

Table 1
Geochemical, oxygen, and hydrogen isotope data of the Atlantis Massif serpentinites, fault rocks, and gabbros

Sample	Type	Depth (m)	Latitude, N	Longitude, W	SiO ₂ (wt%)	MgO (wt%)	CaO (wt%)	LOI (wt%)	CO ₂ (wt%)	Sr (ppm)	B (ppm)	δ ¹⁸ O (‰)	δD (‰)
3639-1355	Serpentinite	1295	30°7.153'	42°8.226'	38.58	38.86	0.15	13.71	0.06	7	90.4	4.7	
3647-1416	Serpentinite	1555	30°7.130'	42°4.132'	38.53	39.12	0.05	12.98	0.04	4	61.9	4.5	
3648-1403	Serpentinite	1067	30°7.233'	42°7.062'	40.22	37.81	0.03	12.73	<0.01	6	34.0	5.6	
3651-1252	Serpentinite	792	30°7.407'	42°6.968'	37.64	40.01	0.04	13.55	0.03	3	71.6	3.2	-62
3652-1226	Serpentinite	805	30°7.603'	42°6.759'	38.35	39.64	0.14	13.05	0.09	4	90.6	6.7	
D3-6	Serpentinite	2150	30°6.844'	42°3.702'	39.03	37.61	0.12	12.82	0.14	3		4.1	
D3-18	Serpentinite	2150	30°6.844'	42°3.702'	38.28	36.89	0.03	12.34	0.05	6		3.0	
D3-27	Serpentinite	2150	30°6.844'	42°3.702'	38.41	39.63	0.03	12.42	0.03	<2	65.2	3.0	
D3-34	Serpentinite	2150	30°6.844'	42°3.702'	37.84	39.99	0.07	13.29	0.05	4	63.4	3.5	
3867-1621	Serpentinite	759	30°7.482'	42°7.140'	38.17	38.29	0.08	13.70	0.03	4	77.0		
3872-1136	Serpentinite	798	30°7.482'	42°7.134'	38.59	37.49	0.17	13.51	0.03	4		4.5	
3877-1158	Serpentinite	1115	30°7.026'	42°7.122'	38.59	38.40	<0.01	13.33	0.04	3		3.3	-69
3877-1344	Serpentinite	913	30°7.320'	42°7.206'	37.95	38.23	<0.01	13.77	0.02	3		4.3	
3877-1406	Serpentinite	908	30°7.320'	42°7.200'	37.37	39.82	0.1	13.63	0.07	5	63.4	2.7	-72
3881-1132A	Serpentinite	822	30°7.422'	42°7.098'	38.34	38.18	0.16	13.88	0.07	6	48.5	4.1	-63
3646-1000	Serpentinite + metasomatism	2507	30°4.874'	42°6.002'	49.87	29.53	2.94	6.91	0.01	5		3.8	
3873-1344	Serpentinite + metasomatism	923	30°7.332'	42°7.686'	37.95	38.23	<0.01	13.77	0.02	3	64.8	3.2	-86
D4-3s	Serpentinite rim	2730	30°4.874'	42°6.319'	39.16	36.34	0.48	11.99	0.07	5	57.4	2.0	-62
D4-3m	Mylonitic olivine-rich core	2730	30°4.874'	42°6.319'	43.59	35.81	2.62	6.55	0.14	21	14.3	3.8	-55
3639-1254C	Serpentinite core	1474	30°6.955'	42°8.406'	39.26	36.47	1.60	11.64	0.29	15	73.9	3.3	-61
3645-1159C	Serpentinite core	957	30°7.355'	42°7.826'	49.47	32.88	1.60	9.16	0.62	25	38.2	2.6	-71
3639-1254R	Metasomatic rim	1474	30°6.955'	42°8.406'	42.87	30.66	4.92	9.37	0.23	33	28.7	1.7	-92
3645-1159R	Metasomatic rim	957	30°7.355'	42°7.826'	56.80	28.89	4.52	5.68	0.02	3	16.6	2.9	-63
3642-1309	Tal-rich fault rock	1751	30°10.297'	42°6.990'	53.11	26.81	2.60	5.51	0.02	5	14.4	3.5	
3645-1225	Tal-rich fault rock	955	30°7.354'	42°7.819'	53.84	28.57	6.09	6.92	0.19	7	38.6		
D3-46	Tal-rich fault rock	2150	30°6.844'	42°3.702'	49.69	31.34	0.92	6.17	0.03	<2	<0.2	2.1	
D4-4	Tal-rich fault rock	2730	30°4.874'	42°6.319'	58.87	27.90	0.12	5.26	0.01	<2	3.2	3.1	
3863-1419	Tal-rich fault rock	794	30°7.542'	42°7.356'	53.96	26.70	8.06	4.94	0.01	6		4.4	-62
3863-1425	Tal-rich fault rock	794	30°7.542'	42°7.356'	46.63	32.17	3.55	9.24	0.01	5		2.8	
3873-1124	Tal-rich fault rock	959	30°7.416'	42°7.842'	52.95	27.85	7.15	6.13	0.14	7		2.0	-102
3639-1319	Amphibole-rich fault rock	1416	30°7.028'	42°8.321'	42.85	21.77	7.33	5.48	0.01	6		2.3	
3646-1205	Amphibole-rich fault rock	2327	30°4.929'	42°6.029'	49.69	24.22	6.24	4.59	0.01	5	3.0		
3647-1359	Amphibole-rich fault rock	1623	30°6.996'	42°4.050'	50.84	26.48	2.68	5.29	<0.01	5	4.1	4.1	
D3-21	Amphibole-rich fault rock	2150	30°6.844'	42°3.702'	49.30	27.21	2.65	5.85	0.03	6	2.3		
D3-45	Amphibole-rich fault rock	2150	30°6.844'	42°3.702'	43.87	21.80	4.55	5.45	0.21	4	3.0		
3863-1157	Amphibole-rich fault rock	862	30°7.506'	42°7.410'	51.30	21.99	11.64	2.15	0.02	7	1.6		
3865-1245	Amphibole-rich fault rock	795	30°7.452'	42°7.218'	49.41	22.20	10.31	3.72	0.01	8	<0.2		
3877-1313	Amphibole-rich fault rock	1009	30°7.224'	42°7.140'	54.95	23.34	12.30	2.98	0.31	7		2.0	-45
3863-1236	Chlorite-rich fault rock	837	30°7.512'	42°7.416'	28.22	31.26	0.11	12.32	0.02	4		3.7	
3639-1003	Gabbro	1648	30°6.600	42°8.350'	51.74	9.21	10.88	0.19	<0.01	97	1.9		
3646-1045	Gabbro	2466	30°4.873'	42°5.978'	52.16	7.35	12.29	0.69	0.03	103		4.9	