

Table 2

Content and carbon isotope compositions in total carbon (TC), total organic carbon (TOC) and total inorganic carbon (TIC) of serpentinites, metasomatic fault rocks and gabbros from the southern Atlantis Massif

Sample numbers	Depth (mbsl)	Latitude N	Longitude W	Type of rock	Description of the samples	TC <sup>a</sup> (ppm)	TIC (ppm)	TOC (ppm)	% TIC	$\delta^{13}\text{C}$ WR TC (‰)	$\delta^{13}\text{C}$ WR TOC (‰)
3863-1301	834	30°7.512'	42°7.410'	Serpentinite	Static serpentinization, oxidized and late carb/cc veins	249	76	173	31	-13.2	-26.4
3867-1621	759	30°7.482'	42°7.140'	Serpentinite	Static serpentinization, oxidized and late carb/cc veins	154	74	80	48	-17.7	-26.8
3867-1623	759	30°7.488'	42°7.140'	Serpentinite	Static serpentinization	175	60	115	34	-13.2	-25.8
3872-1136a	798	30°7.482'	42°7.134'	Serpentinite	Static serpentinization	197	90	107	46	-16.1	-26.4
3873-1300	950	30°7.338'	42°7.776'	Serpentinite	Crystal-plastic deformation-ribbon texture	673	509	164	76	-4.9	-26.2
3876-1310	774	30°7.656'	42°7.834'	Serpentinite	Static serpentinization-talc metasomatism	398	310	88	78	-1.9	-26.1
3877-1158	1115	30°7.026'	42°7.122'	Serpentinite	Local metasomatism	242	128	114	53	-8.3	-26.6
3877-1307	1017	30°7.218'	42°7.140'	Serpentinite	Crystal-plastic deformation-local metasomatism	651	527	124	81	-1.0	-26.5
3877-1406	908	30°7.320'	42°7.200'	Serpentinite	Static serpentinization, late carb/cc veins	309	195	114	63	-7.2	-25.3
3881-1119	860	30°7.404'	42°7.128'	Serpentinite	Static serpentinization	61	6	55	10	-22.1	-26.4
3881-1132A	822	30°7.422'	42°7.098'	Serpentinite	Ribbon texture	279	199	80	71	-3.6	-24.6
3639-1355	1295	30°7.153'	42°8.226'	Serpentinite	Static serpentinization and HT deformation of orthopyroxene		155	n.d.		-20.8	n.d.
3647-1416	1555	30°7.130'	42°4.132'	Serpentinite	Talc-chlorite vein	354	97	257	27	-23.0	-27.2
3651-1252	792	30°7.407'	42°6.968'	Serpentinite	Mesh to ribbon texture and HT deformation of orthopyroxene	482	90	392	19	-20.2	-26.6
H03-R2301	820	30°7.246'	42°7.109'	Serpentinite	Minor crystal-plastic deformation	297	143	154	48	-19.7	-26.8
H03-R2243	834	30°7.246'	42°7.113'	Serp. + cc veins	Static serpentinization-late carb/cc veins	1750	1260	490	72	-0.8	-25.3
3873-1245	956	30°7.356'	42°7.806'	Serp. + cc veins	Local cataclastic deformation	1306	1202	104	92	-0.1	-22.8
3638-1029	2526	30°5.430'	42°8.345'	Serp. + cc veins	Oxidized and late cc veins		13,550	n.d.	98	2.3	n.d.
3638-1134	2449	30°5.516'	42°8.433'	Serp. + cc veins	Ribbon texture	9010	8800	210	98	-0.5	-23.2
3639-1254S	1474	30°6.955'	42°8.406'	Serp. + cc veins	Ribbon texture, partially oxidized		838	n.d.		-5.0	n.d.
3646-1409	1790	30°5.665'	42°6.011'	Serp. + cc veins	Hourglass texture		4270	n.d.		-9.5	n.d.
3650-1146	3041	30°4.049'	42°9.642'	Serp. + cc veins	Mesh to ribbon texture-HT deformation of orthopyroxene	16,007	15,740	267	98	0.9	-21.5
3650-1436	2937	30°4.505'	42°9.606'	Serp. + cc veins	Ribbon texture	6510	6220	290	96	1.6	-22.1
3652-1203	834	30°7.603'	42°6.759'	Serp. + cc veins		3533	3200	333	91	0.1	-26.7
3863-1157	862	30°7.506'	42°7.410'	Amphi-rich rock	Static amphibole metasomatism	208	59	149	28	-21.5	-27.8
3877-1313	1009	30°7.224'	42°7.140'	Amphi-rich rock	Crystal-plastic deform.-amph. metasomatism	1020	900	120	88	-2.7	-28.9
3646-1205	2327	30°4.929'	42°6.029'	Amphi-rich rock			28	n.d.		-24.4	n.d.
3642-1309	1751	30°10.297'	42°6.994'	Talc/amphi.-rich rock			47	n.d.		-22.5	n.d.
3645-1159T	957	30°7.355'	42°7.826'	Talc/amphi.-rich rock			43	n.d.		-21.6	n.d.

3645-1225	955	30°7'354'	42°7.819'	Talc-rich rock		692	n.d.		-5.8	n.d.	
3863-1419	794	30°7.542'	42°7.356'	Talc-rich rock	Strong crystal-plastic deform.	119	16	103	13	-21.1	-25.3
3873-1124	959	30°7.416'	42°7.842'	Talc-rich rock	Strong crystal-plastic deform.–talc metasomatism	460	345	115	75	-2.2	-24.7
3873-1344	923	30°7.332'	42°7.686'	Talc-rich rock	Crystal-plastic deformation–talc metasomatism	466	366	100	79	-10.3	-25.9
3867-1558	748	30°7.488'	42°7.140'	Medium-grained gabbro	Strong crystal-plastic recrystallization–plag. neoblasts	128	28	100	22	-24.3	-28.6
3867-1603	748	30°7.488'	42°7.134'	Medium-grained gabbro	Strong crystal-plastic recrystallization–plag. neoblasts	59	11	48	19	-20.1	-26.6
3876-1215	798	30°7.482'	42°7.140'	Coarse-grained pyroxenite		225	110	115	49	-8.3	-27.3
3639-1319	1460	30°7.028'	42°8.321'	Gabbro			31	n.d.		-23.9	n.d.
3646-1138	2393	30°4.904'	42°6.006'	Gabbro			12	n.d.		-28.7	n.d.
3649-1257	1188	30°6.969'	42°7.191'	Gabbro			48	n.d.		-15.0	n.d.

<sup>a</sup> TC content is the sum of the measured TOC and TIC contents (TC = TOC + TIC).