

Table DR-1
 40Ar/39Ar Data for Detrital Muscovites
 Burhi Gandaki River - Sample 01WBSS

Analysis Number	$^{36}\text{Ar}/^{40}\text{Ar}$ ($\times 10^{-5}$) ⁺⁺	$^{39}\text{Ar}/^{40}\text{Ar}$ ($\times 10^{-3}$) ⁺⁺	$^{39}\text{Ar}_K$ ($\times 10^{-16}$ mol) ^{***}	$^{40}\text{Ar}^*$ (%) [#]	Age (Ma) [§]
1	2.53 (1.41)	1.45 (0.008)	5.065	99.3	1456.17 ± 8.88 (5.31)
2	0.02 (2.47)	1.43 (0.001)	3.643	100.0	1478.16 ± 7.21 (0.61)
3	0.55 (1.91)	1.39 (0.002)	4.820	99.8	1509.76 ± 7.51 (1.82)
4	13.81 (2.11)	1.48 (0.000)	5.999	95.9	1403.26 ± 6.95 (0.14)
5	22.16 (3.20)	1.58 (0.005)	3.988	93.5	1316.55 ± 7.49 (3.44)
6	12.33 (3.08)	1.61 (0.009)	7.292	96.4	1328.79 ± 8.49 (5.22)
7	15.79 (2.99)	1.72 (0.006)	6.092	95.3	1258.47 ± 7.31 (3.44)
8	18.47 (1.60)	1.56 (0.010)	4.741	94.5	1338.43 ± 9.10 (6.12)
9	26.70 (5.23)	1.73 (0.015)	3.620	92.1	1221.21 ± 10.58 (8.48)
10	19.73 (1.74)	1.36 (0.004)	3.853	94.2	1468.69 ± 7.68 (2.79)
11	2.94 (5.43)	1.34 (0.004)	3.810	99.1	1537.21 ± 8.07 (3.29)
12	1.94 (2.62)	1.59 (0.009)	4.964	99.4	1368.79 ± 8.59 (5.20)
13	2.41 (1.32)	1.64 (0.007)	5.727	99.3	1335.67 ± 7.83 (4.02)
14	3.64 (3.04)	1.29 (0.009)	3.545	98.9	1571.75 ± 10.72 (7.68)
15	4.34 (4.12)	1.25 (0.007)	3.679	98.7	1604.37 ± 9.43 (5.62)
16	3.70 (2.13)	1.24 (0.010)	2.392	98.9	1616.35 ± 11.49 (8.62)
17	4.64 (3.31)	1.30 (0.006)	4.029	98.6	1565.26 ± 8.97 (4.98)
18	5.95 (5.40)	1.40 (0.005)	2.850	98.2	1483.80 ± 8.25 (4.03)
19	3.24 (3.00)	1.48 (0.005)	4.068	99.0	1433.53 ± 7.91 (3.59)
20	4.39 (3.47)	1.56 (0.013)	4.726	98.7	1377.53 ± 10.40 (7.82)
21	5.69 (2.04)	1.46 (0.023)	7.312	98.3	1439.18 ± 17.31 (15.80)
22	0.04 (2.16)	1.46 (0.004)	7.159	100.0	1455.94 ± 7.65 (2.80)
23	0.37 (0.91)	1.57 (0.016)	6.656	99.9	1384.63 ± 12.09 (9.93)
24	0.22 (1.29)	1.59 (0.033)	5.816	99.9	1371.95 ± 20.84 (19.68)
25	0.34 (3.00)	1.55 (0.016)	5.999	99.9	1400.33 ± 12.24 (10.08)
26	7.20 (1.78)	1.52 (0.024)	5.906	97.9	1398.05 ± 16.89 (15.40)
27	0.18 (2.25)	1.56 (0.021)	6.291	99.9	1395.05 ± 14.96 (13.26)
28	6.81 (2.74)	1.68 (0.039)	6.962	98.0	1305.65 ± 22.83 (21.84)
29	0.26 (2.06)	1.47 (0.018)	5.648	100.0	1451.87 ± 14.33 (12.44)
30	1.87 (2.71)	1.62 (0.040)	4.982	99.4	1351.03 ± 24.36 (23.40)
31	2.32 (1.60)	1.44 (0.021)	4.853	99.3	1464.00 ± 16.38 (14.74)
32	3.25 (2.67)	1.54 (0.047)	4.026	99.0	1393.27 ± 30.72 (29.93)
33	1.75 (1.83)	1.44 (0.025)	4.719	99.5	1463.49 ± 18.59 (17.17)
34	4.66 (0.76)	1.41 (0.005)	3.753	98.6	1479.65 ± 8.22 (3.99)
35	2.63 (3.53)	1.49 (0.026)	5.754	99.2	1429.37 ± 18.58 (17.20)
36	4.74 (0.68)	1.53 (0.018)	5.743	98.6	1401.00 ± 13.51 (11.59)
37	1.85 (3.04)	1.40 (0.017)	6.676	99.5	1491.90 ± 14.51 (12.58)
38	2.15 (3.24)	1.49 (0.029)	3.830	99.4	1433.82 ± 20.47 (19.21)
39	3.03 (3.26)	1.42 (0.014)	4.877	99.1	1477.40 ± 12.29 (9.97)
40	3.02 (5.15)	1.35 (0.002)	3.019	99.1	1529.79 ± 7.60 (1.95)
41	13.14 (2.77)	1.46 (0.018)	4.437	96.1	1418.76 ± 14.56 (12.76)
42	13.44 (2.90)	1.44 (0.028)	4.296	96.0	1431.52 ± 21.13 (19.92)
43	15.65 (5.42)	1.39 (0.021)	3.558	95.4	1459.53 ± 17.39 (15.86)
44	10.18 (1.92)	1.40 (0.016)	5.543	97.0	1472.71 ± 13.89 (11.90)
45	15.07 (1.80)	1.35 (0.008)	3.587	95.5	1494.86 ± 9.54 (6.22)
46	9.02 (1.34)	1.35 (0.003)	6.032	97.3	1513.85 ± 7.60 (2.13)
47	15.63 (4.58)	1.43 (0.017)	3.639	95.4	1431.53 ± 14.16 (12.29)
48	19.30 (3.12)	1.58 (0.004)	3.238	94.3	1326.00 ± 7.33 (2.99)
49	11.32 (2.51)	1.46 (0.011)	5.126	96.7	1427.07 ± 10.45 (7.73)
50	16.05 (2.49)	1.48 (0.009)	3.683	95.3	1393.63 ± 9.09 (5.90)
51	12.56 (4.55)	1.48 (0.013)	4.613	96.3	1405.88 ± 11.46 (9.11)
52	15.76 (5.14)	1.49 (0.002)	3.690	95.3	1389.99 ± 7.10 (1.64)
53	18.40 (3.84)	1.23 (0.002)	2.642	94.6	1574.48 ± 7.80 (2.21)
54	0.20 (2.88)	1.26 (0.007)	4.680	100.0	1614.93 ± 9.64 (5.93)
55	11.65 (4.01)	1.54 (0.011)	5.248	96.6	1371.17 ± 9.72 (6.91)
56	15.08 (3.16)	1.38 (0.012)	3.585	95.5	1465.76 ± 11.86 (9.46)
57	13.05 (2.93)	1.46 (0.014)	4.361	96.1	1422.05 ± 12.38 (10.20)
58	10.51 (1.10)	1.41 (0.006)	5.235	96.9	1458.26 ± 8.56 (4.75)
59	18.62 (4.00)	1.06 (0.010)	2.231	94.5	1736.08 ± 13.45 (10.85)
60	16.25 (5.33)	1.15 (0.006)	2.776	95.2	1652.34 ± 9.48 (5.52)

Table DR-1
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 Burhi Gandaki River - Sample 01WBSS

Analysis Number	$^{36}\text{Ar}/^{40}\text{Ar}$ ($\times 10^{-5}$) ⁺⁺	$^{39}\text{Ar}/^{40}\text{Ar}$ ($\times 10^{-3}$) ⁺⁺	$^{39}\text{Ar}_K$ ($\times 10^{-16}$ mol) ^{**}	$^{40}\text{Ar}^*$ (%) [#]	Age (Ma) [§]
1	3.86 (3.44)	1.71 (0.011)	4.924	98.9	1292.90 ± 8.78 (5.81)
2	23.60 (12.85)	2.82 (0.022)	1.714	93.0	845.87 ± 7.47 (5.72)
3	3.06 (2.51)	1.70 (0.008)	5.175	99.1	1300.42 ± 7.89 (4.33)
4	2.65 (1.84)	1.47 (0.006)	6.288	99.2	1440.70 ± 8.16 (4.07)
5	2.55 (1.19)	1.78 (0.008)	7.802	99.2	1260.67 ± 7.65 (4.09)
6	2.65 (3.13)	2.33 (0.018)	9.452	99.2	1034.70 ± 8.39 (6.23)
7	3.04 (2.71)	1.71 (0.014)	5.312	99.1	1297.72 ± 10.08 (7.63)
8	4.24 (1.81)	2.02 (0.007)	7.681	98.7	1147.66 ± 6.80 (3.10)
9	2.85 (3.87)	1.63 (0.005)	8.386	99.2	1341.57 ± 7.44 (3.14)
10	3.20 (0.77)	2.43 (0.007)	12.496	99.1	999.17 ± 5.85 (2.08)
11	20.82 (3.45)	1.96 (0.007)	5.194	93.8	1128.85 ± 6.86 (3.37)
12	14.72 (2.57)	1.87 (0.008)	6.994	95.6	1185.31 ± 7.30 (3.86)
13	1.42 (1.36)	1.97 (0.015)	7.540	99.6	1174.83 ± 9.16 (6.79)
14	2.34 (2.30)	1.98 (0.013)	6.065	99.3	1167.95 ± 8.47 (5.85)
15	16.30 (2.53)	1.87 (0.024)	6.344	95.2	1180.95 ± 13.40 (11.89)
16	11.11 (2.51)	2.11 (0.007)	10.500	96.7	1092.59 ± 6.41 (2.64)
17	0.63 (0.93)	2.16 (0.014)	6.961	99.8	1099.60 ± 7.83 (5.19)
18	16.07 (2.55)	2.36 (0.020)	8.105	95.3	991.51 ± 8.77 (6.88)
19	19.15 (2.48)	2.12 (0.010)	6.127	94.3	1067.92 ± 6.95 (3.92)
20	14.67 (4.81)	2.25 (0.017)	8.483	95.7	1031.69 ± 8.46 (6.34)
21	6.83 (1.01)	1.85 (0.000)	9.548	98.0	1215.25 ± 6.30 (0.10)
22	9.31 (3.66)	1.66 (0.026)	6.238	97.2	1307.07 ± 16.59 (15.21)
23	8.47 (1.93)	1.99 (0.030)	8.311	97.5	1148.33 ± 14.29 (12.95)
24	6.84 (1.33)	1.89 (0.000)	9.764	98.0	1195.52 ± 6.23 (0.14)
25	8.82 (2.08)	1.79 (0.018)	7.156	97.4	1239.23 ± 11.24 (9.26)
26	0.37 (0.90)	1.52 (0.039)	7.772	99.9	1418.96 ± 26.17 (25.22)
27	10.83 (3.76)	1.71 (0.014)	5.555	96.8	1277.78 ± 10.31 (7.98)
28	0.06 (1.57)	1.57 (0.010)	6.596	100.0	1388.64 ± 9.32 (6.26)
29	10.00 (2.53)	1.54 (0.016)	5.388	97.0	1376.81 ± 12.40 (10.33)
30	9.94 (2.07)	1.63 (0.035)	5.730	97.1	1323.07 ± 21.76 (20.71)
31	13.43 (4.24)	1.36 (0.008)	3.162	96.0	1489.57 ± 9.47 (6.13)
32	6.02 (1.48)	1.83 (0.000)	9.422	98.2	1228.89 ± 6.35 (0.13)
33	0.77 (0.59)	1.68 (0.000)	8.636	99.8	1322.94 ± 6.68 (0.17)
34	8.95 (1.49)	1.62 (0.012)	5.567	97.4	1330.35 ± 9.69 (7.00)
35	10.44 (1.61)	1.68 (0.033)	4.963	96.9	1291.05 ± 19.78 (18.66)
36	9.62 (2.23)	1.59 (0.010)	5.087	97.2	1348.23 ± 8.98 (5.90)
37	10.82 (3.30)	1.58 (0.061)	4.516	96.8	1350.35 ± 38.44 (37.84)
38	7.34 (3.01)	1.65 (0.015)	6.921	97.8	1320.82 ± 10.79 (8.48)
39	7.72 (0.81)	1.50 (0.015)	5.989	97.7	1405.88 ± 11.90 (9.66)
40	9.39 (2.03)	1.71 (0.016)	7.412	97.2	1279.01 ± 10.76 (8.55)
41	17.19 (1.78)	1.43 (0.006)	3.373	94.9	1424.44 ± 8.13 (4.10)
42	11.33 (3.91)	1.67 (0.027)	5.996	96.7	1294.86 ± 16.70 (15.35)
43	10.29 (1.36)	1.68 (0.031)	6.633	97.0	1292.35 ± 18.52 (17.31)
44	12.69 (2.05)	1.36 (0.017)	4.330	96.2	1491.37 ± 14.71 (12.81)
45	8.52 (1.46)	1.75 (0.019)	8.321	97.5	1261.59 ± 11.88 (9.97)
46	9.00 (1.59)	1.75 (0.014)	7.900	97.3	1257.36 ± 10.00 (7.64)
47	9.24 (2.76)	1.63 (0.003)	7.145	97.3	1322.57 ± 6.98 (2.04)
48	13.62 (3.23)	1.59 (0.011)	4.702	96.0	1337.33 ± 9.67 (6.95)
49	11.96 (1.67)	1.71 (0.072)	5.046	96.5	1274.95 ± 40.36 (39.83)
50	8.46 (2.54)	1.65 (0.014)	6.884	97.5	1316.36 ± 10.65 (8.32)
51	12.69 (2.10)	1.67 (0.009)	4.663	96.2	1293.23 ± 8.24 (4.96)
52	12.29 (3.80)	1.81 (0.036)	5.202	96.4	1221.03 ± 19.42 (18.36)
53	1.26 (1.05)	1.61 (0.028)	6.582	99.6	1360.47 ± 17.95 (16.61)
54	10.04 (3.20)	1.57 (0.043)	5.527	97.0	1356.57 ± 27.71 (26.87)
55	7.63 (2.23)	1.64 (0.036)	7.594	97.7	1323.08 ± 21.94 (20.90)
56	10.03 (1.31)	1.60 (0.031)	5.692	97.0	1339.35 ± 20.22 (19.07)
57	13.52 (3.17)	1.52 (0.019)	3.994	96.0	1376.81 ± 14.50 (12.78)
58	8.84 (1.34)	1.80 (0.047)	7.194	97.4	1235.67 ± 25.05 (24.22)

Table DR-1
 40Ar/39Ar Data for Detrital Muscovites
 Burhi Gandaki River - Sample 01WBS8

Analysis Number	$^{36}\text{Ar}/^{40}\text{Ar}$ ($\times 10^{-5}$) ⁺⁺	$^{39}\text{Ar}/^{40}\text{Ar}$ ($\times 10^{-3}$) ⁺⁺	$^{39}\text{Ar}_K$ ($\times 10^{-16}$ mol) ^{**}	$^{40}\text{Ar}^*$ (%) [#]	Age (Ma) [§]
1	12.00 (2.74)	2.41 (0.009)	8.837	96.5	972.55 ± 14.29 (2.98)
2	8.46 (1.60)	2.39 (0.039)	12.455	97.5	986.35 ± 18.91 (12.59)
3	11.93 (1.89)	4.74 (0.004)	17.482	96.5	559.30 ± 8.95 (0.46)
4	0.48 (1.34)	2.57 (0.004)	10.811	99.9	950.70 ± 13.77 (1.02)
5	1.11 (1.78)	5.63 (0.014)	18.444	99.7	495.97 ± 8.13 (1.09)
6	14.56 (3.70)	2.36 (0.019)	7.108	95.7	983.03 ± 15.53 (6.54)
7	1.23 (4.82)	2.91 (0.012)	9.652	99.6	860.61 ± 13.04 (2.88)
8	0.16 (1.54)	2.91 (0.006)	8.250	100.0	862.32 ± 12.81 (1.35)
9	0.62 (1.56)	1.86 (0.009)	9.268	99.8	1214.79 ± 16.99 (4.33)
10	2.77 (1.80)	2.61 (0.016)	11.446	99.2	933.51 ± 14.29 (4.55)
11	0.15 (2.95)	1.95 (0.005)	6.411	100.0	1175.46 ± 16.18 (2.05)
12	18.99 (4.32)	1.82 (0.009)	4.808	94.4	1183.62 ± 16.78 (4.64)
13	16.37 (4.10)	2.00 (0.007)	6.092	95.2	1111.07 ± 15.76 (3.27)
14	0.43 (2.45)	1.80 (0.007)	6.984	99.9	1241.60 ± 17.05 (3.51)
15	0.20 (3.81)	2.52 (0.030)	6.915	100.0	967.85 ± 16.48 (8.82)
16	18.68 (2.90)	2.38 (0.013)	6.442	94.5	966.00 ± 14.51 (4.17)
17	12.47 (0.94)	2.59 (0.000)	13.307	96.3	919.99 ± 13.39 (0.15)
18	1.57 (3.35)	1.92 (0.001)	7.791	99.5	1183.86 ± 16.14 (0.35)
19	2.02 (3.33)	2.17 (0.017)	6.989	99.4	1079.51 ± 16.34 (6.24)
20	0.58 (2.97)	3.01 (0.011)	7.660	99.8	839.81 ± 12.71 (2.42)
21	1.91 (0.91)	2.90 (0.000)	14.978	99.4	860.84 ± 12.72 (0.10)
22	0.02 (3.96)	2.11 (0.033)	6.203	100.0	1104.72 ± 20.07 (12.92)
23	3.95 (2.21)	2.10 (0.008)	5.536	98.8	1099.90 ± 15.61 (3.06)
24	11.23 (2.27)	2.24 (0.009)	6.141	96.7	1031.97 ± 14.93 (3.10)
25	2.54 (2.65)	2.05 (0.011)	6.215	99.2	1123.95 ± 16.22 (4.63)
26	2.68 (1.50)	2.37 (0.018)	8.580	99.2	1007.88 ± 15.46 (5.75)
27	12.74 (2.91)	2.66 (0.026)	6.465	96.2	898.28 ± 14.95 (7.12)
28	1.58 (3.62)	2.37 (0.026)	7.503	99.5	1009.85 ± 16.68 (8.46)
29	2.07 (3.39)	2.61 (0.007)	11.246	99.4	935.10 ± 13.70 (1.96)
30	0.92 (2.62)	1.79 (0.018)	8.634	99.7	1246.85 ± 19.07 (9.16)
31	0.08 (1.97)	2.39 (0.017)	7.576	100.0	1008.24 ± 15.33 (5.40)
32	10.91 (2.64)	1.88 (0.021)	6.875	96.8	1178.41 ± 18.86 (9.85)
33	10.02 (2.07)	2.23 (0.008)	8.970	97.0	1037.88 ± 14.95 (2.90)
34	14.82 (3.05)	2.28 (0.014)	6.165	95.6	1007.79 ± 15.21 (5.04)
35	12.32 (2.77)	1.93 (0.014)	6.278	96.4	1148.50 ± 16.95 (6.16)
36	15.55 (4.21)	1.97 (0.008)	5.081	95.4	1124.40 ± 15.98 (3.68)
37	9.38 (1.51)	2.22 (0.014)	9.515	97.2	1044.43 ± 15.58 (5.07)
38	11.96 (3.43)	2.40 (0.009)	8.001	96.5	976.87 ± 14.32 (2.94)
39	13.54 (2.89)	2.07 (0.015)	6.159	96.0	1088.63 ± 16.36 (6.08)
40	12.41 (3.82)	2.05 (0.010)	6.593	96.3	1099.62 ± 15.81 (3.99)
41	0.91 (4.42)	3.10 (0.054)	9.294	99.7	819.46 ± 16.78 (11.47)
42	0.27 (2.24)	2.03 (0.001)	6.556	99.9	1137.79 ± 15.69 (0.44)
43	1.32 (0.64)	2.18 (0.013)	11.432	99.6	1075.62 ± 15.82 (4.85)
44	0.47 (1.48)	2.28 (0.000)	11.743	99.9	1043.50 ± 14.73 (0.10)
45	0.02 (1.13)	3.01 (0.025)	11.516	100.0	841.24 ± 13.72 (5.66)
46	1.93 (2.66)	2.64 (0.024)	10.549	99.4	928.19 ± 15.01 (6.59)
47	1.50 (1.45)	2.77 (0.006)	9.721	99.6	895.05 ± 13.20 (1.52)
48	2.54 (1.12)	2.85 (0.019)	8.948	99.2	873.80 ± 13.66 (4.57)
49	1.41 (1.90)	2.53 (0.015)	12.267	99.6	961.70 ± 14.53 (4.37)
50	2.07 (4.71)	2.35 (0.006)	8.360	99.4	1016.79 ± 14.59 (2.03)

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1	2.96 (2.01)	5.31 (0.096)	29.732	91.0	5.53 ± 0.39 (.38)
2	6.31 (1.47)	4.02 (0.081)	45.192	81.2	6.51 ± 0.40 (.38)
3	9.64 (2.48)	3.83 (0.052)	29.038	71.4	6.01 ± 0.63 (.62)
4	10.13 (2.95)	3.88 (0.029)	25.871	69.9	5.81 ± 0.73 (.72)
5	11.73 (2.39)	3.57 (0.024)	21.843	65.2	5.90 ± 0.65 (.64)
6	7.71 (0.75)	3.66 (0.022)	48.025	77.1	6.78 ± 0.24 (.2)
7	11.27 (3.14)	3.65 (0.061)	38.780	66.6	5.88 ± 0.84 (.83)
8	12.60 (1.98)	3.15 (0.059)	37.903	62.7	6.41 ± 0.63 (.62)
9	16.10 (1.41)	2.92 (0.081)	27.779	52.4	5.78 ± 0.54 (.53)
10	6.67 (10.14)	4.61 (0.262)	17.137	80.1	5.60 ± 2.13 (2.12)
11	0.12 (7.17)	3.97 (0.215)	20.022	99.4	8.06 ± 1.77 (1.76)
12	14.77 (9.24)	2.99 (0.118)	13.471	56.3	6.07 ± 2.96 (2.96)
13	3.47 (7.40)	4.61 (0.202)	19.543	89.5	6.27 ± 1.56 (1.55)
14	0.66 (6.22)	3.11 (0.027)	11.322	97.9	10.13 ± 1.90 (1.89)
15	5.81 (4.65)	4.82 (0.223)	46.171	82.6	5.53 ± 0.97 (.96)
16	5.74 (5.34)	3.91 (0.119)	26.461	82.9	6.83 ± 1.32 (1.32)
17	0.56 (13.20)	3.34 (0.128)	7.467	98.2	9.46 ± 3.76 (3.76)
18	8.73 (4.56)	4.01 (0.192)	20.162	74.1	5.95 ± 1.15 (1.14)
19	1.02 (4.71)	4.27 (0.291)	16.692	96.8	7.31 ± 1.17 (1.17)
20	1.80 (1.64)	1.83 (0.010)	19.215	94.6	16.58 ± 0.32 (.09)
21	4.15 (2.02)	1.87 (0.012)	5.741	87.6	15.02 ± 0.30 (.11)
22	1.63 (0.56)	1.94 (0.014)	33.398	95.1	15.76 ± 0.32 (.12)
23	2.90 (0.79)	2.02 (0.015)	15.431	91.3	14.52 ± 0.29 (.12)
24	2.13 (1.54)	1.44 (0.011)	8.030	93.6	20.79 ± 0.42 (.16)
25	5.25 (3.12)	3.27 (0.025)	14.683	84.3	8.31 ± 0.17 (.08)
26	5.47 (2.05)	3.50 (0.010)	13.477	83.7	7.70 ± 0.15 (.03)
27	3.70 (1.09)	3.32 (0.037)	31.760	88.9	8.64 ± 0.19 (.11)
28	1.86 (0.52)	1.95 (0.022)	38.705	94.4	15.59 ± 0.35 (.19)
29	8.96 (1.26)	1.51 (0.014)	9.155	73.5	15.62 ± 0.35 (.2)
30	1.50 (0.67)	2.73 (0.025)	28.225	95.4	11.26 ± 0.24 (.11)
31	2.24 (2.47)	4.52 (0.063)	17.679	93.2	6.64 ± 0.16 (.1)
32	1.48 (0.69)	2.67 (0.017)	23.476	95.5	11.51 ± 0.23 (.07)
33	6.44 (0.65)	3.68 (0.019)	31.024	80.8	7.08 ± 0.14 (.04)
34	0.71 (1.17)	2.63 (0.019)	28.170	97.8	11.97 ± 0.24 (.09)
35	0.73 (1.04)	2.03 (0.016)	21.916	97.7	15.50 ± 0.31 (.12)
36	2.83 (1.95)	4.35 (0.071)	27.250	91.4	6.78 ± 0.17 (.12)
37	5.47 (0.91)	2.39 (0.035)	18.175	83.7	11.27 ± 0.28 (.19)
38	4.07 (2.12)	2.65 (0.019)	11.045	87.9	10.68 ± 0.22 (.09)
39	14.20 (1.58)	3.13 (0.032)	14.838	57.9	5.97 ± 0.15 (.1)
40	6.38 (1.25)	2.57 (0.013)	27.128	81.0	10.15 ± 0.20 (.06)
41	9.26 (1.28)	2.59 (0.016)	18.850	72.5	9.00 ± 0.18 (.08)
42	9.84 (1.40)	3.26 (0.039)	22.324	70.8	6.99 ± 0.18 (.12)
43	11.26 (2.00)	3.37 (0.027)	20.129	66.6	6.37 ± 0.14 (.08)
44	8.80 (0.99)	2.45 (0.028)	18.764	73.9	9.69 ± 0.23 (.15)
45	2.58 (0.35)	0.85 (0.003)	22.221	92.3	34.49 ± 0.65 (.15)
46	0.02 (0.91)	2.55 (0.029)	17.462	99.8	12.59 ± 0.27 (.14)
47	8.47 (1.55)	2.72 (0.011)	21.649	74.9	8.85 ± 0.17 (.05)
48	1.01 (1.56)	2.96 (0.020)	17.634	96.9	10.54 ± 0.21 (.07)
49	6.07 (1.06)	3.58 (0.016)	14.894	81.9	7.00 ± 0.27 (.04)
50	2.42 (0.71)	2.80 (0.017)	25.178	92.7	10.13 ± 0.40 (.07)
51	5.81 (3.65)	2.89 (0.058)	8.046	82.7	8.74 ± 0.40 (.21)
52	2.24 (1.23)	1.80 (0.030)	12.793	93.3	15.79 ± 0.67 (.28)
53	6.24 (1.54)	3.11 (0.038)	7.709	81.4	8.01 ± 0.33 (.12)
54	3.24 (1.27)	3.47 (0.024)	22.295	90.3	7.96 ± 0.31 (.06)
55	7.15 (1.67)	2.43 (0.007)	13.136	78.8	9.93 ± 0.39 (.04)
56	7.34 (1.23)	2.32 (0.046)	6.188	78.2	10.28 ± 0.47 (.26)
57	9.70 (4.65)	4.77 (0.054)	9.399	71.2	4.57 ± 0.19 (.07)
58	2.03 (1.09)	2.99 (0.008)	22.164	93.9	9.60 ± 0.37 (.03)
59	0.66 (0.16)	2.46 (0.026)	42.239	97.9	12.15 ± 0.49 (.13)
60	2.62 (1.00)	2.00 (0.035)	20.739	92.2	14.05 ± 0.60 (.26)
61	5.20 (1.43)	2.35 (0.055)	15.079	84.5	10.98 ± 0.52 (.3)
62	0.52 (2.51)	3.88 (0.055)	17.647	98.3	7.76 ± 0.32 (.11)
63	6.94 (2.06)	3.66 (0.051)	17.594	79.4	6.63 ± 0.28 (.12)
64	0.51 (0.37)	1.83 (0.026)	29.693	98.4	16.41 ± 0.68 (.23)
65	0.37 (1.86)	4.76 (0.084)	20.042	98.7	6.35 ± 0.27 (.11)
66	0.36 (0.09)	0.98 (0.006)	17.261	98.9	30.72 ± 1.20 (.19)
67	2.20 (0.90)	2.06 (0.035)	6.641	93.4	13.82 ± 0.59 (.25)
68	0.50 (0.54)	1.38 (0.014)	26.406	98.5	21.66 ± 0.87 (.23)

Table DR-1
 40Ar/39Ar Data for Detrital Muscovites
 Burhi Gandaki River - Sample 01WBSS

Analysis Number	$^{36}\text{Ar}/^{40}\text{Ar}$ ($\times 10^{-4}$) ⁺⁺	$^{39}\text{Ar}/^{40}\text{Ar}$ ($\times 10^{-1}$) ⁺⁺	$^{39}\text{Ar}_K$ ($\times 10^{-15}$ mol) ^{**}	$^{40}\text{Ar}^*$ (%) [#]	Age (Ma) [§]
1	10.28 (5.62)	5.04 (0.037)	4.808	69.5	4.23 ± 0.17 (.05)
2	12.28 (8.06)	4.92 (0.011)	6.304	63.6	3.96 ± 0.15 (.01)
3	13.43 (7.74)	6.20 (0.039)	5.558	60.1	2.98 ± 0.12 (.03)
4	10.76 (18.36)	4.80 (0.051)	1.924	68.0	4.34 ± 0.18 (.07)
5	10.34 (8.25)	5.34 (0.019)	4.788	69.3	3.98 ± 0.16 (.02)
6	9.04 (2.54)	4.06 (0.020)	6.217	73.1	5.52 ± 0.22 (.04)
7	3.12 (3.49)	3.41 (0.021)	4.943	90.6	8.12 ± 0.32 (.05)
8	3.47 (3.31)	3.19 (0.048)	6.386	89.6	8.58 ± 0.36 (.14)
9	3.44 (4.10)	1.89 (0.013)	4.291	89.7	14.46 ± 0.57 (.11)
10	9.53 (9.08)	5.20 (0.043)	3.909	71.7	4.22 ± 0.17 (.05)
11	14.93 (8.70)	4.48 (0.030)	4.939	55.8	3.82 ± 0.15 (.05)
12	14.52 (18.43)	5.45 (0.040)	3.878	56.9	3.20 ± 0.13 (.04)
13	16.53 (15.12)	3.34 (0.085)	6.463	51.1	4.69 ± 4.10 (4.09)
14	14.89 (4.15)	3.83 (0.035)	17.047	55.9	4.47 ± 1.00 (.98)
15	14.96 (4.80)	2.63 (0.013)	13.808	55.7	6.49 ± 1.67 (1.65)
16	10.29 (8.87)	3.39 (0.055)	11.250	69.5	6.27 ± 2.38 (2.36)
17	8.85 (9.02)	2.68 (0.029)	4.077	73.7	8.42 ± 3.05 (3.03)
18	15.29 (7.52)	2.44 (0.049)	5.925	54.8	6.85 ± 2.79 (2.78)
19	3.14 (2.46)	3.96 (0.032)	21.858	90.5	7.00 ± 0.62 (.56)
20	9.74 (4.59)	2.75 (0.034)	9.768	71.1	7.92 ± 1.54 (1.51)
21	11.17 (3.65)	2.47 (0.035)	8.886	66.9	8.28 ± 1.38 (1.34)
22	8.74 (2.61)	3.79 (0.024)	18.049	74.0	5.98 ± 0.66 (.62)
23	9.36 (3.82)	2.42 (0.018)	13.438	72.3	9.12 ± 1.47 (1.42)
24	11.38 (4.98)	1.63 (0.052)	7.093	66.3	12.40 ± 2.84 (2.8)
25	0.09 (6.86)	3.84 (0.050)	12.290	99.5	7.94 ± 1.64 (1.61)
26	5.14 (11.56)	3.50 (0.113)	7.248	84.7	7.39 ± 3.00 (2.98)
27	6.64 (4.43)	3.87 (0.033)	25.047	80.2	6.34 ± 1.06 (1.03)
28	7.88 (5.08)	3.05 (0.033)	13.747	76.6	7.68 ± 1.53 (1.5)
29	7.45 (2.85)	2.85 (0.017)	29.345	77.9	8.35 ± 0.96 (.9)
30	14.42 (3.73)	1.88 (0.005)	9.891	57.3	9.30 ± 1.82 (1.78)
31	9.74 (2.15)	2.53 (0.045)	20.600	71.1	8.59 ± 0.86 (.79)
32	13.60 (5.07)	1.41 (0.035)	6.611	59.8	12.94 ± 3.30 (3.26)
33	13.88 (8.41)	2.56 (0.072)	10.283	58.9	7.04 ± 2.99 (2.98)
34	13.33 (4.93)	2.53 (0.032)	11.773	60.5	7.32 ± 1.78 (1.76)
35	2.29 (17.79)	2.86 (0.074)	3.923	93.1	9.97 ± 5.62 (5.61)

Table DR-1
 40Ar/39Ar Data for Detrital Muscovites
 Burhi Gandaki River - Sample 01WBSS

Analysis Number	$^{36}\text{Ar}/^{40}\text{Ar}$ ($\times 10^{-4}$) ⁺⁺	$^{39}\text{Ar}/^{40}\text{Ar}$ ($\times 10^{-1}$) ⁺⁺	$^{39}\text{Ar}_K$ ($\times 10^{-15}$ mol) ^{**}	$^{40}\text{Ar}^*$ (%) [#]	Age (Ma) [§]
1	0.61 (3.18)	1.51 (0.040)	13.310	98.1	19.78 ± 2.10 (1.96)
2	1.30 (3.03)	1.56 (0.014)	9.740	96.1	18.76 ± 1.89 (1.75)
3	2.14 (4.02)	2.09 (0.023)	12.217	93.6	13.66 ± 1.81 (1.73)
4	9.52 (5.33)	2.64 (0.046)	13.525	71.8	8.30 ± 1.85 (1.83)
5	9.48 (4.36)	1.95 (0.022)	9.454	71.9	11.23 ± 2.06 (2.01)
6	5.61 (4.34)	1.95 (0.019)	8.198	83.3	13.03 ± 2.06 (2.)
7	10.81 (3.42)	2.59 (0.074)	12.280	68.0	8.04 ± 1.27 (1.23)
8	7.09 (1.45)	1.83 (0.017)	12.336	79.0	13.18 ± 0.89 (.72)
9	12.37 (2.86)	1.42 (0.007)	5.996	63.4	13.58 ± 1.88 (1.8)
10	2.31 (8.09)	3.65 (0.112)	8.054	93.0	7.79 ± 2.03 (2.01)
11	5.64 (4.16)	2.74 (0.107)	14.708	83.2	9.27 ± 1.47 (1.43)
12	15.15 (2.81)	1.99 (0.053)	15.856	55.2	8.46 ± 1.36 (1.32)
13	5.47 (1.76)	2.35 (0.022)	44.003	83.7	10.88 ± 0.80 (.68)
14	6.88 (1.99)	1.56 (0.053)	22.813	79.6	15.53 ± 1.44 (1.31)
15	5.64 (1.83)	1.85 (0.030)	42.324	83.2	13.74 ± 1.07 (.93)
16	8.38 (1.23)	1.54 (0.031)	29.191	75.2	14.85 ± 0.99 (.81)
17	10.56 (2.60)	1.33 (0.014)	23.203	68.7	15.73 ± 1.87 (1.77)
18	14.69 (3.33)	2.72 (0.037)	30.904	56.5	6.37 ± 1.14 (1.11)

Table DR-1
 40Ar/39Ar Data for Detrital Muscovites
 Burhi Gandaki River - Sample 01WBS8

Analysis Number	$^{36}\text{Ar}/^{40}\text{Ar}$ ($\times 10^{-4}$) ⁺⁺	$^{39}\text{Ar}/^{40}\text{Ar}$ ($\times 10^{-1}$) ⁺⁺	$^{39}\text{Ar}_K$ ($\times 10^{-15}$ mol) ^{**}	$^{40}\text{Ar}^*$ (%) [#]	Age (Ma) [§]	
1	7.32 (1.76)	0.91 (0.009)	7.737	78.3	26.09 ±	1.06 (.34)
2	1.63 (7.17)	2.13 (0.035)	3.863	95.1	13.62 ±	0.58 (.23)
3	0.40 (2.91)	1.06 (0.010)	4.182	98.8	28.39 ±	1.12 (.26)
4	4.82 (2.77)	1.20 (0.006)	2.609	85.7	21.81 ±	0.85 (.13)
5	1.08 (3.14)	2.12 (0.030)	3.135	96.7	13.95 ±	0.58 (.21)
6	0.12 (0.38)	0.26 (0.002)	7.141	99.6	113.81 ±	4.34 (.74)
7	16.73 (3.45)	2.08 (0.030)	8.015	50.5	7.42 ±	0.35 (.21)
8	0.25 (1.31)	0.94 (0.008)	9.296	99.2	31.95 ±	1.26 (.27)
9	6.68 (11.74)	3.32 (0.069)	2.700	80.1	7.39 ±	0.34 (.19)
10	0.54 (8.03)	1.69 (0.025)	3.128	98.3	17.74 ±	0.73 (.26)
11	0.77 (4.43)	4.31 (0.049)	16.586	97.5	6.93 ±	0.28 (.08)
12	3.03 (4.15)	5.09 (0.101)	15.111	90.8	5.47 ±	0.24 (.12)
13	9.52 (7.11)	4.84 (0.092)	9.407	71.7	4.53 ±	0.21 (.12)
14	10.14 (3.52)	5.03 (0.129)	10.324	69.9	4.26 ±	0.23 (.16)
15	0.88 (10.31)	5.22 (0.025)	7.119	97.1	5.70 ±	0.22 (.03)
16	1.65 (2.00)	2.03 (0.007)	9.153	95.0	14.31 ±	0.56 (.05)
17	3.12 (3.49)	3.24 (0.018)	6.880	90.6	8.56 ±	0.34 (.05)
18	0.45 (4.31)	3.06 (0.008)	8.722	98.5	9.84 ±	0.38 (.03)
19	2.17 (3.54)	3.59 (0.042)	8.803	93.4	7.96 ±	0.32 (.1)
20	5.44 (5.27)	4.45 (0.047)	6.900	83.8	5.77 ±	0.23 (.07)
21	0.85 (6.32)	4.90 (0.023)	6.547	97.2	6.08 ±	0.24 (.03)
22	2.91 (9.03)	4.50 (0.051)	8.013	91.2	6.20 ±	0.25 (.08)
23	1.82 (2.51)	3.93 (0.066)	9.093	94.4	7.35 ±	0.31 (.13)
24	3.53 (9.19)	4.63 (0.028)	4.426	89.3	5.91 ±	0.23 (.04)
25	0.28 (0.60)	0.45 (0.005)	6.238	99.1	66.91 ±	2.65 (.73)
26	0.34 (0.93)	0.89 (0.011)	7.176	99.0	33.80 ±	1.37 (.43)
27	4.67 (4.28)	4.43 (0.012)	7.914	86.0	5.95 ±	0.23 (.02)
28	0.17 (12.96)	4.96 (0.025)	7.190	99.3	6.13 ±	0.24 (.03)
29	3.84 (5.73)	5.35 (0.061)	7.799	88.4	5.06 ±	0.21 (.07)
30	2.13 (9.61)	3.24 (0.012)	4.355	93.6	8.84 ±	0.34 (.03)
31	0.70 (4.39)	4.80 (0.089)	11.820	97.7	6.24 ±	0.27 (.12)
32	5.26 (25.13)	5.48 (0.117)	1.915	84.2	4.71 ±	0.22 (.12)

Table DR-1
 40Ar/39Ar Data for Detrital Muscovites
 Burhi Gandaki River - Sample 01WBSS

Analysis Number	$^{36}\text{Ar}/^{40}\text{Ar}$ ($\times 10^{-5}$) ⁺⁺	$^{39}\text{Ar}/^{40}\text{Ar}$ ($\times 10^{-3}$) ⁺⁺	$^{39}\text{Ar}_K$ ($\times 10^{-16}$ mol) ^{**}	$^{40}\text{Ar}^*$ (%) [#]	Age (Ma) [§]
1	34.49 (3.17)	8.48 (0.115)	21.282	89.8	317.45 ± 4.85 (4.39)
2	33.19 (5.12)	6.23 (0.053)	16.234	90.2	421.09 ± 4.45 (3.55)
3	32.71 (4.42)	2.93 (0.046)	7.754	90.3	801.83 ± 12.12 (11.21)
4	26.38 (2.23)	5.85 (0.060)	19.216	92.2	454.03 ± 5.27 (4.43)
5	38.95 (5.08)	4.52 (0.073)	10.044	88.5	548.65 ± 9.28 (8.65)
6	34.07 (6.37)	7.61 (0.017)	19.354	89.9	350.67 ± 2.40 (0.79)
7	27.27 (2.84)	7.03 (0.084)	22.328	91.9	384.41 ± 5.15 (4.52)
8	26.91 (1.14)	4.33 (0.081)	13.929	92.0	589.25 ± 10.81 (10.20)
9	27.42 (1.99)	9.51 (0.062)	30.019	91.9	291.88 ± 2.70 (1.90)
10	30.43 (5.68)	12.49 (0.230)	35.529	91.0	224.33 ± 4.52 (4.26)
11	26.11 (1.43)	10.31 (0.094)	28.873	92.3	271.75 ± 3.07 (2.48)
12	31.01 (7.04)	6.41 (0.220)	15.113	90.8	412.99 ± 14.20 (13.96)
13	21.30 (4.87)	3.06 (0.009)	10.453	93.7	797.02 ± 5.03 (2.07)
14	18.40 (2.53)	3.65 (0.050)	14.456	94.6	696.50 ± 9.35 (8.40)
15	25.47 (5.12)	5.88 (0.016)	16.834	92.5	453.22 ± 3.08 (1.15)
16	22.07 (1.32)	7.67 (0.100)	25.382	93.5	360.87 ± 5.12 (4.56)
17	31.37 (3.88)	6.66 (0.084)	15.515	90.7	398.88 ± 5.58 (4.96)
18	22.97 (1.08)	5.59 (0.060)	17.764	93.2	477.19 ± 5.65 (4.80)
19	30.16 (3.48)	3.53 (0.038)	8.510	91.1	693.35 ± 7.91 (6.77)
20	23.84 (3.48)	12.75 (0.047)	39.069	93.0	224.41 ± 1.72 (0.84)
21	0.47 (1.77)	6.12 (0.015)	21.644	99.9	468.02 ± 3.10 (1.00)
22	0.89 (0.75)	6.60 (0.044)	21.789	99.7	437.48 ± 3.79 (2.60)
23	1.06 (3.77)	11.70 (0.082)	28.267	99.7	259.62 ± 2.42 (1.70)
24	0.74 (2.88)	6.70 (0.067)	20.039	99.8	432.05 ± 4.73 (3.85)
25	1.26 (1.62)	7.07 (0.047)	21.905	99.6	410.97 ± 3.60 (2.47)
26	1.86 (2.38)	5.95 (0.042)	18.012	99.4	478.46 ± 4.21 (2.96)
27	1.21 (1.91)	6.09 (0.030)	18.363	99.6	469.64 ± 3.60 (2.07)
28	1.26 (1.17)	7.17 (0.077)	34.598	99.6	406.08 ± 4.69 (3.91)
29	1.66 (2.19)	6.86 (0.113)	24.879	99.5	421.93 ± 6.78 (6.23)
30	1.61 (2.00)	7.69 (0.076)	27.277	99.5	380.92 ± 4.21 (3.42)
31	9.81 (3.72)	6.63 (0.036)	20.303	97.1	425.58 ± 3.43 (2.11)
32	7.17 (1.70)	5.39 (0.051)	22.584	97.9	514.27 ± 5.37 (4.32)
33	9.62 (3.94)	6.68 (0.065)	20.877	97.2	422.65 ± 4.65 (3.79)
34	9.26 (2.35)	8.17 (0.107)	26.490	97.3	353.01 ± 4.89 (4.32)
35	7.12 (1.04)	7.33 (0.003)	30.887	97.9	391.82 ± 2.51 (0.17)
36	13.42 (3.74)	8.99 (0.007)	20.169	96.0	320.03 ± 2.10 (0.25)
37	10.26 (4.02)	6.16 (0.060)	17.934	97.0	453.54 ± 4.93 (4.02)
38	3.25 (0.48)	8.56 (0.020)	28.201	99.0	344.21 ± 2.36 (0.75)
39	0.15 (3.50)	7.33 (0.062)	18.656	100.0	399.40 ± 3.96 (3.03)
40	0.50 (2.21)	6.90 (0.059)	31.323	99.8	421.04 ± 4.18 (3.21)
41	10.81 (2.53)	9.65 (0.078)	26.532	96.8	302.02 ± 3.06 (2.34)
42	0.26 (2.60)	5.79 (0.036)	19.472	99.9	491.58 ± 4.05 (2.64)
43	2.96 (1.71)	8.85 (0.104)	27.792	99.1	334.04 ± 4.21 (3.60)
44	0.82 (2.73)	7.64 (0.089)	24.452	99.8	384.04 ± 4.73 (4.04)
45	0.14 (1.74)	6.62 (0.050)	16.696	100.0	437.14 ± 4.04 (2.94)
46	0.40 (0.96)	5.16 (0.037)	22.302	99.9	543.37 ± 4.74 (3.36)
47	0.85 (3.50)	7.07 (0.047)	16.891	99.7	411.76 ± 3.60 (2.46)
48	1.61 (2.16)	10.53 (0.021)	34.564	99.5	285.75 ± 1.95 (0.52)
49	0.58 (2.30)	7.69 (0.033)	28.240	99.8	382.13 ± 2.86 (1.47)
50	1.27 (3.48)	6.88 (0.030)	20.673	99.6	421.13 ± 3.15 (1.66)
51	6.43 (0.65)	6.48 (0.001)	33.422	98.1	438.08 ± 2.77 (0.05)
52	0.18 (0.53)	6.64 (0.002)	24.177	99.9	436.14 ± 2.76 (0.13)
53	7.73 (1.26)	6.70 (0.047)	28.723	97.7	423.97 ± 3.83 (2.73)
54	0.12 (2.09)	7.98 (0.033)	30.138	100.0	369.75 ± 2.76 (1.40)
55	9.42 (1.71)	7.20 (0.059)	25.345	97.2	395.81 ± 3.93 (3.00)
56	10.07 (1.80)	6.72 (0.046)	22.183	97.0	420.23 ± 3.78 (2.67)
57	0.92 (1.66)	7.08 (0.032)	31.305	99.7	411.09 ± 3.10 (1.65)
58	2.55 (1.01)	15.05 (0.177)	39.463	99.2	204.15 ± 2.67 (2.29)
59	0.28 (3.87)	8.71 (0.059)	28.545	99.9	341.47 ± 3.06 (2.12)

Notes:

⁺⁺: Numbers in parenthesis indicate 2σ error on individual measurements.

^{**}: Number of moles of K-derived ^{39}Ar ($^{39}\text{Ar}_K$) released for each analysis

[#]: Percentage of radiogenic ^{40}Ar ($^{40}\text{Ar}^*$) in the total ^{40}Ar for each analysis

[§]: Uncertainties include propagated error in the irradiation parameter, J. Uncertainties in parenthesis represent the contribution of analytical error to the total uncertainty.

Taylor creek sanidine (28.34 ± 0.16 Ma) was used as a neutron flux monitor for all analyses (see Renne et al., 1998; *Chemical Geology* v. 145, p. 117-152)

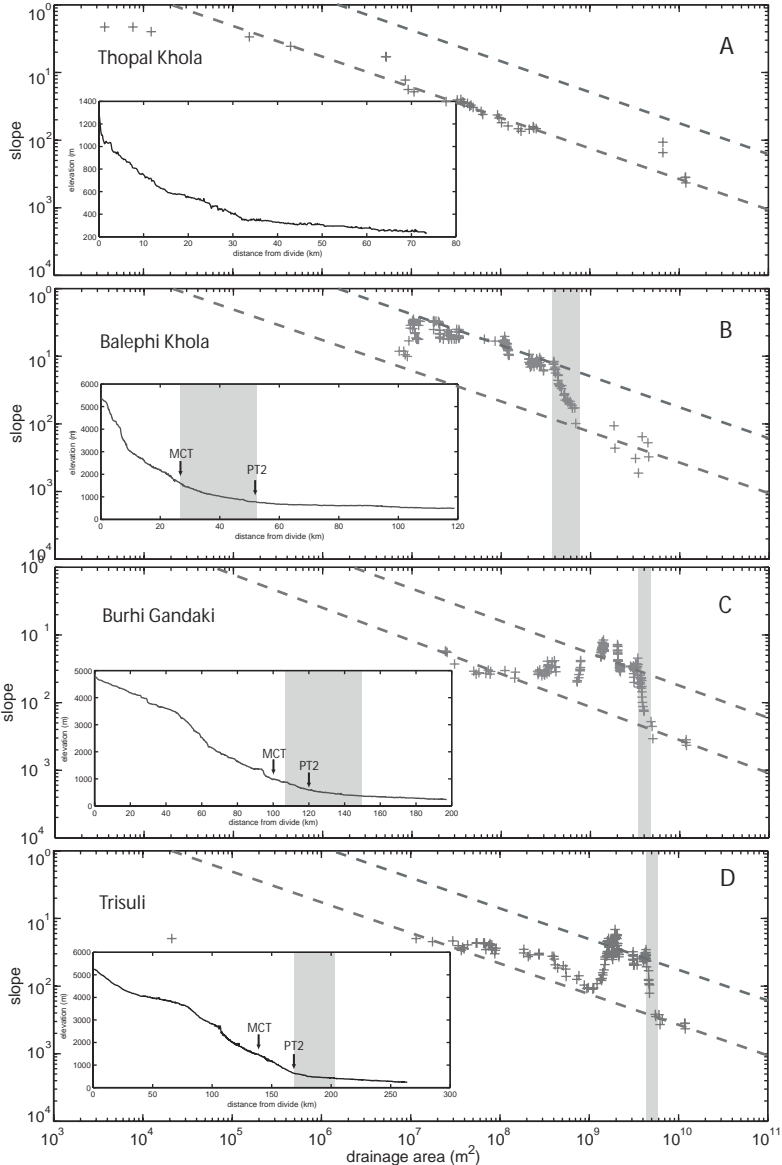


Figure DR-1: Stream profiles from four representative tributaries in central Nepal. A: Thopal Khola, sourced below PT2; B: Balephi Khola, sourced above PT2; C: Burhi Gandaki trunk stream, sourced above STF. D: Trisuli trunk stream, sourced above STF. Dashed lines show upper and lower bounds of steepness values for a reference concavity of 0.45, determined from superposition of all data from the 56 tributaries analyzed (see text). Grey bands in Balephi, Burhi Gandaki and Trisuli rivers show zones of locally high concavity, interpreted as the distance over which rock uplift rates are increasing across PT2. Location of channel heads for stream profiles are shown in Figure 3.