

# ANALYTICAL DATA AND APPROXIMATE DISTRIBUTION FOR CAPE TOWN DRINKING WATER

Sample period: 1 July 2019 to 31 December 2019

The City of Cape Town has been awarded a 2012 Blue Drop Certificate for the quality of its drinking water by the Department: Water & Sanitation (DWS). This assures Cape Town's residents that their tap water is safe to drink and complies with stringent quality checks. The City of Cape Town obtained the highest score of 98,14% in the Western Cape and is one of ten municipalities in the Western Cape that achieved Blue Drop status. The City of Cape Town also received a Platinum Blue Drop Award for its consistent excellent performance for four years and remains in the top performing group of water service authorities in South Africa.

To qualify for a Blue Drop Certificate a water service authority must score at least 95% in meeting the criteria set by the DWS. These include the maintenance and monitoring of the catchment and storage areas and facilities, the pipeline and distribution systems and the water treatment facilities and processes. The water quality has to meet the standard from where it is stored until it is used by the consumer. Adequate staffing with suitable skills coupled to a training regime also forms part of the certification process which is done annually by virtue of a physical audit conducted by DWS officials.

Below are the results for the water quality provided across the City of Cape Town for the indicated period as well as the distribution areas normally linked to the water treatment plants supplying the City. The annual publication of the water quality results is also a requirement of the Blue Drop certification process.

PARAMETERS	SANS 241: 2015 Specs	BLACKHEATH SUPPLY Typical analysis max 430 Mℓ/day	FAURE SUPPLY Typical analysis max 500 Mℓ/day	KLOOF NEK SUPPLY Typical analysis max 22.5 Mℓ/day	STEENBRAS SUPPLY Typical analysis max 150 Mℓ/day	VOËLVLEI SUPPLY Typical analysis max 273 Mℓ/day	WEMMERSHOEK SUPPLY Typical analysis max 250 Mℓ/day	BROOKLANDS SUPPLY Typical analysis max 5.5 Mℓ/day	HELDERBERG SUPPLY Typical analysis max 12 Mℓ/day	WITZANDS SUPPLY Typical analysis max 15 Mℓ/day	CONSTANTIA NEK SUPPLY Typical analysis max 3 Mℓ/day	MONWABISI DESALINATION Typical Analysis MAX 7 Mℓ/day	STRANFONTEIN DESALINATION Typical Analysis max 7 Mℓ/day
<b>PHYSICAL &amp; AESTHETIC DETERMINANDS</b>													
Colour mg/ℓ Pt-Co	≤15	6	5	6	5	6	5	7	5	7	6	<5	<5
Conductivity mS/m	≤170	11	21	20	16	14	9	74	17	38	22	73	69
Total Dissolved Solids mg/ℓ	≤1200	71	141	134	110	93	62	493	116	256	145	489	460
Turbidity NTU	Operational ≤1 Aesthetic ≤5	0.8	0.6	0.8	0.7	0.7	0.8	0.6	0.7	0.8	0.7	0.6	0.6
pH (pH units)	≥5.0 to ≤9.7	8.8	8.9	9.0	8.2	8.4	8.0	9.0	8.8	7.6	8.2	8.9	9.0
<b>CHEMICAL - MACRO DETERMINANDS</b>													
Free Chlorine as Cl <sub>2</sub> mg/ℓ	≤5	1.3	1.2	0.9	1.3	1.4	1.4	1.1	0.8	1.3	1.0	0.6	0.6
Nitrate as N mg/ℓ	≤11	0.2	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2
Nitrite as N mg/ℓ	≤0.9	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Combined nitrate plus nitrite	≤1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Sulphate as SO <sub>4</sub> <sup>2-</sup> mg/ℓ	Aesthetic ≤250 Acute health ≤500	11	38	38	22	13	12	167	6	29	52	3	3
Fluoride as F <sup>-</sup> mg/ℓ	≤1.5	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1
Ammonia as N mg/ℓ	≤1.5	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Chloride as Cl <sup>-</sup> mg/ℓ	≤300	11	32	19	25	21	10	89	30	55	25	178	169
Sodium as Na mg/ℓ	≤200	5	13	15	14	9	4	52	15	33	19	133	130
Zinc as Zn mg/ℓ	≤5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<b>CHEMICAL - MICRO DETERMINANDS</b>													
Antimony as Sb µg/ℓ	≤20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Arsenic as As µg/ℓ	≤10	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	<1	<1
Barium as Ba µg/ℓ	≤700	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Boron as B mg/ℓ	≤2.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.1	1.2
Cadmium as Cd µg/ℓ	≤3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Chromium (total) as Cr µg/ℓ	≤50	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Copper as Cu µg/ℓ	≤2000	<10	39	12	<10	17	<10	<10	12	38	13	11	11
Cyanide as CN <sup>-</sup> µg/ℓ	≤200	16	18	13	17	17	22	20	22	15	<10	19	14
Iron as Fe µg/ℓ	Chronic Health ≤2000 Aesthetic ≤300	74	99	98	73	61	98	57	65	128	60	52	55
Lead as Pb µg/ℓ	≤10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Manganese as Mn µg/ℓ	Chronic Health ≤400 Aesthetic ≤100	7	6	12	5	5	12	17	5	26	20	<5	<5
Mercury as Hg µg/ℓ	≤6	-	-	-	-	-	-	-	-	-	-	-	-
Nickel as Ni µg/ℓ	≤70	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Selenium as Se µg/ℓ	≤40	<1	<1	<1	<1	<1	<1	<1	<1	3	<1	<1	<1
Uranium as U µg/ℓ	≤30	-	-	-	-	-	-	-	-	-	-	-	-
Aluminium as Al µg/ℓ	≤300	161	63	209	117	77	233	97	62	75	86	<50	<50
<b>CHEMICAL - ORGANIC DETERMINANDS</b>													
Total organic Carbon mg/ℓ	≤10	2	2	2	2	2	1	3	1	3	2	0	1
<b>Trihalomethanes</b>													
Chloroform µg/ℓ	≤300	-	-	-	-	-	-	-	-	-	-	-	-
Bromoform µg/ℓ	≤100	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane µg/ℓ	≤100	-	-	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane µg/ℓ	≤60	-	-	-	-	-	-	-	-	-	-	-	-
Combined Trihalomethane	≤1	-	-	-	-	-	-	-	-	-	-	-	-
Phenols µg/ℓ	≤10	-	-	-	-	-	-	-	-	-	-	-	-
<b>MICROBIOLOGICAL DETERMINANDS</b>													
E coli count/100 mℓ	Not detected	ND	ND	ND	ND	5	ND	ND	ND	ND	ND	ND	ND
Heterotrophic plate count/mℓ	≤1000	2	2	16	2	23	2	1	18	3	1	18	6
Total coliforms count/100mℓ	≤10	2	1	1	1	5	1	1	1	1	1	13	11
<b>Protozoan parasites</b>													
Cryptosporidium species count/10ℓ	Not detected	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
Giardia species count/10ℓ	Not detected	ND	ND	ND	ND	ND	ND	-	ND	ND	-	-	-
<b>OTHER</b>													
Hardness (total) as CaCO <sub>3</sub> mg/ℓ	-	35	64	56	38	39	33	233	42	104	49	25	34
Alkalinity as CaCO <sub>3</sub> mg/ℓ	-	21	25	28	16	19	20	33	29	74	9	21	21
Calcium as Ca mg/ℓ	-	13	22	20	12	12	12	82	12	35	17	8	11
Potassium as K mg/ℓ	-	0.4	1.3	0.4	0.9	0.7	0.3	1.3	1.3	1.8	0.5	5.7	5.9
Magnesium as Mg mg/ℓ	-	0.9	2.1	1.4	1.8	2.0	0.8	6.6	3.0	4.2	1.7	1.2	1.2

KEY: ND = Not detected

APPROXIMATE AREAS OF WATER DISTRIBUTION (variable due to optimising of raw water resources, seasonal variations, water treatment plant/reservoir serviceability, systems operations, and parameters also variable due to mixing in distribution system)

BLACKHEATH:	Cape Flats, Mitchells Plain, Muizenberg, Fish Hoek, Southern Suburbs and Southern Suburbs (high lying areas on mountainside and Constantia Valley), City Bowl, Bellville, Kuils River, Blue Downs, Eerste River, Khayelitsha, Durbanville, Elsies River, Somerset West, Strand, Nyanga/Gugulethu
BROOKLANDS:	Simon's Town
CONSTANTIA NEK:	Hout Bay (water blended with supplies from Steenbras and/or Blackheath)
FAURE:	Cape Flats, Mitchells Plain, Muizenberg, Fish Hoek, Southern Suburbs, Khayelitsha, Somerset West, Strand, Philippi
HELDERBERG:	Somerset West
KLOOF NEK:	Camps Bay, Sea Point, Tamboerskloof/Gardens (high lying areas)
STEENBRAS:	Southern Suburbs (high lying areas on mountainside and Constantia Valley), Somerset West/Gordon's Bay (high lying areas) Fish Hoek and the Deep South Peninsula
VOËLVLEI:	Northern Suburbs (Atlantis to Milnerton), Epping, City Bowl, Green Point, Durbanville/Kraaifontein (upper areas)
WEMMERSHOEK:	Paarl to Bellville, Northern Suburbs, City Bowl, Durbanville, Kraaifontein
WITZANDS:	Atlantis (water blended with supplies from Voëlvlei)
MONWABISI:	Operational June 2018 to present
STRANFONTEIN:	Operational June 2018 to present

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