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CALORIMETRY EXCHANGE PROGRAM

QUARTERLY DATA REPORT

1ST QUARTER 1991

EG&G MOUND APPLIED TECHNOLOGIES

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CALORIMETRY EXCHANGE PROGRAM

QUARTERLY DATA REPORT

1ST QUARTER 1991

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The Calorimetry Sample Exchange Program

The goals of the Calorimetry Sample Exchange Program are:

1. Discuss measurement differences
- 2. Review and improve analytical measurements and methods
3. Discuss new measurement capabilities
4. Provide data to DOE on measurement capabilities to evaluate shipper-receiver differences
5. Provide characterized or standard materials as necessary for exchange participants
6. Provide a measurement control program for plutonium analysis

A sample of PuO_2 powder is available at each participating site for NDA measurement, including either or both calorimetry and high-resolution gamma-ray spectroscopy, the elements which are typically combined to provide a calorimetric assay of plutonium. The facilities measure the sample as frequently and to the level of precision which they desire, and then submit the data to the Exchange for analysis. Statistical tests are used to evaluate the data and to determine if there are significant differences from accepted values for the exchange sample or from data previously reported by that facility. This information is presented, in the form of a quarterly report, intended for use by Exchange participants in measurement control programs, or to indicate when bias corrections may be appropriate. No attempt, however, has been made to standardize methods or frequency of data collection, calibration, or operating procedures. Direct comparisons between laboratories may, therefore, be misleading since data have not been collected to the same precision or for the same time periods.

A meeting of the participants of the Calorimetry Exchange is held annually at EG&G Mound Applied Technologies. The purposes of this meeting are to discuss measurement differences, problems, and new measurement capabilities, and to determine the additional activities needed to fulfill the goals of the Exchange.

NOTE: The next Calorimetry Exchange Program Annual Meeting is scheduled for April 28 - 29, 1993 at EG&G Mound Applied Technologies.

SUMMARY TABLE

% DIFFERENCE FROM ACCEPTED VALUES FOR THE CALORIMETRY EXCHANGE SAMPLE

	LIVERMORE	LOS ALAMOS	MOUND	HANFORD	ROCKY FLATS		SAVANNAH RIVER
					CSL	AL	
POWER	0.09	-0.14	-0.07	-0.08	**	**	**
P-EFF	-0.11	-0.08	0.09	0.06	**	**	**
238/239 Pu	4.33	6.55	7.34	1.66	**	**	**
240/239 Pu	-0.28	-0.65	-0.72	0.83	**	**	**
241/239 Pu	-0.88	0.12	-0.30	-0.18	**	**	**
Am/239 Pu	-1.64	-1.01	0.25	-0.91	**	**	**
% 238 Pu	4.35	6.46	7.39	1.61	**	**	**
% 239 Pu	0.37	0.32	0.05	-0.04	**	**	**
% 240 Pu	-0.27	-0.71	-0.67	0.79	**	**	**
% 241 Pu	-0.86	0.06	-0.25	-0.23	**	**	**
% 241 Am	-1.63	-1.07	0.30	-0.96	**	**	**

**** No data was reported for this measurement.**

RESULTS OF ANALYSIS OF POWER DATA

REPORTING LABORATORY

	CSL	LLNL	LANL	MOUND	WHO	RFP	SRS
Mean Error (mW)	****	0.926	-1.379	-0.707	-0.783	****	****
Std. Dev. (mW)	****	10.537	2.606	1.062	1.938	****	****
Unc. in Mean (mW)	****	1.273	0.703	0.487	0.391	****	****
Mean Error (%)	****	0.09%	-0.14%	-0.07%	-0.08%	****	****
Std. Dev. (%)	****	1.07%	0.26%	0.11%	0.20%	****	****
Unc. in Mean (%)	****	0.13%	0.07%	0.05%	0.04%	****	****
Number of Data Points	0	15	7	6	25	0	0

*LAWRENCE LIVERMORE -- POWER DATA
1ST QUARTER 1991*

*LOS ALAMOS - POWER DATA
1ST QUARTER 1991*

*EG&G MOUND - POWER DATA
1ST QUARTER 1991*

*WESTINGHOUSE HANFORD -- POWER DATA
1ST QUARTER 1991*

CALORIMETER DATA**1ST QUARTER 1991****ROCKY FLATS - CHEM STANDARDS LABORATORY****NO DATA REPORTED****LAWRENCE LIVERMORE NATIONAL LABORATORY**

#	Date Measured	Instr. ID	Measured Watts	Uncert. 1 STD	Accepted Watts	Ratio M/A	mW Error	Percent Error
1	3-Jan-91	2	1.0007	0.50%	0.9849	1.016	15.801	1.60%
2	4-Jan-91	2	0.9824	0.50%	0.9849	0.997	-2.590	-0.26%
3	7-Jan-91	32	0.9857	0.50%	0.9850	1.001	0.713	0.07%
4	18-Jan-91	2	0.9524	0.50%	0.9851	0.967	-32.751	-3.32%
5	22-Jan-91	32	0.9868	0.50%	0.9851	1.002	1.640	0.17%
6	24-Jan-91	2	0.9988	0.50%	0.9852	1.014	13.590	1.38%
7	4-Feb-91	2	0.9894	0.50%	0.9853	1.004	4.054	0.41%
8	5-Feb-91	32	0.9864	0.50%	0.9853	1.001	1.113	0.11%
9	8-Feb-91	2	0.9884	0.50%	0.9853	1.003	3.028	0.31%
10	13-Feb-91	2	0.9851	0.50%	0.9854	1.000	-0.309	-0.03%
11	14-Feb-91	2	0.9892	0.50%	0.9854	1.004	3.819	0.39%
12	27-Feb-91	32	0.9875	0.50%	0.9856	1.002	1.961	0.20%
13	4-Mar-91	32	0.9870	0.50%	0.9856	1.001	1.355	0.14%
14	18-Mar-91	32	0.9873	0.50%	0.9858	1.002	1.561	0.16%
15	28-Mar-91	32	0.9868	0.50%	0.9859	1.001	0.897	0.09%

LOS ALAMOS NATIONAL LABORATORY

#	Date Measured	Instr. ID	Measured Watts	Uncert. 1 STD	Accepted Watts	Ratio M/A	mW Error	Percent Error
1	22-Jan-91	K3	0.9816	0.2%	0.9851	0.996	-3.547	-0.36%
2	25-Jan-91	K4	0.9817	0.2%	0.9852	0.996	-3.481	-0.35%
3	28-Jan-91	K1	0.9815	0.1%	0.9852	0.996	-3.716	-0.38%
4	6-Feb-91	K2	0.9833	0.2%	0.9853	0.998	-2.019	-0.20%
5	5-Mar-91	K3	0.9881	0.2%	0.9856	1.003	2.472	0.25%
6	18-Mar-91	K4	0.9877	0.2%	0.9858	1.002	1.924	0.20%
7	19-Mar-91	K2	0.9845	0.2%	0.9858	0.999	-1.287	-0.13%

EG&G MOUND APPLIED TECHNOLOGIES

#	Date Measured	Instr. ID	Measured Watts	Uncert. 1 STD	Accepted Watts	Ratio M/A	mW Error	Percent Error
1	11-Feb-91	111	0.986053	0.07%	0.985376	1.001	0.677	0.07%
2	13-Feb-91	128	0.983624	0.14%	0.985399	0.998	-1.775	-0.18%
3	15-Feb-91	111	0.985957	0.07%	0.985422	1.001	0.535	0.05%
4	26-Feb-91	128	0.984007	0.14%	0.985548	0.998	-1.541	-0.16%
5	6-Mar-91	128	0.984780	0.14%	0.985639	0.999	-0.859	-0.09%
6	22-Mar-91	128	0.984545	0.14%	0.985821	0.999	-1.276	-0.13%

WESTINGHOUSE HANFORD COMPANY

#	Date Measured	Instr. ID	Measured Watts	Uncert. 1 STD	Accepted Watts	Ratio M/A	mW Error	Percent Error
1	3-Jan-91	4	0.9815	0.18%	0.9849	0.997	-3.429	-0.35%
2	4-Jan-91	3	0.9830	0.18%	0.9849	0.998	-1.940	-0.20%
3	9-Jan-91	1	0.9828	0.18%	0.9850	0.998	-2.198	-0.22%
4	10-Jan-91	3	0.9869	0.18%	0.9850	1.002	1.891	0.19%
5	15-Jan-91	1	0.9848	0.18%	0.9851	1.000	-0.267	-0.03%
6	16-Jan-91	3	0.9838	0.18%	0.9851	0.999	-1.278	-0.13%
7	17-Jan-91	5	0.9852	0.18%	0.9851	1.000	0.110	0.01%
8	22-Jan-91	2	0.9837	0.18%	0.9851	0.999	-1.447	-0.15%
9	23-Jan-91	4	0.9856	0.18%	0.9852	1.000	0.441	0.04%
10	24-Jan-91	3	0.9828	0.18%	0.9852	0.998	-2.370	-0.24%
11	25-Jan-91	1	0.9868	0.18%	0.9852	1.002	1.619	0.16%
12	29-Jan-91	3	0.9841	0.18%	0.9852	0.999	-1.127	-0.11%
13	30-Jan-91	5	0.9872	0.18%	0.9852	1.002	1.961	0.20%
14	5-Feb-91	4	0.9816	0.31%	0.9853	0.996	-3.708	-0.38%
15	12-Feb-91	1	0.9812	0.31%	0.9854	0.996	-4.188	-0.42%
16	20-Feb-91	3	0.9812	0.31%	0.9855	0.996	-4.279	-0.43%
17	21-Feb-91	2	0.9882	0.31%	0.9855	1.003	2.709	0.27%
18	22-Feb-91	5	0.9851	0.31%	0.9855	1.000	-0.402	-0.04%
19	14-Mar-91	1	0.9862	0.11%	0.9857	1.000	0.470	0.05%
20	19-Mar-91	2	0.9857	0.11%	0.9858	1.000	-0.087	-0.01%
21	20-Mar-91	3	0.9875	0.11%	0.9858	1.002	1.701	0.17%
22	21-Mar-91	4	0.9850	0.11%	0.9858	0.999	-0.810	-0.08%
23	26-Mar-91	1	0.9851	0.11%	0.9859	0.999	-0.767	-0.08%
24	28-Mar-91	4	0.9852	0.11%	0.9859	0.999	-0.690	-0.07%
25	29-Mar-91	3	0.9844	0.11%	0.9859	0.998	-1.501	-0.15%

ROCKY FLATS PLANT - ANALYTICAL LABORATORY**NO DATA REPORTED****WESTINGHOUSE SAVANNAH RIVER SITE****NO DATA REPORTED**

RESULTS OF ANALYSIS OF P-EFFECTIVE DATA

	REPORTING LABORATORY						
	CSL	LLNL	LANL	MOUND	WHO	RFP	SRS
Mean Error (mW/g)	****	-0.0027	-0.0019	0.0023	0.0015	****	****
Std. Dev. (mW/g)	****	0.0011	0.0052	0.0046	0.0038	****	****
Unc. in Mean (mW/g)	****	0.0007	0.0031	0.0011	0.0005	****	****
Mean Error (%)	****	-0.11%	-0.08%	0.09%	0.06%	****	****
Std. Dev. (%)	****	0.05%	0.21%	0.19%	0.15%	****	****
Unc. in Mean (%)	****	0.03%	0.13%	0.04%	0.02%	****	****
Number of Data Points	0	6	10	19	29	0	0

LAWRENCE LIVERMORE -- P-EFFECTIVE
1ST QUARTER 1991

*LOS ALAMOS - P-EFFECTIVE
1ST QUARTER 1991*

Figure 1 is a plot showing the ratio of Measured to Accepted values versus Date for the 1991 calibration. The y-axis is labeled 'Measured/Accepted' and ranges from 0.980 to 1.015. The x-axis is labeled 'Date' and shows dates from 16-Jan-91 to 28-Mar-91. The data points are represented by black squares with vertical error bars. The ratio fluctuates around 1.000, with a notable dip to approximately 0.997 on 7-Feb-91.

Date	Measured/Accepted Ratio (approx.)
16-Jan-91	1.000
18-Jan-91	1.000
6-Feb-91	1.005
6-Feb-91	1.002
6-Feb-91	1.000
7-Feb-91	0.997
7-Feb-91	1.000
7-Feb-91	1.000
7-Feb-91	1.002
7-Feb-91	1.000
7-Feb-91	1.000
8-Feb-91	1.000
25-Feb-91	1.000
25-Feb-91	1.000
26-Feb-91	1.000
4-Mar-91	1.000
4-Mar-91	1.000
4-Mar-91	1.002
28-Mar-91	1.000
28-Mar-91	1.000

WESTINGHOUSE HANFORD - P-EFFECTIVE 1ST QUARTER 1991

P-EFFECTIVE DATA
1ST QUARTER 1991

RFP - CSL

NO DATA REPORTED

LLNL

#	Date Measured	Instr. ID	P-eff (mw/g)	Uncert. 1 STD	Accepted P-eff	Ratio M/A	mW/g Error	Percent Error
1	8-Jan-91	1	2.4713	0.08%	2.4735	0.999	-0.0022	-0.09%
2	14-Jan-91	1	2.4712	0.08%	2.4751	0.998	-0.0039	-0.16%
3	23-Jan-91	1	2.4719	0.08%	2.4754	0.999	-0.0035	-0.14%
4	14-Feb-91	1	2.4731	0.07%	2.4760	0.999	-0.0029	-0.12%
5	22-Feb-91	1	2.4731	0.06%	2.4762	0.999	-0.0031	-0.13%
6	5-Mar-91	1	2.4759	0.07%	2.4766	1.000	-0.0007	-0.03%

LANL

#	Date Measured	Instr. ID	P-eff (mw/g)	Uncert. 1 STD	Accepted P-eff	Ratio M/A	mW/g Error	Percent Error
1	21-Feb-91	F5	2.4730	0.39%	2.4748	0.999	-0.0018	-0.07%
2	21-Feb-91	F6	2.4770	0.38%	2.4762	1.000	0.0008	0.03%
3	21-Feb-91	F6	2.4750	0.38%	2.4762	1.000	-0.0012	-0.05%
4	25-Feb-91	F6	2.4740	0.39%	2.4763	0.999	-0.0023	-0.09%
5	27-Feb-91	F5	2.4690	0.42%	2.4764	0.997	-0.0074	-0.30%
6	4-Mar-91	F6	2.4760	0.39%	2.4765	1.000	-0.0005	-0.02%
7	7-Mar-91	F6	2.4750	0.37%	2.4766	0.999	-0.0016	-0.07%
8	15-Mar-91	F5	2.4640	0.44%	2.4769	0.995	-0.0129	-0.52%
9	22-Mar-91	F5	2.4780	0.43%	2.4771	1.000	0.0009	0.04%
10	26-Mar-91	F5	2.4840	0.41%	2.4772	1.003	0.0068	0.27%

EG&G MOUND

#	Date Measured	Instr. ID	P-eff (mw/g)	Uncert. 1 STD	Accepted P-eff	Ratio M/A	mW/g Error	Percent Error
1	16-Jan-91	70/40	2.4733	0.17%	2.4737	1.000	-0.0004	-0.02%
2	18-Jan-91	70/40	2.4758	0.19%	2.4738	1.001	0.0020	0.08%
3	6-Feb-91	80/15	2.4868	0.22%	2.4744	1.005	0.0124	0.50%
4	6-Feb-91	80/15	2.4801	0.23%	2.4744	1.002	0.0057	0.23%
5	6-Feb-91	80/15	2.4754	0.21%	2.4744	1.000	0.0010	0.04%
6	7-Feb-91	70/40	2.4765	0.19%	2.4744	1.001	0.0021	0.09%
7	7-Feb-91	70/40	2.4678	0.19%	2.4744	0.997	-0.0066	-0.27%
8	7-Feb-91	80/15	2.4749	0.21%	2.4744	1.000	0.0005	0.02%
9	7-Feb-91	80/15	2.482	0.21%	2.4744	1.003	0.0076	0.31%
10	7-Feb-91	80/15	2.4854	0.21%	2.4744	1.004	0.0110	0.44%
11	8-Feb-91	70/40	2.4754	0.18%	2.4744	1.000	0.0010	0.04%
12	25-Feb-91	70/40	2.4786	0.18%	2.4749	1.001	0.0037	0.15%
13	25-Feb-91	70/40	2.4723	0.19%	2.4749	0.999	-0.0026	-0.11%
14	26-Feb-91	70/40	2.4728	0.18%	2.4750	0.999	-0.0022	-0.09%
15	4-Mar-91	70/40	2.479	0.18%	2.4751	1.002	0.0039	0.16%
16	4-Mar-91	70/40	2.4776	0.17%	2.4751	1.001	0.0025	0.10%
17	4-Mar-91	70/40	2.4728	0.17%	2.4751	0.999	-0.0023	-0.09%
18	28-Mar-91	70/40	2.4783	0.18%	2.4758	1.001	0.0025	0.10%
19	28-Mar-91	70/40	2.4782	0.20%	2.4758	1.001	0.0024	0.10%

**P-EFFECTIVE DATA
1ST QUARTER 1991**

HANFORD

#	Date Measured	Instr. ID	P-eff (mw/g)	Uncert. 1 STD	Accepted P-eff	Ratio M/A	mW/g Error	Percent Error
1	2-Jan-91	627	2.4690	0.11%	2.4733	0.998	-0.0043	-0.17%
2	2-Jan-91	2026	2.4708	0.10%	2.4733	0.999	-0.0025	-0.10%
3	7-Jan-91	2026	2.4786	0.10%	2.4735	1.002	0.0051	0.21%
4	14-Jan-91	1985	2.4743	0.09%	2.4737	1.000	0.0006	0.03%
5	14-Jan-91	2026	2.4722	0.11%	2.4737	0.999	-0.0015	-0.06%
6	21-Jan-91	1985	2.4741	0.10%	2.4739	1.000	0.0002	0.01%
7	28-Jan-91	1985	2.4755	0.10%	2.4741	1.001	0.0014	0.06%
8	7-Feb-91	1985	2.4789	0.11%	2.4744	1.002	0.0045	0.18%
9	13-Feb-91	627	2.4771	0.11%	2.4746	1.001	0.0025	0.10%
10	13-Feb-91	1985	2.4750	0.09%	2.4746	1.000	0.0004	0.02%
11	14-Feb-91	627	2.4729	0.12%	2.4746	0.999	-0.0017	-0.07%
12	15-Feb-91	627	2.4706	0.12%	2.4746	0.998	-0.0040	-0.16%
13	19-Feb-91	627	2.4691	0.12%	2.4747	0.998	-0.0056	-0.23%
14	19-Feb-91	627	2.4751	0.12%	2.4747	1.000	0.0004	0.01%
15	20-Feb-91	1985	2.4804	0.10%	2.4748	1.002	0.0056	0.23%
16	25-Feb-91	627	2.4740	0.11%	2.4749	1.000	-0.0009	-0.04%
17	25-Feb-91	1985	2.4808	0.09%	2.4749	1.002	0.0059	0.24%
18	4-Mar-91	627	2.4688	0.11%	2.4751	0.997	-0.0063	-0.26%
19	5-Mar-91	1985	2.4806	0.09%	2.4752	1.002	0.0054	0.22%
20	15-Mar-91	2026	2.4795	0.09%	2.4755	1.002	0.0040	0.16%
21	18-Mar-91	1985	2.4772	0.09%	2.4755	1.001	0.0017	0.07%
22	18-Mar-91	2026	2.4774	0.10%	2.4755	1.001	0.0019	0.07%
23	19-Mar-91	1985	2.4812	0.10%	2.4756	1.002	0.0056	0.23%
24	25-Mar-91	2026	2.4814	0.09%	2.4758	1.002	0.0056	0.23%
25	26-Mar-91	2026	2.4791	0.09%	2.4758	1.001	0.0033	0.13%
26	27-Mar-91	2026	2.4816	0.09%	2.4758	1.002	0.0058	0.23%
27	27-Mar-91	2026	2.4800	0.10%	2.4758	1.002	0.0042	0.17%
28	27-Mar-91	2026	2.4745	0.09%	2.4758	0.999	-0.0013	-0.05%
29	28-Mar-91	2026	2.4820	0.09%	2.4758	1.002	0.0062	0.25%

RFP - ANAL. LAB.
NO DATA REPORTED

SAVANNAH RIVER
NO DATA REPORTED

RESULTS OF ANALYSIS OF 238-Pu/239-Pu DATA

	REPORTING LABORATORY					
	CSL	LLNL	LANL	MOUND	WHO	SRS
Mean Error (ppm)	****	4	7	7	2	****
Std. Dev. (ppm)	****	1.83	7.64	4.45	5.05	****
Unc. in Mean (ppm)	****	0.94	2.54	1.25	0.65	****
Mean Error (%)	****	4.33%	6.55%	7.34%	1.66%	****
Std. Dev. (%)	****	1.84%	7.69%	4.48%	5.08%	****
Unc. in Mean (%)	****	0.90%	2.42%	1.17%	0.65%	****
Number of Data Points	0	6	10	19	29	0

LAWRENCE LIVERMORE - 238/239 DATA
1ST QUARTER 1991

*LOS ALAMOS - 238/239 DATA
1ST QUARTER 1991*

*EG&G MOUND - 238/239 DATA
1ST QUARTER 1991*

WESTINGHOUSE HANFORD - 238/239 DATA
1ST QUARTER 1991

238-Pu/239-Pu DATA
1ST QUARTER 1991

RFP - CSL

NO DATA REPORTED

LLNL

#	Date Measured	Instr. ID	238/239 (ppm)	Uncert. 1 STD	Accepted PPM	Ratio M/A	PPM Error	Percent Error
1	8-Jan-91	1	103	2.43%	99	1.032	3	3.20%
2	14-Jan-91	1	103	2.48%	99	1.032	3	3.21%
3	23-Jan-91	1	103	2.49%	99	1.032	3	3.23%
4	14-Feb-91	1	105	2.00%	99	1.054	5	5.42%
5	22-Feb-91	1	103	1.78%	99	1.033	3	3.31%
6	5-Mar-91	1	107	2.01%	99	1.076	8	7.64%

LANL

#	Date Measured	Instr. ID	238/239 (ppm)	Uncert. 1 STD	Accepted PPM	Ratio M/A	PPM Error	Percent Error
1	21-Feb-91	F5	102	7.63%	99	1.022	2	2.22%
2	21-Feb-91	F6	104	7.33%	99	1.044	4	4.43%
3	21-Feb-91	F6	102	7.63%	99	1.022	2	2.22%
4	25-Feb-91	F6	124	6.30%	99	1.248	25	24.76%
5	27-Feb-91	F5	105	7.98%	99	1.053	5	5.32%
6	4-Mar-91	F6	101	7.74%	99	1.012	1	1.24%
7	7-Mar-91	F6	110	6.79%	99	1.108	11	10.80%
8	15-Mar-91	F5	97	9.04%	99	0.978	-2	-2.19%
9	22-Mar-91	F5	104	8.46%	99	1.046	5	4.60%
10	26-Mar-91	F5	111	7.31%	99	1.121	12	12.06%

EG&G MOUND

#	Date Measured	Instr. ID	238/239 (ppm)	Uncert. 1 STD	Accepted PPM	Ratio M/A	PPM Error	Percent Error
1	16-Jan-91	70/40	107	4.38%	99	1.076	8	7.58%
2	18-Jan-91	70/40	108	4.69%	99	1.086	9	8.59%
3	6-Feb-91	80/15	111	5.33%	99	1.117	12	11.65%
4	6-Feb-91	80/15	103	6.04%	99	1.036	4	3.61%
5	6-Feb-91	80/15	104	5.97%	99	1.046	5	4.61%
6	7-Feb-91	70/40	108	4.73%	99	1.086	9	8.64%
7	7-Feb-91	70/40	97	5.21%	99	0.976	-2	-2.43%
8	7-Feb-91	80/15	112	4.94%	99	1.127	13	12.66%
9	7-Feb-91	80/15	111	5.04%	99	1.117	12	11.66%
10	7-Feb-91	80/15	112	5.10%	99	1.127	13	12.66%
11	8-Feb-91	70/40	103	4.92%	99	1.036	4	3.61%
12	25-Feb-91	70/40	110	4.54%	99	1.107	11	10.69%
13	25-Feb-91	70/40	98	5.15%	99	0.986	-1	-1.38%
14	26-Feb-91	70/40	105	4.86%	99	1.057	6	5.66%
15	4-Mar-91	70/40	105	5.81%	99	1.057	6	5.68%
16	4-Mar-91	70/40	111	4.44%	99	1.117	12	11.72%
17	4-Mar-91	70/40	104	4.74%	99	1.047	5	4.67%
18	28-Mar-91	70/40	108	4.94%	99	1.088	9	8.75%
19	28-Mar-91	70/40	110	5.84%	99	1.108	11	10.77%

238-Pu/239-Pu DATA
1ST QUARTER 1991

HANFORD

#	Date Measured	Instr. ID	238/239 (ppm)	Uncert. 1 STD	Accepted PPM	Ratio M/A	PPM Error	Percent Error
1	2-Jan-91	627	91	4.03%	99	0.914	-9	-8.62%
2	2-Jan-91	2026	94	3.83%	99	0.946	-5	-5.37%
3	7-Jan-91	2026	100	3.44%	99	1.001	0	0.10%
4	14-Jan-91	1985	97	3.19%	99	0.979	-2	-2.07%
5	14-Jan-91	2026	93	4.19%	99	0.936	-6	-6.37%
6	21-Jan-91	1985	104	3.24%	99	1.043	4	4.35%
7	28-Jan-91	1985	101	3.29%	99	1.012	1	1.22%
8	7-Feb-91	1985	105	3.54%	99	1.055	5	5.49%
9	13-Feb-91	627	104	3.60%	99	1.044	4	4.35%
10	13-Feb-91	1985	102	3.15%	99	1.023	2	2.27%
11	14-Feb-91	627	102	4.07%	99	1.022	2	2.18%
12	15-Feb-91	627	100	4.25%	99	1.011	1	1.09%
13	19-Feb-91	627	89	4.63%	99	0.893	-11	-10.68%
14	19-Feb-91	627	104	3.90%	99	1.044	4	4.37%
15	20-Feb-91	1985	110	3.14%	99	1.109	11	10.90%
16	25-Feb-91	627	103	3.91%	99	1.033	3	3.31%
17	25-Feb-91	1985	108	2.89%	99	1.088	9	8.79%
18	4-Mar-91	627	96	3.93%	99	0.968	-3	-3.18%
19	5-Mar-91	1985	103	3.12%	99	1.034	3	3.45%
20	15-Mar-91	2026	107	2.94%	99	1.077	8	7.71%
21	18-Mar-91	1985	102	3.19%	99	1.023	2	2.31%
22	18-Mar-91	2026	102	3.26%	99	1.023	2	2.33%
23	19-Mar-91	1985	104	3.27%	99	1.045	5	4.55%
24	25-Mar-91	2026	103	3.04%	99	1.035	3	3.50%
25	26-Mar-91	2026	99	3.21%	99	0.992	-1	-0.81%
26	27-Mar-91	2026	101	3.19%	99	1.014	1	1.36%
27	27-Mar-91	2026	102	3.27%	99	1.024	2	2.39%
28	27-Mar-91	2026	98	3.23%	99	0.991	-1	-0.90%
29	28-Mar-91	2026	109	2.93%	99	1.100	10	9.98%

RFP - ANAL. LAB.
NO DATA REPORTED

SAVANNAH RIVER
NO DATA REPORTED

RESULTS OF ANALYSIS OF 240-Pu/239-Pu DATA

	REPORTING LABORATORY						
	CSL	LLNL	LANL	MOUND	WHO	RFP	SRS
Mean Error (ppm)	****	-177	-401	-445	518	****	****
Std. Dev. (ppm)	****	98.52	1201.73	726.74	567.81	****	****
Unc. in Mean (ppm)	****	85.13	429.86	192.12	58.15	****	****
Mean Error (%)	****	-0.28%	-0.65%	-0.72%	0.83%	****	****
Std. Dev. (%)	****	0.16%	1.93%	1.17%	0.91%	****	****
Unc. in Mean (%)	****	0.14%	0.70%	0.31%	0.09%	****	****
Number of Data Points	0	6	10	19	29	0	0

LAWRENCE LIVERMORE - 240/239 DATA
1ST QUARTER 1991

LOS ALAMOS - 240/239 DATA 1ST QUARTER 1991

WESTINGHOUSE HANFORD - 240/239 DATA
1ST QUARTER 1991

240-Pu/239-Pu DATA
1ST QUARTER 1991

RFP - CSL

NO DATA REPORTED

LLNL

#	Date Measured	Instr. ID	240/239 (ppm)	Uncert. 1 STD	Accepted PPM	Ratio M/A	PPM Error	Percent Error
1	8-Jan-91	1	61975	0.36%	62158	0.997	-183	-0.29%
2	14-Jan-91	1	61923	0.37%	62158	0.996	-235	-0.38%
3	23-Jan-91	1	61960	0.37%	62158	0.997	-198	-0.32%
4	14-Feb-91	1	61842	0.31%	62158	0.995	-316	-0.51%
5	22-Feb-91	1	62090	0.28%	62158	0.999	-68	-0.11%
6	5-Mar-91	1	62097	0.32%	62158	0.999	-60	-0.10%

LANL

#	Date Measured	Instr. ID	240/239 (ppm)	Uncert. 1 STD	Accepted PPM	Ratio M/A	PPM Error	Percent Error
1	21-Feb-91	F5	61928	2.12%	62158	0.996	-230	-0.37%
2	21-Feb-91	F6	62491	2.02%	62158	1.005	333	0.54%
3	21-Feb-91	F6	61928	2.12%	62158	0.996	-230	-0.37%
4	25-Feb-91	F6	59867	2.22%	62158	0.963	-2291	-3.69%
5	27-Feb-91	F5	60578	2.33%	62158	0.975	-1580	-2.54%
6	4-Mar-91	F6	62717	2.13%	62158	1.009	559	0.90%
7	7-Mar-91	F6	61365	2.02%	62158	0.987	-793	-1.28%
8	15-Mar-91	F5	60353	2.44%	62158	0.971	-1805	-2.90%
9	22-Mar-91	F5	63620	2.34%	62158	1.024	1462	2.35%
10	26-Mar-91	F5	62717	2.23%	62157	1.009	559	0.90%

EG&G MOUND

#	Date Measured	Instr. ID	240/239 (ppm)	Uncert. 1 STD	Accepted PPM	Ratio M/A	PPM Error	Percent Error
1	16-Jan-91	70/40	61024	1.18%	62158	0.982	-1134	-1.82%
2	18-Jan-91	70/40	61505	1.34%	62158	0.989	-653	-1.05%
3	6-Feb-91	80/15	63526	1.52%	62158	1.022	1368	2.20%
4	6-Feb-91	80/15	62769	1.60%	62158	1.010	611	0.98%
5	6-Feb-91	80/15	61922	1.44%	62158	0.996	-236	-0.38%
6	7-Feb-91	70/40	61367	1.33%	62158	0.987	-791	-1.27%
7	7-Feb-91	70/40	60925	1.35%	62158	0.980	-1233	-1.98%
8	7-Feb-91	80/15	61341	1.50%	62158	0.987	-817	-1.31%
9	7-Feb-91	80/15	62199	1.52%	62158	1.001	41	0.07%
10	7-Feb-91	80/15	62911	1.51%	62158	1.012	753	1.21%
11	8-Feb-91	70/40	61665	1.31%	62158	0.992	-493	-0.79%
12	25-Feb-91	70/40	61647	1.22%	62158	0.992	-511	-0.82%
13	25-Feb-91	70/40	61724	1.40%	62158	0.993	-434	-0.70%
14	26-Feb-91	70/40	60879	1.29%	62158	0.979	-1279	-2.06%
15	4-Mar-91	70/40	62235	1.11%	62158	1.001	77	0.12%
16	4-Mar-91	70/40	61253	1.20%	62158	0.985	-905	-1.46%
17	4-Mar-91	70/40	61006	1.23%	62158	0.981	-1152	-1.85%
18	28-Mar-91	70/40	61336	1.26%	62157	0.987	-821	-1.32%
19	28-Mar-91	70/40	61306	1.31%	62157	0.986	-851	-1.37%

**240-Pu/239-Pu DATA
1ST QUARTER 1991**

HANFORD

#	Date Measured	Instr. ID	240/239 (ppm)	Uncert. 1 STD	Accepted PPM	Ratio M/A	PPM Error	Percent Error
1	2-Jan-91	627	62245	0.52%	62159	1.001	87	0.14%
2	2-Jan-91	2026	62557	0.52%	62159	1.006	398	0.64%
3	7-Jan-91	2026	63341	0.49%	62159	1.019	1182	1.90%
4	14-Jan-91	1985	62997	0.45%	62158	1.013	839	1.35%
5	14-Jan-91	2026	63059	0.55%	62158	1.014	900	1.45%
6	21-Jan-91	1985	62501	0.48%	62158	1.006	342	0.55%
7	28-Jan-91	1985	63325	0.48%	62158	1.019	1167	1.88%
8	7-Feb-91	1985	62784	0.53%	62158	1.010	626	1.01%
9	13-Feb-91	627	62011	0.52%	62158	0.998	-147	-0.24%
10	13-Feb-91	1985	62697	0.46%	62158	1.009	539	0.87%
11	14-Feb-91	627	61792	0.58%	62158	0.994	-366	-0.59%
12	15-Feb-91	627	61558	0.61%	62158	0.990	-600	-0.96%
13	19-Feb-91	627	62266	0.58%	62158	1.002	108	0.17%
14	19-Feb-91	627	62029	0.56%	62158	0.998	-129	-0.21%
15	20-Feb-91	1985	62722	0.49%	62158	1.009	564	0.91%
16	25-Feb-91	627	62070	0.56%	62158	0.999	-88	-0.14%
17	25-Feb-91	1985	63068	0.45%	62158	1.015	910	1.46%
18	4-Mar-91	627	61605	0.53%	62158	0.991	-553	-0.89%
19	5-Mar-91	1985	62864	0.46%	62158	1.011	706	1.14%
20	15-Mar-91	2026	62648	0.46%	62158	1.008	491	0.79%
21	18-Mar-91	1985	62411	0.47%	62158	1.004	254	0.41%
22	18-Mar-91	2026	62624	0.48%	62158	1.008	467	0.75%
23	19-Mar-91	1985	63202	0.48%	62158	1.017	1045	1.68%
24	25-Mar-91	2026	63450	0.45%	62157	1.021	1293	2.08%
25	26-Mar-91	2026	63366	0.45%	62157	1.019	1208	1.94%
26	27-Mar-91	2026	63541	0.46%	62157	1.022	1383	2.23%
27	27-Mar-91	2026	63046	0.48%	62157	1.014	888	1.43%
28	27-Mar-91	2026	62419	0.46%	62157	1.004	261	0.42%
29	28-Mar-91	2026	63402	0.46%	62157	1.020	1245	2.00%

**RFP - ANAL. LAB.
NO DATA REPORTED**

**SAVANNAH RIVER
NO DATA REPORTED**

RESULTS OF ANALYSIS OF 241-Pu/239-Pu DATA

	REPORTING LABORATORY						
	CSL	LLNL	LANL	MOUND	WHO	RFP	SRS
Mean Error (ppm)	****	-20	3	-7	-4	****	****
Std. Dev. (ppm)	****	4.98	10.63	9.96	8.69	****	****
Unc. in Mean (ppm)	****	2.21	0.89	2.95	1.39	****	****
Mean Error (%)	****	-0.88%	0.12%	-0.30%	-0.18%	****	****
Std. Dev. (%)	****	0.22%	0.48%	0.45%	0.39%	****	****
Unc. in Mean (%)	****	0.10%	0.04%	0.13%	0.06%	****	****
Number of Data Points	0	6	10	19	29	0	0

LAWRENCE LIVERMORE - 241/239 DATA
1ST QUARTER 1991

*LOS ALAMOS - 241/239 DATA
1ST QUARTER 1991*

*EG&G MOUND - 241/239 DATA
1ST QUARTER 1991*

WESTINGHOUSE HANFORD - 241/239 DATA
1ST QUARTER 1991

241-Pu/239-Pu DATA
1ST QUARTER 1991

RFP - CSL

NO DATA REPORTED

LLNL

#	Date Measured	Instr. ID	241/239 (ppm)	Uncert. 1 STD	Accepted PPM	Ratio M/A	PPM Error	Percent Error
1	8-Jan-91	1	2217	0.26%	2241	0.989	-25	-1.11%
2	14-Jan-91	1	2214	0.27%	2240	0.989	-25	-1.13%
3	23-Jan-91	1	2222	0.27%	2237	0.993	-15	-0.68%
4	14-Feb-91	1	2217	0.23%	2231	0.994	-13	-0.59%
5	22-Feb-91	1	2209	0.20%	2228	0.992	-19	-0.84%
6	5-Mar-91	1	2204	0.23%	2225	0.991	-21	-0.93%

LANL

#	Date Measured	Instr. ID	241/239 (ppm)	Uncert. 1 STD	Accepted PPM	Ratio M/A	PPM Error	Percent Error
1	21-Feb-91	F5	2227	0.13%	2228	0.999	-1	-0.06%
2	21-Feb-91	F6	2231	0.12%	2228	1.001	3	0.13%
3	21-Feb-91	F6	2212	0.12%	2228	0.993	-16	-0.72%
4	25-Feb-91	F6	2251	0.12%	2227	1.010	23	1.05%
5	27-Feb-91	F5	2228	0.14%	2227	1.001	2	0.08%
6	4-Mar-91	F6	2234	0.12%	2225	1.004	9	0.40%
7	7-Mar-91	F6	2223	0.12%	2224	0.999	-2	-0.07%
8	15-Mar-91	F5	2222	0.13%	2222	1.000	0	-0.01%
9	22-Mar-91	F5	2216	0.13%	2220	0.998	-4	-0.18%
10	26-Mar-91	F5	2232	0.12%	2219	1.006	13	0.59%

EG&G MOUND

#	Date Measured	Instr. ID	241/239 (ppm)	Uncert. 1 STD	Accepted PPM	Ratio M/A	PPM Error	Percent Error
1	16-Jan-91	70/40	2229	0.55%	2239	0.996	-10	-0.45%
2	18-Jan-91	70/40	2217	0.61%	2238	0.990	-21	-0.96%
3	6-Feb-91	80/15	2229	0.58%	2233	0.998	-4	-0.17%
4	6-Feb-91	80/15	2227	0.54%	2233	0.997	-6	-0.26%
5	6-Feb-91	80/15	2235	0.55%	2233	1.001	2	0.10%
6	7-Feb-91	70/40	2211	0.62%	2233	0.990	-22	-0.97%
7	7-Feb-91	70/40	2218	0.56%	2233	0.993	-15	-0.65%
8	7-Feb-91	80/15	2234	0.57%	2233	1.001	1	0.06%
9	7-Feb-91	80/15	2232	0.55%	2233	1.000	-1	-0.03%
10	7-Feb-91	80/15	2243	0.52%	2233	1.005	10	0.47%
11	8-Feb-91	70/40	2230	0.58%	2232	0.999	-2	-0.10%
12	25-Feb-91	70/40	2204	0.62%	2227	0.990	-23	-1.04%
13	25-Feb-91	70/40	2220	0.66%	2227	0.997	-7	-0.33%
14	26-Feb-91	70/40	2211	0.62%	2227	0.993	-16	-0.72%
15	4-Mar-91	70/40	2209	0.62%	2225	0.993	-16	-0.73%
16	4-Mar-91	70/40	2217	0.59%	2225	0.996	-8	-0.37%
17	4-Mar-91	70/40	2225	0.62%	2225	1.000	0	-0.01%
18	28-Mar-91	70/40	2225	0.48%	2218	1.003	7	0.31%
19	28-Mar-91	70/40	2221	0.54%	2218	1.001	3	0.13%

241-Pu/239-Pu DATA
1ST QUARTER 1991

HANFORD

#	Date Measured	Instr. ID	241/239 (ppm)	Uncert. 1 STD	Accepted PPM	Ratio M/A	PPM Error	Percent Error
1	2-Jan-91	627	2237	0.35%	2243	0.997	-6	-0.27%
2	2-Jan-91	2026	2222	0.35%	2243	0.990	-21	-0.95%
3	7-Jan-91	2026	2227	0.33%	2242	0.993	-15	-0.67%
4	14-Jan-91	1985	2244	0.30%	2240	1.002	4	0.19%
5	14-Jan-91	2026	2218	0.38%	2240	0.990	-22	-0.98%
6	21-Jan-91	1985	2234	0.32%	2238	0.999	-3	-0.14%
7	28-Jan-91	1985	2234	0.32%	2236	0.999	-1	-0.06%
8	7-Feb-91	1985	2236	0.35%	2233	1.002	4	0.16%
9	13-Feb-91	627	2232	0.35%	2231	1.001	2	0.07%
10	13-Feb-91	1985	2233	0.31%	2231	1.001	2	0.09%
11	14-Feb-91	627	2237	0.39%	2231	1.003	7	0.30%
12	15-Feb-91	627	2228	0.40%	2230	0.999	-2	-0.09%
13	19-Feb-91	627	2224	0.39%	2229	0.998	-5	-0.21%
14	19-Feb-91	627	2236	0.38%	2229	1.003	7	0.30%
15	20-Feb-91	1985	2227	0.33%	2229	0.999	-2	-0.10%
16	25-Feb-91	627	2226	0.38%	2227	1.000	-1	-0.05%
17	25-Feb-91	1985	2229	0.30%	2227	1.001	2	0.09%
18	4-Mar-91	627	2202	0.36%	2225	0.990	-23	-1.05%
19	5-Mar-91	1985	2229	0.30%	2225	1.002	4	0.17%
20	15-Mar-91	2026	2214	0.30%	2222	0.996	-8	-0.37%
21	18-Mar-91	1985	2211	0.31%	2221	0.995	-10	-0.45%
22	18-Mar-91	2026	2226	0.32%	2221	1.002	5	0.23%
23	19-Mar-91	1985	2214	0.32%	2221	0.997	-7	-0.32%
24	25-Mar-91	2026	2204	0.30%	2219	0.993	-15	-0.69%
25	26-Mar-91	2026	2218	0.31%	2219	1.000	0	-0.02%
26	27-Mar-91	2026	2224	0.31%	2218	1.002	6	0.25%
27	27-Mar-91	2026	2218	0.32%	2218	1.000	-1	-0.04%
28	27-Mar-91	2026	2213	0.31%	2218	0.998	-5	-0.24%
29	28-Mar-91	2026	2207	0.31%	2218	0.995	-11	-0.51%

RFP - ANAL. LAB.
NO DATA REPORTED

SAVANNAH RIVER
NO DATA REPORTED

RESULTS OF ANALYSIS OF 241-Am/239-Pu DATA

	REPORTING LABORATORY						
	CSL	LLNL	LANL	MOUND	WHO	RFP	SRS
Mean Error (ppm)	****	-29	-18	4	-16	****	****
Std. Dev. (ppm)	****	1.72	19.05	5.11	8.81	****	****
Unc. in Mean (ppm)	****	1.96	5.06	2.63	1.21	****	****
Mean Error (%)	****	-1.64%	-1.01%	0.25%	-0.91%	****	****
Std. Dev. (%)	****	0.10%	1.09%	0.29%	0.51%	****	****
Unc. in Mean (%)	****	0.11%	0.29%	0.15%	0.07%	****	****
Number of Data Points	0	6	10	19	29	0	0

LAWRENCE LIVERMORE - AM/239 DATA
1ST QUARTER 1991

LOS ALAMOS - AM/239 DATA
1ST QUARTER 1991

*EG&C MOUND - AM/239 DATA
1ST QUARTER 1991*

WESTINGHOUSE HANFORD - AM/239 DATA
1ST QUARTER 1991

Am/239-Pu DATA
1ST QUARTER 1991

RFP - CSL

NO DATA REPORTED

LLNL

#	Date Measured	Instr. ID	Am/239 (ppm)	Uncert. 1 STD	Accepted PPM	Ratio M/A	PPM Error	Percent Error
1	8-Jan-91	1	1703	0.31%	1734	0.983	-30	-1.75%
2	14-Jan-91	1	1706	0.31%	1735	0.983	-29	-1.67%
3	23-Jan-91	1	1709	0.31%	1738	0.983	-29	-1.69%
4	14-Feb-91	1	1719	0.26%	1744	0.985	-25	-1.45%
5	22-Feb-91	1	1718	0.23%	1747	0.984	-28	-1.62%
6	5-Mar-91	1	1720	0.26%	1750	0.983	-29	-1.68%

LANL

#	Date Measured	Instr. ID	Am/239 (ppm)	Uncert. 1 STD	Accepted PPM	Ratio M/A	PPM Error	Percent Error
1	21-Feb-91	F5	1728	0.90%	1746	0.989	-19	-1.07%
2	21-Feb-91	F6	1734	0.88%	1746	0.993	-13	-0.72%
3	21-Feb-91	F6	1743	0.90%	1746	0.998	-3	-0.17%
4	25-Feb-91	F6	1761	0.88%	1748	1.008	13	0.76%
5	27-Feb-91	F5	1729	0.94%	1748	0.989	-20	-1.12%
6	4-Mar-91	F6	1730	0.89%	1750	0.989	-20	-1.12%
7	7-Mar-91	F6	1727	0.87%	1750	0.986	-24	-1.35%
8	15-Mar-91	F5	1724	1.03%	1753	0.984	-29	-1.64%
9	22-Mar-91	F5	1695	1.01%	1755	0.966	-59	-3.37%
10	26-Mar-91	F5	1751	0.92%	1756	0.997	-5	-0.27%

EG&G MOUND

#	Date Measured	Instr. ID	Am/239 (ppm)	Uncert. 1 STD	Accepted PPM	Ratio M/A	PPM Error	Percent Error
1	16-Jan-91	70/40	1740	0.60%	1736	1.002	4	0.23%
2	18-Jan-91	70/40	1741	0.64%	1737	1.003	4	0.25%
3	6-Feb-91	80/15	1743	0.75%	1742	1.001	1	0.05%
4	6-Feb-91	80/15	1749	0.76%	1742	1.004	7	0.40%
5	6-Feb-91	80/15	1737	0.71%	1742	0.997	-5	-0.29%
6	7-Feb-91	70/40	1751	0.66%	1742	1.005	9	0.50%
7	7-Feb-91	70/40	1744	0.65%	1742	1.001	2	0.10%
8	7-Feb-91	80/15	1744	0.72%	1742	1.001	2	0.10%
9	7-Feb-91	80/15	1758	0.70%	1742	1.009	16	0.90%
10	7-Feb-91	80/15	1752	0.76%	1742	1.006	10	0.55%
11	8-Feb-91	70/40	1755	0.62%	1743	1.007	12	0.71%
12	25-Feb-91	70/40	1747	0.61%	1748	1.000	-1	-0.03%
13	25-Feb-91	70/40	1745	0.66%	1748	0.999	-3	-0.14%
14	26-Feb-91	70/40	1752	0.64%	1748	1.002	4	0.24%
15	4-Mar-91	70/40	1752	0.53%	1750	1.001	2	0.14%
16	4-Mar-91	70/40	1752	0.58%	1750	1.001	2	0.14%
17	4-Mar-91	70/40	1752	0.58%	1750	1.001	2	0.14%
18	28-Mar-91	70/40	1766	0.60%	1756	1.005	10	0.55%
19	28-Mar-91	70/40	1760	0.61%	1756	1.002	4	0.21%

Am/239-Pu DATA
1ST QUARTER 1991

HANFORD

#	Date Measured	Instr. ID	Am/239 (ppm)	Uncert. 1 STD	Accepted PPM	Ratio M/A	PPM Error	Percent Error
1	2-Jan-91	627	1729	0.39%	1732	0.998	-3	-0.17%
2	2-Jan-91	2026	1718	0.39%	1732	0.992	-14	-0.81%
3	7-Jan-91	2026	1732	0.37%	1733	0.999	-1	-0.09%
4	14-Jan-91	1985	1717	0.34%	1735	0.989	-19	-1.09%
5	14-Jan-91	2026	1716	0.43%	1735	0.989	-20	-1.14%
6	21-Jan-91	1985	1703	0.37%	1737	0.980	-34	-1.98%
7	28-Jan-91	1985	1717	0.36%	1739	0.987	-22	-1.29%
8	7-Feb-91	1985	1731	0.40%	1742	0.994	-11	-0.65%
9	13-Feb-91	627	1751	0.39%	1744	1.004	7	0.39%
10	13-Feb-91	1985	1714	0.35%	1744	0.983	-30	-1.73%
11	14-Feb-91	627	1732	0.43%	1744	0.993	-13	-0.74%
12	15-Feb-91	627	1725	0.45%	1745	0.989	-20	-1.14%
13	19-Feb-91	627	1740	0.43%	1746	0.996	-6	-0.35%
14	19-Feb-91	627	1732	0.42%	1746	0.992	-14	-0.80%
15	20-Feb-91	1985	1721	0.38%	1746	0.986	-25	-1.41%
16	25-Feb-91	627	1725	0.42%	1748	0.987	-23	-1.31%
17	25-Feb-91	1985	1721	0.34%	1748	0.985	-27	-1.52%
18	4-Mar-91	627	1727	0.39%	1750	0.987	-23	-1.29%
19	5-Mar-91	1985	1736	0.35%	1750	0.992	-14	-0.78%
20	15-Mar-91	2026	1732	0.34%	1753	0.988	-21	-1.19%
21	18-Mar-91	1985	1746	0.35%	1754	0.996	-7	-0.42%
22	18-Mar-91	2026	1739	0.36%	1754	0.992	-14	-0.82%
23	19-Mar-91	1985	1740	0.37%	1754	0.992	-14	-0.78%
24	25-Mar-91	2026	1737	0.34%	1756	0.990	-18	-1.04%
25	26-Mar-91	2026	1740	0.34%	1756	0.991	-15	-0.88%
26	27-Mar-91	2026	1746	0.35%	1756	0.994	-10	-0.58%
27	27-Mar-91	2026	1746	0.36%	1756	0.994	-10	-0.56%
28	27-Mar-91	2026	1737	0.35%	1756	0.989	-19	-1.10%
29	28-Mar-91	2026	1734	0.35%	1756	0.987	-22	-1.27%

RFP - ANAL. LAB.

NO DATA REPORTED

SAVANNAH RIVER

NO DATA REPORTED

RESULTS OF ANALYSIS OF PERCENT 238-Pu DATA

	REPORTING LABORATORY						
	CSL	LLNL	LANL	MOUND	WHO	RFP	SRS
Mean Error (weight %)	****	0.0004%	0.0006%	0.0007%	0.0001%	****	****
Std. Dev. (weight %)	****	0.0002%	0.0007%	0.0004%	0.0005%	****	****
Unc. in Mean (weight %)	****	0.0001%	0.0002%	0.0001%	0.0001%	****	****
Mean Error (%)	****	4.35%	6.46%	7.39%	1.61%	****	****
Std. Dev. (%)	****	1.84%	7.41%	4.46%	5.07%	****	****
Unc. in Mean (%)	****	0.90%	2.42%	1.21%	0.64%	****	****
Number of Data Points	0	6	10	19	29	0	0

LAWRENCE LIVERMORE -- PERCENT 238
1ST QUARTER 1991

*LOS ALAMOS - PERCENT 238
1ST QUARTER 1991*

EG&G MOUND - PERCENT 238
1ST QUARTER 1991

WESTINGHOUSE HANFORD – PERCENT 238 1ST QUARTER 1991

WEIGHT PERCENT 238-Pu DATA
1ST QUARTER 1991

RFP - CSL

NO DATA REPORTED

LLNL

#	Date Measured	Instr. ID	238-Pu	Uncert. 1 STD	Accepted Weight %	Ratio M/A	Weight % Error	Percent Error
1	8-Jan-91	1	0.0096%	2.43%	0.0093%	1.032	0.0003%	3.22%
2	14-Jan-91	1	0.0096%	2.48%	0.0093%	1.032	0.0003%	3.23%
3	23-Jan-91	1	0.0096%	2.49%	0.0093%	1.033	0.0003%	3.25%
4	14-Feb-91	1	0.0098%	2.00%	0.0093%	1.055	0.0005%	5.45%
5	22-Feb-91	1	0.0096%	1.78%	0.0093%	1.033	0.0003%	3.32%
6	5-Mar-91	1	0.0100%	2.01%	0.0093%	1.076	0.0007%	7.65%

LANL

#	Date Measured	Instr. ID	238-Pu	Uncert. 1 STD	Accepted Weight %	Ratio M/A	Weight % Error	Percent Error
1	21-Feb-91	F5	0.0095%	7.63%	0.0093%	1.022	0.0002%	2.24%
2	21-Feb-91	F6	0.0097%	7.33%	0.0093%	1.044	0.0004%	4.39%
3	21-Feb-91	F6	0.0095%	7.63%	0.0093%	1.022	0.0002%	2.24%
4	25-Feb-91	F6	0.0115%	6.30%	0.0093%	1.238	0.0022%	23.77%
5	27-Feb-91	F5	0.0098%	7.98%	0.0093%	1.055	0.0005%	5.48%
6	4-Mar-91	F6	0.0094%	7.74%	0.0093%	1.012	0.0001%	1.19%
7	7-Mar-91	F6	0.0103%	6.79%	0.0093%	1.109	0.0010%	10.88%
8	15-Mar-91	F5	0.0091%	9.04%	0.0093%	0.980	-0.0002%	-2.02%
9	22-Mar-91	F5	0.0097%	8.46%	0.0093%	1.045	0.0004%	4.46%
10	26-Mar-91	F5	0.0104%	7.31%	0.0093%	1.120	0.0011%	12.00%

EG&G MOUND

#	Date Measured	Instr. ID	238-Pu	Uncert. 1 STD	Accepted Weight %	Ratio M/A	Weight % Error	Percent Error
1	16-Jan-91	70/40	0.0100%	4.52%	0.0093%	1.077	0.0007%	7.71%
2	18-Jan-91	70/40	0.0101%	4.86%	0.0093%	1.087	0.0008%	8.67%
3	6-Feb-91	80/15	0.0104%	5.52%	0.0093%	1.115	0.0011%	11.52%
4	6-Feb-91	80/15	0.0096%	6.22%	0.0093%	1.036	0.0003%	3.55%
5	6-Feb-91	80/15	0.0097%	6.12%	0.0093%	1.046	0.0004%	4.64%
6	7-Feb-91	70/40	0.0101%	4.89%	0.0093%	1.087	0.0008%	8.73%
7	7-Feb-91	70/40	0.0091%	5.36%	0.0093%	0.977	-0.0002%	-2.30%
8	7-Feb-91	80/15	0.0105%	5.14%	0.0093%	1.128	0.0012%	12.76%
9	7-Feb-91	80/15	0.0104%	5.24%	0.0093%	1.117	0.0011%	11.66%
10	7-Feb-91	80/15	0.0105%	5.29%	0.0093%	1.126	0.0012%	12.59%
11	8-Feb-91	70/40	0.0096%	5.07%	0.0093%	1.037	0.0003%	3.67%
12	25-Feb-91	70/40	0.0103%	4.68%	0.0093%	1.108	0.0010%	10.76%
13	25-Feb-91	70/40	0.0092%	5.32%	0.0093%	0.987	-0.0001%	-1.33%
14	26-Feb-91	70/40	0.0098%	5.01%	0.0093%	1.058	0.0005%	5.80%
15	4-Mar-91	70/40	0.0098%	5.90%	0.0093%	1.057	0.0005%	5.68%
16	4-Mar-91	70/40	0.0104%	4.58%	0.0093%	1.118	0.0011%	11.82%
17	4-Mar-91	70/40	0.0097%	4.88%	0.0093%	1.048	0.0004%	4.79%
18	28-Mar-91	70/40	0.0101%	5.08%	0.0093%	1.088	0.0008%	8.84%
19	28-Mar-91	70/40	0.0103%	5.97%	0.0093%	1.109	0.0010%	10.86%

**WEIGHT PERCENT 238-Pu DATA
1ST QUARTER 1991**

HANFORD

#	Date Measured	Instr. ID	238-Pu	Uncert. 1 STD	Accepted Weight %	Ratio M/A	Weight % Error	Percent Error
1	2-Jan-91	627	0.0085%	4.03%	0.0093%	0.914	-0.0008%	-8.62%
2	2-Jan-91	2026	0.0088%	3.83%	0.0093%	0.946	-0.0005%	-5.39%
3	7-Jan-91	2026	0.0093%	3.44%	0.0093%	1.000	0.0000%	-0.01%
4	14-Jan-91	1985	0.0091%	3.19%	0.0093%	0.979	-0.0002%	-2.14%
5	14-Jan-91	2026	0.0087%	4.19%	0.0093%	0.936	-0.0006%	-6.45%
6	21-Jan-91	1985	0.0097%	3.24%	0.0093%	1.043	0.0004%	4.32%
7	28-Jan-91	1985	0.0094%	3.29%	0.0093%	1.011	0.0001%	1.11%
8	7-Feb-91	1985	0.0098%	3.54%	0.0093%	1.054	0.0005%	5.44%
9	13-Feb-91	627	0.0097%	3.60%	0.0093%	1.044	0.0004%	4.37%
10	13-Feb-91	1985	0.0095%	3.15%	0.0093%	1.022	0.0002%	2.22%
11	14-Feb-91	627	0.0095%	4.07%	0.0093%	1.022	0.0002%	2.22%
12	15-Feb-91	627	0.0094%	4.25%	0.0093%	1.012	0.0001%	1.15%
13	19-Feb-91	627	0.0083%	4.63%	0.0093%	0.893	-0.0010%	-10.68%
14	19-Feb-91	627	0.0097%	0.39%	0.0093%	1.044	0.0004%	4.39%
15	20-Feb-91	1985	0.0103%	3.14%	0.0093%	1.108	0.0010%	10.85%
16	25-Feb-91	627	0.0096%	3.91%	0.0093%	1.033	0.0003%	3.32%
17	25-Feb-91	1985	0.0101%	2.89%	0.0093%	1.087	0.0008%	8.71%
18	4-Mar-91	627	0.0090%	3.93%	0.0093%	0.969	-0.0003%	-3.12%
19	5-Mar-91	1985	0.0096%	3.12%	0.0093%	1.033	0.0003%	3.34%
20	15-Mar-91	2026	0.0100%	2.94%	0.0093%	1.077	0.0007%	7.67%
21	18-Mar-91	1985	0.0095%	3.19%	0.0093%	1.023	0.0002%	2.29%
22	18-Mar-91	2026	0.0095%	3.26%	0.0093%	1.023	0.0002%	2.29%
23	19-Mar-91	1985	0.0097%	3.27%	0.0093%	1.044	0.0004%	4.45%
24	25-Mar-91	2026	0.0096%	3.04%	0.0093%	1.034	0.0003%	3.39%
25	26-Mar-91	2026	0.0092%	3.21%	0.0093%	0.991	-0.0001%	-0.92%
26	27-Mar-91	2026	0.0094%	3.19%	0.0093%	1.012	0.0001%	1.24%
27	27-Mar-91	2026	0.0095%	3.27%	0.0093%	1.023	0.0002%	2.31%
28	27-Mar-91	2026	0.0092%	3.23%	0.0093%	0.991	-0.0001%	-0.92%
29	28-Mar-91	2026	0.0102%	2.93%	0.0093%	1.099	0.0009%	9.85%

**RFP - ANAL. LAB.
NO DATA REPORTED**

**SAVANNAH RIVER
NO DATA REPORTED**

RESULTS OF ANALYSIS OF PERCENT 239-Pu DATA

	REPORTING LABORATORY						
	CSL	LLNL	LANL	MOUND	WHO	RFP	SRS
Mean Error (weight %)	****	0.3452%	0.2949%	0.0465%	-0.0411%	****	****
Std. Dev. (weight %)	****	0.1604%	0.2715%	0.0652%	0.0515%	****	****
Unc. in Mean (weight %)	****	0.0077%	0.0375%	0.0219%	0.0052%	****	****
Mean Error (%)	****	0.37%	0.32%	0.05%	-0.04%	****	****
Std. Dev. (%)	****	0.17%	0.29%	0.07%	0.05%	****	****
Unc. in Mean (%)	****	0.01%	0.04%	0.02%	0.01%	****	****
Number of Data Points	0	6	10	19	29	0	0

*LAWRENCE LIVERMORE - PERCENT 239
1ST QUARTER 1991*

LOS ALAMOS - PERCENT 239
1ST QUARTER 1991

EG&G MOUND - PERCENT 239
1ST QUARTER 1991

WESTINGHOUSE HANFORD - PERCENT 239
1ST QUARTER 1991

WEIGHT PERCENT 239-Pu DATA
1ST QUARTER 1991

RFP - CSL

NO DATA REPORTED

LLNL

#	Date Measured	Instr. ID	239-Pu	Uncert. 1 STD	Accepted Weight %	Ratio M/A	Weight % Error	Percent Error
1	8-Jan-91	1	93.9071%	0.02%	93.8889%	1.000	0.0182%	0.02%
2	14-Jan-91	1	93.9119%	0.02%	93.4953%	1.004	0.4166%	0.45%
3	23-Jan-91	1	93.9079%	0.02%	93.4956%	1.004	0.4123%	0.44%
4	14-Feb-91	1	93.9187%	0.02%	93.4962%	1.005	0.4225%	0.45%
5	22-Feb-91	1	93.8976%	0.02%	93.4964%	1.004	0.4012%	0.43%
6	5-Mar-91	1	93.8970%	0.02%	93.4967%	1.004	0.4003%	0.43%

LANL

#	Date Measured	Instr. ID	239-Pu	Uncert. 1 STD	Accepted Weight %	Ratio M/A	Weight % Error	Percent Error
1	21-Feb-91	F5	93.9100%	0.12%	93.8902%	1.000	0.0198%	0.02%
2	21-Feb-91	F6	93.8600%	0.12%	93.4964%	1.004	0.3636%	0.39%
3	21-Feb-91	F6	93.9100%	0.12%	93.4964%	1.004	0.4136%	0.44%
4	25-Feb-91	F6	93.1500%	0.12%	93.4965%	0.996	-0.3465%	-0.37%
5	27-Feb-91	F5	94.0300%	0.13%	93.4965%	1.006	0.5335%	0.57%
6	4-Mar-91	F6	93.8400%	0.12%	93.4967%	1.004	0.3433%	0.37%
7	7-Mar-91	F6	93.9600%	0.12%	93.4968%	1.005	0.4632%	0.50%
8	15-Mar-91	F5	94.0500%	0.14%	93.4970%	1.006	0.5530%	0.59%
9	22-Mar-91	F5	93.7600%	0.14%	93.4972%	1.003	0.2628%	0.28%
10	26-Mar-91	F5	93.8400%	0.13%	93.4973%	1.004	0.3427%	0.37%

EG&G MOUND

#	Date Measured	Instr. ID	239-Pu	Uncert. 1 STD	Accepted Weight %	Ratio M/A	Weight % Error	Percent Error
1	16-Jan-91	70/40	93.9985%	0.09%	93.8892%	1.001	0.1094%	0.12%
2	18-Jan-91	70/40	93.9538%	0.10%	93.8892%	1.001	0.0646%	0.07%
3	6-Feb-91	80/15	93.7739%	0.12%	93.8897%	0.999	-0.1158%	-0.12%
4	6-Feb-91	80/15	93.8420%	0.12%	93.8897%	0.999	-0.0478%	-0.05%
5	6-Feb-91	80/15	93.9191%	0.11%	93.8897%	1.000	0.0293%	0.03%
6	7-Feb-91	70/40	93.9697%	0.10%	93.8898%	1.001	0.0799%	0.09%
7	7-Feb-91	70/40	94.0081%	0.10%	93.8898%	1.001	0.1183%	0.13%
8	7-Feb-91	80/15	93.9709%	0.11%	93.8898%	1.001	0.0811%	0.09%
9	7-Feb-91	80/15	93.8910%	0.12%	93.8898%	1.000	0.0012%	0.00%
10	7-Feb-91	80/15	93.8280%	0.12%	93.8898%	0.999	-0.0618%	-0.07%
11	8-Feb-91	70/40	93.9400%	0.10%	93.8898%	1.001	0.0502%	0.05%
12	25-Feb-91	70/40	93.9438%	0.09%	93.8903%	1.001	0.0535%	0.06%
13	25-Feb-91	70/40	93.9364%	0.11%	93.8903%	1.000	0.0462%	0.05%
14	26-Feb-91	70/40	94.0140%	0.10%	93.8903%	1.001	0.1237%	0.13%
15	4-Mar-91	70/40	93.8906%	0.08%	93.8905%	1.000	0.0002%	0.00%
16	4-Mar-91	70/40	93.9758%	0.09%	93.8905%	1.001	0.0853%	0.09%
17	4-Mar-91	70/40	93.9984%	0.09%	93.8905%	1.001	0.1080%	0.11%
18	28-Mar-91	70/40	93.9702%	0.09%	93.8911%	1.001	0.0791%	0.08%
19	28-Mar-91	70/40	93.9705%	0.10%	93.8911%	1.001	0.0793%	0.08%

WEIGHT PERCENT 239-Pu DATA
1ST QUARTER 1991

HANFORD

#	Date Measured	Instr. ID	239-Pu	Uncert. 1 STD	Accepted Weight %	Ratio M/A	Weight % Error	Percent Error
1	2-Jan-91	627	93.8884%	0.03%	93.8888%	1.000	-0.0004%	0.00%
2	2-Jan-91	2026	93.8618%	0.03%	93.8888%	1.000	-0.0270%	-0.03%
3	7-Jan-91	2026	93.7913%	0.03%	93.8889%	0.999	-0.0976%	-0.10%
4	14-Jan-91	1985	93.8203%	0.03%	93.8891%	0.999	-0.0688%	-0.07%
5	14-Jan-91	2026	93.8177%	0.03%	93.8891%	0.999	-0.0714%	-0.08%
6	21-Jan-91	1985	93.8649%	0.03%	93.8893%	1.000	-0.0244%	-0.03%
7	28-Jan-91	1985	93.7919%	0.03%	93.8895%	0.999	-0.0976%	-0.10%
8	7-Feb-91	1985	93.8393%	0.03%	93.8898%	0.999	-0.0505%	-0.05%
9	13-Feb-91	627	93.9084%	0.03%	93.8899%	1.000	0.0185%	0.02%
10	13-Feb-91	1985	93.8478%	0.03%	93.8899%	1.000	-0.0421%	-0.04%
11	14-Feb-91	627	93.9277%	0.03%	93.8900%	1.000	0.0377%	0.04%
12	15-Feb-91	627	93.9494%	0.03%	93.8900%	1.001	0.0594%	0.06%
13	19-Feb-91	627	93.8878%	0.03%	93.8901%	1.000	-0.0023%	0.00%
14	19-Feb-91	627	93.9066%	0.03%	93.8901%	1.000	0.0165%	0.02%
15	20-Feb-91	1985	93.8454%	0.03%	93.8901%	1.000	-0.0447%	-0.05%
16	25-Feb-91	627	93.9039%	0.03%	93.8903%	1.000	0.0136%	0.01%
17	25-Feb-91	1985	93.8144%	0.03%	93.8903%	0.999	-0.0759%	-0.08%
18	4-Mar-91	627	93.9481%	0.03%	93.8905%	1.001	0.0576%	0.06%
19	5-Mar-91	1985	93.7945%	0.03%	93.8905%	0.999	-0.0960%	-0.10%
20	15-Mar-91	2026	93.8532%	0.03%	93.8908%	1.000	-0.0376%	-0.04%
21	18-Mar-91	1985	93.8749%	0.03%	93.8908%	1.000	-0.0159%	-0.02%
22	18-Mar-91	2026	93.8547%	0.03%	93.8908%	1.000	-0.0361%	-0.04%
23	19-Mar-91	1985	93.8043%	0.03%	93.8909%	0.999	-0.0866%	-0.09%
24	25-Mar-91	2026	93.7834%	0.03%	93.8910%	0.999	-0.1076%	-0.11%
25	26-Mar-91	2026	93.7900%	0.03%	93.8911%	0.999	-0.1011%	-0.11%
26	27-Mar-91	2026	93.7737%	0.03%	93.8911%	0.999	-0.1174%	-0.13%
27	27-Mar-91	2026	93.8181%	0.03%	93.8911%	0.999	-0.0730%	-0.08%
28	27-Mar-91	2026	93.8745%	0.03%	93.8911%	1.000	-0.0166%	-0.02%
29	28-Mar-91	2026	93.7868%	0.03%	93.8911%	0.999	-0.1043%	-0.11%

RFP - ANAL. LAB.

NO DATA REPORTED

SAVANNAH RIVER

NO DATA REPORTED

RESULTS OF ANALYSIS OF PERCENT 240-Pu DATA

	REPORTING LABORATORY						
	CSL	LLNL	LANL	MOUND	WHO	RFP	SRS
Mean Error (weight %)	****	-0.0156%	-0.0415%	-0.0391%	0.0462%	****	****
Std. Dev. (weight %)	****	0.0088%	0.1176%	0.0645%	0.0503%	****	****
Unc. in Mean (weight %)	****	0.0076%	0.0381%	0.0249%	0.0052%	****	****
Mean Error (%)	****	-0.27%	-0.71%	-0.67%	0.79%	****	****
Std. Dev. (%)	****	0.15%	2.01%	1.10%	0.86%	****	****
Unc. in Mean (%)	****	0.13%	0.66%	0.43%	0.09%	****	****
Number of Data Points	0	6	10	19	29	0	0

*LAWRENCE LIVERMORE - PERCENT 240
1ST QUARTER 1991*

*LOS ALAMOS - PERCENT 240
1ST QUARTER 1991*

*EG&G MOUND - PERCENT 240
1ST QUARTER 1991*

WESTINGHOUSE HANFORD - PERCENT 240 1ST QUARTER 1991

WEIGHT PERCENT 240-Pu DATA
1ST QUARTER 1991

RFP - CSL

NO DATA REPORTED

LLNL

#	Date Measured	Instr. ID	240-Pu	Uncert. 1 STD	Accepted Weight %	Ratio M/A	Weight % Error	Percent Error
1	8-Jan-91	1	5.8443%	0.34%	5.8604%	0.997	-0.0161%	-0.28%
2	14-Jan-91	1	5.8397%	0.35%	5.8604%	0.996	-0.0207%	-0.35%
3	23-Jan-91	1	5.8429%	0.35%	5.8605%	0.997	-0.0176%	-0.30%
4	14-Feb-91	1	5.8325%	0.29%	5.8605%	0.995	-0.0280%	-0.48%
5	22-Feb-91	1	5.8545%	0.26%	5.8605%	0.999	-0.0060%	-0.10%
6	5-Mar-91	1	5.8552%	0.30%	5.8605%	0.999	-0.0053%	-0.09%

LANL

#	Date Measured	Instr. ID	240-Pu	Uncert. 1 STD	Accepted Weight %	Ratio M/A	Weight % Error	Percent Error
1	21-Feb-91	F5	5.8400%	2.00%	5.8605%	0.997	-0.0205%	-0.35%
2	21-Feb-91	F6	5.8900%	1.90%	5.8605%	1.005	0.0295%	0.50%
3	21-Feb-91	F6	5.8400%	2.00%	5.8605%	0.997	-0.0205%	-0.35%
4	25-Feb-91	F6	5.6000%	2.10%	5.8605%	0.956	-0.2605%	-4.44%
5	27-Feb-91	F5	5.7200%	2.20%	5.8605%	0.976	-0.1405%	-2.40%
6	4-Mar-91	F6	5.9100%	2.00%	5.8605%	1.008	0.0495%	0.85%
7	7-Mar-91	F6	5.7900%	1.90%	5.8605%	0.988	-0.0705%	-1.20%
8	15-Mar-91	F5	5.7000%	2.30%	5.8605%	0.973	-0.1605%	-2.74%
9	22-Mar-91	F5	5.9900%	2.20%	5.8605%	1.022	0.1295%	2.21%
10	26-Mar-91	F5	5.9100%	2.10%	5.8605%	1.008	0.0495%	0.84%

EG&G MOUND

#	Date Measured	Instr. ID	240-Pu	Uncert. 1 STD	Accepted Weight %	Ratio M/A	Weight % Error	Percent Error
1	16-Jan-91	70/40	5.7602%	1.62%	5.8605%	0.983	-0.1003%	-1.71%
2	18-Jan-91	70/40	5.8028%	1.84%	5.8605%	0.990	-0.0576%	-0.98%
3	6-Feb-91	80/15	5.9820%	2.08%	5.8605%	1.021	0.1216%	2.07%
4	6-Feb-91	80/15	5.9150%	2.19%	5.8605%	1.009	0.0546%	0.93%
5	6-Feb-91	80/15	5.8400%	1.98%	5.8605%	0.997	-0.0204%	-0.35%
6	7-Feb-91	70/40	5.7908%	1.83%	5.8605%	0.988	-0.0697%	-1.19%
7	7-Feb-91	70/40	5.7514%	1.85%	5.8605%	0.981	-0.1090%	-1.86%
8	7-Feb-91	80/15	5.7884%	2.06%	5.8605%	0.988	-0.0720%	-1.23%
9	7-Feb-91	80/15	5.8644%	2.08%	5.8605%	1.001	0.0039%	0.07%
10	7-Feb-91	80/15	5.9275%	2.07%	5.8605%	1.011	0.0671%	1.14%
11	8-Feb-91	70/40	5.8171%	1.80%	5.8605%	0.993	-0.0434%	-0.74%
12	25-Feb-91	70/40	5.8156%	1.67%	5.8605%	0.992	-0.0449%	-0.77%
13	25-Feb-91	70/40	5.8224%	1.92%	5.8605%	0.994	-0.0380%	-0.65%
14	26-Feb-91	70/40	5.7475%	1.77%	5.8605%	0.981	-0.1130%	-1.93%
15	4-Mar-91	70/40	5.8678%	1.52%	5.8605%	1.001	0.0073%	0.12%
16	4-Mar-91	70/40	5.7804%	1.65%	5.8605%	0.986	-0.0801%	-1.37%
17	4-Mar-91	70/40	5.7585%	1.69%	5.8605%	0.983	-0.1020%	-1.74%
18	28-Mar-91	70/40	5.7879%	1.73%	5.8605%	0.988	-0.0726%	-1.24%
19	28-Mar-91	70/40	5.7851%	1.80%	5.8605%	0.987	-0.0754%	-1.29%

**WEIGHT PERCENT 240-Pu DATA
1ST QUARTER 1991**

HANFORD

#	Date Measured	Instr. ID	240-Pu	Uncert. 1 STD	Accepted Weight %	Ratio M/A	Weight % Error	Percent Error
1	2-Jan-91	627	5.8686%	0.49%	5.8604%	1.001	0.0082%	0.14%
2	2-Jan-91	2026	5.8963%	0.49%	5.8604%	1.006	0.0359%	0.61%
3	7-Jan-91	2026	5.9657%	0.46%	5.8604%	1.018	0.1053%	1.80%
4	14-Jan-91	1985	5.9352%	0.42%	5.8604%	1.013	0.0748%	1.28%
5	14-Jan-91	2026	5.9408%	0.52%	5.8604%	1.014	0.0804%	1.37%
6	21-Jan-91	1985	5.8912%	0.45%	5.8605%	1.005	0.0307%	0.52%
7	28-Jan-91	1985	5.9643%	0.45%	5.8605%	1.018	0.1038%	1.77%
8	7-Feb-91	1985	5.9163%	0.50%	5.8605%	1.010	0.0558%	0.95%
9	13-Feb-91	627	5.8478%	0.49%	5.8605%	0.998	-0.0127%	-0.22%
10	13-Feb-91	1985	5.9086%	0.43%	5.8605%	1.008	0.0481%	0.82%
11	14-Feb-91	627	5.8283%	0.55%	5.8605%	0.995	-0.0322%	-0.55%
12	15-Feb-91	627	5.8076%	0.57%	5.8605%	0.991	-0.0529%	-0.90%
13	19-Feb-91	627	5.8705%	0.55%	5.8605%	1.002	0.0100%	0.17%
14	19-Feb-91	627	5.8493%	0.53%	5.8605%	0.998	-0.0112%	-0.19%
15	20-Feb-91	1985	5.9108%	0.46%	5.8605%	1.009	0.0503%	0.86%
16	25-Feb-91	627	5.8530%	0.53%	5.8605%	0.999	-0.0075%	-0.13%
17	25-Feb-91	1985	5.9415%	0.42%	5.8605%	1.014	0.0810%	1.38%
18	4-Mar-91	627	5.8119%	0.50%	5.8605%	0.992	-0.0486%	-0.83%
19	5-Mar-91	1985	5.9210%	0.43%	5.8605%	1.010	0.0605%	1.03%
20	15-Mar-91	2026	5.9044%	0.43%	5.8605%	1.007	0.0439%	0.75%
21	18-Mar-91	1985	5.8834%	0.44%	5.8605%	1.004	0.0229%	0.39%
22	18-Mar-91	2026	5.9022%	0.45%	5.8605%	1.007	0.0417%	0.71%
23	19-Mar-91	1985	5.9535%	0.45%	5.8605%	1.016	0.0930%	1.59%
24	25-Mar-91	2026	5.9755%	0.42%	5.8605%	1.020	0.1150%	1.96%
25	26-Mar-91	2026	5.9680%	0.42%	5.8605%	1.018	0.1075%	1.83%
26	27-Mar-91	2026	5.9834%	0.43%	5.8605%	1.021	0.1229%	2.10%
27	27-Mar-91	2026	5.9396%	0.45%	5.8605%	1.013	0.0791%	1.35%
28	27-Mar-91	2026	5.8841%	0.43%	5.8605%	1.004	0.0236%	0.40%
29	28-Mar-91	2026	5.9712%	0.43%	5.8605%	1.019	0.1107%	1.89%

RFP - ANAL. LAB.
NO DATA REPORTED

SAVANNAH RIVER
NO DATA REPORTED

RESULTS OF ANALYSIS OF PERCENT 241-Pu DATA

	REPORTING LABORATORY						
	CSL	LLNL	LANL	MOUND	WHO	RFP	SRS
Mean Error (weight %)	****	-0.0018%	0.0001%	-0.0005%	-0.0005%	****	****
Std. Dev. (weight %)	****	0.0005%	0.0007%	0.0009%	0.0008%	****	****
Unc. in Mean (weight %)	****	0.0002%	0.0001%	0.0007%	0.0001%	****	****
Mean Error (%)	****	-0.86%	0.06%	-0.25%	-0.23%	****	****
Std. Dev. (%)	****	0.22%	0.35%	0.43%	0.39%	****	****
Unc. in Mean (%)	****	0.10%	0.06%	0.32%	0.06%	****	****
Number of Data Points	0	6	10	19	29	0	0

*LAWRENCE LIVERMORE - PERCENT 241
1ST QUARTER 1991*

LOS ALAMOS - PERCENT 241
1ST QUARTER 1991

*EG&G MOUND - PERCENT 241
1ST QUARTER 1991*

WESTINGHOUSE HANFORD - PERCENT 241 1ST QUARTER 1991

WEIGHT PERCENT 241-Pu DATA
1ST QUARTER 1991

RFP - CSL

NO DATA REPORTED

LLNL

#	Date Measured	Instr. ID	241-Pu	Uncert. 1 STD	Accepted Weight %	Ratio M/A	Weight % Error	Percent Error
1	8-Jan-91	1	0.2099%	0.26%	0.2122%	0.989	-0.0023%	-1.09%
2	14-Jan-91	1	0.2097%	0.27%	0.2120%	0.989	-0.0023%	-1.11%
3	23-Jan-91	1	0.2104%	0.27%	0.2118%	0.993	-0.0014%	-0.66%
4	14-Feb-91	1	0.2100%	0.23%	0.2112%	0.994	-0.0012%	-0.56%
5	22-Feb-91	1	0.2092%	0.20%	0.2110%	0.992	-0.0018%	-0.83%
6	5-Mar-91	1	0.2087%	0.23%	0.2106%	0.991	-0.0019%	-0.93%

LANL

#	Date Measured	Instr. ID	241-Pu	Uncert. 1 STD	Accepted Weight %	Ratio M/A	Weight % Error	Percent Error
1	21-Feb-91	F5	0.2109%	0.18%	0.2110%	1.000	-0.0001%	-0.04%
2	21-Feb-91	F6	0.2112%	0.17%	0.2110%	1.001	0.0002%	0.10%
3	21-Feb-91	F6	0.2095%	0.17%	0.2110%	0.993	-0.0015%	-0.70%
4	25-Feb-91	F6	0.2114%	0.17%	0.2109%	1.003	0.0005%	0.25%
5	27-Feb-91	F5	0.2113%	0.19%	0.2108%	1.002	0.0005%	0.23%
6	4-Mar-91	F6	0.2114%	0.17%	0.2107%	1.003	0.0007%	0.34%
7	7-Mar-91	F6	0.2106%	0.17%	0.2106%	1.000	0.0000%	0.00%
8	15-Mar-91	F5	0.2107%	0.19%	0.2104%	1.002	0.0003%	0.16%
9	22-Mar-91	F5	0.2095%	0.19%	0.2102%	0.997	-0.0007%	-0.32%
10	26-Mar-91	F5	0.2112%	0.18%	0.2101%	1.005	0.0011%	0.54%

EG&G MOUND

#	Date Measured	Instr. ID	241-Pu	Uncert. 1 STD	Accepted Weight %	Ratio M/A	Weight % Error	Percent Error
1	16-Jan-91	70/40	0.2113%	1.24%	0.2120%	0.997	-0.0007%	-0.33%
2	18-Jan-91	70/40	0.2100%	1.40%	0.2119%	0.991	-0.0019%	-0.89%
3	6-Feb-91	80/15	0.2108%	1.54%	0.2114%	0.997	-0.0006%	-0.30%
4	6-Feb-91	80/15	0.2107%	1.60%	0.2114%	0.997	-0.0007%	-0.31%
5	6-Feb-91	80/15	0.2117%	1.46%	0.2114%	1.001	0.0003%	0.13%
6	7-Feb-91	70/40	0.2095%	1.40%	0.2114%	0.991	-0.0019%	-0.88%
7	7-Feb-91	70/40	0.2103%	1.39%	0.2114%	0.995	-0.0011%	-0.53%
8	7-Feb-91	80/15	0.2117%	1.52%	0.2114%	1.002	0.0003%	0.15%
9	7-Feb-91	80/15	0.2113%	1.53%	0.2114%	1.000	-0.0001%	-0.02%
10	7-Feb-91	80/15	0.2122%	1.51%	0.2114%	1.004	0.0008%	0.40%
11	8-Feb-91	70/40	0.2112%	1.36%	0.2113%	1.000	-0.0001%	-0.05%
12	25-Feb-91	70/40	0.2088%	1.30%	0.2109%	0.990	-0.0021%	-0.99%
13	25-Feb-91	70/40	0.2103%	1.47%	0.2109%	0.997	-0.0006%	-0.28%
14	26-Feb-91	70/40	0.2096%	1.36%	0.2108%	0.994	-0.0012%	-0.59%
15	4-Mar-91	70/40	0.2091%	1.21%	0.2107%	0.993	-0.0015%	-0.73%
16	4-Mar-91	70/40	0.2101%	1.27%	0.2107%	0.997	-0.0006%	-0.28%
17	4-Mar-91	70/40	0.2109%	1.31%	0.2107%	1.001	0.0002%	0.11%
18	28-Mar-91	70/40	0.2108%	1.28%	0.2100%	1.004	0.0008%	0.39%
19	28-Mar-91	70/40	0.2105%	1.34%	0.2100%	1.002	0.0004%	0.21%

**WEIGHT PERCENT 241-Pu DATA
1ST QUARTER 1991**

HANFORD

#	Date Measured	Instr. ID	241-Pu	Uncert. 1 STD	Accepted Weight %	Ratio M/A	Weight % Error	Percent Error
1	2-Jan-91	627	0.2118%	0.35%	0.2124%	0.997	-0.0006%	-0.27%
2	2-Jan-91	2026	0.2103%	0.35%	0.2124%	0.990	-0.0021%	-0.98%
3	7-Jan-91	2026	0.2106%	0.33%	0.2122%	0.992	-0.0016%	-0.77%
4	14-Jan-91	1985	0.2123%	0.30%	0.2120%	1.001	0.0003%	0.12%
5	14-Jan-91	2026	0.2098%	0.38%	0.2120%	0.989	-0.0022%	-1.06%
6	21-Jan-91	1985	0.2115%	0.32%	0.2118%	0.998	-0.0003%	-0.16%
7	28-Jan-91	1985	0.2113%	0.32%	0.2117%	0.998	-0.0004%	-0.17%
8	7-Feb-91	1985	0.2116%	0.35%	0.2114%	1.001	0.0002%	0.11%
9	13-Feb-91	627	0.2114%	0.35%	0.2112%	1.001	0.0002%	0.09%
10	13-Feb-91	1985	0.2113%	0.31%	0.2112%	1.000	0.0001%	0.04%
11	14-Feb-91	627	0.2119%	0.39%	0.2112%	1.003	0.0007%	0.34%
12	15-Feb-91	627	0.2111%	0.40%	0.2112%	1.000	-0.0001%	-0.02%
13	19-Feb-91	627	0.2106%	0.39%	0.2110%	0.998	-0.0004%	-0.21%
14	19-Feb-91	627	0.2117%	0.38%	0.2110%	1.003	0.0007%	0.31%
15	20-Feb-91	1985	0.2107%	0.33%	0.2110%	0.999	-0.0003%	-0.15%
16	25-Feb-91	627	0.2108%	0.38%	0.2109%	1.000	-0.0001%	-0.03%
17	25-Feb-91	1985	0.2109%	0.30%	0.2109%	1.000	0.0000%	0.01%
18	4-Mar-91	627	0.2086%	0.36%	0.2107%	0.990	-0.0021%	-0.99%
19	5-Mar-91	1985	0.2108%	0.30%	0.2106%	1.001	0.0002%	0.07%
20	15-Mar-91	2026	0.2095%	0.30%	0.2104%	0.996	-0.0009%	-0.41%
21	18-Mar-91	1985	0.2093%	0.31%	0.2103%	0.995	-0.0010%	-0.47%
22	18-Mar-91	2026	0.2107%	0.32%	0.2103%	1.002	0.0004%	0.20%
23	19-Mar-91	1985	0.2094%	0.32%	0.2103%	0.996	-0.0009%	-0.41%
24	25-Mar-91	2026	0.2084%	0.30%	0.2101%	0.992	-0.0017%	-0.81%
25	26-Mar-91	2026	0.2098%	0.31%	0.2101%	0.999	-0.0003%	-0.13%
26	27-Mar-91	2026	0.2103%	0.31%	0.2100%	1.001	0.0003%	0.12%
27	27-Mar-91	2026	0.2098%	0.32%	0.2100%	0.999	-0.0002%	-0.11%
28	27-Mar-91	2026	0.2095%	0.31%	0.2100%	0.997	-0.0005%	-0.26%
29	28-Mar-91	2026	0.2087%	0.31%	0.2100%	0.994	-0.0013%	-0.62%

**RFP - ANAL. LAB.
NO DATA REPORTED**

**SAVANNAH RIVER
NO DATA REPORTED**

RESULTS OF ANALYSIS OF PERCENT 241-Am DATA

	REPORTING LABORATORY						
	CSL	LLNL	LANL	MOUND	WHO	RFP	SRS
Mean Error (weight %)	****	-0.0027%	-0.0018%	0.0005%	-0.0016%	****	****
Std. Dev. (weight %)	****	0.0002%	0.0016%	0.0005%	0.0008%	****	****
Unc. in Mean (weight %)	****	0.0002%	0.0005%	0.0005%	0.0001%	****	****
Mean Error (%)	****	-1.63%	-1.07%	0.30%	-0.96%	****	****
Std. Dev. (%)	****	0.11%	0.99%	0.29%	0.51%	****	****
Unc. in Mean (%)	****	0.12%	0.30%	0.33%	0.07%	****	****
Number of Data Points	0	6	10	19	29	0	0

*LAWRENCE LIVERMORE - PERCENT AM
1ST QUARTER 1991*

LOS ALAMOS - PERCENT AM 1ST QUARTER 1991

*EG&G MOUND - PERCENT AM
1ST QUARTER 1991*

WESTINGHOUSE HANFORD - PERCENT AM 1ST QUARTER 1991

WEIGHT PERCENT 241-Am DATA
1ST QUARTER 1991

RFP - CSL

NO DATA REPORTED

LLNL

#	Date Measured	Instr. ID	241-Am	Uncert. 1 STD	Accepted Weight %	Ratio M/A	Weight % Error	Percent Error
1	8-Jan-91	1	0.1613%	0.31%	0.1641%	0.983	-0.0028%	-1.73%
2	14-Jan-91	1	0.1616%	0.31%	0.1643%	0.984	-0.0027%	-1.65%
3	23-Jan-91	1	0.1618%	0.31%	0.1645%	0.983	-0.0027%	-1.67%
4	14-Feb-91	1	0.1628%	0.26%	0.1652%	0.986	-0.0024%	-1.42%
5	22-Feb-91	1	0.1627%	0.23%	0.1654%	0.984	-0.0027%	-1.61%
6	5-Mar-91	1	0.1629%	0.26%	0.1657%	0.983	-0.0028%	-1.67%

LANL

#	Date Measured	Instr. ID	241-Am	Uncert. 1 STD	Accepted Weight %	Ratio M/A	Weight % Error	Percent Error
1	21-Feb-91	F5	0.1636%	0.91%	0.1653%	0.989	-0.0017%	-1.05%
2	21-Feb-91	F6	0.1641%	0.89%	0.1653%	0.992	-0.0012%	-0.75%
3	21-Feb-91	F6	0.1651%	0.91%	0.1653%	0.999	-0.0002%	-0.15%
4	25-Feb-91	F6	0.1654%	0.89%	0.1655%	1.000	-0.0001%	-0.03%
5	27-Feb-91	F5	0.1639%	0.95%	0.1655%	0.990	-0.0016%	-0.97%
6	4-Mar-91	F6	0.1637%	0.90%	0.1656%	0.988	-0.0019%	-1.17%
7	7-Mar-91	F6	0.1636%	0.88%	0.1657%	0.987	-0.0021%	-1.28%
8	15-Mar-91	F5	0.1635%	1.04%	0.1659%	0.985	-0.0024%	-1.47%
9	22-Mar-91	F5	0.1603%	1.02%	0.1661%	0.965	-0.0058%	-3.51%
10	26-Mar-91	F5	0.1657%	0.93%	0.1662%	0.997	-0.0005%	-0.32%

EG&G MOUND

#	Date Measured	Instr. ID	241-Am	Uncert. 1 STD	Accepted Weight %	Ratio M/A	Weight % Error	Percent Error
1	16-Jan-91	70/40	0.1649%	1.26%	0.1644%	1.003	0.0006%	0.35%
2	18-Jan-91	70/40	0.1649%	1.41%	0.1644%	1.003	0.0005%	0.32%
3	6-Feb-91	80/15	0.1648%	1.61%	0.1649%	0.999	-0.0001%	-0.07%
4	6-Feb-91	80/15	0.1655%	1.68%	0.1649%	1.003	0.0006%	0.35%
5	6-Feb-91	80/15	0.1645%	1.53%	0.1649%	0.997	-0.0004%	-0.26%
6	7-Feb-91	70/40	0.1659%	1.41%	0.1650%	1.006	0.0010%	0.58%
7	7-Feb-91	70/40	0.1653%	1.43%	0.1650%	1.002	0.0004%	0.22%
8	7-Feb-91	80/15	0.1653%	1.58%	0.1650%	1.002	0.0003%	0.18%
9	7-Feb-91	80/15	0.1664%	1.59%	0.1650%	1.009	0.0015%	0.90%
10	7-Feb-91	80/15	0.1658%	1.61%	0.1650%	1.005	0.0008%	0.49%
11	8-Feb-91	70/40	0.1662%	1.38%	0.1650%	1.008	0.0013%	0.76%
12	25-Feb-91	70/40	0.1655%	1.30%	0.1655%	1.000	0.0000%	0.03%
13	25-Feb-91	70/40	0.1653%	1.47%	0.1655%	0.999	-0.0002%	-0.09%
14	26-Feb-91	70/40	0.1661%	1.37%	0.1655%	1.004	0.0006%	0.37%
15	4-Mar-91	70/40	0.1659%	1.17%	0.1656%	1.001	0.0002%	0.14%
16	4-Mar-91	70/40	0.1660%	1.27%	0.1656%	1.002	0.0004%	0.23%
17	4-Mar-91	70/40	0.1661%	1.29%	0.1656%	1.003	0.0004%	0.26%
18	28-Mar-91	70/40	0.1673%	1.33%	0.1663%	1.006	0.0011%	0.63%
19	28-Mar-91	70/40	0.1668%	1.37%	0.1663%	1.003	0.0005%	0.29%

**WEIGHT PERCENT 241-Am DATA
1ST QUARTER 1991**

HANFORD

#	Date Measured	Instr. ID	241-Am	Uncert. 1 STD	Accepted Weight %	Ratio M/A	Weight % Error	Percent Error
1	2-Jan-91	627	0.1637%	0.39%	0.1640%	0.998	-0.0003%	-0.17%
2	2-Jan-91	2026	0.1626%	0.39%	0.1640%	0.992	-0.0014%	-0.84%
3	7-Jan-91	2026	0.1638%	0.37%	0.1641%	0.998	-0.0003%	-0.19%
4	14-Jan-91	1985	0.1624%	0.34%	0.1643%	0.988	-0.0019%	-1.16%
5	14-Jan-91	2026	0.1623%	0.43%	0.1643%	0.988	-0.0020%	-1.22%
6	21-Jan-91	1985	0.1612%	0.37%	0.1645%	0.980	-0.0033%	-2.00%
7	28-Jan-91	1985	0.1624%	0.36%	0.1647%	0.986	-0.0023%	-1.39%
8	7-Feb-91	1985	0.1638%	0.40%	0.1650%	0.993	-0.0012%	-0.70%
9	13-Feb-91	627	0.1658%	0.39%	0.1651%	1.004	0.0007%	0.41%
10	13-Feb-91	1985	0.1622%	0.35%	0.1651%	0.982	-0.0029%	-1.77%
11	14-Feb-91	627	0.1640%	0.43%	0.1652%	0.993	-0.0012%	-0.70%
12	15-Feb-91	627	0.1634%	0.45%	0.1652%	0.989	-0.0018%	-1.08%
13	19-Feb-91	627	0.1647%	0.43%	0.1653%	0.996	-0.0006%	-0.36%
14	19-Feb-91	627	0.1640%	0.42%	0.1653%	0.992	-0.0013%	-0.78%
15	20-Feb-91	1985	0.1629%	0.38%	0.1653%	0.985	-0.0024%	-1.46%
16	25-Feb-91	627	0.1633%	0.42%	0.1655%	0.987	-0.0022%	-1.30%
17	25-Feb-91	1985	0.1628%	0.34%	0.1655%	0.984	-0.0027%	-1.60%
18	4-Mar-91	627	0.1636%	0.39%	0.1656%	0.988	-0.0020%	-1.23%
19	5-Mar-91	1985	0.1642%	0.35%	0.1657%	0.991	-0.0015%	-0.89%
20	15-Mar-91	2026	0.1639%	0.34%	0.1659%	0.988	-0.0020%	-1.23%
21	18-Mar-91	1985	0.1653%	0.35%	0.1660%	0.996	-0.0007%	-0.43%
22	18-Mar-91	2026	0.1646%	0.36%	0.1660%	0.991	-0.0014%	-0.86%
23	19-Mar-91	1985	0.1646%	0.37%	0.1660%	0.991	-0.0014%	-0.87%
24	25-Mar-91	2026	0.1643%	0.34%	0.1662%	0.989	-0.0019%	-1.15%
25	26-Mar-91	2026	0.1646%	0.34%	0.1662%	0.990	-0.0016%	-0.99%
26	27-Mar-91	2026	0.1651%	0.35%	0.1663%	0.993	-0.0012%	-0.70%
27	27-Mar-91	2026	0.1652%	0.36%	0.1663%	0.994	-0.0011%	-0.64%
28	27-Mar-91	2026	0.1644%	0.35%	0.1663%	0.989	-0.0019%	-1.12%
29	28-Mar-91	2026	0.1640%	0.35%	0.1663%	0.986	-0.0023%	-1.38%

**RFP - ANAL. LAB.
NO DATA REPORTED**

**SAVANNAH RIVER
NO DATA REPORTED**

CALORIMETRY EXCHANGE SAMPLE ON 01/01/89

Isotope	PPM Isotope / 239-Pu	% Isotope / Pu	% Uncertainty *
238-Pu	101	0.00944	0.6
239-Pu	1,000,000	93.8676	0.003
240-Pu	62,168	5.8600	0.06
241-Pu	2471	0.2338	0.57
242-Pu	306	0.0291	5.0
241-Am	1509	0.1429	0.4

Power = 0.9759 Watts +/- 0.07%

P-effective = 2.450 mW/g +/- 0.05%

* Uncertainties shown for Pu isotopes are one standard deviation, as found using the data reported by four labs which made the reference measurements on the sample in 1982.

CONSTANTS

Isotope	Decay Constant (day)**	Specific Power (W/g)
238-Pu	2.1630E-05	0.56757
239-Pu	7.8684E-08	1.9288E-03
240-Pu	2.8912E-07	7.0824E-03
241-Pu	1.3227E-04	3.4120E-03
242-Pu	5.0432E-09	1.1590E-04
241-Am	4.3768E-06	0.11420

** Reference: ANSI 15.22-1987 (Plutonium Bearing Solids - Calibration Techniques for Calorimetric Assay), page 22 (Table 4)

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