E-04 +/-	1.54E-05
34	383.45	1.04E+01 +/-	6.33E-01	1.45E+00	2.83E-04 +/-	1.57E-05
35	393.62	4.46E+01 +/-	7.60E-01	1.44E+00	2.77E-04 +/-	1.59E-05
36	413.70	1.13E+02 +/-	1.16E+00	1.42E+00	2.67E-04 +/-	1.63E-05
37	423.32	5.60E+00 +/-	3.91E-01	1.42E+00	2.62E-04 +/-	1.63E-05
38	452.27	1.34E+01 +/-	4.30E-01	1.41E+00	2.49E-04 +/-	1.63E-05
39	620.09	1.30E+00 +/-	1.47E-01	1.34E+00	1.92E-04 +/-	1.19E-05
40	641.00	4.74E-01 +/-	1.44E-01	1.33E+00	1.87E-04 +/-	1.13E-05
41	647.07	5.49E-01 +/-	1.33E-01	1.33E+00	1.86E-04 +/-	1.11E-05
42	653.86	9.94E-01 +/-	1.37E-01	1.33E+00	1.84E-04 +/-	1.09E-05

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Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
M 43	660.22	3.11E-01 +/- 8.12E-02	1.33E+00	1.83E-04 +/- 1.07E-05
m 44	663.60	5.26E+00 +/- 3.29E-01	1.33E+00	1.82E-04 +/- 1.06E-05
45	689.93	4.98E-01 +/- 9.97E-02	1.32E+00	1.76E-04 +/- 9.85E-06
46	723.42	2.32E+00 +/- 1.75E-01	1.31E+00	1.69E-04 +/- 9.01E-06
47	770.30	5.98E-01 +/- 1.03E-01	1.30E+00	1.61E-04 +/- 8.04E-06
48	1001.03	3.30E-02 +/- 1.96E-02	1.26E+00	1.31E-04 +/- 5.77E-06
49	1085.91	3.68E-02 +/- 2.48E-02	1.24E+00	1.23E-04 +/- 5.27E-06
50	1408.01	1.89E-02 +/- 1.33E-02	1.21E+00	9.90E-05 +/- 6.54E-06

Segment: 8 Detector: DET01 (# 1) Position: 8

Elapsed Live Time: 110.44 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.358 +/- 0.0336
SE-75	264.65	0.000 +/- 0.0000	0.478 +/- 0.0050
SE-75	279.53	0.000 +/- 0.0000	0.500 +/- 0.0071
SE-75	400.65	0.000 +/- 0.0000	0.549 +/- 0.0087

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	8.54E+00 +/- 5.14E-01	2.80E+00	1.22E-09 +/- 1.33E-08
2	23.19	1.23E+01 +/- 5.66E-01	2.54E+00	4.18E-09 +/- 4.07E-08
3	35.10	1.01E+03 +/- 4.88E+00	1.86E+00	6.89E-07 +/- 3.37E-06
4	59.62	1.86E+02 +/- 1.67E+00	1.58E+00	3.35E-05 +/- 5.15E-05
5	75.12	4.28E+00 +/- 8.05E-01	1.52E+00	9.11E-05 +/- 7.00E-05
6	98.84	8.45E+01 +/- 1.67E+00	1.48E+00	1.99E-04 +/- 4.65E-05
7	103.50	6.45E+01 +/- 1.19E+00	1.47E+00	2.18E-04 +/- 3.87E-05
8	111.33	1.45E+01 +/- 1.17E+00	1.46E+00	2.49E-04 +/- 2.63E-05
9	117.32	4.83E+00 +/- 9.35E-01	1.46E+00	2.70E-04 +/- 1.92E-05
10	129.29	5.84E+01 +/- 1.09E+00	1.45E+00	3.05E-04 +/- 1.85E-05
11	148.57	1.15E+01 +/- 7.77E-01	1.42E+00	3.45E-04 +/- 3.27E-05
12	165.03	2.16E+00 +/- 7.02E-01	1.40E+00	3.64E-04 +/- 3.97E-05
13	171.85	3.02E+00 +/- 7.04E-01	1.40E+00	3.69E-04 +/- 4.10E-05
14	195.98	2.17E+00 +/- 6.81E-01	1.37E+00	3.77E-04 +/- 3.99E-05
15	208.43	4.93E+01 +/- 1.06E+00	1.36E+00	3.76E-04 +/- 3.71E-05
16	244.70	8.40E-01 +/- 4.57E-01	1.32E+00	3.62E-04 +/- 2.67E-05
17	255.79	1.78E+00 +/- 4.50E-01	1.31E+00	3.56E-04 +/- 2.36E-05

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18	268.10	1.81E+00 +/-	3.66E-01	1.30E+00	3.49E-04 +/-	2.06E-05
19	300.10	1.11E+00 +/-	3.65E-01	1.28E+00	3.30E-04 +/-	1.53E-05
20	311.90	1.27E+00 +/-	3.48E-01	1.27E+00	3.23E-04 +/-	1.44E-05
21	324.56	1.15E+00 +/-	3.86E-01	1.27E+00	3.15E-04 +/-	1.39E-05
22	333.38	1.19E+01 +/-	6.25E-01	1.27E+00	3.10E-04 +/-	1.38E-05
23	345.63	1.33E+01 +/-	4.42E-01	1.26E+00	3.03E-04 +/-	1.38E-05
24	368.87	5.27E+00 +/-	4.00E-01	1.25E+00	2.89E-04 +/-	1.44E-05
25	375.73	3.59E+01 +/-	7.13E-01	1.25E+00	2.86E-04 +/-	1.46E-05
26	383.51	3.71E+00 +/-	3.46E-01	1.25E+00	2.82E-04 +/-	1.48E-05
27	393.66	1.32E+01 +/-	4.23E-01	1.25E+00	2.76E-04 +/-	1.50E-05
28	400.66	4.08E-01 +/-	2.24E-01	1.24E+00	2.73E-04 +/-	1.52E-05
29	413.70	3.50E+01 +/-	6.08E-01	1.24E+00	2.66E-04 +/-	1.54E-05
30	423.37	1.40E+00 +/-	2.20E-01	1.24E+00	2.62E-04 +/-	1.55E-05
31	452.26	3.96E+00 +/-	2.36E-01	1.23E+00	2.49E-04 +/-	1.56E-05
32	653.82	3.20E-01 +/-	7.12E-02	1.19E+00	1.85E-04 +/-	1.06E-05
33	662.42	1.67E+00 +/-	1.34E-01	1.19E+00	1.83E-04 +/-	1.03E-05
34	705.42	7.11E-02 +/-	4.22E-02	1.18E+00	1.73E-04 +/-	9.20E-06
35	723.33	7.78E-01 +/-	9.72E-02	1.18E+00	1.70E-04 +/-	8.79E-06
36	1085.91	1.82E-02 +/-	1.29E-02	1.14E+00	1.18E-04 +/-	5.10E-06
37	1408.01	4.54E-02 +/-	2.03E-02	1.12E+00	9.08E-05 +/-	6.30E-06

Segment: 9 Detector: DET01 (# 1) Position: 9

Elapsed Live Time: 113.01 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.372 +/- 0.0296
SE-75	264.65	0.000 +/- 0.0000	0.516 +/- 0.0051
SE-75	279.53	0.000 +/- 0.0000	0.524 +/- 0.0071
SE-75	400.65	0.000 +/- 0.0000	0.590 +/- 0.0088

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	2.26E+00 +/- 2.63E-01	2.71E+00	1.44E-06 +/- 1.63E-05
2	23.24	2.32E+00 +/- 2.71E-01	2.47E+00	2.32E-06 +/- 2.33E-05
3	35.10	1.01E+03 +/- 4.78E+00	1.82E+00	1.75E-05 +/- 8.88E-05
4	59.62	2.34E+01 +/- 6.26E-01	1.55E+00	1.00E-04 +/- 1.59E-04
5	98.84	6.75E+00 +/- 7.28E-01	1.46E+00	2.51E-04 +/- 6.05E-05
6	103.51	1.88E+00 +/- 4.94E-01	1.45E+00	2.65E-04 +/- 4.81E-05
7	129.29	2.63E+00 +/- 5.02E-01	1.43E+00	3.23E-04 +/- 1.97E-05
8	208.33	1.88E+00 +/- 3.69E-01	1.33E+00	3.66E-04 +/- 3.76E-05
9	375.54	9.12E-01 +/- 1.82E-01	1.22E+00	2.85E-04 +/- 1.49E-05
10	413.70	8.21E-01 +/- 1.01E-01	1.21E+00	2.67E-04 +/- 1.59E-05

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11	964.13	4.59E-02 +/- 3.04E-02	1.13E+00	1.34E-04 +/-	5.82E-06
12	1001.03	4.37E-02 +/- 1.96E-02	1.13E+00	1.30E-04 +/-	5.63E-06
13	1085.91	8.74E-03 +/- 8.74E-03	1.12E+00	1.23E-04 +/-	5.22E-06

Segment: 10 Detector: DET01 (# 1) Position: 10

Elapsed Live Time: 113.37 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.376 +/- 0.0263
SE-75	264.65	0.000 +/- 0.0000	0.463 +/- 0.0047
SE-75	279.53	0.000 +/- 0.0000	0.470 +/- 0.0065
SE-75	400.65	0.000 +/- 0.0000	0.507 +/- 0.0081

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.29	2.80E+00 +/- 2.64E-01	2.44E+00	3.50E-07 +/- 4.94E-07
2	35.10	1.01E+03 +/- 4.78E+00	1.81E+00	5.68E-06 +/- 4.74E-06
3	59.61	8.71E+00 +/- 4.23E-01	1.55E+00	6.38E-05 +/- 2.21E-05
4	413.70	8.13E-02 +/- 4.76E-02	1.28E+00	2.79E-04 +/- 1.11E-05
5	1464.80	7.90E-02 +/- 2.63E-02	1.14E+00	1.07E-04 +/- 7.54E-06

Segment: 11 Detector: DET01 (# 1) Position: 11

Elapsed Live Time: 113.49 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.368 +/- 0.0276
SE-75	264.65	0.000 +/- 0.0000	0.469 +/- 0.0048
SE-75	279.53	0.000 +/- 0.0000	0.478 +/- 0.0066
SE-75	400.65	0.000 +/- 0.0000	0.519 +/- 0.0082

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.24	1.95E+00 +/- 2.17E-01	2.49E+00	4.74E-07 +/- 6.67E-07
2	35.10	1.01E+03 +/- 4.77E+00	1.83E+00	6.75E-06 +/- 5.60E-06
3	59.61	3.89E+00 +/- 3.26E-01	1.56E+00	6.70E-05 +/- 2.31E-05
4	300.10	3.79E-01 +/- 1.86E-01	1.30E+00	3.45E-04 +/- 1.56E-05
5	1112.12	1.74E-02 +/- 1.23E-02	1.15E+00	1.20E-04 +/- 4.37E-06
6	1408.01	8.71E-03 +/- 8.71E-03	1.13E+00	1.08E-04 +/- 6.61E-06

Segment: 12 Detector: DET01 (# 1) Position: 12

Elapsed Live Time: 113.59 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Some transmission peaks rejected.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	0.122 +/- 0.0022
SE-75	279.53	0.000 +/- 0.0000	0.128 +/- 0.0032
SE-75	400.65	0.000 +/- 0.0000	0.168 +/- 0.0044

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	7.37E-01 +/- 1.52E-01	4.10E+00	3.60E-07 +/- 5.55E-07
2	35.10	1.01E+03 +/- 4.78E+00	3.54E+00	7.63E-06 +/- 6.33E-06
3	59.72	1.55E+00 +/- 2.73E-01	2.67E+00	6.68E-05 +/- 2.30E-05
4	94.37	1.13E+00 +/- 4.19E-01	2.38E+00	2.01E-04 +/- 2.33E-05
5	1001.03	1.75E-02 +/- 1.24E-02	1.48E+00	1.29E-04 +/- 4.89E-06

Segment: 13 Detector: DET01 (# 1) Position: 13

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Elapsed Live Time: 113.68 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.195 +/- 0.0195
SE-75	264.65	0.000 +/- 0.0000	0.263 +/- 0.0033
SE-75	279.53	0.000 +/- 0.0000	0.268 +/- 0.0047
SE-75	400.65	0.000 +/- 0.0000	0.320 +/- 0.0062

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
	1	35.10	1.01E+03 +/- 4.76E+00	2.50E+00	1.10E-05 +/- 9.51E-06
M	2	215.06	3.55E-01 +/- 8.17E-01	1.64E+00	3.79E-04 +/- 2.06E-05
m	3	217.11	2.28E-01 +/- 4.72E-01	1.64E+00	3.79E-04 +/- 2.05E-05
	4	413.70	7.60E-02 +/- 4.52E-02	1.49E+00	2.74E-04 +/- 1.10E-05
	5	964.13	1.74E-02 +/- 1.23E-02	1.30E+00	1.27E-04 +/- 5.29E-06

Segment: 14 Detector: DET01 (# 1) Position: 14

Elapsed Live Time: 113.75 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.703 +/- 0.0273
SE-75	264.65	0.000 +/- 0.0000	0.771 +/- 0.0067
SE-75	279.53	0.000 +/- 0.0000	0.769 +/- 0.0087
SE-75	400.65	0.000 +/- 0.0000	0.800 +/- 0.0106

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.77E+00	1.26E+00	8.94E-06 +/- 4.41E-05
2	185.71	4.28E-01 +/- 1.89E-01	1.12E+00	3.64E-04 +/- 4.04E-05
3	1408.01	3.49E-02 +/- 1.74E-02	1.04E+00	9.39E-05 +/- 6.30E-06

Batch 2002-02-1214

Segment: 15 Detector: DET01 (# 1) Position: 15

Elapsed Live Time: 113.78 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.754 +/- 0.0356
SE-75	264.65	0.000 +/- 0.0000	0.853 +/- 0.0073
SE-75	279.53	0.000 +/- 0.0000	0.856 +/- 0.0094
SE-75	400.65	0.000 +/- 0.0000	0.871 +/- 0.0112

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.20E+00	1.45E-08 +/- 6.96E-08
2	129.29	4.59E-01 +/- 2.16E-01	1.11E+00	3.37E-04 +/- 1.99E-05
3	284.68	2.78E-01 +/- 8.80E-02	1.06E+00	3.46E-04 +/- 1.71E-05
4	413.70	6.08E-02 +/- 4.44E-02	1.05E+00	2.52E-04 +/- 1.49E-05
5	964.13	3.60E-02 +/- 2.97E-02	1.03E+00	1.35E-04 +/- 5.77E-06
6	1001.03	6.08E-02 +/- 2.30E-02	1.03E+00	1.32E-04 +/- 5.58E-06
7	1112.12	1.74E-02 +/- 1.23E-02	1.03E+00	1.22E-04 +/- 5.05E-06

Segment: 16 Detector: DET01 (# 1) Position: 16

Elapsed Live Time: 113.80 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.783 +/- 0.0338
SE-75	264.65	0.000 +/- 0.0000	0.804 +/- 0.0070
SE-75	279.53	0.000 +/- 0.0000	0.802 +/- 0.0089
SE-75	400.65	0.000 +/- 0.0000	0.807 +/- 0.0106

Batch 2002-02-1215

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.18E+00	9.52E-10 +/- 5.35E-09
2	964.13	8.69E-03 +/- 8.69E-03	1.05E+00	1.01E-04 +/- 4.92E-06
3	1001.03	1.74E-02 +/- 1.23E-02	1.05E+00	9.85E-05 +/- 4.77E-06
4	1112.12	1.74E-02 +/- 1.23E-02	1.05E+00	9.17E-05 +/- 4.32E-06
5	1408.01	1.74E-02 +/- 1.23E-02	1.04E+00	7.39E-05 +/- 5.32E-06

Batch 2002-02-171L

Summed Spectrum

Peak Locate Report

Sample ID: S100_882
Peak Locate Performed on: 2-21-02 8:37:07 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192
Peak Search Sensitivity: 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
1	43.00	0.2494	21.42	16.08
2	46.50	0.1354	23.17	27.45
3	70.28	0.0393	35.05	468.34
4	99.08	0.3012	49.44	5.30
5	119.38	0.0640	59.59	150.56
6	150.45	0.2308	75.11	10.42
7	154.70	0.3176	77.23	6.94
8	197.86	0.0819	98.80	79.60
9	207.16	0.0818	103.44	63.33
10	222.79	0.1035	111.25	46.93
11	234.53	0.1764	117.11	12.32
12	259.30	0.0724	129.49	107.82
13	293.20	0.3539	146.43	6.35
14	297.87	0.1206	148.76	38.90
15	322.40	0.2204	161.02	5.20
16	329.94	0.1638	164.79	21.02
17	343.68	0.2275	171.65	11.40
18	359.22	0.2603	179.41	8.73
19	379.61	0.2453	189.60	10.15
20	392.37	0.1952	195.97	14.82
21	417.08	0.0608	208.32	136.48
22	487.36	0.3053	243.44	5.27
23	511.99	0.1739	255.74	16.39
24	536.45	0.1715	267.96	17.15
25	596.50	0.2066	297.96	11.65
26	625.27	0.1667	312.34	17.37
27	643.09	0.2443	321.24	9.00
28	649.03	0.2116	324.21	10.20
29	667.14	0.0830	333.25	67.95
30	673.38	0.1325	336.37	29.82
31	691.82	0.0840	345.58	66.79
32	738.47	0.1337	368.89	22.07
33	752.00	0.0625	375.65	116.26
34	767.61	0.1159	383.45	36.45
35	787.94	0.0872	393.61	57.13
36	829.55	0.0626	414.40	104.61

Batch 2002-02-1217

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
37	847.26	0.1218	423.24	29.74
38	905.23	0.1044	452.21	39.06
39	1241.11	0.2086	620.02	8.65
40	1295.16	0.2085	647.02	9.17
41	1308.48	0.2254	653.68	7.26
42	1328.26	0.1254	663.56	24.64
43	1381.15	0.2525	689.99	6.25
44	1447.83	0.1496	723.30	16.99
45	1542.26	0.2375	770.48	6.86
46	2931.09	0.2480	1464.36	5.21

Errors quoted at 1.000 sigma

Batch 2002-02-1218

Summed Spectrum

Peak Analysis Report

Sample ID: S100_882
Peak Analysis Performed on: 2-21-02 8:37:07 AM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	39-	46	43.00	21.42	1.38E+04	204.23	1.39E+04
2	46-	49	46.50	23.17	1.57E+04	222.70	2.03E+04
3	67-	73	70.28	35.05	1.81E+06	1356.37	1.81E+04
4	95-	102	99.08	49.44	1.15E+04	308.55	4.03E+04
5	115-	122	119.38	59.59	2.62E+05	589.14	4.22E+04
6	149-	154	150.45	75.11	3.16E+03	249.71	3.31E+04
7	154-	158	154.70	77.23	4.31E+02	219.31	2.88E+04
8	194-	201	197.86	98.80	1.36E+05	673.90	1.58E+05
9	206-	210	207.16	103.44	1.05E+05	456.31	5.68E+04
10	218-	226	222.79	111.25	2.06E+04	508.93	1.04E+05
11	233-	238	234.53	117.11	1.29E+04	387.91	6.40E+04
12	255-	263	259.30	129.49	9.06E+04	441.09	4.82E+04
13	291-	300	293.20	146.43	1.82E+04	338.37	4.23E+04
14	298-	304	297.87	148.76	6.21E+03	260.93	3.02E+04
15	318-	326	322.40	161.02	1.68E+03	287.03	3.72E+04
16	326-	334	329.94	164.79	2.42E+03	281.68	3.58E+04
17	339-	347	343.68	171.65	4.77E+03	264.16	3.04E+04
18	354-	363	359.22	179.41	2.25E+03	273.60	3.21E+04
19	375-	383	379.61	189.60	3.31E+03	251.06	2.79E+04
20	387-	396	392.37	195.97	4.44E+03	266.89	2.96E+04
21	412-	421	417.08	208.32	8.65E+04	438.30	4.50E+04
22	482-	491	487.36	243.44	8.40E+02	190.15	1.56E+04
23	507-	516	511.99	255.74	3.89E+03	183.73	1.32E+04
24	533-	541	536.45	267.96	3.13E+03	165.08	1.12E+04
25	591-	601	596.50	297.96	2.06E+03	169.85	1.12E+04
26	620-	630	625.27	312.34	2.79E+03	168.21	1.07E+04
27	638-	648	643.09	321.24	2.04E+03	179.72	1.27E+04
28	648-	654	649.03	324.21	1.11E+03	127.56	7.43E+03
29	662-	672	667.14	333.25	2.33E+04	267.09	1.92E+04
30	672-	678	673.38	336.37	3.03E+03	205.78	1.20E+04
31	689-	696	691.82	345.58	2.38E+04	192.83	6.58E+03
32	733-	743	738.47	368.89	9.48E+03	163.72	7.21E+03
33	746-	757	752.00	375.65	6.24E+04	307.64	1.28E+04
34	767-	772	767.61	383.45	6.17E+03	151.27	4.58E+03
35	782-	793	787.94	393.61	2.34E+04	179.21	3.49E+03
36	824-	834	829.55	414.40	6.16E+04	259.04	2.31E+03
37	841-	852	847.26	423.24	3.31E+03	106.64	3.14E+03

Batch 2002-02-1219

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
38	899-	910	905.23	452.21	7.37E+03	103.23	1.31E+03
39	1235-	1247	1241.11	620.02	6.18E+02	36.81	2.80E+02
40	1292-	1301	1295.16	647.02	3.03E+02	32.43	3.22E+02
41	1302-	1314	1308.48	653.68	5.09E+02	35.20	2.78E+02
42	1327-	1334	1328.26	663.56	2.38E+03	55.04	2.83E+02
43	1374-	1387	1381.15	689.99	2.49E+02	28.81	2.05E+02
44	1441-	1454	1447.83	723.30	1.37E+03	44.28	2.16E+02
45	1535-	1548	1542.26	770.48	4.12E+02	27.28	1.21E+02
46	2926-	2939	2931.09	1464.36	1.05E+02	13.24	2.55E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-02-1220

Summed Spectrum

Nuclide Identification Report

Sample ID: S100_882
Nuclide Library Used: C:\WAS\NLIB\LLNL.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/)	Activity Uncertainty
Pulser	1.000	35.10*	100.00	2.839E+05	7.117E+05
Np-237	0.752	300.10	6.63		
		311.90*	38.60	6.708E+00	4.075E-01
Pu-239	0.966	413.70*	0.00	4.594E+06	8.588E+04
Pu-239A	0.997	129.29*	0.01	1.462E+06	3.677E+04
Am-241	0.911	662.42*	0.00	9.519E+05	2.354E+04
Pu-241	0.997	148.57*	0.00	3.014E+06	1.344E+05

* = Energy line found in the spectrum.
Energy Tolerance : 1.500 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 1.000 sigma

Bkgd 2003-02-1321

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 2-21-02 8:37:07 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	21.42	1.2354E+02	1.48
2	23.17	1.4049E+02	1.42
4	49.44	1.0309E+02	2.68
5	59.59	2.3381E+03	0.24
6	75.11	2.8246E+01	7.90
7	77.23	3.8494E+00	50.93
8	98.80	1.2179E+03	0.50
9	103.44	9.4211E+02	0.44
10	111.25	1.8421E+02	2.47
11	117.11	1.1500E+02	3.02
13	146.43	1.6249E+02	1.86
15	161.02	1.5018E+01	17.09
16	164.79	2.1593E+01	11.66
17	171.65	4.2643E+01	5.54
18	179.41	2.0092E+01	12.17
19	189.60	2.9633E+01	7.57
20	195.97	3.9647E+01	6.02
21	208.32	7.7308E+02	0.52
22	243.44	7.5121E+00	22.63
23	255.74	3.4734E+01	4.73
24	267.96	2.7979E+01	5.28
25	297.96	1.8445E+01	8.23
27	321.24	1.8259E+01	8.80
28	324.21	9.9261E+00	11.49
29	333.25	2.0848E+02	1.15
30	336.37	2.7120E+01	6.78
31	345.58	2.1294E+02	0.81
32	368.89	8.4781E+01	1.73
33	375.65	5.5826E+02	0.50
34	383.45	5.5122E+01	2.46
35	393.61	2.0916E+02	0.77
37	423.24	2.9551E+01	3.23
38	452.21	6.5881E+01	1.40
39	620.02	5.5271E+00	5.95
40	647.02	2.7105E+00	10.69
41	653.68	4.5513E+00	6.91
43	689.99	2.2221E+00	11.59
44	723.30	1.2207E+01	3.24
45	770.48	3.6863E+00	6.62
46	1464.36	9.4293E-01	12.55

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-03-1232

Combined Segment NID

NID Results Combiner Mode: Sum Activities

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		3.65E+07	+/-	1.90E+08	1.64E+03	+/-	8.54E+03
SE-75	<	3.83E-01	+/-	1.90E-02	< 1.72E-05	+/-	8.54E-07
EU-152x	<	2.22E-01	+/-	1.69E-02	< 9.98E-06	+/-	7.61E-07
U-233	<	1.62E+04	+/-	8.30E+02	< 7.30E-01	+/-	3.74E-02
U-235		1.64E-01	+/-	6.99E-02	7.37E-06	+/-	3.15E-06
Np-237		9.17E+00	+/-	5.10E-01	4.13E-04	+/-	2.30E-05
Pu-238	<	4.10E+04	+/-	1.99E+03	< 1.85E+00	+/-	8.97E-02
U-238		6.33E+00	+/-	1.45E+00	2.85E-04	+/-	6.51E-05
Pu-239		5.44E+06	+/-	1.32E+05	2.45E+02	+/-	5.93E+00
Pu-239A		4.15E+06	+/-	1.27E+05	1.87E+02	+/-	5.73E+00
Am-241		1.23E+06	+/-	4.65E+04	5.55E+01	+/-	2.09E+00
Pu-241		1.48E+07	+/-	5.36E+05	6.66E+02	+/-	2.42E+01

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
U-235	7.58E-02	+/-	3.24E-02
Np-237	1.30E-02	+/-	7.24E-04
U-238	1.89E+01	+/-	4.31E+00
Pu-239	8.75E+01	+/-	2.12E+00
Pu-239A	6.68E+01	+/-	2.05E+00
Am-241	3.60E-01	+/-	1.36E-02
Pu-241	1.43E-01	+/-	5.19E-03

Batch 2002-02-1223

Summed Spectrum

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		2.84E+05	+/-	7.12E+05	1.28E+01	+/-	3.21E+01
SE-75	<	8.99E-01	+/-	7.83E-03	< 4.05E-05	+/-	3.53E-07
EU-152x	<	5.24E-01	+/-	1.01E-02	< 2.36E-05	+/-	4.55E-07
U-233	<	4.06E+04	+/-	8.48E+02	< 1.83E+00	+/-	3.82E-02
U-235	<	1.36E+00	+/-	2.69E-02	< 6.14E-05	+/-	1.21E-06
Np-237		6.71E+00	+/-	4.07E-01	3.02E-04	+/-	1.84E-05
Pu-238	<	9.86E+04	+/-	1.44E+03	< 4.44E+00	+/-	6.47E-02
U-238	<	1.15E+01	+/-	1.84E-01	< 5.18E-04	+/-	8.28E-06
Pu-239		4.59E+06	+/-	8.59E+04	2.07E+02	+/-	3.87E+00
Pu-239A		1.46E+06	+/-	3.68E+04	6.59E+01	+/-	1.66E+00
Am-241		9.52E+05	+/-	2.35E+04	4.29E+01	+/-	1.06E+00
Pu-241		3.01E+06	+/-	1.34E+05	1.36E+02	+/-	6.05E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
Np-237	9.53E-03	+/-	5.79E-04
Pu-239	7.40E+01	+/-	1.38E+00
Pu-239A	2.35E+01	+/-	5.92E-01
Am-241	2.78E-01	+/-	6.87E-03
Pu-241	2.91E-02	+/-	1.30E-03

Batch 2993-93-1334

Final Non-Uniformity Results

Source Longitudinal Ratio:	0.000	+/-	0.0000
Matrix Longitudinal Ratio:	0.558	+/-	0.0233
Source Vertical Ratio:	0.000	+/-	0.0000
Matrix Vertical Ratio:	0.860	+/-	0.0167

NUDS could not find the transmission peak in one radial segment.
NUDS could not find the source peak in any radial segment.

****
***** M G A R E P O R T *****
****

Report generated on: 2-21-02 8:37:06 AM

MGA version: MGA V9.5 CI

Spectrum ID: 11200882.CNF Sens : 30.0% LT: 51.0 Mins DT: 8.81
Measurement date: 2-21-02 Declared date: 2-21-02

Sample ID: S100_882 Detector: Total counts: 1.519E+07

Pu g/cm2 = 0.8507 Cd g/cm2 = 1.7808 FWHM at 122 keV = 691 eV
QFIT = 1.15 FWHM at 208 keV = 887 eV
NQFIT = 1.01

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	%Err	Decl. date % weight	%Err
Pu-238	0.000084	6.7	6.7	0.0336	6.6	0.00795	6.65	0.00795	6.65
Pu-239	1.000000	0.0	0.3	397.5347	0.5	94.13665	0.05	94.13665	0.05
Pu-240	0.059359	0.8	0.8	23.5974	0.9	5.58790	0.76	5.58790	0.76
Pu-241	0.002516	0.5	0.4	1.0000	0.0	0.23680	0.50	0.23680	0.50
Pu-242	(New alg.)			0.1297	(10)	0.03071	(10)	0.03071	(10)
Am-241	0.004622	0.4	0.3	1.8373	0.5	0.43508	0.42	0.43508	0.42

Pu-240 effective (meas. date) = 5.660 +/- 0.82%
Am-241 separated about 21.565 +/- 0.134 years ago
Am/Pu-241 weight ratio = 1.83733 +/- 0.53%

Messages :

Lead x-rays detected.
Calculations in MGAABS didn't converge : results may be suspect.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS 2.3A

****
* DRUM INFORMATION *
****

Drum Package ID: S100_883
Sequence Number: 883
Assay Date & Time: 2-22-2002 7:38:36 AM
Drum Package GROSS Weight: 54.00 kg NET Weight: 22.20 kg

IDC Number: SGS10C

QC Replicate (Yes/No): NO Passed (Yes/No): _____

Operator Name (Printed): Russell Rath

Operator Signature: _____ Date: 2-22-02

Independent Reviewer: _____ Date: 4-24-02

Expert Reviewer: (NOT REQUIRED) Date: _____

Tech. Supv/QA Officer: _____ Date: 7/17/02

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 9.287E+00 +/- 2.132E+00 Ci

Batch 2002-02 (332)

ISOTOPIC INFORMATION

Isotope	Measured Mass (g)	Mass Uncertainty (g)	MDC (g)
Pu-238	9.243E-03	3.20E-03	2.152E-05
Pu-239	9.926E+01	3.25E+01	2.311E-01
Pu-240	5.893E+00	1.93E+00	1.372E-02
Pu-241	2.526E-01	8.27E-02	6.109E-03
Pu-242	3.255E-02	1.24E-02	7.577E-05
Am-241	4.630E-01	1.52E-01	6.965E-03
Am-243	0.000E+00	0.00E+00	0.000E+00
Np-237	0.000E+00	0.00E+00	1.185E-03
U-235	0.000E+00	0.00E+00	2.595E-01
U-238	1.518E+01	4.98E+00	1.518E+01
U-233	4.147E+00	1.33E+00	4.147E+00

Total Pu Mass: 1.05E+02 +/- 5.87E+00 g

MGA RESULTS

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	8.766E-03	5.70E+00
Pu-239	9.413E+01	4.25E-02
Pu-240	5.589E+00	7.09E-01
Pu-241	2.396E-01	4.59E-01
Pu-242	3.087E-02	1.00E+01
Am-241	4.391E-01	3.89E-01

Batch 2002-02-1228

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005

Assay Date & Time: 2-22-2002 7:38:36 AM

Drum Package ID: S100_883
Sequence Number: 883

Waste Classification (TRU or LLW): TRU

		Errors at 1.96 sigma	
Total Alpha Activity :	9.287E+00	+/- 2.13E+00	Ci
Total TRU Activity :	4.183E+05	+/- 9.60E+04	nCi/g
Pu-239 Equiv Activity:	9.788E+00	+/- 2.14E+00	Ci
Fissile Gram Equiv Mass:	9.997E+01	+/- 3.25E+01	g
Total Decay Heat:	2.956E-01	+/- 6.72E-02	W
TMU Value:	32.72 %		

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error	MDA gm
Pu-238	1.60E-01	5.53E-02	9.24E-03	3.20E-03	2.15E-05
Pu-239	6.17E+00	2.02E+00	9.93E+01	3.25E+01	2.31E-01
Pu-240	1.36E+00	4.44E-01	5.89E+00	1.93E+00	1.37E-02
Pu-241	2.63E+01	8.60E+00	2.53E-01	8.27E-02	6.11E-03
Pu-242	1.29E-04	4.93E-05	3.26E-02	1.24E-02	7.58E-05
Am-241	1.61E+00	5.26E-01	4.63E-01	1.52E-01	6.96E-03
Am-243	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Np-237	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.19E-03
U-235	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.59E-01
U-238	5.16E-06	1.69E-06	1.52E+01	4.98E+00	1.52E+01
U-233	4.05E-02	1.30E-02	4.15E+00	1.33E+00	4.15E+00

Total Pu Mass: 1.05E+02 +/- 5.87E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	8.766E-03	5.70E+00
Pu-239	9.413E+01	4.25E-02
Pu-240	5.589E+00	7.09E-01
Pu-241	2.396E-01	4.59E-01
Pu-242	3.087E-02	1.00E+01
Am-241	4.391E-01	3.89E-01

Batch 2002-02-1224

****
***** M G A R E P O R T *****
****

Report generated on: 2-22-02 8:35:08 AM

MGA version: MGA V9.5 CI

Spectrum ID: 11200883.CNF Sens : 30.0% LT: 50.9 Mins DT: 8.81
Measurement date: 2-22-02 Declared date: 2-22-02

Sample ID: S100_883 Detector: Total counts: 1.517E+07

Pu g/cm2 = 0.8270 Cd g/cm2 = 1.7850 FWHM at 122 keV = 689 eV
QFIT = 1.00 FWHM at 208 keV = 864 eV
NQFIT = 1.00

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	%Err	Decl. date % weight	%Err
Pu-238	0.000093	5.7	5.7	0.0366	5.7	0.00877	5.70	0.00877	5.70
Pu-239	1.000000	0.0	0.3	392.9443	0.5	94.13186	0.04	94.13186	0.04
Pu-240	0.059374	0.8	0.7	23.3305	0.8	5.58895	0.71	5.58895	0.71
Pu-241	0.002545	0.5	0.4	1.0000	0.0	0.23956	0.46	0.23956	0.46
Pu-242	(New alg.)			0.1289	(10)	0.03087	(10)	0.03087	(10)
Am-241	0.004665	0.4	0.3	1.8330	0.5	0.43911	0.39	0.43911	0.39

Pu-240 effective (meas. date) = 5.663 +/- 0.76%
Am-241 separated about 21.560 +/- 0.126 years ago
Am/Pu-241 weight ratio = 1.83303 +/- 0.49%

Messages :

Lead x-rays detected.
Calculations in MGAABS didn't converge : results may be suspect.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Batch 2002-02-1230

Gamma Waste Assay

Sample Information

File Name: C:\WAS\DATA\900\11100883.S11
Sample ID: S100_883 Count Sequence Number: 883
Assay Start: 2-22-02 7:38:38 AM
Description 1: 100g source
Description 2:
Location: 7715
Comment:
Waste Type:
Weight: Gross: 54000.0 g Net: 22200.0 g
Density: 0.107 g /ml

Container Type: 55 Gal Galv
Container: Volume: 208000. ml Full: 100.0 %

System Configuration

Counter ID Number: SGS
Arrangement Description: SGS
Segments: Number: 16 Offset: 0
Scanning Platform: Start: 934 mm Delta: -51 mm
Count Type: Daily 100 g Drum Check
Collimator/Geometry Setting: 0
Transmission Mode: Two pass
Transmission Source: 0

Errors quoted at 1.000 sigma
Reference Source Date: Reference Source Rate: 1.01E+03 cps
Geometric Correction Factor(SWCONTGCF): 0.760
Date of efficiency calibration approval: 4-18-2001 12:41:36 PM
Mu Factors response file: Lucite
Transmission Calib. Time: 5-11-2001 2:20:42 PM 59052

Reviewed by: _____ Date: 2-22-02

1231
Batch 2002-02-1231

Segment Results

Segment: 1 Detector: DET01 (# 1) Position: 1

Elapsed Live Time: 113.37 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.370 +/- 0.0271
SE-75	264.65	0.000 +/- 0.0000	0.443 +/- 0.0046
SE-75	279.53	0.000 +/- 0.0000	0.447 +/- 0.0063
SE-75	400.65	0.000 +/- 0.0000	0.500 +/- 0.0080

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	1.25E+00 +/- 2.01E-01	2.72E+00	4.26E-08 +/- 6.00E-07
2	35.10	1.01E+03 +/- 4.77E+00	1.83E+00	2.61E-06 +/- 1.64E-05
3	48.73	8.50E+00 +/- 4.58E-01	1.63E+00	1.63E-05 +/- 5.27E-05
4	59.57	3.47E+00 +/- 3.73E-01	1.56E+00	3.75E-05 +/- 7.39E-05
5	1001.03	8.71E-03 +/- 8.71E-03	1.17E+00	7.98E-05 +/- 4.04E-06

Segment: 2 Detector: DET01 (# 1) Position: 2

Elapsed Live Time: 113.23 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.410 +/- 0.0310
SE-75	264.65	0.000 +/- 0.0000	0.514 +/- 0.0051
SE-75	279.53	0.000 +/- 0.0000	0.506 +/- 0.0068
SE-75	400.65	0.000 +/- 0.0000	0.566 +/- 0.0086

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PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.10	3.74E+00 +/- 2.92E-01	2.31E+00	5.18E-10 +/- 4.97E-09
2	35.10	1.01E+03 +/- 4.80E+00	1.73E+00	2.21E-07 +/- 1.06E-06
3	59.64	7.14E+00 +/- 4.22E-01	1.49E+00	2.21E-05 +/- 3.32E-05
4	99.24	1.71E+00 +/- 6.52E-01	1.41E+00	1.86E-04 +/- 4.18E-05
5	244.70	4.03E-01 +/- 2.49E-01	1.29E+00	3.69E-04 +/- 2.61E-05
6	1112.12	8.84E-03 +/- 8.84E-03	1.13E+00	1.11E-04 +/- 4.80E-06

Segment: 3 Detector: DET01 (# 1) Position: 3

Elapsed Live Time: 112.45 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.397 +/- 0.0330
SE-75	264.65	0.000 +/- 0.0000	0.474 +/- 0.0049
SE-75	279.53	0.000 +/- 0.0000	0.501 +/- 0.0069
SE-75	400.65	0.000 +/- 0.0000	0.528 +/- 0.0084

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	3.03E+00 +/- 3.31E-01	2.57E+00	3.50E-09 +/- 3.85E-08
2	23.23	4.59E+00 +/- 3.48E-01	2.35E+00	1.08E-08 +/- 1.06E-07
3	35.10	1.01E+03 +/- 4.80E+00	1.76E+00	1.07E-06 +/- 5.27E-06
4	48.90	6.55E+00 +/- 5.70E-01	1.57E+00	1.29E-05 +/- 3.25E-05
5	59.61	3.04E+01 +/- 7.26E-01	1.51E+00	3.79E-05 +/- 5.87E-05
6	75.01	1.02E+00 +/- 5.72E-01	1.47E+00	9.60E-05 +/- 7.46E-05
7	98.87	1.33E+01 +/- 9.32E-01	1.43E+00	2.01E-04 +/- 4.73E-05
8	103.54	8.10E+00 +/- 6.48E-01	1.42E+00	2.20E-04 +/- 3.92E-05
9	114.85	2.07E+00 +/- 7.05E-01	1.41E+00	2.61E-04 +/- 2.18E-05
10	129.29	8.51E+00 +/- 6.46E-01	1.40E+00	3.02E-04 +/- 1.84E-05
11	148.57	1.51E+00 +/- 5.48E-01	1.38E+00	3.39E-04 +/- 3.24E-05
12	208.38	8.02E+00 +/- 5.38E-01	1.34E+00	3.66E-04 +/- 3.64E-05
13	333.32	1.62E+00 +/- 3.63E-01	1.27E+00	3.00E-04 +/- 1.35E-05
14	345.57	1.85E+00 +/- 3.16E-01	1.27E+00	2.93E-04 +/- 1.36E-05
15	375.69	5.61E+00 +/- 3.32E-01	1.27E+00	2.76E-04 +/- 1.44E-05

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16	383.58	3.88E-01	+/- 1.76E-01	1.27E+00	2.72E-04	+/- 1.46E-05
17	393.69	1.98E+00	+/- 2.18E-01	1.26E+00	2.67E-04	+/- 1.48E-05
18	413.70	5.33E+00	+/- 2.47E-01	1.26E+00	2.57E-04	+/- 1.52E-05
19	423.39	2.74E-01	+/- 1.08E-01	1.26E+00	2.53E-04	+/- 1.53E-05
20	452.28	7.25E-01	+/- 1.06E-01	1.25E+00	2.40E-04	+/- 1.54E-05
21	662.42	3.19E-01	+/- 6.63E-02	1.20E+00	1.78E-04	+/- 1.02E-05
22	964.13	2.27E-02	+/- 1.66E-02	1.16E+00	1.34E-04	+/- 5.92E-06

Segment: 4 Detector: DET01 (# 1) Position: 4

Elapsed Live Time: 107.79 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.433 +/- 0.0399
SE-75	264.65	0.000 +/- 0.0000	0.539 +/- 0.0056
SE-75	279.53	0.000 +/- 0.0000	0.557 +/- 0.0078
SE-75	400.65	0.000 +/- 0.0000	0.581 +/- 0.0093

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	1.43E+01 +/- 6.51E-01	2.40E+00	2.23E-06 +/- 3.43E-06
2	23.17	1.68E+01 +/- 7.11E-01	2.21E+00	3.32E-06 +/- 4.67E-06
3	35.10	1.01E+03 +/- 4.93E+00	1.68E+00	2.00E-05 +/- 1.66E-05
4	59.60	2.54E+02 +/- 2.01E+00	1.46E+00	9.83E-05 +/- 3.39E-05
5	75.07	2.93E+00 +/- 9.40E-01	1.42E+00	1.58E-04 +/- 3.32E-05
6	98.85	1.48E+02 +/- 2.21E+00	1.38E+00	2.40E-04 +/- 2.42E-05
7	103.49	1.23E+02 +/- 1.62E+00	1.38E+00	2.53E-04 +/- 2.24E-05
8	111.33	2.70E+01 +/- 1.54E+00	1.37E+00	2.74E-04 +/- 1.96E-05
9	117.15	1.45E+01 +/- 1.26E+00	1.37E+00	2.88E-04 +/- 1.81E-05
10	129.29	1.01E+02 +/- 1.41E+00	1.36E+00	3.12E-04 +/- 1.61E-05
11	148.57	2.22E+01 +/- 9.97E-01	1.34E+00	3.40E-04 +/- 1.63E-05
12	161.01	2.36E+00 +/- 9.16E-01	1.33E+00	3.53E-04 +/- 1.73E-05
13	164.84	2.80E+00 +/- 9.00E-01	1.32E+00	3.56E-04 +/- 1.76E-05
14	171.79	5.83E+00 +/- 9.01E-01	1.32E+00	3.60E-04 +/- 1.81E-05
15	189.78	3.74E+00 +/- 7.98E-01	1.30E+00	3.68E-04 +/- 1.91E-05
16	196.05	6.18E+00 +/- 7.98E-01	1.30E+00	3.69E-04 +/- 1.93E-05
17	208.37	1.02E+02 +/- 1.50E+00	1.29E+00	3.71E-04 +/- 1.94E-05
18	244.70	1.69E+00 +/- 6.07E-01	1.27E+00	3.65E-04 +/- 1.85E-05
19	255.84	4.92E+00 +/- 5.88E-01	1.26E+00	3.62E-04 +/- 1.80E-05
20	267.96	3.68E+00 +/- 5.81E-01	1.25E+00	3.57E-04 +/- 1.73E-05
21	298.20	2.37E+00 +/- 5.85E-01	1.24E+00	3.44E-04 +/- 1.55E-05
22	311.90	3.56E+00 +/- 5.42E-01	1.23E+00	3.38E-04 +/- 1.48E-05
23	321.25	1.50E+00 +/- 5.59E-01	1.23E+00	3.33E-04 +/- 1.43E-05

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	24	324.31	2.10E+00	+/- 4.24E-01	1.23E+00	3.32E-04	+/-	1.41E-05
	25	333.28	2.79E+01	+/- 8.94E-01	1.23E+00	3.27E-04	+/-	1.37E-05
	26	336.44	3.39E+00	+/- 7.18E-01	1.23E+00	3.26E-04	+/-	1.36E-05
	27	345.60	2.55E+01	+/- 7.12E-01	1.23E+00	3.21E-04	+/-	1.32E-05
M	28	367.67	3.61E+00	+/- 4.41E-01	1.22E+00	3.10E-04	+/-	1.23E-05
m	29	369.25	6.93E+00	+/- 5.54E-01	1.22E+00	3.09E-04	+/-	1.23E-05
	30	375.69	7.75E+01	+/- 1.07E+00	1.22E+00	3.06E-04	+/-	1.21E-05
	31	383.48	7.97E+00	+/- 4.99E-01	1.22E+00	3.02E-04	+/-	1.18E-05
	32	393.65	2.78E+01	+/- 5.96E-01	1.22E+00	2.97E-04	+/-	1.16E-05
	33	400.66	4.53E-01	+/- 2.93E-01	1.22E+00	2.94E-04	+/-	1.14E-05
	34	413.70	7.50E+01	+/- 9.16E-01	1.22E+00	2.87E-04	+/-	1.11E-05
	35	423.39	4.28E+00	+/- 2.95E-01	1.21E+00	2.83E-04	+/-	1.10E-05
	36	452.33	9.26E+00	+/- 3.32E-01	1.21E+00	2.70E-04	+/-	1.06E-05
	37	482.21	1.73E-01	+/- 1.06E-01	1.20E+00	2.57E-04	+/-	1.04E-05
	38	620.09	9.52E-01	+/- 1.18E-01	1.18E+00	2.07E-04	+/-	9.43E-06
	39	641.30	3.98E-01	+/- 1.05E-01	1.17E+00	2.01E-04	+/-	9.24E-06
	40	646.89	2.07E-01	+/- 1.15E-01	1.17E+00	1.99E-04	+/-	9.19E-06
	41	653.74	9.04E-01	+/- 1.12E-01	1.17E+00	1.97E-04	+/-	9.12E-06
M	42	660.01	1.93E-01	+/- 6.22E-02	1.17E+00	1.95E-04	+/-	9.06E-06

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
m 43	663.66	3.56E+00 +/- 2.71E-01	1.17E+00	1.94E-04 +/- 9.02E-06
44	689.63	2.67E-01 +/- 8.29E-02	1.17E+00	1.88E-04 +/- 8.74E-06
45	723.40	1.64E+00 +/- 1.47E-01	1.16E+00	1.79E-04 +/- 8.35E-06
46	771.09	4.85E-01 +/- 8.16E-02	1.16E+00	1.68E-04 +/- 7.76E-06
47	778.90	3.97E-02 +/- 2.57E-02	1.15E+00	1.67E-04 +/- 7.66E-06
48	1112.12	4.58E-02 +/- 2.05E-02	1.13E+00	1.17E-04 +/- 4.26E-06

Segment: 5 Detector: DET01 (# 1) Position: 5

Elapsed Live Time: 100.72 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.194 +/- 0.0037
SE-75	279.53	0.000 +/- 0.0000	0.220 +/- 0.0059
SE-75	400.65	0.000 +/- 0.0000	0.364 +/- 0.0078

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	3.50E+01 +/- 9.69E-01	4.10E+00	1.08E-06 +/- 1.72E-06
2	23.15	3.46E+01 +/- 1.08E+00	4.10E+00	1.74E-06 +/- 2.53E-06
3	35.10	1.01E+03 +/- 5.11E+00	4.10E+00	1.48E-05 +/- 1.27E-05
4	49.45	1.26E+01 +/- 1.34E+00	4.10E+00	5.41E-05 +/- 2.70E-05
5	59.56	6.94E+02 +/- 3.99E+00	4.10E+00	9.32E-05 +/- 3.29E-05
6	75.12	7.45E+00 +/- 1.10E+00	4.10E+00	1.59E-04 +/- 3.39E-05
7	77.04	3.78E+00 +/- 8.37E-01	4.10E+00	1.67E-04 +/- 3.35E-05
8	98.77	3.73E+02 +/- 3.62E+00	4.10E+00	2.49E-04 +/- 2.52E-05
9	103.41	2.41E+02 +/- 3.24E+00	4.10E+00	2.64E-04 +/- 2.33E-05
10	111.23	5.83E+01 +/- 2.46E+00	4.10E+00	2.86E-04 +/- 2.04E-05
11	117.12	3.68E+01 +/- 1.91E+00	4.10E+00	3.01E-04 +/- 1.87E-05
12	129.29	2.40E+02 +/- 2.25E+00	4.10E+00	3.26E-04 +/- 1.67E-05
13	144.23	4.13E+00 +/- 1.31E+00	3.36E+00	3.49E-04 +/- 1.68E-05
14	148.57	3.95E+01 +/- 1.49E+00	3.16E+00	3.54E-04 +/- 1.71E-05
15	160.94	3.87E+00 +/- 1.28E+00	2.78E+00	3.65E-04 +/- 1.83E-05
16	164.78	5.42E+00 +/- 1.25E+00	2.69E+00	3.68E-04 +/- 1.86E-05

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17	171.67	1.32E+01 +/-	1.16E+00	2.56E+00	3.71E-04 +/-	1.92E-05
18	179.37	6.82E+00 +/-	1.20E+00	2.44E+00	3.74E-04 +/-	1.97E-05
19	189.53	1.03E+01 +/-	1.03E+00	2.31E+00	3.76E-04 +/-	2.02E-05
20	196.00	1.08E+01 +/-	1.11E+00	2.24E+00	3.76E-04 +/-	2.03E-05
21	208.27	2.39E+02 +/-	2.37E+00	2.12E+00	3.75E-04 +/-	2.04E-05
22	244.70	5.69E+00 +/-	8.54E-01	1.86E+00	3.63E-04 +/-	1.90E-05
23	255.75	1.02E+01 +/-	8.30E-01	1.80E+00	3.58E-04 +/-	1.84E-05
24	268.02	6.77E+00 +/-	8.06E-01	1.73E+00	3.51E-04 +/-	1.76E-05
25	297.87	3.58E+00 +/-	8.45E-01	1.63E+00	3.34E-04 +/-	1.56E-05
26	311.90	8.85E+00 +/-	7.49E-01	1.60E+00	3.26E-04 +/-	1.48E-05
27	321.37	5.50E+00 +/-	8.33E-01	1.58E+00	3.20E-04 +/-	1.42E-05
28	324.24	3.27E+00 +/-	6.02E-01	1.57E+00	3.19E-04 +/-	1.41E-05
29	333.21	6.66E+01 +/-	1.34E+00	1.55E+00	3.13E-04 +/-	1.36E-05
30	336.29	1.03E+01 +/-	1.02E+00	1.55E+00	3.12E-04 +/-	1.34E-05
31	345.56	6.17E+01 +/-	1.08E+00	1.53E+00	3.06E-04 +/-	1.30E-05
32	368.74	2.60E+01 +/-	8.29E-01	1.49E+00	2.93E-04 +/-	1.20E-05
33	375.64	1.72E+02 +/-	1.71E+00	1.47E+00	2.89E-04 +/-	1.18E-05
34	383.43	1.74E+01 +/-	7.70E-01	1.46E+00	2.85E-04 +/-	1.16E-05
35	393.55	6.46E+01 +/-	9.38E-01	1.44E+00	2.79E-04 +/-	1.13E-05
36	413.70	1.68E+02 +/-	1.49E+00	1.43E+00	2.69E-04 +/-	1.09E-05
37	423.22	8.85E+00 +/-	5.41E-01	1.42E+00	2.64E-04 +/-	1.07E-05
38	452.17	2.02E+01 +/-	5.28E-01	1.41E+00	2.51E-04 +/-	1.03E-05
39	545.08	1.80E-01 +/-	1.12E-01	1.37E+00	2.13E-04 +/-	9.65E-06
40	591.44	2.27E-01 +/-	9.38E-02	1.35E+00	1.98E-04 +/-	9.35E-06
41	619.96	1.67E+00 +/-	1.82E-01	1.34E+00	1.90E-04 +/-	9.14E-06
42	634.05	1.77E-01 +/-	7.57E-02	1.34E+00	1.86E-04 +/-	9.02E-06

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
	43	641.12	9.67E-01 +/- 1.63E-01	1.34E+00	1.84E-04 +/- 8.96E-06
	44	647.03	7.15E-01 +/- 1.84E-01	1.33E+00	1.83E-04 +/- 8.91E-06
	45	653.70	1.05E+00 +/- 1.64E-01	1.33E+00	1.81E-04 +/- 8.85E-06
M	46	660.02	7.73E-01 +/- 1.15E-01	1.33E+00	1.79E-04 +/- 8.79E-06
m	47	663.60	7.86E+00 +/- 4.03E-01	1.33E+00	1.78E-04 +/- 8.76E-06
	48	689.83	8.96E-01 +/- 1.28E-01	1.32E+00	1.72E-04 +/- 8.50E-06
	49	723.28	3.83E+00 +/- 2.21E-01	1.31E+00	1.65E-04 +/- 8.15E-06
	50	770.81	1.42E+00 +/- 1.31E-01	1.30E+00	1.56E-04 +/- 7.60E-06
	51	1112.12	4.36E-02 +/- 2.81E-02	1.24E+00	1.14E-04 +/- 4.26E-06

Segment: 6 Detector: DET01 (# 1) Position: 6

Elapsed Live Time: 99.46 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

T R A N S M I S S I O N R E S U L T S

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.191 +/- 0.0038
SE-75	279.53	0.000 +/- 0.0000	0.209 +/- 0.0060
SE-75	400.65	0.000 +/- 0.0000	0.355 +/- 0.0080

P E A K A N A L Y S I S R E S U L T S

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	3.88E+01 +/- 1.03E+00	4.10E+00	3.85E-07 +/- 5.97E-07
2	23.18	3.73E+01 +/- 1.12E+00	4.10E+00	6.73E-07 +/- 9.54E-07
3	35.10	1.01E+03 +/- 5.17E+00	4.10E+00	8.04E-06 +/- 6.71E-06
4	49.73	1.33E+01 +/- 1.43E+00	4.10E+00	3.72E-05 +/- 1.80E-05
5	59.57	7.37E+02 +/- 4.21E+00	4.10E+00	6.89E-05 +/- 2.39E-05
6	74.88	1.05E+01 +/- 1.39E+00	4.10E+00	1.29E-04 +/- 2.73E-05
7	98.73	3.64E+02 +/- 4.03E+00	4.10E+00	2.22E-04 +/- 2.26E-05
8	103.41	3.18E+02 +/- 2.71E+00	4.10E+00	2.38E-04 +/- 2.11E-05
9	111.17	6.42E+01 +/- 2.64E+00	4.10E+00	2.63E-04 +/- 1.90E-05
10	114.47	4.69E+00 +/- 2.62E+00	4.10E+00	2.73E-04 +/- 1.82E-05
11	117.10	4.21E+01 +/- 2.04E+00	4.10E+00	2.80E-04 +/- 1.77E-05
12	129.29	2.77E+02 +/- 2.44E+00	4.10E+00	3.10E-04 +/- 1.61E-05
13	144.37	3.68E+00 +/- 2.14E+00	3.36E+00	3.39E-04 +/- 1.63E-05

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14	148.57	4.65E+01 +/-	1.59E+00	3.16E+00	3.45E-04 +/-	1.67E-05
15	160.90	3.04E+00 +/-	1.45E+00	2.79E+00	3.60E-04 +/-	1.78E-05
16	164.78	6.72E+00 +/-	1.32E+00	2.70E+00	3.64E-04 +/-	1.82E-05
17	171.59	1.51E+01 +/-	1.23E+00	2.57E+00	3.69E-04 +/-	1.88E-05
18	179.40	5.86E+00 +/-	1.27E+00	2.45E+00	3.74E-04 +/-	1.94E-05
19	189.60	1.01E+01 +/-	1.09E+00	2.32E+00	3.78E-04 +/-	1.99E-05
20	195.93	1.40E+01 +/-	1.26E+00	2.25E+00	3.80E-04 +/-	2.01E-05
21	208.28	2.73E+02 +/-	2.58E+00	2.13E+00	3.81E-04 +/-	2.03E-05
22	244.70	2.62E+00 +/-	9.04E-01	1.87E+00	3.73E-04 +/-	1.92E-05
23	255.61	1.07E+01 +/-	8.79E-01	1.80E+00	3.69E-04 +/-	1.86E-05
24	267.95	7.86E+00 +/-	8.46E-01	1.75E+00	3.63E-04 +/-	1.78E-05
25	297.88	6.47E+00 +/-	9.94E-01	1.66E+00	3.47E-04 +/-	1.59E-05
26	311.90	8.06E+00 +/-	8.01E-01	1.62E+00	3.39E-04 +/-	1.51E-05
27	321.21	8.78E+00 +/-	8.28E-01	1.60E+00	3.33E-04 +/-	1.45E-05
28	324.13	3.03E+00 +/-	5.84E-01	1.59E+00	3.32E-04 +/-	1.44E-05
29	333.21	7.81E+01 +/-	1.45E+00	1.57E+00	3.26E-04 +/-	1.39E-05
30	336.31	8.39E+00 +/-	1.13E+00	1.57E+00	3.24E-04 +/-	1.37E-05
31	345.55	7.26E+01 +/-	1.06E+00	1.55E+00	3.19E-04 +/-	1.33E-05
32	368.89	3.02E+01 +/-	8.73E-01	1.50E+00	3.05E-04 +/-	1.23E-05
33	375.62	1.89E+02 +/-	1.86E+00	1.49E+00	3.02E-04 +/-	1.21E-05
34	383.42	1.83E+01 +/-	8.25E-01	1.47E+00	2.97E-04 +/-	1.18E-05
35	393.53	7.24E+01 +/-	1.01E+00	1.46E+00	2.92E-04 +/-	1.16E-05
36	413.70	1.89E+02 +/-	1.63E+00	1.44E+00	2.81E-04 +/-	1.11E-05
37	423.21	1.05E+01 +/-	5.81E-01	1.43E+00	2.76E-04 +/-	1.09E-05
38	446.26	4.80E-01 +/-	3.32E-01	1.42E+00	2.64E-04 +/-	1.06E-05
39	452.13	2.28E+01 +/-	5.74E-01	1.42E+00	2.62E-04 +/-	1.05E-05
40	481.96	4.36E-01 +/-	2.27E-01	1.40E+00	2.48E-04 +/-	1.02E-05
41	619.90	1.88E+00 +/-	1.95E-01	1.35E+00	1.98E-04 +/-	9.16E-06
42	641.13	9.05E-01 +/-	1.78E-01	1.35E+00	1.92E-04 +/-	8.97E-06

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Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
43	646.97	4.92E-01 +/- 2.06E-01	1.34E+00	1.90E-04 +/- 8.92E-06
44	653.75	1.46E+00 +/- 1.86E-01	1.34E+00	1.89E-04 +/- 8.86E-06
45	662.42	9.40E+00 +/- 3.39E-01	1.34E+00	1.86E-04 +/- 8.77E-06
46	689.76	7.89E-01 +/- 1.47E-01	1.33E+00	1.80E-04 +/- 8.49E-06
47	704.93	5.38E-01 +/- 1.13E-01	1.33E+00	1.76E-04 +/- 8.33E-06
48	723.25	4.23E+00 +/- 2.38E-01	1.32E+00	1.72E-04 +/- 8.13E-06
49	757.29	5.00E-01 +/- 9.90E-02	1.31E+00	1.65E-04 +/- 7.74E-06
50	770.46	1.04E+00 +/- 1.31E-01	1.31E+00	1.62E-04 +/- 7.58E-06

Segment: 7 Detector: DET01 (# 1) Position: 7

Elapsed Live Time: 104.37 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.236 +/- 0.0037
SE-75	279.53	0.000 +/- 0.0000	0.259 +/- 0.0058
SE-75	400.65	0.000 +/- 0.0000	0.376 +/- 0.0075

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	2.51E+01 +/- 8.34E-01	4.10E+00	2.18E-09 +/- 2.40E-08
2	23.17	2.93E+01 +/- 9.20E-01	4.10E+00	7.03E-09 +/- 6.90E-08
3	35.10	1.01E+03 +/- 5.02E+00	4.10E+00	9.59E-07 +/- 4.73E-06
4	59.58	5.46E+02 +/- 3.31E+00	4.10E+00	4.01E-05 +/- 6.21E-05
5	75.12	1.20E+01 +/- 1.21E+00	4.10E+00	1.05E-04 +/- 8.11E-05
6	98.81	2.64E+02 +/- 2.95E+00	4.10E+00	2.21E-04 +/- 5.18E-05
7	103.46	2.06E+02 +/- 2.15E+00	4.10E+00	2.41E-04 +/- 4.28E-05
8	111.24	4.60E+01 +/- 2.04E+00	4.10E+00	2.73E-04 +/- 2.88E-05
9	117.21	2.32E+01 +/- 1.57E+00	4.10E+00	2.94E-04 +/- 2.08E-05
10	129.29	1.75E+02 +/- 1.87E+00	4.10E+00	3.30E-04 +/- 1.98E-05
11	146.41	3.50E+01 +/- 1.31E+00	3.14E+00	3.65E-04 +/- 3.34E-05
12	148.57	1.44E+01 +/- 1.01E+00	3.04E+00	3.68E-04 +/- 3.49E-05
13	161.19	5.09E+00 +/- 1.10E+00	2.64E+00	3.83E-04 +/- 4.09E-05
14	164.83	4.19E+00 +/- 1.07E+00	2.56E+00	3.86E-04 +/- 4.19E-05

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	15	171.68	1.09E+01	+/- 1.06E+00	2.43E+00	3.90E-04	+/-	4.31E-05
	16	179.44	3.34E+00	+/- 1.02E+00	2.31E+00	3.93E-04	+/-	4.34E-05
	17	189.58	6.75E+00	+/- 8.76E-01	2.19E+00	3.94E-04	+/-	4.25E-05
	18	196.01	8.16E+00	+/- 9.50E-01	2.12E+00	3.94E-04	+/-	4.14E-05
	19	208.33	1.58E+02	+/- 1.92E+00	2.00E+00	3.91E-04	+/-	3.83E-05
	20	226.09	1.87E+00	+/- 7.75E-01	1.87E+00	3.83E-04	+/-	3.29E-05
	21	244.70	3.08E+00	+/- 7.18E-01	1.75E+00	3.73E-04	+/-	2.70E-05
	22	255.69	6.84E+00	+/- 7.03E-01	1.69E+00	3.66E-04	+/-	2.39E-05
	23	267.98	5.21E+00	+/- 6.74E-01	1.64E+00	3.58E-04	+/-	2.08E-05
	24	298.05	3.96E+00	+/- 8.05E-01	1.57E+00	3.37E-04	+/-	1.58E-05
	25	311.90	5.06E+00	+/- 6.36E-01	1.54E+00	3.27E-04	+/-	1.48E-05
	26	321.27	4.10E+00	+/- 6.57E-01	1.53E+00	3.21E-04	+/-	1.45E-05
	27	324.32	1.37E+00	+/- 5.02E-01	1.52E+00	3.19E-04	+/-	1.44E-05
	28	333.25	4.45E+01	+/- 1.11E+00	1.51E+00	3.13E-04	+/-	1.44E-05
	29	336.46	5.60E+00	+/- 8.76E-01	1.50E+00	3.11E-04	+/-	1.44E-05
	30	345.59	4.18E+01	+/- 8.75E-01	1.49E+00	3.05E-04	+/-	1.46E-05
	31	368.86	1.78E+01	+/- 6.70E-01	1.46E+00	2.91E-04	+/-	1.52E-05
	32	375.66	1.18E+02	+/- 1.36E+00	1.45E+00	2.87E-04	+/-	1.54E-05
	33	383.48	1.17E+01	+/- 6.31E-01	1.44E+00	2.83E-04	+/-	1.57E-05
	34	393.58	4.34E+01	+/- 7.58E-01	1.43E+00	2.77E-04	+/-	1.59E-05
	35	413.70	1.17E+02	+/- 1.19E+00	1.41E+00	2.67E-04	+/-	1.63E-05
	36	423.33	7.07E+00	+/- 3.95E-01	1.41E+00	2.62E-04	+/-	1.63E-05
	37	452.23	1.36E+01	+/- 4.31E-01	1.39E+00	2.49E-04	+/-	1.63E-05
	38	482.44	2.59E-01	+/- 1.74E-01	1.38E+00	2.36E-04	+/-	1.60E-05
	39	620.18	1.01E+00	+/- 1.37E-01	1.33E+00	1.92E-04	+/-	1.19E-05
	40	646.96	4.88E-01	+/- 1.25E-01	1.32E+00	1.86E-04	+/-	1.11E-05
	41	654.01	8.34E-01	+/- 1.31E-01	1.32E+00	1.84E-04	+/-	1.09E-05
M	42	660.38	4.62E-01	+/- 8.74E-02	1.32E+00	1.82E-04	+/-	1.07E-05

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	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Corrected Peak Count Rate (CpS)
m	43	663.55	5.49E+00 +/- 3.34E-01	1.32E+00	1.82E-04 +/- 1.06E-05
	44	689.90	4.96E-01 +/- 9.74E-02	1.31E+00	1.76E-04 +/- 9.85E-06
	45	723.22	2.62E+00 +/- 1.86E-01	1.30E+00	1.70E-04 +/- 9.01E-06
	46	757.45	3.75E-01 +/- 9.13E-02	1.29E+00	1.63E-04 +/- 8.28E-06
	47	771.14	6.66E-01 +/- 1.01E-01	1.29E+00	1.61E-04 +/- 8.02E-06
	48	1001.03	5.24E-02 +/- 3.23E-02	1.25E+00	1.31E-04 +/- 5.77E-06
	49	1112.12	9.43E-03 +/- 9.43E-03	1.23E+00	1.20E-04 +/- 5.13E-06

Segment: 8 Detector: DET01 (# 1) Position: 8

Elapsed Live Time: 110.45 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.267 +/- 0.0339
SE-75	264.65	0.000 +/- 0.0000	0.485 +/- 0.0051
SE-75	279.53	0.000 +/- 0.0000	0.496 +/- 0.0071
SE-75	400.65	0.000 +/- 0.0000	0.555 +/- 0.0088

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
	1	21.42	7.52E+00 +/- 5.15E-01	3.44E+00	1.22E-09 +/- 1.33E-08
	2	23.26	1.30E+01 +/- 5.71E-01	3.08E+00	4.39E-09 +/- 4.25E-08
	3	35.10	1.01E+03 +/- 4.88E+00	2.16E+00	6.89E-07 +/- 3.37E-06
	4	59.62	1.87E+02 +/- 1.66E+00	1.77E+00	3.35E-05 +/- 5.15E-05
	5	75.04	1.62E+00 +/- 7.34E-01	1.70E+00	9.08E-05 +/- 7.00E-05
	6	98.87	8.65E+01 +/- 1.68E+00	1.64E+00	1.99E-04 +/- 4.64E-05
	7	103.47	6.31E+01 +/- 1.18E+00	1.63E+00	2.18E-04 +/- 3.87E-05
	8	111.38	1.62E+01 +/- 1.15E+00	1.62E+00	2.49E-04 +/- 2.62E-05
	9	129.29	5.86E+01 +/- 1.08E+00	1.59E+00	3.05E-04 +/- 1.85E-05
M	10	146.64	8.61E-01 +/- 2.69E-01	1.55E+00	3.42E-04 +/- 3.15E-05
m	11	148.91	1.00E+01 +/- 7.36E-01	1.54E+00	3.45E-04 +/- 3.29E-05
	12	164.94	2.66E+00 +/- 7.02E-01	1.50E+00	3.64E-04 +/- 3.97E-05
	13	171.57	2.52E+00 +/- 6.53E-01	1.48E+00	3.69E-04 +/- 4.10E-05
	14	196.00	2.18E+00 +/- 6.22E-01	1.42E+00	3.77E-04 +/- 3.99E-05
	15	208.42	4.72E+01 +/- 1.06E+00	1.40E+00	3.76E-04 +/- 3.71E-05
	16	244.70	7.29E-01 +/- 4.57E-01	1.33E+00	3.62E-04 +/- 2.67E-05
	17	255.76	2.34E+00 +/- 4.48E-01	1.31E+00	3.56E-04 +/- 2.36E-05
	18	268.19	2.16E+00 +/- 4.37E-01	1.30E+00	3.49E-04 +/- 2.06E-05

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19	297.88	1.26E+00 +/-	5.50E-01	1.28E+00	3.31E-04 +/-	1.56E-05
20	311.90	2.46E+00 +/-	4.28E-01	1.28E+00	3.23E-04 +/-	1.44E-05
21	321.29	1.05E+00 +/-	4.46E-01	1.27E+00	3.17E-04 +/-	1.39E-05
22	324.16	5.48E-01 +/-	2.88E-01	1.27E+00	3.15E-04 +/-	1.39E-05
23	333.31	1.26E+01 +/-	6.28E-01	1.27E+00	3.10E-04 +/-	1.38E-05
24	336.51	1.10E+00 +/-	4.90E-01	1.26E+00	3.08E-04 +/-	1.38E-05
25	345.68	1.29E+01 +/-	5.25E-01	1.26E+00	3.03E-04 +/-	1.38E-05
26	368.69	5.03E+00 +/-	4.17E-01	1.25E+00	2.90E-04 +/-	1.44E-05
27	375.73	3.46E+01 +/-	6.99E-01	1.25E+00	2.86E-04 +/-	1.46E-05
28	383.58	2.31E+00 +/-	4.83E-01	1.25E+00	2.82E-04 +/-	1.48E-05
29	393.64	1.29E+01 +/-	4.18E-01	1.24E+00	2.76E-04 +/-	1.50E-05
30	413.70	3.50E+01 +/-	6.09E-01	1.24E+00	2.66E-04 +/-	1.54E-05
31	423.26	1.83E+00 +/-	2.39E-01	1.23E+00	2.62E-04 +/-	1.55E-05
32	452.27	4.02E+00 +/-	2.35E-01	1.23E+00	2.49E-04 +/-	1.56E-05
33	619.95	3.72E-01 +/-	8.90E-02	1.19E+00	1.93E-04 +/-	1.16E-05
34	662.42	1.75E+00 +/-	1.41E-01	1.19E+00	1.83E-04 +/-	1.03E-05
35	723.38	6.83E-01 +/-	1.08E-01	1.18E+00	1.70E-04 +/-	8.79E-06
36	771.05	2.95E-01 +/-	6.29E-02	1.17E+00	1.61E-04 +/-	7.86E-06
37	1001.03	1.81E-02 +/-	1.28E-02	1.15E+00	1.28E-04 +/-	5.62E-06
38	1408.01	9.07E-03 +/-	9.07E-03	1.12E+00	9.08E-05 +/-	6.30E-06

Segment: 9 Detector: DET01 (# 1) Position: 9

Elapsed Live Time: 113.02 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.325 +/- 0.0288
SE-75	264.65	0.000 +/- 0.0000	0.511 +/- 0.0051
SE-75	279.53	0.000 +/- 0.0000	0.524 +/- 0.0070
SE-75	400.65	0.000 +/- 0.0000	0.579 +/- 0.0088

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.24	5.17E+00 +/- 3.46E-01	2.71E+00	2.32E-06 +/- 2.33E-05
2	35.10	1.01E+03 +/- 4.78E+00	1.95E+00	1.75E-05 +/- 8.88E-05
3	59.63	2.18E+01 +/- 5.87E-01	1.64E+00	1.00E-04 +/- 1.59E-04
4	98.83	6.11E+00 +/- 7.23E-01	1.53E+00	2.51E-04 +/- 6.06E-05
5	129.29	3.11E+00 +/- 5.03E-01	1.49E+00	3.23E-04 +/- 1.97E-05
6	148.57	6.93E-01 +/- 4.32E-01	1.46E+00	3.48E-04 +/- 3.41E-05
7	208.29	1.48E+00 +/- 3.55E-01	1.35E+00	3.66E-04 +/- 3.76E-05
8	279.54	4.30E-01 +/- 2.86E-01	1.27E+00	3.37E-04 +/- 1.85E-05
9	375.59	4.36E-01 +/- 1.94E-01	1.23E+00	2.85E-04 +/- 1.49E-05
10	413.70	8.35E-01 +/- 1.14E-01	1.22E+00	2.67E-04 +/- 1.59E-05

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11	1085.91	1.89E-02	+/- 1.78E-02	1.13E+00	1.23E-04	+/- 5.22E-06
12	1112.12	2.62E-02	+/- 2.00E-02	1.13E+00	1.21E-04	+/- 5.10E-06
13	1408.01	1.75E-02	+/- 1.24E-02	1.11E+00	1.05E-04	+/- 6.85E-06

Segment: 10 Detector: DET01 (# 1) Position: 10

Elapsed Live Time: 113.38 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.342 +/- 0.0280
SE-75	264.65	0.000 +/- 0.0000	0.468 +/- 0.0048
SE-75	279.53	0.000 +/- 0.0000	0.480 +/- 0.0066
SE-75	400.65	0.000 +/- 0.0000	0.530 +/- 0.0083

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.80E+00	1.90E+00	5.68E-06 +/- 4.74E-06
2	59.64	8.53E+00 +/- 4.07E-01	1.61E+00	6.39E-05 +/- 2.21E-05
3	94.87	2.64E+00 +/- 5.64E-01	1.51E+00	2.15E-04 +/- 2.44E-05
4	208.06	7.03E-01 +/- 2.70E-01	1.37E+00	4.01E-04 +/- 2.09E-05
5	244.70	5.66E-01 +/- 2.27E-01	1.33E+00	3.89E-04 +/- 1.95E-05
6	400.66	1.06E-01 +/- 6.16E-02	1.26E+00	2.87E-04 +/- 1.13E-05

Segment: 11 Detector: DET01 (# 1) Position: 11

Elapsed Live Time: 113.50 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.301 +/- 0.0269
SE-75	264.65	0.000 +/- 0.0000	0.460 +/- 0.0047
SE-75	279.53	0.000 +/- 0.0000	0.473 +/- 0.0065
SE-75	400.65	0.000 +/- 0.0000	0.530 +/- 0.0083

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PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	7.18E-01 +/- 1.78E-01	3.18E+00	2.54E-07 +/- 3.92E-07
2	23.24	9.21E-01 +/- 1.72E-01	2.86E+00	4.75E-07 +/- 6.67E-07
3	35.10	1.01E+03 +/- 4.77E+00	2.03E+00	6.75E-06 +/- 5.60E-06
4	59.73	2.27E+00 +/- 3.19E-01	1.69E+00	6.75E-05 +/- 2.32E-05
5	74.89	1.03E+00 +/- 3.39E-01	1.63E+00	1.29E-04 +/- 2.72E-05
6	121.11	6.81E-01 +/- 3.78E-01	1.54E+00	3.01E-04 +/- 1.73E-05
7	185.71	7.31E-01 +/- 3.19E-01	1.43E+00	3.87E-04 +/- 1.99E-05
8	244.70	4.19E-01 +/- 2.13E-01	1.35E+00	3.77E-04 +/- 1.91E-05
9	400.66	7.89E-02 +/- 4.08E-02	1.26E+00	2.82E-04 +/- 1.12E-05
10	1001.03	1.41E-02 +/- 1.45E-02	1.16E+00	1.28E-04 +/- 5.01E-06

Segment: 12 Detector: DET01 (# 1) Position: 12

Elapsed Live Time: 113.57 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Some transmission peaks rejected.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	0.121 +/- 0.0022
SE-75	279.53	0.000 +/- 0.0000	0.130 +/- 0.0033
SE-75	400.65	0.000 +/- 0.0000	0.171 +/- 0.0045

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	7.94E-01 +/- 1.56E-01	4.10E+00	3.60E-07 +/- 5.55E-07
2	23.16	8.82E-01 +/- 1.58E-01	4.10E+00	6.28E-07 +/- 8.86E-07
3	35.10	1.01E+03 +/- 4.77E+00	3.56E+00	7.63E-06 +/- 6.33E-06
4	49.91	4.69E+00 +/- 3.55E-01	2.87E+00	3.61E-05 +/- 1.73E-05
5	59.51	1.90E+00 +/- 2.72E-01	2.68E+00	6.61E-05 +/- 2.29E-05
6	413.70	8.32E-02 +/- 4.49E-02	1.81E+00	2.79E-04 +/- 1.09E-05
7	1085.91	8.70E-03 +/- 8.70E-03	1.45E+00	1.21E-04 +/- 4.35E-06

Segment: 13 Detector: DET01 (# 1) Position: 13

Elapsed Live Time: 113.67 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.156 +/- 0.0197
SE-75	264.65	0.000 +/- 0.0000	0.257 +/- 0.0033
SE-75	279.53	0.000 +/- 0.0000	0.266 +/- 0.0047
SE-75	400.65	0.000 +/- 0.0000	0.306 +/- 0.0061

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	2.75E+00	1.10E-05 +/- 9.51E-06
2	49.88	4.68E+00 +/- 3.46E-01	2.29E+00	4.62E-05 +/- 2.29E-05

Segment: 14 Detector: DET01 (# 1) Position: 14

Elapsed Live Time: 113.77 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.742 +/- 0.0336
SE-75	264.65	0.000 +/- 0.0000	0.770 +/- 0.0068
SE-75	279.53	0.000 +/- 0.0000	0.760 +/- 0.0087
SE-75	400.65	0.000 +/- 0.0000	0.793 +/- 0.0105

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PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.78E+00	1.22E+00	8.94E-06 +/- 4.41E-05
2	559.38	1.24E-01 +/- 4.18E-02	1.08E+00	2.11E-04 +/- 1.36E-05
3	662.42	1.76E-02 +/- 1.24E-02	1.07E+00	1.83E-04 +/- 1.04E-05
4	1408.01	2.64E-02 +/- 1.52E-02	1.05E+00	9.39E-05 +/- 6.30E-06

Segment: 15 Detector: DET01 (# 1) Position: 15

Elapsed Live Time: 113.79 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.800 +/- 0.0339
SE-75	264.65	0.000 +/- 0.0000	0.866 +/- 0.0074
SE-75	279.53	0.000 +/- 0.0000	0.876 +/- 0.0095
SE-75	400.65	0.000 +/- 0.0000	0.868 +/- 0.0112

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	2.31E-01 +/- 9.46E-02	1.31E+00	1.78E-13 +/- 1.91E-12
2	35.10	1.01E+03 +/- 4.76E+00	1.16E+00	1.45E-08 +/- 6.96E-08
3	121.11	4.02E-01 +/- 2.28E-01	1.09E+00	3.03E-04 +/- 1.76E-05
4	778.90	2.39E-02 +/- 2.12E-02	1.04E+00	1.56E-04 +/- 7.35E-06
5	867.39	8.68E-03 +/- 8.68E-03	1.04E+00	1.45E-04 +/- 6.37E-06

Segment: 16 Detector: DET01 (# 1) Position: 16

Elapsed Live Time: 113.80 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.834 +/- 0.0343
SE-75	264.65	0.000 +/- 0.0000	0.800 +/- 0.0069
SE-75	279.53	0.000 +/- 0.0000	0.794 +/- 0.0089
SE-75	400.65	0.000 +/- 0.0000	0.824 +/- 0.0108

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.13E+00	9.52E-10 +/- 5.35E-09
2	300.10	1.20E-01 +/- 6.15E-02	1.09E+00	2.42E-04 +/- 1.22E-05
3	413.70	6.04E-02 +/- 4.15E-02	1.07E+00	1.81E-04 +/- 1.21E-05
4	1001.03	1.74E-02 +/- 1.23E-02	1.05E+00	9.85E-05 +/- 4.77E-06
5	1408.01	8.68E-03 +/- 8.68E-03	1.04E+00	7.39E-05 +/- 5.32E-06

Summed Spectrum

Peak Locate Report

Sample ID: S100_883
Peak Locate Performed on: 2-22-02 8:35:09 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192
Peak Search Sensitivity: 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
1	43.00	0.2537	21.42	15.54
2	46.51	0.1348	23.18	28.24
3	70.27	0.0394	35.05	466.65
4	119.38	0.0643	59.58	150.73
5	150.35	0.2341	75.06	11.93
6	197.85	0.0821	98.79	80.74
7	207.15	0.0820	103.44	62.92
8	222.77	0.1030	111.24	45.85
9	234.56	0.1806	117.13	13.41
10	259.29	0.0723	129.49	107.28
11	293.19	0.3013	146.42	8.93
12	297.87	0.1222	148.76	40.04
13	322.29	0.2181	160.96	6.90
14	330.00	0.1696	164.81	19.55
15	343.71	0.2254	171.66	11.36
16	359.30	0.2776	179.45	6.34
17	379.66	0.2507	189.62	8.11
18	392.45	0.2001	196.01	13.57
19	417.05	0.0610	208.31	135.83
20	511.94	0.1638	255.72	19.27
21	536.51	0.1717	267.99	17.03
22	596.42	0.2117	297.92	9.87
23	625.18	0.1682	312.29	17.30
24	643.15	0.2404	321.27	9.23
25	649.12	0.2175	324.25	9.92
26	667.10	0.0830	333.24	66.92
27	673.34	0.1322	336.35	30.04
28	691.80	0.0836	345.58	67.16
29	738.34	0.1315	368.83	22.41
30	751.99	0.0623	375.65	117.54
31	767.63	0.1153	383.46	36.78
32	787.89	0.0871	393.59	56.94
33	829.53	0.0628	414.39	104.30
34	847.31	0.1215	423.27	29.04
35	905.19	0.1047	452.19	39.62
36	1119.75	0.2659	559.39	5.88

Rtd. 2002-02-1349

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
37	1241.18	0.2193	620.05	8.85
38	1283.65	0.2825	641.27	5.28
39	1295.01	0.2189	646.95	8.99
40	1308.52	0.2411	653.70	6.38
41	1328.26	0.1272	663.56	23.64
42	1380.75	0.2561	689.79	6.34
43	1447.79	0.1515	723.28	16.31
44	1543.01	0.2436	770.85	6.95

Errors quoted at 1.000 sigma

Summed Spectrum

Peak Analysis Report

Sample ID: S100_883
Peak Analysis Performed on: 2-22-02 8:35:09 AM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	39-	46	43.00	21.42	1.40E+04	203.78	1.37E+04
2	46-	49	46.51	23.18	1.55E+04	222.31	2.03E+04
3	67-	73	70.27	35.05	1.80E+06	1355.57	1.82E+04
4	115-	122	119.38	59.58	2.61E+05	587.35	4.14E+04
5	149-	153	150.35	75.06	2.45E+03	221.44	2.78E+04
6	194-	201	197.85	98.79	1.36E+05	673.59	1.58E+05
7	206-	210	207.15	103.44	1.05E+05	455.60	5.66E+04
8	218-	226	222.77	111.24	2.16E+04	507.99	1.03E+05
9	233-	238	234.56	117.13	1.21E+04	386.51	6.43E+04
10	255-	263	259.29	129.49	9.00E+04	438.63	4.74E+04
11	291-	300	293.19	146.42	1.81E+04	337.84	4.23E+04
12	298-	304	297.87	148.76	6.47E+03	260.48	3.01E+04
13	318-	326	322.29	160.96	1.89E+03	286.77	3.70E+04
14	326-	334	330.00	164.81	2.31E+03	280.70	3.56E+04
15	339-	347	343.71	171.66	4.80E+03	263.30	3.02E+04
16	354-	363	359.30	179.45	1.94E+03	273.82	3.23E+04
17	375-	384	379.66	189.62	3.49E+03	269.40	3.05E+04
18	388-	396	392.45	196.01	4.63E+03	246.07	2.62E+04
19	412-	421	417.05	208.31	8.64E+04	438.76	4.51E+04
20	507-	516	511.94	255.72	3.70E+03	183.52	1.33E+04
21	533-	541	536.51	267.99	3.02E+03	164.95	1.13E+04
22	591-	601	596.42	297.92	2.05E+03	169.51	1.12E+04
23	620-	630	625.18	312.29	2.62E+03	168.91	1.09E+04
24	638-	648	643.15	321.27	1.99E+03	179.62	1.27E+04
25	648-	654	649.12	324.25	8.83E+02	128.10	7.65E+03
26	662-	672	667.10	333.24	2.41E+04	266.45	1.88E+04
27	672-	678	673.34	336.35	2.82E+03	206.33	1.21E+04
28	687-	696	691.80	345.58	2.22E+04	211.64	9.96E+03
29	733-	743	738.34	368.83	9.60E+03	163.07	7.07E+03
30	746-	757	751.99	375.65	6.23E+04	308.32	1.30E+04
31	767-	772	767.63	383.46	6.26E+03	149.59	4.52E+03
32	782-	793	787.89	393.59	2.33E+04	178.60	3.44E+03
33	824-	834	829.53	414.39	6.17E+04	258.83	2.24E+03
34	841-	852	847.31	423.27	3.41E+03	106.37	3.10E+03
35	899-	910	905.19	452.19	7.35E+03	103.37	1.33E+03
36	1113-	1125	1119.75	559.39	2.06E+02	35.01	3.88E+02
37	1235-	1247	1241.18	620.05	6.68E+02	37.32	2.73E+02

Batch 2002-02-125

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
38	1277-	1289	1283.65	641.27	3.28E+02	34.46	3.23E+02
39	1289-	1301	1295.01	646.95	1.36E+02	39.38	5.32E+02
40	1302-	1314	1308.52	653.70	4.89E+02	35.73	3.00E+02
41	1322-	1334	1328.26	663.56	2.84E+03	63.47	4.56E+02
42	1374-	1386	1380.75	689.79	2.73E+02	27.11	1.74E+02
43	1441-	1454	1447.79	723.28	1.38E+03	45.10	2.37E+02
44	1536-	1549	1543.01	770.85	4.47E+02	26.07	8.51E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-03-1353

Summed Spectrum

Nuclide Identification Report

Sample ID: S100_883
Nuclide Library Used: C:\WAS\NLIB\LLNL.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/)	Activity Uncertainty
Pulser	1.000	35.10*	100.00	2.839E+05	7.119E+05
Np-237	0.754	300.10	6.63		
		311.90*	38.60	6.315E+00	4.093E-01
Pu-239	0.967	413.70*	0.00	4.606E+06	8.609E+04
Pu-239A	0.997	129.29*	0.01	1.454E+06	3.657E+04
Am-241	0.911	662.42*	0.00	1.137E+06	2.729E+04
Pu-241	0.997	148.57*	0.00	3.139E+06	1.350E+05

* = Energy line found in the spectrum.
Energy Tolerance : 1.500 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 1.000 sigma

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 2-22-02 8:35:09 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	21.42	1.2516E+02	1.46
2	23.18	1.3843E+02	1.44
4	59.58	2.3372E+03	0.24
5	75.06	2.1943E+01	9.03
6	98.79	1.2175E+03	0.50
7	103.44	9.3727E+02	0.45
8	111.24	1.9312E+02	2.36
9	117.13	1.0797E+02	3.21
11	146.42	1.6171E+02	1.87
13	160.96	1.6960E+01	15.14
14	164.81	2.0667E+01	12.16
15	171.66	4.2945E+01	5.49
16	179.45	1.7329E+01	14.14
17	189.62	3.1228E+01	7.72
18	196.01	4.1478E+01	5.31
19	208.31	7.7361E+02	0.52
20	255.72	3.3155E+01	4.96
21	267.99	2.7037E+01	5.46
22	297.92	1.8353E+01	8.27
24	321.27	1.7825E+01	9.02
25	324.25	7.9075E+00	14.50
26	333.24	2.1604E+02	1.11
27	336.35	2.5212E+01	7.33
28	345.58	1.9832E+02	0.96
29	368.83	8.5971E+01	1.70
30	375.65	5.5775E+02	0.50
31	383.46	5.6075E+01	2.39
32	393.59	2.0857E+02	0.77
34	423.27	3.0567E+01	3.12
35	452.19	6.5754E+01	1.41
36	559.39	1.8424E+00	17.01
37	620.05	5.9822E+00	5.58
38	641.27	2.9400E+00	10.49
39	646.95	1.2151E+00	29.01
40	653.70	4.3759E+00	7.31
42	689.79	2.4426E+00	9.93
43	723.28	1.2354E+01	3.27
44	770.85	4.0001E+00	5.84

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002 D2-1354

Combined Segment NID

NID Results Combiner Mode: Sum Activities

Nuclide		Total Activity (uCi)			Concentration (uCi/g)	
Pulser		3.51E+07	+/-	1.82E+08	1.58E+03	+/- 8.20E+03
SE-75	<	3.79E-01	+/-	1.88E-02	< 1.71E-05	+/- 8.46E-07
EU-152x	<	1.99E-01	+/-	1.51E-02	< 8.94E-06	+/- 6.82E-07
U-233	<	1.59E+04	+/-	8.15E+02	< 7.18E-01	+/- 3.67E-02
U-235		1.28E-01	+/-	5.62E-02	5.76E-06	+/- 2.53E-06
Np-237		9.01E+00	+/-	5.13E-01	4.06E-04	+/- 2.31E-05
Pu-238	<	4.07E+04	+/-	1.98E+03	< 1.84E+00	+/- 8.91E-02
U-238		3.55E+00	+/-	1.29E+00	1.60E-04	+/- 5.79E-05
Pu-239		5.44E+06	+/-	1.32E+05	2.45E+02	+/- 5.94E+00
Pu-239A		4.13E+06	+/-	1.27E+05	1.86E+02	+/- 5.71E+00
Am-241		1.36E+06	+/-	4.77E+04	6.12E+01	+/- 2.15E+00
Pu-241		1.50E+07	+/-	5.37E+05	6.76E+02	+/- 2.42E+01

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
U-235	5.92E-02	+/-	2.60E-02
Np-237	1.28E-02	+/-	7.29E-04
U-238	1.06E+01	+/-	3.83E+00
Pu-239	8.76E+01	+/-	2.12E+00
Pu-239A	6.66E+01	+/-	2.04E+00
Am-241	3.97E-01	+/-	1.39E-02
Pu-241	1.45E-01	+/-	5.19E-03

Batch 2002-02-1255

Summed Spectrum

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		2.84E+05	+/-	7.12E+05	1.28E+01	+/-	3.21E+01
SE-75	<	9.00E-01	+/-	7.85E-03	< 4.05E-05	+/-	3.54E-07
EU-152x	<	5.21E-01	+/-	1.00E-02	< 2.34E-05	+/-	4.52E-07
U-233	<	4.05E+04	+/-	8.44E+02	< 1.82E+00	+/-	3.80E-02
U-235	<	1.36E+00	+/-	2.69E-02	< 6.14E-05	+/-	1.21E-06
Np-237		6.32E+00	+/-	4.09E-01	2.84E-04	+/-	1.84E-05
Pu-238	<	9.87E+04	+/-	1.44E+03	< 4.44E+00	+/-	6.47E-02
U-238	<	1.21E+01	+/-	1.93E-01	< 5.45E-04	+/-	8.71E-06
Pu-239		4.61E+06	+/-	8.61E+04	2.07E+02	+/-	3.88E+00
Pu-239A		1.45E+06	+/-	3.66E+04	6.55E+01	+/-	1.65E+00
Am-241		1.14E+06	+/-	2.73E+04	5.12E+01	+/-	1.23E+00
Pu-241		3.14E+06	+/-	1.35E+05	1.41E+02	+/-	6.08E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
Np-237	8.97E-03	+/-	5.81E-04
Pu-239	7.42E+01	+/-	1.39E+00
Pu-239A	2.34E+01	+/-	5.89E-01
Am-241	3.32E-01	+/-	7.97E-03
Pu-241	3.04E-02	+/-	1.31E-03

Batch 2002-02-1356

Final Non-Uniformity Results

Source Longitudinal Ratio: 0.000 +/- 0.0000
Matrix Longitudinal Ratio: 0.550 +/- 0.0232

Source Vertical Ratio: 0.000 +/- 0.0000
Matrix Vertical Ratio: 0.862 +/- 0.0169

NUDS could not find the transmission peak in one radial segment.
NUDS could not find the source peak in any radial segment.

Batch 2002-02-1252

****
***** M G A R E P O R T *****
****

Report generated on: 2-22-02 8:35:08 AM

MGA version: MGA V9.5 CI

Spectrum ID: 11200883.CNF Sens : 30.0% LT: 50.9 Mins DT: 8.81
Measurement date: 2-22-02 Declared date: 2-22-02

Sample ID: S100_883 Detector: Total counts: 1.517E+07

Pu g/cm2 = 0.8270 Cd g/cm2 = 1.7850 FWHM at 122 keV = 689 eV
QFIT = 1.00 FWHM at 208 keV = 864 eV
NQFIT = 1.00

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	Meas. date %Err	Decl. date % weight	Decl. date %Err
Pu-238	0.000093	5.7	5.7	0.0366	5.7	0.00877	5.70	0.00877	5.70
Pu-239	1.000000	0.0	0.3	392.9443	0.5	94.13186	0.04	94.13186	0.04
Pu-240	0.059374	0.8	0.7	23.3305	0.8	5.58895	0.71	5.58895	0.71
Pu-241	0.002545	0.5	0.4	1.0000	0.0	0.23956	0.46	0.23956	0.46
Pu-242	(New alg.)			0.1289	(10)	0.03087	(10)	0.03087	(10)
Am-241	0.004665	0.4	0.3	1.8330	0.5	0.43911	0.39	0.43911	0.39

Pu-240 effective (meas. date) = 5.663 +/- 0.76%
Am-241 separated about 21.560 +/- 0.126 years ago
Am/Pu-241 weight ratio = 1.83303 +/- 0.49%

Messages :

Lead x-rays detected.
Calculations in MGAABS didn't converge : results may be suspect.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Batch 2002-02-1258

****
***** GENIE QUALITY ASSURANCE *****
****

Last Results Report
2-22-02 10:34:13 AM

QA File: C:\WAS\CTRS\CTR1\ARR1\T11_BCK.QA
Sample ID: B884
Sample Quantity: 1.0000E+00
Sample Date: 2-22-02 10:28:41 AM
Measurement Date: 2-22-02 10:32:08 AM
Elapsed Live Time: 100.0 seconds
Elapsed Real Time: 103.8 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
400.6 keV Centroid [0.00+/-0.00]	8.0353E+02	0.00 < : : : >
400.6 keV FWHM [0.00+/-0.00]	1.4820E+00	0.00 < : : : >
Peak centroid 136 KeV [0.00+/-0.00]	2.7295E+02	0.00 < : : : >
Peak area 400 keV [0.00+/-0.00]	1.6615E+04	0.00 < : : : >
Peak counts/second [0.00+/-0.00]	1.6615E+02	0.00 < : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

Batch 2002-02-1259

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
2-22-02 10:34:20 AM

QA File: C:\WAS\CTRS\CTR1\ARR1\S11_BCK.QA
Sample ID: B884
Sample Quantity: 1.0000E+00
Sample Date: 2-22-02 10:28:41 AM
Measurement Date: 2-22-02 10:28:40 AM
Elapsed Live Time: 200.0 seconds
Elapsed Real Time: 201.9 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
Ref. Peak [0.00+/-0.00]	3.5083E+01	0.00 < : : : >
Upper CPS Reg [0.00+/-0.00]	2.6425E+01	0.00 < : : : >
Peak counts/second [0.00+/-0.00]	1.0088E+03	0.00 < : : : >
Pulser FWHM [0.00+/-0.00]	1.0444E+00	0.00 < : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

Batch 2002-02-1260

****
***** GENIE QUALITY ASSURANCE *****
****

Last Results Report
2-22-02 10:34:13 AM

OK
JW
4-24-02

QA File: C:\WAS\CTRS\CTR1\ARR1\T11_BCK.QA
Sample ID: ~~B883~~ changed per logbook
Sample Quantity: 1.0000E+00
Sample Date: 2-22-02 10:28:41 AM
Measurement Date: 2-22-02 10:32:08 AM
Elapsed Live Time: 100.0 seconds
Elapsed Real Time: 103.8 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
400.6 keV Centroid [0.00+/-0.00]	8.0353E+02	0.00 < : : : >
400.6 keV FWHM [0.00+/-0.00]	1.4820E+00	0.00 < : : : >
Peak centroid 136 KeV [0.00+/-0.00]	2.7295E+02	0.00 < : : : >
Peak area 400 keV [0.00+/-0.00]	1.6615E+04	0.00 < : : : >
Peak counts/second [0.00+/-0.00]	1.6615E+02	0.00 < : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

****
***** GENIE QUALITY ASSURANCE *****
****

Last Results Report
2-22-02 10:34:20 AM

NOT VALID
KER
7/9/02

QA File: C:\WAS\CTRS\CTR1\ARR1\S11_BCK.QA
Sample ID: B883
Sample Quantity: 1.0000E+00
Sample Date: 2-22-02 10:28:41 AM
Measurement Date: 2-22-02 10:28:40 AM
Elapsed Live Time: 200.0 seconds
Elapsed Real Time: 201.9 seconds

Parameter Description	Value	Deviation/Flags

Batch 2002-02-1261

[Mean +/- Std. Dev.]		< LU : SD : UD : BS >
Ref. Peak	3.5083E+01	0.00
[0.00+/-0.00]		< : : : >
Upper CPS Reg	2.6425E+01	0.00
[0.00+/-0.00]		< : : : >
Peak counts/second	1.0088E+03	0.00
[0.00+/-0.00]		< : : : >
Pulser FWHM	1.0444E+00	0.00
[0.00+/-0.00]		< : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

NOT VALID

KER

2/9/02

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS V2.3A RADA V2.1

****
* DRUM INFORMATION *
****

Drum Package ID:	LL85201089		
Sequence Number:	885		
Assay Date & Time:	2-22-2002	10:43:04 AM	
Report Generated:	6-18-2002	4:01:00 PM	
Drum Package GROSS Weight:	66.20 kg	NET Weight:	34.40 kg

IDC Number: LL85201089

QC Replicate (Yes/No): NO Passed (Yes/No): _____

Operator Name (Printed): Russell Ratti

Operator Signature: For: Russell Ratti By: _____ Date: 6-20-02

Independent Reviewer: _____ Date: 6-27-02

Expert Reviewer: Kenneth Rasche _____ Date: 6/18/02

Tech. Supv/QA Officer: _____ Date: 6/27/02

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 4.227E+00 +/- 1.035E+00 Ci

****
* I S O T O P I C I N F O R M A T I O N *
****

Isotope	Measured Mass (g)	Mass Uncertainty (g)
Pu-238	8.928E-03	3.225E-03
Pu-239	4.472E+01	1.579E+01
Pu-240	3.193E+00	1.129E+00
Pu-241	1.193E-01	4.219E-02
Pu-242	1.609E-02	6.498E-03
Am-241	1.617E-01	5.713E-02
*Am-243	N/A	N/A
*Np-237	N/A	N/A
*U-235	N/A	N/A
*U-238	N/A	N/A
*U-233	N/A	N/A

* = Activity/Mass below detectable limit.

Total Pu Mass: 4.81E+01 +/- 1.58E+01 g

****
* M G A R E S U L T S *
****

NUCLIDE	% Weight	% Error(1-Sigma)
Pu-238	1.858E-02	3.89E+00
Pu-239	9.305E+01	6.45E-02
Pu-240	6.646E+00	8.89E-01
Pu-241	2.482E-01	1.11E+00
Pu-242	3.348E-02	1.00E+01
Am-241	3.365E-01	6.09E-01
U-235	1.256E+00	2.33E+01

Batch 2002-02-1264

LAWRENCE LIVERMORE NATIONAL LABORATORY

WASTE DISPOSAL REQUISITION

Waste Run Date:

W 146761

Label/waste Type: (Must check)
☐ Non-Haz ☐ Haz ☐ Low-Level ☑ TRU
RCRA ☐ CA ☐
☐ No Disposal Option

1. Container Serial Number or Retention Tank ID:

2. For TRU Waste, TRU Waste Container Serial No.: LL852 Q1089 TRU

3. Container Acceptable: ☑ Yes ☐ N/A Initials: 2/14/00

Chemical Compatibility Code: DS

Storage Restrictions
☐ No Storage Restrictions
Not acceptable at the following locations:
☐ 233 ☑ 514 ☐ 612 ☑ 693
CWAA ☐ 169 ☑ 361 ☐ 612-4

4. Building No.: 332
5. Room No.: 1378
6. RMMA: ☑ Yes ☐ No
7. WAA No.: B332A
14. Waste Package Seals Applied: ☑ Yes ☐ N/A (If yes, complete Step 15)

Hazardous Properties: ☐ Toxic ☐ Corrosive ☐ Ignitable ☐ Reactive

19. Outer Container Type: ☐ Box ☐ Sack ☐ Can ☐ SWB ☐ Carboy ☐ Tub ☑ Drum ☐ Tank - Fixed ☐ Tank - Portable ☐ Transportainer Other: 55 gal

20. Outer Container Size/Vol: ☐ 1 gal ☐ 750 gal ☐ 2 gal ☐ 1000 gal ☐ 5 gal ☐ 5000 gal ☐ 30 gal ☐ 67 cu ft ☑ 55 gal ☐ 1 × 1 × 1.5 ☐ 85 gal ☐ 2 × 4 × 7 ☐ 330 gal ☐ 4 × 4 × 7 ☐ 660 gal ☐ gal ☐ cu ft Other:

8. Workplace Start Date: 2/14/00
9. Workplace End Date: 3/1/00
10. Account No.: 5484-20
11. Directorate: DNT
15. Waste Package Seal Nos.: T10559 T10559 T 4/16/01
16. Source Code: A940
☐ Lab Pack ☐ Over Pack
18. Waste Form: ☑ Solid ☐ Liquid ☐ Gas ☐ Sludge
17. LLW Waste Stream No. or TRU Waste Form No.: 1 & 2a

12. Did Waste Minimization Effort Practices Begin in Current Calendar Year? ☐ Yes ☑ No
If yes, enter Activity Code: W_____
Comments:

13. WEF/PKE/SAW No.: ☐ WEF No. ☑ PKE No. ☐ SAW No. ☐ N/A
Specify: 245, 246, 243

21. Item No.	22. Spent or Unused (S/U)	23. Organic or Inorganic (O/I)	24. Waste Form (S, SL, L, G)	25. Waste Description (For multiple parcels, also list Parcel Card Nos.)	26. Hazardous Constituents and Concentrations	27. Item Container Size	28. Quantity per Item Amount	28. Quantity per Item Units	29. Analysis Sample No.	Physical Waste Data: 30. Aqueous Only pH	30. Aqueous Only Normality	31. Flash Point
1	S		S	PO21666, PO21674		55 gal						
	D Mew 9/20/00		D Mew 9/20/00	PO21514,		D Mew 9/20/00						
				PO21684,								
				PO21671								
				PO21656								
				PO21691								

D Mew 9/20/00

USE CONTINUATION FORM FOR ADDITIONAL ITEMS

32. Does the waste contain radioactive components? ☑ Yes ☐ No ☐ To be analyzed
(If yes or TBA, complete Steps 36–41 as applicable to waste type.)

This section (Steps 33–35) is required for Hazardous Waste generated in a RMMA

33. Was the waste kept isolated from any operation that could have produced radioactive contamination (using a glove box, vent hood, etc.)? ☐ Yes ☐ No (If no, full rad analysis required)

34. Was the waste exposed to particle beams capable of inducing radioactivity by activation? ☐ Yes ☐ No (If yes, full rad analysis required)

35. Describe other controls used to prevent radioactive contamination:

36. Radionuclides:
Check all Plutonium grades present: ☑ Weapons ☐ Fuel ☐ Reactor ☐ Am-enriched ☐ Mixed
☐ Enriched Uranium (identify the % of each of the following:)
_____% U-234
_____% U-235
_____% U-238
(List additional radionuclides in Step 38.)

37. Gross weight of waste package: 166.2 kg

38. Radiological Data:
(For certified LLW and TRU waste, list totals from Parcel Cards.)

Item	Radionuclide(s)	Quantity	Units/Activity (Ci,g)	PE - Ci	Fissile g

39. Rad. Survey mr/hr: | β-γ @ Contact | β-γ @ 1 Meter | Neutron @ Contact

40. Swipe Data: ☐ Complies with 10 CFR 835 criteria for unrestricted release

41. Rad Swipe/Survey Performed By: (Print Name–Last, First) | Employee No.: | L-Code:
Signature: | Date: | Ext.:

42. Generator: I certify, to the best of my knowledge, that the information provided on this requisition is correct. I understand that I may be liable to State and Federal prosecution by intentionally providing false information. I have obtained this information by:
☐ Direct knowledge of the waste generating process ☐ Analytical Data
☑ Obtaining sufficient information from others knowledgeable of the waste generating process.
☑ Container Custodian: I certify that the waste parcels identified on this form are contained in this waste container and have been packaged in accordance with the requirements specified in the appropriate LLNL TRU Waste or Low-Level Waste Program Certification and Quality Assurance Program.

Generator or Container Custodian Name (Print – Last, First): Mew Dawn E
Signature: Dawn Mew
Employee No.: 603212 | L-Code: 361 | Ext.: 4-2836 | Date: 3-2-00

Inspected By: Signature: | Employee No.: | Date:

Characterization Chemist Approval ☐ Acceptable ☐ WEF ☐ Not for Sampling (Initials) KAS EF-PF
Signature: Kai Sutcliffe | Employee No.: 211108 | Date: 9/20/00

RCA Approval ☐ Decay ☐ NTS ☐ WIPP ☐ WEF Program (Initials) Certified (Initials) Certified (Initials)
Signature: | Employee No.: | Date:

RMMA Certification: Shipping | CC | RSDR #:

Tare weight of container: 31.8 kg

☐ HWM Use Only

LL-5344 (Rev 06/98) Page 1 of

Batch 2002-02-1248

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005
Software Version: GWAS V2.3A RADA V2.1

Assay Date & Time: 2-22-2002 10:43:04 AM
Report Generated: 6-18-2002 4:01:03 PM

Drum Package ID: LL85201089
Sequence Number: 885

Waste Classification (TRU or LLW): TRU

			Errors at 1.96 sigma	
Total Alpha Activity :	4.227E+00	+/-	1.035E+00	Ci
Total TRU Activity :	1.229E+05	+/-	3.010E+04	nCi/g
Pu-239 Equiv Activity:	4.457E+00	+/-	1.039E+00	Ci
Fissile Gram Equiv Mass:	4.506E+01	+/-	1.579E+01	g
Total Decay Heat:	1.343E-01	+/-	3.257E-02	W
TMU Value:	35.31 %			

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error
Pu-238	1.54E-01	5.58E-02	8.93E-03	3.23E-03
Pu-239	2.78E+00	9.81E-01	4.47E+01	1.58E+01
Pu-240	7.34E-01	2.60E-01	3.19E+00	1.13E+00
Pu-241	1.24E+01	4.39E+00	1.19E-01	4.22E-02
Pu-242	6.39E-05	2.58E-05	1.61E-02	6.50E-03
Am-241	5.61E-01	1.98E-01	1.62E-01	5.71E-02
*Am-243	N/A	N/A	N/A	N/A
*Np-237	N/A	N/A	N/A	N/A
*U-235	N/A	N/A	N/A	N/A
*U-238	N/A	N/A	N/A	N/A
*U-233	N/A	N/A	N/A	N/A

* = Activity/Mass below detectable limit.

Total Pu Mass: 4.81E+01 +/- 1.58E+01 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sigma)
Pu-238	1.858E-02	3.89E+00
Pu-239	9.305E+01	6.45E-02
Pu-240	6.646E+00	8.89E-01
Pu-241	2.482E-01	1.11E+00
Pu-242	3.348E-02	1.00E+01
Am-241	3.365E-01	6.09E-01
U-235	1.256E+00	2.33E+01

SGS Expert Review Checklist

Container Identification #: LL85201089_____ Original Assay Date:2-22-2002__

1. *WCP-41, §6.1:* A MGA report ☒ is present or ☐ expert review has provided isotopic ratios from SGS or AK. Comment: ☒ No comments
2. *WCP-41, §6.1:* MGA and AK ☒ agree as to radiological composition or, if not, ☐ expert review has resolved this. Comment: ☒ No comments
3. *WCP-41, §6.2.1:* ☒ Pu-238 ≤ 2% by weight of total Pu or, if not, ☐ expert review has addressed this and assigned a Pu-240 value. Comment: ☒ No comments
4. *WCP-41, §6.2.2:* ☐ Neither Np-237 nor U-235 is identified by MGA or ☒ expert review has addressed possible interferences from these radionuclides.
   Comment: U-235 was identified by MGA but with high error. There is no interference. ☐ No comments
5. *WCP-41, §6.2.2.2:* ☒ Am-241 separation date is 1950 or later or ☐ expert review has addressed possible interferences. Comment: ☒ No comments
6. *WCP-41, §6.3.1.1.a:* ☒ Bulk density of waste ≤ 0.6 g/ml or ☐ expert review has addressed the high density of the drum. Comment: ☒ No comments
7. *WCP-41, §6.3.1.2.a:* ☐ Transmission in every segment ≥ 0.1% for the Se-75 peaks at 136 keV or 265 keV or ☒ expert review has addressed the low transmission.
   Comment: The 136 keV transmission gamma is zero in four segments. However, the 265 keV transmission is okay as is the the Pu-239/Pu-239a ratio. ☐ No comments
8. *WCP-41, §6.3.1.2.a:* ☒ Transmission in every segment ≥1% for the Se-75 peak at 401 keV or ☐ expert review has addressed the low transmission. Comment: ☒ No comments
9. *WCP-41, §6.3.1.3.b:* ☒ Dead time in every segment ≤ 50% or ☐ expert review has addressed the high dead time. Comment: ☒ No comments
10. *WCP-41, §6.3.1.3.c:* ☒ Pu-239 masses determined from the 414 keV peak and the 129 keV peak agree by a factor of < 2.5 or ☐ expert review has addressed possible matrix inhomogeneity. Comment: I ran interactive peak fit on 3 segments to get better fits and more accurate values for homogeneity corrections. ☐ No comments
11. *WCP-41, §6.3.2.3:* Cs-137 (☐ has) (☒ has not) been identified by expert review. If it has, Sr-90 is reported ☐ at an activity ratio to Cs-137of 0.39 for Pu fission or ☐ at a ratio of 1 for U-235 fission or, ☐ if both Pu and U are present, the expert reviewer has determined the ratio. Comment: ☒ No comments

CONTROLLED FORM

Batch 2002-02-1266

SGS Expert Review Checklist

Container Identification #: LL85201089_____ Original Assay Date:2-22-2002__

12. *WCP-41, §6.3.2.4:* ☒ No unusual nuclides are identified (none other than the 10 required to be reported to WIPP) or ☐ the expert reviewer has checked for interferences from unusual nuclides. Comment: ☒ No comments

13. *WCP-41, §6.3.3:* For waste drums (☐ NA for standards), ☒ the Summed Spectrum report value for Pu-239 and the Combined Segment NID report for Pu-239 agree within 95% confidence limits (the same as for replicates of unknowns) or ☐ expert review has addressed the difference. Comment: The combined NID to the summed NID disagree by 2.9-sigma. This should be expected because of the uniformity measurements.☐ No comments

14. *WCP-41, §6.4:* ☒ The SGS Summed Spectrum and Combined Segment NID reports agree as to the ratios by weight of several radionuclides, such as those of Am-241, Pu-241, Np-237, Am-243, and U-235 to Pu-239, and MGA results agree as to identifying these radionuclides or ☐ expert review has resolved this. Comment: ☒ No comments

15. *WCP-41, §6.6.1:* ☒ All reported radionuclide masses are above 2.5 times the uncorrected MDA or ☐ expert review has calculated transmission-corrected MDA's and taken appropriate action. Comment: ☒ No comments

16. *WCP-41, §6.6.2:* ☒ Any changes to reported quantities of individual radionuclides have been entered into the RADA program and a new radioassay data sheet has been produced, showing revised derivative quantities, and included in the batch data report, along with the marked up original. Comment: ☒ No comments

17. *CP-41, §6.7:* ☒ Counting statistics are adequate for normal passive count time of 120 seconds per segment or ☐ Counting statistics are adequate for long passive count time of 600 seconds per segment or ☐ expert review has rejected the count and ordered a longer count time. Comment: ☒ No comments

Kenneth Raschke	Kenneth Raschke	6/18/02
Expert Reviewer (print)	Signature	Date

Batch 2002-02-1267

****
***** M G A R E P O R T *****
****

Report generated on: 6-18-02 3:52:15 PM

MGA version: MGA V9.5 CI

Spectrum ID: 11200885.CNF Sens : 30.0% LT: 52.9 Mins DT: 5.29
Measurement date: 2-22-02 Declared date: 2-22-02

Sample ID: LL85201089 Detector: Total counts: 1.004E+07

Pu g/cm2 = 0.0020 Cd g/cm2 = 1.7192 FWHM at 122 keV = 683 eV
QFIT = 1.01 FWHM at 208 keV = 859 eV
NQFIT = 1.00

Isotope	Relative to Pu-239	%* Err	% Err	Relative to Pu-241	%* Err	Isotope analysis at Meas. date % weight	%Err	Decl. date % weight	%Err
Pu-238	0.000200	3.9	3.9	0.0749	3.9	0.01858	3.89	0.01858	3.89
Pu-239	1.000000	0.0	0.5	374.9543	1.1	93.05419	0.06	93.05419	0.06
Pu-240	0.071416	1.0	0.9	26.7778	1.3	6.64557	0.89	6.64557	0.89
Pu-241	0.002667	1.1	0.9	1.0000	0.0	0.24817	1.11	0.24817	1.11
Pu-242	(New alg.)			0.1349	(10)	0.03348	(10)	0.03348	(10)
Am-241	0.003616	0.6	0.5	1.3558	1.0	0.33648	0.61	0.33648	0.61
U-235	0.013498	23.3	23.3			1.25601	23.28	1.25601	23.28

Pu-240 effective (meas. date) = 6.749 +/- 0.98%
U-237 separated more than 10 days ago
Am-241 separated about 17.667 +/- 0.226 years ago
Am/Pu-241 weight ratio = 1.35583 +/- 1.05%

Messages :

Lead x-rays detected.
Calculations in MGAABS didn't converge : results may be suspect.
17 MGA parameter(s) defaulted, starting from parameter 8.

Notes : * = Error in ratio
1.000 sigma errors

Batch 2002-03-13-5

****
* RADIOASSAY DATA SHEET *
****

Batch Number: 2002-02

NOT VALID
KER
6/18/02

Radio Assay Method: SGS

Procedure ID & Rev: OP-B332-005

Software Version: GWAS 2.3A

****
* DRUM INFORMATION *
****

Drum Package ID: LL85201089
Sequence Number: 885
Assay Date & Time: 2-22-2002 10:43:04 AM
Drum Package GROSS Weight: 66.20 kg NET Weight: 34.40 kg

IDC Number: LL85201089

QC Replicate (Yes/No): NO Passed (Yes/No): _____

Operator Name (Printed): Russell Rath

Operator Signature: RRath Date: 2-22-02

Independent Reviewer: _____ Date: _____

Expert Reviewer: _____ Date: _____

Tech. Supv/QA Officer: _____ Date: _____

****
* ACTIVITY INFORMATION *
****

Waste Classification: (TRU or LLW): TRU

Total Alpha Activity: 4.310E+00 +/- 1.055E+00 Ci

Batch 2002-02 134 C

NOT VALID
KER
6/18/02

****
* ISOTOPIC INFORMATION *
****

Isotope	Measured Mass (g)	Mass Uncertainty (g)	MDC (g)
Pu-238	9.101E-03	3.29E-03	3.213E-05
Pu-239	4.558E+01	1.61E+01	1.609E-01
Pu-240	3.255E+00	1.15E+00	1.149E-02
Pu-241	1.216E-01	4.30E-02	2.338E-03
Pu-242	1.640E-02	6.62E-03	5.790E-05
Am-241	1.648E-01	5.82E-02	4.895E-03
Am-243	0.000E+00	0.00E+00	0.000E+00
Np-237	0.000E+00	0.00E+00	7.716E-04
U-235	6.153E-01	3.55E-01	6.042E-01
U-238	1.397E+01	5.01E+00	1.397E+01
U-233	4.503E+00	1.58E+00	4.503E+00

Total Pu Mass: 4.90E+01 +/- 4.16E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	1.858E-02	3.89E+00
Pu-239	9.305E+01	6.45E-02
Pu-240	6.646E+00	8.89E-01
Pu-241	2.482E-01	1.11E+00
Pu-242	3.348E-02	1.00E+01
Am-241	3.365E-01	6.09E-01
U-235	1.256E+00	2.33E+01

Batch 2003-03-1330

NOT VALID
K2R
6/18/02

****
* ACTIVITY INFORMATION *
****

Procedure ID & Rev: OP-B332-005

Assay Date & Time: 2-22-2002 10:43:04 AM

Drum Package ID: LL85201089
Sequence Number: 885

Waste Classification (TRU or LLW): TRU

		Errors at 1.96 sigma	
Total Alpha Activity :	4.310E+00	+/- 1.06E+00	Ci
Total TRU Activity :	1.253E+05	+/- 3.07E+04	nCi/g
Pu-239 Equiv Activity:	4.543E+00	+/- 1.06E+00	Ci
Fissile Gram Equiv Mass:	4.655E+01	+/- 1.61E+01	g
Total Decay Heat:	1.369E-01	+/- 3.32E-02	W
TMU Value:	35.31 %		

****
* ISOTOPIC INFORMATION *
****

Isotope	Act (Ci)	1.96 Sigma Act Error (Ci)	Measured Mass (g)	1.96 Sigma Mass Error	MDA gm
Pu-238	1.57E-01	5.69E-02	9.10E-03	3.29E-03	3.21E-05
Pu-239	2.83E+00	1.00E+00	4.56E+01	1.61E+01	1.61E-01
Pu-240	7.49E-01	2.65E-01	3.26E+00	1.15E+00	1.15E-02
Pu-241	1.26E+01	4.47E+00	1.22E-01	4.30E-02	2.34E-03
Pu-242	6.51E-05	2.63E-05	1.64E-02	6.62E-03	5.79E-05
Am-241	5.72E-01	2.02E-01	1.65E-01	5.82E-02	4.90E-03
Am-243	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Np-237	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.72E-04
U-235	1.35E-06	7.78E-07	6.15E-01	3.55E-01	6.04E-01
U-238	4.75E-06	1.70E-06	1.40E+01	5.01E+00	1.40E+01
U-233	4.39E-02	1.54E-02	4.50E+00	1.58E+00	4.50E+00

Total Pu Mass: 4.90E+01 +/- 4.16E+00 g

****
* MGA RESULTS *
****

NUCLIDE	% Weight	% Error(1-Sig)
Pu-238	1.858E-02	3.89E+00
Pu-239	9.305E+01	6.45E-02
Pu-240	6.646E+00	8.89E-01
Pu-241	2.482E-01	1.11E+00
Pu-242	3.348E-02	1.00E+01
Am-241	3.365E-01	6.09E-01
U-235	1.256E+00	2.33E+01

Batch 1001-03-1321

Gamma Waste Assay

Sample Information

File Name: C:\WAS\DATA\900\11100885.S11
Sample ID: LL85201089 Count Sequence Number: 885
Assay Start: 2-22-02 10:43:06 AM
Description 1: unknown
Description 2:
Location: 7715
Comment:
Waste Type:
Weight: Gross: 66200.0 g Net: 34400.0 g
Density: 0.165 g /ml

Container Type: 55 Gal Galv
Container: Volume: 208000. ml Full: 100.0 %

System Configuration

Counter ID Number: SGS
Arrangement Description: SGS
Segments: Number: 16 Offset: 0
Scanning Platform: Start: 934 mm Delta: -51 mm
Count Type: 55 Gal Galv
Collimator/Geometry Setting: 0
Transmission Mode: Two pass
Transmission Source: 0

Errors quoted at 1.000 sigma
Reference Source Date: Reference Source Rate: 1.01E+03 cps
Geometric Correction Factor(SWCONTGCF): 0.760
Date of efficiency calibration approval: 4-18-2001 12:41:36 PM
Mu Factors response file: Lucite
Transmission Calib. Time: 5-11-2001 2:20:42 PM 59052

Reviewed by: Lee P Ahn Date: 6/26/02

Batch 3002 B3433

Segment Results

Segment: 1 Detector: DET01 (# 1) Position: 1

Elapsed Live Time: 113.47 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.140 +/- 0.0185
SE-75	264.65	0.000 +/- 0.0000	0.201 +/- 0.0028
SE-75	279.53	0.000 +/- 0.0000	0.210 +/- 0.0041
SE-75	400.65	0.000 +/- 0.0000	0.259 +/- 0.0056

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.22	3.14E+00 +/- 2.65E-01	4.10E+00	9.46E-08 +/- 1.18E-06
2	35.10	1.01E+03 +/- 4.79E+00	2.88E+00	2.61E-06 +/- 1.64E-05
3	48.59	1.65E+01 +/- 6.24E-01	2.41E+00	1.61E-05 +/- 5.23E-05
4	59.64	2.89E+01 +/- 6.33E-01	2.24E+00	3.77E-05 +/- 7.40E-05
5	98.79	2.49E+00 +/- 4.48E-01	2.01E+00	1.39E-04 +/- 4.08E-05
6	129.29	2.15E+00 +/- 3.75E-01	1.94E+00	1.95E-04 +/- 1.38E-05
7	208.43	6.51E-01 +/- 2.17E-01	1.80E+00	2.30E-04 +/- 2.81E-05
8	333.49	4.20E-01 +/- 1.20E-01	1.66E+00	1.92E-04 +/- 1.04E-05
9	375.63	7.91E-01 +/- 1.23E-01	1.62E+00	1.77E-04 +/- 1.18E-05
10	413.70	7.85E-01 +/- 1.03E-01	1.59E+00	1.65E-04 +/- 1.27E-05
11	1001.03	2.90E-02 +/- 2.41E-02	1.35E+00	7.98E-05 +/- 4.04E-06
12	1112.12	2.64E-02 +/- 1.52E-02	1.33E+00	7.35E-05 +/- 3.70E-06

Segment: 2 Detector: DET01 (# 1) Position: 2

Elapsed Live Time: 113.26 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Minimum transmission used.

Batch 2003-03-1773

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.005 +/- 0.0025
SE-75	264.65	0.000 +/- 0.0000	0.084 +/- 0.0018
SE-75	279.53	0.000 +/- 0.0000	0.089 +/- 0.0027
SE-75	400.65	0.000 +/- 0.0000	0.119 +/- 0.0037

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.39	4.69E+00 +/- 3.13E-01	4.10E+00	6.44E-10 +/- 6.07E-09
2	35.10	1.01E+03 +/- 4.78E+00	4.10E+00	2.21E-07 +/- 1.06E-06
3	48.74	1.73E+01 +/- 7.00E-01	4.10E+00	5.38E-06 +/- 1.32E-05
4	59.62	5.18E+01 +/- 8.67E-01	4.10E+00	2.20E-05 +/- 3.31E-05
5	98.94	5.30E+00 +/- 5.55E-01	4.10E+00	1.85E-04 +/- 4.21E-05
6	129.29	4.45E+00 +/- 4.61E-01	4.10E+00	3.07E-04 +/- 1.84E-05
7	148.57	7.07E-01 +/- 3.46E-01	3.58E+00	3.54E-04 +/- 3.27E-05
8	208.47	2.34E+00 +/- 3.03E-01	2.63E+00	3.88E-04 +/- 3.70E-05
9	244.70	3.51E-01 +/- 2.13E-01	2.34E+00	3.69E-04 +/- 2.61E-05
10	311.90	3.87E-01 +/- 1.29E-01	2.13E+00	3.18E-04 +/- 1.39E-05
11	333.25	5.41E-01 +/- 1.65E-01	2.10E+00	3.02E-04 +/- 1.34E-05
12	345.67	7.24E-01 +/- 1.68E-01	2.09E+00	2.93E-04 +/- 1.34E-05
13	375.73	1.28E+00 +/- 1.56E-01	2.05E+00	2.74E-04 +/- 1.40E-05
14	393.68	4.28E-01 +/- 1.08E-01	2.03E+00	2.63E-04 +/- 1.43E-05
15	400.66	1.35E-01 +/- 8.14E-02	2.02E+00	2.59E-04 +/- 1.44E-05
16	413.70	1.28E+00 +/- 1.20E-01	2.00E+00	2.51E-04 +/- 1.46E-05
17	662.42	5.24E-02 +/- 3.63E-02	1.76E+00	1.65E-04 +/- 9.18E-06
18	1408.01	1.75E-02 +/- 1.23E-02	1.47E+00	9.61E-05 +/- 6.36E-06

Segment: 3 Detector: DET01 (# 1) Position: 3

Elapsed Live Time: 112.35 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Some transmission peaks rejected.

Batch 2002-02-1274

Instrument ID: SGS Can ID: LL85201089 Count Sequence #: 885

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	0.189 +/- 0.0028
SE-75	279.53	0.000 +/- 0.0000	0.197 +/- 0.0042
SE-75	400.65	0.000 +/- 0.0000	0.241 +/- 0.0054

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	4.20E+00 +/- 3.80E-01	4.10E+00	3.50E-09 +/- 3.85E-08
2	23.23	9.62E+00 +/- 4.55E-01	4.10E+00	1.09E-08 +/- 1.06E-07
3	35.10	1.01E+03 +/- 4.82E+00	2.91E+00	1.07E-06 +/- 5.27E-06
4	59.63	1.47E+02 +/- 1.45E+00	2.26E+00	3.80E-05 +/- 5.87E-05
5	98.91	2.08E+01 +/- 9.41E-01	2.03E+00	2.01E-04 +/- 4.73E-05
6	103.50	1.12E+01 +/- 6.44E-01	2.01E+00	2.20E-04 +/- 3.92E-05
7	111.43	1.81E+00 +/- 7.59E-01	1.99E+00	2.49E-04 +/- 2.64E-05
8	114.97	3.68E+00 +/- 6.78E-01	1.98E+00	2.61E-04 +/- 2.17E-05
9	129.29	1.85E+01 +/- 6.82E-01	1.95E+00	3.02E-04 +/- 1.84E-05
10	148.57	3.44E+00 +/- 5.22E-01	1.92E+00	3.39E-04 +/- 3.24E-05
11	208.43	8.85E+00 +/- 5.38E-01	1.83E+00	3.66E-04 +/- 3.64E-05
12	311.90	1.70E+00 +/- 2.77E-01	1.71E+00	3.13E-04 +/- 1.40E-05
13	333.38	2.20E+00 +/- 3.16E-01	1.69E+00	3.00E-04 +/- 1.35E-05
14	345.57	2.94E+00 +/- 2.77E-01	1.68E+00	2.93E-04 +/- 1.36E-05
15	368.89	7.70E-01 +/- 2.06E-01	1.66E+00	2.80E-04 +/- 1.42E-05
16	375.65	7.21E+00 +/- 3.28E-01	1.65E+00	2.76E-04 +/- 1.44E-05
17	383.45	9.92E-01 +/- 1.58E-01	1.65E+00	2.72E-04 +/- 1.46E-05
18	393.69	2.87E+00 +/- 2.03E-01	1.64E+00	2.67E-04 +/- 1.48E-05
19	400.66	1.93E-01 +/- 1.04E-01	1.64E+00	2.63E-04 +/- 1.50E-05
20	413.70	7.39E+00 +/- 2.81E-01	1.63E+00	2.57E-04 +/- 1.52E-05
21	423.28	4.74E-01 +/- 1.20E-01	1.62E+00	2.53E-04 +/- 1.53E-05
22	452.19	8.29E-01 +/- 1.14E-01	1.60E+00	2.40E-04 +/- 1.54E-05
23	662.42	2.81E-01 +/- 6.70E-02	1.48E+00	1.78E-04 +/- 1.02E-05

Segment: 4 Detector: DET01 (# 1) Position: 4

Elapsed Live Time: 109.46 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Some transmission peaks rejected.

Batch 2002-03-1275

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	0.193 +/- 0.0030
SE-75	279.53	0.000 +/- 0.0000	0.201 +/- 0.0047
SE-75	400.65	0.000 +/- 0.0000	0.245 +/- 0.0058

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
	1	23.20	3.73E+01 +/- 9.08E-01	4.10E+00	3.34E-06 +/- 4.69E-06
	2	35.10	1.01E+03 +/- 4.89E+00	2.88E+00	2.00E-05 +/- 1.66E-05
	3	59.60	5.34E+02 +/- 3.27E+00	2.24E+00	9.83E-05 +/- 3.39E-05
	4	76.88	4.61E+00 +/- 8.66E-01	2.10E+00	1.65E-04 +/- 3.27E-05
	5	98.75	6.11E+01 +/- 1.77E+00	2.01E+00	2.40E-04 +/- 2.42E-05
	6	103.48	4.40E+01 +/- 1.12E+00	2.00E+00	2.53E-04 +/- 2.24E-05
	7	111.25	1.49E+01 +/- 1.25E+00	1.98E+00	2.74E-04 +/- 1.97E-05
M	8	123.29	1.51E+00 +/- 4.42E-01	1.95E+00	3.01E-04 +/- 1.69E-05
m	9	125.50	1.06E+01 +/- 5.35E-01	1.95E+00	3.05E-04 +/- 1.65E-05
m	10	129.52	8.11E+01 +/- 1.49E+00	1.94E+00	3.13E-04 +/- 1.61E-05
M	11	146.75	1.34E+00 +/- 3.82E-01	1.91E+00	3.38E-04 +/- 1.62E-05
m	12	148.86	1.02E+01 +/- 7.71E-01	1.90E+00	3.41E-04 +/- 1.63E-05
	13	171.64	2.20E+00 +/- 6.88E-01	1.87E+00	3.60E-04 +/- 1.81E-05
	14	189.50	1.17E+00 +/- 5.93E-01	1.84E+00	3.68E-04 +/- 1.91E-05
	15	196.01	1.71E+00 +/- 6.36E-01	1.83E+00	3.69E-04 +/- 1.93E-05
	16	208.37	3.92E+01 +/- 9.93E-01	1.82E+00	3.71E-04 +/- 1.94E-05
	17	255.61	1.70E+00 +/- 4.63E-01	1.76E+00	3.62E-04 +/- 1.80E-05
	18	267.73	1.41E+00 +/- 4.24E-01	1.75E+00	3.58E-04 +/- 1.73E-05
M	19	298.00	7.43E-01 +/- 2.11E-01	1.71E+00	3.45E-04 +/- 1.56E-05
m	20	300.62	1.85E+00 +/- 3.35E-01	1.71E+00	3.43E-04 +/- 1.54E-05
	21	311.90	1.42E+01 +/- 5.39E-01	1.70E+00	3.38E-04 +/- 1.48E-05
	22	333.26	1.04E+01 +/- 5.72E-01	1.68E+00	3.27E-04 +/- 1.37E-05
	23	345.67	1.12E+01 +/- 4.65E-01	1.67E+00	3.21E-04 +/- 1.31E-05
	24	368.91	4.44E+00 +/- 3.78E-01	1.65E+00	3.09E-04 +/- 1.23E-05
	25	375.66	3.01E+01 +/- 6.62E-01	1.65E+00	3.06E-04 +/- 1.21E-05
	26	383.54	2.54E+00 +/- 3.57E-01	1.64E+00	3.02E-04 +/- 1.18E-05
	27	393.60	1.12E+01 +/- 3.88E-01	1.63E+00	2.97E-04 +/- 1.16E-05
	28	413.70	2.93E+01 +/- 5.66E-01	1.62E+00	2.87E-04 +/- 1.11E-05
	29	423.30	1.49E+00 +/- 2.22E-01	1.61E+00	2.83E-04 +/- 1.10E-05
	30	452.24	3.50E+00 +/- 2.20E-01	1.59E+00	2.70E-04 +/- 1.06E-05
	31	662.42	1.25E+00 +/- 1.27E-01	1.48E+00	1.95E-04 +/- 9.03E-06
	32	723.39	5.89E-01 +/- 9.86E-02	1.45E+00	1.79E-04 +/- 8.35E-06
	33	1085.91	3.63E-02 +/- 2.57E-02	1.35E+00	1.20E-04 +/- 4.36E-06
	34	1408.01	3.63E-02 +/- 1.81E-02	1.30E+00	9.34E-05 +/- 5.87E-06

Batch 2002-03-137

Segment: 5 Detector: DET01 (# 1) Position: 5

Elapsed Live Time: 107.00 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.278 +/- 0.0385
SE-75	264.65	0.000 +/- 0.0000	0.290 +/- 0.0039
SE-75	279.53	0.000 +/- 0.0000	0.305 +/- 0.0060
SE-75	400.65	0.000 +/- 0.0000	0.343 +/- 0.0070

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
M	1	21.68	9.54E+00 +/- 3.65E-02	3.30E+00	1.17E-06 +/- 1.83E-06
m	2	23.18	4.27E+01 +/- 1.63E-01	3.02E+00	1.76E-06 +/- 2.55E-06
m	3	26.47	2.38E+01 +/- 9.09E-02	2.61E+00	3.74E-06 +/- 4.63E-06
	4	35.10	1.01E+03 +/- 4.97E+00	2.11E+00	1.48E-05 +/- 1.27E-05
	5	59.58	8.18E+02 +/- 4.49E+00	1.75E+00	9.32E-05 +/- 3.29E-05
	6	75.15	2.11E+00 +/- 8.61E-01	1.67E+00	1.59E-04 +/- 3.39E-05
	7	98.71	9.83E+01 +/- 2.25E+00	1.62E+00	2.49E-04 +/- 2.52E-05
	8	103.45	6.53E+01 +/- 1.41E+00	1.61E+00	2.64E-04 +/- 2.33E-05
	9	111.24	2.24E+01 +/- 1.58E+00	1.60E+00	2.86E-04 +/- 2.04E-05
	10	114.57	4.36E+00 +/- 1.51E+00	1.59E+00	2.95E-04 +/- 1.94E-05
M	11	125.41	1.74E+01 +/- 6.84E-01	1.58E+00	3.19E-04 +/- 1.71E-05
m	12	129.48	1.32E+02 +/- 1.93E+00	1.57E+00	3.27E-04 +/- 1.67E-05
	13	148.57	1.60E+01 +/- 1.05E+00	1.56E+00	3.54E-04 +/- 1.71E-05
	14	160.75	1.79E+00 +/- 1.01E+00	1.56E+00	3.65E-04 +/- 1.83E-05
	15	164.82	1.74E+00 +/- 9.09E-01	1.56E+00	3.68E-04 +/- 1.86E-05
	16	189.68	2.54E+00 +/- 8.03E-01	1.55E+00	3.76E-04 +/- 2.02E-05
	17	196.12	4.24E+00 +/- 8.40E-01	1.55E+00	3.76E-04 +/- 2.03E-05
	18	208.33	6.04E+01 +/- 1.26E+00	1.55E+00	3.75E-04 +/- 2.04E-05
	19	244.70	1.35E+00 +/- 5.01E-01	1.54E+00	3.63E-04 +/- 1.90E-05
	20	255.79	3.06E+00 +/- 5.84E-01	1.54E+00	3.58E-04 +/- 1.84E-05
	21	268.09	1.46E+00 +/- 4.77E-01	1.54E+00	3.51E-04 +/- 1.76E-05
	22	300.10	7.96E+00 +/- 5.96E-01	1.51E+00	3.33E-04 +/- 1.55E-05
	23	311.90	3.50E+01 +/- 7.75E-01	1.50E+00	3.26E-04 +/- 1.48E-05
	24	324.08	1.17E+00 +/- 4.12E-01	1.50E+00	3.19E-04 +/- 1.41E-05
	25	333.27	1.67E+01 +/- 7.31E-01	1.49E+00	3.13E-04 +/- 1.36E-05
	26	345.62	1.59E+01 +/- 5.74E-01	1.48E+00	3.06E-04 +/- 1.30E-05
	27	368.93	6.62E+00 +/- 4.70E-01	1.47E+00	2.93E-04 +/- 1.20E-05
	28	375.64	4.77E+01 +/- 8.53E-01	1.47E+00	2.89E-04 +/- 1.18E-05
	29	383.52	3.80E+00 +/- 3.93E-01	1.47E+00	2.85E-04 +/- 1.16E-05
	30	393.58	1.70E+01 +/- 4.99E-01	1.46E+00	2.79E-04 +/- 1.13E-05
	31	400.66	1.30E+00 +/- 2.90E-01	1.46E+00	2.76E-04 +/- 1.11E-05
	32	413.70	4.55E+01 +/- 7.37E-01	1.45E+00	2.69E-04 +/- 1.09E-05

33	423.25	2.69E+00 +/-	3.00E-01	1.45E+00	2.64E-04 +/-	1.07E-05
34	452.26	5.61E+00 +/-	2.70E-01	1.43E+00	2.50E-04 +/-	1.03E-05
35	662.42	1.68E+00 +/-	1.54E-01	1.35E+00	1.79E-04 +/-	8.77E-06
36	723.15	5.95E-01 +/-	1.01E-01	1.33E+00	1.65E-04 +/-	8.15E-06
37	733.39	5.11E-02 +/-	3.23E-02	1.33E+00	1.63E-04 +/-	8.03E-06
38	770.74	2.90E-01 +/-	6.95E-02	1.32E+00	1.56E-04 +/-	7.60E-06
39	964.13	2.61E-02 +/-	2.23E-02	1.28E+00	1.28E-04 +/-	5.33E-06
40	1408.01	2.79E-02 +/-	1.61E-02	1.22E+00	9.75E-05 +/-	6.10E-06

Segment: 6 Detector: DET01 (# 1) Position: 6

Elapsed Live Time: 107.72 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Some transmission peaks rejected.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	0.238 +/- 0.0035
SE-75	279.53	0.000 +/- 0.0000	0.245 +/- 0.0054
SE-75	400.65	0.000 +/- 0.0000	0.290 +/- 0.0064

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
	1	23.21	4.81E+01 +/- 1.06E+00	3.89E+00	6.78E-07 +/- 9.61E-07
	2	35.10	1.01E+03 +/- 4.95E+00	2.59E+00	8.04E-06 +/- 6.71E-06
	3	59.59	7.14E+02 +/- 4.04E+00	2.05E+00	6.90E-05 +/- 2.40E-05
	4	74.99	3.33E+00 +/- 9.79E-01	1.95E+00	1.29E-04 +/- 2.73E-05
	5	98.74	9.09E+01 +/- 2.12E+00	1.86E+00	2.22E-04 +/- 2.26E-05
	6	103.49	5.49E+01 +/- 1.32E+00	1.85E+00	2.38E-04 +/- 2.11E-05
	7	111.28	1.91E+01 +/- 1.50E+00	1.83E+00	2.63E-04 +/- 1.90E-05
	8	114.59	3.16E+00 +/- 1.43E+00	1.83E+00	2.73E-04 +/- 1.82E-05
M	9	125.43	1.12E+01 +/- 6.39E-01	1.81E+00	3.01E-04 +/- 1.64E-05
m	10	129.49	1.21E+02 +/- 1.85E+00	1.80E+00	3.11E-04 +/- 1.61E-05
	11	148.57	1.40E+01 +/- 1.05E+00	1.77E+00	3.45E-04 +/- 1.67E-05
	12	161.03	3.42E+00 +/- 8.95E-01	1.75E+00	3.60E-04 +/- 1.78E-05
	13	196.00	3.92E+00 +/- 7.57E-01	1.71E+00	3.80E-04 +/- 2.01E-05
	14	208.33	5.38E+01 +/- 1.19E+00	1.70E+00	3.81E-04 +/- 2.03E-05
	15	244.70	2.30E+00 +/- 5.69E-01	1.66E+00	3.73E-04 +/- 1.92E-05
	16	255.59	2.66E+00 +/- 5.99E-01	1.65E+00	3.69E-04 +/- 1.86E-05
	17	268.04	1.88E+00 +/- 5.33E-01	1.64E+00	3.63E-04 +/- 1.78E-05
	18	300.10	5.52E+00 +/- 4.09E-01	1.61E+00	3.46E-04 +/- 1.58E-05
	19	311.90	4.08E+01 +/- 7.87E-01	1.60E+00	3.39E-04 +/- 1.51E-05

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20	321.24	2.07E+00	+/- 4.92E-01	1.60E+00	3.33E-04	+/- 1.45E-05
21	333.26	1.38E+01	+/- 6.67E-01	1.59E+00	3.26E-04	+/- 1.39E-05
22	345.59	1.08E+01	+/- 5.82E-01	1.58E+00	3.19E-04	+/- 1.33E-05
23	368.79	4.88E+00	+/- 4.35E-01	1.56E+00	3.05E-04	+/- 1.23E-05
24	375.63	3.81E+01	+/- 7.72E-01	1.56E+00	3.02E-04	+/- 1.21E-05
25	383.40	3.93E+00	+/- 3.88E-01	1.55E+00	2.97E-04	+/- 1.18E-05
26	393.60	1.38E+01	+/- 4.54E-01	1.55E+00	2.92E-04	+/- 1.16E-05
27	400.66	9.06E-01	+/- 2.82E-01	1.54E+00	2.88E-04	+/- 1.14E-05
28	413.70	3.77E+01	+/- 6.62E-01	1.53E+00	2.81E-04	+/- 1.11E-05
29	423.46	1.95E+00	+/- 2.67E-01	1.53E+00	2.76E-04	+/- 1.09E-05
30	452.26	4.39E+00	+/- 2.48E-01	1.51E+00	2.61E-04	+/- 1.05E-05
31	584.10	1.51E-01	+/- 7.25E-02	1.44E+00	2.09E-04	+/- 9.45E-06
32	620.11	4.55E-01	+/- 9.04E-02	1.43E+00	1.98E-04	+/- 9.16E-06
33	662.42	1.69E+00	+/- 1.46E-01	1.41E+00	1.86E-04	+/- 8.77E-06
34	723.30	5.90E-01	+/- 1.03E-01	1.39E+00	1.72E-04	+/- 8.13E-06
35	770.35	3.78E-01	+/- 7.18E-02	1.38E+00	1.62E-04	+/- 7.58E-06

Segment: 7 Detector: DET01 (# 1) Position: 7

Elapsed Live Time: 109.99 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.269 +/- 0.0341
SE-75	264.65	0.000 +/- 0.0000	0.388 +/- 0.0044
SE-75	279.53	0.000 +/- 0.0000	0.399 +/- 0.0063
SE-75	400.65	0.000 +/- 0.0000	0.439 +/- 0.0078

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	1.29E+01 +/- 6.09E-01	3.43E+00	2.18E-09 +/- 2.40E-08
2	23.21	2.38E+01 +/- 7.34E-01	3.08E+00	7.22E-09 +/- 7.07E-08
3	35.10	1.01E+03 +/- 4.88E+00	2.15E+00	9.59E-07 +/- 4.73E-06
4	49.61	1.80E+01 +/- 1.28E+00	1.85E+00	1.44E-05 +/- 3.50E-05
5	59.60	4.77E+02 +/- 3.04E+00	1.77E+00	4.02E-05 +/- 6.22E-05
6	75.25	3.80E+00 +/- 8.06E-01	1.69E+00	1.06E-04 +/- 8.11E-05
7	98.81	6.03E+01 +/- 1.53E+00	1.63E+00	2.21E-04 +/- 5.18E-05
8	103.48	3.23E+01 +/- 1.02E+00	1.62E+00	2.41E-04 +/- 4.28E-05
9	111.31	1.13E+01 +/- 1.09E+00	1.61E+00	2.73E-04 +/- 2.87E-05
10	129.29	6.51E+01 +/- 1.14E+00	1.59E+00	3.30E-04 +/- 1.98E-05
11	144.35	1.85E+00 +/- 8.34E-01	1.56E+00	3.62E-04 +/- 3.20E-05
12	148.57	8.57E+00 +/- 7.95E-01	1.56E+00	3.68E-04 +/- 3.49E-05
13	164.65	1.24E+00 +/- 5.76E-01	1.53E+00	3.86E-04 +/- 4.19E-05
14	171.68	1.37E+00 +/- 7.07E-01	1.52E+00	3.90E-04 +/- 4.31E-05

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15	208.39	2.96E+01 +/-	8.94E-01	1.47E+00	3.91E-04 +/-	3.83E-05
16	244.70	8.21E-01 +/-	4.50E-01	1.42E+00	3.73E-04 +/-	2.70E-05
17	255.70	1.55E+00 +/-	4.27E-01	1.41E+00	3.66E-04 +/-	2.39E-05
M 18	298.13	1.12E+00 +/-	2.11E-01	1.38E+00	3.37E-04 +/-	1.58E-05
m 19	300.72	4.05E+00 +/-	4.00E-01	1.38E+00	3.35E-04 +/-	1.55E-05
20	311.90	2.12E+01 +/-	5.80E-01	1.38E+00	3.27E-04 +/-	1.48E-05
21	333.31	7.85E+00 +/-	4.95E-01	1.37E+00	3.13E-04 +/-	1.44E-05
22	345.61	7.12E+00 +/-	3.94E-01	1.36E+00	3.05E-04 +/-	1.46E-05
23	368.69	2.68E+00 +/-	3.36E-01	1.36E+00	2.91E-04 +/-	1.52E-05
24	375.67	2.10E+01 +/-	5.58E-01	1.35E+00	2.87E-04 +/-	1.54E-05
25	383.43	2.15E+00 +/-	2.69E-01	1.35E+00	2.83E-04 +/-	1.57E-05
26	393.65	8.20E+00 +/-	3.34E-01	1.35E+00	2.77E-04 +/-	1.59E-05
27	399.09	5.55E-01 +/-	2.30E-01	1.35E+00	2.74E-04 +/-	1.60E-05
28	413.70	2.06E+01 +/-	4.83E-01	1.34E+00	2.67E-04 +/-	1.63E-05
29	423.31	1.46E+00 +/-	1.78E-01	1.34E+00	2.62E-04 +/-	1.63E-05
30	452.27	2.48E+00 +/-	1.75E-01	1.33E+00	2.49E-04 +/-	1.63E-05
31	559.77	2.10E-01 +/-	7.35E-02	1.29E+00	2.09E-04 +/-	1.39E-05
32	647.35	1.41E-01 +/-	6.75E-02	1.27E+00	1.85E-04 +/-	1.11E-05
33	662.42	6.90E-01 +/-	1.01E-01	1.26E+00	1.82E-04 +/-	1.06E-05
34	723.46	3.31E-01 +/-	7.53E-02	1.25E+00	1.69E-04 +/-	9.01E-06
35	770.62	8.48E-02 +/-	5.85E-02	1.24E+00	1.61E-04 +/-	8.03E-06

Segment: 8 Detector: DET01 (# 1) Position: 8

Elapsed Live Time: 111.02 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.251 +/- 0.0346
SE-75	264.65	0.000 +/- 0.0000	0.399 +/- 0.0045
SE-75	279.53	0.000 +/- 0.0000	0.404 +/- 0.0063
SE-75	400.65	0.000 +/- 0.0000	0.446 +/- 0.0078

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	9.05E+00 +/- 5.29E-01	3.59E+00	1.22E-09 +/- 1.33E-08
2	23.25	1.87E+01 +/- 6.46E-01	3.21E+00	4.34E-09 +/- 4.20E-08
3	35.10	1.01E+03 +/- 4.85E+00	2.22E+00	6.89E-07 +/- 3.37E-06
4	49.41	1.72E+01 +/- 1.23E+00	1.91E+00	1.12E-05 +/- 2.73E-05
5	59.61	3.60E+02 +/- 2.52E+00	1.81E+00	3.35E-05 +/- 5.15E-05
6	98.81	4.39E+01 +/- 1.29E+00	1.67E+00	1.99E-04 +/- 4.65E-05
7	103.46	2.46E+01 +/- 8.70E-01	1.66E+00	2.18E-04 +/- 3.87E-05
8	111.31	9.78E+00 +/- 9.33E-01	1.65E+00	2.49E-04 +/- 2.63E-05
9	129.29	4.40E+01 +/- 9.55E-01	1.62E+00	3.05E-04 +/- 1.85E-05

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10	144.25	1.44E+00 +/-	6.42E-01	1.60E+00	3.38E-04 +/-	2.98E-05
11	148.57	5.98E+00 +/-	6.71E-01	1.59E+00	3.45E-04 +/-	3.27E-05
12	171.73	1.21E+00 +/-	6.03E-01	1.54E+00	3.69E-04 +/-	4.10E-05
13	189.79	1.05E+00 +/-	5.65E-01	1.50E+00	3.76E-04 +/-	4.08E-05
14	208.42	1.98E+01 +/-	7.39E-01	1.47E+00	3.76E-04 +/-	3.71E-05
15	300.10	7.16E-01 +/-	2.89E-01	1.37E+00	3.30E-04 +/-	1.53E-05
16	311.90	7.58E+00 +/-	4.00E-01	1.37E+00	3.23E-04 +/-	1.44E-05
17	333.27	4.62E+00 +/-	4.19E-01	1.36E+00	3.10E-04 +/-	1.38E-05
18	345.66	4.82E+00 +/-	3.88E-01	1.36E+00	3.03E-04 +/-	1.38E-05
19	369.07	2.29E+00 +/-	2.63E-01	1.35E+00	2.89E-04 +/-	1.44E-05
20	375.68	1.48E+01 +/-	4.58E-01	1.35E+00	2.86E-04 +/-	1.46E-05
21	383.43	1.52E+00 +/-	2.21E-01	1.34E+00	2.82E-04 +/-	1.48E-05
22	393.64	5.18E+00 +/-	2.73E-01	1.34E+00	2.76E-04 +/-	1.50E-05
23	400.66	3.37E-01 +/-	1.73E-01	1.34E+00	2.73E-04 +/-	1.52E-05
24	413.70	1.38E+01 +/-	3.90E-01	1.33E+00	2.66E-04 +/-	1.54E-05
25	423.49	8.69E-01 +/-	1.73E-01	1.33E+00	2.62E-04 +/-	1.55E-05
26	452.27	1.64E+00 +/-	1.57E-01	1.32E+00	2.49E-04 +/-	1.56E-05
27	585.00	1.25E-01 +/-	6.15E-02	1.28E+00	2.03E-04 +/-	1.26E-05
28	647.28	8.04E-02 +/-	4.21E-02	1.26E+00	1.86E-04 +/-	1.07E-05
29	662.42	6.23E-01 +/-	1.01E-01	1.26E+00	1.83E-04 +/-	1.03E-05
30	722.76	1.61E-01 +/-	5.30E-02	1.25E+00	1.70E-04 +/-	8.80E-06
31	1408.01	5.36E-02 +/-	2.19E-02	1.17E+00	9.08E-05 +/-	6.30E-06

Segment: 9 Detector: DET01 (# 1) Position: 9

Elapsed Live Time: 110.18 sec Elapsed Real Time: 115.00 sec

Analysis Warnings:
Some transmission peaks rejected.

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.000 +/- 0.0000
SE-75	264.65	0.000 +/- 0.0000	0.244 +/- 0.0034
SE-75	279.53	0.000 +/- 0.0000	0.248 +/- 0.0050
SE-75	400.65	0.000 +/- 0.0000	0.307 +/- 0.0064

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.18	3.48E+01 +/- 8.54E-01	3.83E+00	2.29E-06 +/- 2.31E-05
2	35.10	1.01E+03 +/- 4.87E+00	2.55E+00	1.75E-05 +/- 8.88E-05
3	59.60	4.91E+02 +/- 3.08E+00	2.03E+00	1.00E-04 +/- 1.59E-04
4	75.25	1.56E+00 +/- 6.33E-01	1.93E+00	1.66E-04 +/- 1.31E-04
5	98.78	6.14E+01 +/- 1.49E+00	1.84E+00	2.51E-04 +/- 6.07E-05

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6	111.27	1.18E+01 +/-	1.12E+00	1.82E+00	2.86E-04 +/-	3.07E-05
7	129.29	6.38E+01 +/-	1.11E+00	1.78E+00	3.23E-04 +/-	1.97E-05
8	144.45	1.62E+00 +/-	7.49E-01	1.76E+00	3.44E-04 +/-	3.15E-05
9	148.57	8.69E+00 +/-	7.60E-01	1.75E+00	3.48E-04 +/-	3.41E-05
10	189.81	1.22E+00 +/-	5.71E-01	1.70E+00	3.67E-04 +/-	4.14E-05
11	208.38	2.85E+01 +/-	8.64E-01	1.68E+00	3.66E-04 +/-	3.76E-05
12	255.79	1.58E+00 +/-	4.22E-01	1.64E+00	3.49E-04 +/-	2.39E-05
13	267.99	1.47E+00 +/-	3.43E-01	1.63E+00	3.43E-04 +/-	2.09E-05
14	279.54	6.45E-01 +/-	3.92E-01	1.62E+00	3.37E-04 +/-	1.85E-05
15	300.10	1.57E+00 +/-	3.97E-01	1.60E+00	3.26E-04 +/-	1.55E-05
16	311.90	7.08E+00 +/-	4.30E-01	1.59E+00	3.20E-04 +/-	1.45E-05
17	333.28	7.17E+00 +/-	4.94E-01	1.57E+00	3.08E-04 +/-	1.39E-05
18	345.64	7.85E+00 +/-	4.47E-01	1.56E+00	3.01E-04 +/-	1.41E-05
19	368.77	2.87E+00 +/-	3.18E-01	1.54E+00	2.89E-04 +/-	1.47E-05
20	375.68	2.11E+01 +/-	5.53E-01	1.53E+00	2.85E-04 +/-	1.49E-05
21	383.50	2.11E+00 +/-	2.76E-01	1.53E+00	2.81E-04 +/-	1.52E-05
22	393.60	6.93E+00 +/-	3.39E-01	1.52E+00	2.76E-04 +/-	1.55E-05
23	413.70	2.07E+01 +/-	4.71E-01	1.51E+00	2.67E-04 +/-	1.59E-05
24	423.45	1.12E+00 +/-	1.97E-01	1.50E+00	2.62E-04 +/-	1.60E-05
25	452.21	2.54E+00 +/-	1.88E-01	1.48E+00	2.50E-04 +/-	1.61E-05
26	584.18	1.89E-01 +/-	6.71E-02	1.42E+00	2.03E-04 +/-	1.30E-05
27	653.27	9.56E-02 +/-	5.82E-02	1.39E+00	1.84E-04 +/-	1.07E-05
28	662.42	8.40E-01 +/-	1.06E-01	1.39E+00	1.82E-04 +/-	1.04E-05
29	705.33	9.08E-02 +/-	4.02E-02	1.38E+00	1.73E-04 +/-	9.22E-06
30	1085.91	2.70E-02 +/-	1.56E-02	1.29E+00	1.23E-04 +/-	5.22E-06

Segment: 10 Detector: DET01 (# 1) Position: 10

Elapsed Live Time: 109.94 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.158 +/- 0.0294
SE-75	264.65	0.000 +/- 0.0000	0.177 +/- 0.0028
SE-75	279.53	0.000 +/- 0.0000	0.179 +/- 0.0043
SE-75	400.65	0.000 +/- 0.0000	0.225 +/- 0.0055

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	1.39E+01 +/- 6.32E-01	4.10E+00	1.78E-07 +/- 2.77E-07
2	23.22	2.52E+01 +/- 7.62E-01	4.10E+00	3.42E-07 +/- 4.84E-07
3	35.10	1.01E+03 +/- 4.91E+00	2.73E+00	5.68E-06 +/- 4.74E-06
4	49.66	1.84E+01 +/- 1.32E+00	2.28E+00	3.18E-05 +/- 1.54E-05
5	59.60	5.48E+02 +/- 3.34E+00	2.15E+00	6.37E-05 +/- 2.21E-05

Batch 2002-02-1282

	6	98.79	6.77E+01	+/- 1.57E+00	1.94E+00	2.31E-04	+/-	2.33E-05
	7	103.31	3.82E+01	+/- 9.75E-01	1.93E+00	2.48E-04	+/-	2.20E-05
	8	111.31	1.64E+01	+/- 1.11E+00	1.91E+00	2.77E-04	+/-	1.99E-05
	9	129.29	7.30E+01	+/- 1.18E+00	1.87E+00	3.30E-04	+/-	1.70E-05
	10	148.57	7.88E+00	+/- 8.14E-01	1.85E+00	3.68E-04	+/-	1.75E-05
	11	160.50	2.38E+00	+/- 6.94E-01	1.84E+00	3.83E-04	+/-	1.86E-05
	12	164.92	1.90E+00	+/- 7.54E-01	1.84E+00	3.87E-04	+/-	1.90E-05
	13	208.38	3.30E+01	+/- 9.34E-01	1.82E+00	4.01E-04	+/-	2.09E-05
	14	255.85	1.25E+00	+/- 4.31E-01	1.80E+00	3.82E-04	+/-	1.88E-05
	15	267.92	1.48E+00	+/- 4.07E-01	1.80E+00	3.75E-04	+/-	1.79E-05
	16	300.10	8.70E-01	+/- 3.33E-01	1.77E+00	3.54E-04	+/-	1.57E-05
	17	311.90	7.59E+00	+/- 4.55E-01	1.76E+00	3.45E-04	+/-	1.50E-05
	18	333.34	9.08E+00	+/- 5.41E-01	1.73E+00	3.30E-04	+/-	1.38E-05
	19	345.58	9.45E+00	+/- 4.58E-01	1.72E+00	3.22E-04	+/-	1.32E-05
	20	368.95	3.93E+00	+/- 3.41E-01	1.70E+00	3.07E-04	+/-	1.22E-05
	21	375.69	2.77E+01	+/- 6.32E-01	1.69E+00	3.02E-04	+/-	1.20E-05
	22	383.52	2.40E+00	+/- 2.95E-01	1.69E+00	2.97E-04	+/-	1.18E-05
	23	393.61	1.03E+01	+/- 3.78E-01	1.68E+00	2.91E-04	+/-	1.15E-05
M	24	400.94	2.65E-01	+/- 6.31E-01	1.67E+00	2.87E-04	+/-	1.13E-05
m	25	403.36	2.94E-01	+/- 7.19E-01	1.67E+00	2.85E-04	+/-	1.13E-05
	26	413.70	2.59E+01	+/- 5.41E-01	1.66E+00	2.79E-04	+/-	1.11E-05
	27	423.27	1.76E+00	+/- 2.15E-01	1.65E+00	2.74E-04	+/-	1.09E-05
	28	452.30	3.00E+00	+/- 2.08E-01	1.63E+00	2.58E-04	+/-	1.05E-05
	29	583.71	2.07E-01	+/- 7.75E-02	1.55E+00	2.03E-04	+/-	9.53E-06
	30	662.42	7.60E-01	+/- 1.19E-01	1.51E+00	1.80E-04	+/-	8.83E-06
	31	723.13	6.23E-01	+/- 9.29E-02	1.48E+00	1.66E-04	+/-	8.19E-06
	32	758.43	5.71E-02	+/- 4.32E-02	1.47E+00	1.59E-04	+/-	7.79E-06
	33	778.90	3.71E-02	+/- 2.35E-02	1.46E+00	1.56E-04	+/-	7.55E-06
	34	1408.01	1.83E-02	+/- 1.30E-02	1.32E+00	1.08E-04	+/-	6.60E-06

Segment: 11 Detector: DET01 (# 1) Position: 11

Elapsed Live Time: 111.09 sec Elapsed Real Time: 115.00 sec

T R A N S M I S S I O N R E S U L T S

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.233 +/- 0.0279
SE-75	264.65	0.000 +/- 0.0000	0.313 +/- 0.0038
SE-75	279.53	0.000 +/- 0.0000	0.325 +/- 0.0055
SE-75	400.65	0.000 +/- 0.0000	0.368 +/- 0.0070

Rpt. 2002-03-1383

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	9.11E+00 +/- 5.18E-01	3.76E+00	2.54E-07 +/- 3.92E-07
2	23.21	1.78E+01 +/- 6.23E-01	3.37E+00	4.71E-07 +/- 6.63E-07
3	35.10	1.01E+03 +/- 4.84E+00	2.30E+00	6.75E-06 +/- 5.60E-06
4	59.62	3.81E+02 +/- 2.57E+00	1.87E+00	6.70E-05 +/- 2.31E-05
5	75.16	3.10E+00 +/- 7.19E-01	1.78E+00	1.30E-04 +/- 2.72E-05
6	98.90	5.27E+01 +/- 1.33E+00	1.71E+00	2.29E-04 +/- 2.29E-05
7	103.51	3.42E+01 +/- 9.15E-01	1.70E+00	2.45E-04 +/- 2.15E-05
8	111.41	1.08E+01 +/- 9.31E-01	1.69E+00	2.72E-04 +/- 1.93E-05
9	129.29	4.90E+01 +/- 9.62E-01	1.66E+00	3.21E-04 +/- 1.65E-05
10	148.57	5.71E+00 +/- 6.43E-01	1.64E+00	3.56E-04 +/- 1.70E-05
11	160.28	2.63E+00 +/- 6.08E-01	1.62E+00	3.71E-04 +/- 1.80E-05
12	164.92	1.18E+00 +/- 5.21E-01	1.61E+00	3.75E-04 +/- 1.85E-05
13	196.11	1.15E+00 +/- 5.17E-01	1.58E+00	3.89E-04 +/- 2.03E-05
14	208.45	2.75E+01 +/- 8.02E-01	1.56E+00	3.89E-04 +/- 2.04E-05
15	244.70	7.80E-01 +/- 3.65E-01	1.52E+00	3.77E-04 +/- 1.91E-05
16	255.91	9.93E-01 +/- 3.85E-01	1.51E+00	3.72E-04 +/- 1.85E-05
17	267.88	1.00E+00 +/- 3.37E-01	1.50E+00	3.65E-04 +/- 1.77E-05
18	311.90	5.84E+00 +/- 3.70E-01	1.47E+00	3.37E-04 +/- 1.49E-05
19	321.32	9.05E-01 +/- 3.03E-01	1.46E+00	3.31E-04 +/- 1.43E-05
20	333.28	7.15E+00 +/- 4.66E-01	1.46E+00	3.24E-04 +/- 1.37E-05
21	336.40	8.08E-01 +/- 3.57E-01	1.46E+00	3.22E-04 +/- 1.35E-05
22	345.58	7.03E+00 +/- 3.81E-01	1.45E+00	3.16E-04 +/- 1.31E-05
23	369.26	3.31E+00 +/- 3.03E-01	1.44E+00	3.01E-04 +/- 1.21E-05
24	375.70	2.10E+01 +/- 5.47E-01	1.44E+00	2.97E-04 +/- 1.19E-05
25	383.39	2.25E+00 +/- 2.72E-01	1.43E+00	2.92E-04 +/- 1.17E-05
26	393.58	8.40E+00 +/- 3.22E-01	1.43E+00	2.86E-04 +/- 1.14E-05
27	413.70	2.11E+01 +/- 4.75E-01	1.42E+00	2.75E-04 +/- 1.09E-05
28	423.34	1.29E+00 +/- 1.76E-01	1.42E+00	2.70E-04 +/- 1.08E-05
29	452.23	2.50E+00 +/- 1.88E-01	1.40E+00	2.55E-04 +/- 1.03E-05
M 30	660.10	1.73E-01 +/- 5.27E-02	1.33E+00	1.81E-04 +/- 8.67E-06
m 31	663.68	6.58E-01 +/- 1.11E-01	1.33E+00	1.80E-04 +/- 8.64E-06
32	723.41	4.77E-01 +/- 9.01E-02	1.31E+00	1.67E-04 +/- 8.03E-06
33	1408.01	2.84E-02 +/- 1.96E-02	1.21E+00	1.08E-04 +/- 6.61E-06

Segment: 12 Detector: DET01 (# 1) Position: 12

Elapsed Live Time: 112.75 sec Elapsed Real Time: 115.00 sec

Batch 2002-02-1284

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.213 +/- 0.0237
SE-75	264.65	0.000 +/- 0.0000	0.326 +/- 0.0038
SE-75	279.53	0.000 +/- 0.0000	0.335 +/- 0.0054
SE-75	400.65	0.000 +/- 0.0000	0.382 +/- 0.0070

PEAK ANALYSIS RESULTS

	Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
	1	21.42	3.02E+00 +/- 3.31E-01	3.97E+00	3.60E-07 +/- 5.55E-07
	2	23.26	7.67E+00 +/- 3.99E-01	3.54E+00	6.46E-07 +/- 9.06E-07
	3	35.10	1.01E+03 +/- 4.81E+00	2.40E+00	7.63E-06 +/- 6.33E-06
	4	59.62	1.37E+02 +/- 1.42E+00	1.93E+00	6.65E-05 +/- 2.30E-05
	5	98.91	1.98E+01 +/- 8.37E-01	1.77E+00	2.17E-04 +/- 2.20E-05
	6	103.37	7.51E+00 +/- 7.53E-01	1.76E+00	2.32E-04 +/- 2.07E-05
	7	111.35	3.65E+00 +/- 6.05E-01	1.74E+00	2.57E-04 +/- 1.86E-05
	8	129.29	1.65E+01 +/- 6.02E-01	1.71E+00	3.04E-04 +/- 1.59E-05
	9	148.57	1.96E+00 +/- 4.26E-01	1.67E+00	3.39E-04 +/- 1.64E-05
	10	208.47	8.52E+00 +/- 4.80E-01	1.57E+00	3.76E-04 +/- 1.99E-05
	11	244.70	4.49E-01 +/- 2.48E-01	1.51E+00	3.70E-04 +/- 1.88E-05
M	12	279.43	1.95E-01 +/- 6.11E-01	1.47E+00	3.54E-04 +/- 1.68E-05
m	13	281.47	3.21E-01 +/- 1.01E+00	1.47E+00	3.53E-04 +/- 1.67E-05
	14	300.10	7.17E-01 +/- 2.26E-01	1.46E+00	3.43E-04 +/- 1.55E-05
	15	311.90	1.38E+00 +/- 2.26E-01	1.45E+00	3.36E-04 +/- 1.48E-05
	16	333.35	2.54E+00 +/- 3.00E-01	1.44E+00	3.24E-04 +/- 1.37E-05
	17	345.68	2.75E+00 +/- 2.10E-01	1.44E+00	3.17E-04 +/- 1.31E-05
	18	369.00	7.28E-01 +/- 1.82E-01	1.42E+00	3.04E-04 +/- 1.21E-05
	19	375.71	7.41E+00 +/- 3.21E-01	1.42E+00	3.00E-04 +/- 1.19E-05
	20	383.68	5.22E-01 +/- 2.24E-01	1.42E+00	2.95E-04 +/- 1.16E-05
	21	393.65	2.83E+00 +/- 2.03E-01	1.41E+00	2.90E-04 +/- 1.14E-05
	22	413.70	7.46E+00 +/- 2.77E-01	1.40E+00	2.79E-04 +/- 1.09E-05
	23	423.11	6.03E-01 +/- 1.16E-01	1.40E+00	2.74E-04 +/- 1.07E-05
	24	443.98	1.51E-01 +/- 7.12E-02	1.39E+00	2.64E-04 +/- 1.04E-05
	25	452.34	9.52E-01 +/- 1.07E-01	1.39E+00	2.60E-04 +/- 1.03E-05
	26	662.42	3.15E-01 +/- 6.28E-02	1.31E+00	1.85E-04 +/- 8.58E-06
	27	867.39	4.53E-02 +/- 2.32E-02	1.27E+00	1.45E-04 +/- 6.27E-06
	28	1112.12	8.85E-03 +/- 8.85E-03	1.23E+00	1.19E-04 +/- 4.27E-06

Segment: 13 Detector: DET01 (# 1) Position: 13

Elapsed Live Time: 113.39 sec Elapsed Real Time: 115.00 sec

Batch 2002-03-1285

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.432 +/- 0.0276
SE-75	264.65	0.000 +/- 0.0000	0.517 +/- 0.0051
SE-75	279.53	0.000 +/- 0.0000	0.520 +/- 0.0069
SE-75	400.65	0.000 +/- 0.0000	0.574 +/- 0.0087

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	1.44E+00 +/- 2.15E-01	2.40E+00	6.56E-07 +/- 1.05E-06
2	23.19	3.31E+00 +/- 2.58E-01	2.21E+00	1.10E-06 +/- 1.62E-06
3	35.10	1.01E+03 +/- 4.77E+00	1.68E+00	1.10E-05 +/- 9.51E-06
4	49.45	8.81E+00 +/- 6.20E-01	1.51E+00	4.48E-05 +/- 2.26E-05
5	59.64	4.66E+01 +/- 7.98E-01	1.46E+00	8.11E-05 +/- 2.88E-05
6	98.81	4.76E+00 +/- 5.12E-01	1.38E+00	2.37E-04 +/- 2.43E-05
7	129.29	6.78E+00 +/- 4.17E-01	1.36E+00	3.21E-04 +/- 1.67E-05
8	208.44	1.79E+00 +/- 2.82E-01	1.30E+00	3.80E-04 +/- 2.07E-05
9	300.10	2.29E-01 +/- 1.51E-01	1.26E+00	3.40E-04 +/- 1.57E-05
10	311.90	4.35E-01 +/- 1.47E-01	1.26E+00	3.33E-04 +/- 1.50E-05
11	333.48	5.94E-01 +/- 1.58E-01	1.25E+00	3.20E-04 +/- 1.38E-05
12	345.85	4.17E-01 +/- 1.41E-01	1.24E+00	3.13E-04 +/- 1.32E-05
13	367.86	2.02E-01 +/- 1.19E-01	1.24E+00	3.00E-04 +/- 1.23E-05
14	375.70	1.97E+00 +/- 1.81E-01	1.23E+00	2.95E-04 +/- 1.20E-05
15	393.60	7.63E-01 +/- 1.05E-01	1.23E+00	2.85E-04 +/- 1.15E-05
16	413.70	1.77E+00 +/- 1.42E-01	1.22E+00	2.74E-04 +/- 1.10E-05
17	423.23	1.53E-01 +/- 5.50E-02	1.22E+00	2.69E-04 +/- 1.09E-05
18	662.42	8.72E-02 +/- 2.76E-02	1.17E+00	1.80E-04 +/- 8.87E-06

Segment: 14 Detector: DET01 (# 1) Position: 14

Elapsed Live Time: 113.56 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.625 +/- 0.0302
SE-75	264.65	0.000 +/- 0.0000	0.652 +/- 0.0060
SE-75	279.53	0.000 +/- 0.0000	0.655 +/- 0.0079
SE-75	400.65	0.000 +/- 0.0000	0.685 +/- 0.0097

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PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	21.42	7.84E-01 +/- 1.83E-01	1.70E+00	3.08E-07 +/- 3.39E-06
2	23.27	1.94E+00 +/- 2.12E-01	1.61E+00	6.02E-07 +/- 5.87E-06
3	35.10	1.01E+03 +/- 4.78E+00	1.35E+00	8.94E-06 +/- 4.41E-05
4	49.86	8.81E+00 +/- 5.72E-01	1.27E+00	4.41E-05 +/- 1.06E-04
5	59.65	3.31E+01 +/- 6.65E-01	1.24E+00	8.07E-05 +/- 1.25E-04
6	98.85	3.40E+00 +/- 4.33E-01	1.20E+00	2.39E-04 +/- 5.62E-05
7	103.45	9.79E-01 +/- 4.03E-01	1.20E+00	2.54E-04 +/- 4.53E-05
8	129.29	4.88E+00 +/- 3.65E-01	1.19E+00	3.17E-04 +/- 1.90E-05
9	208.45	9.59E-01 +/- 2.37E-01	1.18E+00	3.63E-04 +/- 3.63E-05
10	333.43	4.56E-01 +/- 1.30E-01	1.16E+00	3.07E-04 +/- 1.37E-05
11	369.81	2.87E-01 +/- 8.96E-02	1.15E+00	2.88E-04 +/- 1.45E-05
12	375.65	1.40E+00 +/- 1.29E-01	1.15E+00	2.85E-04 +/- 1.47E-05
13	400.66	6.27E-02 +/- 4.45E-02	1.15E+00	2.73E-04 +/- 1.53E-05
14	413.70	1.06E+00 +/- 1.07E-01	1.15E+00	2.67E-04 +/- 1.56E-05
15	964.13	5.25E-02 +/- 3.09E-02	1.09E+00	1.31E-04 +/- 5.72E-06

Segment: 15 Detector: DET01 (# 1) Position: 15

Elapsed Live Time: 113.68 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.775 +/- 0.0347
SE-75	264.65	0.000 +/- 0.0000	0.803 +/- 0.0070
SE-75	279.53	0.000 +/- 0.0000	0.810 +/- 0.0091
SE-75	400.65	0.000 +/- 0.0000	0.824 +/- 0.0109

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	23.25	1.84E+00 +/- 2.02E-01	1.31E+00	1.78E-12 +/- 1.70E-11
2	35.10	1.01E+03 +/- 4.76E+00	1.18E+00	1.45E-08 +/- 6.96E-08
3	59.64	1.71E+01 +/- 4.72E-01	1.13E+00	1.10E-05 +/- 1.65E-05
4	98.81	2.26E+00 +/- 3.34E-01	1.11E+00	1.83E-04 +/- 4.20E-05
5	129.29	2.75E+00 +/- 2.89E-01	1.10E+00	3.37E-04 +/- 1.99E-05
6	208.51	6.50E-01 +/- 1.86E-01	1.09E+00	4.15E-04 +/- 3.96E-05

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7	375.69	7.74E-01 +/-	1.01E-01	1.08E+00	2.74E-04 +/-	1.44E-05
8	400.66	1.05E-01 +/-	5.11E-02	1.08E+00	2.59E-04 +/-	1.48E-05
9	413.70	6.60E-01 +/-	8.59E-02	1.07E+00	2.52E-04 +/-	1.49E-05
10	662.42	5.84E-02 +/-	2.73E-02	1.06E+00	1.74E-04 +/-	9.76E-06
11	1001.03	3.48E-02 +/-	2.56E-02	1.05E+00	1.32E-04 +/-	5.58E-06

Segment: 16 Detector: DET01 (# 1) Position: 16

Elapsed Live Time: 113.75 sec Elapsed Real Time: 115.00 sec

TRANSMISSION RESULTS

Nuclide	Energy	Container Transmission	Sample Transmission
SE-75	136.00	0.000 +/- 0.0000	0.692 +/- 0.0313
SE-75	264.65	0.000 +/- 0.0000	0.729 +/- 0.0065
SE-75	279.53	0.000 +/- 0.0000	0.726 +/- 0.0084
SE-75	400.65	0.000 +/- 0.0000	0.749 +/- 0.0102

PEAK ANALYSIS RESULTS

Peak No.	Energy (keV)	Net Peak Count Rate (CpS)	Correction Factor	Original Efficiency
1	35.10	1.01E+03 +/- 4.76E+00	1.27E+00	9.52E-10 +/- 5.35E-09
2	59.64	4.16E+00 +/- 3.16E-01	1.19E+00	3.36E-06 +/- 5.92E-06
3	129.29	5.58E-01 +/- 1.87E-01	1.15E+00	2.29E-04 +/- 1.54E-05
4	152.68	4.72E-01 +/- 1.93E-01	1.14E+00	2.85E-04 +/- 3.25E-05
5	413.70	2.35E-01 +/- 6.14E-02	1.11E+00	1.81E-04 +/- 1.21E-05
6	964.13	8.69E-03 +/- 8.69E-03	1.07E+00	1.01E-04 +/- 4.92E-06
7	1001.03	1.74E-02 +/- 1.23E-02	1.07E+00	9.85E-05 +/- 4.77E-06
8	1112.12	3.48E-02 +/- 1.74E-02	1.07E+00	9.17E-05 +/- 4.32E-06

Summed Spectrum

Peak Locate Report

Sample ID: LL85201089
Peak Locate Performed on: 6-18-02 3:52:17 PM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192
Peak Search Sensitivity: 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
1	43.00	0.3093	21.78	10.46
2	46.58	0.1153	23.27	44.00
3	53.10	0.3093	26.31	10.46
4	70.31	0.0387	35.07	459.84
5	98.80	0.2445	49.30	5.94
6	119.41	0.0527	59.60	210.66
7	150.51	0.2728	75.14	6.90
8	197.84	0.0943	98.79	64.08
9	207.13	0.1120	103.43	35.26
10	222.91	0.1248	111.31	32.65
11	229.70	0.1730	114.70	14.47
12	247.00	0.0775	123.36	96.26
13	251.50	0.0775	125.48	96.26
14	259.42	0.0775	129.52	96.26
15	283.80	0.2228	142.90	14.49
16	289.08	0.2228	144.40	14.49
17	293.33	0.3358	146.54	5.90
18	298.01	0.1435	148.82	30.41
19	322.37	0.2469	161.00	5.73
20	330.20	0.2167	164.91	11.60
21	343.57	0.3151	171.59	5.72
22	379.80	0.2709	189.69	8.27
23	392.49	0.2545	196.04	8.02
24	417.19	0.0759	208.38	89.36
25	512.05	0.2190	255.77	10.39
26	536.42	0.2242	267.95	9.53
27	601.90	0.1701	300.66	17.74
28	625.35	0.0968	312.38	51.61
29	649.25	0.2869	324.32	5.24
30	667.21	0.1037	333.29	43.51
31	691.88	0.1026	345.62	45.02
32	738.50	0.1707	368.91	13.36
33	752.02	0.0765	375.66	78.41
34	767.64	0.1431	383.46	23.91
35	787.94	0.1051	393.61	40.87
36	799.20	0.2775	399.24	6.27

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
37	829.65	0.0777	414.45	71.99
38	847.40	0.1478	423.32	19.90
39	905.31	0.1276	452.25	27.47
40	1119.87	0.2671	559.45	6.14
41	1295.32	0.2668	647.11	6.23
42	1328.34	0.1639	663.61	14.14
43	1447.82	0.2010	723.30	10.19
44	1542.49	0.2681	770.60	5.64

Errors quoted at 1.000 sigma

Batch 2002-03-1760

Summed Spectrum

Peak Analysis Report

Sample ID: LL85201089
Peak Analysis Performed on: 6-18-02 3:52:17 PM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

	Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
M	1	41-	56	43.71	21.78	5.43E+03	0.00	5.21E+02
m	2	41-	56	46.70	23.27	2.95E+04	0.00	3.31E+03
m	3	41-	56	52.79	26.31	1.60E+04	0.00	1.02E+04
	4	67-	73	70.31	35.07	1.81E+06	1356.86	1.64E+04
	5	95-	102	98.80	49.30	2.90E+04	495.71	1.02E+05
	6	115-	122	119.41	59.60	5.28E+05	855.59	9.76E+04
	7	146-	154	150.51	75.14	3.95E+03	309.34	4.21E+04
	8	194-	201	197.84	98.79	6.99E+04	534.65	1.08E+05
	9	206-	210	207.13	103.43	3.95E+04	334.19	4.13E+04
	10	219-	226	222.91	111.31	1.47E+04	386.96	6.45E+04
	11	226-	233	229.70	114.70	1.43E+03	395.67	7.51E+04
M	12	245-	264	247.03	123.36	1.39E+03	151.34	2.96E+04
m	13	245-	264	251.28	125.48	1.07E+04	181.24	4.27E+04
m	14	245-	264	259.36	129.52	8.07E+04	484.35	3.82E+04
M	15	281-	302	286.13	142.90	6.23E+02	10.73	2.47E+04
m	16	281-	302	289.13	144.40	4.50E+03	12.34	2.46E+04
m	17	281-	302	293.42	146.54	3.09E+03	11.71	2.44E+04
m	18	281-	302	297.98	148.82	1.04E+04	14.60	2.42E+04
	19	318-	326	322.37	161.00	2.29E+03	251.76	2.84E+04
	20	326-	334	330.20	164.91	5.65E+02	246.75	2.80E+04
	21	339-	347	343.57	171.59	2.45E+03	230.51	2.37E+04
	22	375-	384	379.80	189.69	1.01E+03	232.50	2.35E+04
	23	388-	396	392.49	196.04	2.22E+03	209.31	1.95E+04
	24	412-	421	417.19	208.38	3.47E+04	316.58	2.79E+04
	25	507-	516	512.05	255.77	1.54E+03	154.58	9.89E+03
	26	532-	541	536.42	267.95	9.55E+02	147.67	9.22E+03
	27	601-	606	601.90	300.66	1.98E+03	102.27	4.65E+03
	28	620-	630	625.35	312.38	1.54E+04	180.17	7.17E+03
	29	646-	654	649.25	324.32	4.97E+02	116.38	5.98E+03
	30	662-	672	667.21	333.29	9.20E+03	182.58	9.80E+03
	31	688-	696	691.88	345.62	9.32E+03	143.83	5.28E+03
	32	733-	743	738.50	368.91	3.65E+03	118.37	4.33E+03
	33	746-	757	752.02	375.66	2.67E+04	205.68	6.25E+03
	34	767-	772	767.64	383.46	2.55E+03	100.63	2.40E+03
	35	782-	793	787.94	393.61	9.76E+03	123.78	2.22E+03
	36	795-	804	799.20	399.24	2.92E+02	69.08	1.97E+03
	37	824-	834	829.65	414.45	2.63E+04	173.09	1.52E+03

Batch 2002-03-1291

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
38	842-	852	847.40	423.32	1.54E+03	69.61	1.36E+03
39	899-	910	905.31	452.25	3.09E+03	69.18	6.76E+02
40	1114-	1125	1119.87	559.45	2.53E+02	29.17	2.39E+02
41	1292-	1301	1295.32	647.11	1.31E+02	25.47	2.26E+02
42	1322-	1334	1328.34	663.61	9.72E+02	41.27	2.77E+02
43	1441-	1454	1447.82	723.30	4.76E+02	30.90	1.74E+02
44	1536-	1548	1542.49	770.60	2.08E+02	19.92	7.15E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-02-1292

Summed Spectrum

Nuclide Identification Report

Sample ID: LL85201089
Nuclide Library Used: C:\WAS\NLIB\LLNL.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/)	Activity Uncertainty
Pulser	1.000	35.10*	100.00	6.468E+05	1.455E+06
Np-237	0.983	300.10*	6.63	3.028E+01	1.576E+00
		311.90*	38.60	4.129E+01	5.573E-01
Pu-239	0.961	413.70*	0.00	2.175E+06	4.157E+04
Pu-239A	0.996	129.29*	0.01	1.481E+06	3.496E+04
Am-241	0.905	662.42*	0.00	4.237E+05	1.830E+04
Pu-241	0.996	148.57*	0.00	5.662E+06	7.866E+04

* = Energy line found in the spectrum.
Energy Tolerance : 1.500 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 1.000 sigma

Batch 2002-03-1263

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 6-18-02 3:52:17 PM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192

	Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
M	1	21.78	4.8446E+01	0.09
m	2	23.27	2.6312E+02	0.09
m	3	26.31	1.4284E+02	0.09
	5	49.30	2.5864E+02	1.71
	6	59.60	4.7093E+03	0.19
	7	75.14	3.5249E+01	7.83
	8	98.79	6.2376E+02	0.77
	9	103.43	3.5232E+02	0.85
	10	111.31	1.3093E+02	2.64
	11	114.70	1.2786E+01	27.60
M	12	123.36	1.2393E+01	10.89
m	13	125.48	9.5145E+01	1.70
M	15	142.90	5.5572E+00	1.72
m	16	144.40	4.0097E+01	0.29
m	17	146.54	2.7596E+01	0.39
	19	161.00	2.0441E+01	10.98
	20	164.91	5.0381E+00	43.68
	21	171.59	2.1839E+01	9.41
	22	189.69	9.0271E+00	22.97
	23	196.04	1.9768E+01	9.44
	24	208.38	3.0936E+02	0.92
	25	255.77	1.3731E+01	10.04
	26	267.95	8.5204E+00	15.46
	29	324.32	4.4318E+00	23.42
	30	333.29	8.2049E+01	1.99
	31	345.62	8.3124E+01	1.55
	32	368.91	3.2543E+01	3.25
	33	375.66	2.3768E+02	0.78
	34	383.46	2.2730E+01	3.95
	35	393.61	8.7030E+01	1.27
	36	399.24	2.6034E+00	23.67
	38	423.32	1.3721E+01	4.53
	39	452.25	2.7535E+01	2.24
	40	559.45	2.2560E+00	11.53
	41	647.11	1.1667E+00	19.47
	43	723.30	4.2428E+00	6.50
	44	770.60	1.8506E+00	9.60

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

Batch 2002-07-1254

Combined Segment NID

NID Results Combiner Mode: Sum Activities

Nuclide		Total Activity (uCi)			Concentration (uCi/g)	
Pulser		3.95E+07	+/-	2.05E+08	1.15E+03	+/- 5.96E+03
SE-75	<	2.55E-01	+/-	1.29E-02	< 7.41E-06	+/- 3.75E-07
EU-152x	<	1.93E-01	+/-	1.34E-02	< 5.61E-06	+/- 3.90E-07
U-233	<	1.20E+04	+/-	6.07E+02	< 3.48E-01	+/- 1.76E-02
U-235	<	3.93E-01	+/-	2.18E-02	< 1.14E-05	+/- 6.33E-07
Np-237		4.59E+01	+/-	9.72E-01	1.33E-03	+/- 2.83E-05
Pu-238		5.46E+03	+/-	2.32E+03	1.59E-01	+/- 6.73E-02
U-238		3.08E+00	+/-	1.54E+00	8.96E-05	+/- 4.46E-05
Pu-239		2.34E+06	+/-	4.12E+04	6.81E+01	+/- 1.20E+00
Pu-239A		1.61E+06	+/-	3.25E+04	4.69E+01	+/- 9.46E-01
Am-241		4.58E+05	+/-	2.02E+04	1.33E+01	+/- 5.87E-01
Pu-241		5.91E+06	+/-	2.23E+05	1.72E+02	+/- 6.49E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
Np-237	6.52E-02	+/-	1.38E-03
Pu-238	3.19E-04	+/-	1.35E-04
U-238	9.19E+00	+/-	4.58E+00
Pu-239	3.77E+01	+/-	6.63E-01
Pu-239A	2.59E+01	+/-	5.24E-01
Am-241	1.34E-01	+/-	5.89E-03
Pu-241	5.72E-02	+/-	2.16E-03

Batch 2002-03-1299

Summed Spectrum

Nuclide		Total Activity (uCi)			Concentration (uCi/g)		
Pulser		6.47E+05	+/-	1.45E+06	1.88E+01	+/-	4.23E+01
SE-75	<	8.37E-01	+/-	6.61E-03	< 2.43E-05	+/-	1.92E-07
EU-152x	<	5.97E-01	+/-	1.05E-02	< 1.73E-05	+/-	3.07E-07
U-233	<	4.39E+04	+/-	8.53E+02	< 1.28E+00	+/-	2.48E-02
U-235	<	1.32E+00	+/-	2.53E-02	< 3.85E-05	+/-	7.36E-07
Np-237		4.01E+01	+/-	5.25E-01	1.16E-03	+/-	1.53E-05
Pu-238	<	1.01E+05	+/-	1.36E+03	< 2.95E+00	+/-	3.95E-02
U-238	<	1.57E+01	+/-	2.47E-01	< 4.58E-04	+/-	7.18E-06
Pu-239		2.17E+06	+/-	4.16E+04	6.32E+01	+/-	1.21E+00
Pu-239A		1.48E+06	+/-	3.50E+04	4.30E+01	+/-	1.02E+00
Am-241		4.24E+05	+/-	1.83E+04	1.23E+01	+/-	5.32E-01
Pu-241		5.66E+06	+/-	7.87E+04	1.65E+02	+/-	2.29E+00

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
< = MDA

Nuclide	Mass (g)		
Np-237	5.69E-02	+/-	7.46E-04
Pu-239	3.50E+01	+/-	6.69E-01
Pu-239A	2.38E+01	+/-	5.63E-01
Am-241	1.24E-01	+/-	5.34E-03
Pu-241	5.48E-02	+/-	7.61E-04

Batch 2002-02-1296

Final Non-Uniformity Results

Source Longitudinal Ratio:	0.000	+/-	0.0000
Matrix Longitudinal Ratio:	0.966	+/-	0.2479
Source Vertical Ratio:	0.000	+/-	0.0000
Matrix Vertical Ratio:	0.894	+/-	0.0208

NUDS could not find the transmission peak in one radial segment.
NUDS could not find the source peak in any radial segment.

Batch 2002-02-1297

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
2-22-02 11:49:19 AM

OK MW
JRS 4-24-02

QA File: C:\WAS\CTRS\CTR1\ARR1\T11_BCK.QA
Sample ID: B886
Sample Quantity: 1.0000E+00
Sample Date: 2-22-02 11:43:47 AM
Measurement Date: 2-22-02 11:47:14 AM
Elapsed Live Time: 100.0 seconds
Elapsed Real Time: 103.8 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
400.6 keV Centroid [0.00+/-0.00]	8.0352E+02	0.00 < : : : >
400.6 keV FWHM [0.00+/-0.00]	1.5203E+00	0.00 < : : : >
Peak centroid 136 KeV [0.00+/-0.00]	2.7297E+02	0.00 < : : : >
Peak area 400 keV [0.00+/-0.00]	1.6872E+04	0.00 < : : : >
Peak counts/second [0.00+/-0.00]	1.6872E+02	0.00 < : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
2-22-02 11:49:26 AM

QA File: C:\WAS\CTRS\CTR1\ARR1\S11_BCK.QA
Sample ID: B886
Sample Quantity: 1.0000E+00
Sample Date: 2-22-02 11:43:47 AM
Measurement Date: 2-22-02 11:43:45 AM
Elapsed Live Time: 200.0 seconds
Elapsed Real Time: 202.0 seconds

Parameter Description	Value	Deviation/Flags

Batch 2002-02-1300

[Mean +/- Std. Dev.]		< LU : SD : UD : BS >
Ref. Peak	3.5089E+01	0.00
[0.00+/-0.00]		< : : : >
Upper CPS Reg	3.6950E+01	0.00
[0.00+/-0.00]		< : : : >
Peak counts/second	1.0084E+03	0.00
[0.00+/-0.00]		< : : : >
Pulser FWHM	1.0493E+00	0.00
[0.00+/-0.00]		< : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-SIgma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

Batch 2002-02-1301

SITE PROJECT QUALITY ASSURANCE OFFICER SUMMARY
Site Project Manager Project Level Data Validation Checklist for Radioassay

Radioassay Batch #2002-02

Container serial numbers:

LL85601006TRU	LL85701001TRU	LL85500979TRU	LL85701020TRU
LL85300999TRU	LL85901000TRU	LL85701015TRU	LL85801109TRU
LL85100556TRU	LL85200711TRU	LL85801147TRU	LL85800567TRU
LL85101103TRU	LL85101099TRU	LL85201089TRU	LL85400748TRU
LL85101099TRU (replicate)	LL85801147TRU (repl,)	LL85801109TRU (repl)	LL85300999TRU (repl.)
LL85500979TRU (replicate)			

My signature below assures the following:

1. ☒ Data-generation-level independent technical, technical supervisory, and QA officer review, validation, and verification have been performed as evidenced by the appropriate signature releases.

2. ☒ Radioassay data-generation-level data review checklists are complete.

3. Radioassay batch data reports are complete and data are properly reported:
   ☒ Testing facility name, testing batch number, drum numbers included in that testing batch
   ☒ Table of contents

   - Separate report sheet(s), for each sample in the radioassay batch, that includes:

   ☒ Title "Radioassay Data Sheet"
   ☒ Method used for NDA (that is, procedure identification)
   ☒ TRUCON code, Item Description Code, matrix parameter category, as applicable
   ☒ Date of NDA (radioassay) examination
   ☒ Total Pu-239 fissile gram equivalents (g) and associated uncertainty
   ☒ Total alpha activity and associated uncertainty (Curies)
   ☒ TRU activity concentration (Total TRU Activity) and assoc. uncertainty (nCi/g)
   ☒ Listing of individual radioisotopes present (Curies) and associated uncertainty (Curies)
   ☒ Thermal power (Total Decay Heat) and associated uncertainty (W)
   ☒ Quality Control (QC) replicate marked Yes or No and, if Yes, Passed marked Yes or No.
   ☒ Operator signature/date
   ☒ Reviewers' signatures/dates

4. Reconciliation with Data Quality Objectives (DQOs):
   ☒ Data needed to calculate the amount (mass and activity) of each radionuclide of concern have been reported along with associated errors at the 95% confidence level.
   ☒ The total activity of the waste container has been reported along with associated errors at the 95% confidence level.

LLNL Site Project Manager Release Ken Heinebach Date 7/22/2002

CONTROLLED FORM

2002-02 - 1302

SITE PROJECT QUALITY ASSURANCE OFFICER SUMMARY
Site Project QA Officer Project Level Data Validation Checklist for Radioassay

Radioassay Batch #2002-02

Container serial numbers:

LL85601006TRU	LL85701001TRU	LL85500979TRU	LL85701020TRU
LL85300999TRU	LL85901000TRU	LL85701015TRU	LL85801109TRU
LL85100556TRU	LL85200711TRU	LL85801147TRU	LL85800567TRU
LL85101103TRU	LL85101099TRU	LL85201089TRU	LL85400748TRU
LL85101099TRU (replicate)	LL85801147TRU (repl,)	LL85801109TRU (repl)	LL85300999TRU (repl.)
LL85500979TRU (replicate)			

My signature below assures the following:

1. Radioassay (RA) QC checks were properly performed as indicated by the checklist for NDA Data Independent Technical Review:

   ☒ Each container is within the instrument's calibration range and in a range for which the quality assurance objectives for precision and accuracy have been verified.
   ☒ Instrument performance checks (verification checks) as required by procedure OP-B332-005, were done before and after the batch of container measurements or at other specified frequencies, including efficiency checks, background checks, and for spectrometric instruments, energy calibration checks and energy resolution checks, as indicated on the Independent Technical Review Checklist.
   ☒ A replicate measurement was performed once per batch or once per week, whichever is more frequent, and the agreement of the replicates is satisfactory (Independent Technical Review Checklist).

2. ☒ The Batch Data Report and RA data, therein, are complete and acceptable.

3. ☒ The radioassay system has passed the most recent Nondestructive Assay Performance Demonstration Program cycle relevant to the measurements reported in this batch. (Obtain the latest report from the data generator or from DOE/CAO if the Waste Certification Program does not already have a copy for our files.)

LLNL Site Project QA Officer Release Ron Macklin Date 7/22/02

CONTROLLED FORM

2002-02-1303

Data Validation Summary

This data validation summary is for (check one):

- ☐ Headspace Gas Sampling
- ☐ Headspace Gas Analysis using the Mobile Gas Analysis System (FTIRS and RGA)
- ☐ Headspace Gas Analysis using GC/MS
- ☐ Real-Time Radiography
- ☐ Visual Examination
- ☒ Radioassay
- ☐ Homogeneous Solids Sampling
- ☐ Homogeneous Solids Analysis

All data in batch # 2002-02 , consisting of the following container serial numbers:

LL85601006TRU	LL85701001TRU	LL85500979TRU	LL85701020TRU
LL85300999TRU	LL85901000TRU	LL85701015TRU	LL85801109TRU
LL85100556TRU	LL85200711TRU	LL85801147TRU	LL85800567TRU
LL85101103TRU	LL85101099TRU	LL85201089TRU	LL85400748TRU
LL85101099TRU (replicate)	LL85801147TRU (repl,)	LL85801109TRU (repl)	LL85300999TRU (repl.)
LL85500979TRU (replicate)			

have been validated according to the LLNL TRUW Characterization QAPjP. The project-level data validation was performed in accordance with WCP-40: ☒ yes ☐ no.

If a problem was detected, an explanation and a resolution will be attached (e.g., an NCAR – list NCARs: None)

My signature below deems all data are acceptable.

Ken Hamlock
LLNL Site Project Manager

7/22/2002
Date