DATA REPOSITORY ITEM 2003165

APPENDIX 1 SAMPLING AND ANALYTICAL TECHNIQUES

Because Neogene reworking is weaker in the eastern half of the massif, that is where we sampled extensively (Fig. 1) to minimize the likelihood of perturbation of the isotope systems (particularly Rb-Sr). A range of rock types was selected for whole-rock Nd and Sr analysis; here we present data mainly from metapelites and a few orthogneisses. Standard digestion and chemical-separation procedures were followed, as described below. All Nd isotope analyses and two Sr analyses were performed on thermal-ionization mass spectrometers at the Open University. The rest of the Sr analyses were obtained by multicollector inductively coupled plasma–mass spectrometry at the Open University. Blank levels for each procedure were negligible.

Between 90 and 150 mg of rock powder were digested using standard HF-HNO_3, HNO_3 and HCl stages. Further chemical separation for Nd analysis performed at the Open University are as described in Cohen et al., (1988). $^{143}Nd/^{144}Nd$ ratios were collected on the Finnigan-MAT 261 mass spectrometer in static mode at the Open University and normalized to $^{146}Nd/^{144}Nd = 0.7219$. Sr and Rb were separated from aliquots of the same samples at the NERC Isotope Geosciences Laboratory using standard ion exchange techniques. Repeat analyses of the Johnson-Matthey internal Nd standard gave $^{143}Nd/^{144}Nd = 0.511775 \pm 0.000034$ (2 s.d., n = 63) for a 12-month period during which most of the samples were analysed. Nd blanks for the procedure were ~15 pg, and can be considered negligible. For Sr, two samples (E103, E126) were analysed by TIMS on a Finnigan MAT 262 mass spectrometer at the Open University. For the remainder, Sr fractions from ion exchange columns were evaporated and dissolved in an appropriate volume of 2% HNO_3 prior to analysis on the Nu Plasma multi-collector ICP-MS in static mode at the Open University. Samples were bracketed by NBS 987 standards and the resulting data normalized to the bracketing standard data to correct for drift over the period of analysis. A thorough cleaning procedure was applied after each sample or standard run, typically 1 minute 10% HNO_3, followed by 2 minutes IPA (isopropyl alcohol) and then 5 to 10 minutes 2% HNO_3, to ensure complete flushing of previous material from the system. Background levels were monitored throughout this procedure, and in some cases, a longer washout was required to remove any traces of sample. Onpeak zeros were measured at intervals during the period of analysis to apply a correction for Kr in the Ar flow gas (Waight et al., 2002). Samples were analysed in three separate batches (i.e. different dates); repeat analyses of the NBS 987 Sr standard gave $^{87}Sr/^{86}Sr$ of 0.71032 ± 0.00011 (n = 11), 0.71033 ± 0.00007 (n = 16), and 0.71030 ± 0.00007 (n = 8) over the three periods respectively (2 s.d. errors in each case). Sm/Nd ratios were determined by isotope dilution, whereas Sr and Rb concentrations were obtained from XRF analysis to a precision better than ±1 % (1ω). $^{87}Rb/^{86}Sr$ ratios were then derived from the elemental concentrations ($^{87}Rb/^{86}Sr = 2.891 \times ([Rb]/[Sr])$).

References

Cohen, A.S., O'Nions, R.K., Siegenthaler, R., and Griffin, W.L., 1988, Chronology of the pressure-temperature history recorded by a granulite terrain: Contributions to Mineralogy and Petrology, v. 98, p. 303-11.

Waight, T., Baker, J., and Peate, D., 2002, Sr isotope ratio measurements by double-focusing MC-ICPMS: techniques, observations and pitfalls: International Journal of Mass Spectrometry, v. 221, p. 229-244.

DATA REPOSITORY ITEM: Table DR-1

New isotopic data for gneisses and metapelites from the Nanga Parbat massif

Sample	$^{147}Sm/^{144}Nd$	$^{143}Nd/^{144}Nd$ [a]	f_{Nd} [b]	T_{DM} (Ga)	$^{87}Rb/^{86}Sr$	$^{87}Sr/^{86}Sr$
P98/26	0.107	0.511155 ±11	-28.9	2.7	11.935	0.84240 ±14
P98/28	0.143	0.511540 ±14	-21.4	3.4	2.349	0.78228 ±11
P97/43	0.137	0.511268 ±11	-26.7	3.7	5.369	0.79907 ±10
P97/68	0.109	0.511192 ±11	-28.2	2.8	5.285	0.85989 ±20
P97/91	0.121	0.512089 ±11	-10.7	1.6	2.735	0.74330 ±13
P98/97	0.128	0.512012 ±10	-12.2	1.9	2.626	0.72689 ±10
P97/38ii	0.114	0.511770 ±14	-16.9	2.0	1.467	0.73387 ±15
P97/71	0.126	0.512129 ±11	-9.9	1.6	3.117	0.73665 ±9
P98/70x	0.117	0.511923 ±9	-14.0	1.8	5.065	0.78601 ±29
P98/187	0.107	0.511809 ±16	-16.2	1.8	4.021	0.76624 ±12
P97/53G	0.134	0.511968 ±13	-13.1	2.1	4.859	0.75056 ±8
E7/9/8II	0.119	0.511921 ±13	-14.0	1.8	4.201	0.76085 ±11
P97/170ii	0.136	0.512213 ±11	-8.3	1.6	1.411	0.71089 ±9
P97/183	0.111	0.511928 ±14	-13.8	1.7	4.645	0.71908 ±34
P97/174	0.112	0.511885 ±15	-14.7	1.7	1.936	0.71636 ±13
P98/52	0.148	0.512671 ±12	0.6	0.9	0.152	0.70655 ±15
P98/171	0.114	0.511863 ±12	-15.1	1.8	1.254	0.71498 ±8
P97/163i	0.110	0.511709 ±13	-18.1	2.0	0.746	0.71167 ±13
P98/51	0.136	0.512585 ±10	-1.0	0.9	0.319	0.70671 ±13
P98/176i	0.119	0.511896 ±10	-14.5	1.9	0.509	0.71065 ±11
P98/175	0.118	0.511867 ±11	-15.0	1.9	12.474	0.82256 ±13
P97/106i	-	-	-	-	4.964	0.76461 ±12
P97/204i	0.147	0.511270 ±5	-26.7	4.3	-	-
Z15c	0.119	0.511325 ±20	-25.6	2.8	-	-
E7	0.111	0.511289 ±10	-26.3	2.6	-	-
97g31	0.119	0.511790 ±7	-16.5	2.0	-	-
97g106	0.336	0.512009 ±7	-12.3	-47.7	-	-
E103	-	-	-	-	13.545	1.063079
E126	-	-	-	-	6.654	0.859012
D19	0.131	0.511295 ±10	-26.2	3.3	-	-
A3	0.113	0.511740 ±16	-17.5	2.0	-	-
G31	0.126	0.511675 ±10	-18.8	2.4	-	-

[a] All errors are quoted as ±2 s.d.##
[b] calculated relative to chondritic uniform reservoir (CHUR) using present-day values

DATA REPOSITORY ITEM: Table DR-2

Compiled Sr-Nd and Sr isotopic data for Himalayan metasediments

Sample	Source	Locality	Lithology	[Rb]	[Sr]	$^{87}Rb/^{86}Sr$	$^{87}Sr/^{86}Sr$ ±2s.d.
				(ppm)	(ppm)		
N1	Whittington et al. 1999	NPM	Pelitic gneiss	233	46	14.612	0.88700
Z9/i	Whittington et al. 1999	NPM	Pelitic gneiss	355	59	17.425	1.26178
Z13/i	Whittington et al. 1999	NPM	Pelitic gneiss	363	58	17.346	1.27586
E101	Whittington et al. 1999	NPM	Orthogneiss	240	155	4.476	0.83493
E102	Whittington et al. 1999	NPM	Orthogneiss	334	72	13.411	1.15483
E106	Whittington et al. 1999	NPM	Orthogneiss	336	115	8.447	0.90613
Z130a/ii	Whittington et al. 1999	NPM	Pelitic gneiss	258	143	5.213	0.84948
Z130b/ii	Whittington et al. 1999	NPM	Pelitic gneiss	273	155	5.078	0.85313
97g98	Whittington et al. 1999	NPM	Pelitic schist	253	168	4.357	0.71520 ±2
97g97	Foster et al. 2000	NPM	Pelitic schist	203	804	0.732	0.71208 ±2
97g74	Foster et al 2002	NPM	Pelitic schist	230	322	2.063	0.71246 ±2
PK-17b-90-l	Gazis et al 1998	NPM	Leucosome	98	66	4.410	0.86752 ±5
PK-17b-90-m	Gazis et al 1998	NPM	Melanosome	227	95	7.050	0.86597 ±3
PK-12a-90	Gazis et al 1998	NPM	Bt gneiss	185	157	3.440	0.82358 ±4
PK-109-90	Gazis et al 1998	NPM	Augen gneiss	379	78	14.470	1.06418 ±4
CG-95-5	Gazis et al 1998	NPM	Pelitic gneiss	182	63	8.590	0.88387 ±3
CG-95-27	Gazis et al 1998	NPM	Augen gneiss	289	117	7.260	0.91255 ±5
CG-95-29	Gazis et al 1998	NPM	Bt gneiss	249	122	5.990	0.88704 ±3
PK-17a-90	Gazis et al 1998	NPM	Pelitic gneiss	222	111	5.870	0.82516 ±3
PK-41a-90	Gazis et al 1998	NPM	Bt gneiss (alt.)	98	257	1.110	0.77209 ±3
PK/NR19-89	Gazis et al 1998	NPM	Gneiss	118	80	4.330	0.76806 ±2
CG-95-22	Gazis et al 1998	NPM	Leucosome	132	184	2.090	0.85280 ±2
CG-95-4	Gazis et al 1998	NPM	Bt gneiss	223	162	4.020	0.81828 ±4
CG-95-14	Gazis et al 1998	NPM	Pelitic gneiss	184	73	7.450	0.85103 ±3
CG-95-17	Gazis et al 1998	NPM	Pelitic gneiss	170	30	16.480	0.81700 ±3
J14	George et al 1993	NPM	Pelitic gneiss	455	88	14.931	0.87851 ±74
I6	George et al 1993	NPM	Migmatite	248	152	4.717	0.83941 ±24
I9	George et al 1993	NPM	Pelitic gneiss	109	151	2.084	0.76613 ±42
L3	George et al 1993	NPM	Bt gneiss	149	152	2.834	0.78633 ±24
A13	George et al 1993	NPM	Bt gneiss	375	129	8.404	0.88193 ±24
D2	George et al 1993	NPM	Pelitic gneiss	227	82	8.052	0.96392 ±28
J13	George et al 1993	NPM	Pelitic gneiss	264	124	6.155	*0.87565 ±26*
J21	George et al 1993	NPM	Bt gneiss	206	159	3.746	0.80397 ±66
I10	George et al 1993	NPM	Pelitic gneiss	150	286	1.521	0.76878 ±88
T25	George et al 1993	NPM	Pelitic gneiss	291	163	5.161	0.83801 ±26
M10	George et al 1993	NPM	Migmatite	261	39	19.200	0.97311 ±22
M3-L	George et al 1993	NPM	Leucosome	144	184	2.263	0.84379 ±24
M3-R	George et al 1993	NPM	Restite	186	131	4.105	0.85084 ±32
D19	George et al 1993	NPM	Pelitic gneiss	175	181	2.795	0.77990 ±22
J6	George et al 1993	NPM	Migmatite	174	288	1.747	0.73173 ±30
S91	George et al 1993	NPM	Pelitic gneiss	211	114	5.351	0.76963 ±20
A7	George et al 1993	NPM	Pelitic gneiss	128	231	1.602	0.71708 ±24
A3	George et al 1993	NPM	Pelitic gneiss	375	77	14.007	0.83808 ±24
G31	George et al 1993	NPM	Pelitic gneiss	129	115	3.243	0.75943 ±22
KR1	Ahmad et al. 2000	Garhwal	Calc-silicate	nd	nd	1.89	0.73309[†]
KR4	Ahmad et al. 2000	Garhwal	Carbonate	nd	nd	0.88	0.74123[†]

KR85	Ahmad et al. 2000	Garhwal	Phyllite	nd	nd	0.58	0.73292†
KR102	Ahmad et al. 2000	Garhwal	Calc-silicate	nd	nd	9.72	0.93085†
KR106	Ahmad et al. 2000	Garhwal	Quartz-schist	nd	nd	43.39	1.17645†
KR132	Ahmad et al. 2000	Garhwal	Phyllite	nd	nd	0.12	0.71582†
KR52	Ahmad et al. 2000	Garhwal	Schist	nd	nd	7.64	0.92238†
KR57	Ahmad et al. 2000	Garhwal	Schist	nd	nd	80.04	0.93000†
KR82	Ahmad et al. 2000	Garhwal	Gneiss	nd	nd	3.80	0.82451†
KR113	Ahmad et al. 2000	Garhwal	Gneiss	nd	nd	44.45	1.04700†
KR122	Ahmad et al. 2000	Garhwal	Quartzite	nd	nd	1.07	0.73692†
KR124	Ahmad et al. 2000	Garhwal	Gneiss	nd	nd	6.65	0.92049†
KR126	Ahmad et al. 2000	Garhwal	Gneiss	nd	nd	4.05	0.87794†
KR128	Ahmad et al. 2000	Garhwal	Gneiss	nd	nd	11.56	0.98043†
KR130	Ahmad et al. 2000	Garhwal	Gneiss	nd	nd	4.45	0.82940†
KR134	Ahmad et al. 2000	Garhwal	Gneiss	nd	nd	6.94	1.04368†
KR38	Ahmad et al. 2000	Garhwal	Shale	nd	nd	11.22	0.82303†
KR40	Ahmad et al. 2000	Garhwal	Sst	nd	nd	5.80	0.77091†
KR41	Ahmad et al. 2000	Garhwal	Shale	nd	nd	10.01	0.80036†
KR44	Ahmad et al. 2000	Garhwal	Shale	nd	nd	10.07	0.81505†
KR50	Ahmad et al. 2000	Garhwal	Shale	nd	nd	5.13	0.74993†
KR146	Ahmad et al. 2000	Garhwal	Shale	nd	nd	14.31	0.79930†
C4B	Ahmad et al. 2000	Garhwal	Schist	nd	nd	3.07	0.74880†
C7	Ahmad et al. 2000	Garhwal	Schist	nd	nd	6.41	0.77797†
C200	Ahmad et al. 2000	Garhwal	Quartzite	nd	nd	1.79	0.75782†
C230	Ahmad et al. 2000	Garhwal	Granite	nd	nd	6.66	0.78440†
C235	Ahmad et al. 2000	Garhwal	Quartzite	nd	nd	10.51	0.79023†
C34/97	Ahmad et al. 2000	Garhwal	Quartzite	nd	nd	1.85	0.74143†
KR116	Ahmad et al. 2000	Garhwal	Gneiss	nd	nd	8.49	0.75149†
KR118	Ahmad et al. 2000	Garhwal	Gneiss	nd	nd	2.35	0.74513†
KR120	Ahmad et al. 2000	Garhwal	Gneiss	nd	nd	32.57	0.90621†
KR143	Ahmad et al. 2000	Garhwal	Quartzite	nd	nd	2.68	0.76172†
C29/97	Ahmad et al. 2000	Garhwal	Shale	nd	nd	27.70	0.77229†
AP346	France Lanord et al. 1993	Central Nepal	pelite	142.6	11.1	38.07	1.68090 ±1
AP385	France Lanord et al. 1993	Central Nepal	pelite	286	63	13.48	1.03010 ±1
87 28	France Lanord et al. 1993	-	Cretaceous	42	61	1.90	0.71266 ±1
87 32	France Lanord et al. 1993	-	Trias	19	45	1.19	0.70899 ±1
LA 194	France Lanord et al. 1993	Ladakh	Indus margin	11	299	0.10	0.70981 ±1
LA158	France Lanord et al. 1993	Ladakh	Indus margin	96	50	5.29	0.72903 ±1
WAP2071	Miller et al. 2001	NW India	Shimla slate	144	64	6.56	0.76399 ±41
WAP2072	Miller et al. 2001	NW India	Shimla slate	87	99	2.56	0.74474 ±14
WAP2075	Miller et al. 2001	NW India	Shimla slate	92	52	5.17	0.77312 ±8
WAP2076	Miller et al. 2001	NW India	Shimla slate	64	113	1.63	0.72809 ±9
G31	Prince 1999	Garhwal	gneiss	131.6	153.5	1.22	0.72890 ±1
G9	Prince 1999	Garhwal	schist	160.6	64.6	1.82	0.77113 ±1
4B(1)	Prince 1999	Garhwal	gneiss	76.2	97.4	3.07	0.74880 ±1
NL74	Deniel et al. 1987	Central Nepal	gneiss	150	220	1.98	0.73355 ±11
NL75	Deniel et al. 1987	Central Nepal	gneiss	92	48.5	5.51	0.75495 ±6
NL76	Deniel et al. 1987	Central Nepal	gneiss	121.5	249.5	1.41	0.73322 ±10
NL85	Deniel et al. 1987	Central Nepal	gneiss	111.5	163	1.99	0.74532 ±6
NL93	Deniel et al. 1987	Central Nepal	gneiss	41.5	269.5	0.45	0.73435 ±6
NL43	Deniel et al. 1987	Central Nepal	gneiss	211	157.5	3.89	0.74745 ±4
NL58	Deniel et al. 1987	Central Nepal	gneiss	142	132.5	3.10	0.74513 ±8
NL59	Deniel et al. 1987	Central Nepal	gneiss	105	267	1.14	0.73311 ±4
LM207	Inger & Harris 1993	Central Nepal	migmatite	146	24	17.81	0.83052
SM202	Inger & Harris 1993	Central Nepal	schist	138	132	3.04	0.75294

SM206	Inger & Harris 1993	Central Nepal	schist	112	91	3.58	0.75263
SSM6	Inger & Harris 1993	Central Nepal	schist	197	111.3	5.15	0.76231
-	Massey 1994	Central Nepal	-	nd	nd	1.91	0.73473
-	Massey 1994	Central Nepal	-	nd	nd	1.91	0.72969
-	Ayres 1997	Zanskar	migmatite	nd	nd	5.60	0.76540

Sample	Lithology	[Sm]	[Nd]	$^{147}Sm/^{144}Nd$	$^{143}Nd/^{144}Nd$ ±2s.d.	f_{Nd}	$T_{Nd}DM$
		(ppm)	(ppm)			(CHUR)	(Ga)
N1	Pelitic gneiss	7.0	41.2	0.103	0.511147 ±16	-29.1	2.7
Z9/i	Pelitic gneiss	4.4	22.8	0.118	0.511607 ±16	-20.1	2.3
Z13/i	Pelitic gneiss	5.1	24.2	0.127	0.511704 ±6	-18.2	2.4
E101	Orthogneiss	11.5	62.9	0.111	0.511230 ±15	-27.5	2.7
E102	Orthogneiss	12.4	67.7	0.111	0.511277 ±15	-26.5	2.7
E106	Orthogneiss	8.7	45.0	0.117	0.511353 ±6	-25.1	2.7
Z130a/ii	Pelitic gneiss	10.2	47.9	0.129	0.511521 ±14	-21.8	2.8
Z130b/ii	Pelitic gneiss	9.5	46.0	0.124	0.511492 ±14	-22.4	2.7
97g98	Pelitic schist	7.2	35.0	0.124	0.512138 ±4	-9.8	1.5
97g97	Pelitic schist	6.5	35.0	0.112	0.511950 ±4	-13.4	1.7
97g74	Pelitic schist	7.8	41.3	0.114	0.511906 ±4	-14.3	1.7
PK-17b-90-l	Leucosome	3.0	16.0	0.113	0.511164 ±9	-28.8	2.9
PK-17b-90-m	Melanosome	4.3	23.7	0.110	0.511166 14	-28.7	2.8
PK-12a-90	Bt gneiss	18.0	50.3	0.216	0.511333 ±14	-25.5	2.7*
PK-109-90	Augen gneiss	11.3	48.8	0.140	0.511277 ±8	-26.5	3.8
CG-95-5	Pelitic gneiss	10.9	38.6	0.171	0.511181 ±12	-28.4	2.9*
CG-95-27	Augen gneiss	9.0	49.1	0.111	0.511294 ±30	-26.2	2.6
CG-95-29	Bt gneiss	10.3	34.7	0.179	0.511251 ±12	-27.1	2.8*
PK-17a-90	Pelitic gneiss	-	-	-	-	-	-
PK-41a-90	Bt gneiss (altered)	-	-	-	-	-	-
PK/NR19-89	Gneiss	-	-	-	-	-	-
CG-95-22	Leucosome	-	-	-	-	-	-
CG-95-4	Bt gneiss	-	-	-	-	-	-
CG-95-14	Pelitic gneiss	-	-	-	-	-	-
CG-95-17	Pelitic gneiss	-	-	-	-	-	-
J14	Pelitic gneiss	nd	nd	*0.115*	0.511253 ±20	-27.0	2.8
I6	Migmatite	11.3	50.4	0.135	0.511623 ±8	-19.8	2.8
I9	Pelitic gneiss	nd	nd	*0.115*	0.510999 ±30	-32.0	3.2
L3	Bt gneiss	nd	nd	*0.115*	0.511170 ±16	-28.6	3.0
A13	Bt gneiss	10.8	58.6	0.111	0.511298 ±8	-26.1	2.6
D2	Pelitic gneiss	-	-	-	-	-	-
J13	Pelitic gneiss	-	-	-	-	-	-
J21	Bt gneiss	-	-	-	-	-	-
I10	Pelitic gneiss	-	-	-	-	-	-
T25	Pelitic gneiss	-	-	-	-	-	-
M10	Migmatite	-	-	-	-	-	-
M3-L	Leucosome	-	-	-	-	-	-
M3-R	Restite	-	-	-	-	-	-
D19	Pelitic gneiss	-	-	-	-	-	-
J6	Migmatite	-	-	-	-	-	-
S91	Pelitic gneiss	-	-	-	-	-	-
A7	Pelitic gneiss	-	-	-	-	-	-
A3	Pelitic gneiss	-	-	-	-	-	-
G31	Pelitic gneiss	-	-	-	-	-	-
KR1	Calc-silicate	nd	nd	0.1073	0.511378 ±9	-25	2.4

KR4	Carbonate	nd	nd	0.11452	0.511357 ±6	-25	2.6
KR85	Phyllite	nd	nd	0.13363	0.511575 ±10	-21	2.9
KR102	Calc-silicate	nd	nd	0.11522	0.511563 ±16	-21	2.3
KR106	Quartz-schist	nd	nd	0.11441	0.511342 ±6	-25	2.7
KR132	Phyllite	nd	nd	0.13355	0.511676 ±20	-19	2.6
KR52	Schist	nd	nd	0.1223	0.511382 ±8	-25	2.8
KR57	Schist	nd	nd	0.11284	0.511394 ±20	-24	2.5
KR82	Gneiss	nd	nd	0.1231	0.511466 ±6	-23	2.7
KR113	Gneiss	nd	nd	0.12002	0.511367 ±10	-25	2.8
KR122	Quartzite	nd	nd	0.1064	0.511218 ±8	-28	2.6
KR124	Gneiss	nd	nd	0.11009	0.511319 ±10	-26	2.6
KR126	Gneiss	nd	nd	0.11922	0.511328 ±10	-26	2.8
KR128	Gneiss	nd	nd	0.11391	0.511392 ±10	-24	2.6
KR130	Gneiss	nd	nd	0.12457	0.511444 ±8	-23	2.8
KR134	Gneiss	nd	nd	0.13608	0.511402 ±14	-24	3.3
KR38	Shale	nd	nd	0.1176	0.511713 ±8	-18	2.1
KR40	Sst	nd	nd	0.11093	0.511709 ±6	-18	2.0
KR41	Shale	nd	nd	0.128	0.511723 ±12	-18	2.4
KR44	Shale	nd	nd	0.12116	0.511713 ±20	-18	2.2
KR50	Shale	nd	nd	0.12517	0.511768 ±9	-17	2.2
KR146	Shale	nd	nd	0.11572	0.511702 ±9	-18	2.1
C4B	Schist	nd	nd	0.11992	0.511860 ±5	-15	1.9
C7	Schist	nd	nd	0.11704	0.511754 ±8	-17	2.0
C200	Quartzite	nd	nd	0.11596	0.511675 ±8	-19	2.2
C230	Granite	nd	nd	0.16123	0.511924 ±9	-14	3.4
C235	Quartzite	nd	nd	0.11332	0.511702 ±12	-18	2.1
C34/97	Quartzite	nd	nd	0.113	0.511700 ±8	-18	2.0
KR116	Gneiss	nd	nd	0.1293	0.511892 ±10	-15	2.1
KR118	Gneiss	nd	nd	0.12095	0.511857 ±11	-15	2.0
KR120	Gneiss	nd	nd	0.14701	0.511884 ±12	-15	2.7
KR143	Quartzite	nd	nd	0.11115	0.511670 ±13	-19	2.1
C29/97	Shale	nd	nd	0.12134	0.511944 ±8	-14	1.8
AP346	pelite	8.1	44.0	.1116	0.511397 ±28	-24	2.5
AP385	pelite	6.6	36.6	.1093	0.511331 ±25	-25	2.5
87 28	Cretaceous	9.1	45.5	.1213	0.512093 ±13	-11	1.6
87 32	Trias	3.6	18.6	.1173	0.511824 ±17	-16	1.9
LA 194	Indus margin	5.9	33.2	.1078	0.511883 ±9	-15	1.7
LA158	Indus margin	5.0	23.2	.1307	0.512046 ±37	-12	1.8
WAP2071	Shimla slate	6.6	34.5	.1150	0.511850 ±4	-15	1.9
WAP2072	Shimla slate	7.7	34.1	.1360	0.511940 ±4	-14	2.2
WAP2075	Shimla slate	14.9	71.5	.1260	0.511765 ±10	-17	2.2
WAP2076	Shimla slate	4.9	25.4	.1160	0.511872 ±6	-15	1.8
G31	gneiss	2.0	4.8	.1345	0.511855 ±13	-15	2.3
G9	schist	9.3	43.3	.1182	0.512282 ±8	-7	1.2
4B(1)	gneiss	6.0	30.6	.1203	0.511861 ±8	-15	1.9
NL74	gneiss	8.1	37.7	.1300	0.511844 ±8	-15	2.2
NL75	gneiss	4.7	22.9	.1240	0.511777 ±18	-17	2.2
NL76	gneiss	6.2	30.2	.1260	0.511852 ±21	-15	2.1
NL85	gneiss	4.9	24.2	.1230	0.511706 ±19	-18	2.3
NL93	gneiss	4.0	20.1	.1210	0.511713 ±21	-18	2.2
NL43	gneiss	7.6	39.6	.1170	0.511810 ±14	-16	2.0
NL58	gneiss	7.1	35.8	.1210	0.511918 ±17	-14	1.9
NL59	gneiss	7.7	39.9	.1170	0.511866 ±15	-15	1.9
LM207	migmatite	5.7	28.8	.1190	0.511850	-15	1.9

SM202	schist	6.4	29.3	.1320	0.512500	-3	1.0
SM206	schist	nd	nd	.1300	0.511900	-14	2.1
SSM6	schist	7.8	38.1	.1240	0.511930	-14	1.9
-	-	nd	nd	.1163	0.511757	-17	2.0
-	-	nd	nd	.1101	0.511714	-18	2.0
-	migmatite	nd	nd	.1310	0.512060	-11	1.8

NPM = Nanga Parbat massif
nd = no data
* assumes average crust
† 2s.d. < 0.00001