Ekurhuleni Municipality Water Quality Report

July 2014 to June 2015 — Date generated : 06 July 2015

Parameter	Units of measure	Specifications (based on SANS241: 2005) Required compliance 95% min to Class I	Specifications (based on SANS241: 2005) Required compliance 99% min to Class II	No of results	Achieved compliance levels Class I	Achieved compliance levels Class II
SPECIFICATIONS						
Chemical and Physical properties						
Colour	(mg / l as Pt)	< 20	≤ 50	701	100.0%	100.0%
Conductivity	(mS / m)	< 150	≤ 370	1864	100.0%	100.0%
pH	(pH units)	≥ 5 to ≤ 9.5	≥ 4 to ≤ 10	1864	100.0%	100.0%
Turbidity	(NTU)	< 1	≤ 5	3208	100.0%	100.0%
Total Dissolved Solids	(mg / l)	< 1000	≤ 2400	1864	100.0%	100.0%
Taste	(FTN)	< 5	≤ 10	748	100.0%	100.0%
Odour	(TON)	< 5	≤ 10	748	100.0%	100.0%
Organic Determinants						
Total Trihalomethanes	(ug / l)	< 200	≤ 300	794	100.0%	100.0%
Phenols as C6H5OH	(ug / l)	< 10	≤ 70	370	100.0%	100.0%
Dissolved Organic Carbon	(mg / l)	< 10	≤ 20	795	100.0%	100.0%
Micro Elements						
Antimony	(µg / l as Sb)	< 10	≤ 50	701	100.0%	100.0%
Arsenic	(µg / l as As)	< 10	≤ 50	741	100.0%	100.0%
Cadmium	(µg / l as Cd)	< 5	≤ 10	749	100.0%	100.0%
Chromium (Total)	(µg / l as Cr)	< 100	≤ 500	749	100.0%	100.0%
Cobalt	(µg / l as Co)	< 500	≤ 1000	749	100.0%	100.0%
Cyanide (Recoverable)	(µg / l as CN)	< 50	≤ 70	694	100.0%	100.0%
Lead	(µg / l as Pb)	< 20	≤ 50	746	100.0%	100.0%
Mercury	(µg / l as Hg)	< 1	≤ 5	701	100.0%	100.0%
Nickel	(µg / l as Ni)	< 150	≤ 350	749	100.0%	100.0%
Selenium	(µg / l as Se)	< 20	≤ 50	741	100.0%	100.0%
Vanadium	(µg / l as V)	< 200	≤ 500	749	100.0%	100.0%
Macro Elements & Miscellaneous Determinants						
Aluminium	(mg / l as Al)	< 0.3	≤ 0.5	750	99.9%	100.0%
Ammonia	(mg / l as N)	< 1	≤ 2	751	100.0%	100.0%
Calcium	(mg / l as Ca)	< 150	≤ 300	750	100.0%	100.0%
Chloride	(mg / l as Cl)	< 200	≤ 600	751	100.0%	100.0%
Copper	(mg / l as Cu)	< 1	≤ 2	750	100.0%	100.0%
Fluoride	(mg / l as F)	< 1	≤ 1.5	751	100.0%	100.0%
Iron	(mg / l as Fe)	< 0.2	≤ 2	747	100.0%	100.0%
Magnesium	(mg / l as Mg)	< 70	≤ 100	745	100.0%	100.0%
Manganese	(mg / l as Mn)	< 0.1	≤ 1	749	100.0%	100.0%
Nitrate & Nitrite	(mg / l as N)	< 10	≤ 20	751	100.0%	100.0%
Potassium	(mg / l as K)	< 50	≤ 100	750	100.0%	100.0%
Sodium	(mg / l as Na)	< 200	≤ 400	749	100.0%	100.0%
Sulphate	(mg / l as SO4)	< 400	≤ 600	751	100.0%	100.0%
Zinc	(mg / l as Zn)	< 5	≤ 10	748	100.0%	100.0%
Microbiological						
E. Coli	(cfu per 100 ml)	minimum of 95% of the original results shall be non-detected	minimum of 99% of the original and repeat/consecutive results shall be non-detected	3210	100.0%	100.0%
Other Determinants as required by supply contract (3),(4)						
Free chlorine and monochloramine	(mg / l)	≥ 0.1 min 95% compliance		3210	97.9%	
FOR MONITORING/REPORTING PURPOSES ONLY (2)						
		Guideline 95 % Min compliance	**Guideline** 99 % Min compliance		**Achieved compliance levels** 95 % Min	**Achieved compliance levels** 99 % Min
Microbiological (5)						
Standard Plate Count	(cfu per 1 ml)	< 500	< 5000	3210	99.9%	100.0%
Total Coliforms	(cfu per 100 ml)	Not detected	< 10	3210	99.3%	99.9%
Performance Index					99.79%	99.99%

Notes :

(1) Specification date of effect : July 2006

(2) Guideline derived from SANS 241: 2005 operations alert and industry practices

(3) Complince for Free and monochloramine is against 0.2 mg/l for areas in the chlorinated system

(4) Compliance for Free and monochloramine is against 0.1 mg/l for areas in the chloraminated system after 30 June 2014

(5) Compliance for Standard Plate Count is against 100 cfu per 1ml before 30 June 2014 and 500 cfu per 1ml after 30 June 2014 mg/l for areas in the chloraminated system

Ekurhuleni Municipality Water Quality Report

July 2015 to June 2016 — Date generated : 04 July 2016

Parameter	Units of measure	Specifications (based on SANS241: 2005) Required compliance: 95% min to Class I	Specifications (based on SANS241: 2005) Required compliance: 99% min to Class II	No of results	Achieved compliance levels: Class I	Achieved compliance levels: Class II
SPECIFICATIONS						
Chemical and Physical properties						
Colour	(mg / l as Pt)	< 20	≤ 50	735	100.0%	100.0%
Conductivity	(mS / m)	< 150	≤ 370	1949	100.0%	100.0%
pH	(pH units)	≥ 5 to ≤ 9.5	≥ 4 to ≤ 10	1946	100.0%	100.0%
Turbidity	(NTU)	< 1	≤ 5	3292	100.0%	100.0%
Total Dissolved Solids	(mg / l)	< 1000	≤ 2400	1949	100.0%	100.0%
Taste	(FTN)	< 5	≤ 10	780	100.0%	100.0%
Odour	(TON)	< 5	≤ 10	780	100.0%	100.0%
Organic Determinants						
Total Trihalomethanes	(ug / l)	< 200	≤ 300	827	100.0%	100.0%
Phenols as C6H5OH	(ug / l)	< 10	≤ 70	392	100.0%	100.0%
Dissolved Organic Carbon	(mg / l)	< 10	≤ 20	826	100.0%	100.0%
Micro Elements						
Antimony	(µg / l as Sb)	< 10	≤ 50	784	100.0%	100.0%
Arsenic	(µg / l as As)	< 10	≤ 50	788	100.0%	100.0%
Cadmium	(µg / l as Cd)	< 5	≤ 10	788	100.0%	100.0%
Chromium (Total)	(µg / l as Cr)	< 100	≤ 500	788	100.0%	100.0%
Cobalt	(µg / l as Co)	< 500	≤ 1000	788	100.0%	100.0%
Cyanide (Recoverable)	(µg / l as CN)	< 50	≤ 70	730	100.0%	100.0%
Lead	(µg / l as Pb)	< 20	≤ 50	788	100.0%	100.0%
Mercury	(µg / l as Hg)	< 1	≤ 5	784	100.0%	100.0%
Nickel	(µg / l as Ni)	< 150	≤ 350	788	100.0%	100.0%
Selenium	(µg / l as Se)	< 20	≤ 50	788	100.0%	100.0%
Vanadium	(µg / l as V)	< 200	≤ 500	788	100.0%	100.0%
Macro Elements & Miscellaneous Determinants						
Aluminium	(mg / l as Al)	< 0.3	≤ 0.5	788	100.0%	100.0%
Ammonia	(mg / l as N)	< 1	≤ 2	898	99.9%	100.0%
Calcium	(mg / l as Ca)	< 150	≤ 300	788	100.0%	100.0%
Chloride	(mg / l as Cl)	< 200	≤ 600	788	100.0%	100.0%
Copper	(mg / l as Cu)	< 1	≤ 2	788	100.0%	100.0%
Fluoride	(mg / l as F)	< 1	≤ 1.5	788	100.0%	100.0%
Iron	(mg / l as Fe)	< 0.2	≤ 2	787	99.9%	100.0%
Magnesium	(mg / l as Mg)	< 70	≤ 100	788	100.0%	100.0%
Manganese	(mg / l as Mn)	< 0.1	≤ 1	788	100.0%	100.0%
Nitrate & Nitrite	(mg / l as N)	< 10	≤ 20	898	100.0%	100.0%
Potassium	(mg / l as K)	< 50	≤ 100	788	100.0%	100.0%
Sodium	(mg / l as Na)	< 200	≤ 400	788	100.0%	100.0%
Sulphate	(mg / l as SO4)	< 400	≤ 600	788	100.0%	100.0%
Zinc	(mg / l as Zn)	< 5	≤ 10	788	100.0%	100.0%
Microbiological						
E. Coli	(cfu per 100 ml)	minimum of 95% of the original results shall be non-detected	minimum of 99% of the original and repeat/consecutive results shall be non-detected	3308	100.0%	100.0%
Other Determinants as required by supply contract (3),(4)						
Free chlorine and monochloramine	(mg / l)	Chloraminated system: ≥ 0.1 min 95% compliance; Chlorinated system: ≥ 0.2 min 95% compliance		3307	97.8%	

FOR MONITORING/REPORTING PURPOSES ONLY (2)		Guideline: 95 % Min compliance	Guideline: 99 % Min compliance		Achieved compliance levels: 95 % Min	Achieved compliance levels: 99 % Min
Microbiological (5)						
Standard Plate Count	(cfu per 1 ml)	< 500	< 5000	3308	99.9%	100.0%
Total Coliforms	(cfu per 100 ml)	Not detected	< 10	3308	99.5%	100.0%
Performance Index					99.79%	100.00%

Notes :

(1) Specification date of effect : July 2006

(2) Guideline derived from SANS 241: 2005 operations alert and industry practices

(3) Complince for Free and monochloramine is against 0.2 mg/l for areas in the chlorinated system

(4) Compliance for Free and monochloramine is against 0.1 mg/l for areas in the chloraminated system after 30 June 2014

(5) Compliance for Standard Plate Count is against 100 cfu per 1ml before 30 June 2014 and 500 cfu per 1ml after 30 June 2014 mg/l for areas in the chloraminated system

RAND WATER

Ekurhuleni Municipality Water Quality Report - 12 Month

July 2016 to June 2017

Date generated: 30 June 2017

Determinand	Measurement units	Risk	Required compliance to SANS 241: 2015 standard (%)	SANS 241: 2015 standard limits (1)	No of results	Achieved Compliance to SANS 241: 2015 Spec(%)	Descriptive statistics		
							Mean	Standard Deviation	Mean + 3 standard deviations
Microbiological determinands									
E. coli	(mpn per 100 mL)	Acute health	99.0%	0	3 492	100.0%	0	0.00	0
Total Coliforms	(mpn per 100 mL)	Operational	95.0%	10	3 492	99.9%	0	3.49	0
Heterotrophic Plate Count	(cfu per 1 mL)	Operational	95.0%	≤1000	3 474	100.0%	3	53.21	59
Cryptosporidium spp (5)	(org / 10 Litre)	Acute health	99.0%	0	186	100.0%	0	0.00	0
Giardia spp (5)	(org / 10 Litre)	Acute health	99.0%	0	186	100.0%	0	0.00	0
Somatic Coliphages (5)	(count per 10 mL)	Operational	95.0%	0	790	100.0%	0	0.00	0
Physical and Aesthetic determinands									
Colour	(mg / L as Pt-Co)	Aesthetic	95.0%	≤15	279	100.0%	5.02	0.15	6.00
Conductivity	(mS / m)	Aesthetic	95.0%	≤170	2 162	100.0%	17.89	2.10	22.00
Total Dissolved Solids	(mg / L)	Aesthetic	95.0%	≤1200	365	100.0%	130.43	12.74	150.00
Turbidity	(NTU)	Operational	95.0%	≤1	2 375	99.6%	0.30	0.29	0.48
Turbidity	(NTU)	Aesthetic	95.0%	≤5	2 375	99.8%	0.30	0.29	0.48
pH	(pH units)	Operational	95.0%	≥ 5 to ≤ 9.7	2 162	100.0%	7.99	0.19	8.44
Chemical Properties									
Macro determinands									
Ammonia	(mg / L as N)	Aesthetic	95.0%	≤1.5	2 126	100.0%	0.27	0.16	0.63
Chloride	(mg / L as Cl)	Aesthetic	95.0%	≤300	260	100.0%	8.61	1.51	12.00
Free chlorine (2)	(mg / L as Cl_2)	Chronic health	97.0%	≤5	3 499	100.0%	0.19	0.30	1.40
Monochloramine (3)	(mg / L as Cl_2)	Chronic health	97.0%	≤4.1	3 499	100.0%	1.43	0.69	2.15
Fluoride	(mg / L as F)	Chronic health	97.0%	≤1.5	260	100.0%	0.17	0.04	0.33
Nitrate	(mg / L as N)	Acute health	99.0%	≤11	2 080	100.0%	0.50	0.23	1.10
Nitrite	(mg / L as N)	Acute health	99.0%	≤0.9	2 119	99.9%	0.05	0.07	0.37
Combined nitrate plus nitrite	(NO_3/0.9 + NO_3/11)	Acute health	99.0%	≤1	2 080	99.9%	0.10	0.09	0.49
Residual disinfectant (4)	(mg / L)	Operational	95.0%	≥0.1 Sum of Free and Monochloramine	3 499	97.3%	1.61	0.56	2.20
Sodium	(mg / L as Na)	Aesthetic	95.0%	≤200	271	100.0%	7.49	0.92	9.43
Sulphate	(mg / L as SO_4)	Aesthetic	95.0%	≤250	260	100.0%	11.25	1.72	15.00
Sulphate	(mg / L as SO_4)	Acute health	99.0%	≤500	260	100.0%	11.25	1.72	15.00
Zinc	(mg / L as Zn)	Aesthetic	95.0%	≤5	271	100.0%	0.02	0.02	0.09
Micro determinands									
Aluminium	(µg / L as Al)	Operational	95.0%	≤300	271	100.0%	29.63	10.61	80.50
Antimony	(µg / L as Sb)	Chronic health	97.0%	≤20	266	100.0%	0.50	0.00	0.50
Arsenic	(µg / L as As)	Chronic health	97.0%	≤10	266	100.0%	0.87	0.55	2.71
Barium	(µg / L as Ba)	Chronic health	97.0%	≤700	271	100.0%	32.38	5.45	42.00
Boron	(µg / L as B)	Chronic health	97.0%	≤2400	271	100.0%	25.00	0.00	25.00
Cadmium	(µg / L as Cd)	Chronic health	97.0%	≤3	266	100.0%	2.50	0.00	2.50
Chromium (Total)	(µg / L as Cr)	Chronic health	97.0%	≤50	271	100.0%	15.00	0.00	15.00
Copper	(µg / L as Cu)	Chronic health	97.0%	≤2000	271	100.0%	10.75	2.89	21.90
Cyanide (Recoverable)	(µg / L as CN)	Acute health	99.0%	≤200	266	100.0%	5.06	0.53	6.65
Iron	(µg / L as Fe)	Chronic health	97.0%	≤2000	271	100.0%	18.50	25.58	106.00
Iron	(µg / L as Fe)	Aesthetic	95.0%	≤300	271	99.6%	18.50	25.58	106.00
Lead	(µg / L as Pb)	Chronic health	97.0%	≤10	266	100.0%	0.36	0.57	3.65
Manganese	(µg / L as Mn)	Chronic health	97.0%	≤400	271	100.0%	10.07	0.70	11.20
Manganese	(µg / L as Mn)	Aesthetic	95.0%	≤100	271	100.0%	10.07	0.70	11.20
Mercury	(µg / L as Hg)	Chronic health	97.0%	≤6	266	100.0%	0.80	0.00	0.80
Nickel	(µg / L as Ni)	Chronic health	97.0%	≤70	271	100.0%	10.00	0.00	10.00
Selenium	(µg / L as Se)	Chronic health	97.0%	≤40	266	100.0%	1.07	1.14	6.77
Uranium	(µg / L as U)	Chronic health	97.0%	≤30	266	100.0%	0.25	0.16	0.96
Organic determinands									
Total Organic Carbon	(mg / L)	Chronic health	97.0%	≤10	261	100.0%	2.94	0.82	5.50
Phenols as C_6H_5OH	(µg / L)	Aesthetic	95.0%	≤10	275	100.0%	4.03	1.75	5.00
Chloroform - $CHCl_3$	(µg / L)	Chronic health	97.0%	≤300	274	100.0%	30.08	16.01	66.00
Bromoform - $CHBr_3$	(µg / L)	Chronic health	97.0%	≤100	274	100.0%	0.50	0.00	0.50
Dibromochloromethane - $CHBr_2Cl$	(µg / L)	Chronic health	97.0%	≤100	274	100.0%	2.25	0.79	4.30
Bromodichloromethane - $CHBrCl_2$	(µg / L)	Chronic health	97.0%	≤60	274	100.0%	11.07	2.69	16.00
Combined trihalomethanes	($CHCl_3$/300 + $CHBr_3$/100 + $CHBr_2Cl$/100 + $CHBrCl_2$/60)	Chronic health	97.0%	≤1	274	100.0%	0.31	0.09	0.50
Total Microcystin (5)	(µg / L)	Chronic health	97.0%	≤1	187	100.0%	0.36	0.00	0.36
For monitoring/reporting purposes only (6)									
Calcium	(mg / L as Ca)	Aesthetic	not applicable	≤150	271	100.0%	17.87	2.00	23
Hardness	(mg / L as $CaCO_3$)	Operational	not applicable	≥ 20 to ≤ 200	271	100.0%	63.71	5.81	75.56
Magnesium	(mg / L as Mg)	Aesthetic	not applicable	≤70	271	100.0%	5.50	0.63	6.80
Potassium	(mg / L as K)	Aesthetic	not applicable	≤50	271	100.0%	2.37	0.67	3.70

Water quality risk indices

Risk	Required compliance to SANS 241: 2015 standard	Overall Compliance- SANS 241
Acute health microbiological	99.00%	100.00%
Acute health chemical	99.00%	99.94%
Chronic health	97.00%	100.00%
Aesthetic	95.00%	99.93%
Operational	95.00%	99.34%

Notes:

(1) Specification date of effect : 1 July 2016

(4) Residual disinfectant : Results from chloraminated system

(3) Monochloramine : Results are from the choraminated systems

(4) Residual disinfectant : Results from chloraminated system

(5) Measured at water treatment works exit points

(6) Customer request: Results not included in the risk indices compliance calculations

Mighty Mohotsi
Information Management
Scientific Services

RAND WATER

Ekurhuleni Municipality Water Quality Report - 12 Month

23 May 2017 to 22 May 2018

Date generated: 01 June 2018

Determinand	Measurement units	Risk	Required compliance to SANS 241: 2015 standard (%)	SANS 241: 2015 standard limits (1)	No of results	Achieved Compliance to SANS 241: 2015 Spec(%)	Descriptive statistics		
							Mean	Standard Deviation	Mean + 3 standard deviations
Microbiological determinands									
E. coli	(mpn per 100 mL)	Acute health	99.0%	0	3 839	99.9%	0	0.15	0
Total Coliforms	(mpn per 100 mL)	Operational	95.0%	10	3 839	99.9%	0	3.42	0
Heterotrophic Plate Count	(cfu per 1 mL)	Operational	95.0%	≤1000	3 839	100.0%	3	51.85	50
Cryptosporidium spp (5)	(org / 10 Litre)	Acute health	99.0%	0	183	100.0%	0	0.00	0
Giardia spp (5)	(org / 10 Litre)	Acute health	99.0%	0	183	100.0%	0	0.00	0
Somatic Coliphages (5)	(count per 10 mL)	Operational	95.0%	0	809	100.0%	0	0.00	0
Physical and Aesthetic determinands									
Colour	(mg / L as Pt-Co)	Aesthetic	95.0%	≤15	269	100.0%	5.16	0.72	8.00
Conductivity	(mS / m)	Aesthetic	95.0%	≤170	2 382	100.0%	19.15	2.05	23.00
Total Dissolved Solids	(mg / L)	Aesthetic	95.0%	≤1200	366	100.0%	135.48	7.50	150.00
Turbidity	(NTU)	Operational	95.0%	≤1	2 580	99.1%	0.34	0.52	0.66
Turbidity	(NTU)	Aesthetic	95.0%	≤5	2 580	99.8%	0.34	0.52	0.66
pH	(pH units)	Operational	95.0%	≥ 5 to ≤ 9.7	2 383	100.0%	7.90	0.16	8.30
Chemical Properties									
Macro determinands									
Ammonia	(mg / L as N)	Aesthetic	95.0%	≤1.5	2 220	100.0%	0.30	0.16	0.59
Chloride	(mg / L as Cl)	Aesthetic	95.0%	≤300	295	100.0%	10.31	1.19	13.00
Free chlorine (2)	(mg / L as Cl_2)	Chronic health	97.0%	≤5	3 838	100.0%	0.19	0.28	1.44
Monochloramine (3)	(mg / L as Cl_2)	Chronic health	97.0%	≤4.1	3 316	100.0%	1.54	0.57	2.15
Fluoride	(mg / L as F)	Chronic health	97.0%	≤1.5	291	100.0%	0.19	0.01	0.22
Nitrate	(mg / L as N)	Acute health	99.0%	≤11	2 303	100.0%	0.47	0.09	0.86
Nitrite	(mg / L as N)	Acute health	99.0%	≤0.9	2 333	100.0%	0.05	0.06	0.31
Combined nitrate plus nitrite (7)	(mg / L as N)	Acute health	99.0%	≤1	2 303	100.0%	0.10	0.06	0.39
Residual disinfectant (4)	(mg / L)	Operational	95.0%	≥0.1 Sum of Free and Monochloramine	3 838	97.5%	1.52	0.61	2.20
Sodium	(mg / L as Na)	Aesthetic	95.0%	≤200	274	100.0%	8.52	1.33	11.27
Sulphate	(mg / L as SO_4)	Aesthetic	95.0%	≤250	289	100.0%	13.60	1.00	16.00
Sulphate	(mg / L as SO_4)	Acute health	99.0%	≤500	289	100.0%	13.60	1.00	16.00
Zinc	(mg / L as Zn)	Aesthetic	95.0%	≤5	274	100.0%	0.02	0.03	0.06
Micro determinands									
Aluminium	**(µg / L as Al)**	Operational	95.0%	≤300	274	100.0%	35.04	16.45	93.32
Antimony	**(µg / L as Sb)**	Chronic health	97.0%	≤20	269	100.0%	0.52	0.15	0.90
Arsenic	**(µg / L as As)**	Chronic health	97.0%	≤10	269	100.0%	0.89	0.90	4.36
Barium	**(µg / L as Ba)**	Chronic health	97.0%	≤700	272	100.0%	34.43	7.57	58.00
Boron	**(µg / L as B)**	Chronic health	97.0%	≤2400	274	100.0%	29.07	35.88	184.70
Cadmium	**(µg / L as Cd)**	Chronic health	97.0%	≤3	269	100.0%	2.50	0.00	2.50
Chromium (Total)	**(µg / L as Cr)**	Chronic health	97.0%	≤50	274	100.0%	15.00	0.00	15.00
Copper	**(µg / L as Cu)**	Chronic health	97.0%	≤2000	274	100.0%	11.99	15.41	30.00
Cyanide (Recoverable)	**(µg / L as CN)**	Acute health	99.0%	≤200	269	100.0%	5.21	1.57	8.35
Iron	**(µg / L as Fe)**	Chronic health	97.0%	≤2000	273	100.0%	22.76	22.91	109.20
Iron	**(µg / L as Fe)**	Aesthetic	95.0%	≤300	273	100.0%	22.76	22.91	109.20
Lead	**(µg / L as Pb)**	Chronic health	97.0%	≤10	269	100.0%	0.40	0.75	3.78
Manganese	**(µg / L as Mn)**	Chronic health	97.0%	≤400	274	100.0%	10.46	3.92	25.78
Manganese	**(µg / L as Mn)**	Aesthetic	95.0%	≤100	274	100.0%	10.46	3.92	25.78
Mercury	**(µg / L as Hg)**	Chronic health	97.0%	≤6	269	100.0%	0.80	0.00	0.80
Nickel	**(µg / L as Ni)**	Chronic health	97.0%	≤70	274	100.0%	10.00	0.00	10.00
Selenium	**(µg / L as Se)**	Chronic health	97.0%	≤40	269	100.0%	0.92	1.05	5.80
Uranium	**(µg / L as U)**	Chronic health	97.0%	≤30	269	100.0%	0.28	0.62	1.80
Organic determinands									
Total Organic Carbon	(mg / L)	Chronic health	97.0%	≤10	269	100.0%	3.83	0.62	5.73
Phenols as C_6H_5OH	**(µg / L)**	Aesthetic	95.0%	≤10	283	100.0%	5.00	0.00	5.00
Chloroform - $CHCl_3$	**(µg / L)**	Chronic health	97.0%	≤300	269	100.0%	43.68	7.70	59.00
Bromoform - $CHBr_3$	**(µg / L)**	Chronic health	97.0%	≤100	269	100.0%	0.50	0.00	0.50
Dibromochloromethane - $CHBr_2Cl$	**(µg / L)**	Chronic health	97.0%	≤100	269	100.0%	1.42	0.88	3.43
Bromodichloromethane - $CHBrCl_2$	**(µg / L)**	Chronic health	97.0%	≤60	269	100.0%	14.00	2.00	18.32
Combined trihalomethanes (8)	**(µg / L)**	Chronic health	97.0%	≤1	269	100.0%	0.40	0.05	0.53
Total Microcystin (5)	**(µg / L)**	Chronic health	97.0%	≤1	186	100.0%	0.32	0.02	0.36
For monitoring/reporting purposes only (6)									
Calcium	(mg / L as Ca)	Aesthetic	not applicable	≤150	274	100.0%	17.33	3.60	26.35
Hardness	(mg / L as $CaCO_3$)	Operational	not applicable	≥ 20 to ≤ 200	274	99.3%	64.84	13.43	112.70
Magnesium	(mg / L as Mg)	Aesthetic	not applicable	≤70	272	100.0%	6.26	2.13	10.58
Potassium	(mg / L as K)	Aesthetic	not applicable	≤50	273	100.0%	3.80	0.82	4.73
Rand Water Risk Determinands (RWRD)									
Odour	TON	RWRD	95.0%	≤2	679	100.0%	1.00	0.00	1.00
Taste	FTN	RWRD	95.0%	≤2	679	100.0%	1.00	0.00	1.00

Water quality risk indices

Risk	Required compliance to SANS 241: 2015 standard	Overall Compliance-SANS 241
Acute health microbiological	99.00%	99.88%
Acute health chemical	99.00%	100.00%
Chronic health	97.00%	100.00%
Aesthetic	95.00%	99.96%
Operational	95.00%	99.29%

Notes:

(1) Specification date of effect : 1 July 2016

(2) Free chlorine : Results from chloraminated system

(3) Monochloramine : Results are from the chloraminated systems

(4) Residual disinfectant : Results from chloraminated system

(5) Measured at water treatment works exit points

(6) Customer request: Results not included in the risk indices compliance calculations

(7) (NO2/0.9 + NO3/11)

(8) (CHCl3/300 + CHBr3/100 + CHBr2Cl/100 + CHBrCl2/60)