

Table 4s U-Pb data for Phalabowa Zircon

| Analysis     | Pb <sup>a</sup> | U <sup>a</sup> | Th/U | <sup>207</sup> Pb <sup>b</sup> | <sup>238</sup> U <sup>b</sup> | RATIOS                                            |        |                                                  |        |                                                  |        |                  | AGES [Ma]                            |    |                                     |    |                                     |    |
|--------------|-----------------|----------------|------|--------------------------------|-------------------------------|---------------------------------------------------|--------|--------------------------------------------------|--------|--------------------------------------------------|--------|------------------|--------------------------------------|----|-------------------------------------|----|-------------------------------------|----|
|              | [ppm]           | [ppm]          |      | [cps]                          | [cps]                         | <sup>207</sup> Pb/ <sup>206</sup> Pb <sup>c</sup> | 2s     | <sup>207</sup> Pb/ <sup>235</sup> U <sup>c</sup> | 2s     | <sup>206</sup> Pb/ <sup>238</sup> U <sup>c</sup> | 2s     | rho <sup>d</sup> | <sup>207</sup> Pb/ <sup>206</sup> Pb | 2s | <sup>207</sup> Pb/ <sup>235</sup> U | 2s | <sup>206</sup> Pb/ <sup>238</sup> U | 2s |
|              |                 |                |      |                                |                               | Date: 2016-6-3                                    |        |                                                  |        |                                                  |        |                  |                                      |    |                                     |    |                                     |    |
| Phalabowa-1  | 23              | 44             | 1.2  | 675                            | 15765                         | 0.1271                                            | 0.0049 | 6.5837                                           | 0.2481 | 0.3761                                           | 0.0061 | 0.43             | 2058                                 | 58 | 2057                                | 33 | 2058                                | 29 |
| Phalabowa-2  | 59              | 104            | 1.6  | 1670                           | 38508                         | 0.1253                                            | 0.0035 | 6.5051                                           | 0.1791 | 0.3764                                           | 0.0042 | 0.40             | 2033                                 | 48 | 2047                                | 24 | 2059                                | 20 |
| Phalabowa-3  | 48              | 84             | 1.6  | 1432                           | 32818                         | 0.1255                                            | 0.0035 | 6.5247                                           | 0.1872 | 0.3770                                           | 0.0050 | 0.46             | 2036                                 | 48 | 2049                                | 25 | 2062                                | 24 |
| Phalabowa-4  | 40              | 71             | 1.4  | 1263                           | 29129                         | 0.1261                                            | 0.0038 | 6.5542                                           | 0.1962 | 0.3766                                           | 0.0044 | 0.39             | 2044                                 | 53 | 2053                                | 27 | 2060                                | 21 |
| Phalabowa-5  | 19              | 35             | 1.2  | 656                            | 15142                         | 0.1281                                            | 0.0049 | 6.6655                                           | 0.2501 | 0.3775                                           | 0.0056 | 0.39             | 2072                                 | 67 | 2068                                | 33 | 2065                                | 26 |
| Phalabowa-6  | 29              | 52             | 1.4  | 1021                           | 23647                         | 0.1238                                            | 0.0037 | 6.4554                                           | 0.1899 | 0.3776                                           | 0.0057 | 0.51             | 2013                                 | 52 | 2040                                | 26 | 2065                                | 27 |
| Phalabowa-7  | 28              | 52             | 1.3  | 812                            | 18668                         | 0.1282                                            | 0.0046 | 6.6586                                           | 0.2312 | 0.3770                                           | 0.0059 | 0.45             | 2073                                 | 63 | 2067                                | 31 | 2062                                | 28 |
| Phalabowa-8  | 62              | 107            | 1.7  | 1746                           | 40132                         | 0.1257                                            | 0.0039 | 6.5295                                           | 0.1972 | 0.3765                                           | 0.0039 | 0.34             | 2039                                 | 53 | 2050                                | 27 | 2060                                | 18 |
| Phalabowa-9  | 48              | 83             | 1.6  | 1430                           | 32692                         | 0.1263                                            | 0.0035 | 6.5454                                           | 0.1735 | 0.3761                                           | 0.0045 | 0.45             | 2047                                 | 50 | 2052                                | 24 | 2058                                | 21 |
| Phalabowa-10 | 38              | 68             | 1.4  | 1227                           | 28210                         | 0.1272                                            | 0.0039 | 6.5972                                           | 0.1848 | 0.3763                                           | 0.0045 | 0.43             | 2061                                 | 55 | 2059                                | 25 | 2059                                | 21 |
| Phalabowa-11 | 17              | 34             | 1.1  | 634                            | 14675                         | 0.1280                                            | 0.0048 | 6.5933                                           | 0.2475 | 0.3732                                           | 0.0052 | 0.37             | 2072                                 | 67 | 2058                                | 33 | 2045                                | 24 |
| Phalabowa-12 | 36              | 68             | 1.1  | 1372                           | 31256                         | 0.1277                                            | 0.0037 | 6.5888                                           | 0.1742 | 0.3740                                           | 0.0041 | 0.42             | 2078                                 | 49 | 2058                                | 23 | 2048                                | 20 |
| Phalabowa-13 | 23              | 45             | 1.1  | 702                            | 16197                         | 0.1278                                            | 0.0047 | 6.6173                                           | 0.2618 | 0.3752                                           | 0.0062 | 0.42             | 2069                                 | 66 | 2062                                | 35 | 2054                                | 29 |
| Phalabowa-14 | 61              | 106            | 1.6  | 1737                           | 39803                         | 0.1262                                            | 0.0034 | 6.5320                                           | 0.1716 | 0.3754                                           | 0.0038 | 0.38             | 2056                                 | 48 | 2050                                | 23 | 2055                                | 18 |
| Phalabowa-15 | 42              | 75             | 1.5  | 1302                           | 29574                         | 0.1265                                            | 0.0042 | 6.5854                                           | 0.2178 | 0.3774                                           | 0.0045 | 0.36             | 2050                                 | 59 | 2057                                | 29 | 2064                                | 21 |
| Phalabowa-16 | 38              | 68             | 1.4  | 1251                           | 28401                         | 0.1290                                            | 0.0038 | 6.7093                                           | 0.1862 | 0.3770                                           | 0.0045 | 0.43             | 2085                                 | 52 | 2074                                | 25 | 2062                                | 21 |
| Phalabowa-17 | 38              | 70             | 1.4  | 1326                           | 30684                         | 0.1271                                            | 0.0038 | 6.5330                                           | 0.1866 | 0.3727                                           | 0.0048 | 0.45             | 2058                                 | 52 | 2050                                | 25 | 2042                                | 22 |
| Phalabowa-18 | 40              | 69             | 1.5  | 1393                           | 32164                         | 0.1267                                            | 0.0028 | 6.5370                                           | 0.1486 | 0.3738                                           | 0.0041 | 0.48             | 2054                                 | 40 | 2051                                | 20 | 2047                                | 19 |
| Phalabowa-19 | 29              | 55             | 1.2  | 856                            | 19719                         | 0.1274                                            | 0.0046 | 6.5750                                           | 0.2302 | 0.3745                                           | 0.0057 | 0.44             | 2063                                 | 63 | 2056                                | 31 | 2050                                | 27 |
| Phalabowa-20 | 42              | 70             | 1.5  | 1175                           | 26698                         | 0.1259                                            | 0.0037 | 6.5755                                           | 0.1886 | 0.3789                                           | 0.0047 | 0.43             | 2043                                 | 61 | 2056                                | 25 | 2071                                | 22 |
| Phalabowa-21 | 45              | 80             | 1.5  | 1385                           | 31667                         | 0.1268                                            | 0.0046 | 6.5568                                           | 0.2282 | 0.3750                                           | 0.0061 | 0.47             | 2055                                 | 65 | 2054                                | 31 | 2053                                | 29 |
| Phalabowa-22 | 38              | 68             | 1.5  | 1234                           | 28620                         | 0.1270                                            | 0.0037 | 6.5931                                           | 0.1862 | 0.3763                                           | 0.0045 | 0.43             | 2058                                 | 51 | 2058                                | 25 | 2059                                | 21 |

|              |    |     |     |      |       |        |        |        |        |        |        |      |      |    |      |    |      |    |
|--------------|----|-----|-----|------|-------|--------|--------|--------|--------|--------|--------|------|------|----|------|----|------|----|
| Phalabowa-23 | 38 | 70  | 1.3 | 1353 | 30926 | 0.1277 | 0.0036 | 6.6002 | 0.1864 | 0.3745 | 0.0052 | 0.50 | 2066 | 48 | 2059 | 25 | 2050 | 25 |
| Phalabowa-24 | 38 | 64  | 1.7 | 1294 | 30020 | 0.1255 | 0.0034 | 6.5245 | 0.1689 | 0.3769 | 0.0048 | 0.49 | 2036 | 48 | 2049 | 23 | 2062 | 23 |
| Phalabowa-25 | 63 | 111 | 1.6 | 1745 | 40221 | 0.1269 | 0.0039 | 6.5559 | 0.2069 | 0.3744 | 0.0045 | 0.38 | 2055 | 55 | 2053 | 28 | 2050 | 21 |
| Phalabowa-26 | 56 | 98  | 1.6 | 1620 | 37210 | 0.1253 | 0.0035 | 6.5072 | 0.1831 | 0.3765 | 0.0048 | 0.45 | 2035 | 49 | 2047 | 25 | 2060 | 23 |
| Phalabowa-27 | 44 | 77  | 1.5 | 1348 | 30930 | 0.1259 | 0.0039 | 6.5428 | 0.1981 | 0.3766 | 0.0049 | 0.43 | 2043 | 54 | 2052 | 27 | 2060 | 23 |
| Phalabowa-28 | 34 | 62  | 1.3 | 1138 | 26289 | 0.1281 | 0.0041 | 6.6709 | 0.2131 | 0.3773 | 0.0047 | 0.39 | 2072 | 56 | 2069 | 28 | 2064 | 22 |
| Phalabowa-29 | 41 | 73  | 1.5 | 1414 | 32466 | 0.1265 | 0.0035 | 6.5250 | 0.1759 | 0.3734 | 0.0048 | 0.48 | 2050 | 50 | 2049 | 24 | 2046 | 23 |
| Phalabowa-30 | 33 | 62  | 1.0 | 1281 | 29342 | 0.1296 | 0.0032 | 6.6635 | 0.1744 | 0.3727 | 0.0052 | 0.53 | 2092 | 44 | 2068 | 23 | 2042 | 24 |

**Date: 2016-6-6**

|              |     |     |     |      |        |        |        |        |        |        |        |      |      |    |      |    |      |    |
|--------------|-----|-----|-----|------|--------|--------|--------|--------|--------|--------|--------|------|------|----|------|----|------|----|
| Phalabowa-31 | 229 | 329 | 3.3 | 5558 | 144395 | 0.1268 | 0.0046 | 6.7470 | 0.2405 | 0.3851 | 0.0068 | 0.50 | 2055 | 54 | 2079 | 32 | 2100 | 32 |
| Phalabowa-32 | 242 | 349 | 3.2 | 6099 | 154591 | 0.1242 | 0.0047 | 6.4978 | 0.2790 | 0.3788 | 0.0082 | 0.50 | 2018 | 68 | 2046 | 38 | 2071 | 38 |
| Phalabowa-33 | 191 | 279 | 3.1 | 4986 | 124235 | 0.1238 | 0.0039 | 6.4657 | 0.2546 | 0.3783 | 0.0103 | 0.69 | 2013 | 56 | 2041 | 35 | 2069 | 48 |
| Phalabowa-34 | 191 | 271 | 3.0 | 5130 | 122056 | 0.1261 | 0.0035 | 6.5590 | 0.2539 | 0.3772 | 0.0117 | 0.80 | 2044 | 48 | 2054 | 34 | 2063 | 55 |
| Phalabowa-35 | 128 | 210 | 2.5 | 3767 | 96161  | 0.1264 | 0.0051 | 6.5875 | 0.2834 | 0.3775 | 0.0090 | 0.55 | 2048 | 70 | 2058 | 38 | 2064 | 42 |
| Phalabowa-36 | 219 | 325 | 3.2 | 5831 | 150819 | 0.1291 | 0.0051 | 6.7993 | 0.2808 | 0.3807 | 0.0079 | 0.50 | 2087 | 70 | 2086 | 37 | 2080 | 37 |
| Phalabowa-37 | 246 | 362 | 3.2 | 6181 | 159166 | 0.1292 | 0.0038 | 6.7299 | 0.2119 | 0.3771 | 0.0069 | 0.58 | 2087 | 52 | 2077 | 28 | 2063 | 32 |
| Phalabowa-38 | 213 | 314 | 3.1 | 5494 | 138888 | 0.1251 | 0.0043 | 6.4900 | 0.2506 | 0.3758 | 0.0076 | 0.53 | 2031 | 62 | 2045 | 34 | 2057 | 36 |
| Phalabowa-39 | 181 | 264 | 3.0 | 4795 | 117783 | 0.1253 | 0.0032 | 6.5292 | 0.2512 | 0.3771 | 0.0108 | 0.74 | 2035 | 47 | 2050 | 34 | 2063 | 50 |
| Phalabowa-40 | 200 | 286 | 3.1 | 5315 | 129229 | 0.1251 | 0.0035 | 6.4982 | 0.2495 | 0.3762 | 0.0093 | 0.65 | 2031 | 50 | 2046 | 34 | 2059 | 44 |
| Phalabowa-41 | 178 | 277 | 2.8 | 4779 | 127287 | 0.1231 | 0.0041 | 6.4046 | 0.2283 | 0.3766 | 0.0074 | 0.55 | 2067 | 59 | 2033 | 31 | 2060 | 35 |
| Phalabowa-42 | 219 | 327 | 3.1 | 5846 | 152381 | 0.1277 | 0.0045 | 6.6379 | 0.2554 | 0.3755 | 0.0072 | 0.50 | 2078 | 62 | 2064 | 34 | 2055 | 34 |
| Phalabowa-43 | 229 | 338 | 3.2 | 5792 | 148585 | 0.1275 | 0.0039 | 6.6706 | 0.2386 | 0.3788 | 0.0084 | 0.62 | 2065 | 64 | 2069 | 32 | 2071 | 39 |
| Phalabowa-44 | 193 | 286 | 3.0 | 5041 | 126575 | 0.1251 | 0.0039 | 6.5358 | 0.2558 | 0.3787 | 0.0108 | 0.73 | 2031 | 55 | 2051 | 35 | 2070 | 51 |
| Phalabowa-45 | 235 | 322 | 3.4 | 5982 | 143790 | 0.1265 | 0.0031 | 6.6145 | 0.2273 | 0.3790 | 0.0101 | 0.77 | 2050 | 44 | 2061 | 30 | 2071 | 47 |
| Phalabowa-46 | 221 | 310 | 3.3 | 5777 | 140510 | 0.1253 | 0.0033 | 6.5833 | 0.2369 | 0.3805 | 0.0094 | 0.69 | 2035 | 48 | 2057 | 32 | 2079 | 44 |
| Phalabowa-47 | 170 | 266 | 2.9 | 4579 | 122137 | 0.1230 | 0.0039 | 6.4786 | 0.2472 | 0.3809 | 0.0087 | 0.60 | 2067 | 56 | 2043 | 34 | 2080 | 41 |

|              |     |     |     |      |        |        |        |        |        |        |        |      |      |    |      |    |      |    |
|--------------|-----|-----|-----|------|--------|--------|--------|--------|--------|--------|--------|------|------|----|------|----|------|----|
| Phalabowa-48 | 200 | 299 | 3.1 | 5382 | 139739 | 0.1259 | 0.0040 | 6.5720 | 0.2394 | 0.3775 | 0.0092 | 0.67 | 2043 | 57 | 2056 | 32 | 2064 | 43 |
| Phalabowa-49 | 225 | 333 | 3.2 | 5693 | 146570 | 0.1264 | 0.0042 | 6.5707 | 0.2597 | 0.3763 | 0.0077 | 0.52 | 2050 | 59 | 2055 | 35 | 2059 | 36 |
| Phalabowa-50 | 190 | 282 | 3.1 | 5010 | 125363 | 0.1248 | 0.0038 | 6.5154 | 0.2485 | 0.3780 | 0.0098 | 0.68 | 2028 | 54 | 2048 | 34 | 2067 | 46 |
| Phalabowa-51 | 235 | 319 | 3.4 | 5980 | 142651 | 0.1262 | 0.0031 | 6.6097 | 0.2234 | 0.3791 | 0.0089 | 0.69 | 2047 | 53 | 2061 | 30 | 2072 | 42 |
| Phalabowa-52 | 240 | 339 | 3.2 | 6171 | 153810 | 0.1241 | 0.0036 | 6.5071 | 0.2140 | 0.3800 | 0.0073 | 0.58 | 2017 | 52 | 2047 | 29 | 2076 | 34 |
| Phalabowa-53 | 152 | 245 | 2.7 | 4345 | 112802 | 0.1283 | 0.0054 | 6.7350 | 0.2927 | 0.3795 | 0.0087 | 0.53 | 2076 | 83 | 2077 | 39 | 2074 | 41 |
| Phalabowa-54 | 195 | 286 | 3.0 | 5579 | 133843 | 0.1255 | 0.0037 | 6.6224 | 0.2709 | 0.3816 | 0.0102 | 0.66 | 2035 | 52 | 2062 | 36 | 2084 | 48 |
| Phalabowa-55 | 228 | 333 | 3.1 | 5757 | 146929 | 0.1241 | 0.0051 | 6.5457 | 0.2997 | 0.3818 | 0.0081 | 0.47 | 2016 | 74 | 2052 | 40 | 2085 | 38 |
| Phalabowa-56 | 187 | 273 | 3.0 | 4871 | 121311 | 0.1252 | 0.0037 | 6.5579 | 0.2639 | 0.3792 | 0.0103 | 0.68 | 2031 | 52 | 2054 | 36 | 2073 | 48 |
| Phalabowa-57 | 228 | 313 | 3.2 | 5841 | 139978 | 0.1257 | 0.0030 | 6.5338 | 0.2246 | 0.3764 | 0.0100 | 0.77 | 2039 | 43 | 2050 | 30 | 2059 | 47 |
| Phalabowa-58 | 225 | 326 | 3.2 | 5919 | 148470 | 0.1249 | 0.0043 | 6.5402 | 0.2219 | 0.3796 | 0.0078 | 0.61 | 2028 | 61 | 2051 | 30 | 2075 | 37 |
| Phalabowa-59 | 150 | 241 | 2.7 | 4177 | 111421 | 0.1253 | 0.0052 | 6.6156 | 0.3195 | 0.3818 | 0.0117 | 0.64 | 2032 | 73 | 2061 | 43 | 2085 | 55 |
| Phalabowa-60 | 141 | 220 | 2.7 | 4125 | 102893 | 0.1264 | 0.0046 | 6.6446 | 0.3011 | 0.3803 | 0.0106 | 0.61 | 2050 | 64 | 2065 | 40 | 2078 | 49 |

<sup>a</sup> U and Pb concentrations and Th/U ratios are calculated relative to NIST 610 with laser fluence of 4 J/cm<sup>2</sup> and repetition of 4 Hz

<sup>b</sup> Within-run background-corrected mean <sup>207</sup>Pb and <sup>238</sup>U signal in counts per second [cps]

<sup>c</sup> Corrected for background and within-run Pb/U fractionation and normalized to reference zircon 91500; <sup>207</sup>Pb/<sup>235</sup>U calculated using (<sup>207</sup>Pb/<sup>206</sup>Pb)/(<sup>238</sup>U/<sup>206</sup>Pb \* 1/137.818)

<sup>d</sup> Rho is the error correlation defined as the quotient of the propagated relative errors of the <sup>206</sup>Pb/<sup>238</sup>U and the <sup>207</sup>Pb/<sup>235</sup>U ratio