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Revision 9



Test Report

Case no: 2018 - 546

19/06/2018

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Determinand	Units	Methods used	South African National Standard (SANS) 241:2006&2015 for drinking water (partial)	Client sample name:																	
				NB 03 A 19/06/18	NB 03 A 19/06/18	NB 03 B 19/06/18	NB 03 B 19/06/18	NB 06 A 19/06/18	NB 06 A 19/06/18	NB 06 B 19/06/18	NB 06 B 19/06/18	NB 07 19/06/18	NB 07 19/06/18	SB 07 A 19/06/18	SB 07 A 19/06/18	SB 08 A 19/06/18	SB 08 A 19/06/18	SB 08 B 19/06/18	SB 08 B 19/06/18	Surface North 19/06/18	Surface North 19/06/18
				Lab number:																	
				Class 1 (Recommended levels) Class 2 (Maximum allowable for limited time) ** EU standard	546-1 (a)	546-1 (b)	546-2 (a)	546-2 (b)	546-3 (a)	546-3 (b)	546-4 (a)	546-4 (b)	546-5 (a)	546-5 (b)	546-6 (a)	546-6 (b)	546-7 (a)	546-7 (b)	546-8 (a)	546-8 (b)	546-9 (a)
			Value	Value	Value	Value	Value	Value	Value	Value	Value	Value	Value	Value	Value	Value	Value	Value	Value	Value	
Chemical report																					
pH #	pH units	Chem-TM06	5.5 tot 9.7	7.89	7.88	7.79	7.72	7.47	7.39	7.35	7.43	7.25	7.17	7.16	7.13	7.71	7.63	7.65	7.61	7.93	8.00
Electrical conductivity #	mS/m	Chem-TM06	≤ 170	194	181	275	283	218	216	217	214	557	543	261	257	83.98	82.84	76.93	78.29	38.8	38.7
Calcium as Ca #	mg/L	Chem-TM02	≤150 - 300	119	87	236	246	155	151	160	141	385	396	257	262	75.0	80.4	76.0	74.2	41.2	42.3
Magnesium as Mg #	mg/L	Chem-TM02	≤70 - 100	115	108	154	156	101	98	103	91	403	407	110	110	32.1	34.0	32.8	32.6	15.8	16.3
Sodium as Na #	mg/L	Chem-TM02	≤ 200	127	105	222	247	129	127	170	159	270	274	63	62	57.8	59.9	62.1	61.4	17.1	17.7
Potassium as K #	mg/L	Chem-TM02	≤50 - 100	3.3	3.0	5.7	4.6	1.0	0.9	0.5	0.6	7.9	7.8	4.7	4.5	1.4	1.4	1.8	1.8	4.7	5.0
P-Alkalinity #	mg/L	Chem-TM06		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M-Alkalinity #	mg/L	Chem-TM06		129	73	464	492	601	591	564	573	652	669	474	465	254	264	331	338	128	129
Fluoride as F #	mg/L	Chem-TM01	≤ 1.5	<0.1	<0.1	<0.1	0.17	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.65	0.50	0.37	0.42	0.04	0.07
Chloride as Cl #	mg/L	Chem-TM01	≤ 300	288	269	290	293	347	346	408	415	1677	1636	568	565	79.8	79.7	75.4	74.1	22.6	22.5
Nitrite as N #	mg/L	Chem-TM01		-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Bromide as Br #	mg/L	Chem-TM01	**≤3	2.37	2.71	1.58	2.05	1.80	1.61	2.51	2.55	8.24	8.54	4.24	4.20	0.41	0.39	0.31	0.31	0.03	0.10
Nitrate as N #	mg/L	Chem-TM01	≤ 11	10.49	3.40	3.40	5.19	0.02	0.14	0.05	0.06	0.04	0.11	0.01	0.07	5.76	5.86	2.40	2.93	0.05	0.06
Phosphate as PO ₄ #	mg/L	Chem-TM01	*≤15.33	-1	-1	-1	-1	-1	-1	1.56	-1	-1	-1	-1	1.05	-0.1	-0.1	0.12	-0.1	-0.1	-0.1
Sulphate as SO ₄ #	mg/L	Chem-TM01	≤ 500	537.3	500.7	975.0	953.2	9.7	12.3	8.6	8.2	30.7	34.9	1.2	1.3	51.2	51.4	48.9	46.5	47.6	47.6
Calcium Hardness #	mg/L	calculated	≤375 - 750	297	217	590	616	389	377	400	352	962	990	643	654	187	201	190	185	103	106
Magnesium Hardness #	mg/L	calculated	≤287 - 410	472	442	632	639	412	401	423	372	1652	1669	450	452	132	139	134	134	65	67
Total Hardness as CaCO ₃ #	mg/L	calculated	≤662 - 1160	768	659	1223	1255	801	778	823	724	2615	2659	1093	1106	319	340	324	319	168	173
Total Dissolved Solids #	mg/L	calculated	≤ 1200	1365	1161	2362	2415	1344	1327	1418	1388	3433	3432	1480	1475	578	598	639	642	277	281
Total organic carbon as C #	mg/L	Chem-TM24	≤ 10	8.76	7.82	14.68	14.49	10.26	10.59	12.26	13.15	77.4	77.1	17.51	16.78	2.29	2.23	2.85	2.32	9.25	8.27
Chemical oxygen demand #	mg/L			38	29	77	69	82	83	50	64	256	262	71	78	9	9	16	11	30	32
Aluminium as Al #	mg/L	Chem-TM02	≤ 0.300	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.071	0.083
Arsenic as As #	mg/L	Chem-TM02	≤ 0.010	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.024	0.025	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Barium as Ba #	mg/L	Chem-TM02	≤ 0.700	0.010	0.007	0.003	0.003	0.042	0.042	0.029	0.028	0.017	0.017	0.181	0.186	0.132	0.139	0.098	0.087	0.038	0.039
Boron as B #	mg/L	Chem-TM02	≤ 2.400	0.068	0.023	0.144	0.162	<0.040	<0.040	<0.040	<0.040	0.107	0.080	<0.040	<0.040	0.046	0.050	<0.040	<0.040	<0.040	<0.040
Cadmium as Cd #	mg/L	Chem-TM02	≤ 0.003	0.007	0.006	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Cobalt as Co #	mg/L	Chem-TM02	≤ 0.500	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Chromium as Cr #	mg/L	Chem-TM02	≤ 0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Copper as Cu #	mg/L	Chem-TM02	≤ 2.000	0.028	0.032	0.033	0.035	0.022	0.021	0.016	0.025	0.040	0.040	0.038	0.027	0.011	0.003	0.000	0.001	0.010	0.015
Iron as Fe #	mg/L	Chem-TM02	≤ 2.000 (chronic health)	0.053	0.033	0.057	0.067	0.029	0.023	0.140	0.221	0.047	0.064	0.046	0.034	0.043	<0.020	0.024	0.025	0.108	0.122
	mg/L	Chem-TM02	≤ 0.300 (aesthetic)																		
Manganese as Mn #	mg/L	Chem-TM02	≤ 0.400 (Chronic health)	0.087	0.185	0.368	0.257	1.044	0.966	0.096	0.085	2.643	2.399	1.609	1.724	<0.020	<0.020	<0.020	<0.020	0.022	0.022
	mg/L	Chem-TM02	≤ 0.100 (Aesthetic)																		
Nickel as Ni #	mg/L	Chem-TM02	≤ 0.070	0.061	0.028	0.113	0.096	0.127	0.120	0.074	0.070	0.273	0.231	0.089	0.081	0.064	0.058	0.053	0.043	0.023	<0.020
Lead as Pb #	mg/L	Chem-TM02	≤ 0.010	<0.015	<0.015	<0.015	<0.015	0.022	<0.015	0.014	0.032	0.033	0.035	0.020	0.027	0.048	0.021	0.042	0.018	0.018	<0.015
Selenium as Se #	mg/L	Chem-TM02	≤ 0.040	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Strontium as Sr #	mg/L	Chem-TM02		0.398	0.255	0.867	0.915	0.461	0.449	0.410	0.381	1.125	1.040	2.121	2.127	0.644	0.681	0.545	0.507	0.104	0.106
Silicon as Si #	mg/L	Chem-TM02		4.25	2.34	12.67	13.08	19.45	18.76	15.01	13.37	15.94	14.64	13.34	13.22	14.22	15.88	11.91	12.33	5.33	5.31
Vanadium as V #	mg/L	Chem-TM02	≤ 0.200	0.078	0.170	0.353	0.246	1.027	0.944	0.090	0.077	2.551	2.313	1.669	1.770	0.026	0.038	0.036	0.032	0.049	0.050
Zinc as Zn #	mg/L	Chem-TM02	≤ 5.000	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	0.024	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Bacterial report:																					
Total coliform	cfu/100ml	BAC-TM02	≤10	1300	>2420	2420	>2420	39	33	31	26	0	3	2420	>2420	1300	488	411	270	687	1553
E. coli	cfu/100ml	BAC-TM02	0	0	0	0	0	0	0	0	0	0	0	6	7	71	51	5	7	13	18

Note:

Results marked with (#) in this report, are not included in the SANAS Schedule of Accreditation for this laboratory.

Parameters higher than the specifications, are clearly marked. Table with specifications included for comparison.

Bacteriological results obtained from samples older than the prescribed 24 hours may be inaccurate.

Signature: _____
Dr L Deyzel (Technical signatory / Technical manager)

END OF REPORT

From: DWAF Domestic use guidelines			
Description of Hardness	Hardness Range	Description of Hardness	Hardness Range
Soft	0 - 50	Moderately hard	150 - 200
Moderately soft	50 - 100	Hard	200 - 300
Slightly hard	100 - 150	Very hard	> 300