Gamma Spectrometry Samples (Volume 5)

Final Summary

NOPI-241-GAM8 2.0 calc

Sample #	NOPI-241-GAM8 2.0 cm									
Weight(g)	0.901	Geometry	2.0 cm			Counting Time(min)		1201		
time of background minutes			4320							
Nuclides	Total	Bkgd(1)	Blank(2)	Eblank	Net counts	c. eff.	intensity	Activity		
	Counts		(cpm)	cpm		(%)	(%)	(dpm/g)		
Pb-210	45 kev									
210	1695	1351	0.2666	0.00976	23.8134	1.58	4.1	27.40	±	255.11
Th-234										
62	2006	1425	0.3939	0.01249	107.9261	6.3725	5.7	22.18	±	21.41
(93Kev)										
93	2586	1365	0.8309	0.01996	223.0891	8.835	6.8	27.74	±	9.01
Ra-226										
295	1750	1075	0.0927	0.00564	563.6673	5.4325	18	45.92	±	3.71
352	2033	845	0.1756	0.0029	977.1044	4.63	35	47.42	±	1.68
609	1327	521	0.223	0.0026	538.177	2.51	43	40.07	±	3.47
183.7	2554	1554	0.5414	0.0139	349.7786	17.7825	3.3	46.29	±	7.66
Th-228	583 kev									
228	797	531	0.1591	0.00914	74.9209	0.905	86	7.70	±	12.85
Ra-228										
338	1090	902	0.0582	0.00591	118.1018	4.7325	12	16.43	±	13.85
911	616	324	0.1737	0.00936	83.3863	1.8025	29	12.88	±	18.30
964	911	635	0.3092	0.00844	-95.3492	1.69	21.8	-20.98	±	-24.38
Ra-226 weighted average =			46.02	±	1.377	U (ppm)=		61.6	±	1.84
Ra-228 weighted average =			22.99	±	8.51	Th (ppm) =		85.06	±	31.5
210PB/234Th av =			185.98	±	6.43	U (ppm)=		249	±	8.61
	63 kev									
Ra-228 av&Th228 =			18.70	±	5.85	Th (ppm) =		69.19	±	21.6
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		46.0185		average=	44.59				
	weighted error=		1.37744		std.=	3.958				
data	±	err	error^2	1/error^2	data/error^2					
45.92	±	3.71	13.7641	0.072653	3.33622					
47.42	±	1.68	2.8224	0.354308	16.8013					
40.07	±	3.47	12.0409	0.08305	3.32782					
46.29	±	7.66	58.6756	0.017043	0.78891					

Bret Leslie 2/15/94

NOPI-151*GAM6 1.0 calc

Sample #	NOPI-151*GAM6									
Weight(g)	0.25	Geometry	1.0 cm			Counting Time(min)		1414		
time of background minutes			4320							
Nuclides	Total	Bkgd(1)	Blank(2)	Eblank	Net counts	c. eff.	intensity	Activity		
	Counts		(cpm)	cpm		(%)	(%)	(dpm/g)		
Pb-210	45 kev									
210	1906	1458	0.2666	0.00976	71.0276	1.58	4.1	272.08	±	160.67
Th-234										
62	2180	1512	0.3939	0.01249	111.0254	6.3725	5.7	76.18	±	23.02
(93Kev)										
93	2763	1500	0.8309	0.01996	88.1074	8.835	6.8	36.58	±	15.64
Ra-226										
295	1612	1273	0.0927	0.00564	207.9222	5.4325	18	55.75	±	6.58
352	1786	1060	0.1756	0.0029	477.7016	4.63	35	77.36	±	2.62
609	1280	627	0.223	0.0026	337.678	2.51	43	86.77	±	4.94
183.7	2768	1867	0.5414	0.0139	135.4604	17.7825	3.3	58.30	±	13.07
Th-228	583 kev									
228	861	609	0.1591	0.00914	27.0326	0.905	86	9.60	±	24.16
Ra-228										
338	1261	1079	0.0582	0.00591	99.7052	4.7325	12	46.20	±	16.40
911	711	439	0.1737	0.00936	26.3882	1.8025	29	13.22	±	34.48
964	941	770	0.3092	0.00844	-266.2088	1.69	21.8	-189.26	±	-15.40
Ra-226 weighted average =			76.32	±	2.1536	U (ppm)=		102.2	±	2.88
Ra-228 weighted average =			23.08	±	25.46	Th (ppm) =		85.4	±	94.2
210PB/234Th av =			755.30	±	8.7	U (ppm)=		1011	±	11.6
	63 kev									
Ra-228 av&Th228 =			21.68	±	24.65	Th (ppm) =		80.22	±	91.2
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		76.316		average=	74.14				
	weighted error=		2.15362		std.=	14.51				
data	±	err	error^2	1/error^2	data/error^2					
55.75	±	6.58	43.2964	0.023097	1.28764					
77.36	±	2.62	6.8644	0.145679	11.2697					
86.77	±	4.94	24.4036	0.040978	3.55562					
58.30	±	13.07	170.825	0.005854	0.34129					

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NOPI-151*GAM5 1.0 calc

Sample #	NOPI-151*GAM5									
Weight(g)	0.393	Geometry	1.0 cm			Counting Time(min)		4329		
time of background minutes			4320							
Nuclides	Total Counts	Bkgd(1)	Blank(2) (cpm)	Eblank cpm	Net counts	c. eff. (%)	intensity (%)	Activity (dpm/g)		
Pb-210	45 kev									
210	5858	4756	0.2666	0.00976	-52.1114	1.58	4.1	-41.48	±	-187.58
Th-234										
62	6677	4825	0.3939	0.01249	146.8069	6.3725	5.7	20.93	±	20.02
(93Kev)										
93	8482	4548	0.8309	0.01996	337.0339	8.835	6.8	29.08	±	8.00
Ra-226										
295	5491	3946	0.0927	0.00564	1143.7017	5.4325	18	63.72	±	2.81
352	5896	3072	0.1756	0.0029	2063.8276	4.63	35	69.44	±	1.26
609	4253	2020	0.223	0.0026	1267.633	2.51	43	67.68	±	2.55
183.7	8418	5598	0.5414	0.0139	476.2794	17.7825	3.3	42.59	±	6.97
Th-228	583 kev									
228	2770	1941	0.1591	0.00914	140.2561	0.905	86	10.35	±	10.61
Ra-228										
338	3858	3455	0.0582	0.00591	151.0522	4.7325	12	14.54	±	13.33
911	2130	1269	0.1737	0.00936	109.0527	1.8025	29	11.35	±	16.96
964	3056	2363	0.3092	0.00844	-645.5268	1.69	21.8	-95.36	±	-9.89
Ra-226 weighted average =			67.78	±	1.0365	U (ppm)=		90.73	±	1.39
Ra-228 weighted average =			23.08	±	25.46	Th (ppm) =		85.4	±	94.2
210PB/234Th av =			755.30	±	8.7	U (ppm)=		1011	±	11.6
	63 kev									
Ra-228 av&Th228 =			21.68	±	24.65	Th (ppm) =		80.22	±	91.2
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		67.7773		average=	59.9				
	weighted error=		1.03645		std.=	15.02				
data	±	err	error^2	1/error^2	data/error^2					
63.72	±	2.81	7.8961	0.126645	8.06981					
69.44	±	1.26	1.5876	0.629882	43.739					
67.68	±	2.55	6.5025	0.153787	10.4083					
42.59	±	6.97	48.5809	0.020584	0.87668					

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NOPI-151*GAM4 1.5 calc

Sample #	NOPI-151*GAM4									
Weight(g)	0.646	Geometry	1.5 cm			Counting Time(min)		1503		
time of background minutes			4320							
Nuclides	Total	Bkgd(1)	Blank(2)	Eblank	Net counts	c. eff.	intensity	Activity		
	Counts		(cpm)	cpm		(%)	(%)	(dpm/g)		
Pb-210	45 kev									
210	2103	1743	0.2666	0.00976	-40.6998	1.58	4.1	-53.92	±	-201.64
Th-234										
62	2405	1706	0.3939	0.01249	106.9683	6.3725	5.7	25.49	±	22.37
(93Kev)										
93	3031	1557	0.8309	0.01996	225.1573	8.835	6.8	32.57	±	9.36
Ra-226										
295	2181	1363	0.0927	0.00564	678.6719	5.4325	18	63.31	±	3.48
352	2499	1078	0.1756	0.0029	1157.0732	4.63	35	65.02	±	1.60
609	1740	676	0.223	0.0026	728.831	2.51	43	63.05	±	3.11
183.7	3099	2023	0.5414	0.0139	262.2758	17.7825	3.3	40.74	±	9.31
Th-228	583 kev									
228	969	689	0.1591	0.00914	40.8727	0.905	86	4.87	±	18.11
Ra-228										
338	1364	1213	0.0582	0.00591	63.5254	4.7325	12	10.20	±	19.55
911	806	454	0.1737	0.00936	90.9289	1.8025	29	16.90	±	18.93
964	1130	832	0.3092	0.00844	-166.7276	1.69	21.8	-43.97	±	-19.83
Ra-226 weighted average =			63.96	±	1.304	U (ppm)=		85.61	±	1.75
Ra-228 weighted average =			23.08	±	25.46	Th (ppm) =		85.4	±	94.2
210PB/234Th av =			755.30	±	8.7	U (ppm)=		1011	±	11.6
	63 kev									
Ra-228 av&Th228 =			21.68	±	24.65	Th (ppm) =		80.22	±	91.2
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		63.9573		average=	56.27				
	weighted error=		1.30396		std.=	13.49				
data	±	err	error^2	1/error^2	data/error^2					
63.31	±	3.48	12.1104	0.082574	5.22774					
65.02	±	1.60	2.56	0.390625	25.3984					
63.05	±	3.11	9.6721	0.10339	6.51875					
40.74	±	9.31	86.6761	0.011537	0.47003					

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NOPI-151*GAM3 2.0 calc

Sample #	NOPI-151*GAM3									
Weight(g)	0.783	Geometry	2.0 cm			Counting Time(min)		1327		
time of background minutes			4320							
Nuclides	Total Counts	Bkgd(1)	Blank(2) (cpm)	Eblank cpm	Net counts	c. eff. (%)	intensity (%)	Activity (dpm/g)		
Pb-210	45 kev									
210	2005	1654	0.2666	0.00976	-2.7782	1.58	4.1	-3.33	±	-746.89
Th-234										
62	2320	1701	0.3939	0.01249	96.2947	6.3725	5.7	20.61	±	22.66
(93Kev)										
93	2911	1519	0.8309	0.01996	289.3957	8.835	6.8	37.48	±	7.91
Ra-226										
295	2294	1193	0.0927	0.00564	977.9871	5.4325	18	82.98	±	2.82
352	2850	1010	0.1756	0.0029	1606.9788	4.63	35	81.23	±	1.31
609	1874	634	0.223	0.0026	944.079	2.51	43	73.20	±	2.62
183.7	2953	1764	0.5414	0.0139	470.5622	17.7825	3.3	64.85	±	6.60
Th-228	583 kev									
228	859	619	0.1591	0.00914	28.8743	0.905	86	3.09	±	20.70
Ra-228										
338	1224	1053	0.0582	0.00591	93.7686	4.7325	12	13.58	±	15.54
911	728	407	0.1737	0.00936	90.5001	1.8025	29	14.55	±	17.56
964	990	745	0.3092	0.00844	-165.3084	1.69	21.8	-37.88	±	-18.52
Ra-226 weighted average =			79.72	±	1.0678	U (ppm)=		106.7	±	1.43
Ra-228 weighted average =			22.99	±	8.51	Th (ppm) =		85.06	±	31.5
210PB/234Th av =			185.98	±	6.43	U (ppm)=		249	±	8.61
	63 kev									
Ra-228 av&Th228 =			18.70	±	5.85	Th (ppm) =		69.19	±	21.6
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		79.7185		average=	73.09				
	weighted error=		1.06776		std.=	8.191				
data	±	err	error^2	1/error^2	data/error^2					
82.98	±	2.82	7.9524	0.125748	10.4346					
81.23	±	1.31	1.7161	0.582717	47.3341					
73.20	±	2.62	6.8644	0.145679	10.6637					
64.85	±	6.60	43.56	0.022957	1.48875					

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NOPI-151*GAM2 2.0 calc

Sample #	NOPI-151*GAM2									
Weight(g)	0.767	Geometry	2.0 cm			Counting Time(min)		1545		
time of background minutes			4320							
Nuclides	Total Counts	Bkgd(1)	Blank(2) (cpm)	Eblank cpm	Net counts	c. eff. (%)	intensity (%)	Activity (dpm/g)		
Pb-210	45 kev									
210	2428	1916	0.2666	0.00976	100.103	1.58	4.1	105.16	±	124.43
Th-234										
62	2923	2085	0.3939	0.01249	229.4245	6.3725	5.7	43.05	±	14.68
(93Kev)										
93	3633	1915	0.8309	0.01996	434.2595	8.835	6.8	49.31	±	6.46
Ra-226										
295	3022	1434	0.0927	0.00564	1444.7785	5.4325	18	107.48	±	2.32
352	3809	1178	0.1756	0.0029	2359.698	4.63	35	104.58	±	1.08
609	2555	736	0.223	0.0026	1474.465	2.51	43	100.25	±	2.10
183.7	3811	2247	0.5414	0.0139	727.537	17.7825	3.3	87.92	±	5.31
Th-228	583 kev									
228	1121	688	0.1591	0.00914	187.1905	0.905	86	17.57	±	8.13
Ra-228										
338	1535	1296	0.0582	0.00591	149.081	4.7325	12	18.93	±	12.33
911	875	477	0.1737	0.00936	129.6335	1.8025	29	18.28	±	14.67
964	1168	893	0.3092	0.00844	-202.714	1.69	21.8	-40.73	±	-16.72
Ra-226 weighted average =			103.79	±	0.8753	U (ppm)=		138.9	±	1.17
Ra-228 weighted average =			22.99	±	8.51	Th (ppm) =		85.06	±	31.5
210PB/234Th av =			185.98	±	6.43	U (ppm)=		249	±	8.61
	63 kev									
Ra-228 av&Th228 =			18.70	±	5.85	Th (ppm) =		69.19	±	21.6
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		103.788		average=	97.58				
	weighted error=		0.87526		std.=	8.644				
data	±	err	error^2	1/error^2	data/error^2					
107.48	±	2.32	5.3824	0.185791	19.9688					
104.58	±	1.08	1.1664	0.857339	89.6605					
100.25	±	2.10	4.41	0.226757	22.7324					
87.92	±	5.31	28.1961	0.035466	3.11816					

Bret Leslie 1/20/94

NOPI-151*GAM1 3.0 calc

Sample #	NOPI-151*GAM1									
Weight(g)	1.428	Geometry	3.0 cm			Counting Time(min)		1022		
time of background minutes			4320							
Nuclides	Total Counts	Bkgd(1)	Blank(2) (cpm)	Eblank cpm	Net counts	c. eff. (%)	intensity (%)	Activity (dpm/g)		
Pb-210	45 kev									
210	3104	2352	0.2666	0.00976	479.5348	1.58	4.1	390.17	±	54.23
Th-234										
62	4732	2748	0.3939	0.01249	1581.4342	6.3725	5.7	230.37	±	5.35
(93Kev)										
93	5979	2523	0.8309	0.01996	2606.8202	8.835	6.8	231.01	±	2.53
Ra-226										
295	6608	1330	0.0927	0.00564	5183.2606	5.4325	18	305.21	±	1.19
352	9609	1087	0.1756	0.0029	8342.5368	4.63	35	291.77	±	0.56
609	6539	593	0.223	0.0026	5718.094	2.51	43	305.06	±	1.03
183.7	6048	2317	0.5414	0.0139	3177.6892	17.7825	3.3	301.66	±	2.46
Th-228	583 kev									
228	808	612	0.1591	0.00914	33.3998	0.905	86	2.46	±	18.60
Ra-228										
338	1260	1154	0.0582	0.00591	46.5196	4.7325	12	4.66	±	21.44
911	673	384	0.1737	0.00936	111.4786	1.8025	29	12.71	±	15.76
964	949	693	0.3092	0.00844	-60.0024	1.69	21.8	-9.79	±	-30.74
Ra-226 weighted average =			296.50	±	0.4471	U (ppm)=		396.9	±	0.60
Ra-228 weighted average =			13.67	±	13.49	Th (ppm) =		50.58	±	49.9
210PB/234Th av =			439.01	±	5.28	U (ppm)=		587.7	±	7.07
	63 kev									
Ra-228 av&Th228 =			10.90	±	12.23	Th (ppm) =		40.33	±	45.3
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		296.498		average=	299.5				
	weighted error=		0.44709		std.=	6.904				
data	±	err	error^2	1/error^2	data/error^2					
305.21	±	1.19	1.4161	0.706165	215.529					
291.77	±	0.56	0.3136	3.188776	930.389					
305.06	±	1.03	1.0609	0.942596	287.548					
301.66	±	2.46	6.0516	0.165246	49.848					

Bret Leslie 1/20/94

NOPI-178*GAM-7 calc

Sample #	NOPI-178*GAM 7.0cm									
Weight(g)	4.735	Geometry	7.0 cm			Counting Time(min)		2000		
time of background minutes			4320							
Nuclides	Total	Bkgd(1)	Blank(2)	Eblank	Net counts	c. eff.	intensity	Activity		
	Counts		(cpm)	cpm		(%)	(%)	(dpm/g)		
Pb-210	45 kev									
210	2915	2382	0.2666	0.00976	-0.2	1.58	4.1	-0.03	±	######
Th-234										
62	3510	2575	0.3939	0.01249	147.2	6.3725	5.7	4.28	±	22.69
(93Kev)										
93	4415	2385	0.8309	0.01996	368.2	8.835	6.8	6.47	±	8.67
Ra-226										
295	2499	1910	0.0927	0.00564	403.6	5.4325	18	4.36	±	5.09
352	2659	1505	0.1756	0.0029	802.8	4.63	35	5.23	±	2.18
609	1865	986	0.223	0.0026	433	2.51	43	4.24	±	4.45
183.7	4032	2750	0.5414	0.0139	199.2	17.7825	3.3	3.58	±	12.07
Th-228	583 kev									
228	1884	951	0.1591	0.00914	614.8	0.905	86	8.34	±	5.18
Ra-228										
338	2328	1621	0.0582	0.00591	590.6	4.7325	12	10.98	±	7.25
911	1413	623	0.1737	0.00936	442.6	1.8025	29	8.94	±	9.09
964	1751	1119	0.3092	0.00844	13.6	1.69	21.8	0.39	±	73.60
Ra-226 weighted average =			4.92	±	1.8066	U (ppm)=		6.586	±	2.42
Ra-228 weighted average =			13.57	±	12.74	Th (ppm) =		50.21	±	47.1
210PB/234Th av =			380.82	±	5.51	U (ppm)=		509.8	±	7.38
	63 kev									
Ra-228 av&Th228 =			14.43	±	7.8	Th (ppm) =		53.39	±	28.9
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		4.92026		average=	4.35				
	weighted error=		1.80663		std.=	0.83				
data	±	err	error^2	1/error^2	data/error^2					
4.36	±	5.09	25.9081	0.038598	0.16829					
5.23	±	2.18	4.7524	0.21042	1.1005					
4.24	±	4.45	19.8025	0.050499	0.21411					
3.58	±	12.07	145.685	0.006864	0.02457					

Bret Leslie 12/8/93

NOPI-194*GAM-7 calc

Sample #	NOPI-194*GAM 7.0cm									
Weight(g)	3.69	Geometry	7.0 cm			Counting Time(min)		1443		
time of background minutes			4320							
Nuclides	Total	Bkgd(1)	Blank(2)	Eblank	Net counts	c. eff.	intensity	Activity		
	Counts		(cpm)	cpm		(%)	(%)	(dpm/g)		
Pb-210	45 kev									
210	3245	2481	0.2666	0.00976	379.2962	1.58	4.1	109.96	±	79.26
Th-234										
62	3830	2703	0.3939	0.01249	558.6023	6.3725	5.7	28.88	±	11.65
(93Kev)										
93	4416	2418	0.8309	0.01996	799.0113	8.835	6.8	24.98	±	5.89
Ra-226										
295	5544	1591	0.0927	0.00564	3819.2339	5.4325	18	73.35	±	1.65
352	7977	1322	0.1756	0.0029	6401.6092	4.63	35	74.19	±	0.77
609	5315	762	0.223	0.0026	4231.211	2.51	43	73.63	±	1.42
183.7	5063	2505	0.5414	0.0139	1776.7598	17.7825	3.3	56.86	±	4.04
Th-228	583 kev									
228	1396	685	0.1591	0.00914	481.4187	0.905	86	11.62	±	5.86
Ra-228										
338	1707	1412	0.0582	0.00591	211.0174	4.7325	12	6.98	±	12.12
911	1026	489	0.1737	0.00936	286.3509	1.8025	29	10.29	±	11.31
964	1300	886	0.3092	0.00844	-32.1756	1.69	21.8	-1.64	±	-47.85
Ra-226 weighted average =			73.56	±	0.6188	U (ppm)=		98.47	±	0.83
Ra-228 weighted average =			13.57	±	12.74	Th (ppm) =		50.21	±	47.1
210PB/234Th av =			380.82	±	5.51	U (ppm)=		509.8	±	7.38
	63 kev									
Ra-228 av&Th228 =			14.43	±	7.8	Th (ppm) =		53.39	±	28.9
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		73.5588		average=	68.23				
	weighted error=		0.61885		std.=	9.848				
data	±	err	error^2	1/error^2	data/error^2					
73.35	±	1.65	2.7225	0.367309	26.9421					
74.19	±	0.77	0.5929	1.686625	125.131					
73.63	±	1.42	2.0164	0.495933	36.5156					
56.86	±	4.04	16.3216	0.061269	3.48373					

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NOPI-200*GAM-7 calc

Sample #	NOPI-200*GAM 7.0cm									
Weight(g)	4.682	Geometry	7.0 cm			Counting Time(min)		1462		
time of background minutes			4320							
Nuclides	Total	Bkgd(1)	Blank(2)	Eblank	Net counts	c. eff.	intensity	Activity		
	Counts		(cpm)	cpm		(%)	(%)	(dpm/g)		
Pb-210	45 kev									
210	3519	2880	0.2666	0.00976	249.2308	1.58	4.1	56.21	±	97.78
Th-234										
62	4738	3164	0.3939	0.01249	998.1182	6.3725	5.7	40.14	±	8.71
(93Kev)										
93	5974	2911	0.8309	0.01996	1848.2242	8.835	6.8	44.94	±	3.87
Ra-226										
295	6163	1582	0.0927	0.00564	4445.4726	5.4325	18	66.42	±	1.53
352	8984	1439	0.1756	0.0029	7288.2728	4.63	35	65.70	±	0.72
609	6074	828	0.223	0.0026	4919.974	2.51	43	66.60	±	1.32
183.7	6303	2807	0.5414	0.0139	2704.4732	17.7825	3.3	67.33	±	3.28
Th-228	583 kev									
228	1502	815	0.1591	0.00914	454.3958	0.905	86	8.53	±	6.03
Ra-228										
338	1921	1538	0.0582	0.00591	297.9116	4.7325	12	7.66	±	10.20
911	1048	545	0.1737	0.00936	249.0506	1.8025	29	6.96	±	12.12
964	1353	933	0.3092	0.00844	-32.0504	1.69	21.8	-1.27	±	-47.94
Ra-226 weighted average =			66.02	±	0.5751	U (ppm)=		88.38	±	0.77
Ra-228 weighted average =			13.57	±	12.74	Th (ppm) =		50.21	±	47.1
210PB/234Th av =			380.82	±	5.51	U (ppm)=		509.8	±	7.38
	63 kev									
Ra-228 av&Th228 =			14.43	±	7.8	Th (ppm) =		53.39	±	28.9
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		66.0227		average=	66.54				
	weighted error=		0.57514		std.=	0.816				
data	±	err	error^2	1/error^2	data/error^2					
66.42	±	1.53	2.3409	0.427186	28.3737					
65.70	±	0.72	0.5184	1.929012	126.736					
66.60	±	1.32	1.7424	0.573921	38.2231					
67.33	±	3.28	10.7584	0.092951	6.25837					

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NOPI-201*GAM-7 calc

Sample #	NOPI-201*GAM 7.0cm									
Weight(g)	4.556	Geometry	7.0 cm			Counting Time(min)		1285		
time of background minutes			4320							
Nuclides	Total	Bkgd(1)	Blank(2)	Eblank	Net counts	c. eff.	intensity	Activity		
	Counts		(cpm)	cpm		(%)	(%)	(dpm/g)		
Pb-210	45 kev									
210	2553	2062	0.2666	0.00976	148.419	1.58	4.1	39.13	±	126.71
Th-234										
62	3557	2398	0.3939	0.01249	652.8385	6.3725	5.7	30.70	±	10.77
(93Kev)										
93	4593	2231	0.8309	0.01996	1294.2935	8.835	6.8	36.80	±	4.63
Ra-226										
295	4079	1322	0.0927	0.00564	2637.8805	5.4325	18	46.08	±	1.99
352	5805	1129	0.1756	0.0029	4450.354	4.63	35	46.91	±	0.93
609	3747	669	0.223	0.0026	2791.445	2.51	43	44.18	±	1.75
183.7	4326	2197	0.5414	0.0139	1433.301	17.7825	3.3	41.72	±	4.50
Th-228	583 kev									
228	1192	646	0.1591	0.00914	341.5565	0.905	86	7.50	±	6.95
Ra-228										
338	1502	1181	0.0582	0.00591	246.213	4.7325	12	7.41	±	11.22
911	848	402	0.1737	0.00936	222.7955	1.8025	29	7.28	±	12.82
964	1153	804	0.3092	0.00844	-48.322	1.69	21.8	-2.24	±	-39.05
Ra-226 weighted average =			46.15	±	0.7486	U (ppm)=		61.78	±	1.00
Ra-228 weighted average =			13.57	±	12.74	Th (ppm) =		50.21	±	47.1
210PB/234Th av =			380.82	±	5.51	U (ppm)=		509.8	±	7.38
	63 kev									
Ra-228 av&Th228 =			14.43	±	7.8	Th (ppm) =		53.39	±	28.9
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		46.1494		average=	44.27				
	weighted error=		0.74856		std.=	2.596				
data	±	err	error^2	1/error^2	data/error^2					
46.08	±	1.99	3.9601	0.252519	11.6361					
46.91	±	0.93	0.8649	1.156203	54.2375					
44.18	±	1.75	3.0625	0.326531	14.4261					
41.72	±	4.50	20.25	0.049383	2.06025					

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NOPI-202*GAM-7 calc

Sample #	NOPI-202*GAM 7.0cm									
Weight(g)	4.542	Geometry	7.0 cm			Counting Time(min)		1446		
time of background minutes			4320							
Nuclides	Total	Bkgd(1)	Blank(2)	Eblank	Net counts	c. eff.	intensity	Activity		
	Counts		(cpm)	cpm		(%)	(%)	(dpm/g)		
Pb-210	45 kev									
210	2646	2092	0.2666	0.00976	168.4964	1.58	4.1	39.60	±	118.92
Th-234										
62	3318	2345	0.3939	0.01249	403.4206	6.3725	5.7	16.91	±	13.71
(93Kev)										
93	4057	2211	0.8309	0.01996	644.5186	8.835	6.8	16.33	±	6.56
Ra-226										
295	3502	1486	0.0927	0.00564	1881.9558	5.4325	18	29.30	±	2.36
352	4560	1138	0.1756	0.0029	3168.0824	4.63	35	29.77	±	1.10
609	3028	714	0.223	0.0026	1991.542	2.51	43	28.10	±	2.08
183.7	4190	2263	0.5414	0.0139	1144.1356	17.7825	3.3	29.69	±	5.04
Th-228	583 kev									
228	1389	700	0.1591	0.00914	458.9414	0.905	86	8.98	±	6.00
Ra-228										
338	1706	1287	0.0582	0.00591	334.8428	4.7325	12	8.98	±	9.62
911	1010	463	0.1737	0.00936	295.8298	1.8025	29	8.62	±	11.12
964	1276	879	0.3092	0.00844	-50.1032	1.69	21.8	-2.07	±	-38.35
Ra-226 weighted average =			29.31	±	0.8851	U (ppm)=		39.23	±	1.18
Ra-228 weighted average =			13.57	±	12.74	Th (ppm) =		50.21	±	47.1
210PB/234Th av =			380.82	±	5.51	U (ppm)=		509.8	±	7.38
	63 kev									
Ra-228 av&Th228 =			14.43	±	7.8	Th (ppm) =		53.39	±	28.9
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		29.3065		average=	28.19				
	weighted error=		0.88509		std.=	1.542				
data	±	err	error^2	1/error^2	data/error^2					
29.30	±	2.36	5.5696	0.179546	5.2607					
29.77	±	1.10	1.21	0.826446	24.6033					
28.10	±	2.08	4.3264	0.231139	6.49501					
26.69	±	5.04	25.4016	0.039368	1.05072					

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NOPI-169*GAM-7 calc

Sample #	NOPI-169*GAM 7.0cm									
Weight(g)	4.24	Geometry	7.0 cm			Counting Time(min)		2000		
time of background minutes			4320							
Nuclides	Total	Bkgd(1)	Blank(2)	Eblank	Net counts	c. eff.	intensity	Activity		
	Counts		(cpm)	cpm		(%)	(%)	(dpm/g)		
Pb-210	45 kev									
210	3092	2464	0.2666	0.00976	94.8	1.58	4.1	17.26	±	158.55
Th-234										
62	3637	2723	0.3939	0.01249	126.2	6.3725	5.7	4.10	±	24.51
(93Kev)										
93	4737	2532	0.8309	0.01996	543.2	8.835	6.8	10.66	±	7.14
Ra-226										
295	3028	1878	0.0927	0.00564	964.6	5.4325	18	11.63	±	3.29
352	3568	1545	0.1756	0.0029	1671.8	4.63	35	12.17	±	1.51
609	2430	960	0.223	0.0026	1024	2.51	43	11.19	±	2.90
183.7	4448	2884	0.5414	0.0139	481.2	17.7825	3.3	9.67	±	7.77
Th-228	583 kev									
228	1802	908	0.1591	0.00914	575.8	0.905	86	8.72	±	5.35
Ra-228										
338	2190	1636	0.0582	0.00591	437.6	4.7325	12	9.09	±	8.42
911	1353	661	0.1737	0.00936	344.6	1.8025	29	7.77	±	10.31
964	1689	1169	0.3092	0.00844	-98.4	1.69	21.8	-3.15	±	-27.36
Ra-226 weighted average =			11.86	±	1.225	U (ppm)=		15.87	±	1.64
Ra-228 weighted average =			13.57	±	12.74	Th (ppm) =		50.21	±	47.1
210PB/234Th av =			380.82	±	5.51	U (ppm)=		509.8	±	7.38
	63 kev									
Ra-228 av&Th228 =			14.43	±	7.8	Th (ppm) =		53.39	±	28.9
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		11.8582		average=	11.01				
	weighted error=		1.22496		std.=	1.26				
data	±	err	error^2	1/error^2	data/error^2					
11.63	±	3.29	10.8241	0.092386	1.07445					
12.17	±	1.51	2.2801	0.438577	5.33749					
11.19	±	2.90	8.41	0.118906	1.33056					
9.67	±	7.77	60.3729	0.016564	0.16017					

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NOPI-170-1*GAM-7 calc

Sample #	NOPI-170*GAM 7.0cm									
Weight(g)	2.46	Geometry	7.0 cm			Counting Time(min)		1462		
time of background minutes			4320							
Nuclides	Total	Bkgd(1)	Blank(2)	Eblank	Net counts	c. eff.	intensity	Activity		
	Counts		(cpm)	cpm		(%)	(%)	(dpm/g)		
Pb-210	45 kev									
210	2159	1825	0.2666	0.00976	-55.7692	1.58	4.1	-23.94	±	-206.71
Th-234										
62	2692	1922	0.3939	0.01249	194.1182	6.3725	5.7	14.86	±	19.76
(93Kev)										
93	3514	1718	0.8309	0.01996	581.2242	8.835	6.8	26.90	±	6.90
Ra-226										
295	2175	1199	0.0927	0.00564	840.4726	5.4325	18	23.90	±	3.53
352	2466	1082	0.1756	0.0029	1127.2728	4.63	35	19.34	±	1.84
609	1703	644	0.223	0.0026	732.974	2.51	43	18.88	±	3.42
183.7	3309	2015	0.5414	0.0139	502.4732	17.7825	3.3	23.81	±	7.60
Th-228	583 kev									
228	1257	637	0.1591	0.00914	387.3958	0.905	86	13.84	±	6.53
Ra-228										
338	1567	1163	0.0582	0.00591	318.9116	4.7325	12	15.61	±	9.86
911	961	448	0.1737	0.00936	259.0506	1.8025	29	13.78	±	11.89
964	1172	816	0.3092	0.00844	-96.0504	1.69	21.8	-7.25	±	-27.70
Ra-226 weighted average =			20.18	±	1.4457	U (ppm)=		27.02	±	1.94
Ra-228 weighted average =			13.57	±	12.74	Th (ppm) =		50.21	±	47.1
210PB/234Th av =			380.82	±	5.51	U (ppm)=		509.8	±	7.38
	63 kev									
Ra-228 av&Th228 =			14.43	±	7.8	Th (ppm) =		53.39	±	28.9
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		20.1844		average=	20.68				
	weighted error=		1.44574		std.=	2.723				
data	±	err	error^2	1/error^2	data/error^2					
23.90	±	3.53	12.4609	0.080251	1.918					
19.34	±	1.84	3.3856	0.295369	5.71243					
18.88	±	3.42	11.6964	0.085496	1.61417					
23.81	±	7.60	57.76	0.017313	0.41222					

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NOPI-170-2*GAM 4.5 calc

Sample #	NOPI-170-2*GAM 4.5 cm									
Weight(g)	3.65	Geometry	4.5 cm			Counting Time(min)		1428		
time of background minutes			4320							
Nuclides	Total	Bkgd(1)	Blank(2)	Eblank	Net counts	c. eff.	intensity	Activity		
	Counts		(cpm)	cpm		(%)	(%)	(dpm/g)		
Pb-210	45 kev									
210	2363	1915	0.2666	0.00976	67.2952	1.58	4.1	15.82	±	149.35
Th-234										
62	3034	2100	0.3939	0.01249	371.5108	6.3725	5.7	15.76	±	11.47
(93Kev)										
93	3651	1908	0.8309	0.01996	556.4748	8.835	6.8	14.31	±	5.68
Ra-226										
295	3016	1363	0.0927	0.00564	1520.6244	5.4325	18	25.72	±	2.26
352	3778	1156	0.1756	0.0029	2371.2432	4.63	35	23.81	±	1.07
609	2643	687	0.223	0.0026	1637.556	2.51	43	25.76	±	2.03
183.7	3624	2041	0.5414	0.0139	809.8808	17.7825	3.3	22.07	±	4.99
Th-228	583 kev									
228	1314	680	0.1591	0.00914	406.8052	0.905	86	8.84	±	5.61
Ra-228										
338	1580	1218	0.0582	0.00591	278.8904	4.7325	12	8.02	±	8.97
911	924	444	0.1737	0.00936	231.9564	1.8025	29	7.53	±	11.12
964	1245	801	0.3092	0.00844	2.4624	1.69	21.8	0.11	±	153.07
Ra-226 weighted average =			24.39	±	0.86	U (ppm)=		32.64	±	1.15
Ra-228 weighted average =			85.75	±	17.62	Th (ppm) =		317.3	±	65.2
210PB/234Th av =			1689.10	±	8.22	U (ppm)=		2261	±	11
	63 kev									
Ra-228 av&Th228 =			85.28	±	17.57	Th (ppm) =		315.5	±	65
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		24.3849		average=	23.88				
	weighted error=		0.86001		std.=	1.846				
data	±	err	error^2	1/error^2	data/error^2					
25.72	±	2.26	5.1076	0.195787	5.03563					
23.81	±	1.07	1.1449	0.873439	20.7966					
25.76	±	2.03	4.1209	0.242665	6.25106					
22.07	±	4.99	24.9001	0.04016	0.88634					

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NOPI-171*GAM-7 calc

Sample #	NOPI-171*GAM 7.0cm									
Weight(g)	3.96	Geometry	7.0 cm			Counting Time(min)		1465		
time of background minutes			4320							
Nuclides	Total Counts	Bkgd(1)	Blank(2) (cpm)	Eblank cpm	Net counts	c. eff. (%)	intensity (%)	Activity (dpm/g)		
Pb-210	45 kev									
210	2351	1937	0.2666	0.00976	23.431	1.58	4.1	6.23	±	318.91
Th-234										
62	2992	2137	0.3939	0.01249	277.9365	6.3725	5.7	13.19	±	16.51
(93Kev)										
93	3788	1993	0.8309	0.01996	577.7315	8.835	6.8	16.58	±	6.93
Ra-226										
295	2684	1395	0.0927	0.00564	1153.1945	5.4325	18	20.33	±	3.01
352	3376	1167	0.1756	0.0029	1951.746	4.63	35	20.76	±	1.40
609	2357	659	0.223	0.0026	1371.305	2.51	43	21.90	±	2.50
183.7	3702	2139	0.5414	0.0139	769.849	17.7825	3.3	22.61	±	6.14
Th-228	583 kev									
228	1303	681	0.1591	0.00914	388.9185	0.905	86	8.61	±	6.52
Ra-228										
338	1669	1289	0.0582	0.00591	294.737	4.7325	12	8.95	±	10.26
911	927	475	0.1737	0.00936	197.5295	1.8025	29	6.51	±	13.61
964	1288	800	0.3092	0.00844	35.022	1.69	21.8	1.64	±	45.87
Ra-226 weighted average =			20.99	±	1.1131	U (ppm)=		28.09	±	1.49
Ra-228 weighted average =			13.57	±	12.74	Th (ppm) =		50.21	±	47.1
210PB/234Th av =			380.82	±	5.51	U (ppm)=		509.8	±	7.38
	63 kev									
Ra-228 av&Th228 =			14.43	±	7.8	Th (ppm) =		53.39	±	28.9
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		20.988		average=	21.76				
	weighted error=		1.1131		std.=	0.933				
data	±	err	error^2	1/error^2	data/error^2					
20.33	±	3.01	9.0601	0.110374	2.2439					
20.76	±	1.40	1.96	0.510204	10.5918					
21.90	±	2.50	6.25	0.16	3.504					
22.61	±	6.14	37.6996	0.026525	0.59974					

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NOPI-172*GAM-7 calc

Sample #	NOPI-172*GAM 7.0cm									
Weight(g)	3.98	Geometry	7.0 cm			Counting Time(min)		1456		
time of background minutes			4320							
Nuclides	Total	Bkgd(1)	Blank(2)	Eblank	Net counts	c. eff.	intensity	Activity		
	Counts		(cpm)	cpm		(%)	(%)	(dpm/g)		
Pb-210	45 kev									
210	2249	1845	0.2666	0.00976	15.8304	1.58	4.1	4.22	±	387.98
Th-234										
62	2848	2024	0.3939	0.01249	250.4816	6.3725	5.7	11.90	±	17.40
(93Kev)										
93	3642	1880	0.8309	0.01996	552.2096	8.835	6.8	15.86	±	7.08
Ra-226										
295	2174	1271	0.0927	0.00564	768.0288	5.4325	18	13.55	±	3.69
352	2572	1094	0.1756	0.0029	1222.3264	4.63	35	13.02	±	1.77
609	1832	710	0.223	0.0026	797.312	2.51	43	12.75	±	3.28
183.7	3410	2083	0.5414	0.0139	538.7216	17.7825	3.3	15.84	±	7.34
Th-228	583 kev									
228	1317	692	0.1591	0.00914	393.3504	0.905	86	8.72	±	6.48
Ra-228										
338	1580	1241	0.0582	0.00591	254.2608	4.7325	12	7.73	±	11.04
911	969	472	0.1737	0.00936	244.0928	1.8025	29	8.06	±	12.24
964	1183	875	0.3092	0.00844	-142.1952	1.69	21.8	-6.66	±	-22.76
Ra-226 weighted average =			13.15	±	1.4084	U (ppm)=		17.6	±	1.89
Ra-228 weighted average =			13.57	±	12.74	Th (ppm) =		50.21	±	47.1
210PB/234Th av =			380.82	±	5.51	U (ppm)=		509.8	±	7.38
	63 kev									
Ra-228 av&Th228 =			14.43	±	7.8	Th (ppm) =		53.39	±	28.9
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		13.1513		average=	13.87				
	weighted error=		1.40838		std.=	1.711				
data	±	err	error^2	1/error^2	data/error^2					
13.55	±	3.69	13.6161	0.073442	0.99515					
13.02	±	1.77	3.1329	0.319193	4.15589					
12.75	±	3.28	10.7584	0.092951	1.18512					
15.84	±	7.34	53.8756	0.018561	0.29401					

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Sample #	NOPI-168*GAM 7.0 calc									
Weight(g)	4.994	Geometry	7.0 cm			Counting Time(min)		1471		
time of background minutes			4320							
Nuclides	Total	Bkgd(1)	Blank(2)	Eblank	Net counts	c. eff.	intensity	Activity		
	Counts		(cpm)	cpm		(%)	(%)	(dpm/g)		
Pb-210	45 kev									
210	2241	1822	0.2666	0.00976	26.8314	1.58	4.1	5.64	±	298.01
Th-234										
62	2746	2038	0.3939	0.01249	128.5731	6.3725	5.7	4.82	±	24.28
(93Kev)										
93	3478	1865	0.8309	0.01996	390.7461	8.835	6.8	8.85	±	8.42
Ra-226										
295	2143	1380	0.0927	0.00564	626.6383	5.4325	18	8.72	±	4.09
352	2463	1179	0.1756	0.0029	1025.6924	4.63	35	8.62	±	1.93
609	1590	677	0.223	0.0026	584.967	2.51	43	7.38	±	3.83
183.7	3244	2084	0.5414	0.0139	363.6006	17.7825	3.3	8.43	±	8.94
Th-228	583 kev									
228	1494	737	0.1591	0.00914	522.9639	0.905	86	9.15	±	5.62
Ra-228										
338	1667	1262	0.0582	0.00591	319.3878	4.7325	12	7.66	±	9.85
911	1036	493	0.1737	0.00936	287.4873	1.8025	29	7.49	±	11.28
964	1262	863	0.3092	0.00844	-55.8332	1.69	21.8	-2.06	±	-36.33
Ra-226 weighted average =			8.42	±	1.5638	U (ppm)=		11.27	±	2.09
Ra-228 weighted average =			13.57	±	12.74	Th (ppm) =		50.21	±	47.1
210PB/234Th av =			380.82	±	5.51	U (ppm)=		509.8	±	7.38
	63 kev									
Ra-228 av&Th228 =			14.43	±	7.8	Th (ppm) =		53.39	±	28.9
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		8.42209		average=	8.143				
	weighted error=		1.56379		std.=	0.668				
data	±	err	error^2	1/error^2	data/error^2					
8.72	±	4.09	16.7281	0.05978	0.52128					
8.62	±	1.93	3.7249	0.268464	2.31416					
7.38	±	3.83	14.6689	0.068171	0.50311					
8.43	±	8.94	79.9236	0.012512	0.10548					

Sample #	NOPI-190-7*GAM 3.0 calc									
Weight(g)	1.096	Geometry	3.0 cm			Counting Time(min)		1493		
time of background minutes			4320							
Nuclides	Total Counts	Bkgd(1)	Blank(2) (cpm)	Eblank cpm	Net counts	c. eff. (%)	intensity (%)	Activity (dpm/g)		
Pb-210	45 kev									
210	2524	1932	0.2666	0.00976	193.9662	1.58	4.1	140.76	±	85.26
Th-234										
62	3047	2132	0.3939	0.01249	326.9073	6.3725	5.7	42.47	±	11.76
(93Kev)										
93	3831	1892	0.8309	0.01996	698.4663	8.835	6.8	55.21	±	4.89
Ra-226										
295	3425	1363	0.0927	0.00564	1923.5989	5.4325	18	101.02	±	1.96
352	4469	1173	0.1756	0.0029	3033.8292	4.63	35	94.63	±	0.93
609	3026	732	0.223	0.0026	1961.061	2.51	43	93.31	±	1.76
183.7	3860	2155	0.5414	0.0139	896.6898	17.7825	3.3	75.92	±	4.63
Th-228	583 kev									
228	1050	726	0.1591	0.00914	86.4637	0.905	86	5.68	±	11.56
Ra-228										
338	1460	1236	0.0582	0.00591	137.1074	4.7325	12	12.25	±	12.49
911	768	439	0.1737	0.00936	69.6659	1.8025	29	7.08	±	19.93
964	1148	860	0.3092	0.00844	-173.6356	1.69	21.8	-25.27	±	-18.07
Ra-226 weighted average =			94.83	±	0.7483	U (ppm)=		126.9	±	1.00
Ra-228 weighted average =			13.67	±	13.49	Th (ppm) =		50.58	±	49.9
210PB/234Th av =			439.01	±	5.28	U (ppm)=		587.7	±	7.07
	63 kev									
Ra-228 av&Th228 =			10.90	±	12.23	Th (ppm) =		40.33	±	45.3
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		94.8341		average=	87.95				
	weighted error=		0.74827		std.=	10.44				
data	±	err	error^2	1/error^2	data/error^2					
101.02	±	1.96	3.8416	0.260308	26.2963					
94.63	±	0.93	0.8649	1.156203	109.411					
93.31	±	1.76	3.0976	0.322831	30.1233					
75.92	±	4.63	21.4369	0.046649	3.54156					

NOPI-190-6*GAM 4.0 calc

Sample #	NOPI-190-6*GAM 4.0 cm									
Weight(g)	1.611	Geometry	4.0 cm			Counting Time(min)		1435		
time of background minutes			4320							
Nuclides	Total Counts	Bkgd(1)	Blank(2) (cpm)	Eblank cpm	Net counts	c. eff. (%)	intensity (%)	Activity (dpm/g)		
Pb-210	45 kev									
210	2733	5155	0.2666	0.00976	-2804.571	1.58	4.1	-1463.08	±	-22.77
Th-234										
62	3554	2462	0.3939	0.01249	526.7535	6.3725	5.7	49.20	±	9.41
(93Kev)										
93	4445	2227	0.8309	0.01996	1025.6585	8.835	6.8	58.10	±	4.09
Ra-226										
295	4493	1436	0.0927	0.00564	2923.9755	5.4325	18	109.15	±	1.60
352	6377	1174	0.1756	0.0029	4951.014	4.63	35	110.32	±	0.73
609	4054	726	0.223	0.0026	3007.995	2.51	43	101.99	±	1.43
183.7	4625	2319	0.5414	0.0139	1529.091	17.7825	3.3	92.24	±	3.57
Th-228	583 kev									
228	1112	711	0.1591	0.00914	172.6915	0.905	86	8.09	±	8.24
Ra-228										
338	1503	1228	0.0582	0.00591	191.483	4.7325	12	12.22	±	10.66
911	829	448	0.1737	0.00936	131.7405	1.8025	29	9.50	±	14.52
964	1227	826	0.3092	0.00844	-42.702	1.69	21.8	-4.40	±	-36.44
Ra-226 weighted average =			108.22	±	0.594	U (ppm)=		144.9	±	0.80
Ra-228 weighted average =			129.88	±	20.63	Th (ppm) =		480.6	±	76.3
210PB/234Th av =			3377.90	±	8	U (ppm)=		4522	±	10.7
	63 kev									
Ra-228 av&Th228 =			127.79	±	20.46	Th (ppm) =		472.8	±	75.7
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		108.221		average=	101.5				
	weighted error=		0.59395		std.=	9.049				
data	±	err	error^2	1/error^2	data/error^2					
109.15	±	1.60	2.56	0.390625	42.6367					
110.32	±	0.73	0.5329	1.876525	207.018					
101.99	±	1.43	2.0449	0.489021	49.8753					
92.24	±	3.57	12.7449	0.078463	7.2374					

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NOPI-190-5*GAM 3.5 calc

Sample #	NOPI-190-5*GAM 3.5 cm									
Weight(g)	1.458	Geometry	3.5 cm			Counting Time(min)		1437		
time of background minutes			4320							
Nuclides	Total	Bkgd(1)	Blank(2)	Eblank	Net counts	c. eff.	intensity	Activity		
	Counts		(cpm)	cpm		(%)	(%)	(dpm/g)		
Pb-210	45 kev									
210	2675	2062	0.2666	0.00976	229.8958	1.58	4.1	132.33	±	79.54
Th-234										
62	3343	2351	0.3939	0.01249	425.9657	6.3725	5.7	43.83	±	10.45
(93Kev)										
93	4116	2273	0.8309	0.01996	648.9967	8.835	6.8	40.47	±	5.13
Ra-226										
295	4265	1423	0.0927	0.00564	2708.7901	5.4325	18	111.11	±	1.65
352	5757	1231	0.1756	0.0029	4273.6628	4.63	35	103.69	±	0.78
609	3889	730	0.223	0.0026	2838.549	2.51	43	108.03	±	1.50
183.7	4510	2330	0.5414	0.0139	1402.0082	17.7825	3.3	92.94	±	3.71
Th-228	583 kev									
228	1137	705	0.1591	0.00914	203.3733	0.905	86	10.66	±	7.70
Ra-228										
338	1508	1308	0.0582	0.00591	116.3666	4.7325	12	8.08	±	13.49
911	832	461	0.1737	0.00936	121.3931	1.8025	29	9.56	±	14.97
964	1172	832	0.3092	0.00844	-104.3204	1.69	21.8	-11.65	±	-22.91
Ra-226 weighted average =			105.22	±	0.6289	U (ppm)=		140.8	±	0.84
Ra-228 weighted average =			13.67	±	13.49	Th (ppm) =		50.58	±	49.9
210PB/234Th av =			439.01	±	5.28	U (ppm)=		587.7	±	7.07
	63 kev									
Ra-228 av&Th228 =			10.90	±	12.23	Th (ppm) =		40.33	±	45.3
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		105.222		average=	101.6				
	weighted error=		0.62894		std.=	7.769				
data	±	err	error^2	1/error^2	data/error^2					
111.11	±	1.65	2.7225	0.367309	40.8118					
103.69	±	0.78	0.6084	1.643655	170.431					
108.03	±	1.50	2.25	0.444444	48.0133					
92.94	±	3.71	13.7641	0.072653	6.75235					

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NOPI-190-4*GAM 4.5 calc

Sample #	NOPI-190-4*GAM 4.5 cm									
Weight(g)	1.781	Geometry	4.5 cm			Counting Time(min)		1493		
time of background minutes			4320							
Nuclides	Total	Bkgd(1)	Blank(2)	Eblank	Net counts	c. eff.	intensity	Activity		
	Counts		(cpm)	cpm		(%)	(%)	(dpm/g)		
Pb-210	45 kev									
210	3008	2329	0.2666	0.00976	280.9662	1.58	4.1	129.46	±	73.09
Th-234										
62	3814	2538	0.3939	0.01249	687.9073	6.3725	5.7	57.21	±	8.43
(93Kev)										
93	4659	2436	0.8309	0.01996	982.4663	8.835	6.8	49.52	±	4.28
Ra-226										
295	5049	1541	0.0927	0.00564	3369.5989	5.4325	18	111.72	±	1.52
352	6981	1317	0.1756	0.0029	5401.8292	4.63	35	106.33	±	0.71
609	4535	775	0.223	0.0026	3427.061	2.51	43	105.68	±	1.40
183.7	5005	2526	0.5414	0.0139	1670.6898	17.7825	3.3	89.22	±	3.47
Th-228	583 kev									
228	1190	765	0.1591	0.00914	187.4637	0.905	86	7.98	±	8.27
Ra-228										
338	1689	1392	0.0582	0.00591	210.1074	4.7325	12	11.84	±	10.34
911	871	498	0.1737	0.00936	113.6659	1.8025	29	7.24	±	15.88
964	1216	917	0.3092	0.00844	-162.6356	1.69	21.8	-14.69	±	-18.84
Ra-226 weighted average =			106.52	±	0.5764	U (ppm)=		142.6	±	0.77
Ra-228 weighted average =			85.75	±	17.62	Th (ppm) =		317.3	±	65.2
210PB/234Th av =			1689.10	±	8.22	U (ppm)=		2261	±	11
	63 kev									
Ra-228 av&Th228 =			85.28	±	17.57	Th (ppm) =		315.5	±	65
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		106.523		average=	100.4				
	weighted error=		0.57641		std.=	9.696				
data	±	err	error^2	1/error^2	data/error^2					
111.72	±	1.52	2.3104	0.432825	48.3553					
106.33	±	0.71	0.5041	1.983733	210.93					
105.68	±	1.40	1.96	0.510204	53.9184					
89.22	±	3.47	12.0409	0.08305	7.40975					

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NOPI-190-3*GAM 5.5 calc

Sample #	NOPI-190-3*GAM 5.5 cm									
Weight(g)	2.645	Geometry	5.5 cm			Counting Time(min)		1202		
time of background minutes			4320							
Nuclides	Total	Bkgd(1)	Blank(2)	Eblank	Net counts	c. eff.	intensity	Activity		
	Counts		(cpm)	cpm		(%)	(%)	(dpm/g)		
Pb-210	45 kev									
210	2829	2170	0.2666	0.00976	338.5468	1.58	4.1	140.50	±	71.71
Th-234										
62	3856	2613	0.3939	0.01249	769.5322	6.3725	5.7	57.45	±	8.56
(93Kev)										
93	4636	2386	0.8309	0.01996	1251.2582	8.835	6.8	57.21	±	4.11
Ra-226										
295	5547	1355	0.0927	0.00564	4080.5746	5.4325	18	119.32	±	1.46
352	8343	1142	0.1756	0.0029	6989.9288	4.63	35	122.67	±	0.67
609	5200	649	0.223	0.0026	4282.954	2.51	43	114.41	±	1.30
183.7	5121	2291	0.5414	0.0139	2179.2372	17.7825	3.3	104.29	±	3.26
Th-228	583 kev									
228	1098	654	0.1591	0.00914	252.7618	0.905	86	9.23	±	7.30
Ra-228										
338	1480	1223	0.0582	0.00591	187.0436	4.7325	12	9.38	±	11.65
911	794	449	0.1737	0.00936	136.2126	1.8025	29	7.77	±	15.54
964	1113	796	0.3092	0.00844	-54.6584	1.69	21.8	-4.44	±	-34.97
Ra-226 weighted average =			120.25	±	0.5437	U (ppm)=		161	±	0.73
Ra-228 weighted average =			31.16	±	41.83	Th (ppm) =		115.3	±	155
210PB/234Th av =			1771.00	±	8.274	U (ppm)=		2371	±	11.1
	63 kev									
Ra-228 av&Th228 =			19.92	±	26.13	Th (ppm) =		73.7	±	96.7
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		120.249		average=	113.8				
	weighted error=		0.54372		std.=	9.206				
data	±	err	error^2	1/error^2	data/error^2					
119.32	±	1.46	2.1316	0.469131	55.9767					
122.67	±	0.67	0.4489	2.227668	273.268					
114.41	±	1.30	1.69	0.591716	67.6982					
104.29	±	3.26	10.6276	0.094095	9.81313					

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NOPI-190-2*GAM-5 calc

Sample #	NOPI-190-2*GAM 5.0 cm									
Weight(g)	2.129	Geometry	5.0 cm			Counting Time(min)		1703		
time of background minutes			4320							
Nuclides	Total	Bkgd(1)	Blank(2)	Eblank	Net counts	c. eff.	intensity	Activity		
	Counts		(cpm)	cpm		(%)	(%)	(dpm/g)		
Pb-210	45 kev									
210	3853	2956	0.2666	0.00976	442.9802	1.58	4.1	156.52	±	60.87
Th-234										
62	5199	3460	0.3939	0.01249	1068.1883	6.3725	5.7	67.59	±	7.02
(93Kev)										
93	6234	3161	0.8309	0.01996	1657.9773	8.835	6.8	63.86	±	3.43
Ra-226										
295	7219	1913	0.0927	0.00564	5148.1319	5.4325	18	128.50	±	1.26
352	10415	1624	0.1756	0.0029	8491.9532	4.63	35	126.45	±	0.59
609	6824	957	0.223	0.0026	5487.231	2.51	43	123.65	±	1.10
183.7	6795	3153	0.5414	0.0139	2719.9958	17.7825	3.3	110.88	±	2.83
Th-228	583 kev									
228	1525	902	0.1591	0.00914	352.0527	0.905	86	10.97	±	6.02
Ra-228										
338	1971	1636	0.0582	0.00591	235.8854	4.7325	12	10.07	±	10.07
911	1039	578	0.1737	0.00936	165.1889	1.8025	29	8.07	±	13.78
964	1486	1107	0.3092	0.00844	-147.5676	1.69	21.8	-10.32	±	-20.88
Ra-226 weighted average =			125.78	±	0.4738	U (ppm)=		168.4	±	0.63
Ra-228 weighted average =			31.16	±	41.83	Th (ppm) =		115.3	±	155
210PB/234Th av =			1771.00	±	8.274	U (ppm)=		2371	±	11.1
	63 kev									
Ra-228 av&Th228 =			19.92	±	26.13	Th (ppm) =		73.7	±	96.7
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		125.784		average=	120.3				
	weighted error=		0.47384		std.=	8.3				
data	±	err	error^2	1/error^2	data/error^2					
128.50	±	1.26	1.5876	0.629882	80.9398					
126.45	±	0.59	0.3481	2.872738	363.258					
123.65	±	1.10	1.21	0.826446	102.19					
110.88	±	2.83	8.0089	0.124861	13.8446					

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NOPI-190-1*GAM-5 calc

Sample #	NOPI-190-1*GAM 5.0 cm									
Weight(g)	2.6	Geometry	5.0 cm			Counting Time(min)		1351		
time of background minutes			4320							
Nuclides	Total	Bkgd(1)	Blank(2)	Eblank	Net counts	c. eff.	intensity	Activity		
	Counts		(cpm)	cpm		(%)	(%)	(dpm/g)		
Pb-210	45 kev									
210	5742	4555	0.2666	0.00976	826.8234	1.58	4.1	301.55	±	44.55
Th-234										
62	9697	5505	0.3939	0.01249	3659.8411	6.3725	5.7	239.04	±	3.79
(93Kev)										
93	12060	5207	0.8309	0.01996	5730.4541	8.835	6.8	227.81	±	1.84
Ra-226										
295	14984	2172	0.0927	0.00564	12686.762	5.4325	18	326.87	±	0.80
352	23040	1851	0.1756	0.0029	20951.764	4.63	35	322.03	±	0.37
609	14670	975	0.223	0.0026	13393.727	2.51	43	311.54	±	0.71
183.7	12891	4179	0.5414	0.0139	7980.5686	17.7825	3.3	335.79	±	1.65
Th-228	583 kev									
228	1465	1073	0.1591	0.00914	177.0559	0.905	86	5.70	±	8.49
Ra-228										
338	2391	1951	0.0582	0.00591	361.3718	4.7325	12	15.92	±	8.14
911	1072	598	0.1737	0.00936	239.3313	1.8025	29	12.07	±	11.45
964	1522	1103	0.3092	0.00844	1.2708	1.69	21.8	0.09	±	225.03
Ra-226 weighted average =			321.30	±	0.2986	U (ppm)=		430.1	±	0.40
Ra-228 weighted average =			31.16	±	41.83	Th (ppm) =		115.3	±	155
210PB/234Th av =			1771.00	±	8.274	U (ppm)=		2371	±	11.1
	63 kev									
Ra-228 av&Th228 =			19.92	±	26.13	Th (ppm) =		73.7	±	96.7
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		321.3		average=	323.1				
	weighted error=		0.29857		std.=	12.16				
data	±	err	error^2	1/error^2	data/error^2					
326.87	±	0.80	0.64	1.5625	510.734					
322.03	±	0.37	0.1369	7.304602	2352.3					
311.54	±	0.71	0.5041	1.983733	618.012					
335.79	±	1.65	2.7225	0.367309	123.339					

Bret Leslie 10/27/93

NOPI-175*GAM-7 calc

Sample #	NOPI-175*GAM 7.0cm									
Weight(g)	3.524	Geometry	7.0 cm			Counting Time(min)		1499		
time of background minutes			4320							
Nuclides	Total	Bkgd(1)	Blank(2)	Eblank	Net counts	c. eff.	intensity	Activity		
	Counts		(cpm)	cpm		(%)	(%)	(dpm/g)		
Pb-210	45 kev									
210	2454	1978	0.2666	0.00976	76.3666	1.58	4.1	22.32	±	176.65
Th-234										
62	3064	2141	0.3939	0.01249	332.5439	6.3725	5.7	17.33	±	15.10
(93Kev)										
93	3806	2062	0.8309	0.01996	498.4809	8.835	6.8	15.71	±	7.46
Ra-226										
295	3046	1530	0.0927	0.00564	1377.0427	5.4325	18	26.66	±	2.76
352	3829	1243	0.1756	0.0029	2322.7756	4.63	35	27.13	±	1.28
609	2571	725	0.223	0.0026	1511.723	2.51	43	26.52	±	2.38
183.7	3789	2210	0.5414	0.0139	767.4414	17.7825	3.3	24.76	±	6.15
Th-228	583 kev									
228	1316	730	0.1591	0.00914	347.5091	0.905	86	8.45	±	6.89
Ra-228										
338	1662	1303	0.0582	0.00591	271.7582	4.7325	12	9.06	±	10.68
911	979	461	0.1737	0.00936	257.6237	1.8025	29	9.33	±	11.92
964	1284	910	0.3092	0.00844	-89.4908	1.69	21.8	-4.60	±	-28.69
Ra-226 weighted average =			26.88	±	1.0289	U (ppm)=		35.99	±	1.38
Ra-228 weighted average =			13.57	±	12.74	Th (ppm) =		50.21	±	47.1
210PB/234Th av =			380.82	±	5.51	U (ppm)=		509.8	±	7.38
	63 kev									
Ra-228 av&Th228 =			14.43	±	7.8	Th (ppm) =		53.39	±	28.9
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		26.8843		average=	26.14				
	weighted error=		1.0289		std.=	1.231				
data	±	err	error^2	1/error^2	data/error^2					
26.66	±	2.76	7.6176	0.131275	3.49979					
27.13	±	1.28	1.6384	0.610352	16.5588					
26.52	±	2.38	5.6644	0.176541	4.68187					
24.76	±	6.15	37.8225	0.026439	0.65464					

Bret Leslie 10/14/93

NOPI-174*GAM-7 calc

Sample #	NOPI-174*GAM 7.0cm									
Weight(g)	4.856	Geometry	7.0 cm			Counting Time(min)		1379		
time of background minutes			4320							
Nuclides	Total Counts	Bkgd(1)	Blank(2) (cpm)	Eblank cpm	Net counts	c. eff. (%)	intensity (%)	Activity (dpm/g)		
Pb-210	45 kev									
210	3788	3006	0.2666	0.00976	414.3586	1.58	4.1	95.52	±	75.84
Th-234										
62	5255	3655	0.3939	0.01249	1056.8119	6.3725	5.7	43.45	±	8.47
(93Kev)										
93	6155	3253	0.8309	0.01996	1756.1889	8.835	6.8	43.65	±	3.97
Ra-226										
295	8693	1874	0.0927	0.00564	6691.1667	5.4325	18	102.18	±	1.25
352	13048	1584	0.1756	0.0029	11221.848	4.63	35	103.41	±	0.58
609	8547	891	0.223	0.0026	7348.483	2.51	43	101.67	±	1.08
183.7	7498	3238	0.5414	0.0139	3513.4094	17.7825	3.3	89.41	±	2.87
Th-228	583 kev									
228	1636	861	0.1591	0.00914	555.6011	0.905	86	10.66	±	5.45
Ra-228										
338	2158	1616	0.0582	0.00591	461.7422	4.7325	12	12.14	±	8.19
911	1154	521	0.1737	0.00936	393.4677	1.8025	29	11.24	±	9.64
964	1487	951	0.3092	0.00844	109.6132	1.69	21.8	4.44	±	25.93
Ra-226 weighted average =			102.54	±	0.4667	U (ppm)=		137.3	±	0.62
Ra-228 weighted average =			13.57	±	12.74	Th (ppm) =		50.21	±	47.1
210PB/234Th av =			380.82	±	5.51	U (ppm)=		509.8	±	7.38
	63 kev									
Ra-228 av&Th228 =			14.43	±	7.8	Th (ppm) =		53.39	±	28.9
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		102.543		average=	98.16				
	weighted error=		0.46669		std.=	7.63				
data	±	err	error^2	1/error^2	data/error^2					
102.18	±	1.25	1.5625	0.64	65.3952					
103.41	±	0.58	0.3364	2.972652	307.402					
101.67	±	1.08	1.1664	0.857339	87.1656					
89.41	±	2.87	8.2369	0.121405	10.8548					

Bret Leslie 10/13/93

NOPI-173*GAM-7 calc

Sample #	NOPI-173*GAM 7.0cm									
Weight(g)	4.084	Geometry	7.0 cm			Counting Time(min)		1443		
time of background minutes			4320							
Nuclides	Total	Bkgd(1)	Blank(2)	Eblank	Net counts	c. eff.	intensity	Activity		
	Counts		(cpm)	cpm		(%)	(%)	(dpm/g)		
Pb-210	45 kev									
210	2188	1721	0.2666	0.00976	82.2962	1.58	4.1	21.56	±	170.16
Th-234										
62	2625	1946	0.3939	0.01249	110.6023	6.3725	5.7	5.17	±	26.18
(93Kev)										
93	3385	1800	0.8309	0.01996	386.0113	8.835	6.8	10.90	±	8.47
Ra-226										
295	2115	1310	0.0927	0.00564	671.2339	5.4325	18	11.65	±	3.95
352	2274	1149	0.1756	0.0029	871.6092	4.63	35	9.13	±	2.09
609	1569	680	0.223	0.0026	567.211	2.51	43	8.92	±	3.89
183.7	3210	2100	0.5414	0.0139	328.7598	17.7825	3.3	9.51	±	9.40
Th-228	583 kev									
228	1353	669	0.1591	0.00914	454.4187	0.905	86	9.91	±	6.03
Ra-228										
338	1642	1226	0.0582	0.00591	332.0174	4.7325	12	9.92	±	9.66
911	1011	425	0.1737	0.00936	335.3509	1.8025	29	10.89	±	10.45
964	1273	809	0.3092	0.00844	17.8244	1.69	21.8	0.82	±	64.29
Ra-226 weighted average =			9.54	±	1.643	U (ppm)=		12.77	±	2.20
Ra-228 weighted average =			13.57	±	12.74	Th (ppm) =		50.21	±	47.1
210PB/234Th av =			380.82	±	5.51	U (ppm)=		509.8	±	7.38
	63 kev									
Ra-228 av&Th228 =			14.43	±	7.8	Th (ppm) =		53.39	±	28.9
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		9.54016		average=	9.187				
	weighted error=		1.64304		std.=	0.299				
data	±	err	error^2	1/error^2	data/error^2					
11.65	±	3.95	15.6025	0.064092	0.74668					
9.13	±	2.09	4.3681	0.228932	2.09015					
8.92	±	3.89	15.1321	0.066085	0.58948					
9.51	±	9.40	88.36	0.011317	0.10763					

Bret Leslie 10/13/93

NOPI-298*GAM 7.0 calc

Sample #	NOPI-298*GAM 7.0cm									
Weight(g)	4.542	Geometry	7.0 cm			Counting Time(min)		2000		
time of background minutes			4320							
Nuclides	Total	Bkgd(1)	Blank(2)	Eblank	Net counts	c. eff.	intensity	Activity		
	Counts		(cpm)	cpm		(%)	(%)	(dpm/g)		
Pb-210	45 kev									
210	9399	7369	0.2666	0.00976	1496.8	1.58	4.1	254.36	±	39.90
Th-234										
62	15569	9384	0.3939	0.01249	5397.2	6.3725	5.7	163.57	±	3.75
(93Kev)										
93	21057	9079	0.8309	0.01996	10316.2	8.835	6.8	189.03	±	1.64
Ra-226										
295	25483	3622	0.0927	0.00564	21675.6	5.4325	18	244.02	±	0.69
352	39831	3128	0.1756	0.0029	36351.8	4.63	35	246.94	±	0.32
609	25771	1559	0.223	0.0026	23766	2.51	43	242.40	±	0.60
183.7	22853	6969	0.5414	0.0139	14801.2	17.7825	3.3	277.66	±	1.40
Th-228	583 kev									
228	2772	1579	0.1591	0.00914	874.8	0.905	86	12.37	±	4.34
Ra-228										
338	4163	3216	0.0582	0.00591	830.6	4.7325	12	16.10	±	6.11
911	1923	1048	0.1737	0.00936	527.6	1.8025	29	11.11	±	8.33
964	2621	1771	0.3092	0.00844	231.6	1.69	21.8	6.92	±	17.84
Ra-226 weighted average =			246.74	±	0.2569	U (ppm)=		330.3	±	0.34
Ra-228 weighted average =			13.57	±	12.74	Th (ppm) =		50.21	±	47.1
210PB/234Th av =			380.82	±	5.51	U (ppm)=		509.8	±	7.38
	63 kev									
Ra-228 av&Th228 =			14.43	±	7.8	Th (ppm) =		53.39	±	28.9
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		246.737		average=	255.7				
	weighted error=		0.25688		std.=	19.18				
data	±	err	error^2	1/error^2	data/error^2					
244.02	±	0.69	0.4761	2.100399	512.539					
246.94	±	0.32	0.1024	9.765625	2411.52					
242.40	±	0.60	0.36	2.777778	673.333					
277.66	±	1.40	1.96	0.510204	141.663					

Bret Leslie 10/11/93

NOPI-297*GAM 7.0 calc

Sample #	NOPI-297*GAM 7.0cm									
Weight(g)	4.134	Geometry	7.0 cm			Counting Time(min)		1385		
time of background minutes			4320							
Nuclides	Total Counts	Bkgd(1)	Blank(2) (cpm)	Eblank cpm	Net counts	c. eff. (%)	intensity (%)	Activity (dpm/g)		
Pb-210	45 kev									
210	7077	5734	0.2666	0.00976	973.759	1.58	4.1	262.54	±	49.47
Th-234										
62	12280	7155	0.3939	0.01249	4579.4485	6.3725	5.7	220.20	±	4.07
(93Kev)										
93	16300	6775	0.8309	0.01996	8374.2035	8.835	6.8	243.45	±	1.82
Ra-226										
295	19398	2662	0.0927	0.00564	16607.611	5.4325	18	296.63	±	0.79
352	30341	2275	0.1756	0.0029	27822.794	4.63	35	299.87	±	0.37
609	19723	1095	0.223	0.0026	18319.145	2.51	43	296.44	±	0.68
183.7	17366	5165	0.5414	0.0139	11451.161	17.7825	3.3	340.82	±	1.59
Th-228	583 kev									
228	2192	1123	0.1591	0.00914	848.6465	0.905	86	19.04	±	4.41
Ra-228										
338	3140	2319	0.0582	0.00591	740.393	4.7325	12	22.77	±	6.47
911	1596	738	0.1737	0.00936	617.4255	1.8025	29	20.63	±	7.70
964	2004	1334	0.3092	0.00844	241.758	1.69	21.8	11.46	±	17.46
Ra-226 weighted average =			300.18	±	0.2953	U (ppm)=		401.8	±	0.40
Ra-228 weighted average =			13.57	±	12.74	Th (ppm) =		50.21	±	47.1
210PB/234Th av =			380.82	±	5.51	U (ppm)=		509.8	±	7.38
	63 kev									
Ra-228 av&Th228 =			14.43	±	7.8	Th (ppm) =		53.39	±	28.9
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		300.183		average=	312.4				
	weighted error=		0.29533		std.=	24.69				
data	±	err	error^2	1/error^2	data/error^2					
296.63	±	0.79	0.6241	1.602307	475.292					
299.87	±	0.37	0.1369	7.304602	2190.43					
296.44	±	0.68	0.4624	2.16263	641.09					
340.82	±	1.59	2.5281	0.395554	134.813					

Bret Leslie 10/11/93

NOPI-296*GAM 7.0 calc

Sample #	NOPI-296*GAM 7.0cm									
Weight(g)	5.509	Geometry	7.0 cm			Counting Time(min)		1444		
time of background minutes			4320							
Nuclides	Total Counts	Bkgd(1)	Blank(2) (cpm)	Eblank cpm	Net counts	c. eff. (%)	intensity (%)	Activity (dpm/g)		
Pb-210	45 kev									
210	5407	4236	0.2666	0.00976	786.0296	1.58	4.1	152.53	±	55.06
Th-234										
62	8146	5365	0.3939	0.01249	2212.2084	6.3725	5.7	76.56	±	5.85
(93Kev)										
93	10615	4818	0.8309	0.01996	4597.1804	8.835	6.8	96.19	±	2.45
Ra-226										
295	14354	2324	0.0927	0.00564	11896.141	5.4325	18	152.93	±	0.94
352	21984	1950	0.1756	0.0029	19780.434	4.63	35	153.44	±	0.44
609	14309	1046	0.223	0.0026	12940.988	2.51	43	150.72	±	0.81
183.7	12294	4352	0.5414	0.0139	7160.2184	17.7825	3.3	153.38	±	2.01
Th-228	583 kev									
228	1970	1055	0.1591	0.00914	685.2596	0.905	86	11.07	±	4.91
Ra-228										
338	2799	2042	0.0582	0.00591	672.9592	4.7325	12	14.90	±	6.79
911	1427	694	0.1737	0.00936	482.1772	1.8025	29	11.60	±	8.71
964	1880	1194	0.3092	0.00844	239.5152	1.69	21.8	8.17	±	17.54
Ra-226 weighted average =			152.85	±	0.352	U (ppm)=		204.6	±	0.47
Ra-228 weighted average =			13.57	±	12.74	Th (ppm) =		50.21	±	47.1
210PB/234Th av =			380.82	±	5.51	U (ppm)=		509.8	±	7.38
	63 kev									
Ra-228 av&Th228 =			14.43	±	7.8	Th (ppm) =		53.39	±	28.9
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		152.853		average=	152.5				
	weighted error=		0.35205		std.=	1.553				
data	±	err	error^2	1/error^2	data/error^2					
152.93	±	0.94	0.8836	1.131734	173.076					
153.44	±	0.44	0.1936	5.165289	792.562					
150.72	±	0.81	0.6561	1.524158	229.721					
153.38	±	2.01	4.0401	0.247519	37.9644					

Bret Leslie 10/11/93

NOPI-295*GAM 7.0 calc

Sample #	NOPI-295*GAM 7.0cm									
Weight(g)	3.73	Geometry	7.0 cm			Counting Time(min)		1188		
time of background minutes			4320							
Nuclides	Total	Bkgd(1)	Blank(2)	Eblank	Net counts	c. eff.	intensity	Activity		
	Counts		(cpm)	cpm		(%)	(%)	(dpm/g)		
Pb-210	45 kev									
210	3362	2671	0.2666	0.00976	374.2792	1.58	4.1	130.39	±	79.79
Th-234										
62	4922	3161	0.3939	0.01249	1293.0468	6.3725	5.7	80.33	±	7.66
(93Kev)										
93	6122	2909	0.8309	0.01996	2225.8908	8.835	6.8	83.61	±	3.53
Ra-226										
295	7045	1546	0.0927	0.00564	5388.8724	5.4325	18	124.37	±	1.39
352	10476	1244	0.1756	0.0029	9023.3872	4.63	35	125.66	±	0.65
609	6758	700	0.223	0.0026	5793.076	2.51	43	121.13	±	1.22
183.7	6616	2665	0.5414	0.0139	3307.8168	17.7825	3.3	127.21	±	2.96
Th-228	583 kev									
228	1380	746	0.1591	0.00914	444.9892	0.905	86	12.90	±	6.09
Ra-228										
338	1782	1361	0.0582	0.00591	351.8584	4.7325	12	13.98	±	9.39
911	946	447	0.1737	0.00936	292.6444	1.8025	29	12.63	±	11.18
964	1256	815	0.3092	0.00844	73.6704	1.69	21.8	4.51	±	31.62
Ra-226 weighted average =			124.70	±	0.522	U (ppm)=		166.9	±	0.70
Ra-228 weighted average =			13.57	±	12.74	Th (ppm) =		50.21	±	47.1
210PB/234Th av =			380.82	±	5.51	U (ppm)=		509.8	±	7.38
	63 kev									
Ra-228 av&Th228 =			14.43	±	7.8	Th (ppm) =		53.39	±	28.9
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		124.697		average=	124.7				
	weighted error=		0.52197		std.=	3.159				
data	±	err	error^2	1/error^2	data/error^2					
124.37	±	1.39	1.9321	0.517572	64.3704					
125.66	±	0.65	0.4225	2.366864	297.42					
121.13	±	1.22	1.4884	0.671862	81.3827					
127.21	±	2.96	8.7616	0.114134	14.519					

Bret Leslie 10/11/93

NOPI-230*GAM-7 calc

Sample #	NOPI-230*GAM 7.0cm									
Weight(g)	3.496	Geometry	7.0 cm			Counting Time(min)		1378		
time of background minutes			4320							
Nuclides	Total Counts	Bkgd(1)	Blank(2) (cpm)	Eblank cpm	Net counts	c. eff. (%)	intensity (%)	Activity (dpm/g)		
Pb-210	45 kev									
210	7573	5608	0.2666	0.00976	1597.6252	1.58	4.1	511.93	±	38.62
Th-234										
62	12087	6956	0.3939	0.01249	4588.2058	6.3725	5.7	262.20	±	4.06
(93Kev)										
93	14960	6296	0.8309	0.01996	7519.0198	8.835	6.8	259.79	±	1.92
Ra-226										
295	19836	2586	0.0927	0.00564	17122.259	5.4325	18	363.47	±	0.78
352	30846	2283	0.1756	0.0029	28321.023	4.63	35	362.78	±	0.37
609	20169	1123	0.223	0.0026	18738.706	2.51	43	360.39	±	0.68
183.7	16884	5080	0.5414	0.0139	11057.951	17.7825	3.3	391.15	±	1.62
Th-228	583 kev									
228	1451	1157	0.1591	0.00914	74.7602	0.905	86	1.99	±	14.86
Ra-228										
338	2525	2203	0.0582	0.00591	241.8004	4.7325	12	8.84	±	11.32
911	1059	761	0.1737	0.00936	58.6414	1.8025	29	2.33	±	24.98
964	1608	1245	0.3092	0.00844	-63.0776	1.69	21.8	-3.55	±	-34.18
Ra-226 weighted average =			363.37	±	0.295	U (ppm)=		486.4	±	0.39
Ra-228 weighted average =			13.57	±	12.74	Th (ppm) =		50.21	±	47.1
210PB/234Th av =			380.82	±	5.51	U (ppm)=		509.8	±	7.38
	63 kev									
Ra-228 av&Th228 =			14.43	±	7.8	Th (ppm) =		53.39	±	28.9
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		363.37		average=	371.4				
	weighted error=		0.29499		std.=	17.11				
data	±	err	error^2	1/error^2	data/error^2					
363.47	±	0.78	0.6084	1.643655	597.419					
362.78	±	0.37	0.1369	7.304602	2649.96					
360.39	±	0.68	0.4624	2.16263	779.39					
391.15	±	1.62	2.6244	0.381039	149.044					

Bret Leslie 9/3/93

NOPI-303*GAM-7 calc

Sample #	NOPI-303*GAM 7.0 cm									
Weight(g)	4.427	Geometry	7.0 cm			Counting Time(min)		1436		
time of background minutes			4320							
Nuclides	Total	Bkgd(1)	Blank(2)	Eblank	Net counts	c. eff.	intensity	Activity		
	Counts		(cpm)	cpm		(%)	(%)	(dpm/g)		
Pb-210	45 kev									
210	21936	17352	0.2666	0.00976	4201.1624	1.58	4.1	1020.15	±	23.82
Th-234										
62	40092	23035	0.3939	0.01249	16491.36	6.3725	5.7	714.18	±	2.14
(93Kev)										
93	52315	21224	0.8309	0.01996	29897.828	8.835	6.8	782.82	±	0.96
Ra-226										
295	67644	6767	0.0927	0.00564	60743.883	5.4325	18	977.16	±	0.41
352	108892	5912	0.1756	0.0029	102727.84	4.63	35	997.18	±	0.19
609	69757	2750	0.223	0.0026	66686.772	2.51	43	971.93	±	0.36
183.7	59750	15217	0.5414	0.0139	43755.55	17.7825	3.3	1172.90	±	0.81
Th-228	583 kev									
228	3750	2829	0.1591	0.00914	692.5324	0.905	86	14.00	±	4.88
Ra-228										
338	6979	5781	0.0582	0.00591	1114.4248	4.7325	12	30.87	±	5.27
911	2751	1658	0.1737	0.00936	843.5668	1.8025	29	25.39	±	6.59
964	3808	2852	0.3092	0.00844	511.9888	1.69	21.8	21.86	±	12.00
Ra-226 weighted average =			996.11	±	0.1527	U (ppm)=		1333	±	0.20
Ra-228 weighted average =			13.57	±	12.74	Th (ppm) =		50.21	±	47.1
210PB/234Th av =			380.82	±	5.51	U (ppm)=		509.8	±	7.38
	63 kev									
Ra-228 av&Th228 =			14.43	±	7.8	Th (ppm) =		53.39	±	28.9
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		996.105		average=	1047				
	weighted error=		0.15269		std.=	109.5				
data	±	err	error^2	1/error^2	data/error^2					
977.16	±	0.41	0.1681	5.94884	5812.97					
997.18	±	0.19	0.0361	27.70083	27622.7					
971.93	±	0.36	0.1296	7.716049	7499.46					
1172.90	±	0.81	0.6561	1.524158	1787.68					

Bret Leslie 9/2/93

Sample #	NOPI-302*GAM 6.5cm									
Weight(g)	4.448	Geometry	6.5 cm			Counting Time(min)		928		
time of background minutes			4320							
Nuclides	Total Counts	Bkgd(1)	Blank(2) (cpm)	Eblank cpm	Net counts	c. eff. (%)	intensity (%)	Activity (dpm/g)		
Pb-210	45 kev									
210	11732	9569	0.2666	0.00976	1915.5952	1.58	4.1	682.28	±	33.59
Th-234										
62	21033	12789	0.3939	0.01249	7878.4608	6.3725	5.7	501.40	±	2.96
(93Kev)										
93	26208	11268	0.8309	0.01996	14168.925	8.835	6.8	547.28	±	1.34
Ra-226										
295	36420	3924	0.0927	0.00564	32409.974	5.4325	18	778.06	±	0.55
352	56761	3410	0.1756	0.0029	53188.043	4.63	35	766.78	±	0.26
609	36377	1621	0.223	0.0026	34549.056	2.51	43	769.34	±	0.49
183.7	29277	8645	0.5414	0.0139	20129.581	17.7825	3.3	804.48	±	1.16
Th-228	583 kev									
228	2216	1680	0.1591	0.00914	388.3552	0.905	86	11.95	±	6.44
Ra-228										
338	3996	3189	0.0582	0.00591	752.9904	4.7325	12	31.04	±	6.20
911	1502	938	0.1737	0.00936	402.8064	1.8025	29	18.59	±	9.49
964	2166	1643	0.3092	0.00844	236.0624	1.69	21.8	15.49	±	17.63
Ra-226 weighted average =			770.08	±	0.2085	U (ppm)=		1031	±	0.28
Ra-228 weighted average =			31.01	±	20.36	Th (ppm) =		114.7	±	75.3
210PB/234Th av =			403.63	±	13.68	U (ppm)=		540.3	±	18.3
	63 kev									
Ra-228 av&Th228 =			24.53	±	17.22	Th (ppm) =		90.76	±	63.7
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		770.082		average=	780.2				
	weighted error=		0.20848		std.=	21.07				
data	±	err	error^2	1/error^2	data/error^2					
778.06	±	0.55	0.3025	3.305785	2572.1					
766.78	±	0.26	0.0676	14.7929	11342.9					
769.34	±	0.49	0.2401	4.164931	3204.25					
804.48	±	1.16	1.3456	0.743163	597.86					

Sample #	NOPI-294*GAM 6.5cm									
Weight(g)	3.416	Geometry	6.5 cm			Counting Time(min)		487		
time of background minutes			4320							
Nuclides	Total	Bkgd(1)	Blank(2)	Eblank	Net counts	c. eff.	intensity	Activity		
	Counts		(cpm)	cpm		(%)	(%)	(dpm/g)		
Pb-210	45 kev									
210	1753	1309	0.2666	0.00976	314.1658	1.58	4.1	277.64	±	82.95
Th-234										
62	2739	1597	0.3939	0.01249	950.1707	6.3725	5.7	150.04	±	8.52
(93Kev)										
93	3433	1577	0.8309	0.01996	1451.3517	8.835	6.8	139.09	±	4.19
Ra-226										
295	4005	635	0.0927	0.00564	3324.8551	5.4325	18	198.05	±	1.72
352	5986	557	0.1756	0.0029	5343.4828	4.63	35	191.14	±	0.81
609	3821	343	0.223	0.0026	3369.399	2.51	43	186.17	±	1.58
183.7	3740	1231	0.5414	0.0139	2245.3382	17.7825	3.3	222.65	±	3.48
Th-228	583 kev									
228	532	310	0.1591	0.00914	144.5183	0.905	86	11.03	±	10.56
Ra-228										
338	729	600	0.0582	0.00591	100.6566	4.7325	12	10.29	±	16.96
911	402	167	0.1737	0.00936	150.4081	1.8025	29	17.23	±	15.53
964	530	343	0.3092	0.00844	36.4196	1.69	21.8	5.93	±	44.89
Ra-226 weighted average =			192.40	±	0.653	U (ppm)=		257.5	±	0.87
Ra-228 weighted average =			31.01	±	20.36	Th (ppm) =		114.7	±	75.3
210PB/234Th av =			403.63	±	13.68	U (ppm)=		540.3	±	18.3
	63 kev									
Ra-228 av&Th228 =			24.53	±	17.22	Th (ppm) =		90.76	±	63.7
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		192.396		average=	200				
	weighted error=		0.65298		std.=	19.78				
data	±	err	error^2	1/error^2	data/error^2					
198.05	±	1.72	2.9584	0.338021	66.945					
191.14	±	0.81	0.6561	1.524158	291.328					
186.17	±	1.58	2.4964	0.400577	74.5754					
222.65	±	3.48	12.1104	0.082574	18.385					

NOPI-301*GAM-6.5 calc

Sample #	NOPI-301*GAM 6.5 cm									
Weight(g)	3.997	Geometry	6.5 cm			Counting Time(min)		1040		
time of background minutes			4320							
Nuclides	Total	Bkgd(1)	Blank(2)	Eblank	Net counts	c. eff.	intensity	Activity		
	Counts		(cpm)	cpm		(%)	(%)	(dpm/g)		
Pb-210	45 kev									
210	10522	8306	0.2666	0.00976	1938.736	1.58	4.1	685.68	±	33.39
Th-234										
62	19263	10912	0.3939	0.01249	7941.344	6.3725	5.7	501.86	±	2.95
(93Kev)										
93	25307	9990	0.8309	0.01996	14452.864	8.835	6.8	554.33	±	1.33
Ra-226										
295	30058	3466	0.0927	0.00564	26495.592	5.4325	18	631.62	±	0.61
352	47101	3151	0.1756	0.0029	43767.376	4.63	35	626.55	±	0.28
609	30321	1528	0.223	0.0026	28561.08	2.51	43	631.55	±	0.54
183.7	26490	7197	0.5414	0.0139	18729.944	17.7825	3.3	743.30	±	1.21
Th-228	583 kev									
228	1604	1455	0.1591	0.00914	-16.464	0.905	86	-0.50	±	-31.29
Ra-228										
338	3270	2903	0.0582	0.00591	306.472	4.7325	12	12.54	±	9.72
911	1154	895	0.1737	0.00936	78.352	1.8025	29	3.59	±	21.51
964	1851	1509	0.3092	0.00844	20.432	1.69	21.8	1.33	±	59.93
Ra-226 weighted average =			632.20	±	0.2261	U (ppm)=		846.3	±	0.30
Ra-228 weighted average =			31.01	±	20.36	Th (ppm) =		114.7	±	75.3
210PB/234Th av =			403.63	±	13.68	U (ppm)=		540.3	±	18.3
	63 kev									
Ra-228 av&Th228 =			24.53	±	17.22	Th (ppm) =		90.76	±	63.7
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		632.201		average=	667.1				
	weighted error=		0.22614		std.=	66.01				
data	±	err	error^2	1/error^2	data/error^2					
631.62	±	0.61	0.3721	2.68745	1697.45					
626.55	±	0.28	0.0784	12.7551	7991.71					
631.55	±	0.54	0.2916	3.429355	2165.81					
743.30	±	1.21	1.4641	0.683013	507.684					

Bret Leslie 8/31/93

Sample #	NOPI-300*GAM 6.0cm									
Weight(g)	4.423	Geometry	6.0 cm			Counting Time(min)		391		
time of background minutes			4320							
Nuclides	Total	Bkgd(1)	Blank(2)	Eblank	Net counts	c. eff.	intensity	Activity		
	Counts		(cpm)	cpm		(%)	(%)	(dpm/g)		
Pb-210	45 kev									
210	7599	6147	0.2666	0.00976	1347.7594	1.58	4.1	1098.66	±	38.40
Th-234										
62	14537	8250	0.3939	0.01249	6132.9851	6.3725	5.7	893.25	±	3.22
(93Kev)										
93	20211	8020	0.8309	0.01996	11866.118	8.835	6.8	1057.49	±	1.41
Ra-226										
295	24243	2696	0.0927	0.00564	21510.754	5.4325	18	1194.37	±	0.65
352	38558	2204	0.1756	0.0029	36285.34	4.63	35	1205.55	±	0.30
609	24525	1019	0.223	0.0026	23418.807	2.51	43	1202.94	±	0.58
183.7	23035	5595	0.5414	0.0139	17228.313	17.7825	3.3	1582.13	±	1.21
Th-228	583 kev									
228	1283	1071	0.1591	0.00914	149.7919	0.905	86	10.65	±	10.05
Ra-228										
338	2438	2202	0.0582	0.00591	213.2438	4.7325	12	20.24	±	11.24
911	921	689	0.1737	0.00936	164.0833	1.8025	29	17.55	±	14.44
964	1329	1090	0.3092	0.00844	118.1028	1.69	21.8	17.96	±	24.20
Ra-226 weighted average =			1218.60	±	0.2416	U (ppm)=		1631	±	0.32
Ra-228 weighted average =			31.11	±	15.73	Th (ppm) =		115.1	±	58.2
210PB/234Th av =			535.96	±	9.81	U (ppm)=		717.4	±	13.1
	63 kev									
Ra-228 av&Th228 =			24.83	±	12.98	Th (ppm) =		91.87	±	48
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		1218.56		average=	1330				
	weighted error=		0.24159		std.=	218.2				
data	±	err	error^2	1/error^2	data/error^2					
1194.37	±	0.65	0.4225	2.366864	2826.91					
1205.55	±	0.30	0.09	11.11111	13395					
1202.94	±	0.58	0.3364	2.972652	3575.92					
1582.13		1.21	1.4641	0.683013	1080.62					

NOPI-299*GAM-1 calc

Sample #	NOPI-299*GAM 1.0cm									
Weight(g)	0.643	Geometry	1.0 cm			Counting Time(min)		4310		
time of background minutes			4320							
Nuclides	Total	Bkgd(1)	Blank(2)	Eblank	Net counts	c. eff.	intensity	Activity		
	Counts		(cpm)	cpm		(%)	(%)	(dpm/g)		
Pb-210	45 kev									
210	7749	6280	0.2666	0.00976	319.954	1.58	4.1	156.33	±	75.70
Th-234										
62	11240	7246	0.3939	0.01249	2296.291	6.3725	5.7	200.98	±	5.06
(93Kev)										
93	14418	6656	0.8309	0.01996	4180.821	8.835	6.8	221.43	±	2.27
Ra-226										
295	12228	4376	0.0927	0.00564	7452.463	5.4325	18	254.89	±	1.10
352	16578	3478	0.1756	0.0029	12343.164	4.63	35	254.96	±	0.52
609	11013	2115	0.223	0.0026	7936.87	2.51	43	260.15	±	1.02
183.7	15042	6992	0.5414	0.0139	5716.566	17.7825	3.3	313.85	±	2.01
Th-228	583 kev									
228	3098	2202	0.1591	0.00914	210.279	0.905	86	9.53	±	8.66
Ra-228										
338	4274	3855	0.0582	0.00591	168.158	4.7325	12	9.94	±	12.63
911	2305	1502	0.1737	0.00936	54.353	1.8025	29	3.47	±	24.03
964	3301	2608	0.3092	0.00844	-639.652	1.69	21.8	-58.01	±	-9.94
Ra-226 weighted average =			258.36	±	0.4176	U (ppm)=		345.8	±	0.56
Ra-228 weighted average =			23.08	±	25.46	Th (ppm) =		85.4	±	94.2
210PB/234Th av =			755.30	±	8.7	U (ppm)=		1011	±	11.6
	63 kev									
Ra-228 av&Th228 =			21.68	±	24.65	Th (ppm) =		80.22	±	91.2
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		258.362		average=	276.3				
	weighted error=		0.41763		std.=	32.61				
data	±	err	error^2	1/error^2	data/error^2					
254.89	±	1.10	1.21	0.826446	210.653					
254.96	±	0.52	0.2704	3.698225	942.899					
260.15	±	1.02	1.0404	0.961169	250.048					
313.85	±	2.01	4.0401	0.247519	77.6837					

Bret Leslie 8/30/93

393-10-25/5-7 calc NOPI-232

Sample #	393-10-28/5 7.0cm									
Weight(g)	3.723	Geometry	7.0 cm			Counting Time(min)		1472		
time of background minutes			4320							
Nuclides	Total Counts	Bkgd(1)	Blank(2) (cpm)	Eblank cpm	Net counts	c. eff. (%)	intensity (%)	Activity (dpm/g)		
Pb-210	45 kev									
210	3799	2981	0.2666	0.00976	425.5648	1.58	4.1	119.87	±	74.83
Th-234										
62	5631	3592	0.3939	0.01249	1459.1792	6.3725	5.7	73.30	±	7.21
(93Kev)										
93	6842	3321	0.8309	0.01996	2297.9152	8.835	6.8	69.79	±	3.47
Ra-226										
295	7573	1807	0.0927	0.00564	5629.5456	5.4325	18	105.05	±	1.36
352	11281	1524	0.1756	0.0029	9498.5168	4.63	35	106.96	±	0.63
609	7521	934	0.223	0.0026	6258.744	2.51	43	105.81	±	1.17
183.7	7615	3145	0.5414	0.0139	3673.0592	17.7825	3.3	114.21	±	2.81
Th-228	583 kev									
228	1382	914	0.1591	0.00914	233.8048	0.905	86	5.48	±	8.40
Ra-228										
338	1963	1579	0.0582	0.00591	298.3296	4.7325	12	9.59	±	10.19
911	973	562	0.1737	0.00936	155.3136	1.8025	29	5.42	±	15.35
964	1383	1066	0.3092	0.00844	-138.1424	1.69	21.8	-6.84	±	-23.09
Ra-226 weighted average =			106.72	±	0.5052	U (ppm)=		142.9	±	0.68
Ra-228 weighted average =			13.57	±	12.74	Th (ppm) =		50.21	±	47.1
210PB/234Th av =			380.82	±	5.51	U (ppm)=		509.8	±	7.38
	63 kev									
Ra-228 av&Th228 =			14.43	±	7.8	Th (ppm) =		53.39	±	28.9
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		106.716		average=	109				
	weighted error=		0.50525		std.=	4.554				
data	±	err	error^2	1/error^2	data/error^2					
105.05	±	1.36	1.8496	0.540657	56.7961					
106.96	±	0.63	0.3969	2.519526	269.489					
105.81	±	1.17	1.3689	0.730514	77.2956					
114.21	±	2.81	7.8961	0.126645	14.4641					

Bret Leslie 8/27/93

393-13.9/42.4-4.5 calc

WOPI-226

Sample #	393-13.9/42.4 4.5cm									
Weight(g)	2.337	Geometry	4.5 cm			Counting Time(min)		1426		
time of background minutes			4320							
Nuclides	Total Counts	Bkgd(1)	Blank(2) (cpm)	Eblank cpm	Net counts	c. eff. (%)	intensity (%)	Activity (dpm/g)		
Pb-210	45 kev									
210	2392	2005	0.2666	0.00976	6.8284	1.58	4.1	2.51	±	468.84
Th-234										
62	3134	2119	0.3939	0.01249	453.2986	6.3725	5.7	30.08	±	10.39
(93Kev)										
93	3770	2000	0.8309	0.01996	585.1366	8.835	6.8	23.53	±	5.54
Ra-226										
295	3800	1450	0.0927	0.00564	2217.8098	5.4325	18	58.67	±	1.87
352	5037	1239	0.1756	0.0029	3547.5944	4.63	35	55.72	±	0.88
609	3211	704	0.223	0.0026	2189.002	2.51	43	53.86	±	1.75
183.7	4071	2294	0.5414	0.0139	1004.9636	17.7825	3.3	42.82	±	4.48
Th-228	583 kev									
228	1202	722	0.1591	0.00914	253.1234	0.905	86	8.60	±	7.12
Ra-228										
338	1624	1219	0.0582	0.00591	322.0068	4.7325	12	14.48	±	8.35
911	877	468	0.1737	0.00936	161.3038	1.8025	29	8.19	±	13.33
964	1177	872	0.3092	0.00844	-135.9192	1.69	21.8	-9.80	±	-20.60
Ra-226 weighted average =			55.51	±	0.7154	U (ppm)=		74.31	±	0.96
Ra-228 weighted average =			85.75	±	17.62	Th (ppm) =		317.3	±	65.2
210PB/234Th av =			1689.10	±	8.22	U (ppm)=		2261	±	11
	63 kev									
Ra-228 av&Th228 =			85.28	±	17.57	Th (ppm) =		315.5	±	65
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		55.5119		average=	50.8				
	weighted error=		0.71545		std.=	6.973				
data	±	err	error^2	1/error^2	data/error^2					
58.67	±	1.87	3.4969	0.285968	16.7777					
55.72	±	0.88	0.7744	1.291322	71.9525					
53.86	±	1.75	3.0625	0.326531	17.5869					
42.82	±	4.48	20.0704	0.049825	2.13349					

Bret Leslie 8/27/93

393-12.1/42.5-7 calc

WOP1-225

Sample #	393-12.1/42.5 7.0cm									
Weight(g)	3.96	Geometry	7.0 cm			Counting Time(min)		1432		
time of background minutes			4320							
Nuclides	Total	Bkgd(1)	Blank(2)	Eblank	Net counts	c. eff.	intensity	Activity		
	Counts		(cpm)	cpm		(%)	(%)	(dpm/g)		
Pb-210	45 kev									
210	3002	2301	0.2666	0.00976	319.2288	1.58	4.1	86.90	±	86.40
Th-234										
62	3890	2806	0.3939	0.01249	519.9352	6.3725	5.7	25.24	±	12.07
(93Kev)										
93	4899	2527	0.8309	0.01996	1182.1512	8.835	6.8	34.70	±	4.84
Ra-226										
295	5537	1663	0.0927	0.00564	3741.2536	5.4325	18	67.47	±	1.67
352	7494	1347	0.1756	0.0029	5895.5408	4.63	35	64.16	±	0.80
609	4912	807	0.223	0.0026	3785.664	2.51	43	61.85	±	1.51
183.7	5343	2626	0.5414	0.0139	1941.7152	17.7825	3.3	58.35	±	3.87
Th-228	583 kev									
228	1327	832	0.1591	0.00914	267.1688	0.905	86	6.05	±	7.86
Ra-228										
338	1781	1441	0.0582	0.00591	256.6576	4.7325	12	7.97	±	10.99
911	965	521	0.1737	0.00936	195.2616	1.8025	29	6.59	±	13.69
964	1303	925	0.3092	0.00844	-64.7744	1.69	21.8	-3.10	±	-33.73
Ra-226 weighted average =			64.07	±	0.642	U (ppm)=		85.77	±	0.86
Ra-228 weighted average =			13.57	±	12.74	Th (ppm) =		50.21	±	47.1
210PB/234Th av =			380.82	±	5.51	U (ppm)=		509.8	±	7.38
	63 kev									
Ra-228 av&Th228 =			14.43	±	7.8	Th (ppm) =		53.39	±	28.9
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		64.0717		average=	61.45				
	weighted error=		0.64197		std.=	2.925				
data	±	err	error^2	1/error^2	data/error^2					
67.47	±	1.67	2.7889	0.358564	24.1923					
64.16	±	0.80	0.64	1.5625	100.25					
61.85	±	1.51	2.2801	0.438577	27.126					
58.35	±	3.87	14.9769	0.066769	3.896					

Bret Leslie 8/25/93

393-11.2/42.3-7 calc

NoP1-224

Sample #	393-11.2/42.3 7.0cm									
Weight(g)	4.599	Geometry	7.0 cm			Counting Time(min)		1112		
time of background minutes			4320							
Nuclides	Total Counts	Bkgd(1)	Blank(2) (cpm)	Eblank cpm	Net counts	c. eff. (%)	intensity (%)	Activity (dpm/g)		
Pb-210	45 kev									
210	3555	2783	0.2666	0.00976	475.5408	1.58	4.1	143.54	±	70.79
Th-234										
62	4805	3584	0.3939	0.01249	782.9832	6.3725	5.7	42.15	±	9.84
(93Kev)										
93	4852	2948	0.8309	0.01996	980.0392	8.835	6.8	31.90	±	5.32
Ra-226										
295	9445	1698	0.0927	0.00564	7643.9176	5.4325	18	152.85	±	1.17
352	14204	1504	0.1756	0.0029	12504.733	4.63	35	150.89	±	0.55
609	9322	836	0.223	0.0026	8238.024	2.51	43	149.25	±	1.02
183.7	7590	3128	0.5414	0.0139	3859.9632	17.7825	3.3	128.62	±	2.74
Th-228	583 kev									
228	1483	853	0.1591	0.00914	453.0808	0.905	86	11.38	±	6.04
Ra-228										
338	1918	1480	0.0582	0.00591	373.2816	4.7325	12	12.85	±	9.11
911	965	532	0.1737	0.00936	239.8456	1.8025	29	8.97	±	12.35
964	1316	917	0.3092	0.00844	55.1696	1.69	21.8	2.93	±	36.54
Ra-226 weighted average =			150.28	±	0.4415	U (ppm)=		201.2	±	0.59
Ra-228 weighted average =			13.57	±	12.74	Th (ppm) =		50.21	±	47.1
210PB/234Th av =			380.82	±	5.51	U (ppm)=		509.8	±	7.38
	63 kev									
Ra-228 av&Th228 =			14.43	±	7.8	Th (ppm) =		53.39	±	28.9
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		150.284		average=	142.9				
	weighted error=		0.44148		std.=	12.41				
data	±	err	error^2	1/error^2	data/error^2					
152.85	±	1.17	1.3689	0.730514	111.659					
150.89	±	0.55	0.3025	3.305785	498.81					
149.25	±	1.02	1.0404	0.961169	143.454					
128.62	±	2.74	7.5076	0.133198	17.132					

Bret Leslie 8/24/93

393-8.1/43.2-7 calc

NOPI-223

Sample #	393-8.1/43.2 7.0cm									
Weight(g)	3.51	Geometry	7.0 cm			Counting Time(min)		1400		
time of background minutes			4320							
Nuclides	Total	Bkgd(1)	Blank(2)	Eblank	Net counts	c. eff.	intensity	Activity		
	Counts		(cpm)	cpm		(%)	(%)	(dpm/g)		
Pb-210	45 kev									
210	2560	1947	0.2666	0.00976	239.76	1.58	4.1	75.32	±	99.69
Th-234										
62	3238	2251	0.3939	0.01249	435.54	6.3725	5.7	24.40	±	13.19
(93Kev)										
93	4042	2091	0.8309	0.01996	787.74	8.835	6.8	26.68	±	5.93
Ra-226										
295	3595	1436	0.0927	0.00564	2029.22	5.4325	18	42.23	±	2.27
352	4830	1189	0.1756	0.0029	3395.16	4.63	35	42.64	±	1.06
609	3181	711	0.223	0.0026	2157.8	2.51	43	40.68	±	1.99
183.7	4198	2232	0.5414	0.0139	1208.04	17.7825	3.3	41.89	±	4.90
Th-228	583 kev									
228	1142	706	0.1591	0.00914	213.26	0.905	86	5.58	±	8.80
Ra-228										
338	1505	1274	0.0582	0.00591	149.52	4.7325	12	5.36	±	14.40
911	850	486	0.1737	0.00936	120.82	1.8025	29	4.70	±	17.40
964	1147	872	0.3092	0.00844	-157.88	1.69	21.8	-8.72	±	-21.60
Ra-226 weighted average =			42.20	±	0.8518	U (ppm)=		56.49	±	1.14
Ra-228 weighted average =			13.57	±	12.74	Th (ppm) =		50.21	±	47.1
210PB/234Th av =			380.82	±	5.51	U (ppm)=		509.8	±	7.38
	63 kev									
Ra-228 av&Th228 =			14.43	±	7.8	Th (ppm) =		53.39	±	28.9
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		42.2005		average=	41.74				
	weighted error=		0.8518		std.=	0.989				
data	±	err	error^2	1/error^2	data/error^2					
42.23	±	2.27	5.1529	0.194065	8.19539					
42.64	±	1.06	1.1236	0.889996	37.9494					
40.68	±	1.99	3.9601	0.252519	10.2725					
41.89	±	4.90	24.01	0.041649	1.74469					

Bret Leslie 8/20/93

393-17.1/42.5-7 calc

WOP1-228

Sample #	393-17.1/42.5 7.0cm									
Weight(g)	4.012	Geometry	7.0 cm			Counting Time(min)		1000		
time of background minutes			4320							
Nuclides	Total Counts	Bkgd(1)	Blank(2) (cpm)	Eblank cpm	Net counts	c. eff. (%)	intensity (%)	Activity (dpm/g)		
Pb-210	45 kev									
210	2317	1903	0.2666	0.00976	147.4	1.58	4.1	56.71	±	127.15
Th-234										
62	3157	2235	0.3939	0.01249	528.1	6.3725	5.7	36.24	±	11.98
(93Kev)										
93	3653	2019	0.8309	0.01996	803.1	8.835	6.8	33.32	±	5.87
Ra-226										
295	4672	1173	0.0927	0.00564	3406.3	5.4325	18	86.83	±	1.75
352	6415	963	0.1756	0.0029	5276.4	4.63	35	81.16	±	0.85
609	4343	592	0.223	0.0026	3528	2.51	43	81.48	±	1.56
183.7	4446	2020	0.5414	0.0139	1884.6	17.7825	3.3	80.05	±	3.93
Th-228	583 kev									
228	1027	595	0.1591	0.00914	272.9	0.905	86	8.74	±	7.78
Ra-228										
338	1347	1082	0.0582	0.00591	206.8	4.7325	12	9.08	±	12.24
911	739	350	0.1737	0.00936	215.3	1.8025	29	10.27	±	13.04
964	976	638	0.3092	0.00844	28.8	1.69	21.8	1.95	±	50.58
Ra-226 weighted average =			82.03	±	0.6763	U (ppm)=		109.8	±	0.91
Ra-228 weighted average =			13.57	±	12.74	Th (ppm) =		50.21	±	47.1
210PB/234Th av =			380.82	±	5.51	U (ppm)=		509.8	±	7.38
	63 kev									
Ra-228 av&Th228 =			14.43	±	7.8	Th (ppm) =		53.39	±	28.9
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		82.0341		average=	80.9				
	weighted error=		0.67631		std.=	0.75				
data	±	err	error^2	1/error^2	data/error^2					
86.83	±	1.75	3.0625	0.326531	28.3527					
81.16	±	0.85	0.7225	1.384083	112.332					
81.48	±	1.56	2.4336	0.410914	33.4813					
80.05	±	3.93	15.4449	0.064746	5.18294					

Bret Leslie 8/19/93

7.0 cm calc

NOPI-227

Sample #	393-15.0/42.3 7.0 cm									
Weight(g)	3.888	Geometry	7.0 cm			Counting Time(min)		365		
time of background minutes			4320							
Nuclides	Total Counts	Bkgd(1)	Blank(2) (cpm)	Eblank cpm	Net counts	c. eff. (%)	intensity (%)	Activity (dpm/g)		
Pb-210	45 kev									
210	771	593	0.2666	0.00976	80.691	1.58	4.1	87.77	±	171.85
Th-234										
62	983	686	0.3939	0.01249	153.2265	6.3725	5.7	29.73	±	22.24
(93Kev)										
93	1227	658	0.8309	0.01996	265.7215	8.835	6.8	31.17	±	10.21
Ra-226										
295	1371	403	0.0927	0.00564	934.1645	5.4325	18	67.32	±	3.35
352	1904	290	0.1756	0.0029	1549.906	4.63	35	67.40	±	1.57
609	1247	195	0.223	0.0026	970.605	2.51	43	63.37	±	2.97
183.7	1416	635	0.5414	0.0139	583.389	17.7825	3.3	70.05	±	7.06
Th-228	583 kev									
228	356	213	0.1591	0.00914	84.9285	0.905	86	7.69	±	13.94
Ra-228										
338	399	386	0.0582	0.00591	-8.243	4.7325	12	-1.02	±	-61.33
911	292	130	0.1737	0.00936	98.5995	1.8025	29	13.29	±	19.27
964	356	224	0.3092	0.00844	19.142	1.69	21.8	3.66	±	62.04
Ra-226 weighted average =			66.75	±	1.26	U (ppm)=		89.35	±	1.69
Ra-228 weighted average =			13.57	±	12.74	Th (ppm) =		50.21	±	47.1
210PB/234Th av =			380.82	±	5.51	U (ppm)=		509.8	±	7.38
	63 kev									
Ra-228 av&Th228 =			14.43	±	7.8	Th (ppm) =		53.39	±	28.9
Calculation of weighted average (up to 200 data sets can be input)										
	weighted average=		66.7461		average=	66.94				
	weighted error=		1.26165		std.=	3.364				
data	±	err	error^2	1/error^2	data/error^2					
67.32	±	3.35	11.2225	0.089107	5.99866					
67.40	±	1.57	2.4649	0.405696	27.3439					
63.37	±	2.97	8.8209	0.113367	7.18407					
70.05	±	7.06	49.8436	0.020063	1.4054					

Bret Leslie 8/18/93

Sample Summary

Sample sheet	**NOPI-241*GAM8 2.0cm**			*DATE*	2/15/94	*TIME (MIN)*	1201
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	1695	**1351**	*344*	0.29
			95-97	**3046**			
234 Th	63	122-127	119-121	2006	**1425**	*581*	0.48
			128-130	**3431**			
234 Th	92	182-186	180-181	2586	**1365**	*1221*	1.02
			187-189	**3951**			
226Ra/235U	186	367-372	364-366	2554	**1554**	*1000*	0.83
			373-375	**4108**			
214 Pb	295	585-592	581-584	1750	**1075**	*675*	0.56
			593-596	**2825**			
228 Ac	338	671-678	667-670	1090	**902**	*188*	0.16
			679-682	**1992**			
214 Pb	352	698-705	694-697	2033	**845**	*1188*	0.99
			706-709	**2878**			
208 Tl	583	1160-1167	1156-1159	797	**531**	*266*	0.22
			1168-1171	**1328**			
214 Bi	609	1213-1220	1209-1212	1327	**521**	*806*	0.67
			1221-1224	**1848**			
228 Ac	911	1816-1823	1813-1815	616	**324**	*292*	0.24
			1824-1828	**940**			
228 Ac	964	1924-1941	1915-1923	911	**635**	*276*	0.23
228Ac	969		1942-1950	**1546**			

Sample sheet	**NOPI-151*GAM6**	**1.0 cm**		*DATE*	1/18/94	*TIME (MIN)*	1414
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	1906	**1458**	*448*	0.32
			95-97	**3364**			
234 Th	63	122-127	119-121	2180	**1512**	*668*	0.47
			128-130	**3692**			
234 Th	92	182-186	180-181	2763	**1500**	*1263*	0.89
			187-189	**4263**			
226Ra/235U	186	367-372	364-366	2768	**1867**	*901*	0.64
			373-375	**4635**			
214 Pb	295	585-592	581-584	1612	**1273**	*339*	0.24
			593-596	**2885**			
228 Ac	338	671-678	667-670	1261	**1079**	*182*	0.13
			679-682	**2340**			
214 Pb	352	698-705	694-697	1786	**1060**	*726*	0.51
			706-709	**2846**			
208 Tl	583	1160-1167	1156-1159	861	**609**	*252*	0.18
			1168-1171	**1470**			
214 Bi	609	1213-1220	1209-1212	1280	**627**	*653*	0.46
			1221-1224	**1907**			
228 Ac	911	1816-1823	1813-1815	711	**439**	*272*	0.19
			1824-1828	**1150**			
228 Ac	964	1924-1941	1915-1923	941	**770**	*171*	0.12
228Ac	969		1942-1950	**1711**			

Sample sheet	**NOPI-151*GAM5**	**1.0 cm**		*DATE*	1/17/94	*TIME (MIN)*	4329
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	5858	**4756**	*1102*	0.25
			95-97	**10614**			
234 Th	63	122-127	119-121	6677	**4825**	*1852*	0.43
			128-130	**11502**			
234 Th	92	182-186	180-181	8482	**4548**	*3934*	0.91
			187-189	**13030**			
226Ra/235U	186	367-372	364-366	8418	**5598**	*2820*	0.65
			373-375	**14016**			
214 Pb	295	585-592	581-584	5491	**3946**	*1545*	0.36
			593-596	**9437**			
228 Ac	338	671-678	667-670	3858	**3455**	*403*	0.09
			679-682	**7313**			
214 Pb	352	698-705	694-697	5896	**3072**	*2824*	0.65
			706-709	**8968**			
208 Tl	583	1160-1167	1156-1159	2770	**1941**	*829*	0.19
			1168-1171	**4711**			
214 Bi	609	1213-1220	1209-1212	4253	**2020**	*2233*	0.52
			1221-1224	**6273**			
228 Ac	911	1816-1823	1813-1815	2130	**1269**	*861*	0.20
			1824-1828	**3399**			
228 Ac	964	1924-1941	1915-1923	3056	**2363**	*693*	0.16
228Ac	969		1942-1950	**5419**			

Sample sheet	**NOPI-151*GAM4**	**1.5 cm**		*DATE*	1/14/94	*TIME (MIN)*	1503
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	2103	**1743**	*360*	0.24
			95-97	**3846**			
234 Th	63	122-127	119-121	2405	**1706**	*699*	0.47
			128-130	**4111**			
234 Th	92	182-186	180-181	3031	**1557**	*1474*	0.98
			187-189	**4588**			
226Ra/235U	186	367-372	364-366	3099	**2023**	*1076*	0.72
			373-375	**5122**			
214 Pb	295	585-592	581-584	2181	**1363**	*818*	0.54
			593-596	**3544**			
228 Ac	338	671-678	667-670	1364	**1213**	*151*	0.10
			679-682	**2577**			
214 Pb	352	698-705	694-697	2499	**1078**	*1421*	0.95
			706-709	**3577**			
208 Tl	583	1160-1167	1156-1159	969	**689**	*280*	0.19
			1168-1171	**1658**			
214 Bi	609	1213-1220	1209-1212	1740	**676**	*1064*	0.71
			1221-1224	**2416**			
228 Ac	911	1816-1823	1813-1815	806	**454**	*352*	0.23
			1824-1828	**1260**			
228 Ac	964	1924-1941	1915-1923	1130	**832**	*298*	0.20
228Ac	969		1942-1950	**1962**			

Sample sheet	**NOPI-151*GAM3**	**2.0cm**		*DATE*	1/13/94	*TIME (MIN)*	1327
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	2005	**1654**	*351*	0.26
			95-97	**3659**			
234 Th	63	122-127	119-121	2320	**1701**	*619*	0.47
			128-130	**4021**			
234 Th	92	182-186	180-181	2911	**1519**	*1392*	1.05
			187-189	**4430**			
226Ra/235U	186	367-372	364-366	2953	**1764**	*1189*	0.90
			373-375	**4717**			
214 Pb	295	585-592	581-584	2294	**1193**	*1101*	0.83
			593-596	**3487**			
228 Ac	338	671-678	667-670	1224	**1053**	*171*	0.13
			679-682	**2277**			
214 Pb	352	698-705	694-697	2850	**1010**	*1840*	1.39
			706-709	**3860**			
208 Tl	583	1160-1167	1156-1159	859	**619**	*240*	0.18
			1168-1171	**1478**			
214 Bi	609	1213-1220	1209-1212	1874	**634**	*1240*	0.93
			1221-1224	**2508**			
228 Ac	911	1816-1823	1813-1815	728	**407**	*321*	0.24
			1824-1828	**1135**			
228 Ac	964	1924-1941	1915-1923	990	**745**	*245*	0.18
228Ac	969		1942-1950	**1735**			

Sample sheet	**NOPI-151*GAM2**	**2.0cm**		*DATE*	1/12/94	*TIME (MIN)*	1545
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	2428	**1916**	*512*	0.33
			95-97	**4344**			
234 Th	63	122-127	119-121	2923	**2085**	*838*	0.54
			128-130	**5008**			
234 Th	92	182-186	180-181	3633	**1915**	*1718*	1.11
			187-189	**5548**			
226Ra/235U	186	367-372	364-366	3811	**2247**	*1564*	1.01
			373-375	**6058**			
214 Pb	295	585-592	581-584	3022	**1434**	*1588*	1.03
			593-596	**4456**			
228 Ac	338	671-678	667-670	1535	**1296**	*239*	0.15
			679-682	**2831**			
214 Pb	352	698-705	694-697	3809	**1178**	*2631*	1.70
			706-709	**4987**			
208 Tl	583	1160-1167	1156-1159	1121	**688**	*433*	0.28
			1168-1171	**1809**			
214 Bi	609	1213-1220	1209-1212	2555	**736**	*1819*	1.18
			1221-1224	**3291**			
228 Ac	911	1816-1823	1813-1815	875	**477**	*398*	0.26
			1824-1828	**1352**			
228 Ac	964	1924-1941	1915-1923	1168	**893**	*275*	0.18
228Ac	969		1942-1950	**2061**			

Sample sheet	NOPI-151*GAM1	3.0cm		*DATE*	1/11/94	*TIME (MIN)*	1022
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	3104	**2352**	*752*	0.74
			95-97	**5456**			
234 Th	63	122-127	119-121	4732	**2748**	*1984*	1.94
			128-130	**7480**			
234 Th	92	182-186	180-181	5979	**2523**	*3456*	3.38
			187-189	**8502**			
226Ra/235U	186	367-372	364-366	6048	**2317**	*3731*	3.65
			373-375	**8365**			
214 Pb	295	585-592	581-584	6608	**1330**	*5278*	5.16
			593-596	**7938**			
228 Ac	338	671-678	667-670	1260	**1154**	*106*	0.10
			679-682	**2414**			
214 Pb	352	698-705	694-697	9609	**1087**	*8522*	8.34
			706-709	**10696**			
208 Tl	583	1160-1167	1156-1159	808	**612**	*196*	0.19
			1168-1171	**1420**			
214 Bi	609	1213-1220	1209-1212	6539	**593**	*5946*	5.82
			1221-1224	**7132**			
228 Ac	911	1816-1823	1813-1815	673	**384**	*289*	0.28
			1824-1828	**1057**			
228 Ac	964	1924-1941	1915-1923	949	**693**	*256*	0.25
228Ac	969		1942-1950	**1642**			

Sample sheet	NOPI-202*GAM 7.0cm			*DATE*	11/12/93	*TIME (MIN)*	1446
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	2646	**2092**	*554*	0.38
			95-97	**4738**			
234 Th	63	122-127	119-121	3318	**2345**	*973*	0.67
			128-130	**5663**			
234 Th	92	182-186	180-181	4057	**2211**	*1846*	1.28
			187-189	**6268**			
226Ra/235U	186	367-372	364-366	4190	**2263**	*1927*	1.33
			373-375	**6453**			
214 Pb	295	585-592	581-584	3502	**1486**	*2016*	1.39
			593-596	**4988**			
228 Ac	338	671-678	667-670	1706	**1287**	*419*	0.29
			679-682	**2993**			
214 Pb	352	698-705	694-697	4560	**1138**	*3422*	2.37
			706-709	**5698**			
208 Tl	583	1160-1167	1156-1159	1389	**700**	*689*	0.48
			1168-1171	**2089**			
214 Bi	609	1213-1220	1209-1212	3028	**714**	*2314*	1.60
			1221-1224	**3742**			
228 Ac	911	1816-1823	1813-1815	1010	**463**	*547*	0.38
			1824-1828	**1473**			
228 Ac	964	1924-1941	1915-1923	1276	**879**	*397*	0.27
228Ac	969		1942-1950	**2155**			

Sample sheet	NOPI-201*GAM 7.0cm			*DATE*	11/11/93	*TIME (MIN)*	1285
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	2553	**2062**	*491*	0.38
			95-97	**4615**			
234 Th	63	122-127	119-121	3557	**2398**	*1159*	0.90
			128-130	**5955**			
234 Th	92	182-186	180-181	4593	**2231**	*2362*	1.84
			187-189	**6824**			
226Ra/235U	186	367-372	364-366	4326	**2197**	*2129*	1.66
			373-375	**6523**			
214 Pb	295	585-592	581-584	4079	**1322**	*2757*	2.15
			593-596	**5401**			
228 Ac	338	671-678	667-670	1502	**1181**	*321*	0.25
			679-682	**2683**			
214 Pb	352	698-705	694-697	5805	**1129**	*4676*	3.64
			706-709	**6934**			
208 Tl	583	1160-1167	1156-1159	1192	**646**	*546*	0.42
			1168-1171	**1838**			
214 Bi	609	1213-1220	1209-1212	3747	**669**	*3078*	2.40
			1221-1224	**4416**			
228 Ac	911	1816-1823	1813-1815	848	**402**	*446*	0.35
			1824-1828	**1250**			
228 Ac	964	1924-1941	1915-1923	1153	**804**	*349*	0.27
228Ac	969		1942-1950	**1957**			

Sample sheet	NOPI-200*GAM 7.0cm			*DATE*	11/10/93	*TIME (MIN)*	1462
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	3519	**2880**	*639*	0.44
			95-97	**6399**			
234 Th	63	122-127	119-121	4738	**3164**	*1574*	1.08
			128-130	**7902**			
234 Th	92	182-186	180-181	5974	**2911**	*3063*	2.10
			187-189	**8885**			
226Ra/235U	186	367-372	364-366	6303	**2807**	*3496*	2.39
			373-375	**9110**			
214 Pb	295	585-592	581-584	6163	**1582**	*4581*	3.13
			593-596	**7745**			
228 Ac	338	671-678	667-670	1921	**1538**	*383*	0.26
			679-682	**3459**			
214 Pb	352	698-705	694-697	8984	**1439**	*7545*	5.16
			706-709	**10423**			
208 Tl	583	1160-1167	1156-1159	1502	**815**	*687*	0.47
			1168-1171	**2317**			
214 Bi	609	1213-1220	1209-1212	6074	**828**	*5246*	3.59
			1221-1224	**6902**			
228 Ac	911	1816-1823	1813-1815	1048	**545**	*503*	0.34
			1824-1828	**1593**			
228 Ac	964	1924-1941	1915-1923	1353	**933**	*420*	0.29
228Ac	969		1942-1950	**2286**			

Sample sheet	NOPI-194*GAM 7.0cm			DATE	11/9/93	TIME (MIN)	1443
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	CPM
210 Pb	45	89-94	86-88	3245	**2481**	*764*	0.53
			95-97	**5726**			
234 Th	63	122-127	119-121	3830	**2703**	*1127*	0.78
			128-130	**6533**			
234 Th	92	182-186	180-181	4416	**2418**	*1998*	1.38
			187-189	**6834**			
226Ra/235U	186	367-372	364-366	5063	**2505**	*2558*	1.77
			373-375	**7568**			
214 Pb	295	585-592	581-584	5544	**1591**	*3953*	2.74
			593-596	**7135**			
228 Ac	338	671-678	667-670	1707	**1412**	*295*	0.20
			679-682	**3119**			
214 Pb	352	698-705	694-697	7977	**1322**	*6655*	4.61
			706-709	**9299**			
208 Tl	583	1160-1167	1156-1159	1396	**685**	*711*	0.49
			1168-1171	**2081**			
214 Bi	609	1213-1220	1209-1212	5315	**762**	*4553*	3.16
			1221-1224	**6077**			
228 Ac	911	1816-1823	1813-1815	1026	**489**	*537*	0.37
			1824-1828	**1515**			
228 Ac	964	1924-1941	1915-1923	1300	**886**	*414*	0.29
228Ac	969		1942-1950	**2186**			

Sample sheet	NOPI-178*GAM 7.0cm			*DATE*	11/8/93	*TIME (MIN)*	2000
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	2915	**2382**	*533*	0.27
			95-97	**5297**			
234 Th	63	122-127	119-121	3510	**2575**	*935*	0.47
			128-130	**6085**			
234 Th	92	182-186	180-181	4415	**2385**	*2030*	1.02
			187-189	**6800**			
226Ra/235U	186	367-372	364-366	4032	**2750**	*1282*	0.64
			373-375	**6782**			
214 Pb	295	585-592	581-584	2499	**1910**	*589*	0.29
			593-596	**4409**			
228 Ac	338	671-678	667-670	2328	**1621**	*707*	0.35
			679-682	**3949**			
214 Pb	352	698-705	694-697	2659	**1505**	*1154*	0.58
			706-709	**4164**			
208 Tl	583	1160-1167	1156-1159	1884	**951**	*933*	0.47
			1168-1171	**2835**			
214 Bi	609	1213-1220	1209-1212	1865	**986**	*879*	0.44
			1221-1224	**2851**			
228 Ac	911	1816-1823	1813-1815	1413	**623**	*790*	0.40
			1824-1828	**2036**			
228 Ac	964	1924-1941	1915-1923	1751	**1119**	*632*	0.32
228Ac	969		1942-1950	**2870**			

Sample sheet	**NOPI-169*GAM 7.0cm**			*DATE*	11/1/93	*TIME (MIN)*	2000
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	3092	**2464**	*628*	0.31
			95-97	**5556**			
234 Th	63	122-127	119-121	3637	**2723**	*914*	0.46
			128-130	**6360**			
234 Th	92	182-186	180-181	4737	**2532**	*2205*	1.10
			187-189	**7269**			
226Ra/235U	186	367-372	364-366	4448	**2884**	*1564*	0.78
			373-375	**7332**			
214 Pb	295	585-592	581-584	3028	**1878**	*1150*	0.58
			593-596	**4906**			
228 Ac	338	671-678	667-670	2190	**1636**	*554*	0.28
			679-682	**3826**			
214 Pb	352	698-705	694-697	3568	**1545**	*2023*	1.01
			706-709	**5113**			
208 Tl	583	1160-1167	1156-1159	1802	**908**	*894*	0.45
			1168-1171	**2710**			
214 Bi	609	1213-1220	1209-1212	2430	**960**	*1470*	0.74
			1221-1224	**3390**			
228 Ac	911	1816-1823	1813-1815	1353	**661**	*692*	0.35
			1824-1828	**2014**			
228 Ac	964	1924-1941	1915-1923	1689	**1169**	*520*	0.26
228Ac	969		1942-1950	**2858**			

Sample sheet	**NOPI-170*GAM 7.0cm**			*DATE*	11/2/93	*TIME (MIN)*	1462
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	2159	**1825**	*334*	0.23
			95-97	**3984**			
234 Th	63	122-127	119-121	2692	**1922**	*770*	0.53
			128-130	**4614**			
234 Th	92	182-186	180-181	3514	**1718**	*1796*	1.23
			187-189	**5232**			
226Ra/235U	186	367-372	364-366	3309	**2015**	*1294*	0.89
			373-375	**5324**			
214 Pb	295	585-592	581-584	2175	**1199**	*976*	0.67
			593-596	**3374**			
228 Ac	338	671-678	667-670	1567	**1163**	*404*	0.28
			679-682	**2730**			
214 Pb	352	698-705	694-697	2466	**1082**	*1384*	0.95
			706-709	**3548**			
208 Tl	583	1160-1167	1156-1159	1257	**637**	*620*	0.42
			1168-1171	**1894**			
214 Bi	609	1213-1220	1209-1212	1703	**644**	*1059*	0.72
			1221-1224	**2347**			
228 Ac	911	1816-1823	1813-1815	961	**448**	*513*	0.35
			1824-1828	**1409**			
228 Ac	964	1924-1941	1915-1923	1172	**816**	*356*	0.24
228Ac	969		1942-1950	**1988**			

Sample sheet	**NOPI-170-2*GAM 4.5cm**			*DATE*	11/3/93	*TIME (MIN)*	1428
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	2363	**1915**	*448*	0.31
			95-97	**4278**			
234 Th	63	122-127	119-121	3034	**2100**	*934*	0.65
			128-130	**5134**			
234 Th	92	182-186	180-181	3651	**1908**	*1743*	1.22
			187-189	**5559**			
226Ra/235U	186	367-372	364-366	3624	**2041**	*1583*	1.11
			373-375	**5665**			
214 Pb	295	585-592	581-584	3016	**1363**	*1653*	1.16
			593-596	**4379**			
228 Ac	338	671-678	667-670	1580	**1218**	*362*	0.25
			679-682	**2798**			
214 Pb	352	698-705	694-697	3778	**1156**	*2622*	1.84
			706-709	**4934**			
208 Tl	583	1160-1167	1156-1159	1314	**680**	*634*	0.44
			1168-1171	**1994**			
214 Bi	609	1213-1220	1209-1212	2643	**687**	*1956*	1.37
			1221-1224	**3330**			
228 Ac	911	1816-1823	1813-1815	924	**444**	*480*	0.34
			1824-1828	**1368**			
228 Ac	964	1924-1941	1915-1923	1245	**801**	*444*	0.31
228Ac	969		1942-1950	**2046**			

Sample sheet	**NOPI-171*GAM 7.0cm**			*DATE*	11/4/93	*TIME (MIN)*	1465
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	2351	**1937**	*414*	0.28
			95-97	**4288**			
234 Th	63	122-127	119-121	2992	**2137**	*855*	0.58
			128-130	**5129**			
234 Th	92	182-186	180-181	3788	**1993**	*1795*	1.23
			187-189	**5781**			
226Ra/235U	186	367-372	364-366	3702	**2139**	*1563*	1.07
			373-375	**5841**			
214 Pb	295	585-592	581-584	2684	**1395**	*1289*	0.88
			593-596	**4079**			
228 Ac	338	671-678	667-670	1669	**1289**	*380*	0.26
			679-682	**2958**			
214 Pb	352	698-705	694-697	3376	**1167**	*2209*	1.51
			706-709	**4543**			
208 Tl	583	1160-1167	1156-1159	1303	**681**	*622*	0.42
			1168-1171	**1984**			
214 Bi	609	1213-1220	1209-1212	2357	**659**	*1698*	1.16
			1221-1224	**3016**			
228 Ac	911	1816-1823	1813-1815	927	**475**	*452*	0.31
			1824-1828	**1402**			
228 Ac	964	1924-1941	1915-1923	1288	**800**	*488*	0.33
228Ac	969		1942-1950	**2088**			

Sample sheet	NOPI-172*GAM 7.0cm			*DATE*	11/5/93	*TIME (MIN)*	1456
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	2249	**1845**	*404*	0.28
			95-97	**4094**			
234 Th	63	122-127	119-121	2848	**2024**	*824*	0.57
			128-130	**4872**			
234 Th	92	182-186	180-181	3642	**1880**	*1762*	1.21
			187-189	**5522**			
226Ra/235U	186	367-372	364-366	3410	**2083**	*1327*	0.91
			373-375	**5493**			
214 Pb	295	585-592	581-584	2174	**1271**	*903*	0.62
			593-596	**3445**			
228 Ac	338	671-678	667-670	1580	**1241**	*339*	0.23
			679-682	**2821**			
214 Pb	352	698-705	694-697	2572	**1094**	*1478*	1.02
			706-709	**3666**			
208 Tl	583	1160-1167	1156-1159	1317	**692**	*625*	0.43
			1168-1171	**2009**			
214 Bi	609	1213-1220	1209-1212	1832	**710**	*1122*	0.77
			1221-1224	**2542**			
228 Ac	911	1816-1823	1813-1815	969	**472**	*497*	0.34
			1824-1828	**1441**			
228 Ac	964	1924-1941	1915-1923	1183	**875**	*308*	0.21
228Ac	969		1942-1950	**2058**			

Sample sheet	**NOPI-168*GAM 7.0cm**			*DATE*	10/29/93	*TIME (MIN)*	1471
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	2241	**1822**	*419*	0.28
			95-97	**4063**			
234 Th	63	122-127	119-121	2746	**2038**	*708*	0.48
			128-130	**4784**			
234 Th	92	182-186	180-181	3478	**1865**	*1613*	1.10
			187-189	**5343**			
226Ra/235U	186	367-372	364-366	3244	**2084**	*1160*	0.79
			373-375	**5328**			
214 Pb	295	585-592	581-584	2143	**1380**	*763*	0.52
			593-596	**3523**			
228 Ac	338	671-678	667-670	1667	**1262**	*405*	0.28
			679-682	**2929**			
214 Pb	352	698-705	694-697	2463	**1179**	*1284*	0.87
			706-709	**3642**			
208 Tl	583	1160-1167	1156-1159	1494	**737**	*757*	0.51
			1168-1171	**2231**			
214 Bi	609	1213-1220	1209-1212	1590	**677**	*913*	0.62
			1221-1224	**2267**			
228 Ac	911	1816-1823	1813-1815	1036	**493**	*543*	0.37
			1824-1828	**1529**			
228 Ac	964	1924-1941	1915-1923	1262	**863**	*399*	0.27
228Ac	969		1942-1950	**2125**			

Sample sheet	**NOPI-190-7*GAM 3.0cm**			*DATE*	10/28/93	*TIME (MIN)*	1493
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	2524	**1932**	*592*	0.40
			95-97	**4456**			
234 Th	63	122-127	119-121	3047	**2132**	*915*	0.61
			128-130	**5179**			
234 Th	92	182-186	180-181	3831	**1892**	*1939*	1.30
			187-189	**5723**			
226Ra/235U	186	367-372	364-366	3860	**2155**	*1705*	1.14
			373-375	**6015**			
214 Pb	295	585-592	581-584	3425	**1363**	*2062*	1.38
			593-596	**4788**			
228 Ac	338	671-678	667-670	1460	**1236**	*224*	0.15
			679-682	**2696**			
214 Pb	352	698-705	694-697	4469	**1173**	*3296*	2.21
			706-709	**5642**			
208 Tl	583	1160-1167	1156-1159	1050	**726**	*324*	0.22
			1168-1171	**1776**			
214 Bi	609	1213-1220	1209-1212	3026	**732**	*2294*	1.54
			1221-1224	**3758**			
228 Ac	911	1816-1823	1813-1815	768	**439**	*329*	0.22
			1824-1828	**1207**			
228 Ac	964	1924-1941	1915-1923	1148	**860**	*288*	0.19
228Ac	969		1942-1950	**2008**			

Sample sheet	**NOPI-190-6*GAM 4.0cm**			*DATE*	10/27/93	*TIME (MIN)*	1435
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	2733	**2155**	*578*	0.40
			95-97	**4888**			
234 Th	63	122-127	119-121	3554	**2462**	*1092*	0.76
			128-130	**6016**			
234 Th	92	182-186	180-181	4445	**2227**	*2218*	1.55
			187-189	**6672**			
226Ra/235U	186	367-372	364-366	4625	**2319**	*2306*	1.61
			373-375	**6944**			
214 Pb	295	585-592	581-584	4493	**1436**	*3057*	2.13
			593-596	**5929**			
228 Ac	338	671-678	667-670	1503	**1228**	*275*	0.19
			679-682	**2731**			
214 Pb	352	698-705	694-697	6377	**1174**	*5203*	3.63
			706-709	**7551**			
208 Tl	583	1160-1167	1156-1159	1112	**711**	*401*	0.28
			1168-1171	**1823**			
214 Bi	609	1213-1220	1209-1212	4054	**726**	*3328*	2.32
			1221-1224	**4780**			
228 Ac	911	1816-1823	1813-1815	829	**448**	*381*	0.27
			1824-1828	**1277**			
228 Ac	964	1924-1941	1915-1923	1227	**826**	*401*	0.28
228Ac	969		1942-1950	**2053**			

Sample sheet	NOPI-190-5*GAM 3.5cm			*DATE*	10/26/93	*TIME (MIN)*	1437
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	2675	**2062**	*613*	0.43
			95-97	**4737**			
234 Th	63	122-127	119-121	3343	**2351**	*992*	0.69
			128-130	**5694**			
234 Th	92	182-186	180-181	4116	**2273**	*1843*	1.28
			187-189	**6389**			
226Ra/235U	186	367-372	364-366	4510	**2330**	*2180*	1.52
			373-375	**6840**			
214 Pb	295	585-592	581-584	4265	**1423**	*2842*	1.98
			593-596	**5688**			
228 Ac	338	671-678	667-670	1508	**1308**	*200*	0.14
			679-682	**2816**			
214 Pb	352	698-705	694-697	5757	**1231**	*4526*	3.15
			706-709	**6988**			
208 Tl	583	1160-1167	1156-1159	1137	**705**	*432*	0.30
			1168-1171	**1842**			
214 Bi	609	1213-1220	1209-1212	3889	**730**	*3159*	2.20
			1221-1224	**4619**			
228 Ac	911	1816-1823	1813-1815	832	**461**	*371*	0.26
			1824-1828	**1293**			
228 Ac	964	1924-1941	1915-1923	1172	**832**	*340*	0.24
228Ac	969		1942-1950	**2004**			

Sample sheet	**NOPI-190-4*GAM 4.5cm**			*DATE*	10/22/93	*TIME (MIN)*	1493
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	3008	**2329**	*679*	0.45
			95-97	**5337**			
234 Th	63	122-127	119-121	3814	**2538**	*1276*	0.85
			128-130	**6352**			
234 Th	92	182-186	180-181	4659	**2436**	*2223*	1.49
			187-189	**7095**			
226Ra/235U	186	367-372	364-366	5005	**2526**	*2479*	1.66
			373-375	**7531**			
214 Pb	295	585-592	581-584	5049	**1541**	*3508*	2.35
			593-596	**6590**			
228 Ac	338	671-678	667-670	1689	**1392**	*297*	0.20
			679-682	**3081**			
214 Pb	352	698-705	694-697	6981	**1317**	*5664*	3.79
			706-709	**8298**			
208 Tl	583	1160-1167	1156-1159	1190	**765**	*425*	0.28
			1168-1171	**1955**			
214 Bi	609	1213-1220	1209-1212	4535	**775**	*3760*	2.52
			1221-1224	**5310**			
228 Ac	911	1816-1823	1813-1815	871	**498**	*373*	0.25
			1824-1828	**1369**			
228 Ac	964	1924-1941	1915-1923	1216	**917**	*299*	0.20
228Ac	969		1942-1950	**2133**			

Sample sheet	**NOPI-190-3*GAM 5.5cm**			*DATE*	10/21/93	*TIME (MIN)*	1202
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	2829	**2170**	*659*	0.55
			95-97	**4999**			
234 Th	63	122-127	119-121	3856	**2613**	*1243*	1.03
			128-130	**6469**			
234 Th	92	182-186	180-181	4636	**2386**	*2250*	1.87
			187-189	**7022**			
226Ra/235U	186	367-372	364-366	5121	**2291**	*2830*	2.35
			373-375	**7412**			
214 Pb	295	585-592	581-584	5547	**1355**	*4192*	3.49
			593-596	**6902**			
228 Ac	338	671-678	667-670	1480	**1223**	*257*	0.21
			679-682	**2703**			
214 Pb	352	698-705	694-697	8343	**1142**	*7201*	5.99
			706-709	**9485**			
208 Tl	583	1160-1167	1156-1159	1098	**654**	*444*	0.37
			1168-1171	**1752**			
214 Bi	609	1213-1220	1209-1212	5200	**649**	*4551*	3.79
			1221-1224	**5849**			
228 Ac	911	1816-1823	1813-1815	794	**449**	*345*	0.29
			1824-1828	**1243**			
228 Ac	964	1924-1941	1915-1923	1113	**796**	*317*	0.26
228Ac	969		1942-1950	**1909**			

Sample sheet	**NOPI-190-2*GAM 5.0cm**			*DATE*	10/20/93	*TIME (MIN)*	1703
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	3853	**2956**	*897*	0.53
			95-97	**6809**			
234 Th	63	122-127	119-121	5199	**3460**	*1739*	1.02
			128-130	**8659**			
234 Th	92	182-186	180-181	6234	**3161**	*3073*	1.80
			187-189	**9395**			
226Ra/235U	186	367-372	364-366	6795	**3153**	*3642*	2.14
			373-375	**9948**			
214 Pb	295	585-592	581-584	7219	**1913**	*5306*	3.12
			593-596	**9132**			
228 Ac	338	671-678	667-670	1971	**1636**	*335*	0.20
			679-682	**3607**			
214 Pb	352	698-705	694-697	10415	**1624**	*8791*	5.16
			706-709	**12039**			
208 Tl	583	1160-1167	1156-1159	1525	**902**	*623*	0.37
			1168-1171	**2427**			
214 Bi	609	1213-1220	1209-1212	6824	**957**	*5867*	3.45
			1221-1224	**7781**			
228 Ac	911	1816-1823	1813-1815	1039	**578**	*461*	0.27
			1824-1828	**1617**			
228 Ac	964	1924-1941	1915-1923	1486	**1107**	*379*	0.22
228Ac	969		1942-1950	**2593**			

Sample sheet	**NOPI-190-1*GAM 5.0cm**			*DATE*	10/19/93	*TIME (MIN)*	1351
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	5742	**4555**	*1187*	0.88
			95-97	**10297**			
234 Th	63	122-127	119-121	9697	**5505**	*4192*	3.10
			128-130	**15202**			
234 Th	92	182-186	180-181	12060	**5207**	*6853*	5.07
			187-189	**17267**			
226Ra/235U	186	367-372	364-366	12891	**4179**	*8712*	6.45
			373-375	**17070**			
214 Pb	295	585-592	581-584	14984	**2172**	*12812*	9.48
			593-596	**17156**			
228 Ac	338	671-678	667-670	2391	**1951**	*440*	0.33
			679-682	**4342**			
214 Pb	352	698-705	694-697	23040	**1851**	*21189*	15.68
			706-709	**24891**			
208 Tl	583	1160-1167	1156-1159	1465	**1073**	*392*	0.29
			1168-1171	**2538**			
214 Bi	609	1213-1220	1209-1212	14670	**975**	*13695*	10.14
			1221-1224	**15645**			
228 Ac	911	1816-1823	1813-1815	1072	**598**	*474*	0.35
			1824-1828	**1670**			
228 Ac	964	1924-1941	1915-1923	1522	**1103**	*419*	0.31
228Ac	969		1942-1950	**2625**			

Sample sheet	**NOPI-175*GAM 7.0cm**			*DATE*	10/14/93	*TIME (MIN)*	1499
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	2454	**1978**	*476*	0.32
			95-97	**4432**			
234 Th	63	122-127	119-121	3064	**2141**	*923*	0.62
			128-130	**5205**			
234 Th	92	182-186	180-181	3806	**2062**	*1744*	1.16
			187-189	**5868**			
226Ra/235U	186	367-372	364-366	3789	**2210**	*1579*	1.05
			373-375	**5999**			
214 Pb	295	585-592	581-584	3046	**1530**	*1516*	1.01
			593-596	**4576**			
228 Ac	338	671-678	667-670	1662	**1303**	*359*	0.24
			679-682	**2965**			
214 Pb	352	698-705	694-697	3829	**1243**	*2586*	1.73
			706-709	**5072**			
208 Tl	583	1160-1167	1156-1159	1316	**730**	*586*	0.39
			1168-1171	**2046**			
214 Bi	609	1213-1220	1209-1212	2571	**725**	*1846*	1.23
			1221-1224	**3296**			
228 Ac	911	1816-1823	1813-1815	979	**461**	*518*	0.35
			1824-1828	**1440**			
228 Ac	964	1924-1941	1915-1923	1284	**910**	*374*	0.25
228Ac	969		1942-1950	**2194**			

Sample sheet	**NOPI-174*GAM 7.0cm**			*DATE*	10/13/93	*TIME (MIN)*	1379
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	3788	**3006**	*782*	0.57
			95-97	**6794**			
234 Th	63	122-127	119-121	5255	**3655**	*1600*	1.16
			128-130	**8910**			
234 Th	92	182-186	180-181	6155	**3253**	*2902*	2.10
			187-189	**9408**			
226Ra/235U	186	367-372	364-366	7498	**3238**	*4260*	3.09
			373-375	**10736**			
214 Pb	295	585-592	581-584	8693	**1874**	*6819*	4.94
			593-596	**10567**			
228 Ac	338	671-678	667-670	2158	**1616**	*542*	0.39
			679-682	**3774**			
214 Pb	352	698-705	694-697	13048	**1584**	*11464*	8.31
			706-709	**14632**			
208 Tl	583	1160-1167	1156-1159	1636	**861**	*775*	0.56
			1168-1171	**2497**			
214 Bi	609	1213-1220	1209-1212	8547	**891**	*7656*	5.55
			1221-1224	**9438**			
228 Ac	911	1816-1823	1813-1815	1154	**521**	*633*	0.46
			1824-1828	**1675**			
228 Ac	964	1924-1941	1915-1923	1487	**951**	*536*	0.39
228Ac	969		1942-1950	**2438**			

Sample sheet	**NOPI-173*GAM 7.0cm**			*DATE*	10/12/93	*TIME (MIN)*	1443
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	2188	**1721**	*467*	0.32
			95-97	**3909**			
234 Th	63	122-127	119-121	2625	**1946**	*679*	0.47
			128-130	**4571**			
234 Th	92	182-186	180-181	3385	**1800**	*1585*	1.10
			187-189	**5185**			
226Ra/235U	186	367-372	364-366	3210	**2100**	*1110*	0.77
			373-375	**5310**			
214 Pb	295	585-592	581-584	2115	**1310**	*805*	0.56
			593-596	**3425**			
228 Ac	338	671-678	667-670	1642	**1226**	*416*	0.29
			679-682	**2868**			
214 Pb	352	698-705	694-697	2274	**1149**	*1125*	0.78
			706-709	**3423**			
208 Tl	583	1160-1167	1156-1159	1353	**669**	*684*	0.47
			1168-1171	**2022**			
214 Bi	609	1213-1220	1209-1212	1569	**680**	*889*	0.62
			1221-1224	**2249**			
228 Ac	911	1816-1823	1813-1815	1011	**425**	*586*	0.41
			1824-1828	**1436**			
228 Ac	964	1924-1941	1915-1923	1273	**809**	*464*	0.32
228Ac	969		1942-1950	**2082**			

Sample sheet	**NOPI-298*GAM 7.0cm**			*DATE*	10/11/93	*TIME (MIN)*	2000
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	9399	**7369**	*2030*	1.02
			95-97	**16768**			
234 Th	63	122-127	119-121	15569	**9384**	*6185*	3.09
			128-130	**24953**			
234 Th	92	182-186	180-181	21057	**9079**	*11978*	5.99
			187-189	**30136**			
226Ra/235U	186	367-372	364-366	22853	**6969**	*15884*	7.94
			373-375	**29822**			
214 Pb	295	585-592	581-584	25483	**3622**	*21861*	10.93
			593-596	**29105**			
228 Ac	338	671-678	667-670	4163	**3216**	*947*	0.47
			679-682	**7379**			
214 Pb	352	698-705	694-697	39831	**3128**	*36703*	18.35
			706-709	**42959**			
208 Tl	583	1160-1167	1156-1159	2772	**1579**	*1193*	0.60
			1168-1171	**4351**			
214 Bi	609	1213-1220	1209-1212	25771	**1559**	*24212*	12.11
			1221-1224	**27330**			
228 Ac	911	1816-1823	1813-1815	1923	**1048**	*875*	0.44
			1824-1828	**2971**			
228 Ac	964	1924-1941	1915-1923	2621	**1771**	*850*	0.43
228Ac	969		1942-1950	**4392**			

Sample sheet	**NOPI-297*GAM 7.0cm**			*DATE*	10/8/93	*TIME (MIN)*	1385
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	7077	**5734**	*1343*	0.97
			95-97	**12811**			
234 Th	63	122-127	119-121	12280	**7155**	*5125*	3.70
			128-130	**19435**			
234 Th	92	182-186	180-181	16300	**6775**	*9525*	6.88
			187-189	**23075**			
226Ra/235U	186	367-372	364-366	17366	**5165**	*12201*	8.81
			373-375	**22531**			
214 Pb	295	585-592	581-584	19398	**2662**	*16736*	12.08
			593-596	**22060**			
228 Ac	338	671-678	667-670	3140	**2319**	*821*	0.59
			679-682	**5459**			
214 Pb	352	698-705	694-697	30341	**2275**	*28066*	20.26
			706-709	**32616**			
208 Tl	583	1160-1167	1156-1159	2192	**1123**	*1069*	0.77
			1168-1171	**3315**			
214 Bi	609	1213-1220	1209-1212	19723	**1095**	*18628*	13.45
			1221-1224	**20818**			
228 Ac	911	1816-1823	1813-1815	1596	**738**	*858*	0.62
			1824-1828	**2334**			
228 Ac	964	1924-1941	1915-1923	2004	**1334**	*670*	0.48
228Ac	969		1942-1950	**3338**			

Sample sheet	**NOPI-296*GAM 7.0cm**			*DATE*	10/7/93	*TIME (MIN)*	1444
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	5407	**4236**	*1171*	0.81
			95-97	**9643**			
234 Th	63	122-127	119-121	8146	**5365**	*2781*	1.93
			128-130	**13511**			
234 Th	92	182-186	180-181	10615	**4818**	*5797*	4.01
			187-189	**15433**			
226Ra/235U	186	367-372	364-366	12294	**4352**	*7942*	5.50
			373-375	**16646**			
214 Pb	295	585-592	581-584	14354	**2324**	*12030*	8.33
			593-596	**16678**			
228 Ac	338	671-678	667-670	2799	**2042**	*757*	0.52
			679-682	**4841**			
214 Pb	352	698-705	694-697	21984	**1950**	*20034*	13.87
			706-709	**23934**			
208 Tl	583	1160-1167	1156-1159	1970	**1055**	*915*	0.63
			1168-1171	**3025**			
214 Bi	609	1213-1220	1209-1212	14309	**1046**	*13263*	9.18
			1221-1224	**15355**			
228 Ac	911	1816-1823	1813-1815	1427	**694**	*733*	0.51
			1824-1828	**2121**			
228 Ac	964	1924-1941	1915-1923	1880	**1194**	*686*	0.48
228Ac	969		1942-1950	**3074**			

Sample sheet	**NOPI-295*GAM 7.0cm**			*DATE*	10/6/93	*TIME (MIN)*	1188
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	3362	**2671**	*691*	0.58
			95-97	**6033**			
234 Th	63	122-127	119-121	4922	**3161**	*1761*	1.48
			128-130	**8083**			
234 Th	92	182-186	180-181	6122	**2909**	*3213*	2.70
			187-189	**9031**			
226Ra/235U	186	367-372	364-366	6616	**2665**	*3951*	3.33
			373-375	**9281**			
214 Pb	295	585-592	581-584	7045	**1546**	*5499*	4.63
			593-596	**8591**			
228 Ac	338	671-678	667-670	1782	**1361**	*421*	0.35
			679-682	**3143**			
214 Pb	352	698-705	694-697	10476	**1244**	*9232*	7.77
			706-709	**11720**			
208 Tl	583	1160-1167	1156-1159	1380	**746**	*634*	0.53
			1168-1171	**2126**			
214 Bi	609	1213-1220	1209-1212	6758	**700**	*6058*	5.10
			1221-1224	**7458**			
228 Ac	911	1816-1823	1813-1815	946	**447**	*499*	0.42
			1824-1828	**1393**			
228 Ac	964	1924-1941	1915-1923	1256	**815**	*441*	0.37
228Ac	969		1942-1950	**2071**			

Sample sheet	**NOPI-230*GAM 7.0cm**			*DATE*	9/3/93	*TIME (MIN)*	1378
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	7573	**5608**	*1965*	1.43
			95-97	**13181**			
234 Th	63	122-127	119-121	12087	**6956**	*5131*	3.72
			128-130	**19043**			
234 Th	92	182-186	180-181	14960	**6296**	*8664*	6.29
			187-189	**21256**			
226Ra/235U	186	367-372	364-366	16884	**5080**	*11804*	8.57
			373-375	**21964**			
214 Pb	295	585-592	581-584	19836	**2586**	*17250*	12.52
			593-596	**22422**			
228 Ac	338	671-678	667-670	2525	**2203**	*322*	0.23
			679-682	**4728**			
214 Pb	352	698-705	694-697	30846	**2283**	*28563*	20.73
			706-709	**33129**			
208 Tl	583	1160-1167	1156-1159	1451	**1157**	*294*	0.21
			1168-1171	**2608**			
214 Bi	609	1213-1220	1209-1212	20169	**1123**	*19046*	13.82
			1221-1224	**21292**			
228 Ac	911	1816-1823	1813-1815	1059	**761**	*298*	0.22
			1824-1828	**1820**			
228 Ac	964	1924-1941	1915-1923	1608	**1245**	*363*	0.26
228Ac	969		1942-1950	**2853**			

Sample sheet	**NOPI-303*GAM 7.0cm**			*DATE*	9/2/93	*TIME (MIN)*	1436
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	21936	**17352**	*4584*	3.19
			95-97	**39288**			
234 Th	63	122-127	119-121	40092	**23035**	*17057*	11.88
			128-130	**63127**			
234 Th	92	182-186	180-181	52315	**21224**	*31091*	21.65
			187-189	**73539**			
226Ra/235U	186	367-372	364-366	59750	**15217**	*44533*	31.01
			373-375	**74967**			
214 Pb	295	585-592	581-584	67644	**6767**	*60877*	42.39
			593-596	**74411**			
228 Ac	338	671-678	667-670	6979	**5781**	*1198*	0.83
			679-682	**12760**			
214 Pb	352	698-705	694-697	108892	**5912**	*102980*	71.71
			706-709	**114804**			
208 Tl	583	1160-1167	1156-1159	3750	**2829**	*921*	0.64
			1168-1171	**6579**			
214 Bi	609	1213-1220	1209-1212	69757	**2750**	*67007*	46.66
			1221-1224	**72507**			
228 Ac	911	1816-1823	1813-1815	2751	**1658**	*1093*	0.76
			1824-1828	**4409**			
228 Ac	964	1924-1941	1915-1923	3808	**2852**	*956*	0.67
228Ac	969		1942-1950	**6660**			

Sample sheet	**NOPI-302*GAM 6.5cm**			*DATE*	9/1/93	*TIME (MIN)*	928
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	11732	**9569**	*2163*	2.33
			95-97	**21301**			
234 Th	63	122-127	119-121	21033	**12789**	*8244*	8.88
			128-130	**33822**			
234 Th	92	182-186	180-181	26208	**11268**	*14940*	16.10
			187-189	**37476**			
226Ra/235U	186	367-372	364-366	29277	**8645**	*20632*	22.23
			373-375	**37922**			
214 Pb	295	585-592	581-584	36420	**3924**	*32496*	35.02
			593-596	**40344**			
228 Ac	338	671-678	667-670	3996	**3189**	*807*	0.87
			679-682	**7185**			
214 Pb	352	698-705	694-697	56761	**3410**	*53351*	57.49
			706-709	**60171**			
208 Tl	583	1160-1167	1156-1159	2216	**1680**	*536*	0.58
			1168-1171	**3896**			
214 Bi	609	1213-1220	1209-1212	36377	**1621**	*34756*	37.45
			1221-1224	**37998**			
228 Ac	911	1816-1823	1813-1815	1502	**938**	*564*	0.61
			1824-1828	**2440**			
228 Ac	964	1924-1941	1915-1923	2166	**1643**	*523*	0.56
228Ac	969		1942-1950	**3809**			

Sample sheet	**NOPI-294*GAM 6.5cm**			*DATE*	8/31/93	*TIME (MIN)*	487
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	1753	**1309**	*444*	0.91
			95-97	**3062**			
234 Th	63	122-127	119-121	2739	**1597**	*1142*	2.34
			128-130	**4336**			
234 Th	92	182-186	180-181	3433	**1577**	*1856*	3.81
			187-189	**5010**			
226Ra/235U	186	367-372	364-366	3740	**1231**	*2509*	5.15
			373-375	**4971**			
214 Pb	295	585-592	581-584	4005	**635**	*3370*	6.92
			593-596	**4640**			
228 Ac	338	671-678	667-670	729	**600**	*129*	0.26
			679-682	**1329**			
214 Pb	352	698-705	694-697	5986	**557**	*5429*	11.15
			706-709	**6543**			
208 Tl	583	1160-1167	1156-1159	532	**310**	*222*	0.46
			1168-1171	**842**			
214 Bi	609	1213-1220	1209-1212	3821	**343**	*3478*	7.14
			1221-1224	**4164**			
228 Ac	911	1816-1823	1813-1815	402	**167**	*235*	0.48
			1824-1828	**569**			
228 Ac	964	1924-1941	1915-1923	530	**343**	*187*	0.38
228Ac	969		1942-1950	**873**			

Sample sheet	NOPI-301*GAM 6.5cm			DATE	8/31/93	TIME (MIN)	1040
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	CPM
210 Pb	45	89-94	86-88	10522	**8306**	*2216*	2.13
			95-97	**18828**			
234 Th	63	122-127	119-121	19263	**10912**	*8351*	8.03
			128-130	**30175**			
234 Th	92	182-186	180-181	25307	**9990**	*15317*	14.73
			187-189	**35297**			
226Ra/235U	186	367-372	364-366	26490	**7197**	*19293*	18.55
			373-375	**33687**			
214 Pb	295	585-592	581-584	30058	**3466**	*26592*	25.57
			593-596	**33524**			
228 Ac	338	671-678	667-670	3270	**2903**	*367*	0.35
			679-682	**6173**			
214 Pb	352	698-705	694-697	47101	**3151**	*43950*	42.26
			706-709	**50252**			
208 Tl	583	1160-1167	1156-1159	1604	**1455**	*149*	0.14
			1168-1171	**3059**			
214 Bi	609	1213-1220	1209-1212	30321	**1528**	*28793*	27.69
			1221-1224	**31849**			
228 Ac	911	1816-1823	1813-1815	1154	**895**	*259*	0.25
			1824-1828	**2049**			
228 Ac	964	1924-1941	1915-1923	1851	**1509**	*342*	0.33
228Ac	969		1942-1950	**3360**			

Sample sheet	**NOPI-300*GAM 6.0cm**			*DATE*	8/30/93	*TIME (MIN)*	391
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	7599	**6147**	*1452*	3.71
			95-97	**13746**			
234 Th	63	122-127	119-121	14537	**8250**	*6287*	16.08
			128-130	**22787**			
234 Th	92	182-186	180-181	20211	**8020**	*12191*	31.18
			187-189	**28231**			
226Ra/235U	186	367-372	364-366	23035	**5595**	*17440*	44.60
			373-375	**28630**			
214 Pb	295	585-592	581-584	24243	**2696**	*21547*	55.11
			593-596	**26939**			
228 Ac	338	671-678	667-670	2438	**2202**	*236*	0.60
			679-682	**4640**			
214 Pb	352	698-705	694-697	38558	**2204**	*36354*	92.98
			706-709	**40762**			
208 Tl	583	1160-1167	1156-1159	1283	**1071**	*212*	0.54
			1168-1171	**2354**			
214 Bi	609	1213-1220	1209-1212	24525	**1019**	*23506*	60.12
			1221-1224	**25544**			
228 Ac	911	1816-1823	1813-1815	921	**689**	*232*	0.59
			1824-1828	**1610**			
228 Ac	964	1924-1941	1915-1923	1329	**1090**	*239*	0.61
228Ac	969		1942-1950	**2419**			

Sample sheet	**NOPI-299*GAM 1.0cm**			*DATE*	8/30/93	*TIME (MIN)*	4310
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	7749	**6280**	*1469*	0.34
			95-97	**14029**			
234 Th	63	122-127	119-121	11240	**7246**	*3994*	0.93
			128-130	**18486**			
234 Th	92	182-186	180-181	14418	**6656**	*7762*	1.80
			187-189	**21074**			
226Ra/235U	186	367-372	364-366	15042	**6992**	*8050*	1.87
			373-375	**22034**			
214 Pb	295	585-592	581-584	12228	**4376**	*7852*	1.82
			593-596	**16604**			
228 Ac	338	671-678	667-670	4274	**3855**	*419*	0.10
			679-682	**8129**			
214 Pb	352	698-705	694-697	16578	**3478**	*13100*	3.04
			706-709	**20056**			
208 Tl	583	1160-1167	1156-1159	3098	**2202**	*896*	0.21
			1168-1171	**5300**			
214 Bi	609	1213-1220	1209-1212	11013	**2115**	*8898*	2.06
			1221-1224	**13128**			
228 Ac	911	1816-1823	1813-1815	2305	**1502**	*803*	0.19
			1824-1828	**3807**			
228 Ac	964	1924-1941	1915-1923	3301	**2608**	*693*	0.16
228Ac	969		1942-1950	**5909**			

Sample sheet	**393-10-28/5 7.0cm**			*DATE*	8/27/93	*TIME (MIN)*	1472
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	3799	**2981**	*818*	0.56
			95-97	**6780**			
234 Th	63	122-127	119-121	5631	**3592**	*2039*	1.39
			128-130	**9223**			
234 Th	92	182-186	180-181	6842	**3321**	*3521*	2.39
			187-189	**10163**			
226Ra/235U	186	367-372	364-366	7615	**3145**	*4470*	3.04
			373-375	**10760**			
214 Pb	295	585-592	581-584	7573	**1807**	*5766*	3.92
			593-596	**9380**			
228 Ac	338	671-678	667-670	1963	**1579**	*384*	0.26
			679-682	**3542**			
214 Pb	352	698-705	694-697	11281	**1524**	*9757*	6.63
			706-709	**12805**			
208 Tl	583	1160-1167	1156-1159	1382	**914**	*468*	0.32
			1168-1171	**2296**			
214 Bi	609	1213-1220	1209-1212	7251	**934**	*6317*	4.29
			1221-1224	**8185**			
228 Ac	911	1816-1823	1813-1815	973	**562**	*411*	0.28
			1824-1828	**1535**			
228 Ac	964	1924-1941	1915-1923	1383	**1066**	*317*	0.22
228Ac	969		1942-1950	**2449**			

393-13.9/42.~~8~~4-4.5 data

Sample sheet	393-13.9/42.~~8~~4 4.5cm			DATE	8/26/93	TIME (MIN)	1426
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	CPM
210 Pb	45	89-94	86-88	2392	**2005**	*387*	0.27
			95-97	**4397**			
234 Th	63	122-127	119-121	3134	**2119**	*1015*	0.71
			128-130	**5253**			
234 Th	92	182-186	180-181	3770	**2000**	*1770*	1.24
			187-189	**5770**			
226Ra/235U	186	367-372	364-366	4071	**2294**	*1777*	1.25
			373-375	**6365**			
214 Pb	295	585-592	581-584	3800	**1450**	*2350*	1.65
			593-596	**5250**			
228 Ac	338	671-678	667-670	1624	**1219**	*405*	0.28
			679-682	**2843**			
214 Pb	352	698-705	694-697	5037	**1239**	*3798*	2.66
			706-709	**6276**			
208 Tl	583	1160-1167	1156-1159	1202	**722**	*480*	0.34
			1168-1171	**1924**			
214 Bi	609	1213-1220	1209-1212	3211	**704**	*2507*	1.76
			1221-1224	**3915**			
228 Ac	911	1816-1823	1813-1815	877	**468**	*409*	0.29
			1824-1828	**1345**			
228 Ac	964	1924-1941	1915-1923	1177	**872**	*305*	0.21
228Ac	969		1942-1950	**2049**			

Sample sheet	**393-12.1/42.5 7.0cm**			*DATE*	8/25/93	*TIME (MIN)*	1432
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	3002	**2301**	*701*	0.49
			95-97	**5303**			
234 Th	63	122-127	119-121	3890	**2806**	*1084*	0.76
			128-130	**6696**			
234 Th	92	182-186	180-181	4899	**2527**	*2372*	1.66
			187-189	**7426**			
226Ra/235U	186	367-372	364-366	5343	**2626**	*2717*	1.90
			373-375	**7969**			
214 Pb	295	585-592	581-584	5537	**1663**	*3874*	2.71
			593-596	**7200**			
228 Ac	338	671-678	667-670	1781	**1441**	*340*	0.24
			679-682	**3222**			
214 Pb	352	698-705	694-697	7494	**1347**	*6147*	4.29
			706-709	**8841**			
208 Tl	583	1160-1167	1156-1159	1327	**832**	*495*	0.35
			1168-1171	**2159**			
214 Bi	609	1213-1220	1209-1212	4912	**807**	*4105*	2.87
			1221-1224	**5719**			
228 Ac	911	1816-1823	1813-1815	965	**521**	*444*	0.31
			1824-1828	**1486**			
228 Ac	964	1924-1941	1915-1923	1303	**925**	*378*	0.26
228Ac	969		1942-1950	**2228**			

Sample sheet	**393-11.2/42.3 7.0cm**			*DATE*	8/24/93	*TIME (MIN)*	1112
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	3555	**2783**	*772*	0.69
			95-97	**6338**			
234 Th	63	122-127	119-121	4805	**3584**	*1221*	1.10
			128-130	**8389**			
234 Th	92	182-186	180-181	4852	**2948**	*1904*	1.71
			187-189	**7800**			
226Ra/235U	186	367-372	364-366	7590	**3128**	*4462*	4.01
			373-375	**10718**			
214 Pb	295	585-592	581-584	9445	**1698**	*7747*	6.97
			593-596	**11143**			
228 Ac	338	671-678	667-670	1918	**1480**	*438*	0.39
			679-682	**3398**			
214 Pb	352	698-705	694-697	14204	**1504**	*12700*	11.42
			706-709	**15708**			
208 Tl	583	1160-1167	1156-1159	1483	**853**	*630*	0.57
			1168-1171	**2336**			
214 Bi	609	1213-1220	1209-1212	9322	**836**	*8486*	7.63
			1221-1224	**10158**			
228 Ac	911	1816-1823	1813-1815	965	**532**	*433*	0.39
			1824-1828	**1497**			
228 Ac	964	1924-1941	1915-1923	1316	**917**	*399*	0.36
228Ac	969		1942-1950	**2233**			

Sample sheet		**393-8.1/43.2 7.0cm**		*DATE*	8/20/93	*TIME (MIN)*	1400
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	2560	**1947**	*613*	0.44
			95-97	**4507**			
234 Th	63	122-127	119-121	3238	**2251**	*987*	0.71
			128-130	**5489**			
234 Th	92	182-186	180-181	4042	**2091**	*1951*	1.39
			187-189	**6133**			
226Ra/235U	186	367-372	364-366	4198	**2232**	*1966*	1.40
			373-375	**6430**			
214 Pb	295	585-592	581-584	3595	**1436**	*2159*	1.54
			593-596	**5031**			
228 Ac	338	671-678	667-670	1505	**1274**	*231*	0.17
			679-682	**2779**			
214 Pb	352	698-705	694-697	4830	**1189**	*3641*	2.60
			706-709	**6019**			
208 Tl	583	1160-1167	1156-1159	1142	**706**	*436*	0.31
			1168-1171	**1848**			
214 Bi	609	1213-1220	1209-1212	3181	**711**	*2470*	1.76
			1221-1224	**3892**			
228 Ac	911	1816-1823	1813-1815	850	**486**	*364*	0.26
			1824-1828	**1336**			
228 Ac	964	1924-1941	1915-1923	1147	**872**	*275*	0.20
228Ac	969		1942-1950	**2019**			

Data Reduction Form

Sample sheet		**393-17.1/42.5 7.0cm**		*DATE*	8/19/93	*TIME (MIN)*	1000
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	2317	**1903**	*414*	0.41
			95-97	**4220**			
234 Th	63	122-127	119-121	3157	**2235**	*922*	0.92
			128-130	**5392**			
234 Th	92	182-186	180-181	3653	**2019**	*1634*	1.63
			187-189	**5672**			
226Ra/235U	186	367-372	364-366	4446	**2020**	*2426*	2.43
			373-375	**6466**			
214 Pb	295	585-592	581-584	4672	**1173**	*3499*	3.50
			593-596	**5845**			
228 Ac	338	671-678	667-670	1347	**1082**	*265*	0.27
			679-682	**2429**			
214 Pb	352	698-705	694-697	6415	**963**	*5452*	5.45
			706-709	**7378**			
208 Tl	583	1160-1167	1156-1159	1027	**595**	*432*	0.43
			1168-1171	**1622**			
214 Bi	609	1213-1220	1209-1212	4343	**592**	*3751*	3.75
			1221-1224	**4935**			
228 Ac	911	1816-1823	1813-1815	739	**350**	*389*	0.39
			1824-1828	**1089**			
228 Ac	964	1924-1941	1915-1923	976	**638**	*338*	0.34
228Ac	969		1942-1950	**1614**			

Data Reduction Form

Sample sheet	**393-15.0/42.3 7.0 cm**			*DATE*	8/18/93	*TIME (MIN)*	365
Isotope	E. (Kev)	Channels	Back Chan.	Counts	Back Count	Net Count	**CPM**
210 Pb	45	89-94	86-88	771	**593**	*178*	0.49
			95-97	**1364**			
234 Th	63	122-127	119-121	983	**686**	*297*	0.81
			128-130	**1669**			
234 Th	92	182-186	180-181	1227	**658**	*569*	1.56
			187-189	**1885**			
226Ra/235U	186	367-372	364-366	1416	**635**	*781*	2.14
			373-375	**2051**			
214 Pb	295	585-592	581-584	1371	**403**	*968*	2.65
			593-596	**1774**			
228 Ac	338	671-678	667-670	399	**386**	*13*	0.04
			679-682	**785**			
214 Pb	352	698-705	694-697	1904	**290**	*1614*	4.42
			706-709	**2194**			
208 Tl	583	1160-1167	1156-1159	356	**213**	*143*	0.39
			1168-1171	**569**			
214 Bi	609	1213-1220	1209-1212	1247	**195**	*1052*	2.88
			1221-1224	**1442**			
228 Ac	911	1816-1823	1813-1815	292	**130**	*162*	0.44
			1824-1828	**422**			
228 Ac	964	1924-1941	1915-1923	356	**224**	*132*	0.36
228Ac	969		1942-1950	**580**			

MCA Output

NOP1-241-GAM8 2.0cm

MCA #1 - Canberra S100 - 39396147.MCA - 393--9.6/14.7-GAM8 2.0cm

Tag Number: 75
Report Group: 2/4
Group Size: 4096

Readout: Tue 15 Feb 1994 @ 09:15:09
Acquire Started: Tue 15 Feb 1994 @ 09:10:24

Elapsed Live Time: 1201.00 min.
Elapsed True Time: 1201.12 min.
Dead Time: 0.01 %

MCA Mode: PHA+
Preset Conditions: Live Time = 1201.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria: Energy Window = +-1.300 keV
Iso. Library: C:\WINDOWS\S100\SPECTRAN.ISO

DP
2/15/94
ΔT=1201 min
Int=cts+bkg
mass= .901 g

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	3046	324	46.6
	49.0	0.04	20.94	1.45
2	60.5	3431	550	63.5
	66.0	0.05	13.40	1.51
	Isotope:	TH-234	@ 63.3	
3	90.5	3951	732	92.8
	95.0	0.05	8.83	1.21
4	181.9	4108	1000	185.9
	189.4	0.06	10.58	1.66
	Isotope:	U-235	@ 185.7	
5	291.4	2825	675	295.3
	298.9	0.04	12.99	1.48
	Isotope:	PB-214	@ 295.2	
6	334.3	1992	188	338.1
	341.8	0.03	39.17	1.61
	Isotope:	AC-228	@ 338.3	
7	347.8	2878	1188	351.8
	355.3	0.04	7.45	1.49
	Isotope:	PB-214	@ 351.9	
8	579.2	1328	266	582.8
	586.7	0.02	22.60	2.04
	Isotope:	TL-208	@ 583.2	
9	605.1	1848	806	608.9
	612.6	0.03	8.80	1.66
	Isotope:	XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	940	292	910.4
	914.4	0.01	17.32	1.90
	Isotope:	AC-228	@ 911.2	
11	958.9	1546	302	968.3
	974.4	0.02	34.70	1.62
	Isotope:	RU-105	@ 969.4	

REGION OF INTEREST DATA

ROI # 1

Channel #	**** Data ****				
85	246	219	235	201	248
90	306	351	326	263	225
95	204	222			

ROI # 2

Channel # **** Data ****

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

120	240	233	251	322	409
125	430	349	245	235	214
130	246				

ROI # 3
Channel # **** Data ****

179					279
180	250	303	441	671	705
185	451	318	253	280	

ROI # 4
Channel # **** Data ****

362			205	191	219
365	189	209	255	297	454
370	475	407	269	188	172
375	195	191	192		

ROI # 5
Channel # **** Data ****

581		132	120	148	149
585	150	147	215	318	357
590	268	168	127	114	136
595	143	133			

ROI # 6
Channel # **** Data ****

667			108	106	111
670	122	115	114	143	162
675	151	137	125	143	114
680	125	106	110		

ROI # 7
Channel # **** Data ****

694					95
695	109	115	108	111	150
700	240	390	486	357	186
705	113	105	102	105	106

ROI # 8
Channel # **** Data ****

1157			54	75	54
1160	70	64	97	125	127
1165	134	110	65	75	60
1170	58	79	81		

ROI # 9
Channel # **** Data ****

1209					66
1210	63	66	77	73	124
1215	195	294	272	187	108

REGION OF INTEREST DATA

ROI # 10

Channel #		**** Data ****			
1813				58	30
1815	39	34	52	71	99
1820	111	107	73	61	42
1825	43	43	39	38	

ROI # 11

Channel #		**** Data ****			
1917			37	38	53
1920	37	46	33	44	40
1925	41	59	58	70	46
1930	50	46	52	45	56
1935	93	92	70	53	42
1940	38	44	44	37	36
1945	46	31	37	32	

MCA #1 - Canberra S100 - 39396147.MCA - 393--9.6/14.7-GAM8 2.0cm

Tag Number:	75	Readout:	Tue 15 Feb 1994 @ 09:16:04
Report Group:	1/4	Acquire Started:	Tue 15 Feb 1994 @ 09:10:24
Group Size:	4096		

Elapsed Live Time:	1201.00 min.
Elapsed True Time:	1201.12 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV
Area Statistics:	Background Channels = 4 % Error Sigma = 1.65
Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0
Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	700	0	215.0	1351
	44.6	0.01	0.00	6.99	
2	48.0	651	0	219.5	
	49.0	0.01	0.00	6.99	
	Isotope:	I-135	@ 220.5		
3	60.5	730	0	232.0	1425
	61.5	0.01	0.00	6.99	
	Isotope:	XE133M	@ 233.2		
4	65.0	695	0	236.5	
	66.0	0.01	0.00	6.99	
	Isotope:	I-134	@ 235.5		
5	90.5	832	0	262.0	1365
	91.5	0.01	0.00	6.99	
	Isotope:	I-132	@ 262.8		
6	94.5	533	0	266.0	
	95.0	0.01	0.00	6.99	
	Isotope:	Y-93	@ 266.9		
7	181.9	804	0	182.9	1554
	183.4	0.01	0.00	6.99	
8	187.9	750	0	188.7	
	189.4	0.01	0.00	6.99	
9	291.4	549	0	292.4	1075
	292.9	0.01	0.00	6.99	
10	297.4	526	0	298.4	
	298.9	0.01	0.00	6.99	
	Isotope:	GA-73	@ 297.4		
11	334.3	447	0	335.4	902
	335.8	0.01	0.00	6.99	
	Isotope:	NP-239	@ 334.3		
12	340.3	455	0	340.8	
	341.8	0.01	0.00	21458956.00	
	Isotope:	CS-136	@ 340.6		
13	347.8	427	0	348.8	845
	349.3	0.01	0.00	21458956.00	
14	353.8	418	0	354.8	
	355.3	0.01	0.00	21458956.00	
	Isotope:	BA-133	@ 356.0		
15	579.2	253	0	579.7	531
	580.7	0.00	0.00	21458956.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
16	585.2	278	0	586.2	
	586.7	0.00	0.00	21458956.00	
17	605.1	272	0	606.2	
	606.6	0.00	0.00	21458956.00	521
	Isotope:	SB-125	@ 606.7		
18	611.1	249	0	611.6	
	612.6	0.00	0.00	21458956.00	
19	906.9	161	0	907.3	
	908.4	0.00	0.00	21458956.00	324
20	912.9	163	0	913.4	
	914.4	0.00	0.00	21458956.00	
21	958.9	328	0	959.9	
	962.4	0.00	0.00	0.41	635
22	970.9	307	0	972.8	
	974.4	0.00	0.00	0.40	
	Isotope:	I-135	@ 972.3		
23M	1100.8	2649	398	1119.3	
	1134.7	0.04	54.96	2.28	
	Isotope:	BI-214	@ 1120.3		
		SC-46	@ 1120.5		

MCA #1 - Canberra S100 - NOPI1515.MCA - NOPI-151*GAM6 1.0 cm

Tag Number: 131
Report Group: 2/4
Group Size: 4096

Readout: Tue 18 Jan 1994 @ 10:20:02
Acquire Started: Tue 18 Jan 1994 @ 10:18:08

Elapsed Live Time: 1414.00 min.
Elapsed True Time: 1414.13 min.
Dead Time: 0.01 %

MCA Mode: PHA+
Preset Conditions: Live Time = 1414.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria: Energy Window = +-1.300 keV
Iso. Library: C:\WINDOWS\S100\SPECTRAN.ISO

JP
1/18/94
ΔT = 1414 min
Iwt = cts+bkg
mass = 0.25 g

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	3364	324	46.8
	49.0	0.04	21.90	1.41
2	60.5	3692	476	63.3
	66.0	0.04	15.82	1.01
		Isotope: TH-234	@ 63.3	
3	90.5	4263	758	92.8
	95.0	0.05	8.80	1.21
4	181.9	4635	899	185.8
	189.4	0.05	12.50	1.76
		Isotope: U-235	@ 185.7	
5	291.4	2885	339	295.0
	298.9	0.03	26.14	1.46
		Isotope: PB-214	@ 295.2	
6	334.3	2340	182	338.1
	341.8	0.03	43.86	0.80
		Isotope: AC-228	@ 338.3	
7	347.8	2846	726	351.8
	355.3	0.03	12.12	1.48
		Isotope: PB-214	@ 351.9	
8	579.2	1470	252	582.7
	586.7	0.02	25.10	1.49
		Isotope: TL-208	@ 583.2	
9	605.1	1907	653	608.7
	612.6	0.02	11.03	1.73
		Isotope: XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	1150	272	910.2
	914.4	0.01	20.57	1.82
		Isotope: AC-228	@ 911.2	
11	958.9	1711	211	967.9
	974.4	0.02	53.67	1.47

REGION OF INTEREST DATA

ROI # 1

Channel #	**** Data ****				
85	254	227	239	258	277
90	311	375	374	311	241
95	238	259			

ROI # 2

119					220
120	232	272	326	298	393

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

125	487	370	304	258	246
130	286				

ROI # 3
Channel # **** Data ****

179					317
180	315	308	483	750	709
185	481	340	285	275	

ROI # 4
Channel # **** Data ****

362			267	225	229
365	257	241	231	375	487
370	496	391	318	228	228
375	209	227	226		

ROI # 5
Channel # **** Data ****

581		181	145	162	171
585	134	146	229	299	290
590	224	156	134	180	134
595	159	141			

ROI # 6
Channel # **** Data ****

667			131	142	139
670	132	154	155	152	193
675	166	157	147	137	137
680	125	153	120		

ROI # 7
Channel # **** Data ****

694					138
695	147	117	130	138	154
700	179	346	362	283	182
705	142	115	134	134	145

ROI # 8
Channel # **** Data ****

1157			91	81	77
1160	84	65	99	125	161
1165	140	108	84	79	72
1170	66	75	63		

ROI # 9
Channel # **** Data ****

1209					76
1210	83	75	73	104	134

1220	97	80	93	62	85

REGION OF INTEREST DATA

ROI # 10
Channel # **** Data ****

1813				67	57
1815	49	62	65	95	108
1820	129	103	81	57	73
1825	40	59	51	54	

ROI # 11
Channel # **** Data ****

1917			54	44	36
1920	45	65	58	51	53
1925	57	59	54	55	65
1930	46	50	48	55	75
1935	95	82	70	46	46
1940	38	49	36	41	42
1945	46	50	53	47	

MCA #1 - Canberra S100 - NOPI1516.MCA - NOPI-151*GAM6 1.0 cm

Tag Number:	130	Readout:	Tue 18 Jan 1994 @ 10:20:45
Report Group:	1/4	Acquire Started:	Mon 17 Jan 1994 @ 10:43:21
Group Size:	4096		

Elapsed Live Time:	1413.41 min.
Elapsed True Time:	1413.54 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	720	0	220.4	
	44.6	0.01	0.00	3.06	
	Isotope:	I-135	@ 220.5		1458
2	48.0	738	0	224.9	
	49.0	0.01	0.00	3.06	
3	60.5	723	0	237.4	
	61.5	0.01	0.00	3.06	
	Isotope:	PB-212	@ 238.6		1512
4	65.0	789	0	241.9	
	66.0	0.01	0.00	3.06	
5	90.5	940	0	267.4	
	91.5	0.01	0.00	3.06	
	Isotope:	Y-93	@ 266.9		1500
6	94.5	560	0	271.4	
	95.0	0.01	0.00	3.06	
7	181.9	977	0	358.8	
	183.4	0.01	0.00	3.06	
	Isotope:	TC-104	@ 357.9		1867
8	187.9	890	0	189.0	
	189.4	0.01	0.00	3.06	
9	291.4	659	0	292.4	
	292.9	0.01	0.00	3.06	1273
10	297.4	614	0	298.4	
	298.9	0.01	0.00	3.06	
	Isotope:	GA-73	@ 297.4		
11	334.3	544	0	335.1	
	335.8	0.01	0.00	3.06	
	Isotope:	NP-239	@ 334.3		1079
12	340.3	535	0	341.3	
	341.8	0.01	0.00	3.06	
	Isotope:	CS-136	@ 340.6		
13	347.8	532	0	348.3	
	349.3	0.01	0.00	21458952.00	1060
14	353.8	528	0	354.8	
	355.3	0.01	0.00	21458952.00	
	Isotope:	BA-133	@ 356.0		
15	579.2	333	0	580.2	
	580.7	0.00	0.00	21458952.00	609
16	585.2	276	0	586.1	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	307	0	605.6	
	606.6	0.00	0.00	21458952.00	
		Isotope: CS-134 @ 604.7			627
		SB-125 @ 606.7			
18	611.1	320	0	611.6	
	612.6	0.00	0.00	21458952.00	
19	906.9	235	0	907.4	
	908.4	0.00	0.00	21458952.00	439
20	912.9	204	0	913.4	
	914.4	0.00	0.00	21458952.00	
21	958.9	406	0	960.9	
	962.4	0.00	0.00	0.46	770
22	970.9	364	0	973.9	
	974.4	0.00	0.00	0.72	
		Isotope: I-134 @ 974.7			
23M	1100.8	3064	571	1119.3	
	1134.7	0.04	40.41	1.82	
		Isotope: BI-214 @ 1120.3			
		SC-46 @ 1120.5			

MCA #1 - Canberra S100 - NOPI1515.MCA - NOPI-151*GAM5 1.0 cm

Tag Number: 129
Report Group: 2/4
Group Size: 4096

Readout: Mon 17 Jan 1994 @ 10:40:20
Acquire Started: Mon 17 Jan 1994 @ 10:39:28

Elapsed Live Time: 4329.00 min.
Elapsed True Time: 4329.42 min.
Dead Time: 0.01 %

MCA Mode: PHA+
Preset Conditions: Live Time = 4329.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria: Energy Window = +-1.300 keV
Iso. Library: C:\WINDOWS\S100\SPECTRAN.ISO

JP
1/17/94
ΔT = 4329 min
Int = cts + bkg
mass = .393 g

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	10614	944	46.8
	49.0	0.04	13.29	1.24
2	60.5	11502	1692	63.5
	66.0	0.04	7.92	1.26
		Isotope: TH-234	@ 63.3	
3	90.5	13030	2310	92.8
	95.0	0.05	5.05	1.32
4	181.9	14016	2820	185.9
	189.4	0.05	6.93	1.56
		Isotope: U-235	@ 185.7	
5	291.4	9437	1545	295.1
	298.9	0.04	10.37	1.54
		Isotope: PB-214	@ 295.2	
6	334.3	7313	403	338.1
	341.8	0.03	35.01	1.31
		Isotope: AC-228	@ 338.3	
7	347.8	8968	2824	351.8
	355.3	0.03	5.53	1.52
		Isotope: PB-214	@ 351.9	
8	579.2	4711	829	582.7
	586.7	0.02	13.66	1.74
		Isotope: TL-208	@ 583.2	
9	605.1	6273	2233	608.7
	612.6	0.02	5.85	1.77
		Isotope: XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	3399	861	910.2
	914.4	0.01	11.17	2.00
		Isotope: AC-228	@ 911.2	
11	958.9	5419	467	967.9
	974.4	0.02	43.74	1.43

REGION OF INTEREST DATA

ROI # 1

Channel #	**** Data ****				
85	780	857	834	787	887
90	984	1187	1109	904	736
95	775	774			

ROI # 2

119					797
120	765	817	813	959	1313

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

125	1492	1198	902	806	817
130	823				

ROI # 3
Channel # **** Data ****

179					932
180	861	1023	1482	2216	2238
185	1569	977	914	818	

ROI # 4
Channel # **** Data ****

362			710	696	737
365	715	784	752	994	1443
370	1547	1265	889	744	705
375	663	701	671		

ROI # 5
Channel # **** Data ****

581		478	496	489	464
585	510	580	739	958	925
590	727	546	506	501	541
595	491	486			

ROI # 6
Channel # **** Data ****

667			429	441	429
670	454	460	454	475	513
675	548	481	485	442	452
680	429	431	390		

ROI # 7
Channel # **** Data ****

694					395
695	375	409	386	381	499
700	717	1051	1255	926	612
705	455	377	401	356	373

ROI # 8
Channel # **** Data ****

1157			240	245	241
1160	203	258	298	422	468
1165	451	351	275	247	264
1170	208	261	279		

ROI # 9
Channel # **** Data ****

1209					257
1210	256	265	284	252	440

1220	241	235	227	254	242

REGION OF INTEREST DATA

ROI # 10
Channel # **** Data ****

1813				143	133
1815	166	174	201	281	351
1820	369	336	242	187	163
1825	165	174	161	153	

ROI # 11
Channel # **** Data ****

1917			132	161	154
1920	177	136	148	173	147
1925	188	183	184	201	164
1930	159	156	150	209	237
1935	303	252	200	165	153
1940	152	134	138	132	117
1945	154	164	143	153	

MCA #1 - Canberra S100 - NOPI1515.MCA - NOPI-151*GAM5 1.0 cm

Tag Number:	129	Readout:	Mon 17 Jan 1994 @ 10:41:11
Report Group:	1/4	Acquire Started:	Mon 17 Jan 1994 @ 10:39:28
Group Size:	4096		

Elapsed Live Time:	4329.00 min.
Elapsed True Time:	4329.42 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	2471	0	220.6	4756
	44.6	0.01	0.00	2.99	
		Isotope: I-135	@ 220.5		
2	48.0	2285	0	225.1	
	49.0	0.01	0.00	2.99	
3	60.5	2379	0	237.6	4825
	61.5	0.01	0.00	2.99	
		Isotope: PB-212	@ 238.6		
4	65.0	2446	0	242.1	
	66.0	0.01	0.00	2.99	
5	90.5	2816	0	267.6	4548
	91.5	0.01	0.00	2.99	
		Isotope: Y-93	@ 266.9		
6	94.5	1732	0	271.6	
	95.0	0.01	0.00	2.99	
7	181.9	2858	0	183.0	5598
	183.4	0.01	0.00	2.99	
8	187.9	2740	0	188.9	
	189.4	0.01	0.00	2.99	
9	291.4	1927	0	292.1	3946
	292.9	0.01	0.00	2.99	
10	297.4	2019	0	297.9	
	298.9	0.01	0.00	21458952.00	
		Isotope: GA-73	@ 297.4		
11	334.3	1753	0	334.8	3455
	335.8	0.01	0.00	21458952.00	
		Isotope: NP-239	@ 334.3		
12	340.3	1702	0	341.3	
	341.8	0.01	0.00	21458952.00	
		Isotope: CS-136	@ 340.6		
13	347.8	1565	0	348.8	3072
	349.3	0.01	0.00	21458952.00	
14	353.8	1507	0	354.3	
	355.3	0.01	0.00	21458952.00	
15	579.2	929	0	579.9	1941
	580.7	0.00	0.00	21458952.00	
16	585.2	1012	0	586.2	
	586.7	0.00	0.00	21458952.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	1062	0	606.2	
	606.6	0.00	0.00	21458952.00	2020
		Isotope: SB-125 @ 606.7			
18	611.1	958	0	612.1	
	612.6	0.00	0.00	21458952.00	
19	906.9	616	0	908.0	
	908.4	0.00	0.00	21458952.00	1269
20	912.9	653	0	913.4	
	914.4	0.00	0.00	21458952.00	
21	958.9	1228	0	960.4	
	962.4	0.00	0.00	0.45	2363
22	970.9	1135	0	973.4	
	974.4	0.00	0.00	0.42	
		Isotope: I-135 @ 972.3			
23M	1100.8	9400	1810	1119.1	
	1134.7	0.04	22.27	2.20	
		Isotope: BI-214 @ 1120.3			

MCA #1 - Canberra S100 - NOPI1514.MCA - NOPI-151*GAM4 1.5 cm

Tag Number: 127
Report Group: 2/4
Group Size: 4096

Readout: Fri 14 Jan 1994 @ 10:26:48
Acquire Started: Fri 14 Jan 1994 @ 10:25:40

Elapsed Live Time: 1503.00 min.
Elapsed True Time: 1503.14 min.
Dead Time: 0.01 %

MCA Mode: PHA+
Preset Conditions: Live Time = 1503.00 min.

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

1/14/94
JP
ΔT=1503 min
Int= cts+bkg
mass=.646 g

REGION OF INTEREST REPORT

ROI #	From(Ch) To (Ch)	Integral CPS	Area %Error	Peak(Ch) FWHM(Ch)
1	85	3846	327	91.41
	96	0.04	23.05	1.19
2	119	4111	648	124.53
	130	0.05	12.43	2.56
3	179	4588	813	183.53
	188	0.05	8.51	2.64
4	362	5122	1076	369.93
	377	0.06	10.97	2.88
5	581	3544	818	588.83
	596	0.04	12.01	2.57
6	667	2577	151	674.95
	682	0.03	55.47	2.62
7	694	3577	1421	701.84
	709	0.04	6.94	3.33
8	1157	1658	280	1164.01
	1172	0.02	23.99	2.67
9	1209	2416	1064	1216.08
	1224	0.03	7.62	3.58
10	1813	1260	352	1819.92
	1828	0.01	16.64	3.06
11	1917	1962	274	1934.61
	1948	0.02	44.00	3.86

REGION OF INTEREST DATA

ROI # 1
Channel # **** Data ****

85	310	300	300	292	293
90	368	465	374	311	304
95	227	302			

ROI # 2
Channel # **** Data ****

119					256
120	244	301	291	375	503
125	526	398	312	317	278
130	310				

ROI # 3
Channel # **** Data ****

179					317
180	274	356	515	788	780
185	567	381	306	304	

ROI # 4
Channel # **** Data ****

362			242	242	234
365	254	245	269	359	566
370	603	464	325	268	269
375	271	272	239		

ROI # 5
Channel # **** Data ****

581		196	161	167	169
585	183	192	279	443	399
590	325	200	160	177	144
595	170	179			

ROI # 6
Channel # **** Data ****

667			160	147	136
670	150	141	156	170	201
675	188	181	157	170	172
680	142	149	157		

ROI # 7
Channel # **** Data ****

694					124
695	141	140	141	129	163
700	342	515	554	400	232
705	164	143	121	149	119

ROI # 8
Channel # **** Data ****

1157			83	89	83
1160	85	92	107	146	186
1165	160	102	96	80	80
1170	84	103	82		

ROI # 9
Channel # **** Data ****

1209					87
1210	77	80	82	112	196
1215	290	376	351	222	128
1220	65	85	85	81	99

ROI # 10
Channel # **** Data ****

1813				50	39
1815	55	66	78	94	154
1820	147	122	85	72	54
1825	60	65	58	61	

ROI # 11
Channel # **** Data ****

1917			56	62	44

1925	73	59	78	83	48
1930	46	70	62	76	106
1935	106	91	76	58	64

REGION OF INTEREST DATA

ROI # 11
Channel # **** Data ****

1940	34	51	50	42	52
1945	54	53	44	48	

MCA #1 - Canberra S100 - NOPI1514.MCA - NOPI-151*GAM4 1.5 cm

Tag Number:	127	Readout:	Fri 14 Jan 1994 @ 10:27:35
Report Group:	1/4	Acquire Started:	Fri 14 Jan 1994 @ 10:25:40
Group Size:	4096		

Elapsed Live Time:	1503.00 min.
Elapsed True Time:	1503.14 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

REGION OF INTEREST REPORT

ROI #	From(Ch) To (Ch)	Integral CPS	Area %Error	Peak(Ch) FWHM(Ch)	
1	85	910	0	438.63	1743
	87	0.01	0.00	8.27	
2	94	833	0	447.63	
	96	0.01	0.00	8.27	
3	119	801	0	472.63	1706
	121	0.01	0.00	8.27	
4	128	905	0	481.63	
	130	0.01	0.00	8.27	
5	179	947	0	532.63	1557
	181	0.01	0.00	8.27	
6	187	610	0	540.63	
	188	0.01	0.00	8.27	
7	362	972	0	715.63	2023
	365	0.01	0.00	8.27	
8	374	1051	0	375.96	
	377	0.01	0.00	8.27	
9	581	693	0	583.02	1363
	584	0.01	0.00	8.27	
10	593	670	0	595.07	
	596	0.01	0.00	8.27	
11	667	593	0	669.01	1213
	670	0.01	0.00	8.27	
12	679	620	0	681.03	
	682	0.01	0.00	8.27	
13	694	546	0	695.55	1078
	697	0.01	0.00	8.27	
14	706	532	0	707.99	
	709	0.01	0.00	8.27	
15	1157	340	0	1158.00	689
	1160	0.00	0.00	42949660.00	
16	1169	349	0	1170.99	
	1172	0.00	0.00	42949660.00	
17	1209	326	0	1211.02	676
	1212	0.00	0.00	42949660.00	
18	1221	350	0	1223.05	
	1224	0.00	0.00	42949660.00	

REGION OF INTEREST REPORT

ROI #	From(Ch) To (Ch)	Integral CPS	Area %Error	Peak(Ch) FWHM(Ch)
19	1813	210	0	1815.17
	1816	0.00	0.00	42949660.00
20	1825	244	0	1825.99
	1828	0.00	0.00	42949660.00
21	1917	438	0	1921.95
	1924	0.00	0.00	1.05
22	1941	394	0	1945.02
	1948	0.00	0.00	2.22
23M	2201	3394	358	2237.13
	2269	0.04	70.66	4.88

454

832

MCA #1 - Canberra S100 - NOPI1513.MCA - NOPI-151*GAM3 2.0 cm

Tag Number: 124
Report Group: 2/4
Group Size: 4096

Readout: Thu 13 Jan 1994 @ 09:16:12
Acquire Started: Thu 13 Jan 1994 @ 09:14:57

Elapsed Live Time: 1327.00 min.
Elapsed True Time: 1327.12 min.
Dead Time: 0.01 %

MCA Mode: PHA+
Preset Conditions: Live Time = 1327.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria: Energy Window = +-1.300 keV
Iso. Library: C:\WINDOWS\S100\SPECTRAN.ISO

1/13/94
JP
ΔT = 1327 min
Int = cts + bkg
mass = .783g

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	3659	296	46.8
	49.0	0.05	24.79	1.14
2	60.5	4021	523	63.5
	66.0	0.05	15.04	1.26
		Isotope: TH-234	@ 63.3	
3	90.5	4430	841	92.8
	95.0	0.06	8.18	1.19
4	181.9	4717	1189	185.9
	189.4	0.06	9.53	1.47
		Isotope: U-235	@ 185.7	
5	291.4	3487	1101	295.3
	298.9	0.04	8.85	1.45
		Isotope: PB-214	@ 295.2	
6	334.3	2277	171	338.3
	341.8	0.03	46.04	1.70
		Isotope: AC-228	@ 338.3	
7	347.8	3860	1840	351.8
	355.3	0.05	5.57	1.50
		Isotope: PB-214	@ 351.9	
8	579.2	1478	240	582.7
	586.7	0.02	26.43	1.38
		Isotope: TL-208	@ 583.2	
9	605.1	2508	1240	608.8
	612.6	0.03	6.66	1.74
		Isotope: XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	1135	321	910.2
	914.4	0.01	17.32	2.03
		Isotope: AC-228	@ 911.2	
11	958.9	1735	235	968.1
	974.4	0.02	48.31	2.10

REGION OF INTEREST DATA

ROI # 1
Channel # **** Data ****

85	292	291	254	279	277
90	349	420	371	309	283
95	252	282			

ROI # 2
Channel # **** Data ****

119					283
120	271	278	297	310	439

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

125	510	430	334	271	301
130	297				

ROI # 3
Channel # **** Data ****

179					350
180	302	313	487	749	810
185	506	359	287	267	

ROI # 4
Channel # **** Data ****

362			236	207	208
365	236	233	263	366	468
370	602	468	317	236	234
375	223	211	209		

ROI # 5
Channel # **** Data ****

581		165	132	146	158
585	152	188	296	478	490
590	325	184	181	155	146
595	141	150			

ROI # 6
Channel # **** Data ****

667			137	128	133
670	139	141	145	153	163
675	176	159	145	142	125
680	130	126	135		

ROI # 7
Channel # **** Data ****

694					125
695	134	125	138	139	183
700	311	595	700	491	275
705	156	117	121	138	112

ROI # 8
Channel # **** Data ****

1157			74	65	84
1160	81	80	87	125	163
1165	146	105	80	73	84
1170	67	77	87		

ROI # 9
Channel # **** Data ****

1209					81
1210	78	83	95	91	167
1215	329	423	384	250	144

REGION OF INTEREST DATA

ROI # 10

Channel #	**** Data ****				
1813				49	55
1815	41	53	66	99	105
1820	134	105	90	71	58
1825	57	50	51	51	

ROI # 11

Channel #	**** Data ****				
1917			67	50	43
1920	52	52	43	57	52
1925	56	59	52	66	53
1930	35	37	56	62	96
1935	90	83	77	64	54
1940	50	45	40	45	36
1945	38	43	43	39	

MCA #1 - Canberra S100 - NOPI1513.MCA - NOPI-151*GAM3 2.0 cm

Tag Number: 124
Report Group: 1/4
Group Size: 4096

Readout: Thu 13 Jan 1994 @ 09:17:32
Acquire Started: Thu 13 Jan 1994 @ 09:14:57

Elapsed Live Time: 1327.00 min.
Elapsed True Time: 1327.12 min.
Dead Time: 0.01 %

MCA Mode: PHA+
Preset Conditions: Live Time = 6000.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria: Energy Window = +-1.300 keV
Iso. Library: C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	837	0	220.9	
	44.6	0.01	0.00	4.00	
	Isotope:	I-135 @ 220.5			1654
		TA-182 @ 222.1			
2	48.0	817	0	225.4	
	49.0	0.01	0.00	4.00	
3	60.5	832	0	237.8	
	61.5	0.01	0.00	4.00	1701
	Isotope:	PB-212 @ 238.6			
4	65.0	869	0	242.3	
	66.0	0.01	0.00	4.00	
5	90.5	965	0	267.8	
	91.5	0.01	0.00	4.00	1519
	Isotope:	Y-93 @ 266.9			
6	94.5	554	0	271.8	
	95.0	0.01	0.00	4.00	
7	181.9	887	0	359.3	
	183.4	0.01	0.00	4.00	1764
8	187.9	877	0	188.4	
	189.4	0.01	0.00	21458952.00	
9	291.4	601	0	291.8	
	292.9	0.01	0.00	21458952.00	1193
10	297.4	592	0	297.8	
	298.9	0.01	0.00	21458952.00	
	Isotope:	GA-73 @ 297.4			
11	334.3	537	0	334.8	
	335.8	0.01	0.00	21458952.00	1053
	Isotope:	NP-239 @ 334.3			
12	340.3	516	0	340.8	
	341.8	0.01	0.00	21458952.00	
	Isotope:	CS-136 @ 340.6			
13	347.8	522	0	348.3	
	349.3	0.01	0.00	21458952.00	1010
14	353.8	488	0	354.8	
	355.3	0.01	0.00	21458952.00	
	Isotope:	BA-133 @ 356.0			
15	579.2	304	0	580.2	
	580.7	0.00	0.00	21458952.00	619
16	585.2	315	0	586.2	
	586.7	0.00	0.00	21458952.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	337	0	606.2	634
	606.6	0.00	0.00	21458952.00	
		Isotope: SB-125 @ 606.7			
18	611.1	297	0	612.1	
	612.6	0.00	0.00	21458952.00	
19	906.9	198	0	907.4	407
	908.4	0.00	0.00	21458952.00	
20	912.9	209	0	913.4	
	914.4	0.00	0.00	21458952.00	
21	958.9	416	0	961.9	745
	962.4	0.01	0.00	21458952.00	
22	970.9	329	0	971.8	
	974.4	0.00	0.00	0.37	
		Isotope: I-135 @ 972.3			
23M	1100.8	3142	468	1119.3	
	1134.7	0.04	50.89	1.92	
		Isotope: BI-214 @ 1120.3			
		SC-46 @ 1120.5			

MCA #1 - Canberra S100 - NOPI1512.MCA NOPI-151*GAM2 2.0 cm

Tag Number: 122
Report Group: 2/4
Group Size: 4096

Readout: Wed 12 Jan 1994 @ 11:05:08
Acquire Started: Wed 12 Jan 1994 @ 11:04:17

Elapsed Live Time: 1545.00 min.
Elapsed True Time: 1545.14 min.
Dead Time: 0.01 %

MCA Mode: PHA+
Preset Conditions: Live Time = 1545.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria: Energy Window = +-1.300 keV
Iso. Library: C:\WINDOWS\S100\SPECTRAN.ISO

JP
1/12/94
Δt = 1545 min
Int = cts + bkg
mass = .767 g

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	4344	401	46.6
	49.0	0.05	20.07	1.49
2	60.5	5008	808	63.3
	66.0	0.05	11.01	1.23
		Isotope: TH-234	@ 63.3	
3	90.5	5548	972	92.9
	95.0	0.06	7.81	1.00
4	181.9	6058	1564	185.9
	189.4	0.07	8.21	1.40
		Isotope: U-235	@ 185.7	
5	291.4	4456	1588	295.3
	298.9	0.05	6.94	1.50
		Isotope: PB-214	@ 295.2	
6	334.3	2831	239	338.1
	341.8	0.03	36.73	1.72
		Isotope: AC-228	@ 338.3	
7	347.8	4987	2631	351.8
	355.3	0.05	4.43	1.48
		Isotope: PB-214	@ 351.9	
8	579.2	1809	433	582.6
	586.7	0.02	16.21	1.79
		Isotope: TL-208	@ 583.2	
9	605.1	3291	1819	608.9
	612.6	0.04	5.20	1.77
		Isotope: XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	1352	398	910.2
	914.4	0.01	15.24	1.74
		Isotope: AC-228	@ 911.2	
11	958.9	2061	413	968.1
	974.4	0.02	29.24	2.20
		Isotope: RU-105	@ 969.4	

REGION OF INTEREST DATA

ROI # 1

Channel #	**** Data ****				
85	304	344	328	344	351
90	422	467	475	369	297
95	323	320			

ROI # 2

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

120	376	329	351	424	594
125	678	512	364	338	342
130	355				

ROI # 3
Channel # **** Data ****

179					408
180	374	409	629	949	938
185	703	414	367	357	

ROI # 4
Channel # **** Data ****

362			275	289	291
365	273	291	330	406	637
370	811	638	414	284	275
375	277	292	275		

ROI # 5
Channel # **** Data ****

581		186	184	167	181
585	187	229	405	637	682
590	453	238	191	173	174
595	179	190			

ROI # 6
Channel # **** Data ****

667			160	177	163
670	165	177	143	208	224
675	239	216	153	175	140
680	159	165	167		

ROI # 7
Channel # **** Data ****

694					151
695	160	148	148	153	201
700	412	766	1003	716	368
705	190	150	128	135	158

ROI # 8
Channel # **** Data ****

1157			92	100	65
1160	82	110	140	174	205
1165	171	136	95	90	88
1170	82	95	84		

ROI # 9
Channel # **** Data ****

1209					91
1210	92	106	99	114	218

1220	115	102	85	88	73

REGION OF INTEREST DATA

ROI # 10

Channel #		**** Data ****			
1813				58	57
1815	78	57	68	130	144
1820	172	122	87	79	73
1825	56	55	62	54	

ROI # 11

Channel #		**** Data ****			
1917			51	49	55
1920	54	65	57	59	57
1925	64	71	79	81	51
1930	64	69	59	80	85
1935	105	100	93	71	45
1940	51	64	49	65	65
1945	60	45	42	56	

MCA #1 - Canberra S100 - NOPI1512.MCA - NOPI-151*GAM2 2.0 cm

Tag Number:	122	Readout:	Wed 12 Jan 1994 @ 11:06:07
Report Group:	1/4	Acquire Started:	Wed 12 Jan 1994 @ 11:04:17
Group Size:	4096		

Elapsed Live Time:	1545.00 min.
Elapsed True Time:	1545.14 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	976	0	214.2	1916
	44.6	0.01	0.00	9.40	
2	48.0	940	0	218.7	
	49.0	0.01	0.00	9.40	
3	60.5	1050	0	231.1	2085
	61.5	0.01	0.00	9.40	
4	65.0	1035	0	235.6	
	66.0	0.01	0.00	9.40	
		Isotope: I-134 @ 235.5			
5	90.5	1191	0	261.1	1915
	91.5	0.01	0.00	9.40	
6	94.5	724	0	265.1	
	95.0	0.01	0.00	9.40	
		Isotope: GE-75 @ 264.7			
		SE-75 @ 264.7			
7	181.9	1128	0	182.9	2247
	183.4	0.01	0.00	9.40	
8	187.9	1119	0	188.9	
	189.4	0.01	0.00	9.40	
9	291.4	718	0	291.9	1434
	292.9	0.01	0.00	21458958.00	
10	297.4	716	0	298.4	
	298.9	0.01	0.00	21458958.00	
		Isotope: GA-73 @ 297.4			
11	334.3	665	0	334.8	1296
	335.8	0.01	0.00	21458958.00	
		Isotope: NP-239 @ 334.3			
12	340.3	631	0	341.3	
	341.8	0.01	0.00	21458958.00	
		Isotope: CS-136 @ 340.6			
13	347.8	607	0	348.3	1178
	349.3	0.01	0.00	21458958.00	
14	353.8	571	0	354.3	
	355.3	0.01	0.00	21458958.00	
15	579.2	339	0	579.6	688
	580.7	0.00	0.00	21458958.00	
16	585.2	349	0	586.2	
	586.7	0.00	0.00	21458958.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	388	0	606.1	
	606.6	0.00	0.00	21458958.00	736
		Isotope: SB-125 @ 606.7			
18	611.1	348	0	612.1	
	612.6	0.00	0.00	21458958.00	
19	906.9	250	0	907.9	
	908.4	0.00	0.00	21458958.00	477
20	912.9	227	0	913.9	
	914.4	0.00	0.00	21458958.00	
21	958.9	447	0	960.9	
	962.4	0.00	0.00	0.40	893
22	970.9	446	0	972.3	
	974.4	0.00	0.00	1.31	
		Isotope: I-135 @ 972.3			
23M	1100.8	3700	388	1119.1	
	1134.7	0.04	68.10	2.00	
		Isotope: BI-214 @ 1120.3			

MCA #1 - Canberra S100 - NOPI1511.MCA - NOPI-151*GAM1 3.0 cm

Tag Number: 120
Report Group: 2/4
Group Size: 4096

Readout: Tue 11 Jan 1994 @ 09:15:46
Acquire Started: Tue 11 Jan 1994 @ 09:13:35

Elapsed Live Time: 1022.00 min.
Elapsed True Time: 1022.13 min.
Dead Time: 0.01 %

MCA Mode: PHA+
Preset Conditions: Live Time = 1022.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria: Energy Window = +-1.300 keV
Iso. Library: C:\WINDOWS\S100\SPECTRAN.ISO

JP 1/11/94
ΔT = 1022 min
Int = cts + Bkg
mass = 1.428 g

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	5456	599	46.8
	49.0	0.09	15.16	1.15
2	60.5	7480	1744	63.5
	66.0	0.12	6.43	1.36
		Isotope: TH-234	@ 63.3	
3	90.5	8502	2026	92.8
	95.0	0.14	4.92	1.26
4	181.9	8365	3731	186.0
	189.4	0.14	4.04	1.50
		Isotope: U-235	@ 185.7	
5	291.4	7938	5278	295.2
	298.9	0.13	2.79	1.49
		Isotope: PB-214	@ 295.2	
6	334.3	2414	106	338.3
	341.8	0.04	76.48	1.47
		Isotope: AC-228	@ 338.3	
7	347.8	10969	8795	351.8
	355.3	0.18	1.96	1.52
		Isotope: PB-214	@ 351.9	
8	579.2	1420	196	582.7
	586.7	0.02	31.72	1.36
		Isotope: TL-208	@ 583.2	
9	605.1	7132	5946	608.9
	612.6	0.12	2.34	1.70
		Isotope: XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	1057	289	910.4
	914.4	0.02	18.56	1.79
		Isotope: AC-228	@ 911.2	
11	958.9	1642	334	968.1
	974.4	0.03	32.24	1.53
		Isotope: RU-105	@ 969.4	

REGION OF INTEREST DATA

ROI # 1
Channel # **** Data ****

85	416	384	393	408	404
90	499	675	640	478	374
95	374	411			

2
l # **** Data ****

REGION OF INTEREST DATA

ROI # 2

Channel #			**** Data ****		
120	474	504	493	608	938
125	1161	949	583	450	439
130	417				

ROI # 3

Channel #			**** Data ****		
179					555
180	490	537	968	1628	1693
185	1071	619	478	463	

ROI # 4

Channel #			**** Data ****		
362			294	295	314
365	284	308	314	559	1010
370	1472	1272	719	394	293
375	265	308	264		

ROI # 5

Channel #			**** Data ****		
581		165	193	166	163
585	177	343	895	1681	1835
590	1077	424	176	174	152
595	143	174			

ROI # 6

Channel #			**** Data ****		
667			147	157	130
670	143	143	129	157	183
675	191	173	155	129	148
680	136	130	163		

ROI # 7

Channel #			**** Data ****		
694					138
695	142	127	174	149	405
700	972	2228	2890	2042	913
705	283	151	104	116	135

ROI # 8

Channel #			**** Data ****		
1157			96	97	61
1160	87	84	89	111	143
1165	136	89	80	76	71
1170	68	65	67		

ROI # 9

Channel #			**** Data ****		
1209					61
1210	68	87	76	146	416
1215	1094	1759	1626	999	369

1220	130	70	66	65	70

REGION OF INTEREST DATA

ROI # 10

Channel #		**** Data ****			
1813				57	51
1815	33	54	71	77	114
1820	120	106	77	62	46
1825	39	45	49	56	

ROI # 11

Channel #		**** Data ****			
1917			40	56	30
1920	41	38	60	50	43
1925	54	55	70	55	49
1930	48	54	48	54	73
1935	78	97	61	60	46
1940	47	51	43	48	33
1945	35	41	45	39	

MCA #1 - Canberra S100 - NOPI1511.MCA - NOPI-151*GAM1 3.0 cm

Tag Number: 120
Report Group: 1/4
Group Size: 4096

Readout: Tue 11 Jan 1994 @ 09:16:23
Acquire Started: Tue 11 Jan 1994 @ 09:13:35

Elapsed Live Time: 1022.00 min.
Elapsed True Time: 1022.13 min.
Dead Time: 0.01 %

MCA Mode: PHA+
Preset Conditions: Live Time = 6000.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria: Energy Window = +-1.300 keV
Iso. Library: C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	1193	0	214.2	2352
	44.6	0.02	0.00	10.37	
2	48.0	1159	0	218.7	
	49.0	0.02	0.00	10.37	
3	60.5	1442	0	231.1	2748
	61.5	0.02	0.00	10.37	
4	65.0	1306	0	235.6	
	66.0	0.02	0.00	10.37	
	Isotope:	I-134	@ 235.5		
5	90.5	1582	0	261.1	2523
	91.5	0.03	0.00	10.37	
6	94.5	941	0	265.1	
	95.0	0.02	0.00	10.37	
	Isotope:	GE-75	@ 264.7		
		SE-75	@ 264.7		
7	181.9	1187	0	182.9	2317
	183.4	0.02	0.00	10.37	
8	187.9	1130	0	188.9	
	189.4	0.02	0.00	10.37	
9	291.4	687	0	291.9	1330
	292.9	0.01	0.00	21458958.00	
10	297.4	643	0	297.8	
	298.9	0.01	0.00	21458958.00	
	Isotope:	GA-73	@ 297.4		
11	334.3	577	0	334.8	1154
	335.8	0.01	0.00	21458956.00	
	Isotope:	NP-239	@ 334.3		
12	340.3	577	0	340.8	
	341.8	0.01	0.00	21458958.00	
	Isotope:	CS-136	@ 340.6		
13	347.8	581	0	348.3	1087
	349.3	0.01	0.00	21458958.00	
14	353.8	506	0	354.3	
	355.3	0.01	0.00	21458958.00	
15	579.2	341	0	579.6	612
	580.7	0.01	0.00	21458956.00	
16	585.2	271	0	585.6	
	586.7	0.00	0.00	21458958.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	292	0	606.2	593
	606.6	0.00	0.00	21458958.00	
		Isotope: SB-125 @ 606.7			
18	611.1	301	0	612.1	
	612.6	0.00	0.00	21458958.00	
19	906.9	195	0	907.3	384
	908.4	0.00	0.00	21458956.00	
20	912.9	189	0	913.9	
	914.4	0.00	0.00	21458956.00	
21	958.9	358	0	961.4	693
	962.4	0.01	0.00	0.50	
22	970.9	335	0	971.5	
	974.4	0.01	0.00	21458958.00	
		Isotope: I-135 @ 972.3			
23M	1100.8	3871	1396	1119.3	
	1134.7	0.06	16.83	2.33	
		Isotope: BI-214 @ 1120.3			
		SC-46 @ 1120.5			

MCA #1 - Canberra S100 - NOPI2021.MCA - NOPI-202 7.0 cm

Tag Number:	106	Readout:	Fri 12 Nov 1993 @ 08:50:54
Report Group:	2/4	Acquire Started:	Fri 12 Nov 1993 @ 08:49:58
Group Size:	4096		

Elapsed Live Time:	1446.00 min.
Elapsed True Time:	1446.14 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 1446.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

JP
11/12/93
DT=1446 min
Int = cts tbk g
mass = 4.542

Channel # **** Data ****

119					353

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

120	418	410	387	471	643
125	743	642	432	412	356
130	396				

ROI # 3
Channel # **** Data ****

179					534
180	447	441	603	1011	1127
185	819	497	389	400	

ROI # 4
Channel # **** Data ****

362			267	271	291
365	309	294	326	432	719
370	901	732	466	320	312
375	244	269	300		

ROI # 5
Channel # **** Data ****

581		203	173	185	172
585	188	252	441	757	818
590	578	275	193	190	192
595	169	202			

ROI # 6
Channel # **** Data ****

667			178	145	170
670	146	168	177	204	293
675	277	260	191	136	173
680	149	157	169		

ROI # 7
Channel # **** Data ****

694					136
695	171	139	150	172	229
700	471	882	1287	879	445
705	195	134	131	152	125

ROI # 8
Channel # **** Data ****

1157			105	93	90
1160	83	102	140	217	266
1165	281	189	107	87	99
1170	77	78	75		

ROI # 9
Channel # **** Data ****

1209					79
1210	92	101	109	118	226

1215	466	671	742	487	208
1220	108	77	88	65	103

REGION OF INTEREST DATA

ROI # 10

Channel #		**** Data ****			
1813				60	56
1815	55	65	84	113	180
1820	188	174	117	95	59
1825	63	58	55	51	

ROI # 11

Channel #		**** Data ****			
1917			61	61	51
1920	50	64	65	50	68
1925	67	62	89	68	64
1930	62	58	58	82	110
1935	117	142	97	91	53
1940	56	50	50	39	54
1945	50	62	45	59	

MCA #1 - Canberra S100 - NOPI2021.MCA - NOPI-202 7.0 cm

Tag Number:	106	Readout:	Fri 12 Nov 1993 @ 08:51:34
Report Group:	1/4	Acquire Started:	Fri 12 Nov 1993 @ 08:49:58
Group Size:	4096		

Elapsed Live Time:	1446.00 min.
Elapsed True Time:	1446.14 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	1085	0	220.7	
	44.6	0.01	0.00	3.60	
		Isotope: I-135	@ 220.5		2092
2	48.0	1007	0	225.2	
	49.0	0.01	0.00	3.60	
3	60.5	1181	0	237.7	
	61.5	0.01	0.00	3.60	2345
		Isotope: PB-212	@ 238.6		
4	65.0	1164	0	242.1	
	66.0	0.01	0.00	3.60	
5	90.5	1422	0	267.6	
	91.5	0.02	0.00	3.60	2211
		Isotope: Y-93	@ 266.9		
6	94.5	789	0	271.6	
	95.0	0.01	0.00	3.60	
7	181.9	1138	0	183.0	
	183.4	0.01	0.00	3.60	2263
8	187.9	1125	0	189.0	
	189.4	0.01	0.00	3.60	
9	291.4	733	0	292.4	
	292.9	0.01	0.00	3.60	1486
10	297.4	753	0	297.8	
	298.9	0.01	0.00	21458952.00	
		Isotope: GA-73	@ 297.4		
11	334.3	639	0	335.3	
	335.8	0.01	0.00	21458952.00	1287
		Isotope: NP-239	@ 334.3		
12	340.3	648	0	341.4	
	341.8	0.01	0.00	21458952.00	
		Isotope: CS-136	@ 340.6		
13	347.8	596	0	348.3	
	349.3	0.01	0.00	21458952.00	1138
14	353.8	542	0	354.8	
	355.3	0.01	0.00	21458952.00	
		Isotope: BA-133	@ 356.0		
15	579.2	371	0	579.6	
	580.7	0.00	0.00	21458952.00	700
16	585.2	329	0	585.6	
	586.7	0.00	0.00	21458952.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	381	0	606.2	714
	606.6	0.00	0.00	21458952.00	
		Isotope: SB-125	@ 606.7		
18	611.1	333	0	611.6	
	612.6	0.00	0.00	21458952.00	
19	906.9	236	0	907.4	463
	908.4	0.00	0.00	21458952.00	
20	912.9	227	0	913.4	
	914.4	0.00	0.00	21458952.00	
21	958.9	470	0	961.1	879
	962.4	0.01	0.00	0.58	
22	970.9	409	0	973.3	
	974.4	0.00	0.00	0.31	
		Isotope: I-135	@ 972.3		
23M	1100.8	3789	460	1119.4	
	1134.7	0.04	57.70	1.90	
		Isotope: BI-214	@ 1120.3		
		SC-46	@ 1120.5		

MCA #1 - Canberra S100 - NOPI2011.MCA - NOPI-201 7.0 cm

Tag Number:	104	Readout:	Thu 11 Nov 1993 @ 08:42:18
Report Group:	2/4	Acquire Started:	Thu 11 Nov 1993 @ 08:41:09
Group Size:	4096		

Elapsed Live Time:	1285.00 min.
Elapsed True Time:	1285.13 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 1285.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria: Energy Window = +-1.300 keV
Iso. Library: C:\WINDOWS\S100\SPECTRAN.ISO

JP
11/11/93
ΔT = 1285 min
Int. cts #g
mass = 4.556 g

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	4615	412	46.8
	49.0	0.06	20.08	1.16
2	60.5	5955	1053	63.5
	66.0	0.08	9.28	1.34
		Isotope: TH-234	@ 63.3	
3	90.5	6824	1274	92.9
	95.0	0.09	6.68	1.33
4	181.9	6523	2129	186.0
	189.4	0.08	6.26	1.55
		Isotope: U-235	@ 185.7	
5	291.4	5401	2757	295.3
	298.9	0.07	4.40	1.38
		Isotope: PB-214	@ 295.2	
6	334.3	2683	321	338.3
	341.8	0.03	26.62	1.52
		Isotope: AC-228	@ 338.3	
7	347.8	6934	4676	351.8
	355.3	0.09	2.94	1.49
		Isotope: PB-214	@ 351.9	
8	579.2	1838	546	582.8
	586.7	0.02	12.96	1.89
		Isotope: TL-208	@ 583.2	
9	605.1	4416	3078	608.9
	612.6	0.06	3.56	1.72
		Isotope: XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	1250	446	910.4
	914.4	0.02	13.08	1.41
		Isotope: AC-228	@ 911.2	
11	958.9	1957	369	968.1
	974.4	0.03	32.04	1.79
		Isotope: RU-105	@ 969.4	

REGION OF INTEREST DATA

ROI # 1

Channel #	**** Data ****				
85	337	331	368	347	372
90	414	523	504	393	341
95	313	372			

ROI # 2

119					359

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

120	401	412	405	484	683
125	817	703	465	443	386
130	397				

ROI # 3
Channel # **** Data ****

179					518
180	427	454	765	1142	1242
185	916	528	445	387	

ROI # 4
Channel # **** Data ****

362			272	271	293
365	290	277	309	419	724
370	948	827	531	291	270
375	263	279	259		

ROI # 5
Channel # **** Data ****

581		152	149	188	182
585	166	241	487	932	1098
590	657	312	186	158	165
595	153	175			

ROI # 6
Channel # **** Data ****

667			121	150	158
670	167	128	168	181	227
675	251	226	162	159	167
680	146	155	117		

ROI # 7
Channel # **** Data ****

694					141
695	164	151	156	180	270
700	511	1234	1621	1173	585
705	231	126	124	115	152

ROI # 8
Channel # **** Data ****

1157			83	91	87
1160	82	89	142	199	207
1165	237	160	83	75	73
1170	74	75	81		

ROI # 9
Channel # **** Data ****

1209					92
1210	79	95	85	107	252

1215	591	667	941	581	259
1220	128	77	84	84	83

REGION OF INTEREST DATA

ROI # 10

Channel #		**** Data ****			
1813				58	51
1815	49	50	81	102	116
1820	184	148	109	64	44
1825	48	47	49	50	

ROI # 11

Channel #		**** Data ****			
1917			46	58	47
1920	55	48	35	62	51
1925	52	82	65	65	64
1930	70	51	57	57	103
1935	115	121	86	63	55
1940	47	56	44	51	60
1945	47	52	54	38	

MCA #1 - Canberra S100 - NOPI2011.MCA - NOPI-201 7.0 cm

Tag Number:	104	Readout:	Thu 11 Nov 1993 @ 08:42:58
Report Group:	1/4	Acquire Started:	Thu 11 Nov 1993 @ 08:41:09
Group Size:	4096		

Elapsed Live Time:	1285.00 min.
Elapsed True Time:	1285.13 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	1036	0	220.7	
	44.6	0.01	0.00	3.41	2062
		Isotope: I-135	@ 220.5		
2	48.0	1026	0	225.2	
	49.0	0.01	0.00	3.41	
3	60.5	1172	0	237.6	
	61.5	0.02	0.00	3.41	2398
		Isotope: PB-212	@ 238.6		
4	65.0	1226	0	242.1	
	66.0	0.02	0.00	3.41	
5	90.5	1399	0	267.6	
	91.5	0.02	0.00	3.41	2231
		Isotope: Y-93	@ 266.9		
6	94.5	832	0	271.6	
	95.0	0.01	0.00	3.41	
7	181.9	1126	0	183.0	
	183.4	0.01	0.00	3.41	2197
8	187.9	1071	0	188.9	
	189.4	0.01	0.00	3.41	
9	291.4	671	0	292.4	
	292.9	0.01	0.00	3.41	1322
10	297.4	651	0	297.9	
	298.9	0.01	0.00	21458952.00	
		Isotope: GA-73	@ 297.4		
11	334.3	596	0	335.4	
	335.8	0.01	0.00	21458952.00	1181
		Isotope: NP-239	@ 334.3		
12	340.3	585	0	341.3	
	341.8	0.01	0.00	21458952.00	
		Isotope: CS-136	@ 340.6		
13	347.8	612	0	348.3	
	349.3	0.01	0.00	21458952.00	1129
14	353.8	517	0	354.3	
	355.3	0.01	0.00	21458952.00	
15	579.2	343	0	579.7	
	580.7	0.00	0.00	21458952.00	646
16	585.2	303	0	586.2	
	586.7	0.00	0.00	21458952.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	341	0	606.1	669
	606.6	0.00	0.00	21458952.00	
		Isotope: SB-125	@ 606.7		
18	611.1	328	0	612.1	
	612.6	0.00	0.00	21458952.00	
19	906.9	208	0	907.9	402
	908.4	0.00	0.00	21458952.00	
20	912.9	194	0	913.9	
	914.4	0.00	0.00	21458952.00	
21	958.9	402	0	961.9	804
	962.4	0.01	0.00	21458952.00	
22	970.9	402	0	972.4	
	974.4	0.01	0.00	0.67	
		Isotope: I-135	@ 972.3		
23M	1100.8	3630	956	1119.5	
	1134.7	0.05	25.21	1.96	
		Isotope: BI-214	@ 1120.3		
		SC-46	@ 1120.5		

MCA #1 - Canberra S100 - NOPI2001.MCA - NOPI-200 7.0 cm

Tag Number:	102	Readout:	Wed 10 Nov 1993 @ 11:13:36
Report Group:	2/4	Acquire Started:	Wed 10 Nov 1993 @ 11:12:59
Group Size:	4096		

Elapsed Live Time:	1462.00 min.
Elapsed True Time:	1462.20 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 1462.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria: Energy Window = +-1.300 keV
Iso. Library: C:\WINDOWS\S100\SPECTRAN.ISO

11/10/93
DT = 1462 min
Int = cts + bkg
Mass = 4.6829

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	6399	618	46.8
	49.0	0.07	15.81	0.97
2	60.5	7902	1436	63.5
	66.0	0.09	7.85	1.29
	Isotope:	TH-234	@ 63.3	
3	90.5	8885	1804	92.8
	95.0	0.10	5.47	1.25
4	181.9	9110	3496	186.0
	189.4	0.10	4.50	1.45
	Isotope:	U-235	@ 185.7	
5	291.4	7745	4581	295.2
	298.9	0.09	3.17	1.54
	Isotope:	PB-214	@ 295.2	
6	334.3	3459	383	338.3
	341.8	0.04	25.34	1.56
	Isotope:	AC-228	@ 338.3	
7	347.8	10423	7545	351.8
	355.3	0.12	2.23	1.53
	Isotope:	PB-214	@ 351.9	
8	579.2	2317	687	582.7
	586.7	0.03	11.56	1.77
	Isotope:	TL-208	@ 583.2	
9	605.1	6902	5246	608.9
	612.6	0.08	2.61	1.80
	Isotope:	XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	1593	503	910.2
	914.4	0.02	13.09	1.85
	Isotope:	AC-228	@ 911.2	
11	958.9	2286	474	968.0
	974.4	0.03	26.76	2.06

REGION OF INTEREST DATA

ROI # 1

Channel # **** Data ****

85	489	493	478	436	516
90	581	765	683	538	492
95	448	480			

ROI # 2

Channel # **** Data ****

119					541
120	497	542	562	683	908

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

125	1108	892	585	553	510
130	521				

ROI # 3
Channel # **** Data ****

179					678
180	575	572	983	1558	1662
185	1108	663	552	534	

ROI # 4
Channel # **** Data ****

362			387	346	384
365	330	343	400	604	1039
370	1503	1202	758	454	339
375	341	333	347		

ROI # 5
Channel # **** Data ****

581		223	196	198	207
585	229	353	846	1499	1627
590	1020	385	204	182	208
595	179	189			

ROI # 6
Channel # **** Data ****

667			184	203	210
670	176	180	217	229	293
675	312	301	201	188	180
680	200	201	184		

ROI # 7
Channel # **** Data ****

694					199
695	172	188	205	215	378
700	966	1980	2552	1850	776
705	267	181	185	164	145

ROI # 8
Channel # **** Data ****

1157			82	99	105
1160	128	117	161	254	286
1165	277	184	125	98	111
1170	96	97	97		

ROI # 9
Channel # **** Data ****

1209					113
1210	103	127	113	184	464
1215	1001	1501	1481	933	368

1220	142	95	96	94	87

REGION OF INTEREST DATA

ROI # 10

Channel #			**** Data ****		
1813				59	70
1815	67	88	97	140	187
1820	200	170	104	89	61
1825	64	72	64	61	

ROI # 11

Channel #			**** Data ****		
1917			54	57	69
1920	61	58	60	61	61
1925	57	83	67	71	70
1930	65	59	59	95	131
1935	144	147	114	66	67
1940	58	65	52	50	73
1945	53	56	40	63	

MCA #1 - Canberra S100 - NOPI2001.MCA - NOPI-200 7.0 cm

Tag Number:	102	Readout:	Wed 10 Nov 1993 @ 11:14:12
Report Group:	1/4	Acquire Started:	Wed 10 Nov 1993 @ 11:12:59
Group Size:	4096		

Elapsed Live Time:	1462.00 min.
Elapsed True Time:	1462.20 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	1460	0	220.5	
	44.6	0.02	0.00	3.58	
		Isotope: I-135	@ 220.5		2880
2	48.0	1420	0	225.0	
	49.0	0.02	0.00	3.58	
3	60.5	1580	0	237.5	
	61.5	0.02	0.00	3.58	
		Isotope: PB-212	@ 238.6		3164
4	65.0	1584	0	242.0	
	66.0	0.02	0.00	3.58	
5	90.5	1825	0	267.4	
	91.5	0.02	0.00	3.58	
		Isotope: Y-93	@ 266.9		2911
6	94.5	1086	0	271.4	
	95.0	0.01	0.00	3.58	
7	181.9	1447	0	182.9	
	183.4	0.02	0.00	3.58	2807
8	187.9	1360	0	188.4	
	189.4	0.02	0.00	21458952.00	
9	291.4	824	0	291.8	
	292.9	0.01	0.00	21458952.00	1582
10	297.4	758	0	297.9	
	298.9	0.01	0.00	21458952.00	
		Isotope: GA-73	@ 297.4		
11	334.3	773	0	335.3	
	335.8	0.01	0.00	21458952.00	1538
		Isotope: NP-239	@ 334.3		
12	340.3	765	0	341.3	
	341.8	0.01	0.00	21458952.00	
		Isotope: CS-136	@ 340.6		
13	347.8	764	0	348.9	
	349.3	0.01	0.00	21458952.00	1439
14	353.8	675	0	354.3	
	355.3	0.01	0.00	21458952.00	
15	579.2	414	0	580.2	
	580.7	0.00	0.00	21458952.00	815
16	585.2	401	0	586.2	
	586.7	0.00	0.00	21458952.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
17	605.1	456	0	606.2
	606.6	0.01	0.00	21458952.00
		Isotope: SB-125	@ 606.7	
18	611.1	372	0	611.9
	612.6	0.00	0.00	21458952.00
19	906.9	284	0	907.7
	908.4	0.00	0.00	21458952.00
20	912.9	261	0	913.4
	914.4	0.00	0.00	21458952.00
21	958.9	481	0	959.9
	962.4	0.01	0.00	0.52
22	970.9	452	0	972.4
	974.4	0.01	0.00	0.46
		Isotope: I-135	@ 972.3	
23M	1100.8	4709	1199	1119.4
	1134.7	0.05	23.02	2.01
		Isotope: BI-214	@ 1120.3	
		SC-46	@ 1120.5	

828

545

933

MCA #1 - Canberra S100 - NOPI1941.MCA - NOPI-194 7.0 cm

Tag Number:	100	Readout:	Tue 09 Nov 1993 @ 10:49:02
Report Group:	2/4	Acquire Started:	Tue 09 Nov 1993 @ 10:47:39
Group Size:	4096		

Elapsed Live Time:	1443.00 min.
Elapsed True Time:	1443.16 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 1443.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

JP
11/9/93
ΔT=1443 min
INT=CTS+BKG
mass=3.69 g

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	5726	652	46.8
	49.0	0.07	14.30	1.12
2	60.5	6533	1040	63.3
	66.0	0.08	9.76	1.20
	Isotope:	TH-234	@ 63.3	
3	90.5	6834	1179	92.8
	95.0	0.08	7.13	1.29
4	181.9	7568	2558	185.9
	189.4	0.09	5.61	1.45
	Isotope:	U-235	@ 185.7	
5	291.4	7135	3953	295.0
	298.9	0.08	3.53	1.57
	Isotope:	PB-214	@ 295.2	
6	334.3	3119	295	338.1
	341.8	0.04	31.24	1.57
	Isotope:	AC-228	@ 338.3	
7	347.8	9299	6655	351.7
	355.3	0.11	2.39	1.51
	Isotope:	PB-214	@ 351.9	
8	579.2	2081	711	582.8
	586.7	0.02	10.59	1.89
	Isotope:	TL-208	@ 583.2	
9	605.1	6077	4553	608.7
	612.6	0.07	2.83	1.63
	Isotope:	XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	1515	537	910.2
	914.4	0.02	11.96	2.05
	Isotope:	AC-228	@ 911.2	
11	958.9	2186	458	968.1
	974.4	0.03	27.06	2.08

REGION OF INTEREST DATA

ROI # 1

Channel #	**** Data ****				
85	410	430	443	427	420
90	558	726	639	475	400
95	400	398			

ROI # 2

Channel # **** Data ****

119					445
120	468	460	450	564	780

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

125	881	646	509	455	463
130	412				

ROI # 3
Channel # **** Data ****

179					571
180	446	473	799	1176	1134
185	796	511	489	439	

ROI # 4
Channel # **** Data ****

362			344	336	320
365	319	330	348	532	880
370	1157	917	519	380	308
375	292	286	300		

ROI # 5
Channel # **** Data ****

581		190	226	204	193
585	240	404	895	1384	1380
590	740	312	189	175	226
595	208	169			

ROI # 6
Channel # **** Data ****

667			183	174	173
670	172	182	150	227	274
675	270	228	203	173	173
680	157	190	190		

ROI # 7
Channel # **** Data ****

694					178
695	156	196	166	197	362
700	992	1966	2264	1411	565
705	220	169	150	153	154

ROI # 8
Channel # **** Data ****

1157			98	100	80
1160	75	121	158	258	247
1165	233	189	110	80	94
1170	78	85	75		

ROI # 9
Channel # **** Data ****

1209					110
1210	109	102	96	188	507
1215	1013	1430	1157	645	254

1220	121	86	73	98	3

REGION OF INTEREST DATA

ROI # 10

Channel #			**** Data ****		
1813				65	65
1815	64	59	89	148	189
1820	187	144	116	75	78
1825	55	59	61	61	

ROI # 11

Channel #			**** Data ****		
1917			49	58	61
1920	45	63	60	53	67
1925	89	90	83	77	60
1930	64	54	64	80	112
1935	125	126	103	69	47
1940	57	56	60	44	51
1945	60	51	49	59	

MCA #1 - Canberra S100 - NOPI1941.MCA - NOPI-194 7.0 cm

Tag Number:	100	Readout:	Tue 09 Nov 1993 @ 10:49:39
Report Group:	1/4	Acquire Started:	Tue 09 Nov 1993 @ 10:47:39
Group Size:	4096		

Elapsed Live Time:	1443.00 min.
Elapsed True Time:	1443.16 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	1283	0	220.5	2481
	44.6	0.01	0.00	3.77	
	Isotope:	I-135	@ 220.5		
2	48.0	1198	0	224.9	
	49.0	0.01	0.00	3.77	
3	60.5	1373	0	237.4	2703
	61.5	0.02	0.00	3.77	
	Isotope:	PB-212	@ 238.6		
4	65.0	1330	0	241.9	
	66.0	0.02	0.00	3.77	
5	90.5	1490	0	267.4	2418
	91.5	0.02	0.00	3.77	
	Isotope:	Y-93	@ 266.9		
6	94.5	928	0	271.4	
	95.0	0.01	0.00	3.77	
7	181.9	1319	0	182.4	2505
	183.4	0.02	0.00	21458952.00	
8	187.9	1186	0	188.4	
	189.4	0.01	0.00	21458952.00	
9	291.4	813	0	291.9	1591
	292.9	0.01	0.00	21458952.00	
10	297.4	778	0	297.9	
	298.9	0.01	0.00	21458952.00	
	Isotope:	GA-73	@ 297.4		
11	334.3	702	0	335.1	1412
	335.8	0.01	0.00	21458952.00	
	Isotope:	NP-239	@ 334.3		
12	340.3	710	0	341.4	
	341.8	0.01	0.00	21458952.00	
	Isotope:	CS-136	@ 340.6		
13	347.8	696	0	348.8	1322
	349.3	0.01	0.00	21458952.00	
14	353.8	626	0	354.8	
	355.3	0.01	0.00	21458952.00	
	Isotope:	BA-133	@ 356.0		
15	579.2	353	0	579.6	685
	580.7	0.00	0.00	21458952.00	
16	585.2	332	0	586.1	
	586.7	0.00	0.00	21458952.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	417	0	605.6	
	606.6	0.00	0.00	21458952.00	
		Isotope: CS-134 @ 604.7			762
		SB-125 @ 606.7			
18	611.1	345	0	612.2	
	612.6	0.00	0.00	21458952.00	
19	906.9	253	0	907.6	
	908.4	0.00	0.00	21458952.00	489
20	912.9	236	0	913.9	
	914.4	0.00	0.00	21458952.00	
21	958.9	456	0	960.9	
	962.4	0.01	0.00	0.32	886
22	970.9	430	0	971.3	
	974.4	0.00	0.00	21458958.00	
		Isotope: I-135 @ 972.3			
23M	1100.8	4313	1105	1119.0	
	1134.7	0.05	23.89	2.05	
		Isotope: BI-214 @ 1120.3			

MCA #1 - Canberra S100 - NOPI1781.MCA - NOPI-178 7.0 cm

Tag Number: 98
Report Group: 2/4
Group Size: 4096

Readout: Mon 08 Nov 1993 @ 10:42:23
Acquire Started: Fri 05 Nov 1993 @ 10:02:02

Elapsed Live Time: 2000.00 min.
Elapsed True Time: 2000.18 min.
Dead Time: 0.01 %

MCA Mode: PHA+
Preset Conditions: Live Time = 2000.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria: Energy Window = +-1.300 keV
Iso. Library: C:\WINDOWS\S100\SPECTRAN.ISO

JP
11/8/93
ΔT = 2000 min
Int = cts 5 ~~16~~ 9
mass = 4.735 ~~3.19~~ g

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	5297	451	46.8
	49.0	0.04	19.63	1.22
2	60.5	6085	814	63.3
	66.0	0.05	11.91	1.24
	Isotope:	TH-234	@ 63.3	
3	90.5	6800	1068	92.6
	95.0	0.06	7.73	1.42
4	181.9	6782	1282	185.7
	189.4	0.06	10.60	1.30
	Isotope:	U-235	@ 185.7	
5	291.4	4409	589	294.9
	298.9	0.04	18.60	1.46
	Isotope:	PB-214	@ 295.2	
6	334.3	3949	707	338.1
	341.8	0.03	14.67	1.62
	Isotope:	AC-228	@ 338.3	
7	347.8	4164	1154	351.8
	355.3	0.03	9.23	1.57
	Isotope:	PB-214	@ 351.9	
8	579.2	2835	933	582.7
	586.7	0.02	9.42	1.45
	Isotope:	TL-208	@ 583.2	
9	605.1	2851	879	608.7
	612.6	0.02	10.02	1.77
	Isotope:	XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	2036	790	910.2
	914.4	0.02	9.42	1.73
	Isotope:	AC-228	@ 911.2	
11	958.9	2870	774	967.9
	974.4	0.02	17.91	1.68

REGION OF INTEREST DATA

ROI # 1

Channel #	**** Data ****				
85	405	431	386	417	437
90	486	585	558	432	387
95	393	380			

ROI # 2

Channel # **** Data ****

119					433
120	398	425	430	531	700

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

125	749	591	509	431	416
130	472				

ROI # 3
Channel # **** Data ****

179					499
180	474	530	843	1117	1097
185	796	562	454	428	

ROI # 4
Channel # **** Data ****

362			343	358	322
365	362	326	370	497	759
370	801	538	410	331	342
375	336	343	344		

ROI # 5
Channel # **** Data ****

581		232	215	235	246
585	214	261	348	416	449
590	334	249	228	240	231
595	252	259			

ROI # 6
Channel # **** Data ****

667			222	203	207
670	207	227	256	309	386
675	408	318	223	201	182
680	205	180	215		

ROI # 7
Channel # **** Data ****

694					193
695	188	185	197	205	240
700	299	515	524	412	270
705	194	180	183	180	199

ROI # 8
Channel # **** Data ****

1157			115	119	115
1160	128	141	200	332	425
1165	326	205	148	107	132
1170	132	102	108		

ROI # 9
Channel # **** Data ****

1209					130
1210	103	139	130	133	206
1215	312	373	334	242	134

1220	131	121	112	127	124

REGION OF INTEREST DATA

ROI # 10

Channel #		**** Data ****			
1813				74	63
1815	92	100	121	187	272
1820	293	224	131	110	75
1825	76	67	78	73	

ROI # 11

Channel #		**** Data ****			
1917			62	73	61
1920	74	81	70	90	89
1925	99	95	105	84	86
1930	77	77	84	124	160
1935	213	183	121	86	73
1940	84	66	52	67	80
1945	60	54	83	57	

MCA #1 - Canberra S100 - NOPI1781.MCA - NOPI-178 7.0 cm

Tag Number:	98	Readout:	Mon 08 Nov 1993 @ 10:43:20
Report Group:	1/4	Acquire Started:	Fri 05 Nov 1993 @ 10:02:02
Group Size:	4096		

Elapsed Live Time:	2000.00 min.
Elapsed True Time:	2000.18 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	1222	0	220.6	
	44.6	0.01	0.00	3.93	
		Isotope: I-135	@ 220.5		2382
2	48.0	1160	0	225.1	
	49.0	0.01	0.00	3.93	
3	60.5	1256	0	237.6	
	61.5	0.01	0.00	3.93	
		Isotope: PB-212	@ 238.6		2575
4	65.0	1319	0	242.1	
	66.0	0.01	0.00	3.93	
5	90.5	1503	0	267.6	
	91.5	0.01	0.00	3.93	
		Isotope: Y-93	@ 266.9		2385
6	94.5	882	0	271.6	
	95.0	0.01	0.00	3.93	
7	181.9	1385	0	182.4	
	183.4	0.01	0.00	21458952.00	2750
8	187.9	1365	0	188.9	
	189.4	0.01	0.00	21458952.00	
9	291.4	928	0	292.4	
	292.9	0.01	0.00	21458952.00	1910
10	297.4	982	0	298.4	
	298.9	0.01	0.00	21458952.00	
		Isotope: GA-73	@ 297.4		
11	334.3	839	0	335.3	
	335.8	0.01	0.00	21458952.00	1621
		Isotope: NP-239	@ 334.3		
12	340.3	782	0	340.8	
	341.8	0.01	0.00	21458952.00	
		Isotope: CS-136	@ 340.6		
13	347.8	763	0	348.3	
	349.3	0.01	0.00	21458952.00	1505
14	353.8	742	0	354.3	
	355.3	0.01	0.00	21458952.00	
15	579.2	477	0	579.7	
	580.7	0.00	0.00	21458952.00	951
16	585.2	474	0	585.6	
	586.7	0.00	0.00	21458952.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	502	0	606.2	
	606.6	0.00	0.00	21458952.00	986
		Isotope: SB-125 @ 606.7			
18	611.1	484	0	612.1	
	612.6	0.00	0.00	21458952.00	
19	906.9	329	0	908.0	
	908.4	0.00	0.00	21458952.00	623
20	912.9	294	0	913.9	
	914.4	0.00	0.00	21458952.00	
21	958.9	600	0	961.9	
	962.4	0.00	0.00	21458952.00	1119
22	970.9	519	0	973.9	
	974.4	0.00	0.00	21458952.00	
		Isotope: I-134 @ 974.7			
23M	1100.8	4526	205	1119.0	
	1134.7	0.04	146.64	1.82	
		Isotope: BI-214 @ 1120.3			

MCA #1 - Canberra S100 - NOPI1721.MCA - NOPI-172 7.0 cm

Tag Number: 97
Report Group: 2/4
Group Size: 4096

Readout: Fri 05 Nov 1993 @ 09:50:39
Acquire Started: Fri 05 Nov 1993 @ 09:49:42

Elapsed Live Time: 1456.00 min.
Elapsed True Time: 1456.13 min.
Dead Time: 0.01 %

MCA Mode: PHA+
Preset Conditions: Live Time = 1456.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria: Energy Window = +-1.300 keV
Iso. Library: C:\WINDOWS\S100\SPECTRAN.ISO

JP
11/5/93
ΔT = 1456 min
Int = CTS+BKG
mass = 3.980 g

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	4094	359	46.8
	49.0	0.05	21.69	1.14
2	60.5	4872	788	63.5
	66.0	0.06	11.15	1.35
		Isotope: TH-234	@ 63.3	
3	90.5	5522	963	92.8
	95.0	0.06	7.86	1.31
4	181.9	5493	1327	185.9
	189.4	0.06	9.22	1.41
		Isotope: U-235	@ 185.7	
5	291.4	3445	903	295.1
	298.9	0.04	10.72	1.43
		Isotope: PB-214	@ 295.2	
6	334.3	2821	339	338.1
	341.8	0.03	25.85	1.31
		Isotope: AC-228	@ 338.3	
7	347.8	3666	1478	351.7
	355.3	0.04	6.76	1.51
		Isotope: PB-214	@ 351.9	
8	579.2	2009	625	582.8
	586.7	0.02	11.83	1.75
		Isotope: TL-208	@ 583.2	
9	605.1	2542	1122	608.7
	612.6	0.03	7.41	1.67
		Isotope: XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	1441	497	910.4
	914.4	0.02	12.60	1.86
		Isotope: AC-228	@ 911.2	
11	958.9	2058	302	968.1
	974.4	0.02	40.78	1.92
		Isotope: RU-105	@ 969.4	

REGION OF INTEREST DATA

ROI # 1

Channel #	**** Data ****				
85	340	317	297	316	331
90	383	467	423	329	313
95	282	296			

ROI # 2

Channel # **** Data ****

119					339

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

120	338	319	334	421	555
125	640	533	365	333	350
130	345				

ROI # 3
Channel # **** Data ****

179					445
180	386	419	666	895	980
185	641	460	321	309	

ROI # 4
Channel # **** Data ****

362			253	240	252
365	280	277	278	394	595
370	707	528	374	257	268
375	276	251	263		

ROI # 5
Channel # **** Data ****

581		167	164	162	157
585	181	215	287	424	416
590	278	200	173	162	151
595	169	139			

ROI # 6
Channel # **** Data ****

667			167	128	152
670	160	169	160	199	278
675	261	212	162	139	160
680	158	155	161		

ROI # 7
Channel # **** Data ****

694					141
695	129	133	135	145	180
700	323	531	603	421	219
705	150	159	125	142	130

ROI # 8
Channel # **** Data ****

1157			79	97	85
1160	87	109	139	213	271
1165	223	184	96	82	101
1170	81	77	85		

ROI # 9
Channel # **** Data ****

1209					102
1210	85	89	77	75	161

1215	303	403			147
1220	107	89	91		88

REGION OF INTEREST DATA

ROI # 10

Channel #		**** Data ****			
1813				58	51
1815	69	69	79	117	171
1820	190	169	116	65	62
1825	55	67	45	58	

ROI # 11

Channel #		**** Data ****			
1917			52	58	67
1920	61	48	55	59	57
1925	71	68	70	53	62
1930	55	41	54	81	98
1935	125	131	106	74	51
1940	43	59	51	56	51
1945	54	47	56	44	

MCA #1 - Canberra S100 - NOPI1721.MCA - NOPI-172 7.0 cm

Tag Number:	97	Readout:	Fri 05 Nov 1993 @ 09:51:28
Report Group:	1/4	Acquire Started:	Fri 05 Nov 1993 @ 09:49:42
Group Size:	4096		

Elapsed Live Time:	1456.00 min.
Elapsed True Time:	1456.13 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria: Energy Window = +-1.300 keV
Iso. Library: C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	954	0	220.7	
	44.6	0.01	0.00	3.24	
		Isotope: I-135	@ 220.5		1845
2	48.0	891	0	225.2	
	49.0	0.01	0.00	3.24	
3	60.5	996	0	237.6	
	61.5	0.01	0.00	3.24	
		Isotope: PB-212	@ 238.6		2024
4	65.0	1028	0	242.1	
	66.0	0.01	0.00	3.24	
5	90.5	1250	0	267.6	
	91.5	0.01	0.00	3.24	
		Isotope: Y-93	@ 266.9		1880
6	94.5	630	0	271.6	
	95.0	0.01	0.00	3.24	
7	181.9	1025	0	359.1	
	183.4	0.01	0.00	3.24	
		Isotope: TC-104	@ 357.9		2083
8	187.9	1058	0	188.4	
	189.4	0.01	0.00	21458952.00	
9	291.4	650	0	291.9	
	292.9	0.01	0.00	21458952.00	
10	297.4	621	0	298.4	1271
	298.9	0.01	0.00	21458952.00	
		Isotope: GA-73	@ 297.4		
11	334.3	607	0	335.4	
	335.8	0.01	0.00	21458952.00	
		Isotope: NP-239	@ 334.3		1241
12	340.3	634	0	340.8	
	341.8	0.01	0.00	21458952.00	
		Isotope: CS-136	@ 340.6		
13	347.8	538	0	348.3	
	349.3	0.01	0.00	21458952.00	
14	353.8	556	0	354.8	1094
	355.3	0.01	0.00	21458952.00	
		Isotope: BA-133	@ 356.0		
15	579.2	348	0	579.7	
	580.7	0.00	0.00	21458952.00	692
16	585.2	344	0	585.6	
	586.7	0.00	0.00	21458952.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	353	0	606.1	710
	606.6	0.00	0.00	21458952.00	
		Isotope: SB-125 @ 606.7			
18	611.1	357	0	611.6	
	612.6	0.00	0.00	21458952.00	
19	906.9	247	0	908.0	472
	908.4	0.00	0.00	21458952.00	
20	912.9	225	0	913.4	
	914.4	0.00	0.00	21458952.00	
21	958.9	457	0	960.1	875
	962.4	0.01	0.00	0.84	
22	970.9	418	0	973.9	
	974.4	0.00	0.00	0.96	
		Isotope: I-134 @ 974.7			
23M	1100.8	3472	643	1119.2	
	1134.7	0.04	38.25	2.26	
		Isotope: BI-214 @ 1120.3			

MCA #1 - Canberra S100 - NOPI1711.MCA - NOPI-171 7.0 cm

Tag Number: 95
Report Group: 2/4
Group Size: 4096

Readout: Thu 04 Nov 1993 @ 09:29:31
Acquire Started: Thu 04 Nov 1993 @ 09:28:19

Elapsed Live Time: 1465.00 min.
Elapsed True Time: 1465.14 min.
Dead Time: 0.01 %

MCA Mode: PHA+
Preset Conditions: Live Time = 1465.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria: Energy Window = +-1.300 keV
Iso. Library: C:\WINDOWS\S100\SPECTRAN.ISO

JP
11/4/93
ΔT=1465
INT cts+bkg
mass = 3.96 g

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	4288	405	46.8
	49.0	0.05	19.76	1.19
2	60.5	5129	800	63.3
	66.0	0.06	11.23	1.21
		Isotope: TH-234	@ 63.3	
3	90.5	5781	1022	92.8
	95.0	0.07	7.59	1.24
4	181.9	5841	1563	185.9
	189.4	0.07	8.07	1.43
		Isotope: U-235	@ 185.7	
5	291.4	4079	1289	295.3
	298.9	0.05	8.18	1.49
		Isotope: PB-214	@ 295.2	
6	334.3	2958	380	338.1
	341.8	0.03	23.62	1.16
		Isotope: AC-228	@ 338.3	
7	347.8	4543	2209	351.8
	355.3	0.05	5.03	1.47
		Isotope: PB-214	@ 351.9	
8	579.2	1984	622	582.7
	586.7	0.02	11.82	1.77
		Isotope: TL-208	@ 583.2	
9	605.1	3016	1698	608.7
	612.6	0.03	5.34	1.69
		Isotope: XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	1402	452	910.2
	914.4	0.02	13.67	1.78
		Isotope: AC-228	@ 911.2	
11	958.9	2088	496	967.9
	974.4	0.02	24.15	1.85

REGION OF INTEREST DATA

ROI # 1

Channel # **** Data ****

85	351	325	304	278	336
90	385	480	498	374	324
95	327	306			

ROI # 2

Channel # **** Data ****

119					329
120	334	360	378	430	599

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

125	683	531	371	353	383
130	378				

ROI # 3
Channel # **** Data ****

179					448
180	378	413	649	949	1025
185	699	466	380	374	

ROI # 4
Channel # **** Data ****

362			277	266	260
365	261	269	292	399	678
370	799	613	385	267	249
375	267	274	285		

ROI # 5
Channel # **** Data ****

581		168	166	194	169
585	167	253	364	535	568
590	376	229	192	170	184
595	175	169			

ROI # 6
Channel # **** Data ****

667			184	168	168
670	148	172	198	199	283
675	295	185	186	151	161
680	147	163	150		

ROI # 7
Channel # **** Data ****

694					151
695	135	147	144	154	214
700	386	706	853	580	308
705	175	141	165	142	142

ROI # 8
Channel # **** Data ****

1157			70	91	83
1160	73	105	147	212	256
1165	237	164	85	97	105
1170	88	90	81		

ROI # 9
Channel # **** Data ****

1209					83
1210	76	86	103	124	204
1215	425	538	532	274	165

1220	93	90	78	72	71

REGION OF INTEREST DATA

ROI # 10

Channel #		**** Data ****			
1813				71	67
1815	47	76	77	125	163
1820	189	153	96	71	53
1825	56	47	50	61	

ROI # 11

Channel #		**** Data ****			
1917			44	44	58
1920	52	68	50	52	59
1925	77	78	91	77	59
1930	72	58	58	90	107
1935	134	116	88	65	59
1940	59	48	42	39	44
1945	58	44	44	54	

MCA #1 - Canberra S100 - NOPI1711.MCA - NOPI-171 7.0 cm

Tag Number:	95	Readout:	Thu 04 Nov 1993 @ 09:30:35
Report Group:	1/4	Acquire Started:	Thu 04 Nov 1993 @ 09:28:19
Group Size:	4096		

Elapsed Live Time:	1465.00 min.
Elapsed True Time:	1465.14 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	980	0	214.4	
	44.6	0.01	0.00	8.12	1937
2	48.0	957	0	218.9	
	49.0	0.01	0.00	8.12	
3	60.5	1023	0	231.4	
	61.5	0.01	0.00	8.12	2137
4	65.0	1114	0	235.9	
	66.0	0.01	0.00	8.12	
	Isotope:	I-134	@ 235.5		
5	90.5	1239	0	261.4	
	91.5	0.01	0.00	8.12	1993
6	94.5	754	0	265.4	
	95.0	0.01	0.00	8.12	
	Isotope:	GE-75	@ 264.7		
		SE-75	@ 264.7		
7	181.9	1064	0	182.4	
	183.4	0.01	0.00	21458956.00	2139
8	187.9	1075	0	189.0	
	189.4	0.01	0.00	21458956.00	
9	291.4	697	0	292.4	
	292.9	0.01	0.00	21458956.00	1395
10	297.4	698	0	297.9	
	298.9	0.01	0.00	21458956.00	
	Isotope:	GA-73	@ 297.4		
11	334.3	668	0	335.3	
	335.8	0.01	0.00	21458956.00	1289
	Isotope:	NP-239	@ 334.3		
12	340.3	621	0	341.3	
	341.8	0.01	0.00	21458956.00	
	Isotope:	CS-136	@ 340.6		
13	347.8	577	0	348.8	
	349.3	0.01	0.00	21458956.00	1167
14	353.8	590	0	354.3	
	355.3	0.01	0.00	21458956.00	
15	579.2	317	0	579.7	
	580.7	0.00	0.00	21458956.00	681
16	585.2	364	0	585.9	
	586.7	0.00	0.00	21458956.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	348	0	605.9	
	606.6	0.00	0.00	21458956.00	659
		Isotope: CS-134 @ 604.7			
		SB-125 @ 606.7			
18	611.1	311	0	611.6	
	612.6	0.00	0.00	21458956.00	
19	906.9	261	0	907.3	
	908.4	0.00	0.00	21458956.00	475
20	912.9	214	0	913.4	
	914.4	0.00	0.00	21458956.00	
21	958.9	427	0	960.9	
	962.4	0.00	0.00	0.38	800
22	970.9	373	0	972.9	
	974.4	0.00	0.00	0.35	
		Isotope: I-135 @ 972.3			
23M	1100.8	3613	387	1119.1	
	1134.7	0.04	67.35	2.02	
		Isotope: BI-214 @ 1120.3			

MCA #1 - Canberra S100 - NOPI1702.MCA - NOPI-170-2 4.5 cm

Tag Number:	93	Readout:	Wed 03 Nov 1993 @ 09:00:40
Report Group:	2/4	Acquire Started:	Wed 03 Nov 1993 @ 08:59:29
Group Size:	4096		

Elapsed Live Time:	1428.00 min.
Elapsed True Time:	1428.13 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 1428.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

JP
11/3/93
ΔT=1428
Int = CTS+BKG
mass = 3.65 g

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	4278	309	46.6
	49.0	0.05	25.57	1.46
2	60.5	5134	816	63.3
	66.0	0.06	11.04	1.09
		Isotope: TH-234	@ 63.3	
3	90.5	5559	970	92.8
	95.0	0.06	7.83	1.39
4	181.9	5665	1583	185.9
	189.4	0.07	7.85	1.53
		Isotope: U-235	@ 185.7	
5	291.4	4379	1653	295.2
	298.9	0.05	6.61	1.29
		Isotope: PB-214	@ 295.2	
6	334.3	2798	362	338.3
	341.8	0.03	24.11	1.66
		Isotope: AC-228	@ 338.3	
7	347.8	4934	2622	351.7
	355.3	0.06	4.42	1.49
		Isotope: PB-214	@ 351.9	
8	579.2	1994	634	582.7
	586.7	0.02	11.62	1.67
		Isotope: TL-208	@ 583.2	
9	605.1	3330	1956	608.8
	612.6	0.04	4.87	1.79
		Isotope: XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	1368	480	910.2
	914.4	0.02	12.71	1.66
		Isotope: AC-228	@ 911.2	
11	958.9	2046	478	968.1
	974.4	0.02	24.85	2.03
		Isotope: RU-105	@ 969.4	

REGION OF INTEREST DATA

ROI # 1

Channel #	**** Data ****				
85	322	308	342	345	337
90	394	455	446	386	345
95	289	309			

Channel # **** Data ****

119					360

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

120	376	320	362	473	574
125	708	500	417	369	334
130	341				

ROI # 3
Channel # **** Data ****

179					459
180	351	402	662	957	931
185	692	409	345	351	

ROI # 4
Channel # **** Data ****

362			258	267	257
365	248	284	285	400	662
370	752	602	382	257	237
375	287	250	237		

ROI # 5
Channel # **** Data ****

581		177	165	175	179
585	178	263	405	682	630
590	444	233	181	150	165
595	174	178			

ROI # 6
Channel # **** Data ****

667			145	164	163
670	141	180	158	200	251
675	251	215	175	150	165
680	153	153	134		

ROI # 7
Channel # **** Data ****

694					145
695	148	169	157	152	213
700	454	859	988	654	295
705	163	140	146	117	134

ROI # 8
Channel # **** Data ****

1157			80	85	81
1160	93	104	141	224	263
1165	231	151	120	80	85
1170	77	79	100		

ROI # 9
Channel # **** Data ****

1209					86

1215	454	607	595	362	160
1220	93	91	72	75	70

REGION OF INTEREST DATA

ROI # 10

Channel #		**** Data ****			
1813				47	52
1815	54	54	81	144	164
1820	195	129	103	61	47
1825	57	72	41	67	

ROI # 11

Channel #		**** Data ****			
1917			50	50	49
1920	47	54	54	47	55
1925	65	76	76	85	56
1930	58	45	68	75	112
1935	134	112	105	81	46
1940	51	45	50	56	48
1945	50	45	51	50	

MCA #1 - Canberra S100 - NOPI1702.MCA - NOPI-170-2 4.5 cm

Tag Number:	93	Readout:	Wed 03 Nov 1993 @ 09:01:17
Report Group:	1/4	Acquire Started:	Wed 03 Nov 1993 @ 08:59:29
Group Size:	4096		

Elapsed Live Time:	1428.00 min.
Elapsed True Time:	1428.13 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	972	0	220.5	
	44.6	0.01	0.00	3.82	
		Isotope: I-135 @ 220.5			1915
2	48.0	943	0	225.0	
	49.0	0.01	0.00	3.82	
3	60.5	1056	0	237.5	
	61.5	0.01	0.00	3.82	
		Isotope: PB-212 @ 238.6			2100
4	65.0	1044	0	242.0	
	66.0	0.01	0.00	3.82	
5	90.5	1212	0	267.5	
	91.5	0.01	0.00	3.82	
		Isotope: Y-93 @ 266.9			1908
6	94.5	696	0	271.4	
	95.0	0.01	0.00	3.82	
7	181.9	1030	0	182.4	
	183.4	0.01	0.00	21458952.00	2041
8	187.9	1011	0	188.5	
	189.4	0.01	0.00	21458952.00	
9	291.4	696	0	292.4	
	292.9	0.01	0.00	21458952.00	1363
10	297.4	667	0	298.4	
	298.9	0.01	0.00	21458952.00	
		Isotope: GA-73 @ 297.4			
11	334.3	613	0	335.1	
	335.8	0.01	0.00	21458952.00	1218
		Isotope: NP-239 @ 334.3			
12	340.3	605	0	341.3	
	341.8	0.01	0.00	21458952.00	
		Isotope: CS-136 @ 340.6			
13	347.8	619	0	348.8	
	349.3	0.01	0.00	21458952.00	1156
14	353.8	537	0	354.3	
	355.3	0.01	0.00	21458952.00	
15	579.2	339	0	579.7	
	580.7	0.00	0.00	21458952.00	680
16	585.2	341	0	585.6	
	586.7	0.00	0.00	21458952.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	379	0	605.6	687
	606.6	0.00	0.00	21458952.00	
		Isotope: CS-134 @ 604.7			
		SB-125 @ 606.7			
18	611.1	308	0	611.6	
	612.6	0.00	0.00	21458952.00	
19	906.9	207	0	907.9	444
	908.4	0.00	0.00	21458952.00	
20	912.9	237	0	913.4	
	914.4	0.00	0.00	21458952.00	
21	958.9	406	0	961.1	801
	962.4	0.00	0.00	0.50	
22	970.9	395	0	971.9	
	974.4	0.00	0.00	0.58	
		Isotope: I-135 @ 972.3			
23M	1100.8	3472	393	1119.0	
	1134.7	0.04	64.89	2.08	
		Isotope: BI-214 @ 1120.3			

MCA #1 - Canberra S100 - NOPI1701.MCA - NOPI-170-1 7.0 cm

Tag Number:	91	Readout:	Tue 02 Nov 1993 @ 09:09:02
Report Group:	2/4	Acquire Started:	Tue 02 Nov 1993 @ 09:08:19
Group Size:	4096		

Elapsed Live Time:	1462.00 min.
Elapsed True Time:	1462.13 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 1462.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

JP

11/2/93
ΔT = 1462 min
Int = CTS + BKG
Mass = 2.468

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	3984	338	46.6
	49.0	0.05	22.73	1.40
2	60.5	4614	692	63.5
	66.0	0.05	12.29	1.52
	Isotope:	TH-234	@ 63.3	
3	90.5	5232	973	92.6
	95.0	0.06	7.65	1.42
4	181.9	5324	1294	185.9
	189.4	0.06	9.30	1.42
	Isotope:	U-235	@ 185.7	
5	291.4	3374	976	294.9
	298.9	0.04	9.82	1.67
	Isotope:	PB-214	@ 295.2	
6	334.3	2730	404	338.1
	341.8	0.03	21.34	1.30
	Isotope:	AC-228	@ 338.3	
7	347.8	3548	1384	351.7
	355.3	0.04	7.10	1.41
	Isotope:	PB-214	@ 351.9	
8	579.2	1894	620	582.5
	586.7	0.02	11.58	1.84
	Isotope:	TL-208	@ 583.2	
9	605.1	2347	1059	608.6
	612.6	0.03	7.55	1.72
	Isotope:	XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	1409	513	910.2
	914.4	0.02	12.07	2.03
	Isotope:	AC-228	@ 911.2	
11	958.9	1988	432	967.7
	974.4	0.02	27.28	2.07

REGION OF INTEREST DATA

ROI # 1

Channel # **** Data ****

85	305	308	347	296	314
90	384	432	423	310	302
95	282	281			

ROI # 2

119					343
120	330	322	361	441	532

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

125	571	455	332	292	332
130	303				

ROI # 3
Channel # **** Data ****

179					370
180	332	373	686	927	898
185	613	390	325	318	

ROI # 4
Channel # **** Data ****

362			278	254	282
365	236	250	286	424	620
370	670	455	338	266	256
375	239	237	233		

ROI # 5
Channel # **** Data ****

581		154	163	152	145
585	185	225	331	404	414
590	261	185	170	129	168
595	145	143			

ROI # 6
Channel # **** Data ****

667			147	126	143
670	165	168	168	197	247
675	275	201	159	152	141
680	163	138	140		

ROI # 7
Channel # **** Data ****

694					147
695	148	147	128	146	176
700	311	526	600	379	190
705	138	131	125	121	135

ROI # 8
Channel # **** Data ****

1157			71	87	68
1160	90	98	169	243	246
1165	192	142	90	77	81
1170	76	88	76		

ROI # 9
Channel # **** Data ****

1209					87
1210	95	75	81	116	206

1220	93	89	65	69	83

REGION OF INTEREST DATA

ROI # 10

Channel #		**** Data ****			
1813				40	65
1815	56	64	94	133	166
1820	184	157	106	65	56
1825	47	54	63	59	

ROI # 11

Channel #		**** Data ****			
1917			50	69	42
1920	60	55	52	60	58
1925	61	70	61	62	56
1930	60	59	81	90	97
1935	124	100	87	63	48
1940	53	50	46	57	49
1945	46	54	35	33	

MCA #1 - Canberra S100 - NOPI1701.MCA - NOPI-170-1 7.0 cm

Tag Number:	91	Readout:	Tue 02 Nov 1993 @ 09:09:41
Report Group:	1/4	Acquire Started:	Tue 02 Nov 1993 @ 09:08:19
Group Size:	4096		

Elapsed Live Time:	1462.00 min.
Elapsed True Time:	1462.13 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	960	0	214.4	1825
	44.6	0.01	0.00	7.45	
2	48.0	865	0	218.9	
	49.0	0.01	0.00	7.45	
3	60.5	995	0	231.4	1922
	61.5	0.01	0.00	7.45	
4	65.0	927	0	235.9	
	66.0	0.01	0.00	7.45	
	Isotope:	I-134	@ 235.5		
5	90.5	1075	0	261.4	1718
	91.5	0.01	0.00	7.45	
6	94.5	643	0	265.4	
	95.0	0.01	0.00	7.45	
	Isotope:	GE-75	@ 264.7		
		SE-75	@ 264.7		
7	181.9	1050	0	182.9	2015
	183.4	0.01	0.00	7.45	
8	187.9	965	0	188.9	
	189.4	0.01	0.00	7.45	
9	291.4	614	0	291.9	1199
	292.9	0.01	0.00	21458956.00	
10	297.4	585	0	297.9	
	298.9	0.01	0.00	21458956.00	
	Isotope:	GA-73	@ 297.4		
11	334.3	581	0	334.8	1163
	335.8	0.01	0.00	21458956.00	
	Isotope:	NP-239	@ 334.3		
12	340.3	582	0	340.8	
	341.8	0.01	0.00	21458956.00	
	Isotope:	CS-136	@ 340.6		
13	347.8	570	0	348.6	1082
	349.3	0.01	0.00	21458956.00	
14	353.8	512	0	354.6	
	355.3	0.01	0.00	21458956.00	
15	579.2	316	0	579.6	637
	580.7	0.00	0.00	21458956.00	
16	585.2	321	0	586.2	
	586.7	0.00	0.00	21458956.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	338	0	605.6	
	606.6	0.00	0.00	21458956.00	
		Isotope: CS-134 @ 604.7			644
		SB-125 @ 606.7			
18	611.1	306	0	611.6	
	612.6	0.00	0.00	21458956.00	
19	906.9	225	0	907.5	
	908.4	0.00	0.00	21458956.00	448
20	912.9	223	0	913.9	
	914.4	0.00	0.00	21458956.00	
21	958.9	446	0	959.3	
	962.4	0.01	0.00	21458956.00	816
22	970.9	370	0	973.1	
	974.4	0.00	0.00	0.65	
		Isotope: I-135 @ 972.3			
23M	1100.8	3323	451	1119.0	
	1134.7	0.04	54.71	1.77	

MCA #1 - Canberra S100 - NOPI1691.MCA - NOPI-169 7.0 cm

Tag Number: 89
Report Group: 2/4
Group Size: 4096

Readout: Mon 01 Nov 1993 @ 09:40:08
Acquire Started: Fri 29 Oct 1993 @ 10:25:04

Elapsed Live Time: 2000.00 min.
Elapsed True Time: 2000.18 min.
Dead Time: 0.01 %

MCA Mode: PHA+
Preset Conditions: Live Time = 2000.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria: Energy Window = +-1.300 keV
Iso. Library: C:\WINDOWS\S100\SPECTRAN.ISO

JP
11/1/93
ΔT = 2000 min
Int = CTS+BKG
Mass -- 4.24 g

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	5556	512	46.6
	49.0	0.05	17.77	1.57
2	60.5	6360	897	63.3
	66.0	0.05	11.08	1.24
	Isotope:	TH-234	@ 63.3	
3	90.5	7269	1227	92.7
	95.0	0.06	7.04	1.29
4	181.9	7332	1564	185.7
	189.4	0.06	9.03	1.40
	Isotope:	U-235	@ 185.7	
5	291.4	4906	1150	294.9
	298.9	0.04	10.05	1.52
	Isotope:	PB-214	@ 295.2	
6	334.3	3826	556	337.8
	341.8	0.03	18.36	1.56
	Isotope:	AC-228	@ 338.3	
7	347.8	5113	2025	351.7
	355.3	0.04	5.83	1.37
	Isotope:	PB-214	@ 351.9	
8	579.2	2710	894	582.6
	586.7	0.02	9.61	1.46
	Isotope:	TL-208	@ 583.2	
9	605.1	3390	1470	608.6
	612.6	0.03	6.54	1.63
	Isotope:	XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	2014	692	910.1
	914.4	0.02	10.70	1.88
	Isotope:	AC-228	@ 911.2	
11	958.9	2858	502	967.7
	974.4	0.02	28.60	1.71

REGION OF INTEREST DATA

ROI # 1

Channel #	**** Data ****				
85	431	419	423	431	448
90	575	598	572	468	379
95	391	421			

ROI # 2

119					438
120	438	487	439	556	741

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

125	806	615	480	438	458
130	464				

ROI # 3
Channel # **** Data ****

179					542
180	520	552	921	1286	1149
185	816	565	448	470	

ROI # 4
Channel # **** Data ****

362			372	375	377
365	383	368	381	560	859
370	875	599	439	367	326
375	374	347	330		

ROI # 5
Channel # **** Data ****

581		224	262	214	234
585	251	297	493	602	547
590	352	243	243	253	225
595	230	236			

ROI # 6
Channel # **** Data ****

667			233	203	209
670	184	216	260	327	378
675	317	269	225	199	191
680	215	210	190		

ROI # 7
Channel # **** Data ****

694					192
695	194	205	207	226	283
700	487	800	789	513	291
705	180	212	176	179	179

ROI # 8
Channel # **** Data ****

1157			121	116	122
1160	119	174	232	330	396
1165	264	176	126	104	110
1170	98	116	106		

ROI # 9
Channel # **** Data ****

1209					127
1210	111	128	132	183	287

1220	115	96	116	112	138

REGION OF INTEREST DATA

ROI # 10

Channel #		**** Data ****			
1813				90	84
1815	89	113	137	218	265
1820	259	187	128	77	82
1825	66	83	62	74	

ROI # 11

Channel #		**** Data ****			
1917			71	84	69
1920	86	69	79	70	86
1925	89	125	108	76	106
1930	80	100	80	123	177
1935	166	154	91	81	62
1940	71	76	62	69	69
1945	61	78	72	68	

MCA #1 - Canberra S100 - NOPI1691.MCA - NOPI-169 7.0 cm

Tag Number:	89	Readout:	Mon 01 Nov 1993 @ 09:41:38
Report Group:	1/4	Acquire Started:	Fri 29 Oct 1993 @ 10:25:04
Group Size:	4096		

Elapsed Live Time:	2000.00 min.
Elapsed True Time:	2000.18 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	1273	0	215.1	
	44.6	0.01	0.00	6.81	2464
2	48.0	1191	0	219.6	
	49.0	0.01	0.00	6.81	
	Isotope:	I-135	@ 220.5		
3	60.5	1363	0	232.1	
	61.5	0.01	0.00	6.81	2723
	Isotope:	XE133M	@ 233.2		
4	65.0	1360	0	236.6	
	66.0	0.01	0.00	6.81	
	Isotope:	I-134	@ 235.5		
5	90.5	1614	0	262.1	
	91.5	0.01	0.00	6.81	2532
	Isotope:	I-132	@ 262.8		
6	94.5	918	0	266.1	
	95.0	0.01	0.00	6.81	
	Isotope:	Y-93	@ 266.9		
7	181.9	1507	0	183.0	
	183.4	0.01	0.00	6.81	2884
8	187.9	1377	0	188.5	
	189.4	0.01	0.00	21458956.00	
9	291.4	934	0	291.9	
	292.9	0.01	0.00	21458956.00	1878
10	297.4	944	0	297.8	
	298.9	0.01	0.00	21458956.00	
	Isotope:	GA-73	@ 297.4		
11	334.3	829	0	335.3	
	335.8	0.01	0.00	21458956.00	1636
	Isotope:	NP-239	@ 334.3		
12	340.3	806	0	341.1	
	341.8	0.01	0.00	21458956.00	
	Isotope:	CS-136	@ 340.6		
13	347.8	798	0	348.8	
	349.3	0.01	0.00	21458956.00	1545
14	353.8	746	0	354.8	
	355.3	0.01	0.00	21458956.00	
	Isotope:	BA-133	@ 356.0		
15	579.2	478	0	580.2	
	580.7	0.00	0.00	21458956.00	908

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
16	585.2	430	0	586.2	
	586.7	0.00	0.00	21458956.00	
17	605.1	498	0	606.2	
	606.6	0.00	0.00	21458956.00	
	Isotope:	SB-125	@ 606.7		960
18	611.1	462	0	611.7	
	612.6	0.00	0.00	21458956.00	
19	906.9	376	0	907.4	
	908.4	0.00	0.00	21458956.00	661
20	912.9	285	0	913.4	
	914.4	0.00	0.00	21458956.00	
21	958.9	614	0	960.4	
	962.4	0.01	0.00	0.31	1169
22	970.9	555	0	973.4	
	974.4	0.00	0.00	0.56	
	Isotope:	I-135	@ 972.3		
		I-134	@ 974.7		
23M	1100.8	4681	679	1118.8	
	1134.7	0.04	42.92	2.50	

logout
Note: Your Microsoft Windows session is still active.

Come back soon...

C:\>exit

MCA #1 - Canberra S100 - NOPI1681.MCA - NOPI-168 7.0 cm

Tag Number:	88	Readout:	Fri 29 Oct 1993 @ 10:22:17
Report Group:	2/4	Acquire Started:	Fri 29 Oct 1993 @ 10:20:36
Group Size:	4096		

Elapsed Live Time:	1471.00 min.
Elapsed True Time:	1471.14 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 1471.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

JP
10/29/93
ΔT=1471
Tot=cts+bkg
Mass=4.994 g

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	4063	400	46.6
	49.0	0.05	19.49	1.26
2	60.5	4784	665	63.5
	66.0	0.05	12.95	1.23
		Isotope: TH-234	@ 63.3	
3	90.5	5343	853	93.0
	95.0	0.06	8.60	1.03
4	181.9	5328	1160	185.9
	189.4	0.06	10.38	1.32
		Isotope: U-235	@ 185.7	
5	291.4	3523	763	294.9
	298.9	0.04	12.84	1.56
		Isotope: PB-214	@ 295.2	
6	334.3	2929	405	338.1
	341.8	0.03	22.05	1.27
		Isotope: AC-228	@ 338.3	
7	347.8	3642	1284	351.8
	355.3	0.04	7.76	1.64
		Isotope: PB-214	@ 351.9	
8	579.2	2231	757	582.7
	586.7	0.03	10.30	1.55
		Isotope: TL-208	@ 583.2	
9	605.1	2267	913	608.7
	612.6	0.03	8.60	1.57
		Isotope: XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	1529	543	910.4
	914.4	0.02	11.88	1.66
		Isotope: AC-228	@ 911.2	
11	958.9	2125	473	967.9
	974.4	0.02	25.70	1.70

REGION OF INTEREST DATA

ROI # 1

Channel # **** Data ****

90	404	474	419	332	305
95	284	299			

ROI # 2
Channel # **** Data ****

119					358
120	327	315	359	372	534

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

125	622	510	349	322	365
130	351				

ROI # 3
Channel # **** Data ****

179					410
180	360	366	576	906	845
185	686	465	367	362	

ROI # 4
Channel # **** Data ****

362			248	255	272
365	296	262	313	363	565
370	670	481	330	260	245
375	259	254	255		

ROI # 5
Channel # **** Data ****

581		175	179	158	185
585	191	204	320	370	419
590	283	193	163	177	173
595	171	162			

ROI # 6
Channel # **** Data ****

667			140	142	172
670	166	152	162	214	293
675	305	211	169	161	165
680	161	142	174		

ROI # 7
Channel # **** Data ****

694					149
695	140	153	175	156	196
700	280	504	511	428	229
705	159	151	138	142	131

ROI # 8
Channel # **** Data ****

1157			89	100	90
1160	76	103	168	264	331
1165	268	168	100	92	91
1170	103	87	101		

Channel #		**** Data ****			
1209					95
1210	85	83	95	89	166
1215	248	355	311	195	127
1220	99	80	87	73	79

REGION OF INTEREST DATA

ROI # 10

Channel #		**** Data ****			
1813				58	67
1815	65	80	83	145	180
1820	228	156	110	74	60
1825	50	55	66	52	

ROI # 11

Channel #		**** Data ****			
1917			51	35	49
1920	48	61	54	52	74
1925	73	68	76	66	53
1930	61	41	59	86	130
1935	149	127	87	79	59
1940	48	53	54	43	59
1945	52	57	62	59	

MCA #1 - Canberra S100 - NOPI1681.MCA - NOPI-168 7.0 cm

Tag Number:	88	Readout:	Fri 29 Oct 1993 @ 10:22:54
Report Group:	1/4	Acquire Started:	Fri 29 Oct 1993 @ 10:20:36
Group Size:	4096		

Elapsed Live Time:	1471.00 min.
Elapsed True Time:	1471.14 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	934	0	220.5	
	44.6	0.01	0.00	3.51	1822
		Isotope: I-135	@ 220.5		
2	48.0	888	0	225.0	
	49.0	0.01	0.00	3.51	
3	60.5	1000	0	237.5	
	61.5	0.01	0.00	3.51	2038
		Isotope: PB-212	@ 238.6		
4	65.0	1038	0	242.0	
	66.0	0.01	0.00	3.51	
5	90.5	1136	0	267.5	
	91.5	0.01	0.00	3.51	1865
		Isotope: Y-93	@ 266.9		
6	94.5	729	0	271.5	
	95.0	0.01	0.00	3.51	
7	181.9	1071	0	183.0	
	183.4	0.01	0.00	3.51	2084
8	187.9	1013	0	188.5	
	189.4	0.01	0.00	21458952.00	
9	291.4	697	0	291.9	
	292.9	0.01	0.00	21458952.00	1380
10	297.4	683	0	298.1	
	298.9	0.01	0.00	21458952.00	
		Isotope: GA-73	@ 297.4		
11	334.3	620	0	335.4	
	335.8	0.01	0.00	21458952.00	1262
		Isotope: NP-239	@ 334.3		
12	340.3	642	0	340.8	
	341.8	0.01	0.00	21458952.00	
		Isotope: CS-136	@ 340.6		
13	347.8	617	0	348.3	
	349.3	0.01	0.00	21458952.00	1179
14	353.8	562	0	354.8	
	355.3	0.01	0.00	21458952.00	
		Isotope: BA-133	@ 356.0		

	580.7	0.00	0.00	21458952.00
16	585.2	382	0	585.6
	586.7	0.00	0.00	21458952.00

737

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
17	605.1	358	0	605.6
	606.6	0.00	0.00	21458952.00
	Isotope:	CS-134	@ 604.7	
		SB-125	@ 606.7	
18	611.1	319	0	611.6
	612.6	0.00	0.00	21458952.00
19	906.9	270	0	907.4
	908.4	0.00	0.00	21458952.00
20	912.9	223	0	913.9
	914.4	0.00	0.00	21458952.00
21	958.9	424	0	960.9
	962.4	0.00	0.00	0.24
22	970.9	439	0	973.9
	974.4	0.00	0.00	0.48
	Isotope:	I-134	@ 974.7	
23M	1100.8	3490	394	1119.1
	1134.7	0.04	64.94	1.95
	Isotope:	BI-214	@ 1120.3	

677

493

863

MCA #1 - Canberra S100 - NOPI1907.MCA - NOPI-190-7 3.0 cm

Tag Number:	86	Readout:	Thu 28 Oct 1993 @ 09:46:26
Report Group:	2/4	Acquire Started:	Thu 28 Oct 1993 @ 09:45:28
Group Size:	4096		

Elapsed Live Time:	1493.00 min.
Elapsed True Time:	1493.14 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 1493.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria: Energy Window = +-1.300 keV
Iso. Library: C:\WINDOWS\S100\SPECTRAN.ISO

JP
10/28/93
AT = 1493 min
INT. CTS + BKG
Mass = 1.096 g

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	4456	544	46.6
	49.0	0.05	15.17	1.33
2	60.5	5179	837	63.3
	66.0	0.06	10.82	1.18
		Isotope: TH-234	@ 63.3	
3	90.5	5723	1087	92.6
	95.0	0.06	7.20	1.40
4	181.9	6015	1705	185.9
	189.4	0.07	7.51	1.64
		Isotope: U-235	@ 185.7	
5	291.4	4788	2062	295.0
	298.9	0.05	5.54	1.48
		Isotope: PB-214	@ 295.2	
6	334.3	2696	224	338.1
	341.8	0.03	38.25	1.28
		Isotope: AC-228	@ 338.3	
7	347.8	5642	3296	351.8
	355.3	0.06	3.76	1.53
		Isotope: PB-214	@ 351.9	
8	579.2	1776	324	582.9
	586.7	0.02	21.46	1.71
		Isotope: TL-208	@ 583.2	
9	605.1	3758	2294	608.7
	612.6	0.04	4.41	1.61
		Isotope: XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	1207	329	910.4
	914.4	0.01	17.42	1.51
		Isotope: AC-228	@ 911.2	
11	958.9	2008	244	967.9
	974.4	0.02	50.31	1.83

REGION OF INTEREST DATA

ROI # 1
Channel # **** Data ****

85	347	324	340	309	372
90	451	542	483	367	302
95	280	339			

ROI # 2
Channel # **** Data ****

119					360
120	374	337	382	431	636

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

125	710	507	381	357	338
130	366				

ROI # 3
Channel # **** Data ****

179					396
180	358	409	757	1005	1009
185	627	433	369	360	

ROI # 4
Channel # **** Data ****

362			297	245	293
365	259	276	336	439	686
370	766	646	426	285	244
375	241	296	280		

ROI # 5
Channel # **** Data ****

581		166	177	181	146
585	189	278	508	825	766
590	476	232	151	170	173
595	187	163			

ROI # 6
Channel # **** Data ****

667			167	156	132
670	164	155	165	187	236
675	214	192	168	143	145
680	150	165	157		

ROI # 7
Channel # **** Data ****

694					166
695	155	154	165	140	232
700	533	980	1192	814	398
705	180	137	137	126	133

ROI # 8
Channel # **** Data ****

1157			111	78	87
1160	101	83	117	157	184
1165	197	146	97	69	101
1170	76	93	79		

ROI # 9
Channel # **** Data ****

1209					103
1210	90	96	91	143	280
1215	552	762	671	356	167

REGION OF INTEREST DATA

ROI # 10

Channel #	**** Data ****				
1813				54	49
1815	56	52	91	86	117
1820	147	118	84	72	53
1825	65	53	52	58	

ROI # 11

Channel #	**** Data ****				
1917			53	54	71
1920	63	50	54	43	59
1925	65	73	69	69	47
1930	50	61	64	74	96
1935	109	99	77	68	61
1940	66	45	54	53	61
1945	47	48	55	50	

MCA #1 - Canberra S100 - NOPI1907.MCA - NOPI-190-7 3.0 cm

Tag Number:	86	Readout:	Thu 28 Oct 1993 @ 09:47:05
Report Group:	1/4	Acquire Started:	Thu 28 Oct 1993 @ 09:45:28
Group Size:	4096		

Elapsed Live Time:	1493.00 min.
Elapsed True Time:	1493.14 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	1011	0	220.8	1932
	44.6	0.01	0.00	4.43	
	Isotope:	I-135	@ 220.5		
2	48.0	921	0	225.3	
	49.0	0.01	0.00	4.43	
3	60.5	1071	0	237.8	2132
	61.5	0.01	0.00	4.43	
	Isotope:	PB-212	@ 238.6		
4	65.0	1061	0	242.3	
	66.0	0.01	0.00	4.43	
5	90.5	1163	0	267.8	1892
	91.5	0.01	0.00	4.43	
	Isotope:	Y-93	@ 266.9		
6	94.5	729	0	271.8	
	95.0	0.01	0.00	4.43	
7	181.9	1094	0	183.0	2155
	183.4	0.01	0.00	4.43	
8	187.9	1061	0	189.0	
	189.4	0.01	0.00	4.43	
9	291.4	670	0	292.3	1363
	292.9	0.01	0.00	4.43	
10	297.4	693	0	298.4	
	298.9	0.01	0.00	4.43	
	Isotope:	GA-73	@ 297.4		
11	334.3	619	0	334.8	1236
	335.8	0.01	0.00	21458952.00	
	Isotope:	NP-239	@ 334.3		
12	340.3	617	0	341.3	
	341.8	0.01	0.00	21458952.00	
	Isotope:	CS-136	@ 340.6		
13	347.8	640	0	348.8	1173
	349.3	0.01	0.00	21458952.00	
14	353.8	533	0	354.3	
	355.3	0.01	0.00	21458952.00	
15	579.2	377	0	579.6	726
	580.7	0.00	0.00	21458952.00	
16	585.2	349	0	586.2	
	586.7	0.00	0.00	21458952.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	380	0	606.1	732
	606.6	0.00	0.00	21458952.00	
		Isotope: SB-125 @ 606.7			
18	611.1	352	0	611.6	
	612.6	0.00	0.00	21458952.00	
19	906.9	211	0	907.9	439
	908.4	0.00	0.00	21458952.00	
20	912.9	228	0	913.9	
	914.4	0.00	0.00	21458952.00	
21	958.9	447	0	960.1	860
	962.4	0.00	0.00	0.85	
22	970.9	413	0	972.3	
	974.4	0.00	0.00	0.62	
		Isotope: I-135 @ 972.3			
23M	1100.8	3765	884	1119.1	
	1134.7	0.04	28.21	1.91	
		Isotope: BI-214 @ 1120.3			

MCA #1 - Canberra S100 - NOPI1906.MCA - NOPI-190-6 4.0 cm

Tag Number: 84
Report Group: 2/4
Group Size: 4096

Readout: Wed 27 Oct 1993 @ 08:49:41
Acquire Started: Wed 27 Oct 1993 @ 08:49:15

Elapsed Live Time: 1435.00 min.
Elapsed True Time: 1435.14 min.
Dead Time: 0.01 %

MCA Mode: PHA+
Preset Conditions: Live Time = 1435.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria: Energy Window = +-1.300 keV
Iso. Library: C:\WINDOWS\S100\SPECTRAN.ISO

JP
10/27/93
ΔT = 1435 min
Int = CTS + BKG
Mass = 1.611 g

119					390
120	431	410	463	495	729

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

125	848	602	417	419	394
130	418				

ROI # 3
Channel # **** Data ****

179					463
180	438	461	841	1149	1174
185	758	523	457	408	

ROI # 4
Channel # **** Data ****

362			272	313	293
365	285	296	315	482	754
370	1075	873	502	328	316
375	250	313	277		

ROI # 5
Channel # **** Data ****

581		195	168	183	177
585	171	290	672	1084	1157
590	642	276	201	188	160
595	182	183			

ROI # 6
Channel # **** Data ****

667			155	160	184
670	138	172	156	184	228
675	232	206	157	168	163
680	153	123	152		

ROI # 7
Channel # **** Data ****

694					165
695	146	147	160	166	333
700	775	1447	1828	1116	494
705	218	134	136	130	156

ROI # 8
Channel # **** Data ****

1157			96	84	89
1160	100	94	130	177	190
1165	201	128	102	90	81
1170	71	95	95		

ROI # 9
Channel # **** Data ****

1209					81
1210	96	101	84	157	306
1215	732	1062	922	543	225

REGION OF INTEREST DATA

ROI # 10

Channel #		**** Data ****			
1813				59	67
1815	57	75	79	107	146
1820	158	126	91	67	55
1825	36	51	47	56	

ROI # 11

Channel #		**** Data ****			
1917			48	53	55
1920	58	58	57	58	49
1925	66	75	88	77	63
1930	63	59	57	77	99
1935	125	118	74	71	66
1940	49	52	37	54	43
1945	39	47	68	50	

MCA #1 - Canberra S100 - NOPI1906.MCA - NOPI-190-6 4.0 cm

Tag Number:	84	Readout:	Wed 27 Oct 1993 @ 08:50:22
Report Group:	1/4	Acquire Started:	Wed 27 Oct 1993 @ 08:49:15
Group Size:	4096		

Elapsed Live Time:	1435.00 min.
Elapsed True Time:	1435.14 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	1116	0	220.6	
	44.6	0.01	0.00	4.09	2155
		Isotope: I-135 @ 220.5			
2	48.0	1039	0	225.1	
	49.0	0.01	0.00	4.09	
3	60.5	1231	0	237.6	
	61.5	0.01	0.00	4.09	2462
		Isotope: PB-212 @ 238.6			
4	65.0	1231	0	242.1	
	66.0	0.01	0.00	4.09	
5	90.5	1362	0	267.6	
	91.5	0.02	0.00	4.09	2227
		Isotope: Y-93 @ 266.9			
6	94.5	865	0	271.6	
	95.0	0.01	0.00	4.09	
7	181.9	1163	0	182.5	
	183.4	0.01	0.00	21458952.00	2319
8	187.9	1156	0	189.0	
	189.4	0.01	0.00	21458952.00	
9	291.4	723	0	292.4	
	292.9	0.01	0.00	21458952.00	1436
10	297.4	713	0	298.4	
	298.9	0.01	0.00	21458952.00	
		Isotope: GA-73 @ 297.4			
11	334.3	637	0	335.3	
	335.8	0.01	0.00	21458952.00	1228
		Isotope: NP-239 @ 334.3			
12	340.3	591	0	340.8	
	341.8	0.01	0.00	21458952.00	
		Isotope: CS-136 @ 340.6			
13	347.8	618	0	348.3	
	349.3	0.01	0.00	21458952.00	1174
14	353.8	556	0	354.3	
	355.3	0.01	0.00	21458952.00	
15	579.2	369	0	579.6	
	580.7	0.00	0.00	21458952.00	711
16	585.2	342	0	586.2	
	586.7	0.00	0.00	21458952.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	362	0	606.1	726
	606.6	0.00	0.00	21458952.00	
	Isotope: SB-125 @ 606.7				
18	611.1	364	0	612.2	
	612.6	0.00	0.00	21458952.00	
19	906.9	258	0	907.4	448
	908.4	0.00	0.00	21458952.00	
20	912.9	190	0	913.4	
	914.4	0.00	0.00	21458952.00	
21	958.9	436	0	961.1	826
	962.4	0.01	0.00	21458952.00	
22	970.9	390	0	973.9	
	974.4	0.00	0.00	21458952.00	
	Isotope: I-134 @ 974.7				
23M	1100.8	3923	1016	1119.0	
	1134.7	0.05	24.72	2.02	
	Isotope: BI-214 @ 1120.3				

MCA #1 - Canberra S100 - NOPI1905.MCA - NOPI-190-5 3.5 cm

Tag Number:	82	Readout:	Tue 26 Oct 1993 @ 08:50:24
Report Group:	2/4	Acquire Started:	Tue 26 Oct 1993 @ 08:48:59
Group Size:	4096		

Elapsed Live Time:	1437.00 min.
Elapsed True Time:	1437.14 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 1437.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

JP
10/26/93
ΔT = 1437 min
INT=CTS+BKG
mass = 1.458 g

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	4737	545	46.6
	49.0	0.05	15.57	1.24
2	60.5	5694	948	63.5
	66.0	0.07	10.03	1.31
		Isotope: TH-234	@ 63.3	
3	90.5	6389	1192	92.8
	95.0	0.07	6.91	1.27
4	181.9	6840	2180	185.9
	189.4	0.08	6.26	1.53
		Isotope: U-235	@ 185.7	
5	291.4	5688	2842	295.0
	298.9	0.07	4.38	1.51
		Isotope: PB-214	@ 295.2	
6	334.3	2816	200	337.9
	341.8	0.03	43.78	1.45
		Isotope: AC-228	@ 338.3	
7	347.8	6988	4526	351.8
	355.3	0.08	3.05	1.51
		Isotope: PB-214	@ 351.9	
8	579.2	1842	432	582.9
	586.7	0.02	16.39	1.92
		Isotope: TL-208	@ 583.2	
9	605.1	4619	3159	608.7
	612.6	0.05	3.55	1.76
		Isotope: XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	1293	371	910.6
	914.4	0.01	15.99	1.93
		Isotope: AC-228	@ 911.2	
11	958.9	2004	312	967.9
	974.4	0.02	38.82	2.29

REGION OF INTEREST DATA

ROI # 1
Channel # **** Data ****

85	343	343	359	333	386
90	468	575	513	400	336
95	357	324			

ROI # 2
Channel # **** Data ****

119					383
120	377	430	415	509	642

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

125	767	612	398	352	391
130	418				

ROI # 3
Channel # **** Data ****

179					504
180	417	497	733	1117	1114
185	704	448	429	426	

ROI # 4
Channel # **** Data ****

362			290	292	289
365	302	305	365	503	822
370	962	753	471	329	294
375	255	301	307		

ROI # 5
Channel # **** Data ****

581		193	170	179	182
585	197	315	646	1042	998
590	578	289	200	169	176
595	160	194			

ROI # 6
Channel # **** Data ****

667			151	156	156
670	168	179	158	213	221
675	236	184	177	140	176
680	177	151	173		

ROI # 7
Channel # **** Data ****

694					180
695	150	167	161	165	256
700	670	1352	1591	1074	432
705	217	152	111	151	159

ROI # 8
Channel # **** Data ****

1157			75	99	104
1160	94	99	129	166	194
1165	191	145	112	101	76
1170	82	89	86		

ROI # 9
Channel # **** Data ****

1209					105
1210	106	98	96	160	344
1215	738	928	891	492	210

REGION OF INTEREST DATA

ROI # 10

Channel #	**** Data ****				
1813				45	78
1815	51	72	86	89	132
1820	151	132	112	70	60
1825	53	46	60	56	

ROI # 11

Channel #	**** Data ****				
1917			54	47	58
1920	62	47	55	54	56
1925	69	79	73	67	65
1930	55	64	71	73	89
1935	94	99	93	61	49
1940	71	40	46	50	61
1945	53	43	54	52	

MCA #1 - Canberra S100 - NOPI1905.MCA - NOPI-190-5 3.5 cm

Tag Number:	82	Readout:	Tue 26 Oct 1993 @ 08:51:12
Report Group:	1/4	Acquire Started:	Tue 26 Oct 1993 @ 08:48:59
Group Size:	4096		

Elapsed Live Time:	1437.00 min.
Elapsed True Time:	1437.14 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	1045	0	214.4	2062
	44.6	0.01	0.00	8.05	
2	48.0	1017	0	218.9	
	49.0	0.01	0.00	8.05	
3	60.5	1190	0	231.4	2351
	61.5	0.01	0.00	8.05	
4	65.0	1161	0	235.9	
	66.0	0.01	0.00	8.05	
	Isotope:	I-134	@ 235.5		
5	90.5	1418	0	261.4	2273
	91.5	0.02	0.00	8.05	
6	94.5	855	0	265.4	
	95.0	0.01	0.00	8.05	
	Isotope:	GE-75	@ 264.7		
		SE-75	@ 264.7		
7	181.9	1173	0	352.8	2330
	183.4	0.01	0.00	8.05	
	Isotope:	PB-214	@ 351.9		
8	187.9	1157	0	189.0	
	189.4	0.01	0.00	8.05	
9	291.4	724	0	292.4	1423
	292.9	0.01	0.00	8.05	
10	297.4	699	0	297.9	
	298.9	0.01	0.00	21458956.00	
	Isotope:	GA-73	@ 297.4		
11	334.3	631	0	334.8	1308
	335.8	0.01	0.00	21458956.00	
	Isotope:	NP-239	@ 334.3		
12	340.3	677	0	340.8	
	341.8	0.01	0.00	21458956.00	
	Isotope:	CS-136	@ 340.6		
13	347.8	658	0	348.8	1231
	349.3	0.01	0.00	21458956.00	
14	353.8	573	0	354.9	
	355.3	0.01	0.00	21458956.00	
	Isotope:	BA-133	@ 356.0		
15	579.2	372	0	580.1	705
	580.7	0.00	0.00	21458956.00	
16	585.2	333	0	586.2	
	586.7	0.00	0.00	21458956.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	405	0	605.6	
	606.6	0.00	0.00	21458956.00	
		Isotope: CS-134 @ 604.7			730
		SB-125 @ 606.7			
18	611.1	325	0	611.5	
	612.6	0.00	0.00	21458956.00	
19	906.9	246	0	907.4	
	908.4	0.00	0.00	21458956.00	461
20	912.9	215	0	913.9	
	914.4	0.00	0.00	21458956.00	
21	958.9	433	0	960.1	
	962.4	0.01	0.00	0.73	832
22	970.9	399	0	972.4	
	974.4	0.00	0.00	0.58	
		Isotope: I-135 @ 972.3			
23M	1100.8	3844	877	1119.1	
	1134.7	0.04	28.84	2.03	
		Isotope: BI-214 @ 1120.3			

MCA #1 - Canberra S100 - NOPI1904.MCA - NOPI-190-4 GAM 4.5cm

Tag Number: 106
Report Group: 2/4
Group Size: 4096

Readout: Fri 22 Oct 1993 @ 10:18:41
Acquire Started: Fri 22 Oct 1993 @ 10:17:51

Elapsed Live Time: 1493.00 min.
Elapsed True Time: 1493.15 min.
Dead Time: 0.01 %

MCA Mode: PHA+
Preset Conditions: Live Time = 1493.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria: Energy Window = +-1.300 keV
Iso. Library: C:\WINDOWS\S100\SPECTRAN.ISO

JP
10/22/93
ΔT=1493 min
Int=cts+bkg
mass~1.781g

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	5337	636	46.5
	49.0	0.06	14.18	1.42
2	60.5	6352	1110	63.5
	66.0	0.07	9.08	1.51
	Isotope:	TH-234	@ 63.3	
3	90.5	7095	1253	92.8
	95.0	0.08	6.86	1.33
4	181.9	7531	2479	185.9
	189.4	0.08	5.78	1.48
	Isotope:	U-235	@ 185.7	
5	291.4	6590	3508	295.0
	298.9	0.07	3.82	1.52
	Isotope:	PB-214	@ 295.2	
6	334.3	3081	297	338.3
	341.8	0.03	30.84	1.46
	Isotope:	AC-228	@ 338.3	
7	347.8	8298	5664	351.7
	355.3	0.09	2.65	1.55
	Isotope:	PB-214	@ 351.9	
8	579.2	1955	425	582.7
	586.7	0.02	17.17	1.61
	Isotope:	TL-208	@ 583.2	
9	605.1	5310	3760	608.7
	612.6	0.06	3.20	1.62
	Isotope:	XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	1369	373	910.4
	914.4	0.02	16.37	1.70
	Isotope:	AC-228	@ 911.2	
11	958.9	2133	269	967.8
	974.4	0.02	46.96	1.52

REGION OF INTEREST DATA

ROI # 1

Channel # **** Data ****

85	425	406	394	400	425
90	561	632	585	405	374
95	358	372			

ROI # 2

Channel # **** Data ****

119					426
120	407	468	438	576	761

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

125	828	692	519	401	431
130	405				

ROI # 3
Channel # **** Data ****

179					542
180	451	519	849	1222	1199
185	830	559	455	469	

ROI # 4
Channel # **** Data ****

362			303	332	311
365	343	320	369	584	933
370	1118	842	471	368	303
375	292	334	308		

ROI # 5
Channel # **** Data ****

581		208	180	208	213
585	220	354	753	1228	1249
590	699	333	213	167	181
595	182	202			

ROI # 6
Channel # **** Data ****

667			191	165	164
670	168	181	200	212	239
675	266	232	177	182	170
680	194	158	182		

ROI # 7
Channel # **** Data ****

694					171
695	170	169	192	179	334
700	829	1681	1918	1302	519
705	219	160	147	150	158

ROI # 8
Channel # **** Data ****

1157			97	101	83
1160	84	112	129	181	221
1165	179	153	117	98	95
1170	116	107	82		

ROI # 9
Channel # **** Data ****

1209					94
1210	100	111	107	159	393
1215	808	1201	1019	589	258

REGION OF INTEREST DATA

ROI # 10

Channel #		**** Data ****			
1813				71	55
1815	60	61	89	100	153
1820	152	135	89	78	75
1825	68	63	59	61	

ROI # 11

Channel #		**** Data ****			
1917			53	48	69
1920	49	51	55	60	90
1925	70	87	82	71	65
1930	68	46	58	82	125
1935	120	101	82	61	47
1940	51	37	44	49	65
1945	69	58	61	59	

MCA #1 - Canberra S100 - NOPI1904.MCA - NOPI-190-4 GAM 4.5cm

Tag Number:	106	Readout:	Fri 22 Oct 1993 @ 10:19:26
Report Group:	1/4	Acquire Started:	Fri 22 Oct 1993 @ 10:17:51
Group Size:	4096		

Elapsed Live Time:	1493.00 min.
Elapsed True Time:	1493.15 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	1225	0	220.4	
	44.6	0.01	0.00	2.90	2329
	Isotope:	I-135	@ 220.5		
2	48.0	1104	0	224.9	
	49.0	0.01	0.00	2.90	
3	60.5	1301	0	237.4	
	61.5	0.01	0.00	2.90	2538
	Isotope:	PB-212	@ 238.6		
4	65.0	1237	0	241.9	
	66.0	0.01	0.00	2.90	
5	90.5	1512	0	267.4	
	91.5	0.02	0.00	2.90	2436
	Isotope:	Y-93	@ 266.9		
6	94.5	924	0	271.4	
	95.0	0.01	0.00	2.90	
7	181.9	1289	0	182.5	
	183.4	0.01	0.00	21458952.00	2526
8	187.9	1237	0	189.0	
	189.4	0.01	0.00	21458952.00	
9	291.4	809	0	292.4	
	292.9	0.01	0.00	21458952.00	1541
10	297.4	732	0	298.4	
	298.9	0.01	0.00	21458952.00	
	Isotope:	GA-73	@ 297.4		
11	334.3	688	0	335.3	
	335.8	0.01	0.00	21458952.00	1392
	Isotope:	NP-239	@ 334.3		
12	340.3	704	0	340.8	
	341.8	0.01	0.00	21458952.00	
	Isotope:	CS-136	@ 340.6		
13	347.8	702	0	348.3	
	349.3	0.01	0.00	21458952.00	1317
14	353.8	615	0	354.3	
	355.3	0.01	0.00	21458952.00	
15	579.2	365	0	579.6	
	580.7	0.00	0.00	21458952.00	765
16	585.2	400	0	585.7	
	586.7	0.00	0.00	21458952.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	412	0	606.1	775
	606.6	0.00	0.00	21458952.00	
		Isotope: SB-125 @ 606.7			
18	611.1	363	0	611.6	
	612.6	0.00	0.00	21458952.00	
19	906.9	247	0	907.4	498
	908.4	0.00	0.00	21458952.00	
20	912.9	251	0	913.4	
	914.4	0.00	0.00	21458952.00	
21	958.9	475	0	959.9	917
	962.4	0.01	0.00	0.25	
22	970.9	442	0	972.8	
	974.4	0.00	0.00	0.55	
		Isotope: I-135 @ 972.3			

MCA #1 - Canberra S100 - NOPI1903.MCA - NOPI-190-3 GAM 5.5cm

Tag Number: 104
Report Group: 2/4
Group Size: 4096

Readout: Thu 21 Oct 1993 @ 09:20:55
Acquire Started: Thu 21 Oct 1993 @ 09:20:24

Elapsed Live Time: 1202.00 min.
Elapsed True Time: 1202.13 min.
Dead Time: 0.01 %

MCA Mode: PHA+
Preset Conditions: Live Time = 1202.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria: Energy Window = +-1.300 keV
Iso. Library: C:\WINDOWS\S100\SPECTRAN.ISO

JP
10/21/93
ΔT = 1202 min
Int. cts + bkg
mass = 2.645 g

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	4999	543	46.8
	49.0	0.07	16.01	0.99
2	60.5	6469	1185	63.5
	66.0	0.09	8.62	1.39
		Isotope: TH-234	@ 63.3	
3	90.5	7022	1330	92.8
	95.0	0.10	6.51	1.31
4	181.9	7412	2830	186.0
	189.4	0.10	5.02	1.51
		Isotope: U-235	@ 185.7	
5	291.4	6902	4192	295.0
	298.9	0.10	3.27	1.46
		Isotope: PB-214	@ 295.2	
6	334.3	2703	257	338.3
	341.8	0.04	33.38	2.03
		Isotope: AC-228	@ 338.3	
7	347.8	9485	7201	351.8
	355.3	0.13	2.23	1.52
		Isotope: PB-214	@ 351.9	
8	579.2	1752	444	582.7
	586.7	0.02	15.55	1.79
		Isotope: TL-208	@ 583.2	
9	605.1	5849	4551	608.7
	612.6	0.08	2.77	1.69
		Isotope: XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	1243	345	910.4
	914.4	0.02	16.86	2.10
		Isotope: AC-228	@ 911.2	
11	958.9	1909	353	967.9
	974.4	0.03	33.12	2.00

REGION OF INTEREST DATA

ROI # 1

Channel #	**** Data ****				
85	355	380	366	384	391
90	477	624	536	417	340
95	366	363			

ROI # 2

Channel # **** Data ****

119					444
120	433	445	478	560	788

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

125	881	717	432	440	443
130	408				

ROI # 3
Channel # **** Data ****

179					524
180	446	508	850	1271	1197
185	847	471	451	457	

ROI # 4
Channel # **** Data ****

362			248	329	314
365	284	331	359	479	922
370	1163	978	540	349	270
375	287	267	292		

ROI # 5
Channel # **** Data ****

581		165	162	172	175
585	213	310	830	1421	1467
590	750	349	207	169	169
595	166	177			

ROI # 6
Channel # **** Data ****

667			148	171	139
670	147	173	147	190	208
675	223	189	187	163	147
680	161	152	158		

ROI # 7
Channel # **** Data ****

694					155
695	144	146	155	199	383
700	955	1920	2386	1597	670
705	233	123	151	132	136

ROI # 8
Channel # **** Data ****

1157			92	92	72
1160	77	105	108	186	185
1165	185	129	102	98	84
1170	65	91	81		

ROI # 9
Channel # **** Data ****

1209					81
1210	81	76	106	177	405
1215	931	1348	1228	699	290

REGION OF INTEREST DATA

ROI # 10

Channel #		**** Data ****			
1813				43	61
1815	58	67	66	104	144
1820	137	109	101	74	59
1825	51	58	53	58	

ROI # 11

Channel #		**** Data ****			
1917			57	52	38
1920	51	56	52	48	60
1925	65	65	65	55	59
1930	52	61	69	73	97
1935	109	102	78	57	53
1940	53	41	60	50	40
1945	52	43	50	46	

MCA #1 - Canberra S100 - NOPI1903.MCA - NOPI-190-3 GAM 5.5cm

Tag Number:	104	Readout:	Thu 21 Oct 1993 @ 09:21:53
Report Group:	1/4	Acquire Started:	Thu 21 Oct 1993 @ 09:20:24
Group Size:	4096		

Elapsed Live Time:	1202.00 min.
Elapsed True Time:	1202.13 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	1101	0	214.4	
	44.6	0.02	0.00	7.74	2170
2	48.0	1069	0	218.9	
	49.0	0.01	0.00	7.74	
3	60.5	1322	0	231.4	
	61.5	0.02	0.00	7.74	2613
4	65.0	1291	0	235.9	
	66.0	0.02	0.00	7.74	
	Isotope:	I-134	@ 235.5		
5	90.5	1478	0	261.4	
	91.5	0.02	0.00	7.74	2386
6	94.5	908	0	265.4	
	95.0	0.01	0.00	7.74	
	Isotope:	GE-75	@ 264.7		
		SE-75	@ 264.7		
7	181.9	1175	0	182.7	
	183.4	0.02	0.00	7.74	2291
8	187.9	1116	0	188.4	
	189.4	0.02	0.00	21458956.00	
9	291.4	674	0	292.4	
	292.9	0.01	0.00	21458956.00	1355
10	297.4	681	0	298.4	
	298.9	0.01	0.00	21458956.00	
	Isotope:	GA-73	@ 297.4		
11	334.3	605	0	334.8	
	335.8	0.01	0.00	21458956.00	1223
	Isotope:	NP-239	@ 334.3		
12	340.3	618	0	340.8	
	341.8	0.01	0.00	21458956.00	
	Isotope:	CS-136	@ 340.6		
13	347.8	600	0	348.3	
	349.3	0.01	0.00	21458956.00	1142
14	353.8	542	0	354.3	
	355.3	0.01	0.00	21458956.00	
15	579.2	333	0	579.6	
	580.7	0.00	0.00	21458956.00	654
16	585.2	321	0	586.2	
	586.7	0.00	0.00	21458956.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	344	0	606.2	649
	606.6	0.00	0.00	21458956.00	
	Isotope: SB-125 @ 606.7				
18	611.1	305	0	612.2	
	612.6	0.00	0.00	21458956.00	
19	906.9	229	0	907.5	449
	908.4	0.00	0.00	21458956.00	
20	912.9	220	0	913.4	
	914.4	0.00	0.00	21458956.00	
21	958.9	414	0	960.9	796
	962.4	0.01	0.00	0.40	
22	970.9	382	0	971.4	
	974.4	0.01	0.00	21458958.00	
	Isotope: I-135 @ 972.3				

MCA #1 - Canberra S100 - NOPI1902.MCA - NOPI-190-2 GAM 5.0cm

Tag Number: 102
Report Group: 2/4
Group Size: 4096

Readout: Wed 20 Oct 1993 @ 13:15:30
Acquire Started: Wed 20 Oct 1993 @ 13:14:50

Elapsed Live Time: 1703.00 min.
Elapsed True Time: 1703.19 min.
Dead Time: 0.01 %

MCA Mode: PHA+
Preset Conditions: Live Time = 1703.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria: Energy Window = +-1.300 keV
Iso. Library: C:\WINDOWS\S100\SPECTRAN.ISO

JP
10/20/93
ΔT = 1703 min
Int = cts+bkg
mass = 2.129

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	6809	709	46.8
	49.0	0.07	14.28	1.24
2	60.5	8659	1542	63.5
	66.0	0.08	7.64	1.35
		Isotope: TH-234	@ 63.3	
3	90.5	9395	1884	92.8
	95.0	0.09	5.37	1.16
4	181.9	9948	3642	186.0
	189.4	0.10	4.52	1.51
		Isotope: U-235	@ 185.7	
5	291.4	9132	5306	295.0
	298.9	0.09	2.97	1.52
		Isotope: PB-214	@ 295.2	
6	334.3	3607	335	338.1
	341.8	0.04	29.58	1.74
		Isotope: AC-228	@ 338.3	
7	347.8	12039	8791	351.8
	355.3	0.12	2.06	1.49
		Isotope: PB-214	@ 351.9	
8	579.2	2427	623	582.7
	586.7	0.02	13.05	1.75
		Isotope: TL-208	@ 583.2	
9	605.1	7781	5867	608.7
	612.6	0.08	2.48	1.71
		Isotope: XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	1617	461	910.4
	914.4	0.02	14.39	1.61
		Isotope: AC-228	@ 911.2	
11	958.9	2593	401	968.1
	974.4	0.03	34.37	1.63
		Isotope: RU-105	@ 969.4	

REGION OF INTEREST DATA

ROI # 1

Channel #	**** Data ****				
85	482	503	530	538	553
90	643	796	750	573	481
95	483	477			

ROI # 2

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

120	575	595	584	748	1051
125	1184	931	701	569	579
130	553				

ROI # 3
Channel # **** Data ****

179					749
180	557	658	1067	1766	1620
185	1072	709	614	583	

ROI # 4
Channel # **** Data ****

362			382	442	404
365	398	428	454	674	1199
370	1554	1302	734	450	376
375	352	396	403		

ROI # 5
Channel # **** Data ****

581		249	241	245	219
585	252	464	1080	1861	1807
590	1037	457	261	240	243
595	239	237			

ROI # 6
Channel # **** Data ****

667			216	199	216
670	223	206	226	247	292
675	281	278	208	233	190
680	218	192	182		

ROI # 7
Channel # **** Data ****

694					216
695	233	221	228	240	451
700	1178	2443	3018	2001	795
705	289	207	175	163	181

ROI # 8
Channel # **** Data ****

1157			115	141	131
1160	112	131	158	250	282
1165	281	178	116	129	88
1170	106	117	92		

ROI # 9
Channel # **** Data ****

1209					129
1210	107	123	118	214	581

1220	161	118	114	136	112

REGION OF INTEREST DATA

ROI # 10
Channel # **** Data ****

1813				66	85
1815	80	83	117	112	175
1820	203	162	119	74	77
1825	68	62	58	76	

ROI # 11
Channel # **** Data ****

1917			75	72	73
1920	70	66	68	73	88
1925	88	80	103	86	75
1930	73	62	73	75	123
1935	156	146	112	83	64
1940	87	67	67	51	79
1945	61	61	72	64	

MCA #1 - Canberra S100 - NOPI1902.MCA - NOPI-190-2 GAM 5.0cm

Tag Number:	102	Readout:	Wed 20 Oct 1993 @ 13:16:10
Report Group:	1/4	Acquire Started:	Wed 20 Oct 1993 @ 13:14:50
Group Size:	4096		

Elapsed Live Time:	1703.00 min.
Elapsed True Time:	1703.19 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria: Energy Window = +-1.300 keV
Iso. Library: C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	1515	0	220.7	
	44.6	0.01	0.00	3.26	
		Isotope: I-135 @ 220.5			2956
2	48.0	1441	0	225.1	
	49.0	0.01	0.00	3.26	
3	60.5	1759	0	237.6	
	61.5	0.02	0.00	3.26	
		Isotope: PB-212 @ 238.6			3460
4	65.0	1701	0	242.1	
	66.0	0.02	0.00	3.26	
5	90.5	1964	0	267.6	
	91.5	0.02	0.00	3.26	
		Isotope: Y-93 @ 266.9			3161
6	94.5	1197	0	271.6	
	95.0	0.01	0.00	3.26	
7	181.9	1626	0	182.5	
	183.4	0.02	0.00	21458952.00	3153
8	187.9	1527	0	189.0	
	189.4	0.01	0.00	21458952.00	
9	291.4	954	0	292.4	
	292.9	0.01	0.00	21458952.00	1913
10	297.4	959	0	297.9	
	298.9	0.01	0.00	21458952.00	
		Isotope: GA-73 @ 297.4			
11	334.3	854	0	335.4	
	335.8	0.01	0.00	21458952.00	1636
		Isotope: NP-239 @ 334.3			
12	340.3	782	0	340.8	
	341.8	0.01	0.00	21458952.00	
		Isotope: CS-136 @ 340.6			
13	347.8	898	0	348.3	
	349.3	0.01	0.00	21458952.00	1624
14	353.8	726	0	354.3	
	355.3	0.01	0.00	21458952.00	
15	579.2	499	0	579.7	
	580.7	0.00	0.00	21458952.00	902
16	585.2	403	0	586.1	
	586.7	0.00	0.00	21458952.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	477	0	606.2	957
	606.6	0.00	0.00	21458952.00	
		Isotope: SB-125 @ 606.7			
18	611.1	480	0	612.1	
	612.6	0.00	0.00	21458952.00	
19	906.9	314	0	907.4	578
	908.4	0.00	0.00	21458952.00	
20	912.9	264	0	913.7	
	914.4	0.00	0.00	21458952.00	
21	958.9	585	0	961.9	1107
	962.4	0.01	0.00	21458952.00	
22	970.9	522	0	972.4	
	974.4	0.01	0.00	0.35	
		Isotope: I-135 @ 972.3			

MCA #1 - Canberra S100 - NOPI1901.MCA - NOPI-190-1 GAM 5.0cm

Tag Number:	100	Readout:	Tue 19 Oct 1993 @ 08:48:06
Report Group:	2/4	Acquire Started:	Tue 19 Oct 1993 @ 08:46:47
Group Size:	4096		

Elapsed Live Time:	1351.00 min.
Elapsed True Time:	1351.21 min.
Dead Time:	0.02 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 1351.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

JP
10/19/93
ΔT=1351
Int= cts + bkg
mass= 2.600g

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	10297	978	46.8
	49.0	0.13	12.67	1.28
2	60.5	15202	3835	63.5
	66.0	0.19	4.20	1.35
	Isotope:	TH-234	@ 63.3	
3	90.5	17267	4108	92.8
	95.0	0.21	3.45	1.29
4	181.9	17070	8712	186.0
	189.4	0.21	2.47	1.49
	Isotope:	U-235	@ 185.7	
5	291.4	17156	12812	295.2
	298.9	0.21	1.69	1.17
	Isotope:	PB-214	@ 295.2	
6	334.3	4342	440	338.1
	341.8	0.05	24.71	1.20
	Isotope:	AC-228	@ 338.3	
7	347.8	24891	21189	351.8
	355.3	0.31	1.23	1.48
	Isotope:	PB-214	@ 351.9	
8	579.2	2538	392	582.8
	586.7	0.03	21.21	1.89
	Isotope:	TL-208	@ 583.2	
9	605.1	15645	13695	608.8
	612.6	0.19	1.51	1.71
	Isotope:	XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	1670	474	910.0
	914.4	0.02	14.23	1.49
	Isotope:	AC-228	@ 911.2	
11	958.9	2625	485	968.3
	974.4	0.03	28.27	1.51
	Isotope:	RU-105	@ 969.4	

REGION OF INTEREST DATA

ROI # 1

Channel #	**** Data ****				
85	773	764	766	754	804
90	969	1182	1129	904	741
95	728	783			

ROI # 2

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

120	965	977	959	1322	2108
125	2413	1781	1114	835	878
130	938				

ROI # 3
Channel # **** Data ****

179					1211
180	961	1076	2122	3406	3334
185	2048	1150	981	978	

ROI # 4
Channel # **** Data ****

362			526	554	566
365	520	557	709	1180	2274
370	3270	2728	1425	748	510
375	488	514	501		

ROI # 5
Channel # **** Data ****

581		274	301	291	309
585	355	775	2099	4167	4161
590	2270	816	341	243	229
595	264	261			

ROI # 6
Channel # **** Data ****

667			265	250	242
670	242	258	250	283	363
675	411	314	280	232	261
680	224	230	237		

ROI # 7
Channel # **** Data ****

694					227
695	255	237	290	345	807
700	2476	5510	7043	4612	1768
705	479	247	194	213	188

ROI # 8
Channel # **** Data ****

1157			151	160	152
1160	133	134	178	227	243
1165	236	188	145	114	125
1170	115	105	132		

ROI # 9
Channel # **** Data ****

1209					129
1210	137	127	162	371	1048

1220	247	110	87	118	105

REGION OF INTEREST DATA

ROI # 10

Channel #		**** Data ****			
1813				78	67
1815	83	86	108	148	178
1820	218	139	119	86	76
1825	72	76	57	79	

ROI # 11

Channel #		**** Data ****			
1917			63	63	80
1920	76	64	67	95	78
1925	100	103	99	93	76
1930	66	69	80	83	112
1935	133	163	103	96	77
1940	69	70	66	69	59
1945	61	65	66	61	

MCA #1 - Canberra S100 - NOPI1901.MCA - NOPI-190-1 GAM 5.0cm

Tag Number:	100	Readout:	Tue 19 Oct 1993 @ 08:48:45
Report Group:	1/4	Acquire Started:	Tue 19 Oct 1993 @ 08:46:47
Group Size:	4096		

Elapsed Live Time:	1351.00 min.
Elapsed True Time:	1351.21 min.
Dead Time:	0.02 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	2303	0	220.7	4555
	44.6	0.03	0.00	3.89	
	Isotope:	I-135	@ 220.5		
2	48.0	2252	0	225.2	
	49.0	0.03	0.00	3.89	
3	60.5	2854	0	237.7	5505
	61.5	0.04	0.00	3.89	
	Isotope:	PB-212	@ 238.6		
4	65.0	2651	0	242.2	
	66.0	0.03	0.00	3.89	
5	90.5	3248	0	267.6	5207
	91.5	0.04	0.00	3.89	
	Isotope:	Y-93	@ 266.9		
6	94.5	1959	0	271.6	
	95.0	0.02	0.00	3.89	
7	181.9	2166	0	182.9	4179
	183.4	0.03	0.00	3.89	
8	187.9	2013	0	188.9	
	189.4	0.02	0.00	3.89	
9	291.4	1175	0	291.9	2172
	292.9	0.01	0.00	21458952.00	
10	297.4	997	0	298.4	
	298.9	0.01	0.00	21458952.00	
	Isotope:	GA-73	@ 297.4		
11	334.3	999	0	334.8	1951
	335.8	0.01	0.00	21458952.00	
	Isotope:	NP-239	@ 334.3		
12	340.3	952	0	340.8	
	341.8	0.01	0.00	21458952.00	
	Isotope:	CS-136	@ 340.6		
13	347.8	1009	0	348.3	1851
	349.3	0.01	0.00	21458952.00	
14	353.8	842	0	354.8	
	355.3	0.01	0.00	21458952.00	
	Isotope:	BA-133	@ 356.0		
15	579.2	596	0	579.7	1073
	580.7	0.01	0.00	21458952.00	
16	585.2	477	0	585.9	
	586.7	0.01	0.00	21458952.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	555	0	605.9	
	606.6	0.01	0.00	21458952.00	
		Isotope: CS-134 @ 604.7			975
		SB-125 @ 606.7			
18	611.1	420	0	612.2	
	612.6	0.01	0.00	21458952.00	
19	906.9	314	0	908.0	
	908.4	0.00	0.00	21458952.00	598
20	912.9	284	0	913.4	
	914.4	0.00	0.00	21458952.00	
21	958.9	586	0	961.9	
	962.4	0.01	0.00	21458952.00	1103
22	970.9	517	0	971.6	
	974.4	0.01	0.00	21458952.00	
		Isotope: I-135 @ 972.3			

MCA #1 - Canberra S100 - NOPI1751.MCA - NOPI-175*GAM 7.0 cm

Tag Number:	94	Readout:	Thu 14 Oct 1993 @ 09:56:28
Report Group:	2/4	Acquire Started:	Thu 14 Oct 1993 @ 09:55:41
Group Size:	4096		

Elapsed Live Time:	1499.00 min.
Elapsed True Time:	1499.14 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 1499.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

10/14/93
JP
AT=1499
Int=CTS+BKG
Mass=3.524g

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	4432	447	46.8
	49.0	0.05	18.25	0.97
2	60.5	5205	879	63.5
	66.0	0.06	10.35	1.47
	Isotope:	TH-234	@ 63.3	
3	90.5	5868	946	92.8
	95.0	0.07	8.14	1.38
4	181.9	5999	1579	185.9
	189.4	0.07	8.09	1.58
	Isotope:	U-235	@ 185.7	
5	291.4	4576	1516	295.0
	298.9	0.05	7.36	1.58
	Isotope:	PB-214	@ 295.2	
6	334.3	2965	359	338.3
	341.8	0.03	25.03	1.46
	Isotope:	AC-228	@ 338.3	
7	347.8	5072	2586	351.7
	355.3	0.06	4.54	1.50
	Isotope:	PB-214	@ 351.9	
8	579.2	2046	586	582.7
	586.7	0.02	12.74	1.53
	Isotope:	TL-208	@ 583.2	
9	605.1	3296	1846	608.8
	612.6	0.04	5.13	1.77
	Isotope:	XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	1440	518	910.4
	914.4	0.02	12.09	1.76
	Isotope:	AC-228	@ 911.2	
11	958.9	2194	466	968.1
	974.4	0.02	26.61	2.16

REGION OF INTEREST DATA

ROI # 1
Channel # **** Data ****

85	315	349	324	313	348
90	397	540	490	366	362
95	292	336			

ROI # 2
Channel # **** Data ****

119					358
120	360	340	375	482	633

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

125	666	540	368	343	343
130	397				

ROI # 3
Channel # **** Data ****

179					451
180	386	436	681	966	964
185	714	481	410	379	

ROI # 4
Channel # **** Data ****

362			283	289	287
365	294	292	305	445	667
370	769	631	399	281	295
375	251	262	249		

ROI # 5
Channel # **** Data ****

581		192	182	199	190
585	201	267	453	655	629
590	421	244	176	177	194
595	179	217			

ROI # 6
Channel # **** Data ****

667			156	145	160
670	168	144	172	214	267
675	282	232	178	173	187
680	161	165	161		

ROI # 7
Channel # **** Data ****

694					167
695	144	170	156	166	214
700	483	827	970	637	322
705	210	146	157	149	154

ROI # 8
Channel # **** Data ****

1157			88	81	105
1160	95	103	135	225	278
1165	227	156	91	101	88
1170	81	94	98		

ROI # 9
Channel # **** Data ****

1209					91
1210	81	90	98	133	205
1215	458	575	582	348	164

REGION OF INTEREST DATA

ROI # 10

Channel #		**** Data ****			
1813				62	50
1815	45	60	78	125	196
1820	191	172	93	66	58
1825	60	53	67	64	

ROI # 11

Channel #		**** Data ****			
1917			64	46	60
1920	48	58	62	58	73
1925	73	80	78	75	70
1930	58	62	50	85	123
1935	129	113	111	80	50
1940	47	49	62	65	51
1945	47	52	52	63	

MCA #1 - Canberra S100 - NOPI1751.MCA - NOPI-175*GAM 7.0 cm

Tag Number:	94	Readout:	Thu 14 Oct 1993 @ 09:57:45
Report Group:	1/4	Acquire Started:	Thu 14 Oct 1993 @ 09:55:41
Group Size:	4096		

Elapsed Live Time:	1499.00 min.
Elapsed True Time:	1499.14 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	988	0	220.5	
	44.6	0.01	0.00	3.39	
		Isotope: I-135 @ 220.5			1978
2	48.0	990	0	225.0	
	49.0	0.01	0.00	3.39	
3	60.5	1058	0	237.5	
	61.5	0.01	0.00	3.39	
		Isotope: PB-212 @ 238.6			2141
4	65.0	1083	0	242.0	
	66.0	0.01	0.00	3.39	
5	90.5	1273	0	267.4	
	91.5	0.01	0.00	3.39	
		Isotope: Y-93 @ 266.9			2062
6	94.5	789	0	271.4	
	95.0	0.01	0.00	3.39	
7	181.9	1153	0	182.5	
	183.4	0.01	0.00	21458952.00	2210
8	187.9	1057	0	188.4	
	189.4	0.01	0.00	21458952.00	
9	291.4	763	0	292.4	
	292.9	0.01	0.00	21458952.00	1530
10	297.4	767	0	297.9	
	298.9	0.01	0.00	21458952.00	
		Isotope: GA-73 @ 297.4			
11	334.3	629	0	335.4	
	335.8	0.01	0.00	21458952.00	1303
		Isotope: NP-239 @ 334.3			
12	340.3	674	0	341.3	
	341.8	0.01	0.00	21458952.00	
		Isotope: CS-136 @ 340.6			
13	347.8	637	0	348.8	
	349.3	0.01	0.00	21458952.00	1243
14	353.8	606	0	354.3	
	355.3	0.01	0.00	21458952.00	
15	579.2	369	0	580.2	
	580.7	0.00	0.00	21458952.00	730
16	585.2	361	0	586.2	
	586.7	0.00	0.00	21458952.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	360	0	606.2	725
	606.6	0.00	0.00	21458952.00	
	Isotope: SB-125 @ 606.7				
18	611.1	365	0	611.5	
	612.6	0.00	0.00	21458952.00	
19	906.9	217	0	907.4	461
	908.4	0.00	0.00	21458952.00	
20	912.9	244	0	913.9	
	914.4	0.00	0.00	21458952.00	
21	958.9	469	0	959.9	910
	962.4	0.01	0.00	0.10	
22	970.9	441	0	971.6	
	974.4	0.00	0.00	0.32	
	Isotope: I-135 @ 972.3				

MCA #1 - Canberra S100 - NOPI1741.MCA - NOPI-174*GAM 7.0 cm

Tag Number: 92
Report Group: 2/4
Group Size: 4096

Readout: Wed 13 Oct 1993 @ 08:53:19
Acquire Started: Wed 13 Oct 1993 @ 08:52:14

Elapsed Live Time: 1379.00 min.
Elapsed True Time: 1379.19 min.
Dead Time: 0.01 %

MCA Mode: PHA+
Preset Conditions: Live Time = 1379.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria: Energy Window = +-1.300 keV
Iso. Library: C:\WINDOWS\S100\SPECTRAN.ISO

JP
10/13/93
$\Delta T = \cancel{1397}$ 1379 min
Int = Gs + BKg
mass = 4.856g

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	6794	646	46.6
	49.0	0.08	15.59	1.22
2	60.5	8910	1479	63.5
	66.0	0.11	8.04	1.21
		Isotope: TH-234	@ 63.3	
3	90.5	9408	1663	92.8
	95.0	0.11	5.95	1.33
4	181.9	10736	4260	186.0
	189.4	0.13	4.01	1.54
		Isotope: U-235	@ 185.7	
5	291.4	10567	6819	295.1
	298.9	0.13	2.49	1.52
		Isotope: PB-214	@ 295.2	
6	334.3	3774	542	338.1
	341.8	0.05	18.70	1.30
		Isotope: AC-228	@ 338.3	
7	347.8	14632	11464	351.8
	355.3	0.18	1.74	1.52
		Isotope: PB-214	@ 351.9	
8	579.2	2497	775	582.8
	586.7	0.03	10.64	1.78
		Isotope: TL-208	@ 583.2	
9	605.1	9438	7656	608.8
	612.6	0.11	2.09	1.70
		Isotope: XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	1675	633	910.4
	914.4	0.02	10.67	1.84
		Isotope: AC-228	@ 911.2	
11	958.9	2438	634	968.1
	974.4	0.03	20.24	1.76
		Isotope: RU-105	@ 969.4	

REGION OF INTEREST DATA

ROI # 1

Channel # **** Data ****

85	504	516	502	526	543
90	653	788	711	567	474
95	496	514			

ROI # 2

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

120	636	634	633	777	1008
125	1236	935	666	617	569
130	586				

ROI # 3
Channel # **** Data ****

179					787
180	588	674	1094	1585	1627
185	1132	717	602	602	

ROI # 4
Channel # **** Data ****

362			378	390	412
365	426	425	452	700	1226
370	1703	1558	892	542	427
375	396	411	398		

ROI # 5
Channel # **** Data ****

581		236	238	238	271
585	269	492	1288	2324	2305
590	1294	458	263	242	216
595	216	217			

ROI # 6
Channel # **** Data ****

667			175	213	207
670	192	219	209	261	363
675	388	295	226	197	181
680	188	231	229		

ROI # 7
Channel # **** Data ****

694					205
695	208	218	236	226	481
700	1462	3052	3839	2610	1047
705	331	198	173	188	158

ROI # 8
Channel # **** Data ****

1157			124	127	109
1160	102	130	172	271	326
1165	270	217	129	121	90
1170	112	105	92		

ROI # 9
Channel # **** Data ****

1209					117
1210	93	117	142	235	652

1220	156	115	105	94	108

REGION OF INTEREST DATA

ROI # 10
Channel # **** Data ****

1813				66	66
1815	67	72	102	140	215
1820	227	190	132	86	62
1825	70	68	53	59	

ROI # 11
Channel # **** Data ****

1917			53	46	62
1920	63	84	58	68	70
1925	82	102	108	98	58
1930	77	61	82	75	119
1935	159	135	115	81	72
1940	63	60	44	51	65
1945	58	60	48	61	

MCA #1 - Canberra S100 - NOPI1741.MCA - NOPI-174*GAM 7.0 cm

Tag Number:	92	Readout:	Wed 13 Oct 1993 @ 08:53:59
Report Group:	1/4	Acquire Started:	Wed 13 Oct 1993 @ 08:52:14
Group Size:	4096		

Elapsed Live Time:	1379.00 min.
Elapsed True Time:	1379.19 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	1522	0	214.2	3006
	44.6	0.02	0.00	9.97	
2	48.0	1484	0	218.7	
	49.0	0.02	0.00	9.97	
3	60.5	1883	0	231.1	3655
	61.5	0.02	0.00	9.97	
4	65.0	1772	0	235.6	
	66.0	0.02	0.00	9.97	
	Isotope:	I-134	@ 235.5		
5	90.5	2049	0	261.1	3253
	91.5	0.02	0.00	9.97	
6	94.5	1204	0	265.1	
	95.0	0.01	0.00	9.97	
	Isotope:	GE-75	@ 264.7		
		SE-75	@ 264.7		
7	181.9	1606	0	183.0	3238
	183.4	0.02	0.00	9.97	
8	187.9	1632	0	188.9	
	189.4	0.02	0.00	9.97	
9	291.4	983	0	292.4	1874
	292.9	0.01	0.00	9.97	
10	297.4	891	0	298.4	
	298.9	0.01	0.00	9.97	
	Isotope:	GA-73	@ 297.4		
11	334.3	787	0	335.1	1616
	335.8	0.01	0.00	9.97	
	Isotope:	NP-239	@ 334.3		
12	340.3	829	0	341.4	
	341.8	0.01	0.00	9.97	
	Isotope:	CS-136	@ 340.6		
13	347.8	867	0	348.8	1584
	349.3	0.01	0.00	9.97	
14	353.8	717	0	354.8	
	355.3	0.01	0.00	9.97	
	Isotope:	BA-133	@ 356.0		
15	579.2	462	0	579.6	861
	580.7	0.01	0.00	21458958.00	
16	585.2	399	0	585.9	
	586.7	0.00	0.00	21458958.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	469	0	606.2	891
	606.6	0.01	0.00	21458958.00	
		Isotope: SB-125 @ 606.7			
18	611.1	422	0	611.6	
	612.6	0.01	0.00	21458958.00	
19	906.9	271	0	907.9	521
	908.4	0.00	0.00	21458958.00	
20	912.9	250	0	913.4	
	914.4	0.00	0.00	21458958.00	
21	958.9	504	0	960.9	951
	962.4	0.01	0.00	0.34	
22	970.9	447	0	972.4	
	974.4	0.01	0.00	0.48	
		Isotope: I-135 @ 972.3			

MCA #1 - Canberra S100 - NOPI1731.MCA - NOPI-173*GAM 7.0 cm

Tag Number: 90
Report Group: 2/4
Group Size: 4096

Readout: Tue 12 Oct 1993 @ 09:51:36
Acquire Started: Tue 12 Oct 1993 @ 09:49:22

Elapsed Live Time: 1443.00 min.
Elapsed True Time: 1443.13 min.
Dead Time: 0.01 %

MCA Mode: PHA+
Preset Conditions: Live Time = 1443.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria: Energy Window = +-1.300 keV
Iso. Library: C:\WINDOWS\S100\SPECTRAN.ISO

JP
10/12/93
ΔT = 1443
Integral = CTS+BKG
mass = 4.084 g

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	3903	365	46.6
	49.0	0.05	20.91	1.46
2	60.5	4571	674	63.5
	66.0	0.05	12.54	1.40
	Isotope:	TH-234	@ 63.3	
3	90.5	5185	861	92.8
	95.0	0.06	8.44	1.27
4	181.9	5310	1110	185.9
	189.4	0.06	10.83	1.55
	Isotope:	U-235	@ 185.7	
5	291.4	3425	805	295.1
	298.9	0.04	12.00	1.68
	Isotope:	PB-214	@ 295.2	
6	334.3	2868	416	338.3
	341.8	0.03	21.24	1.44
	Isotope:	AC-228	@ 338.3	
7	347.8	3423	1125	351.8
	355.3	0.04	8.58	1.38
	Isotope:	PB-214	@ 351.9	
8	579.2	2022	684	582.7
	586.7	0.02	10.85	1.66
	Isotope:	TL-208	@ 583.2	
9	605.1	2249	889	608.7
	612.6	0.03	8.80	1.64
	Isotope:	XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	1436	586	910.2
	914.4	0.02	10.67	1.98
	Isotope:	AC-228	@ 911.2	
11	958.9	2082	510	968.1
	974.4	0.02	23.39	1.76

REGION OF INTEREST DATA

ROI # 1
Channel # **** Data ****

85	296	295	290	308	305
90	386	434	419	330	271
95	278	291			

ROI # 2
Channel # **** Data ****

119					333
120	314	315	317	392	528

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

125	570	483	335	309	366
130	309				

ROI # 3
Channel # **** Data ****

179					393
180	334	389	582	843	883
185	624	453	332	352	

ROI # 4
Channel # **** Data ****

362			280	278	277
365	266	242	283	391	577
370	621	495	324	277	247
375	239	250	263		

ROI # 5
Channel # **** Data ****

581		146	160	162	182
585	180	198	275	381	377
590	294	226	184	167	159
595	154	180			

ROI # 6
Channel # **** Data ****

667			151	159	164
670	146	157	143	226	270
675	310	230	177	129	150
680	168	143	145		

ROI # 7
Channel # **** Data ****

694					149
695	119	149	159	159	175
700	268	414	527	373	190
705	168	147	161	143	122

ROI # 8
Channel # **** Data ****

1157			85	82	91
1160	86	95	152	240	288
1165	246	160	105	67	74
1170	85	89	77		

ROI # 9
Channel # **** Data ****

1209					94
1210	85	94	76	107	148
1215	245	334	300	200	127

REGION OF INTEREST DATA

ROI # 10

Channel #		**** Data ****			
1813				41	40
1815	63	63	82	129	193
1820	192	163	113	75	64
1825	59	56	51	52	

ROI # 11

Channel #		**** Data ****			
1917			56	53	49
1920	54	59	58	55	58
1925	63	77	82	86	66
1930	55	44	72	79	106
1935	143	133	97	60	58
1940	52	50	50	41	45
1945	54	46	44	37	

MCA #1 - Canberra S100 - NOPI1731.MCA - NOPI-173*GAM 7.0 cm

Tag Number:	90	Readout:	Tue 12 Oct 1993 @ 09:52:08
Report Group:	1/4	Acquire Started:	Tue 12 Oct 1993 @ 09:49:22
Group Size:	4096		

Elapsed Live Time:	1443.00 min.
Elapsed True Time:	1443.13 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	881	0	220.6	
	44.6	0.01	0.00	3.79	
		Isotope: I-135 @ 220.5			1721
2	48.0	840	0	225.1	
	49.0	0.01	0.00	3.79	
3	60.5	962	0	237.6	
	61.5	0.01	0.00	3.79	
		Isotope: PB-212 @ 238.6			1946
4	65.0	984	0	242.1	
	66.0	0.01	0.00	3.79	
5	90.5	1116	0	267.6	
	91.5	0.01	0.00	3.79	
		Isotope: Y-93 @ 266.9			1800
6	94.5	684	0	271.6	
	95.0	0.01	0.00	3.79	
7	181.9	1101	0	182.7	
	183.4	0.01	0.00	3.79	2100
8	187.9	999	0	189.0	
	189.4	0.01	0.00	3.79	
9	291.4	650	0	292.4	
	292.9	0.01	0.00	3.79	1310
10	297.4	660	0	298.4	
	298.9	0.01	0.00	3.79	
		Isotope: GA-73 @ 297.4			
11	334.3	620	0	335.3	
	335.8	0.01	0.00	3.79	1226
		Isotope: NP-239 @ 334.3			
12	340.3	606	0	340.8	
	341.8	0.01	0.00	21458952.00	
		Isotope: CS-136 @ 340.6			
13	347.8	576	0	348.9	
	349.3	0.01	0.00	21458952.00	1149
14	353.8	573	0	354.3	
	355.3	0.01	0.00	21458952.00	
15	579.2	344	0	580.2	
	580.7	0.00	0.00	21458952.00	669
16	585.2	325	0	586.1	
	586.7	0.00	0.00	21458952.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	349	0	606.1	680
	606.6	0.00	0.00	21458952.00	
		Isotope: SB-125 @ 606.7			
18	611.1	331	0	612.1	
	612.6	0.00	0.00	21458952.00	
19	906.9	207	0	908.0	425
	908.4	0.00	0.00	21458952.00	
20	912.9	218	0	913.4	
	914.4	0.00	0.00	21458952.00	
21	958.9	442	0	960.9	809
	962.4	0.01	0.00	0.47	
22	970.9	367	0	972.9	
	974.4	0.00	0.00	0.53	
		Isotope: I-135 @ 972.3			

MCA #1 - Canberra S100 - PBN1FR20.MCA - NOPI-298*GAM 7.0 cm

Tag Number: 88
Report Group: 2/4
Group Size: 4096

Readout: Mon 11 Oct 1993 @ 09:43:52
Acquire Started: Fri 08 Oct 1993 @ 09:01:38

Elapsed Live Time: 2000.00 min.
Elapsed True Time: 2000.34 min.
Dead Time: 0.02 %

MCA Mode: PHA+
Preset Conditions: Live Time = 2000.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria: Energy Window = +-1.300 keV
Iso. Library: C:\WINDOWS\S100\SPECTRAN.ISO

JP
10/11/93
ΔT = 2000 min
Int = CTS + BKG
mass = 4.542 g

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	16768	1671	46.6
	49.0	0.14	9.48	1.39
2	60.5	24953	5831	63.5
	66.0	0.21	3.51	1.26
	Isotope:	TH-234	@ 63.3	
3	90.5	30136	7170	92.8
	95.0	0.25	2.61	1.28
4	181.9	29822	15884	186.0
	189.4	0.25	1.79	1.48
	Isotope:	U-235	@ 185.7	
5	291.4	29105	21861	295.2
	298.9	0.24	1.29	1.49
	Isotope:	PB-214	@ 295.2	
6	334.3	7379	947	338.1
	341.8	0.06	14.97	1.13
	Isotope:	AC-228	@ 338.3	
7	347.8	42959	36703	351.8
	355.3	0.36	0.93	1.51
	Isotope:	PB-214	@ 351.9	
8	579.2	4351	1193	582.7
	586.7	0.04	9.12	1.77
	Isotope:	TL-208	@ 583.2	
9	605.1	27330	24212	608.8
	612.6	0.23	1.13	1.70
	Isotope:	XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	2971	875	910.2
	914.4	0.02	10.28	1.86
	Isotope:	AC-228	@ 911.2	
11	958.9	4392	972	968.1
	974.4	0.04	17.99	1.84

REGION OF INTEREST DATA

ROI # 1

Channel # **** Data ****

85	1246	1174	1257	1267	1365
90	1649	1902	1787	1429	1250
95	1217	1225			

ROI # 2

Channel # **** Data ****

119					1605
120	1595	1543	1628	2264	3226

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

125	3923	2792	1736	1520	1580
130	1541				

ROI # 3
Channel # **** Data ****

179					2093
180	1664	1899	3604	5921	5842
185	3612	2078	1783	1640	

ROI # 4
Channel # **** Data ****

362			867	921	924
365	889	923	1047	2056	4070
370	5985	4866	2626	1280	843
375	851	861	813		

ROI # 5
Channel # **** Data ****

581		457	423	421	492
585	564	1272	3696	6948	7204
590	3927	1323	549	430	458
595	447	494			

ROI # 6
Channel # **** Data ****

667			403	393	387
670	391	401	411	489	678
675	764	542	440	438	420
680	414	426	382		

ROI # 7
Channel # **** Data ****

694					404
695	422	437	449	593	1403
700	4372	9541	11974	8017	3084
705	847	389	337	324	366

ROI # 8
Channel # **** Data ****

1157			203	249	234
1160	211	226	308	450	536
1165	484	361	225	182	187
1170	156	166	173		

ROI # 9
Channel # **** Data ****

1209					208
1210	179	211	234	613	1883
1215	4327	6923	6502	3803	1316

REGION OF INTEREST DATA

ROI # 10

Channel #		**** Data ****			
1813				140	113
1815	137	152	171	250	319
1820	365	313	218	160	127
1825	134	127	133	112	

ROI # 11

Channel #		**** Data ****			
1917			90	107	92
1920	138	118	122	107	148
1925	178	180	190	160	142
1930	114	106	123	147	223
1935	263	229	203	125	112
1940	126	95	104	122	100
1945	108	97	92	131	

MCA #1 - Canberra S100 - PBN1FR20.MCA - NOPI-298*GAM 7.0 cm

Tag Number:	88	Readout:	Mon 11 Oct 1993 @ 09:44:36
Report Group:	1/4	Acquire Started:	Fri 08 Oct 1993 @ 09:01:38
Group Size:	4096		

Elapsed Live Time:	2000.00 min.
Elapsed True Time:	2000.34 min.
Dead Time:	0.02 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	3677	0	220.5	
	44.6	0.03	0.00	3.55	7369
		Isotope: I-135	@ 220.5		
2	48.0	3692	0	225.0	
	49.0	0.03	0.00	3.55	
3	60.5	4743	0	237.5	
	61.5	0.04	0.00	3.55	9384
		Isotope: PB-212	@ 238.6		
4	65.0	4641	0	242.0	
	66.0	0.04	0.00	3.55	
5	90.5	5656	0	267.4	
	91.5	0.05	0.00	3.55	9079
		Isotope: Y-93	@ 266.9		
6	94.5	3423	0	271.4	
	95.0	0.03	0.00	3.55	
7	181.9	3601	0	182.9	
	183.4	0.03	0.00	3.55	6969
8	187.9	3368	0	188.9	
	189.4	0.03	0.00	3.55	
9	291.4	1793	0	292.4	
	292.9	0.01	0.00	3.55	3622
10	297.4	1829	0	297.9	
	298.9	0.02	0.00	21458952.00	
		Isotope: GA-73	@ 297.4		
11	334.3	1574	0	334.8	
	335.8	0.01	0.00	21458952.00	3216
		Isotope: NP-239	@ 334.3		
12	340.3	1642	0	341.3	
	341.8	0.01	0.00	21458952.00	
		Isotope: CS-136	@ 340.6		
13	347.8	1712	0	348.8	
	349.3	0.01	0.00	21458952.00	3128
14	353.8	1416	0	354.8	
	355.3	0.01	0.00	21458952.00	
		Isotope: BA-133	@ 356.0		
15	579.2	897	0	579.7	
	580.7	0.01	0.00	21458952.00	1579
16	585.2	682	0	585.9	
	586.7	0.01	0.00	21458952.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	832	0	606.2	1559
	606.6	0.01	0.00	21458952.00	
		Isotope: SB-125 @ 606.7			
18	611.1	727	0	612.1	
	612.6	0.01	0.00	21458952.00	
19	906.9	542	0	908.0	1048
	908.4	0.00	0.00	21458952.00	
20	912.9	506	0	913.9	
	914.4	0.00	0.00	21458952.00	
21	958.9	922	0	960.4	1771
	962.4	0.01	0.00	0.33	
22	970.9	849	0	971.9	
	974.4	0.01	0.00	0.41	
		Isotope: I-135 @ 972.3			

MCA #1 - Canberra S100 - PBN1FR19.MCA - NOPI-297*GAM 7.0 cm

Tag Number:	87	Readout:	Fri 08 Oct 1993 @ 08:58:46
Report Group:	2/4	Acquire Started:	Fri 08 Oct 1993 @ 08:57:10
Group Size:	4096		

Elapsed Live Time:	1385.00 min.
Elapsed True Time:	1385.25 min.
Dead Time:	0.02 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 1385.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria: Energy Window = +-1.300 keV
Iso. Library: C:\WINDOWS\S100\SPECTRAN.ISO

JP
10/8/93
ΔT = 1385 min
Integral = CTS+BKG
mass = 4.134 g

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	12811	1212	46.6
	49.0	0.15	11.40	1.44
2	60.5	19435	4692	63.5
	66.0	0.23	3.86	1.36
	Isotope:	TH-234	@ 63.3	
3	90.5	23075	5611	92.8
	95.0	0.28	2.94	1.29
4	181.9	22531	12201	186.0
	189.4	0.27	2.03	1.52
	Isotope:	U-235	@ 185.7	
5	291.4	22060	16736	295.2
	298.9	0.27	1.46	1.47
	Isotope:	PB-214	@ 295.2	
6	334.3	5459	821	338.3
	341.8	0.07	14.85	1.46
	Isotope:	AC-228	@ 338.3	
7	347.8	32616	28066	351.8
	355.3	0.39	1.06	1.52
	Isotope:	PB-214	@ 351.9	
8	579.2	3315	1069	582.7
	586.7	0.04	8.89	1.54
	Isotope:	TL-208	@ 583.2	
9	605.1	20818	18628	608.8
	612.6	0.25	1.28	1.70
	Isotope:	XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	2334	858	910.4
	914.4	0.03	9.29	1.62
	Isotope:	AC-228	@ 911.2	
11	958.9	3338	834	968.1
	974.4	0.04	18.07	2.00
	Isotope:	RU-105	@ 969.4	

REGION OF INTEREST DATA

ROI # 1

Channel #	**** Data ****				
85	960	934	1012	953	1001
90	1263	1411	1403	1046	950
95	916	962			

ROI # 2

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

120	1225	1237	1310	1719	2654
125	2991	2242	1364	1212	1180
130	1169				

ROI # 3
Channel # **** Data ****

179					1594
180	1200	1457	2813	4620	4484
185	2829	1554	1257	1267	

ROI # 4
Channel # **** Data ****

362			679	633	616
365	699	652	827	1514	3237
370	4515	3700	2009	912	669
375	587	643	639		

ROI # 5
Channel # **** Data ****

581		320	350	328	356
585	429	991	2769	5349	5508
590	2921	1039	392	323	331
595	328	326			

ROI # 6
Channel # **** Data ****

667			303	312	265
670	302	258	308	364	528
675	573	472	333	304	297
680	298	278	264		

ROI # 7
Channel # **** Data ****

694					319
695	308	313	316	453	1099
700	3381	7251	9109	6247	2193
705	608	273	236	264	246

ROI # 8
Channel # **** Data ****

1157			170	182	143
1160	157	152	222	390	482
1165	409	232	178	127	116
1170	124	120	111		

ROI # 9
Channel # **** Data ****

1209					136
1210	148	135	202	480	1454

1220	283	127	116	118	113

REGION OF INTEREST DATA

ROI # 10
Channel # **** Data ****

1813				88	104
1815	90	106	143	190	264
1820	342	285	170	105	97
1825	75	85	96	94	

ROI # 11
Channel # **** Data ****

1917			81	74	92
1920	75	85	95	89	116
1925	136	119	139	121	104
1930	80	93	107	109	171
1935	203	175	158	117	100
1940	72	88	65	84	86
1945	79	78	76	71	

MCA #1 - Canberra S100 - PBN1FR19.MCA - NOPI-297*GAM 7.0 cm

Tag Number:	87	Readout:	Fri 08 Oct 1993 @ 08:59:23
Report Group:	1/4	Acquire Started:	Fri 08 Oct 1993 @ 08:57:10
Group Size:	4096		

Elapsed Live Time:	1385.00 min.
Elapsed True Time:	1385.25 min.
Dead Time:	0.02 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	2906	0	220.5	
	44.6	0.03	0.00	4.50	
	Isotope:	I-135	@ 220.5		5734
2	48.0	2828	0	225.0	
	49.0	0.03	0.00	4.50	
3	60.5	3594	0	237.5	
	61.5	0.04	0.00	4.50	
	Isotope:	PB-212	@ 238.6		7155
4	65.0	3561	0	241.9	
	66.0	0.04	0.00	4.50	
5	90.5	4251	0	267.4	
	91.5	0.05	0.00	4.50	
	Isotope:	Y-93	@ 266.9		6775
6	94.5	2524	0	271.4	
	95.0	0.03	0.00	4.50	
7	181.9	2627	0	358.9	
	183.4	0.03	0.00	4.50	
	Isotope:	TC-104	@ 357.9		5165
8	187.9	2538	0	189.0	
	189.4	0.03	0.00	4.50	
9	291.4	1354	0	291.9	
	292.9	0.02	0.00	21458952.00	2662
10	297.4	1308	0	297.9	
	298.9	0.02	0.00	21458952.00	
	Isotope:	GA-73	@ 297.4		
11	334.3	1182	0	334.8	
	335.8	0.01	0.00	21458952.00	
	Isotope:	NP-239	@ 334.3		2319
12	340.3	1137	0	340.8	
	341.8	0.01	0.00	21458952.00	
	Isotope:	CS-136	@ 340.6		
13	347.8	1256	0	348.3	
	349.3	0.02	0.00	21458952.00	2275
14	353.8	1019	0	354.8	
	355.3	0.01	0.00	21458952.00	
	Isotope:	BA-133	@ 356.0		
15	579.2	652	0	579.6	
	580.7	0.01	0.00	21458952.00	1123
16	585.2	471	0	585.9	
	586.7	0.01	0.00	21458952.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	621	0	606.0	1095
	606.6	0.01	0.00	21458952.00	
	Isotope:	CS-134	@ 604.7		
		SB-125	@ 606.7		
18	611.1	474	0	612.1	
	612.6	0.01	0.00	21458952.00	
19	906.9	388	0	907.4	738
	908.4	0.00	0.00	21458952.00	
20	912.9	350	0	913.9	
	914.4	0.00	0.00	21458952.00	
21	958.9	707	0	959.9	1334
	962.4	0.01	0.00	0.13	
22	970.9	627	0	972.4	
	974.4	0.01	0.00	1.07	
	Isotope:	I-135	@ 972.3		

MCA #1 - Canberra S100 - PBN1FR18.MCA - NOPI-296*GAM 7.0 cm

Tag Number:	83	Readout:	Thu 07 Oct 1993 @ 09:28:29
Report Group:	2/4	Acquire Started:	Thu 07 Oct 1993 @ 09:27:48
Group Size:	4096		

Elapsed Live Time:	1444.00 min.
Elapsed True Time:	1444.22 min.
Dead Time:	0.02 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 1444.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

JP

10/7/93

ΔT = 1444 min

Integral = CTS+BKG

Mass = 5.509 g

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	9643	934	46.6
	49.0	0.11	12.85	1.39
2	60.5	13511	2561	63.3
	66.0	0.16	5.78	1.26
	Isotope:	TH-234	@ 63.3	
3	90.5	15433	3357	92.8
	95.0	0.18	3.92	1.30
4	181.9	16646	7942	186.0
	189.4	0.19	2.68	1.55
	Isotope:	U-235	@ 185.7	
5	291.4	16678	12030	295.2
	298.9	0.19	1.77	1.53
	Isotope:	PB-214	@ 295.2	
6	334.3	4841	757	338.1
	341.8	0.06	15.17	1.84
	Isotope:	AC-228	@ 338.3	
7	347.8	23934	20034	351.8
	355.3	0.28	1.27	1.53
	Isotope:	PB-214	@ 351.9	
8	579.2	3025	915	582.7
	586.7	0.03	9.92	1.56
	Isotope:	TL-208	@ 583.2	
9	605.1	15355	13263	608.8
	612.6	0.18	1.54	1.78
	Isotope:	XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	2121	733	910.2
	914.4	0.02	10.37	2.04
	Isotope:	AC-228	@ 911.2	
11	958.9	3074	774	968.1
	974.4	0.04	18.67	1.88

REGION OF INTEREST DATA

ROI # 1

Channel #	**** Data ****				
85	671	719	753	757	742
90	941	1091	1063	813	686
95	683	724			

ROI # 2

Channel # **** Data ****

119					845
120	968	908	937	1163	1703

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

125	1930	1415	998	924	883
130	837				

ROI # 3
Channel # **** Data ****

179					1111
180	911	1003	1783	2900	2872
185	1914	1146	914	879	

ROI # 4
Channel # **** Data ****

362			552	568	542
365	585	585	647	1085	2179
370	2970	2645	1409	774	555
375	539	483	528		

ROI # 5
Channel # **** Data ****

581		310	309	265	316
585	333	722	2091	3848	3949
590	2230	827	354	267	273
595	277	307			

ROI # 6
Channel # **** Data ****

667			279	266	241
670	252	253	290	403	425
675	468	384	303	273	246
680	257	254	247		

ROI # 7
Channel # **** Data ****

694					234
695	279	261	280	316	735
700	2420	5235	6520	4508	1739
705	511	254	221	207	214

ROI # 8
Channel # **** Data ****

1157			148	139	131
1160	141	146	212	309	415
1165	364	239	162	123	120
1170	135	107	134		

ROI # 9
Channel # **** Data ****

1209					130
1210	136	117	161	325	1077

1220	234	136	138	99	129

REGION OF INTEREST DATA

ROI # 10

Channel #		**** Data ****			
1813				85	91
1815	97	104	119	193	274
1820	281	217	182	87	74
1825	63	76	85	93	

ROI # 11

Channel #		**** Data ****			
1917			81	76	69
1920	65	83	91	80	86
1925	108	138	125	140	78
1930	62	65	89	128	160
1935	206	190	144	98	77
1940	72	78	46	81	74
1945	59	65	83	77	

MCA #1 - Canberra S100 - PBN1FR18.MCA - NOPI-296*GAM 7.0 cm

Tag Number:	83	Readout:	Thu 07 Oct 1993 @ 09:29:27
Report Group:	1/4	Acquire Started:	Thu 07 Oct 1993 @ 09:27:48
Group Size:	4096		

Elapsed Live Time:	1444.00 min.
Elapsed True Time:	1444.22 min.
Dead Time:	0.02 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	2143	0	220.5	
	44.6	0.02	0.00	3.57	
	Isotope:	I-135	@ 220.5		4236
2	48.0	2093	0	225.0	
	49.0	0.02	0.00	3.57	
3	60.5	2721	0	237.5	
	61.5	0.03	0.00	3.57	
	Isotope:	PB-212	@ 238.6		5365
4	65.0	2644	0	242.0	
	66.0	0.03	0.00	3.57	
5	90.5	3025	0	267.4	
	91.5	0.03	0.00	3.57	
	Isotope:	Y-93	@ 266.9		4818
6	94.5	1793	0	271.4	
	95.0	0.02	0.00	3.57	
7	181.9	2247	0	182.4	
	183.4	0.03	0.00	21458952.00	4352
8	187.9	2105	0	188.4	
	189.4	0.02	0.00	21458952.00	
9	291.4	1200	0	291.8	
	292.9	0.01	0.00	21458952.00	2324
10	297.4	1124	0	297.9	
	298.9	0.01	0.00	21458952.00	
	Isotope:	GA-73	@ 297.4		
11	334.3	1038	0	334.8	
	335.8	0.01	0.00	21458952.00	2042
	Isotope:	NP-239	@ 334.3		
12	340.3	1004	0	341.1	
	341.8	0.01	0.00	21458952.00	
	Isotope:	CS-136	@ 340.6		
13	347.8	1054	0	348.3	
	349.3	0.01	0.00	21458952.00	1950
14	353.8	896	0	354.3	
	355.3	0.01	0.00	21458952.00	
15	579.2	559	0	579.6	
	580.7	0.01	0.00	21458952.00	1055
16	585.2	496	0	585.6	
	586.7	0.01	0.00	21458952.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	544	0	605.6	
	606.6	0.01	0.00	21458952.00	
		Isotope: CS-134 @ 604.7			1046
		SB-125 @ 606.7			
18	611.1	502	0	611.6	
	612.6	0.01	0.00	21458952.00	
19	906.9	377	0	907.9	
	908.4	0.00	0.00	21458952.00	694
20	912.9	317	0	913.9	
	914.4	0.00	0.00	21458952.00	
21	958.9	631	0	961.4	
	962.4	0.01	0.00	0.37	1194
22	970.9	563	0	973.9	
	974.4	0.01	0.00	0.67	
		Isotope: I-134 @ 974.7			

MCA #1 - Canberra S100 - PBN1FR17.MCA - NOPI-295*GAM 7.0 cm

Tag Number:	81	Readout:	Wed 06 Oct 1993 @ 09:19:43
Report Group:	2/4	Acquire Started:	Wed 06 Oct 1993 @ 09:18:03
Group Size:	4096		

Elapsed Live Time:	1188.00 min.
Elapsed True Time:	1188.17 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 1188.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria: Energy Window = +-1.300 keV
Iso. Library: C:\WINDOWS\S100\SPECTRAN.ISO

10/6/93
ΔT = 1188
Integral = CTS+BKG
mass = 3.73 g

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	6033	593	46.8
	49.0	0.08	16.03	1.09
2	60.5	8083	1614	63.5
	66.0	0.11	7.12	1.27
	Isotope:	TH-234	@ 63.3	
3	90.5	9031	1894	92.8
	95.0	0.13	5.28	1.28
4	181.9	9281	3951	186.0
	189.4	0.13	4.02	1.51
	Isotope:	U-235	@ 185.7	
5	291.4	8591	5499	295.2
	298.9	0.12	2.78	1.44
	Isotope:	PB-214	@ 295.2	
6	334.3	3143	421	338.3
	341.8	0.04	21.97	1.32
	Isotope:	AC-228	@ 338.3	
7	347.8	11720	9232	351.8
	355.3	0.16	1.93	1.53
	Isotope:	PB-214	@ 351.9	
8	579.2	2126	634	582.7
	586.7	0.03	12.00	1.61
	Isotope:	TL-208	@ 583.2	
9	605.1	7458	6058	608.9
	612.6	0.10	2.35	1.72
	Isotope:	XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	1393	499	910.4
	914.4	0.02	12.34	1.94
	Isotope:	AC-228	@ 911.2	
11	958.9	2071	519	968.1
	974.4	0.03	22.87	1.73
	Isotope:	RU-105	@ 969.4	

REGION OF INTEREST DATA

ROI # 1

Channel #	**** Data ****				
85	435	476	430	475	464
90	566	719	657	481	478
95	432	420			

ROI # 2

Channel # **** Data ****

119					499

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

120	522	564	509	711	1008
125	1173	878	643	535	519
130	522				

ROI # 3
Channel # **** Data ****

179					686
180	542	576	1057	1624	1697
185	1096	648	565	540	

ROI # 4
Channel # **** Data ****

362			325	335	327
365	352	373	376	618	1163
370	1588	1369	731	398	328
375	342	296	360		

ROI # 5
Channel # **** Data ****

581		199	177	176	221
585	201	411	918	1804	1951
590	1119	414	227	181	195
595	200	197			

ROI # 6
Channel # **** Data ****

667			207	163	162
670	185	152	160	216	319
675	336	245	185	169	170
680	155	166	153		

ROI # 7
Channel # **** Data ****

694					134
695	161	162	166	204	388
700	1076	2516	3032	2148	849
705	263	165	153	147	156

ROI # 8
Channel # **** Data ****

1157			88	107	113
1160	84	96	145	237	289
1165	267	158	106	82	100
1170	94	72	88		

ROI # 9
Channel # **** Data ****

1209					92

1215	1121	1763	1664	1013	390
1220	160	92	86	89	78

REGION OF INTEREST DATA

ROI # 10

Channel #			**** Data ****		
1813				52	58
1815	56	72	79	115	161
1820	179	166	114	73	59
1825	56	53	47	53	

ROI # 11

Channel #			**** Data ****		
1917			40	49	53
1920	40	47	59	67	65
1925	76	78	97	75	62
1930	51	44	57	69	105
1935	135	140	93	77	56
1940	41	47	50	50	42
1945	44	70	51	41	

MCA #1 - Canberra S100 - PBN1FR17.MCA - NOPI-295*GAM 7.0 cm

Tag Number:	81	Readout:	Wed 06 Oct 1993 @ 09:21:03
Report Group:	1/4	Acquire Started:	Wed 06 Oct 1993 @ 09:18:03
Group Size:	4096		

Elapsed Live Time:	1188.00 min.
Elapsed True Time:	1188.17 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	1341	0	220.7	
	44.6	0.02	0.00	3.44	
		Isotope: I-135 @ 220.5			2671
2	48.0	1330	0	225.2	
	49.0	0.02	0.00	3.44	
3	60.5	1585	0	237.7	
	61.5	0.02	0.00	3.44	
		Isotope: PB-212 @ 238.6			3161
4	65.0	1576	0	242.2	
	66.0	0.02	0.00	3.44	
5	90.5	1804	0	267.6	
	91.5	0.03	0.00	3.44	
		Isotope: Y-93 @ 266.9			2909
6	94.5	1105	0	271.6	
	95.0	0.02	0.00	3.44	
7	181.9	1339	0	182.5	
	183.4	0.02	0.00	21458952.00	2665
8	187.9	1326	0	188.4	
	189.4	0.02	0.00	21458952.00	
9	291.4	773	0	291.8	
	292.9	0.01	0.00	21458952.00	1546
10	297.4	773	0	298.4	
	298.9	0.01	0.00	21458952.00	
		Isotope: GA-73 @ 297.4			
11	334.3	717	0	335.4	
	335.8	0.01	0.00	21458952.00	1361
		Isotope: NP-239 @ 334.3			
12	340.3	644	0	341.3	
	341.8	0.01	0.00	21458952.00	
		Isotope: CS-136 @ 340.6			
13	347.8	623	0	348.8	
	349.3	0.01	0.00	21458952.00	1244
14	353.8	621	0	354.8	
	355.3	0.01	0.00	21458952.00	
		Isotope: BA-133 @ 356.0			
15	579.2	392	0	580.1	
	580.7	0.01	0.00	21458952.00	746
16	585.2	354	0	585.6	
	586.7	0.00	0.00	21458952.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	355	0	605.6	
	606.6	0.00	0.00	21458952.00	
	Isotope:	CS-134 @ 604.7			700
		SB-125 @ 606.7			
18	611.1	345	0	612.1	
	612.6	0.00	0.00	21458952.00	
19	906.9	238	0	908.0	
	908.4	0.00	0.00	21458952.00	447
20	912.9	209	0	913.4	
	914.4	0.00	0.00	21458952.00	
21	958.9	420	0	961.9	
	962.4	0.01	0.00	21458952.00	815
22	970.9	395	0	973.4	
	974.4	0.01	0.00	0.46	
	Isotope:	I-135 @ 972.3			
		I-134 @ 974.7			

MCA #1 - Canberra S100 - PBN1FR16.MCA - NOPI-230*GAM 7.0cm

Tag Number:	74	Readout:	Fri 03 Sep 1993 @ 08:41:15
Report Group:	2/4	Acquire Started:	Fri 03 Sep 1993 @ 08:39:32
Group Size:	4096		

Elapsed Live Time:	1378.00 min.
Elapsed True Time:	1378.25 min.
Dead Time:	0.02 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 1378.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria: Energy Window = +-1.300 keV
Iso. Library: C:\WINDOWS\S100\SPECTRAN.ISO

JP
9/3/93
ΔT = 1378
Integral = CTS+BKG
mass = 3.496

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	13181	1592	46.6
	49.0	0.16	8.91	1.39
2	60.5	19043	4633	63.5
	66.0	0.23	3.88	1.26
	Isotope:	TH-234	@ 63.3	
3	90.5	21256	5107	92.8
	95.0	0.26	3.09	1.25
4	181.9	21964	11804	186.0
	189.4	0.27	2.07	1.52
	Isotope:	U-235	@ 185.7	
5	291.4	22422	17250	295.3
	298.9	0.27	1.43	1.52
	Isotope:	PB-214	@ 295.2	
6	334.3	4728	322	338.3
	341.8	0.06	35.23	1.42
	Isotope:	AC-228	@ 338.3	
7	347.8	33129	28563	351.8
	355.3	0.40	1.05	1.51
	Isotope:	PB-214	@ 351.9	
8	579.2	2608	294	583.1
	586.7	0.03	28.66	1.68
	Isotope:	TL-208	@ 583.2	
9	605.1	21292	19046	608.9
	612.6	0.26	1.26	1.75
	Isotope:	XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	1820	298	910.9
	914.4	0.02	23.62	1.21
	Isotope:	AC-228	@ 911.2	
11	958.9	2853	409	968.1
	974.4	0.03	35.49	1.73
	Isotope:	RU-105	@ 969.4	

REGION OF INTEREST DATA

ROI # 1

Channel #	**** Data ****				
85	952	960	937	952	1034
90	1305	1585	1531	1166	931
95	904	924			

ROI # 2

119	1185

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

120	1196	1132	1215	1601	2420
125	3087	2328	1438	1136	1103
130	1202				

ROI # 3
Channel # **** Data ****

179					1481
180	1128	1308	2442	4043	4294
185	2689	1492	1185	1194	

ROI # 4
Channel # **** Data ****

362			659	650	680
365	670	716	764	1326	2788
370	4293	3838	2171	988	657
375	591	574	599		

ROI # 5
Channel # **** Data ****

581		337	322	344	325
585	388	800	2455	5127	5717
590	3625	1275	449	310	319
595	320	309			

ROI # 6
Channel # **** Data ****

667			300	286	263
670	265	268	265	304	351
675	392	387	267	291	291
680	260	257	281		

ROI # 7
Channel # **** Data ****

694					272
695	326	294	327	366	854
700	2695	6654	9370	7010	3031
705	866	303	255	256	250

ROI # 8
Channel # **** Data ****

1157			128	181	164
1160	147	153	155	189	226
1165	239	206	162	121	138
1170	136	134	129		

ROI # 9
Channel # **** Data ****

1209					126
1210	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

1215	2915	5006	5324	3595	1474
1220	456	152	104	135	142

REGION OF INTEREST DATA

ROI # 10

Channel #		**** Data ****			
1813				88	107
1815	104	105	101	120	133
1820	195	166	148	119	77
1825	90	90	95	82	

ROI # 11

Channel #		**** Data ****			
1917			89	76	78
1920	74	88	72	72	100
1925	94	115	119	126	86
1930	96	86	82	86	112
1935	117	137	113	94	76
1940	69	81	81	75	65
1945	76	67	68	83	

MCA #1 - Canberra S100 - PBN1FR16.MCA - NOPI-230*GAM 7.0cm

Tag Number:	74	Readout:	Fri 03 Sep 1993 @ 08:42:19
Report Group:	1/4	Acquire Started:	Fri 03 Sep 1993 @ 08:39:32
Group Size:	4096		

Elapsed Live Time:	1378.00 min.
Elapsed True Time:	1378.25 min.
Dead Time:	0.02 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria: Energy Window = +-1.300 keV
Iso. Library: C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	2849	0	214.4	5608
	44.6	0.03	0.00	7.69	
2	48.0	2759	0	218.9	
	49.0	0.03	0.00	7.69	
3	60.5	3513	0	231.4	6956
	61.5	0.04	0.00	7.69	
4	65.0	3441	0	235.9	
	66.0	0.04	0.00	7.69	
	Isotope:	I-134	@ 235.5		
5	90.5	3917	0	261.4	6296
	91.5	0.05	0.00	7.69	
6	94.5	2379	0	265.4	
	95.0	0.03	0.00	7.69	
	Isotope:	GE-75	@ 264.7		
		SE-75	@ 264.7		
7	181.9	2659	0	183.0	5080
	183.4	0.03	0.00	7.69	
8	187.9	2421	0	188.9	
	189.4	0.03	0.00	7.69	
9	291.4	1328	0	292.4	2586
	292.9	0.02	0.00	7.69	
10	297.4	1258	0	298.4	
	298.9	0.02	0.00	7.69	
	Isotope:	GA-73	@ 297.4		
11	334.3	1114	0	334.8	2203
	335.8	0.01	0.00	21458956.00	
	Isotope:	NP-239	@ 334.3		
12	340.3	1089	0	340.8	
	341.8	0.01	0.00	21458956.00	
	Isotope:	CS-136	@ 340.6		
13	347.8	1219	0	348.3	2283
	349.3	0.01	0.00	21458956.00	
14	353.8	1064	0	354.3	
	355.3	0.01	0.00	21458956.00	
15	579.2	620	0	579.7	1157
	580.7	0.01	0.00	21458956.00	
16	585.2	537	0	585.6	
	586.7	0.01	0.00	21458956.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	590	0	605.9	
	606.6	0.01	0.00	21458956.00	
	Isotope:	CS-134 @ 604.7			1123
		SB-125 @ 606.7			
18	611.1	533	0	612.2	
	612.6	0.01	0.00	21458956.00	
19	906.9	404	0	907.7	
	908.4	0.00	0.00	21458956.00	761
20	912.9	357	0	913.9	
	914.4	0.00	0.00	21458956.00	
21	958.9	649	0	960.9	
	962.4	0.01	0.00	0.23	1245
22	970.9	596	0	971.4	
	974.4	0.01	0.00	21458958.00	
	Isotope:	I-135 @ 972.3			

MCA #1 - Canberra S100 - PBN1FR15.MCA - NOPI-303*GAM 7.0cm

Tag Number:	72	Readout:	Thu 02 Sep 1993 @ 09:35:26
Report Group:	2/4	Acquire Started:	Thu 02 Sep 1993 @ 09:34:19
Group Size:	4096		

Elapsed Live Time:	1436.00 min.
Elapsed True Time:	1436.84 min.
Dead Time:	0.06 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 1436.00 min.

Area Statistics:	Background Channels = 4
	% Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0
	Expected FWHM (ch) = 2.7 - 6.0

9/2/93
DT = 1436 min
Integral = CTS+BKG
Mass = 4.427 g

REGION OF INTEREST REPORT

ROI #	From(Ch) To (Ch)	Integral CPS	Area %Error	Peak(Ch) FWHM(Ch)
1	85	39288	3765	91.47
	96	0.46	6.43	2.38
2	119	63127	15294	124.97
	130	0.73	2.14	2.60
3	179	73539	17878	183.56
	188	0.85	1.65	2.45
4	362	74967	44533	370.26
	377	0.87	1.01	3.14
5	581	74411	60877	588.84
	596	0.86	0.74	2.93
6	667	12760	1198	674.98
	682	0.15	15.56	2.43
7	694	114804	102980	702.10
	709	1.33	0.54	3.05
8	1157	6579	921	1164.90
	1172	0.08	14.53	3.08
9	1209	72507	67007	1216.86
	1224	0.84	0.66	3.36
10	1813	4409	1093	1820.53
	1828	0.05	10.02	3.88
11	1917	6660	1036	1936.01
	1948	0.08	21.31	4.30

REGION OF INTEREST DATA

ROI # 1

Channel #	**** Data ****				
85	3014	2850	2885	2948	3145
90	3610	4534	4317	3382	2939
95	2824	2840			

ROI # 2

Channel #	**** Data ****				
119					3839
120	3851	3964	4073	5141	8176
125	10114	7807	4781	3841	3791
130	3749				

ROI # 3

Channel # **** Data ****

179					4905
180	3893	4137	8085	13939	15071
185	9733	5487	4131	4158	

ROI # 4
Channel # **** Data ****

362			1922	1930	2027
365	1952	1960	2265	4218	9550
370	15336	14533	8422	3466	2091
375	1725	1741	1829		

ROI # 5
Channel # **** Data ****

581		901	844	886	924
585	1105	2472	7526	16975	20550
590	12894	4624	1498	884	753
595	748	827			

ROI # 6
Channel # **** Data ****

667			768	771	719
670	719	709	690	845	1013
675	1215	978	802	727	728
680	669	685	722		

ROI # 7
Channel # **** Data ****

694					680
695	761	886	886	1064	2489
700	8634	22148	33020	26638	11664
705	3235	926	604	572	597

ROI # 8
Channel # **** Data ****

1157			416	442	448
1160	382	355	345	490	669
1165	638	529	416	308	282
1170	282	292	285		

ROI # 9
Channel # **** Data ****

1209					298
1210	346	334	422	928	3125
1215	8828	16514	19237	13446	5927
1220	1752	509	299	296	246

ROI # 10
Channel # **** Data ****

1813				202	205
1815	219	215	243	271	412
1820	430	493	382	306	214
1825	224	198	189	206	

ROI # 11
Channel # **** Data ****

1917			200	178	174

1925	223	304	287	264	225
1930	201	152	163	190	255
1935	313	294	316	237	206

REGION OF INTEREST DATA

ROI # 11

Channel # **** Data ****

1940	178	165	155	187	176
1945	173	175	167	167	

MCA #1 - Canberra S100 - PBN1FR15.MCA - NOPI-303*GAM 7.0cm

Tag Number:	72	Readout:	Thu 02 Sep 1993 @ 09:36:04
Report Group:	1/4	Acquire Started:	Thu 02 Sep 1993 @ 09:34:19
Group Size:	4096		

Elapsed Live Time:	1436.00 min.
Elapsed True Time:	1436.84 min.
Dead Time:	0.06 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Area Statistics:	Background Channels = 4
	% Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0
	Expected FWHM (ch) = 2.7 - 6.0

REGION OF INTEREST REPORT

ROI #	From(Ch) To (Ch)	Integral CPS	Area %Error	Peak(Ch) FWHM(Ch)	
1	85	8749	0	440.03	17352
	87	0.10	0.00	7.03	
2	94	8603	0	449.03	
	96	0.10	0.00	7.03	
3	119	11654	0	474.03	23035
	121	0.14	0.00	7.03	
4	128	11381	0	483.03	
	130	0.13	0.00	7.03	
5	179	12935	0	534.03	21224
	181	0.15	0.00	7.03	
6	187	8289	0	542.03	
	188	0.10	0.00	7.03	
7	362	7831	0	364.00	15217
	365	0.09	0.00	7.03	
8	374	7386	0	376.02	
	377	0.09	0.00	7.03	
9	581	3555	0	583.03	6767
	584	0.04	0.00	7.03	
10	593	3212	0	595.03	
	596	0.04	0.00	7.03	
11	667	2977	0	667.98	5781
	670	0.03	0.00	42949660.00	
12	679	2804	0	679.98	
	682	0.03	0.00	42949660.00	
13	694	3213	0	696.05	5912
	697	0.04	0.00	42949660.00	
14	706	2699	0	708.00	
	709	0.03	0.00	42949660.00	
15	1157	1688	0	1158.95	2829
	1160	0.02	0.00	42949660.00	
16	1169	1141	0	1171.00	
	1172	0.01	0.00	42949660.00	
17	1209	1400	0	1211.07	2750
	1212	0.02	0.00	42949660.00	
18	1221	1350	0	1222.94	
	1224	0.02	0.00	42949660.00	

REGION OF INTEREST REPORT

ROI #	From(Ch) To (Ch)	Integral CPS	Area %Error	Peak(Ch) FWHM(Ch)	
19	1813	841	0	1815.02	1658
	1816	0.01	0.00	42949660.00	
20	1825	817	0	1827.01	
	1828	0.01	0.00	42949660.00	
21	1917	1487	0	1923.08	2852
	1924	0.02	0.00	42949660.00	
22	1941	1365	0	1943.04	
	1948	0.02	0.00	1.10	

PBNIFR14.MCA

MCA #1 - Canberra S100 - (Untitled) - NOPI-302*GAM 6.5cm

Tag Number:	70	Readout:	Wed 01 Sep 1993 @ 09:32:04
Report Group:	2/4	Acquire Started:	Wed 01 Sep 1993 @ 08:55:51
Group Size:	4096		

Elapsed Live Time:	928.00 min.
Elapsed True Time:	928.53 min.
Dead Time:	0.06 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 928.00 min.

Area Statistics:	Background Channels = 4
	% Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0
	Expected FWHM (ch) = 2.7 - 6.0

JF

9/1/93

ΔT = 928 min

Integral = CTS+BKG

mass = 4.448

REGION OF INTEREST REPORT

ROI #	From(Ch) To (Ch)	Integral CPS	Area %Error	Peak(Ch) FWHM(Ch)
1	85	21301	1767	91.48
	96	0.38	10.03	2.21
2	119	33822	7272	124.98
	130	0.61	3.25	2.70
3	179	37476	8486	183.56
	188	0.67	2.44	2.51
4	362	37922	20632	370.25
	377	0.68	1.56	3.09
5	581	40344	32496	588.86
	596	0.72	1.02	3.01
6	667	7185	807	674.96
	682	0.13	17.33	2.92
7	694	60171	53351	702.10
	709	1.08	0.76	3.07
8	1157	3896	536	1164.49
	1172	0.07	19.21	2.81
9	1209	37998	34756	1216.87
	1224	0.68	0.93	3.41
10	1813	2440	564	1820.53
	1828	0.04	14.45	3.48
11	1917	3809	521	1936.05
	1948	0.07	32.27	3.23

REGION OF INTEREST DATA

ROI # 1
Channel # **** Data ****

85	1560	1667	1540	1585	1681
90	1926	2414	2257	1869	1676
95	1557	1569			

ROI # 2
Channel # **** Data ****

119					2119
120	2239	2202	2323	2696	4215
125	5076	4135	2588	2144	2099
130	1986				

ROI # 3
Channel # **** Data ****

179					2666
180	2121	2215	4112	6918	7366
185	4956	2856	2078	2188	

ROI # 4
Channel # **** Data ****

362			1082	1133	1107
365	1079	1046	1289	2144	4565
370	7415	6828	4135	1855	1218
375	996	991	1039		

ROI # 5
Channel # **** Data ****

581		478	492	529	563
585	604	1368	4004	9032	10819
590	7122	2635	836	506	469
595	429	458			

ROI # 6
Channel # **** Data ****

667			433	385	413
670	425	446	434	459	619
675	625	511	462	440	391
680	360	417	365		

ROI # 7
Channel # **** Data ****

694					393
695	419	443	470	629	1385
700	4609	11511	17006	13762	6119
705	1740	627	406	342	310

ROI # 8
Channel # **** Data ****

1157			199	244	258
1160	212	180	227	297	407
1165	388	297	224	196	195
1170	191	193	188		

ROI # 9
Channel # **** Data ****

1209					188
1210	191	203	235	520	1574
1215	4582	8565	9912	7041	3232
1220	951	317	188	170	129

ROI # 10
Channel # **** Data ****

1813				108	129
1815	107	135	118	144	209
1820	271	263	203	164	130
1825	99	111	119	130	

ROI # 11
Channel # **** Data ****

1917			103	116	103
1920	112	95	112	117	120

1925	127	163	145	175	138
1930	104	102	102	108	133
1935	153	195	165	147	109

REGION OF INTEREST DATA

ROI # 11

Channel # **** Data ****

1940	100	90	86	100	87
1945	99	85	99	105	

MCA #1 - Canberra S100 - PBN1FR14.MCA - NOPI-302*GAM 6.5cm

Tag Number:	70	Readout:	Wed 01 Sep 1993 @ 09:33:18
Report Group:	1/4	Acquire Started:	Wed 01 Sep 1993 @ 08:55:51
Group Size:	4096		

Elapsed Live Time:	928.00 min.
Elapsed True Time:	928.53 min.
Dead Time:	0.06 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Area Statistics:	Background Channels = 4
	% Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0
	Expected FWHM (ch) = 2.7 - 6.0

REGION OF INTEREST REPORT

ROI #	From(Ch) To (Ch)	Integral CPS	Area %Error	Peak(Ch) FWHM(Ch)	
1	85	4767	0	440.03	9569
	87	0.09	0.00	6.45	
2	94	4802	0	449.03	
	96	0.09	0.00	6.45	
3	119	6560	0	474.03	12789
	121	0.12	0.00	6.45	
4	128	6229	0	483.03	
	130	0.11	0.00	6.45	
5	179	7002	0	534.03	11268
	181	0.13	0.00	6.45	
6	187	4266	0	542.03	
	188	0.08	0.00	6.45	
7	362	4401	0	363.01	8645
	365	0.08	0.00	42949660.00	
8	374	4244	0	375.44	
	377	0.08	0.00	42949660.00	
9	581	2062	0	583.04	3924
	584	0.04	0.00	42949660.00	
10	593	1862	0	593.95	
	596	0.03	0.00	42949660.00	
11	667	1656	0	667.98	3189
	670	0.03	0.00	42949660.00	
12	679	1533	0	681.00	
	682	0.03	0.00	42949660.00	
13	694	1725	0	696.04	3410
	697	0.03	0.00	42949660.00	
14	706	1685	0	707.91	
	709	0.03	0.00	42949660.00	
15	1157	913	0	1158.96	1680
	1160	0.02	0.00	42949660.00	
16	1169	767	0	1170.99	
	1172	0.01	0.00	42949660.00	
17	1209	817	0	1211.07	1621
	1212	0.01	0.00	42949660.00	
18	1221	804	0	1222.88	
	1224	0.01	0.00	42949660.00	

REGION OF INTEREST REPORT

ROI #	From(Ch) To (Ch)	Integral CPS	Area %Error	Peak(Ch) FWHM(Ch)	
19	1813	479	0	1814.00	938
	1816	0.01	0.00	42949660.00	
20	1825	459	0	1827.05	
	1828	0.01	0.00	42949660.00	
21	1917	892	0	1918.00	1643
	1924	0.02	0.00	42949660.00	
22	1941	751	0	1943.00	
	1948	0.01	0.00	0.44	

MCA #1 - Canberra S100 - PBN1FR13.MCA - NOPI-294*GAM 6.5cm

Tag Number:	68	Readout:	Tue 31 Aug 1993 @ 17:09:38
Report Group:	2/4	Acquire Started:	Tue 31 Aug 1993 @ 17:08:51
Group Size:	4096		

Elapsed Live Time:	487.00 min.
Elapsed True Time:	487.07 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 487.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

JB
8/31/93
ΔT = 487 min
Integral = CTS+BKG
mass = 3.416

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	3062	374	46.6
	49.0	0.10	18.29	1.42
2	60.5	4336	987	63.5
	66.0	0.15	8.63	1.32
	Isotope:	TH-234	@ 63.3	
3	90.5	5010	1095	92.8
	95.0	0.17	6.86	1.27
4	181.9	4971	2509	186.0
	189.4	0.17	4.64	1.55
	Isotope:	U-235	@ 185.7	
5	291.4	4640	3370	295.3
	298.9	0.16	3.34	1.58
	Isotope:	PB-214	@ 295.2	
6	334.3	1329	129	338.3
	341.8	0.05	46.63	0.95
	Isotope:	AC-228	@ 338.3	
7	347.8	6543	5429	351.9
	355.3	0.22	2.46	1.56
	Isotope:	PB-214	@ 351.9	
8	579.2	842	222	583.1
	586.7	0.03	21.57	1.46
	Isotope:	TL-208	@ 583.2	
9	605.1	4164	3478	609.1
	612.6	0.14	3.06	1.67
	Isotope:	XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	569	235	910.8
	914.4	0.02	16.75	1.52
	Isotope:	AC-228	@ 911.2	
11	958.9	873	133	968.4
	974.4	0.03	60.18	1.36
	Isotope:	RU-105	@ 969.4	

REGION OF INTEREST DATA

ROI # 1

Channel # **** Data ****

85	202	236	222	217	256
90	297	357	360	266	216
95	227	206			

ROI # 2

119	275

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

120	272	308	287	335	547
125	683	538	349	283	242
130	217				

ROI # 3
Channel # **** Data ****

179					358
180	299	325	523	922	956
185	667	365	300	295	

ROI # 4
Channel # **** Data ****

362			173	159	158
365	161	153	181	296	608
370	932	844	505	221	141
375	139	166	134		

ROI # 5
Channel # **** Data ****

581		103	77	75	73
585	82	157	482	961	1115
590	793	299	116	83	77
595	75	72			

ROI # 6
Channel # **** Data ****

667			75	69	83
670	74	66	73	91	99
675	128	98	97	77	70
680	77	69	83		

ROI # 7
Channel # **** Data ****

694					72
695	79	69	73	96	148
700	516	1227	1737	1407	656
705	199	78	71	52	63

ROI # 8
Channel # **** Data ****

1157			35	47	31
1160	46	40	48	67	107
1165	106	73	44	47	39
1170	39	33	40		

ROI # 9
Channel # **** Data ****

1209					44

1215	514	842	1059	727	335
1220	103	56	35	33	41

REGION OF INTEREST DATA

ROI # 10

Channel #		**** Data ****			
1813				23	18
1815	26	20	33	47	48
1820	90	59	67	38	20
1825	20	15	17	28	

ROI # 11

Channel #		**** Data ****			
1917			22	27	23
1920	20	24	17	17	28
1925	34	36	27	29	31
1930	26	22	22	27	31
1935	49	65	52	35	21
1940	23	20	14	19	19
1945	25	24	25	19	

MCA #1 - Canberra S100 - PBN1FR13.MCA - NOPI-294*GAM 6.5cm

Tag Number:	68	Readout:	Tue 31 Aug 1993 @ 17:10:17
Report Group:	1/4	Acquire Started:	Tue 31 Aug 1993 @ 17:08:51
Group Size:	4096		

Elapsed Live Time:	487.00 min.
Elapsed True Time:	487.07 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria: Energy Window = +-1.300 keV
Iso. Library: C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	660	0	220.9	
	44.6	0.02	0.00	2.84	
	Isotope:	I-135 @ 220.5			1309
		TA-182 @ 222.1			
2	48.0	649	0	225.4	
	49.0	0.02	0.00	2.84	
3	60.5	855	0	237.9	
	61.5	0.03	0.00	2.84	1597
	Isotope:	PB-212 @ 238.6			
4	65.0	742	0	242.4	
	66.0	0.03	0.00	2.84	
5	90.5	982	0	267.9	
	91.5	0.03	0.00	2.84	1577
	Isotope:	Y-93 @ 266.9			
6	94.5	595	0	271.9	
	95.0	0.02	0.00	2.84	
7	181.9	651	0	359.3	
	183.4	0.02	0.00	2.84	1231
8	187.9	580	0	188.9	
	189.4	0.02	0.00	2.84	
9	291.4	328	0	292.4	
	292.9	0.01	0.00	2.84	635
10	297.4	307	0	297.8	
	298.9	0.01	0.00	21458952.00	
	Isotope:	GA-73 @ 297.4			
11	334.3	301	0	335.3	
	335.8	0.01	0.00	21458952.00	600
	Isotope:	NP-239 @ 334.3			
12	340.3	299	0	340.8	
	341.8	0.01	0.00	21458952.00	
	Isotope:	CS-136 @ 340.6			
13	347.8	293	0	348.3	
	349.3	0.01	0.00	21458952.00	557
14	353.8	264	0	354.3	
	355.3	0.01	0.00	21458950.00	
15	579.2	159	0	579.6	
	580.7	0.01	0.00	21458952.00	310
16	585.2	151	0	585.6	
	586.7	0.01	0.00	21458950.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	178	0	606.2	343
	606.6	0.01	0.00	21458952.00	
	Isotope: SB-125 @ 606.7				
18	611.1	165	0	612.2	
	612.6	0.01	0.00	21458952.00	
19	906.9	87	0	907.9	167
	908.4	0.00	0.00	21458952.00	
20	912.9	80	0	914.0	
	914.4	0.00	0.00	21458952.00	
21	958.9	178	0	959.6	343
	962.4	0.01	0.00	21458952.00	
22	970.9	165	0	972.9	
	974.4	0.01	0.00	0.54	
	Isotope: I-135 @ 972.3				

MCA #1 - Canberra S100 - PBN1FR12.MCA - NOPI-301*GAM 6.5cm

Tag Number:	66	Readout:	Tue 31 Aug 1993 @ 08:56:05
Report Group:	2/4	Acquire Started:	Tue 31 Aug 1993 @ 08:55:23
Group Size:	4096		

Elapsed Live Time:	1040.00 min.
Elapsed True Time:	1040.46 min.
Dead Time:	0.04 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 1040.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

JP
8/31/93
ΔT = 1040 min
Integral = CTS+BKG
mass = 3.997 g

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	18828	1773	46.8
	49.0	0.30	9.45	1.23
2	60.5	30175	7380	63.5
	66.0	0.48	3.06	1.28
	Isotope:	TH-234	@ 63.3	
3	90.5	35297	8735	92.8
	95.0	0.57	2.34	1.19
4	181.9	33687	19293	186.1
	189.4	0.54	1.57	1.54
	Isotope:	U-235	@ 185.7	
5	291.4	33524	26592	295.3
	298.9	0.54	1.14	1.49
	Isotope:	PB-214	@ 295.2	
6	334.3	6173	367	338.3
	341.8	0.10	35.32	1.65
	Isotope:	AC-228	@ 338.3	
7	347.8	50252	43950	351.9
	355.3	0.81	0.84	1.53
	Isotope:	PB-214	@ 351.9	
8	579.2	3059	149	583.3
	586.7	0.05	61.25	1.87
	Isotope:	TL-208	@ 583.2	
9	605.1	31849	28793	609.1
	612.6	0.51	1.02	1.71
	Isotope:	XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	2049	259	910.6
	914.4	0.03	28.84	1.95
	Isotope:	AC-228	@ 911.2	
11	958.9	3360	456	968.4
	974.4	0.05	34.65	1.49
	Isotope:	RU-105	@ 969.4	

REGION OF INTEREST DATA

ROI # 1

Channel #	**** Data ****				
85	1362	1380	1385	1391	1462
90	1696	2157	2143	1673	1381
95	1362	1436			

ROI # 2

119					1897

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

120	1775	1884	1960	2451	3806
125	4895	3826	2325	1872	1739
130	1745				

ROI # 3
Channel # **** Data ****

179					2203
180	1881	1982	3840	6676	7371
185	4697	2723	1989	1935	

ROI # 4
Channel # **** Data ****

362			912	935	900
365	988	961	1112	1953	4174
370	6770	6277	3668	1575	982
375	857	800	823		

ROI # 5
Channel # **** Data ****

581		431	457	450	428
585	537	1075	3326	7498	8906
590	5781	2180	755	491	392
595	408	409			

ROI # 6
Channel # **** Data ****

667			387	393	403
670	345	373	374	402	486
675	441	488	367	339	336
680	359	327	353		

ROI # 7
Channel # **** Data ****

694					376
695	405	445	449	546	1193
700	3867	9439	14095	11334	5159
705	1468	519	310	311	336

ROI # 8
Channel # **** Data ****

1157			216	225	212
1160	190	175	180	208	241
1165	217	246	190	147	170
1170	139	156	147		

ROI # 9
Channel # **** Data ****

1209					178
1210	164	[illegible]	[illegible]	[illegible]	[illegible]

1215	3866	7074	8244	5860	2705
1220	796	305	156	148	140

REGION OF INTEREST DATA

ROI # 10

Channel #		**** Data ****			
1813				108	109
1815	114	121	118	136	156
1820	180	169	159	127	109
1825	105	117	120	101	

ROI # 11

Channel #		**** Data ****			
1917			97	109	85
1920	94	98	84	117	139
1925	119	129	141	112	116
1930	95	91	112	100	117
1935	134	165	125	119	92
1940	84	80	84	95	86
1945	91	84	75	91	

MCA #1 - Canberra S100 - PBN1FR12.MCA - NOPI-301*GAM 6.5cm

Tag Number:	66	Readout:	Tue 31 Aug 1993 @ 08:56:42
Report Group:	1/4	Acquire Started:	Tue 31 Aug 1993 @ 08:55:23
Group Size:	4096		

Elapsed Live Time:	1040.00 min.
Elapsed True Time:	1040.46 min.
Dead Time:	0.04 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	4127	0	220.7	8306
	44.6	0.07	0.00	3.92	
	Isotope:	I-135	@ 220.5		
2	48.0	4179	0	225.2	
	49.0	0.07	0.00	3.92	
3	60.5	5556	0	237.6	10912
	61.5	0.09	0.00	3.92	
	Isotope:	PB-212	@ 238.6		
4	65.0	5356	0	242.1	
	66.0	0.09	0.00	3.92	
5	90.5	6066	0	267.6	9990
	91.5	0.10	0.00	3.92	
	Isotope:	Y-93	@ 266.9		
6	94.5	3924	0	271.6	
	95.0	0.06	0.00	3.92	
7	181.9	3735	0	182.4	7197
	183.4	0.06	0.00	21458952.00	
8	187.9	3462	0	188.4	
	189.4	0.06	0.00	21458952.00	
9	291.4	1766	0	292.1	3466
	292.9	0.03	0.00	21458952.00	
10	297.4	1700	0	298.1	
	298.9	0.03	0.00	21458952.00	
	Isotope:	GA-73	@ 297.4		
11	334.3	1528	0	335.3	2903
	335.8	0.02	0.00	21458952.00	
	Isotope:	NP-239	@ 334.3		
12	340.3	1375	0	340.8	
	341.8	0.02	0.00	21458952.00	
	Isotope:	CS-136	@ 340.6		
13	347.8	1675	0	348.8	3151
	349.3	0.03	0.00	21458952.00	
14	353.8	1476	0	354.8	
	355.3	0.02	0.00	21458952.00	
	Isotope:	BA-133	@ 356.0		
15	579.2	843	0	579.7	1455
	580.7	0.01	0.00	21458952.00	
16	585.2	612	0	586.2	
	586.7	0.01	0.00	21458952.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	779	0	606.2	1528
	606.6	0.01	0.00	21458952.00	
	Isotope: SB-125 @ 606.7				
18	611.1	749	0	612.1	
	612.6	0.01	0.00	21458952.00	
19	906.9	452	0	907.9	895
	908.4	0.01	0.00	21458952.00	
20	912.9	443	0	913.9	
	914.4	0.01	0.00	21458952.00	
21	958.9	823	0	959.4	1509
	962.4	0.01	0.00	21458952.00	
22	970.9	686	0	971.9	
	974.4	0.01	0.00	0.56	
	Isotope: I-135 @ 972.3				

MCA #1 - Canberra S100 - PBN1FR11.MCA - NOPI-300*GAM 6.0cm

Tag Number:	64	Readout:	Mon 30 Aug 1993 @ 15:30:19
Report Group:	2/4	Acquire Started:	Mon 30 Aug 1993 @ 15:29:36
Group Size:	4096		

Elapsed Live Time:	391.00 min.
Elapsed True Time:	391.59 min.
Dead Time:	0.15 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 391.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

8/30/93

ΔT = 391 min

Integral = CTS+BKG

Mass = 4.423 g

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	13746	1193	46.6
	49.0	0.59	11.96	1.33
2	60.5	22787	5546	63.5
	66.0	0.97	3.54	1.31
	Isotope:	TH-234	@ 63.3	
3	90.5	28231	7026	92.8
	95.0	1.20	2.61	1.24
4	181.9	28630	17440	186.1
	189.4	1.22	1.60	1.50
	Isotope:	U-235	@ 185.7	
5	291.4	26939	21547	295.3
	298.9	1.15	1.26	1.47
	Isotope:	PB-214	@ 295.2	
6	334.3	4640	236	338.3
	341.8	0.20	47.62	1.45
	Isotope:	AC-228	@ 338.3	
7	347.8	40762	36354	351.9
	355.3	1.74	0.92	1.53
	Isotope:	PB-214	@ 351.9	
8	579.2	2354	212	582.7
	586.7	0.10	37.76	1.49
	Isotope:	TL-208	@ 583.2	
9	605.1	25544	23506	609.0
	612.6	1.09	1.12	1.70
	Isotope:	XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	1610	232	910.7
	914.4	0.07	28.54	2.03
	Isotope:	AC-228	@ 911.2	
11	958.9	2419	179	963.6
	974.4	0.10	76.56	1.15

REGION OF INTEREST DATA

ROI # 1

Channel #	**** Data ****				
85	1036	1041	1021	1052	1107
90	1321	1530	1419	1170	1037
95	963	1049			

ROI # 2

Channel # **** Data ****

119					1472
120	1389	1418	1473	1807	3031

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

125	3663	2792	1771	1330	1276
130	1365				

ROI # 3
Channel # **** Data ****

179					1843
180	1418	1592	3221	5403	5864
185	3733	1990	1567	1600	

ROI # 4
Channel # **** Data ****

362			735	726	738
365	706	729	860	1733	3702
370	6098	5622	2995	1296	728
375	656	633	673		

ROI # 5
Channel # **** Data ****

581		333	343	323	377
585	430	882	2782	6018	7330
590	4647	1598	556	358	345
595	289	328			

ROI # 6
Channel # **** Data ****

667			298	310	286
670	282	241	238	298	352
675	395	370	291	253	259
680	250	264	253		

ROI # 7
Channel # **** Data ****

694					278
695	294	280	295	422	973
700	3329	8025	11640	9139	3953
705	1077	345	226	235	251

ROI # 8
Channel # **** Data ****

1157			149	177	159
1160	130	135	140	178	201
1165	212	148	139	130	121
1170	122	115	98		

ROI # 9
Channel # **** Data ****

1209					110
1210	116	135	163	365	1147

1220	578	196	103	98	98

REGION OF INTEREST DATA

ROI # 10

Channel #		**** Data ****			
1813				82	67
1815	87	85	107	101	127
1820	119	142	123	112	90
1825	85	98	95	90	

ROI # 11

Channel #		**** Data ****			
1917			71	70	83
1920	72	67	74	70	83
1925	78	121	107	83	76
1930	73	62	79	83	84
1935	82	90	86	96	61
1940	68	59	61	73	43
1945	65	58	75	66	

MCA #1 - Canberra S100 - PBN1FR11.MCA - NOPI-300*GAM 6.0cm

Tag Number:	64	Readout:	Mon 30 Aug 1993 @ 15:30:58
Report Group:	1/4	Acquire Started:	Mon 30 Aug 1993 @ 15:29:36
Group Size:	4096		

Elapsed Live Time:	391.00 min.
Elapsed True Time:	391.59 min.
Dead Time:	0.15 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV
Area Statistics:	Background Channels = 4 % Error Sigma = 1.65
Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0
Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	3098	0	214.4	6147
	44.6	0.13	0.00	2.80	
2	48.0	3049	0	218.9	
	49.0	0.13	0.00	2.80	
3	60.5	4279	0	231.4	8250
	61.5	0.18	0.00	2.80	
4	65.0	3971	0	235.9	
	66.0	0.17	0.00	2.80	
	Isotope:	I-134	@ 235.5		
5	90.5	4853	0	261.4	8020
	91.5	0.21	0.00	2.80	
6	94.5	3167	0	265.4	
	95.0	0.13	0.00	2.80	
	Isotope:	GE-75	@ 264.7		
		SE-75	@ 264.7		
7	181.9	2905	0	182.9	5595
	183.4	0.12	0.00	2.80	
8	187.9	2690	0	188.9	
	189.4	0.11	0.00	2.80	
9	291.4	1376	0	292.4	2696
	292.9	0.06	0.00	2.80	
10	297.4	1320	0	297.8	
	298.9	0.06	0.00	21458956.00	
	Isotope:	GA-73	@ 297.4		
11	334.3	1176	0	334.8	2202
	335.8	0.05	0.00	21458956.00	
	Isotope:	NP-239	@ 334.3		
12	340.3	1026	0	341.3	
	341.8	0.04	0.00	21458956.00	
	Isotope:	CS-136	@ 340.6		
13	347.8	1147	0	348.3	2204
	349.3	0.05	0.00	21458956.00	
14	353.8	1057	0	354.3	
	355.3	0.05	0.00	21458956.00	
15	579.2	615	0	579.7	1071
	580.7	0.03	0.00	21458956.00	
16	585.2	456	0	585.6	
	586.7	0.02	0.00	21458956.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	524	0	606.2	1019
	606.6	0.02	0.00	21458956.00	
	Isotope: SB-125 @ 606.7				
18	611.1	495	0	612.1	
	612.6	0.02	0.00	21458956.00	
19	906.9	321	0	908.0	689
	908.4	0.01	0.00	21458956.00	
20	912.9	368	0	913.7	
	914.4	0.02	0.00	21458956.00	
21	958.9	590	0	959.9	1090
	962.4	0.03	0.00	0.46	
22	970.9	500	0	971.8	
	974.4	0.02	0.00	0.26	
	Isotope: I-135 @ 972.3				

MCA #1 - Canberra S100 - PBN1FR10.MCA - NOPI-299*GAM 1.0cm

Tag Number:	62	Readout:	Mon 30 Aug 1993 @ 08:52:53
Report Group:	2/4	Acquire Started:	Mon 30 Aug 1993 @ 08:51:33
Group Size:	4096		

Elapsed Live Time:	4310.00 min.
Elapsed True Time:	4310.75 min.
Dead Time:	0.02 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 4310.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria: Energy Window = +-1.300 keV
Iso. Library: C:\WINDOWS\S100\SPECTRAN.ISO

JP
8/30/93

ΔT = 4310 min
Integral = CTS+BKG
Mass = 0.643g

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	14029	1141	46.8
	49.0	0.05	12.59	1.23
2	60.5	18486	3636	63.5
	66.0	0.07	4.77	1.29
	Isotope:	TH-234	@ 63.3	
3	90.5	21074	4222	92.8
	95.0	0.08	3.59	1.23
4	181.9	22034	8050	186.0
	189.4	0.09	3.04	1.52
	Isotope:	U-235	@ 185.7	
5	291.4	16604	7852	295.3
	298.9	0.06	2.71	1.53
	Isotope:	PB-214	@ 295.2	
6	334.3	8129	419	338.3
	341.8	0.03	35.50	1.42
	Isotope:	AC-228	@ 338.3	
7	347.8	20056	13100	351.8
	355.3	0.08	1.78	1.48
	Isotope:	PB-214	@ 351.9	
8	579.2	5300	896	582.9
	586.7	0.02	13.41	1.75
	Isotope:	TL-208	@ 583.2	
9	605.1	13128	8898	608.9
	612.6	0.05	2.12	1.74
	Isotope:	XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	3807	803	910.6
	914.4	0.01	12.68	2.01
	Isotope:	AC-228	@ 911.2	
11	958.9	5909	697	968.4
	974.4	0.02	30.25	1.60
	Isotope:	RU-105	@ 969.4	

REGION OF INTEREST DATA

ROI # 1

Channel #	**** Data ****				
85	1032	1134	1035	1090	1052
90	1256	1573	1556	1222	1042
95	1020	1017			

ROI # 2

119	1246

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

120	1145	1274	1266	1493	2215
125	2712	2166	1388	1208	1168
130	1205				

ROI # 3
Channel # **** Data ****

179					1472
180	1205	1379	2371	3624	3968
185	2699	1756	1308	1292	

ROI # 4
Channel # **** Data ****

362			867	887	843
365	901	911	999	1443	2431
370	3385	2858	1875	1140	922
375	868	817	887		

ROI # 5
Channel # **** Data ****

581		552	572	544	554
585	570	811	1503	2583	2989
590	2109	1013	650	525	526
595	527	576			

ROI # 6
Channel # **** Data ****

667			527	498	500
670	477	511	502	480	587
675	591	640	494	469	432
680	460	506	455		

ROI # 7
Channel # **** Data ****

694					448
695	418	462	408	528	691
700	1586	3228	4617	3466	1730
705	732	451	412	460	419

ROI # 8
Channel # **** Data ****

1157			311	259	283
1160	278	291	327	416	494
1165	517	414	326	313	253
1170	291	260	267		

ROI # 9
Channel # **** Data ****

1209					260

1215	1514	2486	2697	1923	923
1220	404	254	264	266	252

REGION OF INTEREST DATA

ROI # 10

Channel #		**** Data ****			
1813				177	176
1815	193	162	240	262	340
1820	376	365	305	227	190
1825	201	192	223	178	

ROI # 11

Channel #		**** Data ****			
1917			168	176	164
1920	179	175	174	162	184
1925	223	226	203	208	227
1930	188	153	168	183	218
1935	238	293	251	214	155
1940	153	149	121	180	160
1945	168	157	134	157	

MCA #1 - Canberra S100 - PBN1FR10.MCA - NOPI-299*GAM 1.0cm

Tag Number:	62	Readout:	Mon 30 Aug 1993 @ 08:53:50
Report Group:	1/4	Acquire Started:	Mon 30 Aug 1993 @ 08:51:33
Group Size:	4096		

Elapsed Live Time:	4310.00 min.
Elapsed True Time:	4310.75 min.
Dead Time:	0.02 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	3201	0	220.7	
	44.6	0.01	0.00	3.25	
	Isotope:	I-135	@ 220.5		6280
2	48.0	3079	0	225.2	
	49.0	0.01	0.00	3.25	
3	60.5	3665	0	237.7	
	61.5	0.01	0.00	3.25	
	Isotope:	PB-212	@ 238.6		7246
4	65.0	3581	0	242.2	
	66.0	0.01	0.00	3.25	
5	90.5	4056	0	267.7	
	91.5	0.02	0.00	3.25	
	Isotope:	Y-93	@ 266.9		6656
6	94.5	2600	0	271.7	
	95.0	0.01	0.00	3.25	
7	181.9	3498	0	182.4	
	183.4	0.01	0.00	21458952.00	6992
8	187.9	3494	0	188.4	
	189.4	0.01	0.00	21458952.00	
9	291.4	2222	0	291.9	
	292.9	0.01	0.00	21458952.00	4376
10	297.4	2154	0	297.9	
	298.9	0.01	0.00	21458952.00	
	Isotope:	GA-73	@ 297.4		
11	334.3	2002	0	335.3	
	335.8	0.01	0.00	21458952.00	3855
	Isotope:	NP-239	@ 334.3		
12	340.3	1853	0	341.3	
	341.8	0.01	0.00	21458952.00	
	Isotope:	CS-136	@ 340.6		
13	347.8	1736	0	348.8	
	349.3	0.01	0.00	21458952.00	3478
14	353.8	1742	0	354.8	
	355.3	0.01	0.00	21458952.00	
	Isotope:	BA-133	@ 356.0		
15	579.2	1131	0	580.2	
	580.7	0.00	0.00	21458952.00	2202
16	585.2	1071	0	585.7	
	586.7	0.00	0.00	21458952.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	1079	0	606.1	2115
	606.6	0.00	0.00	21458952.00	
	Isotope:	SB-125	@ 606.7		
18	611.1	1036	0	612.1	
	612.6	0.00	0.00	21458952.00	
19	906.9	708	0	907.9	1502
	908.4	0.00	0.00	21458952.00	
20	912.9	794	0	913.9	
	914.4	0.00	0.00	21458952.00	
21	958.9	1382	0	960.4	2608
	962.4	0.01	0.00	0.45	
22	970.9	1226	0	971.9	
	974.4	0.00	0.00	0.43	
	Isotope:	I-135	@ 972.3		

MCA #1 - Canberra S100 - PBN1FR9.MCA - 393-10-28/5 7.0cm

Tag Number:	60	Readout:	Fri 27 Aug 1993 @ 08:55:17
Report Group:	2/4	Acquire Started:	Fri 27 Aug 1993 @ 08:53:27
Group Size:	4096		

Elapsed Live Time:	1472.00 min.
Elapsed True Time:	1472.32 min.
Dead Time:	0.02 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 1472.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

JP
8/27/93
ΔT = 1472
INTEGRAL = CTS+BKG
MASS = 3.723g

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	6780	672	46.8
	49.0	0.08	14.99	1.03
2	60.5	9223	1795	63.5
	66.0	0.10	6.82	1.32
		Isotope: TH-234	@ 63.3	
3	90.5	10163	2039	92.8
	95.0	0.12	5.16	1.24
4	181.9	10760	4470	186.0
	189.4	0.12	3.83	1.54
		Isotope: U-235	@ 185.7	
5	291.4	9380	5766	295.3
	298.9	0.11	2.77	1.50
		Isotope: PB-214	@ 295.2	
6	334.3	3542	384	338.3
	341.8	0.04	25.57	1.50
		Isotope: AC-228	@ 338.3	
7	347.8	12805	9757	351.9
	355.3	0.14	1.91	1.52
		Isotope: PB-214	@ 351.9	
8	579.2	2296	468	582.8
	586.7	0.03	16.89	1.47
		Isotope: TL-208	@ 583.2	
9	605.1	8185	6317	609.1
	612.6	0.09	2.36	1.73
		Isotope: XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	1535	411	910.6
	914.4	0.02	15.73	1.95
		Isotope: AC-228	@ 911.2	
11	958.9	2449	381	968.6
	974.4	0.03	35.14	1.89
		Isotope: RU-105	@ 969.4	

REGION OF INTEREST DATA

ROI # 1

Channel #	**** Data ****				
85	517	523	476	489	534
90	611	822	741	602	464
95	516	485			

ROI # 2

Channel # **** Data ****

119	611

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

120	624	589	645	783	1089
125	1328	1071	715	612	549
130	607				

ROI # 3
Channel # **** Data ****

179					800
180	611	689	1105	1780	1884
185	1266	807	618	603	

ROI # 4
Channel # **** Data ****

362			410	402	388
365	392	378	450	660	1223
370	1787	1584	1004	529	403
375	366	389	395		

ROI # 5
Channel # **** Data ****

581		219	229	237	221
585	266	428	870	1822	2002
590	1301	588	296	252	211
595	208	230			

ROI # 6
Channel # **** Data ****

667			202	210	205
670	202	185	227	242	260
675	315	285	244	205	194
680	182	192	192		

ROI # 7
Channel # **** Data ****

694					174
695	208	227	198	213	372
700	953	2310	3260	2539	1211
705	423	208	146	184	179

ROI # 8
Channel # **** Data ****

1157			121	130	119
1160	118	95	118	203	258
1165	285	183	129	111	113
1170	112	89	112		

ROI # 9
Channel # **** Data ****

1209					122
1210	102	121	111	172	207

1215	972	1639	1875	1336	644
1220	225	145	106	105	112

REGION OF INTEREST DATA

ROI # 10

Channel #		**** Data ****			
1813				57	68
1815	71	78	88	123	141
1820	182	165	127	86	61
1825	88	67	73	60	

ROI # 11

Channel #		**** Data ****			
1917			61	75	74
1920	73	70	87	58	80
1925	71	95	86	97	70
1930	70	69	61	81	88
1935	117	132	118	102	69
1940	57	57	57	76	64
1945	57	56	57	64	

MCA #1 - Canberra S100 - PBN1FR9.MCA - 393-10-28/5 7.0cm

Tag Number:	60	Readout:	Fri 27 Aug 1993 @ 08:55:56
Report Group:	1/4	Acquire Started:	Fri 27 Aug 1993 @ 08:53:27
Group Size:	4096		

Elapsed Live Time:	1472.00 min.
Elapsed True Time:	1472.32 min.
Dead Time:	0.02 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	1516	0	220.9	
	44.6	0.02	0.00	3.60	
	Isotope:	I-135 @ 220.5			2981
		TA-182 @ 222.1			
2	48.0	1465	0	225.4	
	49.0	0.02	0.00	3.60	
3	60.5	1824	0	237.9	
	61.5	0.02	0.00	3.60	3592
	Isotope:	PB-212 @ 238.6			
4	65.0	1768	0	242.4	
	66.0	0.02	0.00	3.60	
5	90.5	2100	0	267.9	
	91.5	0.02	0.00	3.60	3321
	Isotope:	Y-93 @ 266.9			
6	94.5	1221	0	271.9	
	95.0	0.01	0.00	3.60	
7	181.9	1592	0	182.4	
	183.4	0.02	0.00	21458952.00	3145
8	187.9	1553	0	189.0	
	189.4	0.02	0.00	21458952.00	
9	291.4	906	0	292.4	
	292.9	0.01	0.00	21458952.00	1807
10	297.4	901	0	298.4	
	298.9	0.01	0.00	21458952.00	
	Isotope:	GA-73 @ 297.4			
11	334.3	819	0	334.8	
	335.8	0.01	0.00	21458952.00	1579
	Isotope:	NP-239 @ 334.3			
12	340.3	760	0	341.3	
	341.8	0.01	0.00	21458952.00	
	Isotope:	CS-136 @ 340.6			
13	347.8	807	0	348.8	
	349.3	0.01	0.00	21458952.00	1524
14	353.8	717	0	354.9	
	355.3	0.01	0.00	21458952.00	
	Isotope:	BA-133 @ 356.0			
15	579.2	488	0	579.7	
	580.7	0.01	0.00	21458952.00	914
16	585.2	426	0	585.6	
	586.7	0.00	0.00	21458952.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	466	0	606.1	
	606.6	0.01	0.00	21458952.00	
		Isotope: SB-125 @ 606.7			934
18	611.1	468	0	612.1	
	612.6	0.01	0.00	21458952.00	
19	906.9	274	0	907.9	
	908.4	0.00	0.00	21458952.00	562
20	912.9	288	0	913.9	
	914.4	0.00	0.00	21458952.00	
21	958.9	578	0	961.3	
	962.4	0.01	0.00	0.35	1066
22	970.9	488	0	971.9	
	974.4	0.01	0.00	0.67	
		Isotope: I-135 @ 972.3			

MCA #1 - Canberra S100 - PBN1FR8.MCA - 393-13.9/42.~~8~~4 4.5cm

Tag Number:	58	Readout:	Thu 26 Aug 1993 @ 08:17:52
Report Group:	2/4	Acquire Started:	Thu 26 Aug 1993 @ 08:17:02
Group Size:	4096		

Elapsed Live Time:	1426.00 min.
Elapsed True Time:	1426.29 min.
Dead Time:	0.02 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 1426.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria: Energy Window = +-1.300 keV
Iso. Library: C:\WINDOWS\S100\SPECTRAN.ISO

8/26/93

ΔT = 1426
Integral = CTS+BKG
mass = 2.337 g

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	4397	350	46.8
	49.0	0.05	22.97	1.04
2	60.5	5253	873	63.5
	66.0	0.06	10.46	1.24
	Isotope:	TH-234	@ 63.3	
3	90.5	5770	963	92.8
	95.0	0.07	7.98	1.28
4	181.9	6365	1777	186.0
	189.4	0.07	7.41	1.55
	Isotope:	U-235	@ 185.7	
5	291.4	5250	2350	295.3
	298.9	0.06	5.09	1.52
	Isotope:	PB-214	@ 295.2	
6	334.3	2843	405	338.3
	341.8	0.03	21.72	1.63
	Isotope:	AC-228	@ 338.3	
7	347.8	6276	3798	351.9
	355.3	0.07	3.44	1.39
	Isotope:	PB-214	@ 351.9	
8	579.2	1924	480	583.0
	586.7	0.02	15.08	1.80
	Isotope:	TL-208	@ 583.2	
9	605.1	3915	2507	609.1
	612.6	0.05	4.12	1.65
	Isotope:	XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	1345	409	910.7
	914.4	0.02	14.80	1.90
	Isotope:	AC-228	@ 911.2	
11	958.9	2049	477	968.4
	974.4	0.02	24.93	1.87
	Isotope:	RU-105	@ 969.4	

REGION OF INTEREST DATA

ROI # 1

Channel #	**** Data ****				
85	348	339	324	311	369
90	361	469	500	382	357
95	310	327			

ROI # 2

Channel # **** Data ****

119					349

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

120	383	339	376	434	587
125	728	584	425	325	364
130	359				

ROI # 3
Channel # **** Data ****

179					478
180	363	373	632	929	995
185	742	472	398	388	

ROI # 4
Channel # **** Data ****

362			302	288	303
365	280	288	321	391	619
370	829	730	521	372	297
375	270	266	288		

ROI # 5
Channel # **** Data ****

581		175	168	173	211
585	189	269	431	793	902
590	656	326	234	166	194
595	212	151			

ROI # 6
Channel # **** Data ****

667			167	170	142
670	142	150	190	174	260
675	266	241	193	150	166
680	145	143	144		

ROI # 7
Channel # **** Data ****

694					142
695	177	163	143	144	213
700	408	938	1448	1103	527
705	256	165	139	167	143

ROI # 8
Channel # **** Data ****

1157			87	106	88
1160	87	103	94	162	216
1165	220	186	124	97	93
1170	99	86	76		

ROI # 9
Channel # **** Data ****

1209					83
1210	86	85	76	[illegible]	[illegible]

1215	387	691	798	576	311
1220	143	105	93	93	83

REGION OF INTEREST DATA

ROI # 10

Channel #		**** Data ****			
1813				46	53
1815	62	58	59	86	122
1820	149	164	134	89	74
1825	68	66	56	59	

ROI # 11

Channel #		**** Data ****			
1917			54	70	51
1920	47	70	66	64	60
1925	75	72	76	62	71
1930	48	57	58	58	90
1935	94	122	108	81	51
1940	54	60	55	46	58
1945	33	45	52	41	

MCA #1 - Canberra S100 - PBN1FR8.MCA - 393-13.9/42.~~8~~ 4 4.5cm

Tag Number:	58	Readout:	Thu 26 Aug 1993 @ 08:18:41
Report Group:	1/4	Acquire Started:	Thu 26 Aug 1993 @ 08:17:02
Group Size:	4096		

Elapsed Live Time:	1426.00 min.
Elapsed True Time:	1426.29 min.
Dead Time:	0.02 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	1011	0	221.3	
	44.6	0.01	0.00	5.58	
	Isotope:	I-135 @ 220.5			2005
		TA-182 @ 222.1			
2	48.0	994	0	225.8	
	49.0	0.01	0.00	5.58	
3	60.5	1071	0	238.2	
	61.5	0.01	0.00	5.58	
	Isotope:	PB-212 @ 238.6			2119
4	65.0	1048	0	242.7	
	66.0	0.01	0.00	5.58	
5	90.5	1214	0	268.2	
	91.5	0.01	0.00	5.58	2000
6	94.5	786	0	272.2	
	95.0	0.01	0.00	5.58	
7	181.9	1173	0	182.9	
	183.4	0.01	0.00	5.58	2294
8	187.9	1121	0	189.0	
	189.4	0.01	0.00	5.58	
9	291.4	727	0	292.4	
	292.9	0.01	0.00	5.58	1450
10	297.4	723	0	298.3	
	298.9	0.01	0.00	5.58	
	Isotope:	GA-73 @ 297.4			
11	334.3	621	0	334.8	
	335.8	0.01	0.00	21458952.00	1219
	Isotope:	NP-239 @ 334.3			
12	340.3	598	0	340.8	
	341.8	0.01	0.00	21458952.00	
	Isotope:	CS-136 @ 340.6			
13	347.8	625	0	348.3	
	349.3	0.01	0.00	21458952.00	1239
14	353.8	614	0	354.8	
	355.3	0.01	0.00	21458952.00	
	Isotope:	BA-133 @ 356.0			
15	579.2	368	0	579.7	
	580.7	0.00	0.00	21458952.00	722
16	585.2	354	0	585.6	
	586.7	0.00	0.00	21458952.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	330	0	605.9	
	606.6	0.00	0.00	21458952.00	
	Isotope:	CS-134 @ 604.7			704
		SB-125 @ 606.7			
18	611.1	374	0	612.1	
	612.6	0.00	0.00	21458952.00	
19	906.9	219	0	907.9	
	908.4	0.00	0.00	21458952.00	468
20	912.9	249	0	913.4	
	914.4	0.00	0.00	21458952.00	
21	958.9	482	0	959.4	
	962.4	0.01	0.00	21458952.00	872
22	970.9	390	0	971.8	
	974.4	0.00	0.00	21458952.00	
	Isotope:	I-135 @ 972.3			

MCA #1 - Canberra S100 - PBN1FR7.MCA - 393-12.1/42.5 7.0cm

Tag Number: 56
Report Group: 2/4
Group Size: 4096

Readout: Wed 25 Aug 1993 @ 08:27:42
Acquire Started: Wed 25 Aug 1993 @ 08:26:32

Elapsed Live Time: 1432.00 min.
Elapsed True Time: 1432.31 min.
Dead Time: 0.02 %

MCA Mode: PHA+
Preset Conditions: Live Time = 1432.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria: Energy Window = +-1.300 keV
Iso. Library: C:\WINDOWS\S100\SPECTRAN.ISO

9/25/93
ΔT = 1432 min
Integral = cts + bkg
mass = 3.960 g

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	5303	581	46.8
	49.0	0.06	15.40	1.21
2	60.5	6696	984	63.5
	66.0	0.08	10.39	1.40
		Isotope: TH-234	@ 63.3	
3	90.5	7426	1295	92.8
	95.0	0.09	6.78	1.21
4	181.9	7969	2717	186.0
	189.4	0.09	5.42	1.62
		Isotope: U-235	@ 185.7	
5	291.4	7200	3874	295.3
	298.9	0.08	3.61	1.53
		Isotope: PB-214	@ 295.2	
6	334.3	3222	340	338.3
	341.8	0.04	27.55	1.65
		Isotope: AC-228	@ 338.3	
7	347.8	8841	6147	351.9
	355.3	0.10	2.52	1.50
		Isotope: PB-214	@ 351.9	
8	579.2	2159	495	582.9
	586.7	0.03	15.49	1.61
		Isotope: TL-208	@ 583.2	
9	605.1	5719	4105	609.1
	612.6	0.07	3.04	1.72
		Isotope: XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	1486	444	910.5
	914.4	0.02	14.33	1.68
		Isotope: AC-228	@ 911.2	
11	958.9	2228	452	968.6
	974.4	0.03	27.75	1.86
		Isotope: RU-105	@ 969.4	

REGION OF INTEREST DATA

ROI # 1

Channel #	**** Data ****				
85	369	397	380	400	413
90	487	623	632	447	368
95	369	418			

ROI # 2

Channel # **** Data ****

119					485

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

120	477	513	508	528	737
125	851	772	494	427	426
130	478				

ROI # 3
Channel # **** Data ****

179					597
180	517	499	822	1171	1350
185	934	622	486	428	

ROI # 4
Channel # **** Data ****

362			317	349	362
365	313	320	346	509	831
370	1129	1142	708	358	328
375	318	302	337		

ROI # 5
Channel # **** Data ****

581		229	220	202	206
585	265	303	607	1192	1398
590	996	499	277	217	197
595	181	211			

ROI # 6
Channel # **** Data ****

667			193	192	194
670	175	173	171	220	252
675	268	292	217	188	178
680	173	163	173		

ROI # 7
Channel # **** Data ****

694					178
695	161	169	173	195	260
700	593	1469	2128	1747	800
705	302	171	159	157	179

ROI # 8
Channel # **** Data ****

1157			110	90	104
1160	100	109	118	181	255
1165	230	187	154	93	105
1170	108	111	104		

ROI # 9
Channel # **** Data ****

1209					105
1210	116	87	107	120	201

1215	646	1115	1229	871	442
1220	190	122	107	73	90

REGION OF INTEREST DATA

ROI # 10

Channel #		**** Data ****			
1813				64	56
1815	45	72	73	109	133
1820	175	182	121	109	63
1825	71	61	74	78	

ROI # 11

Channel #		**** Data ****			
1917			62	64	64
1920	67	59	55	52	77
1925	58	81	85	81	87
1930	69	62	68	71	82
1935	103	126	121	83	70
1940	56	57	68	54	59
1945	58	44	42	43	

MCA #1 - Canberra S100 - PBN1FR7.MCA - 393-12.1/42.5 7.0cm

Tag Number:	56	Readout:	Wed 25 Aug 1993 @ 08:28:17
Report Group:	1/4	Acquire Started:	Wed 25 Aug 1993 @ 08:26:32
Group Size:	4096		

Elapsed Live Time:	1432.00 min.
Elapsed True Time:	1432.31 min.
Dead Time:	0.02 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	1146	0	215.2	2301
	44.6	0.01	0.00	9.99	
2	48.0	1155	0	219.7	
	49.0	0.01	0.00	9.99	
	Isotope:	I-135	@ 220.5		
3	60.5	1475	0	232.1	2806
	61.5	0.02	0.00	9.99	
	Isotope:	XE133M	@ 233.2		
4	65.0	1331	0	236.6	
	66.0	0.02	0.00	9.99	
	Isotope:	I-134	@ 235.5		
5	90.5	1613	0	262.1	2527
	91.5	0.02	0.00	9.99	
	Isotope:	I-132	@ 262.8		
6	94.5	914	0	266.1	
	95.0	0.01	0.00	9.99	
	Isotope:	Y-93	@ 266.9		
7	181.9	1341	0	182.9	2626
	183.4	0.02	0.00	9.99	
8	187.9	1285	0	189.0	
	189.4	0.01	0.00	9.99	
9	291.4	857	0	291.8	1663
	292.9	0.01	0.00	21458956.00	
10	297.4	806	0	297.8	
	298.9	0.01	0.00	21458956.00	
	Isotope:	GA-73	@ 297.4		
11	334.3	754	0	335.3	1441
	335.8	0.01	0.00	21458956.00	
	Isotope:	NP-239	@ 334.3		
12	340.3	687	0	340.8	
	341.8	0.01	0.00	21458956.00	
	Isotope:	CS-136	@ 340.6		
13	347.8	681	0	348.3	1347
	349.3	0.01	0.00	21458956.00	
14	353.8	666	0	354.3	
	355.3	0.01	0.00	21458956.00	
15	579.2	404	0	580.2	832
	580.7	0.00	0.00	21458956.00	
16	585.2	428	0	586.1	
	586.7	0.00	0.00	21458956.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	415	0	605.6	807
	606.6	0.00	0.00	21458956.00	
	Isotope:	CS-134 @ 604.7			
		SB-125 @ 606.7			
18	611.1	392	0	611.6	
	612.6	0.00	0.00	21458956.00	
19	906.9	237	0	907.4	521
	908.4	0.00	0.00	21458956.00	
20	912.9	284	0	913.9	
	914.4	0.00	0.00	21458956.00	
21	958.9	500	0	960.1	925
	962.4	0.01	0.00	1.03	
22	970.9	425	0	971.6	
	974.4	0.00	0.00	0.63	
	Isotope:	I-135 @ 972.3			

MCA #1 - Canberra S100 - PBN1FR6.MCA - 393-11.2/42.3 7.0cm

Tag Number:	54	Readout:	Tue 24 Aug 1993 @ 08:31:02
Report Group:	2/4	Acquire Started:	Tue 24 Aug 1993 @ 08:29:23
Group Size:	4096		

Elapsed Live Time:	1112.00 min.
Elapsed True Time:	1112.30 min.
Dead Time:	0.03 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 1112.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

JP
9/24/93
ΔT = 1112
Integral = CTS+BKG
Mass = 4.599

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	6338	550	46.8
	49.0	0.09	17.62	1.22
2	60.5	8389	1131	63.5
	66.0	0.13	10.07	1.16
	Isotope:	TH-234	@ 63.3	
3	90.5	7800	1138	92.8
	95.0	0.12	7.68	1.17
4	181.9	10718	4462	186.3
	189.4	0.16	3.83	1.48
	Isotope:	U-235	@ 185.7	
5	291.4	11143	7747	295.3
	298.9	0.17	2.25	1.43
	Isotope:	PB-214	@ 295.2	
6	334.3	3398	438	338.3
	341.8	0.05	21.96	1.62
	Isotope:	AC-228	@ 338.3	
7	347.8	15708	12700	351.9
	355.3	0.24	1.63	1.50
	Isotope:	PB-214	@ 351.9	
8	579.2	2336	630	582.9
	586.7	0.04	12.66	1.65
	Isotope:	TL-208	@ 583.2	
9	605.1	10158	8486	609.1
	612.6	0.15	1.96	1.63
	Isotope:	XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	1497	433	910.5
	914.4	0.02	14.74	1.52
	Isotope:	AC-228	@ 911.2	
11	958.9	2233	357	968.2
	974.4	0.03	35.76	1.73
	Isotope:	RU-105	@ 969.4	

REGION OF INTEREST DATA

ROI # 1

Channel #	**** Data ****				
85	461	470	452	501	502
90	546	718	713	575	511
95	472	417			

ROI # 2

119					629

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

120	629	568	581	692	904
125	1092	862	674	553	600
130	605				

ROI # 3
Channel # **** Data ****

179					781
180	588	539	778	1169	1301
185	928	676	540	500	

ROI # 4
Channel # **** Data ****

362			371	390	437
365	422	354	418	573	1005
370	1761	1807	1141	531	434
375	369	325	380		

ROI # 5
Channel # **** Data ****

581		237	198	188	235
585	253	421	1052	2194	2774
590	1759	673	319	242	199
595	219	180			

ROI # 6
Channel # **** Data ****

667			198	188	179
670	198	189	207	228	299
675	314	299	201	181	176
680	200	177	164		

ROI # 7
Channel # **** Data ****

694					171
695	178	210	203	214	384
700	1083	2762	4250	3402	1637
705	472	246	168	182	146

ROI # 8
Channel # **** Data ****

1157			97	114	126
1160	110	114	137	216	284
1165	280	195	155	102	110
1170	95	110	91		

ROI # 9
Channel # **** Data ****

1209					104
1210	117	[illegible]	[illegible]	[illegible]	[illegible]

1215	1168	2106	2568	1776	800
1220	285	148	109	75	92

REGION OF INTEREST DATA

ROI # 10

Channel #			**** Data ****		
1813				73	75
1815	65	62	71	83	154
1820	191	148	118	119	81
1825	64	71	67	55	

ROI # 11

Channel #			**** Data ****		
1917			63	59	60
1920	67	54	64	53	68
1925	81	76	90	91	65
1930	59	50	70	74	88
1935	133	121	102	90	63
1940	63	52	58	54	45
1945	67	52	57	44	

MCA #1 - Canberra S100 - PBN1FR6.MCA - 393-11.2/42.3 7.0cm

Tag Number:	54	Readout:	Tue 24 Aug 1993 @ 08:32:00
Report Group:	1/4	Acquire Started:	Tue 24 Aug 1993 @ 08:29:23
Group Size:	4096		

Elapsed Live Time:	1112.00 min.
Elapsed True Time:	1112.30 min.
Dead Time:	0.03 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 6000.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV
Area Statistics:	Background Channels = 4 % Error Sigma = 1.65
Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0
Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	1383	0	220.7	
	44.6	0.02	0.00	3.72	
	Isotope:	I-135	@ 220.5		2783
2	48.0	1400	0	225.2	
	49.0	0.02	0.00	3.72	
3	60.5	1826	0	237.7	
	61.5	0.03	0.00	3.72	
	Isotope:	PB-212	@ 238.6		3584
4	65.0	1758	0	242.2	
	66.0	0.03	0.00	3.72	
5	90.5	1908	0	267.7	
	91.5	0.03	0.00	3.72	
	Isotope:	Y-93	@ 266.9		2948
6	94.5	1040	0	271.7	
	95.0	0.02	0.00	3.72	
7	181.9	1620	0	183.0	
	183.4	0.02	0.00	3.72	3128
8	187.9	1508	0	188.9	
	189.4	0.02	0.00	3.72	
9	291.4	858	0	292.4	
	292.9	0.01	0.00	3.72	1698
10	297.4	840	0	298.3	
	298.9	0.01	0.00	3.72	
	Isotope:	GA-73	@ 297.4		
11	334.3	763	0	335.3	
	335.8	0.01	0.00	3.72	1480
	Isotope:	NP-239	@ 334.3		
12	340.3	717	0	340.8	
	341.8	0.01	0.00	21458952.00	
	Isotope:	CS-136	@ 340.6		
13	347.8	762	0	348.8	
	349.3	0.01	0.00	21458952.00	1504
14	353.8	742	0	354.8	
	355.3	0.01	0.00	21458952.00	
	Isotope:	BA-133	@ 356.0		
15	579.2	447	0	580.1	
	580.7	0.01	0.00	21458952.00	853
16	585.2	406	0	586.1	
	586.7	0.01	0.00	21458952.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	412	0	605.6	836
	606.6	0.01	0.00	21458952.00	
	Isotope:	CS-134 @ 604.7			
		SB-125 @ 606.7			
18	611.1	424	0	611.5	
	612.6	0.01	0.00	21458952.00	
19	906.9	275	0	907.4	532
	908.4	0.00	0.00	21458952.00	
20	912.9	257	0	913.6	
	914.4	0.00	0.00	21458952.00	
21	958.9	488	0	960.4	917
	962.4	0.01	0.00	0.43	
22	970.9	429	0	972.9	
	974.4	0.01	0.00	0.35	
	Isotope:	I-135 @ 972.3			

MCA #1 - Canberra S100 - PBN1FR5.MCA - 393-8.1/43.2 7.0cm

Tag Number:	48	Readout:	Fri 20 Aug 1993 @ 08:29:22
Report Group:	2/4	Acquire Started:	Thu 19 Aug 1993 @ 08:47:06
Group Size:	4096		

Elapsed Live Time:	1400.00 min.
Elapsed True Time:	1400.27 min.
Dead Time:	0.02 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 1400.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria: Energy Window = +-1.300 keV
Iso. Library: C:\WINDOWS\S100\SPECTRAN.ISO

JP
9/20/93
ΔT = 1400 min
Integral = CTS+BKG
mass = 3.510 g

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	4507	498	46.8
	49.0	0.05	16.59	1.00
2	60.5	5489	890	63.5
	66.0	0.07	10.47	1.37
	Isotope:	TH-234	@ 63.3	
3	90.5	6133	1076	92.8
	95.0	0.07	7.42	1.25
4	181.9	6430	1966	186.0
	189.4	0.08	6.73	1.46
	Isotope:	U-235	@ 185.7	
5	291.4	5031	2159	295.3
	298.9	0.06	5.42	1.54
	Isotope:	PB-214	@ 295.2	
6	334.3	2779	231	338.3
	341.8	0.03	37.65	1.50
	Isotope:	AC-228	@ 338.3	
7	347.8	6019	3641	351.9
	355.3	0.07	3.52	1.46
	Isotope:	PB-214	@ 351.9	
8	579.2	1848	436	582.9
	586.7	0.02	16.27	1.87
	Isotope:	TL-208	@ 583.2	
9	605.1	3892	2470	609.1
	612.6	0.05	4.17	1.73
	Isotope:	XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	1336	364	910.7
	914.4	0.02	16.57	1.72
	Isotope:	AC-228	@ 911.2	
11	958.9	2019	291	968.3
	974.4	0.02	41.95	1.50
	Isotope:	RU-105	@ 969.4	

REGION OF INTEREST DATA

ROI # 1

Channel #	**** Data ****				
85	346	328	315	317	377
90	421	555	481	409	340
95	319	299			

ROI # 2

119					360

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

120	371	364	401	434	618
125	721	650	414	381	394
130	381				

ROI # 3
Channel # **** Data ****

179					463
180	413	410	645	1011	1076
185	785	525	413	392	

ROI # 4
Channel # **** Data ****

362			287	289	272
365	276	287	302	405	645
370	906	809	504	340	305
375	274	247	282		

ROI # 5
Channel # **** Data ****

581		191	168	184	175
585	162	249	410	803	835
590	585	354	197	170	198
595	175	175			

ROI # 6
Channel # **** Data ****

667			171	162	178
670	141	165	163	187	241
675	231	226	136	156	150
680	150	157	165		

ROI # 7
Channel # **** Data ****

694					158
695	131	160	148	164	218
700	414	927	1336	1011	533
705	227	166	157	124	145

ROI # 8
Channel # **** Data ****

1157			97	87	93
1160	80	98	114	157	199
1165	198	155	126	95	88
1170	81	93	87		

ROI # 9
Channel # **** Data ****

1209					91

1215	411	713	774	583	294
1220	136	103	79	84	80

REGION OF INTEREST DATA

ROI # 10

Channel #		**** Data ****			
1813				53	61
1815	59	75	67	86	117
1820	164	144	121	88	63
1825	62	64	54	58	

ROI # 11

Channel #		**** Data ****			
1917			62	62	45
1920	61	66	41	57	83
1925	56	73	67	75	57
1930	53	57	58	65	77
1935	123	97	102	75	54
1940	58	35	61	52	45
1945	47	48	53	54	

MCA #1 - Canberra S100 - PBN1FR5.MCA - 393-8.1/43.2 7.0cm

Tag Number:	48	Readout:	Fri 20 Aug 1993 @ 08:30:47
Report Group:	1/4	Acquire Started:	Thu 19 Aug 1993 @ 08:47:06
Group Size:	4096		

Elapsed Live Time:	1400.00 min.
Elapsed True Time:	1400.27 min.
Dead Time:	0.02 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 3360.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria: Energy Window = +-1.300 keV
Iso. Library: C:\WINDOWS\S100\SPECTRAN.ISO

JP
9/20/93
ΔT = 1400 min
Integral = BKG

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	989	0	220.9	
	44.6	0.01	0.00	3.36	
	Isotope:	I-135 @ 220.5			1947
		TA-182 @ 222.1			
2	48.0	958	0	225.4	
	49.0	0.01	0.00	3.36	
3	60.5	1095	0	237.9	
	61.5	0.01	0.00	3.36	
	Isotope:	PB-212 @ 238.6			2251
4	65.0	1156	0	242.4	
	66.0	0.01	0.00	3.36	
5	90.5	1286	0	267.8	
	91.5	0.02	0.00	3.36	
	Isotope:	Y-93 @ 266.9			2091
6	94.5	805	0	271.8	
	95.0	0.01	0.00	3.36	
7	181.9	1124	0	182.4	
	183.4	0.01	0.00	21458952.00	2232
8	187.9	1108	0	188.4	
	189.4	0.01	0.00	21458952.00	
9	291.4	718	0	292.4	
	292.9	0.01	0.00	21458952.00	1436
10	297.4	718	0	297.9	
	298.9	0.01	0.00	21458952.00	
	Isotope:	GA-73 @ 297.4			
11	334.3	652	0	335.3	
	335.8	0.01	0.00	21458952.00	
	Isotope:	NP-239 @ 334.3			1274
12	340.3	622	0	341.3	
	341.8	0.01	0.00	21458952.00	
	Isotope:	CS-136 @ 340.6			
13	347.8	597	0	348.8	
	349.3	0.01	0.00	21458952.00	1189
14	353.8	592	0	354.3	
	355.3	0.01	0.00	21458952.00	
15	579.2	357	0	580.1	
	580.7	0.00	0.00	21458952.00	706
16	585.2	349	0	586.2	
	586.7	0.00	0.00	21458952.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	365	0	606.2	
	606.6	0.00	0.00	21458952.00	
	Isotope:	SB-125	@ 606.7		711
18	611.1	346	0	612.1	
	612.6	0.00	0.00	21458952.00	
19	906.9	248	0	907.9	
	908.4	0.00	0.00	21458952.00	486
20	912.9	238	0	913.4	
	914.4	0.00	0.00	21458952.00	
21	958.9	477	0	960.8	
	962.4	0.01	0.00	0.36	872
22	970.9	395	0	971.4	
	974.4	0.00	0.00	21458958.00	
	Isotope:	I-135	@ 972.3		

MCA #1 - Canberra S100 - PBN1FR4.MCA - 393-17.1/42.5 7.0cm

Tag Number:	47	Readout:	Thu 19 Aug 1993 @ 08:40:34
Report Group:	2/4	Acquire Started:	Wed 18 Aug 1993 @ 14:47:51
Group Size:	4096		

Elapsed Live Time:	1000.00 min.
Elapsed True Time:	1000.21 min.
Dead Time:	0.02 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 1000.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria: Energy Window = +-1.300 keV
Iso. Library: C:\WINDOWS\S100\SPECTRAN.ISO

JP
8/19/93
ΔT = 1000. min
Integral = CTS + BKG
mass = 4.012 g

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	4220	406	46.6
	49.0	0.07	19.57	1.36
2	60.5	5392	837	63.5
	66.0	0.09	11.01	1.36
		Isotope: TH-234	@ 63.3	
3	90.5	5672	917	92.8
	95.0	0.09	8.26	1.21
4	181.9	6466	2426	186.2
	189.4	0.11	5.47	1.39
		Isotope: U-235	@ 185.7	
5	291.4	5845	3499	295.3
	298.9	0.10	3.61	1.55
		Isotope: PB-214	@ 295.2	
6	334.3	2429	265	338.3
	341.8	0.04	30.69	1.51
		Isotope: AC-228	@ 338.3	
7	347.8	7378	5452	351.9
	355.3	0.12	2.60	1.56
		Isotope: PB-214	@ 351.9	
8	579.2	1622	432	583.1
	586.7	0.03	15.38	1.65
		Isotope: TL-208	@ 583.2	
9	605.1	4935	3751	609.1
	612.6	0.08	3.09	1.65
		Isotope: XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	1089	389	910.9
	914.4	0.02	14.00	1.67
		Isotope: AC-228	@ 911.2	
11	958.9	1614	354	968.3
	974.4	0.03	29.97	2.23
		Isotope: RU-105	@ 969.4	

REGION OF INTEREST DATA

ROI # 1

Channel #	**** Data ****				
85	307	325	328	297	352
90	401	451	473	343	335
95	310	298			

ROI # 2

Channel # **** Data ****

119					396

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

120	382	367	377	453	591
125	703	608	425	372	369
130	349				

ROI # 3
Channel # **** Data ****

179					490
180	373	416	585	882	986
185	720	480	379	361	

ROI # 4
Channel # **** Data ****

362			262	254	282
365	276	269	284	363	614
370	1035	919	597	365	263
375	231	216	236		

ROI # 5
Channel # **** Data ****

581		153	154	143	135
585	177	245	505	1028	1220
590	900	411	186	152	141
595	158	137			

ROI # 6
Channel # **** Data ****

667			127	149	136
670	137	145	152	146	209
675	222	210	149	114	120
680	130	133	150		

ROI # 7
Channel # **** Data ****

694					125
695	109	125	117	141	224
700	494	1173	1769	1514	801
705	299	133	120	123	111

ROI # 8
Channel # **** Data ****

1157			74	67	75
1160	84	79	94	128	198
1165	195	164	106	63	70
1170	83	73	69		

ROI # 9
Channel # **** Data ****

1209					77

1215	541	927	1148	816	397
1220	167	91	89	63	64

REGION OF INTEREST DATA

ROI # 10

Channel #		**** Data ****			
1813				41	54
1815	37	54	46	57	95
1820	145	153	106	80	57
1825	39	44	42	39	

ROI # 11

Channel #		**** Data ****			
1917			42	36	32
1920	57	32	49	41	54
1925	56	53	55	56	51
1930	58	40	42	60	71
1935	93	90	98	68	43
1940	42	41	34	27	45
1945	31	20	47	50	

MCA #1 - Canberra S100 - PBN1FR4.MCA - 393-17.1/42.5 7.0cm

Tag Number:	47	Readout:	Thu 19 Aug 1993 @ 08:41:47
Report Group:	1/4	Acquire Started:	Wed 18 Aug 1993 @ 14:47:51
Group Size:	4096		

Elapsed Live Time:	1000.00 min.
Elapsed True Time:	1000.21 min.
Dead Time:	0.02 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 3360.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

JP
8/19/93
ΔT = 1000 min
Integral = Bkg

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	960	0	214.2	1903
	44.6	0.02	0.00	8.35	
2	48.0	943	0	218.7	
	49.0	0.02	0.00	8.35	
3	60.5	1145	0	231.1	2235
	61.5	0.02	0.00	8.35	
4	65.0	1090	0	235.6	
	66.0	0.02	0.00	8.35	
	Isotope:	I-134	@ 235.5		
5	90.5	1279	0	261.1	2019
	91.5	0.02	0.00	8.35	
6	94.5	740	0	265.1	
	95.0	0.01	0.00	8.35	
	Isotope:	GE-75	@ 264.7		
		SE-75	@ 264.7		
7	181.9	1074	0	183.0	2020
	183.4	0.02	0.00	8.35	
8	187.9	946	0	188.9	
	189.4	0.02	0.00	8.35	
9	291.4	585	0	291.9	1173
	292.9	0.01	0.00	21458956.00	
10	297.4	588	0	298.4	
	298.9	0.01	0.00	21458956.00	
	Isotope:	GA-73	@ 297.4		
11	334.3	549	0	334.8	1082
	335.8	0.01	0.00	21458956.00	
	Isotope:	NP-239	@ 334.3		
12	340.3	533	0	341.4	
	341.8	0.01	0.00	21458956.00	
	Isotope:	CS-136	@ 340.6		
13	347.8	476	0	348.8	963
	349.3	0.01	0.00	21458956.00	
14	353.8	487	0	354.8	
	355.3	0.01	0.00	21458956.00	
	Isotope:	BA-133	@ 356.0		
15	579.2	300	0	580.2	595
	580.7	0.00	0.00	21458956.00	
16	585.2	295	0	585.7	
	586.7	0.00	0.00	21458956.00	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	285	0	605.6	
	606.6	0.00	0.00	21458956.00	592
	Isotope:	CS-134	@ 604.7		
		SB-125	@ 606.7		
18	611.1	307	0	611.6	
	612.6	0.01	0.00	21458956.00	
19	906.9	186	0	907.4	
	908.4	0.00	0.00	21458956.00	350
20	912.9	164	0	913.7	
	914.4	0.00	0.00	21458956.00	
21	958.9	343	0	960.4	
	962.4	0.01	0.00	0.29	638
22	970.9	295	0	974.0	
	974.4	0.00	0.00	0.51	
	Isotope:	I-134	@ 974.7		

MCA #1 - Canberra S100 - PBN1FR3.MCA - 393-15.0/42.3 7.0

Tag Number:	46	Readout:	Wed 18 Aug 1993 @ 14:40:30
Report Group:	2/4	Acquire Started:	Wed 18 Aug 1993 @ 14:37:57
Group Size:	4096		

Elapsed Live Time:	365.00 min.
Elapsed True Time:	365.04 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 365.00 min.

Calibration: 0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics: Background Channels = 4
% Error Sigma = 1.65

Peak Statistics: Sensitivity Factor = 4.0
Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria: Energy Window = +-1.300 keV
Iso. Library: C:\WINDOWS\S100\SPECTRAN.ISO

JP
8/18/93
ΔT = 365 min
Integral = CTS + BKG
mass = 3.888 g

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)
1	43.6	1364	130	46.8
	49.0	0.06	34.82	1.57
2	60.5	1669	264	63.5
	66.0	0.08	19.46	1.46
	Isotope:	TH-234	@ 63.3	
3	90.5	1885	343	92.8
	95.0	0.09	13.00	1.22
4	181.9	2051	781	186.0
	189.4	0.09	9.57	1.54
	Isotope:	U-235	@ 185.7	
5	291.4	1774	968	295.3
	298.9	0.08	7.18	1.46
	Isotope:	PB-214	@ 295.2	
6	334.3	785	13	338.3
	341.8	0.04	355.61	0.68
	Isotope:	AC-228	@ 338.3	
7	347.8	2194	1614	351.9
	355.3	0.10	4.79	1.63
	Isotope:	PB-214	@ 351.9	
8	579.2	569	143	583.1
	586.7	0.03	27.52	1.67
	Isotope:	TL-208	@ 583.2	
9	605.1	1442	1052	609.1
	612.6	0.07	5.96	1.46
	Isotope:	XE-135	@ 608.1	
		BI-214	@ 609.3	
10	906.9	422	162	910.7
	914.4	0.02	20.92	1.72
	Isotope:	AC-228	@ 911.2	
11	958.9	580	128	968.1
	974.4	0.03	49.66	1.74
	Isotope:	RU-105	@ 969.4	

REGION OF INTEREST DATA

ROI # 1

Channel # **** Data ****

85	129	103	90	96	105
90	130	157	149	134	96
95	86	89			

ROI # 2

119	131

REGION OF INTEREST DATA

ROI # 2
Channel # **** Data ****

120	99	110	125	140	206
125	200	186	126	105	111
130	130				

ROI # 3
Channel # **** Data ****

179					146
180	126	132	206	318	333
185	220	150	119	135	

ROI # 4
Channel # **** Data ****

362			96	85	78
365	66	85	77	144	217
370	325	268	193	107	74
375	73	81	82		

ROI # 5
Channel # **** Data ****

581		34	49	57	54
585	67	68	144	292	368
590	270	108	54	64	42
595	62	41			

ROI # 6
Channel # **** Data ****

667			48	49	55
670	48	34	44	53	59
675	81	46	45	37	40
680	52	34	60		

ROI # 7
Channel # **** Data ****

694					39
695	35	44	44	44	65
700	153	369	507	474	220
705	72	29	33	33	33

ROI # 8
Channel # **** Data ****

1157			27	30	24
1160	24	25	32	48	73
1165	66	65	24	23	23
1170	25	32	28		

ROI # 9
Channel # **** Data ****

1209					32

1215	140	279	352	224	97
1220	53	35	23	20	23

REGION OF INTEREST DATA

ROI # 10

Channel #		**** Data ****			
1813				14	5
1815	17	18	15	28	37
1820	58	61	52	24	17
1825	25	16	21	14	

ROI # 11

Channel #		**** Data ****			
1917			19	11	22
1920	9	13	18	18	13
1925	21	24	18	16	24
1930	25	15	13	20	26
1935	35	37	19	28	20
1940	15	15	11	11	12
1945	12	20	10	10	

MCA #1 - Canberra S100 - PBN1FR3.MCA - 393-15.0/42.3 7.0

Tag Number:	46	Readout:	Wed 18 Aug 1993 @ 14:45:04
Report Group:	1/4	Acquire Started:	Wed 18 Aug 1993 @ 14:37:57
Group Size:	4096		

Elapsed Live Time:	365.00 min.
Elapsed True Time:	365.04 min.
Dead Time:	0.01 %

MCA Mode:	PHA+
Preset Conditions:	Live Time = 3360.00 min.

Calibration:	0.0000*Ch^2 + 0.4996*Ch + 1.083 keV

Area Statistics:	Background Channels = 4 % Error Sigma = 1.65

Peak Statistics:	Sensitivity Factor = 4.0 Expected FWHM (ch) = 2.7 - 6.0

Iso. Id. Criteria:	Energy Window = +-1.300 keV
Iso. Library:	C:\WINDOWS\S100\SPECTRAN.ISO

8/18/93
ΔT = 365 min
Integral = Bkg

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
1	43.6	322	0	221.1	
	44.6	0.01	0.00	3.87	
		Isotope: I-135 @ 220.5			593
		TA-182 @ 222.1			
2	48.0	271	0	225.6	
	49.0	0.01	0.00	3.87	
3	60.5	340	0	238.1	
	61.5	0.02	0.00	3.87	
		Isotope: PB-212 @ 238.6			686
4	65.0	346	0	242.6	
	66.0	0.02	0.00	3.87	
5	90.5	404	0	268.0	
	91.5	0.02	0.00	3.87	
		Isotope: Y-93 @ 266.9			658
6	94.5	254	0	272.0	
	95.0	0.01	0.00	3.87	
7	181.9	325	0	182.4	
	183.4	0.01	0.00	21458952.00	635
8	187.9	310	0	189.0	
	189.4	0.01	0.00	21458952.00	
9	291.4	194	0	292.4	
	292.9	0.01	0.00	21458952.00	403
10	297.4	209	0	298.4	
	298.9	0.01	0.00	21458952.00	
		Isotope: GA-73 @ 297.4			
11	334.3	200	0	335.3	
	335.8	0.01	0.00	21458952.00	386
		Isotope: NP-239 @ 334.3			
12	340.3	186	0	340.8	
	341.8	0.01	0.00	21458952.00	
		Isotope: CS-136 @ 340.6			
13	347.8	162	0	348.9	
	349.3	0.01	0.00	21458952.00	290
14	353.8	128	0	354.8	
	355.3	0.01	0.00	21458952.00	
		Isotope: BA-133 @ 356.0			
15	579.2	105	0	579.6	
	580.7	0.00	0.00	21458952.00	213
16	585.2	108	0	586.2	
	[illegible]	[illegible]	[illegible]	[illegible]	

REGION OF INTEREST REPORT

ROI #	From(keV) To (keV)	Integral CPS	Area %Error	Peak(keV) FWHM(keV)	
17	605.1	94	0	606.2	
	606.6	0.00	0.00	21458952.00	
	Isotope: SB-125 @ 606.7				195
18	611.1	101	0	612.1	
	612.6	0.00	0.00	21458952.00	
19	906.9	54	0	908.1	
	908.4	0.00	0.00	21458952.00	130
20	912.9	76	0	913.9	
	914.4	0.00	0.00	21458952.00	
21	958.9	123	0	959.9	
	962.4	0.01	0.00	0.33	224
22	970.9	101	0	973.3	
	974.4	0.00	0.00	0.40	
	Isotope: I-135 @ 972.3				