

TABLE1: Geographical locations and chemical, physical, isotopic characteristics of deep groundwater

Sampling Site	Sample Code	Coordinates		pH	EC (μS/cm)	Max. T (⁰ C)	DO (mg/L)	Salinity ‰	TA (mg/L)	TH (mg/L)
		Latitude	Longitude							
Artesian Water in the Sedimentary Terrain										
Kattakaduwa	Art-13	7.835	79.786	7.03	2720	36.5	4.76	1.42	343.8	582
Madurankuliya	Art-12	7.894	79.819	6.68	3990	32.9	1.96	2.11	379.8	1198
	SM	7.901	79.817	6.67	4120	32.7	1.94	2.21	397.8	940
	Art-20	7.897	79.819	6.94	3930	31.2	5.33	2.08	392.4	1196
	MK	7.902	79.705	6.68	3890	31.9	1.85	2.05	376.2	1535
Daluwa	DL	7.989	79.746	7.12	5760	31.1	1.68	3.1	165.6	604
Pulinduwal	Art-15	7.950	79.816	6.93	20480	30.4	2.05	12.25	316.8	5610
Sewanthivu	Art-17	8.071	79.817	6.93	2146	31.9	1.17	1.09	295.2	420
	Art-16	8.071	79.816	7.68	2350	32.2	1.85	1.2	298.8	454
	Art-18	8.078	79.802	7.03	1869	32.2	1.04	0.94	280.8	446
	Art-21	8.099	79.818	7.32	1822	33.7	1.27	0.92	277.2	416
ThirikkaPallam	Art-10	8.167	79.824	6.82	1647	32.6	1.27	0.83	354.6	516
Karathivu	KT	8.235	79.803	7.83	1688	32.3	3.07	0.85	421.2	118
Serakkuliya	SE	8.235	79.801	7.66	1781	32.3	1.26	0.9	397.8	88
	Art-22	8.234	79.809	6.83	2390	31.4	4.9	1.22	340.2	572
	Art-23	8.233	79.809	7.38	2320	32.9	1.61	1.19	349.2	116
Artesian Water in the Crystalline Terrain (Non-thermal)										
Kella Junction	KBU	6.37	80.704	6.77	483	27.2	1.6	0.23	267.6	226
Sudugala	SU-1	6.319	80.763	6.9	718	29.2	1.96	0.35	332.7	338
	SU-2	6.307	80.775	6.99	684	29.6	3.24	0.33	307.8	324
Middeniya	MD-5	6.254	80.765	6.93	733	32.9	6.96	0.36	324.0	282
Hingurakgoda	HGB	8.028	80.955	7.87	634	31.4	2.3	0.31	354.0	296
Artesian Water in the Crystalline Terrain (Thermal)										
Mahapelessa	MP	6.254	80.982	7.18	7810	44.9	0.48	4.29	32.4	1404
Wahawa	WH	7.362	81.308	7.5	1399	45.8	1.82	0.7	86.8	130
	WH-A	7.362	81.309	7.37	1408	42	3.53	0.69	89.3	138
Mahaoya	MO	7.552	81.353	7.71	1432	53.8	2.61	0.72	84.1	143
Nelumwewa	NW	7.891	81.2	8.41	1544	61.2	6.33	0.78	71.8	65.6
Kanniyai	KN	8.605	81.172	6.37	309	40.5	2.88	0.15	230	124
Rankihiriya	RK	8.705	80.989	7.11	591	37.9	3.69	0.29	360	264
Spring Water in the Crystalline Terrain (Non-thermal)										
Mahapelessa	MP-1	6.254	80.984	7.55	7680	34.9	0.61	4.24	45	1378
Wahawa	WH-1	7.347	81.303	6.51	544	27.9	1.79	0.26	244	210
Bibile	BB	7.161	81.225	6.96	418	28.9	1.15	0.2	265	207
Rankihiriya	RK-1	8.705	80.989	7.42	593	33.8	3.73	0.29	311	316
Middeniya	MD-3	6.214	80.79	6.86	740	28.5	0.2	0.16	309.0	354
	MD-2	6.213	80.792	6.81	743	28.2	0.65	0.36	398.8	342

TABLE 1: Continue

Sample Code	Na ⁺ (mg/L)	K ⁺ (mg/L)	Mg ²⁺ (mg/L)	Ca ²⁺ (mg/L)	Cl ⁻ (mg/L)	SO ₄ ²⁻ (mg/L)	NO ₃ ⁻ (mg/L)	F ⁻ (mg/L)	δ ² H (‰)	δ ¹⁸ O (‰)	D-excess	Tritium Conc. (TU)
Artesian Water in the Sedimentary Terrain												
Art-13	551.2	21.5	74.1	89.8	958.8	100	0.7	0.6	-29.0	-4.97	10.8	0.62
Art-12	522.5	18.4	144.3	323.5	1283.2	170.6	0.5	0.8	-34.2	-6.09	14.5	< 0.4
SM	650.9	15.9	114.4	277	1294	209.4	1	0.8	-30.2	-5.05	10.2	< 0.4
Art-20	485	11	139	308.8	1198.7	141.1	0.6	1.1	-36.4	-6.00	11.6	< 0.4
MK	483.3	10	119.7	377.4	1285.6	112	0.4	0.8	-34.7	-5.74	11.3	< 0.4
DL	1037.5	43.3	95	144.7	1960.3	144.4	1	1	-32.8	-5.38	10.3	< 0.4
Art-15	3242	83.5	849	1076.3	8231.8	901.5	1.3	1.6	-32.5	-5.22	9.3	< 0.4
Art-17	279.3	10.1	40.2	136	544	85.5	1.7	0.6	-34.2	-5.48	9.6	< 0.4
Art-16	317.3	10.4	41.9	167.2	585.7	83.3	0.2	0.8	-34.6	-5.78	11.6	< 0.4
Art-18	230.1	6.6	40	148.6	445.8	74.1	0.5	0.4	-34.0	-5.56	10.4	0.65
Art-21	228.1	6.3	33.5	132.7	429.3	63	0.7	0.8	-32.3	-5.19	9.2	< 0.4
Art-10	162.7	20.8	53.1	140.3	315.8	111.9	0.8	0.6	-39.9	-6.51	12.2	< 0.4
KT	339.5	20	14.7	26.1	279.8	89.2	0.5	1.3	-33.5	-5.65	11.7	< 0.4
SE	362.6	18.8	13.2	25.7	319.9	81.1	0.4	1	-33.6	-5.47	10.1	< 0.4
Art-22	269.5	20.1	56.2	167.3	571	69.6	0.2	0.4	-30.2	-5.31	12.2	< 0.4
Art-23	445.2	24.3	14.7	42.6	436.9	228.4	0.3	1.1	-36.5	-5.94	11	0.4
Artesian Water in the Crystalline Terrain (Non-thermal)												
KBU	40.9	1.1	10.2	59.2	13.1	5.6	0.5	0.3	-32.3	-6.03	15.9	0.5
SU-1	21.1	1.8	19.1	100.7	33.4	12.6	0.4	0.6	-35.3	-6.36	15.6	0.48
SU-2	16.3	2.2	15.6	94	24.7	11.7	0.5	0.4	-31.5	-6.25	18.5	< 0.4
MD-5	22.9	4.8	16	99.1	33.5	12.4	0.7	0.6	-32.3	-6.02	15.9	0.4
HGB	35.2	3	29.3	88.9	17.7	15.9	0.0	0.6	-24.9	-4.37	10.1	0.76
Artesian Water in the Crystalline Terrain (Thermal)												
MP	1130	43.4	3.6	750	2639	123.8	2.3	3.0	-26.8	-5.06	13.9	<0.4
WH	245.2	13.6	2.2	64.2	31.3	513.7	1.1	4.6	-33.2	-5.92	14.2	0.86
WH-A	246.1	13.4	2.1	63.8	31.1	508.5	0.4	4.9	-30.9	-6.25	19.1	< 0.4
MO	227.1	12.7	3.7	75.5	77.2	424.5	0.3	4.9	-30.8	-5.46	12.9	<0.4
NW	325.8	15.1	0.2	36.9	261.3	261.8	1.2	5.1	-30.1	-5.53	6.2	0.73
KN	13.3	6.2	9.2	60.7	14.6	5.2	2.6	0.1	-38.9	-6.43	12.5	<0.4
RK	12.7	7.7	44.9	87.3	14.5	< DL	1.4	0.0	-35.5	-5.98	12.4	<0.4
Spring Water in the Crystalline Terrain (Non-thermal)												
MP-1	1102	44.3	7.2	724	2578	122.5	2.2	3.6	-26.2	-5.00	13.8	0.4
WH-1	42.3	6.3	12.1	78.2	26.7	29	0.3	0.2	-34.2	-6.19	15.3	0.46
BB	12.5	3.2	12	75	5.1	1.7	0.0	0.6	-37.8	-5.97	9.9	0.42
RK-1	12.1	7	44.8	79.9	13.1	0	1.0	0.0	-34.6	-6.06	13.9	0.49
MD-3	25.8	4.3	21.8	147.5	37.6	27.5	0.5	0.5	-30.8	-5.51	13.2	0.52
MD-2	31.3	5.3	26	177.3	41.5	32.7	0.6	0.4	-31.7	-5.83	15	0.55

Abbreviations: DO, dissolved oxygen; EC, electrical conductivity; TA, total alkalinity; TH, total hardness