

Appendix 2\_10C Streamflow statistics for site S23 estimated using a drainage-area-ratio method and historical streamflows (Olson. S.A., and Mack,T.J., 2011, Technique for estimation of streamflow statistics in mineral areas of interest in Afghanistan: U.S. Geological Survey Open-File Report 2011-1176)

[km<sup>2</sup>, square kilometer; mm, millimeter; m, meter; m<sup>3</sup>/s, cubic meter per second; The streamgage, listed with Afghan identification number, is the historical site used for the ungaged site estimate.]

#### Basin Characteristics:

|                          |                        |                              |         |
|--------------------------|------------------------|------------------------------|---------|
| Drainage area:           | 8700.3 km <sup>2</sup> | Basin percent above 3000 m:  | 32.1    |
| Basin slope percent:     | 28.3                   | Mean October precipitation:  | 6.8 mm  |
| Centroid elevation:      | 3048.3 m               | Mean November precipitation: | 16.8 mm |
| Basin percent irrigated: | 6.29                   | Mean December precipitation: | 32.7 mm |
|                          |                        | Mean January precipitation:  | 47.1 mm |

Streamgage: Arghandab River at Mizan (321000066270000) 4-1.L00-6A

Drainage area, km<sup>2</sup>: 9337

#### Results

| Streamgage data:                     |                        | Ungaged site estimate:   | area exponent |
|--------------------------------------|------------------------|--------------------------|---------------|
| 7Q10:                                | 2.13 m <sup>3</sup> /s | 1.97 m <sup>3</sup> /s   | 1.14          |
| 7Q2:                                 | 5.99 m <sup>3</sup> /s | 5.57 m <sup>3</sup> /s   | 1.03          |
| 90% flow duration:                   | 6.23 m <sup>3</sup> /s | 5.71 m <sup>3</sup> /s   | 1.25          |
| 80% flow duration:                   | 10.3 m <sup>3</sup> /s | 9.48 m <sup>3</sup> /s   | 1.18          |
| Mean annual discharge:               | 41.8 m <sup>3</sup> /s | 38.85 m <sup>3</sup> /s  | 1.04          |
| October mean monthly discharge:      | 10.6 m <sup>3</sup> /s | 9.81 m <sup>3</sup> /s   | 1.10          |
| November mean monthly discharge:     | 15.3 m <sup>3</sup> /s | 14.17 m <sup>3</sup> /s  | 1.09          |
| December mean monthly discharge:     | 18.3 m <sup>3</sup> /s | 16.96 m <sup>3</sup> /s  | 1.08          |
| January mean monthly discharge:      | 21 m <sup>3</sup> /s   | 19.48 m <sup>3</sup> /s  | 1.06          |
| February mean monthly discharge:     | 39.7 m <sup>3</sup> /s | 36.99 m <sup>3</sup> /s  | 1.00          |
| March mean monthly discharge:        | 96.9 m <sup>3</sup> /s | 90.81 m <sup>3</sup> /s  | 0.92          |
| April mean monthly discharge:        | 152 m <sup>3</sup> /s  | 142.66 m <sup>3</sup> /s | 0.90          |
| May mean monthly discharge:          | 70.8 m <sup>3</sup> /s | 65.75 m <sup>3</sup> /s  | 1.05          |
| June mean monthly discharge:         | 22.4 m <sup>3</sup> /s | 20.61 m <sup>3</sup> /s  | 1.18          |
| July mean monthly discharge:         | 22.7 m <sup>3</sup> /s | 21.03 m <sup>3</sup> /s  | 1.08          |
| August mean monthly discharge:       | 12 m <sup>3</sup> /s   | 11.13 m <sup>3</sup> /s  | 1.06          |
| September mean monthly discharge:    | 8.01 m <sup>3</sup> /s | 7.42 m <sup>3</sup> /s   | 1.09          |
| October minimum monthly discharge:   | 4.35 m <sup>3</sup> /s | 4.00 m <sup>3</sup> /s   | 1.20          |
| November minimum monthly discharge:  | 9.86 m <sup>3</sup> /s | 9.06 m <sup>3</sup> /s   | 1.19          |
| December minimum monthly discharge:  | 12.8 m <sup>3</sup> /s | 11.77 m <sup>3</sup> /s  | 1.18          |
| January minimum monthly discharge:   | 14.8 m <sup>3</sup> /s | 13.58 m <sup>3</sup> /s  | 1.21          |
| February minimum monthly discharge:  | 26.2 m <sup>3</sup> /s | 24.12 m <sup>3</sup> /s  | 1.17          |
| March minimum monthly discharge:     | 46 m <sup>3</sup> /s   | 42.73 m <sup>3</sup> /s  | 1.04          |
| April minimum monthly discharge:     | 50 m <sup>3</sup> /s   | 46.48 m <sup>3</sup> /s  | 1.03          |
| May minimum monthly discharge:       | 17.1 m <sup>3</sup> /s | 15.74 m <sup>3</sup> /s  | 1.17          |
| June minimum monthly discharge:      | 6.18 m <sup>3</sup> /s | 5.64 m <sup>3</sup> /s   | 1.30          |
| July minimum monthly discharge:      | 4.19 m <sup>3</sup> /s | 3.84 m <sup>3</sup> /s   | 1.25          |
| August minimum monthly discharge:    | 4.21 m <sup>3</sup> /s | 3.84 m <sup>3</sup> /s   | 1.29          |
| September minimum monthly discharge: | 2.67 m <sup>3</sup> /s | 2.44 m <sup>3</sup> /s   | 1.27          |