

Appendix 2\_15C Streamflow statistics for site S13 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:	315.78 km <sup>2</sup>	Basin percent above 3000 m:	2.2
Basin slope percent:	20.15	Mean October precipitation:	7.2 mm
Centroid elevation:	2690.1 m	Mean November precipitation:	18.6 mm
Basin present irrigated:	8.19	Mean December precipitation:	34.3 mm
		Mean January precipitation:	48.1 mm

**Drainage area ratio technique:**

(Olson and Mack, 2011)

Streamgage: Syahgel River at Syahgel

3-5.R00-3T

Drainage area, km<sup>2</sup>: 149

**Results**

Streamgage data:	Ungaged site estimate:		area exponent
7Q10:	0.01 m <sup>3</sup> /s	0.02 m <sup>3</sup> /s	1.14
7Q2:	0.02 m <sup>3</sup> /s	0.04 m <sup>3</sup> /s	1.03
90% flow duration:	0.02 m <sup>3</sup> /s	0.05 m <sup>3</sup> /s	1.25
80% flow duration:	0.03 m <sup>3</sup> /s	0.07 m <sup>3</sup> /s	1.18
Mean annual discharge:	0.19 m <sup>3</sup> /s	0.41 m <sup>3</sup> /s	1.04
October mean monthly discharge:	0.04 m <sup>3</sup> /s	0.09 m <sup>3</sup> /s	1.10
November mean monthly discharge:	0.05 m <sup>3</sup> /s	0.11 m <sup>3</sup> /s	1.09
December mean monthly discharge:	0.12 m <sup>3</sup> /s	0.27 m <sup>3</sup> /s	1.08
January mean monthly discharge:	0.29 m <sup>3</sup> /s	0.64 m <sup>3</sup> /s	1.06
February mean monthly discharge:	0.34 m <sup>3</sup> /s	0.72 m <sup>3</sup> /s	1.00
March mean monthly discharge:	0.42 m <sup>3</sup> /s	0.84 m <sup>3</sup> /s	0.92
April mean monthly discharge:	0.57 m <sup>3</sup> /s	1.12 m <sup>3</sup> /s	0.90
May mean monthly discharge:	0.34 m <sup>3</sup> /s	0.75 m <sup>3</sup> /s	1.05
June mean monthly discharge:	0.14 m <sup>3</sup> /s	0.34 m <sup>3</sup> /s	1.18
July mean monthly discharge:	0.1 m <sup>3</sup> /s	0.23 m <sup>3</sup> /s	1.08
August mean monthly discharge:	0.1 m <sup>3</sup> /s	0.22 m <sup>3</sup> /s	1.06
September mean monthly discharge:	0.03 m <sup>3</sup> /s	0.07 m <sup>3</sup> /s	1.09
October minimum monthly discharge:	0.01 m <sup>3</sup> /s	0.02 m <sup>3</sup> /s	1.20
November minimum monthly discharge:	0.01 m <sup>3</sup> /s	0.02 m <sup>3</sup> /s	1.19
December minimum monthly discharge:	0.03 m <sup>3</sup> /s	0.07 m <sup>3</sup> /s	1.18
January minimum monthly discharge:	0.07 m <sup>3</sup> /s	0.17 m <sup>3</sup> /s	1.21
February minimum monthly discharge:	0.08 m <sup>3</sup> /s	0.19 m <sup>3</sup> /s	1.17
March minimum monthly discharge:	0.15 m <sup>3</sup> /s	0.33 m <sup>3</sup> /s	1.04
April minimum monthly discharge:	0.06 m <sup>3</sup> /s	0.13 m <sup>3</sup> /s	1.03
May minimum monthly discharge:	0.02 m <sup>3</sup> /s	0.05 m <sup>3</sup> /s	1.17
June minimum monthly discharge:	0.01 m <sup>3</sup> /s	0.03 m <sup>3</sup> /s	1.30
July minimum monthly discharge:	0.02 m <sup>3</sup> /s	0.05 m <sup>3</sup> /s	1.25
August minimum monthly discharge:	0.02 m <sup>3</sup> /s	0.05 m <sup>3</sup> /s	1.29
September minimum monthly discharge:	0.01 m <sup>3</sup> /s	0.03 m <sup>3</sup> /s	1.27

**Drainage area ratio technique:**

Streamgage: Park River near Park Dasht

3-1.1L0-5T

Drainage area, km<sup>2</sup>: 263.8

**Results**

Streamgage data:	Ungaged site estimate:		area exponent
7Q10:	0.03 m <sup>3</sup> /s	0.04 m <sup>3</sup> /s	1.14
7Q2:	0.04 m <sup>3</sup> /s	0.05 m <sup>3</sup> /s	1.03
90% flow duration:	0.04 m <sup>3</sup> /s	0.05 m <sup>3</sup> /s	1.25
80% flow duration:	0.05 m <sup>3</sup> /s	0.06 m <sup>3</sup> /s	1.18
Mean annual discharge:	0.4 m <sup>3</sup> /s	0.48 m <sup>3</sup> /s	1.04
October mean monthly discharge:	0.06 m <sup>3</sup> /s	0.07 m <sup>3</sup> /s	1.10
November mean monthly discharge:	0.06 m <sup>3</sup> /s	0.07 m <sup>3</sup> /s	1.09
December mean monthly discharge:	0.09 m <sup>3</sup> /s	0.11 m <sup>3</sup> /s	1.08
January mean monthly discharge:	0.11 m <sup>3</sup> /s	0.13 m <sup>3</sup> /s	1.06
February mean monthly discharge:	0.32 m <sup>3</sup> /s	0.38 m <sup>3</sup> /s	1.00
March mean monthly discharge:	1.48 m <sup>3</sup> /s	1.75 m <sup>3</sup> /s	0.92
April mean monthly discharge:	1.89 m <sup>3</sup> /s	2.22 m <sup>3</sup> /s	0.90
May mean monthly discharge:	0.46 m <sup>3</sup> /s	0.56 m <sup>3</sup> /s	1.05
June mean monthly discharge:	0.13 m <sup>3</sup> /s	0.16 m <sup>3</sup> /s	1.18
July mean monthly discharge:	0.55 m <sup>3</sup> /s	0.67 m <sup>3</sup> /s	1.08
August mean monthly discharge:	0.2 m <sup>3</sup> /s	0.24 m <sup>3</sup> /s	1.06
September mean monthly discharge:	0.08 m <sup>3</sup> /s	0.10 m <sup>3</sup> /s	1.09
October minimum monthly discharge:	0.04 m <sup>3</sup> /s	0.05 m <sup>3</sup> /s	1.20
November minimum monthly discharge:	0.05 m <sup>3</sup> /s	0.06 m <sup>3</sup> /s	1.19
December minimum monthly discharge:	0.04 m <sup>3</sup> /s	0.05 m <sup>3</sup> /s	1.18
January minimum monthly discharge:	0.04 m <sup>3</sup> /s	0.05 m <sup>3</sup> /s	1.21
February minimum monthly discharge:	0.07 m <sup>3</sup> /s	0.09 m <sup>3</sup> /s	1.17
March minimum monthly discharge:	0.14 m <sup>3</sup> /s	0.17 m <sup>3</sup> /s	1.04
April minimum monthly discharge:	0.55 m <sup>3</sup> /s	0.66 m <sup>3</sup> /s	1.03
May minimum monthly discharge:	0.09 m <sup>3</sup> /s	0.11 m <sup>3</sup> /s	1.17
June minimum monthly discharge:	0.06 m <sup>3</sup> /s	0.08 m <sup>3</sup> /s	1.30
July minimum monthly discharge:	0.04 m <sup>3</sup> /s	0.05 m <sup>3</sup> /s	1.25
August minimum monthly discharge:	0.04 m <sup>3</sup> /s	0.05 m <sup>3</sup> /s	1.29
September minimum monthly discharge:	0.03 m <sup>3</sup> /s	0.04 m <sup>3</sup> /s	1.27