

# Data Supplement item V for Ring et al. 2024

## The Samail subduction zone dilemma: Geochronology of high-pressure rocks from the Saih Hatat window, Oman, reveals juxtaposition of two subduction zones with contrasting thermal histories. Earth Science-reviews

**Table S1: Rb-Sr data**

Sample analysis	Mineral, grain-size fraction	Rb ppm	Sr ppm	$^{87}\text{Rb}/^{86}\text{Sr}$	$^{87}\text{Sr}/^{86}\text{Sr}$	$^{87}\text{Sr}/^{86}\text{Sr}$ 2sm (%)
<b>OM19-1</b>						
PS3358	wm 125-90 $\mu\text{m}$	262	117	6.49	0.718275	0.0026
PS3359	calcite	31.3	1022	0.0886	0.709490	0.0025
PS3361	wm 160-125 $\mu\text{m}$	278	124	6.48	0.718357	0.0032
PS3362	wm 90-63 $\mu\text{m}$	268	120	6.44	0.718107	0.0015
PS3363	carp+oxides conc.	154	105	4.25	0.715167	0.0015
<b>OM19-5</b>						
PS3397	blue amphibole	7.03	22.5	0.905	0.710190	0.0019
PS3398	wm 500-355 $\mu\text{m}$	362	8.84	120	0.842399	0.0011
PS3399	calcite	7.73	255	0.0877	0.709141	0.0014
PS3400	wm 355-125 $\mu\text{m}$	355	12	86.4	0.804093	0.0019
PS3401	apatite	0.93	828	0.00325	0.710073	0.0012
PS3402	wm 125-90 $\mu\text{m}$	327	25.4	37.5	0.749369	0.0014
<b>OM19-6</b>						
PS3392	quartz-feldspar	15.3	4.12	10.8	0.715662	0.0020
PS3393	wm 125-90 $\mu\text{m}$	298	54.6	15.8	0.725170	0.0015
PS3394	wm 500-355 $\mu\text{m}$	407	17.7	67.0	0.780313	0.0017
PS3395	wm 355-125 $\mu\text{m}$	380	33.42	33.0	0.743712	0.0017
PS3396	apatite	11.2	1851	0.0175	0.712133	0.0016
<b>OM19-8</b>						
PS3435	calcite	2.01	762	0.00766	0.712702	0.0008
PS3436	wm 355-125 $\mu\text{m}$	259	5.45	139	0.865882	0.0022
PS3437	apatite	1.52	291	0.0151	0.712292	0.0013
PS3438	wm 500-355 $\mu\text{m}$	275	3.7	220	0.953219	0.0042
PS3439	wm 125-90 $\mu\text{m}$	198	27.8	20.6	0.734323	0.0016
<b>OM19-9</b>						
PS3387	feldspar-calcite	17.1	122	0.405	0.722281	0.0017
PS3388	wm 500-355 $\mu\text{m}$	533	56.1	27.6	0.750707	0.0024
PS3389	apatite	42.6	695	0.177	0.722258	0.0029
PS3390	wm 355-125 $\mu\text{m}$	496	58.9	24.5	0.747461	0.0011
<b>OM19-9</b>						
PS3387	feldspar-calcite	17.1	122	0.405	0.722281	0.0017
PS3388	wm 500-355 $\mu\text{m}$	533	56.1	27.6	0.750707	0.0024

PS3389	apatite	42.6	695	0.177	0.722258	0.0029
PS3390	wm 355-125 µm	496	58.9	24.5	0.747461	0.0011

#### OM19-13

PS3414	carbonate nm 1.2A	0.57	1191	0.00139	0.708686	0.0005
PS3431	wm 355-125 µm	352	83.2	12.3	0.721454	0.0018
PS3432	wm 500-355 µm	374	45.1	24.0	0.734567	0.0023
PS3433	apatite	18.3	647	0.0819	0.708816	0.0015
PS3434	wm 125-90 µm	309	208	4.31	0.713155	0.0012

#### OM19-14

PS3440	apatite	nd	457	0.0001	0.709138	0.0009
PS3441	wm 355-125 µm	319	42.9	21.6	0.730825	0.0018
PS3442	carbonate	19.8	40.3	1.42	0.710166	0.0026
PS3443	wm 125-90 µm	254	47.2	15.6	0.724762	0.0017
PS3444	wm 90-63 µm	168	42.9	11.4	0.719783	0.0028

#### OM19-17

PS3375	wm 355-125 µm	239	6.67	105	0.820193	0.0024
PS3376	wm 90-63 µm	55.3	25.35	6.32	0.714140	0.0009
PS3377	apatite	0.47	279	0.00492	0.707338	0.0014
PS3378	wm 125-90 µm	193	8.55	65.7	0.776527	0.0035
PS3380	epidote	11.2	540	0.0600	0.707448	0.0018
PS3379	blue amphibole	3.78	7.47	1.46	0.709436	0.0004

#### OM19-18

PS3403	wm 500-355 µm	396	6.48	180	0.905045	0.0064
PS3404	epidote	16.4	816	0.0583	0.708421	0.0013
PS3405	apatite	2.06	613	0.00974	0.708344	0.0012
PS3408	wm 125-90	339	13.8	71.3	0.784505	0.0032
PS3406	wm 355-125 µm	394	7.89	147	0.863834	0.0012
PS3407	amphibole	61.1	35	5.051	0.713131	0.0033

#### OM19-19

PS3426	cc white	0.57	6138	0.00027	0.708071	0.0015
PS3427	cc yellow	15.6	1249	0.0361	0.708171	0.0032
PS3428	wm 355-250 µm	242	131	5.35	0.716562	0.0012
PS3429	wm 250-160 µm	237	114	6.04	0.717642	0.0018

#### OM 22-1

PS4059	wm 90-125 µm	279	41.4	19.6	0.735053	0.0013
PS4060	calcite	0.38	1760	0.00063	0.708027	0.0005
PS4061	dolomite conc.	7.99	944	0.0245	0.708039	0.0014
PS4062	wm >250 µm	271	47.7	16.5	0.733085	0.0026
PS4064	wm 160-250 µm	275	46.4	17.2	0.733987	0.0016
PS4063	wm 125-160 µm	274	43.1	18.4	0.735001	0.0012

#### OM 22-5

PS4066	wm 125-160 µm	54.9	92.7	1.71	0.709756	0.0013
PS4067	wm 90-125 µm	49.9	72	2.00	0.709926	0.0018
PS4068	wm 63-90 µm	56.2	73.1	2.22	0.710092	0.0013
PS4069	dolomite (+ wm) conc.	9.53	42.3	0.652	0.708402	0.0018
PS4070	calcite	0.62	216	0.00828	0.707724	0.0012

PS4065	wm >160 μm	41.0	95.5	1.24	0.709632	0.0013
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**OM 22-7**

PS4071	calcite	1.96	830	0.00682	0.708008	0.0012
PS4072	dolomite	5.33	1212	0.0127	0.707986	0.0020
PS4076	wm >160 μm	269	63.6	12.3	0.726960	0.0008
PS4074	wm 63-90 μm	227	38.8	17.0	0.729980	0.0021
PS4075	wm 125-160 μm	269	57.7	13.5	0.727780	0.0024
PS4073	wm 90-125 μm	268	51.4	15.1	0.729120	0.0013

**OM 22-8**

PS4077	wm 63-90 μm	270	41.9	18.7	0.72967	0.0013
PS4078	wm >125 μm	289	46.1	18.1	0.728910	0.0019
PS4079	wm 90-125 μm	295	43.7	19.6	0.730243	0.0014
PS4080	dolomite	9.22	629	0.0424	0.708034	0.0016
PS4081	calcite	1.04	792	0.00379	0.708029	0.0012

**OM 22-9**

PS4082	wm nm 1.4 A/13°	34.3	40.4	2.46	0.710807	0.0014
PS4083	calcite	0.61	991	0.00178	0.708047	0.0013
PS4084	wm 90-63 μm	59.1	71.7	2.38	0.710748	0.0016
PS4085	wm 125-90 μm	92.1	111	2.41	0.710787	0.0015
PS4086	dolomite conc.	9.44	264	0.103	0.708154	0.0013
PS4087	wm >125 μm	111	133	2.40	0.710841	0.0045

**OM22-10**

PS4088	wm < 180 μm	92.2	283	0.944	0.708758	0.0012
PS4089	wm 90-125 μm	84.1	222	1.10	0.708880	0.0012
PS4090	wm 125-180 μm	89.2	262	0.986	0.708796	0.0018
PS4091	calcite	0.28	630	0.00130	0.707842	0.0016
PS4092	dol + wm	14.8	64.0	0.670	0.708480	0.0009
PS4093	wm 63-90 μm	64.8	186	1.01	0.708812	0.0012

**OM23-04**

PS3563	cc	0.06	1367	0.00013	0.707681	0.0008
PS3564	wm 100-63 μm	156	330	1.37	0.709231	0.0027
PS3565	wm 160-100 μm	172	331	1.50	0.709336	0.0010
PS3566	wm >160 μm	182	316	1.67	0.709505	0.0015

**OM23-1**

4277	calcite (Fe)	7.05	1010	0.0202	0.705762	0.0013
4278	white mica aggregates	121	14.0	24.9	0.732191	0.0020
4279	<27 μm float.	82.5	57.0	4.18	0.710598	0.0008
4280	<27 μm Sed.	71.3	61.5	3.35	0.709526	0.0014

**OM23-2**

4223	calcite nm 1.2 A	8.36	1738	0.0139	0.707390	0.0008
4224	wm 125-90 μm	131	285	1.33	0.708970	0.0013
4225	wm 160-125 μm	133	297	1.30	0.708898	0.0020
4226	calcite nm 1.4 A	6.59	1618	0.0118	0.707397	0.0009
4227	wm 90-63 μm	107	226	1.36	0.708996	0.0012
4228	wm >160 μm	128	298	1.25	0.708865	0.0030

**OM23-3**

4216	epidote	5.99	6611	0.00262	0.705718	0.0013
4217	wm 200-160 µm	107	14.1	22.0	0.729070	0.0071
4218	apatite	1.44	376	0.011	0.705775	0.0016
4219	calcite conc	0.47	693	0.00195	0.705783	0.0012
4220	wm 125-90 µm	91.6	13.4	19.8	0.726440	0.0078
4221	wm 160-125 µm	109	14.1	22.4	0.729170	0.0042
4222	wm >200 µm	108	13.10	23.8	0.731025	0.0038