

SHRIMP data acquisition logsheet

SHRIMP A or B

Mineral = RUTILE

STD = 08-03

Date	Sample/Mount(s)	Sample owner	SH operator	Night-runner(s)
12/10/09	08-22 } HILKO " 23 } " 25 } DOYLE	McN	McN	

Deadtime.....25 ns Kohler aperture.....100 Retard.....14.1 volts Resoln.....
 Primary on steel: O Bits/nA O₂ Bits/nA
 Primary O₂ on: epoxy1.84 nA standard2.46 nA PostESA BM on std98
 Raster: Time (mins) ..3.0 Aperture110 No. of scans6

Zircon/Badd.	196	204	Bk	206	207	208	238	248	254		
Count time (secs)	2	10	10	10/20	30/10	10	5	5	2		
Delay time (secs)	8	3	1	4	2	1	3	2	2		
Peak centring time (secs)	3	-	-	3	-	-	3	3	2		
Titanite/Perovskite	200	204	Bk	206	207	208	248	254	270		
Count time (secs)	2	10	10	10/20	30/10	10	5	5	7		
Delay time (secs)	8	3	1	4	2	1	4	2	3		
Peak centring time (secs)	3	-	-	4	-	-	2	3	3		
Rutile	192	204	Bk	206	207	208	248	254	270		
Count time (secs)	2	10	10	10/20	30/10	10	5	5	3		
Delay time (secs)	8	3	1	4	2	1	4	2	3		
Peak centring time (secs)	3	-	-	3	-	-	2	3	3		
Monazite	202	203	204	Bk	206	207	208	232	254	264	270
Count time (secs)	2	10	10	10	10/20	30/10	5	5	2	2	2
Delay time (secs)	8	1	1	1	4	2	2	4	3	3	2
Peak centring time (secs)	1	2	-	-	4	-	2	2	2	2	2
Xenotime	194	204	Bk	206	207	208	238	248	254		
Count time (secs)	2	10	10	10/20	30/10	5	5	5	2		
Delay time (secs)	8	3	1	4	2	1	3	2	2		
Peak centring time (secs)	1	-	-	3	-	-	4	3	2		

Mass Offsets

Zircon/Badd.	196-204	204-Bk	204-206	206-207	206-208	
Expected offset	8.170	0.045	2.001/9	1.001/5	2.001/9	
Setup offsets						
Titanite/Perovskite	200-204	204-Bk	204-206	206-207	206-208	
Expected offset	4.136	0.045	2.001/9	1.001/5	2.001/9	
Setup offsets						
Rutile	192-204	204-Bk	204-206	206-207	206-208	
Expected offset	12.100	0.045	2.001/9	1.001/5	2.001/9	
Setup offsets	12.090	0.045	~2.010	1.004	2.007	
Monazite	202-203	203-204	204-Bk	204-206	206-207	206-208
Expected offset	1.000	1.110	0.045	2.001/9	1.001/5	2.001/9
Setup offsets						
Xenotime	194-204	204-Bk	204-206	206-207	206-208	
Expected offset	10.143	0.045	2.001/9	1.001/5	2.001/9	
Setup offsets						

* 204-192 offset a) 12.100 → changed to 12.090 for 3rd anal.
 ⊕ Mislabeled

40823 + 0825

Date 12/1/09 Mount 0803 + 0822 Page no. 1

Filename	Time	UO/U	196	206	f206	U/ppm	Sensitivity	Age/Ma	Age/Ma	Check offsets	
		254/238	Kcps	-cps-	(%)	ppm		206/238	207/206		
Alternatives		UO2/UO	Reference			ppm	ivity	Pb/U ratio	207/206		
		(270/254)	Kcps			BA/270					
* WH0803B	B.38-5	11:30	1.74	790	11K	.01	130				3.8
* "	B.38-6	11:56	1.74	770	10K	-	?	2640±	2639±6	✓	3.7
⊕ 0822B	1-1	-	aborted → v. low Pb					?	2636±5	✓	4.9
"	2-1	-	" →								
WH0803B.	34.2	12:44		820	11K	0	-				
0822B.	3-1	-	aborted → v. low Pb						2631±5	✓	3.71
0822A.	1-1	-	" →								
HV off → sample change → 08-23											
WH0803B.	34-3	13:52	1.57	850	11K	.01	-				
"	34-4								2652±5	✓	5.5
0823B	1-1	-	aborted → v. low Pb + U								
"	2-1	-	" →								
"	3-1	-	" →								
"	4-1	-	" →								
HV off → sample change → 08-25											
WH0803B.	33-3	16:02	1.62	980	12K	-	11K				
"	33-4	16:33		1100	11K	0.02	9.8K		2652±5	✓	3.8
0825.	1-1	17:02	1.01	2500	1800	1.00	2100		2631±4	✓	2.6%
"	2-1	17:25	0.86	3400	3100	0.25	3500		2461±42	✓	0.8%
WH0803B.	33-5	17:54	1.58	990	9700	0.03	8800		2440±49	✓	3.7%
"	32-3	18:16	1.36	1200	9800	-0.002	8700		2633±3.4	✓	4.4%
0825	2-2	18:44	0.85	3400	2800	-0.12	3300		2633±11.9	✓	3.9%
"	2-3	19:06	0.97	2900	3100	0.26	3600		2481±14	✓	5.0%
"	3-1	19:30	1.18	1700	1900	1.64	1900		2521±141	✓	2.9%
"	4-1	19:51	1.22	1600	2700	0.57	2700		2445±197	✓	1.6%
WH0803B	32-4	20:20	1.39	1200	9200	0.01	8500		2467±152	✓	1.3%
"	32-5	20:45	1.32	1300	8200	-0.01	7300		2643±44	✓	2.6%
0825	4-2	21:13	1.24	1500	2600	0.59	2600		2640±41	✓	4.5%
"	5-1	21:35	1.31	1400	3800	0.13	3600		2474±16	✓	2.5%
"	6-1	21:59	1.29	1300	880	0.997	990		2510±11.3	✓	6.5%
"	7-1	22:20	0.91	2900	390	3.55	690		2479±655	✓	4.7%
WH0803B	32-6	22:51	1.35	1100	8200	-0.001	7500		2043±84	✓	4.7%
"	29	23:10	1.17	1100	6000	-0.03	5400		2652±49	✓	3.4%
0825	8-1	23:37	1.84	760	1300	0.44	1300		2659±65	✓	4.7%
									2462±15.9	✓	2.7%

⊗ increased raster time from 2 mins to 3 mins.

* Arc dropped out during scan 5.

Date 12/1/09

Mount 0803 + 0822 + 0823 + 0825 Page no. 2

Filename	Time	UO/U	196	206	f206	UO ₂	Sensit-	Age/Ma	Age/Ma	Check	
		254/238	Keps	-cps-	(%)	ppm	ivity	206/238	207/206	offsets	
Alternatives		UO ₂ /UO	Reference			254/270		Ph/Li ratio	207/206		
		(270/254)	Kcps			Keps					
0825	8-2	24:00	1.76	760	1800	0.21	1700		2482 ± 163	✓	5.3%
"	9-1	00:24	1.10	1500	1900	0.62	2000		2529.9 ± 17.1	✓	2.9%
"	10-1	00:45	0.81	2700	780	0.14	780		2538 ± 19.6	✓	1.8%
"	10-2	01:08	0.78	3000	680	0.04	830		2470 ± 28.6	✓	4.8%
WH0803B	30	01:34	1.25	1100	8700	-0.02	7800		2655 ± 6.0	✓	2.8%
"	23	01:55	1.12	1900	7800	0.02	7400		2639 ± 4.5	✓	2.6%
* 0825	11-1										9.0%
— Are dropped out → restarted —											
WH0803B	30-4	03:45	1.48	2700	16000	-0.002	16000		2637 ± 4	✓	20.1%
"	30-5	04:05	1.39	2400	15000	0.002	15000		2632 ± 4.9	✓	15.2%
0825	11-2	04:35	0.81	3100	360	-0.29	430		2574 ± 36.1	✓	14.0%
"	11-3	04:58	0.89	4400	470	0.18	560		2484 ± 31	✓	11.2%
WH0803B	30-6	05:24	1.23	2800	9900	0.001	10000		2627 ± 12	✓	11.1%
"	30-7	05:45	1.19	3400	10000	0.08	11000		2602 ± 17.6	✓	16.3%
0825	12-1	06:13	—	680	850	-0.08	0.38		5344 ± 63.9	✓	6.6%
"	13-1	06:35	1.55	1500	5800	0.26	5700		2510 ± 10.6	✓	3.7%
"	13-2	06:58	1.45	1600	5900	0.10	6200		2513 ± 6.5	✓	4.3%
"	14-1	07:20	2	680	2000	0.12	2100		2439 ± 16.3	✓	9.4%
WH0803B	36-4	07:45	1.83	1100	17000	0.001	16000		2634 ± 26	✓	7.4%
"	36-5	08:08	1.77	960	12000	0.02	12000		2635 ± 4.4	✓	4.2%
0825	15-1	08:36	1.24	2700	3300	.10	3700		2499 ± 12	✓	6.9%
"	16-1	08:58	0.92	3800	2400	.81	2700		2492 ± 56	✓	6.4%
"	17-1	09:21	1.13	2800	2900	.48	3300		2450 ± 13	✓	4.9%
"	18-1	09:43	1.42	1700	6300	.14	6400		2487 ± 7	✓	5.5%
"	18-2	10:07	1.38	1700	4700	-.11	4800		2480 ± 7	✓	5.6%
WH0803B	37-5	10:36	1.19	2200	11K	—	11K		2630 ± 5	✓	4.1%
"	37-6	10:58	1.23	2400	9.8K	—	9.8K		2638 ± 4	✓	4.6%
— FINISHED —											

Note - routine operation includes checking form of 248 - peak on NBS glass after each pair of stds.