Dates (Ma)         206Pb/ 238U       ±2σ 238U       207Pb/ 238U       ±2σ 207Pb/ 235U abs       207Pb/ 236Pb abs       ±2σ 207Pb/ abs       206Pb abs       coef.       % disc c       238Th	Composition    Composition	Sotopic Ratios   Soto	Correlation Coefficients    206Pb/   207Pb/   235U   206Pb
R56-99::R56-99         z1       180.2       1.2       180.3       1.2       185       14       240       180       0.700       24.87       0         z3       180.88       0.37       180.96       0.37       182.0       4.5       197       59       0.712       8.30       0         z4       180.08       0.51       180.16       0.51       182.4       4.5       213       58       0.687       15.50       0         z13       186.9       1.4       187.0       1.4       190       17       227       210       0.806       17.76       0         z16       181.2       1.0       181.2       1.0       186       13       251       170       0.783       27.86       0         z19       180.65       0.71       180.74       0.71       184.4       9.3       233       120       0.773       22.32       0         z20       180.74       0.57       180.83       0.57       182.6       7.5       206       99       0.782       12.36       0	0 0 239 180 185 14 240 180 239 180 0 0 0.00010 0.000183475 1.83475 0 0.83 5.89 0 0 196 59 182.0 4.5 197 59 196 59 0 0 0.00010 0.000144474 1.44474 0 1.03 4.88 0 0 212 58 182.4 4.5 213 58 212 58 0 0 0.00010 0.000174678 1.74678 0 0.75 5.49 0 0 226 210 190 17 227 210 226 210 0 0 0.00010 0.000174678 1.74678 0 0.956 0 0 250 170 186 13 251 170 250 170 0 0 0.00010 0.000742773 0.742773 0 0.71 2.32 0 0 231 120 184.4 9.3 232 120 231 120 0 0 0.00010 0.00019913 1.09013 0 0.52 3.24 0 0 205 99 182.6 7.5 206 99 205 99 0 0 0.00010 0.0000682598 0.682598 0 0.63 2.09	4.37       10.2560       0.0588742       0       0.102560       1       93       0.264       0.02835       0.68       0.199       8.3       0.0510       7.8       0       0         0.84       5.71570       0.0487701       0       0.0571570       6       325       0.327       0.028456       0.21       0.1964       2.7       0.0500       2.5       0       0         1.14       6.63661       0.0549479       0       0.0663661       5       289       0.240       0.028328       0.28       0.1968       2.7       0.0504       2.5       0       0         0.80       1.75403       0.00956251       0       0.0175403       1       83       0.286       0.02942       0.74       0.206       9.8       0.0507       9.2       0         1.60       3.92021       0.0232382       0       0.0392021       1       101       0.224       0.02850       0.56       0.201       7.6       0.0512       7.2       0       0         1.64       4.88366       0.0324228       0       0.0488366       2       136       0.165       0.02842       0.40       0.199       5.5       0.0502       4.2       0	0 0.028363 0.68 0.199266 8.3 0.050955 7.8 0.050978 7.8 0.050978 7.8 0.700 0.70 0.70 0.70 0.70 0.70 0.
z4       182.74       0.66       182.83       0.66       183.2       5.5       189       72       0.549       3.35       0         z6       182.19       0.93       182.28       0.93       188       12       267       150       0.782       31.68       0         z7       181.89       0.62       181.97       0.62       183.4       6.4       203       84       0.650       10.30       0         z8       182.01       0.29       179.4       3.6       145       50       0.571       -25.94       0         z9       182.28       0.28       182.37       0.28       184.0       3.4       206       45       0.732       11.72       0         z10       182.04       0.14       182.13       0.14       182.7       1.5       192       19       0.702       4.94       0         z11       184.94       0.67       185.02       0.67       184.1       8.3       174       110       0.771       -6.48       0         z12       182.33       0.34       182.43       0.34       182.59       0.91       186       11       0.511       1.98       0 <td< th=""><th>0 0 188 72 183.2 5.5 189 72 188 72 0 0 0.00010 0.000194848 1.94848 0 0.58 5.95 0 0 266 150 188 12 267 150 266 150 0 0 0.00010 0.000220457 2.20457 0 0.74 7.00 0 0 202 84 183.4 6.4 203 84 202 84 0 0 0.00010 0.000162240 1.62240 0 0.80 5.21 0 0 143 50 179.4 3.6 144 50 143 50 0 0 0.00010 0.000179366 1.79366 0 0.70 5.62 0 0 205 45 184.0 3.4 206 45 205 45 0 0 0.00010 0.000179366 1.79366 0 0.70 5.62 0 0 190 19 182.7 1.5 191 19 190 19 0 0 0.00010 0.000322312 3.22312 0 0.58 9.82 0 0 173 110 184.1 8.3 174 110 173 110 0 0 0.00010 0.000577663 0.577663 0 0.69 1.83 0 0 185 11 182.59 0.91 186 11 185 11 0 0 0.00010 0.000906389 9.06389 0 0.45 26.7</th><th>1.63       7.57754       0.0595167       0       0.0757754       4       234       0.185       0.02875       0.37       0.1977       3.3       0.0499       3.1       0       0         4.82       11.8110       0.0699594       0       0.118110       1       100       0.234       0.02867       0.52       0.204       7.1       0.0516       6.8       0       0         1.76       6.97318       0.0520821       0       0.0697318       3       183       0.253       0.028617       0.34       0.1979       3.8       0.0502       3.6       0       0         1.00       6.62230       0.0561921       0       0.0662230       6       339       0.222       0.028637       0.16       0.1932       2.2       0.0489       2.1       0       0         1.90       11.7136       0.0981620       0       0.117136       5       323       0.184       0.028679       0.16       0.1987       2.0       0.05025       1.9       0         5.17       63.8126       0.586391       0       0.638126       11       714       0.135       0.028641       0.076       0.1972       0.88       0.04993       0.83       0</th><th>0 0.028768 0.37 0.197718 3.3 0.049848 3.1 0.049872 3.1 0.049847 3.1 0.549 0.55 0.55 0.55 0.55 0.55 0.55 0.56 0.66 0.75 0.75 0.75 0.75 0.75 0.75 0.75 0.75</th></td<>	0 0 188 72 183.2 5.5 189 72 188 72 0 0 0.00010 0.000194848 1.94848 0 0.58 5.95 0 0 266 150 188 12 267 150 266 150 0 0 0.00010 0.000220457 2.20457 0 0.74 7.00 0 0 202 84 183.4 6.4 203 84 202 84 0 0 0.00010 0.000162240 1.62240 0 0.80 5.21 0 0 143 50 179.4 3.6 144 50 143 50 0 0 0.00010 0.000179366 1.79366 0 0.70 5.62 0 0 205 45 184.0 3.4 206 45 205 45 0 0 0.00010 0.000179366 1.79366 0 0.70 5.62 0 0 190 19 182.7 1.5 191 19 190 19 0 0 0.00010 0.000322312 3.22312 0 0.58 9.82 0 0 173 110 184.1 8.3 174 110 173 110 0 0 0.00010 0.000577663 0.577663 0 0.69 1.83 0 0 185 11 182.59 0.91 186 11 185 11 0 0 0.00010 0.000906389 9.06389 0 0.45 26.7	1.63       7.57754       0.0595167       0       0.0757754       4       234       0.185       0.02875       0.37       0.1977       3.3       0.0499       3.1       0       0         4.82       11.8110       0.0699594       0       0.118110       1       100       0.234       0.02867       0.52       0.204       7.1       0.0516       6.8       0       0         1.76       6.97318       0.0520821       0       0.0697318       3       183       0.253       0.028617       0.34       0.1979       3.8       0.0502       3.6       0       0         1.00       6.62230       0.0561921       0       0.0662230       6       339       0.222       0.028637       0.16       0.1932       2.2       0.0489       2.1       0       0         1.90       11.7136       0.0981620       0       0.117136       5       323       0.184       0.028679       0.16       0.1987       2.0       0.05025       1.9       0         5.17       63.8126       0.586391       0       0.638126       11       714       0.135       0.028641       0.076       0.1972       0.88       0.04993       0.83       0	0 0.028768 0.37 0.197718 3.3 0.049848 3.1 0.049872 3.1 0.049847 3.1 0.549 0.55 0.55 0.55 0.55 0.55 0.55 0.56 0.66 0.75 0.75 0.75 0.75 0.75 0.75 0.75 0.75
z1b     182.41     0.34     182.50     0.34     183.4     2.8     196     36     0.539     6.84     0       z1t     184.5     1.1     184.6     1.1     184.7     1.9     188     21     0.572     1.73     0       z2b     185.20     0.64     185.29     0.64     186.5     5.8     202     74     0.631     8.49     0       z3t     181.89     0.14     181.98     0.14     182.20     0.68     186.3     8.7     0.471     2.35     0       z6b     184.21     0.61     184.29     0.61     184.3     7.5     186     99     0.671     0.78     0       z7t     182.22     0.15     182.31     0.15     182.5     1.4     185     18     0.655     1.77     0       z8b     181.89     0.36     181.99     0.36     182.5     2.4     191     32     0.455     4.77     0       z8t     182.25     0.29     182.34     0.29     182.9     1.5     192     19     0.593     4.92     0       z9b     184.59     0.14     184.68     0.14     185.24     0.96     194     12     0.639     4.60	0 0 190 19 182.9 1.5 192 19 190 19 0 0.00010 0.000404694 4.04694 0 0.47 12.0 0 0 111 76 177.1 5.6 112 76 111 76 0 0.00010 0.000104613 1.04613 0 0.60 3.20 0 192 12 185.24 0.96 193 12 192 12 0 0 0.00010 0.000696550 6.96550 0 0.85 23.0	1.00       28.7709       0.277740       0       0.287709       28       1723       0.138       0.028618       0.079       0.19655       0.40       0.04981       0.37       0       0         1.68       6.05170       0.0437288       0       0.0605170       3       168       0.212       0.028987       0.34       0.1990       4.5       0.0498       4.3       0         1.50       19.8938       0.183941       0       0.198938       12       776       0.128       0.028670       0.082       0.1968       0.83       0.04980       0.78       0         0.74       6.62578       0.0588509       0       0.0662578       8       492       0.169       0.028618       0.20       0.1970       1.5       0.04991       1.4       0       0         0.92       12.8819       0.119659       0       0.128819       13       811       0.149       0.028674       0.16       0.1974       0.91       0.04993       0.82       0         0.89       4.08769       0.0319542       0       0.0408769       4       228       0.191       0.02864       0.38       0.1906       3.4       0.0483       3.2       0       0	0 0.028715
z3     183.0     1.2     183.0     1.2     179.4     6.6     133     88     0.532     -37.85     0       z6     183.06     0.47     183.15     0.47     187.1     5.3     238     67     0.690     23.16     0       z9     183.91     0.68     184.00     0.68     186.5     8.5     220     110     0.686     16.27     0       z15     183.20     0.32     183.29     0.32     182.5     4.0     173     52     0.750     -6.06     0	0 0 237 67 187.1 5.3 238 67 237 67 0 0 0.00010 0.000297666 2.97666 0 0.64 9.25	1.40     6.22745     0.0482369     0     0.0622745     3     212     0.238     0.02879     0.66     0.1932     4.0     0.0487     3.7     0     0       2.68     11.9302     0.0925024     0     0.119302     3     218     0.203     0.028805     0.26     0.2023     3.1     0.0509     2.9     0       1.01     3.30870     0.0229763     0     0.0330870     2     152     0.189     0.02894     0.37     0.202     5.0     0.0505     4.7     0     0	0 0.028767 0.70 0.197051 4.6 0.049682 4.3 0.049705 4.3 0.049680 4.3 0.468 0.47 0.47 0.47 0.47 0.47 0.47 0.40 -0.34 -0.33 -0.33 z2 0.028801 0.66 0.193236 4.0 0.048662 3.7 0.048685 3.7 0.048661 3.7 0.532 0.53 0.53 0.53 0.53 -0.40 -0.40 -0.40 -0.40 z3 0.028819 0.26 0.202320 3.1 0.050918 2.9 0.050942 2.9 0.050916 2.9 0.690 0.69 0.69 0.69 0.69 0.69 -0.64 -0.64 -0.64 -0.64 z6 0.028954 0.37 0.201640 5.0 0.050509 4.7 0.050533 4.7 0.050508 4.7 0.686 0.69 0.69 0.69 0.69 0.69 0.69 -0.64 -0.64 -0.64 -0.64 z9 0.028842 0.18 0.196839 2.4 0.049500 2.2 0.049523 2.2 0.049498 2.2 0.750 0.75 0.75 0.75 0.75 0.75 -0.71 -0.71 -0.71 -0.71 z15
Xaroo152::Karoo152         z2       179.72       0.33       179.81       0.33       181.1       4.3       200       57       0.751       10.02       0         z6       179.31       0.29       179.39       0.29       180.3       3.6       194       48       0.652       7.54       0         z10       179.81       0.46       179.90       0.46       182.1       5.6       211       73       0.798       14.94       0         z11       180.46       0.77       180.54       0.77       183       10       217       130       0.785       16.88       0         z15       180.12       0.96       180.20       0.96       168       13       6       190       0.781       -2952.62       0         z18       179.13       0.27       179.22       0.27       176.9       3.2       147       44       0.567       -21.69       0         SA39::SA39	0         0         193         48         180.3         3.6         194         48         193         48         0         0         0.00010         0.000217380         2.17380         0         0.73         6.77           0         0         210         73         182.1         5.6         211         73         210         73         0         0.00010         0.000121039         1.21039         0         0.70         3.75           0         0         216         130         183         10         217         130         216         130         0         0.00010         0.0000870276         0.870276         0         0.91         2.85           0         0         5         190         0         0.00010         0.0000298249         0.298249         0         0.78         0.941		0 0.028219 0.16 0.194354 2.2 0.049952 2.1 0.049976 2.1 0.049976 2.1 0.049951 2.1 0.050328 3.1 0.
z1         181.18         0.56         181.26         0.56         171.0         6.0         33         86         0.820         -453.72         0           z2         181.73         0.11         181.80         0.11         182.06         0.84         186         11         0.623         2.47         0           z3         182.95         0.89         183.04         0.89         184         11         204         150         0.783         10.43         0           z4         181.1         1.1         181.2         1.1         185         13         242         170         0.795         25.02         0           z6         181.5         1.0         181.6         1.0         173         14         55         200         0.790         -232.01         0           z7         182.11         0.71         182.19         0.71         180.5         9.2         160         120         0.777         -13.72         0           z8         181.79         0.91         181.87         0.91         184         12         213         150         0.763         14.57         0           z9         182.80         0.75         1	0         0         203         150         184         11         204         150         203         150         0         0.00001         0.0000304558         3.04558         0         0.84         0.995           0         0         240         170         185         13         241         170         240         170         0         0.00001         0.0000414836         4.14836         0         0.84         0.995           0         0         54         200         173         14         55         200         53         200         0         0.00001         0.000028493         2.28493         0         0.76         0.724           0         0         159         120         180.5         9.2         160         120         159         120         0         0.00001         0.000028493         2.28493         0         0.76         0.724           0         0         159         120         180         150         150         150         0         0.00001         0.0000355127         3.55127         0         0.87         1.16           0         0         218         130         185         180         0	1.38       37.4032       3.60252       0       3.74032       26       1293       0.439       0.028591       0.062       0.19638       0.50       0.04981       0.47       0       0         0.59       1.58777       0.0995040       0       0.158777       2       111       0.268       0.02879       0.49       0.199       6.7       0.0502       6.3       0       0         0.83       2.18428       0.135359       0       0.218428       2       107       0.279       0.02849       0.62       0.200       7.7       0.0510       7.2       0       0         0.51       1.23121       0.0723654       0       0.123121       1       99       0.241       0.02856       0.58       0.185       8.9       0.0471       8.4       0       0         0.53       1.69043       0.116202       0       0.169043       2       139       0.277       0.02865       0.39       0.195       5.6       0.0493       5.3       0         0.45       1.19117       0.0743433       0       0.119117       2       112       0.242       0.02860       0.51       0.199       6.9       0.0504       6.5       0 <tr< th=""><th>0 0.028518 0.31</th></tr<>	0 0.028518 0.31
z2       179.59       0.34       179.68       0.34       180.5       4.3       192       58       0.744       6.44       0         z6       179.31       0.29       179.39       0.29       180.3       3.6       194       48       0.652       7.54       0         z10       179.64       0.45       179.72       0.44       181.0       5.7       199       75       0.800       9.61       0         z11       180.46       0.77       180.54       0.77       183       10       217       130       0.785       16.88       0         z14       189.55       0.46       189.64       0.46       185.2       5.8       130       76       0.776       -45.51       0         z15       180.13       0.95       180.22       0.95       170       13       35       180       0.781       -418.79       0         z18       179.19       0.23       179.28       0.23       177.7       3.2       158       44       0.444       -13.67       0	0 0 191 58 180.5 4.3 192 58 191 58 0 0 0.00010 0.000237625 2.37625 0 0.74 7.43 0 0 193 48 180.3 3.6 194 48 193 48 0 0 0.00010 0.000217380 2.17380 0 0.73 6.77 0 0 198 75 181.0 5.7 199 75 198 75 0 0 0.00010 0.000121044 1.21044 0 0.70 3.75 0 0 216 130 183 10 217 130 216 130 0 0 0.00010 0.000870276 0.870276 0 0.91 2.85 0 0 129 76 185.2 5.8 130 76 129 76 0 0 0.00010 0.0000748201 0.748201 0 0.51 2.33 0 0 34 180 170 13 35 180 34 180 0 0 0.00010 0.0000298411 0.298411 0 0.78 0.942 0 0 156 44 177.7 3.2 158 44 156 44 0 0 0.00010 0.000187587 1.87587 0 0.61 5.65	1.28     8.04986     0.0676801     0     0.0804986     5     317     0.232     0.028205     0.16     0.1944     2.2     0.0500     2.1     0     0       1.02     4.76906     0.0374727     0     0.0476906     4     228     0.223     0.028258     0.25     0.1951     3.4     0.0501     3.2     0     0       1.48     4.33131     0.0285222     0     0.0433131     2     123     0.290     0.02839     0.44     0.198     6.0     0.0505     5.7     0     0       0.72     3.04280     0.0232695     0     0.0304280     3     213     0.163     0.029841     0.25     0.2001     3.4     0.0486     3.2     0       0.63     1.57552     0.00941864     0     0.0157552     1     102     0.247     0.02834     0.53     0.183     8.1     0.0467     7.6     0	0 0.028265 0.19 0.194506 2.6 0.049910 2.5 0.049934 2.5 0.049909 2.5 0.744 0.74 0.74 0.74 0.74 0.74 0.74 0.7
a Isotopic dates calculated using the decay constants \(\lambda\)235 = 9.8485E-10 (/Jaffey et al. 1971).  b Corrected for initial Th/U disequilibrium using radiogenic 208Pb and Th/U[magma] = 4.00000.  c \(\lambda\) discordance = 100 - (100 \(\lambda\)205 (207Pb/208D date) / (207Pb/208D			

i Ratio of radiogenic Pb (including 208Pb) to common Pb.j Measured ratio corrected for fractionation and spike contribution only.

k Measured ratios corrected for fractionation, tracer and blank.