

Appendix 2-18 Roundness of the Opaque Minerals

MJBKE-29 14.1m

| 番号 | 面積      | 円相当径    | 半径      | 円形度     | サイズ     | 流体直径    | 凹凸度     | 線形度      | 重心距離最大  | 重心距離最小  | 重心距離平均  | 絶対最大長   | 絶対最大長傾点X | 絶対最大長傾点Y | 絶対最大長傾点X | 絶対最大長傾点Y | 楕円長軸    | 楕円短軸    | 楕円長短比   |
|----|---------|---------|---------|---------|---------|---------|---------|----------|---------|---------|---------|---------|----------|----------|----------|----------|---------|---------|---------|
| 1  | 0.00004 | 0.00719 | 0.00359 | 0.78540 | 0.00318 | 0.00637 | 1.27324 | 1.57080  | 0.00450 | 0.00318 | 0.00370 | 0.00901 | 0.22293  | 0.00382  | 0.22802  | 0.00892  | 0.00757 | 0.00683 | 0.90212 |
| 2  | 0.00001 | 0.00321 | 0.00161 | 0.43633 | 0.00106 | 0.00212 | 2.29183 | 3.92699  | 0.00318 | 0.00064 | 0.00191 | 0.00637 | 0.23312  | 0.00382  | 0.23821  | 0.00382  | 0.00706 | 0.00146 | 0.20751 |
| 3  | 0.00006 | 0.00874 | 0.00437 | 0.26991 | 0.00171 | 0.00342 | 3.70493 | 9.74459  | 0.01152 | 0.00144 | 0.00591 | 0.02056 | 0.31464  | 0.00382  | 0.33375  | 0.00637  | 0.02305 | 0.00332 | 0.14394 |
| 4  | 0.00148 | 0.04341 | 0.02170 | 0.64667 | 0.01686 | 0.03373 | 1.54638 | 1.71428  | 0.03045 | 0.01596 | 0.02228 | 0.05492 | 0.41018  | 0.02038  | 0.46114  | 0.00382  | 0.05471 | 0.03444 | 0.62949 |
| 5  | 0.00207 | 0.05135 | 0.02567 | 0.28422 | 0.01309 | 0.02618 | 3.51841 | 4.88518  | 0.06993 | 0.00963 | 0.03475 | 0.10855 | 0.78979  | 0.00382  | 0.89680  | 0.01146  | 0.11222 | 0.02349 | 0.20936 |
| 6  | 0.00299 | 0.06171 | 0.03085 | 0.34454 | 0.01751 | 0.03503 | 2.90243 | 5.07054  | 0.07703 | 0.01241 | 0.04044 | 0.13437 | 0.92992  | 0.00382  | 1.06240  | 0.01656  | 0.13609 | 0.02798 | 0.20561 |
| 7  | 0.00001 | 0.00321 | 0.00161 | 0.43633 | 0.00106 | 0.00212 | 2.29183 | 3.92699  | 0.00318 | 0.00064 | 0.00191 | 0.00637 | 1.09934  | 0.00382  | 1.10444  | 0.00382  | 0.00706 | 0.00146 | 0.20751 |
| 8  | 0.00594 | 0.08695 | 0.04347 | 0.42786 | 0.02785 | 0.05570 | 2.33721 | 2.60840  | 0.08027 | 0.02266 | 0.04754 | 0.13752 | 1.49296  | 0.00382  | 1.57831  | 0.10955  | 0.13595 | 0.05561 | 0.40902 |
| 9  | 0.00245 | 0.05582 | 0.02791 | 0.47042 | 0.01854 | 0.03708 | 2.12576 | 2.57571  | 0.04889 | 0.01769 | 0.03006 | 0.08678 | 1.64455  | 0.00892  | 1.72990  | 0.00382  | 0.08350 | 0.03731 | 0.44688 |
| 10 | 0.00004 | 0.00733 | 0.00366 | 0.15441 | 0.00144 | 0.00288 | 6.47638 | 13.35487 | 0.01534 | 0.00133 | 0.00730 | 0.02678 | 1.97193  | 0.00510  | 1.99741  | 0.00382  | 0.03222 | 0.00167 | 0.05174 |
| 11 | 0.00651 | 0.09107 | 0.04553 | 0.47135 | 0.03066 | 0.06131 | 2.12158 | 2.76584  | 0.08745 | 0.01448 | 0.04967 | 0.14852 | 2.06110  | 0.05605  | 2.19868  | 0.00382  | 0.15724 | 0.05274 | 0.33543 |
| 12 | 0.00021 | 0.01620 | 0.00810 | 0.61010 | 0.00577 | 0.01153 | 1.63906 | 3.33727  | 0.01373 | 0.00499 | 0.00896 | 0.02867 | 2.39486  | 0.00382  | 2.41396  | 0.02038  | 0.02574 | 0.01019 | 0.96032 |
| 13 | 0.00259 | 0.05748 | 0.02874 | 0.45963 | 0.01891 | 0.03781 | 2.17565 | 2.16179  | 0.04621 | 0.01586 | 0.03003 | 0.08200 | 0.23949  | 0.02930  | 0.29299  | 0.08917  | 0.07913 | 0.04175 | 0.52756 |
| 14 | 0.00511 | 0.08064 | 0.04032 | 0.64051 | 0.03168 | 0.06336 | 1.56125 | 1.74115  | 0.05614 | 0.02614 | 0.04087 | 0.10447 | 1.93372  | 0.09427  | 2.00760  | 0.02293  | 0.09964 | 0.06525 | 0.65489 |
| 15 | 0.00005 | 0.00800 | 0.00400 | 0.84117 | 0.00309 | 0.00618 | 1.18882 | 2.96408  | 0.00588 | 0.00260 | 0.00428 | 0.01161 | 1.14265  | 0.02802  | 1.14902  | 0.02038  | 0.01088 | 0.00589 | 0.54076 |
| 16 | 0.01098 | 0.11822 | 0.05911 | 0.28679 | 0.03106 | 0.06212 | 3.48687 | 2.60318  | 0.09659 | 0.00289 | 0.05934 | 0.18717 | 0.66750  | 0.02166  | 0.70444  | 0.20382  | 0.20401 | 0.06850 | 0.33579 |
| 17 | 0.00017 | 0.01459 | 0.00729 | 0.64764 | 0.00529 | 0.01057 | 1.54407 | 2.50506  | 0.01093 | 0.00317 | 0.00765 | 0.02079 | 2.30059  | 0.03312  | 2.30823  | 0.05095  | 0.02187 | 0.00973 | 0.44504 |
| 18 | 0.00005 | 0.00826 | 0.00413 | 0.97436 | 0.00348 | 0.00695 | 1.02632 | 2.35619  | 0.00541 | 0.00370 | 0.00426 | 0.01081 | 0.42674  | 0.05223  | 0.43311  | 0.04586  | 0.00905 | 0.00753 | 0.83244 |
| 19 | 0.00002 | 0.00498 | 0.00249 | 0.76937 | 0.00218 | 0.00437 | 1.29977 | 1.51262  | 0.00306 | 0.00214 | 0.00259 | 0.00612 | 1.12482  | 0.05095  | 1.12737  | 0.05478  | 0.00519 | 0.00477 | 0.91906 |
| 20 | 0.00159 | 0.04504 | 0.02252 | 0.55821 | 0.01625 | 0.03250 | 1.79145 | 2.85003  | 0.03844 | 0.01015 | 0.02419 | 0.07344 | 0.13630  | 0.11210  | 0.17961  | 0.05478  | 0.07629 | 0.02660 | 0.34861 |
| 21 | 0.00186 | 0.04862 | 0.02431 | 0.46562 | 0.01601 | 0.03202 | 2.14765 | 3.78079  | 0.05141 | 0.01231 | 0.02842 | 0.09125 | 1.82417  | 0.06242  | 1.91206  | 0.08153  | 0.09194 | 0.02571 | 0.27962 |
| 22 | 0.00003 | 0.00575 | 0.00287 | 0.78540 | 0.00255 | 0.00510 | 1.27324 | 1.57080  | 0.00360 | 0.00269 | 0.00299 | 0.00721 | 1.11463  | 0.06115  | 1.11845  | 0.06497  | 0.00572 | 0.00572 | 1.00000 |
| 23 | 0.02412 | 0.17526 | 0.08763 | 0.37840 | 0.05333 | 0.10665 | 2.64270 | 2.59098  | 0.14257 | 0.03078 | 0.09037 | 0.27907 | 2.32225  | 0.33120  | 2.38721  | 0.06115  | 0.27582 | 0.11136 | 0.40373 |
| 24 | 0.00003 | 0.00575 | 0.00287 | 0.78540 | 0.00255 | 0.00510 | 1.27324 | 1.57080  | 0.00360 | 0.00269 | 0.00299 | 0.00721 | 1.10316  | 0.06242  | 1.10698  | 0.06624  | 0.00572 | 0.00572 | 1.00000 |
| 25 | 0.00003 | 0.00627 | 0.00313 | 0.73692 | 0.00269 | 0.00538 | 1.35701 | 1.61472  | 0.00400 | 0.00245 | 0.00325 | 0.00796 | 1.35029  | 0.07134  | 1.35411  | 0.06624  | 0.00687 | 0.00572 | 0.83266 |
| 26 | 0.00003 | 0.00643 | 0.00321 | 0.77570 | 0.00283 | 0.00566 | 1.28916 | 1.53398  | 0.00398 | 0.00255 | 0.00331 | 0.00796 | 1.09807  | 0.07261  | 1.10189  | 0.07771  | 0.00712 | 0.00580 | 0.81492 |
| 27 | 0.00691 | 0.09377 | 0.04689 | 0.43786 | 0.03044 | 0.06089 | 2.28384 | 1.93331  | 0.06770 | 0.01743 | 0.04676 | 0.12794 | 0.91718  | 0.16305  | 1.03565  | 0.11847  | 0.13502 | 0.06513 | 0.48235 |
| 28 | 0.00079 | 0.03166 | 0.01583 | 0.61662 | 0.01184 | 0.02369 | 1.62174 | 2.22288  | 0.02472 | 0.01180 | 0.01665 | 0.04498 | 0.22420  | 0.11210  | 0.26114  | 0.08917  | 0.04155 | 0.02412 | 0.58043 |
| 29 | 0.00144 | 0.04288 | 0.02144 | 0.56516 | 0.01554 | 0.03108 | 1.76941 | 2.66591  | 0.03490 | 0.00908 | 0.02318 | 0.06751 | 1.62927  | 0.08662  | 1.65729  | 0.14649  | 0.07253 | 0.02535 | 0.34952 |
| 30 | 0.00002 | 0.00498 | 0.00249 | 0.76937 | 0.00218 | 0.00437 | 1.29977 | 1.51262  | 0.00306 | 0.00214 | 0.00259 | 0.00612 | 1.22673  | 0.08917  | 1.22927  | 0.09299  | 0.00519 | 0.00477 | 0.91906 |
| 31 | 0.00146 | 0.04312 | 0.02156 | 0.60816 | 0.01624 | 0.03248 | 1.64430 | 2.08385  | 0.03431 | 0.01158 | 0.02257 | 0.06012 | 1.74137  | 0.09172  | 1.76557  | 0.14522  | 0.06161 | 0.03018 | 0.48996 |
| 32 | 0.00001 | 0.00431 | 0.00216 | 0.78540 | 0.00191 | 0.00382 | 1.27324 | 1.57080  | 0.00270 | 0.00191 | 0.00231 | 0.00540 | 1.14902  | 0.09172  | 1.15157  | 0.09427  | 0.00424 | 0.00424 | 1.00000 |
| 33 | 0.00074 | 0.03080 | 0.01540 | 0.58383 | 0.01118 | 0.02236 | 1.71283 | 2.36231  | 0.02482 | 0.00668 | 0.01634 | 0.04498 | 1.84073  | 0.13376  | 1.86366  | 0.09681  | 0.04741 | 0.02000 | 0.42187 |
| 34 | 0.00328 | 0.06467 | 0.03233 | 0.52514 | 0.02284 | 0.04569 | 1.90424 | 2.59831  | 0.05271 | 0.01562 | 0.03424 | 0.10163 | 0.57578  | 0.09936  | 0.58980  | 0.19872  | 0.10440 | 0.04006 | 0.38367 |
| 35 | 0.00004 | 0.00704 | 0.00352 | 0.75398 | 0.00306 | 0.00611 | 1.32629 | 1.63625  | 0.00447 | 0.00308 | 0.00364 | 0.00901 | 0.16815  | 0.10573  | 0.17324  | 0.10063  | 0.00704 | 0.00704 | 1.00000 |
| 36 | 0.00002 | 0.00498 | 0.00249 | 0.76937 | 0.00218 | 0.00437 | 1.29977 | 1.51262  | 0.00306 | 0.00214 | 0.00259 | 0.00612 | 1.82417  | 0.11083  | 1.82799  | 0.11337  | 0.00519 | 0.00477 | 0.91906 |
| 37 | 0.00105 | 0.03651 | 0.01825 | 0.75071 | 0.01525 | 0.03049 | 1.33208 | 1.89746  | 0.02501 | 0.01324 | 0.01890 | 0.04848 | 1.56303  | 0.16178  | 1.57831  | 0.11720  | 0.04697 | 0.02837 | 0.60413 |
| 38 | 0.00467 | 0.07713 | 0.03856 | 0.48147 | 0.02617 | 0.05233 | 2.07699 | 1.83994  | 0.05650 | 0.02373 | 0.03912 | 0.10230 | 1.31972  | 0.19872  | 1.40889  | 0.15159  | 0.10352 | 0.05746 | 0.55508 |
| 39 | 0.00084 | 0.03268 | 0.01634 | 0.44811 | 0.01038 | 0.02076 | 2.23162 | 3.34639  | 0.03007 | 0.00907 | 0.01799 | 0.05673 | 0.02293  | 0.13758  | 0.05987  | 0.17834  | 0.05387 | 0.01983 | 0.36809 |
| 40 | 0.00022 | 0.01689 | 0.00844 | 0.66750 | 0.00632 | 0.01265 | 1.49812 | 2.83695  | 0.01423 | 0.00335 | 0.00905 | 0.02608 | 0.86750  | 0.14649  | 0.88406  | 0.16433  | 0.02638 | 0.01081 | 0.40981 |
| 41 | 0.00568 | 0.08505 | 0.04252 | 0.50999 | 0.02981 | 0.05962 | 1.96081 | 2.72922  | 0.07595 | 0.01992 | 0.04594 | 0.13791 | 1.49424  | 0.15032  | 1.57704  | 0.25859  | 0.13384 | 0.05405 | 0.40380 |
| 42 | 0.00046 | 0.02414 | 0.01207 | 0.28902 | 0.00592 | 0.01183 | 3.45991 | 6.48414  | 0.03088 | 0.00277 | 0.01542 | 0.05605 | 2.60377  | 0.14904  | 2.60377  | 0.20382  | 0.05245 | 0.01111 | 0.21178 |
| 43 | 0.00014 | 0.01356 | 0.00678 | 0.64462 | 0.00484 | 0.00969 | 1.55130 | 3.30825  | 0.01114 | 0.00402 | 0.00738 | 0.02195 | 0.73756  | 0.16942  | 0.74521  | 0.15032  | 0.02142 | 0.00859 | 0.40082 |
| 44 | 0.00017 | 0.01473 | 0.00736 | 0.74290 | 0.00576 | 0.01152 | 1.34607 | 2.04289  | 0.01059 | 0.00520 | 0.00764 | 0.01911 | 0.06497  | 0.15286  | 0.07134  | 0.16942  | 0.01934 | 0.01121 | 0.57973 |
| 45 | 0.00237 | 0.05489 | 0.02744 | 0.39496 | 0.01665 | 0.03331 | 2.53193 | 3.25599  | 0.05149 | 0.01035 | 0.03045 | 0.09563 | 0.15032  | 0.15286  | 0.22165  | 0.21401  | 0.09236 | 0.03261 | 0.35311 |
| 46 | 0.00104 | 0.03631 | 0.01815 | 0.57062 | 0.01315 | 0.02630 | 1.75249 | 3.01058  | 0.03172 | 0.01050 | 0.01989 | 0.06040 | 0.12102  | 0.17961  | 0.15923  | 0.22420  | 0.05826 | 0.02263 | 0.38838 |
| 47 | 0.00006 | 0.00850 | 0.00425 | 0.95087 | 0.00357 | 0.00715 | 1.05167 | 2.50807  | 0.00585 | 0.00315 | 0.00447 | 0.01161 | 0.35795  | 0.19617  | 0.36432  | 0.18853  | 0.01031 | 0.00702 | 0.68090 |
| 48 | 0.00392 | 0.07068 | 0.03534 | 0.51048 | 0.02467 | 0.04934 | 1.95894 | 1.98394  | 0.05107 | 0.02022 | 0.03621 | 0.09727 | 2.51715  | 0.26878  | 2.58339  | 0.20000  | 0.09828 | 0.05083 | 0.51718 |
| 49 | 0.01289 | 0.12812 | 0.06406 | 0.45819 | 0.04279 | 0.08557 | 2.18249 | 2.32762  | 0.10457 | 0.03076 | 0.06669 | 0.19287 | 1.08278  | 0.38088  | 1.09679  | 0.18981  | 0.18572 | 0.08839 | 0.47593 |
| 50 | 0.00844 | 0.10365 | 0.05183 | 0.41983 | 0.03301 | 0.06602 | 2.38190 | 2.94041  | 0.09465 | 0.02307 | 0.05636 | 0.17471 | 1.14902  | 0.20000  | 1.28405  | 0.30827  | 0.17656 | 0.06085 | 0.34466 |
| 51 | 0.00240 | 0.05530 | 0.02765 | 0.      |         |         |         |          |         |         |         |         |          |          |          |          |         |         |         |

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MJBKE-29 14.1μm

| 番号  | 面積      | 円相当径    | 半径      | 円形度     | サイズ     | 流体直径    | 凹凸度     | 線形度     | 重心距離最大  | 重心距離最小  | 重心距離平均  | 絶対最大長   | 絶対最大長軸X | 絶対最大長軸Y | 絶対最大長軸X | 絶対最大長軸Y | 楕円長軸    | 楕円短軸    | 楕円長短比   |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 52  | 0.00086 | 0.03300 | 0.01650 | 0.37363 | 0.00951 | 0.01902 | 2.67647 | 4.36558 | 0.03837 | 0.00639 | 0.02008 | 0.06501 | 0.39872 | 0.22675 | 0.46114 | 0.21401 | 0.06223 | 0.01750 | 0.28121 |
| 53  | 0.00003 | 0.00643 | 0.00321 | 0.32057 | 0.00182 | 0.00364 | 3.11944 | 3.79556 | 0.00626 | 0.00180 | 0.00406 | 0.01252 | 1.13628 | 0.20382 | 1.14265 | 0.19490 | 0.01495 | 0.00276 | 0.18494 |
| 54  | 0.00930 | 0.10883 | 0.05442 | 0.69638 | 0.04484 | 0.08968 | 1.43600 | 1.58756 | 0.07537 | 0.03682 | 0.05481 | 0.13540 | 1.27259 | 0.23694 | 1.40252 | 0.27006 | 0.13139 | 0.09015 | 0.68616 |
| 55  | 0.00004 | 0.00704 | 0.00352 | 0.62313 | 0.00278 | 0.00556 | 1.60481 | 2.00440 | 0.00504 | 0.00240 | 0.00374 | 0.00997 | 0.07388 | 0.22547 | 0.08153 | 0.22165 | 0.00993 | 0.00499 | 0.50250 |
| 56  | 0.01129 | 0.11991 | 0.05995 | 0.51901 | 0.04261 | 0.08523 | 1.92673 | 2.00301 | 0.08816 | 0.03760 | 0.06193 | 0.16743 | 0.00510 | 0.29554 | 0.16815 | 0.26369 | 0.16625 | 0.08649 | 0.52022 |
| 57  | 0.00085 | 0.03281 | 0.01640 | 0.58288 | 0.01193 | 0.02387 | 1.71562 | 1.91449 | 0.02341 | 0.00838 | 0.01679 | 0.04325 | 0.25477 | 0.27643 | 0.28152 | 0.24458 | 0.04561 | 0.02360 | 0.51744 |
| 58  | 0.00115 | 0.03827 | 0.01914 | 0.66106 | 0.01498 | 0.02996 | 1.51273 | 1.76077 | 0.02819 | 0.01097 | 0.01945 | 0.04889 | 2.03563 | 0.26369 | 2.07639 | 0.28789 | 0.05164 | 0.02836 | 0.54924 |
| 59  | 0.00143 | 0.04271 | 0.02136 | 0.54211 | 0.01513 | 0.03027 | 1.84463 | 2.01750 | 0.03117 | 0.01205 | 0.02218 | 0.05839 | 0.36178 | 0.31592 | 0.41273 | 0.29044 | 0.06129 | 0.02977 | 0.48567 |
| 60  | 0.00632 | 0.08968 | 0.04484 | 0.54815 | 0.03263 | 0.06525 | 1.82433 | 1.71653 | 0.06398 | 0.03211 | 0.04615 | 0.11547 | 2.39613 | 0.39617 | 2.41778 | 0.28407 | 0.11356 | 0.07083 | 0.62369 |
| 61  | 0.00157 | 0.04474 | 0.02237 | 0.69790 | 0.01811 | 0.03622 | 1.43287 | 1.67553 | 0.02822 | 0.01493 | 0.02258 | 0.05613 | 0.44076 | 0.33885 | 0.45732 | 0.28662 | 0.05323 | 0.03761 | 0.70648 |
| 62  | 0.00001 | 0.00431 | 0.00216 | 0.78540 | 0.00191 | 0.00382 | 1.27324 | 1.57080 | 0.00270 | 0.00191 | 0.00231 | 0.00540 | 2.21651 | 0.29044 | 2.21906 | 0.29299 | 0.00424 | 0.00424 | 1.00000 |
| 63  | 0.00003 | 0.00575 | 0.00287 | 0.78540 | 0.00255 | 0.00510 | 1.27324 | 1.57080 | 0.00360 | 0.00269 | 0.00299 | 0.00721 | 1.67512 | 0.29171 | 1.67895 | 0.29554 | 0.00572 | 0.00572 | 1.00000 |
| 64  | 0.00089 | 0.03365 | 0.01682 | 0.61046 | 0.01258 | 0.02516 | 1.63811 | 2.27572 | 0.02435 | 0.00803 | 0.01765 | 0.04858 | 0.22420 | 0.33375 | 0.27006 | 0.34522 | 0.04860 | 0.02330 | 0.47942 |
| 65  | 0.00819 | 0.10214 | 0.05107 | 0.32018 | 0.02832 | 0.05663 | 3.12326 | 2.69103 | 0.08333 | 0.00994 | 0.05345 | 0.16419 | 1.58978 | 0.48279 | 1.60888 | 0.32101 | 0.18103 | 0.05762 | 0.31831 |
| 66  | 0.01723 | 0.14814 | 0.07407 | 0.36444 | 0.04413 | 0.08826 | 2.74397 | 2.19215 | 0.11057 | 0.03587 | 0.07355 | 0.21645 | 1.19998 | 0.47378 | 1.36048 | 0.33120 | 0.21395 | 0.10257 | 0.47940 |
| 67  | 0.00608 | 0.08799 | 0.04399 | 0.58457 | 0.03306 | 0.06613 | 1.71066 | 2.10758 | 0.06498 | 0.02460 | 0.04559 | 0.12556 | 1.92862 | 0.39107 | 2.04837 | 0.35795 | 0.12528 | 0.06179 | 0.49323 |
| 68  | 0.00003 | 0.00575 | 0.00287 | 0.78540 | 0.00255 | 0.00510 | 1.27324 | 1.57080 | 0.00360 | 0.00269 | 0.00299 | 0.00721 | 1.75156 | 0.33502 | 1.75538 | 0.33885 | 0.00572 | 0.00572 | 1.00000 |
| 69  | 0.00004 | 0.00704 | 0.00352 | 0.75398 | 0.00306 | 0.00811 | 1.32629 | 1.60221 | 0.00446 | 0.00269 | 0.00366 | 0.00891 | 1.46876 | 0.34267 | 1.47258 | 0.34904 | 0.00870 | 0.00570 | 0.65504 |
| 70  | 0.00001 | 0.00431 | 0.00216 | 0.78540 | 0.00191 | 0.00382 | 1.27324 | 1.57080 | 0.00270 | 0.00191 | 0.00231 | 0.00540 | 1.70952 | 0.34649 | 1.71207 | 0.34904 | 0.00424 | 0.00424 | 1.00000 |
| 71  | 0.02287 | 0.17064 | 0.08532 | 0.51168 | 0.06044 | 0.12089 | 1.95434 | 2.46177 | 0.14804 | 0.04277 | 0.09186 | 0.26516 | 1.02418 | 0.34904 | 1.03437 | 0.61273 | 0.27509 | 0.10585 | 0.38477 |
| 72  | 0.06534 | 0.28843 | 0.14421 | 0.18075 | 0.06073 | 0.12146 | 5.53238 | 1.97967 | 0.22344 | 0.01501 | 0.13153 | 0.40195 | 2.02289 | 0.40509 | 2.32734 | 0.66495 | 0.47374 | 0.17560 | 0.37068 |
| 73  | 0.00376 | 0.06916 | 0.03458 | 0.55423 | 0.02516 | 0.05033 | 1.80431 | 2.44894 | 0.05553 | 0.01945 | 0.03569 | 0.10579 | 0.44458 | 0.46368 | 0.46114 | 0.36050 | 0.09956 | 0.04804 | 0.48256 |
| 74  | 0.00562 | 0.08462 | 0.04231 | 0.62298 | 0.03282 | 0.06564 | 1.60519 | 2.21171 | 0.08820 | 0.02771 | 0.04360 | 0.12367 | 2.47001 | 0.36432 | 2.51587 | 0.47770 | 0.11513 | 0.06220 | 0.54022 |
| 75  | 0.00152 | 0.04393 | 0.02196 | 0.68720 | 0.01762 | 0.03524 | 1.45518 | 2.02987 | 0.03393 | 0.01402 | 0.02289 | 0.06056 | 0.75030 | 0.37451 | 0.80890 | 0.38343 | 0.06124 | 0.03151 | 0.51460 |
| 76  | 0.02747 | 0.18701 | 0.09351 | 0.49871 | 0.06546 | 0.13092 | 2.00517 | 1.82381 | 0.13760 | 0.05272 | 0.09415 | 0.25036 | 1.65856 | 0.43948 | 1.89932 | 0.50317 | 0.25212 | 0.13872 | 0.55022 |
| 77  | 0.00001 | 0.00431 | 0.00216 | 0.78540 | 0.00191 | 0.00382 | 1.27324 | 1.57080 | 0.00270 | 0.00191 | 0.00231 | 0.00540 | 0.58470 | 0.37451 | 0.58725 | 0.37706 | 0.00424 | 0.00424 | 1.00000 |
| 78  | 0.00396 | 0.07097 | 0.03549 | 0.50170 | 0.02455 | 0.04910 | 1.99321 | 2.61396 | 0.05650 | 0.02117 | 0.03798 | 0.11207 | 0.10955 | 0.45349 | 0.20637 | 0.39999 | 0.10569 | 0.04766 | 0.45092 |
| 79  | 0.00005 | 0.00787 | 0.00394 | 0.93184 | 0.00318 | 0.00636 | 1.07314 | 2.20809 | 0.00489 | 0.00328 | 0.00404 | 0.00979 | 0.77323 | 0.40636 | 0.77833 | 0.41273 | 0.00889 | 0.00697 | 0.78403 |
| 80  | 0.00116 | 0.03849 | 0.01924 | 0.27692 | 0.00954 | 0.01908 | 3.61110 | 5.27354 | 0.04350 | 0.00493 | 0.02472 | 0.08324 | 0.00382 | 0.51591 | 0.02038 | 0.43566 | 0.08961 | 0.01653 | 0.18448 |
| 81  | 0.00363 | 0.06798 | 0.03399 | 0.49285 | 0.02330 | 0.04659 | 2.02902 | 2.87917 | 0.06303 | 0.01143 | 0.03696 | 0.11262 | 2.37575 | 0.45349 | 2.45727 | 0.52865 | 0.11574 | 0.03993 | 0.34502 |
| 82  | 0.00415 | 0.07267 | 0.03634 | 0.34254 | 0.02070 | 0.04140 | 2.91933 | 1.68349 | 0.05052 | 0.01309 | 0.03599 | 0.09177 | 0.88533 | 0.52228 | 0.93883 | 0.44967 | 0.10513 | 0.05023 | 0.47781 |
| 83  | 0.00001 | 0.00431 | 0.00216 | 0.78540 | 0.00191 | 0.00382 | 1.27324 | 1.57080 | 0.00270 | 0.00191 | 0.00231 | 0.00540 | 0.16051 | 0.45349 | 0.16305 | 0.45604 | 0.00424 | 0.00424 | 1.00000 |
| 84  | 0.01013 | 0.11356 | 0.05678 | 0.59566 | 0.04325 | 0.08650 | 1.67881 | 2.42755 | 0.09057 | 0.03321 | 0.06010 | 0.17461 | 1.24201 | 0.50317 | 1.41398 | 0.52483 | 0.16567 | 0.07784 | 0.46987 |
| 85  | 0.00111 | 0.03751 | 0.01876 | 0.54972 | 0.01334 | 0.02669 | 1.81911 | 3.34549 | 0.03696 | 0.00981 | 0.02100 | 0.06583 | 0.48152 | 0.47515 | 0.51719 | 0.52865 | 0.06579 | 0.02139 | 0.32503 |
| 86  | 0.00276 | 0.05932 | 0.02966 | 0.63380 | 0.02305 | 0.04609 | 1.57778 | 2.37282 | 0.04924 | 0.01508 | 0.03161 | 0.08919 | 1.62290 | 0.47770 | 1.66366 | 0.55540 | 0.08967 | 0.03924 | 0.43761 |
| 87  | 0.01523 | 0.13927 | 0.06964 | 0.63539 | 0.05492 | 0.10985 | 1.57383 | 2.08207 | 0.10476 | 0.04564 | 0.07281 | 0.19885 | 2.47256 | 0.51846 | 2.59867 | 0.67005 | 0.19249 | 0.10077 | 0.52350 |
| 88  | 0.00023 | 0.01701 | 0.00850 | 0.70826 | 0.00656 | 0.01311 | 1.41191 | 2.68633 | 0.01296 | 0.00449 | 0.00899 | 0.02554 | 1.94646 | 0.53757 | 1.96684 | 0.52483 | 0.02505 | 0.01155 | 0.46108 |
| 89  | 0.00691 | 0.09382 | 0.04691 | 0.34190 | 0.02685 | 0.05370 | 2.92483 | 2.37374 | 0.07552 | 0.00566 | 0.04491 | 0.14150 | 0.26369 | 0.67132 | 0.34394 | 0.55668 | 0.14915 | 0.05901 | 0.39563 |
| 90  | 0.00108 | 0.03704 | 0.01852 | 0.48777 | 0.01236 | 0.02471 | 2.05013 | 1.85042 | 0.02630 | 0.00891 | 0.01857 | 0.04813 | 0.16305 | 0.56942 | 0.18344 | 0.61145 | 0.04805 | 0.02855 | 0.59423 |
| 91  | 0.00001 | 0.00431 | 0.00216 | 0.78540 | 0.00191 | 0.00382 | 1.27324 | 1.57080 | 0.00270 | 0.00191 | 0.00231 | 0.00540 | 0.40254 | 0.56942 | 0.40509 | 0.57196 | 0.00424 | 0.00424 | 1.00000 |
| 92  | 0.01362 | 0.13171 | 0.06585 | 0.71296 | 0.05503 | 0.11007 | 1.40261 | 1.80563 | 0.09126 | 0.04480 | 0.06738 | 0.17516 | 1.14520 | 0.69680 | 1.29424 | 0.60763 | 0.17442 | 0.09946 | 0.57024 |
| 93  | 0.00431 | 0.07406 | 0.03703 | 0.65101 | 0.02929 | 0.05858 | 1.53607 | 1.58146 | 0.04633 | 0.02680 | 0.03732 | 0.09130 | 1.67895 | 0.63056 | 1.75283 | 0.57961 | 0.08725 | 0.06287 | 0.72058 |
| 94  | 0.01391 | 0.13306 | 0.06653 | 0.39687 | 0.04133 | 0.08265 | 2.51975 | 2.12060 | 0.10601 | 0.02650 | 0.06981 | 0.19105 | 2.07384 | 0.57961 | 2.09550 | 0.76814 | 0.19595 | 0.09035 | 0.46108 |
| 95  | 0.00001 | 0.00431 | 0.00216 | 0.78540 | 0.00191 | 0.00382 | 1.27324 | 1.57080 | 0.00270 | 0.00191 | 0.00231 | 0.00540 | 0.91208 | 0.58852 | 0.91463 | 0.59107 | 0.00424 | 0.00424 | 1.00000 |
| 96  | 0.00708 | 0.09493 | 0.04747 | 0.67222 | 0.03833 | 0.07667 | 1.48760 | 2.10860 | 0.07434 | 0.02625 | 0.04955 | 0.13578 | 0.66495 | 0.59617 | 0.77705 | 0.67005 | 0.13550 | 0.06651 | 0.49087 |
| 97  | 0.00002 | 0.00498 | 0.00249 | 0.76937 | 0.00218 | 0.00437 | 1.29977 | 1.51262 | 0.00306 | 0.00214 | 0.00259 | 0.00612 | 0.11847 | 0.59871 | 0.12229 | 0.60126 | 0.00519 | 0.00477 | 0.91906 |
| 98  | 0.00003 | 0.00610 | 0.00305 | 0.69813 | 0.00255 | 0.00510 | 1.43239 | 1.82212 | 0.00412 | 0.00214 | 0.00321 | 0.00823 | 0.11592 | 0.60636 | 0.11847 | 0.61273 | 0.00863 | 0.00431 | 0.49945 |
| 99  | 0.00002 | 0.00498 | 0.00249 | 0.76937 | 0.00218 | 0.00437 | 1.29977 | 1.51262 | 0.00306 | 0.00214 | 0.00259 | 0.00612 | 0.11465 | 0.62037 | 0.11720 | 0.62419 | 0.00519 | 0.00477 | 0.91906 |
| 100 | 0.00025 | 0.01795 | 0.00898 | 0.28672 | 0.00424 | 0.00848 | 3.48777 | 6.65480 | 0.02274 | 0.00291 | 0.01197 | 0.04087 | 1.75665 | 0.66368 | 1.77066 | 0.62674 | 0.04408 | 0.00731 | 0.16589 |
| 101 | 0.00988 | 0.11217 | 0.05609 | 0.69560 | 0.04620 | 0.09239 | 1.43760 | 1.43509 | 0.07632 | 0.04185 | 0.05734 | 0.13271 | 0.01783 | 0.75922 | 0.02548 | 0.62801 | 0.13858 | 0.09080 | 0.65520 |
| 102 | 0.00003 | 0.00659 | 0.003   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |

Appendix 2-18 Roundness of the Opaque Minerals

MJBKE-29 14.1m

| 番号  | 面積      | 円相当径    | 半径      | 円形度     | サイズ     | 流体直径    | 凹凸度     | 線形度     | 重心距離最大  | 重心距離最小  | 重心距離平均  | 絶対最大長   | 絶対最大長始点X | 絶対最大長始点Y | 絶対最大長終点X | 絶対最大長終点Y | 楕円長軸    | 楕円短軸    | 楕円長短比   |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|----------|----------|----------|---------|---------|---------|
| 103 | 0.00119 | 0.03894 | 0.01947 | 0.72201 | 0.01598 | 0.03197 | 1.38503 | 2.17991 | 0.02834 | 0.00987 | 0.02017 | 0.05554 | 0.43184  | 0.67642  | 0.48024  | 0.65222  | 0.05397 | 0.02810 | 0.52061 |
| 104 | 0.00185 | 0.04851 | 0.02426 | 0.66232 | 0.01916 | 0.03833 | 1.50985 | 1.75780 | 0.03328 | 0.01411 | 0.02489 | 0.06244 | 1.04711  | 0.66878  | 1.10316  | 0.69298  | 0.06288 | 0.03743 | 0.59520 |
| 105 | 0.00133 | 0.04119 | 0.02059 | 0.70989 | 0.01678 | 0.03356 | 1.40868 | 1.90818 | 0.02967 | 0.01542 | 0.02121 | 0.05503 | 0.94266  | 0.65731  | 0.96813  | 0.70444  | 0.05268 | 0.03220 | 0.61124 |
| 106 | 0.00588 | 0.08655 | 0.04328 | 0.32765 | 0.02418 | 0.04836 | 3.05202 | 2.20785 | 0.06599 | 0.01127 | 0.04031 | 0.12554 | 1.61271  | 0.65859  | 1.68149  | 0.76177  | 0.12154 | 0.06164 | 0.50716 |
| 107 | 0.00358 | 0.06751 | 0.03376 | 0.70318 | 0.02773 | 0.05547 | 1.42211 | 1.59157 | 0.04503 | 0.02593 | 0.03452 | 0.08345 | 1.32227  | 0.74139  | 1.33246  | 0.65986  | 0.07891 | 0.05776 | 0.73206 |
| 108 | 0.01600 | 0.14274 | 0.07137 | 0.64597 | 0.05680 | 0.11359 | 1.54806 | 1.77258 | 0.09848 | 0.04780 | 0.07155 | 0.18817 | 1.92735  | 0.67132  | 1.96302  | 0.85476  | 0.17793 | 0.11452 | 0.64360 |
| 109 | 0.00029 | 0.01928 | 0.00964 | 0.61073 | 0.00694 | 0.01387 | 1.63739 | 3.10668 | 0.01639 | 0.00589 | 0.01054 | 0.03129 | 2.48403  | 0.68024  | 2.51332  | 0.67387  | 0.03044 | 0.01222 | 0.40127 |
| 110 | 0.00025 | 0.01795 | 0.00898 | 0.57814 | 0.00624 | 0.01249 | 1.72968 | 2.57406 | 0.01451 | 0.00398 | 0.00938 | 0.02634 | 2.54517  | 0.67642  | 2.56937  | 0.68279  | 0.02728 | 0.01182 | 0.43321 |
| 111 | 0.00011 | 0.01168 | 0.00584 | 0.33695 | 0.00281 | 0.00563 | 2.96781 | 5.15203 | 0.01262 | 0.00153 | 0.00684 | 0.02201 | 2.38466  | 0.68024  | 2.39486  | 0.69807  | 0.02467 | 0.00553 | 0.22402 |
| 112 | 0.03458 | 0.20982 | 0.10491 | 0.28055 | 0.05499 | 0.10997 | 3.56441 | 2.24093 | 0.17033 | 0.04841 | 0.10847 | 0.31081 | 0.65986  | 0.99234  | 0.69935  | 0.68534  | 0.30089 | 0.14631 | 0.48626 |
| 113 | 0.00780 | 0.09966 | 0.04983 | 0.63127 | 0.03902 | 0.07803 | 1.58412 | 2.13610 | 0.07869 | 0.03026 | 0.05241 | 0.14354 | 0.88406  | 0.68916  | 0.92864  | 0.82419  | 0.14440 | 0.06878 | 0.47633 |
| 114 | 0.00014 | 0.01325 | 0.00663 | 0.77324 | 0.00523 | 0.01046 | 1.37996 | 2.27410 | 0.00916 | 0.00452 | 0.00696 | 0.01794 | 0.35541  | 0.70827  | 0.36178  | 0.69298  | 0.01805 | 0.00973 | 0.53897 |
| 115 | 0.03074 | 0.19783 | 0.09891 | 0.50844 | 0.06995 | 0.13990 | 1.96680 | 1.68834 | 0.13761 | 0.06264 | 0.10088 | 0.25494 | 2.30696  | 0.95157  | 2.34390  | 0.70062  | 0.25451 | 0.15377 | 0.60419 |
| 116 | 0.00300 | 0.06181 | 0.03090 | 0.31542 | 0.01679 | 0.03358 | 3.17038 | 5.25971 | 0.06993 | 0.01147 | 0.03990 | 0.13713 | 1.71844  | 0.78470  | 1.82671  | 0.70317  | 0.13693 | 0.02790 | 0.20376 |
| 117 | 0.00744 | 0.09735 | 0.04868 | 0.72466 | 0.04084 | 0.08168 | 1.37996 | 1.35491 | 0.05744 | 0.04044 | 0.04900 | 0.11169 | 0.12102  | 0.79489  | 0.19872  | 0.71718  | 0.11000 | 0.08615 | 0.78319 |
| 118 | 0.00314 | 0.06328 | 0.03164 | 0.33540 | 0.01773 | 0.03546 | 2.98153 | 1.87079 | 0.04714 | 0.01507 | 0.03271 | 0.08376 | 0.30827  | 0.71336  | 0.36432  | 0.77323  | 0.08770 | 0.04566 | 0.52064 |
| 119 | 0.00002 | 0.00498 | 0.00249 | 0.76937 | 0.00218 | 0.00437 | 1.29977 | 1.51262 | 0.00306 | 0.00214 | 0.00259 | 0.00612 | 1.36430  | 0.71591  | 1.36812  | 0.71846  | 0.00519 | 0.00477 | 0.91906 |
| 120 | 0.00115 | 0.03827 | 0.01914 | 0.34501 | 0.01068 | 0.02135 | 2.89849 | 3.42347 | 0.03518 | 0.00523 | 0.02247 | 0.06726 | 2.52861  | 0.75412  | 2.58466  | 0.71973  | 0.07321 | 0.02001 | 0.27330 |
| 121 | 0.00006 | 0.00874 | 0.00437 | 0.66721 | 0.00299 | 0.00599 | 1.49879 | 3.40261 | 0.00717 | 0.00245 | 0.00478 | 0.01352 | 1.38596  | 0.72483  | 1.39615  | 0.71846  | 0.01380 | 0.00554 | 0.40168 |
| 122 | 0.00003 | 0.00627 | 0.00313 | 0.73692 | 0.00269 | 0.00538 | 1.35701 | 1.61472 | 0.00400 | 0.00245 | 0.00325 | 0.00796 | 0.82801  | 0.72483  | 0.83310  | 0.72100  | 0.00687 | 0.00572 | 0.83266 |
| 123 | 0.00155 | 0.04437 | 0.02219 | 0.19281 | 0.00917 | 0.01834 | 5.18650 | 2.55493 | 0.03551 | 0.00194 | 0.02183 | 0.06675 | 1.35666  | 0.77068  | 1.40634  | 0.72865  | 0.07288 | 0.02702 | 0.37074 |
| 124 | 0.00558 | 0.08429 | 0.04215 | 0.62765 | 0.03281 | 0.06561 | 1.93925 | 2.03552 | 0.06542 | 0.02848 | 0.04363 | 0.11816 | 1.23564  | 0.79616  | 1.34647  | 0.75922  | 0.11134 | 0.06381 | 0.57313 |
| 125 | 0.00001 | 0.00431 | 0.00216 | 0.78540 | 0.00191 | 0.00382 | 1.27324 | 1.57080 | 0.00270 | 0.00191 | 0.00231 | 0.00540 | 1.43182  | 0.72610  | 1.43437  | 0.72865  | 0.00424 | 0.00424 | 1.00000 |
| 126 | 0.00261 | 0.05764 | 0.02882 | 0.34707 | 0.01641 | 0.03282 | 2.88127 | 4.11124 | 0.05793 | 0.01188 | 0.03341 | 0.11297 | 0.44840  | 0.76049  | 0.55540  | 0.72865  | 0.11042 | 0.03009 | 0.27247 |
| 127 | 0.01529 | 0.13951 | 0.06975 | 0.35229 | 0.04083 | 0.08165 | 2.83855 | 2.02603 | 0.11098 | 0.02664 | 0.06855 | 0.19582 | 1.42672  | 0.83310  | 1.60761  | 0.76177  | 0.17636 | 0.11036 | 0.62575 |
| 128 | 0.00183 | 0.04830 | 0.02415 | 0.72913 | 0.02002 | 0.04005 | 1.37151 | 1.67553 | 0.03142 | 0.01581 | 0.02451 | 0.06071 | 0.39999  | 0.75540  | 0.43566  | 0.80253  | 0.06035 | 0.03865 | 0.64043 |
| 129 | 0.00318 | 0.06359 | 0.03179 | 0.64538 | 0.02497 | 0.04995 | 1.54947 | 1.97831 | 0.04643 | 0.01685 | 0.03251 | 0.08745 | 1.11208  | 0.76304  | 1.14902  | 0.84075  | 0.08711 | 0.04642 | 0.53290 |
| 130 | 0.00334 | 0.06526 | 0.03263 | 0.50196 | 0.02254 | 0.04507 | 1.99219 | 3.42056 | 0.06148 | 0.01679 | 0.03697 | 0.11766 | 0.00637  | 0.88151  | 0.05987  | 0.77833  | 0.11166 | 0.03813 | 0.34151 |
| 131 | 0.01269 | 0.12711 | 0.06356 | 0.56186 | 0.04706 | 0.09412 | 1.77980 | 1.63922 | 0.08625 | 0.04409 | 0.06448 | 0.16076 | 1.97448  | 0.86495  | 2.13371  | 0.85603  | 0.15926 | 0.10145 | 0.63703 |
| 132 | 0.00956 | 0.11031 | 0.05515 | 0.75989 | 0.04751 | 0.09501 | 1.31598 | 1.31976 | 0.06554 | 0.04256 | 0.05540 | 0.12522 | 1.27131  | 0.82673  | 1.34137  | 0.92864  | 0.12523 | 0.09716 | 0.77589 |
| 133 | 0.00084 | 0.03265 | 0.01633 | 0.47524 | 0.01068 | 0.02136 | 2.10422 | 3.02772 | 0.02703 | 0.00941 | 0.01779 | 0.05390 | 0.42292  | 0.87387  | 0.44330  | 0.82546  | 0.04969 | 0.02145 | 0.43174 |
| 134 | 0.00001 | 0.00431 | 0.00216 | 0.78540 | 0.00191 | 0.00382 | 1.27324 | 1.57080 | 0.00270 | 0.00191 | 0.00231 | 0.00540 | 1.21781  | 0.82673  | 1.22036  | 0.82928  | 0.00424 | 0.00424 | 1.00000 |
| 135 | 0.00040 | 0.02250 | 0.01125 | 0.44485 | 0.00692 | 0.01384 | 2.24796 | 3.53661 | 0.02022 | 0.00462 | 0.01238 | 0.03903 | 0.22929  | 0.82801  | 0.24458  | 0.86240  | 0.03894 | 0.01300 | 0.33384 |
| 136 | 0.00043 | 0.02349 | 0.01174 | 0.58355 | 0.00839 | 0.01678 | 1.71366 | 3.05970 | 0.02175 | 0.00536 | 0.01287 | 0.03842 | 2.54135  | 0.84966  | 2.57702  | 0.83947  | 0.03910 | 0.01411 | 0.36089 |
| 137 | 0.00044 | 0.02375 | 0.01187 | 0.65533 | 0.00903 | 0.01806 | 1.52595 | 2.27834 | 0.01719 | 0.00682 | 0.01238 | 0.03368 | 2.44454  | 0.86240  | 2.47129  | 0.84457  | 0.03325 | 0.01697 | 0.51026 |
| 138 | 0.00408 | 0.07204 | 0.03602 | 0.55112 | 0.02616 | 0.05232 | 1.81447 | 1.96751 | 0.05140 | 0.01940 | 0.03637 | 0.09886 | 0.85858  | 0.90954  | 0.94520  | 0.86495  | 0.09612 | 0.05400 | 0.56177 |
| 139 | 0.00003 | 0.00643 | 0.00321 | 0.77570 | 0.00283 | 0.00566 | 1.28916 | 1.53398 | 0.00398 | 0.00255 | 0.00331 | 0.00796 | 0.29426  | 0.85858  | 0.29808  | 0.86368  | 0.00712 | 0.00580 | 0.81492 |
| 140 | 0.00001 | 0.00431 | 0.00216 | 0.78540 | 0.00191 | 0.00382 | 1.27324 | 1.57080 | 0.00270 | 0.00191 | 0.00231 | 0.00540 | 0.30573  | 0.86368  | 0.30827  | 0.86622  | 0.00424 | 0.00424 | 1.00000 |
| 141 | 0.00004 | 0.00733 | 0.00366 | 0.36303 | 0.00221 | 0.00442 | 2.75460 | 3.35366 | 0.00675 | 0.00129 | 0.00433 | 0.01342 | 0.30700  | 0.87514  | 0.31592  | 0.86750  | 0.01513 | 0.00355 | 0.23481 |
| 142 | 0.07094 | 0.30053 | 0.15027 | 0.26406 | 0.07664 | 0.15328 | 3.78695 | 1.85415 | 0.21309 | 0.11117 | 0.15159 | 0.40615 | 0.25222  | 0.98724  | 0.65604  | 1.01654  | 0.39246 | 0.23014 | 0.58640 |
| 143 | 0.00179 | 0.04769 | 0.02385 | 0.25270 | 0.01142 | 0.02283 | 3.95725 | 3.02523 | 0.03979 | 0.00258 | 0.02493 | 0.07900 | 1.91079  | 0.90062  | 1.98722  | 0.88661  | 0.08940 | 0.02545 | 0.28462 |
| 144 | 0.00007 | 0.00943 | 0.00471 | 0.76721 | 0.00356 | 0.00712 | 1.30342 | 2.57557 | 0.00692 | 0.00347 | 0.00504 | 0.01305 | 1.12227  | 0.88278  | 1.12482  | 0.89425  | 0.01324 | 0.00671 | 0.50705 |
| 145 | 0.00107 | 0.03687 | 0.01844 | 0.46883 | 0.01204 | 0.02409 | 2.13299 | 3.27932 | 0.03575 | 0.01157 | 0.02088 | 0.06371 | 2.60249  | 0.88278  | 2.60377  | 0.94520  | 0.05711 | 0.02381 | 0.41690 |
| 146 | 0.00001 | 0.00431 | 0.00216 | 0.78540 | 0.00191 | 0.00382 | 1.27324 | 1.57080 | 0.00270 | 0.00191 | 0.00231 | 0.00540 | 1.65092  | 0.88533  | 1.65347  | 0.88788  | 0.00424 | 0.00424 | 1.00000 |
| 147 | 0.00169 | 0.04644 | 0.02322 | 0.62297 | 0.01775 | 0.03550 | 1.60522 | 2.20683 | 0.03418 | 0.00975 | 0.02418 | 0.06681 | 1.57067  | 0.89425  | 1.63436  | 0.90954  | 0.06912 | 0.03121 | 0.45145 |
| 148 | 0.00118 | 0.03884 | 0.01942 | 0.50251 | 0.01318 | 0.02636 | 1.98999 | 3.05854 | 0.03449 | 0.00684 | 0.02169 | 0.06502 | 1.54519  | 0.95157  | 1.56303  | 0.89043  | 0.06891 | 0.02189 | 0.31764 |
| 149 | 0.00171 | 0.04664 | 0.02332 | 0.63127 | 0.01794 | 0.03588 | 1.58412 | 2.03517 | 0.03269 | 0.01672 | 0.02398 | 0.06442 | 1.41016  | 0.89425  | 1.44328  | 0.94775  | 0.06094 | 0.03570 | 0.58593 |
| 150 | 0.00042 | 0.02313 | 0.01157 | 0.22336 | 0.00489 | 0.00979 | 4.47703 | 5.33110 | 0.02463 | 0.00088 | 0.01386 | 0.04781 | 1.10316  | 0.93119  | 1.13246  | 0.89552  | 0.05535 | 0.00967 | 0.17466 |
| 151 | 0.00002 | 0.00498 | 0.00249 | 0.76937 | 0.00218 | 0.00437 | 1.29977 | 1.51262 | 0.00306 | 0.00214 | 0.00259 | 0.00612 | 1.09934  | 0.90954  | 1.10189  | 0.91336  | 0.00519 | 0.00477 | 0.91906 |
| 152 | 0.00001 | 0.00431 | 0.00216 | 0.78540 | 0.00191 | 0.00382 | 1.27324 | 1.57080 | 0.00270 | 0.00191 | 0.00231 | 0.00540 | 1.71971  | 0.91081  | 1.72226  | 0.91336  | 0.00424 | 0.00424 | 1.00    |

Appendix 2-18 Roundness of the Opaque Minerals

MJBKE-29 14.1m

| 番号  | 面積      | 円相当径    | 半径      | 円形度     | サイズ     | 流体直径    | 凹凸度     | 線形度     | 重心距離最大  | 重心距離最小  | 重心距離平均  | 絶対最大長   | 絶対最大長軸X | 絶対最大長軸Y | 絶対最大長軸傾斜 | 絶対最大長軸傾斜Y | 楕円長軸    | 楕円短軸    | 楕円長短比   |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|-----------|---------|---------|---------|
| 154 | 0.00794 | 0.10052 | 0.05026 | 0.47635 | 0.03411 | 0.06823 | 2.09929 | 3.17447 | 0.09574 | 0.02493 | 0.05660 | 0.17612 | 2.15155 | 1.05730 | 2.29040  | 0.95157   | 0.16813 | 0.06009 | 0.35743 |
| 155 | 0.00157 | 0.04465 | 0.02233 | 0.72193 | 0.01839 | 0.03678 | 1.38517 | 1.71932 | 0.03091 | 0.01523 | 0.02293 | 0.05676 | 2.05219 | 0.93501 | 2.10059  | 0.96176   | 0.05682 | 0.03509 | 0.61764 |
| 156 | 0.00242 | 0.05550 | 0.02775 | 0.67538 | 0.02221 | 0.04443 | 1.48065 | 2.31097 | 0.04329 | 0.01759 | 0.02928 | 0.08218 | 0.98215 | 0.94011 | 0.99234  | 1.02036   | 0.08240 | 0.03739 | 0.45370 |
| 157 | 0.01544 | 0.14021 | 0.07011 | 0.40138 | 0.04384 | 0.08769 | 2.49138 | 1.62050 | 0.09618 | 0.03232 | 0.06935 | 0.17619 | 1.08023 | 0.98469 | 1.24201  | 1.05093   | 0.17568 | 0.11190 | 0.63694 |
| 158 | 0.00269 | 0.05855 | 0.02927 | 0.65381 | 0.02309 | 0.04618 | 1.52950 | 1.99941 | 0.04098 | 0.01719 | 0.02996 | 0.08076 | 1.36303 | 0.96941 | 1.43946  | 0.99106   | 0.08163 | 0.04199 | 0.51443 |
| 159 | 0.00801 | 0.10102 | 0.05051 | 0.26013 | 0.02517 | 0.05035 | 3.84419 | 2.75138 | 0.09219 | 0.00186 | 0.04797 | 0.16373 | 0.00382 | 0.96813 | 0.05860  | 1.12100   | 0.15913 | 0.06413 | 0.40299 |
| 160 | 0.00971 | 0.11117 | 0.05559 | 0.40899 | 0.03496 | 0.06993 | 2.44504 | 1.90197 | 0.07575 | 0.02289 | 0.05491 | 0.15080 | 2.52988 | 1.11081 | 2.57829  | 0.96941   | 0.14875 | 0.08309 | 0.55855 |
| 161 | 0.00045 | 0.02384 | 0.01192 | 0.68960 | 0.00932 | 0.01865 | 1.45012 | 2.35278 | 0.01745 | 0.00738 | 0.01251 | 0.03444 | 1.79359 | 0.99871 | 1.81270  | 0.97195   | 0.03392 | 0.01675 | 0.49382 |
| 162 | 0.00487 | 0.07877 | 0.03938 | 0.55501 | 0.02877 | 0.05754 | 1.80177 | 2.65443 | 0.06473 | 0.01955 | 0.04285 | 0.12583 | 1.27131 | 0.97450 | 1.31972  | 1.08915   | 0.12521 | 0.04955 | 0.39577 |
| 163 | 0.00007 | 0.00943 | 0.00471 | 0.87068 | 0.00382 | 0.00765 | 1.14853 | 2.33573 | 0.00664 | 0.00346 | 0.00494 | 0.01252 | 0.76559 | 0.97832 | 0.77451  | 0.98469   | 0.01209 | 0.00735 | 0.60735 |
| 164 | 0.02155 | 0.16566 | 0.08283 | 0.59220 | 0.06317 | 0.12635 | 1.68862 | 1.82685 | 0.12252 | 0.04083 | 0.08465 | 0.22191 | 2.00123 | 1.03055 | 2.19995  | 1.12609   | 0.23348 | 0.11753 | 0.50340 |
| 165 | 0.00511 | 0.08064 | 0.04032 | 0.79581 | 0.03536 | 0.07073 | 1.25658 | 1.39554 | 0.04940 | 0.03174 | 0.04066 | 0.09366 | 1.75283 | 1.00380 | 1.81652  | 1.07004   | 0.09233 | 0.07042 | 0.76269 |
| 166 | 0.00192 | 0.04942 | 0.02471 | 0.59375 | 0.01845 | 0.03691 | 1.68421 | 2.02012 | 0.03632 | 0.01725 | 0.02534 | 0.06808 | 0.79361 | 1.05730 | 0.83310  | 1.00380   | 0.06243 | 0.03912 | 0.62664 |
| 167 | 0.00100 | 0.03573 | 0.01787 | 0.34568 | 0.00993 | 0.01986 | 2.89283 | 3.68236 | 0.03443 | 0.00219 | 0.01968 | 0.06483 | 0.60126 | 1.08533 | 0.63311  | 1.03055   | 0.07038 | 0.01814 | 0.25776 |
| 168 | 0.00157 | 0.04474 | 0.02237 | 0.61430 | 0.01697 | 0.03394 | 1.62787 | 2.43761 | 0.03778 | 0.01062 | 0.02372 | 0.06761 | 2.21651 | 1.03310 | 2.25346  | 1.08788   | 0.06985 | 0.02866 | 0.41037 |
| 169 | 0.00481 | 0.07824 | 0.03912 | 0.68442 | 0.03178 | 0.06357 | 1.46110 | 1.92345 | 0.05593 | 0.02890 | 0.04039 | 0.10656 | 0.78215 | 1.11081 | 0.87259  | 1.05730   | 0.09898 | 0.06185 | 0.62481 |
| 170 | 0.00046 | 0.02422 | 0.01211 | 0.47740 | 0.00780 | 0.01561 | 2.09468 | 3.21644 | 0.02326 | 0.00302 | 0.01333 | 0.04051 | 1.06749 | 1.06112 | 1.09679  | 1.08660   | 0.04424 | 0.01326 | 0.29984 |
| 171 | 0.00301 | 0.06187 | 0.03094 | 0.62256 | 0.02383 | 0.04765 | 1.60626 | 2.28332 | 0.04580 | 0.01808 | 0.03251 | 0.09126 | 1.38723 | 1.10571 | 1.47386  | 1.08151   | 0.09139 | 0.04189 | 0.45839 |
| 172 | 0.00001 | 0.00431 | 0.00216 | 0.78540 | 0.00191 | 0.00382 | 1.27324 | 1.57080 | 0.00270 | 0.00191 | 0.00231 | 0.00540 | 0.26369 | 1.06877 | 0.26624  | 1.07132   | 0.00424 | 0.00424 | 1.00000 |
| 173 | 0.00083 | 0.03246 | 0.01623 | 0.57062 | 0.01167 | 0.02334 | 1.75248 | 2.31830 | 0.02391 | 0.00788 | 0.01715 | 0.04704 | 1.81143 | 1.12737 | 1.82162  | 1.08278   | 0.04839 | 0.02177 | 0.44994 |
| 174 | 0.00602 | 0.08758 | 0.04379 | 0.44196 | 0.02854 | 0.05708 | 2.26267 | 2.02279 | 0.06766 | 0.00988 | 0.04504 | 0.12211 | 2.42161 | 1.08278 | 2.49167  | 1.18087   | 0.13111 | 0.05850 | 0.46617 |
| 175 | 0.00851 | 0.10412 | 0.05206 | 0.67633 | 0.04224 | 0.08449 | 1.47857 | 1.54591 | 0.06416 | 0.03963 | 0.05275 | 0.12773 | 1.49551 | 1.09425 | 1.52226  | 1.21781   | 0.12201 | 0.08886 | 0.72828 |
| 176 | 0.00001 | 0.00431 | 0.00216 | 0.78540 | 0.00191 | 0.00382 | 1.27324 | 1.57080 | 0.00270 | 0.00191 | 0.00231 | 0.00540 | 0.26240 | 1.09934 | 1.06495  | 1.10189   | 0.00424 | 0.00424 | 1.00000 |
| 177 | 0.00537 | 0.08272 | 0.04136 | 0.56466 | 0.03051 | 0.06101 | 1.77098 | 1.51288 | 0.05171 | 0.02138 | 0.04043 | 0.09987 | 1.01017 | 1.10444 | 1.03437  | 1.19998   | 0.10195 | 0.06712 | 0.65834 |
| 178 | 0.00309 | 0.06275 | 0.03138 | 0.53213 | 0.02231 | 0.04463 | 1.87924 | 2.16251 | 0.04676 | 0.01108 | 0.03308 | 0.08997 | 1.34392 | 1.19361 | 1.37195  | 1.10953   | 0.09736 | 0.04045 | 0.41546 |
| 179 | 0.00002 | 0.00498 | 0.00249 | 0.76937 | 0.00218 | 0.00437 | 1.29977 | 1.51262 | 0.00306 | 0.00214 | 0.00259 | 0.00612 | 1.07641 | 1.11081 | 1.08023  | 1.11335   | 0.00519 | 0.00477 | 0.91906 |
| 180 | 0.00559 | 0.08437 | 0.04218 | 0.68416 | 0.03430 | 0.06860 | 1.46165 | 1.47745 | 0.05748 | 0.02974 | 0.04296 | 0.10081 | 0.93756 | 1.12100 | 0.99234  | 1.20380   | 0.10331 | 0.06890 | 0.66691 |
| 181 | 0.00370 | 0.06866 | 0.03433 | 0.50573 | 0.02387 | 0.04773 | 1.97733 | 2.52064 | 0.05642 | 0.01488 | 0.03724 | 0.10656 | 0.70699 | 1.21271 | 0.76049  | 1.12227   | 0.11524 | 0.04091 | 0.35505 |
| 182 | 0.00284 | 0.06010 | 0.03005 | 0.58788 | 0.02245 | 0.04490 | 1.70104 | 2.18360 | 0.04711 | 0.01836 | 0.03129 | 0.08654 | 0.31592 | 1.13119 | 0.37197  | 1.19488   | 0.08579 | 0.04210 | 0.49075 |
| 183 | 0.00075 | 0.03086 | 0.01543 | 0.39948 | 0.00917 | 0.01834 | 2.50327 | 3.18312 | 0.02725 | 0.00775 | 0.01675 | 0.05177 | 1.13119 | 1.12609 | 1.14010  | 1.17577   | 0.05451 | 0.01747 | 0.32055 |
| 184 | 0.00109 | 0.03721 | 0.01860 | 0.66836 | 0.01464 | 0.02928 | 1.49619 | 1.76600 | 0.02516 | 0.01064 | 0.01905 | 0.04760 | 0.55413 | 1.17450 | 0.57578  | 1.13373   | 0.04945 | 0.02799 | 0.56615 |
| 185 | 0.00003 | 0.00575 | 0.00287 | 0.78540 | 0.00255 | 0.00510 | 1.27324 | 1.57080 | 0.00360 | 0.00269 | 0.00299 | 0.00721 | 1.42800 | 1.15284 | 1.43182  | 1.15666   | 0.00572 | 0.00572 | 1.00000 |
| 186 | 0.00001 | 0.00431 | 0.00216 | 0.78540 | 0.00191 | 0.00382 | 1.27324 | 1.57080 | 0.00270 | 0.00191 | 0.00231 | 0.00540 | 1.44201 | 1.15412 | 1.44456  | 1.15666   | 0.00424 | 0.00424 | 1.00000 |
| 187 | 0.01183 | 0.12273 | 0.06136 | 0.42086 | 0.03921 | 0.07841 | 2.37606 | 3.14212 | 0.11163 | 0.02767 | 0.06995 | 0.21425 | 0.03567 | 1.37067 | 0.04586  | 1.15794   | 0.22588 | 0.06668 | 0.29520 |
| 188 | 0.00043 | 0.02340 | 0.01170 | 0.81538 | 0.00996 | 0.01992 | 1.22642 | 1.86614 | 0.01550 | 0.00815 | 0.01193 | 0.03013 | 1.08405 | 1.17450 | 1.10826  | 1.15921   | 0.02941 | 0.01861 | 0.63287 |
| 189 | 0.00004 | 0.00719 | 0.00359 | 0.64909 | 0.00290 | 0.00579 | 1.54062 | 1.85480 | 0.00495 | 0.00293 | 0.00379 | 0.00979 | 1.23310 | 1.17450 | 1.23819  | 1.18087   | 0.00872 | 0.00593 | 0.68003 |
| 190 | 0.00083 | 0.03256 | 0.01628 | 0.74899 | 0.01351 | 0.02703 | 1.33513 | 1.85636 | 0.02172 | 0.01166 | 0.01687 | 0.04255 | 1.55920 | 1.17832 | 1.57959  | 1.21399   | 0.04170 | 0.02542 | 0.60957 |
| 191 | 0.00693 | 0.09392 | 0.04696 | 0.37595 | 0.02821 | 0.05641 | 2.65990 | 1.78015 | 0.06686 | 0.02245 | 0.04672 | 0.12275 | 2.50059 | 1.26749 | 2.60377  | 1.20380   | 0.12625 | 0.06986 | 0.55334 |
| 192 | 0.00159 | 0.04502 | 0.02251 | 0.43182 | 0.01422 | 0.02843 | 2.31577 | 2.82729 | 0.03977 | 0.00887 | 0.02420 | 0.07275 | 0.11847 | 1.18087 | 0.13248  | 1.25093   | 0.07657 | 0.02647 | 0.34572 |
| 193 | 0.01135 | 0.12021 | 0.06010 | 0.72881 | 0.05074 | 0.10147 | 1.37209 | 1.60503 | 0.07579 | 0.04254 | 0.06105 | 0.15059 | 1.26112 | 1.18214 | 1.30061  | 1.32609   | 0.15070 | 0.09589 | 0.63630 |
| 194 | 0.00902 | 0.10717 | 0.05359 | 0.28278 | 0.02813 | 0.05627 | 3.48093 | 3.17686 | 0.09846 | 0.01741 | 0.05763 | 0.18711 | 2.09295 | 1.21526 | 2.27766  | 1.19488   | 0.18402 | 0.06241 | 0.33917 |
| 195 | 0.00053 | 0.02599 | 0.01300 | 0.43428 | 0.00800 | 0.01599 | 2.30268 | 4.02035 | 0.02442 | 0.00525 | 0.01526 | 0.04866 | 0.62674 | 1.22800 | 0.65731  | 1.19233   | 0.05273 | 0.01281 | 0.24301 |
| 196 | 0.00170 | 0.04658 | 0.02329 | 0.57060 | 0.01700 | 0.03400 | 1.75254 | 2.03999 | 0.03384 | 0.01399 | 0.02383 | 0.06429 | 1.38468 | 1.19488 | 1.42290  | 1.24456   | 0.06269 | 0.03461 | 0.55201 |
| 197 | 0.00118 | 0.03870 | 0.01935 | 0.57846 | 0.01414 | 0.02829 | 1.72873 | 2.05158 | 0.02837 | 0.01313 | 0.01988 | 0.05327 | 2.02161 | 1.19488 | 2.04327  | 1.24201   | 0.05101 | 0.02936 | 0.57564 |
| 198 | 0.00001 | 0.00431 | 0.00216 | 0.78540 | 0.00191 | 0.00382 | 1.27324 | 1.57080 | 0.00270 | 0.00191 | 0.00231 | 0.00540 | 0.39107 | 1.19615 | 0.39362  | 1.19870   | 0.00424 | 0.00424 | 1.00000 |
| 199 | 0.00048 | 0.02481 | 0.01241 | 0.56341 | 0.00874 | 0.01748 | 1.77491 | 2.06167 | 0.01898 | 0.00791 | 0.01286 | 0.03344 | 0.36432 | 1.22290 | 0.38980  | 1.20380   | 0.03352 | 0.01837 | 0.54784 |
| 200 | 0.00002 | 0.00557 | 0.00278 | 0.73631 | 0.00239 | 0.00478 | 1.35812 | 1.63625 | 0.00356 | 0.00191 | 0.00294 | 0.00712 | 0.39235 | 1.21399 | 0.39490  | 1.21908   | 0.00707 | 0.00438 | 0.61930 |
| 201 | 0.00009 | 0.01046 | 0.00523 | 0.72348 | 0.00387 | 0.00773 | 1.38220 | 2.92090 | 0.00786 | 0.00321 | 0.00557 | 0.01554 | 0.61782 | 1.21399 | 0.62037  | 1.22800   | 0.01627 | 0.00673 | 0.41357 |
| 202 | 0.00082 | 0.03233 | 0.01617 | 0.51058 | 0.01097 | 0.02194 | 1.95855 | 2.70565 | 0.02874 | 0.00626 | 0.01727 | 0.05052 | 1.56557 | 1.22800 | 1.57449  | 1.27641   | 0.05209 | 0.02007 | 0.38536 |
| 203 | 0.00444 | 0.07520 | 0.03760 | 0.47127 | 0.02522 | 0.05044 | 2.12193 | 1.71049 | 0.05040 | 0.02355 | 0.03814 | 0.09610 | 0.58343 | 1.32991 | 0.59362  | 1.23564   | 0.09770 | 0.05788 | 0.59    |

Appendix 2-18 Roundness of the Opaque Minerals

MJBKE-29 14.1m

| 番号  | 面積      | 円相当径    | 半径      | 円形度     | サイズ     | 流体直径    | 凹凸度     | 線形度     | 重心距離最大  | 重心距離最小  | 重心距離平均  | 絶対最大長   | 絶対最大長傾点X | 絶対最大長傾点Y | 絶対最大長傾点Z | 楕円最大長   | 楕円短軸    | 楕円長短比   |         |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|----------|----------|---------|---------|---------|---------|
| 205 | 0.00244 | 0.05576 | 0.02788 | 0.36217 | 0.01621 | 0.03241 | 2.76116 | 2.20420 | 0.04379 | 0.00133 | 0.02784 | 0.07996 | 0.15668  | 1.31335  | 0.19872  | 1.24711 | 0.08512 | 0.03653 | 0.42918 |
| 206 | 0.01547 | 0.14034 | 0.07017 | 0.58936 | 0.05328 | 0.10656 | 1.69674 | 1.39914 | 0.08581 | 0.05508 | 0.07053 | 0.16419 | 0.23949  | 1.38978  | 0.36178  | 1.28278 | 0.16222 | 0.12142 | 0.74849 |
| 207 | 0.00008 | 0.01037 | 0.00518 | 0.90300 | 0.00432 | 0.00864 | 1.10742 | 2.17988 | 0.00678 | 0.00430 | 0.00531 | 0.01342 | 0.63056  | 1.26622  | 0.63948  | 1.25857 | 0.01180 | 0.00911 | 0.77172 |
| 208 | 0.00322 | 0.06407 | 0.03204 | 0.45467 | 0.02103 | 0.04207 | 2.19940 | 3.65614 | 0.06414 | 0.01123 | 0.03627 | 0.11930 | 0.89807  | 1.33755  | 0.99361  | 1.26876 | 0.12027 | 0.03414 | 0.28383 |
| 209 | 0.00467 | 0.07709 | 0.03854 | 0.60253 | 0.02935 | 0.05870 | 1.65968 | 2.39715 | 0.05899 | 0.02453 | 0.04057 | 0.11708 | 1.59360  | 1.27004  | 1.65856  | 1.36558 | 0.10678 | 0.05565 | 0.52111 |
| 210 | 0.00356 | 0.06733 | 0.03366 | 0.49681 | 0.02315 | 0.04630 | 2.01283 | 2.04308 | 0.05016 | 0.01206 | 0.03520 | 0.09388 | 0.46623  | 1.27895  | 0.50190  | 1.36430 | 0.10497 | 0.04318 | 0.41141 |
| 211 | 0.00237 | 0.05489 | 0.02744 | 0.52988 | 0.01940 | 0.03880 | 1.88721 | 2.26153 | 0.04339 | 0.01885 | 0.02898 | 0.08015 | 0.76814  | 1.35539  | 0.82546  | 1.30188 | 0.07388 | 0.04078 | 0.55194 |
| 212 | 0.00042 | 0.02322 | 0.01161 | 0.72407 | 0.00929 | 0.01859 | 1.38108 | 1.95296 | 0.01676 | 0.00863 | 0.01202 | 0.03053 | 1.73627  | 1.32099  | 1.76175  | 1.33500 | 0.03011 | 0.01791 | 0.59495 |
| 213 | 0.00003 | 0.00575 | 0.00287 | 0.78540 | 0.00255 | 0.00510 | 1.27324 | 1.57080 | 0.00360 | 0.00269 | 0.00299 | 0.00721 | 1.07386  | 1.33118  | 1.07768  | 1.33500 | 0.00572 | 0.00572 | 1.00000 |
| 214 | 0.02357 | 0.17322 | 0.08661 | 0.34254 | 0.05011 | 0.10022 | 2.91938 | 2.34168 | 0.14109 | 0.03535 | 0.08904 | 0.26204 | 0.86622  | 1.55411  | 1.01654  | 1.34137 | 0.25915 | 0.11578 | 0.44675 |
| 215 | 0.00268 | 0.05842 | 0.02921 | 0.54724 | 0.02103 | 0.04207 | 1.82736 | 2.15752 | 0.04596 | 0.01213 | 0.03000 | 0.08352 | 1.13373  | 1.39233  | 1.20889  | 1.35921 | 0.08280 | 0.04122 | 0.49784 |
| 216 | 0.00005 | 0.00813 | 0.00407 | 0.64782 | 0.00268 | 0.00536 | 1.54363 | 3.53075 | 0.00637 | 0.00191 | 0.00439 | 0.01252 | 1.70442  | 1.34265  | 1.71334  | 1.34902 | 0.01276 | 0.00518 | 0.40580 |
| 217 | 0.00459 | 0.07648 | 0.03824 | 0.63922 | 0.02999 | 0.05997 | 1.56441 | 2.14731 | 0.05943 | 0.02471 | 0.04007 | 0.10992 | 2.13626  | 1.37959  | 2.24454  | 1.37067 | 0.11212 | 0.05217 | 0.46527 |
| 218 | 0.00319 | 0.06373 | 0.03187 | 0.57732 | 0.02364 | 0.04729 | 1.73215 | 2.08530 | 0.05008 | 0.02027 | 0.03295 | 0.08987 | 1.32099  | 1.39360  | 1.40252  | 1.35921 | 0.08933 | 0.04547 | 0.50906 |
| 219 | 0.00044 | 0.02371 | 0.01185 | 0.32900 | 0.00622 | 0.01244 | 3.03952 | 3.16618 | 0.02056 | 0.00131 | 0.01211 | 0.03858 | 1.83054  | 1.39870  | 1.83563  | 1.36176 | 0.03836 | 0.01465 | 0.39892 |
| 220 | 0.00002 | 0.00498 | 0.00249 | 0.76937 | 0.00218 | 0.00437 | 1.29977 | 1.51262 | 0.00306 | 0.00214 | 0.00259 | 0.00612 | 0.00510  | 1.36430  | 0.00892  | 1.36685 | 0.00519 | 0.00477 | 0.91906 |
| 221 | 0.00026 | 0.01818 | 0.00909 | 0.75299 | 0.00731 | 0.01463 | 1.32803 | 2.36939 | 0.01367 | 0.00468 | 0.00951 | 0.02594 | 0.78724  | 1.37832  | 0.79871  | 1.39997 | 0.02527 | 0.01308 | 0.51767 |
| 222 | 0.00461 | 0.07661 | 0.03831 | 0.26074 | 0.01898 | 0.03797 | 3.83520 | 2.57475 | 0.06416 | 0.00955 | 0.03809 | 0.11931 | 0.45222  | 1.38214  | 0.46623  | 1.49933 | 0.12132 | 0.04838 | 0.39880 |
| 223 | 0.00589 | 0.08658 | 0.04329 | 0.41269 | 0.02723 | 0.05446 | 2.42314 | 2.53917 | 0.06822 | 0.00618 | 0.04231 | 0.13508 | 1.07641  | 1.38978  | 1.18851  | 1.46239 | 0.14726 | 0.05090 | 0.34567 |
| 224 | 0.00589 | 0.08658 | 0.04329 | 0.21333 | 0.01941 | 0.03883 | 4.68765 | 2.70467 | 0.07705 | 0.00489 | 0.04402 | 0.13825 | 1.61016  | 1.42035  | 1.74519  | 1.39742 | 0.15535 | 0.04825 | 0.31060 |
| 225 | 0.00041 | 0.02282 | 0.01141 | 0.73537 | 0.00920 | 0.01841 | 1.35986 | 1.58929 | 0.01383 | 0.00723 | 0.01153 | 0.02706 | 1.17832  | 1.42290  | 1.20125  | 1.41144 | 0.02707 | 0.01923 | 0.71030 |
| 226 | 0.00045 | 0.02384 | 0.01192 | 0.36413 | 0.00661 | 0.01323 | 2.74625 | 3.63551 | 0.02362 | 0.00553 | 0.01354 | 0.04179 | 0.60763  | 1.44710  | 0.61655  | 1.40761 | 0.04332 | 0.01312 | 0.30750 |
| 227 | 0.00097 | 0.03515 | 0.01758 | 0.29703 | 0.00901 | 0.01803 | 3.36687 | 4.56747 | 0.04432 | 0.00652 | 0.02264 | 0.07069 | 2.33244  | 1.41271  | 2.39740  | 1.43691 | 0.07876 | 0.01569 | 0.19920 |
| 228 | 0.01214 | 0.12432 | 0.06216 | 0.31108 | 0.03409 | 0.06818 | 3.21464 | 2.56825 | 0.10471 | 0.00122 | 0.06067 | 0.19591 | 1.19488  | 1.47386  | 1.37959  | 1.53500 | 0.21454 | 0.07204 | 0.33577 |
| 229 | 0.00007 | 0.00953 | 0.00477 | 0.71846 | 0.00345 | 0.00689 | 1.39186 | 2.37222 | 0.00693 | 0.00296 | 0.00501 | 0.01252 | 1.20314  | 1.42035  | 2.11206  | 1.42672 | 0.01302 | 0.00698 | 0.53608 |
| 230 | 0.00444 | 0.07521 | 0.03761 | 0.25397 | 0.01838 | 0.03675 | 3.93754 | 2.55639 | 0.06883 | 0.02210 | 0.04193 | 0.11661 | 0.23184  | 1.53245  | 0.27133  | 1.42417 | 0.11475 | 0.04930 | 0.42965 |
| 231 | 0.00281 | 0.05980 | 0.02990 | 0.70601 | 0.02455 | 0.04910 | 1.41640 | 1.45469 | 0.03773 | 0.02370 | 0.03035 | 0.07047 | 0.64585  | 1.47386  | 0.69935  | 1.43054 | 0.06868 | 0.05208 | 0.75827 |
| 232 | 0.00421 | 0.07319 | 0.03660 | 0.64125 | 0.02872 | 0.05744 | 1.55945 | 1.44196 | 0.04668 | 0.02619 | 0.03704 | 0.08614 | 1.37832  | 1.49042  | 1.46239  | 1.47895 | 0.08862 | 0.06045 | 0.68210 |
| 233 | 0.00187 | 0.04885 | 0.02443 | 0.58621 | 0.01813 | 0.03626 | 1.70587 | 2.04444 | 0.03492 | 0.00906 | 0.02445 | 0.06771 | 0.52993  | 1.53245  | 0.53502  | 1.46621 | 0.07090 | 0.03366 | 0.47478 |
| 234 | 0.00003 | 0.00575 | 0.00287 | 0.78540 | 0.00255 | 0.00510 | 1.27324 | 1.57080 | 0.00360 | 0.00269 | 0.00299 | 0.00721 | 1.07386  | 1.33118  | 1.07768  | 1.33500 | 0.00572 | 0.00572 | 1.00000 |
| 235 | 0.00228 | 0.05384 | 0.02692 | 0.61536 | 0.02055 | 0.04109 | 1.62508 | 2.13276 | 0.04082 | 0.00866 | 0.02781 | 0.07650 | 2.04454  | 1.51589  | 2.11843  | 1.50188 | 0.07979 | 0.03633 | 0.45531 |
| 236 | 0.00210 | 0.05169 | 0.02584 | 0.67380 | 0.02065 | 0.04130 | 1.48412 | 1.73370 | 0.03700 | 0.01619 | 0.02616 | 0.06624 | 2.56937  | 1.47895  | 2.58721  | 1.54137 | 0.06479 | 0.04124 | 0.63647 |
| 237 | 0.00097 | 0.03512 | 0.01756 | 0.46058 | 0.01136 | 0.02271 | 2.17115 | 3.87015 | 0.03592 | 0.00885 | 0.01993 | 0.06583 | 1.09170  | 1.53373  | 1.12737  | 1.48022 | 0.06192 | 0.01992 | 0.32167 |
| 238 | 0.00419 | 0.07302 | 0.03651 | 0.58864 | 0.02743 | 0.05486 | 1.69884 | 2.47693 | 0.06191 | 0.02013 | 0.03882 | 0.11254 | 1.55283  | 1.49169  | 1.66111  | 1.51717 | 0.11483 | 0.04644 | 0.40442 |
| 239 | 0.00407 | 0.07197 | 0.03599 | 0.67604 | 0.02901 | 0.05801 | 1.47920 | 1.78905 | 0.04946 | 0.02264 | 0.03676 | 0.09437 | 1.70315  | 1.49042  | 1.78468  | 1.53500 | 0.09419 | 0.05499 | 0.58379 |
| 240 | 0.00166 | 0.04602 | 0.02301 | 0.67787 | 0.01836 | 0.03672 | 1.47521 | 1.89906 | 0.03422 | 0.01592 | 0.02392 | 0.06145 | 2.28276  | 1.51207  | 2.33881  | 1.49042 | 0.06051 | 0.03500 | 0.57839 |
| 241 | 0.00195 | 0.04983 | 0.02492 | 0.28011 | 0.01261 | 0.02522 | 3.57009 | 2.47402 | 0.04148 | 0.00764 | 0.02556 | 0.07495 | 1.88659  | 1.48914  | 1.92098  | 1.55411 | 0.08135 | 0.03053 | 0.37528 |
| 242 | 0.00108 | 0.03707 | 0.01853 | 0.42869 | 0.01159 | 0.02319 | 2.33269 | 3.41004 | 0.03316 | 0.00257 | 0.02077 | 0.06540 | 0.76177  | 1.51844  | 0.82291  | 1.49933 | 0.08937 | 0.01981 | 0.28555 |
| 243 | 0.00095 | 0.03471 | 0.01735 | 0.57333 | 0.01255 | 0.02510 | 1.74420 | 3.06808 | 0.02948 | 0.01048 | 0.01875 | 0.05807 | 0.41273  | 1.50443  | 0.46114  | 1.53373 | 0.05444 | 0.02212 | 0.40637 |
| 244 | 0.00004 | 0.00719 | 0.00359 | 0.78540 | 0.00318 | 0.00637 | 1.27324 | 1.57080 | 0.00450 | 0.00318 | 0.00370 | 0.00901 | 1.12354  | 1.52226  | 1.12864  | 1.52736 | 0.00757 | 0.00683 | 0.90212 |
| 245 | 0.00465 | 0.07698 | 0.03849 | 0.67716 | 0.03110 | 0.06220 | 1.47675 | 1.70558 | 0.05371 | 0.02860 | 0.03918 | 0.09872 | 0.76814  | 1.55538  | 0.85094  | 1.60634 | 0.09297 | 0.06374 | 0.68555 |
| 246 | 0.00612 | 0.08830 | 0.04415 | 0.49534 | 0.03049 | 0.06098 | 2.01882 | 2.11505 | 0.06688 | 0.01883 | 0.04559 | 0.12601 | 0.64203  | 1.62035  | 0.74903  | 1.55666 | 0.12425 | 0.06276 | 0.50509 |
| 247 | 0.00282 | 0.05989 | 0.02994 | 0.56126 | 0.02184 | 0.04369 | 1.78170 | 2.40207 | 0.04719 | 0.02059 | 0.03165 | 0.09038 | 1.67003  | 1.61398  | 1.69933  | 1.52990 | 0.08455 | 0.04242 | 0.50175 |
| 248 | 0.02592 | 0.18166 | 0.09083 | 0.37548 | 0.05507 | 0.11014 | 2.66324 | 2.36936 | 0.16138 | 0.05008 | 0.09803 | 0.27668 | 1.39488  | 1.70697  | 1.64455  | 1.59105 | 0.27405 | 0.12043 | 0.43944 |
| 249 | 0.00003 | 0.00643 | 0.00321 | 0.51927 | 0.00232 | 0.00463 | 1.92577 | 2.31850 | 0.00489 | 0.00214 | 0.00354 | 0.00979 | 1.46876  | 1.53373  | 1.47513  | 1.53882 | 0.00958 | 0.00431 | 0.45048 |
| 250 | 0.00057 | 0.02704 | 0.01352 | 0.75511 | 0.01117 | 0.02234 | 1.32430 | 2.10779 | 0.01956 | 0.00855 | 0.01407 | 0.03733 | 1.15284  | 1.55538  | 1.18469  | 1.53882 | 0.03581 | 0.02042 | 0.57036 |
| 251 | 0.00814 | 0.10179 | 0.05090 | 0.21833 | 0.02319 | 0.04638 | 4.58022 | 3.73714 | 0.09931 | 0.01761 | 0.05601 | 0.19190 | 0.87387  | 1.68149  | 1.02673  | 1.56812 | 0.21188 | 0.04890 | 0.23080 |
| 252 | 0.00709 | 0.09499 | 0.04749 | 0.39367 | 0.02921 | 0.05842 | 2.54017 | 2.06709 | 0.07401 | 0.00762 | 0.04690 | 0.13388 | 0.25095  | 1.62290  | 0.37706  | 1.58213 | 0.13841 | 0.06519 | 0.47095 |
| 253 | 0.00148 | 0.04346 | 0.02173 | 0.57376 | 0.01589 | 0.03178 | 1.74288 | 2.99710 | 0.03985 | 0.01209 | 0.02411 | 0.07264 | 1.14647  | 1.59360  | 1.21017  | 1.56175 | 0.07003 | 0.02697 | 0.38505 |
| 254 | 0.00683 | 0.09323 | 0.04662 | 0.53263 | 0.03345 | 0.06690 | 1.87746 | 1.74975 | 0.06580 | 0.02521 | 0.04768 | 0.12126 | 2.00123  | 1.68786  | 2.00888  | 1.56812 | 0.12266 | 0.07086 | 0.57771 |
|     |         |         |         |         |         |         |         |         |         |         |         |         |          |          |          |         |         |         |         |



Appendix 2-18 Roundness of the Opaque Minerals

MJBKE-29 14.1m

| 番号  | 面積      | 円相当径    | 半径      | 円形度     | サイズ     | 流体直径    | 凹凸度     | 線形度     | 重心距離最大  | 重心距離最小  | 重心距離平均  | 絶対最大長   | 絶対最大長軸X | 絶対最大長軸Y | 絶対最大長軸Z | 楕円長軸    | 楕円短軸    | 楕円長短比   |         |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 256 | 0.00023 | 0.01695 | 0.00847 | 0.43185 | 0.00500 | 0.01000 | 2.31564 | 2.90885 | 0.01420 | 0.00465 | 0.00933 | 0.02594 | 0.08662 | 1.58086 | 0.09809 | 1.60251 | 0.02826 | 0.01016 | 0.35960 |
| 257 | 0.00002 | 0.00498 | 0.00249 | 0.76937 | 0.00218 | 0.00437 | 1.29977 | 1.51262 | 0.00306 | 0.00214 | 0.00259 | 0.00612 | 0.11720 | 1.58468 | 0.11974 | 1.58850 | 0.00519 | 0.00477 | 0.91906 |
| 258 | 0.00438 | 0.07466 | 0.03733 | 0.31260 | 0.02029 | 0.04058 | 3.19897 | 2.40359 | 0.06183 | 0.01994 | 0.04002 | 0.11253 | 0.39235 | 1.63691 | 0.49298 | 1.58978 | 0.11890 | 0.04688 | 0.39432 |
| 259 | 0.00062 | 0.02802 | 0.01401 | 0.57628 | 0.01007 | 0.02013 | 1.73528 | 2.22760 | 0.02243 | 0.00896 | 0.01463 | 0.03959 | 2.14645 | 1.60379 | 2.18085 | 1.58723 | 0.03838 | 0.02046 | 0.53304 |
| 260 | 0.00120 | 0.03907 | 0.01954 | 0.55589 | 0.01400 | 0.02801 | 1.79892 | 2.78824 | 0.03263 | 0.01129 | 0.02135 | 0.06273 | 2.39740 | 1.59360 | 2.44708 | 1.62927 | 0.05973 | 0.02556 | 0.42801 |
| 261 | 0.00122 | 0.03939 | 0.01970 | 0.52319 | 0.01367 | 0.02733 | 1.91133 | 2.18544 | 0.03488 | 0.00928 | 0.02115 | 0.05586 | 0.10318 | 1.59487 | 0.14395 | 1.63054 | 0.05952 | 0.02607 | 0.43805 |
| 262 | 0.03001 | 0.19546 | 0.09773 | 0.64538 | 0.07793 | 0.15586 | 1.54947 | 1.67536 | 0.13237 | 0.06566 | 0.09875 | 0.25112 | 0.96304 | 1.67895 | 1.21144 | 1.70570 | 0.25025 | 0.15267 | 0.61007 |
| 263 | 0.00011 | 0.01177 | 0.00588 | 0.58773 | 0.00393 | 0.00787 | 1.70147 | 2.87738 | 0.00913 | 0.00396 | 0.00635 | 0.01741 | 0.77705 | 1.61016 | 0.79107 | 1.60251 | 0.01753 | 0.00790 | 0.45046 |
| 264 | 0.00205 | 0.05110 | 0.02555 | 0.51514 | 0.01776 | 0.03553 | 1.94121 | 1.89115 | 0.03692 | 0.01448 | 0.02632 | 0.06807 | 2.31205 | 1.65092 | 2.37193 | 1.62162 | 0.06880 | 0.03796 | 0.55178 |
| 265 | 0.00004 | 0.00704 | 0.00352 | 0.62313 | 0.00278 | 0.00556 | 1.60481 | 1.93208 | 0.00495 | 0.00290 | 0.00374 | 0.00979 | 0.98979 | 1.62035 | 0.99616 | 1.61525 | 0.00901 | 0.00551 | 0.61133 |
| 266 | 0.00085 | 0.03281 | 0.01640 | 0.53216 | 0.01138 | 0.02276 | 1.87913 | 1.85888 | 0.02301 | 0.00989 | 0.01654 | 0.04253 | 2.47766 | 1.61653 | 2.49294 | 1.65474 | 0.04288 | 0.02510 | 0.58535 |
| 267 | 0.00004 | 0.00733 | 0.00366 | 0.67505 | 0.00301 | 0.00602 | 1.48137 | 1.85022 | 0.00498 | 0.00255 | 0.00383 | 0.00997 | 2.18722 | 1.62035 | 2.19486 | 1.62417 | 0.00967 | 0.00556 | 0.57488 |
| 268 | 0.00383 | 0.06984 | 0.03492 | 0.33331 | 0.01958 | 0.03916 | 3.00017 | 2.08867 | 0.05217 | 0.02026 | 0.03665 | 0.09802 | 2.12480 | 1.66876 | 2.21651 | 1.63818 | 0.09578 | 0.05093 | 0.53176 |
| 269 | 0.00144 | 0.04286 | 0.02143 | 0.61806 | 0.01627 | 0.03254 | 1.61796 | 2.42969 | 0.03299 | 0.01104 | 0.02223 | 0.06451 | 0.77451 | 1.67130 | 0.82546 | 1.63436 | 0.06264 | 0.02932 | 0.46805 |
| 270 | 0.00001 | 0.00431 | 0.00216 | 0.78540 | 0.00191 | 0.00382 | 1.27324 | 1.57080 | 0.00270 | 0.00191 | 0.00231 | 0.00540 | 2.45855 | 1.63181 | 2.46110 | 1.63436 | 0.00424 | 0.00424 | 1.00000 |
| 271 | 0.00001 | 0.00431 | 0.00216 | 0.78540 | 0.00191 | 0.00382 | 1.27324 | 1.57080 | 0.00270 | 0.00191 | 0.00231 | 0.00540 | 0.91845 | 1.63436 | 0.92100 | 1.63691 | 0.00424 | 0.00424 | 1.00000 |
| 272 | 0.00003 | 0.00643 | 0.00321 | 0.77570 | 0.00283 | 0.00566 | 1.28916 | 1.53398 | 0.00398 | 0.00255 | 0.00331 | 0.00796 | 2.11588 | 1.63818 | 2.11970 | 1.64328 | 0.00712 | 0.00580 | 0.81492 |
| 273 | 0.00773 | 0.09919 | 0.04960 | 0.23521 | 0.02347 | 0.04693 | 4.25156 | 2.82633 | 0.09038 | 0.01433 | 0.05071 | 0.16270 | 0.00764 | 1.79359 | 0.08280 | 1.65092 | 0.16280 | 0.06044 | 0.37123 |
| 274 | 0.00001 | 0.00431 | 0.00216 | 0.78540 | 0.00191 | 0.00382 | 1.27324 | 1.57080 | 0.00270 | 0.00191 | 0.00231 | 0.00540 | 2.45727 | 1.64837 | 2.45982 | 1.65092 | 0.00424 | 0.00424 | 1.00000 |
| 275 | 0.00012 | 0.01253 | 0.00627 | 0.50932 | 0.00389 | 0.00778 | 1.96342 | 3.63778 | 0.01043 | 0.00096 | 0.00680 | 0.02079 | 2.45345 | 1.66366 | 2.47129 | 1.65602 | 0.02246 | 0.00699 | 0.31116 |
| 276 | 0.00001 | 0.00431 | 0.00216 | 0.78540 | 0.00191 | 0.00382 | 1.27324 | 1.57080 | 0.00270 | 0.00191 | 0.00231 | 0.00540 | 2.44454 | 1.65856 | 2.44708 | 1.66111 | 0.00424 | 0.00424 | 1.00000 |
| 277 | 0.01148 | 0.12090 | 0.06045 | 0.42706 | 0.03892 | 0.07785 | 2.34158 | 2.05242 | 0.08794 | 0.02629 | 0.06160 | 0.17066 | 1.81398 | 1.70952 | 1.98212 | 1.72990 | 0.15936 | 0.09172 | 0.57555 |
| 278 | 0.00002 | 0.00498 | 0.00249 | 0.76937 | 0.00218 | 0.00437 | 1.29977 | 1.51262 | 0.00306 | 0.00214 | 0.00259 | 0.00612 | 2.47001 | 1.66748 | 2.47256 | 1.67130 | 0.00519 | 0.00477 | 0.91906 |
| 279 | 0.00264 | 0.05801 | 0.02901 | 0.58811 | 0.02166 | 0.04333 | 1.70035 | 1.42384 | 0.03624 | 0.01657 | 0.02899 | 0.06742 | 0.57196 | 1.66876 | 0.59362 | 1.73117 | 0.06990 | 0.04815 | 0.68878 |
| 280 | 0.00029 | 0.01907 | 0.00953 | 0.34947 | 0.00505 | 0.01011 | 2.86150 | 4.48927 | 0.02031 | 0.00475 | 0.01095 | 0.03623 | 0.48279 | 1.67258 | 0.51082 | 1.69296 | 0.03455 | 0.01053 | 0.30464 |
| 281 | 0.00141 | 0.04235 | 0.02117 | 0.41500 | 0.01306 | 0.02613 | 2.40962 | 3.58550 | 0.04139 | 0.01074 | 0.02363 | 0.07679 | 0.64967 | 1.67130 | 0.69171 | 1.73372 | 0.07407 | 0.02421 | 0.32684 |
| 282 | 0.00126 | 0.04009 | 0.02005 | 0.33697 | 0.01107 | 0.02213 | 2.96760 | 3.99487 | 0.04713 | 0.00653 | 0.02382 | 0.07620 | 0.39362 | 1.68277 | 0.45859 | 1.71971 | 0.07900 | 0.02035 | 0.25756 |
| 283 | 0.00678 | 0.09294 | 0.04647 | 0.35896 | 0.02726 | 0.05452 | 2.78583 | 2.43605 | 0.08102 | 0.02812 | 0.05067 | 0.14202 | 0.92227 | 1.82034 | 0.94520 | 1.68149 | 0.13535 | 0.06382 | 0.47156 |
| 284 | 0.00186 | 0.04864 | 0.02432 | 0.64491 | 0.01896 | 0.03793 | 1.55061 | 1.94213 | 0.03336 | 0.01464 | 0.02525 | 0.06582 | 2.52988 | 1.72481 | 2.58848 | 1.69805 | 0.06578 | 0.03596 | 0.54674 |
| 285 | 0.01842 | 0.15316 | 0.07658 | 0.31492 | 0.04239 | 0.08479 | 3.17538 | 1.91241 | 0.11269 | 0.02116 | 0.07332 | 0.20893 | 1.17705 | 1.87767 | 1.28915 | 1.70315 | 0.24258 | 0.09669 | 0.39860 |
| 286 | 0.00389 | 0.07042 | 0.03521 | 0.20713 | 0.01545 | 0.03090 | 4.82799 | 5.51275 | 0.08686 | 0.00322 | 0.04068 | 0.15943 | 0.74521 | 1.70442 | 0.85731 | 1.81525 | 0.16573 | 0.02992 | 0.18054 |
| 287 | 0.00109 | 0.03718 | 0.01859 | 0.63716 | 0.01428 | 0.02856 | 1.56947 | 2.84366 | 0.03082 | 0.01039 | 0.02042 | 0.06033 | 0.81782 | 1.74901 | 0.85985 | 1.70825 | 0.06103 | 0.02265 | 0.37106 |
| 288 | 0.01028 | 0.11439 | 0.05719 | 0.30243 | 0.03088 | 0.06176 | 3.30656 | 2.63692 | 0.10557 | 0.01795 | 0.06136 | 0.18236 | 0.26624 | 1.75920 | 0.43566 | 1.82289 | 0.20162 | 0.06490 | 0.32189 |
| 289 | 0.00003 | 0.00575 | 0.00287 | 0.78540 | 0.00255 | 0.00510 | 1.27324 | 1.57080 | 0.00360 | 0.00269 | 0.00299 | 0.00721 | 2.06747 | 1.72098 | 2.07130 | 1.72481 | 0.00572 | 0.00572 | 1.00000 |
| 290 | 0.00205 | 0.05114 | 0.02557 | 0.76717 | 0.02181 | 0.04362 | 1.30349 | 1.56440 | 0.03238 | 0.02092 | 0.02580 | 0.06229 | 2.39868 | 1.77831 | 2.43180 | 1.72735 | 0.05823 | 0.04492 | 0.77147 |
| 291 | 0.00001 | 0.00431 | 0.00216 | 0.78540 | 0.00191 | 0.00382 | 1.27324 | 1.57080 | 0.00270 | 0.00191 | 0.00231 | 0.00540 | 2.05983 | 1.72863 | 2.06238 | 1.73117 | 0.00424 | 0.00424 | 1.00000 |
| 292 | 0.00003 | 0.00643 | 0.00321 | 0.77570 | 0.00283 | 0.00566 | 1.28916 | 1.53398 | 0.00398 | 0.00255 | 0.00331 | 0.00796 | 0.43948 | 1.73245 | 0.44458 | 1.73627 | 0.00712 | 0.00580 | 0.81492 |
| 293 | 0.00133 | 0.04116 | 0.02058 | 0.53056 | 0.01442 | 0.02884 | 1.88479 | 2.46640 | 0.03506 | 0.01084 | 0.02184 | 0.06219 | 0.12484 | 1.73372 | 0.14522 | 1.79105 | 0.05898 | 0.02873 | 0.48709 |
| 294 | 0.01130 | 0.11993 | 0.05996 | 0.57235 | 0.04479 | 0.08957 | 1.74717 | 2.06140 | 0.08665 | 0.03105 | 0.06192 | 0.16999 | 2.22798 | 1.75410 | 2.36301 | 1.85474 | 0.17654 | 0.08147 | 0.46147 |
| 295 | 0.02037 | 0.16103 | 0.08051 | 0.33193 | 0.04581 | 0.09162 | 3.01273 | 3.25152 | 0.14584 | 0.03807 | 0.08707 | 0.28677 | 1.27768 | 1.92990 | 1.51080 | 1.76557 | 0.28278 | 0.09170 | 0.32426 |
| 296 | 0.01041 | 0.11511 | 0.05755 | 0.36283 | 0.03408 | 0.06817 | 2.75612 | 2.12286 | 0.08773 | 0.02992 | 0.05757 | 0.16489 | 1.95028 | 1.82544 | 2.10569 | 1.77449 | 0.16045 | 0.08258 | 0.51468 |
| 297 | 0.00020 | 0.01613 | 0.00807 | 0.79453 | 0.00663 | 0.01325 | 1.25860 | 2.17974 | 0.01156 | 0.00626 | 0.00839 | 0.02195 | 2.44708 | 1.76302 | 2.46619 | 1.77066 | 0.02078 | 0.01253 | 0.60287 |
| 298 | 0.00061 | 0.02795 | 0.01397 | 0.63016 | 0.01051 | 0.02102 | 1.58690 | 2.36496 | 0.02221 | 0.00716 | 0.01471 | 0.04073 | 2.51205 | 1.78213 | 2.54772 | 1.79869 | 0.03986 | 0.01959 | 0.49151 |
| 299 | 0.00012 | 0.01220 | 0.00610 | 0.73685 | 0.00468 | 0.00936 | 1.35713 | 3.09388 | 0.00970 | 0.00422 | 0.00669 | 0.01917 | 0.54649 | 1.77831 | 0.55540 | 1.79359 | 0.01832 | 0.00812 | 0.44338 |
| 300 | 0.00005 | 0.00826 | 0.00413 | 0.35826 | 0.00192 | 0.00385 | 2.79129 | 5.13903 | 0.00864 | 0.00114 | 0.00485 | 0.01457 | 1.34137 | 1.79359 | 1.34774 | 1.78213 | 0.01739 | 0.00392 | 0.22548 |
| 301 | 0.00318 | 0.06364 | 0.03182 | 0.68166 | 0.02568 | 0.05137 | 1.46701 | 2.02025 | 0.04775 | 0.02102 | 0.03290 | 0.08843 | 1.59105 | 1.78468 | 1.62162 | 1.86620 | 0.08598 | 0.04710 | 0.54775 |
| 302 | 0.00001 | 0.00431 | 0.00216 | 0.78540 | 0.00191 | 0.00382 | 1.27324 | 1.57080 | 0.00270 | 0.00191 | 0.00231 | 0.00540 | 2.51460 | 1.80124 | 2.51715 | 1.80378 | 0.00424 | 0.00424 | 1.00000 |
| 303 | 0.00113 | 0.03792 | 0.01896 | 0.56541 | 0.01367 | 0.02733 | 1.76864 | 1.85989 | 0.02674 | 0.00927 | 0.01928 | 0.04957 | 0.22929 | 1.85856 | 0.25477 | 1.81780 | 0.05167 | 0.02783 | 0.53857 |
| 304 | 0.01003 | 0.11301 | 0.05650 | 0.34860 | 0.03277 | 0.06554 | 2.86861 | 1.98295 | 0.09286 | 0.03443 | 0.05887 | 0.15632 | 2.17957 | 1.82417 | 2.26747 | 1.95155 | 0.15284 | 0.08356 | 0.54671 |
| 305 | 0.00003 | 0.00659 | 0.00329 | 0.65973 | 0.00268 | 0.00535 | 1.51576 | 1.83110 | 0.00448 | 0.00256 | 0.00348 | 0.00891 | 2.17193 | 1.83181 | 2.17830 | 1.83563 | 0.00836 | 0.00519 | 0.62134 |
| 3   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |

Appendix 2-18 Roundness of the Opaque Minerals

MJBKE-29 14.1m

| 番号  | 面積      | 円相当径    | 半径      | 円形度     | サイズ     | 流体直径    | 凹凸度     | 線形度      | 重心距離最大  | 重心距離最小  | 重心距離平均  | 絶対最大長   | 絶対最大長軸点X | 絶対最大長軸点Y | 絶対最大長軸点X | 絶対最大長軸点Y | 楕円長軸    | 楕円短軸    | 楕円長短比   |
|-----|---------|---------|---------|---------|---------|---------|---------|----------|---------|---------|---------|---------|----------|----------|----------|----------|---------|---------|---------|
| 307 | 0.00046 | 0.02422 | 0.01211 | 0.32287 | 0.00633 | 0.01265 | 3.09718 | 4.00533  | 0.02242 | 0.00628 | 0.01436 | 0.04457 | 0.97578  | 1.83563  | 0.98597  | 1.87767  | 0.04532 | 0.01295 | 0.28566 |
| 308 | 0.00322 | 0.06407 | 0.03204 | 0.33598 | 0.01799 | 0.03598 | 2.97633 | 3.58517  | 0.06003 | 0.01043 | 0.03634 | 0.11752 | 0.01274  | 1.83690  | 0.03185  | 1.95155  | 0.11334 | 0.03622 | 0.31957 |
| 309 | 0.00005 | 0.00826 | 0.00413 | 0.54676 | 0.00249 | 0.00499 | 1.82897 | 4.56959  | 0.00764 | 0.00142 | 0.00467 | 0.01441 | 0.68151  | 1.84200  | 0.69043  | 1.85092  | 0.01478 | 0.00461 | 0.31223 |
| 310 | 0.00304 | 0.06222 | 0.03111 | 0.28444 | 0.01602 | 0.03203 | 3.51563 | 3.39771  | 0.06378 | 0.00986 | 0.03468 | 0.11071 | 2.37702  | 1.87003  | 2.46747  | 1.93117  | 0.11752 | 0.03295 | 0.28033 |
| 311 | 0.00002 | 0.00498 | 0.00249 | 0.76937 | 0.00218 | 0.00437 | 1.29977 | 1.51262  | 0.00306 | 0.00214 | 0.00259 | 0.00612 | 2.01015  | 1.85092  | 2.01397  | 1.85347  | 0.00519 | 0.00477 | 0.91906 |
| 312 | 0.00003 | 0.00627 | 0.00313 | 0.73692 | 0.00269 | 0.00538 | 1.35701 | 1.61472  | 0.00400 | 0.00245 | 0.00325 | 0.00796 | 1.96174  | 1.87767  | 1.96684  | 1.87385  | 0.00687 | 0.00572 | 0.83266 |
| 313 | 0.00208 | 0.05149 | 0.02574 | 0.45672 | 0.01680 | 0.03361 | 2.18952 | 3.16646  | 0.05191 | 0.01400 | 0.02917 | 0.08849 | 1.04839  | 1.94900  | 1.13373  | 1.93117  | 0.08726 | 0.03038 | 0.34817 |
| 314 | 0.00060 | 0.02761 | 0.01381 | 0.46935 | 0.00887 | 0.01774 | 2.13059 | 2.39270  | 0.02180 | 0.00735 | 0.01479 | 0.04005 | 0.23821  | 1.95155  | 0.25987  | 1.91971  | 0.04044 | 0.01885 | 0.46619 |
| 315 | 0.00001 | 0.00431 | 0.00216 | 0.78540 | 0.00191 | 0.00382 | 1.27324 | 1.57080  | 0.00270 | 0.00191 | 0.00231 | 0.00540 | 0.23312  | 1.92353  | 0.23566  | 1.92608  | 0.00424 | 0.00424 | 1.00000 |
| 316 | 0.00150 | 0.04367 | 0.02183 | 0.41916 | 0.01355 | 0.02709 | 2.38570 | 4.68019  | 0.05052 | 0.01015 | 0.02696 | 0.09053 | 1.73117  | 1.95155  | 1.82034  | 1.94773  | 0.08340 | 0.02287 | 0.27416 |
| 317 | 0.00081 | 0.03217 | 0.01609 | 0.49691 | 0.01074 | 0.02148 | 2.01242 | 3.26554  | 0.02799 | 0.00662 | 0.01775 | 0.05507 | 2.10696  | 1.93881  | 2.15919  | 1.95155  | 0.05685 | 0.01821 | 0.32034 |
| 318 | 0.00010 | 0.01141 | 0.00570 | 0.50144 | 0.00347 | 0.00694 | 1.99425 | 3.15583  | 0.00911 | 0.00144 | 0.00621 | 0.01741 | 0.22547  | 1.93754  | 0.23312  | 1.95155  | 0.01913 | 0.00680 | 0.35559 |
| 319 | 0.00006 | 0.00886 | 0.00443 | 0.82915 | 0.00346 | 0.00693 | 1.20606 | 2.71111  | 0.00665 | 0.00333 | 0.00469 | 0.01252 | 0.00382  | 1.94264  | 0.01019  | 1.95155  | 0.01163 | 0.00675 | 0.58060 |
| 320 | 0.00006 | 0.00838 | 0.00419 | 0.83640 | 0.00325 | 0.00651 | 1.19560 | 2.72158  | 0.00627 | 0.00288 | 0.00442 | 0.01174 | 2.07512  | 1.94646  | 2.08403  | 1.95155  | 0.01112 | 0.00632 | 0.56847 |
| 321 | 0.00004 | 0.00733 | 0.00366 | 0.56723 | 0.00276 | 0.00552 | 1.76295 | 2.28838  | 0.00622 | 0.00232 | 0.00394 | 0.01109 | 1.01527  | 1.95155  | 1.02418  | 1.94773  | 0.01052 | 0.00511 | 0.48548 |
| 322 | 0.00006 | 0.00898 | 0.00449 | 0.15008 | 0.00121 | 0.00243 | 6.66323 | 16.71791 | 0.01595 | 0.00152 | 0.00743 | 0.02562 | 0.79616  | 1.95155  | 0.82037  | 1.94900  | 0.02700 | 0.00298 | 0.11054 |
| 323 | 0.00004 | 0.00674 | 0.00337 | 0.26998 | 0.00175 | 0.00350 | 3.70397 | 6.99718  | 0.00986 | 0.00130 | 0.00496 | 0.01783 | 0.77323  | 1.95155  | 0.78979  | 1.95155  | 0.01849 | 0.00246 | 0.13289 |
| 324 | 0.00003 | 0.00610 | 0.00305 | 0.46734 | 0.00208 | 0.00417 | 2.13975 | 3.58952  | 0.00578 | 0.00127 | 0.00363 | 0.01155 | 1.89295  | 1.95028  | 1.90315  | 1.95155  | 0.01310 | 0.00284 | 0.21683 |

Appendix 2-18 Roundness of the Opaque Minerals

MJBKE-33 12.7m

| 番号 | 面積      | 円相当径    | 半径      | 円形度     | サイズ     | 流体直径    | 凹凸度     | 線形度     | 重心距離最大  | 重心距離最小  | 重心距離平均  | 絶対最大長   | 絶対最大長軸点X | 絶対最大長軸点Y | 絶対最大長軸点X | 絶対最大長軸点Y | 楕円長軸    | 楕円短軸    | 楕円長短比   |
|----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|----------|----------|----------|---------|---------|---------|
| 1  | 0.01932 | 0.15682 | 0.07841 | 0.39072 | 0.04838 | 0.09677 | 2.55940 | 1.84944 | 0.12312 | 0.04393 | 0.07947 | 0.21054 | 0.01019  | 0.00255  | 0.17579  | 0.12993  | 0.20678 | 0.11893 | 0.57516 |
| 2  | 0.00838 | 0.10328 | 0.05164 | 0.17293 | 0.02086 | 0.04173 | 5.78261 | 5.77494 | 0.12726 | 0.00406 | 0.06353 | 0.24114 | 0.41528  | 0.04713  | 0.65094  | 0.00255  | 0.25002 | 0.04267 | 0.17065 |
| 3  | 0.00133 | 0.04121 | 0.02061 | 0.57618 | 0.01502 | 0.03005 | 1.73557 | 2.47318 | 0.03643 | 0.01279 | 0.02216 | 0.06226 | 0.66241  | 0.00255  | 0.72228  | 0.01401  | 0.06082 | 0.02792 | 0.45906 |
| 4  | 0.00614 | 0.08841 | 0.04420 | 0.57909 | 0.03302 | 0.06603 | 1.72685 | 2.25064 | 0.06646 | 0.02455 | 0.04634 | 0.13018 | 1.00890  | 0.00637  | 1.11845  | 0.07388  | 0.13374 | 0.05844 | 0.43700 |
| 5  | 0.00298 | 0.06162 | 0.03081 | 0.38332 | 0.01846 | 0.03693 | 2.60879 | 3.52141 | 0.05832 | 0.01281 | 0.03374 | 0.11193 | 1.16176  | 0.08662  | 1.23310  | 0.00255  | 0.11348 | 0.03346 | 0.29488 |
| 6  | 0.00057 | 0.02704 | 0.01352 | 0.66147 | 0.01039 | 0.02078 | 1.51179 | 2.40031 | 0.02095 | 0.00726 | 0.01420 | 0.03959 | 2.03563  | 0.03694  | 2.05219  | 0.00255  | 0.04082 | 0.01792 | 0.43895 |
| 7  | 0.00071 | 0.03001 | 0.01501 | 0.57728 | 0.01078 | 0.02157 | 1.73225 | 2.36655 | 0.02235 | 0.00547 | 0.01542 | 0.04367 | 2.12352  | 0.00255  | 2.16429  | 0.01401  | 0.04576 | 0.01969 | 0.43029 |
| 8  | 0.00017 | 0.01452 | 0.00726 | 0.76156 | 0.00571 | 0.01143 | 1.31309 | 2.27478 | 0.01014 | 0.00460 | 0.00741 | 0.01975 | 2.17193  | 0.00255  | 2.18594  | 0.01401  | 0.01811 | 0.01164 | 0.64266 |
| 9  | 0.00891 | 0.10648 | 0.05324 | 0.27772 | 0.02744 | 0.05487 | 3.60069 | 2.72106 | 0.08796 | 0.01466 | 0.05653 | 0.17176 | 2.42798  | 0.07771  | 2.58084  | 0.00255  | 0.16244 | 0.06980 | 0.42973 |
| 10 | 0.00024 | 0.01731 | 0.00865 | 0.73542 | 0.00681 | 0.01362 | 1.35976 | 2.33692 | 0.01243 | 0.00577 | 0.00891 | 0.02427 | 2.58848  | 0.00255  | 2.60504  | 0.01783  | 0.02226 | 0.01346 | 0.60470 |
| 11 | 0.00172 | 0.04673 | 0.02337 | 0.54528 | 0.01664 | 0.03328 | 1.83393 | 2.28554 | 0.03617 | 0.01225 | 0.02457 | 0.06813 | 2.04454  | 0.06879  | 2.07130  | 0.00764  | 0.06978 | 0.03130 | 0.44856 |
| 12 | 0.00980 | 0.11173 | 0.05586 | 0.26257 | 0.02801 | 0.05602 | 3.80845 | 4.12379 | 0.12070 | 0.00201 | 0.05975 | 0.22202 | 1.42545  | 0.01274  | 1.46112  | 0.23057  | 0.23774 | 0.05251 | 0.22086 |
| 13 | 0.01133 | 0.12013 | 0.06007 | 0.30851 | 0.03274 | 0.06549 | 3.24138 | 4.42723 | 0.12996 | 0.02230 | 0.07438 | 0.24809 | 1.25282  | 0.05095  | 2.39868  | 0.07261  | 0.27725 | 0.05205 | 0.18775 |
| 14 | 0.00012 | 0.01211 | 0.00606 | 0.50724 | 0.00371 | 0.00742 | 1.97147 | 4.10209 | 0.01101 | 0.00224 | 0.00696 | 0.02109 | 2.59995  | 0.02420  | 2.60504  | 0.04331  | 0.02365 | 0.00620 | 0.26218 |
| 15 | 0.01286 | 0.12797 | 0.06398 | 0.11907 | 0.02147 | 0.04293 | 8.39815 | 3.86542 | 0.13928 | 0.01436 | 0.07483 | 0.24461 | 1.22673  | 0.25732  | 1.35921  | 0.05350  | 0.26693 | 0.06135 | 0.22984 |
| 16 | 0.00654 | 0.09124 | 0.04562 | 0.42592 | 0.02916 | 0.05832 | 2.34785 | 2.20256 | 0.07533 | 0.01921 | 0.04574 | 0.13262 | 1.81652  | 0.04841  | 1.92735  | 0.11847  | 0.12916 | 0.06445 | 0.49897 |
| 17 | 0.00262 | 0.05780 | 0.02890 | 0.53374 | 0.02049 | 0.04099 | 1.87358 | 1.61049 | 0.03620 | 0.01695 | 0.02877 | 0.07120 | 2.55281  | 0.07898  | 2.60504  | 0.12484  | 0.07322 | 0.04563 | 0.62313 |
| 18 | 0.00105 | 0.03662 | 0.01831 | 0.58394 | 0.01340 | 0.02679 | 1.71250 | 2.74323 | 0.02992 | 0.00907 | 0.01979 | 0.05807 | 1.05858  | 0.10573  | 1.10698  | 0.07643  | 0.06069 | 0.02209 | 0.36403 |
| 19 | 0.00008 | 0.01006 | 0.00503 | 0.89219 | 0.00413 | 0.00826 | 1.12083 | 2.08024 | 0.00631 | 0.00446 | 0.00515 | 0.01261 | 1.47131  | 0.07771  | 1.47895  | 0.08535  | 0.01127 | 0.00898 | 0.79709 |
| 20 | 0.00285 | 0.06020 | 0.03010 | 0.14608 | 0.01089 | 0.02179 | 6.84577 | 2.54605 | 0.04602 | 0.00877 | 0.02786 | 0.09096 | 0.83056  | 0.14522  | 0.89170  | 0.08025  | 0.09837 | 0.03684 | 0.37449 |
| 21 | 0.00425 | 0.07357 | 0.03679 | 0.55818 | 0.02688 | 0.05376 | 1.79153 | 1.78105 | 0.05498 | 0.02408 | 0.03802 | 0.09604 | 0.29936  | 0.13885  | 0.38853  | 0.17070  | 0.10213 | 0.05300 | 0.51896 |
| 22 | 0.00101 | 0.03588 | 0.01794 | 0.42262 | 0.01106 | 0.02211 | 2.36622 | 2.05246 | 0.02544 | 0.00549 | 0.01730 | 0.04873 | 0.20637  | 0.12229  | 0.24968  | 0.10318  | 0.04784 | 0.02691 | 0.56241 |
| 23 | 0.00436 | 0.07452 | 0.03726 | 0.37222 | 0.02213 | 0.04425 | 2.68657 | 1.94827 | 0.05185 | 0.01717 | 0.03851 | 0.10124 | 0.23566  | 0.20127  | 0.27515  | 0.10955  | 0.10238 | 0.05425 | 0.52987 |
| 24 | 0.00883 | 0.10602 | 0.05301 | 0.35884 | 0.03114 | 0.06228 | 2.78679 | 2.07993 | 0.08260 | 0.02083 | 0.05498 | 0.14993 | 2.12352  | 0.13758  | 2.26110  | 0.19363  | 0.15294 | 0.07349 | 0.48050 |
| 25 | 0.00220 | 0.05297 | 0.02648 | 0.47647 | 0.01767 | 0.03533 | 2.09878 | 2.24842 | 0.04034 | 0.01084 | 0.02715 | 0.07675 | 0.57833  | 0.19235  | 0.59362  | 0.11847  | 0.07622 | 0.03681 | 0.48294 |
| 26 | 0.00718 | 0.09563 | 0.04781 | 0.39511 | 0.02945 | 0.05890 | 2.53094 | 2.06601 | 0.06742 | 0.01431 | 0.04581 | 0.13271 | 0.50700  | 0.12102  | 0.53375  | 0.24968  | 0.13556 | 0.06746 | 0.49764 |
| 27 | 0.00301 | 0.06191 | 0.03095 | 0.34890 | 0.01767 | 0.03533 | 2.86612 | 2.13883 | 0.04564 | 0.01048 | 0.02995 | 0.08749 | 2.45855  | 0.18598  | 2.51460  | 0.12102  | 0.09093 | 0.04215 | 0.46355 |
| 28 | 0.00008 | 0.01006 | 0.00503 | 0.89219 | 0.00413 | 0.00826 | 1.12083 | 2.08024 | 0.00631 | 0.00446 | 0.00515 | 0.01261 | 0.81272  | 0.12229  | 0.82037  | 0.12993  | 0.01127 | 0.00898 | 0.79709 |
| 29 | 0.00009 | 0.01076 | 0.00538 | 0.87656 | 0.00441 | 0.00882 | 1.14083 | 2.02780 | 0.00671 | 0.00452 | 0.00550 | 0.01342 | 0.79744  | 0.12356  | 0.80635  | 0.13121  | 0.01234 | 0.00938 | 0.76013 |
| 30 | 0.00477 | 0.07792 | 0.03896 | 0.37762 | 0.02333 | 0.04666 | 2.64815 | 2.16501 | 0.06226 | 0.02009 | 0.03928 | 0.11172 | 0.98597  | 0.19490  | 1.09042  | 0.15923  | 0.11019 | 0.05511 | 0.50014 |
| 31 | 0.00505 | 0.08021 | 0.04011 | 0.35433 | 0.02326 | 0.04651 | 2.82226 | 2.70583 | 0.06848 | 0.01825 | 0.04241 | 0.12853 | 0.80890  | 0.13376  | 0.86877  | 0.24585  | 0.11882 | 0.05415 | 0.45572 |
| 32 | 0.00043 | 0.02335 | 0.01168 | 0.29374 | 0.00572 | 0.01144 | 3.40435 | 2.78301 | 0.01784 | 0.00269 | 0.01134 | 0.03520 | 2.09550  | 0.15796  | 2.10696  | 0.18981  | 0.03659 | 0.01491 | 0.40733 |
| 33 | 0.00078 | 0.03159 | 0.01580 | 0.43176 | 0.00976 | 0.01953 | 2.31610 | 4.56617 | 0.03307 | 0.00666 | 0.01911 | 0.06351 | 2.59358  | 0.15796  | 2.60504  | 0.21910  | 0.06808 | 0.01466 | 0.21529 |
| 34 | 0.00717 | 0.09552 | 0.04776 | 0.22373 | 0.02197 | 0.04395 | 4.46959 | 2.41404 | 0.08369 | 0.01825 | 0.05147 | 0.14436 | 1.85729  | 0.17452  | 1.90060  | 0.31082  | 0.15739 | 0.05797 | 0.36832 |
| 35 | 0.00669 | 0.09226 | 0.04613 | 0.53233 | 0.03305 | 0.06610 | 1.87852 | 2.04831 | 0.07008 | 0.02717 | 0.04812 | 0.12965 | 0.55668  | 0.23694  | 0.67005  | 0.17707  | 0.12629 | 0.06740 | 0.53372 |
| 36 | 0.00047 | 0.02456 | 0.01228 | 0.66904 | 0.00943 | 0.01887 | 1.49469 | 2.09355 | 0.01687 | 0.00798 | 0.01244 | 0.03337 | 0.21401  | 0.18981  | 0.22929  | 0.21783  | 0.03255 | 0.01854 | 0.56952 |
| 37 | 0.00008 | 0.01006 | 0.00503 | 0.89219 | 0.00413 | 0.00826 | 1.12083 | 2.08024 | 0.00631 | 0.00446 | 0.00515 | 0.01261 | 0.88406  | 0.18981  | 0.89170  | 0.19745  | 0.01127 | 0.00898 | 0.79709 |
| 38 | 0.00020 | 0.01594 | 0.00797 | 0.53834 | 0.00523 | 0.01047 | 1.85758 | 3.11214 | 0.01279 | 0.00238 | 0.00818 | 0.02517 | 2.08531  | 0.20764  | 2.10314  | 0.19235  | 0.02591 | 0.00981 | 0.37854 |
| 39 | 0.00129 | 0.04050 | 0.02025 | 0.22729 | 0.00904 | 0.01808 | 4.39967 | 3.22025 | 0.03473 | 0.00592 | 0.02165 | 0.06805 | 1.38978  | 0.19617  | 1.40507  | 0.26114  | 0.07153 | 0.02294 | 0.32065 |
| 40 | 0.00280 | 0.05975 | 0.02988 | 0.63564 | 0.02321 | 0.04642 | 1.57321 | 1.62641 | 0.03798 | 0.01531 | 0.02989 | 0.07426 | 1.72863  | 0.19617  | 1.74391  | 0.26751  | 0.07407 | 0.04820 | 0.65076 |
| 41 | 0.00541 | 0.08302 | 0.04151 | 0.55143 | 0.03021 | 0.06043 | 1.81348 | 1.59373 | 0.05213 | 0.02329 | 0.04106 | 0.10273 | 2.10569  | 0.27770  | 2.16556  | 0.19617  | 0.09854 | 0.06995 | 0.70985 |
| 42 | 0.00822 | 0.10230 | 0.05115 | 0.39074 | 0.03135 | 0.06271 | 2.55923 | 2.19463 | 0.08072 | 0.00925 | 0.04892 | 0.14862 | 0.00255  | 0.20254  | 0.10573  | 0.30700  | 0.15257 | 0.06859 | 0.44956 |
| 43 | 0.00011 | 0.01185 | 0.00593 | 0.91046 | 0.00504 | 0.01008 | 1.09835 | 2.08008 | 0.00762 | 0.00510 | 0.00606 | 0.01523 | 1.36048  | 0.21273  | 1.37067  | 0.22165  | 0.01343 | 0.01046 | 0.77901 |
| 44 | 0.00012 | 0.01261 | 0.00631 | 0.85502 | 0.00521 | 0.01042 | 1.16956 | 2.04962 | 0.00808 | 0.00495 | 0.00647 | 0.01614 | 2.42925  | 0.22929  | 2.44071  | 0.22038  | 0.01502 | 0.01059 | 0.70549 |
| 45 | 0.00186 | 0.04870 | 0.02435 | 0.37129 | 0.01423 | 0.02846 | 2.69331 | 1.71888 | 0.03292 | 0.00143 | 0.02278 | 0.06124 | 1.91588  | 0.27515  | 1.94900  | 0.22547  | 0.06931 | 0.03422 | 0.49377 |
| 46 | 0.00015 | 0.01364 | 0.00682 | 0.91091 | 0.00590 | 0.01180 | 1.09780 | 2.12270 | 0.00903 | 0.00626 | 0.00700 | 0.01802 | 1.36812  | 0.22675  | 1.37959  | 0.23821  | 0.01557 | 0.01194 | 0.76656 |
| 47 | 0.00035 | 0.02122 | 0.01061 | 0.77570 | 0.00873 | 0.01745 | 1.28916 | 1.95283 | 0.01403 | 0.00774 | 0.01084 | 0.02769 | 1.34265  | 0.23694  | 1.36558  | 0.24968  | 0.02688 | 0.01677 | 0.62445 |
| 48 | 0.00008 | 0.01006 | 0.00503 | 0.89219 | 0.00413 | 0.00826 | 1.12083 | 2.08024 | 0.00631 | 0.00446 | 0.00515 | 0.01261 | 1.43946  | 0.23566  | 1.44710  | 0.24331  | 0.01127 | 0.00898 | 0.79709 |
| 49 | 0.00034 | 0.02078 | 0.01039 | 0.56429 | 0.00720 | 0.01441 | 1.77212 | 3.17787 | 0.01729 | 0.00308 | 0.01107 | 0.03419 | 1.44965  | 0.23694  | 1.47386  | 0.25859  | 0.03407 | 0.01267 | 0.37200 |
| 50 | 0.00008 | 0.01006 | 0.00503 | 0.89219 | 0.00413 | 0.00826 | 1.12083 | 2.08024 | 0.00631 | 0.00446 | 0.00515 | 0.01261 | 1.42672  | 0.24458  | 1.43437  | 0.25222  | 0.01127 | 0.00898 | 0.79709 |
| 51 | 0.00683 | 0.09328 | 0.04664 | 0.36592 | 0.027   |         |         |         |         |         |         |         |          |          |          |          |         |         |         |



Appendix 2-18 Roundness of the Opaque Minerals

MJBKE-33 12.7m

| 番号  | 面積      | 円相当径    | 半径      | 円形度     | サイズ     | 流体直径    | 凹凸度     | 線形度     | 重心距離最大  | 重心距離最小  | 重心距離平均  | 絶対最大長   | 絶対最大長軸点X | 絶対最大長軸点Y | 絶対最大長軸点Z | 絶対最大長軸点Y | 楕円長軸    | 楕円短軸    | 楕円長短比   |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|----------|----------|----------|---------|---------|---------|
| 52  | 0.00008 | 0.01006 | 0.00503 | 0.89219 | 0.00413 | 0.00826 | 1.12083 | 2.08024 | 0.00631 | 0.00446 | 0.00515 | 0.01261 | 1.43691  | 0.25095  | 1.44456  | 0.25859  | 0.01127 | 0.00898 | 0.79709 |
| 53  | 0.01593 | 0.14240 | 0.07120 | 0.46915 | 0.04816 | 0.09632 | 2.13150 | 2.80272 | 0.13003 | 0.03624 | 0.07757 | 0.23543 | 0.69043  | 0.38980  | 0.88406  | 0.25859  | 0.24139 | 0.08401 | 0.34802 |
| 54  | 0.00189 | 0.04906 | 0.02453 | 0.17253 | 0.00958 | 0.01915 | 5.79613 | 2.66324 | 0.03953 | 0.00685 | 0.02446 | 0.07525 | 1.34647  | 0.27006  | 1.41908  | 0.28407  | 0.08286 | 0.02905 | 0.35062 |
| 55  | 0.00013 | 0.01294 | 0.00647 | 0.83372 | 0.00529 | 0.01058 | 1.19945 | 2.17845 | 0.00856 | 0.00496 | 0.00667 | 0.01710 | 1.41653  | 0.25732  | 1.42545  | 0.27006  | 0.01621 | 0.01033 | 0.63722 |
| 56  | 0.00336 | 0.06540 | 0.03270 | 0.54603 | 0.02357 | 0.04714 | 1.83138 | 2.16311 | 0.04995 | 0.01819 | 0.03414 | 0.09382 | 1.27386  | 0.34139  | 1.32736  | 0.26604  | 0.09892 | 0.04324 | 0.43711 |
| 57  | 0.00046 | 0.02431 | 0.01215 | 0.49726 | 0.00795 | 0.01590 | 2.01101 | 3.27561 | 0.02103 | 0.00562 | 0.01305 | 0.04080 | 1.42417  | 0.29936  | 1.44328  | 0.26496  | 0.04064 | 0.01454 | 0.35772 |
| 58  | 0.00014 | 0.01341 | 0.00670 | 0.86169 | 0.00560 | 0.01120 | 1.16051 | 1.99427 | 0.00855 | 0.00558 | 0.00685 | 0.01704 | 1.45602  | 0.27898  | 1.46621  | 0.26751  | 0.01544 | 0.01164 | 0.75435 |
| 59  | 0.00010 | 0.01132 | 0.00566 | 0.91889 | 0.00482 | 0.00965 | 1.08827 | 2.05165 | 0.00721 | 0.00515 | 0.00577 | 0.01441 | 2.44708  | 0.28280  | 2.45600  | 0.27388  | 0.01245 | 0.01029 | 0.82603 |
| 60  | 0.00567 | 0.08498 | 0.04249 | 0.68910 | 0.03466 | 0.06932 | 1.45116 | 1.44669 | 0.05295 | 0.03470 | 0.04275 | 0.10044 | 1.70952  | 0.29171  | 1.80378  | 0.32229  | 0.09873 | 0.07314 | 0.74086 |
| 61  | 0.00681 | 0.09310 | 0.04655 | 0.20675 | 0.02055 | 0.04109 | 4.83665 | 3.09693 | 0.08664 | 0.01481 | 0.04825 | 0.15904 | 2.18849  | 0.37579  | 2.31460  | 0.28152  | 0.15903 | 0.05450 | 0.34271 |
| 62  | 0.00039 | 0.02227 | 0.01113 | 0.66477 | 0.00846 | 0.01692 | 1.50429 | 2.19443 | 0.01699 | 0.00705 | 0.01163 | 0.03075 | 2.37575  | 0.30318  | 2.40377  | 0.29426  | 0.03160 | 0.01569 | 0.49647 |
| 63  | 0.00444 | 0.07516 | 0.03758 | 0.47827 | 0.02537 | 0.05074 | 2.09089 | 2.07490 | 0.05475 | 0.01848 | 0.03806 | 0.10569 | 2.32097  | 0.34904  | 2.41524  | 0.30445  | 0.10683 | 0.05288 | 0.49494 |
| 64  | 0.01791 | 0.15100 | 0.07550 | 0.68667 | 0.06195 | 0.12391 | 1.45631 | 1.73166 | 0.10732 | 0.05364 | 0.07705 | 0.19677 | 0.55031  | 0.30573  | 0.62419  | 0.48661  | 0.18844 | 0.12099 | 0.64208 |
| 65  | 0.00025 | 0.01790 | 0.00895 | 0.81238 | 0.00744 | 0.01488 | 1.23095 | 1.72514 | 0.01094 | 0.00642 | 0.00907 | 0.02169 | 0.37069  | 0.32101  | 0.38216  | 0.33757  | 0.02072 | 0.01545 | 0.74579 |
| 66  | 0.00031 | 0.01997 | 0.00998 | 0.55068 | 0.00680 | 0.01360 | 1.81594 | 2.39255 | 0.01505 | 0.00395 | 0.01036 | 0.02834 | 0.38725  | 0.33120  | 0.41273  | 0.34012  | 0.02990 | 0.01334 | 0.44614 |
| 67  | 0.00560 | 0.08445 | 0.04223 | 0.26194 | 0.02099 | 0.04199 | 3.81762 | 2.64222 | 0.07964 | 0.02573 | 0.04439 | 0.13335 | 0.00255  | 0.32738  | 0.09936  | 0.41655  | 0.12401 | 0.05751 | 0.46375 |
| 68  | 0.00623 | 0.08906 | 0.04453 | 0.58004 | 0.03330 | 0.06661 | 1.72401 | 1.53998 | 0.05625 | 0.02963 | 0.04498 | 0.10853 | 1.32354  | 0.43693  | 1.37195  | 0.34139  | 0.10878 | 0.07292 | 0.67032 |
| 69  | 0.00037 | 0.02180 | 0.01090 | 0.51758 | 0.00723 | 0.01446 | 1.93206 | 2.75144 | 0.01706 | 0.00376 | 0.01141 | 0.03334 | 0.34139  | 0.34394  | 0.37069  | 0.35668  | 0.03554 | 0.01337 | 0.37627 |
| 70  | 0.00014 | 0.01341 | 0.00670 | 0.88387 | 0.00569 | 0.01139 | 1.13138 | 1.98022 | 0.00853 | 0.00559 | 0.00685 | 0.01704 | 1.40889  | 0.35541  | 1.41908  | 0.34394  | 0.01527 | 0.01177 | 0.77112 |
| 71  | 0.00345 | 0.06631 | 0.03315 | 0.33115 | 0.01846 | 0.03692 | 3.01979 | 2.82931 | 0.05737 | 0.01346 | 0.03466 | 0.10791 | 2.45218  | 0.35923  | 2.55536  | 0.38598  | 0.10491 | 0.04191 | 0.39949 |
| 72  | 0.00020 | 0.01594 | 0.00797 | 0.68618 | 0.00598 | 0.01197 | 1.45734 | 2.42600 | 0.01152 | 0.00396 | 0.00815 | 0.02250 | 0.32356  | 0.35286  | 0.33630  | 0.36942  | 0.02193 | 0.01159 | 0.52838 |
| 73  | 0.00010 | 0.01150 | 0.00575 | 0.87295 | 0.00475 | 0.00950 | 1.14554 | 2.01062 | 0.00721 | 0.00515 | 0.00587 | 0.01441 | 2.17703  | 0.35923  | 2.18594  | 0.36815  | 0.01302 | 0.01016 | 0.78059 |
| 74  | 0.00033 | 0.02048 | 0.01024 | 0.58239 | 0.00720 | 0.01441 | 1.71706 | 2.63795 | 0.01650 | 0.00261 | 0.01050 | 0.03066 | 2.42543  | 0.37961  | 2.44836  | 0.36178  | 0.03152 | 0.01331 | 0.42216 |
| 75  | 0.00008 | 0.01006 | 0.00503 | 0.89219 | 0.00413 | 0.00826 | 1.12083 | 2.08024 | 0.00631 | 0.00446 | 0.00515 | 0.01261 | 1.43401  | 0.25095  | 1.44456  | 0.25859  | 0.01127 | 0.00898 | 0.79709 |
| 76  | 0.00012 | 0.01211 | 0.00606 | 0.88293 | 0.00508 | 0.01015 | 1.13259 | 1.98804 | 0.00762 | 0.00503 | 0.00618 | 0.01523 | 2.43817  | 0.39235  | 2.44836  | 0.38343  | 0.01379 | 0.01064 | 0.77185 |
| 77  | 0.00010 | 0.01141 | 0.00570 | 0.85549 | 0.00465 | 0.00931 | 1.16892 | 2.02861 | 0.00717 | 0.00446 | 0.00585 | 0.01433 | 2.45855  | 0.38343  | 2.46874  | 0.39107  | 0.01363 | 0.00955 | 0.70090 |
| 78  | 0.00617 | 0.08864 | 0.04432 | 0.66441 | 0.03552 | 0.07104 | 1.50510 | 1.35601 | 0.05180 | 0.03065 | 0.04412 | 0.10148 | 0.27898  | 0.42292  | 0.37706  | 0.44330  | 0.10177 | 0.07721 | 0.75869 |
| 79  | 0.00220 | 0.05291 | 0.02646 | 0.58210 | 0.01957 | 0.03914 | 1.71791 | 1.65204 | 0.03325 | 0.01664 | 0.02629 | 0.06593 | 1.69168  | 0.44203  | 1.72353  | 0.38598  | 0.06402 | 0.04373 | 0.68313 |
| 80  | 0.00170 | 0.04651 | 0.02326 | 0.60364 | 0.01746 | 0.03492 | 1.65662 | 2.31103 | 0.03626 | 0.01063 | 0.02412 | 0.06834 | 2.48148  | 0.47005  | 2.51587  | 0.41273  | 0.07017 | 0.03083 | 0.43927 |
| 81  | 0.00422 | 0.07329 | 0.03665 | 0.47762 | 0.02472 | 0.04945 | 2.09373 | 1.99877 | 0.05523 | 0.02118 | 0.03751 | 0.10115 | 1.79487  | 0.50190  | 1.87130  | 0.43821  | 0.10585 | 0.05075 | 0.47947 |
| 82  | 0.00328 | 0.06467 | 0.03233 | 0.61224 | 0.02469 | 0.04938 | 1.63333 | 1.87204 | 0.04439 | 0.02064 | 0.03346 | 0.08635 | 2.24836  | 0.43184  | 2.27639  | 0.51209  | 0.08798 | 0.04753 | 0.54023 |
| 83  | 0.00684 | 0.09331 | 0.04665 | 0.31648 | 0.02564 | 0.05127 | 3.15973 | 2.82651 | 0.07747 | 0.00990 | 0.04612 | 0.15322 | 1.85729  | 0.55668  | 1.96939  | 0.45477  | 0.14469 | 0.06017 | 0.41589 |
| 84  | 0.03485 | 0.21066 | 0.10533 | 0.24117 | 0.05112 | 0.10224 | 4.14644 | 3.02509 | 0.19647 | 0.02048 | 0.10047 | 0.36210 | 1.01399  | 0.45859  | 1.33373  | 0.62546  | 0.38707 | 0.11465 | 0.29620 |
| 85  | 0.00928 | 0.10872 | 0.05436 | 0.27932 | 0.02811 | 0.05622 | 3.58016 | 1.93092 | 0.07665 | 0.01621 | 0.05304 | 0.14782 | 2.11588  | 0.58343  | 2.21397  | 0.47515  | 0.15597 | 0.07578 | 0.48588 |
| 86  | 0.00025 | 0.01790 | 0.00895 | 0.61596 | 0.00641 | 0.01281 | 1.62347 | 2.92661 | 0.01408 | 0.00472 | 0.00983 | 0.02793 | 2.23690  | 0.45477  | 2.24454  | 0.48024  | 0.03029 | 0.01057 | 0.34915 |
| 87  | 0.00293 | 0.06110 | 0.03055 | 0.67404 | 0.02448 | 0.04896 | 1.48359 | 1.81716 | 0.04314 | 0.02281 | 0.03116 | 0.08038 | 0.34776  | 0.53375  | 0.37579  | 0.45986  | 0.07639 | 0.04887 | 0.63972 |
| 88  | 0.00093 | 0.03450 | 0.01725 | 0.80886 | 0.01491 | 0.02982 | 1.23631 | 1.44171 | 0.02033 | 0.01220 | 0.01740 | 0.03981 | 1.43054  | 0.49171  | 1.46112  | 0.46878  | 0.03979 | 0.02991 | 0.75178 |
| 89  | 0.00110 | 0.03746 | 0.01873 | 0.61596 | 0.01410 | 0.02820 | 1.62348 | 1.93252 | 0.02944 | 0.01366 | 0.01955 | 0.04995 | 0.00255  | 0.52993  | 0.00764  | 0.48152  | 0.05092 | 0.02755 | 0.54101 |
| 90  | 0.01146 | 0.12078 | 0.06039 | 0.46013 | 0.04036 | 0.08071 | 2.17329 | 2.37222 | 0.09571 | 0.02258 | 0.06321 | 0.18326 | 0.56050  | 0.59234  | 0.70827  | 0.48661  | 0.18606 | 0.07841 | 0.42140 |
| 91  | 0.00059 | 0.02735 | 0.01367 | 0.55012 | 0.00954 | 0.01907 | 1.81780 | 3.11725 | 0.02340 | 0.00624 | 0.01479 | 0.04540 | 2.44326  | 0.52356  | 2.46874  | 0.48789  | 0.04602 | 0.01625 | 0.35309 |
| 92  | 0.00008 | 0.01006 | 0.00503 | 0.89219 | 0.00413 | 0.00826 | 1.12083 | 2.08024 | 0.00631 | 0.00446 | 0.00515 | 0.01261 | 1.43401  | 0.25095  | 1.44456  | 0.25859  | 0.01127 | 0.00898 | 0.79709 |
| 93  | 0.00962 | 0.11067 | 0.05534 | 0.30991 | 0.03020 | 0.06039 | 3.22673 | 3.30042 | 0.10419 | 0.00312 | 0.05840 | 0.19709 | 0.13885  | 0.59744  | 0.31846  | 0.51973  | 0.20386 | 0.06008 | 0.29470 |
| 94  | 0.00398 | 0.07121 | 0.03560 | 0.70790 | 0.02934 | 0.05869 | 1.41262 | 1.57740 | 0.04470 | 0.02565 | 0.03594 | 0.08761 | 0.03185  | 0.57324  | 0.08662  | 0.50700  | 0.08602 | 0.05894 | 0.68519 |
| 95  | 0.01516 | 0.13893 | 0.06947 | 0.43584 | 0.04524 | 0.09049 | 2.29440 | 2.35876 | 0.10834 | 0.03722 | 0.07355 | 0.21050 | 0.78724  | 0.52228  | 0.99106  | 0.56942  | 0.21732 | 0.08882 | 0.40870 |
| 96  | 0.00236 | 0.05483 | 0.02741 | 0.17824 | 0.01097 | 0.02194 | 5.61032 | 2.46023 | 0.04240 | 0.00081 | 0.02618 | 0.08151 | 2.36046  | 0.53884  | 2.43689  | 0.51464  | 0.09167 | 0.03279 | 0.35774 |
| 97  | 0.00041 | 0.02291 | 0.01145 | 0.64822 | 0.00862 | 0.01724 | 1.54267 | 2.59502 | 0.01760 | 0.00486 | 0.01219 | 0.03450 | 1.97321  | 0.52228  | 1.98595  | 0.55285  | 0.03658 | 0.01435 | 0.39222 |
| 98  | 0.00226 | 0.05369 | 0.02684 | 0.47919 | 0.01797 | 0.03593 | 2.08685 | 3.09342 | 0.04602 | 0.01002 | 0.02819 | 0.09129 | 2.42161  | 0.65094  | 2.46874  | 0.57451  | 0.08775 | 0.03284 | 0.37429 |
| 99  | 0.00008 | 0.01006 | 0.00503 | 0.89219 | 0.00413 | 0.00826 | 1.12083 | 2.08024 | 0.00631 | 0.00446 | 0.00515 | 0.01261 | 1.43401  | 0.25095  | 1.44456  | 0.25859  | 0.01127 | 0.00898 | 0.79709 |
| 100 | 0.00169 | 0.04644 | 0.02322 | 0.55937 | 0.01674 | 0.03348 | 1.78773 | 1.78183 | 0.03192 | 0.01357 | 0.02350 | 0.05976 | 2.36683  | 0.60763  | 2.42415  | 0.59617  | 0.05973 | 0.03611 | 0.60458 |
| 101 | 0.00008 | 0.01006 | 0.00503 | 0.89219 | 0.00413 | 0.00826 | 1.12083 | 2.08024 | 0.00631 | 0.00446 | 0.00515 | 0.01261 | 1.43401  | 0.25095  | 1.44456  | 0.25859  | 0.01127 | 0.00898 | 0.79709 |
| 102 | 0.00009 | 0.01076 | 0.0     |         |         |         |         |         |         |         |         |         |          |          |          |          |         |         |         |

Appendix 2-18 Roundness of the Opaque Minerals

MJBKE-33 12.7m

| 番号  | 面積      | 円相当径    | 半径      | 円形度     | サイズ     | 流体直径    | 凹凸度     | 線形度     | 重心距離最大  | 重心距離最小  | 重心距離平均  | 絶対最大長   | 絶対最大長軸X | 絶対最大長軸Y | 絶対最大長軸Z | 絶対最大長軸W | 楕円長軸    | 楕円短軸    | 楕円長短比   |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 103 | 0.00447 | 0.07543 | 0.03772 | 0.64375 | 0.02965 | 0.05930 | 1.55340 | 1.50799 | 0.04803 | 0.02930 | 0.03778 | 0.09076 | 0.78979 | 0.68661 | 0.84329 | 0.61527 | 0.08858 | 0.06424 | 0.72517 |
| 104 | 0.00829 | 0.10273 | 0.05137 | 0.23948 | 0.02453 | 0.04905 | 4.17569 | 2.49208 | 0.08691 | 0.02240 | 0.05090 | 0.15823 | 1.94136 | 0.61782 | 2.06238 | 0.71718 | 0.16153 | 0.06533 | 0.40446 |
| 105 | 0.00756 | 0.09810 | 0.04905 | 0.48583 | 0.03359 | 0.06719 | 2.05834 | 2.26167 | 0.08796 | 0.02550 | 0.05307 | 0.14497 | 0.54012 | 0.61782 | 0.68151 | 0.64330 | 0.14629 | 0.06579 | 0.44973 |
| 106 | 0.00019 | 0.01568 | 0.00784 | 0.81015 | 0.00644 | 0.01287 | 1.23435 | 2.28479 | 0.01085 | 0.00533 | 0.00800 | 0.02162 | 0.03312 | 0.62929 | 0.04713 | 0.61527 | 0.01938 | 0.01269 | 0.65471 |
| 107 | 0.00008 | 0.01006 | 0.00503 | 0.89219 | 0.00413 | 0.00826 | 1.12083 | 2.08024 | 0.00631 | 0.00446 | 0.00515 | 0.01261 | 1.45347 | 0.61910 | 1.46112 | 0.62674 | 0.01127 | 0.00898 | 0.79709 |
| 108 | 0.00088 | 0.03346 | 0.01673 | 0.35845 | 0.00940 | 0.01881 | 2.78977 | 3.21367 | 0.02928 | 0.00498 | 0.01775 | 0.05631 | 0.48152 | 0.67515 | 0.49426 | 0.62164 | 0.05897 | 0.01899 | 0.32200 |
| 109 | 0.00044 | 0.02375 | 0.01187 | 0.62157 | 0.00874 | 0.01748 | 1.60882 | 2.35525 | 0.01732 | 0.00642 | 0.01224 | 0.03403 | 0.00637 | 0.65349 | 0.02293 | 0.62546 | 0.03299 | 0.01710 | 0.51826 |
| 110 | 0.00809 | 0.10150 | 0.05075 | 0.35600 | 0.02967 | 0.05935 | 2.80899 | 1.60931 | 0.07002 | 0.01514 | 0.04821 | 0.12618 | 1.52608 | 0.63566 | 1.60124 | 0.73502 | 0.13578 | 0.07587 | 0.55878 |
| 111 | 0.00014 | 0.01356 | 0.00678 | 0.74035 | 0.00521 | 0.01042 | 1.35071 | 2.42268 | 0.00948 | 0.00415 | 0.00688 | 0.01885 | 0.03439 | 0.63183 | 0.04586 | 0.64457 | 0.01743 | 0.01055 | 0.60557 |
| 112 | 0.00831 | 0.10286 | 0.05143 | 0.36358 | 0.03040 | 0.06079 | 2.75040 | 3.06660 | 0.09206 | 0.02207 | 0.05634 | 0.17655 | 2.24709 | 0.64585 | 2.36810 | 0.77196 | 0.18040 | 0.05865 | 0.32511 |
| 113 | 0.00612 | 0.08830 | 0.04415 | 0.19378 | 0.01882 | 0.03764 | 5.16043 | 1.89652 | 0.06037 | 0.01668 | 0.04264 | 0.11776 | 1.31590 | 0.64330 | 1.37195 | 0.74521 | 0.12649 | 0.06165 | 0.48739 |
| 114 | 0.00310 | 0.06284 | 0.03142 | 0.44248 | 0.02030 | 0.04059 | 2.26001 | 2.34531 | 0.04757 | 0.01016 | 0.03239 | 0.09346 | 1.06495 | 0.73502 | 1.11208 | 0.65604 | 0.10447 | 0.03779 | 0.36174 |
| 115 | 0.00068 | 0.02946 | 0.01473 | 0.51398 | 0.00995 | 0.01990 | 1.94560 | 3.34306 | 0.02632 | 0.00459 | 0.01623 | 0.05076 | 2.09168 | 0.66750 | 2.12098 | 0.70699 | 0.05097 | 0.01703 | 0.33404 |
| 116 | 0.00050 | 0.02535 | 0.01267 | 0.42714 | 0.00767 | 0.01534 | 2.34113 | 2.99633 | 0.02117 | 0.00244 | 0.01276 | 0.04062 | 0.24585 | 0.70062 | 0.27006 | 0.67005 | 0.03981 | 0.01614 | 0.40535 |
| 117 | 0.00052 | 0.02575 | 0.01288 | 0.43050 | 0.00784 | 0.01568 | 2.32289 | 2.87834 | 0.02080 | 0.00392 | 0.01345 | 0.04055 | 0.49426 | 0.67260 | 0.50317 | 0.71081 | 0.04422 | 0.01500 | 0.33919 |
| 118 | 0.00031 | 0.01971 | 0.00985 | 0.67576 | 0.00750 | 0.01499 | 1.47982 | 2.48920 | 0.01477 | 0.00425 | 0.01012 | 0.02878 | 0.51464 | 0.67769 | 0.53502 | 0.69553 | 0.02839 | 0.01368 | 0.48186 |
| 119 | 0.00253 | 0.05672 | 0.02836 | 0.58539 | 0.02109 | 0.04218 | 1.70827 | 1.99253 | 0.04111 | 0.01813 | 0.02912 | 0.07782 | 1.68149 | 0.73247 | 1.74137 | 0.68534 | 0.07691 | 0.04183 | 0.54386 |
| 120 | 0.00025 | 0.01801 | 0.00901 | 0.64849 | 0.00664 | 0.01327 | 1.54205 | 2.47750 | 0.01333 | 0.00403 | 0.00940 | 0.02594 | 0.54012 | 0.70827 | 0.55158 | 0.68661 | 0.02712 | 0.01196 | 0.44114 |
| 121 | 0.01157 | 0.12138 | 0.06069 | 0.52834 | 0.04351 | 0.08702 | 1.89271 | 2.07478 | 0.09765 | 0.03652 | 0.06266 | 0.17245 | 0.76941 | 0.69935 | 0.85094 | 0.84966 | 0.16865 | 0.08736 | 0.51798 |
| 122 | 0.00103 | 0.03614 | 0.01807 | 0.81590 | 0.01571 | 0.03142 | 1.22564 | 1.37626 | 0.02074 | 0.01573 | 0.01823 | 0.04080 | 2.22671 | 0.71973 | 2.26110 | 0.70062 | 0.03965 | 0.03293 | 0.83060 |
| 123 | 0.00114 | 0.03803 | 0.01901 | 0.51490 | 0.01305 | 0.02609 | 1.94213 | 3.07372 | 0.03302 | 0.00684 | 0.02056 | 0.06375 | 2.13117 | 0.69553 | 2.16683 | 0.74648 | 0.06541 | 0.02211 | 0.33801 |
| 124 | 0.00476 | 0.07787 | 0.03894 | 0.66058 | 0.03103 | 0.06206 | 1.51382 | 1.78333 | 0.05225 | 0.02453 | 0.03944 | 0.10197 | 0.32356 | 0.70317 | 0.40509 | 0.76177 | 0.09991 | 0.06069 | 0.60746 |
| 125 | 0.00500 | 0.07980 | 0.03990 | 0.59502 | 0.03017 | 0.06033 | 1.68061 | 1.50411 | 0.04961 | 0.02459 | 0.03969 | 0.09593 | 2.43944 | 0.77833 | 2.51332 | 0.71973 | 0.10002 | 0.06367 | 0.63658 |
| 126 | 0.00010 | 0.01141 | 0.00570 | 0.85549 | 0.00465 | 0.00931 | 1.16892 | 2.02861 | 0.00717 | 0.00446 | 0.00585 | 0.01433 | 0.52738 | 0.70190 | 0.53757 | 0.70954 | 0.01363 | 0.00955 | 0.70090 |
| 127 | 0.00216 | 0.05246 | 0.02623 | 0.69917 | 0.02133 | 0.04265 | 1.43026 | 1.71911 | 0.03431 | 0.01955 | 0.02663 | 0.06688 | 1.39360 | 0.75540 | 1.43437 | 0.70444 | 0.06488 | 0.04241 | 0.65370 |
| 128 | 0.00501 | 0.07986 | 0.03993 | 0.40225 | 0.02471 | 0.04941 | 2.48599 | 1.75105 | 0.05559 | 0.02259 | 0.04004 | 0.10310 | 0.26747 | 0.71463 | 2.14645 | 0.77833 | 0.11013 | 0.05792 | 0.52590 |
| 129 | 0.00134 | 0.04136 | 0.02068 | 0.65053 | 0.01608 | 0.03216 | 1.53721 | 2.25866 | 0.03296 | 0.01219 | 0.02144 | 0.05992 | 2.19486 | 0.78724 | 2.22925 | 0.74011 | 0.05871 | 0.02914 | 0.49634 |
| 130 | 0.00231 | 0.05418 | 0.02709 | 0.35112 | 0.01543 | 0.03087 | 2.84803 | 2.47216 | 0.04278 | 0.01268 | 0.02855 | 0.08191 | 2.52352 | 0.75922 | 2.59995 | 0.78470 | 0.08532 | 0.03441 | 0.40328 |
| 131 | 0.00008 | 0.01006 | 0.00503 | 0.89219 | 0.00413 | 0.00826 | 1.12083 | 2.08024 | 0.00631 | 0.00446 | 0.00515 | 0.01261 | 0.50531 | 0.78088 | 0.55795 | 0.78852 | 0.01127 | 0.00898 | 0.79709 |
| 132 | 0.00184 | 0.04838 | 0.02419 | 0.38737 | 0.01445 | 0.02890 | 2.58150 | 2.46722 | 0.03760 | 0.00952 | 0.02392 | 0.07293 | 1.86748 | 0.83947 | 1.90824 | 0.78088 | 0.07384 | 0.03170 | 0.42928 |
| 133 | 0.00604 | 0.08770 | 0.04385 | 0.28589 | 0.02284 | 0.04567 | 3.49786 | 3.13964 | 0.08122 | 0.00888 | 0.04411 | 0.15135 | 2.33626 | 0.93501 | 2.38976 | 0.79489 | 0.16104 | 0.04777 | 0.29662 |
| 134 | 0.00013 | 0.01269 | 0.00635 | 0.88635 | 0.00537 | 0.01074 | 1.12822 | 1.80074 | 0.00799 | 0.00503 | 0.00647 | 0.01531 | 0.16815 | 0.80253 | 0.17579 | 0.81400 | 0.01480 | 0.01089 | 0.73545 |
| 135 | 0.00009 | 0.01076 | 0.00538 | 0.87656 | 0.00441 | 0.00882 | 1.14083 | 2.02780 | 0.00671 | 0.00452 | 0.00550 | 0.01342 | 0.18089 | 0.81145 | 0.18853 | 0.82037 | 0.01234 | 0.00938 | 0.76013 |
| 136 | 0.00456 | 0.07621 | 0.03810 | 0.40639 | 0.02368 | 0.04736 | 2.46072 | 3.63395 | 0.07638 | 0.01384 | 0.04425 | 0.14163 | 0.22420 | 0.95030 | 0.24458 | 0.81145 | 0.14099 | 0.04119 | 0.29218 |
| 137 | 0.00018 | 0.01521 | 0.00761 | 0.77134 | 0.00605 | 0.01211 | 1.29645 | 2.24528 | 0.01044 | 0.00513 | 0.00772 | 0.02066 | 0.12866 | 0.82546 | 1.42627 | 0.81272 | 0.01873 | 0.01235 | 0.65955 |
| 138 | 0.01482 | 0.13734 | 0.06867 | 0.28995 | 0.03637 | 0.07274 | 3.44884 | 1.68802 | 0.09158 | 0.02673 | 0.06504 | 0.17550 | 0.50827 | 0.84966 | 0.67132 | 0.91081 | 0.18255 | 0.10333 | 0.56607 |
| 139 | 0.00250 | 0.05646 | 0.02823 | 0.36068 | 0.01634 | 0.03267 | 2.77252 | 3.17920 | 0.04873 | 0.00366 | 0.02999 | 0.09700 | 1.19615 | 0.84839 | 1.29042 | 0.83183 | 0.11246 | 0.02835 | 0.25206 |
| 140 | 0.00053 | 0.02603 | 0.01302 | 0.44168 | 0.00804 | 0.01607 | 2.26407 | 2.24345 | 0.02086 | 0.00423 | 0.01284 | 0.03622 | 0.10191 | 0.85349 | 0.13248 | 0.83693 | 0.03858 | 0.01757 | 0.45535 |
| 141 | 0.01318 | 0.12953 | 0.06476 | 0.45559 | 0.04310 | 0.08620 | 2.19497 | 1.73835 | 0.08914 | 0.04351 | 0.06606 | 0.16838 | 1.30061 | 0.86240 | 1.45602 | 0.92355 | 0.17265 | 0.09717 | 0.56286 |
| 142 | 0.00018 | 0.01508 | 0.00754 | 0.67468 | 0.00557 | 0.01114 | 1.48219 | 2.55864 | 0.01094 | 0.00325 | 0.00773 | 0.02169 | 0.14649 | 0.85094 | 0.16305 | 0.86240 | 0.02128 | 0.01068 | 0.50191 |
| 143 | 0.00015 | 0.01379 | 0.00689 | 0.85573 | 0.00576 | 0.01152 | 1.16859 | 2.29347 | 0.00945 | 0.00501 | 0.00708 | 0.01885 | 0.08662 | 0.86368 | 0.09936 | 0.85221 | 0.01691 | 0.01124 | 0.66448 |
| 144 | 0.00009 | 0.01076 | 0.00538 | 0.87656 | 0.00441 | 0.00882 | 1.14083 | 2.02780 | 0.00671 | 0.00452 | 0.00550 | 0.01342 | 1.43819 | 0.85349 | 1.44710 | 0.86113 | 0.01234 | 0.00938 | 0.76013 |
| 145 | 0.00036 | 0.02142 | 0.01071 | 0.42998 | 0.00640 | 0.01280 | 2.32567 | 2.73310 | 0.01630 | 0.00184 | 0.01040 | 0.03228 | 0.10446 | 0.85603 | 0.13121 | 0.87132 | 0.03235 | 0.01418 | 0.43837 |
| 146 | 0.00008 | 0.01006 | 0.00503 | 0.89219 | 0.00413 | 0.00826 | 1.12083 | 2.08024 | 0.00631 | 0.00446 | 0.00515 | 0.01261 | 0.16942 | 0.85603 | 0.17707 | 0.86368 | 0.01127 | 0.00898 | 0.79709 |
| 147 | 0.00710 | 0.09509 | 0.04754 | 0.25935 | 0.02359 | 0.04719 | 3.85581 | 3.04364 | 0.09143 | 0.02381 | 0.05155 | 0.16164 | 2.37320 | 0.94648 | 2.50950 | 0.86240 | 0.15964 | 0.05663 | 0.35476 |
| 148 | 0.00079 | 0.03166 | 0.01583 | 0.60055 | 0.01166 | 0.02333 | 1.66515 | 2.75688 | 0.02538 | 0.01065 | 0.01706 | 0.04998 | 1.08151 | 0.90189 | 1.10571 | 0.85985 | 0.04773 | 0.02099 | 0.43980 |
| 149 | 0.02079 | 0.16269 | 0.08135 | 0.42919 | 0.05268 | 0.10537 | 2.32997 | 2.84842 | 0.13948 | 0.01724 | 0.08511 | 0.27145 | 1.11845 | 1.12864 | 1.16431 | 0.86240 | 0.29118 | 0.09090 | 0.31218 |
| 150 | 0.00415 | 0.07270 | 0.03635 | 0.50885 | 0.02532 | 0.05064 | 1.96523 | 1.92655 | 0.05051 | 0.01955 | 0.03705 | 0.09853 | 1.21526 | 0.94011 | 1.27641 | 0.86495 | 0.10271 | 0.05146 | 0.50097 |
| 151 | 0.00008 | 0.01006 | 0.00503 | 0.89219 | 0.00413 | 0.00826 | 1.12083 | 2.08024 | 0.00631 | 0.00446 | 0.00515 | 0.01261 | 0.14522 | 0.86622 | 0.15286 | 0.87387 | 0.01127 | 0.00898 | 0.79709 |
| 152 | 0.00054 | 0.02627 | 0.01313 | 0.48600 | 0.00854 | 0.01708 | 2.05759 | 2.37814 | 0.01948 | 0.00828 | 0.01348 | 0.03778 | 0.15541 | 0.86750 | 0.16305 | 0.90317 | 0.03835 | 0.01799 | 0.46919 |

Appendix 2-18 Roundness of the Opaque Minerals

MJBKE-33 12.7m

| 番号  | 面積      | 円相当径    | 半径      | 円形度     | サイズ     | 流体直径    | 凹凸度     | 線形度     | 重心距離最大  | 重心距離最小  | 重心距離平均  | 絶対最大長   | 絶対最大長軸X | 絶対最大長軸Y | 絶対最大長傾角X | 絶対最大長傾角Y | 精円長軸    | 精円短軸    | 精円長短比   |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|----------|---------|---------|---------|
| 154 | 0.00013 | 0.01294 | 0.00647 | 0.90674 | 0.00556 | 0.01112 | 1.10285 | 2.13024 | 0.00852 | 0.00572 | 0.00665 | 0.01704 | 1.58850 | 0.88278 | 1.59869  | 0.87132  | 0.01497 | 0.01118 | 0.74692 |
| 155 | 0.00306 | 0.06242 | 0.03121 | 0.43206 | 0.01990 | 0.03980 | 2.31452 | 1.94324 | 0.05084 | 0.01700 | 0.03181 | 0.08441 | 1.85531 | 0.87259 | 1.91461  | 0.95030  | 0.08584 | 0.04539 | 0.52881 |
| 156 | 0.00858 | 0.10450 | 0.05225 | 0.48876 | 0.03592 | 0.07183 | 2.04600 | 1.77656 | 0.07536 | 0.03574 | 0.05296 | 0.13695 | 0.91463 | 0.89552 | 1.01399  | 0.98724  | 0.13255 | 0.08238 | 0.62147 |
| 157 | 0.00245 | 0.05587 | 0.02794 | 0.55652 | 0.02022 | 0.04044 | 1.79689 | 1.66585 | 0.03757 | 0.01820 | 0.02809 | 0.06997 | 1.57449 | 0.91463 | 1.63818  | 0.88915  | 0.07068 | 0.04417 | 0.62490 |
| 158 | 0.00091 | 0.03408 | 0.01704 | 0.35032 | 0.00947 | 0.01894 | 2.85451 | 2.34241 | 0.02823 | 0.00475 | 0.01722 | 0.04897 | 0.10700 | 0.91973 | 0.13503  | 0.88151  | 0.05423 | 0.02141 | 0.39484 |
| 159 | 0.00250 | 0.05644 | 0.02822 | 0.44488 | 0.01820 | 0.03641 | 2.24782 | 1.80627 | 0.03706 | 0.01406 | 0.02770 | 0.07336 | 1.51971 | 0.88151 | 1.55538  | 0.94393  | 0.07221 | 0.04412 | 0.61099 |
| 160 | 0.00014 | 0.01341 | 0.00670 | 0.89387 | 0.00573 | 0.01145 | 1.11873 | 1.98022 | 0.00853 | 0.00571 | 0.00683 | 0.01704 | 0.32866 | 0.89043 | 0.34012  | 0.90062  | 0.01517 | 0.01185 | 0.78154 |
| 161 | 0.00078 | 0.03159 | 0.01580 | 0.76924 | 0.01325 | 0.02650 | 1.29999 | 1.65038 | 0.02110 | 0.01138 | 0.01592 | 0.03882 | 1.66366 | 0.93756 | 1.69296  | 0.91463  | 0.03724 | 0.02680 | 0.71948 |
| 162 | 0.00036 | 0.02132 | 0.01066 | 0.51955 | 0.00707 | 0.01413 | 1.92476 | 2.52911 | 0.01681 | 0.00499 | 0.01099 | 0.03118 | 1.83308 | 0.91718 | 1.84327  | 0.94520  | 0.03209 | 0.01417 | 0.44147 |
| 163 | 0.01847 | 0.15337 | 0.07669 | 0.37572 | 0.04639 | 0.09279 | 2.66158 | 1.71844 | 0.10659 | 0.03122 | 0.07406 | 0.19844 | 1.68532 | 1.12227 | 1.76047  | 0.94011  | 0.20101 | 0.11702 | 0.58218 |
| 164 | 0.00157 | 0.04468 | 0.02234 | 0.40483 | 0.01362 | 0.02723 | 2.47018 | 3.43089 | 0.04393 | 0.00816 | 0.02491 | 0.07927 | 1.84582 | 0.95157 | 1.89805  | 1.00890  | 0.08476 | 0.02355 | 0.27782 |
| 165 | 0.00031 | 0.01997 | 0.00998 | 0.62815 | 0.00731 | 0.01461 | 1.59197 | 1.98424 | 0.01392 | 0.00329 | 0.00993 | 0.02597 | 2.13117 | 0.97450 | 2.14008  | 0.95157  | 0.02795 | 0.01427 | 0.51039 |
| 166 | 0.00095 | 0.03480 | 0.01740 | 0.67765 | 0.01371 | 0.02742 | 1.47568 | 1.89988 | 0.02373 | 0.01198 | 0.01793 | 0.04591 | 1.80251 | 0.95412 | 1.83436  | 0.98469  | 0.04596 | 0.02634 | 0.57315 |
| 167 | 0.00301 | 0.06194 | 0.03097 | 0.35874 | 0.01794 | 0.03588 | 2.78753 | 2.47648 | 0.04994 | 0.01260 | 0.03140 | 0.09427 | 2.31970 | 1.06367 | 2.33498  | 0.97195  | 0.09934 | 0.03862 | 0.38875 |
| 168 | 0.00039 | 0.02231 | 0.01116 | 0.68489 | 0.00862 | 0.01724 | 1.46009 | 2.41486 | 0.01654 | 0.00582 | 0.01180 | 0.03237 | 1.66111 | 1.03183 | 1.67130  | 1.00253  | 0.03334 | 0.01493 | 0.44795 |
| 169 | 0.01344 | 0.13080 | 0.06540 | 0.55589 | 0.04815 | 0.09630 | 1.79891 | 1.50701 | 0.08378 | 0.03540 | 0.06495 | 0.15856 | 1.26112 | 1.04584 | 1.39615  | 1.12609  | 0.16363 | 0.10455 | 0.63892 |
| 170 | 0.00241 | 0.05537 | 0.02769 | 0.24021 | 0.01295 | 0.02591 | 4.16303 | 4.73071 | 0.06214 | 0.00167 | 0.03424 | 0.11498 | 1.46239 | 1.12864 | 1.50061  | 1.02164  | 0.13055 | 0.02349 | 0.17989 |
| 171 | 0.00719 | 0.09567 | 0.04784 | 0.58759 | 0.03606 | 0.07213 | 1.70187 | 1.92634 | 0.06791 | 0.02796 | 0.04945 | 0.13060 | 0.88915 | 1.12609 | 0.98087  | 1.03565  | 0.12867 | 0.07113 | 0.55284 |
| 172 | 0.00176 | 0.04739 | 0.02370 | 0.25450 | 0.01134 | 0.02267 | 3.92929 | 2.92285 | 0.04513 | 0.00383 | 0.02571 | 0.07683 | 0.62037 | 1.06240 | 0.69043  | 1.09042  | 0.08781 | 0.02558 | 0.29127 |
| 173 | 0.00427 | 0.07377 | 0.03689 | 0.51845 | 0.02595 | 0.05190 | 1.92881 | 1.90305 | 0.05323 | 0.01853 | 0.03706 | 0.09944 | 0.27898 | 1.14520 | 0.35923  | 1.08915  | 0.10378 | 0.05244 | 0.50533 |
| 174 | 0.00252 | 0.05668 | 0.02834 | 0.55476 | 0.02050 | 0.04099 | 1.80258 | 1.77395 | 0.03977 | 0.01385 | 0.02878 | 0.07330 | 0.21019 | 1.08915 | 0.28025  | 1.10571  | 0.07567 | 0.04246 | 0.56113 |
| 175 | 0.00038 | 0.02213 | 0.01106 | 0.64755 | 0.00828 | 0.01656 | 1.54428 | 1.96720 | 0.01489 | 0.00613 | 0.01111 | 0.02887 | 0.60381 | 1.08278 | 0.62037  | 1.10444  | 0.02926 | 0.01673 | 0.57183 |
| 176 | 0.00023 | 0.01707 | 0.00853 | 0.37569 | 0.00462 | 0.00924 | 2.66178 | 2.79887 | 0.01312 | 0.00118 | 0.00794 | 0.02522 | 0.63948 | 1.09552 | 0.65604  | 1.11208  | 0.02610 | 0.01116 | 0.42781 |
| 177 | 0.00921 | 0.10828 | 0.05414 | 0.63713 | 0.04261 | 0.08522 | 1.56953 | 1.62979 | 0.07547 | 0.00478 | 0.05519 | 0.13630 | 0.75158 | 1.15794 | 0.88024  | 1.19870  | 0.13415 | 0.08740 | 0.65154 |
| 178 | 0.00008 | 0.01006 | 0.00503 | 0.89219 | 0.00413 | 0.00826 | 1.12083 | 2.08024 | 0.00631 | 0.00446 | 0.00515 | 0.01261 | 0.62674 | 1.10698 | 0.63438  | 1.11463  | 0.01127 | 0.00898 | 0.79709 |
| 179 | 0.01483 | 0.13743 | 0.06872 | 0.36083 | 0.04067 | 0.08134 | 2.77137 | 1.75692 | 0.09265 | 0.00463 | 0.06267 | 0.17948 | 1.40634 | 1.14393 | 1.51589  | 1.28405  | 0.18290 | 0.10327 | 0.56464 |
| 180 | 0.00687 | 0.09353 | 0.04677 | 0.62724 | 0.03644 | 0.07287 | 1.59429 | 1.71324 | 0.06361 | 0.03655 | 0.04779 | 0.12043 | 1.15412 | 1.14010 | 1.16686  | 1.25857  | 0.11548 | 0.07575 | 0.65597 |
| 181 | 0.00231 | 0.05420 | 0.02710 | 0.54424 | 0.01939 | 0.03877 | 1.83743 | 2.80705 | 0.04662 | 0.01551 | 0.02942 | 0.08806 | 0.43056 | 1.18342 | 0.50954  | 1.14775  | 0.08603 | 0.03415 | 0.39695 |
| 182 | 0.00015 | 0.01394 | 0.00697 | 0.84266 | 0.00579 | 0.01158 | 1.18672 | 1.95079 | 0.00900 | 0.00505 | 0.00714 | 0.01741 | 0.09681 | 1.14775 | 0.10446  | 1.16176  | 0.01760 | 0.01103 | 0.62685 |
| 183 | 0.01839 | 0.15301 | 0.07651 | 0.21567 | 0.03492 | 0.06984 | 4.63665 | 2.95585 | 0.15319 | 0.00965 | 0.08491 | 0.25854 | 0.14522 | 1.16686 | 0.21656  | 1.41398  | 0.29427 | 0.07956 | 0.27037 |
| 184 | 0.00535 | 0.08256 | 0.04128 | 0.37420 | 0.02464 | 0.04927 | 2.67239 | 1.92725 | 0.05755 | 0.01767 | 0.04031 | 0.11182 | 0.95539 | 1.16686 | 1.01272  | 1.26112  | 0.10914 | 0.06245 | 0.57222 |
| 185 | 0.00046 | 0.02422 | 0.01211 | 0.63272 | 0.00901 | 0.01802 | 1.58047 | 1.94943 | 0.01672 | 0.00573 | 0.01216 | 0.03164 | 2.41396 | 1.18087 | 2.44071  | 1.16686  | 0.03221 | 0.01821 | 0.56542 |
| 186 | 0.00291 | 0.06086 | 0.03043 | 0.66923 | 0.02428 | 0.04855 | 1.49425 | 1.70372 | 0.04055 | 0.02189 | 0.03119 | 0.07747 | 2.25091 | 1.21654 | 2.30696  | 1.26749  | 0.07579 | 0.04888 | 0.64494 |
| 187 | 0.02800 | 0.18881 | 0.09440 | 0.22878 | 0.04454 | 0.08908 | 4.37100 | 2.10014 | 0.13563 | 0.03293 | 0.09238 | 0.26988 | 2.52097 | 1.22163 | 2.54517  | 1.48914  | 0.25856 | 0.13787 | 0.53324 |
| 188 | 0.00030 | 0.01939 | 0.00970 | 0.67719 | 0.00735 | 0.01470 | 1.47669 | 1.58478 | 0.01189 | 0.00713 | 0.00974 | 0.02249 | 2.54008 | 1.22163 | 2.54899  | 1.24074  | 0.02313 | 0.01626 | 0.70274 |
| 189 | 0.00844 | 0.10365 | 0.05183 | 0.50101 | 0.03607 | 0.07215 | 1.99598 | 2.82311 | 0.10250 | 0.02964 | 0.05830 | 0.17126 | 0.00255 | 1.42035 | 0.04076  | 1.25475  | 0.16207 | 0.06629 | 0.40901 |
| 190 | 0.02768 | 0.18773 | 0.09387 | 0.44062 | 0.06189 | 0.12339 | 2.26951 | 1.85583 | 0.13253 | 0.06766 | 0.09610 | 0.25323 | 1.95792 | 1.32991 | 2.20632  | 1.37195  | 0.24223 | 0.14550 | 0.60065 |
| 191 | 0.00009 | 0.01076 | 0.00538 | 0.87656 | 0.00441 | 0.00882 | 1.14083 | 2.02780 | 0.00671 | 0.00452 | 0.00550 | 0.01342 | 0.71336 | 1.30316 | 0.72100  | 1.31207  | 0.01234 | 0.00938 | 0.76013 |
| 192 | 0.00338 | 0.06560 | 0.03280 | 0.41077 | 0.02041 | 0.04083 | 2.43447 | 2.95343 | 0.06013 | 0.01495 | 0.03552 | 0.10947 | 0.62801 | 1.37322 | 0.72865  | 1.33373  | 0.10833 | 0.03973 | 0.36676 |
| 193 | 0.02095 | 0.16333 | 0.08166 | 0.48700 | 0.05638 | 0.11275 | 2.05337 | 1.94986 | 0.12873 | 0.03883 | 0.08306 | 0.22561 | 0.25477 | 1.33500 | 0.43821  | 1.46366  | 0.22250 | 0.11989 | 0.53884 |
| 194 | 0.00065 | 0.02882 | 0.01441 | 0.69303 | 0.01139 | 0.02278 | 1.44294 | 2.47309 | 0.02185 | 0.00981 | 0.01525 | 0.04304 | 1.17577 | 1.35539 | 1.19233  | 1.31717  | 0.04291 | 0.01936 | 0.45115 |
| 195 | 0.01437 | 0.13528 | 0.06764 | 0.51699 | 0.04802 | 0.09604 | 1.93427 | 2.57351 | 0.11549 | 0.04201 | 0.07166 | 0.21427 | 1.70952 | 1.41016 | 1.91461  | 1.35284  | 0.20039 | 0.09133 | 0.45574 |
| 196 | 0.00347 | 0.06651 | 0.03325 | 0.58168 | 0.02475 | 0.04950 | 1.71917 | 1.88888 | 0.04554 | 0.02503 | 0.03395 | 0.08920 | 0.99106 | 1.40125 | 1.04966  | 1.33628  | 0.08248 | 0.05363 | 0.65028 |
| 197 | 0.00034 | 0.02068 | 0.01034 | 0.45153 | 0.00633 | 0.01267 | 2.21467 | 3.79800 | 0.01892 | 0.00358 | 0.01171 | 0.03674 | 0.96559 | 1.37449 | 0.98087  | 1.34265  | 0.03916 | 0.01092 | 0.27884 |
| 198 | 0.00913 | 0.10784 | 0.05392 | 0.35373 | 0.03146 | 0.06293 | 2.82704 | 3.28282 | 0.10833 | 0.02204 | 0.05847 | 0.19170 | 1.13628 | 1.36048 | 1.22036  | 1.53118  | 0.20050 | 0.05800 | 0.28930 |
| 199 | 0.00009 | 0.01076 | 0.00538 | 0.87656 | 0.00441 | 0.00882 | 1.14083 | 2.02780 | 0.00671 | 0.00452 | 0.00550 | 0.01342 | 1.22036 | 1.36176 | 1.22800  | 1.37067  | 0.01234 | 0.00938 | 0.76013 |
| 200 | 0.00016 | 0.01437 | 0.00719 | 0.91444 | 0.00626 | 0.01252 | 1.09356 | 1.89253 | 0.00930 | 0.00619 | 0.00734 | 0.01802 | 1.24074 | 1.38723 | 1.25220  | 1.37577  | 0.01611 | 0.01283 | 0.79625 |
| 201 | 0.00414 | 0.07260 | 0.03630 | 0.50190 | 0.02510 | 0.05021 | 1.99242 | 1.72977 | 0.04883 | 0.01217 | 0.03535 | 0.09321 | 0.88151 | 1.41016 | 0.96813  | 1.44073  | 0.09743 | 0.05410 | 0.55524 |
| 202 | 0.00008 | 0.01006 | 0.00503 | 0.89219 | 0.00413 | 0.00826 | 1.12083 | 2.08024 | 0.00631 | 0.00446 | 0.00515 | 0.01261 | 1.24074 | 1.40125 | 1.24838  | 1.40889  | 0.01127 | 0.00898 | 0.79709 |
| 203 | 0.00016 | 0.01437 | 0.00719 | 0.75978 | 0.00566 | 0.01131 | 1.31618 | 2.35245 | 0.01005 | 0.00443 | 0.00749 | 0.01990 | 1.23182 | 1.42927 | 1.24201  | 1.41398  | 0.01955 | 0.01057 | 0.54032 |
| 204 |         |         |         |         |         |         |         |         |         |         |         |         |         |         |          |          |         |         |         |

Appendix 2-18 Roundness of the Opaque Minerals

MJBKE-33 12.7m

| 番号  | 面積      | 円相当径    | 半径      | 円形度     | サイズ     | 流体直径    | 凹凸度     | 線形度     | 重心距離最大  | 重心距離最小  | 重心距離平均  | 絶対最大長   | 絶対最大長傾点X | 絶対最大長傾点Y | 絶対最大長傾点X | 絶対最大長傾点Y | 楕円長軸    | 楕円短軸    | 楕円長短比   |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|----------|----------|----------|---------|---------|---------|
| 205 | 0.00016 | 0.01430 | 0.00715 | 0.81683 | 0.00585 | 0.01169 | 1.22425 | 2.13478 | 0.00947 | 0.00504 | 0.00737 | 0.01890 | 1.04456  | 1.45729  | 1.05476  | 1.44328  | 0.01794 | 0.01140 | 0.63582 |
| 206 | 0.00165 | 0.04586 | 0.02293 | 0.54763 | 0.01636 | 0.03272 | 1.82606 | 1.61177 | 0.03093 | 0.01303 | 0.02297 | 0.05613 | 1.30953  | 1.44328  | 1.35284  | 1.47640  | 0.05967 | 0.03525 | 0.59065 |
| 207 | 0.00029 | 0.01923 | 0.00962 | 0.70750 | 0.00748 | 0.01495 | 1.41343 | 2.30119 | 0.01406 | 0.00615 | 0.00982 | 0.02697 | 2.49549  | 1.44583  | 2.51205  | 1.46494  | 0.02519 | 0.01468 | 0.58297 |
| 208 | 0.00010 | 0.01141 | 0.00570 | 0.85549 | 0.00465 | 0.00931 | 1.16892 | 2.02861 | 0.00717 | 0.00446 | 0.00585 | 0.01433 | 1.03183  | 1.44965  | 1.03947  | 1.45984  | 0.01363 | 0.00955 | 0.70090 |
| 209 | 0.00155 | 0.04447 | 0.02223 | 0.64276 | 0.01721 | 0.03443 | 1.55578 | 2.48369 | 0.03474 | 0.01407 | 0.02344 | 0.06768 | 0.52610  | 1.45729  | 0.55922  | 1.51462  | 0.06524 | 0.03031 | 0.46453 |
| 210 | 0.00612 | 0.08824 | 0.04412 | 0.68500 | 0.03590 | 0.07181 | 1.45985 | 1.80257 | 0.05876 | 0.03381 | 0.04462 | 0.11649 | 1.02673  | 1.53882  | 1.11463  | 1.46494  | 0.10629 | 0.07326 | 0.68924 |
| 211 | 0.02987 | 0.19501 | 0.09750 | 0.26359 | 0.04944 | 0.09888 | 3.79379 | 1.82208 | 0.13211 | 0.03999 | 0.09531 | 0.25998 | 1.90187  | 1.46621  | 1.93881  | 1.72226  | 0.25901 | 0.14683 | 0.56688 |
| 212 | 0.00316 | 0.06344 | 0.03172 | 0.46986 | 0.02113 | 0.04225 | 2.12828 | 2.86805 | 0.05527 | 0.01926 | 0.03388 | 0.10439 | 0.00255  | 1.55538  | 0.05605  | 1.46749  | 0.09121 | 0.04413 | 0.48380 |
| 213 | 0.00008 | 0.01006 | 0.00503 | 0.89219 | 0.00413 | 0.00826 | 1.12083 | 2.08024 | 0.00631 | 0.00446 | 0.00515 | 0.01261 | 1.91843  | 1.47131  | 1.92608  | 1.47895  | 0.01127 | 0.00898 | 0.79709 |
| 214 | 0.00153 | 0.04416 | 0.02208 | 0.52414 | 0.01540 | 0.03079 | 1.90788 | 3.39807 | 0.04129 | 0.01042 | 0.02444 | 0.07840 | 0.06879  | 1.48405  | 0.12611  | 1.53500  | 0.07834 | 0.02490 | 0.31779 |
| 215 | 0.00464 | 0.07683 | 0.03842 | 0.48168 | 0.02606 | 0.05212 | 2.07608 | 2.83025 | 0.06555 | 0.01726 | 0.04150 | 0.12634 | 1.32227  | 1.60124  | 1.37195  | 1.48659  | 0.13362 | 0.04418 | 0.33062 |
| 216 | 0.05363 | 0.26132 | 0.13066 | 0.19379 | 0.05691 | 0.11381 | 5.16024 | 2.76845 | 0.22190 | 0.01420 | 0.13199 | 0.43017 | 0.58470  | 1.55538  | 0.97578  | 1.73117  | 0.49165 | 0.13889 | 0.28251 |
| 217 | 0.00008 | 0.01006 | 0.00503 | 0.89219 | 0.00413 | 0.00826 | 1.12083 | 2.08024 | 0.00631 | 0.00446 | 0.00515 | 0.01261 | 1.45986  | 1.51844  | 0.46751  | 1.52608  | 0.01127 | 0.00898 | 0.79709 |
| 218 | 0.00597 | 0.08717 | 0.04359 | 0.54183 | 0.03147 | 0.06294 | 1.84559 | 1.96828 | 0.06291 | 0.02928 | 0.04456 | 0.11997 | 0.46623  | 1.52863  | 0.55540  | 1.60634  | 0.11567 | 0.06570 | 0.56794 |
| 219 | 0.05481 | 0.26418 | 0.13209 | 0.38844 | 0.08171 | 0.16341 | 2.57442 | 1.97177 | 0.19321 | 0.05334 | 0.13419 | 0.36817 | 2.17703  | 1.68786  | 2.54135  | 1.64455  | 0.39364 | 0.17729 | 0.45039 |
| 220 | 0.00528 | 0.08202 | 0.04101 | 0.40243 | 0.02540 | 0.05080 | 2.48488 | 2.33951 | 0.06289 | 0.01632 | 0.04180 | 0.12249 | 0.02420  | 1.54264  | 0.10828  | 1.62927  | 0.12070 | 0.05574 | 0.46178 |
| 221 | 0.00394 | 0.07087 | 0.03544 | 0.53522 | 0.02531 | 0.05062 | 1.86839 | 1.51704 | 0.04513 | 0.02327 | 0.03558 | 0.08522 | 0.30445  | 1.56303  | 0.34394  | 1.63691  | 0.08630 | 0.05820 | 0.67447 |
| 222 | 0.00469 | 0.07730 | 0.03865 | 0.41559 | 0.02430 | 0.04859 | 2.40621 | 2.67978 | 0.06641 | 0.02074 | 0.04170 | 0.12339 | 0.99234  | 1.66366  | 1.07768  | 1.57704  | 0.11816 | 0.05057 | 0.42796 |
| 223 | 0.01131 | 0.12000 | 0.06000 | 0.59151 | 0.04553 | 0.09105 | 1.69058 | 1.50612 | 0.07384 | 0.04750 | 0.06015 | 0.14529 | 0.14395  | 1.60124  | 0.17707  | 1.74137  | 0.14118 | 0.10200 | 0.72247 |
| 224 | 0.00019 | 0.01555 | 0.00777 | 0.48717 | 0.00481 | 0.00962 | 2.05269 | 3.34648 | 0.01270 | 0.00168 | 0.00796 | 0.02522 | 2.16811  | 1.63691  | 2.18467  | 1.65347  | 0.02635 | 0.00917 | 0.34812 |
| 225 | 0.00928 | 0.10868 | 0.05434 | 0.42692 | 0.03489 | 0.06978 | 2.34235 | 2.40061 | 0.09805 | 0.03257 | 0.05759 | 0.16547 | 0.00255  | 1.80124  | 0.09172  | 1.66366  | 0.12698 | 0.07248 | 0.44771 |
| 226 | 0.02953 | 0.19389 | 0.09695 | 0.29921 | 0.05241 | 0.10482 | 3.34217 | 2.67610 | 0.16251 | 0.04874 | 0.10045 | 0.31348 | 1.56685  | 1.87257  | 1.78340  | 1.64837  | 0.29475 | 0.12755 | 0.43272 |
| 227 | 0.00008 | 0.01006 | 0.00503 | 0.89219 | 0.00413 | 0.00826 | 1.12083 | 2.08024 | 0.00631 | 0.00446 | 0.00515 | 0.01261 | 1.51844  | 1.65602  | 1.52608  | 1.66366  | 0.01127 | 0.00898 | 0.79709 |
| 228 | 0.00010 | 0.01141 | 0.00570 | 0.85549 | 0.00465 | 0.00931 | 1.16892 | 2.02861 | 0.00717 | 0.00446 | 0.00585 | 0.01433 | 1.03111  | 1.46621  | 0.44330  | 1.67385  | 0.01363 | 0.00955 | 0.70090 |
| 229 | 0.00046 | 0.02422 | 0.01211 | 0.75576 | 0.00991 | 0.01982 | 1.32316 | 1.92735 | 0.01599 | 0.00857 | 0.01231 | 0.03165 | 1.51462  | 1.69423  | 1.53882  | 1.67640  | 0.03060 | 0.01918 | 0.62673 |
| 230 | 0.00009 | 0.01076 | 0.00538 | 0.87656 | 0.00441 | 0.00882 | 1.14083 | 2.02780 | 0.00671 | 0.00452 | 0.00550 | 0.01342 | 0.84712  | 1.68659  | 0.85603  | 1.69423  | 0.01234 | 0.00938 | 0.76013 |
| 231 | 0.00031 | 0.01976 | 0.00988 | 0.51273 | 0.00646 | 0.01292 | 1.95035 | 2.44222 | 0.01491 | 0.00393 | 0.01014 | 0.02819 | 1.52608  | 1.69933  | 1.55029  | 1.71079  | 0.03023 | 0.01292 | 0.42722 |
| 232 | 0.05112 | 0.25512 | 0.12756 | 0.53917 | 0.09305 | 0.18610 | 1.85469 | 1.53081 | 0.16198 | 0.08412 | 0.12934 | 0.31357 | 1.91334  | 1.95283  | 2.10696  | 1.70825  | 0.31811 | 0.20461 | 0.64323 |
| 233 | 0.00008 | 0.01006 | 0.00503 | 0.89219 | 0.00413 | 0.00826 | 1.12083 | 2.08024 | 0.00631 | 0.00446 | 0.00515 | 0.01261 | 1.51207  | 1.70188  | 1.51971  | 1.70952  | 0.01127 | 0.00898 | 0.79709 |
| 234 | 0.01477 | 0.13713 | 0.06856 | 0.58583 | 0.05186 | 0.10373 | 1.70698 | 2.03191 | 0.09873 | 0.04347 | 0.07025 | 0.19318 | 1.25985  | 1.72353  | 1.30698  | 1.90951  | 0.18378 | 0.10232 | 0.55675 |
| 235 | 0.00430 | 0.07397 | 0.03698 | 0.36060 | 0.02159 | 0.04319 | 2.77315 | 3.48828 | 0.07826 | 0.01444 | 0.04418 | 0.13432 | 0.40381  | 1.74391  | 0.53120  | 1.78213  | 0.14120 | 0.03875 | 0.27440 |
| 236 | 0.00012 | 0.01236 | 0.00618 | 0.86359 | 0.00513 | 0.01026 | 1.15795 | 2.13647 | 0.00807 | 0.00515 | 0.00636 | 0.01614 | 1.55283  | 1.72990  | 1.56175  | 1.74137  | 0.01481 | 0.01032 | 0.69685 |
| 237 | 0.00012 | 0.01220 | 0.00610 | 0.86187 | 0.00504 | 0.01007 | 1.16026 | 1.97060 | 0.00762 | 0.00510 | 0.00623 | 0.01523 | 1.51589  | 1.73882  | 1.52481  | 1.74901  | 0.01404 | 0.01059 | 0.75454 |
| 238 | 0.00017 | 0.01473 | 0.00736 | 0.70848 | 0.00558 | 0.01115 | 1.41147 | 2.46085 | 0.01039 | 0.00446 | 0.00779 | 0.02079 | 1.53882  | 1.75920  | 1.54647  | 1.77703  | 0.02220 | 0.00977 | 0.44000 |
| 239 | 0.00114 | 0.03803 | 0.01901 | 0.22143 | 0.00834 | 0.01667 | 4.51604 | 6.29570 | 0.04840 | 0.00134 | 0.02523 | 0.08889 | 1.51334  | 1.86111  | 1.54519  | 1.77958  | 0.10309 | 0.01403 | 0.13609 |
| 240 | 0.00009 | 0.01076 | 0.00538 | 0.87656 | 0.00441 | 0.00882 | 1.14083 | 2.02780 | 0.00671 | 0.00452 | 0.00550 | 0.01342 | 2.49294  | 1.77958  | 2.50186  | 1.78722  | 0.01234 | 0.00938 | 0.76013 |
| 241 | 0.01075 | 0.11701 | 0.05851 | 0.33766 | 0.03338 | 0.06675 | 2.96156 | 1.31971 | 0.06983 | 0.02272 | 0.05410 | 0.13197 | 2.46874  | 1.88786  | 2.59103  | 1.84200  | 0.13889 | 0.09858 | 0.70977 |
| 242 | 0.00008 | 0.01006 | 0.00503 | 0.89219 | 0.00413 | 0.00826 | 1.12083 | 2.08024 | 0.00631 | 0.00446 | 0.00515 | 0.01261 | 1.45347  | 1.79996  | 1.46112  | 1.80761  | 0.01127 | 0.00898 | 0.79709 |
| 243 | 0.00536 | 0.08265 | 0.04132 | 0.46487 | 0.02755 | 0.05511 | 2.15115 | 1.86706 | 0.06023 | 0.02415 | 0.04122 | 0.11044 | 1.11590  | 1.91588  | 1.15794  | 1.81525  | 0.10928 | 0.06251 | 0.57202 |
| 244 | 0.00027 | 0.01858 | 0.00929 | 0.68340 | 0.00707 | 0.01413 | 1.46327 | 2.36229 | 0.01377 | 0.00384 | 0.00944 | 0.02628 | 1.43946  | 1.83054  | 1.45984  | 1.84455  | 0.02629 | 0.01312 | 0.49914 |
| 245 | 0.00028 | 0.01880 | 0.00940 | 0.77572 | 0.00766 | 0.01532 | 1.28912 | 2.09246 | 0.01309 | 0.00607 | 0.00953 | 0.02517 | 1.47003  | 1.83181  | 1.48787  | 1.84710  | 0.02333 | 0.01514 | 0.64906 |
| 246 | 0.00061 | 0.02787 | 0.01394 | 0.49425 | 0.00919 | 0.01837 | 2.02326 | 3.21505 | 0.02383 | 0.00641 | 0.01508 | 0.04686 | 1.47640  | 1.88786  | 1.51080  | 1.85856  | 0.04596 | 0.01690 | 0.36779 |
| 247 | 0.00949 | 0.10991 | 0.05496 | 0.42590 | 0.03524 | 0.07047 | 2.34796 | 2.20613 | 0.08403 | 0.03376 | 0.05715 | 0.16039 | 2.14518  | 1.93117  | 2.30314  | 1.95028  | 0.16862 | 0.07164 | 0.42489 |
| 248 | 0.00037 | 0.02166 | 0.01083 | 0.54992 | 0.00743 | 0.01487 | 1.81846 | 2.47004 | 0.01736 | 0.00296 | 0.01094 | 0.03151 | 1.44710  | 1.90569  | 1.47003  | 1.88659  | 0.03277 | 0.01431 | 0.43679 |
| 249 | 0.00509 | 0.08051 | 0.04025 | 0.33349 | 0.02263 | 0.04526 | 2.99860 | 2.27451 | 0.08961 | 0.01093 | 0.04062 | 0.11821 | 1.31717  | 1.95283  | 1.42163  | 1.90060  | 0.12194 | 0.05315 | 0.43585 |
| 250 | 0.00585 | 0.08629 | 0.04315 | 0.20325 | 0.01882 | 0.03765 | 4.92002 | 6.92822 | 0.11754 | 0.00803 | 0.06203 | 0.21981 | 1.43437  | 1.95283  | 1.65092  | 1.92353  | 0.23288 | 0.03197 | 0.13730 |
| 251 | 0.00190 | 0.04923 | 0.02461 | 0.52836 | 0.01728 | 0.03455 | 1.89266 | 3.06719 | 0.04525 | 0.01354 | 0.02706 | 0.08324 | 1.68532  | 1.95283  | 1.76557  | 1.93627  | 0.07988 | 0.03034 | 0.37984 |
| 252 | 0.00005 | 0.00813 | 0.00407 | 0.77984 | 0.00298 | 0.00595 | 1.28232 | 2.70445 | 0.00554 | 0.00289 | 0.00429 | 0.01109 | 1.77066  | 1.94900  | 1.77958  | 1.95283  | 0.01170 | 0.00565 | 0.48326 |

Appendix 2-18 Roundness of the Opaque Minerals

MJBKE-39 13.5m

| 番号 | 面積      | 円相直径    | 半径      | 円形度     | サイズ     | 流体直径    | 凹凸度     | 線形度     | 重心距離最大  | 重心距離最小  | 重心距離平均  | 絶対最大長   | 絶対最大長軸点X | 絶対最大長軸点Y | 絶対最大長軸点Z | 絶対最大長軸点W | 楕円長軸    | 楕円短軸    | 楕円長短比   |
|----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|----------|----------|----------|---------|---------|---------|
| 1  | 0.00003 | 0.00610 | 0.00305 | 0.69813 | 0.00255 | 0.00510 | 1.43239 | 1.82212 | 0.00412 | 0.00214 | 0.00321 | 0.00823 | 0.88406  | 0.00382  | 0.89043  | 0.00637  | 0.00863 | 0.00431 | 0.49945 |
| 2  | 0.00309 | 0.06275 | 0.03138 | 0.53752 | 0.02240 | 0.04480 | 1.86038 | 1.95369 | 0.04592 | 0.02085 | 0.03288 | 0.08540 | 1.18214  | 0.00382  | 1.23182  | 0.07134  | 0.08750 | 0.04501 | 0.51437 |
| 3  | 0.00577 | 0.08573 | 0.04286 | 0.57749 | 0.03197 | 0.06395 | 1.73164 | 2.46466 | 0.07836 | 0.02418 | 0.04669 | 0.13211 | 1.41271  | 0.00637  | 1.54264  | 0.02166  | 0.13289 | 0.05530 | 0.41614 |
| 4  | 0.00970 | 0.11111 | 0.05555 | 0.67884 | 0.04517 | 0.09035 | 1.47311 | 1.92252 | 0.08442 | 0.04454 | 0.05726 | 0.15205 | 1.62672  | 0.00382  | 1.75156  | 0.08790  | 0.13683 | 0.09022 | 0.65939 |
| 5  | 0.00061 | 0.02784 | 0.01392 | 0.42057 | 0.00843 | 0.01686 | 2.37772 | 4.67257 | 0.02889 | 0.00618 | 0.01693 | 0.05619 | 1.80633  | 0.00764  | 1.86111  | 0.00382  | 0.05460 | 0.01419 | 0.25986 |
| 6  | 0.00006 | 0.00862 | 0.00431 | 0.46886 | 0.00236 | 0.00472 | 2.13285 | 5.07983 | 0.00777 | 0.00214 | 0.00504 | 0.01554 | 2.43944  | 0.00382  | 2.45345  | 0.00637  | 0.01757 | 0.00423 | 0.24087 |
| 7  | 0.00004 | 0.00747 | 0.00373 | 0.70102 | 0.00313 | 0.00625 | 1.42650 | 1.78169 | 0.00507 | 0.00248 | 0.00389 | 0.00997 | 2.45855  | 0.00382  | 2.46619  | 0.00764  | 0.00993 | 0.00562 | 0.56597 |
| 8  | 0.00344 | 0.06620 | 0.03310 | 0.39313 | 0.02015 | 0.04031 | 2.54367 | 3.29072 | 0.06815 | 0.00981 | 0.03853 | 0.11661 | 2.47129  | 0.00382  | 2.57956  | 0.04331  | 0.12563 | 0.03488 | 0.27765 |
| 9  | 0.00833 | 0.10298 | 0.05149 | 0.29814 | 0.02753 | 0.05505 | 3.35409 | 3.17697 | 0.09579 | 0.02276 | 0.05618 | 0.17971 | 0.27006  | 0.02548  | 0.37324  | 0.17070  | 0.17340 | 0.06116 | 0.35273 |
| 10 | 0.00018 | 0.01508 | 0.00754 | 0.66834 | 0.00557 | 0.01115 | 1.49626 | 2.93504 | 0.01212 | 0.00469 | 0.00798 | 0.02336 | 0.94266  | 0.02293  | 0.95667  | 0.03949  | 0.02223 | 0.01022 | 0.45983 |
| 11 | 0.00794 | 0.10058 | 0.05029 | 0.28759 | 0.02638 | 0.05278 | 3.47712 | 3.91603 | 0.11421 | 0.02394 | 0.06093 | 0.19469 | 2.42543  | 0.03672  | 2.55536  | 0.17834  | 0.17682 | 0.05721 | 0.32355 |
| 12 | 0.00005 | 0.00787 | 0.00394 | 0.93184 | 0.00318 | 0.00636 | 1.07314 | 2.20809 | 0.00489 | 0.00328 | 0.00404 | 0.00979 | 0.91081  | 0.00369  | 0.91590  | 0.04331  | 0.00889 | 0.00697 | 0.78403 |
| 13 | 0.00062 | 0.02820 | 0.01410 | 0.65938 | 0.01086 | 0.02171 | 1.51657 | 2.61720 | 0.02185 | 0.00827 | 0.01467 | 0.04325 | 2.25218  | 0.04204  | 2.28403  | 0.06879  | 0.04077 | 0.01951 | 0.47856 |
| 14 | 0.00013 | 0.01278 | 0.00639 | 0.55318 | 0.00416 | 0.00832 | 1.80772 | 3.42800 | 0.01085 | 0.00201 | 0.00684 | 0.02070 | 1.26876  | 0.05987  | 1.28405  | 0.04841  | 0.02123 | 0.00769 | 0.36206 |
| 15 | 0.00007 | 0.00932 | 0.00466 | 0.89796 | 0.00379 | 0.00758 | 1.11363 | 2.10354 | 0.00580 | 0.00382 | 0.00477 | 0.01161 | 0.85476  | 0.05223  | 0.86240  | 0.05860  | 0.01062 | 0.00817 | 0.76890 |
| 16 | 0.01303 | 0.12881 | 0.06440 | 0.62427 | 0.05030 | 0.10059 | 1.60188 | 1.85853 | 0.09028 | 0.04748 | 0.06539 | 0.17356 | 0.99361  | 0.05860  | 1.09679  | 0.19617  | 0.15999 | 0.10370 | 0.64817 |
| 17 | 0.00831 | 0.10284 | 0.05142 | 0.45809 | 0.03421 | 0.06842 | 2.18298 | 2.33920 | 0.09110 | 0.03063 | 0.05559 | 0.15460 | 0.11974  | 0.09936  | 0.27133  | 0.12229  | 0.16275 | 0.06499 | 0.39930 |
| 18 | 0.01620 | 0.14364 | 0.07182 | 0.58747 | 0.05445 | 0.10891 | 1.70221 | 2.29402 | 0.11311 | 0.04561 | 0.07543 | 0.21521 | 0.55031  | 0.18216  | 0.74903  | 0.10318  | 0.20629 | 0.10002 | 0.48485 |
| 19 | 0.01031 | 0.11459 | 0.05729 | 0.37709 | 0.03459 | 0.06918 | 2.65192 | 2.11869 | 0.09625 | 0.01745 | 0.05947 | 0.16397 | 0.37834  | 0.20637  | 0.49681  | 0.09554  | 0.16586 | 0.07917 | 0.47732 |
| 20 | 0.00094 | 0.03459 | 0.01729 | 0.64650 | 0.01333 | 0.02666 | 1.54679 | 2.70880 | 0.02966 | 0.00998 | 0.01843 | 0.05457 | 1.45347  | 0.12739  | 1.49933  | 0.10063  | 0.05288 | 0.02262 | 0.42782 |
| 21 | 0.00037 | 0.02175 | 0.01088 | 0.47146 | 0.00687 | 0.01375 | 2.12109 | 3.09690 | 0.02009 | 0.00401 | 0.01201 | 0.03523 | 2.57447  | 0.12611  | 2.59485  | 0.09936  | 0.03570 | 0.01325 | 0.37117 |
| 22 | 0.00428 | 0.07381 | 0.03691 | 0.47785 | 0.02492 | 0.04985 | 2.09272 | 2.54125 | 0.06102 | 0.01720 | 0.03931 | 0.11496 | 1.16940  | 0.17452  | 1.27386  | 0.12993  | 0.11504 | 0.04736 | 0.41169 |
| 23 | 0.01455 | 0.13611 | 0.06806 | 0.21336 | 0.03085 | 0.06170 | 4.68691 | 3.21840 | 0.12007 | 0.00168 | 0.06958 | 0.23962 | 2.04072  | 0.29426  | 2.21269  | 0.12993  | 0.24970 | 0.07420 | 0.29715 |
| 24 | 0.00004 | 0.00719 | 0.00359 | 0.78540 | 0.00318 | 0.00637 | 1.27324 | 1.57080 | 0.00450 | 0.00318 | 0.00370 | 0.00901 | 2.55664  | 0.11974  | 2.56173  | 0.12484  | 0.00757 | 0.00683 | 0.90212 |
| 25 | 0.00318 | 0.06359 | 0.03179 | 0.36539 | 0.01864 | 0.03728 | 2.73680 | 2.61681 | 0.05637 | 0.01465 | 0.03397 | 0.09975 | 1.40379  | 0.13248  | 1.45857  | 0.21401  | 0.10633 | 0.03803 | 0.35762 |
| 26 | 0.00008 | 0.00985 | 0.00493 | 0.74864 | 0.00365 | 0.00731 | 1.33575 | 2.72620 | 0.00718 | 0.00305 | 0.00522 | 0.01394 | 0.00382  | 0.14140  | 0.00892  | 0.12993  | 0.01442 | 0.00673 | 0.46680 |
| 27 | 0.00860 | 0.10463 | 0.05232 | 0.48286 | 0.03577 | 0.07153 | 2.07098 | 2.08683 | 0.07832 | 0.02523 | 0.05337 | 0.14871 | 0.14140  | 0.15796  | 0.15796  | 0.30445  | 0.14642 | 0.07477 | 0.51069 |
| 28 | 0.00304 | 0.06217 | 0.03109 | 0.52789 | 0.02198 | 0.04397 | 1.89433 | 3.15467 | 0.05623 | 0.01590 | 0.03469 | 0.10748 | 2.58466  | 0.16051  | 2.60377  | 0.26496  | 0.10743 | 0.03598 | 0.33496 |
| 29 | 0.00005 | 0.00787 | 0.00394 | 0.93184 | 0.00318 | 0.00636 | 1.07314 | 2.20809 | 0.00489 | 0.00328 | 0.00404 | 0.00979 | 0.43821  | 0.18089  | 0.44458  | 0.18598  | 0.00889 | 0.00697 | 0.78403 |
| 30 | 0.01195 | 0.12333 | 0.06167 | 0.21848 | 0.02823 | 0.05647 | 4.57701 | 2.12880 | 0.09622 | 0.01454 | 0.05684 | 0.17626 | 0.87896  | 0.23821  | 1.05348  | 0.22547  | 0.18599 | 0.08178 | 0.43971 |
| 31 | 0.01151 | 0.12104 | 0.06052 | 0.39932 | 0.03766 | 0.07532 | 2.50424 | 2.16009 | 0.09230 | 0.02298 | 0.06169 | 0.17518 | 0.03694  | 0.21273  | 0.07006  | 0.38343  | 0.16936 | 0.08651 | 0.51080 |
| 32 | 0.00432 | 0.07416 | 0.03708 | 0.59717 | 0.02805 | 0.05611 | 1.67457 | 2.22180 | 0.05615 | 0.02507 | 0.03872 | 0.10822 | 1.49806  | 0.21656  | 1.55666  | 0.30573  | 0.10082 | 0.05455 | 0.54111 |
| 33 | 0.00102 | 0.03599 | 0.01800 | 0.51681 | 0.01236 | 0.02471 | 1.93494 | 3.07903 | 0.03034 | 0.01022 | 0.01987 | 0.06032 | 1.70952  | 0.27388  | 1.72353  | 0.21656  | 0.06167 | 0.02101 | 0.34061 |
| 34 | 0.00076 | 0.03103 | 0.01551 | 0.64149 | 0.01183 | 0.02366 | 1.55886 | 2.50299 | 0.02478 | 0.00845 | 0.01630 | 0.04674 | 2.35664  | 0.27133  | 2.38084  | 0.23312  | 0.04604 | 0.02091 | 0.45427 |
| 35 | 0.00546 | 0.08339 | 0.04170 | 0.37557 | 0.02498 | 0.04985 | 2.66261 | 2.66048 | 0.07461 | 0.01830 | 0.04477 | 0.13295 | 2.24964  | 0.29299  | 2.35154  | 0.37579  | 0.13046 | 0.05331 | 0.40860 |
| 36 | 0.00594 | 0.08694 | 0.04347 | 0.55713 | 0.03185 | 0.06369 | 1.79490 | 1.85575 | 0.06293 | 0.03105 | 0.04420 | 0.11624 | 2.53498  | 0.28025  | 2.60377  | 0.37197  | 0.10582 | 0.07142 | 0.67489 |
| 37 | 0.00905 | 0.10731 | 0.05366 | 0.56713 | 0.03982 | 0.07964 | 1.76325 | 2.48002 | 0.08914 | 0.02551 | 0.05725 | 0.16654 | 0.38598  | 0.28025  | 0.43439  | 0.43821  | 0.16573 | 0.06949 | 0.41930 |
| 38 | 0.01454 | 0.13606 | 0.06803 | 0.52269 | 0.04859 | 0.09718 | 1.91319 | 2.29363 | 0.11280 | 0.04191 | 0.07102 | 0.20357 | 1.02800  | 0.29681  | 1.09042  | 0.48916  | 0.19451 | 0.09518 | 0.48932 |
| 39 | 0.00405 | 0.07180 | 0.03590 | 0.63154 | 0.02794 | 0.05588 | 1.58344 | 1.87802 | 0.05006 | 0.01645 | 0.03629 | 0.09636 | 1.43437  | 0.29936  | 1.49042  | 0.37579  | 0.09514 | 0.05418 | 0.56947 |
| 40 | 0.02925 | 0.19299 | 0.09649 | 0.51891 | 0.06892 | 0.13784 | 1.92711 | 2.19499 | 0.15644 | 0.06519 | 0.10069 | 0.28349 | 0.64330  | 0.53884  | 0.79616  | 0.30190  | 0.24862 | 0.14980 | 0.60255 |
| 41 | 0.00004 | 0.00719 | 0.00359 | 0.78540 | 0.00318 | 0.00637 | 1.27324 | 1.57080 | 0.00450 | 0.00318 | 0.00370 | 0.00901 | 2.13117  | 0.30190  | 2.13626  | 0.30700  | 0.00757 | 0.00683 | 0.90212 |
| 42 | 0.00205 | 0.05104 | 0.02552 | 0.43379 | 0.01621 | 0.03242 | 2.30527 | 2.78184 | 0.04452 | 0.00585 | 0.02726 | 0.08211 | 0.91718  | 0.31974  | 0.98597  | 0.36178  | 0.08914 | 0.02923 | 0.32791 |
| 43 | 0.00004 | 0.00719 | 0.00359 | 0.78540 | 0.00318 | 0.00637 | 1.27324 | 1.57080 | 0.00450 | 0.00318 | 0.00370 | 0.00901 | 2.10059  | 0.31974  | 2.10569  | 0.32483  | 0.00757 | 0.00683 | 0.90212 |
| 44 | 0.00004 | 0.00719 | 0.00359 | 0.78540 | 0.00318 | 0.00637 | 1.27324 | 1.57080 | 0.00450 | 0.00318 | 0.00370 | 0.00901 | 2.16174  | 0.32611  | 2.16683  | 0.33120  | 0.00757 | 0.00683 | 0.90212 |
| 45 | 0.01264 | 0.12685 | 0.06342 | 0.28700 | 0.03339 | 0.06677 | 3.48432 | 2.70505 | 0.11975 | 0.00865 | 0.06548 | 0.20499 | 2.18085  | 0.51082  | 2.27893  | 0.33248  | 0.22414 | 0.07179 | 0.32029 |
| 46 | 0.00317 | 0.06349 | 0.03174 | 0.57336 | 0.02347 | 0.04693 | 1.74412 | 2.48298 | 0.05184 | 0.01737 | 0.03389 | 0.09767 | 1.27768  | 0.44712  | 1.29042  | 0.35159  | 0.09918 | 0.04064 | 0.40979 |
| 47 | 0.00012 | 0.01253 | 0.00627 | 0.61927 | 0.00434 | 0.00869 | 1.61480 | 3.36561 | 0.01026 | 0.00259 | 0.00690 | 0.02026 | 2.17957  | 0.35286  | 2.18849  | 0.36942  | 0.02119 | 0.00741 | 0.34985 |
| 48 | 0.00521 | 0.08141 | 0.04071 | 0.39063 | 0.02486 | 0.04971 | 2.55995 | 3.41804 | 0.07534 | 0.01305 | 0.04375 | 0.14705 | 1.75283  | 0.37324  | 1.77576  | 0.51719  | 0.14140 | 0.04688 | 0.33152 |
| 49 | 0.00004 | 0.00719 | 0.00359 | 0.78540 | 0.00318 | 0.00637 | 1.27324 | 1.57080 | 0.00450 | 0.00318 | 0.00370 | 0.00901 | 2.18722  | 0.37834  | 2.19231  | 0.38343  | 0.00757 | 0.00683 | 0.90212 |
| 50 | 0.00031 | 0.01992 | 0.00996 | 0.77181 | 0.00816 | 0.01632 | 1.29565 | 2.12369 | 0.01428 | 0.00699 | 0.01031 | 0.02707 | 1.21526  | 0.39107  | 1.23564  | 0.40636  | 0.02525 | 0.01571 | 0.62202 |
| 51 | 0.00153 | 0.04416 | 0.02208 | 0.7     |         |         |         |         |         |         |         |         |          |          |          |          |         |         |         |



Appendix 2-18 Roundness of the Opaque Minerals

MJBKE-39 13.5m

| 番号  | 面積      | 円相当径    | 半径      | 円形度     | サイズ     | 流体直径    | 凹凸度     | 線形度     | 重心距離最大  | 重心距離最小  | 重心距離平均  | 絶対最大長   | 絶対最大長軸点X | 絶対最大長軸点Y | 絶対最大長終点X | 絶対最大長終点Y | 楕円長軸    | 楕円短軸    | 楕円長短比   |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|----------|----------|----------|---------|---------|---------|
| 52  | 0.00004 | 0.00719 | 0.00359 | 0.78540 | 0.00318 | 0.00637 | 1.27324 | 1.57080 | 0.00450 | 0.00318 | 0.00370 | 0.00901 | 2.08658  | 0.39490  | 2.09168  | 0.39999  | 0.00757 | 0.00683 | 0.90212 |
| 53  | 0.00011 | 0.01185 | 0.00593 | 0.85359 | 0.00486 | 0.00971 | 1.17152 | 2.12049 | 0.00771 | 0.00438 | 0.00610 | 0.01531 | 1.15284  | 0.41783  | 1.16049  | 0.40636  | 0.01471 | 0.00955 | 0.64950 |
| 54  | 0.00025 | 0.01766 | 0.00883 | 0.78464 | 0.00722 | 0.01443 | 1.27447 | 2.21871 | 0.01215 | 0.00590 | 0.00908 | 0.02427 | 2.02926  | 0.43056  | 2.04582  | 0.44585  | 0.02226 | 0.01401 | 0.62949 |
| 55  | 0.00391 | 0.07052 | 0.03526 | 0.52824 | 0.02504 | 0.05008 | 1.89309 | 2.84701 | 0.06252 | 0.02400 | 0.03809 | 0.11626 | 1.96556  | 0.55158  | 1.98467  | 0.43821  | 0.10885 | 0.04569 | 0.41975 |
| 56  | 0.00006 | 0.00862 | 0.00431 | 0.92163 | 0.00352 | 0.00704 | 1.08504 | 2.17495 | 0.00540 | 0.00390 | 0.00442 | 0.01081 | 1.24329  | 0.43948  | 1.24966  | 0.44585  | 0.00948 | 0.00784 | 0.82694 |
| 57  | 0.00219 | 0.05277 | 0.02639 | 0.49931 | 0.01806 | 0.03611 | 2.00277 | 2.74966 | 0.04453 | 0.01536 | 0.02853 | 0.08474 | 0.40254  | 0.45349  | 0.46496  | 0.50827  | 0.08035 | 0.03466 | 0.43142 |
| 58  | 0.00067 | 0.02921 | 0.01461 | 0.49514 | 0.00969 | 0.01939 | 2.01963 | 2.85393 | 0.02622 | 0.00557 | 0.01559 | 0.04655 | 1.80124  | 0.45732  | 1.81780  | 0.49935  | 0.04759 | 0.01793 | 0.37672 |
| 59  | 0.00007 | 0.00920 | 0.00460 | 0.92484 | 0.00382 | 0.00763 | 1.08127 | 2.13803 | 0.00581 | 0.00375 | 0.00472 | 0.01161 | 1.13883  | 0.46878  | 1.14647  | 0.46241  | 0.01034 | 0.00819 | 0.79161 |
| 60  | 0.00439 | 0.07479 | 0.03739 | 0.70998 | 0.03092 | 0.06184 | 1.40849 | 1.65073 | 0.05001 | 0.02735 | 0.03782 | 0.09429 | 1.28150  | 0.55031  | 1.32099  | 0.46623  | 0.09013 | 0.06205 | 0.68848 |
| 61  | 0.00476 | 0.07789 | 0.03894 | 0.72302 | 0.03252 | 0.06504 | 1.38310 | 1.35931 | 0.04596 | 0.02826 | 0.03925 | 0.08918 | 2.08021  | 0.55540  | 2.16301  | 0.52610  | 0.08836 | 0.06865 | 0.77696 |
| 62  | 0.00520 | 0.08139 | 0.04069 | 0.28572 | 0.02116 | 0.04232 | 3.49989 | 3.32625 | 0.07603 | 0.01786 | 0.04795 | 0.14441 | 0.30190  | 0.55922  | 0.44458  | 0.57069  | 0.13297 | 0.04981 | 0.37461 |
| 63  | 0.00036 | 0.02127 | 0.01064 | 0.22254 | 0.00445 | 0.00891 | 4.49359 | 4.80883 | 0.02147 | 0.00221 | 0.01138 | 0.04140 | 0.44840  | 0.55922  | 0.47770  | 0.53247  | 0.04657 | 0.00972 | 0.20867 |
| 64  | 0.00202 | 0.05076 | 0.02538 | 0.79098 | 0.02198 | 0.04395 | 1.26426 | 1.46576 | 0.03234 | 0.01919 | 0.02567 | 0.05983 | 2.46237  | 0.56177  | 2.51205  | 0.59234  | 0.06060 | 0.04251 | 0.70148 |
| 65  | 0.00006 | 0.00862 | 0.00431 | 0.92163 | 0.00352 | 0.00704 | 1.08504 | 2.17495 | 0.00540 | 0.00390 | 0.00442 | 0.01081 | 1.84964  | 0.56177  | 1.85601  | 0.56814  | 0.00948 | 0.00784 | 0.82694 |
| 66  | 0.00665 | 0.09203 | 0.04601 | 0.35976 | 0.02701 | 0.05402 | 2.77962 | 2.98941 | 0.08163 | 0.01092 | 0.04957 | 0.15572 | 0.61910  | 0.64839  | 0.75158  | 0.56942  | 0.17010 | 0.04979 | 0.29272 |
| 67  | 0.01231 | 0.12520 | 0.06260 | 0.28570 | 0.03287 | 0.06574 | 3.50016 | 1.73467 | 0.08568 | 0.00279 | 0.05752 | 0.16200 | 1.70952  | 0.64851  | 1.74519  | 0.73120  | 0.19369 | 0.08093 | 0.41786 |
| 68  | 0.00018 | 0.01521 | 0.00761 | 0.71721 | 0.00585 | 0.01171 | 1.39429 | 1.91038 | 0.00969 | 0.00461 | 0.00775 | 0.01911 | 0.45986  | 0.58980  | 0.46623  | 0.60636  | 0.02002 | 0.01156 | 0.57761 |
| 69  | 0.00111 | 0.03757 | 0.01878 | 0.57353 | 0.01365 | 0.02729 | 1.74358 | 2.39605 | 0.03174 | 0.00644 | 0.02002 | 0.05578 | 2.02161  | 0.59871  | 2.07257  | 0.61782  | 0.06116 | 0.02307 | 0.37729 |
| 70  | 0.00046 | 0.02410 | 0.01205 | 0.70408 | 0.00953 | 0.01905 | 1.42029 | 2.45929 | 0.01967 | 0.00790 | 0.01282 | 0.03561 | 0.31719  | 0.61527  | 0.34776  | 0.59999  | 0.03596 | 0.01615 | 0.44901 |
| 71  | 0.00006 | 0.00909 | 0.00455 | 0.95328 | 0.00384 | 0.00769 | 1.04901 | 1.73666 | 0.00580 | 0.00382 | 0.00467 | 0.01161 | 0.39107  | 0.61910  | 0.39744  | 0.61145  | 0.01007 | 0.00821 | 0.81492 |
| 72  | 0.00004 | 0.00719 | 0.00359 | 0.78540 | 0.00318 | 0.00637 | 1.27324 | 1.57080 | 0.00450 | 0.00318 | 0.00370 | 0.00901 | 0.40254  | 0.61527  | 0.40763  | 0.62037  | 0.00757 | 0.00683 | 0.90212 |
| 73  | 0.00260 | 0.05751 | 0.02876 | 0.70050 | 0.02347 | 0.04695 | 1.42756 | 1.52973 | 0.03853 | 0.02299 | 0.02922 | 0.06938 | 0.00382  | 0.61910  | 0.04204  | 0.67515  | 0.06789 | 0.04872 | 0.71770 |
| 74  | 0.00004 | 0.00719 | 0.00359 | 0.78540 | 0.00318 | 0.00637 | 1.27324 | 1.57080 | 0.00450 | 0.00318 | 0.00370 | 0.00901 | 0.38980  | 0.62801  | 0.39490  | 0.63311  | 0.00757 | 0.00683 | 0.90212 |
| 75  | 0.00004 | 0.00719 | 0.00359 | 0.78540 | 0.00318 | 0.00637 | 1.27324 | 1.57080 | 0.00450 | 0.00318 | 0.00370 | 0.00901 | 0.40381  | 0.62801  | 0.40891  | 0.63311  | 0.00757 | 0.00683 | 0.90212 |
| 76  | 0.00019 | 0.01548 | 0.00774 | 0.45390 | 0.00462 | 0.00924 | 2.20315 | 3.96716 | 0.01405 | 0.00198 | 0.00854 | 0.02731 | 0.40509  | 0.64330  | 0.42674  | 0.62929  | 0.02827 | 0.00848 | 0.29980 |
| 77  | 0.00009 | 0.01095 | 0.00547 | 0.82314 | 0.00435 | 0.00870 | 1.21487 | 2.30967 | 0.00738 | 0.00375 | 0.00568 | 0.01457 | 0.48407  | 0.63438  | 0.49044  | 0.64585  | 0.01453 | 0.00825 | 0.56780 |
| 78  | 0.00025 | 0.01790 | 0.00895 | 0.47993 | 0.00561 | 0.01122 | 2.08363 | 2.63200 | 0.01360 | 0.00153 | 0.00897 | 0.02628 | 0.37451  | 0.64585  | 0.38853  | 0.66623  | 0.02875 | 0.01114 | 0.38758 |
| 79  | 0.00006 | 0.00862 | 0.00431 | 0.92163 | 0.00352 | 0.00704 | 1.08504 | 2.17495 | 0.00540 | 0.00390 | 0.00442 | 0.01081 | 1.84964  | 0.56177  | 1.85601  | 0.56814  | 0.00948 | 0.00784 | 0.82694 |
| 80  | 0.00338 | 0.06565 | 0.03282 | 0.43271 | 0.02101 | 0.04202 | 2.31100 | 1.91029 | 0.04836 | 0.01173 | 0.03268 | 0.08828 | 0.05605  | 0.71463  | 0.11465  | 0.65094  | 0.08654 | 0.04980 | 0.57549 |
| 81  | 0.00025 | 0.01801 | 0.00901 | 0.44124 | 0.00539 | 0.01078 | 2.26634 | 2.47564 | 0.01372 | 0.00192 | 0.00918 | 0.02554 | 0.47005  | 0.65222  | 0.49044  | 0.66495  | 0.02838 | 0.01143 | 0.40277 |
| 82  | 0.00004 | 0.00719 | 0.00359 | 0.78540 | 0.00318 | 0.00637 | 1.27324 | 1.57080 | 0.00450 | 0.00318 | 0.00370 | 0.00901 | 0.36305  | 0.65986  | 0.36815  | 0.66495  | 0.00757 | 0.00683 | 0.90212 |
| 83  | 0.00789 | 0.10022 | 0.05011 | 0.29992 | 0.02685 | 0.05371 | 3.33427 | 2.48061 | 0.08008 | 0.03158 | 0.05187 | 0.15446 | 0.37579  | 0.80635  | 0.42037  | 0.65986  | 0.14737 | 0.06815 | 0.46242 |
| 84  | 0.00634 | 0.08981 | 0.04491 | 0.70803 | 0.03720 | 0.07441 | 1.41236 | 1.57421 | 0.05789 | 0.03531 | 0.04530 | 0.11095 | 1.34137  | 0.69043  | 1.44201  | 0.73374  | 0.10869 | 0.07421 | 0.68275 |
| 85  | 0.00212 | 0.05195 | 0.02597 | 0.46030 | 0.01705 | 0.03410 | 2.17247 | 2.35547 | 0.04492 | 0.00401 | 0.02517 | 0.07713 | 0.60890  | 0.67005  | 0.67260  | 0.71081  | 0.08313 | 0.03246 | 0.39042 |
| 86  | 0.00026 | 0.01824 | 0.00912 | 0.40294 | 0.00520 | 0.01040 | 2.48177 | 2.90410 | 0.01535 | 0.00337 | 0.00995 | 0.02793 | 0.47133  | 0.67642  | 0.47897  | 0.70190  | 0.03210 | 0.01036 | 0.32278 |
| 87  | 0.00023 | 0.01713 | 0.00856 | 0.67815 | 0.00646 | 0.01291 | 1.47459 | 2.09869 | 0.01184 | 0.00525 | 0.00886 | 0.02272 | 0.34012  | 0.70572  | 0.35795  | 0.69425  | 0.02285 | 0.01284 | 0.56208 |
| 88  | 0.00009 | 0.01085 | 0.00543 | 0.35203 | 0.00265 | 0.00529 | 2.84070 | 6.63246 | 0.01190 | 0.00238 | 0.00690 | 0.02297 | 2.60249  | 0.68916  | 2.60377  | 0.71081  | 0.02263 | 0.00520 | 0.22997 |
| 89  | 0.00004 | 0.00719 | 0.00359 | 0.78540 | 0.00318 | 0.00637 | 1.27324 | 1.57080 | 0.00450 | 0.00318 | 0.00370 | 0.00901 | 0.44712  | 0.69171  | 0.45222  | 0.69680  | 0.00757 | 0.00683 | 0.90212 |
| 90  | 0.01198 | 0.12351 | 0.06175 | 0.39258 | 0.03811 | 0.07622 | 2.54727 | 2.56423 | 0.10615 | 0.03279 | 0.06499 | 0.19480 | 1.57194  | 0.69298  | 1.60251  | 0.88406  | 0.20537 | 0.07428 | 0.36168 |
| 91  | 0.00097 | 0.03506 | 0.01753 | 0.34152 | 0.00965 | 0.01929 | 2.92812 | 6.13697 | 0.04171 | 0.00626 | 0.02334 | 0.08178 | 0.00382  | 0.79234  | 0.01019  | 0.71209  | 0.08773 | 0.01401 | 0.15972 |
| 92  | 0.01834 | 0.15281 | 0.07641 | 0.56910 | 0.05705 | 0.11410 | 1.75717 | 1.94218 | 0.11431 | 0.04172 | 0.07858 | 0.21078 | 1.80378  | 0.72483  | 1.95410  | 0.87005  | 0.20213 | 0.11553 | 0.57154 |
| 93  | 0.00949 | 0.10990 | 0.05495 | 0.55291 | 0.04027 | 0.08053 | 1.80862 | 1.95043 | 0.07913 | 0.03164 | 0.05564 | 0.15126 | 0.67260  | 0.72355  | 0.80763  | 0.78852  | 0.14381 | 0.08399 | 0.58405 |
| 94  | 0.00444 | 0.07521 | 0.03761 | 0.60642 | 0.02869 | 0.05737 | 1.64901 | 1.53762 | 0.04997 | 0.02639 | 0.03790 | 0.09135 | 0.24585  | 0.78852  | 0.31592  | 0.73247  | 0.09031 | 0.06264 | 0.69361 |
| 95  | 0.00018 | 0.01535 | 0.00767 | 0.59675 | 0.00533 | 0.01065 | 1.67575 | 2.62137 | 0.01187 | 0.00421 | 0.00815 | 0.02232 | 0.44330  | 0.72992  | 0.44840  | 0.75030  | 0.02328 | 0.01012 | 0.43469 |
| 96  | 0.00024 | 0.01749 | 0.00874 | 0.61500 | 0.00629 | 0.01258 | 1.62601 | 3.06236 | 0.01476 | 0.00307 | 0.00946 | 0.02807 | 0.47897  | 0.75285  | 0.49426  | 0.73120  | 0.02860 | 0.01069 | 0.37383 |
| 97  | 0.00531 | 0.08221 | 0.04110 | 0.57296 | 0.03052 | 0.06105 | 1.74531 | 1.86598 | 0.05769 | 0.02643 | 0.04227 | 0.11017 | 2.49931  | 0.80508  | 2.60377  | 0.83565  | 0.10993 | 0.06148 | 0.55927 |
| 98  | 0.00499 | 0.07969 | 0.03985 | 0.44458 | 0.02598 | 0.05196 | 2.24932 | 2.60629 | 0.06701 | 0.01753 | 0.04068 | 0.12581 | 0.02675  | 0.80763  | 0.08790  | 0.91590  | 0.12261 | 0.05180 | 0.42247 |
| 99  | 0.02590 | 0.18160 | 0.09080 | 0.25630 | 0.04538 | 0.09076 | 3.90165 | 2.48669 | 0.14790 | 0.00591 | 0.08404 | 0.28271 | 1.64583  | 1.03310  | 1.82799  | 0.81909  | 0.29711 | 0.11099 | 0.37358 |
| 100 | 0.00841 | 0.10350 | 0.05175 | 0.42168 | 0.03301 | 0.06602 | 2.37148 | 1.67418 | 0.06975 | 0.02855 | 0.05197 | 0.13154 | 0.37706  | 0.92992  | 0.48024  | 0.85094  | 0.13259 | 0.08080 | 0.60940 |
| 101 | 0.00218 | 0.05274 | 0.02637 | 0.60595 | 0.01994 | 0.03987 | 1.65030 | 2.61053 | 0.04255 | 0.01392 | 0.02881 | 0.08276 | 0.92610  | 0.86877  | 1.00253  | 0.84075  | 0.08746 | 0.03180 | 0.36358 |
| 102 | 0.00593 | 0.08688 | 0.04344 | 0.73    |         |         |         |         |         |         |         |         |          |          |          |          |         |         |         |

Appendix 2-18 Roundness of the Opaque Minerals

MJBKE-39 13.5m

| 番号  | 面積      | 円相当径    | 半径      | 円形度     | サイズ     | 流体直径    | 凹凸度     | 線形度     | 重心距離最大  | 重心距離最小  | 重心距離平均  | 絶対最大長   | 絶対最大長軸X | 絶対最大長軸Y | 絶対最大長傾角X | 絶対最大長傾角Y | 楕円長軸    | 楕円短軸    | 楕円長短比     |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|----------|---------|---------|-----------|
| 103 | 0.00011 | 0.01203 | 0.00601 | 0.68201 | 0.00436 | 0.00872 | 1.46625 | 2.88619 | 0.00916 | 0.00346 | 0.00630 | 0.01794 | 1.33628 | 0.88278 | 1.34902  | 0.87259  | 0.01753 | 0.00825 | 0.47041   |
| 104 | 0.06249 | 0.28207 | 0.14104 | 0.18561 | 0.06017 | 0.12035 | 5.38754 | 3.28113 | 0.26580 | 0.06725 | 0.16506 | 0.50598 | 0.19617 | 0.89170 | 0.32993  | 1.37832  | 0.49346 | 0.16124 | 0.32675   |
| 105 | 0.01388 | 0.13292 | 0.06646 | 0.24574 | 0.03236 | 0.06472 | 4.06927 | 1.97546 | 0.09408 | 0.00128 | 0.06218 | 0.18349 | 2.31460 | 0.96686 | 2.49422  | 0.99743  | 0.21065 | 0.08387 | 0.39813   |
| 106 | 0.00459 | 0.07648 | 0.03824 | 0.67877 | 0.03091 | 0.06182 | 1.47326 | 1.78899 | 0.05377 | 0.02063 | 0.03881 | 0.10037 | 0.27388 | 0.91208 | 0.28789  | 1.01017  | 0.10227 | 0.05719 | 0.55920   |
| 107 | 0.00470 | 0.07733 | 0.03866 | 0.60614 | 0.02951 | 0.05902 | 1.64979 | 1.49900 | 0.05031 | 0.02867 | 0.03901 | 0.09281 | 1.87257 | 0.93374 | 1.93372  | 1.00125  | 0.08954 | 0.06678 | 0.74584   |
| 108 | 0.00359 | 0.06757 | 0.03379 | 0.66927 | 0.02704 | 0.05409 | 1.49417 | 2.09749 | 0.05036 | 0.01835 | 0.03529 | 0.09575 | 1.18214 | 1.02800 | 1.19870  | 0.93501  | 0.09930 | 0.04598 | 0.46308   |
| 109 | 0.00624 | 0.08911 | 0.04455 | 0.67961 | 0.03615 | 0.07230 | 1.47144 | 1.55097 | 0.06105 | 0.03461 | 0.04499 | 0.10923 | 0.82546 | 0.94138 | 0.84712  | 1.04711  | 0.10707 | 0.07415 | 0.69255   |
| 110 | 0.03336 | 0.20610 | 0.10305 | 0.39410 | 0.06410 | 0.12821 | 2.53741 | 1.69506 | 0.14454 | 0.05777 | 0.10418 | 0.26589 | 1.34520 | 1.17705 | 1.48532  | 0.95285  | 0.26653 | 0.15938 | 0.59796   |
| 111 | 0.01135 | 0.12022 | 0.06011 | 0.22955 | 0.02821 | 0.05643 | 4.35636 | 2.61021 | 0.10790 | 0.00793 | 0.06468 | 0.19027 | 0.49298 | 0.98215 | 0.67260  | 1.04074  | 0.21696 | 0.06661 | 0.30703   |
| 112 | 0.00051 | 0.02551 | 0.01276 | 0.72998 | 0.01031 | 0.02062 | 1.36990 | 1.99117 | 0.01713 | 0.00844 | 0.01316 | 0.03406 | 0.77451 | 0.97960 | 0.78215  | 1.01144  | 0.03399 | 0.01915 | 0.56342   |
| 113 | 0.00717 | 0.09552 | 0.04776 | 0.46251 | 0.03189 | 0.06378 | 1.26211 | 2.26352 | 0.07252 | 0.02190 | 0.05079 | 0.14109 | 0.31464 | 0.99106 | 0.43056  | 1.06877  | 0.15499 | 0.05887 | 0.37979   |
| 114 | 0.00578 | 0.08580 | 0.04290 | 0.28507 | 0.02231 | 0.04462 | 3.50791 | 2.80255 | 0.07874 | 0.01580 | 0.04731 | 0.13992 | 2.51078 | 1.10698 | 2.57574  | 0.98469  | 0.14994 | 0.04910 | 0.32744   |
| 115 | 0.00031 | 0.01981 | 0.00991 | 0.66717 | 0.00751 | 0.01501 | 1.49887 | 2.78316 | 0.01595 | 0.00559 | 0.01066 | 0.03066 | 2.24454 | 1.00890 | 2.26237  | 1.03183  | 0.02979 | 0.01318 | 0.44229   |
| 116 | 0.00004 | 0.00719 | 0.00359 | 0.78540 | 0.00318 | 0.00637 | 1.27324 | 1.57080 | 0.00450 | 0.00318 | 0.00370 | 0.00901 | 0.98597 | 1.02291 | 0.99106  | 1.02800  | 0.00757 | 0.00683 | 0.90212   |
| 117 | 0.00298 | 0.06159 | 0.03080 | 0.40553 | 0.01903 | 0.03805 | 2.46594 | 1.84197 | 0.04175 | 0.01319 | 0.03046 | 0.08109 | 2.47256 | 1.10571 | 2.48403  | 1.02673  | 0.08435 | 0.04497 | 0.53319   |
| 118 | 0.00426 | 0.07367 | 0.03684 | 0.55858 | 0.02694 | 0.05388 | 1.79024 | 1.88118 | 0.05534 | 0.02130 | 0.03755 | 0.09887 | 1.71207 | 1.04839 | 1.74519  | 1.14010  | 0.10123 | 0.05362 | 0.52966   |
| 119 | 0.03200 | 0.20186 | 0.10093 | 0.26955 | 0.05181 | 0.10362 | 3.70984 | 2.76451 | 0.18654 | 0.03764 | 0.10574 | 0.33184 | 2.11078 | 1.06240 | 2.17193  | 1.38723  | 0.35644 | 0.11431 | 0.32071   |
| 120 | 0.00013 | 0.01278 | 0.00639 | 0.57515 | 0.00424 | 0.00848 | 1.73868 | 3.55966 | 0.01065 | 0.00322 | 0.00711 | 0.02109 | 2.59867 | 1.11972 | 2.60377  | 1.10061  | 0.02328 | 0.00701 | 0.30110   |
| 121 | 0.00928 | 0.10870 | 0.05435 | 0.60579 | 0.04172 | 0.08344 | 1.65072 | 1.63615 | 0.07495 | 0.03299 | 0.05500 | 0.13713 | 1.55411 | 1.23310 | 1.59360  | 1.10316  | 0.13709 | 0.08619 | 0.62869   |
| 122 | 0.01222 | 0.12476 | 0.06238 | 0.39971 | 0.03884 | 0.07768 | 2.50182 | 2.07369 | 0.08880 | 0.02377 | 0.06105 | 0.17694 | 0.91336 | 1.27513 | 0.98724  | 1.11590  | 0.18059 | 0.08618 | 0.47723   |
| 123 | 0.00510 | 0.08060 | 0.04030 | 0.44334 | 0.02624 | 0.05248 | 2.25561 | 2.04538 | 0.05953 | 0.01266 | 0.04113 | 0.11273 | 1.72226 | 1.19615 | 1.83181  | 1.17577  | 0.12161 | 0.05342 | 0.43924   |
| 124 | 0.00006 | 0.00850 | 0.00425 | 0.88618 | 0.00338 | 0.00677 | 1.12844 | 2.22355 | 0.00536 | 0.00318 | 0.00439 | 0.01072 | 0.78979 | 1.15412 | 0.79744  | 1.15921  | 0.01034 | 0.00700 | 0.67689   |
| 125 | 0.01962 | 0.15805 | 0.07902 | 0.35481 | 0.04648 | 0.09295 | 2.81845 | 1.57552 | 0.11050 | 0.02118 | 0.07572 | 0.19587 | 2.20378 | 1.32609 | 2.31333  | 1.16558  | 0.20420 | 0.12233 | 0.59907   |
| 126 | 0.00022 | 0.01658 | 0.00829 | 0.57414 | 0.00569 | 0.01137 | 1.74173 | 2.60298 | 0.01276 | 0.00355 | 0.00862 | 0.02421 | 0.74648 | 1.17832 | 0.76686  | 1.16813  | 0.02471 | 0.01112 | 0.45016   |
| 127 | 0.00620 | 0.08884 | 0.04442 | 0.56046 | 0.03267 | 0.06533 | 1.78426 | 1.84311 | 0.06419 | 0.03365 | 0.04594 | 0.11848 | 0.44967 | 1.28915 | 0.49426  | 1.18087  | 0.10998 | 0.07177 | 0.65255   |
| 128 | 0.00007 | 0.00964 | 0.00482 | 0.79574 | 0.00368 | 0.00737 | 1.25669 | 2.40974 | 0.00641 | 0.00318 | 0.00503 | 0.01282 | 0.82801 | 1.18851 | 0.83310  | 1.19870  | 0.01326 | 0.00701 | 0.52868   |
| 129 | 0.02017 | 0.16026 | 0.08013 | 0.41449 | 0.05100 | 0.10199 | 2.41261 | 3.17061 | 0.15609 | 0.03495 | 0.08687 | 0.28208 | 1.10953 | 1.19361 | 1.24711  | 1.43819  | 0.26907 | 0.09545 | 0.35474   |
| 130 | 0.00010 | 0.01113 | 0.00557 | 0.93249 | 0.00478 | 0.00957 | 1.07240 | 2.11644 | 0.00718 | 0.00500 | 0.00571 | 0.01441 | 0.80126 | 1.20634 | 0.81017  | 1.19743  | 0.01232 | 0.01006 | 0.81631   |
| 131 | 0.00047 | 0.02435 | 0.01218 | 0.39430 | 0.00707 | 0.01414 | 2.53612 | 1.54283 | 0.02714 | 0.00467 | 0.01530 | 0.05107 | 0.80763 | 1.25348 | 0.83183  | 1.21017  | 0.05265 | 0.01126 | 0.21389   |
| 132 | 0.00791 | 0.10035 | 0.05018 | 0.50229 | 0.03497 | 0.06994 | 1.99086 | 2.17657 | 0.07464 | 0.02801 | 0.05124 | 0.14558 | 0.13503 | 1.30698 | 0.27898  | 1.29679  | 0.14546 | 0.06923 | 0.47594   |
| 133 | 0.00020 | 0.01613 | 0.00807 | 0.46043 | 0.00489 | 0.00978 | 2.17187 | 4.20268 | 0.01538 | 0.00301 | 0.00939 | 0.02954 | 1.95665 | 1.24583 | 1.96556  | 1.27259  | 0.03178 | 0.00819 | 0.25776   |
| 134 | 0.00727 | 0.09621 | 0.04810 | 0.44622 | 0.03154 | 0.06309 | 2.24106 | 2.79022 | 0.08825 | 0.02787 | 0.05176 | 0.15776 | 0.56432 | 1.27641 | 0.71463  | 1.31972  | 0.15549 | 0.05953 | 0.38284   |
| 135 | 0.00004 | 0.00719 | 0.00359 | 0.78540 | 0.00318 | 0.00637 | 1.27324 | 1.57080 | 0.00450 | 0.00318 | 0.00370 | 0.00901 | 1.99996 | 1.25093 | 2.00505  | 1.25603  | 0.00757 | 0.00683 | 0.90212   |
| 136 | 0.00773 | 0.09918 | 0.04959 | 0.31440 | 0.02722 | 0.05444 | 3.18065 | 2.97491 | 0.08703 | 0.01033 | 0.05025 | 0.16745 | 0.48789 | 1.41016 | 0.54649  | 1.25475  | 0.17422 | 0.05646 | 0.32408   |
| 137 | 0.00829 | 0.10276 | 0.05138 | 0.22086 | 0.02355 | 0.04711 | 4.52779 | 2.90968 | 0.08944 | 0.01979 | 0.05301 | 0.17099 | 0.04331 | 1.25857 | 0.66624  | 1.42672  | 0.16581 | 0.06369 | 0.38410   |
| 138 | 0.00232 | 0.05437 | 0.02719 | 0.47386 | 0.01814 | 0.03627 | 2.11031 | 2.86640 | 0.04876 | 0.00951 | 0.02988 | 0.08922 | 1.37195 | 1.29679 | 1.45220  | 1.26112  | 0.09548 | 0.03097 | 0.32432   |
| 139 | 0.00094 | 0.03459 | 0.01729 | 0.60455 | 0.01285 | 0.02571 | 1.65411 | 2.24411 | 0.02580 | 0.00787 | 0.01818 | 0.04953 | 1.80378 | 1.26622 | 1.81398  | 1.31335  | 0.05154 | 0.02321 | 0.45038   |
| 140 | 0.00029 | 0.01907 | 0.00953 | 0.39719 | 0.00543 | 0.01085 | 2.51771 | 3.61913 | 0.01669 | 0.00466 | 0.01042 | 0.03276 | 2.00760 | 1.26622 | 2.02161  | 1.29424  | 0.03403 | 0.01069 | 0.31398   |
| 141 | 0.00055 | 0.02650 | 0.01325 | 0.75859 | 0.01094 | 0.02188 | 1.31823 | 1.91072 | 0.01790 | 0.00952 | 0.01350 | 0.03473 | 0.30318 | 1.29551 | 0.33120  | 1.27768  | 0.03231 | 0.02174 | 0.67297   |
| 142 | 0.00007 | 0.00975 | 0.00487 | 0.89816 | 0.00403 | 0.00806 | 1.11338 | 2.49129 | 0.00671 | 0.00398 | 0.00511 | 0.01342 | 1.95410 | 1.28915 | 1.96174  | 1.28023  | 0.01213 | 0.00783 | 0.64573   |
| 143 | 0.00017 | 0.01459 | 0.00729 | 0.78498 | 0.00585 | 0.01171 | 1.27391 | 1.84350 | 0.00971 | 0.00557 | 0.00752 | 0.01794 | 0.11847 | 1.28278 | 0.12484  | 1.29806  | 0.01823 | 0.01167 | 0.64041   |
| 144 | 0.00005 | 0.00787 | 0.00394 | 0.93184 | 0.00318 | 0.00636 | 1.07314 | 2.20809 | 0.00489 | 0.00328 | 0.00404 | 0.00979 | 1.99359 | 1.29042 | 1.99869  | 1.29679  | 0.00889 | 0.00697 | 0.78403   |
| 145 | 0.02303 | 0.17126 | 0.08563 | 0.53108 | 0.06180 | 0.12361 | 1.88297 | 1.57548 | 0.10990 | 0.05703 | 0.08596 | 0.21290 | 0.92610 | 1.30061 | 0.98724  | 1.50315  | 0.21431 | 0.13685 | 0.63857   |
| 146 | 0.00444 | 0.07517 | 0.03759 | 0.47300 | 0.02524 | 0.05048 | 2.11414 | 1.74349 | 0.05412 | 0.02176 | 0.03841 | 0.09692 | 2.52861 | 1.32736 | 2.60377  | 1.38596  | 0.09967 | 0.05669 | 0.56879   |
| 147 | 0.00362 | 0.06789 | 0.03395 | 0.66456 | 0.02707 | 0.05415 | 1.50476 | 1.90248 | 0.04708 | 0.02121 | 0.03508 | 0.09162 | 1.29806 | 1.37577 | 1.38468  | 1.40125  | 0.09346 | 0.04932 | 0.52774   |
| 148 | 0.00556 | 0.08413 | 0.04207 | 0.42474 | 0.02682 | 0.05364 | 2.35439 | 2.88289 | 0.07602 | 0.01764 | 0.04504 | 0.13975 | 1.60251 | 1.36303 | 1.63309  | 1.49806  | 0.14874 | 0.04759 | 0.31994   |
| 149 | 0.00128 | 0.04030 | 0.02015 | 0.34981 | 0.01133 | 0.02265 | 2.85870 | 2.92457 | 0.03436 | 0.00194 | 0.02117 | 0.06550 | 0.18471 | 1.42163 | 0.21783  | 1.36685  | 0.07673 | 0.02116 | 0.27583   |
| 150 | 0.00634 | 0.08985 | 0.04492 | 0.40596 | 0.02804 | 0.05608 | 2.46331 | 2.81111 | 0.07727 | 0.02429 | 0.04859 | 0.14758 | 2.24199 | 1.36812 | 2.32734  | 1.48659  | 0.14123 | 0.05716 | 0.40468   |
| 151 | 0.00410 | 0.07227 | 0.03614 | 0.44704 | 0.02358 | 0.04715 | 2.23695 | 2.07943 | 0.05880 | 0.02066 | 0.03768 | 0.10169 | 0.41400 | 1.41398 | 0.50445  | 1.45729  | 0.10260 | 0.05091 | 0.49621   |
| 152 | 0.00107 | 0.03684 | 0.01842 | 0.64478 | 0.01420 | 0.02840 | 1.55092 | 2.68145 | 0.03000 | 0.00960 | 0.01948 | 0.05792 | 0.85603 | 1.40507 | 0.90062  | 1.43946  | 0.05383 | 0.02522 | 0.46845</ |

Appendix 2-18 Roundness of the Opaque Minerals

MJBKE-39 13.5m

| 番号  | 面積      | 円相当径    | 半径      | 円形度     | サイズ     | 流体直径    | 凹凸度     | 線形度     | 重心距離最大  | 重心距離最小  | 重心距離平均  | 絶対最大長   | 絶対最大長始点X | 絶対最大長始点Y | 絶対最大長終点X | 絶対最大長終点Y | 楕円長軸    | 楕円短軸    | 楕円長短比   |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|----------|----------|----------|---------|---------|---------|
| 154 | 0.00394 | 0.07081 | 0.03541 | 0.46970 | 0.02368 | 0.04735 | 2.12900 | 1.89856 | 0.05037 | 0.01448 | 0.03548 | 0.09520 | 1.99869  | 1.41781  | 2.02798  | 1.50698  | 0.10496 | 0.04777 | 0.45513 |
| 155 | 0.00602 | 0.08758 | 0.04379 | 0.31863 | 0.02412 | 0.04824 | 3.13846 | 2.67792 | 0.08667 | 0.00246 | 0.04545 | 0.13986 | 2.42543  | 1.49551  | 2.54899  | 1.43309  | 0.13960 | 0.05494 | 0.39355 |
| 156 | 0.02127 | 0.16457 | 0.08228 | 0.29321 | 0.04397 | 0.08794 | 3.41056 | 2.14177 | 0.12692 | 0.03609 | 0.08333 | 0.23766 | 1.63054  | 1.57449  | 1.85983  | 1.51717  | 0.24440 | 0.11081 | 0.45341 |
| 157 | 0.02242 | 0.16896 | 0.08448 | 0.24827 | 0.04150 | 0.08299 | 4.02787 | 1.80637 | 0.12687 | 0.01020 | 0.08296 | 0.22386 | 1.25603  | 1.50825  | 1.45984  | 1.59742  | 0.23845 | 0.11972 | 0.50207 |
| 158 | 0.00017 | 0.01487 | 0.00743 | 0.76699 | 0.00592 | 0.01184 | 1.30380 | 2.57310 | 0.01116 | 0.00534 | 0.00791 | 0.02169 | 2.34135  | 1.47003  | 2.35282  | 1.48659  | 0.02053 | 0.01077 | 0.52434 |
| 159 | 0.00005 | 0.00787 | 0.00394 | 0.93184 | 0.00318 | 0.00636 | 1.07314 | 2.20809 | 0.00489 | 0.00328 | 0.00404 | 0.00979 | 1.33755  | 1.49169  | 1.34392  | 1.49678  | 0.00889 | 0.00697 | 0.78403 |
| 160 | 0.00460 | 0.07655 | 0.03827 | 0.22429 | 0.01754 | 0.03507 | 4.45855 | 3.03033 | 0.06621 | 0.00364 | 0.04134 | 0.12892 | 2.25346  | 1.51971  | 2.37702  | 1.55156  | 0.14971 | 0.03914 | 0.26142 |
| 161 | 0.00032 | 0.02028 | 0.01014 | 0.58609 | 0.00717 | 0.01435 | 1.70623 | 2.90761 | 0.01693 | 0.00365 | 0.01095 | 0.03196 | 1.88149  | 1.50443  | 1.91079  | 1.49551  | 0.03446 | 0.01193 | 0.34616 |
| 162 | 0.00010 | 0.01141 | 0.00570 | 0.89539 | 0.00478 | 0.00957 | 1.11684 | 2.03093 | 0.00719 | 0.00507 | 0.00582 | 0.01441 | 1.34010  | 1.51080  | 1.34902  | 1.50188  | 0.01274 | 0.01022 | 0.80208 |
| 163 | 0.00664 | 0.09193 | 0.04596 | 0.19720 | 0.01982 | 0.03964 | 5.07099 | 2.47581 | 0.07893 | 0.00559 | 0.04406 | 0.14047 | 0.50445  | 1.51334  | 0.55413  | 1.64328  | 0.15546 | 0.05436 | 0.34967 |
| 164 | 0.00960 | 0.11057 | 0.05528 | 0.36291 | 0.03272 | 0.06544 | 2.75552 | 3.64786 | 0.10847 | 0.01519 | 0.06060 | 0.20746 | 0.92482  | 1.65092  | 1.07896  | 1.51462  | 0.21269 | 0.05748 | 0.27025 |
| 165 | 0.00755 | 0.09804 | 0.04902 | 0.43082 | 0.03157 | 0.06314 | 2.32116 | 2.98926 | 0.08815 | 0.02243 | 0.05474 | 0.16632 | 1.01808  | 1.67767  | 0.20637  | 1.51462  | 0.17188 | 0.05592 | 0.32533 |
| 166 | 0.00059 | 0.02739 | 0.01369 | 0.54523 | 0.00954 | 0.01908 | 1.83408 | 2.89006 | 0.02308 | 0.00828 | 0.01474 | 0.04392 | 2.30186  | 1.58723  | 2.32479  | 1.55156  | 0.04330 | 0.01732 | 0.39996 |
| 167 | 0.01591 | 0.14232 | 0.07116 | 0.54743 | 0.05206 | 0.10413 | 1.82671 | 1.67549 | 0.09494 | 0.04750 | 0.07229 | 0.18217 | 1.03437  | 1.70952  | 1.12864  | 1.55538  | 0.17537 | 0.11550 | 0.65861 |
| 168 | 0.00007 | 0.00920 | 0.00460 | 0.92484 | 0.00382 | 0.00763 | 1.08127 | 2.13803 | 0.00581 | 0.00375 | 0.00472 | 0.01161 | 2.32861  | 1.56303  | 2.33626  | 1.56939  | 0.01034 | 0.00819 | 0.79161 |
| 169 | 0.00195 | 0.04977 | 0.02489 | 0.69249 | 0.02013 | 0.04025 | 1.44406 | 1.94523 | 0.03618 | 0.01543 | 0.02552 | 0.06747 | 1.88149  | 1.62799  | 1.89932  | 1.56430  | 0.06788 | 0.03650 | 0.53769 |
| 170 | 0.00041 | 0.02282 | 0.01141 | 0.61944 | 0.00838 | 0.01676 | 1.61436 | 2.45060 | 0.01733 | 0.00603 | 0.01194 | 0.03334 | 0.48916  | 1.56557  | 0.51846  | 1.57831  | 0.03253 | 0.01601 | 0.49214 |
| 171 | 0.00011 | 0.01168 | 0.00584 | 0.90447 | 0.00495 | 0.00990 | 1.10562 | 2.13951 | 0.00767 | 0.00491 | 0.00599 | 0.01523 | 0.49935  | 1.59487  | 0.50827  | 1.60506  | 0.01341 | 0.01017 | 0.75818 |
| 172 | 0.00298 | 0.06162 | 0.03081 | 0.49689 | 0.02113 | 0.04226 | 2.01254 | 2.17143 | 0.05024 | 0.00600 | 0.03103 | 0.08835 | 0.75412  | 1.66239  | 0.83693  | 1.63564  | 0.09527 | 0.03986 | 0.41837 |
| 173 | 0.00006 | 0.00909 | 0.00455 | 0.84003 | 0.00355 | 0.00709 | 1.19043 | 2.29927 | 0.00587 | 0.00328 | 0.00470 | 0.01174 | 0.65476  | 1.63309  | 0.66368  | 1.63818  | 0.01180 | 0.00701 | 0.59392 |
| 174 | 0.00038 | 0.02194 | 0.01097 | 0.82312 | 0.00936 | 0.01872 | 1.21489 | 2.19701 | 0.01545 | 0.00902 | 0.01133 | 0.03058 | 1.83181  | 1.66748  | 1.85092  | 1.64583  | 0.02707 | 0.01778 | 0.65702 |
| 175 | 0.00103 | 0.03625 | 0.01812 | 0.71494 | 0.01473 | 0.02946 | 1.39871 | 1.69725 | 0.02321 | 0.01110 | 0.01844 | 0.04539 | 1.89932  | 1.65220  | 1.92098  | 1.69041  | 0.04651 | 0.02825 | 0.60735 |
| 176 | 0.01194 | 0.12331 | 0.06165 | 0.25020 | 0.03025 | 0.06049 | 3.99674 | 2.24120 | 0.09336 | 0.00676 | 0.05684 | 0.18105 | 1.12100  | 1.81015  | 1.24583  | 1.68149  | 0.20247 | 0.07509 | 0.37089 |
| 177 | 0.00193 | 0.04963 | 0.02481 | 0.75511 | 0.02097 | 0.04194 | 1.32431 | 2.00501 | 0.03543 | 0.01696 | 0.02577 | 0.06834 | 2.39103  | 1.70570  | 2.44581  | 1.66748  | 0.06712 | 0.03669 | 0.54669 |
| 178 | 0.00741 | 0.09712 | 0.04856 | 0.47746 | 0.03296 | 0.06592 | 2.09442 | 2.43065 | 0.07836 | 0.03262 | 0.05077 | 0.14873 | 1.29169  | 1.75410  | 1.41908  | 1.68022  | 0.13276 | 0.07104 | 0.53510 |
| 179 | 0.00289 | 0.06069 | 0.03035 | 0.62586 | 0.02343 | 0.04685 | 1.59780 | 2.07727 | 0.04465 | 0.01210 | 0.03127 | 0.08535 | 1.48532  | 1.76047  | 1.56303  | 1.72863  | 0.09116 | 0.04041 | 0.44327 |
| 180 | 0.00255 | 0.05699 | 0.02850 | 0.76862 | 0.02438 | 0.04877 | 1.30103 | 1.50384 | 0.03432 | 0.02107 | 0.02879 | 0.06821 | 2.36683  | 1.78213  | 2.38721  | 1.71844  | 0.06786 | 0.04787 | 0.70540 |
| 181 | 0.00663 | 0.09187 | 0.04593 | 0.65160 | 0.03649 | 0.07299 | 1.53469 | 1.63796 | 0.05946 | 0.03452 | 0.04679 | 0.11572 | 0.80253  | 1.72735  | 0.82546  | 1.83945  | 0.11175 | 0.07553 | 0.67590 |
| 182 | 0.00370 | 0.06866 | 0.03433 | 0.38436 | 0.02070 | 0.04139 | 2.60170 | 3.56337 | 0.06865 | 0.00779 | 0.03769 | 0.12603 | 0.95794  | 1.84455  | 1.00380  | 1.72863  | 0.12657 | 0.03725 | 0.29433 |
| 183 | 0.00766 | 0.09874 | 0.04937 | 0.53126 | 0.03540 | 0.07079 | 1.86232 | 1.67267 | 0.06415 | 0.02674 | 0.04990 | 0.12561 | 1.18342  | 1.86238  | 1.26239  | 1.76684  | 0.12572 | 0.07756 | 0.61692 |
| 184 | 0.00004 | 0.00719 | 0.00359 | 0.78540 | 0.00318 | 0.00637 | 1.27324 | 1.57080 | 0.00450 | 0.00318 | 0.00370 | 0.00901 | 0.55668  | 1.77958  | 0.56177  | 1.78468  | 0.00757 | 0.00683 | 0.90212 |
| 185 | 0.00756 | 0.09808 | 0.04904 | 0.54103 | 0.03549 | 0.07097 | 1.84834 | 2.14493 | 0.08006 | 0.02871 | 0.05151 | 0.14131 | 0.80325  | 1.84327  | 1.44328  | 1.80633  | 0.13646 | 0.07049 | 0.51659 |
| 186 | 0.02331 | 0.17228 | 0.08614 | 0.17249 | 0.03518 | 0.07037 | 5.79729 | 3.38170 | 0.16735 | 0.00476 | 0.08915 | 0.31156 | 2.32097  | 1.94900  | 2.60377  | 1.82162  | 0.33555 | 0.08846 | 0.26362 |
| 187 | 0.00160 | 0.04509 | 0.02254 | 0.59906 | 0.01685 | 0.03371 | 1.66928 | 1.49571 | 0.02899 | 0.01399 | 0.02269 | 0.05326 | 2.17320  | 1.87003  | 2.18339  | 1.81907  | 0.05565 | 0.03653 | 0.65646 |
| 188 | 0.00817 | 0.10196 | 0.05098 | 0.31250 | 0.02791 | 0.05582 | 3.19996 | 2.77103 | 0.08787 | 0.00300 | 0.05208 | 0.16623 | 1.42290  | 1.92098  | 1.55793  | 1.82671  | 0.19017 | 0.05467 | 0.28748 |
| 189 | 0.00367 | 0.06838 | 0.03419 | 0.39711 | 0.02095 | 0.04190 | 2.51822 | 2.95522 | 0.07092 | 0.01957 | 0.03909 | 0.11431 | 2.28785  | 1.86748  | 2.39103  | 1.82162  | 0.10763 | 0.04344 | 0.40364 |
| 190 | 0.00009 | 0.01085 | 0.00543 | 0.92578 | 0.00464 | 0.00928 | 1.08017 | 2.20893 | 0.00717 | 0.00446 | 0.00561 | 0.01433 | 2.41778  | 1.83563  | 2.42798  | 1.82799  | 0.01282 | 0.00919 | 0.71689 |
| 191 | 0.01132 | 0.12007 | 0.06004 | 0.55505 | 0.04414 | 0.08828 | 1.80165 | 2.03055 | 0.09118 | 0.03248 | 0.06196 | 0.16885 | 0.78852  | 1.88404  | 0.95539  | 1.89932  | 0.16196 | 0.08902 | 0.54963 |
| 192 | 0.00116 | 0.03846 | 0.01923 | 0.59222 | 0.01421 | 0.02842 | 1.88856 | 2.10325 | 0.02823 | 0.00868 | 0.01928 | 0.05355 | 0.74266  | 1.88913  | 0.77323  | 1.84710  | 0.05537 | 0.02672 | 0.48251 |
| 193 | 0.01352 | 0.13121 | 0.06560 | 0.52345 | 0.04686 | 0.09372 | 1.91039 | 2.03714 | 0.09763 | 0.03907 | 0.06867 | 0.18489 | 0.39490  | 1.86366  | 0.55795  | 1.94773  | 0.18426 | 0.09343 | 0.50703 |
| 194 | 0.00368 | 0.06842 | 0.03421 | 0.60345 | 0.02597 | 0.05195 | 1.65713 | 2.01719 | 0.05446 | 0.02452 | 0.03623 | 0.09498 | 1.25985  | 1.94009  | 1.35284  | 1.95155  | 0.09165 | 0.05108 | 0.55734 |
| 195 | 0.00225 | 0.05353 | 0.02677 | 0.37777 | 0.01587 | 0.03173 | 2.64710 | 1.98914 | 0.03898 | 0.00668 | 0.02631 | 0.07281 | 0.72228  | 1.90060  | 0.78852  | 1.92735  | 0.06777 | 0.03733 | 0.48622 |
| 196 | 0.00147 | 0.04329 | 0.02164 | 0.40432 | 0.01319 | 0.02637 | 2.47329 | 3.91781 | 0.04424 | 0.00836 | 0.02500 | 0.08209 | 1.19361  | 1.89550  | 1.25475  | 1.94773  | 0.08248 | 0.02272 | 0.27545 |
| 197 | 0.00294 | 0.06119 | 0.03059 | 0.44451 | 0.01980 | 0.03961 | 2.24968 | 3.56284 | 0.06162 | 0.01685 | 0.03461 | 0.11213 | 1.67003  | 1.94900  | 1.78086  | 1.95155  | 0.10182 | 0.03677 | 0.36115 |
| 198 | 0.00139 | 0.04210 | 0.02105 | 0.46710 | 0.01379 | 0.02759 | 2.14088 | 1.87988 | 0.03269 | 0.00963 | 0.02156 | 0.05534 | 1.88276  | 1.90824  | 1.91461  | 1.95155  | 0.05884 | 0.03013 | 0.51205 |
| 199 | 0.00049 | 0.02494 | 0.01247 | 0.39063 | 0.00722 | 0.01443 | 2.55997 | 3.39612 | 0.02274 | 0.00152 | 0.01324 | 0.04255 | 2.13626  | 1.93117  | 2.17193  | 1.91079  | 0.04431 | 0.01404 | 0.31678 |
| 200 | 0.00004 | 0.00719 | 0.00359 | 0.78540 | 0.00318 | 0.00637 | 1.27324 | 1.57080 | 0.00450 | 0.00318 | 0.00370 | 0.00901 | 0.55668  | 1.77958  | 0.56177  | 1.78468  | 0.00757 | 0.00683 | 0.90212 |
| 201 | 0.00006 | 0.00862 | 0.00431 | 0.92163 | 0.00352 | 0.00704 | 1.08504 | 2.17495 | 0.00540 | 0.00390 | 0.00442 | 0.01081 | 2.32225  | 1.91206  | 2.32861  | 1.91843  | 0.00948 | 0.00784 | 0.82694 |
| 202 | 0.00012 | 0.01261 | 0.00631 | 0.76797 | 0.00492 | 0.00984 | 1.30213 | 2.40567 | 0.00876 | 0.00359 | 0.00658 | 0.01741 | 2.18467  | 1.92098  | 2.19868  | 1.91334  | 0.01768 | 0.00900 | 0.50885 |
| 203 | 0.00005 | 0.00787 | 0.00394 | 0.93184 | 0.00318 | 0.00636 | 1.07314 | 2.20809 | 0.00489 | 0.00328 | 0.00404 | 0.00979 | 1.33755  | 1.49169  | 1.34392  | 1.49678  | 0.00889 | 0.00697 | 0.78403 |
| 2   |         |         |         |         |         |         |         |         |         |         |         |         |          |          |          |          |         |         |         |

Appendix 2-18 Roundness of the Opaque Minerals

Karatokel Pit Conc.

| 番号 | 面積      | 円相当徑    | 半径      | 円形度     | サイズ     | 流体直径    | 凹凸度     | 線形度     | 重心距離最大  | 重心距離最小  | 重心距離平均  | 絶対最大長   | 絶対最大長軸点X | 絶対最大長軸点Y | 絶対最大長軸点X | 絶対最大長軸点Y | 楕円長軸    | 楕円短軸    | 楕円長短比   |
|----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|----------|----------|----------|---------|---------|---------|
| 1  | 0.00193 | 0.04954 | 0.02477 | 0.74795 | 0.02081 | 0.04161 | 1.33699 | 1.87653 | 0.03352 | 0.01483 | 0.02511 | 0.06591 | 0.06751  | 0.05223  | 0.10828  | 0.00255  | 0.06369 | 0.03854 | 0.60512 |
| 2  | 0.01398 | 0.13341 | 0.06671 | 0.34915 | 0.03880 | 0.07761 | 2.86407 | 1.99013 | 0.03956 | 0.03880 | 0.06718 | 0.18528 | 0.38980  | 0.13630  | 0.54521  | 0.03822  | 0.18942 | 0.09397 | 0.49610 |
| 3  | 0.00339 | 0.06568 | 0.03284 | 0.70936 | 0.02703 | 0.05407 | 1.40973 | 1.82414 | 0.04629 | 0.02196 | 0.03374 | 0.08670 | 0.84712  | 0.00382  | 0.91973  | 0.04841  | 0.08752 | 0.04929 | 0.56318 |
| 4  | 0.00424 | 0.07348 | 0.03674 | 0.47183 | 0.02462 | 0.04923 | 2.11940 | 2.67288 | 0.06159 | 0.00106 | 0.03751 | 0.11718 | 1.01272  | 0.00382  | 1.12482  | 0.03312  | 0.12809 | 0.04215 | 0.32903 |
| 5  | 0.00310 | 0.06279 | 0.03139 | 0.52282 | 0.02208 | 0.04416 | 1.91269 | 2.22109 | 0.04695 | 0.00978 | 0.03102 | 0.09101 | 1.19361  | 0.07516  | 1.24583  | 0.00255  | 0.09228 | 0.04272 | 0.46292 |
| 6  | 0.00987 | 0.11212 | 0.05606 | 0.65636 | 0.04480 | 0.08959 | 1.52355 | 1.70777 | 0.07834 | 0.03135 | 0.05654 | 0.14452 | 1.47513  | 0.08790  | 1.58978  | 0.00255  | 0.14916 | 0.08427 | 0.56501 |
| 7  | 0.00029 | 0.01928 | 0.00964 | 0.85489 | 0.00830 | 0.01660 | 1.16974 | 1.69330 | 0.01207 | 0.00830 | 0.00978 | 0.02336 | 1.97958  | 0.00382  | 1.99614  | 0.01783  | 0.02209 | 0.01684 | 0.76212 |
| 8  | 0.00041 | 0.02277 | 0.01139 | 0.85689 | 0.00992 | 0.01985 | 1.16701 | 1.80730 | 0.01441 | 0.01010 | 0.01155 | 0.02882 | 2.00633  | 0.02166  | 2.02544  | 0.00255  | 0.02594 | 0.02000 | 0.77093 |
| 9  | 0.00329 | 0.06471 | 0.03236 | 0.64705 | 0.02541 | 0.05081 | 1.54548 | 2.04311 | 0.05003 | 0.02001 | 0.03386 | 0.09030 | 2.14008  | 0.00382  | 2.22798  | 0.01783  | 0.09368 | 0.04470 | 0.47717 |
| 10 | 0.00114 | 0.03817 | 0.01908 | 0.72152 | 0.01559 | 0.03119 | 1.38596 | 2.07909 | 0.02848 | 0.01148 | 0.02005 | 0.05294 | 2.47893  | 0.00382  | 2.52861  | 0.01783  | 0.05604 | 0.02599 | 0.46376 |
| 11 | 0.00894 | 0.10670 | 0.05335 | 0.45400 | 0.03533 | 0.07066 | 2.20262 | 3.60776 | 0.10781 | 0.02079 | 0.06054 | 0.19918 | 1.25093  | 0.11083  | 1.43054  | 0.02802  | 0.20346 | 0.05595 | 0.27501 |
| 12 | 0.00029 | 0.01912 | 0.00956 | 0.86869 | 0.00830 | 0.01660 | 1.15116 | 1.85736 | 0.01215 | 0.00819 | 0.00971 | 0.02427 | 0.37961  | 0.02675  | 0.39490  | 0.01019  | 0.02176 | 0.01680 | 0.77200 |
| 13 | 0.00055 | 0.02650 | 0.01325 | 0.81303 | 0.01133 | 0.02265 | 1.22997 | 1.77148 | 0.01677 | 0.00968 | 0.01339 | 0.03344 | 2.57956  | 0.03439  | 2.60504  | 0.01529  | 0.03173 | 0.02214 | 0.69792 |
| 14 | 0.00104 | 0.03634 | 0.01817 | 0.80690 | 0.01571 | 0.03142 | 1.23931 | 1.80454 | 0.02402 | 0.01259 | 0.01842 | 0.04698 | 0.77833  | 0.05987  | 0.80635  | 0.02420  | 0.04472 | 0.02952 | 0.66004 |
| 15 | 0.00321 | 0.06390 | 0.03195 | 0.29567 | 0.01676 | 0.03351 | 3.38219 | 3.76899 | 0.06281 | 0.00829 | 0.03731 | 0.11965 | 1.85983  | 0.04204  | 1.96939  | 0.08662  | 0.13969 | 0.02923 | 0.20922 |
| 16 | 0.02113 | 0.16401 | 0.08200 | 0.59927 | 0.06287 | 0.12573 | 1.66870 | 2.06317 | 0.11957 | 0.05599 | 0.08433 | 0.23329 | 2.36556  | 0.04968  | 2.52861  | 0.21401  | 0.21980 | 0.12238 | 0.55676 |
| 17 | 0.00054 | 0.02619 | 0.01310 | 0.91815 | 0.01194 | 0.02388 | 1.08914 | 1.51430 | 0.01544 | 0.01133 | 0.01320 | 0.03066 | 2.05983  | 0.04713  | 2.07766  | 0.07006  | 0.02894 | 0.02371 | 0.81924 |
| 18 | 0.00946 | 0.10977 | 0.05489 | 0.70056 | 0.04533 | 0.09065 | 1.42744 | 1.63533 | 0.07292 | 0.03308 | 0.05593 | 0.13850 | 2.14645  | 0.13376  | 2.25346  | 0.04841  | 0.14473 | 0.08325 | 0.57523 |
| 19 | 0.01547 | 0.14035 | 0.07018 | 0.69829 | 0.05802 | 0.11604 | 1.43206 | 1.59595 | 0.09626 | 0.05409 | 0.07146 | 0.17543 | 1.05093  | 0.22165  | 1.08533  | 0.05095  | 0.17281 | 0.11399 | 0.65965 |
| 20 | 0.00098 | 0.03541 | 0.01771 | 0.85984 | 0.01581 | 0.03161 | 1.16301 | 1.52863 | 0.02120 | 0.01514 | 0.01785 | 0.04215 | 2.05856  | 0.10700  | 2.08021  | 0.07261  | 0.03956 | 0.03170 | 0.80132 |
| 21 | 0.00131 | 0.04078 | 0.02039 | 0.79560 | 0.01757 | 0.03514 | 1.25692 | 1.59574 | 0.02550 | 0.01460 | 0.02056 | 0.04976 | 0.65859  | 0.12356  | 0.69680  | 0.09427  | 0.04953 | 0.03358 | 0.67792 |
| 22 | 0.00521 | 0.08143 | 0.04071 | 0.46491 | 0.02715 | 0.05430 | 2.15094 | 2.18620 | 0.06093 | 0.01019 | 0.04094 | 0.11774 | 1.47003  | 0.22038  | 1.49042  | 0.10573  | 0.12585 | 0.05268 | 0.41860 |
| 23 | 0.00202 | 0.05076 | 0.02538 | 0.71291 | 0.02082 | 0.04164 | 1.40270 | 1.86007 | 0.03450 | 0.01798 | 0.02572 | 0.06726 | 1.80506  | 0.11592  | 1.86111  | 0.15032  | 0.06359 | 0.04051 | 0.63709 |
| 24 | 0.00679 | 0.09295 | 0.04648 | 0.31831 | 0.02560 | 0.05121 | 3.14157 | 1.85524 | 0.06848 | 0.00443 | 0.04147 | 0.12362 | 0.29299  | 0.12356  | 0.30190  | 0.22165  | 0.12942 | 0.06676 | 0.51584 |
| 25 | 0.00343 | 0.06607 | 0.03304 | 0.66221 | 0.02627 | 0.05255 | 1.51010 | 2.15594 | 0.04870 | 0.01704 | 0.03428 | 0.09481 | 1.16940  | 0.12866  | 1.21908  | 0.20764  | 0.09415 | 0.04637 | 0.49253 |
| 26 | 0.01291 | 0.12823 | 0.06411 | 0.67763 | 0.05216 | 0.10432 | 1.47574 | 1.51290 | 0.07954 | 0.03784 | 0.06366 | 0.15588 | 0.62929  | 0.24076  | 0.76559  | 0.16815  | 0.15603 | 0.10537 | 0.67533 |
| 27 | 0.00105 | 0.03653 | 0.01827 | 0.75090 | 0.01522 | 0.03043 | 1.33173 | 2.17167 | 0.02616 | 0.01200 | 0.01916 | 0.05176 | 0.78597  | 0.19108  | 0.80381  | 0.14395  | 0.05357 | 0.02492 | 0.46509 |
| 28 | 0.00057 | 0.02693 | 0.01346 | 0.84073 | 0.01172 | 0.02345 | 1.18945 | 1.81383 | 0.01726 | 0.01037 | 0.01366 | 0.03444 | 0.03439  | 0.14904  | 0.06115  | 0.16815  | 0.03223 | 0.02250 | 0.69809 |
| 29 | 0.00029 | 0.01928 | 0.00964 | 0.85489 | 0.00830 | 0.01660 | 1.16974 | 1.69330 | 0.01207 | 0.00830 | 0.00978 | 0.02336 | 1.99359  | 0.14904  | 2.01015  | 0.16305  | 0.02209 | 0.01684 | 0.76212 |
| 30 | 0.01640 | 0.14451 | 0.07226 | 0.38232 | 0.04406 | 0.08812 | 2.61563 | 2.48617 | 0.12131 | 0.04338 | 0.07429 | 0.22470 | 1.26494  | 0.32738  | 1.43309  | 0.18089  | 0.22635 | 0.09226 | 0.40762 |
| 31 | 0.00657 | 0.09149 | 0.04574 | 0.80372 | 0.04040 | 0.08080 | 1.24421 | 1.48612 | 0.05621 | 0.03648 | 0.04613 | 0.10988 | 2.29932  | 0.25859  | 2.37447  | 0.18089  | 0.10807 | 0.07745 | 0.71671 |
| 32 | 0.00034 | 0.02068 | 0.01034 | 0.85447 | 0.00894 | 0.01788 | 1.17031 | 1.81815 | 0.01304 | 0.00888 | 0.01050 | 0.02608 | 1.93754  | 0.19235  | 1.95537  | 0.17579  | 0.02368 | 0.01806 | 0.76270 |
| 33 | 0.00031 | 0.01992 | 0.00996 | 0.86342 | 0.00863 | 0.01726 | 1.15818 | 1.84357 | 0.01261 | 0.00894 | 0.01012 | 0.02522 | 1.95920  | 0.19235  | 1.97576  | 0.17579  | 0.02260 | 0.01755 | 0.77640 |
| 34 | 0.00040 | 0.02259 | 0.01130 | 0.86643 | 0.00990 | 0.01980 | 1.15416 | 1.71785 | 0.01421 | 0.00999 | 0.01144 | 0.02788 | 0.01146  | 0.19235  | 0.02930  | 0.21146  | 0.02546 | 0.02004 | 0.78707 |
| 35 | 0.01685 | 0.14649 | 0.07324 | 0.65338 | 0.05859 | 0.11717 | 1.53051 | 1.81849 | 0.09906 | 0.04185 | 0.07366 | 0.19548 | 1.69678  | 0.20000  | 1.83054  | 0.34012  | 0.18602 | 0.11536 | 0.62016 |
| 36 | 0.00042 | 0.02318 | 0.01159 | 0.87700 | 0.01024 | 0.02048 | 1.14025 | 1.62774 | 0.01442 | 0.00993 | 0.01174 | 0.02790 | 0.99616  | 0.20127  | 1.01272  | 0.22165  | 0.02624 | 0.02047 | 0.78002 |
| 37 | 0.01565 | 0.14115 | 0.07058 | 0.45724 | 0.04710 | 0.09421 | 2.18703 | 2.59506 | 0.12715 | 0.03805 | 0.07513 | 0.22443 | 0.13630  | 0.21019  | 0.28662  | 0.37451  | 0.22222 | 0.08966 | 0.40346 |
| 38 | 0.00366 | 0.06823 | 0.03411 | 0.67161 | 0.02735 | 0.05469 | 1.48896 | 1.75595 | 0.04572 | 0.01766 | 0.03407 | 0.08843 | 1.59742  | 0.21019  | 1.62799  | 0.29171  | 0.08760 | 0.05314 | 0.60657 |
| 39 | 0.04468 | 0.23851 | 0.11926 | 0.74435 | 0.10227 | 0.20455 | 1.34345 | 1.24697 | 0.13792 | 0.09804 | 0.11938 | 0.26475 | 1.90060  | 0.46368  | 2.07002  | 0.26241  | 0.26451 | 0.21507 | 0.81308 |
| 40 | 0.01163 | 0.12171 | 0.06086 | 0.51117 | 0.04289 | 0.08579 | 1.95630 | 1.69113 | 0.09477 | 0.03703 | 0.06263 | 0.15603 | 1.09679  | 0.34776  | 1.24329  | 0.29808  | 0.16650 | 0.08897 | 0.53440 |
| 41 | 0.00847 | 0.10387 | 0.05194 | 0.60810 | 0.03989 | 0.07979 | 1.64445 | 2.22940 | 0.07792 | 0.02801 | 0.05477 | 0.15277 | 2.34135  | 0.27133  | 2.48148  | 0.32866  | 0.15711 | 0.06867 | 0.43710 |
| 42 | 0.00709 | 0.09502 | 0.04751 | 0.63096 | 0.03712 | 0.07425 | 1.58488 | 2.03428 | 0.07711 | 0.02918 | 0.04968 | 0.13331 | 1.00253  | 0.34776  | 1.09807  | 0.25732  | 0.13660 | 0.06610 | 0.48385 |
| 43 | 0.00203 | 0.05082 | 0.02541 | 0.56108 | 0.01843 | 0.03685 | 1.78227 | 2.66761 | 0.04293 | 0.00802 | 0.02713 | 0.08035 | 2.49804  | 0.26114  | 2.53880  | 0.32866  | 0.08589 | 0.03007 | 0.35009 |
| 44 | 0.01507 | 0.13852 | 0.06926 | 0.51074 | 0.04888 | 0.09776 | 1.95793 | 1.86974 | 0.09704 | 0.02590 | 0.06796 | 0.18705 | 0.58215  | 0.35031  | 0.76559  | 0.32101  | 0.20150 | 0.09523 | 0.47258 |
| 45 | 0.00080 | 0.03201 | 0.01601 | 0.84763 | 0.01411 | 0.02823 | 1.17976 | 1.67091 | 0.02030 | 0.01287 | 0.01619 | 0.03963 | 2.57702  | 0.28152  | 2.60377  | 0.30827  | 0.03691 | 0.02776 | 0.75219 |
| 46 | 0.00610 | 0.08813 | 0.04406 | 0.70756 | 0.03645 | 0.07289 | 1.41330 | 1.39247 | 0.05742 | 0.02835 | 0.04437 | 0.10226 | 0.32101  | 0.29426  | 0.37834  | 0.37706  | 0.10895 | 0.07129 | 0.65433 |
| 47 | 0.01740 | 0.14885 | 0.07443 | 0.49489 | 0.05174 | 0.10348 | 2.02064 | 2.37504 | 0.11613 | 0.03647 | 0.07507 | 0.22670 | 1.50443  | 0.29299  | 1.56685  | 0.50954  | 0.23144 | 0.09573 | 0.41364 |
| 48 | 0.00103 | 0.03622 | 0.01811 | 0.84578 | 0.01604 | 0.03208 | 1.18233 | 1.51005 | 0.02323 | 0.01555 | 0.01831 | 0.04287 | 2.25855  | 0.31464  | 2.28148  | 0.34904  | 0.04108 | 0.03194 | 0.77739 |
| 49 | 0.00298 | 0.06164 | 0.03082 | 0.81228 | 0.02716 | 0.05432 | 1.23111 | 1.42989 | 0.03662 | 0.02440 | 0.03112 | 0.07207 | 0.82546  | 0.32483  | 0.87259  | 0.37706  | 0.07231 | 0.05255 | 0.72671 |
| 50 | 0.00408 | 0.07210 | 0.03605 | 0.54463 | 0.02598 | 0.05196 | 1.83612 | 2.90683 | 0.06349 | 0.01862 | 0.03987 | 0.12003 | 2.58593  | 0.45604  | 2.60504  | 0.33885  | 0.12207 | 0.04258 | 0.34885 |
| 51 | 0.01316 | 0.12944 | 0.06472 | 0.26579 |         |         |         |         |         |         |         |         |          |          |          |          |         |         |         |

Appendix 2-18 Roundness of the Opaque Minerals

Karatkel Pit Conc.

| 番号  | 面積      | 円相当径    | 半径      | 円形度     | サイズ     | 流体直径    | 凹凸度     | 線形度     | 重心距離最大  | 重心距離最小  | 重心距離平均  | 絶対最大長   | 絶対最大長傾角X | 絶対最大長傾角Y | 絶対最大長傾角Z | 絶対最大長傾角V | 楕円長軸    | 楕円短軸    | 楕円長短比   |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|----------|----------|----------|---------|---------|---------|
| 52  | 0.00148 | 0.04334 | 0.02167 | 0.70105 | 0.01752 | 0.03504 | 1.42643 | 2.14918 | 0.03214 | 0.01337 | 0.02252 | 0.06135 | 0.00255  | 0.40891  | 0.05478  | 0.37961  | 0.06212 | 0.03023 | 0.48664 |
| 53  | 0.00508 | 0.08043 | 0.04021 | 0.77312 | 0.03474 | 0.06948 | 1.29346 | 1.48718 | 0.05201 | 0.02629 | 0.04056 | 0.09637 | 0.82291  | 0.38598  | 0.89170  | 0.45095  | 0.09549 | 0.06775 | 0.70946 |
| 54  | 0.02143 | 0.16520 | 0.08260 | 0.62104 | 0.06448 | 0.12895 | 1.61021 | 1.75690 | 0.11690 | 0.04378 | 0.08399 | 0.21689 | 0.46368  | 0.39872  | 0.57451  | 0.58343  | 0.23195 | 0.11766 | 0.50729 |
| 55  | 0.01419 | 0.13443 | 0.06721 | 0.65360 | 0.05372 | 0.10745 | 1.52998 | 1.65205 | 0.09554 | 0.04181 | 0.06812 | 0.17082 | 0.93501  | 0.38598  | 1.03183  | 0.52483  | 0.16994 | 0.10633 | 0.62572 |
| 56  | 0.03435 | 0.20912 | 0.10456 | 0.42248 | 0.06734 | 0.13468 | 2.36695 | 2.50393 | 0.17051 | 0.02775 | 0.10480 | 0.32788 | 1.17068  | 0.54394  | 1.46494  | 0.40254  | 0.34470 | 0.12687 | 0.36806 |
| 57  | 0.00120 | 0.03907 | 0.01954 | 0.85194 | 0.01742 | 0.03484 | 1.17379 | 1.54108 | 0.02455 | 0.01522 | 0.01973 | 0.04686 | 1.07641  | 0.39362  | 1.10571  | 0.42802  | 0.04515 | 0.03381 | 0.74884 |
| 58  | 0.00198 | 0.05025 | 0.02512 | 0.58730 | 0.01864 | 0.03727 | 1.70270 | 2.94664 | 0.04413 | 0.01280 | 0.02722 | 0.08349 | 1.10444  | 0.44967  | 1.17322  | 0.40509  | 0.08323 | 0.03033 | 0.36443 |
| 59  | 0.00824 | 0.10244 | 0.05122 | 0.73844 | 0.04340 | 0.08680 | 1.35420 | 1.93520 | 0.07128 | 0.02800 | 0.05222 | 0.14052 | 0.28789  | 0.51082  | 0.38853  | 0.41528  | 0.13735 | 0.07640 | 0.55625 |
| 60  | 0.00865 | 0.10492 | 0.05246 | 0.70490 | 0.04342 | 0.08684 | 1.41864 | 1.92080 | 0.07353 | 0.03381 | 0.05343 | 0.14336 | 2.34900  | 0.41910  | 2.44326  | 0.52483  | 0.13652 | 0.08064 | 0.59065 |
| 61  | 0.00057 | 0.02704 | 0.01352 | 0.80703 | 0.01152 | 0.02304 | 1.23911 | 1.68424 | 0.01708 | 0.01132 | 0.01373 | 0.03329 | 0.72865  | 0.41910  | 0.75158  | 0.44076  | 0.03124 | 0.02341 | 0.74929 |
| 62  | 0.00725 | 0.09609 | 0.04805 | 0.43070 | 0.03091 | 0.06182 | 2.32182 | 2.93217 | 0.08229 | 0.02122 | 0.05167 | 0.16130 | 2.53880  | 0.43311  | 2.58593  | 0.58598  | 0.16393 | 0.05633 | 0.34360 |
| 63  | 0.00674 | 0.09266 | 0.04633 | 0.67933 | 0.03756 | 0.07513 | 1.47204 | 1.92629 | 0.06395 | 0.02579 | 0.04804 | 0.12651 | 1.81907  | 0.43439  | 1.86620  | 0.55031  | 0.13112 | 0.06549 | 0.49948 |
| 64  | 0.00097 | 0.03512 | 0.01756 | 0.79745 | 0.01506 | 0.03012 | 1.25399 | 1.81009 | 0.02352 | 0.01299 | 0.01805 | 0.04537 | 1.05858  | 0.44203  | 1.09934  | 0.45859  | 0.04585 | 0.02690 | 0.58664 |
| 65  | 0.03144 | 0.20009 | 0.10004 | 0.37217 | 0.06042 | 0.12083 | 2.68694 | 2.52554 | 0.16220 | 0.02022 | 0.09880 | 0.31476 | 0.54139  | 0.65604  | 0.79616  | 0.47388  | 0.36282 | 0.11034 | 0.30413 |
| 66  | 0.00942 | 0.10953 | 0.05477 | 0.55646 | 0.04024 | 0.08048 | 1.79707 | 1.50958 | 0.06804 | 0.03616 | 0.05468 | 0.13256 | 0.16688  | 0.47770  | 0.25350  | 0.57578  | 0.13465 | 0.08910 | 0.66175 |
| 67  | 0.00658 | 0.09153 | 0.04577 | 0.72822 | 0.03843 | 0.07686 | 1.37320 | 1.46924 | 0.05835 | 0.03349 | 0.04606 | 0.10918 | 1.87130  | 0.55668  | 1.95283  | 0.48661  | 0.11029 | 0.07596 | 0.68872 |
| 68  | 0.03489 | 0.21076 | 0.10538 | 0.59868 | 0.08093 | 0.16186 | 1.67034 | 1.75523 | 0.14973 | 0.05649 | 0.10551 | 0.27714 | 0.84839  | 0.48789  | 0.89807  | 0.75922  | 0.28445 | 0.15617 | 0.54901 |
| 69  | 0.00197 | 0.05012 | 0.02506 | 0.72708 | 0.02075 | 0.04151 | 1.37537 | 2.03232 | 0.03545 | 0.01625 | 0.02564 | 0.06940 | 0.10420  | 0.53884  | 1.09297  | 0.49426  | 0.06529 | 0.03848 | 0.58935 |
| 70  | 0.00427 | 0.07373 | 0.03686 | 0.63033 | 0.02865 | 0.05730 | 1.58646 | 2.11942 | 0.05926 | 0.02260 | 0.03825 | 0.10507 | 1.45729  | 0.49298  | 1.51207  | 0.58088  | 0.10347 | 0.05253 | 0.50770 |
| 71  | 0.00044 | 0.02379 | 0.01190 | 0.87369 | 0.01050 | 0.02101 | 1.14458 | 1.74427 | 0.01526 | 0.01062 | 0.01204 | 0.02968 | 2.27002  | 0.53120  | 2.29040  | 0.51209  | 0.02682 | 0.02111 | 0.78695 |
| 72  | 0.00039 | 0.02218 | 0.01109 | 0.84492 | 0.00957 | 0.01915 | 1.18354 | 1.67658 | 0.01388 | 0.00957 | 0.01124 | 0.02697 | 1.71844  | 0.52610  | 1.73754  | 0.54266  | 0.02550 | 0.01929 | 0.75647 |
| 73  | 0.02609 | 0.18224 | 0.09112 | 0.73320 | 0.07741 | 0.15481 | 1.36388 | 1.32438 | 0.11082 | 0.06495 | 0.09159 | 0.20807 | 0.32356  | 0.71718  | 0.47133  | 0.57324  | 0.21057 | 0.15773 | 0.74904 |
| 74  | 0.00922 | 0.10833 | 0.05417 | 0.60149 | 0.04139 | 0.08279 | 1.66254 | 1.71835 | 0.07578 | 0.03810 | 0.05550 | 0.13993 | 2.33881  | 0.60254  | 2.46492  | 0.54521  | 0.14158 | 0.08289 | 0.58542 |
| 75  | 0.00142 | 0.04254 | 0.02127 | 0.63418 | 0.01632 | 0.03265 | 1.57684 | 2.47598 | 0.03375 | 0.01041 | 0.02210 | 0.06451 | 0.00255  | 0.53629  | 0.05350  | 0.57324  | 0.06372 | 0.02840 | 0.44571 |
| 76  | 0.05741 | 0.27036 | 0.13518 | 0.16533 | 0.05435 | 0.10870 | 6.04839 | 2.86067 | 0.24410 | 0.03147 | 0.13833 | 0.45216 | 1.11717  | 0.54139  | 1.21781  | 0.98087  | 0.52676 | 0.13876 | 0.65433 |
| 77  | 0.02554 | 0.18033 | 0.09017 | 0.45200 | 0.06000 | 0.12000 | 2.21238 | 2.03285 | 0.14460 | 0.05326 | 0.09612 | 0.25448 | 1.54010  | 0.54903  | 1.58213  | 0.79871  | 0.26694 | 0.12183 | 0.45637 |
| 78  | 0.01421 | 0.13449 | 0.06724 | 0.63478 | 0.05297 | 0.10594 | 1.57535 | 2.19330 | 0.10568 | 0.04030 | 0.06990 | 0.19692 | 1.76684  | 0.58470  | 1.93117  | 0.69043  | 0.19628 | 0.09215 | 0.46948 |
| 79  | 0.00644 | 0.09058 | 0.04529 | 0.68452 | 0.03686 | 0.07372 | 1.46088 | 1.66651 | 0.06195 | 0.03237 | 0.04606 | 0.11502 | 2.27002  | 0.56050  | 2.29549  | 0.67132  | 0.11781 | 0.06964 | 0.59111 |
| 80  | 0.00083 | 0.03259 | 0.01629 | 0.71899 | 0.01320 | 0.02640 | 1.39084 | 1.93082 | 0.02226 | 0.01052 | 0.01644 | 0.04325 | 0.00382  | 0.64203  | 0.03057  | 0.61018  | 0.04119 | 0.02578 | 0.62588 |
| 81  | 0.01941 | 0.15720 | 0.07860 | 0.72916 | 0.06651 | 0.13301 | 1.37145 | 1.62450 | 0.10479 | 0.05567 | 0.07926 | 0.19853 | 0.64330  | 0.75795  | 0.80253  | 0.64203  | 0.19143 | 0.12910 | 0.67439 |
| 82  | 0.00263 | 0.05785 | 0.02893 | 0.53608 | 0.02057 | 0.04113 | 1.86540 | 2.76356 | 0.04986 | 0.00816 | 0.03069 | 0.09339 | 0.00255  | 0.70190  | 0.05350  | 0.62546  | 0.09677 | 0.03459 | 0.35742 |
| 83  | 0.00499 | 0.07973 | 0.03987 | 0.61817 | 0.03073 | 0.06146 | 1.61768 | 2.24328 | 0.06208 | 0.01884 | 0.04144 | 0.11708 | 2.02034  | 0.64967  | 2.07002  | 0.75412  | 0.11927 | 0.05330 | 0.44695 |
| 84  | 0.02223 | 0.16826 | 0.08413 | 0.60650 | 0.06490 | 0.12980 | 1.64880 | 1.68238 | 0.11840 | 0.04333 | 0.08459 | 0.21618 | 1.33500  | 0.88533  | 1.48405  | 0.73120  | 0.22155 | 0.12778 | 0.57675 |
| 85  | 0.00494 | 0.07932 | 0.03966 | 0.79604 | 0.03477 | 0.06953 | 1.25622 | 1.42052 | 0.04896 | 0.03148 | 0.03995 | 0.09288 | 0.45859  | 0.77578  | 0.51846  | 0.70699  | 0.09125 | 0.06895 | 0.75557 |
| 86  | 0.03018 | 0.19602 | 0.09801 | 0.48951 | 0.06796 | 0.13593 | 2.04286 | 1.92224 | 0.15248 | 0.04400 | 0.09921 | 0.26936 | 0.11974  | 0.72228  | 0.31337  | 0.90699  | 0.27939 | 0.13754 | 0.49228 |
| 87  | 0.00487 | 0.07873 | 0.03936 | 0.80227 | 0.03464 | 0.06928 | 1.24646 | 1.35611 | 0.04818 | 0.03084 | 0.03963 | 0.09008 | 0.02930  | 0.73756  | 0.11210  | 0.76941  | 0.09129 | 0.06790 | 0.74383 |
| 88  | 0.01705 | 0.14736 | 0.07368 | 0.75800 | 0.06353 | 0.12706 | 1.31926 | 1.49703 | 0.09554 | 0.05766 | 0.07447 | 0.17857 | 1.95792  | 0.89043  | 1.98085  | 0.71463  | 0.17708 | 0.12263 | 0.69250 |
| 89  | 0.00109 | 0.03723 | 0.01862 | 0.81168 | 0.01615 | 0.03230 | 1.23201 | 1.70832 | 0.02408 | 0.01542 | 0.01889 | 0.04686 | 0.25754  | 0.80890  | 2.60504  | 0.77451  | 0.04311 | 0.03216 | 0.74588 |
| 90  | 0.00466 | 0.07700 | 0.03850 | 0.60371 | 0.02929 | 0.05859 | 1.65641 | 1.97877 | 0.05678 | 0.01972 | 0.03858 | 0.10607 | 0.91336  | 0.86240  | 0.97705  | 0.77960  | 0.10759 | 0.05511 | 0.51224 |
| 91  | 0.00036 | 0.02132 | 0.01066 | 0.81870 | 0.00902 | 0.01804 | 1.22145 | 1.84237 | 0.01355 | 0.00825 | 0.01088 | 0.02707 | 2.55154  | 0.78342  | 2.57192  | 0.79871  | 0.02592 | 0.01754 | 0.67680 |
| 92  | 0.01723 | 0.14813 | 0.07406 | 0.40742 | 0.04665 | 0.09331 | 2.45445 | 2.45755 | 0.11679 | 0.00382 | 0.07173 | 0.22917 | 1.62162  | 0.93374  | 1.80761  | 0.80253  | 0.24379 | 0.09000 | 0.36919 |
| 93  | 0.01563 | 0.14106 | 0.07053 | 0.33981 | 0.04050 | 0.08100 | 2.94283 | 2.26686 | 0.11123 | 0.01115 | 0.06687 | 0.20920 | 0.51209  | 0.79361  | 0.57706  | 0.99106  | 0.23373 | 0.08513 | 0.36424 |
| 94  | 0.00355 | 0.06720 | 0.03360 | 0.71230 | 0.02774 | 0.05549 | 1.40390 | 1.91638 | 0.04606 | 0.02396 | 0.03429 | 0.09101 | 1.85983  | 0.81400  | 1.93244  | 0.86622  | 0.08656 | 0.05218 | 0.60278 |
| 95  | 0.00846 | 0.10376 | 0.05188 | 0.47339 | 0.03508 | 0.07016 | 2.11243 | 2.27584 | 0.07796 | 0.01664 | 0.05240 | 0.15383 | 2.48020  | 0.81400  | 2.59867  | 0.90954  | 0.15708 | 0.06854 | 0.43636 |
| 96  | 0.00145 | 0.04291 | 0.02145 | 0.82614 | 0.01888 | 0.03776 | 1.21046 | 1.58191 | 0.02721 | 0.01492 | 0.02157 | 0.05226 | 2.35791  | 0.85858  | 2.39103  | 0.89680  | 0.05097 | 0.03612 | 0.70872 |
| 97  | 0.00587 | 0.08645 | 0.04322 | 0.72097 | 0.03609 | 0.07218 | 1.38703 | 1.58067 | 0.05657 | 0.02874 | 0.04383 | 0.10687 | 1.79105  | 0.88533  | 1.88404  | 0.93501  | 0.10635 | 0.07027 | 0.66074 |
| 98  | 0.00227 | 0.05371 | 0.02685 | 0.69976 | 0.02184 | 0.04369 | 1.42905 | 1.93514 | 0.03856 | 0.01554 | 0.02786 | 0.07265 | 2.30059  | 0.93756  | 2.32352  | 0.87005  | 0.07754 | 0.03720 | 0.47969 |
| 99  | 0.00122 | 0.03936 | 0.01968 | 0.73617 | 0.01628 | 0.03256 | 1.35838 | 2.14238 | 0.02820 | 0.01322 | 0.02041 | 0.05554 | 0.88151  | 0.88533  | 0.92992  | 0.90954  | 0.05508 | 0.02813 | 0.51072 |
| 100 | 0.00254 | 0.05683 | 0.02841 | 0.75069 | 0.02401 | 0.04802 | 1.33211 | 1.56350 | 0.03566 | 0.02053 | 0.02869 | 0.06930 | 1.32481  | 0.95539  | 1.35156  | 0.89298  | 0.06843 | 0.04719 | 0.68968 |
| 101 | 0.01476 | 0.13707 | 0.06853 | 0.52338 | 0.04896 | 0.09792 | 1.91064 | 2.25302 | 0.10367 | 0.02687 | 0.07076 | 0.20316 | 1.38851  | 1.03820  | 1.54774  | 0.91463  | 0.22196 | 0.08464 | 0.38134 |
| 102 | 0.03010 | 0.19576 | 0.09788 | 0.31820 | 0.05459 | 0.10919 |         |         |         |         |         |         |          |          |          |          |         |         |         |



Appendix 2-18 Roundness of the Opaque Minerals

Karaotkel Pit Conc.

| 番号  | 面積      | 円相当径    | 半径      | 円形度     | サイズ     | 流体直径    | 凹凸度     | 線形度     | 重心距離最大  | 重心距離最小  | 重心距離平均  | 絶対最大長   | 絶対最大長傾角X | 絶対最大長傾角Y | 絶対最大長傾角Z | 楕円長軸    | 楕円短軸    | 楕円長短比   |         |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|----------|----------|---------|---------|---------|---------|
| 103 | 0.00345 | 0.06625 | 0.03312 | 0.78192 | 0.02867 | 0.05734 | 1.27890 | 1.63998 | 0.04539 | 0.02498 | 0.03349 | 0.08305 | 0.44458  | 0.98979  | 0.49681  | 0.92737 | 0.07849 | 0.05591 | 0.71231 |
| 104 | 0.01177 | 0.12243 | 0.06122 | 0.39557 | 0.03789 | 0.07578 | 2.57297 | 2.57297 | 0.10163 | 0.01026 | 0.06194 | 0.19334 | 0.84075  | 0.96431  | 1.03055  | 0.99361 | 0.22445 | 0.06678 | 0.29754 |
| 105 | 0.00838 | 0.10331 | 0.05166 | 0.52864 | 0.03695 | 0.07389 | 1.89165 | 2.33505 | 0.08063 | 0.03381 | 0.05296 | 0.15530 | 0.09936  | 0.94393  | 0.23057  | 1.02418 | 0.14263 | 0.07483 | 0.52467 |
| 106 | 0.02662 | 0.18411 | 0.09206 | 0.58125 | 0.06957 | 0.13914 | 1.72044 | 1.72095 | 0.13094 | 0.06740 | 0.09442 | 0.23942 | 1.88659  | 1.15284  | 2.09295  | 1.03437 | 0.24052 | 0.14093 | 0.58592 |
| 107 | 0.01511 | 0.13871 | 0.06935 | 0.54221 | 0.05045 | 0.10090 | 1.84431 | 2.18482 | 0.10422 | 0.02935 | 0.07104 | 0.20255 | 1.68404  | 0.95539  | 1.73882  | 1.14902 | 0.20665 | 0.09310 | 0.45054 |
| 108 | 0.02535 | 0.17965 | 0.08982 | 0.44378 | 0.05923 | 0.11846 | 2.25335 | 2.44694 | 0.15898 | 0.03887 | 0.09320 | 0.27815 | 1.09170  | 0.96431  | 1.27131  | 1.17450 | 0.28336 | 0.11389 | 0.40194 |
| 109 | 0.00951 | 0.11002 | 0.05501 | 0.65147 | 0.04379 | 0.08759 | 1.53500 | 2.02012 | 0.08154 | 0.03790 | 0.05665 | 0.15424 | 0.33885  | 1.09934  | 0.42674  | 0.97450 | 0.14572 | 0.08307 | 0.57007 |
| 110 | 0.00612 | 0.08828 | 0.04414 | 0.53230 | 0.03159 | 0.06318 | 1.87862 | 2.47735 | 0.07429 | 0.01779 | 0.04760 | 0.13630 | 1.53373  | 1.11590  | 1.57449  | 0.98724 | 0.14435 | 0.05399 | 0.37400 |
| 111 | 0.00080 | 0.03195 | 0.01597 | 0.81904 | 0.01384 | 0.02769 | 1.22094 | 1.91235 | 0.02126 | 0.01040 | 0.01623 | 0.04231 | 0.31082  | 1.01781  | 0.33885  | 0.98851 | 0.03929 | 0.02598 | 0.66108 |
| 112 | 0.00948 | 0.10989 | 0.05495 | 0.65896 | 0.04399 | 0.08797 | 1.51754 | 2.04377 | 0.08129 | 0.03304 | 0.05617 | 0.15493 | 0.72483  | 1.00253  | 0.83565  | 1.10826 | 0.14800 | 0.08160 | 0.55133 |
| 113 | 0.00914 | 0.10790 | 0.05395 | 0.49187 | 0.03722 | 0.07444 | 2.03306 | 2.15602 | 0.07914 | 0.02600 | 0.05426 | 0.15584 | 1.31207  | 1.15284  | 1.36812  | 1.00890 | 0.14827 | 0.07852 | 0.52958 |
| 114 | 0.00571 | 0.08527 | 0.04263 | 0.53592 | 0.03059 | 0.06118 | 1.86596 | 1.79276 | 0.06294 | 0.01200 | 0.04146 | 0.11190 | 0.89680  | 1.13501  | 0.91208  | 1.02546 | 0.11942 | 0.06088 | 0.50980 |
| 115 | 0.00399 | 0.07123 | 0.03562 | 0.58442 | 0.02661 | 0.05322 | 1.71111 | 1.67956 | 0.04768 | 0.01903 | 0.03572 | 0.09022 | 0.13885  | 1.11463  | 0.18598  | 1.03947 | 0.09447 | 0.05371 | 0.56860 |
| 116 | 0.00257 | 0.05719 | 0.02859 | 0.62603 | 0.02201 | 0.04401 | 1.59737 | 1.92879 | 0.04072 | 0.01197 | 0.02897 | 0.07725 | 0.08535  | 1.10189  | 0.14649  | 1.05730 | 0.07910 | 0.04135 | 0.52274 |
| 117 | 0.00084 | 0.03262 | 0.01631 | 0.81904 | 0.01415 | 0.02829 | 1.22095 | 1.79472 | 0.02111 | 0.01160 | 0.01667 | 0.04188 | 0.26369  | 1.06877  | 0.30063  | 1.08533 | 0.04231 | 0.02515 | 0.59428 |
| 118 | 0.01272 | 0.12726 | 0.06363 | 0.67535 | 0.05167 | 0.10334 | 1.48070 | 1.64089 | 0.08453 | 0.04294 | 0.06475 | 0.16109 | 2.07384  | 1.08405  | 2.22798  | 1.12609 | 0.16557 | 0.09781 | 0.59074 |
| 119 | 0.00405 | 0.07181 | 0.03591 | 0.63752 | 0.02805 | 0.05611 | 1.56857 | 2.19176 | 0.05340 | 0.01743 | 0.03676 | 0.10403 | 1.40507  | 1.16176  | 1.46366  | 1.07768 | 0.10410 | 0.04954 | 0.47592 |
| 120 | 0.01656 | 0.14520 | 0.07260 | 0.62482 | 0.05677 | 0.11354 | 1.60047 | 1.53134 | 0.09306 | 0.05106 | 0.07389 | 0.17775 | 0.35795  | 1.18342  | 0.52993  | 1.22290 | 0.18020 | 0.11699 | 0.64923 |
| 121 | 0.01191 | 0.12314 | 0.06157 | 0.53865 | 0.04458 | 0.08915 | 1.85651 | 2.91370 | 0.11309 | 0.03244 | 0.06797 | 0.20735 | 2.27002  | 1.11717  | 2.44963  | 1.21781 | 0.21481 | 0.07059 | 0.32860 |
| 122 | 0.01302 | 0.12873 | 0.06437 | 0.61823 | 0.04999 | 0.09997 | 1.61751 | 1.73436 | 0.08863 | 0.04961 | 0.06485 | 0.16745 | 0.17197  | 1.14265  | 0.30573  | 1.24074 | 0.15845 | 0.10459 | 0.66007 |
| 123 | 0.00254 | 0.05686 | 0.02843 | 0.78364 | 0.02456 | 0.04912 | 1.27609 | 1.41294 | 0.03582 | 0.02181 | 0.02875 | 0.06595 | 0.58852  | 1.12991  | 0.61273  | 1.18978 | 0.06751 | 0.04790 | 0.70950 |
| 124 | 0.00370 | 0.06866 | 0.03433 | 0.59215 | 0.02580 | 0.05159 | 1.68877 | 1.47430 | 0.04306 | 0.01112 | 0.03332 | 0.08140 | 0.00892  | 1.20634  | 0.07134  | 1.15666 | 0.08635 | 0.05460 | 0.63237 |
| 125 | 0.00900 | 0.10703 | 0.05351 | 0.66018 | 0.04287 | 0.08573 | 1.51475 | 1.83548 | 0.07234 | 0.03789 | 0.05418 | 0.14295 | 2.22925  | 1.29042  | 2.25728  | 1.15157 | 0.13761 | 0.08324 | 0.60489 |
| 126 | 0.01554 | 0.14064 | 0.07032 | 0.61929 | 0.05472 | 0.10944 | 1.61475 | 2.49559 | 0.11297 | 0.04033 | 0.07451 | 0.21970 | 0.61910  | 1.33118  | 0.74648  | 1.15412 | 0.21857 | 0.09050 | 0.61407 |
| 127 | 0.01414 | 0.13417 | 0.06709 | 0.71550 | 0.05613 | 0.11226 | 1.39763 | 1.78261 | 0.09241 | 0.04929 | 0.06846 | 0.17719 | 1.39105  | 1.20125  | 1.53500  | 1.30188 | 0.17121 | 0.10515 | 0.61014 |
| 128 | 0.01108 | 0.11880 | 0.05940 | 0.54400 | 0.04320 | 0.08640 | 1.83823 | 2.31264 | 0.09774 | 0.02355 | 0.06186 | 0.17815 | 1.79487  | 1.19106  | 1.90060  | 1.33246 | 0.19296 | 0.07314 | 0.37906 |
| 129 | 0.01358 | 0.13151 | 0.06576 | 0.36938 | 0.03935 | 0.07869 | 2.70720 | 2.31232 | 0.10279 | 0.03210 | 0.06652 | 0.19688 | 1.11463  | 1.23692  | 1.30953  | 1.25348 | 0.20358 | 0.08496 | 0.41733 |
| 130 | 0.00229 | 0.05401 | 0.02701 | 0.71622 | 0.02224 | 0.04448 | 1.39622 | 2.21377 | 0.04163 | 0.01622 | 0.02812 | 0.07820 | 2.48530  | 1.27004  | 2.52606  | 1.20057 | 0.07752 | 0.03763 | 0.48543 |
| 131 | 0.00356 | 0.06734 | 0.03367 | 0.75773 | 0.02870 | 0.05740 | 1.31974 | 1.98902 | 0.04688 | 0.02025 | 0.03468 | 0.09300 | 2.51715  | 1.29551  | 2.57574  | 1.22545 | 0.09225 | 0.04916 | 0.53290 |
| 132 | 0.00263 | 0.05789 | 0.02894 | 0.75986 | 0.02462 | 0.04923 | 1.31603 | 1.79861 | 0.03833 | 0.01884 | 0.02938 | 0.07575 | 2.31588  | 1.28278  | 2.37702  | 1.24074 | 0.07509 | 0.04463 | 0.59437 |
| 133 | 0.01649 | 0.14491 | 0.07245 | 0.58717 | 0.05490 | 0.10980 | 1.70310 | 1.97413 | 0.10257 | 0.03206 | 0.07340 | 0.20133 | 0.92737  | 1.41271  | 1.05730  | 1.26112 | 0.21200 | 0.09905 | 0.46719 |
| 134 | 0.00530 | 0.08213 | 0.04107 | 0.76445 | 0.03529 | 0.07058 | 1.30812 | 1.87368 | 0.05557 | 0.02999 | 0.04166 | 0.11050 | 1.31080  | 1.32099  | 1.40507  | 1.26622 | 0.10373 | 0.06503 | 0.62696 |
| 135 | 0.03231 | 0.20283 | 0.10141 | 0.78040 | 0.08897 | 0.17793 | 1.28139 | 1.50476 | 0.12561 | 0.07608 | 0.10214 | 0.24708 | 1.69423  | 1.49678  | 1.82926  | 1.29169 | 0.24470 | 0.16812 | 0.68706 |
| 136 | 0.00775 | 0.09932 | 0.04966 | 0.61851 | 0.03844 | 0.07688 | 1.61679 | 2.48948 | 0.07807 | 0.02270 | 0.05184 | 0.15424 | 0.43693  | 1.28660  | 0.53757  | 1.40125 | 0.15055 | 0.06552 | 0.43520 |
| 137 | 0.00670 | 0.09236 | 0.04618 | 0.50615 | 0.03223 | 0.06447 | 1.97571 | 2.27541 | 0.07238 | 0.02385 | 0.04870 | 0.13669 | 2.47638  | 1.33883  | 2.60504  | 1.29579 | 0.14371 | 0.05936 | 0.41305 |
| 138 | 0.00029 | 0.01928 | 0.00964 | 0.85489 | 0.00830 | 0.01660 | 1.16974 | 1.69330 | 0.01207 | 0.00830 | 0.00978 | 0.02336 | 1.99232  | 1.30061  | 2.00888  | 1.31462 | 0.02209 | 0.01684 | 0.76212 |
| 139 | 0.00278 | 0.05953 | 0.02976 | 0.63769 | 0.02316 | 0.04631 | 1.56815 | 2.76095 | 0.04868 | 0.01506 | 0.03162 | 0.09637 | 1.38851  | 1.34137  | 1.45475  | 1.40889 | 0.09441 | 0.03753 | 0.39757 |
| 140 | 0.00083 | 0.03256 | 0.01628 | 0.64542 | 0.01246 | 0.02493 | 1.54938 | 2.27556 | 0.02387 | 0.00674 | 0.01654 | 0.04681 | 0.13885  | 1.37832  | 0.16942  | 1.34520 | 0.04662 | 0.02273 | 0.48762 |
| 141 | 0.00223 | 0.05334 | 0.02667 | 0.65239 | 0.02093 | 0.04187 | 1.53283 | 1.77426 | 0.03765 | 0.01667 | 0.02714 | 0.06905 | 1.20762  | 1.35921  | 1.27259  | 1.37832 | 0.07064 | 0.04028 | 0.57022 |
| 142 | 0.00696 | 0.09417 | 0.04708 | 0.66897 | 0.03789 | 0.07578 | 1.49483 | 1.44680 | 0.06069 | 0.03135 | 0.04700 | 0.11144 | 1.31080  | 1.44328  | 1.37322  | 1.35284 | 0.11070 | 0.08011 | 0.72368 |
| 143 | 0.00107 | 0.03687 | 0.01844 | 0.74522 | 0.01530 | 0.03060 | 1.34189 | 1.73933 | 0.02405 | 0.00959 | 0.01865 | 0.04674 | 0.07898  | 1.36176  | 0.11720  | 1.38596 | 0.04770 | 0.02850 | 0.59756 |
| 144 | 0.00985 | 0.11198 | 0.05599 | 0.74879 | 0.04783 | 0.09566 | 1.33548 | 1.76595 | 0.07667 | 0.03723 | 0.05741 | 0.14691 | 2.29804  | 1.38468  | 2.43180  | 1.44201 | 0.14864 | 0.08436 | 0.56754 |
| 145 | 0.01005 | 0.11314 | 0.05657 | 0.54518 | 0.04115 | 0.08231 | 1.83426 | 2.40532 | 0.09100 | 0.02476 | 0.05832 | 0.17289 | 0.59617  | 1.37195  | 0.74011  | 1.46494 | 0.17277 | 0.07409 | 0.42883 |
| 146 | 0.00396 | 0.07099 | 0.03549 | 0.73405 | 0.02979 | 0.05958 | 1.36230 | 1.63411 | 0.04759 | 0.02482 | 0.03617 | 0.08889 | 2.03181  | 1.36303  | 2.06365  | 1.44456 | 0.08836 | 0.05703 | 0.64545 |
| 147 | 0.00870 | 0.10523 | 0.05262 | 0.67905 | 0.04273 | 0.08547 | 1.47265 | 1.96614 | 0.08000 | 0.03373 | 0.05469 | 0.14543 | 2.55027  | 1.50061  | 2.60377  | 1.36685 | 0.14554 | 0.07609 | 0.52285 |
| 148 | 0.00620 | 0.08886 | 0.04443 | 0.48961 | 0.03047 | 0.06094 | 2.04246 | 3.31987 | 0.09258 | 0.01999 | 0.05200 | 0.15869 | 1.15921  | 1.37449  | 1.19106  | 1.52863 | 0.16938 | 0.04662 | 0.27525 |
| 149 | 0.00351 | 0.06680 | 0.03340 | 0.71470 | 0.02782 | 0.05525 | 1.39919 | 1.73085 | 0.04602 | 0.02398 | 0.03387 | 0.08598 | 0.26114  | 1.46112  | 0.33120  | 1.41398 | 0.08179 | 0.05456 | 0.66710 |
| 150 | 0.00426 | 0.07363 | 0.03682 | 0.59573 | 0.02780 | 0.05560 | 1.67862 | 2.06886 | 0.05420 | 0.02160 | 0.03800 | 0.10361 | 0.47388  | 1.47895  | 0.54266  | 1.40379 | 0.10532 | 0.05148 | 0.48877 |
| 151 | 0.03327 | 0.20581 | 0.10291 | 0.75483 | 0.08879 | 0.17758 | 1.32481 | 1.72808 | 0.13594 | 0.07439 | 0.10527 | 0.26870 | 2.10187  | 1.44838  | 2.35154  | 1.54392 | 0.26685 | 0.15874 | 0.59485 |
| 152 | 0.00910 | 0.10761 | 0.05381 | 0.47660 | 0.03653 | 0.07307 | 2.09821 | 2.64660 | 0.08901 | 0.02472 | 0.05610 | 0.17219 | 0.33885  | 1.45093  | 0.48024  | 1.54647 | 0.16260 | 0.07122 | 0.43801 |
| 153 | 0.00549 |         |         |         |         |         |         |         |         |         |         |         |          |          |          |         |         |         |         |

Appendix 2-18 Roundness of the Opaque Minerals

| Karatokel Pit Conc. |         |         |         |         |         |         |         |         |         |         |         |         |          |          |          |          |         |         |         |
|---------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|----------|----------|----------|---------|---------|---------|
| 番号                  | 面積      | 円相当径    | 半径      | 円形度     | サイズ     | 流体直径    | 凹凸度     | 線形度     | 重心距離最大  | 重心距離最小  | 重心距離平均  | 絶対最大長   | 絶対最大長傾点X | 絶対最大長傾点Y | 絶対最大長傾点X | 絶対最大長傾点Y | 楕円長軸    | 楕円短軸    | 楕円長短比   |
| 154                 | 0.00709 | 0.09500 | 0.04750 | 0.45245 | 0.03134 | 0.06267 | 2.21017 | 2.48155 | 0.08071 | 0.01978 | 0.04922 | 0.14678 | 0.18981  | 1.49933  | 0.32229  | 1.55920  | 0.15169 | 0.05950 | 0.39223 |
| 155                 | 0.02303 | 0.17124 | 0.08562 | 0.68692 | 0.07034 | 0.14068 | 1.45577 | 1.38741 | 0.10941 | 0.06304 | 0.08614 | 0.19993 | 0.89680  | 1.68022  | 0.97578  | 1.49806  | 0.20556 | 0.14264 | 0.69391 |
| 156                 | 0.01748 | 0.14918 | 0.07459 | 0.60364 | 0.05733 | 0.11467 | 1.65661 | 1.86281 | 0.10644 | 0.04191 | 0.07570 | 0.20144 | 1.58595  | 1.68786  | 1.67895  | 1.51080  | 0.21044 | 0.10575 | 0.50251 |
| 157                 | 0.01140 | 0.12047 | 0.06023 | 0.55333 | 0.04419 | 0.08839 | 1.80724 | 1.98456 | 0.08423 | 0.02735 | 0.06092 | 0.16739 | 1.41398  | 1.60888  | 1.57322  | 1.56175  | 0.17538 | 0.08275 | 0.47180 |
| 158                 | 0.00101 | 0.03585 | 0.01792 | 0.77963 | 0.01522 | 0.03045 | 1.28266 | 2.10130 | 0.02516 | 0.01345 | 0.01840 | 0.04999 | 2.57574  | 1.52354  | 2.60377  | 1.56303  | 0.04703 | 0.02732 | 0.58098 |
| 159                 | 0.00562 | 0.08460 | 0.04230 | 0.60498 | 0.03229 | 0.06457 | 1.65295 | 2.40152 | 0.07181 | 0.02095 | 0.04447 | 0.12866 | 1.32227  | 1.65984  | 1.38468  | 1.54901  | 0.13377 | 0.05350 | 0.39997 |
| 160                 | 0.00409 | 0.07214 | 0.03607 | 0.49199 | 0.02468 | 0.04937 | 2.03257 | 2.74261 | 0.05911 | 0.02045 | 0.03859 | 0.11656 | 2.05473  | 1.60379  | 2.16683  | 1.57704  | 0.11551 | 0.04506 | 0.39005 |
| 161                 | 0.01169 | 0.12198 | 0.06099 | 0.59152 | 0.04628 | 0.09257 | 1.69055 | 1.86478 | 0.08892 | 0.02824 | 0.06199 | 0.16435 | 2.30314  | 1.66748  | 2.45473  | 1.60761  | 0.16563 | 0.08982 | 0.54231 |
| 162                 | 0.00311 | 0.06292 | 0.03146 | 0.65426 | 0.02483 | 0.04967 | 1.52845 | 2.38557 | 0.04982 | 0.01656 | 0.03337 | 0.09484 | 1.72863  | 1.59360  | 1.81652  | 1.56175  | 0.09662 | 0.04097 | 0.42407 |
| 163                 | 0.02578 | 0.18119 | 0.09060 | 0.32649 | 0.05114 | 0.10228 | 3.06292 | 1.56490 | 0.11899 | 0.00671 | 0.08194 | 0.22393 | 0.16560  | 1.78850  | 0.27515  | 1.59487  | 0.23957 | 0.13704 | 0.57204 |
| 164                 | 0.00078 | 0.03149 | 0.01575 | 0.50111 | 0.01053 | 0.02106 | 1.99555 | 2.98463 | 0.02578 | 0.00428 | 0.01614 | 0.05140 | 0.13376  | 1.61908  | 0.16560  | 1.58086  | 0.05431 | 0.01826 | 0.33619 |
| 165                 | 0.00539 | 0.08285 | 0.04142 | 0.63312 | 0.03234 | 0.06468 | 1.57948 | 1.94961 | 0.05818 | 0.01879 | 0.04175 | 0.11350 | 0.65731  | 1.62927  | 0.76686  | 1.60506  | 0.12100 | 0.05673 | 0.46882 |
| 166                 | 0.00155 | 0.04444 | 0.02222 | 0.64774 | 0.01728 | 0.03455 | 1.54383 | 1.83413 | 0.02989 | 0.00811 | 0.02222 | 0.05814 | 2.56937  | 1.60506  | 2.60249  | 1.65092  | 0.06056 | 0.03261 | 0.53854 |
| 167                 | 0.00060 | 0.02769 | 0.01384 | 0.78721 | 0.01166 | 0.02332 | 1.27031 | 1.88115 | 0.01891 | 0.00911 | 0.01406 | 0.03606 | 0.03694  | 1.63691  | 0.05860  | 1.61016  | 0.03434 | 0.02232 | 0.64984 |
| 168                 | 0.00068 | 0.02942 | 0.01471 | 0.82996 | 0.01278 | 0.02556 | 1.20488 | 1.69240 | 0.01870 | 0.01146 | 0.01494 | 0.03650 | 1.82289  | 1.62927  | 1.85219  | 1.61016  | 0.03612 | 0.02396 | 0.66340 |
| 169                 | 0.01487 | 0.13759 | 0.06879 | 0.50204 | 0.04813 | 0.09625 | 1.99185 | 2.06075 | 0.10198 | 0.01872 | 0.06674 | 0.19501 | 1.91843  | 1.62672  | 2.07130  | 1.74519  | 0.20225 | 0.09360 | 0.46279 |
| 170                 | 0.00119 | 0.03892 | 0.01946 | 0.82604 | 0.01708 | 0.03415 | 1.21060 | 1.71663 | 0.02502 | 0.01379 | 0.01970 | 0.04924 | 2.44836  | 1.65474  | 2.48785  | 1.62799  | 0.04743 | 0.03193 | 0.67332 |
| 171                 | 0.00319 | 0.06377 | 0.03188 | 0.69541 | 0.02597 | 0.05194 | 1.43801 | 2.09968 | 0.04748 | 0.01776 | 0.03290 | 0.09026 | 0.32738  | 1.63181  | 0.37834  | 1.70442  | 0.08826 | 0.04607 | 0.52197 |
| 172                 | 0.00694 | 0.09403 | 0.04701 | 0.61325 | 0.03620 | 0.07239 | 1.63065 | 1.53649 | 0.05903 | 0.03061 | 0.04695 | 0.11459 | 2.12607  | 1.64328  | 2.18849  | 1.73754  | 0.11354 | 0.07787 | 0.68583 |
| 173                 | 0.00811 | 0.10160 | 0.05080 | 0.52496 | 0.03619 | 0.07238 | 1.90491 | 1.99071 | 0.07489 | 0.02417 | 0.05263 | 0.14095 | 1.76939  | 1.76684  | 1.85856  | 1.65984  | 0.15407 | 0.06700 | 0.43485 |
| 174                 | 0.00133 | 0.04111 | 0.02056 | 0.72549 | 0.01689 | 0.03379 | 1.37838 | 2.38378 | 0.03119 | 0.01364 | 0.02154 | 0.06124 | 2.38594  | 1.67512  | 2.43944  | 1.64837  | 0.05972 | 0.02830 | 0.47389 |
| 175                 | 0.00068 | 0.02953 | 0.01476 | 0.78124 | 0.01243 | 0.02486 | 1.28002 | 2.16586 | 0.02114 | 0.01013 | 0.01511 | 0.04140 | 1.50443  | 1.69296  | 1.53373  | 1.66621  | 0.03858 | 0.02260 | 0.58582 |
| 176                 | 0.01445 | 0.13563 | 0.06782 | 0.51871 | 0.04823 | 0.09645 | 1.92786 | 2.38407 | 0.11553 | 0.03509 | 0.07169 | 0.20679 | 0.70827  | 1.67003  | 0.90317  | 1.73500  | 0.19778 | 0.09302 | 0.47031 |
| 177                 | 0.00490 | 0.07900 | 0.03950 | 0.81068 | 0.03495 | 0.06989 | 1.23353 | 1.47556 | 0.04932 | 0.03197 | 0.03997 | 0.09429 | 1.44328  | 1.75665  | 1.48277  | 1.67258  | 0.09270 | 0.06733 | 0.72639 |
| 178                 | 0.00386 | 0.07008 | 0.03504 | 0.63779 | 0.02737 | 0.05473 | 1.56792 | 2.49344 | 0.05696 | 0.02023 | 0.03646 | 0.10822 | 1.70188  | 1.75156  | 1.77194  | 1.67130  | 0.10188 | 0.04820 | 0.47312 |
| 179                 | 0.01470 | 0.13682 | 0.06841 | 0.49567 | 0.04754 | 0.09509 | 2.01747 | 2.45372 | 0.11952 | 0.03225 | 0.07207 | 0.21157 | 1.24201  | 1.81780  | 1.40379  | 1.68404  | 0.20402 | 0.09175 | 0.44971 |
| 180                 | 0.01301 | 0.12873 | 0.06436 | 0.68345 | 0.05259 | 0.10519 | 1.46318 | 1.39103 | 0.07516 | 0.04543 | 0.06409 | 0.15006 | 0.32611  | 1.80251  | 0.46878  | 1.76047  | 0.14676 | 0.11291 | 0.76938 |
| 181                 | 0.01156 | 0.12133 | 0.06067 | 0.66474 | 0.04885 | 0.09769 | 1.50434 | 2.04987 | 0.09087 | 0.03649 | 0.06313 | 0.17155 | 2.17575  | 1.79996  | 2.34390  | 1.77321  | 0.17326 | 0.08496 | 0.49037 |
| 182                 | 0.01322 | 0.12974 | 0.06487 | 0.70644 | 0.05391 | 0.10782 | 1.41555 | 1.72229 | 0.09095 | 0.04083 | 0.06578 | 0.16835 | 0.93756  | 1.72481  | 1.01017  | 1.87512  | 0.16894 | 0.09964 | 0.58978 |
| 183                 | 0.00390 | 0.07049 | 0.03525 | 0.74851 | 0.02988 | 0.05975 | 1.33600 | 1.45198 | 0.04494 | 0.02579 | 0.03555 | 0.08322 | 1.35793  | 1.73627  | 1.43437  | 1.76557  | 0.08471 | 0.05866 | 0.69239 |
| 184                 | 0.00039 | 0.02218 | 0.01109 | 0.84492 | 0.00957 | 0.01915 | 1.18354 | 1.67658 | 0.01388 | 0.00957 | 0.01124 | 0.02697 | 2.45727  | 1.73627  | 2.47638  | 1.75283  | 0.02550 | 0.01929 | 0.75647 |
| 185                 | 0.00117 | 0.03865 | 0.01932 | 0.82970 | 0.01698 | 0.03397 | 1.20526 | 1.89406 | 0.02604 | 0.01572 | 0.01964 | 0.05132 | 2.52352  | 1.77194  | 2.55918  | 1.73754  | 0.04583 | 0.03260 | 0.71125 |
| 186                 | 0.01204 | 0.12383 | 0.06192 | 0.55368 | 0.04545 | 0.09091 | 1.80611 | 1.89670 | 0.08566 | 0.03730 | 0.06257 | 0.16825 | 1.70825  | 1.91843  | 1.75410  | 1.75793  | 0.16982 | 0.09030 | 0.53174 |
| 187                 | 0.00183 | 0.04828 | 0.02414 | 0.57715 | 0.01772 | 0.03544 | 1.73264 | 3.03302 | 0.04101 | 0.01128 | 0.02583 | 0.08125 | 2.46237  | 1.75793  | 2.51332  | 1.81907  | 0.08134 | 0.02865 | 0.35229 |
| 188                 | 0.00652 | 0.09115 | 0.04557 | 0.68671 | 0.03715 | 0.07430 | 1.45621 | 1.62302 | 0.05911 | 0.03492 | 0.04644 | 0.11422 | 1.15666  | 1.76557  | 1.17832  | 1.87639  | 0.11363 | 0.07311 | 0.64339 |
| 189                 | 0.00254 | 0.05688 | 0.02844 | 0.82983 | 0.02529 | 0.05059 | 1.20507 | 1.47393 | 0.03544 | 0.02236 | 0.02871 | 0.06742 | 2.06365  | 1.84327  | 2.12607  | 1.82162  | 0.06624 | 0.04884 | 0.73731 |
| 190                 | 0.01041 | 0.11514 | 0.05757 | 0.66215 | 0.04622 | 0.09245 | 1.51023 | 2.07228 | 0.08441 | 0.03461 | 0.05909 | 0.16354 | 1.86238  | 1.87385  | 2.01907  | 1.83181  | 0.15781 | 0.08400 | 0.53232 |
| 191                 | 0.01193 | 0.12325 | 0.06162 | 0.62171 | 0.04797 | 0.09594 | 1.60847 | 1.49683 | 0.07844 | 0.04311 | 0.06156 | 0.14886 | 0.54139  | 1.85856  | 0.66495  | 1.93881  | 0.15099 | 0.10060 | 0.66630 |
| 192                 | 0.00029 | 0.01928 | 0.00964 | 0.85489 | 0.00830 | 0.01660 | 1.16974 | 1.82759 | 0.01214 | 0.00831 | 0.00978 | 0.02427 | 2.35537  | 1.82544  | 2.37065  | 1.84200  | 0.02210 | 0.01683 | 0.76161 |
| 193                 | 0.00351 | 0.06687 | 0.03343 | 0.69927 | 0.02733 | 0.05467 | 1.43006 | 1.67986 | 0.04432 | 0.02254 | 0.03410 | 0.08473 | 2.43689  | 1.91206  | 2.47766  | 1.83945  | 0.08323 | 0.05372 | 0.64543 |
| 194                 | 0.00056 | 0.02666 | 0.01333 | 0.80981 | 0.01138 | 0.02276 | 1.23486 | 1.69889 | 0.01669 | 0.00931 | 0.01354 | 0.03296 | 2.26874  | 1.84073  | 2.29549  | 1.85729  | 0.03271 | 0.02173 | 0.66443 |
| 195                 | 0.00069 | 0.02970 | 0.01485 | 0.78588 | 0.01254 | 0.02508 | 1.27246 | 1.86339 | 0.02031 | 0.01022 | 0.01525 | 0.03862 | 2.38849  | 1.87639  | 2.40759  | 1.84455  | 0.03884 | 0.02272 | 0.58493 |
| 196                 | 0.00795 | 0.10061 | 0.05030 | 0.53920 | 0.03632 | 0.07264 | 1.85458 | 2.30703 | 0.07622 | 0.01720 | 0.05182 | 0.15026 | 0.89043  | 1.86875  | 1.92862  | 1.02673  | 0.16162 | 0.06263 | 0.38748 |
| 197                 | 0.00067 | 0.02921 | 0.01461 | 0.57153 | 0.01042 | 0.02085 | 1.74970 | 2.50183 | 0.02188 | 0.00461 | 0.01473 | 0.04361 | 2.23690  | 1.88913  | 2.27129  | 1.86493  | 0.04556 | 0.01873 | 0.41110 |
| 198                 | 0.01232 | 0.12525 | 0.06263 | 0.50725 | 0.04399 | 0.08798 | 1.97142 | 2.81529 | 0.11036 | 0.03472 | 0.06818 | 0.20726 | 1.02673  | 1.95283  | 1.23182  | 1.93372  | 0.19843 | 0.07906 | 0.39842 |
| 199                 | 0.00334 | 0.06521 | 0.03260 | 0.39380 | 0.01985 | 0.03969 | 2.53935 | 2.34138 | 0.05173 | 0.00634 | 0.03267 | 0.09679 | 2.49804  | 1.90187  | 2.59103  | 1.92353  | 0.10902 | 0.03900 | 0.35779 |
| 200                 | 0.00374 | 0.06904 | 0.03452 | 0.70542 | 0.02837 | 0.05675 | 1.41759 | 1.65430 | 0.04445 | 0.02131 | 0.03495 | 0.08690 | 1.25603  | 1.95283  | 1.29169  | 1.87512  | 0.08930 | 0.05338 | 0.59778 |
| 201                 | 0.00042 | 0.02318 | 0.01159 | 0.84385 | 0.01003 | 0.02007 | 1.18504 | 1.68578 | 0.01472 | 0.00880 | 0.01178 | 0.02836 | 0.37451  | 1.92990  | 0.39744  | 1.94391  | 0.02826 | 0.01901 | 0.67241 |