

**Supplemental File S1: Concordant zircon age data ( $\leq \pm 5\%$  degree of discordance) of previous works from MCB and SDFB**

**Footwall Unit (Marwar Crustal Block)**

References	age (Ma)	degree of discordance (%)	Rock type
Zhao et al., 2018			
RJ29-3	799 $\pm$ 6	-0.63	mirpur granite
RJ29-4	844 $\pm$ 8	-0.12	mirpur granite
RJ38-2	830 $\pm$ 6	-0.24	mirpur granite
RJ38-11	772 $\pm$ 6	-0.12	mirpur granite
RJ81-4	824 $\pm$ 8	-4.97	pali granite
RJ81-10	967 $\pm$ 8	2.03	pali granite
RJ81-15	833 $\pm$ 6	-1.96	pali granite
RJ29-10	794 $\pm$ 6	2.34	mirpur granite
RJ29-12	842 $\pm$ 6	4.32	mirpur granite
Singh et al., 2021			
TKB1.30	895 $\pm$ 18	0.22	Sewariya pluton
TKB1.29	881 $\pm$ 18	-0.80	Sewariya pluton
TKB1.24	882 $\pm$ 18	0.68	Sewariya pluton
TKB1.27	885 $\pm$ 17	-0.68	Sewariya pluton
TKB1.9	879 $\pm$ 18	0.90	Sewariya pluton
TKB1.21	857 $\pm$ 20	2.61	Sewariya pluton
TKB1.22	885 $\pm$ 22	-1.26	Sewariya pluton
TKB1.23	879 $\pm$ 18	3.41	Sewariya pluton
TKB1.15	849 $\pm$ 17	2.75	Sewariya pluton
TKB1.16	874 $\pm$ 18	3.10	Sewariya pluton
TKB1.17	884 $\pm$ 21	-4.74	Sewariya pluton
TKB1.18	884 $\pm$ 18	1.67	Sewariya pluton
Meert et al., 2013			
J31	1094 $\pm$ 31	-0.37	granite bilara
Mal-12	703 $\pm$ 12	4.48	
J1	1096 $\pm$ 47	2.49	granite bilara
J2	1122 $\pm$ 34	1.75	granite bilara
J5	1068 $\pm$ 35	1.29	granite bilara
J12	1136 $\pm$ 38	-2.34	granite bilara
J13	1104 $\pm$ 37	1.25	granite bilara
J9	1076 $\pm$ 42	-2.87	granite bilara
J24	1065 $\pm$ 28	-4.21	granite bilara
Wang et al., 2018			
RJW1416-09	763 $\pm$ 12	0.00	rhyolite sindreth
RJW1418-01	764 $\pm$ 10	0.26	rhyolite sindreth
RJW1418-09	773 $\pm$ 9	0.39	rhyolite sindreth
RJW1418-12	780 $\pm$ 10	0.64	rhyolite sindreth
RJW1418-13	776 $\pm$ 9	-0.91	rhyolite sindreth

RJW1416-05	759±9	4.89 rhyolite sindreth
RJW1416-08	762±8	1.30 rhyolite sindreth
RJW1418-03	761±9	-4.10 rhyolite sindreth
RJW1418-06	777±8	4.43 rhyolite sindreth
RJW1418-10	766±14	1.92 rhyolite sindreth

de Wall et al., 2018

MP-4-01	749±12	-2.18 mirpur granite
MP-4-07	721±10	3.09 mirpur granite
MP-4-09	759±13	1.30 mirpur granite

Van lente et al., 2009

BVL-0028		
z2	879	-0.39 tonalite
z3	871.3	0.10 tonalite
BVL-0029		
z1	803.4	-0.39 mafic tonalite
z2	801.4	-0.10 mafic tonalite
z3	799.3	0.03 mafic tonalite
BVL-0037B		
z1	766.9	0.14 rhyolite sindreth
z2	765.6	0.29 rhyolite sindreth
BVL-0047B		
z1	761.9	0.50 rhyolite
z2	763.9	0.18 rhyolite
z3	766.5	0.12 rhyolite
BVL-0052		
z1	766.3	-0.47 rhyolite
z2	762.9	0.26 rhyolite
z3	766.4	0.33 rhyolite
BVL-0028		
z1	859.3	1.07 tonalite

de Wall et al., 2022

JW-18		
59a-03.2	737±20	0.81 granite Bhinmal
59a-05	761±20	4.28 granite Bhinmal
59a-06.1	761±48	1.04 granite Bhinmal
59a-07.2	757±25	0.26 granite Bhinmal
59a-11	801±25	-0.50 granite Bhinmal
59a-13	831±28	3.93 granite Bhinmal
59b-01.1	810±40	-0.25 granite Bhinmal
59b-02.2	787±25	0.63 granite Bhinmal
59b-06	790±25	0.00 granite Bhinmal
59b-08	778±25	-0.91 granite Bhinmal
59b-09.2	817±32	-1.87 granite Bhinmal
59b-10	801±28	-1.65 granite Bhinmal

59b-15	807±36	-0.88 granite Bhinmal
59b-16	785±29	0.13 granite Bhinmal
59b-17.1	798±27	0.25 granite Bhinmal
59b-19.2	799±30	-0.38 granite Bhinmal

#### **Hanging Wall Unit (South Delhi Fold Belt)**

References	age (Ma)	degree of discordance (%)	Rock type
Zhao et al., 2018			
RJ01-8	992±8	-0.51	moras granite
RJ01-5	995±10	-1.95	moras granite
RJ01-7	983±7	-3.69	moras granite
RJ01-11	1062±9	-3.01	moras granite
RJ01-13	1002±8	-4.93	moras granite
RJ01-14	957±7	4.87	moras granite

#### **Dharma Rao et al., 2013**

SS-9_13.1	1008±9	0.98	peshua granite
SS-9_16.1	1007±11	0.69	peshua granite
SS-9_17.1	1013±9	0.10	peshua granite
SS-9_20.1	989±9	0.80	peshua granite
SS-9_21.1	1013±10	-0.10	peshua granite
SS-9_27.1	1024±9	0.68	peshua granite
SS-10_5.1	816±8	-0.99	sai granite
SS-10_6.1	787±7	-0.77	sai granite
SS-10_7.1	817±7	0.49	sai granite
SS-10_8.1	814±7	-0.99	sai granite
SS-10_9.1	781±11	-0.90	sai granite
SS-10_15.1	819±7	-0.86	sai granite
SS-10_16.1	824±8	0.72	sai granite
SS-10_18.1	808±7	0.25	sai granite
SS-10_24.1	833±7	0.36	sai granite
SS-10_31.1	806±7	0.49	sai granite
SS-11_1.1	967±8	0.00	Devala granite
SS-11_8.1	975±10	-0.41	Devala granite
SS-11_9.1	976±10	-0.10	Devala granite
SS-11_11.1	969±8	-0.73	Devala granite
SS-11_14.1	958±8	0.00	Devala granite
SS-11_18.1	966±8	-0.52	Devala granite
SS-11_21.1	964±8	0.00	Devala granite
SS-11_23.1	976±8	0.10	Devala granite
SS-11_28.1	970±10	-0.73	Devala granite
SS-11_35.1	967±8	0.41	Devala granite
SS-9_2.1	1026±9	-3.01	peshua granite
SS-9_3.1	1025±10	-1.99	peshua granite
SS-9_4.1	1021±9	2.48	peshua granite
SS-9_5.1	975±9	1.81	peshua granite

SS-9_7.1	1018±9	1.17 peshua granite
SS-9_9.1	972±9	2.90 peshua granite
SS-9_11.1	1008±9	-4.24 peshua granite
SS-9_14.1	1069±13	-2.69 peshua granite
SS-9_18.1	804±11	-1.77 peshua granite
SS-9_19.1	1032±10	-4.56 peshua granite
SS-9_23.1	1010±10	-3.80 peshua granite
SS-9_25.1	1003±10	4.75 peshua granite
SS-9_26.1	1010±10	-1.92 peshua granite
SS-9_29.1	1016±10	-3.25 peshua granite
SS-10_1.1	808±8	3.12 sai granite
SS-10_2.1	804±7	-2.16 sai granite
SS-10_10.1	767±7	3.03 sai granite
SS-10_11.1	807±8	1.71 sai granite
SS-10_12.1	853±7	-3.52 sai granite
SS-10_14.1	799±7	-1.27 sai granite
SS-10_19.1	811±7	-3.84 sai granite
SS-10_22.1	812±8	-4.50 sai granite
SS-10_23.1	815±8	-3.56 sai granite
SS-10_25.1	810±10	-4.79 sai granite
SS-10_28.1	808±7	1.34 sai granite
SS-10_29.1	804±7	-1.77 sai granite
SS-10_30.1	794±7	1.73 sai granite
SS-10_32.1	843±7	-4.59 sai granite
SS-10_34.1	823±7	-3.52 sai granite
SS-10_37.1	831±7	-2.59 sai granite
SS-10_38.1	854±7	-1.91 sai granite
SS-11_2.1	986±8	-2.92 Devala granite
SS-11_3.1	963±8	-1.37 Devala granite
SS-11_4.1	952±8	4.13 Devala granite
SS-11_5.1	977±8	-1.88 Devala granite
SS-11_6.1	1012±8	-3.16 Devala granite
SS-11_7.1	966±10	1.93 Devala granite
SS-11_10.1	1017±8	-2.21 Devala granite
SS-11_12.1	968±8	-2.98 Devala granite
SS-11_15.1	969±8	-2.87 Devala granite
SS-11_16.1	950±8	2.86 Devala granite
SS-11_17.1	963±8	-2.77 Devala granite
SS-11_20.1	970±8	1.22 Devala granite
SS-11_22.1	900±8	3.23 Devala granite
SS-11_24.1	973±8	-1.46 Devala granite
SS-11_25.1	978±8	1.01 Devala granite
SS-11_26.1	955±8	-1.27 Devala granite
SS-11_27.1	943±8	1.67 Devala granite
SS-11_29.1	944±8	2.07 Devala granite
SS-11_30.1	910±8	2.57 Devala granite
SS-11_31.1	949±8	3.85 Devala granite

SS-11_32.1	934±8	3.51 Devala granite
SS-11_37.1	994±8	-2.90 Devala granite
SS-11_39.1	999±8	-1.42 Devala granite

Singh et al., 2021

TKB2.3	983±21	-0.82 Rupnagar metarhyolite
TKB2.7	985±24	0.30 Rupnagar metarhyolite
TKB2.8	971±19	0.82 Rupnagar metarhyolite
TKB2.23	967±19	0.62 Rupnagar metarhyolite
TKB2.25	985±19	-0.72 Rupnagar metarhyolite
TKB3.12	963±22	0.00 pratapgarh pluton
TKB3.14	996±19	-0.81 pratapgarh pluton
TKB4.2	800±19	0.50 sumel pluton
TKB4.12	755±31	-0.80 sumel pluton
TKB2.4	975±20	3.27 Rupnagar metarhyolite
TKB2.5	956±19	3.24 Rupnagar metarhyolite
TKB2.6	990±19	-3.45 Rupnagar metarhyolite
TKB2.9R	997±19	-4.84 Rupnagar metarhyolite
TKB2.10R	981±19	1.90 Rupnagar metarhyolite
TKB2.14	986±19	1.50 Rupnagar metarhyolite
TKB2.13C	970±19	2.51 Rupnagar metarhyolite
TKB2.16	982±20	-4.36 Rupnagar metarhyolite
TKB2.18	982±19	-2.40 Rupnagar metarhyolite
TKB2.19	991±20	1.20 Rupnagar metarhyolite
TKB2.21	986±19	2.67 Rupnagar metarhyolite
TKB2.24	978±19	2.98 Rupnagar metarhyolite
TKB2.26	984±19	-2.71 Rupnagar metarhyolite
TKB2.27	997±19	-3.10 Rupnagar metarhyolite
TKB2.28	976±19	4.97 Rupnagar metarhyolite
TKB2.29	970±19	-2.32 Rupnagar metarhyolite
TKB2.30	987±19	-1.96 Rupnagar metarhyolite
TKB3.2	895±35	4.28 pratapgarh pluton
TKB3.6	971±19	3.38 pratapgarh pluton
TKB3.13	1009±36	-1.00 pratapgarh pluton
TKB4.1	951±19	2.36 sumel pluton
TKB4.4	919±17	3.67 sumel pluton
TKB4.20	774±15	1.90 sumel pluton
TKB4.21	1050±39	-3.55 sumel pluton

Singh et al., 2010

TB2-5-1	989±29	0.60 pelitic granulite surpagla
TB2-5-2	977±28	-0.83 pelitic granulite surpagla
TB1-1-2	768±8	-1.45 ambaji granite
TB1-1-4.2	760±7	-4.97 ambaji granite
TB2-5-3	990±29	1.20 pelitic granulite surpagla
TB2-5-4	980±28	-4.26 pelitic granulite surpagla
TB2-5-5	981±28	-1.45 pelitic granulite surpagla

TB2-5-6	939±28	3.20 pelitic granulite surpagla
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Deb et al., 2001

7 826±4.6	0.00 kurd deposit rhyolite
8 982±3.6	0.30 kurd deposit rhyolite
1 967±7.9	1.80 rhyolite ambaji
4 822±3.4	1.32 granite gneiss ambaji
5 802±4.8	3.72 granite gneiss ambaji
9 965±3.5	2.38 kurd deposit rhyolite