

Median results of water quality in production wells at Virttaankangas MAR 1.1.2018 - 31.12.2018													STM 442/2014*
	K21	K27	K31	K32/K33	K41	K42	K43	K51	K52	K53	K54		
n	med	med	med	med	med	med	med	med	med	med	med		
	Natural groundwater			Mix of MAR and natural groundwater									
Proportion of MAR (%)	6	0%	0%	82%	99%	81%	78%	88%	94%	78%	91%	98%	
Al, µg/l	1	5.9	7.9	7.4	14	10	10	10	9.9	11	13	11	< 200 (b)
Alkalinity, mmol/l	6	0.81	0.91	0.80	0.65	0.67	0.66	0.66	0.69	0.68	0.65	0.69	
As, µg/l	2-6	1.9	1.5	1.1	0.7	1.2	1.9	1.1	1.0	5.2	1.3	1.3	<10 (a)
B, µg/l	1	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<1 (a)
Ca, mg/l	6	14	16	18.5	17	16.5	16.5	17	17	17	15.5	17	
Cd, µg/l	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<5 (a)
Cl, mg/l	6	1	1	10.1	12.1	10.3	10.0	11.0	11.4	10.1	11.4	12.1	< 250 (b)
CO2 corrosive, mg/l	5-6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
CO2 free, mg/l	5-6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
CODMn, mg/l O2	6	<0.5	<0.5	1.1	1.5	1.2	1.1	1.4	1.3	1.0	1.4	1.4	< 5 (b)
Cr, µg/l	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50 (a)
Cu, µg/l	1	<0.5	<0.5	1.1	1.3	0.9	0.8	1.0	0.7	0.8	0.8	0.8	<2000 (a)
Fe, µg/l	6	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	< 200 (b)
Odor	6	Odorless	Odorless	Odorless	Odorless	Odorless	Odorless	Odorless	Odorless	Odorless	Odorless	Odorless	No unusual changes (b)
F, µg/l	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1500 (a)
Oxygen, mg/l	6	10.4	9.7	8.9	8.8	8.7	8.2	8.9	8.4	6.4	8.3	8.2	
Hg, µg/l	1	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1 (a)
K, mg/l	6	0.6	0.7	0.9	1.1	0.9	1.0	1.0	1.1	0.9	0.9	1.0	
Total nitrogen, µg/l	6	97	255	545	530	460	445	500	525	540	570	560	
Total phosphorus, µg/l	6	12.0	12	4.9	3.0	6.0	7.7	4.5	6.4	14	7.8	11	
Hardness, mmol/l	6	0.39	0.46	0.51	0.47	0.46	0.46	0.46	0.49	0.50	0.46	0.49	
T, °C	5-7	6.5	6.7	7.85	9.1	8.0	8.1	8.1	9.7	7.7	7.9	8.8	
Taste	6	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless	No unusual changes (b)
Mg, mg/l	6	1.1	1.4	1.5	1.2	1.5	1.2	1.2	1.5	1.6	1.5	1.5	
Mn, µg/l	6	<1	<1	<1	<1	<1	<1	1	<1	<1	<1	<1	< 50 (b)
Na, mg/l	6	2.4	2.7	3.5	4.4	3.4	3.8	4.0	3.9	4.0	3.6	4.3	< 200 (b)
NH4-N, µg/l	6	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	< 500 (b)
Ni, µg/l	1	<0.05	<0.05	<0.05	0.1	0.1	0.6	<0.05	<0.05	<0.05	<0.05	0.24	<20 (a)
NO2-N, µg/l	6	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<150 (a)
NO3-N, µg/l	6	<250	265	480	440	385	390	405	460	490	495	475	<11000 (a)
Pb, µg/l	1	<0.05	<0.05	0.11	0.25	0.11	0.14	0.22	0.15	0.10	0.18	<0.05	<10 (a)
pH	6	8.3	8.3	8.2	8.0	8.2	8.2	8.1	8.1	8.2	8.1	8.1	6.5-9.5 (b)
PO4-P, µg/l	6	12.0	13.0	4.5	3.2	5.7	7.4	3.7	6.2	14.5	8.0	10.5	
Turbidity, NTU	6	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	No unusual changes (b)
Sb, µg/l	1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5 (a)
Se, µg/l	1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<10 (a)
SO4, mg/l	6	5.5	5.2	9.2	9.4	9.6	9.3	9.1	10.0	11.0	9.9	10.0	< 250 (b)
CN, µg/l	1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50 (a)
EC, µS/cm	5-6	100	110	145	140	130	130	135	140	140	135	140	< 2500 (b)
TOC, mg/l	6	<1	<1	1.8	2.6	2.0	2.0	2.0	2.1	1.7	2.1	2.3	No unusual changes (b)
Color, mg/l Pt	6	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	No unusual changes (b)
Microbiological quality:													
Clostridium perfringens, cfu/100 ml	1	0	0	0	0	0	0	0	0	0	0	0	0 (a)
E. coli, cfu/100 ml	5-6	0	0	0	0	0	0	0	0	0	0	0	0 (a)
Enterococci, cfu/100 ml	1	0	0	0	0	0	0	0	0	0	0	0	0 (a)
Coliform bacteria, cfu/100 ml	5-6	0	0	0	0	0	0	0	0	0	0	0	0 (b)
Heterotrophic plate count, cfu/ml	5-6	0	0	0	0	0	0	0	0	0	0	0	No unusual changes (b)
Special analyses													
VOC, µg/l	1-5	Not found	Found	Not found	Not found	Not found	Not found	Not found	Not found	Found	Not found	Not found	<0.1 (a)
-MTBE, µg/l			<0.1							<0.1			
PAH, µg/l	1	Not found	Not found	Not found	Not found	Not found	Not found	Not found	Not found	Not found	Not found	Not found	In total < 0.1 (a)
Benzo(a)pyrene, µg/l	1	Not found	Not found	Not found	Not found	Not found	Not found	Not found	Not found	Not found	Not found	Not found	<0.01 (a)
Phenolic compounds, µg/l	1	Not found	Not found	Not found	Not found	Not found	Not found	Not found	Not found	Not found	Not found	Not found	
Chlorophenols, µg/l	1	Not found	Not found	Not found	Not found	Not found	Not found	Not found	Not found	Not found	Not found	Not found	
Pesticides, µg/l	1	Not found	Not found	Not found	Not found	Not found	Not found	Not found	Not found	Found	Found	Found	In total < 0.5 (a)
-Atrazine, µg/l										0.031	0.012		<0.1 (a)
-DEA, µg/l										<0.01			<0.1 (a)
-DEDIA, µg/l												<0.01	<0.1 (a)

\* Finnish Ministry of Health (STM), (a) = quality requirement, (b) = quality recommendation