

UWA SHRIMP LOG SHEET

Date *14/3/06* **UWA mount no(s)** *05-88
06-19* **Mineral(s)** *ZR* **Whose sample?** *JK* **Operator(s)** *MON + NICK*

Notes: Masses in **bold** = peak centred; others = offset from lower mass centred peak (see offsets below).

Zircon/Badd.	196	204	204.1	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	<i>34</i>	2	<i>23</i>
Centring (secs)	3	-	-	<i>34</i>	-	-	<i>32</i>	3	2

Titanite/Perovskite	200	204	204.1	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
Centring (secs)	3	-	-	4	-	-	4	3	3

Monazite (SHB)	202	203	204	204.1	206	207	208	232	254	264	270
Count time (secs)	2	2	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
Centring (secs)	1	2	-	-	4	-	2	2	2	2	2
Cup in/out (SHA) out									in	out	in

Xenotime (SHB)	194	(196)	204	204.1	206	207	208	238	248	254
Count time (secs)	2	(5)	10	10	10/20	30/10	5	5	5	2
Delay time (secs)	8	(2)	3	1	4	2	1	3	2	2
Centring (secs)	1	-	-	-	4	-	-	4	3	2

MASS OFFSETS (record setup offsets for session, and check them after each analysis).

Note: Setup offsets are different for SHRIMP A and B: i.e. 206-207 = 1.001 for A and 1.005 for B.

Zircon/Badd.	196-204	204-204.1	204-206	206-207	206-208	
Expected offsets:	8.170	0.045	~2.001/9	1.001/5	2.001/9	
Setup offsets:	<i>8.159</i>	<i>0.045</i>	<i>~2.011</i>	<i>1.004</i>	<i>2.007</i>	
Titanite/Perovsk.	200-204	204-204.1	204-206	206-207	206-208	
Expected offsets:	4.136	0.045	~2.001/9	1.001/5	2.001/9	
Setup offsets:						
Monazite (SHB)	202-203	203-204	204-204.1	204-206	206-207	206-208
Expected offsets:	~1.000	1.110	0.045	~2.001/9	1.001/5	~2.001/9
Setup offsets:						
Xenotime (SHB)	(194-196)	194-204	204-204.1	204-206	206-207	206-208
Expected offsets:	1.998	10.143	0.045	~2.001/9	1.001/5	2.001/9
Setup offsets:						

Deadtime *24* ns Kohler aperture *100* Retard *14* volts Resoln *599!*

Primary on Steel: O⁻ bits & nA O₂⁻ bits & nA

Primary O₂⁻ on: epoxy = *1.29* nA; standard = *1.8* nA; PESABM on std = *34* pA

Raster: Time (mins): *2.0* Aperture: *130* No. of scans: *6*

Useful information

CZ3 = 564 Ma & 551 ppm U
 Temora 2 = 417 Ma & ~130 ppm U
 Khan = 518 Ma & 700 ppm U
 SDA : 7/6 age = 3578 +/- 4 Ma
 BR266 : 559 Ma & 903 ppm U

MONAZITE

French = 514 Ma & 1000 ppm U
 PD95 7/6 age = 1698(?) Ma
 Z2908 7/6 age = 1795(?) Ma
 QMa = 505(?) Ma

XENOTIME

MG1 = 490(?) Ma
 BS1 = 507(?) Ma
 Xenol = 994 Ma & 7/6 age = 997 Ma

*550 ppm U → 40%
 scale on 100 kHz
 → look for < 20%
 scale on 254*

A+B+C → look for low-U grains only

Note: Bold = constant for stds & unknowns.....check after each analysis; also check offsets.

Sample/ Std ID	Time on printout	UO/U 254/238	196 (zr) Kcps	206 cps	U ppm	f ₂₀₆ %	Sensit.	Age+/-1σ (Ma) 206/238	207/206	Offsets OK?	
Alternative		UO2/UO 270/254	194 (xt) 200 (tnt) 203 (mz)	206 cps	254 270 Kcps	204 cps	196/194 264 Kcps	206/238 206/254 206/270	207/206	Check after each!!!	<i>y. vom w 5BM</i>
0588											
CZ.1-1	9:40	6.19	9700	1400	551	.30	21.9	562 ± 5	530 ± 53	✓	1.1
TEM.1-1	10:00	6.37	9700	180	97	.32	23.3	403 ± 10	700 ± 187	✓	1.7
TEM.1-2	10:20	6.10	10 K	260	140	2.22	22.4	402 ± 7	—	✓	—
- looked at TNT in 06-19A → low Pb cps + high ²⁰⁴ Pb.											
TEM.1-3	11:36	6.43	8100	220	137	2.12	21.8	401 ± 8	—	✓	2.1
C.18-1	—	—	high	204	→	aborted	—	—	—	✓	—
C.19-1	12:06	6.20	8700	2900	293	.80	21.8	2189 ± 18	3129.6 ± 11	✓	4.0
C.20-1	12:32	5.85	8900	6800	520	.20	21.3	2847 ± 27	3126 ± 7	✓	—
C.21-1	13:14	6.10	9300	4400	328	.36	22.7	2678 ± 25	3202 ± 8	✓	—
C.22-1	13:46	6.41	9400	5400	441	.89	23.7	2311 ± 14	3132 ± 8	✓	—
TEM.1-4	14:23	6.05	9300	140	84	2.0	22.6	408 ± 11	—	✓	—
B.19-1	14:55	6.26	8700	4100	355	.20	21.5	2422 ± 19	2664 ± 11	✓	—
B.20-1	15:26	6.09	9400	3900	296.7	.21	21.9	2634 ± 26	2704 ± 8	✓	—
B.21-1	16:03	6.16	8600	3400	279.4	.24	21.9	2545 ± 31	2708 ± 10	✓	—
TEM.3-1	16:27	6.08	9000	160	99	1.8	21.8	394 ± 8	—	✓	—
B.22-1	16:51	6.13	8800	2700	231	.86	22.3	2474 ± 24	2677 ± 16	✓	—
B.23-1	17:13	6.11	9100	3500	268	.13	22.7	2652 ± 28	2743 ± 7	✓	—
B.24-1	17:43	6.07	9000	3800	310	.26	22.3	2491 ± 24	2690 ± 12	✓	—
B.25-1	18:24	6.12	9200	2800	220	.35	22.1	2578 ± 28	2647 ± 15	✓	—
TEM.4-1	18:47	6.21	9400	260	150	1.5	23.3	394 ± 9	—	✓	—
A.26-1	19:19	6.16	9500	3800	315	.51	21.7	2385 ± 25	2683 ± 12	✓	some spikes

3:1 tem
+1 023

Note: Bold = constant for stds & unknowns.....check after each analysis; also check offsets.

Sample/ Std ID	Time on printout	UO/U 254/238	196 (zr) Kcps	206 cps	U ppm	f ₂₀₆ %	Sensit.	Age+/-1σ (Ma) 206/238 207/206	Offsets OK?
Alternative		UO2/UO 270/254	194 (xt) 200 (int) 203 (mz)	206 cps	254 270 Kcps	204 cps	196/194 264 Kcps	206/238 206/254 206/270	207/206 Check after each!!!

A.27-1	19:42	5.69	11000	1700	146	.50	21.3	2286±25	2621±14	✓	lots of spikes, some R's.
A.28-1	19:51		high	204,			lots of primary spikes.				
			Burning up	duo	ul	are	current	adjustment.			
A.28-1	19:51										
TEM.5-1	21:12	5.92	10k	200	111	1.6	20.7	413±7	-	✓	
TEM.4-2	21:34	6.23	10k	250	134	1.5	23.2	398±8	-	✓	
A.29-1	22:06	6.29	9300	1200	95	.73	23.3	2649±54	2696±25	✓	
A.30-1	22:27		high	204,			aborted.			✓	
A.31-1	22:50	6.16	10k	2.3k	197	.60	23.2	2231±36	2653±12	✓	
A.32-1	23:08		high	204,			aborted.				
A.32-2	23:15		high	204,			aborted.				
A.33-1	23:38	6.16	10k	2900	198	.13	23.5	2611±28	2714±9	✓	Pi spikes. last scan.
TEM.6-1	00:03	6.22	9900	320	172	41.7	23.8	399±8	-	✓	Pi: step changes.
TEM.6-2	00:23	6.10	10k	450	225	.54	22.4	414±6	-		Pi: spikes, step down.
			Gas ↓ to 300,	pi. current	↑ to 80.		(Low 330/70),	trying			
			to fix pi	spikes + steps.							
TEM.7-1	01:06	6.17	12000	290	127	.62	22.3	413±10	316±140	✓	1st scan ruined by -ve spikes + steps.
0108:			Spikes same or worse.	Gas ↑ to 350,			+ magnet cycle.				
0133:			No change, burning up duo.								
			Duo cools down,	magnet cycling.							
			magnet cycling...	some spikes,	not much better.						

2nd spot on older res!

Note: Bold = constant for stds & unknowns.....check after each analysis; also check offsets.

Sample/ Std ID	Time on printout	UO/U 254/238	196 (Zr) Kcps	206 cps	U ppm	f ₂₀₆ %	Sensit.	Age+/-1σ (Ma) 206/238 207/206		Offsets OK?	
Alternative		UO2/UO 270/254	194 (xt) 200 (int) 203 (mz)	206 cps	254 270 Kcps	204 cps	196/194 264 Kcps	206/238 206/254 206/270	207/206	Check after each!!!	
D3: 67 8.23-2	05:28	6.04	11k	930	86	.53	22.4	2032 ± 29	2629 ± 28	✓	no pri spikes !!!
8.23-2	04:10	5.91	12k	4600	503	1.1	23.8	1634 ± 15	2375 ± 15	✓	Moderate spike + step in pri
8.23-3	04:32	5.89	11k	3100	213	.06	23.1	2695 ± 24	2741 ± 8	✓	initial spikes only: sc #1
TEM. 8-1	04:52	6.25	10k	180	95.6	1.9	23.4	397 ± 8	-	✓	Pri spikes at end but not on scan sc #6 only
A. 34-1	05:26	6.23	10k	2600	175	.19	23.4	2664 ± 62	2736 ± 11	✓	
A. 34-2	05:45	5.75	11k	1.7k	127	.63	18.7	2592 ± 32	2690 ± 15	✓	Scan #4 ruined by spikes.
A. 34-3	06:04	5.83	10k	1.9k	136	.322	21.7	2696 ± 86	2751 ± 15	✓	Sc 2 ruined.
TEM. 9-1	06:25	6.15	9400	250	140	1.7	22.6	4114 ± 10	-	✓	
TEM. 10-1	06:43	6.20	9900	180	95	2.2	23.5	400 ± 9	-	✓	
TEM. 11-1	07:03	Primary spikes missed last 3 scans.									
TEM. 11-2	07:22	6.15	9700	270	151	1.2	23	410 ± 8	-	✓	
FCZ. 1-2	07:48	6.16	9800	1400	556	.10	23.1	564 ± 5	591 ± 40	✓	
TEM. 12-1	08:11	6.24	9800	620	333	.66	24	409 ± 6	-	✓	