

SUPPLEMENTARY MATERIAL

Beaudry, C., Lefebvre, R., Rivard, C., Cloutier, V., 2018. Conceptual model of regional groundwater flow in a fractured rock aquifer system based on hydrogeochemistry (Montérégie Est, Quebec, Canada). *Canadian Water Resources J.*, doi: 10.1080/07011784.2018.1461579.

Descriptive statistics (25, 50 and 75th centiles) for groundwater geochemical parameters for water groups (mg/L, except for pH and pe, which have no units).

	Parameter	Centile	CS N=3	M3 N=19	M1 N=19	M2 N=14	LL N=46	A2 N=26	A3 N=41	A1 N=22
Physical parameters	pH	25	7.56	7.82	8.19	7.69	7.1	7.48	7.28	5.7
		50	7.59	8.26	8.69	7.805	7.235	7.855	7.83	<u>6.405</u>
		75	7.65	8.79	9.16	8.02	7.52	8.58	8	7.02
	TDS	25	2435	1019	484	425	473	214	239	118
		50	2961	1340	723	517	673	321	283	<u>168</u>
		75	13837	2604	900	658	798	437	348	308
	D.O.	25	0.07	0.2	0.21	0.26	0.3	0.3	0.32	2.09
		50	<u>0.17</u>	0.34	0.32	0.49	0.37	0.525	0.38	5.745
		75	0.37	0.65	1.07	1.18	0.55	1.68	0.79	9.28
	pe	25	-1.02	1.37	0.99	1.12	2.81	3.49	2.26	5.81
		50	<u>-0.41</u>	3.15	2.35	2.09	3.29	5.39	3.55	6.49
		75	1.55	4.27	5.27	2.73	4.53	6.51	6.11	8.01
Major constituents	Na	25	380	260	120	48	22	36	6.4	1.9
		50	630	380	190	74	34	60.5	9.7	<u>4</u>
		75	3900	730	240	97	58	98	19	8.8
	Ca	25	180	4.4	0.98	20	55	8.7	25	21
		50	310	9.2	<u>3.8</u>	30	85.5	12.5	35	28
		75	1200	15	6.8	42	120	18	50	57
	Mg	25	17	3.6	0.22	12	17	3.2	8.8	2.5
		50	110	11	<u>1.5</u>	17.5	28	4.45	11	4.25
		75	220	13	2.7	25	34	6.7	14	8.2
	Cl	25	87	84	9.5	16	21	7.6	1.6	0.93
		50	340	260	39	25.5	38	14	7.9	<u>6.3</u>
		75	6600	920	64	37	80	45	15	16
	SO ₄	25	860	0.2	6.2	0.4	46	17	15	8.1
		50	1500	<u>0.5</u>	13	2.2	66.5	27.5	18	13
		75	1700	7.7	51	14	100	39	26	21
	HCO ₃	25	145.9	526.6	253.9	287.1	243.7	133.9	145.1	68.4
		50	158.0	642.1	351.5	355.6	329.0	180.4	158.4	<u>89.0</u>
		75	778.6	752.4	513.8	412.8	402.2	236.2	218.1	146.0
Minor constituents	K	25	8.6	3.3	1	3.6	2.2	0.44	0.55	0.38
		50	23	5.6	1.7	4.95	3.05	0.835	0.8	<u>0.74</u>
		75	48	11	2.5	5.6	4.8	1.4	1.1	1.2
	Sr	25	5.7	0.44	0.084	1.6	0.99	0.3	0.38	0.12
		50	9.1	0.83	<u>0.19</u>	2.85	1.85	0.905	0.6	0.2
		75	26	1.9	0.41	4.4	2.8	1.5	0.8	0.28
	Fe	25	0.36	0.067	0.015	0.015	0.071	0.015	0.046	0.015
		50	1.2	0.14	<u>0.015</u>	0.17	0.36	0.024	0.11	<u>0.015</u>
		75	8.1	0.27	0.055	0.29	1.4	0.12	0.26	0.015
	F	25	0.4	0.6	0.6	0.3	0.1	0.2	0.05	0.05
		50	0.5	1.2	1	0.5	0.1	0.45	0.1	<u>0.05</u>
		75	0.8	2	2.3	0.9	0.2	0.6	0.2	0.05
	CO ₃	25	0.174	1.368	2.488	0.505	0.147	0.150	0.148	0.001
		50	0.219	2.665	6.821	0.716	0.190	0.576	0.266	<u>0.009</u>
		75	0.892	10.719	12.621	1.363	0.299	2.645	0.566	0.042
	N-NO ₂ + N-NO ₃	25	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.14
		50	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.43
		75	0.01	0.1	0.01	0.01	0.1	0.01	0.01	1.3
NH ₄	25	0.9	0.71	0.27	0.79	0.16	0.03	0.04	0.01	
	50	2.8	1.5	0.47	0.96	0.26	0.045	0.06	<u>0.03</u>	
	75	5.3	1.8	0.71	1.1	0.43	0.12	0.1	0.05	
Trace constituents	Ba	25	0.0048	0.25	0.027	0.39	0.094	0.012	0.051	0.0042
		50	0.016	0.6	0.074	1.15	0.15	0.033	0.074	<u>0.0115</u>
		75	0.023	1.6	0.19	1.5	0.24	0.072	0.13	0.041
	B	25	0.57	0.46	0.24	0.18	0.03	0.014	0.005	0.0025
		50	1.2	0.51	0.36	0.225	0.0505	0.038	0.009	<u>0.0025</u>
		75	1.6	0.75	0.5	0.3	0.088	0.065	0.016	0.014
	Br	25	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
		50	0.5	0.5	0.05	0.05	0.05	0.05	0.05	0.05
		75	32	2.5	0.2	0.05	0.05	0.05	0.05	0.05
	Mn	25	0.24	0.0034	0.0023	0.014	0.035	0.011	0.03	0.00069
		50	0.36	0.011	0.0055	0.023	0.0785	0.0265	0.071	<u>0.00225</u>
		75	2.1	0.033	0.012	0.079	0.36	0.049	0.13	0.0096

Note: **Bold values:** Maximum median value for a parameter. / Underlined values: Minimum median value for a parameter.

Descriptive statistics (25, 50, and 75th centiles) for tritium and radiocarbon data.

Parameter	(Units)	Centile	CS	M3	M1	M2	LL	A2	A3	A1
			N=1	N=3	N=3	N=3	N=6	N=8	N=11	N=4
³ H	(T.U.)	25	6.6	0.0	3.2	1.0	10.4	0.4	6.3	13.2
		50	6.6	<u>0.0</u>	3.9	7.3	12.1	2.7	7.4	13.9
		75	6.6	0.0	4.9	9.6	12.6	4.2	9.7	14.5

Parameter	(Units)	Centile	CS	M3	M1	M2	LL	A2	A2	A1
			N=3	N=4	N=4	N=5	N=4	N=6	N=7	N=1
¹⁴ C ages	(y B.P.) ¹	25	2140	6555	7515	3100	175	8960	4390	3070
		50	13840	10190	8825	4020	<u>910</u>	10605	8820	3070
		75	14390	13800	11155	5370	3275	12570	10120	3070
a ¹⁴ C	(fmC) ²	25	0.0016	0.0015	0.0016	0.0023	0.0028	0.0015	0.0017	0.0033
		50	0.0023	0.0019	<u>0.0018</u>	0.0025	0.0033	<u>0.0018</u>	0.0025	0.0033
		75	0.0038	0.0021	0.0019	0.0028	0.0036	0.002	0.0028	0.0033
δ ¹³ C	(‰)	25	-24.60	-22.50	-16.25	-18.80	-16.25	-17.70	-18.00	-14.60
		50	-22.70	-19.50	<u>-14.15</u>	-18.00	-14.45	-16.55	-15.90	-14.60
		75	-17.70	-16.35	-12.85	-16.00	-12.90	-15.50	-15.30	-14.60

Note: **Bold values:** Maximum median value for a parameter. / Underlined values: Minimum median value for a parameter.

