		Half Life	Energy (keV)	Intensity	Background Wt Mean rate (cts/ks)	Error	Shap Granite 100 g wide pot Wt Mean rate (cts/ks)	Error	Net Rate (cts/ks)	error
					Mass (g) 0		Mass (g) 100			
					Total time (ks) 1450		Total time (ks) 320			
Potassium	40-K	1.28e9a	1460.8	0.107	7.87	0.10	126.86	0.65	118.99	0.66
Uranium series	238-U	4.47e9a								
	234-Th	24.1d	62	0.0402	36.66	0.22	62.48	0.78	25.82	0.82
			92.6	0.054	45.10	0.22	79.15	0.71	34.05	0.74
	226-Ra (235-U)	1599a	185.99	0.0328	21.85	0.20	57.74	0.66	35.89	0.69
	214-Pb	26.8m	241.91	0.0745						
			295.2	0.191	2.48	0.10	54.31	0.52	51.83	0.53
			351.9	0.369	4.95	0.12	126.54	0.71	121.60	0.72
	214-Bi	19.9m	609.3	0.468	3.81	0.13	100.76	0.65	96.95	0.66
			1120.28	0.154	0.90	0.10	21.53	0.39	20.63	0.40
			1238	0.06098	0.67	0.09	8.00	0.32	7.33	0.34
			1764.5	0.162	2.11	0.06	17.85	0.27	15.75	0.28
			2204	0.052	0.80	0.07	4.51	0.24	3.71	0.25
	210-Pb	22a	45	0.045	3.99	0.10	13.96	0.36	9.96	0.37
Thorium Series	232-Th	1.405e10a								
	228-Ac	6.15h	338.7	0.12	1.28	0.14	35.10	0.51	33.82	0.53
			911.3	0.29	2.60	0.12	40.82	0.47	38.22	0.48
			964.84	0.0545						
			969.16	0.17458	6.78	0.21	36.26	0.64	29.48	0.67
	224-Ra	3.62d	240.987	0.0397						
	212-Pb	10.64h	238.625	0.434	14.77	0.35	238.88	1.34	224.11	1.38
	212-Bi	1.01h	727.2	0.0675	0.83	0.13	12.37	0.41	11.54	0.43
	208-Tl	3.06m	277.358	0.0637	1.41	0.18	8.11	0.55	6.70	0.57
			583.19	0.851	3.24	0.12	58.42	0.53	55.19	0.54
			860.56	0.126	0.18	0.09	6.28	0.28	6.10	0.30
			2614.5	0.999	5.27	0.07	24.80	0.47	19.53	0.47

Detector 3
Sample **sutl1671a clast**
Filename sutl1671a clast
Roi file g3aug05.roi
Date 270706
Time (ks) 80.00
Mass (g) 100

	Counts	error	Rate (cts/ks)	error	Net Rate (cts/ks)	error	Specific Activity (Bq/kg)	error	Concentration	error	Within 2 err of WM ?	x/sigma	1/sigm	sum		
							K		%K							
40-K	782	36	9.78	0.45	1.90	0.46	22	5	0.07	0.02						
238-U							238U		ppm eU	error		x/sigma	1/sigm	sum		
234-Th	3008	79	37.60	0.99	0.94	1.01	5	6	0.44	0.47	TRUE	0.16	0.03	full	24.01	3.14
	3711	77	46.39	0.96	1.29	0.99	6	4	0.45	0.35	TRUE	0.30	0.05	preRn	0.75	0.16
226-Ra (23	1824	70	22.80	0.88	0.95	0.90	4	4	0.32	0.30	TRUE	0.29	0.07	postRn	23.27	2.99
214-Pb																
	292	38	3.65	0.48	1.17	0.49	3	1	0.27	0.11	FALSE	1.70	0.51			
	955	48	11.94	0.60	6.99	0.61	9	1	0.69	0.07	TRUE	11.50	1.35			
214-Bi	790	50	9.88	0.63	6.07	0.64	9	1	0.75	0.09	TRUE	7.92	0.85			
	161	36	2.01	0.45	1.11	0.46	8	3	0.65	0.27	TRUE	0.71	0.09			
	85	30	1.06	0.38	0.39	0.39	8	8	0.64	0.63	TRUE	0.13	0.02			
	247	22	3.09	0.28	0.98	0.28	9	3	0.75	0.22	TRUE	1.27	0.14			
	92	25	1.15	0.31	0.35	0.32	14	13	1.12	1.04	TRUE	0.08	0.01			
210-Pb	309	34	3.86	0.43	-0.13	0.44	-2	-6	-0.16	-0.53	FALSE	-0.05	0.02			
232-Th							232Th		ppm eTh	error				sum		
228-Ac	159	47	1.99	0.59	0.71	0.60	2	2	0.60	0.51	TRUE	0.57	0.24	full	8.84	3.38
	336	40	4.20	0.50	1.60	0.51	5	2	1.19	0.38	TRUE	2.00	0.41			
	583	69	7.29	0.86	0.51	0.89	2	3	0.49	0.86	TRUE	0.17	0.08			
224-Ra																
212-Pb	1538	123	19.23	1.54	4.45	1.58	2	1	0.57	0.20	TRUE	3.47	1.51			
212-Bi	63	44	0.79	0.55	-0.04	0.56	0	-6	-0.11	-1.39	FALSE	-0.01	0.03			
208-Tl	78	62	0.98	0.78	-0.43	0.80	-7	-14	-1.83	-3.38	FALSE	-0.04	0.01			
	331	42	4.14	0.53	0.90	0.54	2	1	0.47	0.28	TRUE	1.49	0.79			
	-11	31	-0.14	0.39	-0.32	0.40	-6	-8	-1.48	-1.86	FALSE	-0.11	0.02			
	480	24	6.00	0.30	0.73	0.31	4	2	1.07	0.45	TRUE	1.30	0.30			

Sample		Specific Activity (Bq/kg)		Concentration (% or ppm)		Dose Rates (mGy/a) Alpha	error	Beta	error	Gamm	error
Full Series	K	22	5	0.07	0.02			0.06	0.0143	0.017	0.00
WM	U	7.64	0.318	0.619	0.03	1.72	0.07	0.09	0.0038	0.071	0.00
	Th	2.612	0.296	0.644	0.07	0.48	0.05	0.02	0.0021	0.033	0.00
				Total		2.20	0.09	0.17	0.0149	0.121	0.01
Thfull/Ufull				1.04							
Pre 222Rn	U	4.79	6.408	0.388	0.52	1.08	1.44	0.06	0.0758	0.045	0.06
Post 222Rn	U	7.79	0.335	0.631	0.03	1.75	0.08	0.09	0.004	0.072	0.00
Difference		-3.00	6.42	-0.24	0.52	-0.67	1.44	-0.04	0.08	-0.03	0.06

Detector 3
Sample **sutl1590 clast**
Filename sutl1590 clast
Roi file g3aug05.roi
Date 260706
Time (ks) 80.00
Mass (g) 100

	Counts	error	Rate (cts/ks)	error	Net Rate (cts/ks)	error	Specific Activity (Bq/kg)	error	Concentration	error	Within 2 err of WM ?	x/sigma	1/sigm	sum		
							K		%K							
40-K	851	37	10.64	0.46	2.77	0.47	32	5	0.10	0.02						
238-U							238U		ppm eU	error		x/sigma	1/sigm	sum		
234-Th	2999	78	37.49	0.98	0.83	1.00	5	6	0.39	0.47	TRUE	0.14	0.03	full	18.75	3.68
	3762	77	47.03	0.96	1.93	0.99	8	4	0.68	0.35	TRUE	0.45	0.05	preRn	1.17	0.15
226-Ra (23	1920	74	24.00	0.93	2.15	0.95	9	4	0.72	0.32	TRUE	0.57	0.06	postRn	17.59	3.53
214-Pb																
	295	37	3.69	0.46	1.20	0.47	3	1	0.28	0.11	TRUE	1.85	0.54			
	744	46	9.30	0.58	4.35	0.59	5	1	0.43	0.06	TRUE	9.06	1.71			
214-Bi	593	49	7.41	0.61	3.61	0.63	6	1	0.45	0.08	TRUE	5.54	1.01			
	120	36	1.50	0.45	0.60	0.46	4	3	0.35	0.27	TRUE	0.39	0.09			
	138	30	1.73	0.38	1.05	0.39	21	8	1.72	0.64	FALSE	0.34	0.02			
	200	22	2.50	0.28	0.39	0.28	4	3	0.30	0.22	TRUE	0.52	0.14			
	82	26	1.03	0.33	0.22	0.33	9	13	0.72	1.08	TRUE	0.05	0.01			
210-Pb	281	34	3.51	0.43	-0.48	0.44	-7	-6	-0.58	-0.53	FALSE	-0.17	0.02			
232-Th							232Th		ppm eTh	error				sum		
228-Ac	147	47	1.84	0.59	0.56	0.60	2	2	0.47	0.51	TRUE	0.45	0.24	full	2.72	3.35
	178	39	2.23	0.49	-0.38	0.50	-1	-2	-0.28	-0.37	FALSE	-0.50	0.44			
	546	70	6.83	0.88	0.05	0.90	0	4	0.04	0.87	TRUE	0.01	0.08			
224-Ra																
212-Pb	1387	127	17.34	1.59	2.57	1.63	1	1	0.33	0.21	TRUE	1.88	1.42			
212-Bi	-8	44	-0.10	0.55	-0.93	0.56	-9	-6	-2.30	-1.40	FALSE	-0.29	0.03			
208-Tl	103	63	1.29	0.79	-0.12	0.81	-2	-14	-0.50	-3.43	FALSE	-0.01	0.01			
	251	41	3.14	0.51	-0.10	0.53	0	-1	-0.05	-0.27	FALSE	-0.17	0.82			
	8	31	0.10	0.39	-0.08	0.40	-1	-8	-0.37	-1.86	FALSE	-0.03	0.02			
	483	24	6.04	0.30	0.77	0.31	5	2	1.12	0.45	FALSE	1.37	0.30			

Sample		Specific Activity (Bq/kg)		Concentration (% or ppm)		Dose Rates (mGy/a) Alpha	error	Beta	error	Gamm	error
Full Series	K	32	5	0.10	0.02			0.09	0.0146	0.025	0.00
WM	U	5.10	0.272	0.413	0.02	1.15	0.06	0.06	0.0032	0.047	0.00
	Th	0.813	0.298	0.2	0.07	0.15	0.05	0.01	0.0021	0.01	0.00
				Total		1.30	0.08	0.15	0.0151	0.083	0.01
Thfull/Ufull				0.49							
Pre 222Rn	U	7.86	6.733	0.637	0.55	1.77	1.52	0.09	0.0797	0.073	0.06
Post 222Rn	U	4.98	0.283	0.404	0.02	1.12	0.06	0.06	0.0034	0.046	0.00
Difference		2.88	6.74	0.23	0.55	0.65	1.52	0.03	0.08	0.03	0.06

Detector 3
Sample sutl1609 clast
Filename sutl1609 clast
Roi file g3aug05.roi
Date 010806
Time (ks) 80.00
Mass (g) 100

	Counts	error	Rate (cts/ks)	error	Net Rate (cts/ks)	error	Specific Activity (Bq/kg)	error	Concentration	error	Within 2 err of WM ?	x/sigma	1/sigm	WM calcs		
							K		%K							
40-K	808	37	10.10	0.46	2.23	0.47	26	5	0.08	0.02						
238-U							238U		ppm eU	error		x/sigma	1/sigm	sum		
234-Th	2991	78	37.39	0.98	0.73	1.00	4	6	0.34	0.47	TRUE	0.13	0.03	full	13.85	3.86
	3726	77	46.58	0.96	1.48	0.99	6	4	0.52	0.35	TRUE	0.35	0.05	preRn	0.32	0.16
226-Ra (23:	1710	68	21.38	0.85	-0.47	0.87	-2	-4	-0.16	-0.29	FALSE	-0.15	0.08	postRn	13.52	3.70
214-Pb																
	301	37	3.76	0.46	1.28	0.47	4	1	0.30	0.11	TRUE	1.96	0.53			
	667	46	8.34	0.58	3.39	0.59	4	1	0.33	0.06	TRUE	7.41	1.79			
214-Bi	461	48	5.76	0.60	1.96	0.61	3	1	0.24	0.08	TRUE	3.31	1.11			
	65	36	0.81	0.45	-0.09	0.46	-1	-3	-0.05	-0.27	FALSE	-0.06	0.09			
	106	30	1.33	0.38	0.65	0.39	13	8	1.07	0.63	TRUE	0.21	0.02			
	217	23	2.71	0.29	0.60	0.29	6	3	0.46	0.23	TRUE	0.74	0.13			
	36	27	0.45	0.34	-0.35	0.35	-14	-14	-1.14	-1.12	FALSE	-0.07	0.01			
210-Pb	326	34	4.08	0.43	0.08	0.44	1	6	0.10	0.53	TRUE	0.03	0.02			
232-Th							232Th		ppm eTh	error				sum		
228-Ac	169	47	2.11	0.59	0.84	0.60	3	2	0.71	0.51	TRUE	0.67	0.24	full	6.46	3.47
	261	40	3.26	0.50	0.66	0.51	2	2	0.49	0.38	TRUE	0.83	0.41			
	544	71	6.80	0.89	0.02	0.91	0	4	0.02	0.88	TRUE	0.01	0.08			
224-Ra																
212-Pb	1592	122	19.90	1.53	5.13	1.56	3	1	0.65	0.20	TRUE	4.06	1.53			
212-Bi	92	44	1.15	0.55	0.32	0.56	3	6	0.79	1.39	TRUE	0.10	0.03			
208-Tl	99	61	1.24	0.76	-0.17	0.78	-3	-14	-0.72	-3.33	FALSE	-0.02	0.01			
	294	41	3.68	0.51	0.44	0.53	1	1	0.23	0.27	TRUE	0.76	0.82			
	-5	31	-0.06	0.39	-0.24	0.40	-5	-8	-1.13	-1.86	FALSE	-0.08	0.02			
	427	23	5.34	0.29	0.07	0.30	0	2	0.10	0.43	TRUE	0.13	0.33			

Sample		Specific Activity (Bq/kg)		Concentration (% or ppm)		Dose Rates (mGy/a) Alpha	error	Beta	error	Gamm	error
Full Series	K	26	5	0.08	0.02			0.07	0.0146	0.02	0.00
WM	U	3.59	0.259	0.29	0.02	0.81	0.06	0.04	0.0031	0.033	0.00
	Th	1.863	0.289	0.459	0.07	0.34	0.05	0.01	0.002	0.024	0.00
				Total		1.15	0.08	0.12	0.0151	0.077	0.01
Thfull/Ufull				1.58							
Pre 222Rn	U	2.00	6.211	0.162	0.50	0.45	1.40	0.02	0.0735	0.019	0.06
Post 222Rn	U	3.65	0.27	0.296	0.02	0.82	0.06	0.04	0.0032	0.034	0.00
Difference		-1.65	6.22	-0.13	0.50	-0.37	1.40	-0.02	0.07	-0.02	0.06

Detector	3													
Sample	**sutl1618 clast**													
Filename	sutl1618 clast													
Roi file	g3aug05.roi													
Date	020806													
Time (ks)	80.00													
Mass (g)	100				Net		Specific		Concentration	Within	WM calcs				
	Counts	error	Rate (cts/ks)	error	Rate (cts/ks)	error	Activity (Bq/kg)	error		error	2 err of WM ?			

	Counts	error	Rate (cts/ks)	error	Net Rate (cts/ks)	error	Specific Activity (Bq/kg)	error	Concentration	error	Within 2 err of WM ?			sum	
							K		%K						
40-K	956	38	11.95	0.48	4.08	0.49	47	6	0.15	0.02					
238-U							238U		ppm eU	error		x/sigma	1/sigm	sum	
234-Th	2919	78	36.49	0.98	-0.17	1.00	-1	-6	-0.08	-0.47	FALSE	-0.03	0.03	full	20.40	3.51
	3680	77	46.00	0.96	0.90	0.99	4	4	0.32	0.35	TRUE	0.21	0.05	preRn	0.52	0.16
226-Ra (23	1836	69	22.95	0.86	1.10	0.89	5	4	0.37	0.30	TRUE	0.34	0.07	postRn	19.88	3.35
214-Pb															
	366	38	4.58	0.48	2.09	0.49	6	1	0.48	0.12	TRUE	2.96	0.49			
	770	47	9.63	0.59	4.68	0.60	6	1	0.46	0.06	TRUE	9.23	1.62			
214-Bi	672	49	8.40	0.61	4.59	0.63	7	1	0.57	0.08	TRUE	6.74	0.96			
	76	36	0.95	0.45	0.05	0.46	0	3	0.03	0.27	TRUE	0.03	0.09			
	95	31	1.19	0.39	0.51	0.40	10	8	0.84	0.65	TRUE	0.16	0.02			
	206	22	2.58	0.28	0.47	0.28	4	3	0.36	0.22	TRUE	0.62	0.14			
	75	25	0.94	0.31	0.13	0.32	5	13	0.43	1.04	TRUE	0.03	0.01			
210-Pb	345	34	4.31	0.43	0.32	0.44	5	6	0.38	0.53	TRUE	0.11	0.02			
232-Th							232Th		ppm eTh	error				sum	
228-Ac	181	48	2.26	0.60	0.99	0.62	3	2	0.83	0.52	TRUE	0.76	0.23	full	9.28	3.40
	220	40	2.75	0.50	0.15	0.51	0	2	0.11	0.38	TRUE	0.18	0.41			
	655	69	8.19	0.86	1.41	0.89	6	3	1.36	0.86	TRUE	0.46	0.08			
224-Ra															
212-Pb	1770	122	22.13	1.53	7.35	1.56	4	1	0.93	0.20	TRUE	5.81	1.53			
212-Bi	165	43	2.06	0.54	1.23	0.55	12	6	3.04	1.37	TRUE	0.40	0.03			
208-Tl	68	61	0.85	0.76	-0.56	0.78	-10	-14	-2.36	-3.33	FALSE	-0.05	0.01			
	336	42	4.20	0.53	0.96	0.54	2	1	0.50	0.28	TRUE	1.59	0.79			
	21	31	0.26	0.39	0.08	0.40	2	8	0.39	1.86	TRUE	0.03	0.02			
	426	24	5.33	0.30	0.06	0.31	0	2	0.08	0.45	TRUE	0.10	0.30			

Sample		Specific Activity (Bq/kg)		Concentration (% or ppm)		Dose Rates (mGy/a) Alpha	error	Beta	error	Gamm	error
Full Series	K	47	6	0.15	0.02			0.13	0.015	0.037	0.00
WM	U	5.81	0.285	0.471	0.02	1.31	0.06	0.07	0.0034	0.054	0.00
	Th	2.73	0.294	0.673	0.07	0.50	0.05	0.02	0.0021	0.035	0.00
				Total		1.81	0.08	0.21	0.0156	0.125	0.01
Thfull/Ufull				1.43							
Pre 222Rn	U	3.28	6.293	0.266	0.51	0.74	1.42	0.04	0.0745	0.031	0.06
Post 222Rn	U	5.93	0.298	0.481	0.02	1.34	0.07	0.07	0.0035	0.055	0.00
Difference		-2.65	6.30	-0.21	0.51	-0.60	1.42	-0.03	0.07	-0.02	0.06

Detector	3
Sample	**sutl1631 recount**
Filename	sutl1631 recount
Roi file	g3aug05.roi
Date	230806
Time (ks)	80.00
Mass (g)	100

	Counts	error	Rate (cts/ks)	error	Net Rate (cts/ks)	error	Specific Activity (Bq/kg)	error	Concentration	error	Within 2 err of WM ?	x/sigm	1/sigm	sum		
40-K	4509	72	56.36	0.90	48.49	0.91	K 558	12	%K 1.81	0.04						
238-U							238U		ppm eU	error		x/sigm	1/sigm	sum		
234-Th	3350	92	41.88	1.15	5.22	1.17	30	7	2.42	0.56	TRUE	0.63	0.02	full	31.29	0.97
	4290	87	53.63	1.09	8.53	1.11	37	5	3.00	0.42	TRUE	1.38	0.04	preRn	3.70	0.11
226-Ra (23	2414	79	30.18	0.99	8.33	1.01	34	5	2.78	0.37	TRUE	1.69	0.05	postRn	27.59	0.86
214-Pb																
	1067	49	13.34	0.61	10.85	0.62	31	2	2.51	0.19	TRUE	5.50	0.18			
	2467	65	30.84	0.81	25.89	0.82	32	2	2.55	0.15	TRUE	8.97	0.28			
214-Bi	2009	63	25.11	0.79	21.31	0.80	33	2	2.64	0.17	TRUE	7.79	0.24			
	507	43	6.34	0.54	5.44	0.55	39	4	3.16	0.36	TRUE	1.98	0.05			
	169	39	2.11	0.49	1.44	0.50	29	10	2.36	0.83	TRUE	0.28	0.01			
	422	27	5.28	0.34	3.17	0.34	30	4	2.41	0.29	TRUE	2.32	0.08			
	161	28	2.01	0.35	1.21	0.36	48	15	3.91	1.19	TRUE	0.22	0.00			
210-Pb	491	40	6.14	0.50	2.14	0.51	32	8	2.58	0.63	TRUE	0.53	0.02			
232-Th							232Th		ppm eTh	error				sum		
228-Ac	842	59	10.53	0.74	9.25	0.75	32	3	7.79	0.65	TRUE	4.60	0.15	full	65.31	1.90
	1120	53	14.00	0.66	11.40	0.67	34	2	8.50	0.52	TRUE	7.85	0.23			
	1266	80	15.83	1.00	9.05	1.02	35	4	8.74	1.00	TRUE	2.15	0.06			
224-Ra																
212-Pb	6440	153	80.50	1.91	65.73	1.94	34	1	8.36	0.26	TRUE	29.83	0.88			
212-Bi	318	52	3.98	0.65	3.14	0.66	31	7	7.76	1.66	TRUE	0.70	0.02			
208-Tl	294	70	3.68	0.88	2.27	0.89	39	16	9.64	3.85	TRUE	0.16	0.00			
	1570	57	19.63	0.71	16.39	0.72	34	2	8.46	0.39	TRUE	13.82	0.40			
	159	36	1.99	0.45	1.81	0.46	34	9	8.44	2.18	TRUE	0.44	0.01			
	951	33	11.89	0.41	6.62	0.42	39	3	9.66	0.64	TRUE	5.76	0.15			

Sample			Specific Activity (Bq/kg)		Concentration (% or ppm)		Dose Rates (mGy/a) Alpha	error	Beta	error	Gamm	error
Full Series	K		558	12	1.81	0.04			1.50	0.031	0.435	0.01
WM	U		32.34	1.034	2.619	0.08	7.28	0.23	0.38	0.0122	0.301	0.01
	Th		34.33	0.526	8.462	0.13	6.25	0.10	0.24	0.0037	0.435	0.01
						Total	13.53	0.25	2.12	0.0336	1.171	0.01
Thfull/Ufull					3.23							
Pre 222Rn	U		34.45	9.324	2.79	0.76	7.75	2.10	0.41	0.1103	0.321	0.09
Post 222Rn	U		32.08	1.162	2.598	0.09	7.22	0.26	0.38	0.0138	0.298	0.01
Difference			2.38	9.40	0.19	0.76	0.54	2.11	0.03	0.11	0.02	0.09

Detector	3														
Sample	**sutl1666 recount**														
Filename	sutl1666 recount														
Roi file	g3aug05.roi														
Date	070806														
Time (ks)	80.00														
Mass (g)	100				Net		Specific		Concentration		Within	WM calcs				
	Counts	error	Rate (cts/ks)	error	Rate (cts/ks)	error	Activity (Bq/kg)	error		error	2 err of WM ?				

	Counts	error	Rate (cts/ks)	error	Net Rate (cts/ks)	error	Specific Activity (Bq/kg)	error	Concentration	error	Within 2 err of WM ?	x/sigma	1/sigm	sum	
							K		%K						
40-K	1097	41	13.71	0.51	5.84	0.52	67	6	0.22	0.02					
238-U							238U		ppm eU	error		x/sigma	1/sigm	sum	
234-Th	3532	85	44.15	1.06	7.49	1.09	43	7	3.48	0.54	FALSE	0.98	0.02	full	33.94	1.60
	4447	84	55.59	1.05	10.49	1.07	46	5	3.70	0.42	FALSE	1.68	0.04	preRn	4.39	0.11
226-Ra (23	2358	75	29.48	0.94	7.63	0.96	31	4	2.55	0.35	FALSE	1.72	0.05	postRn	29.55	1.49
214-Pb															
	694	44	8.68	0.55	6.19	0.56	18	2	1.43	0.15	TRUE	5.25	0.30		
	1850	58	23.13	0.73	18.18	0.74	22	1	1.79	0.12	TRUE	10.84	0.49		
214-Bi	1281	56	16.01	0.70	12.21	0.71	19	1	1.51	0.12	TRUE	9.02	0.48		
	322	39	4.03	0.49	3.12	0.50	22	4	1.82	0.31	TRUE	1.58	0.07		
	118	31	1.48	0.39	0.80	0.40	16	8	1.31	0.66	TRUE	0.25	0.02		
	331	24	4.14	0.30	2.03	0.31	19	3	1.55	0.25	TRUE	2.05	0.11		
	130	25	1.63	0.31	0.82	0.32	33	13	2.66	1.06	TRUE	0.19	0.01		
210-Pb	417	37	5.21	0.46	1.22	0.47	18	7	1.47	0.58	TRUE	0.36	0.02		
232-Th							232Th		ppm eTh	error			sum		
228-Ac	155	49	1.94	0.61	0.66	0.63	2	2	0.56	0.53	TRUE	0.49	0.22	full	16.27	3.15
	243	41	3.04	0.51	0.43	0.53	1	2	0.32	0.39	FALSE	0.52	0.40		
	663	72	8.29	0.90	1.51	0.92	6	4	1.46	0.89	TRUE	0.45	0.08		
224-Ra															
212-Pb	2162	128	27.03	1.60	12.25	1.64	6	1	1.56	0.21	TRUE	8.80	1.39		
212-Bi	122	46	1.53	0.58	0.69	0.59	7	6	1.71	1.46	TRUE	0.20	0.03		
208-Tl	77	63	0.96	0.79	-0.44	0.81	-8	-14	-1.88	-3.44	FALSE	-0.04	0.01		
	498	44	6.23	0.55	2.99	0.56	6	1	1.54	0.29	TRUE	4.49	0.72		
	67	31	0.84	0.39	0.66	0.40	12	8	3.08	1.86	TRUE	0.22	0.02		
	473	24	5.91	0.30	0.64	0.31	4	2	0.94	0.45	TRUE	1.15	0.30		

Sample			Specific Activi (Bq/kg)		Concentration (% or ppm)		Dose Rates (mGy/a) Alpha	error	Beta	error	Gamm	error
Full Series	K		67	6	0.22	0.02			0.18	0.0162	0.052	0.00
WM	U		21.17	0.624	1.714	0.05	4.76	0.14	0.25	0.0074	0.197	0.01
	Th		5.166	0.317	1.273	0.08	0.94	0.06	0.04	0.0022	0.065	0.00
					Total		5.71	0.15	0.47	0.018	0.315	0.01
Thfull/Ufull				0.74								
Pre 222Rn	U		38.34	8.739	3.105	0.71	8.63	1.97	0.45	0.1034	0.357	0.08
Post 222Rn	U		19.85	0.672	1.607	0.05	4.47	0.15	0.23	0.0079	0.185	0.01
Difference			18.49	8.76	1.50	0.71	4.16	1.97	0.22	0.10	0.17	0.08

Detector 3
Sample **sutl1667 recount**
Filename sutl1667 recount
Roi file g3aug05.roi
Date 080806
Time (ks) 80.00
Mass (g) 100

	Counts	error	Rate (cts/ks)	error	Net Rate (cts/ks)	error	Specific Activity (Bq/kg)	error	Concentration	error	Within 2 err of WM ?	WM calcs			
							K		%K						
40-K	1082	41	13.53	0.51	5.65	0.52	65	6	0.21	0.02					
238-U							238U		ppm eU	error		x/sigma	1/sigm	sum	
234-Th	3111	83	38.89	1.04	2.23	1.06	13	6	1.04	0.50	TRUE	0.34	0.03	full	32.76	1.71
	4000	81	50.00	1.01	4.90	1.04	21	5	1.73	0.38	TRUE	0.99	0.05	preRn	2.76	0.13
226-Ra (23	2199	73	27.49	0.91	5.64	0.93	23	4	1.89	0.33	TRUE	1.43	0.06	postRn	30.00	1.57
214-Pb															
	832	45	10.40	0.56	7.92	0.57	23	2	1.83	0.16	TRUE	5.66	0.25		
	1610	56	20.13	0.70	15.18	0.71	18	1	1.50	0.10	TRUE	11.45	0.62		
214-Bi	1304	55	16.30	0.69	12.49	0.70	19	1	1.55	0.12	TRUE	9.23	0.48		
	337	38	4.21	0.48	3.31	0.49	24	4	1.93	0.30	TRUE	1.73	0.07		
	106	31	1.33	0.39	0.65	0.40	13	8	1.07	0.65	TRUE	0.20	0.02		
	309	25	3.86	0.31	1.75	0.32	17	3	1.34	0.25	TRUE	1.70	0.10		
	76	25	0.95	0.31	0.15	0.32	6	13	0.48	1.04	TRUE	0.04	0.01		
210-Pb	318	35	3.98	0.44	-0.02	0.45	0	-7	-0.02	-0.54	FALSE	-0.01	0.02		
232-Th							232Th		ppm eTh	error				sum	
228-Ac	224	49	2.80	0.61	1.52	0.63	5	2	1.28	0.53	TRUE	1.13	0.22	full	15.75	3.15
	296	42	3.70	0.53	1.10	0.54	3	2	0.82	0.40	TRUE	1.25	0.38		
	621	75	7.76	0.94	0.98	0.96	4	4	0.95	0.93	TRUE	0.27	0.07		
224-Ra															
212-Pb	2111	127	26.39	1.59	11.62	1.63	6	1	1.48	0.21	TRUE	8.47	1.41		
212-Bi	46	45	0.58	0.56	-0.26	0.58	-3	-6	-0.63	-1.42	FALSE	-0.08	0.03		
208-Tl	72	63	0.90	0.79	-0.51	0.81	-9	-14	-2.15	-3.44	FALSE	-0.04	0.01		
	426	44	5.33	0.55	2.09	0.56	4	1	1.08	0.29	TRUE	3.14	0.72		
	0	31	0.00	0.39	-0.18	0.40	-3	-8	-0.83	-1.86	FALSE	-0.06	0.02		
	496	24	6.20	0.30	0.93	0.31	6	2	1.36	0.45	TRUE	1.66	0.30		

Sample		Specific Activi (Bq/kg)		Concentration (% or ppm)		Dose Rates (mGy/a) Alpha	error	Beta	error	Gamm	error
Full Series	K	65	6	0.21	0.02			0.17	0.0162	0.051	0.00
WM	U	19.20	0.586	1.555	0.05	4.32	0.13	0.23	0.0069	0.179	0.01
	Th	4.998	0.317	1.232	0.08	0.91	0.06	0.04	0.0022	0.063	0.00
				Total		5.23	0.14	0.44	0.0178	0.293	0.01
Thfull/Ufull				0.79							
Pre 222Rn	U	20.53	7.435	1.663	0.60	4.62	1.67	0.24	0.088	0.191	0.07
Post 222Rn	U	19.08	0.636	1.545	0.05	4.29	0.14	0.23	0.0075	0.178	0.01
Difference		1.45	7.46	0.12	0.60	0.33	1.68	0.02	0.09	0.01	0.07

Detector 3
Sample **sutl1685 recount**
Filename sutl1685 recount
Roi file g3aug05.roi
Date 090806
Time (ks) 80.00
Mass (g) 100

	Counts	error	Rate (cts/ks)	error	Net Rate (cts/ks)	error	Specific Activity (Bq/kg)	error	Concentration	error	Within 2 err of WM ?	WM calcs			
40-K	2398	54	29.98	0.68	22.10	0.68	K 254	8	%K 0.82	0.03					
238-U							238U		ppm eU	error		x/sigma	1/sigm	sum	
234-Th	3413	87	42.66	1.09	6.00	1.11	34	7	2.79	0.54	TRUE	0.79	0.02	full	33.10 1.40
	4479	86	55.99	1.08	10.89	1.10	47	5	3.84	0.43	FALSE	1.66	0.03	preRn	3.57 0.12
226-Ra (23:	2109	75	26.36	0.94	4.52	0.96	19	4	1.51	0.33	TRUE	1.13	0.06	postRn	29.53 1.29
214-Pb															
	841	46	10.51	0.58	8.03	0.58	23	2	1.86	0.16	TRUE	5.53	0.24		
	1862	59	23.28	0.74	18.33	0.75	22	1	1.81	0.12	TRUE	10.68	0.48		
214-Bi	1538	58	19.23	0.73	15.42	0.74	24	2	1.91	0.13	TRUE	8.80	0.37		
	329	40	4.11	0.50	3.21	0.51	23	4	1.87	0.31	TRUE	1.54	0.07		
	113	34	1.41	0.43	0.74	0.43	15	9	1.21	0.71	TRUE	0.19	0.01		
	356	26	4.45	0.33	2.34	0.33	22	3	1.79	0.27	TRUE	2.00	0.09		
	128	27	1.60	0.34	0.80	0.35	32	14	2.58	1.13	TRUE	0.16	0.01		
210-Pb	514	39	6.43	0.49	2.43	0.50	36	8	2.93	0.62	TRUE	0.61	0.02		
232-Th							232Th		ppm eTh	error				sum	
228-Ac	647	55	8.09	0.69	6.81	0.70	23	2	5.74	0.60	TRUE	3.95	0.17	full	53.13 2.34
	792	48	9.90	0.60	7.30	0.61	22	2	5.44	0.46	TRUE	6.27	0.28		
	967	76	12.09	0.95	5.31	0.97	21	4	5.13	0.94	TRUE	1.42	0.07		
224-Ra															
212-Pb	4829	142	60.36	1.78	45.59	1.81	24	1	5.80	0.24	TRUE	25.18	1.07		
212-Bi	205	49	2.56	0.61	1.73	0.63	17	6	4.28	1.55	TRUE	0.44	0.03		
208-Tl	244	67	3.05	0.84	1.64	0.86	28	15	6.99	3.67	TRUE	0.13	0.00		
	1127	52	14.09	0.65	10.85	0.66	23	1	5.60	0.35	TRUE	11.36	0.50		
	67	34	0.84	0.43	0.66	0.43	12	8	3.08	2.03	TRUE	0.18	0.01		
	703	29	8.79	0.36	3.52	0.37	21	2	5.13	0.55	TRUE	4.20	0.20		

Sample		Specific Activity (Bq/kg)		Concentration (% or ppm)		Dose Rates (mGy/a) Alpha	error	Beta	error	Gamm	error
Full Series	K	254	8	0.82	0.03			0.68	0.022	0.198	0.01
WM	U	23.58	0.712	1.91	0.06	5.31	0.16	0.28	0.0084	0.219	0.01
	Th	22.72	0.428	5.6	0.11	4.14	0.08	0.16	0.003	0.288	0.01
				Total		9.45	0.18	1.12	0.0237	0.706	0.01
Thfull/Ufull				2.93							
Pre 222Rn	U	30.21	8.462	2.446	0.69	6.80	1.90	0.36	0.1001	0.281	0.08
Post 222Rn	U	22.97	0.778	1.86	0.06	5.17	0.18	0.27	0.0092	0.214	0.01
Difference		7.23	8.50	0.59	0.69	1.63	1.91	0.09	0.10	0.07	0.08

Detector 3
Sample **sutl1686 recount**
Filename sutl1686 recount
Roi file g3aug05.roi
Date 100806
Time (ks) 80.00
Mass (g) 100

	Counts	error	Rate (cts/ks)	error	Net Rate (cts/ks)	error	Specific Activity (Bq/kg)	error	Concentration	error	Within 2 err of WM ?	WM calcs				
40-K	2257	53	28.21	0.66	20.34	0.67	K 234	8	%K 0.76	0.03						
238-U							238U		ppm eU	error		x/sigma	1/sigma	sum		
234-Th	3329	88	41.61	1.10	4.95	1.12	28	7	2.30	0.54	TRUE	0.65	0.02	full	33.94	1.56
	4183	84	52.29	1.05	7.19	1.07	31	5	2.53	0.40	TRUE	1.29	0.04	preRn	3.85	0.11
226-Ra (23	2510	77	31.38	0.96	9.53	0.98	39	5	3.19	0.37	FALSE	1.92	0.05	postRn	30.09	1.45
214-Pb																
	804	45	10.05	0.56	7.57	0.57	22	2	1.75	0.16	TRUE	5.57	0.26			
	1693	58	21.16	0.73	16.22	0.74	20	1	1.60	0.11	TRUE	11.04	0.56			
214-Bi	1389	57	17.36	0.71	13.56	0.72	21	2	1.68	0.12	TRUE	8.95	0.43			
	317	40	3.96	0.50	3.06	0.51	22	4	1.78	0.31	TRUE	1.48	0.07			
	70	33	0.88	0.41	0.20	0.42	4	9	0.33	0.69	FALSE	0.06	0.01			
	377	25	4.71	0.31	2.60	0.32	25	3	1.99	0.26	TRUE	2.31	0.09			
	119	27	1.49	0.34	0.68	0.35	27	14	2.21	1.13	TRUE	0.14	0.01			
210-Pb	486	39	6.08	0.49	2.08	0.50	31	8	2.51	0.62	TRUE	0.54	0.02			
232-Th							232Th		ppm eTh	error				sum		
228-Ac	625	55	7.81	0.69	6.54	0.70	22	2	5.51	0.60	TRUE	3.80	0.17	full	48.07	2.37
	727	48	9.09	0.60	6.48	0.61	20	2	4.83	0.46	TRUE	5.60	0.29			
	980	76	12.25	0.95	5.47	0.97	21	4	5.29	0.95	TRUE	1.46	0.07			
224-Ra																
212-Pb	4221	141	52.76	1.76	37.99	1.80	20	1	4.83	0.23	TRUE	21.71	1.11			
212-Bi	198	49	2.48	0.61	1.64	0.63	16	6	4.06	1.55	TRUE	0.42	0.03			
208-Tl	241	66	3.01	0.83	1.61	0.84	28	15	6.83	3.62	TRUE	0.13	0.00			
	1049	52	13.11	0.65	9.88	0.66	21	1	5.10	0.35	TRUE	10.41	0.50			
	76	33	0.95	0.41	0.77	0.42	15	8	3.60	1.98	TRUE	0.23	0.02			
	732	30	9.15	0.38	3.88	0.38	23	2	5.66	0.57	TRUE	4.32	0.19			

Sample		Specific Activity (Bq/kg)		Concentration (% or ppm)		Dose Rates (mGy/a) Alpha	error	Beta	error	Gamm	error
Full Series	K	234	8	0.76	0.03			0.63	0.0215	0.183	0.01
WM	U	21.77	0.641	1.763	0.05	4.90	0.14	0.26	0.0076	0.203	0.01
	Th	20.3	0.422	5.003	0.10	3.70	0.08	0.14	0.003	0.257	0.01
				Total		8.60	0.16	1.03	0.023	0.642	0.01
Thfull/Ufull				2.84							
Pre 222Rn	U	34.18	8.871	2.768	0.72	7.69	2.00	0.40	0.105	0.318	0.08
Post 222Rn	U	20.80	0.691	1.685	0.06	4.68	0.16	0.25	0.0082	0.194	0.01
Difference		13.38	8.90	1.08	0.72	3.01	2.00	0.16	0.11	0.12	0.08

Detector 3
Sample **sutl1687 recount**
Filename sutl1687 recount
Roi file g3aug05.roi
Date 220806
Time (ks) 80.00
Mass (g) 100

	Counts	error	Rate (cts/ks)	error	Net Rate (cts/ks)	error	Specific Activity (Bq/kg)	error	Concentration	error	Within 2 err of WM?	WM calcs			
40-K							K		%K						
40-K	2298	53	28.73	0.66	20.85	0.67	240	8	0.78	0.03					
238-U							238U		ppm eU	error		x/sigma	1/sigm	sum	
234-Th	3338	87	41.73	1.09	5.07	1.11	29	7	2.36	0.53	TRUE	0.68	0.02	full	32.48	1.44
	4221	85	52.76	1.06	7.66	1.09	33	5	2.70	0.41	FALSE	1.32	0.04	preRn	3.68	0.12
226-Ra (23	2373	77	29.66	0.96	7.82	0.98	32	4	2.61	0.35	FALSE	1.68	0.05	postRn	28.80	1.33
214-Pb																
	764	45	9.55	0.56	7.07	0.57	20	2	1.64	0.16	TRUE	5.42	0.27			
	1873	59	23.41	0.74	18.47	0.75	23	1	1.82	0.12	TRUE	10.67	0.47			
214-Bi	1516	58	18.95	0.73	15.14	0.74	23	2	1.87	0.13	TRUE	8.81	0.38			
	300	41	3.75	0.51	2.85	0.52	20	4	1.66	0.32	TRUE	1.34	0.07			
	148	34	1.85	0.43	1.18	0.43	24	9	1.93	0.72	TRUE	0.30	0.01			
	325	25	4.06	0.31	1.95	0.32	18	3	1.49	0.25	TRUE	1.86	0.10			
	82	28	1.03	0.35	0.22	0.36	9	14	0.72	1.16	TRUE	0.04	0.00			
210-Pb	422	38	5.28	0.48	1.28	0.48	19	7	1.54	0.59	TRUE	0.36	0.02			
232-Th							232Th		ppm eTh	error				sum		
228-Ac	682	55	8.53	0.69	7.25	0.70	25	2	6.11	0.60	TRUE	4.19	0.17	full	52.81	2.39
	817	47	10.21	0.59	7.61	0.60	23	2	5.67	0.45	TRUE	6.78	0.29			
	928	77	11.60	0.96	4.82	0.98	19	4	4.66	0.96	TRUE	1.26	0.07			
224-Ra																
212-Pb	4717	141	58.96	1.76	44.19	1.80	23	1	5.62	0.24	TRUE	24.82	1.09			
212-Bi	194	48	2.43	0.60	1.59	0.61	16	6	3.94	1.52	TRUE	0.42	0.03			
208-Tl	303	66	3.79	0.83	2.38	0.84	41	15	10.12	3.65	TRUE	0.19	0.00			
	1019	51	12.74	0.64	9.50	0.65	20	1	4.91	0.34	TRUE	10.42	0.52			
	98	33	1.23	0.41	1.05	0.42	20	8	4.88	1.98	TRUE	0.31	0.02			
	720	29	9.00	0.36	3.73	0.37	22	2	5.44	0.55	TRUE	4.44	0.20			

Sample		Specific Activity (Bq/kg)		Concentration (% or ppm)		Dose Rates (mGy/a) Alpha	error	Beta	error	Gamm	error
Full Series	K	240	8	0.78	0.03			0.64	0.0215	0.187	0.01
WM	U	22.54	0.694	1.825	0.06	5.07	0.16	0.27	0.0082	0.21	0.01
	Th	22.1	0.418	5.447	0.10	4.03	0.08	0.16	0.003	0.28	0.01
				Total		9.10	0.17	1.07	0.0232	0.677	0.01
Thfull/Ufull				2.98							
Pre 222Rn	U	31.99	8.684	2.591	0.70	7.20	1.95	0.38	0.1028	0.298	0.08
Post 222Rn	U	21.72	0.754	1.759	0.06	4.89	0.17	0.26	0.0089	0.202	0.01
Difference		10.27	8.72	0.83	0.71	2.31	1.96	0.12	0.10	0.10	0.08