表1 新州塘样品（19XZT-01、02；20XZT-02、04）锆石U-Pb同位素测定结果

Table 1 Zircon U-Pb isotope determination results of Xinzhoutang samples (19XZT-01, 02; 20XZT-02, 04)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 分析点号 | 含量×10-6 | Th/U | 同 位 素 比 值 | 　 | 年 龄 /Ma |
| Pb | Th | U | 207Pb/235U | 1σ | 206Pb/238U | 1σ | 　 | 207Pb/235U | 1σ | 206Pb/238U | 1σ |
| 19XZT-01-02 | 25.65 | 816 | 1330 | 0.61 | 0.1104 | 0.0073 | 0.0157 | 0.0005 |  | 106 | 7 | 100 | 3 |
| 19XZT-01-07 | 91.5 | 2444 | 4851 | 0.5 | 0.1086 | 0.0048 | 0.0157 | 0.0005 |  | 105 | 4 | 100 | 3 |
| 19XZT-01-09 | 22.72 | 836 | 1177 | 0.71 | 0.118 | 0.0077 | 0.0154 | 0.0005 |  | 113 | 7 | 99 | 3.3 |
| 19XZT-01-10 | 23.98 | 838 | 1247 | 0.67 | 0.1132 | 0.0074 | 0.0157 | 0.0005 |  | 109 | 7 | 100 | 3 |
| 19XZT-01-11 | 41.6 | 1506 | 2197 | 0.69 | 0.106 | 0.006 | 0.0154 | 0.0005 |  | 102 | 6 | 98 | 3.2 |
| 19XZT-01-12 | 25 | 1221 | 1188 | 1.03 | 0.1126 | 0.0078 | 0.0155 | 0.0005 |  | 108 | 7 | 99 | 3.3 |
| 19XZT-01-15 | 31.38 | 872 | 1659 | 0.53 | 0.1093 | 0.0066 | 0.0156 | 0.0005 |  | 105 | 6 | 100 | 3.3 |
| 19XZT-01-17 | 23.94 | 959 | 1165 | 0.82 | 0.1114 | 0.0068 | 0.0159 | 0.0005 |  | 107 | 6 | 102 | 3 |
| 19XZT-01-19 | 76.7 | 2075 | 3911 | 0.53 | 0.114 | 0.0058 | 0.0162 | 0.0005 |  | 110 | 5 | 104 | 3 |
| 19XZT-01-26 | 61 | 1805 | 3184 | 0.57 | 0.1072 | 0.005 | 0.0157 | 0.0005 |  | 103 | 5 | 101 | 3 |
| 19XZT-01-29 | 53.7 | 1660 | 2770 | 0.6 | 0.1087 | 0.0055 | 0.0157 | 0.0005 |  | 105 | 5 | 100 | 3 |
| 19XZT-01-30 | 37.7 | 1284 | 1887 | 0.68 | 0.1129 | 0.0065 | 0.016 | 0.0005 |  | 109 | 6 | 102 | 3 |
| 19XZT-01-31 | 23.37 | 878 | 1140 | 0.77 | 0.1149 | 0.0077 | 0.0159 | 0.0005 |  | 110 | 7 | 102 | 3 |
| 19XZT-01-32 | 48.8 | 1440 | 2581 | 0.56 | 0.1052 | 0.0058 | 0.0157 | 0.0005 |  | 102 | 5 | 100 | 3 |
| 19XZT-01-33 | 51.8 | 1845 | 2590 | 0.71 | 0.1087 | 0.0062 | 0.0158 | 0.0005 |  | 105 | 6 | 101 | 3 |
| 19XZT-02-02 | 22.5 | 1227 | 1060 | 1.16 | 0.1111 | 0.0077 | 0.0153 | 0.0005 |  | 107 | 7 | 98 | 3.3 |
| 19XZT-02-04 | 29.4 | 1297 | 1474 | 0.88 | 0.1007 | 0.0058 | 0.0152 | 0.0005 |  | 97 | 5.4 | 97 | 3.2 |
| 19XZT-02-06 | 38.8 | 1412 | 2057 | 0.69 | 0.0978 | 0.006 | 0.0153 | 0.0005 |  | 95 | 5.5 | 98 | 3.3 |
| 19XZT-02-10 | 49.7 | 1240 | 2834 | 0.44 | 0.1034 | 0.0054 | 0.015 | 0.0005 |  | 100 | 5 | 96 | 3 |
| 19XZT-02-13 | 23.27 | 910 | 1177 | 0.77 | 0.1076 | 0.0072 | 0.0155 | 0.0005 |  | 104 | 7 | 99 | 3.3 |
| 19XZT-02-18 | 32.4 | 1283 | 1579 | 0.81 | 0.1125 | 0.0059 | 0.0159 | 0.0005 |  | 108 | 5 | 102 | 3 |
| 19XZT-02-19 | 29.54 | 905 | 1599 | 0.57 | 0.0985 | 0.0056 | 0.0152 | 0.0005 |  | 95 | 5.2 | 97 | 3.2 |
| 19XZT-02-20 | 55 | 1984 | 2872 | 0.69 | 0.0979 | 0.0048 | 0.0153 | 0.0005 |  | 95 | 4.4 | 98 | 3.1 |
| 19XZT-02-22 | 49.9 | 1805 | 2538 | 0.71 | 0.1051 | 0.0052 | 0.0155 | 0.0005 |  | 101 | 5 | 99 | 3.1 |
| 19XZT-02-23 | 18.83 | 716 | 970 | 0.74 | 0.1105 | 0.0079 | 0.0152 | 0.0005 |  | 106 | 7 | 97 | 3.2 |
| 19XZT-02-24 | 26.7 | 1504 | 1214 | 1.24 | 0.1087 | 0.0068 | 0.0153 | 0.0005 |  | 105 | 6 | 98 | 3.2 |
| 19XZT-02-26 | 24.24 | 980 | 1216 | 0.81 | 0.0997 | 0.0074 | 0.0157 | 0.0005 |  | 96 | 6.9 | 100 | 3 |
| 19XZT-02-28 | 22.48 | 935 | 1158 | 0.81 | 0.111 | 0.0071 | 0.0153 | 0.0005 |  | 107 | 6 | 98 | 3.3 |
| 19XZT-02-29 | 46.2 | 1464 | 2460 | 0.6 | 0.1124 | 0.0056 | 0.0153 | 0.0005 |  | 108 | 5 | 98 | 3.1 |
| 19XZT-02-32 | 56.7 | 1837 | 2899 | 0.63 | 0.1098 | 0.0055 | 0.0157 | 0.0005 |  | 106 | 5 | 100 | 3 |
| 19XZT-02-34 | 21.15 | 809 | 1107 | 0.73 | 0.1134 | 0.0069 | 0.0156 | 0.0005 |  | 109 | 6 | 99 | 3.3 |
| 19XZT-02-35 | 22.82 | 753 | 1188 | 0.63 | 0.1126 | 0.0071 | 0.0158 | 0.0005 |  | 108 | 6 | 101 | 3 |
| 20XZT-02-02 | 22.67 | 902 | 1128 | 0.8 | 0.0987 | 0.0041 | 0.0152 | 0.0005 |  | 95.6 | 3.8 | 97.5 | 3 |
| 20XZT-02-03 | 69.3 | 2251 | 3545 | 0.64 | 0.1012 | 0.0035 | 0.0153 | 0.0005 |  | 97.9 | 3.3 | 97.6 | 3 |
| 20XZT-02-05 | 16.21 | 608 | 805 | 0.76 | 0.1069 | 0.0047 | 0.0154 | 0.0005 |  | 103 | 4 | 98.4 | 3 |
| 20XZT-02-07 | 31.06 | 996 | 1574 | 0.63 | 0.1061 | 0.0042 | 0.0154 | 0.0005 |  | 102 | 4 | 98.7 | 3 |
| 20XZT-02-09 | 21.64 | 1022 | 1000 | 1.02 | 0.1098 | 0.0047 | 0.0154 | 0.0005 |  | 106 | 4 | 98.8 | 3.1 |
| 20XZT-02-12 | 48.1 | 1691 | 2497 | 0.68 | 0.1007 | 0.0037 | 0.0155 | 0.0005 |  | 97.5 | 3.4 | 98.8 | 3.1 |
| 20XZT-02-13 | 23.59 | 806 | 1188 | 0.68 | 0.0998 | 0.0041 | 0.0154 | 0.0005 |  | 96.6 | 3.8 | 98.8 | 3 |
| 20XZT-02-18 | 15.86 | 601 | 803 | 0.75 | 0.1047 | 0.0047 | 0.0154 | 0.0005 |  | 101 | 4 | 98.8 | 3.1 |
| 20XZT-02-19 | 11.26 | 450 | 561 | 0.8 | 0.1024 | 0.0059 | 0.0153 | 0.0005 |  | 99 | 5.5 | 98.1 | 3.1 |
| 20XZT-02-20 | 18.29 | 757 | 884 | 0.86 | 0.1069 | 0.005 | 0.0154 | 0.0005 |  | 103 | 5 | 98.8 | 3 |
| 20XZT-02-21 | 32.8 | 1053 | 1679 | 0.63 | 0.1053 | 0.004 | 0.0155 | 0.0005 |  | 102 | 4 | 98.9 | 3 |
| 20XZT-02-25 | 17.31 | 638 | 834 | 0.76 | 0.1088 | 0.0053 | 0.0157 | 0.0005 |  | 105 | 5 | 101 | 3 |
| 20XZT-02-28 | 20.56 | 625 | 1076 | 0.58 | 0.1103 | 0.0049 | 0.0156 | 0.0005 |  | 106 | 4 | 99.9 | 3.1 |
| 20XZT-02-29 | 38.6 | 1514 | 1894 | 0.8 | 0.0994 | 0.0039 | 0.0154 | 0.0005 |  | 96.2 | 3.6 | 98.5 | 3 |
| 20XZT-02-30 | 27.58 | 938 | 1395 | 0.67 | 0.1095 | 0.0044 | 0.0154 | 0.0005 |  | 105 | 4 | 98.7 | 3 |
| 20XZT-02-31 | 42 | 1499 | 2121 | 0.71 | 0.102 | 0.0038 | 0.0153 | 0.0005 |  | 98.6 | 3.5 | 98.2 | 3 |
| 20XZT-04-02 | 43.1 | 1361 | 2267 | 0.6 | 0.0993 | 0.0036 | 0.0154 | 0.0005 |  | 96.2 | 3.3 | 98.7 | 3 |
| 20XZT-04-03 | 31.7 | 1134 | 1590 | 0.71 | 0.1045 | 0.0039 | 0.0154 | 0.0005 |  | 101 | 4 | 98.6 | 3 |
| 20XZT-04-05 | 20.15 | 899 | 959 | 0.94 | 0.103 | 0.0046 | 0.0154 | 0.0005 |  | 99.6 | 4.3 | 98.6 | 3 |
| 20XZT-04-08 | 20.14 | 884 | 935 | 0.94 | 0.1051 | 0.0046 | 0.0154 | 0.0005 |  | 101 | 4 | 98.5 | 3.1 |
| 20XZT-04-11 | 11.4 | 514 | 503 | 1.02 | 0.0974 | 0.0054 | 0.0154 | 0.0005 |  | 94.4 | 5 | 98.4 | 3.1 |
| 20XZT-04-12 | 26.73 | 939 | 1298 | 0.72 | 0.1012 | 0.0039 | 0.0155 | 0.0005 |  | 97.9 | 3.6 | 98.9 | 3 |
| 20XZT-04-15 | 38.9 | 1369 | 1885 | 0.73 | 0.1075 | 0.004 | 0.0156 | 0.0005 |  | 104 | 4 | 99.9 | 3.1 |
| 20XZT-04-17 | 17.51 | 713 | 832 | 0.86 | 0.1058 | 0.0048 | 0.0154 | 0.0005 |  | 102 | 4 | 98.7 | 3.1 |
| 20XZT-04-18 | 30.3 | 1057 | 1525 | 0.69 | 0.1015 | 0.0039 | 0.0151 | 0.0005 |  | 98.2 | 3.6 | 96.8 | 3 |
| 20XZT-04-19 | 25.47 | 919 | 1243 | 0.74 | 0.1074 | 0.0045 | 0.0154 | 0.0005 |  | 104 | 4 | 98.7 | 3 |
| 20XZT-04-21 | 72.4 | 2739 | 3503 | 0.78 | 0.1036 | 0.0037 | 0.0154 | 0.0005 |  | 100 | 3 | 98.6 | 3 |
| 20XZT-04-22 | 27.45 | 960 | 1367 | 0.7 | 0.1069 | 0.0043 | 0.0155 | 0.0005 |  | 103 | 4 | 98.9 | 3.1 |
| 20XZT-04-23 | 83.2 | 2039 | 4430 | 0.46 | 0.1014 | 0.0036 | 0.0154 | 0.0005 |  | 98.1 | 3.3 | 98.7 | 3 |
| 20XZT-04-25 | 18.28 | 622 | 921 | 0.68 | 0.1071 | 0.0048 | 0.0154 | 0.0005 |  | 103 | 4 | 98.7 | 3.1 |
| 20XZT-04-27 | 29.2 | 996 | 1433 | 0.69 | 0.108 | 0.0042 | 0.0154 | 0.0005 |  | 104 | 4 | 98.8 | 3 |
| 20XZT-04-29 | 55 | 2302 | 2564 | 0.9 | 0.1084 | 0.004 | 0.0155 | 0.0005 |  | 104 | 4 | 98.9 | 3 |
| 20XZT-04-30 | 18.09 | 852 | 827 | 1.03 | 0.108 | 0.005 | 0.0152 | 0.0005 |  | 104 | 5 | 97.5 | 3 |
| 20XZT-04-31 | 22.3 | 1101 | 1019 | 1.08 | 0.0974 | 0.0043 | 0.0152 | 0.0005 |  | 94.4 | 3.9 | 97.5 | 3 |
| 20XZT-04-32 | 16.76 | 682 | 811 | 0.84 | 0.1036 | 0.0048 | 0.015 | 0.0005 | 　 | 100 | 4 | 96.2 | 3 |

表2 大业样品（19DY-02）锆石U-Pb同位素测定结果

Table 2 Zircon U-Pb isotope determination results of Daye sample (19DY-02)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 分析点号 | 含量×10-6 | Th/U | 同 位 素 比 值 |  | 年 龄 /Ma |
| Pb | Th | U | 207Pb/235U | 1σ | 206Pb/238U | 1σ |  | 207Pb/235U | 1σ | 206Pb/238U | 1σ |
| 19DY-02-01 | 22.32  | 950 | 1105 | 0.86  | 0.1131 | 0.0083 | 0.0157 | 0.0005 |  | 109 | 8 | 100 | 3 |
| 19DY-02-02 | 18.01  | 915 | 919 | 1.00  | 0.1062 | 0.0075 | 0.0149 | 0.0005 |  | 103 | 7 | 95 | 3.2 |
| 19DY-02-09 | 23.86  | 1075 | 1191 | 0.90  | 0.1094 | 0.0077 | 0.0153 | 0.0005 |  | 105 | 7 | 98 | 3.2 |
| 19DY-02-10 | 64.10  | 2883 | 3268 | 0.88  | 0.0983 | 0.0046 | 0.0152 | 0.0005 |  | 95 | 4.2 | 97 | 3 |
| 19DY-02-14 | 18.05  | 872 | 871 | 1.00  | 0.1128 | 0.0089 | 0.0155 | 0.0005 |  | 109 | 8 | 99 | 3.4 |
| 19DY-02-17 | 18.03  | 788 | 895 | 0.88  | 0.1128 | 0.0079 | 0.0158 | 0.0006 |  | 109 | 7 | 101 | 4 |
| 19DY-02-18 | 32.90  | 1864 | 1607 | 1.16  | 0.1085 | 0.0068 | 0.0148 | 0.0005 |  | 105 | 6 | 95 | 3.1 |
| 19DY-02-19 | 16.24  | 1006 | 681 | 1.48  | 0.12 | 0.0081 | 0.0162 | 0.0006 |  | 115 | 7 | 104 | 4 |
| 19DY-02-21 | 55.70  | 1909 | 2956 | 0.65  | 0.1004 | 0.0052 | 0.0155 | 0.0005 |  | 97 | 4.8 | 99 | 3.2 |
| 19DY-02-23 | 25.42  | 766 | 1386 | 0.55  | 0.1057 | 0.0064 | 0.0154 | 0.0005 |  | 102 | 6 | 99 | 3.3 |
| 19DY-02-24 | 25.40  | 1113 | 1256 | 0.89  | 0.1174 | 0.007 | 0.0155 | 0.0005 |  | 113 | 6 | 99 | 3.3 |
| 19DY-02-26 | 36.08  | 903 | 1968 | 0.46  | 0.115 | 0.0061 | 0.0157 | 0.0005 |  | 111 | 6 | 100 | 3 |
| 19DY-02-27 | 40.30  | 1402 | 2082 | 0.67  | 0.1111 | 0.0058 | 0.016 | 0.0005 |  | 107 | 5 | 103 | 3 |
| 19DY-02-28 | 89.10  | 3253 | 4653 | 0.70  | 0.1021 | 0.0046 | 0.0155 | 0.0005 |  | 99 | 4.2 | 99 | 3.1 |
| 19DY-02-30 | 42.50  | 1948 | 2054 | 0.95  | 0.1023 | 0.0057 | 0.016 | 0.0005 |  | 99 | 5.3 | 102 | 3 |
| 19DY-02-33 | 19.63  | 778 | 963 | 0.81  | 0.1142 | 0.0067 | 0.016 | 0.0005 |  | 110 | 6 | 102 | 3 |
| 19DY-02-35 | 36.50  | 1705 | 1906 | 0.89  | 0.1057 | 0.0055 | 0.0148 | 0.0005 |  | 102 | 5 | 95 | 3.2 |

表3 新州塘、大业样品主量元素(wt/%)、微量元素(×10-6)含量

Table 3 Major elements contents(%)and trace elements contents(×10-6) of the Xinzhoutang and Daye samples

|  |  |  |  |
| --- | --- | --- | --- |
| 样品号 | 新州塘样品 | 　 | 大业样品 |
| 19XZT-01 | 19XZT-02 | 19XZT-04 | 19XZT-05 | 20XZT-01 | 20XZT-02 | 20XZT-03 | 20XZT-04 | 　 | 19DY-01 | 19DY-02 |
| SiO2 | 55.99 | 57.93 | 57.07 | 54.25 | 58.61 | 53.95 | 55.39 | 58.5 |  | 65 | 74.08 |
| TiO2 | 0.67 | 0.72 | 0.73 | 0.67 | 0.68 | 0.66 | 0.66 | 0.66 |  | 0.56 | 0.44 |
| Al2O3 | 14.91 | 15.42 | 15.07 | 14.73 | 15.01 | 13.83 | 13.45 | 14.73 |  | 15.87 | 13.97 |
| Fe2O3T | 6.88 | 5.41 | 6.24 | 7.92 | 6.33 | 6.6 | 6.8 | 6.06 |  | 3.61 | 3.27 |
| MnO | 0.07 | 0.07 | 0.07 | 0.05 | 0.11 | 0.11 | 0.13 | 0.11 |  | 0.07 | 0.03 |
| MgO | 5.75 | 5.62 | 6.82 | 6.45 | 5.82 | 5.92 | 6.08 | 5.44 |  | 0.7 | 0.83 |
| CaO | 5.09 | 5.43 | 1.18 | 4.62 | 5.8 | 4.03 | 3.36 | 5.43 |  | 2.99 | 0.12 |
| Na2O | 2.69 | 2.86 | 4.36 | 2.42 | 2.99 | 3.66 | 3.6 | 4.48 |  | 1.55 | 0.12 |
| K2O | 2.39 | 2.43 | 3.28 | 2.41 | 2.56 | 2.66 | 2.56 | 2.61 |  | 4.67 | 4.22 |
| P2O5 | 0.15 | 0.15 | 0.12 | 0.14 | 0.16 | 0.15 | 0.13 | 0.16 |  | 0.17 | 0.04 |
| LOI | 5.71 | 4.22 | 5.17 | 6.15 | 2.55 | 8.94 | 7.98 | 2.01 |  | 4.88 | 3 |
| Total | 100.31 | 100.24 | 100.11 | 99.81 | 100.62 | 100.52 | 100.13 | 100.21 |  | 100.06 | 100.12 |
| A/CNK | 0.92 | 0.9 | 1.17 | 0.98 | 0.82 | 0.85 | 0.91 | 0.73 |  | 1.22 | 2.81 |
| A/NK | 2.13 | 2.1 | 1.41 | 2.24 | 1.95 | 1.55 | 1.55 | 1.44 |  | 2.09 | 2.94 |
| V | 121.5 | 57.23 | 122.73 | 84.68 | 152.96 | 117.93 | 88.96 | 159.62 |  | 45.78 | 22.32 |
| Cr | 273.02 | 362.63 | 321.29 | 381.1 | 317.51 | 235.05 | 210.11 | 344.34 |  | 13.2 | 14.32 |
| Co | 23.92 | 27.53 | 26.94 | 34.13 | 30.18 | 34 | 25.54 | 30.76 |  | 10.57 | 9.29 |
| Ni | 78.11 | 88.87 | 86.29 | 89.79 | 96.09 | 97.99 | 68.64 | 100.34 |  | 2.49 | 3.94 |
| Cu | 20.18 | 20.65 | 30.18 | 23.54 | 25.7 | 25.76 | 21.01 | 29.71 |  | 2.14 | 3.22 |
| Zn | 58.84 | 63.3 | 65.64 | 68.13 | 71.52 | 77 | 144.36 | 79.57 |  | 46.71 | 67.52 |
| Ga | 19.15 | 18.05 | 18.39 | 18.59 | 22.96 | 29.03 | 24.5 | 24.61 |  | 19.9 | 23 |
| Rb | 96.33 | 95.76 | 126.18 | 94.21 | 110.3 | 70.18 | 57.99 | 122.62 |  | 294.6 | 268.37 |
| Sr | 541.95 | 558.25 | 208.58 | 574.54 | 613.36 | 274.63 | 248.65 | 657.57 |  | 20.99 | 233.59 |
| Y | 17.73 | 17.57 | 16.57 | 13.76 | 18.42 | 18.7 | 14.29 | 20.45 |  | 18.18 | 23.94 |
| Zr | 182.79 | 157.72 | 182.71 | 162.65 | 213.76 | 195.06 | 145.53 | 215.56 |  | 204.66 | 290.16 |
| Nb | 10.24 | 8.23 | 9.86 | 8.81 | 12.77 | 10.21 | 7.06 | 10.5 |  | 13.29 | 18.38 |
| Ba | 744.19 | 741.97 | 1073.94 | 747.35 | 780.54 | 1095.09 | 1007.81 | 836.97 |  | 285.18 | 1435.57 |
| La | 39.66 | 41.82 | 33.63 | 35.67 | 45.62 | 41.93 | 36.75 | 51.13 |  | 75.97 | 72.95 |
| Ce | 71.69 | 81.77 | 64.48 | 65.61 | 81.44 | 75.98 | 68.08 | 90.68 |  | 130.37 | 140.56 |
| Pr | 8.52 | 9.31 | 7.82 | 7.76 | 9.15 | 8.42 | 7.64 | 10.12 |  | 15.55 | 15.54 |
| Nd | 28.85 | 31.86 | 26.54 | 26.44 | 33.75 | 31.41 | 27.88 | 37.34 |  | 49.33 | 51.67 |
| Sm | 4.93 | 5.42 | 4.48 | 4.44 | 5.7 | 5.4 | 4.74 | 6.26 |  | 7.89 | 8.1 |
| Eu | 1.38 | 1.34 | 1.22 | 1.17 | 1.49 | 1.47 | 1.24 | 1.58 |  | 1.79 | 1.79 |
| Gd | 4 | 4.26 | 3.54 | 3.33 | 4.9 | 4.7 | 3.9 | 5.3 |  | 6.65 | 5.69 |
| Tb | 0.59 | 0.6 | 0.52 | 0.47 | 0.69 | 0.67 | 0.55 | 0.74 |  | 0.87 | 0.75 |
| Dy | 3.3 | 3.31 | 3.01 | 2.67 | 3.54 | 3.55 | 2.89 | 3.91 |  | 4.36 | 4.01 |
| Ho | 0.64 | 0.64 | 0.6 | 0.52 | 0.73 | 0.73 | 0.59 | 0.78 |  | 0.77 | 0.79 |
| Er | 1.89 | 1.83 | 1.76 | 1.54 | 1.92 | 1.96 | 1.55 | 2.11 |  | 1.88 | 2.33 |
| Tm | 0.28 | 0.27 | 0.26 | 0.23 | 0.32 | 0.32 | 0.23 | 0.34 |  | 0.25 | 0.34 |
| Yb | 1.7 | 1.59 | 1.57 | 1.47 | 1.91 | 1.96 | 1.5 | 2.1 |  | 1.51 | 2.11 |
| Lu | 0.27 | 0.25 | 0.25 | 0.23 | 0.3 | 0.3 | 0.22 | 0.32 |  | 0.24 | 0.35 |
| Hf | 5.03 | 4.42 | 4.95 | 4.57 | 6.12 | 5.52 | 4.08 | 6.16 |  | 5.81 | 8.05 |
| Ta | 0.75 | 0.61 | 0.68 | 0.64 | 0.89 | 0.81 | 0.64 | 0.85 |  | 1.07 | 1.36 |
| Pb | 17.8 | 19.03 | 15.82 | 19.31 | 23 | 13.01 | 8.76 | 25.87 |  | 21.51 | 28.34 |
| Th | 15.72 | 14.17 | 13.96 | 15.07 | 19.8 | 16.71 | 11.79 | 22.33 |  | 27.56 | 33.44 |
| U | 3.33 | 2.01 | 2.97 | 2.28 | 3.44 | 1.83 | 1.54 | 4.21 |  | 4.9 | 4.87 |
| Mg# | 66.1 | 70.8 | 71.8 | 65.5 | 68.19 | 67.62 | 67.58 | 67.64 | 　 | 31.2 | 37 |

表4 新州塘、大业样品Sr、Nd同位素组成

Table 4 Sr and Nd isotopic compositions of Xinzhoutang and Daye samples

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 样品号 | Rb | Sr | Rb/Sr | 87Rb/86Sr | 87Sr/86Sr | (87Sr/86Sr)i | Sm | Nd | 147Sm/144Nd | 143Nd/144Nd | εNd |
| 19XZT-01 | 96.33 | 541.95 | 0.17775  | 0.51436  | 0.70917  | 0.70844  | 4.93 | 28.85 | 0.10330  | 0.51226  | -6.27  |
| 19XZT-02 | 95.76 | 558.25 | 0.17154  | 0.49638  | 0.70912  | 0.70842  | 5.42 | 31.86 | 0.10284  | 0.51221  | -7.11  |
| 19XZT-03 | 126.2 | 208.58 | 0.60495  | 1.75086  | 0.71080  | 0.70831  | 4.48 | 26.54 | 0.10204  | 0.51222  | -6.88  |
| 19XZT-04 | 94.21 | 574.54 | 0.16397  | 0.47450  | 0.70911  | 0.70843  | 4.44 | 26.44 | 0.10151  | 0.51226  | -6.26  |
| 19DY-01 | 294.6 | 20.99 | 14.03525  | 40.81451  | 0.75944  | 0.70203  | 7.89 | 49.33 | 0.09668  | 0.51209  | -9.37  |
| 19DY-02 | 268.4 | 233.59 | 1.14889  | 3.32640  | 0.71461  | 0.70993  | 8.1 | 51.67 | 0.09476  | 0.51209  | -9.35  |

表5 新州塘样品锆石Hf同位素组成

Table 5 The Hf isotopic compositions of zircons from the Xinzhoutang samples

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 测点号 | t(Ma) | 176Lu/177Hf | 176Hf/177Hf | ±1σ | （176Hf/177Hf）i | εHf(t) | ±1σ | TDM1(Ga) | TDM2(Ga) |
| 19XZT-01-02 | 100 | 0.000963 | 0.282509 | 0.000009 | 0.282507 | -7.6 | 0.3 | 1 | 1.6 |
| 19XZT-01-07 | 100 | 0.00184 | 0.282496 | 0.000011 | 0.282493 | -8.1 | 0.4 | 1.1 | 1.6 |
| 19XZT-01-09 | 99 | 0.000767 | 0.282477 | 0.00001 | 0.282476 | -8.7 | 0.4 | 1.1 | 1.7 |
| 19XZT-01-10 | 100 | 0.001009 | 0.282538 | 0.000011 | 0.282536 | -6.6 | 0.4 | 1 | 1.6 |
| 19XZT-01-11 | 98 | 0.000688 | 0.282493 | 0.000009 | 0.282492 | -8.2 | 0.3 | 1.1 | 1.7 |
| 19XZT-01-12 | 99 | 0.001148 | 0.282479 | 0.000012 | 0.282477 | -8.7 | 0.4 | 1.1 | 1.7 |
| 19XZT-01-15 | 100 | 0.000851 | 0.282474 | 0.000012 | 0.282473 | -8.8 | 0.4 | 1.1 | 1.7 |
| 19XZT-01-17 | 102 | 0.000793 | 0.282472 | 0.000014 | 0.282471 | -8.9 | 0.5 | 1.1 | 1.7 |
| 19XZT-01-19 | 104 | 0.001348 | 0.282512 | 0.000019 | 0.282509 | -7.4 | 0.7 | 1.1 | 1.6 |
| 19XZT-01-26 | 101 | 0.001183 | 0.282524 | 0.00001 | 0.282521 | -7.1 | 0.4 | 1 | 1.6 |
| 19XZT-01-29 | 100 | 0.000882 | 0.282501 | 0.000014 | 0.282500 | -7.9 | 0.5 | 1.1 | 1.6 |
| 19XZT-01-30 | 102 | 0.000942 | 0.282519 | 0.000012 | 0.282517 | -7.2 | 0.4 | 1 | 1.6 |
| 19XZT-01-31 | 102 | 0.001095 | 0.282496 | 0.000011 | 0.282494 | -8.0 | 0.4 | 1.1 | 1.6 |
| 19XZT-01-32 | 100 | 0.000993 | 0.282504 | 0.000011 | 0.282502 | -7.8 | 0.4 | 1.1 | 1.6 |
| 19XZT-01-33 | 101 | 0.000853 | 0.28254 | 0.000009 | 0.282539 | -6.5 | 0.3 | 1 | 1.5 |
| 19XZT-02-02 | 98 | 0.001195 | 0.282477 | 0.000014 | 0.282475 | -8.8 | 0.5 | 1.1 | 1.7 |
| 19XZT-02-04 | 97 | 0.000925 | 0.282515 | 0.000016 | 0.282513 | -7.5 | 0.5 | 1 | 1.6 |
| 19XZT-02-06 | 98 | 0.000948 | 0.28249 | 0.000015 | 0.282488 | -8.3 | 0.5 | 1.1 | 1.7 |
| 19XZT-02-10 | 96 | 0.000977 | 0.282474 | 0.000016 | 0.282472 | -8.9 | 0.5 | 1.1 | 1.7 |
| 19XZT-02-13 | 99 | 0.000698 | 0.282521 | 0.000018 | 0.282520 | -7.2 | 0.6 | 1 | 1.6 |
| 19XZT-02-18 | 102 | 0.001013 | 0.282494 | 0.000016 | 0.282493 | -8.1 | 0.6 | 1.1 | 1.6 |
| 19XZT-02-19 | 97 | 0.001007 | 0.282499 | 0.000015 | 0.282497 | -8.0 | 0.5 | 1.1 | 1.6 |
| 19XZT-02-20 | 98 | 0.001166 | 0.282508 | 0.000015 | 0.282506 | -7.7 | 0.5 | 1.1 | 1.6 |
| 19XZT-02-21 | 99 | 0.001088 | 0.282473 | 0.000018 | 0.282471 | -8.9 | 0.6 | 1.1 | 1.7 |
| 19XZT-02-22 | 97 | 0.000827 | 0.282505 | 0.00002 | 0.282504 | -7.8 | 0.7 | 1.1 | 1.6 |
| 19XZT-02-23 | 98 | 0.000907 | 0.282526 | 0.000023 | 0.282525 | -7.0 | 0.8 | 1 | 1.6 |
| 19XZT-02-24 | 100 | 0.0007 | 0.28253 | 0.000025 | 0.282529 | -6.8 | 0.9 | 1 | 1.6 |
| 19XZT-02-25 | 98 | 0.000922 | 0.282497 | 0.000025 | 0.282495 | -8.1 | 0.9 | 1.1 | 1.6 |
| 19XZT-02-26 | 100 | 0.001009 | 0.28248 | 0.000019 | 0.282478 | -8.6 | 0.7 | 1.1 | 1.7 |

表6大业样品锆石Hf同位素组成

Table 6 The Hf isotopic composition of zircons from the Daye samples

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 测点号 | t(Ma) | 176Lu/177Hf | 176Hf/177Hf | ±1σ | （176Hf/177Hf）i | εHf(t) | ±1σ | TDM1(Ga) | TDM2(Ga) |
| 19DY-02-01 | 100 | 0.001238 | 0.282398 | 0.000016 | 0.282395 | -11.6 | 0.6 | 1.2 | 1.9 |
| 19DY-02-02 | 95 | 0.000878 | 0.282382 | 0.000019 | 0.28238 | -12.2 | 0.7 | 1.2 | 1.9 |
| 19DY-02-09 | 98 | 0.001211 | 0.282453 | 0.000023 | 0.282451 | -9.6 | 0.8 | 1.1 | 1.7 |
| 19DY-02-10 | 97 | 0.001878 | 0.282438 | 0.000024 | 0.282435 | -10.2 | 0.9 | 1.2 | 1.8 |
| 19DY-02-14 | 99 | 0.001123 | 0.282426 | 0.000019 | 0.282423 | -10.6 | 0.6 | 1.2 | 1.8 |
| 19DY-02-17 | 101 | 0.001069 | 0.282417 | 0.000018 | 0.282415 | -10.8 | 0.6 | 1.2 | 1.8 |
| 19DY-02-18 | 95 | 0.001016 | 0.282433 | 0.000021 | 0.282432 | -10.4 | 0.7 | 1.2 | 1.8 |
| 19DY-02-19 | 104 | 0.001332 | 0.282416 | 0.000016 | 0.282414 | -10.8 | 0.6 | 1.2 | 1.8 |
| 19DY-02-21 | 99 | 0.000841 | 0.282331 | 0.000021 | 0.28233 | -13.9 | 0.7 | 1.3 | 2 |
| 19DY-02-23 | 99 | 0.001305 | 0.282421 | 0.000017 | 0.282419 | -10.8 | 0.6 | 1.2 | 1.8 |
| 19DY-02-24 | 99 | 0.000968 | 0.282332 | 0.000025 | 0.28233 | -13.9 | 0.9 | 1.3 | 2 |
| 19DY-02-26 | 100 | 0.001065 | 0.282425 | 0.000019 | 0.282423 | -10.6 | 0.7 | 1.2 | 1.8 |
| 19DY-02-27 | 103 | 0.001249 | 0.282399 | 0.000024 | 0.282397 | -11.4 | 0.8 | 1.2 | 1.9 |
| 19DY-02-28 | 99 | 0.001093 | 0.282327 | 0.000019 | 0.282325 | -14.1 | 0.7 | 1.3 | 2 |
| 19DY-02-30 | 102 | 0.001187 | 0.28246 | 0.000021 | 0.282458 | -9.3 | 0.7 | 1.1 | 1.7 |
| 19DY-02-33 | 102 | 0.001298 | 0.282413 | 0.000026 | 0.28241 | -11 | 0.9 | 1.2 | 1.8 |
| 19DY-02-35 | 95 | 0.001391 | 0.282482 | 0.000026 | 0.28248 | -8.7 | 0.9 | 1.1 | 1.7 |