

Supplementary data: Complete isotopic data (summarised in Table 2)

Region	Source	¹⁸ O	1s	² H	1s	δ ¹³ C/ ¹² C	1s	U.T.	1s	Notes on U.T.	R/R _a	% mantle He	δ ³⁴ S	Reference	
Stoumont region	FBB	-8.07	1.5	-55.6	1.5	-1.45	0.03	3.1	0.7	Initial pumping				Monjoie (1997)	
	FBB	-8.09	1.5	-54.6	1.5	-1.33	0.03	3.3	0.7	Initial pumping				Monjoie (1997)	
	FBB	-8.32	0.15	-57.1	1.5	0.80	0.02	1.6	0.8	End pumping 3 months				Monjoie (1997)	
	Monastère	-7.91	0.15	-53.3	1.5			7.9	1.1	Continued pumping				Monjoie (1997)	
	Monastère	-8.07	0.1	-55.44	1			9.2	0.5	Continued pumping				Monjoie (1997)	
	Monastère							8.4	0.4	Continued pumping				Monjoie (1997)	
	Abbaye	-8.16	0.1	-56.78	1			8.4	0.5	Continued pumping				Monjoie (1997)	
	Moines	-8.1	0.1	-56.19	1			6.4	0.5	Natural flow				Monjoie (1997)	
	Moines							9.8	0.5	Natural flow				Monjoie (1997)	
	Pluie	-7.91	0.15	-64.7	1.5			12.9	1.2					Monjoie (1997)	
	Pluie	-7.8	0.1	-56	1			15.7	0.5					Monjoie (1997)	
	Petite Saqwè	-8.17	0.1	-56.18	1	-1.96		1.7	0.4	Continued pumping				Monjoie (1997)	
	Chevron					-1.73						2.81	35.2		Griesshaber et al. (1992)
	Chevron					-3.07						2.37	30		Griesshaber et al. (1992)
	Harre region	Moines	-8		-55										Langguth & Plum (1984)
Sart		-7.74		-55.4										Langguth & Plum (1984)	
Harre		-7.89	0.1	-56.48	1	-1.30	0.02	8.7	0.5	Natural flow				Monjoie (1997)	
Spa region	Harre					-7.76					0.95	12		Griesshaber et al. (1992)	
	Fays					-2.91					0.83	10.4		Griesshaber et al. (1992)	
	Barisart	-8.04	0.1	-57.01	1	-7.20	0.02	10.7	0.5	Natural flow				Monjoie (1997)	
	Pierre le Grand	-8	0.1	-54.75	1	-4.50	0.02	5.3	0.4	Natural flow				Monjoie (1997)	
	CG4	-8	0.1	-56.43	1	-6.20	0.02	6.3	0.4	2h pumping				Monjoie (1997)	
	Sauvenière	-7.82	0.1	-54.67	1	-5.40	0.02	6.1	0.5	Natural flow				Monjoie (1997)	
	Marie-Henriette	-7.79	0.1	-55.72	1	-6.30	0.02	9.6	0.5	Continued pumping				Monjoie (1997)	
	Marie-Henriette							11.4	0.4	Continued pumping				Monjoie (1997)	
	Tonnelet							14.4	0.6	Natural flow				Monjoie (1997)	
	Wellington							14.1	0.5	Natural flow				Monjoie (1997)	
	Spa					-6.65					1.17	14.7		Griesshaber et al. (1992)	
	Spa					-4.02					1.12	14.1		Griesshaber et al. (1992)	
	Gerontère	-8.1		-54.1				44	3					Langguth & Plum (1984)	
	Malmédy region	Barisart	-7.92		-53.2				15.6	1.2				5.4	Langguth & Plum (1984)
		Marie-Henriette	-7.68		-50.5				17.9	1.3					Langguth & Plum (1984)
Prince de Conde		-7.71		-51.7				30	2.1					Langguth & Plum (1984)	
Pierre Le Grand		-7.86		-52.1		-3.8		16.3	1.3					Langguth & Plum (1984)	
Tonnelet		-7.77		-52.5				16.3	1.2				6.7	Langguth & Plum (1984)	
Iles		-8.62	0.1	-58.76	1	-2.70	0.02	1.8	0.4	Natural flow				Monjoie (1997)	
Probémal		-8.1	0.1	-56	1	-4.74	0.02	4.9	0.5	2h pumping				Monjoie (1997)	
Malmédy		-8.49		-51.8				2.1	0.4				7.2	Langguth & Plum (1984)	
St. Quirin		-7.97		-53				56.7	3.3					Langguth & Plum (1984)	
Bernister region		Pouhon	-8.18	0.1	-57.41	1	-5.80	0.02	17.3	0.6	Natural flow				Monjoie (1997)
	Pile 7	-7.9	0.1	-58	1	-5.22	0.02	13.9	0.5	28h pumping				Monjoie (1997)	
	Pile 7	-8.2	0.1	-58	1	-4.18	0.02	10	1	58h pumping				Monjoie (1997)	
	Pile 7					-5.80	0.02							Monjoie (1997)	
West Eifel	Birresborn					-3.98					3.1	39		Griesshaber et al. (1992)	
	Steinborn					-6.59					3.4	43		Griesshaber et al. (1992)	
	Gerolstein					-6.57					3.3	41.4		Griesshaber et al. (1992)	
	Dreis					-5.5					3.5	44		Griesshaber et al. (1992)	

Upper Rhine Graben	Daun	-5.67	4.03	50.6	Griesshaber et al. (1992)	
	Koln	-7.76	0.83	10.4	Griesshaber et al. (1992)	
	Bad Honnef	-10.15	2.32	29.1	Griesshaber et al. (1992)	
	Bad Honnef	-7.38	2.45	30.7	Griesshaber et al. (1992)	
	Bad Honnef	-7.32	2.6	32.2	Griesshaber et al. (1992)	
	Bad Neuenahr	-5.34	4.21	52.8	Griesshaber et al. (1992)	
	Bad Neuenahr	-5.11	4.55	57.1	Griesshaber et al. (1992)	
	Bad Neuenahr	-3.97	4.4	55.2	Griesshaber et al. (1992)	
	Andernach (north)	-4.63	3.61	45.3	Griesshaber et al. (1992)	
	Burgbrohl	-5.12	5.63	70.6	Griesshaber et al. (1992)	
	Brohl	-4.54	4.1	51.4	Griesshaber et al. (1992)	
	Wehr	-4.62	4.95	62.1	Griesshaber et al. (1992)	
	Wehr	-4.66	5.56	70	Griesshaber et al. (1992)	
	Bad Honningen	-4.67	4.91	62	Griesshaber et al. (1992)	
	Laacher See	-2.99	5.4	67.8	Griesshaber et al. (1992)	
	Lahnstein	-4.88	1.8	22.6	Griesshaber et al. (1992)	
	Plaidt	-4.00	3.18	40	Griesshaber et al. (1992)	
	Mendig	-5.43	0.68	8.5	Griesshaber et al. (1992)	
	Hunsruck-Sudrand fault	Bad Ems	-4.96	1.55	19.4	Griesshaber et al. (1992)
		Hardtwald	-8.33	0.27	3.4	Griesshaber et al. (1992)
Schwollen		-10.98	0.23	2.8	Griesshaber et al. (1992)	
Schwollen		-9.02	0.24	3	Griesshaber et al. (1992)	
Gielert		-8.21	0.3	3.8	Griesshaber et al. (1992)	
Schwalbach		-3.73	1.9	23.8	Griesshaber et al. (1992)	
Schwalbach		-3.14	2.1	26.3	Griesshaber et al. (1992)	
Kiedrich		-9.01	0.38	4.8	Griesshaber et al. (1992)	
Geisenheim		-9.64	0.39	4.9	Griesshaber et al. (1992)	
Wiesbaden		-10	0.63	7.9	Griesshaber et al. (1992)	
Wiesbaden		-7.25	1	12.5	Griesshaber et al. (1992)	
Wiesbaden		-7.45	0.7	8.8	Griesshaber et al. (1992)	
Wiesbaden		-6.46	0.93	11.7	Griesshaber et al. (1992)	
Bad Munster		-24.89	0.08	1	Griesshaber et al. (1992)	
Bad Munster		-23.59	0.08	1	Griesshaber et al. (1992)	
Kreuznach		-0.52	0.09	1.1	Griesshaber et al. (1992)	
Kreuznach		-1.15	0.09	1.1	Griesshaber et al. (1992)	
Krontal		-3.31	2.64	33.1	Griesshaber et al. (1992)	
Bad Soden		-3.46	2.19	27.5	Griesshaber et al. (1992)	
Bad Soden		-7.08	1.78	22.3	Griesshaber et al. (1992)	
Bad Homburg		-6.7	1.48	18.6	Griesshaber et al. (1992)	
Bad Homburg		-6.25	1.56	20	Griesshaber et al. (1992)	
Bad Nauheim		-1.49	0.62	7.8	Griesshaber et al. (1992)	
Bad Vilbel		-4.82	3.41	42.8	Griesshaber et al. (1992)	
Bad Vilbel		-5.24	3.17	39.8	Griesshaber et al. (1992)	
Bad Vilbel		-5.59	3.14	39.4	Griesshaber et al. (1992)	
Offenbach		-6.41	0.5	6.3	Griesshaber et al. (1992)	
Selters/Ortenberg	-8.15	0.81	10.2	Griesshaber et al. (1992)		
Grogkarben	-7.7	1.29	16.2	Griesshaber et al. (1992)		
Gelnhausen	-2.07	0.73	9.2	Griesshaber et al. (1992)		
Bad Orb	-2.15	0.13	1.6	Griesshaber et al. (1992)		
Bad Soden	0.5	0.57	7.2	Griesshaber et al. (1992)		
Rhine Graben (Black Forest)	Bad Teinach	-17.53	0.1	1.3	Griesshaber et al. (1992)	
	Bad Teinach	-9.87	0.1	1.3	Griesshaber et al. (1992)	

Liebenzell	-21.28	0.01	0.1	Griesshaber et al. (1992)
Rippoldsau	-7.31	0.55	6.9	Griesshaber et al. (1992)
Griesbach	-7.84	0.34	4.3	Griesshaber et al. (1992)
Bellingen	-11.27	0.42	5.3	Griesshaber et al. (1992)
Bellingen	-10.43	0.43	5.4	Griesshaber et al. (1992)
Krozingen	-6	1.73	21.7	Griesshaber et al. (1992)
Freiburg	-5.96	1.52	19.1	Griesshaber et al. (1992)
Bahlingen	-6.85	1.3	16.3	Griesshaber et al. (1992)