

Table S1 Analytical results for fumarole F0. SD refers to sample date, ST is sampling temperature (°C), $R_{CO} = \log(CO/CO_2)$ and $R_{CH} = \log(CH_4/CO_2)$. Concentrations are $\mu\text{mol/mol}$.

SD	ST	CO ₂	CO	CH ₄	R _{CO}	R _{CH}
26/08/05	125.5	65438	0.09	4.3	-5.85	-4.18
12/08/09	178	37113	0.02	37.0	-6.37	-3.00
12/08/09	178	36147	0.02	35.6	-6.37	-3.01
20/11/09	218	41199	0.01	49.0	-6.54	-2.92
2/03/10	210	43937	0.03	41.1	-6.10	-3.03
19/05/10	210	47633	0.10	48.9	-5.66	-2.99
11/08/10	204	54433	0.02	26.4	-6.38	-3.31
19/11/10	200	43447	0.04	35.3	-6.04	-3.09
11/03/11	181	61817	0.08	57.7	-5.91	-3.03
24/05/11	180	60447	0.09	26.0	-5.81	-3.37
23/08/11	174.9	50594	0.04	28.3	-6.13	-3.25
21/12/11	179.7	77536	0.57	17.6	-5.13	-3.64
7/03/12	166	100868	1.70	15.0	-4.77	-3.83
8/06/12	na	90719	17.61	11.1	-3.71	-3.91
21/08/12	159	85047	16.85	20.4	-3.70	-3.62
10/12/12	167	77688	19.17	13.4	-3.61	-3.76
13/03/13	na	74607	1.50	13.5	-4.70	-3.74
9/07/13	161	66889	28.81	12.6	-3.37	-3.72
15/08/13	na	47127	0.58	21.7	-4.91	-3.34
16/01/14	155	94351	50.81	6.5	-3.27	-4.16
28/03/14	155	81619	65.67	12.9	-3.09	-3.80
24/10/14	na	78531	75.67	9.4	-3.02	-3.92
23/12/14	160.7	61783	58.16	15.0	-3.03	-3.61
5/06/15	160	87787	0.02	9.0	-6.55	-3.99
25/06/15	168	96880	0.04	5.4	-6.41	-4.26
30/09/15	174	123373	0.04	7.5	-6.47	-4.22
23/12/15	178.6	89268	0.06	9.6	-6.16	-3.97
19/05/16	188.4	83598	0.10	12.4	-5.94	-3.83
14/10/16	192.5	85053	<0.02	9.8		-3.94
9/11/16	191.6	75278	0.34	9.2	-5.35	-3.91
27/01/17	191	106115	<0.02	11.0		-3.98
29/06/17	166.7	56699	0.05	7.7	-6.07	-3.86
25/01/18	149.2	97468	0.09	39.8	-6.05	-3.39
20/04/18	144.4	121755	0.04	47.5	-6.54	-3.41
28/06/18	138.2	133418	0.34	74.9	-5.60	-3.25
7/11/18	127.6	157569	0.03	10.1	-6.71	-4.19