

**UWA DATA LOG: SHRIMP ZIRCON U-Pb**

Date: 5/1/99 UWA Mount No.: 98-89 Whose sample?: Yunnan Operator(s): McN + YQ

Indicate any change to the following: 196 204 bkg 206 207 208 238 248 254 270

~~Precambrian~~ Count time (secs): 2 10 10 10/20\* 30/10\* 10 5 5 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 = 8.166      actual 204-bkg = 0.045      expected resolution = >4200  
 actual 206-207 = 1.000      actual 206-208 = 2.000      actual resolution = 5450

Primary = 4.4 nA    PESABM = 65 pA    actual Primary : PESABM (≈ 50:1) = 68  
 Raster time (mins): 1    Raster aperture (microns): 120    No. of scans: 6

Comments: \*  $\theta$  drifted down → restarted after 2 scans → continued to drift down!

A = HDM-19  
 B = JCHY-9  
 C = HNH-1

⊕ steady drop in  $\theta$

| 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. 1-1        | 11:35           | 6.79      | 24.2    | 2397    | 220   | 0.2       | -0.2   | 572 ± 1              | 573 ± 26 | OK          |
|                     | * sl. 1-2      | 11:57           | 6.62      | 21.9    | 2084    | 232   | 0.2       | -0.2   | 561 ± 1              | 660 ± 27 | "           |
|                     | ⊕ sl. 1-3      | 12:14           | 6.62      | 23.1    | 2333    | 233   | 1.1       | -0.8   | 594 ± 1              | 609 ± 28 | "           |
|                     | ⊕ A.37-1       | 12:31           | 6.53      | 22.7    | 246     | 73    | 1.0       | .74    | 218 ± 1              | 35 ± ?   | "           |
|                     | A.2-1          | 12:47           | 6.59      | 23.3    | 374     | 165   | 0.0       | .001   | 140 ± 1              | /        | "           |
|                     | sl. 1-4        | 13:04           | 6.70      | 22.4    | 2389    | 231   | -0.7      | /      | 610 ± 1              | 609 ± 24 | "           |
|                     | A.3-1          | 13:21           | 6.74      | 22.8    | 100     | 40.8  | 2.0       | 2.98   | 140 ± 2              | /        | "           |
|                     | A.4-1          | 13:37           | 6.66      | 22.7    | 113     | 48.3  | -0.3      | 1.99   | 140 ± 1              | /        | "           |
|                     | sl. 2-1        | 13:54           | 6.48      | 22.4    | 2269    | 238   | 2.1       | -0.15  | 620 ± 1              | 567 ± 33 | "           |
|                     | A.5-1          | 14:14           | 6.53      | 22.2    | 253     | 93.6  | 0.4       | -0.29  | 178 ± 1              | 272 ± ?  | "           |
|                     | A.5-2          | 14:30           | 6.62      | 22.9    | 1295    | 326   | 1.4       | -0.20  | 243 ± 1              | /        | "           |

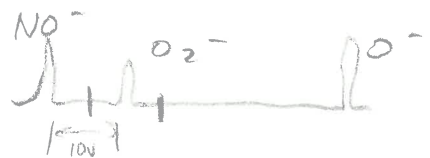
196 238 248 254  
 206 238 248  
 206 206 All  
 196 238 248 254  
 196 204 248 54  
 196 207 38 48  
 196 206 248 254  
 196 206 48 54  
 196 206

⊕ slight drop in 1° during analysis

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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 OK?

| 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 OK? |
|------------------------|---------------|-----------------|------|----------|---------|-------|-----------|--------|----------------------|-----------|-------------|
| 196 206 208 238 250    | A.6-1         | 14:47           | 6.58 | 22.5     | 668     | 257   | 0.9       | .24    | 166 ± 1              | 202 ± 85  | OK          |
| 196 206 208 250 ⊕      | sl.2-2        | 15:04           | 6.67 | 22.0     | 2335    | 232   | 5.3       | -.40   | 607 ± 1              | 590 ± 34  | "           |
| 196 206 250            | A.6-2         | 15:21           | 6.61 | 22.3     | 789     | 259   | 2.2       | .50    | 193 ± 1              | /         | "           |
| 38 48 50               | A.7-1         | 15:38           | 6.59 | 22.3     | 220     | 106   | 0.1       | .12    | 133 ± 1              | 197 ± 120 | "           |
| 196 238 254 ⊕          | A.7-2         | 15:55           | 6.87 | 20.3     | 97.5    | 433   | 0.1       | .25    | 140 ± 1              | 311 ± 232 | "           |
| 196 206 238 254        | sl.2-3        | 16:12           | 6.42 | 23.7     | 2338    | 239   | 1.2       | -.09   | 618 ± 1              | 542 ± 27  | "           |
| 196 238 254            | A.8-1         | 16:30           | 6.56 | 22.0     | 263     | 121   | 0.2       | .16    | 143 ± 1              | 187 ± 136 | "           |
| 196 238                | A.9-1         | 16:48           | 6.27 | 24.6     | 95.3    | 34.3  | 0.0       | /      | 189 ± 1              | 361 ± 135 | "           |
| 196 208 254            | A.9-2         | 17:07           | 6.58 | 22.1     | 138     | 24.8  | 0.7       | .83    | 356 ± 3              | 209 ± ?   | "           |
| 196 206 238 38 80      | A.10-1        | 17:26           | 6.30 | 23.0     | 2.8K    | 72.2  | -0.1      | /      | 2307 ± 8             | 2506 ± 11 | "           |
| 196 206 238 250        | sl.2-4        | 17:43           | 6.46 | 23.2     | 2378    | 240   | -0.2      | /      | 630 ± 1              | 581 ± 24  | "           |
| 196 206 208 254        | A.10-2        | 18:01           | 6.36 | 23.6     | 7255    | 175   | 4.8       | .09    | 2315 ± 5             | 2628 ± 7  | 204         |
| 196 206 27 238 248 254 | A.13-1        | 18:25           | 6.22 | 21.8     | 93      | 50    | 0.8       | .03    | 142 ± 1              | 0         | 208         |
| 196 206 208            | A.14-1        | 18:41           | 6.47 | 23.4     | 157     | 69    | -0.5      | .49    | 146 ± 1              | 147       | 208         |
| 196 206 27 208         | A.15-1        | 18:58           | 6.3  | 22.7     | 126     | 63    | 0         | .39    | 144 ± 1              | 290       | 208         |
| 206                    | sl.1-1        | 19:17           | 6.19 | 24.2     | 2145    | 246   | -0.2      | /      | 628                  | 586       | 208         |
| 196 206 238 250        | A.23-1        | 19:56           | 6.47 | 23.7     | 223     | 74    | -0.1      | /      | 193 ± 1              | 172 ±     | /           |
| Did not print out      | A.21          | 19:30           | ?    |          |         |       |           |        | 139                  |           |             |
| 196 206 254            | A.24-1        | 20:15           | 6.3  | 23.3     | 207     | 125   | 0.5       |        | 139 ± 1              | 125       | 208         |
| 196 238                | A.25-1        | 20:35           | 7.16 | 20.2     | 119     | 37    | 1.0       | 1.4    | 174                  | 0         | 208         |
| 196 208                | A.25-2        | 20:52           | 6.44 | 23       | 382     | 155   | 1.3       | .1     | 157 ± 1              | 273       | 208         |
| 206 27 238             | sl.1-2        | 21:13           | 6.38 | 22.6     | 2258    | 245   | -0.3      | /      | <del>623</del>       | 454       | /           |
| 196                    | sl.1-3        | 21:32           | 6.53 | 23       | 2337    | 235   | 0         | /      | 615                  | 548       | /           |
| 196 208                | A.28-1        | 21:54           | 6.42 | 23.7     | 236     | 106   | 0.9       | 1.5    | 144                  | 0         | 208         |
| 196 208                | A.29-1        | 22:14           | 6.66 | 23       | 234     | 77    | -0.3      | /      | 182                  | 298       | /           |



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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 OK?

| 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 OK?    |
|---------------------------------|------------------|------------------|-----------------|-----------------|----------------|---------------|-----------------------|----------------|----------------------|----------------|----------------|
| 196 248                         | A30-1            | 22:33            | 6.85            | 21.9            | 149            | 60            | -0.2                  | .5             | 143                  | 122            | 218            |
|                                 | B1-1             | 22:51            | 6.34            | 27.3            | 3574           | 155           | 0.8                   | .03            | 203476               | 1867212        | 214            |
|                                 | B2-1             | 23:07            | 6.36            | 21.2            | 3919           | 129           | 1.9                   | .06            | 1985                 | 1812           | 220            |
| <del>Unstable wrong clean</del> | <del>S11-4</del> | <del>23:31</del> |                 |                 |                |               | <del>Wrong peak</del> |                |                      |                |                |
| 196 26 738 754                  | S11-5            | 0:02             | 6.68            | 23.2            | 2340           | 220           | 0.3                   | .03            | 612                  | 545            | 208            |
|                                 | B3-1             | 0:18             | 6.49            | 24.9            | 4891           | 128           | 0.8                   | .03            | 1996                 | 1869           | 224            |
|                                 | B3a-1            | 0:34             | 6.58            | 23.             | 3609           | 95            | 1.5                   | .06            | 1977                 | 1848           | 226            |
|                                 | B22-1            | 0:55             | 6.62            | 22.1            | 2708           | 76            | 1.1                   | .06            | 1981                 | 1867           | 214            |
|                                 | Bd-1             | 1:12             | 5.82            | 23.5            | 1974           | 59            | 0.6                   | .03            | 2482                 | 1858           | 220            |
| 196 26 254                      | S1-6             | 1:30             | 6.46            | 25.2            | 2472           | 233           | 0.4                   | .03            | 620                  | 533            | 208            |
|                                 | B60-1            | 1:47             | 6.56            | 25.1            | 3248           | 80            | 0                     | 0              | 2043                 | 1872           | 224            |
|                                 | B61-1            | 2:04             | 6.37            | 25.6            | 2915           | 77            | 0.7                   | .04            | 2017                 | 1839           | 204            |
|                                 | B62-1            | 2:21             | 6.39            | 25.4            | 2119           | 56            | 0.3                   | .05            | 2034                 | 1846           | 224            |
|                                 | B23-1            | 2:39             | 6.68            | 24.5            | 3962           | 95            | -1.1                  | .02            | 2014                 | 1882           | 208            |
|                                 | B24-1            | 2:55             | 6.74            | 24.             | 2308           | 55            | -0.5                  | ✓              | 2015                 | 1856           | —              |
| 206 30 48                       | S12-1            | 3:13             | 6.45            | 24.9            | 2509           | 238           | 0.7                   | .01            | 624                  | 600            | 208            |
| 196 228                         | S13-1            | 3:31             | 6.57            | 24.5            | 2578           | 237           | 0.3                   | .04            | 620                  | 589            | 208            |
|                                 | B15-1            | 3:48             | 6.45            | 24.4            | 4634           | 127           | 1.0                   | .03            | 1981                 | 1857           | 224            |
|                                 | B27-1            | 4:05             | 6.68            | 23.5            | 4340           | 111           | 0.4                   | .02            | 1986                 | 1907           | 224            |
|                                 | C1-1             | 4:22             | 6.42            | 25.6            | 725            | 240           | -0.1                  | .1             | 183                  | 138            | 208            |
|                                 | C2-1             | 4:39             | 6.68            | 25.5            | 515            | 151           | -0.5                  | .3             | 183                  | 57             | 208            |
|                                 | C3-1             | 4:55             | 7.02            | 13.3            | 202            | 96            | 0.8                   | .17            | 188                  | 258            | 208            |
|                                 | <del>S13-2</del> | <del>4:55</del>  | <del>7.02</del> | <del>13.3</del> | <del>202</del> | <del>96</del> | <del>0.8</del>        | <del>.17</del> | <del>188</del>       | <del>259</del> | <del>208</del> |
| 196 26 254                      | S13-2            | 5:13             | 6.57            | 26.             | 2616           | 237           | 0.3                   | .06            | 609                  | 613            | 208            |
|                                 | C4-1             | 5:31             | 6.33            | 25.             | 572            | 224           | 0                     | .29            | 182                  | 188            | 208            |



\*  $206-207 = 1.001$   
 $206-208 = 2.001$

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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 OK?

|                       |        |      |      |      |      |     |      |     |         |           |     |
|-----------------------|--------|------|------|------|------|-----|------|-----|---------|-----------|-----|
|                       | C5-1   | 6:10 | 6.56 | 25.1 | 33   | 11  | -0.1 | 1.4 | 173     | 0         | 208 |
|                       | C6-1   | 6:29 | 6.55 | 25.8 | 467  | 140 | 3.0  | .98 | 182     | 0         | 208 |
|                       | C7-1   | 6:47 | 6.24 | 25.1 | 194  | 70  | 0.3  | .3  | 185     | 217       | 208 |
|                       | C8-1   | 7:04 | 6.7  | 25.  | 413  | 134 | 1.1  | .58 | 181     | 75        | 204 |
| 196 208 25*           | S13-3  | 7:20 | 6.45 | 25.7 | 2578 | 238 | 0.1  | 102 | 624     | 580       | 208 |
|                       | C9-1   | 7:38 | 6.72 | 24.7 | 716  | 214 | 0.6  | .2  | 183     | 137       | 208 |
|                       | C10-1  | 7:55 | 6.77 | 23.9 | 423  | 129 | 2.5  | .26 | 181     | 88        | 208 |
|                       | C11-1  | 8:11 | 7.16 | 25.  | 433  | 117 | 0.4  | .2  | 164     | 145       | 208 |
|                       | C14-1  | 8:29 | 6.36 | 24.2 | 426  | 160 | 1.3  | .53 | 175 ± 1 | 78 ± ?    | OK* |
|                       | C14-2  | 8:46 | 6.49 | 25.7 | 507  | 164 | 0.9  | .34 | 179 ± 1 | 104 ± 104 | OK* |
| 196 208               | S1.4-2 | 9:03 | 6.63 | 25.2 | 2566 | 225 | 0.3  | .02 | 617 ± 1 | 591 ± 25  | OK* |
| <u>END OF SESSION</u> |        |      |      |      |      |     |      |     |         |           |     |

$n = 18$        $A = 26$   
 $206/U = 2.054 ± 3$   
 $207/U = 6.51598$   
 $208/U = 0.207391$

$1-σ = 1.76\%$