

APPENDIX TABLE DR1. RESULTS OF LASER ABLATION ANALYSES OF PEROVSKITE AND BULK-ROCK SOLUTION ANALYSES

| Sample | Averages of in situ perovskite analyses | | | | | | | Bulk-rock solution data | | | | | |
|--|---|-------------------|----------|---------------------------------|---|--|--|-------------------------|-------|---------------------------------|--|--|--|
| | # | Spot size | Total Sr | $^{87}\text{Rb}/^{86}\text{Sr}$ | $^{87}\text{Sr}/^{86}\text{Sr}_{\text{m}*}$ | $^{87}\text{Sr}/^{86}\text{Sr}_{\text{i}}$ | $\epsilon\text{Sr}_{\text{i}}^{\dagger}$ | Rb | Sr | $^{87}\text{Rb}/^{86}\text{Sr}$ | $^{87}\text{Sr}/^{86}\text{Sr}_{\text{m}}$ | $^{87}\text{Sr}/^{86}\text{Sr}_{\text{i}}$ | $\epsilon\text{Sr}_{\text{i}}^{\dagger}$ |
| | | (μm) | (volts) | | | | | (ppm) | (ppm) | | | | |
| <u>Wajrakarur Kimberlite Field (WKF)</u> | | | | | | | | | | | | | |
| Chintalampalle, P12 #1 | 14 | 93 | 4.24 | 0.0011 | 0.70246 ± 2 | 0.70244 | -10.1 | 76 | 1017 | 0.2177 | 0.70641 | 0.70301 | -1.9 |
| Chintalampalle, P12 #2 | — | — | — | — | — | — | — | 36 | 359 | 0.2919 | 0.70867 | 0.70412 | +13.8 |
| Muligiripalle, P5 #1 | 13 | 71–93 | 2.73 | 0.0003 | 0.70250 ± 5 | 0.70250 | -9.2 | 20 | 540 | 0.1116 | 0.70605 | 0.70431 | +16.5 |
| Muligiripalle, P5 #2 | — | — | — | — | — | — | — | 48 | 424 | 0.3315 | 0.71006 | 0.70489 | +24.8 |
| Gollapalle W, CC-4 #1 | 16 | 121 | 4.80 | 0.0040 | 0.70240 ± 1 | 0.70234 | -11.5 | 4 | 652 | 0.0175 | 0.70323 | 0.70295 | -2.8 |
| Gollapalle W, CC-4 #2 | — | — | — | — | — | — | — | 9 | 738 | 0.0332 | 0.70337 | 0.70286 | -4.2 |
| Gollapalle E, CC-5 #1 | 8 | 93 | 3.96 | 0.0002 | 0.70251 ± 6 | 0.70251 | -9.1 | 89 | 703 | 0.3642 | 0.70787 | 0.70219 | -13.6 |
| Gollapalle E, CC-5 #2 | — | — | — | — | — | — | — | 19 | 312 | 0.1727 | 0.70625 | 0.70356 | +5.8 |
| Tummatapalle, P13 | 42 | 93–121 | 4.07 | 0.0007 | 0.70250 ± 2 | 0.70249 | -9.4 | 155 | 763 | 0.5869 | 0.71164 | 0.70248 | -9.4 |
| Chigicherla1 #1 | — | — | — | — | — | — | — | 34 | 233 | 0.4209 | 0.71203 | 0.70546 | +32.9 |
| Chigicherla1 #2 | — | — | — | — | — | — | — | 127 | 1149 | 0.3197 | 0.70811 | 0.70312 | -0.4 |
| Wajrakarur2 #1 | — | — | — | — | — | — | — | 55 | 242 | 0.6638 | 0.71371 | 0.70336 | +3.0 |
| Wajrakarur2 #2 | — | — | — | — | — | — | — | 148 | 918 | 0.4670 | 0.70830 | 0.70102 | -30.3 |
| Lattavaram2 #1 | — | — | — | — | — | — | — | 34 | 211 | 0.4674 | 0.71389 | 0.70660 | +49.1 |
| Lattavaram2 #2 | — | — | — | — | — | — | — | 30 | 184 | 0.4643 | 0.71357 | 0.70632 | +45.2 |
| <u>Narayananpet Kimberlite Field (NKF)</u> | | | | | | | | | | | | | |
| Nazarapur #1 | 23 | 55 | 1.28 | 0.0004 | 0.70321 ± 4 | 0.70320 | +0.8 | 42 | 326 | 0.3767 | 0.71082 | 0.70495 | +25.6 |
| Nazarapur #2 | — | — | — | — | — | — | — | 114 | 683 | 0.4835 | 0.71103 | 0.70349 | +4.9 |
| Kimberlite 0031 | 10 | 93–121 | 3.30 | 0.0007 | 0.70326 ± 4 | 0.70325 | +1.5 | 68 | 747 | 0.2643 | 0.70757 | 0.70344 | +4.2 |
| Kimberlite 0033 #1 | 14 | 71–93 | 2.03 | 0.0004 | 0.70318 ± 4 | 0.70317 | +0.3 | 66 | 666 | 0.2881 | 0.70721 | 0.70272 | -6.1 |
| Kimberlite 0033 #2 | — | — | — | — | — | — | — | 72 | 619 | 0.3357 | 0.70787 | 0.70263 | -7.4 |
| Narayananpet-01 | 17 | 55 | 1.56 | 0.0002 | 0.70333 ± 3 | 0.70333 | +2.6 | 86 | 392 | 0.6374 | 0.71340 | 0.70346 | +4.5 |
| Kotakonda #1 | 11 | 55–71 | 1.32 | 0.0018 | 0.70324 ± 10 | 0.70321 | +0.9 | 29 | 253 | 0.3298 | 0.71127 | 0.70613 | +42.4 |
| Kotakonda #2 | 18 | 55–71 | 1.54 | 0.0003 | 0.70319 ± 5 | 0.70319 | +0.6 | — | — | — | — | — | — |
| Maddur-01 | 12 | 55–71 | 1.63 | 0.0006 | 0.70313 ± 10 | 0.70312 | -0.4 | 67 | 682 | 0.2855 | 0.71329 | 0.70884 | +80.9 |
| Himlapur | — | — | — | — | — | — | — | 140 | 550 | 0.7392 | 0.71529 | 0.70376 | +8.7 |
| Kimberlite 0032 #1 | — | — | — | — | — | — | — | 151 | 459 | 0.9498 | 0.71772 | 0.70290 | -3.5 |
| Kimberlite 0032 #2 | — | — | — | — | — | — | — | 90 | 527 | 0.4969 | 0.71062 | 0.70287 | -4.0 |
| Kimberlite 0050 | — | — | — | — | — | — | — | 84 | 806 | 0.3000 | 0.70733 | 0.70265 | -7.1 |
| Basuredipalle #1 | — | — | — | — | — | — | — | 65 | 435 | 0.4294 | 0.71092 | 0.70470 | +22.1 |
| Basuredipalle #2 | — | — | — | — | — | — | — | 14 | 107 | 0.3675 | 0.71043 | 0.70423 | +15.3 |

3 Note: “#” = Number of grains analyzed. “—” = Not Determined. Errors of bulk-rock Sr_i range from 0.00007 to 0.00036 (2 S.E.;
 4 see Fig. 2A) and are a propagation of Sr and Rb analytical uncertainties and a ± 20 Ma age range. Measured $^{87}\text{Sr}/^{86}\text{Sr}$ ratios of

5 perovskite are normalized against a value of 0.70250 for the in-house standard (Tummatapalle P13). All initial ratios are
6 corrected to an emplacement age of 1090 Ma. Errors are expressed as 2 S.E. at 10^{-5} .
7 *Ratios and errors are weighted averages calculated using Isoplot (Ludwig, 2001).
8 † Epsilon Sr_i is the relative deviation of Sr_i from bulk-silicate-earth at the time of emplacement, using the values of Workman
9 and Hart (2005), expressed as parts per 10^4 .