

## The crystal structure of a Mexican axinite

J. STEVEN SWINNEA, HUGO STEINFINK

Materials Science Laboratories, Department of Chemical Engineering  
The University of Texas at Austin, Austin, Texas 78712

L. E. RENDON-DIAZMIRON

Instituto de Investigaciones en Materiales UNAM  
Ciudad Universitaria, D.F. Mexico

and S. ENCISO DE LA VEGA

Instituto de Geologia UNAM  
Ciudad Universitaria, D.F. Mexico

### Abstract

A new occurrence of axinite and its chemical composition is reported. A three-dimensional X-ray diffraction structure analysis was carried out using 3124 observed structure amplitudes. The refinement converged to  $R = 0.019$ ,  $wR = 0.030$ . The  $Mg^{2+}$ ,  $Mn^{2+}$ , and  $Fe^{2+}$  ions occupy the distorted "Fe" octahedral site; the bond distances and angles are essentially unchanged from those reported by Takéuchi *et al.* (1974).

The crystal chemistry and structure of axinites have received extensive attention, and correlations have been derived between their physical properties and chemical composition [Lumpkin and Ribbe (1979), Takéuchi *et al.* (1974)]. Axinite has not been previously reported from Mexico, and we describe such a location, the crystal structure of the mineral, and comment on its cation distribution.

The location is in the Vinagrillos hills about 8 km east of Mapimi, in the state of Durango, in an old lead-silver-zinc mining district known as "Ojuela." The specimens were picked from a deposit on the north side of the highway connecting Bermejillo and Mapimi (103°47'W, 25°52'N). The axinite occurs as concretions in rounded to irregular shapes, ranging up to 20 cm in diameter. Less common is the occurrence of the mineral in 5 cm thick bands and lenses. The crystals are honey brown to brown, and the best crystals develop towards the interior of concretion zones. The rock is vesicular with open spaces varying from 2 to 4 mm. The crystal size varies from about 0.1 mm to 1.5 mm. The host rock is limestone or fine sandstone of marine origin and is part of the Caracol formation, Coniacian age (late Cretaceous). The area

shows an early tertiary intensive igneous activity with the main system consisting of dacite and latite intrusive bodies. The geology of this part of Mexico has been described by Clemons and McLeroy (1965).

The chemical analysis (Table 1) gives the chemical formula  $(Ti_{0.01}K_{0.044}Na_{0.13}Mn_{0.26}Fe_{1.10}Mg_{0.37})Ca_{3.90}(Al_{3.56}Fe_{0.18})(OH)_{1.96}B_{1.96}Si_8O_{29.34}$ . The oxygen deficiency of 0.66 is probably within the experimental error of the analysis; the alkali metal ions and  $TiO_2$  may represent small amounts of admixed impurities.

An amber crystal of about triangular cross-section having sides of 0.4 mm and 0.2 mm was used for oscillation, Weissenberg, and precession X-ray diffraction photographs to determine unit-cell parameters and space group. The preliminary data agreed with those previously published. The crystal was transferred to a Syntex P2<sub>1</sub> single-crystal diffractometer and X-ray diffraction data to a value of  $2\theta = 60^\circ$  were collected, using  $MoK\alpha$  radiation monochromatized with a graphite crystal. The data and lattice constants were determined at  $-35^\circ C$ . A least-squares refinement of 60 reflections whose  $2\theta$  values were precisely determined in the range  $25^\circ \leq 2\theta \leq 30^\circ$  yielded the lattice parameters:  $a = 7.1477(4)$ ,  $b =$

| H   | K       | F OBS | FCAL | H   | K      | F OBS | FCAL | H | K  | F OBS | FCAL | H   | K      | F OBS | FCAL |
|-----|---------|-------|------|-----|--------|-------|------|---|----|-------|------|-----|--------|-------|------|
| *** | L = -12 | ***   |      | 1   | -4     | 220   | 223  | 0 | 7  | 163   | 160  | 4   | -3     | 97    | 100  |
| 0   | 1       | 505   | 497  | 1   | -3     | 302   | 308  | 0 | 8  | 137   | 133  | 4   | -2     | 260   | 258  |
| 0   | 2       | 179   | 180  | 1   | -2     | 305   | 303  | 1 | -8 | 28    | 32   | 4   | -1     | 371   | 366  |
| 0   | 3       | 211   | 202  | 1   | -1     | 71    | 63   | 1 | -7 | 10    | 15*  | 4   | 0      | 59    | 60   |
| 1   | -2      | 190   | 187  | 1   | 0      | 76    | 73   | 1 | -6 | 272   | 280  | 4   | 1      | 95    | 94   |
| 1   | -1      | 176   | 174  | 1   | 1      | 43    | 33   | 1 | -5 | 439   | 438  | 4   | 2      | 24    | 12*  |
| 1   | 0       | 27    | 9*   | 1   | 2      | 30    | 26   | 1 | -4 | 271   | 272  | 4   | 3      | 54    | 40   |
| 1   | 1       | 96    | 96   | 1   | 3      | 100   | 100  | 1 | -3 | 470   | 469  | 4   | 4      | 41    | 31   |
| 1   | 2       | 67    | 71   | 1   | 4      | 32    | 13   | 1 | -2 | 542   | 547  | 4   | 5      | 395   | 397  |
| *** | L = -11 | ***   |      | 1   | 5      | 232   | 227  | 1 | -1 | 160   | 162  | 4   | 6      | 92    | 93   |
| 0   | 1       | 108   | 104  | 1   | 6      | 45    | 49   | 1 | 0  | 229   | 231  | 4   | 7      | 366   | 366  |
| 0   | 2       | 514   | 510  | 1   | 7      | 80    | 83   | 1 | 1  | 49    | 46   | 5   | -3     | 198   | 195  |
| 0   | 3       | 9     | 15*  | 2   | -6     | 103   | 110  | 1 | 2  | 542   | 548  | 5   | -2     | 248   | 246  |
| 0   | 4       | 248   | 248  | 2   | -5     | 346   | 342  | 1 | 3  | 258   | 259  | 5   | -1     | 277   | 273  |
| 0   | 5       | 39    | 42   | 2   | -4     | 233   | 227  | 1 | 4  | 193   | 192  | 5   | 0      | 99    | 92   |
| 1   | -5      | 355   | 348  | 2   | -3     | 91    | 90   | 1 | 5  | 48    | 49   | 5   | 1      | 449   | 448  |
| 1   | -4      | 91    | 90   | 2   | -2     | 266   | 256  | 1 | 6  | 264   | 257  | 5   | 2      | 360   | 362  |
| 1   | -3      | 227   | 223  | 2   | -1     | 68    | 67   | 1 | 7  | 45    | 44   | 5   | 3      | 229   | 224  |
| 1   | -2      | 45    | 48   | 2   | 0      | 234   | 229  | 1 | 8  | 182   | 182  | 5   | 4      | 24    | 41*  |
| 1   | -1      | 180   | 172  | 2   | 1      | 83    | 85   | 2 | -7 | 172   | 174  | 5   | 5      | 69    | 67   |
| 1   | 0       | 692   | 682  | 2   | 2      | 67    | 65   | 2 | -6 | 143   | 140  | *** | L = -8 | ***   |      |
| 1   | 1       | 116   | 117  | 2   | 3      | 477   | 476  | 2 | -5 | 276   | 279  | 0   | 1      | 477   | 475  |
| 1   | 2       | 32    | 25   | 2   | 4      | 229   | 230  | 2 | -4 | 48    | 45   | 0   | 2      | 304   | 304  |
| 1   | 3       | 31    | 27   | 2   | 5      | 87    | 81   | 2 | -3 | 131   | 129  | 0   | 3      | 563   | 575  |
| 1   | 4       | 208   | 204  | 2   | 6      | 244   | 253  | 2 | -2 | 207   | 210  | 0   | 4      | 51    | 55   |
| 1   | 5       | 255   | 251  | 2   | 7      | 2     | 11*  | 2 | -1 | 454   | 456  | 0   | 5      | 347   | 344  |
| 2   | -4      | 288   | 287  | 3   | -4     | 145   | 142  | 2 | 0  | 150   | 151  | 0   | 6      | 105   | 98   |
| 2   | -3      | 66    | 64   | 3   | -3     | 105   | 102  | 2 | 1  | 23    | 29*  | 0   | 7      | 259   | 253  |
| 2   | -2      | 182   | 177  | 3   | -2     | 27    | 27*  | 2 | 2  | 163   | 167  | 0   | 8      | 149   | 148  |
| 2   | -1      | 27    | 11*  | 3   | -1     | 86    | 78   | 2 | 3  | 50    | 44   | 0   | 9      | 42    | 26   |
| 2   | 0       | 95    | 95   | 3   | 0      | 57    | 41   | 2 | 4  | 342   | 339  | 1   | -9     | 122   | 126  |
| 2   | 1       | 328   | 328  | 3   | 1      | 150   | 145  | 2 | 5  | 401   | 397  | 1   | -8     | 231   | 232  |
| 2   | 2       | 82    | 77   | 3   | 2      | 119   | 118  | 2 | 6  | 295   | 293  | 1   | -7     | 279   | 285  |
| 2   | 3       | 32    | 31   | 3   | 3      | 42    | 33   | 2 | 7  | 128   | 138  | 1   | -6     | 102   | 103  |
| 2   | 4       | 113   | 111  | 3   | 4      | 10    | 14*  | 2 | 8  | 73    | 74   | 1   | -5     | 135   | 140  |
| 2   | 5       | 83    | 77   | 3   | 5      | 51    | 51   | 3 | -6 | 70    | 73   | 1   | -4     | 367   | 370  |
| 3   | -2      | 109   | 112  | 3   | 6      | 43    | 42   | 3 | -5 | 273   | 269  | 1   | -3     | 67    | 64   |
| 3   | -1      | 154   | 154  | 4   | -2     | 57    | 48   | 3 | -4 | 429   | 427  | 1   | -2     | 293   | 294  |
| 3   | 0       | 390   | 385  | 4   | -1     | 317   | 314  | 3 | -3 | 182   | 178  | 1   | -1     | 314   | 318  |
| 3   | 1       | 156   | 161  | 4   | 0      | 267   | 261  | 3 | -2 | 588   | 574  | 1   | 0      | 40    | 37   |
| 3   | 2       | 141   | 136  | 4   | 1      | 209   | 208  | 3 | -1 | 47    | 36   | 1   | 1      | 113   | 114  |
| 3   | 3       | 136   | 136  | 4   | 2      | 287   | 281  | 3 | 0  | 61    | 58   | 1   | 2      | 76    | 71   |
| *** | L = -10 | ***   |      | 4   | 3      | 350   | 353  | 3 | 1  | 136   | 130  | 1   | 3      | 517   | 531  |
| 0   | 1       | 120   | 121  | 4   | 4      | 220   | 220  | 3 | 2  | 259   | 264  | 1   | 4      | 23    | 15*  |
| 0   | 2       | 91    | 93   | 4   | 5      | 60    | 56   | 3 | 3  | 333   | 335  | 1   | 5      | 303   | 301  |
| 0   | 3       | 457   | 455  | *** | L = -9 | ***   |      | 3 | 4  | 119   | 123  | 1   | 6      | 58    | 44   |
| 0   | 4       | 134   | 134  | 0   | 1      | 105   | 99   | 3 | 5  | 220   | 217  | 1   | 7      | 485   | 487  |
| 0   | 5       | 384   | 387  | 0   | 2      | 312   | 312  | 3 | 6  | 203   | 205  | 1   | 8      | 499   | 499  |
| 0   | 6       | 32    | 27   | 0   | 3      | 49    | 51   | 3 | 7  | 180   | 176  | 1   | 9      | 365   | 360  |
| 0   | 7       | 164   | 162  | 0   | 4      | 411   | 405  | 3 | 8  | 51    | 53   | 2   | -8     | 110   | 109  |
| 1   | -6      | 174   | 173  | 0   | 5      | 114   | 114  | 4 | -5 | 49    | 47   | 2   | -7     | 45    | 40   |
| 1   | -5      | 188   | 181  | 0   | 6      | 299   | 300  | 4 | -4 | 132   | 120  | 2   | -6     | 131   | 123  |

| H | K  | FOBS | FCAL | H   | K   | FOBS | FCAL | H | K  | FOBS | FCAL | H   | K   | FOBS | FCAL |
|---|----|------|------|-----|-----|------|------|---|----|------|------|-----|-----|------|------|
| 2 | =5 | 64   | 64   | 5   | 3   | 363  | 363  | 2 | 2  | 98   | 92   | 5   | 7   | 155  | 155  |
| 2 | =4 | 229  | 224  | 5   | 4   | 88   | 90   | 2 | 3  | 154  | 163  | 5   | 8   | 94   | 92   |
| 2 | =3 | 21   | 16*  | 5   | 5   | 92   | 83   | 2 | 4  | 223  | 227  | 6   | =4  | 300  | 296  |
| 2 | =2 | 355  | 354  | 5   | 6   | 367  | 364  | 2 | 5  | 57   | 48   | 6   | =3  | 414  | 407  |
| 2 | =1 | 365  | 363  | 5   | 7   | 136  | 139  | 2 | 6  | 55   | 48   | 6   | =2  | 441  | 434  |
| 2 | 0  | 103  | 109  | 6   | =2  | 52   | 52   | 2 | 7  | 257  | 260  | 6   | =1  | 135  | 134  |
| 2 | 1  | 853  | 848  | 6   | =1  | 171  | 171  | 2 | 8  | 322  | 315  | 6   | 0   | 2    | 30*  |
| 2 | 2  | 259  | 259  | 6   | 0   | 320  | 325  | 2 | 9  | 103  | 106  | 6   | 1   | 69   | 74   |
| 2 | 3  | 212  | 219  | 6   | 1   | 20   | 36   | 2 | 10 | 199  | 203  | 6   | 2   | 107  | 103  |
| 2 | 4  | 91   | 89   | 6   | 2   | 255  | 252  | 3 | =5 | 200  | 199  | 6   | 3   | 49   | 46   |
| 2 | 5  | 264  | 264  | 6   | 3   | 14   | 18*  | 3 | =4 | 257  | 249  | 6   | 4   | 35   | 39   |
| 2 | 6  | 416  | 414  | 6   | 4   | 102  | 102  | 3 | =3 | 124  | 119  | 6   | 5   | 68   | 65   |
| 2 | 7  | 370  | 363  | 6   | 5   | 252  | 253  | 3 | =2 | 9    | 15*  | 6   | 6   | 190  | 187  |
| 2 | 8  | 179  | 179  | *** | L = | =7   | ***  | 3 | =1 | 315  | 311  | 6   | 7   | 65   | 66   |
| 2 | 9  | 106  | 101  | 0   | 1   | 40   | 30   | 3 | 0  | 317  | 315  | 7   | =1  | 155  | 131  |
| 3 | =6 | 282  | 279  | 0   | 2   | 191  | 192  | 3 | 1  | 359  | 355  | 7   | 0   | 543  | 544  |
| 3 | =5 | 252  | 250  | 0   | 3   | 252  | 250  | 3 | 2  | 245  | 242  | 7   | 1   | 21   | 15*  |
| 3 | =4 | 361  | 355  | 0   | 4   | 501  | 509  | 3 | 3  | 106  | 105  | 7   | 2   | 63   | 61   |
| 3 | =3 | 73   | 74   | 0   | 5   | 82   | 88   | 3 | 4  | 254  | 252  | 7   | 3   | 284  | 285  |
| 3 | =2 | 38   | 37   | 0   | 6   | 338  | 335  | 3 | 5  | 148  | 144  | 7   | 4   | 11   | 17*  |
| 3 | =1 | 335  | 334  | 0   | 7   | 298  | 301  | 3 | 6  | 30   | 17   | 7   | 5   | 129  | 127  |
| 3 | 0  | 167  | 166  | 0   | 8   | 293  | 297  | 3 | 7  | 307  | 305  | *** | L = | =6   | ***  |
| 3 | 1  | 72   | 75   | 0   | 9   | 103  | 101  | 3 | 8  | 169  | 168  | 0   | 1   | 733  | 735  |
| 3 | 2  | 235  | 233  | 0   | 10  | 142  | 140  | 3 | 9  | 68   | 69   | 0   | 2   | 18   | 14*  |
| 3 | 3  | 266  | 266  | 1   | =9  | 67   | 65   | 3 | 10 | 140  | 137  | 0   | 3   | 147  | 149  |
| 3 | 4  | 2    | 18*  | 1   | =8  | 215  | 217  | 4 | =5 | 368  | 367  | 0   | 4   | 213  | 212  |
| 3 | 5  | 347  | 349  | 1   | =7  | 402  | 407  | 4 | =4 | 215  | 212  | 0   | 5   | 317  | 321  |
| 3 | 6  | 79   | 78   | 1   | =6  | 82   | 83   | 4 | =3 | 104  | 108  | 0   | 6   | 160  | 158  |
| 3 | 7  | 615  | 620  | 1   | =5  | 332  | 328  | 4 | =2 | 167  | 168  | 0   | 7   | 271  | 268  |
| 3 | 8  | 460  | 461  | 1   | =4  | 75   | 75   | 4 | =1 | 87   | 86   | 0   | 8   | 360  | 358  |
| 3 | 9  | 319  | 316  | 1   | =3  | 504  | 515  | 4 | 0  | 75   | 73   | 0   | 9   | 344  | 346  |
| 4 | =5 | 105  | 105  | 1   | =2  | 102  | 91   | 4 | 1  | 78   | 75   | 0   | 10  | 87   | 85   |
| 4 | =4 | 389  | 380  | 1   | =1  | 120  | 124  | 4 | 2  | 279  | 283  | 0   | 11  | 28   | 25   |
| 4 | =3 | 453  | 441  | 1   | 0   | 143  | 145  | 4 | 3  | 349  | 345  | 1   | =10 | 164  | 167  |
| 4 | =2 | 217  | 213  | 1   | 1   | 632  | 637  | 4 | 4  | 119  | 120  | 1   | =9  | 264  | 260  |
| 4 | =1 | 221  | 218  | 1   | 2   | 446  | 458  | 4 | 5  | 285  | 282  | 1   | =8  | 212  | 212  |
| 4 | 0  | 232  | 230  | 1   | 3   | 28   | 24   | 4 | 6  | 103  | 102  | 1   | =7  | 60   | 63   |
| 4 | 1  | 342  | 337  | 1   | 4   | 719  | 716  | 4 | 7  | 48   | 49   | 1   | =6  | 554  | 566  |
| 4 | 2  | 240  | 236  | 1   | 5   | 51   | 52   | 4 | 8  | 40   | 38   | 1   | =5  | 238  | 245  |
| 4 | 3  | 266  | 266  | 1   | 6   | 285  | 286  | 4 | 9  | 32   | 17   | 1   | =4  | 142  | 145  |
| 4 | 4  | 312  | 308  | 1   | 7   | 57   | 54   | 5 | =5 | 177  | 174  | 1   | =3  | 399  | 411  |
| 4 | 5  | 217  | 218  | 1   | 8   | 192  | 190  | 5 | =4 | 283  | 283  | 1   | =2  | 547  | 550  |
| 4 | 6  | 198  | 201  | 1   | 9   | 193  | 198  | 5 | =3 | 197  | 198  | 1   | =1  | 547  | 554  |
| 4 | 7  | 122  | 118  | 1   | 10  | 286  | 285  | 5 | =2 | 73   | 75   | 1   | 0   | 194  | 194  |
| 4 | 8  | 52   | 58   | 2   | =6  | 51   | 50   | 5 | =1 | 21   | 23*  | 1   | 1   | 501  | 499  |
| 5 | =4 | 109  | 117  | 2   | =5  | 423  | 429  | 5 | 0  | 314  | 315  | 1   | 2   | 160  | 154  |
| 5 | =3 | 158  | 157  | 2   | =4  | 226  | 226  | 5 | 1  | 324  | 324  | 1   | 3   | 642  | 644  |
| 5 | =2 | 37   | 30   | 2   | =3  | 295  | 292  | 5 | 2  | 139  | 138  | 1   | 4   | 75   | 80   |
| 5 | =1 | 285  | 283  | 2   | =2  | 52   | 46   | 5 | 3  | 356  | 357  | 1   | 5   | 54   | 40   |
| 5 | 0  | 62   | 65   | 2   | =1  | 391  | 394  | 5 | 4  | 344  | 350  | 1   | 6   | 298  | 299  |
| 5 | 1  | 256  | 255  | 2   | 0   | 427  | 431  | 5 | 5  | 262  | 262  | 1   | 7   | 351  | 353  |
| 5 | 2  | 570  | 571  | 2   | 1   | 288  | 291  | 5 | 6  | 65   | 62   | 1   | 8   | 25   | 24   |

| H | K  | FOBS | FCAL | H   | K   | FOBS | FCAL | H | K   | FOBS | FCAL | H | K  | FOBS | FCAL |
|---|----|------|------|-----|-----|------|------|---|-----|------|------|---|----|------|------|
| 1 | 9  | 53   | 46   | 5   | =2  | 299  | 290  | 1 | =11 | 22   | 23*  | 3 | 11 | 232  | 235  |
| 1 | 10 | 52   | 47   | 5   | =1  | 97   | 98   | 1 | =10 | 108  | 102  | 4 | =4 | 148  | 146  |
| 1 | 11 | 72   | 63   | 5   | 0   | 423  | 424  | 1 | =9  | 158  | 152  | 4 | =3 | 125  | 117  |
| 2 | =5 | 410  | 419  | 5   | 1   | 186  | 187  | 1 | =8  | 264  | 269  | 4 | =2 | 115  | 115  |
| 2 | =4 | 473  | 471  | 5   | 2   | 243  | 243  | 1 | =7  | 380  | 388  | 4 | =1 | 18   | 16*  |
| 2 | =3 | 804  | 815  | 5   | 3   | 173  | 175  | 1 | =6  | 28   | 14   | 4 | 0  | 143  | 144  |
| 2 | =2 | 453  | 454  | 5   | 4   | 73   | 72   | 1 | =5  | 128  | 127  | 4 | 1  | 240  | 244  |
| 2 | =1 | 326  | 324  | 5   | 5   | 306  | 303  | 1 | =4  | 94   | 85   | 4 | 2  | 98   | 102  |
| 2 | 0  | 316  | 314  | 5   | 6   | 563  | 569  | 1 | =3  | 93   | 92   | 4 | 3  | 420  | 425  |
| 2 | 1  | 214  | 218  | 5   | 7   | 297  | 302  | 1 | =2  | 160  | 155  | 4 | 4  | 110  | 122  |
| 2 | 2  | 304  | 302  | 5   | 8   | 16   | 6*   | 1 | =1  | 1243 | 1261 | 4 | 5  | 194  | 193  |
| 2 | 3  | 828  | 834  | 5   | 9   | 68   | 65   | 1 | 0   | 377  | 385  | 4 | 6  | 253  | 257  |
| 2 | 4  | 193  | 181  | 6   | =5  | 298  | 299  | 1 | 1   | 797  | 801  | 4 | 7  | 173  | 179  |
| 2 | 5  | 92   | 100  | 6   | =4  | 73   | 74   | 1 | 2   | 556  | 547  | 4 | 8  | 359  | 369  |
| 2 | 6  | 55   | 56   | 6   | =3  | 326  | 328  | 1 | 3   | 65   | 63   | 4 | 9  | 759  | 769  |
| 2 | 7  | 153  | 152  | 6   | =2  | 225  | 228  | 1 | 4   | 576  | 587  | 4 | 10 | 220  | 219  |
| 2 | 8  | 166  | 168  | 6   | =1  | 16   | 21*  | 1 | 5   | 52   | 35   | 4 | 11 | 107  | 101  |
| 2 | 9  | 238  | 243  | 6   | 0   | 254  | 256  | 1 | 6   | 411  | 409  | 5 | =4 | 15   | 17*  |
| 2 | 10 | 137  | 137  | 6   | 1   | 36   | 10   | 1 | 7   | 163  | 165  | 5 | =3 | 254  | 257  |
| 3 | 11 | 54   | 49   | 6   | 2   | 501  | 505  | 1 | 8   | 304  | 308  | 5 | =2 | 644  | 644  |
| 3 | =4 | 147  | 144  | 6   | 3   | 364  | 363  | 1 | 9   | 105  | 102  | 5 | =1 | 145  | 147  |
| 3 | =3 | 49   | 47   | 6   | 4   | 180  | 182  | 1 | 10  | 72   | 72   | 5 | 0  | 593  | 603  |
| 3 | =2 | 601  | 599  | 6   | 5   | 50   | 46   | 1 | 11  | 178  | 182  | 5 | 1  | 238  | 240  |
| 3 | =1 | 241  | 247  | 6   | 6   | 261  | 265  | 2 | =3  | 88   | 90   | 5 | 2  | 476  | 481  |
| 3 | 0  | 302  | 298  | 6   | 7   | 145  | 149  | 2 | =2  | 160  | 155  | 5 | 3  | 355  | 358  |
| 3 | 1  | 502  | 509  | 6   | 8   | 160  | 157  | 2 | =1  | 309  | 302  | 5 | 4  | 56   | 50   |
| 3 | 2  | 365  | 370  | 7   | =3  | 128  | 125  | 2 | 0   | 324  | 326  | 5 | 5  | 226  | 225  |
| 3 | 3  | 252  | 254  | 7   | =2  | 77   | 69   | 2 | 1   | 19   | 7*   | 5 | 6  | 303  | 306  |
| 3 | 4  | 97   | 91   | 7   | =1  | 286  | 278  | 2 | 2   | 90   | 91   | 5 | 7  | 200  | 212  |
| 3 | 5  | 214  | 215  | 7   | 0   | 262  | 269  | 2 | 3   | 373  | 370  | 5 | 8  | 35   | 30   |
| 3 | 6  | 382  | 381  | 7   | 1   | 114  | 112  | 2 | 4   | 540  | 542  | 5 | 9  | 4    | 18*  |
| 3 | 7  | 137  | 138  | 7   | 2   | 217  | 223  | 2 | 5   | 173  | 172  | 5 | 10 | 294  | 295  |
| 3 | 8  | 99   | 97   | 7   | 3   | 54   | 57   | 2 | 6   | 482  | 477  | 6 | =5 | 183  | 174  |
| 3 | 9  | 27   | 14   | 7   | 4   | 74   | 69   | 2 | 7   | 41   | 40   | 6 | =4 | 274  | 270  |
| 3 | 10 | 46   | 47   | 7   | 5   | 333  | 341  | 2 | 8   | 177  | 177  | 6 | =3 | 154  | 150  |
| 4 | =4 | 61   | 61   | 7   | 6   | 455  | 457  | 2 | 9   | 570  | 572  | 6 | =2 | 168  | 171  |
| 4 | =3 | 480  | 478  | 7   | 7   | 112  | 110  | 2 | 10  | 469  | 472  | 6 | =1 | 129  | 125  |
| 4 | =2 | 21   | 15*  | 8   | 1   | 61   | 61   | 2 | 11  | 38   | 33   | 6 | 0  | 33   | 27   |
| 4 | =1 | 692  | 692  | 8   | 2   | 307  | 306  | 3 | =3  | 195  | 193  | 6 | 1  | 98   | 93   |
| 4 | 0  | 170  | 167  | 8   | 3   | 478  | 483  | 3 | =2  | 216  | 215  | 6 | 2  | 46   | 39   |
| 4 | 1  | 8    | 12*  | *** | L = | =5   | ***  | 3 | =1  | 442  | 440  | 6 | 3  | 433  | 431  |
| 4 | 2  | 178  | 176  | 0   | 1   | 179  | 169  | 3 | 0   | 832  | 834  | 6 | 4  | 405  | 401  |
| 4 | 3  | 418  | 420  | 0   | 2   | 140  | 131  | 3 | 1   | 593  | 594  | 6 | 5  | 105  | 100  |
| 4 | 4  | 365  | 358  | 0   | 3   | 70   | 74   | 3 | 2   | 860  | 868  | 6 | 6  | 96   | 93   |
| 4 | 5  | 13   | 15*  | 0   | 4   | 364  | 364  | 3 | 3   | 546  | 553  | 6 | 7  | 317  | 318  |
| 4 | 6  | 207  | 211  | 0   | 5   | 72   | 46   | 3 | 4   | 430  | 440  | 6 | 8  | 347  | 350  |
| 4 | 7  | 230  | 232  | 0   | 6   | 288  | 283  | 3 | 5   | 190  | 194  | 6 | 9  | 549  | 551  |
| 4 | 8  | 280  | 279  | 0   | 7   | 105  | 105  | 3 | 6   | 446  | 450  | 7 | =4 | 31   | 32   |
| 4 | 9  | 96   | 97   | 0   | 8   | 89   | 92   | 3 | 7   | 222  | 222  | 7 | =3 | 21   | 28*  |
| 4 | 10 | 57   | 50   | 0   | 9   | 60   | 50   | 3 | 8   | 56   | 57   | 7 | =2 | 577  | 588  |
| 5 | =4 | 281  | 280  | 0   | 10  | 578  | 581  | 3 | 9   | 159  | 163  | 7 | =1 | 131  | 128  |
| 5 | =3 | 263  | 260  | 0   | 11  | 71   | 67   | 3 | 10  | 74   | 72   | 7 | 0  | 90   | 85   |

AXINITE \*\*\* LOW TEMPERATURE

| H   | K   | FOBS | FCAL | H   | K  | FOBS | FCAL | H   | K  | FOBS | FCAL | H   | K   | FOBS | FCAL |     |
|-----|-----|------|------|-----|----|------|------|-----|----|------|------|-----|-----|------|------|-----|
| 7   | 1   | 342  | 347  | 2   | -1 | 792  | 775  | 5   | 4  | 393  | 389  | 0   | 1   | 278  | 271  |     |
| 7   | 2   | 94   | 82   | 2   | 0  | 185  | 174  | 5   | 5  | 360  | 360  | 0   | 2   | 413  | 417  |     |
| 7   | 3   | 346  | 352  | 2   | 1  | 376  | 376  | 5   | 6  | 272  | 276  | 0   | 3   | 31   | 42   |     |
| 7   | 4   | 93   | 92   | 2   | 2  | 849  | 835  | 5   | 7  | 441  | 443  | 0   | 4   | 24   | 23   |     |
| 7   | 5   | 195  | 192  | 2   | 3  | 368  | 359  | 5   | 8  | 241  | 242  | 0   | 5   | 758  | 752  |     |
| 7   | 6   | 385  | 390  | 2   | 4  | 218  | 219  | 5   | 9  | 238  | 240  | 0   | 6   | 54   | 47   |     |
| 7   | 7   | 45   | 35   | 2   | 5  | 233  | 233  | 5   | 10 | 205  | 204  | 0   | 7   | 163  | 165  |     |
| 7   | 8   | 240  | 239  | 2   | 6  | 41   | 11   | 5   | 11 | 82   | 83   | 0   | 8   | 709  | 713  |     |
| 8   | -1  | 144  | 142  | 2   | 7  | 545  | 561  | 6   | -6 | 43   | 38   | 0   | 9   | 31   | 20   |     |
| 8   | 0   | 93   | 96   | 2   | 8  | 233  | 230  | 6   | -5 | 402  | 403  | 0   | 10  | 136  | 137  |     |
| 8   | 1   | 2    | 4*   | 2   | 9  | 206  | 206  | 6   | -4 | 90   | 97   | 0   | 11  | 31   | 23   |     |
| 8   | 2   | 155  | 155  | 2   | 10 | 221  | 220  | 6   | -3 | 189  | 188  | 0   | 12  | 144  | 146  |     |
| 8   | 3   | 114  | 108  | 2   | 11 | 124  | 130  | 6   | -2 | 190  | 189  | 1   | -11 | 323  | 316  |     |
| 8   | 4   | 167  | 168  | 2   | 12 | 56   | 51   | 6   | -1 | 140  | 141  | 1   | -10 | 167  | 166  |     |
| 8   | 5   | 254  | 259  | 3   | -3 | 316  | 304  | 6   | 0  | 126  | 130  | 1   | -9  | 83   | 89   |     |
| 8   | 6   | 164  | 166  | 3   | -2 | 299  | 296  | 6   | 1  | 483  | 484  | 1   | -8  | 341  | 338  |     |
| *** | L   | =    | =4   | *** | 3  | -1   | 84   | 77  | 6  | 2    | 228  | 229 | 1   | -7   | 517  | 521 |
| 0   | 1   | 250  | 243  | 3   | 0  | 366  | 365  | 6   | 3  | 110  | 117  | 1   | -6  | 758  | 775  |     |
| 0   | 2   | 579  | 583  | 3   | 1  | 407  | 410  | 6   | 4  | 445  | 445  | 1   | -2  | 83   | 48   |     |
| 0   | 3   | 517  | 504  | 3   | 2  | 199  | 199  | 6   | 5  | 87   | 88   | 1   | -1  | 1014 | 1038 |     |
| 0   | 4   | 846  | 840  | 3   | 3  | 86   | 95   | 6   | 6  | 348  | 352  | 1   | 0   | 315  | 301  |     |
| 0   | 5   | 163  | 161  | 3   | 4  | 165  | 165  | 6   | 7  | 172  | 171  | 1   | 1   | 1    | 21*  |     |
| 0   | 6   | 312  | 314  | 3   | 5  | 209  | 214  | 6   | 8  | 9    | 13*  | 1   | 2   | 201  | 146  |     |
| 0   | 7   | 702  | 714  | 3   | 6  | 23   | 18*  | 6   | 9  | 183  | 183  | 1   | 3   | 193  | 185  |     |
| 0   | 8   | 18   | 12*  | 3   | 7  | 84   | 81   | 6   | 10 | 49   | 53   | 1   | 4   | 306  | 298  |     |
| 0   | 9   | 99   | 100  | 3   | 8  | 166  | 165  | 7   | -5 | 329  | 328  | 1   | 5   | 669  | 659  |     |
| 0   | 10  | 67   | 69   | 3   | 9  | 276  | 276  | 7   | -4 | 270  | 272  | 1   | 6   | 467  | 474  |     |
| 0   | 11  | 135  | 138  | 3   | 10 | 40   | 42   | 7   | -3 | 188  | 186  | 1   | 7   | 166  | 163  |     |
| 1   | -11 | 288  | 288  | 3   | 11 | 291  | 291  | 7   | -2 | 236  | 238  | 1   | 8   | 195  | 194  |     |
| 1   | -10 | 200  | 199  | 4   | -3 | 264  | 263  | 7   | -1 | 447  | 452  | 1   | 9   | 414  | 416  |     |
| 1   | -9  | 30   | 22   | 4   | -2 | 32   | 41   | 7   | 0  | 100  | 106  | 1   | 10  | 21   | 24*  |     |
| 1   | -8  | 802  | 808  | 4   | -1 | 82   | 87   | 7   | 1  | 130  | 129  | 1   | 11  | 263  | 261  |     |
| 1   | -7  | 121  | 121  | 4   | 0  | 25   | 16   | 7   | 2  | 273  | 278  | 1   | 12  | 9    | 9*   |     |
| 1   | -4  | 299  | 312  | 4   | 1  | 354  | 352  | 7   | 3  | 253  | 250  | 2   | -11 | 47   | 45   |     |
| 1   | -3  | 481  | 490  | 4   | 2  | 390  | 397  | 7   | 4  | 236  | 241  | 2   | -10 | 76   | 66   |     |
| 1   | -2  | 275  | 283  | 4   | 3  | 354  | 350  | 7   | 5  | 89   | 78   | 2   | -9  | 293  | 288  |     |
| 1   | -1  | 267  | 270  | 4   | 4  | 40   | 33   | 7   | 6  | 62   | 54   | 2   | -2  | 268  | 263  |     |
| 1   | 0   | 521  | 509  | 4   | 5  | 361  | 371  | 7   | 7  | 182  | 184  | 2   | -1  | 153  | 149  |     |
| 1   | 1   | 644  | 625  | 4   | 6  | 284  | 286  | 7   | 8  | 152  | 159  | 2   | 0   | 147  | 153  |     |
| 1   | 2   | 44   | 30   | 4   | 7  | 55   | 59   | 7   | 9  | 170  | 175  | 2   | 1   | 102  | 101  |     |
| 1   | 3   | 162  | 165  | 4   | 8  | 155  | 155  | 8   | -3 | 53   | 58   | 2   | 2   | 480  | 482  |     |
| 1   | 4   | 219  | 212  | 4   | 9  | 265  | 269  | 8   | -2 | 43   | 44   | 2   | 3   | 142  | 139  |     |
| 1   | 5   | 357  | 360  | 4   | 10 | 133  | 136  | 8   | -1 | 50   | 54   | 2   | 4   | 1084 | 1078 |     |
| 1   | 6   | 26   | 12   | 4   | 11 | 124  | 123  | 8   | 0  | 277  | 279  | 2   | 5   | 123  | 122  |     |
| 1   | 7   | 209  | 206  | 5   | -4 | 502  | 514  | 8   | 1  | 521  | 519  | 2   | 6   | 114  | 105  |     |
| 1   | 8   | 203  | 197  | 5   | -3 | 32   | 27   | 8   | 2  | 66   | 62   | 2   | 7   | 298  | 307  |     |
| 1   | 9   | 413  | 415  | 5   | -2 | 269  | 267  | 8   | 3  | 49   | 50   | 2   | 8   | 796  | 798  |     |
| 1   | 10  | 17   | 14*  | 5   | -1 | 272  | 287  | 8   | 4  | 132  | 127  | 2   | 9   | 36   | 39   |     |
| 1   | 11  | 56   | 54   | 5   | 0  | 62   | 37   | 8   | 5  | 52   | 53   | 2   | 10  | 134  | 138  |     |
| 1   | 12  | 324  | 317  | 5   | 1  | 263  | 271  | 8   | 6  | 45   | 51   | 2   | 11  | 110  | 113  |     |
| 2   | -10 | 307  | 308  | 5   | 2  | 152  | 160  | 8   | 7  | 247  | 249  | 2   | 12  | 24   | 18*  |     |
| 2   | -2  | 458  | 454  | 5   | 3  | 172  | 181  | *** | L  | =    | =3   | *** | 3   | -10  | 63   | 61  |

| H | K  | FOBS | FCAL | H   | K  | FOBS | FCAL | H | K   | FOBS | FCAL | H | K   | FOBS | FCAL |
|---|----|------|------|-----|----|------|------|---|-----|------|------|---|-----|------|------|
| 3 | -2 | 1010 | 1000 | 6   | -3 | 225  | 227  | 0 | 5   | 1200 | 1189 | 3 | -7  | 131  | 135  |
| 3 | -1 | 636  | 631  | 6   | -2 | 269  | 272  | 0 | 6   | 407  | 405  | 3 | -3  | 114  | 108  |
| 3 | 0  | 86   | 89   | 6   | -1 | 750  | 760  | 0 | 7   | 91   | 88   | 3 | -2  | 129  | 130  |
| 3 | 1  | 110  | 102  | 6   | 0  | 236  | 244  | 0 | 8   | 258  | 255  | 3 | -1  | 594  | 560  |
| 3 | 2  | 155  | 160  | 6   | 1  | 344  | 351  | 0 | 9   | 337  | 338  | 3 | 0   | 264  | 259  |
| 3 | 3  | 148  | 143  | 6   | 2  | 451  | 455  | 0 | 10  | 61   | 65   | 3 | 1   | 352  | 347  |
| 3 | 4  | 852  | 846  | 6   | 3  | 250  | 248  | 0 | 11  | 97   | 96   | 3 | 2   | 224  | 212  |
| 3 | 5  | 263  | 261  | 6   | 4  | 55   | 58   | 0 | 12  | 139  | 139  | 3 | 3   | 45   | 48   |
| 3 | 6  | 184  | 188  | 6   | 5  | 158  | 159  | 1 | -12 | 330  | 334  | 3 | 4   | 383  | 386  |
| 3 | 7  | 40   | 44   | 6   | 6  | 194  | 192  | 1 | -11 | 45   | 43   | 3 | 5   | 746  | 747  |
| 3 | 8  | 47   | 45   | 6   | 7  | 527  | 530  | 1 | -10 | 200  | 201  | 3 | 6   | 250  | 254  |
| 3 | 9  | 23   | 23*  | 6   | 8  | 161  | 163  | 1 | -9  | 476  | 472  | 3 | 7   | 467  | 468  |
| 3 | 10 | 166  | 168  | 6   | 9  | 49   | 41   | 1 | -8  | 150  | 150  | 3 | 8   | 50   | 55   |
| 3 | 11 | 151  | 151  | 6   | 10 | 16   | 11*  | 1 | -7  | 314  | 309  | 3 | 9   | 22   | 21*  |
| 3 | 12 | 83   | 78   | 7   | -6 | 2    | 20*  | 1 | -6  | 169  | 164  | 3 | 10  | 644  | 649  |
| 4 | -3 | 72   | 77   | 7   | -5 | 234  | 232  | 1 | -5  | 366  | 369  | 3 | 11  | 271  | 268  |
| 4 | -2 | 269  | 269  | 7   | -4 | 346  | 349  | 1 | -1  | 136  | 130  | 3 | 12  | 26   | 30*  |
| 4 | -1 | 518  | 521  | 7   | -3 | 367  | 366  | 1 | 0   | 36   | 14   | 4 | -10 | 33   | 10   |
| 4 | 0  | 256  | 250  | 7   | -2 | 377  | 377  | 1 | 1   | 49   | 40   | 4 | -9  | 125  | 129  |
| 4 | 1  | 393  | 397  | 7   | -1 | 38   | 35   | 1 | 2   | 416  | 399  | 4 | -8  | 17   | 16*  |
| 4 | 2  | 421  | 426  | 7   | 0  | 211  | 213  | 1 | 3   | 473  | 454  | 4 | -7  | 384  | 388  |
| 4 | 3  | 554  | 554  | 7   | 1  | 221  | 223  | 1 | 4   | 181  | 171  | 4 | -6  | 47   | 46   |
| 4 | 4  | 623  | 634  | 7   | 2  | 78   | 70   | 1 | 5   | 448  | 452  | 4 | -5  | 197  | 193  |
| 4 | 5  | 48   | 46   | 7   | 3  | 601  | 606  | 1 | 6   | 177  | 179  | 4 | -4  | 17   | 25*  |
| 4 | 6  | 197  | 201  | 7   | 4  | 205  | 210  | 1 | 7   | 385  | 389  | 4 | -3  | 113  | 120  |
| 4 | 7  | 703  | 707  | 7   | 5  | 5    | 11*  | 1 | 8   | 250  | 251  | 4 | -2  | 40   | 36   |
| 4 | 8  | 57   | 54   | 7   | 6  | 78   | 82   | 1 | 9   | 196  | 197  | 4 | -1  | 19   | 7*   |
| 4 | 9  | 275  | 276  | 7   | 7  | 84   | 84   | 1 | 10  | 85   | 82   | 4 | 0   | 149  | 152  |
| 4 | 10 | 186  | 189  | 7   | 8  | 135  | 131  | 1 | 11  | 580  | 584  | 4 | 1   | 696  | 701  |
| 4 | 11 | 26   | 18*  | 7   | 9  | 192  | 192  | 1 | 12  | 171  | 172  | 4 | 2   | 207  | 208  |
| 4 | 12 | 64   | 65   | 8   | -3 | 13   | 6*   | 2 | -11 | 228  | 222  | 4 | 3   | 897  | 896  |
| 5 | -5 | 97   | 93   | 8   | -2 | 353  | 348  | 2 | -10 | 128  | 123  | 4 | 4   | 1218 | 1232 |
| 5 | -4 | 2    | 0*   | 8   | -1 | 244  | 247  | 2 | -9  | 70   | 46   | 4 | 5   | 121  | 122  |
| 5 | -3 | 15   | 13*  | 8   | 0  | 63   | 68   | 2 | -8  | 104  | 103  | 4 | 6   | 57   | 29   |
| 5 | -2 | 798  | 814  | 8   | 1  | 346  | 354  | 2 | -7  | 176  | 177  | 4 | 7   | 368  | 375  |
| 5 | -1 | 88   | 86   | 8   | 2  | 398  | 397  | 2 | -1  | 171  | 161  | 4 | 8   | 248  | 246  |
| 5 | 0  | 396  | 398  | 8   | 3  | 166  | 164  | 2 | 0   | 947  | 939  | 4 | 9   | 101  | 102  |
| 5 | 1  | 285  | 275  | 8   | 4  | 34   | 26   | 2 | 1   | 792  | 790  | 4 | 10  | 33   | 18   |
| 5 | 2  | 122  | 118  | 8   | 5  | 60   | 56   | 2 | 2   | 468  | 493  | 4 | 11  | 64   | 63   |
| 5 | 3  | 104  | 96   | 8   | 6  | 446  | 452  | 2 | 3   | 128  | 112  | 4 | 12  | 348  | 347  |
| 5 | 4  | 311  | 303  | 8   | 7  | 331  | 331  | 2 | 4   | 42   | 38   | 5 | -9  | 245  | 244  |
| 5 | 5  | 606  | 607  | 8   | 8  | 70   | 63   | 2 | 5   | 353  | 366  | 5 | -8  | 56   | 54   |
| 5 | 6  | 229  | 230  | 9   | 0  | 108  | 109  | 2 | 6   | 116  | 117  | 5 | -7  | 154  | 155  |
| 5 | 7  | 291  | 291  | 9   | 1  | 162  | 164  | 2 | 7   | 457  | 454  | 5 | -6  | 150  | 152  |
| 5 | 8  | 103  | 105  | 9   | 2  | 98   | 101  | 2 | 8   | 24   | 21   | 5 | -5  | 2    | 8*   |
| 5 | 9  | 58   | 55   | 9   | 3  | 236  | 237  | 2 | 9   | 515  | 519  | 5 | -4  | 149  | 152  |
| 5 | 10 | 125  | 130  | 9   | 4  | 455  | 452  | 2 | 10  | 32   | 36   | 5 | -3  | 270  | 271  |
| 5 | 11 | 56   | 58   | 9   | 5  | 38   | 13   | 2 | 11  | 50   | 46   | 5 | -2  | 194  | 191  |
| 6 | -7 | 57   | 54   | *** | L  | -2   | ***  | 2 | 12  | 79   | 74   | 5 | -1  | 440  | 442  |
| 6 | -6 | 362  | 366  | 0   | 1  | 174  | 172  | 3 | -10 | 278  | 282  | 5 | 0   | 218  | 221  |
| 6 | -5 | 409  | 407  | 0   | 3  | 333  | 328  | 3 | -9  | 444  | 446  | 5 | 1   | 336  | 339  |
| 6 | -4 | 223  | 221  | 0   | 4  | 695  | 680  | 3 | -8  | 145  | 146  | 5 | 2   | 176  | 179  |

| K FOBS FCAL |    |      |      | K FOBS FCAL |                |      |      | K FOBS FCAL |     |      |      | K FOBS FCAL |     |      |      |
|-------------|----|------|------|-------------|----------------|------|------|-------------|-----|------|------|-------------|-----|------|------|
| H           | K  | FOBS | FCAL | H           | K              | FOBS | FCAL | H           | K   | FOBS | FCAL | H           | K   | FOBS | FCAL |
| 5           | 3  | 191  | 189  | 8           | 3              | 187  | 191  | 2           | =8  | 171  | 171  | 4           | =2  | 683  | 598  |
| 5           | 4  | 391  | 398  | 8           | 4              | 143  | 137  | 2           | =7  | 666  | 665  | 4           | =1  | 385  | 382  |
| 5           | 5  | 186  | 189  | 8           | 5              | 92   | 91   | 2           | =6  | 169  | 173  | 4           | =0  | 268  | 259  |
| 5           | 6  | 333  | 336  | 8           | 6              | 349  | 350  | 2           | =5  | 455  | 448  | 4           | =1  | 102  | 93   |
| 5           | 7  | 304  | 310  | 8           | 7              | 317  | 320  | 2           | =4  | 80   | 80   | 4           | =2  | 739  | 736  |
| 5           | 8  | 257  | 254  | 8           | 8              | 22   | 8*   | 2           | =3  | 254  | 256  | 4           | =3  | 430  | 420  |
| 5           | 9  | 15   | 12*  | 8           | 9              | 117  | 119  | 2           | =2  | 53   | 18   | 4           | =4  | 418  | 416  |
| 5           | 10 | 735  | 742  | 9           | =1             | 159  | 160  | 2           | =1  | 550  | 543  | 4           | =5  | 106  | 104  |
| 5           | 11 | 83   | 84   | 9           | =0             | 25   | 15*  | 2           | =0  | 725  | 713  | 4           | =6  | 35   | 36   |
| 6           | =7 | 380  | 385  | 9           | =1             | 66   | 61   | 2           | =1  | 183  | 160  | 4           | =7  | 459  | 464  |
| 6           | =6 | 106  | 99   | 9           | =2             | 103  | 102  | 2           | =2  | 684  | 676  | 4           | =8  | 259  | 266  |
| 6           | =5 | 160  | 162  | 9           | =3             | 137  | 135  | 2           | =3  | 126  | 133  | 4           | =9  | 28   | 23   |
| 6           | =4 | 31   | 23   | 9           | =4             | 39   | 45   | 2           | =4  | 359  | 339  | 4           | =10 | 232  | 232  |
| 6           | =3 | 101  | 107  | 9           | =5             | 71   | 67   | 2           | =5  | 542  | 539  | 4           | =11 | 200  | 205  |
| 6           | =2 | 159  | 157  | 9           | =6             | 374  | 379  | 2           | =6  | 643  | 641  | 4           | =12 | 57   | 25   |
| 6           | =1 | 795  | 805  | 9           | =7             |      |      | 2           | =7  | 221  | 214  | 5           | =9  | 244  | 241  |
| 6           | =0 | 236  | 235  | 0           | *** L = -1 *** | 242  | 234  | 2           | =8  | 485  | 486  | 5           | =8  | 146  | 145  |
| 6           | =1 | 573  | 586  | 0           | =1             | 163  | 153  | 2           | =9  | 211  | 209  | 5           | =7  | 21   | 6*   |
| 6           | =2 | 152  | 156  | 0           | =2             | 632  | 625  | 2           | =10 | 498  | 501  | 5           | =6  | 227  | 225  |
| 6           | =3 | 178  | 182  | 0           | =3             | 826  | 797  | 2           | =11 | 170  | 166  | 5           | =5  | 396  | 403  |
| 6           | =4 | 268  | 270  | 0           | =4             | 257  | 249  | 2           | =12 | 160  | 160  | 5           | =4  | 948  | 955  |
| 6           | =5 | 99   | 103  | 0           | =5             | 214  | 206  | 3           | =11 | 150  | 147  | 5           | =3  | 314  | 320  |
| 6           | =6 | 248  | 247  | 0           | =6             | 31   | 22   | 3           | =10 | 275  | 283  | 5           | =2  | 94   | 94   |
| 6           | =7 | 310  | 312  | 0           | =7             | 412  | 411  | 3           | =9  | 114  | 113  | 5           | =1  | 76   | 75   |
| 6           | =8 | 203  | 203  | 0           | =8             | 176  | 172  | 3           | =8  | 338  | 336  | 5           | =0  | 47   | 43   |
| 6           | =9 | 11   | 5*   | 0           | =9             | 136  | 141  | 3           | =7  | 476  | 480  | 5           | =1  | 267  | 263  |
| 6           | 10 | 95   | 94   | 0           | =10            | 103  | 101  | 3           | =6  | 11   | 9*   | 5           | =2  | 627  | 620  |
| 6           | 11 | 188  | 190  | 0           | =11            | 112  | 106  | 3           | =5  | 116  | 121  | 5           | =3  | 281  | 280  |
| 7           | =6 | 290  | 289  | 1           | =12            | 82   | 83   | 3           | =4  | 923  | 941  | 5           | =4  | 584  | 588  |
| 7           | =5 | 2    | 11*  | 1           | =11            | 400  | 392  | 3           | =3  | 741  | 749  | 5           | =5  | 99   | 100  |
| 7           | =4 | 23   | 28*  | 1           | =10            | 258  | 261  | 3           | =2  | 21   | 20   | 5           | =6  | 320  | 327  |
| 7           | =3 | 10   | 15*  | 1           | =9             | 385  | 384  | 3           | =1  | 767  | 736  | 5           | =7  | 366  | 373  |
| 7           | =2 | 172  | 169  | 1           | =8             | 328  | 330  | 3           | =0  | 600  | 575  | 5           | =8  | 110  | 102  |
| 7           | =1 | 27   | 15   | 1           | =7             | 20   | 9*   | 3           | =2  | 498  | 483  | 5           | =9  | 42   | 49   |
| 7           | =0 | 2    | 10*  | 1           | =6             | 94   | 91   | 3           | =3  | 604  | 602  | 5           | =10 | 51   | 34   |
| 7           | =1 | 37   | 21   | 1           | =5             | 55   | 52   | 3           | =4  | 490  | 493  | 5           | =11 | 71   | 77   |
| 7           | =2 | 139  | 142  | 1           | =4             | 177  | 175  | 3           | =5  | 530  | 530  | 5           | =12 | 2    | 13*  |
| 7           | =3 | 2    | 6*   | 1           | =0             | 204  | 196  | 3           | =6  | 102  | 95   | 6           | =8  | 458  | 466  |
| 7           | =4 | 536  | 541  | 1           | =1             | 162  | 162  | 3           | =7  | 297  | 294  | 6           | =7  | 42   | 36   |
| 7           | =5 | 279  | 274  | 1           | =2             | 584  | 566  | 3           | =8  | 487  | 501  | 6           | =6  | 357  | 356  |
| 7           | =6 | 210  | 210  | 1           | =3             | 922  | 900  | 3           | =9  | 181  | 179  | 6           | =5  | 40   | 46   |
| 7           | =7 | 50   | 43   | 1           | =5             | 232  | 241  | 3           | =10 | 197  | 200  | 6           | =4  | 112  | 113  |
| 7           | =8 | 106  | 106  | 1           | =6             | 160  | 157  | 3           | =11 | 36   | 25   | 6           | =3  | 551  | 556  |
| 7           | =9 | 406  | 406  | 1           | =7             | 73   | 66   | 3           | =12 | 188  | 188  | 6           | =2  | 79   | 76   |
| 7           | 10 | 537  | 538  | 1           | =8             | 625  | 639  | 4           | =10 | 180  | 184  | 6           | =1  | 246  | 246  |
| 8           | =4 | 199  | 192  | 1           | =9             | 117  | 117  | 4           | =9  | 147  | 146  | 6           | =0  | 56   | 60   |
| 8           | =3 | 154  | 154  | 1           | =10            | 52   | 51   | 4           | =8  | 182  | 181  | 6           | =1  | 174  | 182  |
| 8           | =2 | 81   | 75   | 1           | =11            | 60   | 55   | 4           | =7  | 311  | 322  | 6           | =2  | 114  | 119  |
| 8           | =1 | 465  | 472  | 1           | =12            | 2    | 8*   | 4           | =6  | 164  | 161  | 6           | =3  | 41   | 39   |
| 8           | =0 | 91   | 69   | 2           | =11            | 105  | 108  | 4           | =5  | 142  | 143  | 6           | =4  | 210  | 212  |
| 8           | =1 | 90   | 95   | 2           | =10            | 112  | 112  | 4           | =4  | 154  | 153  | 6           | =5  | 345  | 341  |
| 8           | =2 | 351  | 360  | 2           | =9             | 308  | 306  | 4           | =3  | 22   | 25   | 6           | =6  | 179  | 181  |

| H   | K     | FOBS | FCAL | H | K   | FOBS | FCAL | H | K   | FOBS | FCAL | H | K  | FOBS | FCAL |
|-----|-------|------|------|---|-----|------|------|---|-----|------|------|---|----|------|------|
| 6   | 7     | 221  | 223  | 0 | 6   | 261  | 266  | 2 | 10  | 144  | 143  | 5 | =6 | 310  | 314  |
| 6   | 8     | 269  | 272  | 0 | 7   | 21   | 2*   | 2 | 11  | 129  | 127  | 5 | =5 | 365  | 374  |
| 6   | 9     | 386  | 389  | 0 | 8   | 496  | 507  | 2 | 12  | 383  | 375  | 5 | =4 | 194  | 201  |
| 6   | 10    | 142  | 141  | 0 | 9   | 148  | 144  | 3 | =11 | 315  | 314  | 5 | =3 | 206  | 220  |
| 6   | 11    | 43   | 41   | 0 | 10  | 76   | 70   | 3 | =10 | 196  | 199  | 5 | =2 | 368  | 375  |
| 7   | =6    | 130  | 126  | 0 | 11  | 302  | 295  | 3 | =9  | 108  | 101  | 5 | =1 | 201  | 200  |
| 7   | =5    | 284  | 284  | 0 | 12  | 131  | 125  | 3 | =8  | 304  | 304  | 5 | 0  | 472  | 475  |
| 7   | =4    | 393  | 399  | 1 | =12 | 85   | 86   | 3 | =7  | 190  | 186  | 5 | 1  | 105  | 106  |
| 7   | =3    | 40   | 42   | 1 | =11 | 333  | 327  | 3 | =6  | 61   | 53   | 5 | 2  | 186  | 188  |
| 7   | =2    | 321  | 315  | 1 | =10 | 223  | 216  | 3 | =5  | 59   | 48   | 5 | 3  | 216  | 206  |
| 7   | =1    | 311  | 310  | 1 | =9  | 299  | 301  | 3 | =4  | 806  | 825  | 5 | 4  | 135  | 134  |
| 7   | 0     | 344  | 343  | 1 | =8  | 52   | 54   | 3 | =3  | 314  | 303  | 5 | 5  | 910  | 920  |
| 7   | 1     | 208  | 204  | 1 | =7  | 320  | 313  | 3 | =2  | 258  | 260  | 5 | 6  | 87   | 88   |
| 7   | 2     | 610  | 618  | 1 | =6  | 739  | 740  | 3 | =1  | 34   | 22   | 5 | 7  | 164  | 168  |
| 7   | 3     | 128  | 133  | 1 | =5  | 371  | 370  | 3 | 0   | 45   | 35   | 5 | 8  | 584  | 585  |
| 7   | 4     | 486  | 493  | 1 | =4  | 603  | 594  | 3 | 1   | 783  | 768  | 5 | 9  | 192  | 191  |
| 7   | 5     | 129  | 130  | 1 | =3  | 303  | 292  | 3 | 2   | 173  | 158  | 5 | 10 | 69   | 73   |
| 7   | 6     | 158  | 160  | 1 | =2  | 722  | 705  | 3 | 3   | 534  | 532  | 5 | 11 | 125  | 122  |
| 7   | 7     | 485  | 488  | 1 | =1  | 172  | 170  | 3 | 4   | 199  | 197  | 5 | 12 | 118  | 114  |
| 7   | 8     | 50   | 44   | 1 | 0   | 34   | 36   | 3 | 5   | 578  | 582  | 6 | =8 | 19   | 5*   |
| 7   | 9     | 13   | 13*  | 1 | 1   | 132  | 128  | 3 | 6   | 126  | 129  | 6 | =7 | 290  | 289  |
| 7   | 10    | 24   | 26*  | 1 | 2   | 40   | 37   | 3 | 7   | 68   | 68   | 6 | =6 | 665  | 667  |
| 8   | =4    | 227  | 221  | 1 | 3   | 964  | 944  | 3 | 8   | 521  | 524  | 6 | =5 | 58   | 58   |
| 8   | =3    | 245  | 245  | 1 | 4   | 400  | 394  | 3 | 9   | 512  | 504  | 6 | =4 | 164  | 164  |
| 8   | =2    | 27   | 24   | 1 | 5   | 204  | 187  | 3 | 10  | 38   | 22   | 6 | =3 | 41   | 38   |
| 8   | =1    | 33   | 37   | 1 | 6   | 393  | 398  | 3 | 11  | 31   | 42   | 6 | =2 | 122  | 116  |
| 8   | 0     | 254  | 254  | 1 | 7   | 361  | 353  | 3 | 12  | 68   | 68   | 6 | =1 | 831  | 838  |
| 8   | 1     | 237  | 237  | 1 | 8   | 265  | 262  | 4 | =10 | 50   | 42   | 6 | 0  | 213  | 215  |
| 8   | 2     | 156  | 156  | 1 | 9   | 453  | 451  | 4 | =9  | 193  | 192  | 6 | 1  | 2    | 16*  |
| 8   | 3     | 150  | 149  | 1 | 10  | 199  | 194  | 4 | =8  | 10   | 3*   | 6 | 2  | 125  | 114  |
| 8   | 4     | 97   | 96   | 1 | 11  | 185  | 183  | 4 | =7  | 100  | 100  | 6 | 3  | 154  | 146  |
| 8   | 5     | 322  | 320  | 1 | 12  | 12   | 15*  | 4 | =6  | 17   | 16*  | 6 | 4  | 182  | 177  |
| 8   | 6     | 118  | 114  | 2 | =11 | 297  | 290  | 4 | =5  | 386  | 398  | 6 | 5  | 395  | 389  |
| 8   | 7     | 50   | 48   | 2 | =10 | 214  | 210  | 4 | =4  | 172  | 170  | 6 | 6  | 250  | 251  |
| 8   | 8     | 152  | 151  | 2 | =9  | 100  | 109  | 4 | =3  | 39   | 43   | 6 | 7  | 254  | 257  |
| 8   | 9     | 189  | 187  | 2 | =8  | 112  | 119  | 4 | =2  | 645  | 651  | 6 | 8  | 43   | 33   |
| 9   | =2    | 51   | 52   | 2 | =7  | 314  | 313  | 4 | 0   | 410  | 420  | 6 | 9  | 190  | 188  |
| 9   | =1    | 92   | 93   | 2 | =6  | 405  | 404  | 4 | 1   | 145  | 143  | 6 | 10 | 65   | 67   |
| 9   | 0     | 165  | 164  | 2 | =5  | 734  | 745  | 4 | 2   | 204  | 202  | 6 | 11 | 286  | 289  |
| 9   | 1     | 158  | 166  | 2 | =4  | 1017 | 1023 | 4 | 3   | 522  | 514  | 7 | =6 | 26   | 18*  |
| 9   | 2     | 502  | 501  | 2 | =3  | 66   | 65   | 4 | 4   | 336  | 341  | 7 | =5 | 348  | 351  |
| 9   | 3     | 197  | 197  | 2 | =2  | 163  | 160  | 4 | 5   | 598  | 596  | 7 | =4 | 200  | 202  |
| 9   | 4     | 55   | 46   | 2 | =1  | 1002 | 991  | 4 | 6   | 533  | 538  | 7 | =3 | 76   | 78   |
| 9   | 5     | 119  | 110  | 2 | 1   | 105  | 101  | 4 | 7   | 364  | 372  | 7 | =2 | 41   | 38   |
| 9   | 6     | 48   | 36   | 2 | 2   | 105  | 104  | 4 | 8   | 127  | 133  | 7 | =1 | 70   | 70   |
| 9   | 7     | 153  | 150  | 2 | 3   | 749  | 738  | 4 | 9   | 29   | 29   | 7 | 0  | 512  | 519  |
| *** | L = 0 | ***  | ***  | 2 | 4   | 13   | 20*  | 4 | 10  | 183  | 181  | 7 | 1  | 55   | 56   |
| 0   | 1     | 21   | 15   | 2 | 5   | 172  | 172  | 4 | 11  | 163  | 162  | 7 | 2  | 400  | 402  |
| 0   | 2     | 112  | 108  | 2 | 6   | 620  | 615  | 4 | 12  | 321  | 320  | 7 | 3  | 298  | 301  |
| 0   | 3     | 645  | 633  | 2 | 7   | 18   | 10*  | 5 | =9  | 78   | 73   | 7 | 4  | 169  | 168  |
| 0   | 4     | 620  | 585  | 2 | 8   | 157  | 156  | 5 | =8  | 350  | 359  | 7 | 5  | 83   | 83   |
| 0   | 5     | 199  | 195  | 2 | 9   | 227  | 230  | 5 | =7  | 197  | 195  | 7 | 6  | 276  | 277  |



| H   | K   | FOBS | FCAL | H   | K   | FOBS | FCAL | H   | K   | FOBS | FCAL | H   | K  | FOBS | FCAL |     |
|-----|-----|------|------|-----|-----|------|------|-----|-----|------|------|-----|----|------|------|-----|
| 7   | 7   | 199  | 199  | 1   | -6  | 102  | 100  | 3   | -1  | 673  | 656  | 5   | 6  | 165  | 162  |     |
| 7   | 8   | 487  | 487  | 1   | -5  | 395  | 411  | 3   | 0   | 308  | 301  | 5   | 7  | 70   | 72   |     |
| 7   | 9   | 125  | 126  | 1   | -4  | 67   | 71   | 3   | 1   | 261  | 266  | 5   | 8  | 272  | 266  |     |
| 7   | 10  | 126  | 123  | 1   | -3  | 88   | 89   | 3   | 2   | 172  | 219  | 5   | 9  | 386  | 389  |     |
| 8   | -5  | 66   | 64   | 1   | -2  | 666  | 654  | 3   | 3   | 1091 | 1062 | 5   | 10 | 164  | 167  |     |
| 8   | -4  | 36   | 33   | 1   | -1  | 336  | 327  | 3   | 4   | 213  | 214  | 5   | 11 | 78   | 77   |     |
| 8   | -3  | 244  | 244  | 1   | 0   | 82   | 76   | 3   | 5   | 144  | 140  | 5   | 12 | 105  | 101  |     |
| 8   | -2  | 257  | 259  | 1   | 1   | 46   | 47   | 3   | 6   | 275  | 271  | 6   | -8 | 378  | 380  |     |
| 8   | -1  | 296  | 292  | 1   | 2   | 111  | 111  | 3   | 7   | 95   | 94   | 6   | -7 | 176  | 178  |     |
| 8   | 0   | 2    | 9*   | 1   | 4   | 269  | 250  | 3   | 8   | 336  | 340  | 6   | -6 | 49   | 48   |     |
| 8   | 1   | 123  | 126  | 1   | 5   | 336  | 323  | 3   | 9   | 133  | 141  | 6   | -5 | 428  | 424  |     |
| 8   | 2   | 90   | 88   | 1   | 6   | 362  | 358  | 3   | 10  | 616  | 623  | 6   | -4 | 126  | 128  |     |
| 8   | 3   | 267  | 272  | 1   | 7   | 270  | 271  | 3   | 11  | 56   | 58   | 6   | -3 | 147  | 152  |     |
| 8   | 4   | 494  | 499  | 1   | 8   | 73   | 72   | 3   | 12  | 43   | 38   | 6   | -2 | 286  | 289  |     |
| 8   | 5   | 191  | 193  | 1   | 9   | 454  | 458  | 4   | -10 | 228  | 227  | 6   | -1 | 170  | 169  |     |
| 8   | 6   | 6    | 17*  | 1   | 10  | 294  | 293  | 4   | -9  | 242  | 245  | 6   | 0  | 34   | 34   |     |
| 8   | 7   | 128  | 129  | 1   | 11  | 16   | 17*  | 4   | -8  | 161  | 157  | 6   | 1  | 151  | 162  |     |
| 8   | 8   | 116  | 111  | 1   | 12  | 73   | 69   | 4   | -7  | 116  | 118  | 6   | 2  | 10   | 8*   |     |
| 8   | 9   | 176  | 175  | 2   | -11 | 408  | 410  | 4   | -6  | 163  | 169  | 6   | 3  | 440  | 448  |     |
| 9   | -2  | 43   | 36   | 2   | -10 | 168  | 168  | 4   | -5  | 420  | 426  | 6   | 4  | 63   | 69   |     |
| 9   | -1  | 310  | 309  | 2   | -9  | 285  | 293  | 4   | -4  | 169  | 178  | 6   | 5  | 315  | 317  |     |
| 9   | 0   | 258  | 255  | 2   | -8  | 509  | 514  | 4   | -3  | 162  | 168  | 6   | 6  | 88   | 89   |     |
| 9   | 1   | 127  | 128  | 2   | -7  | 68   | 71   | 4   | -2  | 35   | 23   | 6   | 7  | 238  | 246  |     |
| 9   | 2   | 164  | 172  | 2   | -6  | 378  | 384  | 4   | -1  | 181  | 181  | 6   | 8  | 72   | 63   |     |
| 9   | 3   | 535  | 543  | 2   | -5  | 146  | 144  | 4   | 0   | 32   | 29   | 6   | 9  | 194  | 192  |     |
| 9   | 4   | 320  | 319  | 2   | -4  | 55   | 52   | 4   | 1   | 43   | 45   | 6   | 10 | 189  | 179  |     |
| 9   | 5   | 32   | 21   | 2   | -3  | 613  | 614  | 4   | 2   | 95   | 83   | 6   | 11 | 708  | 710  |     |
| 9   | 6   | 36   | 36   | 2   | -2  | 40   | 39   | 4   | 3   | 69   | 71   | 7   | -7 | 109  | 110  |     |
| 9   | 7   | 441  | 436  | 2   | -1  | 837  | 841  | 4   | 4   | 160  | 154  | 7   | -6 | 385  | 382  |     |
| *** | L   | =    | 1    | *** | 2   | 0    | 249  | 252 | 4   | 5    | 450  | 454 | 7  | -5   | 22   | 14* |
| -1  | 1   | 31   | 23   | 2   | 1   | 372  | 356  | 4   | 6   | 462  | 456  | 7   | -4 | 134  | 131  |     |
| -1  | 2   | 100  | 103  | 2   | 2   | 37   | 27   | 4   | 7   | 171  | 172  | 7   | -3 | 132  | 127  |     |
| -1  | 3   | 1065 | 1104 | 2   | 3   | 10   | 22*  | 4   | 8   | 537  | 535  | 7   | -2 | 166  | 166  |     |
| 0   | 0   | 82   | 78   | 2   | 4   | 269  | 243  | 4   | 9   | 298  | 294  | 7   | -1 | 112  | 114  |     |
| 0   | 1   | 442  | 421  | 2   | 5   | 428  | 419  | 4   | 10  | 191  | 192  | 7   | 0  | 416  | 420  |     |
| 0   | 2   | 107  | 111  | 2   | 6   | 556  | 554  | 4   | 11  | 574  | 573  | 7   | 1  | 360  | 364  |     |
| 0   | 3   | 68   | 68   | 2   | 7   | 99   | 92   | 4   | 12  | 99   | 95   | 7   | 2  | 700  | 709  |     |
| 0   | 4   | 96   | 83   | 2   | 8   | 497  | 493  | 5   | -9  | 214  | 214  | 7   | 3  | 40   | 32   |     |
| 0   | 5   | 80   | 78   | 2   | 9   | 73   | 59   | 5   | -8  | 80   | 78   | 7   | 4  | 2    | 14*  |     |
| 0   | 6   | 532  | 532  | 2   | 10  | 221  | 223  | 5   | -7  | 122  | 121  | 7   | 5  | 237  | 231  |     |
| 0   | 7   | 548  | 545  | 2   | 11  | 177  | 177  | 5   | -6  | 425  | 432  | 7   | 6  | 157  | 155  |     |
| 0   | 8   | 331  | 336  | 2   | 12  | 634  | 632  | 5   | -5  | 54   | 59   | 7   | 7  | 232  | 233  |     |
| 0   | 9   | 443  | 438  | 3   | -11 | 12   | 14*  | 5   | -4  | 242  | 240  | 7   | 8  | 50   | 51   |     |
| 0   | 10  | 234  | 230  | 3   | -10 | 300  | 305  | 5   | -3  | 43   | 56   | 7   | 9  | 284  | 289  |     |
| 0   | 11  | 151  | 153  | 3   | -9  | 353  | 353  | 5   | -2  | 188  | 198  | 7   | 10 | 221  | 219  |     |
| 0   | 12  | 404  | 403  | 3   | -8  | 132  | 132  | 5   | -1  | 180  | 174  | 7   | 11 | 29   | 15   |     |
| 1   | -12 | 107  | 94   | 3   | -7  | 70   | 76   | 5   | 0   | 145  | 143  | 8   | -5 | 354  | 351  |     |
| 1   | -11 | 192  | 190  | 3   | -6  | 142  | 146  | 5   | 1   | 207  | 207  | 8   | -4 | 51   | 49   |     |
| 1   | -10 | 291  | 289  | 3   | -5  | 930  | 970  | 5   | 2   | 833  | 842  | 8   | -3 | 104  | 100  |     |
| 1   | -9  | 358  | 361  | 3   | -4  | 158  | 158  | 5   | 3   | 95   | 94   | 8   | -2 | 142  | 139  |     |
| 1   | -8  | 582  | 579  | 3   | -3  | 248  | 255  | 5   | 4   | 45   | 38   | 8   | -1 | 313  | 315  |     |
| 1   | -7  | 49   | 46   | 3   | -2  | 160  | 163  | 5   | 5   | 819  | 821  | 8   | 0  | 174  | 177  |     |

| H   | K  | FOBS | FCAL | H   | K  | FOBS | FCAL | H | K  | FOBS | FCAL | H | K  | FOBS | FCAL |
|-----|----|------|------|-----|----|------|------|---|----|------|------|---|----|------|------|
| 8   | 1  | 92   | 96   | 1   | 8  | 571  | 575  | 3 | 4  | 148  | 148  | 5 | 3  | 725  | 721  |
| 8   | 2  | 27   | 26   | 1   | 7  | 313  | 319  | 3 | 3  | 150  | 160  | 5 | 4  | 223  | 219  |
| 8   | 3  | 2    | 8*   | 1   | 6  | 644  | 642  | 3 | 2  | 172  | 174  | 5 | 5  | 446  | 446  |
| 8   | 4  | 40   | 32   | 1   | 5  | 650  | 651  | 3 | 1  | 529  | 523  | 5 | 6  | 165  | 170  |
| 8   | 5  | 356  | 358  | 1   | 4  | 58   | 58   | 3 | 0  | 244  | 256  | 5 | 7  | 266  | 264  |
| 8   | 6  | 479  | 474  | 1   | 3  | 529  | 517  | 3 | 1  | 329  | 351  | 5 | 8  | 297  | 294  |
| 8   | 7  | 256  | 258  | 1   | 2  | 8    | 17*  | 3 | 2  | 306  | 292  | 5 | 9  | 261  | 263  |
| 8   | 8  | 44   | 45   | 1   | 1  | 314  | 310  | 3 | 3  | 428  | 434  | 5 | 10 | 21   | 16*  |
| 8   | 9  | 124  | 121  | 1   | 0  | 70   | 65   | 3 | 4  | 106  | 100  | 5 | 11 | 111  | 110  |
| 9   | 3  | 51   | 41   | 1   | 1  | 40   | 39   | 3 | 5  | 279  | 276  | 5 | 12 | 260  | 261  |
| 9   | 2  | 236  | 226  | 1   | 2  | 170  | 171  | 3 | 6  | 488  | 494  | 6 | 8  | 231  | 233  |
| 9   | 1  | 81   | 54   | 1   | 3  | 232  | 233  | 3 | 7  | 157  | 160  | 6 | 7  | 122  | 118  |
| 9   | 0  | 276  | 272  | 1   | 4  | 172  | 189  | 3 | 8  | 298  | 292  | 6 | 6  | 151  | 146  |
| 9   | 1  | 252  | 257  | 1   | 5  | 482  | 483  | 3 | 9  | 196  | 194  | 6 | 5  | 126  | 127  |
| 9   | 2  | 67   | 72   | 1   | 6  | 152  | 149  | 3 | 10 | 384  | 383  | 6 | 4  | 243  | 240  |
| 9   | 3  | 199  | 203  | 1   | 7  | 67   | 68   | 3 | 11 | 541  | 542  | 6 | 3  | 695  | 701  |
| 9   | 4  | 538  | 540  | 1   | 8  | 260  | 266  | 3 | 12 | 328  | 324  | 6 | 2  | 146  | 145  |
| 9   | 5  | 31   | 30   | 1   | 9  | 439  | 432  | 4 | 10 | 340  | 341  | 6 | 1  | 116  | 116  |
| 9   | 6  | 28   | 14   | 1   | 10 | 129  | 132  | 4 | 9  | 302  | 309  | 6 | 0  | 60   | 55   |
| 9   | 7  | 81   | 78   | 1   | 11 | 58   | 53   | 4 | 8  | 151  | 153  | 6 | 1  | 33   | 36   |
| 9   | 8  | 318  | 316  | 1   | 12 | 82   | 81   | 4 | 7  | 344  | 341  | 6 | 2  | 299  | 296  |
| 10  | 2  | 164  | 157  | 2   | 11 | 106  | 107  | 4 | 6  | 277  | 272  | 6 | 3  | 539  | 542  |
| 10  | 3  | 30   | 26   | 2   | 10 | 585  | 584  | 4 | 5  | 250  | 259  | 6 | 4  | 318  | 328  |
| *** | L  | =    | 2    | *** | 9  | 23   | 13*  | 4 | 4  | 192  | 192  | 6 | 5  | 76   | 70   |
| 3   | 4  | 169  | 164  | 2   | 8  | 367  | 370  | 4 | 3  | 846  | 863  | 6 | 6  | 109  | 115  |
| 3   | 5  | 319  | 327  | 2   | 7  | 88   | 89   | 4 | 2  | 114  | 127  | 6 | 7  | 165  | 167  |
| 3   | 6  | 538  | 544  | 2   | 6  | 110  | 102  | 4 | 1  | 267  | 268  | 6 | 8  | 219  | 216  |
| 2   | 2  | 146  | 135  | 2   | 5  | 111  | 106  | 4 | 0  | 98   | 98   | 6 | 9  | 36   | 31   |
| 2   | 3  | 79   | 72   | 2   | 4  | 323  | 319  | 4 | 1  | 607  | 594  | 6 | 10 | 116  | 110  |
| 2   | 4  | 378  | 375  | 2   | 3  | 922  | 921  | 4 | 2  | 108  | 106  | 6 | 11 | 25   | 31*  |
| 2   | 5  | 329  | 328  | 2   | 2  | 348  | 408  | 4 | 3  | 256  | 253  | 7 | 7  | 294  | 294  |
| 2   | 6  | 376  | 376  | 2   | 1  | 500  | 506  | 4 | 4  | 535  | 526  | 7 | 6  | 27   | 21*  |
| 1   | 2  | 588  | 600  | 2   | 0  | 283  | 286  | 4 | 5  | 457  | 467  | 7 | 5  | 199  | 198  |
| 1   | 3  | 126  | 117  | 2   | 1  | 122  | 118  | 4 | 6  | 124  | 119  | 7 | 4  | 135  | 134  |
| 1   | 4  | 789  | 771  | 2   | 2  | 253  | 231  | 4 | 7  | 122  | 123  | 7 | 3  | 54   | 55   |
| 0   | 0  | 26   | 11   | 2   | 3  | 280  | 251  | 4 | 8  | 432  | 439  | 7 | 2  | 397  | 393  |
| 0   | 1  | 205  | 199  | 2   | 4  | 288  | 287  | 4 | 9  | 40   | 16   | 7 | 1  | 146  | 151  |
| 0   | 2  | 195  | 174  | 2   | 5  | 663  | 652  | 4 | 10 | 171  | 167  | 7 | 0  | 377  | 383  |
| 0   | 3  | 495  | 468  | 2   | 6  | 60   | 56   | 4 | 11 | 174  | 170  | 7 | 1  | 180  | 183  |
| 0   | 4  | 63   | 64   | 2   | 7  | 268  | 273  | 4 | 12 | 149  | 149  | 7 | 2  | 54   | 52   |
| 0   | 5  | 254  | 253  | 2   | 8  | 75   | 74   | 5 | 9  | 90   | 95   | 7 | 3  | 283  | 284  |
| 0   | 6  | 656  | 651  | 2   | 9  | 115  | 321  | 5 | 8  | 254  | 253  | 7 | 4  | 261  | 256  |
| 0   | 7  | 49   | 48   | 2   | 10 | 287  | 284  | 5 | 7  | 308  | 305  | 7 | 5  | 486  | 485  |
| 0   | 8  | 67   | 63   | 2   | 11 | 138  | 134  | 5 | 6  | 387  | 392  | 7 | 6  | 340  | 344  |
| 0   | 9  | 193  | 188  | 2   | 12 | 29   | 19   | 5 | 5  | 94   | 91   | 7 | 7  | 29   | 18   |
| 0   | 10 | 373  | 369  | 3   | 11 | 64   | 67   | 5 | 4  | 348  | 352  | 7 | 8  | 440  | 438  |
| 0   | 11 | 29   | 10   | 3   | 10 | 18   | 14*  | 5 | 3  | 196  | 201  | 7 | 9  | 181  | 178  |
| 0   | 12 | 273  | 270  | 3   | 9  | 205  | 200  | 5 | 2  | 507  | 519  | 7 | 10 | 425  | 424  |
| 1   | 12 | 120  | 122  | 3   | 8  | 328  | 325  | 5 | 1  | 363  | 358  | 8 | 5  | 84   | 82   |
| 1   | 11 | 574  | 572  | 3   | 7  | 310  | 312  | 5 | 0  | 183  | 182  | 8 | 4  | 318  | 322  |
| 1   | 10 | 77   | 77   | 3   | 6  | 508  | 525  | 5 | 1  | 184  | 190  | 8 | 3  | 239  | 241  |
| 1   | 9  | 203  | 206  | 3   | 5  | 241  | 237  | 5 | 2  | 57   | 63   | 8 | 2  | 88   | 85   |

| H   | K     | FOBS | FCAL | H | K   | FOBS | FCAL | H | K   | FOBS | FCAL | H | K  | FOBS | FCAL |
|-----|-------|------|------|---|-----|------|------|---|-----|------|------|---|----|------|------|
| 8   | -1    | 171  | 165  | 0 | 0   | 129  | 120  | 2 | 5   | 248  | 247  | 4 | 11 | 338  | 336  |
| 8   | 0     | 382  | 383  | 0 | 1   | 331  | 338  | 2 | 6   | 148  | 137  | 4 | 12 | 114  | 110  |
| 8   | 1     | 143  | 146  | 0 | 2   | 240  | 233  | 2 | 7   | 592  | 596  | 5 | -9 | 25   | 16*  |
| 8   | 2     | 171  | 173  | 0 | 3   | 72   | 57   | 2 | 8   | 755  | 759  | 5 | -8 | 197  | 195  |
| 8   | 3     | 418  | 420  | 0 | 4   | 706  | 695  | 2 | 9   | 308  | 314  | 5 | -7 | 45   | 39   |
| 8   | 4     | 29   | 32   | 0 | 5   | 832  | 828  | 2 | 10  | 229  | 230  | 5 | -6 | 238  | 234  |
| 8   | 5     | 350  | 347  | 0 | 6   | 224  | 225  | 2 | 11  | 293  | 290  | 5 | -5 | 29   | 24   |
| 8   | 6     | 134  | 138  | 0 | 7   | 458  | 470  | 2 | 12  | 230  | 228  | 5 | -4 | 210  | 215  |
| 8   | 7     | 35   | 31   | 0 | 8   | 420  | 416  | 3 | -10 | 322  | 316  | 5 | -3 | 380  | 388  |
| 8   | 8     | 194  | 194  | 0 | 9   | 9    | 18*  | 3 | -9  | 2    | 10*  | 5 | -2 | 170  | 169  |
| 8   | 9     | 168  | 167  | 0 | 10  | 108  | 107  | 3 | -8  | 77   | 74   | 5 | -1 | 297  | 305  |
| 9   | -3    | 88   | 85   | 0 | 11  | 293  | 293  | 3 | -7  | 88   | 95   | 5 | 0  | 1730 | 1750 |
| 9   | -2    | 361  | 360  | 0 | 12  | 439  | 438  | 3 | -6  | 249  | 258  | 5 | 1  | 85   | 85   |
| 9   | -1    | 38   | 35   | 1 | -11 | 27   | 23*  | 3 | -5  | 221  | 232  | 5 | 2  | 213  | 216  |
| 9   | 0     | 37   | 39   | 1 | -10 | 129  | 128  | 3 | -4  | 383  | 390  | 5 | 3  | 144  | 137  |
| 9   | 1     | 184  | 183  | 1 | -9  | 222  | 223  | 3 | -3  | 632  | 636  | 5 | 4  | 313  | 307  |
| 9   | 2     | 397  | 397  | 1 | -8  | 50   | 33   | 3 | -2  | 176  | 170  | 5 | 5  | 636  | 650  |
| 9   | 3     | 29   | 29   | 1 | -7  | 94   | 89   | 3 | -1  | 164  | 160  | 5 | 6  | 425  | 428  |
| 9   | 4     | 401  | 403  | 1 | -6  | 389  | 401  | 3 | 0   | 767  | 780  | 5 | 7  | 252  | 252  |
| 9   | 5     | 84   | 86   | 1 | -5  | 547  | 551  | 3 | 1   | 1171 | 1161 | 5 | 8  | 336  | 340  |
| 9   | 6     | 336  | 340  | 1 | -4  | 139  | 133  | 3 | 2   | 95   | 100  | 5 | 9  | 31   | 27   |
| 9   | 7     | 52   | 54   | 1 | -3  | 146  | 141  | 3 | 3   | 55   | 55   | 5 | 10 | 44   | 35   |
| 9   | 8     | 190  | 194  | 1 | -2  | 64   | 86   | 3 | 4   | 761  | 754  | 5 | 11 | 183  | 179  |
| 10  | 2     | 322  | 324  | 1 | -1  | 568  | 575  | 3 | 5   | 396  | 391  | 5 | 12 | 41   | 40   |
| 10  | 3     | 269  | 261  | 1 | 0   | 554  | 561  | 3 | 6   | 542  | 540  | 6 | -8 | 59   | 55   |
| 10  | 4     | 191  | 189  | 1 | 2   | 392  | 394  | 3 | 7   | 462  | 457  | 6 | -7 | 185  | 185  |
| *** | L = 3 | ***  | ***  | 1 | 3   | 66   | 54   | 3 | 8   | 39   | 32   | 6 | -6 | 185  | 186  |
| -5  | 6     | 28   | 31   | 1 | 4   | 187  | 190  | 3 | 9   | 249  | 244  | 6 | -5 | 153  | 160  |
| -5  | 7     | 332  | 330  | 1 | 5   | 31   | 20   | 3 | 10  | 284  | 284  | 6 | -4 | 179  | 188  |
| -5  | 8     | 322  | 317  | 1 | 6   | 230  | 224  | 3 | 11  | 124  | 126  | 6 | -3 | 115  | 118  |
| -4  | 4     | 84   | 73   | 1 | 7   | 266  | 263  | 3 | 12  | 37   | 38   | 6 | -2 | 92   | 88   |
| -4  | 5     | 487  | 497  | 1 | 8   | 78   | 82   | 4 | -10 | 213  | 212  | 6 | -1 | 364  | 373  |
| -4  | 6     | 313  | 313  | 1 | 9   | 35   | 33   | 4 | -9  | 264  | 266  | 6 | 0  | 9    | 20*  |
| -4  | 7     | 77   | 82   | 1 | 10  | 104  | 102  | 4 | -8  | 203  | 204  | 6 | 1  | 213  | 212  |
| -4  | 8     | 2    | 16*  | 1 | 11  | 53   | 48   | 4 | -7  | 95   | 95   | 6 | 2  | 39   | 42   |
| -4  | 9     | 304  | 309  | 1 | 12  | 237  | 229  | 4 | -6  | 168  | 163  | 6 | 3  | 522  | 530  |
| -3  | 3     | 433  | 432  | 2 | -11 | 228  | 228  | 4 | -5  | 93   | 90   | 6 | 4  | 342  | 351  |
| -3  | 4     | 118  | 116  | 2 | -10 | 184  | 181  | 4 | -4  | 224  | 223  | 6 | 5  | 130  | 129  |
| -3  | 5     | 106  | 104  | 2 | -9  | 201  | 208  | 4 | -3  | 334  | 343  | 6 | 6  | 685  | 687  |
| -3  | 6     | 321  | 335  | 2 | -8  | 312  | 319  | 4 | -2  | 102  | 106  | 6 | 7  | 322  | 318  |
| -3  | 7     | 28   | 22   | 2 | -7  | 79   | 80   | 4 | -1  | 20   | 23   | 6 | 8  | 344  | 345  |
| -3  | 8     | 264  | 257  | 2 | -6  | 29   | 12   | 4 | 0   | 356  | 351  | 6 | 9  | 443  | 437  |
| -3  | 9     | 45   | 48   | 2 | -5  | 762  | 779  | 4 | 1   | 239  | 234  | 6 | 10 | 61   | 57   |
| -2  | 3     | 122  | 111  | 2 | -4  | 166  | 172  | 4 | 2   | 699  | 687  | 6 | 11 | 248  | 243  |
| -2  | 4     | 169  | 164  | 2 | -3  | 553  | 555  | 4 | 3   | 239  | 230  | 7 | -6 | 163  | 164  |
| -2  | 5     | 785  | 780  | 2 | -2  | 237  | 240  | 4 | 4   | 866  | 855  | 7 | -5 | 628  | 624  |
| -2  | 6     | 32   | 12   | 2 | -1  | 238  | 225  | 4 | 5   | 114  | 111  | 7 | -4 | 338  | 340  |
| -2  | 7     | 96   | 88   | 2 | 0   | 63   | 53   | 4 | 6   | 492  | 496  | 7 | -3 | 81   | 80   |
| -2  | 8     | 87   | 86   | 2 | 1   | 277  | 271  | 4 | 7   | 550  | 551  | 7 | -2 | 83   | 84   |
| -1  | 3     | 487  | 493  | 2 | 2   | 78   | 63   | 4 | 8   | 474  | 478  | 7 | -1 | 185  | 186  |
| -1  | 4     | 60   | 58   | 2 | 3   | 130  | 111  | 4 | 9   | 305  | 304  | 7 | 0  | 729  | 741  |
| -1  | 5     | 175  | 173  | 2 | 4   | 1230 | 1204 | 4 | 10  | 401  | 397  | 7 | 1  | 67   | 61   |

| H   | K     | F OBS | FCAL | H  | K   | F OBS | FCAL | H | K   | F OBS | FCAL | H | K  | F OBS | FCAL |
|-----|-------|-------|------|----|-----|-------|------|---|-----|-------|------|---|----|-------|------|
| 7   | 2     | 65    | 64   | -3 | 9   | 28    | 16   | 2 | -6  | 205   | 204  | 4 | 1  | 331   | 335  |
| 7   | 3     | 295   | 290  | -3 | 10  | 135   | 131  | 2 | -5  | 394   | 390  | 4 | 2  | 242   | 242  |
| 7   | 4     | 208   | 207  | -2 | 3   | 117   | 111  | 2 | -4  | 501   | 595  | 4 | 3  | 1015  | 1023 |
| 7   | 5     | 241   | 241  | -2 | 4   | 615   | 624  | 2 | -3  | 132   | 136  | 4 | 4  | 400   | 394  |
| 7   | 6     | 321   | 320  | -2 | 5   | 743   | 768  | 2 | -2  | 198   | 200  | 4 | 5  | 278   | 281  |
| 7   | 7     | 109   | 106  | -2 | 6   | 329   | 331  | 2 | -1  | 170   | 174  | 4 | 6  | 117   | 115  |
| 7   | 8     | 405   | 402  | -2 | 7   | 101   | 101  | 2 | 0   | 1103  | 1097 | 4 | 7  | 343   | 348  |
| 7   | 9     | 174   | 169  | -2 | 8   | 217   | 220  | 2 | 1   | 760   | 731  | 4 | 8  | 22    | 9*   |
| 7   | 10    | 37    | 32   | -2 | 9   | 349   | 346  | 2 | 2   | 116   | 118  | 4 | 9  | 170   | 171  |
| 8   | -5    | 272   | 268  | -1 | 5   | 100   | 97   | 2 | 3   | 447   | 405  | 4 | 10 | 243   | 241  |
| 8   | -4    | 310   | 311  | -1 | 6   | 473   | 473  | 2 | 4   | 1337  | 1319 | 4 | 11 | 168   | 166  |
| 8   | -3    | 86    | 87   | 0  | 0   | 482   | 459  | 2 | 5   | 120   | 129  | 4 | 12 | 32    | 33   |
| 8   | -2    | 313   | 308  | 0  | 1   | 770   | 760  | 2 | 6   | 97    | 101  | 5 | -9 | 216   | 217  |
| 8   | -1    | 139   | 142  | 0  | 2   | 395   | 393  | 2 | 7   | 471   | 478  | 5 | -8 | 165   | 168  |
| 8   | 0     | 219   | 221  | 0  | 3   | 380   | 383  | 2 | 8   | 186   | 185  | 5 | -7 | 20    | 14*  |
| 8   | 1     | 516   | 512  | 0  | 4   | 1476  | 1480 | 2 | 9   | 77    | 73   | 5 | -6 | 243   | 243  |
| 8   | 2     | 114   | 113  | 0  | 5   | 289   | 286  | 2 | 10  | 313   | 312  | 5 | -5 | 222   | 224  |
| 8   | 3     | 179   | 181  | 0  | 6   | 146   | 150  | 2 | 11  | 130   | 134  | 5 | -4 | 313   | 310  |
| 8   | 4     | 92    | 87   | 0  | 7   | 141   | 137  | 2 | 12  | 98    | 106  | 5 | -3 | 132   | 141  |
| 8   | 5     | 242   | 240  | 0  | 8   | 174   | 174  | 3 | -10 | 361   | 368  | 5 | -2 | 424   | 434  |
| 8   | 6     | 30    | 36   | 0  | 9   | 97    | 98   | 3 | -9  | 63    | 64   | 5 | -1 | 270   | 279  |
| 8   | 7     | 287   | 291  | 0  | 10  | 140   | 136  | 3 | -8  | 271   | 272  | 5 | 0  | 173   | 178  |
| 8   | 8     | 433   | 431  | 0  | 11  | 216   | 212  | 3 | -7  | 294   | 300  | 5 | 1  | 175   | 177  |
| 8   | 9     | 296   | 294  | 1  | -11 | 83    | 86   | 3 | -6  | 134   | 127  | 5 | 2  | 470   | 479  |
| 9   | -2    | 303   | 302  | 1  | -10 | 149   | 147  | 3 | -5  | 251   | 257  | 5 | 3  | 205   | 207  |
| 9   | -1    | 554   | 549  | 1  | -9  | 295   | 301  | 3 | -4  | 238   | 243  | 5 | 4  | 79    | 73   |
| 9   | 0     | 106   | 104  | 1  | -8  | 250   | 259  | 3 | -3  | 85    | 87   | 5 | 5  | 138   | 128  |
| 9   | 1     | 185   | 184  | 1  | -7  | 245   | 243  | 3 | -2  | 320   | 336  | 5 | 6  | 159   | 157  |
| 9   | 2     | 138   | 134  | 1  | -6  | 137   | 139  | 3 | -1  | 85    | 82   | 5 | 7  | 422   | 420  |
| 9   | 3     | 91    | 96   | 1  | -5  | 354   | 360  | 3 | 0   | 244   | 191  | 5 | 8  | 13    | 11*  |
| 9   | 4     | 280   | 280  | 1  | -4  | 56    | 45   | 3 | 1   | 198   | 205  | 5 | 9  | 273   | 271  |
| 9   | 5     | 150   | 152  | 1  | -3  | 223   | 224  | 3 | 2   | 42    | 39   | 5 | 10 | 236   | 234  |
| 9   | 6     | 303   | 300  | 1  | -2  | 225   | 241  | 3 | 3   | 294   | 295  | 5 | 11 | 288   | 286  |
| 9   | 7     | 240   | 231  | 1  | -1  | 74    | 64   | 3 | 4   | 241   | 243  | 6 | -7 | 50    | 42   |
| 10  | 3     | 64    | 62   | 1  | 0   | 469   | 460  | 3 | 5   | 547   | 555  | 6 | -6 | 204   | 205  |
| *** | L = 4 | ***   | ***  | 1  | 1   | 139   | 143  | 3 | 6   | 472   | 474  | 6 | -5 | 162   | 162  |
| -6  | 7     | 139   | 136  | 1  | 2   | 773   | 742  | 3 | 7   | 570   | 562  | 6 | -4 | 68    | 65   |
| -5  | 5     | 139   | 140  | 1  | 3   | 42    | 32   | 3 | 8   | 25    | 15   | 6 | -3 | 62    | 64   |
| -5  | 6     | 91    | 90   | 1  | 4   | 302   | 301  | 3 | 9   | 209   | 288  | 6 | -2 | 273   | 273  |
| -5  | 7     | 208   | 209  | 1  | 5   | 170   | 162  | 3 | 10  | 10    | 11*  | 6 | -1 | 164   | 160  |
| -5  | 8     | 229   | 235  | 1  | 6   | 606   | 613  | 3 | 11  | 204   | 203  | 6 | 0  | 140   | 136  |
| -4  | 4     | 241   | 242  | 1  | 7   | 712   | 715  | 3 | 12  | 266   | 262  | 6 | 1  | 26    | 16   |
| -4  | 5     | 512   | 516  | 1  | 8   | 294   | 289  | 4 | -9  | 253   | 255  | 6 | 2  | 93    | 89   |
| -4  | 6     | 365   | 363  | 1  | 9   | 16    | 15*  | 4 | -8  | 335   | 333  | 6 | 3  | 584   | 588  |
| -4  | 7     | 237   | 238  | 1  | 10  | 274   | 276  | 4 | -7  | 67    | 67   | 6 | 4  | 43    | 57   |
| -4  | 8     | 132   | 131  | 1  | 11  | 482   | 477  | 4 | -6  | 68    | 66   | 6 | 5  | 145   | 149  |
| -4  | 9     | 284   | 279  | 1  | 12  | 2     | 7*   | 4 | -5  | 96    | 91   | 6 | 6  | 394   | 390  |
| -3  | 4     | 588   | 589  | 2  | -11 | 2     | 12*  | 4 | -4  | 739   | 763  | 6 | 7  | 57    | 51   |
| -3  | 5     | 51    | 54   | 2  | -10 | 124   | 132  | 4 | -3  | 334   | 337  | 6 | 8  | 39    | 34   |
| -3  | 6     | 2     | 3*   | 2  | -9  | 215   | 220  | 4 | -2  | 170   | 170  | 6 | 9  | 242   | 240  |
| -3  | 7     | 308   | 298  | 2  | -8  | 201   | 202  | 4 | -1  | 106   | 109  | 6 | 10 | 242   | 241  |
| -3  | 8     | 429   | 426  | 2  | -7  | 260   | 261  | 4 | 0   | 631   | 636  | 6 | 11 | 28    | 25   |

| H   | K  | FOBS | FCAL | H   | K   | FOBS | FCAL | H   | K   | FOBS | FCAL | H   | K  | FOBS | FCAL |     |
|-----|----|------|------|-----|-----|------|------|-----|-----|------|------|-----|----|------|------|-----|
| 7   | -6 | 350  | 342  | -3  | 6   | 104  | 103  | 2   | -4  | 286  | 291  | 4   | 3  | 137  | 141  |     |
| 7   | -5 | 21   | 11*  | -3  | 7   | 267  | 270  | 2   | -3  | 254  | 255  | 4   | 4  | 315  | 326  |     |
| 7   | -4 | 119  | 116  | -3  | 8   | 435  | 433  | 2   | -2  | 225  | 222  | 4   | 5  | 232  | 240  |     |
| 7   | -3 | 17   | 13*  | -3  | 9   | 326  | 322  | 2   | -1  | 259  | 270  | 4   | 6  | 389  | 396  |     |
| 7   | -2 | 53   | 53   | -2  | 4   | 184  | 193  | 2   | 0   | 168  | 168  | 4   | 7  | 206  | 208  |     |
| 7   | -1 | 106  | 105  | -2  | 5   | 87   | 88   | 2   | 1   | 322  | 326  | 4   | 8  | 17   | 13*  |     |
| 7   | 0  | 122  | 121  | -2  | 6   | 322  | 324  | 2   | 2   | 286  | 281  | 4   | 9  | 166  | 162  |     |
| 7   | 1  | 202  | 199  | -2  | 7   | 300  | 310  | 2   | 3   | 392  | 397  | 4   | 10 | 150  | 147  |     |
| 7   | 2  | 17   | 21*  | -2  | 8   | 21   | 22*  | 2   | 4   | 293  | 293  | 4   | 11 | 277  | 272  |     |
| 7   | 3  | 200  | 196  | -2  | 9   | 123  | 123  | 2   | 5   | 292  | 306  | 5   | -8 | 101  | 101  |     |
| 7   | 4  | 279  | 281  | -2  | 10  | 216  | 209  | 2   | 6   | 406  | 414  | 5   | -7 | 2    | 7*   |     |
| 7   | 5  | 143  | 144  | 0   | 0   | 142  | 138  | 2   | 7   | 202  | 207  | 5   | -6 | 463  | 462  |     |
| 7   | 6  | 334  | 333  | 0   | 1   | 32   | 9    | 2   | 8   | 82   | 83   | 5   | -5 | 734  | 729  |     |
| 7   | 7  | 2    | 14*  | 0   | 2   | 228  | 230  | 2   | 9   | 194  | 196  | 5   | -4 | 422  | 429  |     |
| 7   | 8  | 106  | 105  | 0   | 3   | 624  | 641  | 2   | 10  | 290  | 288  | 5   | -3 | 298  | 296  |     |
| 7   | 9  | 205  | 198  | 0   | 4   | 204  | 206  | 2   | 11  | 142  | 140  | 5   | -2 | 563  | 565  |     |
| 7   | 10 | 151  | 148  | 0   | 5   | 206  | 210  | 2   | 12  | 79   | 83   | 5   | -1 | 108  | 111  |     |
| 8   | -4 | 2    | 7*   | 0   | 6   | 216  | 230  | 3   | -10 | 113  | 105  | 5   | 0  | 197  | 197  |     |
| 8   | -3 | 173  | 167  | 0   | 7   | 373  | 374  | 3   | -9  | 432  | 428  | 5   | 1  | 164  | 161  |     |
| 8   | -2 | 247  | 244  | 0   | 8   | 13   | 7*   | 3   | -8  | 291  | 289  | 5   | 2  | 124  | 119  |     |
| 8   | -1 | 167  | 167  | 0   | 9   | 134  | 133  | 3   | -7  | 211  | 212  | 5   | 3  | 527  | 541  |     |
| 8   | 0  | 304  | 301  | 0   | 10  | 168  | 170  | 3   | -6  | 268  | 265  | 5   | 4  | 88   | 87   |     |
| 8   | 1  | 175  | 180  | 0   | 11  | 129  | 127  | 3   | -5  | 190  | 190  | 5   | 5  | 298  | 302  |     |
| 8   | 2  | 200  | 200  | 1   | -11 | 25   | 23*  | 3   | -4  | 314  | 325  | 5   | 6  | 361  | 364  |     |
| 8   | 3  | 590  | 600  | 1   | -10 | 32   | 18   | 3   | -3  | 337  | 337  | 5   | 7  | 21   | 14*  |     |
| 8   | 4  | 21   | 10*  | 1   | -9  | 189  | 191  | 3   | -2  | 488  | 498  | 5   | 8  | 195  | 195  |     |
| 8   | 5  | 29   | 28   | 1   | -8  | 110  | 110  | 3   | -1  | 958  | 981  | 5   | 9  | 117  | 116  |     |
| 8   | 6  | 215  | 213  | 1   | -7  | 91   | 92   | 3   | 0   | 428  | 433  | 5   | 10 | 111  | 118  |     |
| 8   | 7  | 86   | 83   | 1   | -6  | 96   | 99   | 3   | 1   | 128  | 127  | 5   | 11 | 35   | 28   |     |
| 8   | 8  | 193  | 195  | 1   | -5  | 239  | 238  | 3   | 2   | 212  | 220  | 6   | -7 | 91   | 82   |     |
| 8   | 9  | 60   | 60   | 1   | -4  | 1228 | 1255 | 3   | 3   | 87   | 89   | 6   | -6 | 325  | 325  |     |
| 9   | -2 | 32   | 36   | 1   | -3  | 906  | 908  | 3   | 4   | 254  | 260  | 6   | -5 | 252  | 255  |     |
| 9   | -1 | 107  | 106  | 1   | -2  | 409  | 419  | 3   | 5   | 7    | 3*   | 6   | -4 | 81   | 78   |     |
| 9   | 0  | 104  | 103  | 1   | -1  | 820  | 843  | 3   | 6   | 247  | 242  | 6   | -3 | 341  | 341  |     |
| 9   | 1  | 157  | 155  | 1   | 0   | 366  | 367  | 3   | 7   | 62   | 55   | 6   | -2 | 160  | 163  |     |
| 9   | 2  | 68   | 69   | 1   | 1   | 136  | 127  | 3   | 8   | 322  | 331  | 6   | -1 | 443  | 447  |     |
| 9   | 3  | 42   | 44   | 1   | 2   | 30   | 17   | 3   | 9   | 46   | 36   | 6   | 0  | 410  | 406  |     |
| 9   | 4  | 86   | 87   | 1   | 3   | 210  | 215  | 3   | 10  | 18   | 24*  | 6   | 1  | 85   | 78   |     |
| 9   | 5  | 63   | 60   | 1   | 4   | 231  | 227  | 3   | 11  | 380  | 384  | 6   | 2  | 14   | 26*  |     |
| 9   | 6  | 199  | 201  | 1   | 5   | 255  | 263  | 3   | 12  | 18   | 23*  | 6   | 3  | 37   | 35   |     |
| 9   | 7  | 286  | 287  | 1   | 6   | 89   | 87   | 4   | -9  | 18   | 20*  | 6   | 4  | 284  | 289  |     |
| *** | L  | =    | 5    | *** | 1   | 7    | 528  | 532 | 4   | -8   | 10   | 17* | 6  | 5    | 132  | 130 |
| -6  | 6  | 88   | 86   | 1   | 8   | 140  | 138  | 4   | -7  | 326  | 331  | 6   | 6  | 86   | 81   |     |
| -5  | 5  | 12   | 4*   | 1   | 9   | 28   | 12   | 4   | -6  | 296  | 294  | 6   | 7  | 28   | 28   |     |
| -5  | 6  | 2    | 19*  | 1   | 10  | 55   | 55   | 4   | -5  | 222  | 224  | 6   | 8  | 43   | 36   |     |
| -5  | 7  | 98   | 98   | 1   | 11  | 229  | 227  | 4   | -4  | 36   | 40   | 6   | 9  | 145  | 143  |     |
| -4  | 5  | 261  | 267  | 2   | -10 | 441  | 443  | 4   | -3  | 452  | 469  | 6   | 10 | 33   | 15   |     |
| -4  | 6  | 53   | 50   | 2   | -9  | 140  | 138  | 4   | -2  | 227  | 229  | 6   | 11 | 90   | 90   |     |
| -4  | 7  | 100  | 99   | 2   | -8  | 61   | 62   | 4   | -1  | 72   | 71   | 7   | -6 | 30   | 33   |     |
| -4  | 8  | 218  | 222  | 2   | -7  | 473  | 483  | 4   | 0   | 219  | 219  | 7   | -5 | 148  | 144  |     |
| -3  | 4  | 15   | 18*  | 2   | -6  | 155  | 165  | 4   | 1   | 86   | 79   | 7   | -4 | 156  | 157  |     |
| -3  | 5  | 262  | 264  | 2   | -5  | 504  | 505  | 4   | 2   | 499  | 506  | 7   | -3 | 341  | 341  |     |

| H   | K  | FOBS | FCAL | H   | K   | FOBS | FCAL | H  | K  | FOBS | FCAL | H   | K  | FOBS | FCAL |    |
|-----|----|------|------|-----|-----|------|------|----|----|------|------|-----|----|------|------|----|
| 7   | -2 | 558  | 566  | 0   | 0   | 648  | 650  | 2  | 0  | 200  | 270  | 5   | -2 | 253  | 256  |    |
| 7   | -1 | 98   | 100  | 0   | 1   | 156  | 156  | 2  | 9  | 254  | 254  | 5   | -1 | 23   | 9    |    |
| 7   | 0  | 199  | 199  | 0   | 2   | 726  | 742  | 2  | 10 | 110  | 120  | 5   | 0  | 250  | 258  |    |
| 7   | 1  | 79   | 77   | 0   | 3   | 167  | 176  | 2  | 11 | 207  | 200  | 5   | 1  | 52   | 45   |    |
| 7   | 2  | 265  | 269  | 0   | 4   | 385  | 396  | 3  | -9 | 133  | 137  | 5   | 2  | 108  | 107  |    |
| 7   | 3  | 323  | 325  | 0   | 5   | 68   | 67   | 3  | -8 | 192  | 194  | 5   | 3  | 255  | 245  |    |
| 7   | 4  | 75   | 72   | 0   | 6   | 22   | 14   | 3  | -7 | 111  | 106  | 5   | 4  | 100  | 101  |    |
| 7   | 5  | 160  | 166  | 0   | 7   | 199  | 200  | 3  | -6 | 64   | 59   | 5   | 5  | 501  | 497  |    |
| 7   | 6  | 241  | 237  | 0   | 8   | 385  | 384  | 3  | -5 | 162  | 164  | 5   | 6  | 49   | 48   |    |
| 7   | 7  | 153  | 151  | 0   | 9   | 302  | 304  | 3  | -4 | 611  | 621  | 5   | 7  | 251  | 252  |    |
| 7   | 8  | 100  | 98   | 0   | 10  | 28   | 4    | 3  | -3 | 175  | 172  | 5   | 8  | 349  | 351  |    |
| 7   | 9  | 160  | 169  | 0   | 11  | 150  | 150  | 3  | -2 | 379  | 389  | 5   | 9  | 384  | 380  |    |
| 7   | 10 | 24   | 32*  | 1   | -10 | 62   | 54   | 3  | -1 | 295  | 306  | 5   | 10 | 256  | 258  |    |
| 8   | -4 | 176  | 173  | 1   | -9  | 110  | 113  | 3  | 0  | 98   | 95   | 5   | 11 | 326  | 329  |    |
| 8   | -3 | 250  | 247  | 1   | -8  | 67   | 65   | 3  | 1  | 375  | 385  | 6   | -7 | 77   | 78   |    |
| 8   | -2 | 86   | 88   | 1   | -7  | 659  | 674  | 3  | 2  | 66   | 62   | 6   | -6 | 63   | 63   |    |
| 8   | -1 | 426  | 422  | 1   | -6  | 44   | 38   | 3  | 3  | 444  | 451  | 6   | -5 | 187  | 187  |    |
| 8   | 0  | 39   | 46   | 1   | -5  | 127  | 131  | 3  | 4  | 25   | 24   | 6   | -4 | 67   | 65   |    |
| 8   | 1  | 161  | 162  | 1   | -4  | 343  | 348  | 3  | 5  | 445  | 439  | 6   | -3 | 107  | 105  |    |
| 8   | 2  | 48   | 40   | 1   | -3  | 330  | 337  | 3  | 6  | 56   | 56   | 6   | -2 | 217  | 214  |    |
| 8   | 3  | 136  | 132  | 1   | -2  | 523  | 536  | 3  | 7  | 93   | 94   | 6   | -1 | 274  | 276  |    |
| 8   | 4  | 12   | 9*   | 1   | -1  | 144  | 149  | 3  | 8  | 151  | 151  | 6   | 0  | 300  | 299  |    |
| 8   | 5  | 243  | 242  | 1   | 0   | 26   | 17   | 3  | 9  | 302  | 309  | 6   | 1  | 845  | 848  |    |
| 8   | 6  | 334  | 333  | 1   | 1   | 196  | 199  | 3  | 10 | 127  | 132  | 6   | 2  | 377  | 388  |    |
| 8   | 7  | 41   | 39   | 1   | 2   | 128  | 128  | 3  | 11 | 56   | 53   | 6   | 3  | 329  | 333  |    |
| 8   | 8  | 142  | 143  | 1   | 3   | 190  | 189  | 4  | -9 | 410  | 401  | 6   | 4  | 217  | 218  |    |
| 9   | -1 | 128  | 124  | 1   | 4   | 324  | 331  | 4  | -8 | 215  | 210  | 6   | 5  | 105  | 107  |    |
| 9   | 0  | 156  | 154  | 1   | 5   | 633  | 646  | 4  | -7 | 205  | 203  | 6   | 6  | 201  | 198  |    |
| 9   | 1  | 194  | 195  | 1   | 6   | 505  | 508  | 4  | -6 | 244  | 244  | 6   | 7  | 173  | 169  |    |
| 9   | 2  | 204  | 204  | 1   | 7   | 94   | 93   | 4  | -5 | 211  | 216  | 6   | 8  | 164  | 163  |    |
| 9   | 3  | 40   | 31   | 1   | 8   | 191  | 193  | 4  | -4 | 101  | 101  | 6   | 9  | 18   | 5*   |    |
| 9   | 4  | 201  | 202  | 1   | 9   | 434  | 442  | 4  | -3 | 242  | 249  | 6   | 10 | 164  | 166  |    |
| 9   | 5  | 214  | 210  | 1   | 10  | 36   | 30   | 4  | -2 | 316  | 318  | 7   | -5 | 160  | 160  |    |
| 9   | 6  | 188  | 190  | 1   | 11  | 113  | 114  | 4  | -1 | 83   | 81   | 7   | -4 | 17   | 16*  |    |
| *** | L  | =    | 6    | *** | 2   | -10  | 89   | 91 | 4  | 0    | 333  | 333 | 7  | -3   | 30   | 32 |
| -5  | 5  | 173  | 172  | 2   | -9  | 33   | 26   | 4  | 1  | 692  | 700  | 7   | -2 | 2    | 16*  |    |
| -5  | 6  | 321  | 318  | 2   | -8  | 121  | 128  | 4  | 2  | 371  | 367  | 7   | -1 | 93   | 93   |    |
| -5  | 7  | 292  | 295  | 2   | -7  | 173  | 175  | 4  | 3  | 432  | 448  | 7   | 0  | 152  | 150  |    |
| -4  | 5  | 68   | 73   | 2   | -6  | 91   | 86   | 4  | 4  | 63   | 63   | 7   | 1  | 203  | 200  |    |
| -4  | 6  | 179  | 174  | 2   | -5  | 105  | 110  | 4  | 5  | 155  | 151  | 7   | 2  | 324  | 324  |    |
| -4  | 7  | 228  | 223  | 2   | -4  | 730  | 745  | 4  | 6  | 167  | 172  | 7   | 3  | 58   | 58   |    |
| -4  | 8  | 279  | 275  | 2   | -3  | 144  | 145  | 4  | 7  | 335  | 334  | 7   | 4  | 477  | 482  |    |
| -3  | 5  | 201  | 198  | 2   | -2  | 226  | 233  | 4  | 8  | 324  | 329  | 7   | 5  | 251  | 254  |    |
| -3  | 6  | 299  | 301  | 2   | -1  | 171  | 168  | 4  | 9  | 87   | 84   | 7   | 6  | 162  | 156  |    |
| -3  | 7  | 384  | 386  | 2   | 0   | 608  | 627  | 4  | 10 | 49   | 44   | 7   | 7  | 519  | 523  |    |
| -3  | 8  | 93   | 95   | 2   | 1   | 517  | 528  | 4  | 11 | 378  | 379  | 7   | 8  | 509  | 504  |    |
| -3  | 9  | 31   | 9    | 2   | 2   | 1018 | 1033 | 5  | -8 | 396  | 395  | 7   | 9  | 415  | 410  |    |
| -2  | 6  | 153  | 153  | 2   | 3   | 662  | 668  | 5  | -7 | 208  | 204  | 8   | -3 | 130  | 128  |    |
| -2  | 7  | 42   | 41   | 2   | 4   | 154  | 163  | 5  | -6 | 48   | 51   | 8   | -2 | 144  | 137  |    |
| -2  | 8  | 300  | 310  | 2   | 5   | 126  | 126  | 5  | -5 | 154  | 150  | 8   | -1 | 156  | 154  |    |
| -2  | 9  | 324  | 324  | 2   | 6   | 142  | 145  | 5  | -4 | 146  | 149  | 8   | 0  | 245  | 245  |    |
| -2  | 10 | 62   | 61   | 2   | 7   | 40   | 33   | 5  | -3 | 321  | 326  | 8   | 1  | 440  | 436  |    |

| H   | K   | FOBS | FCAL | H   | K  | FOBS | FCAL | H   | K  | FOBS | FCAL | H   | K  | FOBS | FCAL |     |
|-----|-----|------|------|-----|----|------|------|-----|----|------|------|-----|----|------|------|-----|
| 8   | 2   | 78   | 68   | 1   | 8  | 57   | 50   | 4   | 1  | 65   | 59   | 7   | 4  | 523  | 528  |     |
| 8   | 3   | 18   | 25*  | 1   | 9  | 9    | 10*  | 4   | 2  | 154  | 158  | 7   | 5  | 25   | 28*  |     |
| 8   | 4   | 207  | 210  | 1   | 10 | 14   | 21*  | 4   | 3  | 224  | 224  | 7   | 6  | 277  | 273  |     |
| 8   | 5   | 115  | 112  | 2   | 9  | 133  | 135  | 4   | 4  | 492  | 505  | 7   | 7  | 277  | 278  |     |
| 8   | 6   | 377  | 377  | 2   | 8  | 388  | 395  | 4   | 5  | 133  | 135  | 7   | 8  | 94   | 96   |     |
| 8   | 7   | 318  | 315  | 2   | 7  | 265  | 262  | 4   | 6  | 421  | 419  | 8   | 2  | 76   | 69   |     |
| 8   | 8   | 89   | 88   | 2   | 6  | 111  | 108  | 4   | 7  | 190  | 195  | 8   | 1  | 105  | 103  |     |
| 9   | 0   | 21   | 3*   | 2   | 5  | 106  | 110  | 4   | 8  | 852  | 858  | 8   | 0  | 77   | 65   |     |
| 9   | 1   | 60   | 56   | 2   | 4  | 207  | 208  | 4   | 9  | 83   | 86   | 8   | 1  | 310  | 300  |     |
| 9   | 2   | 426  | 422  | 2   | 3  | 149  | 149  | 4   | 10 | 60   | 55   | 8   | 2  | 115  | 113  |     |
| 9   | 3   | 209  | 205  | 2   | 2  | 57   | 59   | 5   | 7  | 373  | 367  | 8   | 3  | 58   | 60   |     |
| 9   | 4   | 238  | 239  | 2   | 1  | 351  | 361  | 5   | 6  | 231  | 232  | 8   | 4  | 279  | 284  |     |
| 9   | 5   | 23   | 12*  | 2   | 0  | 23   | 11   | 5   | 5  | 283  | 281  | 8   | 5  | 280  | 280  |     |
| *** | L   | =    | 7    | *** | 2  | 1    | 264  | 271 | 5  | 4    | 300  | 302 | 8  | 6    | 304  | 301 |
| -5  | 6   | 405  | 398  | 2   | 2  | 113  | 108  | 5   | 3  | 198  | 205  | 8   | 7  | 395  | 404  |     |
| -4  | 6   | 78   | 67   | 2   | 3  | 121  | 140  | 5   | 2  | 330  | 328  | 9   | 2  | 2    | 9*   |     |
| -4  | 7   | 203  | 201  | 2   | 4  | 286  | 300  | 5   | 1  | 192  | 194  | 9   | 3  | 375  | 379  |     |
| -3  | 6   | 477  | 484  | 2   | 5  | 155  | 160  | 5   | 0  | 156  | 157  | *** | L  | =    | 8    | *** |
| -3  | 7   | 339  | 343  | 2   | 6  | 249  | 242  | 5   | 1  | 542  | 554  | -4  | 6  | 26   | 21*  |     |
| -3  | 8   | 294  | 297  | 2   | 7  | 312  | 312  | 5   | 2  | 76   | 76   | -3  | 7  | 56   | 54   |     |
| -2  | 7   | 171  | 177  | 2   | 8  | 512  | 518  | 5   | 3  | 56   | 45   | 0   | 0  | 527  | 541  |     |
| -2  | 8   | 266  | 265  | 2   | 9  | 255  | 258  | 5   | 4  | 581  | 583  | 0   | 1  | 152  | 152  |     |
| -2  | 9   | 380  | 386  | 2   | 10 | 23   | 20*  | 5   | 5  | 3    | 15*  | 0   | 2  | 634  | 650  |     |
| 0   | 0   | 286  | 291  | 3   | 9  | 104  | 105  | 5   | 6  | 123  | 126  | 0   | 3  | 105  | 99   |     |
| 0   | 1   | 399  | 406  | 3   | 8  | 152  | 153  | 5   | 7  | 45   | 49   | 0   | 4  | 13   | 20*  |     |
| 0   | 2   | 167  | 170  | 3   | 7  | 229  | 229  | 5   | 8  | 140  | 139  | 0   | 5  | 264  | 266  |     |
| 0   | 3   | 39   | 46   | 3   | 6  | 210  | 209  | 5   | 9  | 170  | 176  | 0   | 6  | 49   | 54   |     |
| 0   | 4   | 193  | 189  | 3   | 5  | 477  | 475  | 5   | 10 | 120  | 121  | 0   | 7  | 132  | 135  |     |
| 0   | 5   | 278  | 283  | 3   | 4  | 367  | 371  | 6   | 6  | 168  | 159  | 0   | 8  | 218  | 226  |     |
| 0   | 6   | 177  | 177  | 3   | 3  | 267  | 270  | 6   | 5  | 257  | 252  | 0   | 9  | 141  | 143  |     |
| 0   | 7   | 305  | 307  | 3   | 2  | 185  | 191  | 6   | 4  | 146  | 144  | 1   | 9  | 613  | 617  |     |
| 0   | 8   | 100  | 79   | 3   | 1  | 245  | 247  | 6   | 3  | 120  | 121  | 1   | 8  | 176  | 184  |     |
| 0   | 9   | 482  | 483  | 3   | 0  | 127  | 133  | 6   | 2  | 44   | 45   | 1   | 7  | 40   | 26   |     |
| 0   | 10  | 140  | 140  | 3   | 1  | 262  | 263  | 6   | 1  | 115  | 113  | 1   | 6  | 178  | 177  |     |
| 1   | -10 | 262  | 269  | 3   | 2  | 189  | 185  | 6   | 0  | 199  | 201  | 1   | 5  | 289  | 290  |     |
| 1   | -9  | 175  | 178  | 3   | 3  | 299  | 309  | 6   | 1  | 44   | 48   | 1   | 4  | 111  | 109  |     |
| 1   | -8  | 346  | 348  | 3   | 4  | 380  | 381  | 6   | 2  | 148  | 147  | 1   | 3  | 58   | 55   |     |
| 1   | -7  | 139  | 138  | 3   | 5  | 599  | 601  | 6   | 3  | 215  | 211  | 1   | 2  | 151  | 150  |     |
| 1   | -6  | 194  | 192  | 3   | 6  | 326  | 329  | 6   | 4  | 272  | 275  | 1   | 1  | 123  | 128  |     |
| 1   | -5  | 387  | 394  | 3   | 7  | 153  | 153  | 6   | 5  | 21   | 2*   | 1   | 0  | 280  | 300  |     |
| 1   | -4  | 172  | 167  | 3   | 8  | 145  | 143  | 6   | 6  | 252  | 248  | 1   | 1  | 40   | 21   |     |
| 1   | -3  | 178  | 173  | 3   | 9  | 252  | 258  | 6   | 7  | 267  | 270  | 1   | 2  | 294  | 301  |     |
| 1   | -2  | 124  | 133  | 3   | 10 | 246  | 248  | 6   | 8  | 241  | 238  | 1   | 3  | 324  | 332  |     |
| 1   | -1  | 362  | 368  | 4   | 8  | 23   | 23*  | 6   | 9  | 161  | 160  | 1   | 4  | 496  | 509  |     |
| 1   | 0   | 57   | 59   | 4   | 7  | 252  | 250  | 7   | 4  | 214  | 213  | 1   | 5  | 149  | 147  |     |
| 1   | 1   | 225  | 232  | 4   | 6  | 98   | 100  | 7   | 3  | 95   | 92   | 1   | 6  | 24   | 17   |     |
| 1   | 2   | 248  | 250  | 4   | 5  | 96   | 93   | 7   | 2  | 120  | 117  | 1   | 7  | 80   | 77   |     |
| 1   | 3   | 227  | 225  | 4   | 4  | 83   | 82   | 7   | 1  | 172  | 170  | 1   | 8  | 427  | 430  |     |
| 1   | 4   | 93   | 86   | 4   | 3  | 273  | 276  | 7   | 0  | 320  | 316  | 1   | 9  | 218  | 222  |     |
| 1   | 5   | 509  | 511  | 4   | 2  | 53   | 51   | 7   | 1  | 91   | 90   | 1   | 10 | 277  | 281  |     |
| 1   | 6   | 255  | 255  | 4   | 1  | 327  | 345  | 7   | 2  | 4    | 8*   | 2   | 9  | 232  | 230  |     |
| 1   | 7   | 12   | 6*   | 4   | 0  | 422  | 443  | 7   | 3  | 48   | 48   | 2   | 8  | 113  | 113  |     |

| H | K  | FOBS | FCAL | H | K  | FOBS | FCAL | H   | K  | FOBS | FCAL | H | K  | FOBS | FCAL |
|---|----|------|------|---|----|------|------|-----|----|------|------|---|----|------|------|
| 2 | -7 | 188  | 184  | 4 | 8  | 89   | 90   | 8   | 6  | 70   | 71   | 3 | -2 | 280  | 281  |
| 2 | -6 | 259  | 261  | 4 | 9  | 208  | 204  | ★★★ | L  | 9    | ★★★  | 3 | -1 | 11   | 22*  |
| 2 | -5 | 50   | 45   | 4 | 10 | 69   | 70   | 0   | 0  | 282  | 283  | 3 | 0  | 274  | 277  |
| 2 | -4 | 111  | 114  | 5 | -6 | 345  | 338  | 0   | 1  | 288  | 292  | 3 | 1  | 500  | 503  |
| 2 | -3 | 429  | 436  | 5 | -5 | 324  | 319  | 0   | 2  | 160  | 162  | 3 | 2  | 480  | 480  |
| 2 | -2 | 886  | 896  | 5 | -4 | 73   | 70   | 0   | 3  | 239  | 237  | 3 | 3  | 587  | 596  |
| 2 | -1 | 498  | 508  | 5 | -3 | 20   | 28*  | 0   | 4  | 297  | 298  | 3 | 4  | 514  | 517  |
| 2 | 0  | 700  | 713  | 5 | -2 | 59   | 54   | 0   | 5  | 391  | 397  | 3 | 5  | 118  | 121  |
| 2 | 1  | 150  | 156  | 5 | -1 | 187  | 185  | 0   | 6  | 130  | 133  | 3 | 6  | 74   | 75   |
| 2 | 2  | 266  | 271  | 5 | 0  | 153  | 150  | 0   | 7  | 300  | 300  | 3 | 7  | 33   | 34   |
| 2 | 3  | 18   | 20*  | 5 | 1  | 127  | 121  | 0   | 8  | 128  | 130  | 3 | 8  | 187  | 191  |
| 2 | 4  | 179  | 177  | 5 | 2  | 2    | 4*   | 1   | -8 | 316  | 317  | 3 | 9  | 195  | 195  |
| 2 | 5  | 126  | 127  | 5 | 3  | 402  | 407  | 1   | -7 | 105  | 101  | 4 | -6 | 137  | 137  |
| 2 | 6  | 48   | 39   | 5 | 4  | 70   | 73   | 1   | -6 | 211  | 214  | 4 | -5 | 247  | 243  |
| 2 | 7  | 44   | 45   | 5 | 5  | 44   | 40   | 1   | -5 | 64   | 63   | 4 | -4 | 140  | 137  |
| 2 | 8  | 500  | 506  | 5 | 6  | 130  | 131  | 1   | -4 | 179  | 180  | 4 | -3 | 385  | 387  |
| 2 | 9  | 301  | 296  | 5 | 7  | 571  | 576  | 1   | -3 | 73   | 69   | 4 | -2 | 127  | 130  |
| 2 | 10 | 183  | 183  | 5 | 8  | 202  | 199  | 1   | -2 | 172  | 171  | 4 | -1 | 120  | 121  |
| 3 | -8 | 289  | 287  | 5 | 9  | 117  | 114  | 1   | -1 | 74   | 78   | 4 | 0  | 44   | 47   |
| 3 | -7 | 119  | 119  | 6 | -5 | 226  | 218  | 1   | 0  | 422  | 427  | 4 | 1  | 260  | 260  |
| 3 | -6 | 279  | 281  | 6 | -4 | 547  | 531  | 1   | 1  | 412  | 410  | 4 | 2  | 371  | 375  |
| 3 | -5 | 294  | 295  | 6 | -3 | 415  | 410  | 1   | 2  | 158  | 157  | 4 | 3  | 329  | 333  |
| 3 | -4 | 186  | 187  | 6 | -2 | 272  | 268  | 1   | 3  | 490  | 498  | 4 | 4  | 353  | 353  |
| 3 | -3 | 77   | 77   | 6 | -1 | 333  | 331  | 1   | 4  | 71   | 69   | 4 | 5  | 136  | 138  |
| 3 | -2 | 75   | 75   | 6 | 0  | 27   | 20   | 1   | 5  | 210  | 211  | 4 | 6  | 447  | 444  |
| 3 | -1 | 230  | 235  | 6 | 1  | 94   | 94   | 1   | 6  | 44   | 30   | 4 | 7  | 80   | 84   |
| 3 | 0  | 335  | 339  | 6 | 2  | 153  | 151  | 1   | 7  | 36   | 41   | 4 | 8  | 68   | 64   |
| 3 | 1  | 374  | 384  | 6 | 3  | 224  | 225  | 1   | 8  | 128  | 122  | 4 | 9  | 8    | 10*  |
| 3 | 2  | 268  | 272  | 6 | 4  | 202  | 201  | 1   | 9  | 528  | 530  | 5 | -5 | 167  | 166  |
| 3 | 3  | 75   | 73   | 6 | 5  | 144  | 143  | 2   | -8 | 27   | 23*  | 5 | -4 | 61   | 48   |
| 3 | 4  | 429  | 431  | 6 | 6  | 166  | 172  | 2   | -7 | 106  | 105  | 5 | -3 | 102  | 100  |
| 3 | 5  | 41   | 36   | 6 | 7  | 331  | 326  | 2   | -6 | 325  | 325  | 5 | -2 | 205  | 203  |
| 3 | 6  | 134  | 139  | 6 | 8  | 151  | 146  | 2   | -5 | 108  | 104  | 5 | -1 | 497  | 493  |
| 3 | 7  | 214  | 220  | 6 | 9  | 185  | 187  | 2   | -4 | 155  | 152  | 5 | 0  | 295  | 292  |
| 3 | 8  | 47   | 43   | 7 | -3 | 184  | 18   | 2   | -3 | 161  | 161  | 5 | 1  | 271  | 267  |
| 3 | 9  | 172  | 175  | 7 | -2 | 293  | 26*  | 2   | -2 | 102  | 104  | 5 | 2  | 356  | 355  |
| 3 | 10 | 89   | 82   | 7 | -1 | 157  | 151  | 2   | -1 | 202  | 204  | 5 | 3  | 282  | 283  |
| 4 | -7 | 84   | 79   | 7 | 0  | 164  | 164  | 2   | 0  | 63   | 64   | 5 | 4  | 235  | 233  |
| 4 | -6 | 66   | 67   | 7 | 1  | 303  | 298  | 2   | 1  | 25   | 9    | 5 | 5  | 122  | 116  |
| 4 | -5 | 217  | 217  | 7 | 2  | 258  | 256  | 2   | 2  | 202  | 204  | 5 | 6  | 15   | 9*   |
| 4 | -4 | 236  | 237  | 7 | 3  | 392  | 391  | 2   | 3  | 74   | 67   | 5 | 7  | 56   | 50   |
| 4 | -3 | 90   | 85   | 7 | 4  | 165  | 163  | 2   | 4  | 291  | 295  | 5 | 8  | 312  | 313  |
| 4 | -2 | 404  | 405  | 7 | 5  | 136  | 136  | 2   | 5  | 287  | 291  | 6 | -4 | 111  | 106  |
| 4 | -1 | 449  | 461  | 7 | 6  | 199  | 196  | 2   | 6  | 206  | 205  | 6 | -3 | 134  | 136  |
| 4 | 0  | 445  | 449  | 7 | 7  | 280  | 272  | 2   | 7  | 642  | 649  | 6 | -2 | 422  | 414  |
| 4 | 1  | 430  | 432  | 8 | -1 | 359  | 352  | 2   | 8  | 110  | 112  | 6 | -1 | 45   | 47   |
| 4 | 2  | 196  | 195  | 8 | 0  | 139  | 134  | 2   | 9  | 107  | 106  | 6 | 0  | 32   | 24   |
| 4 | 3  | 139  | 138  | 8 | 1  | 72   | 67   | 3   | -7 | 48   | 54   | 6 | 1  | 39   | 33   |
| 4 | 4  | 328  | 331  | 8 | 2  | 85   | 80   | 3   | -6 | 102  | 96   | 6 | 2  | 25   | 24*  |
| 4 | 5  | 193  | 195  | 8 | 3  | 162  | 158  | 3   | -5 | 86   | 87   | 6 | 3  | 215  | 211  |
| 4 | 6  | 86   | 83   | 8 | 4  | 400  | 400  | 3   | -4 | 133  | 127  | 6 | 4  | 305  | 304  |
| 4 | 7  | 256  | 257  | 8 | 5  | 41   | 42   | 3   | -3 | 326  | 326  | 6 | 5  | 111  | 112  |



| H   | K      | FOBS | FCAL | H | K  | FOBS | FCAL | H   | K      | FOBS | FCAL | H   | K      | FOBS | FCAL |
|-----|--------|------|------|---|----|------|------|-----|--------|------|------|-----|--------|------|------|
| 6   | 6      | 214  | 218  | 2 | 8  | 36   | 48   | 7   | 1      | 216  | 214  | 4   | 2      | 398  | 393  |
| 6   | 7      | 132  | 128  | 3 | -6 | 124  | 122  | 7   | 2      | 54   | 56   | 4   | 3      | 120  | 119  |
| 7   | -2     | 118  | 111  | 3 | -5 | 28   | 27   | 7   | 3      | 35   | 41   | 4   | 4      | 313  | 314  |
| 7   | -1     | 276  | 268  | 3 | -4 | 37   | 39   | ★★★ | L = 11 | ★★★  |      | 4   | 5      | 133  | 135  |
| 7   | 0      | 219  | 214  | 3 | -3 | 116  | 115  | 0   | 0      | 20   | 23*  | 4   | 6      | 81   | 80   |
| 7   | 1      | 287  | 283  | 3 | -2 | 265  | 259  | 0   | 1      | 127  | 131  | 5   | -2     | 113  | 107  |
| 7   | 2      | 518  | 520  | 3 | -1 | 42   | 41   | 0   | 2      | 109  | 104  | 5   | -1     | 504  | 493  |
| 7   | 3      | 316  | 310  | 3 | 0  | 111  | 113  | 0   | 3      | 330  | 320  | 5   | 0      | 261  | 260  |
| 7   | 4      | 325  | 320  | 3 | 1  | 93   | 95   | 0   | 4      | 94   | 92   | 5   | 1      | 78   | 77   |
| 7   | 5      | 134  | 130  | 3 | 2  | 2    | 9*   | 0   | 5      | 185  | 185  | 5   | 2      | 184  | 184  |
| 7   | 6      | 106  | 107  | 3 | 3  | 158  | 158  | 1   | -5     | 55   | 56   | 5   | 3      | 32   | 36   |
| ★★★ | L = 10 | ★★★  |      | 3 | 4  | 26   | 19   | 1   | -4     | 337  | 337  | 5   | 4      | 140  | 131  |
| 0   | 0      | 246  | 246  | 3 | 5  | 55   | 55   | 1   | -3     | 289  | 286  | 5   | 5      | 221  | 219  |
| 0   | 1      | 101  | 98   | 3 | 6  | 56   | 54   | 1   | -2     | 174  | 164  | 6   | 1      | 47   | 46   |
| 0   | 2      | 95   | 87   | 3 | 7  | 272  | 278  | 1   | -1     | 187  | 185  | 6   | 2      | 223  | 222  |
| 0   | 3      | 210  | 215  | 3 | 8  | 170  | 172  | 1   | 0      | 376  | 371  | ★★★ | L = 12 | ★★★  |      |
| 0   | 4      | 459  | 465  | 4 | -5 | 41   | 34   | 1   | 1      | 118  | 114  | 0   | 0      | 264  | 264  |
| 0   | 5      | 47   | 48   | 4 | -4 | 557  | 550  | 1   | 2      | 164  | 162  | 0   | 1      | 192  | 194  |
| 0   | 6      | 234  | 237  | 4 | -3 | 181  | 170  | 1   | 3      | 380  | 384  | 0   | 2      | 231  | 227  |
| 0   | 7      | 126  | 123  | 4 | -2 | 87   | 87   | 1   | 4      | 365  | 368  | 0   | 3      | 333  | 525  |
| 1   | -7     | 55   | 55   | 4 | -1 | 126  | 127  | 1   | 5      | 98   | 97   | 1   | -3     | 290  | 284  |
| 1   | -6     | 45   | 43   | 4 | 0  | 78   | 80   | 1   | 6      | 136  | 139  | 1   | -2     | 129  | 126  |
| 1   | -5     | 98   | 98   | 4 | 1  | 96   | 96   | 2   | -5     | 239  | 236  | 1   | -1     | 73   | 73   |
| 1   | -4     | 16   | 31*  | 4 | 2  | 147  | 147  | 2   | -4     | 259  | 257  | 1   | 0      | 100  | 96   |
| 1   | -3     | 170  | 167  | 4 | 3  | 360  | 364  | 2   | -3     | 67   | 69   | 1   | 1      | 104  | 110  |
| 1   | -2     | 224  | 224  | 4 | 4  | 207  | 208  | 2   | -2     | 143  | 146  | 1   | 2      | 277  | 277  |
| 1   | -1     | 57   | 60   | 4 | 5  | 176  | 182  | 2   | -1     | 43   | 40   | 1   | 3      | 174  | 174  |
| 1   | 0      | 150  | 156  | 4 | 6  | 168  | 176  | 2   | 0      | 119  | 112  | 1   | 4      | 8    | 6*   |
| 1   | 1      | 21   | 23*  | 4 | 7  | 444  | 446  | 2   | 1      | 159  | 156  | 2   | -3     | 277  | 274  |
| 1   | 2      | 59   | 57   | 5 | -4 | 205  | 209  | 2   | 2      | 28   | 18   | 2   | -2     | 123  | 120  |
| 1   | 3      | 93   | 92   | 5 | -3 | 21   | 18*  | 2   | 3      | 186  | 188  | 2   | -1     | 169  | 167  |
| 1   | 4      | 170  | 169  | 5 | -2 | 135  | 129  | 2   | 4      | 176  | 180  | 2   | 0      | 94   | 94   |
| 1   | 5      | 284  | 283  | 5 | -1 | 164  | 160  | 2   | 5      | 460  | 463  | 2   | 1      | 166  | 168  |
| 1   | 6      | 11   | 19*  | 5 | 0  | 159  | 158  | 2   | 6      | 123  | 126  | 2   | 2      | 438  | 439  |
| 1   | 7      | 242  | 243  | 5 | 1  | 77   | 84   | 3   | -4     | 71   | 62   | 2   | 3      | 178  | 175  |
| 2   | -7     | 289  | 288  | 5 | 2  | 84   | 78   | 3   | -3     | 20   | 16*  | 2   | 4      | 220  | 221  |
| 2   | -6     | 2    | 15*  | 5 | 3  | 30   | 26   | 3   | -2     | 186  | 168  | 3   | -2     | 51   | 46   |
| 2   | -5     | 169  | 173  | 5 | 4  | 68   | 68   | 3   | -1     | 905  | 900  | 3   | -1     | 67   | 62   |
| 2   | -4     | 358  | 363  | 5 | 5  | 208  | 212  | 3   | 0      | 263  | 260  | 3   | 0      | 49   | 57   |
| 2   | -3     | 244  | 244  | 5 | 6  | 35   | 23   | 3   | 1      | 136  | 141  | 3   | 1      | 142  | 140  |
| 2   | -2     | 162  | 162  | 5 | 7  | 277  | 272  | 3   | 2      | 230  | 228  | 3   | 2      | 151  | 152  |
| 2   | -1     | 155  | 159  | 6 | -2 | 2    | 6*   | 3   | 3      | 180  | 184  | 3   | 3      | 56   | 54   |
| 2   | 0      | 420  | 423  | 6 | -1 | 304  | 300  | 3   | 4      | 91   | 90   | 3   | 4      | 12   | 12*  |
| 2   | 1      | 249  | 252  | 6 | 0  | 157  | 154  | 3   | 5      | 68   | 58   | 4   | 0      | 85   | 85   |
| 2   | 2      | 109  | 105  | 6 | 1  | 105  | 103  | 3   | 6      | 215  | 216  | 4   | 1      | 33   | 25   |
| 2   | 3      | 303  | 308  | 6 | 2  | 247  | 252  | 4   | -3     | 266  | 263  | 4   | 2      | 411  | 408  |
| 2   | 4      | 387  | 387  | 6 | 3  | 229  | 226  | 4   | -2     | 74   | 76   | 4   | 3      | 284  | 286  |
| 2   | 5      | 29   | 23   | 6 | 4  | 92   | 89   | 4   | -1     | 64   | 69   | 0   | 0      | 0    | 0    |
| 2   | 6      | 267  | 268  | 6 | 5  | 217  | 214  | 4   | 0      | 58   | 58   | 0   | 0      | 0    | 0    |
| 2   | 7      | 318  | 320  | 6 | 6  | 152  | 150  | 4   | 1      | 251  | 252  | 0   | 0      | 0    | 0    |