

## Supplementary Materials

Table S1: Isotopic dataset

#	HSU	X* (m)	Y* (m)	Depth (m)	Elevation (m)	Degree of confinement	Water type	TDS (mg/L)	Na/Ca (meq/L)	$\delta^{18}\text{O}$ (‰ vs VSMOW)	$\delta^2\text{H}$ (‰ vs VSMOW)	Tritium (TU)	$^{14}\text{C}$ (pmC)	$^{14}\text{C}$ age (years)	$\delta^{13}\text{C}$ (‰ PDB)
1	HS-A	593855	4868347	80	216	None	Ca-HCO3	412	0.1	-11.2	-77.0	-	59.88	0	-9.47
2	HS-A	592864	4871853	59	239	High	Na-Cl	745	4.7	-12.8	-89.0	-	-	-	-
3	HS-A	597326	4871612	30	266	None	Ca-HCO3	398	0.1	-11.5	-77.9	-	78.63	-	-10.76
4	HS-A	596498	4872347	16	260	None	Ca-HCO3	294	0.0	-10.8	-73.0	19.1	62	0	-8.86
5	HS-A	596498	4872347	67	209	Low	Ca-HCO3	479	0.1	-11.1	-75.3	14.1	77.05	0	-11.09
6	HS-A	597757	4874254	144	115	High	Na-Cl	690	3.5	-12.8	-86.7	0	0	>25000	8.04
7	HS-A	594257	4868410	77	216	None	Ca-HCO3	332	0.1	-	-	-	-	-	-
8	HS-A	594257	4868410	77	216	None	Ca-HCO3	298	0.4	-	-	-	-	-	-
9	HS-A	594257	4868410	77	216	None	Ca-HCO3	287	0.5	-	-	-	-	-	-
10	HS-A	594257	4868410	77	216	None	Ca-HCO3	367	0.1	-	-	-	-	-	-
11	HS-A	594257	4868410	77	216	None	Ca-HCO3	372	0.1	-	-	-	-	-	-
12	HS-A	594257	4868410	77	216	None	Ca-HCO3	293	0.1	-	-	-	-	-	-
13	HS-A	594257	4868410	77	216	None	Ca-HCO3	293	0.1	-	-	-	-	-	-
14	HS-A	594257	4868410	77	216	None	Ca-HCO3	282	0.1	-	-	-	-	-	-
15	HS-A	594257	4868410	77	216	None	Ca-HCO3	312	0.1	-	-	-	-	-	-
16	HS-A	594257	4868410	77	216	None	Ca-HCO3	360	0.1	-	-	-	-	-	-
17	HS-B1	595482	4875402	89	164	Medium	Ca-HCO3	396	0.7	-11.3	-77.6	-	39.91	0	-11.89
18	HS-B1	591600	4878100	60	208	High	Na-HCO3	642	3.4	-12.4	-82.9	0	-	-	-
19	HS-B1	595100	4878100	71	179	Low	Na-HCO3	437	1.9	-11.6	-77.7	0	-	-	-
20	HS-B1	595461	4875000	89	160	Medium	Ca-HCO3	403	0.5	-11.4	-77.8	-	-	-	-12.55
21	HS-B1	588699	4877794	29	225	None	Na-HCO3	359	1.4	-11.1	-75.1	-	-	-	-13.42
22	HS-B1	586055	4878237	96	195	Low	Ca-HCO3	361	0.8	-11.2	-77.0	0.0	28.44	2000	-12.41
23	HS-B1	595461	4875000	89	160	Medium	Ca-HCO3	377	0.4	-11.5	-77.6	0	47.35	0	-11.16
24	HS-B1	591639	4878110	59	209	High	Na-HCO3	679	2.4	-12.7	-86.1	0	1.51	24000	0.48
25	HS-B1	589041	4877806	27	222	None	Ca-HCO3	382	1.0	-	-	-	-	-	-
26	HS-B1	589041	4877806	27	222	None	Ca-HCO3	394	0.9	-	-	-	-	-	-
27	HS-B1	589041	4877806	27	222	None	Ca-HCO3	445	0.9	-	-	-	-	-	-
28	HS-B1	588746	4877838	25	223	None	Na-HCO3	374	1.7	-	-	-	-	-	-
29	HS-B1	588746	4877838	25	223	None	Na-HCO3	374	1.7	-	-	-	-	-	-
30	HS-B1	588746	4877838	25	223	None	Na-HCO3	398	1.7	-	-	-	-	-	-
31	HS-B1	589245	4877667	32	214	None	Na-HCO3	360	1.2	-	-	-	-	-	-
32	HS-B1	589245	4877667	32	214	None	Na-HCO3	356	1.2	-	-	-	-	-	-
33	HS-B1	589245	4877667	32	214	None	Na-HCO3	441	1.2	-	-	-	-	-	-
34	HS-B1	594870	4875765	78	164	Low	Ca-HCO3	425	0.9	-	-	-	-	-	-
35	HS-B1	594867	4875770	88	168	Low	Ca-HCO3	430	1.0	-	-	-	-	-	-
36	HS-B1	592173	4875469	49	211	None	Ca-HCO3	433	0.5	-	-	-	-	-	-
37	HS-B1	592173	4875469	49	211	None	Ca-HCO3	375	0.6	-	-	-	-	-	-
38	HS-B1	592173	4875469	49	211	None	Ca-HCO3	422	0.6	-	-	-	-	-	-

39	HS-B1	592173	4875469	49	211	None	Ca-HCO3	400	0.6	-	-	-	-	-	-
40	HS-B1	592169	4875466	49	212	None	Ca-HCO3	376	0.6	-	-	-	-	-	-
41	HS-B1	592169	4875466	49	212	None	Ca-HCO3	369	0.4	-	-	-	-	-	-
42	HS-B1	592169	4875466	49	212	None	Ca-HCO3	407	0.3	-	-	-	-	-	-
43	HS-B2	605023	4886668	115	134	Low	Na-HCO3	513	3.6	-14.3	-98.0	0	-	-	-
44	HS-B2	608500	4890700	31	239	None	Ca-HCO3	427	0.1	-11.3	-75.6	-	-	-	-10.65
45	HS-B2	608500	4890700	104	166	Low	Na-HCO3	388	7.1	-11.7	-79.3	0.0	0	>25000	-3.2
46	HS-B2	608500	4890700	31	239	None	Ca-HCO3	423	0.1	-11.4	-76.6	10.6	58.53	0	-10.64
47	HS-B3	611483	4901538	32	247	None	Ca-HCO3	626	0.3	-11.6	-80.7	-	76.54	0	-9.93
48	HS-B3	611483	4901438	162	115	Medium	Na-HCO3	293	5.1	-12.1	-82.6	-	10.19	12000	-11.49
49	HS-B3	599723	4894672	143	155	Medium	Na-HCO3	392	1.5	-12.1	-82.1	0	10.73	-	-7.86
50	HS-B3	611483	4901438	47	232	None	Ca-HCO3	347	0.1	-	-	-	-	-	-
51	HS-B3	610182	4900216	107	135	Medium	Na-HCO3	272	4.8	-	-	-	-	-	-
52	HS-B3	610182	4900216	107	135	Medium	Na-HCO3	280	5.2	-	-	-	-	-	-
53	HS-B3	602937	4892634	28	212	None	Ca-HCO3	449	0.1	-	-	-	-	-	-
54	HS-B3	604750	4895458	37	216	None	Ca-HCO3	396	0.2	-11.9	-80.1	2.5	-	-	-
55	HS-B3	611391	4902061	30	241	None	Ca-HCO3	618	0.2	-11.9	-79.9	0	-	-	-
56	HS-B3	603224	4893398	38	191	Low	Na-HCO3	257	1.3	-	-	-	-	-	-
57	HS-C	608619	4890715	104	166	High	Na-HCO3	270	10.2	-	-	-	-	-	-
58	HS-C	604548	4890761	72	143	Low	Na-HCO3	365	6.7	-13.3	-91.4	0	-	-	-
59	HS-C	609100	4897700	105	119	High	Na-Cl	447	6.9	-11.7	-79.6	0	-	-	-
60	HS-C	604560	4890531	69	147	Low	Na-HCO3	419	4.8	-13.2	-90.8	0.0	0	>25000	-3.08
61	HS-C	609121	4897653	102	195	High	Na-Cl	433	5.5	-11.7	-82.1	0.0	3.14	25000	-11.43

\*The coordinates are in the NAD 83 / UTM Zone 17N reference system