**Supplementary table 2.** Permeability of coal reservoirs in the Fukang area of southern Junggar Basin.

| Well No. | Coal No. | Burial depth (m) | Permeability (mD) | Well No. | Coal No. | Burial depth (m) | Permeability (mD) | Well No. | Coal No. | Burial depth (m) | Permeability (mD) |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| CSD01 | B42 | 759 | 16.640 | CS16-X4 | B39 | 1877 | 0.007 | CS16-X6 | B42 | 1625 | 0.021 |
| CSD02 | B42 | 939 | 6.210 | B41 | 1907 | 0.011 | B43 | 1686 | 0.017 |
| CSD03 | B41 | 857 | 1.580 | B42 | 1936 | 0.010 | B44 | 1698 | 0.016 |
| B42 | 895 | 5.650 | B43 | 2015 | 0.008 | CS16-X5 | B41 | 1587 | 0.008 |
| B43 | 971 | 5.760 | CS5-X4 | B42 | 1002 | 0.017 | B42 | 1643 | 0.009 |
| B44 | 984 | 5.380 | 1016 | 0.008 | B43 | 1715 | 0.006 |
| CSD04 | B41 | 904 | 6.240 | B43 | 1063 | 0.014 | B44 | 1725 | 0.004 |
| B42 | 950 | 5.570 | B44 | 1072 | 0.021 | B45 | 1765 | 0.009 |
| B43 | 1029 | 5.550 | CS8-X1 | B42 | 924 | 0.012 | 1792 | 0.006 |
| B44 | 1045 | 5.750 | 934 | 0.015 | CS5-X3 | B41 | 835 | 0.009 |
| CSD05 | B41 | 755 | 2.600 | 946 | 0.005 | B42 | 875 | 0.032 |
| B42 | 794 | 6.700 | B43 | 987 | 0.015 | B43 | 958 | 0.007 |
| B43 | 865 | 6.500 | B44 | 998 | 0.021 | B44 | 976 | 0.015 |
| B44 | 876 | 2.400 | CS8-X2 | B42 | 774 | 0.006 | CS5-X1 | B42 | 1158 | 0.021 |
| CS11-X1 | B45 | 994 | 0.350 | 782 | 0.013 | 1170 | 0.012 |
| CS13-X3 | B41 | 848 | 0.012 | B43 | 818 | 0.008 | B43 | 1206 | 0.018 |
| B42 | 885 | 0.019 | B44 | 825 | 0.018 | B44 | 1213 | 0.031 |
| B43 | 1031 | 0.020 | CS8-X3 | B41 | 935 | 0.008 | CS5-X2 | B41 | 895 | 0.034 |
| B44 | 1036 | 0.024 | B42 | 974 | 0.019 | B42 | 930 | 0.023 |
| B45 | 1161 | 0.010 | B43 | 1053 | 0.014 | 935 | 0.026 |
| CS15-X1 | B41 | 1309 | 0.015 | B44 | 1067 | 0.015 | 1030 | 0.009 |
| B42 | 1342 | 0.029 | B45 | 1146 | 0.006 | B44 | 1050 | 0.022 |
| B43 | 1402 | 0.014 | 1212 | 0.001 | 1147 | 0.007 |
| B44 | 1416 | 0.012 | 1461 | 0.009 | B45 | 1188 | 0.023 |
| CS15-X2 | B41 | 1119 | 0.015 | 1491 | 0.007 | 1196 | 0.025 |
| B42 | 1156 | 0.020 | 1533 | 0.002 | FK18 | B14-15 | 309 | 0.018 |
| B44 | 1237 | 0.041 | CS8-X4 | B42 | 1169 | 0.016 | B19-21 | 340 | 0.028 |
| 1244 | 0.009 | B43 | 1123 | 0.010 | 362 | 0.013 |
| 1257 | 0.011 | B44 | 1237 | 0.003 | B39 | 368 | 0.010 |
| B45 | 1277 | 0.012 | B45 | 1283 | 0.018 | B41 | 519 | 0.024 |
| 1292 | 0.016 | 1296 | 0.017 | B42 | 581 | 0.014 |
| 1295 | 0.004 | FK2 | B43 | 477 | 0.988 | B44 | 615 | 0.009 |
| CS15-X3 | B41 | 1084 | 0.014 | FK5 | X15 | 487 | 0.010 | B45 | 643 | 0.016 |
| B42 | 1137 | 0.024 | X24 | 566 | 0.014 | 648 | 0.016 |
| B44 | 1214 | 0.016 | X35 | 641 | 0.015 | 719 | 0.014 |
| 1125 | 0.017 | X38 | 650 | 0.004 | FK19 | B19-21 | 797 | 7.100 |
| B45 | 1256 | 0.020 | X40 | 692 | 0.009 | B39 | 848 | 7.340 |
| 1277 | 0.011 | X41 | 710 | 0.005 | B42 | 913 | 7.620 |
| CS15-X4 | B45 | 1414 | 0.009 | X43 | 856 | 0.016 | B43 | 1002 | 7.120 |
| CS16-X1 | B41 | 1339 | 0.026 | X44 | 909 | 0.014 | B45 | 1018 | 7.240 |
| B42 | 1369 | 0.038 | X45 | 930 | 0.006 | FK23 | B19-21 | 537 | 3.240 |
| B44 | 1410 | 0.015 | 955 | 0.004 | B39 | 723 | 3.650 |
| B45 | 1440 | 0.034 | 960 | 0.006 | B42 | 788 | 3.900 |
| CS16-X2 | B41 | 1414 | 0.008 | 968 | 0.017 | B45 | 872 | 3.610 |
| B42 | 1555 | 0.016 | 972 | 0.032 | FK25 | B41 | 922 | 11.300 |
| FK1 | X43 | 859 | 0.170 | FK6 | X45 | 1059 | 0.019 | B42 | 980 | 10.280 |
| X45 | 960 | 0.058 | FK17 | B45 | 825 | 7.140 | B43 | 1067 | 6.760 |