

~~SHRIMP ZIRCON U-Pb~~

UWA DATA LOG: SHRIMP ZIRCON U-Pb

Date: 9/1/99 UWA Mount No.: 98-69 Whose sample?: CAdams/MEB Operator(s): McN + AP

Indicate any change to the following: 196 204 bkg 206 207 208 238 248 254 270
~~PreCambrian~~ Count time (secs): 2 7 7 15 7 5 3 2 2
 Phanerozoic* Delay time (secs): 8 3 1 2 1 1 3 2 2
 expected 196-204 = 8.170 amu expected 204-bkg = 0.045 amu Dead-time = 32 nanosecs
 actual 196-204 = 8.170 actual 204-bkg = 0.045 expected resolution = >4200
 actual 206-207 = 1.000 actual 206-208 = 2.000 actual resolution = 4875
 Primary = 2.85 nA PESABM = 40 pA actual Primary : PESABM (= 50:1) = 71
 Raster time (mins): 1 Raster aperture (microns): 120 No. of scans: 4

Comments: A = R21180

NB: Offsets bet 207+208 vs 206 changed after analysis A8-1, low 206 counts affect real center
 ∴ change offsets for 11-1. Note that change was minor. 207 mass trim 207.85188 → .85529
 208 " " 208.8211 → .85524

NB: 1° stable but drifting up.

After multiple crashes → new calibration, 10 = 3.4, (sl4-2) offsets 0.004 higher even though overlap perfectly in mass scan. Changed offset to 1.22 resp for sl 4-3 checked in mass scan & peaks overlapped perfectly

Rejection over-ride	Sample/ Std ID	Time - printout	UO/U Kcps	196 cps	206 cps	U ppm	204Pb ppb	f206 %	Age ±1σ (Ma) 206/238 207/206	Offsets OK?	
	sl. 6-1	10:55	6.59	11.9	1111	220	0.8	.07	572 ± 2	611 ± 64	OK
	sl. 6-2	11:07	6.43	12.4	1129	222	2.5	.21	597 ± 2	478 ± 65	"
	A. 1-1	11:18	6.41	12.3	608	121	1.6	.23	598 ± 2	813 ± 87	"
	A. 2-1	11:28	6.50	11.9	327	207	1.9	.54	192 ± 1	102 ± ?	"
	sl. 6-3	11:39	6.28	12.4	1101	230	2.0	.16	601 ± 2	464 ± 68	11 0.9999
	A. 3-1	11:52	6.49	12.0	76	34	-ve	-ve	268 ± 1	140 ± ?	" 0.9999
	A. 4-1	12:03	6.55	12.1	480	196	-ve	-ve	284 ± 1	140 ± 95	"
1° = 2.9 → but stable	A. 5-1	12:14	6.28	11.1	306	75	0.1	0.03	573 ± 3	546 ± 106	"
1° = 3.0 → but stable	A. 6-1	12:28	6.54	13.3	1512	164	2.3	0.15	936 ± 4	1004 ± 46	0.9998
" 1° extremely stable	A. 7-1	12:40	6.31	13.9	105	49	0.0	-	247 ± 1	111 ± 2	OK 1.9997
"	sl. 6-4	12:51	6.41	13.7	1243	219	-ve	-ve	608 ± 2	627 ± 48	" 0.9998 0.9999

$n_{std} = 4$ %error = 1.32 (Actual 1.90, % = 1.31)

$n_A = 13$

Rejection over-ride Sample/Std ID Time - printout UO/U Kcps 196 Kcps 206 cps U ppm 204pb ppb f206 % Age ±1σ (Ma) 206/238 207/206 Offsets JK?

Rejection over-ride	Sample/Std ID	Time - printout	UO/U	196 Kcps	206 cps	U ppm	204pb ppb	f206 %	Age ±1σ (Ma)	206/238	207/206	Offsets JK?
<i>i^o = 3.0</i>	<i>probs with centering on 206. extremely low U!</i>	A. 8-1	13:04	6.24	14.5	37	15	-ve	-ve	283 ± 2	0	OK 0.1K
"	O.K.	A. 9-1	13:16	6.45	13.6	406	149	1.8	0.46	295 ± 1	67	OK 0.9969 1.19965
<i>i^o = 3.1 stable</i>	O.K.	A. 10-1	13:27	6.36	14.2	769	282	-ve	-ve	296 ± 1	223 ± 72	OK not good 14.0% good
<i>changed 207 ± 208 per offset.</i>		A. 11-1	13:48	6.18	14.3	862	208	-0.9	-	483 ± 1	757 ± 55	OK 1.0 = 2.0 =
<i>i^o = 3.2 stable</i>		A. 12-1	13:59	6.45	14.2	384	115	0.8	0.24	343 ± 2	179 ± 0	O.K.
		A. 13-1	14:11	6.49	13.7	853	620	1.7	0.21	147 ± 1	116 ± 120	OK.
<i>i^o - error messages turned off i^o beam.</i>		sl. 5-1										Error Messages
<i>New calibraⁿ</i>	<i>spiky & noisy. 206 scan</i>	sl. 4-1	18:43	6.66	12.1	1214	220	0.1	0.01	572 ± ?	309 ± ?	8.171 1.004 2.004 <i>i^o = 2.0</i>
<i>new calibraⁿ std →</i>	<i>i^o = 3.4 nA</i>	sl. 4-2	19:13	6.63	10.8	1424	220	0.2	0.02	572 ± 2	353 ± 54	8.171 1.004 2.004 <i>g mass scan of</i>
		sl. 4-3	19:25									
		A. 15-1										

if include all stds except sl. 5-1...

nstd = 7 % error = 1.78 (Actual slope = 2.47 % = 1.41)