

Lesedi 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									
<i>E. coli</i>	(mpn per 100 mL)	Acute health	99.0%	0	451	100.0%	0	0.00	0
Total Coliforms	(mpn per 100 mL)	Operational	95.0%	10	451	100.0%	0	0.26	1
Heterotrophic Plate Count	(cfu per 1 mL)	Operational	95.0%	≤1000	451	100.0%	5	38.93	71
<i>Cryptosporidium spp</i> (5)	(org / 10 Litre)	Acute health	99.0%	0	183	100.0%	0	0.00	0
<i>Giardia spp</i> (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	52	100.0%	5.13	0.40	6.49
Conductivity	(mS / m)	Aesthetic	95.0%	≤170	449	100.0%	19.20	1.68	22.00
Total Dissolved Solids	(mg / L)	Aesthetic	95.0%	≤1200	56	100.0%	136.61	7.33	154.50
Turbidity	(NTU)	Operational	95.0%	≤1	448	100.0%	0.31	0.09	0.49
Turbidity	(NTU)	Aesthetic	95.0%	≤5	448	100.0%	0.31	0.09	0.49
pH	(pH units)	Operational	95.0%	≥ 5 to ≤ 9.7	445	100.0%	7.79	0.17	8.40
Chemical Properties									
Macro determinands									
Ammonia	(mg / L as N)	Aesthetic	95.0%	≤1.5	443	100.0%	0.21	0.14	0.46
Chloride	(mg / L as Cl)	Aesthetic	95.0%	≤300	52	100.0%	10.52	0.95	13.00
Free chlorine (2)	(mg / L as Cl ₂)	Chronic health	97.0%	≤5	451	100.0%	0.10	0.18	1.01
Monochloramine (3)	(mg / L as Cl ₂)	Chronic health	97.0%	≤4.1	451	100.0%	0.92	0.52	1.77
Fluoride	(mg / L as F)	Chronic health	97.0%	≤1.5	52	100.0%	0.19	0.02	0.24
Nitrate	(mg / L as N)	Acute health	99.0%	≤11	449	100.0%	0.47	0.07	0.70
Nitrite	(mg / L as N)	Acute health	99.0%	≤0.9	449	99.6%	0.13	0.16	0.61
Combined nitrate plus nitrite (7)	(mg / L as N)	Acute health	99.0%	≤1	449	99.6%	0.19	0.18	0.71
Residual disinfectant (4)	(mg / L)	Operational	95.0%	≥0.1 Sum of Free and Monochloramine	451	94.0%	1.02	0.52	1.86
Sodium	(mg / L as Na)	Aesthetic	95.0%	≤200	59	100.0%	8.69	1.17	12.42
Sulphate	(mg / L as SO ₄)	Aesthetic	95.0%	≤250	52	100.0%	13.67	1.12	16.00
Sulphate	(mg / L as SO ₄)	Acute health	99.0%	≤500	52	100.0%	13.67	1.12	16.00
Zinc	(mg / L as Zn)	Aesthetic	95.0%	≤5	59	100.0%	0.02	0.01	0.05
Micro determinands									
Aluminium	(µg / L as Al)	Operational	95.0%	≤300	59	100.0%	40.05	11.64	66.04
Antimony	(µg / L as Sb)	Chronic health	97.0%	≤20	52	100.0%	0.55	0.34	1.87
Arsenic	(µg / L as As)	Chronic health	97.0%	≤10	52	100.0%	0.86	0.76	2.89
Barium	(µg / L as Ba)	Chronic health	97.0%	≤700	59	100.0%	36.83	7.96	58.42
Boron	(µg / L as B)	Chronic health	97.0%	≤2400	59	100.0%	25.00	0.00	25.00
Cadmium	(µg / L as Cd)	Chronic health	97.0%	≤3	52	100.0%	2.50	0.00	2.50
Chromium (Total)	(µg / L as Cr)	Chronic health	97.0%	≤50	59	100.0%	15.00	0.00	15.00
Copper	(µg / L as Cu)	Chronic health	97.0%	≤2000	59	100.0%	10.75	3.49	26.30
Cyanide (Recoverable)	(µg / L as CN)	Acute health	99.0%	≤200	52	100.0%	5.09	0.46	7.29
Iron	(µg / L as Fe)	Chronic health	97.0%	≤2000	59	100.0%	16.42	10.08	43.88
Iron	(µg / L as Fe)	Aesthetic	95.0%	≤300	59	100.0%	16.42	10.08	43.88
Lead	(µg / L as Pb)	Chronic health	97.0%	≤10	52	100.0%	0.25	0.18	1.10
Manganese	(µg / L as Mn)	Chronic health	97.0%	≤400	59	100.0%	10.07	0.37	12.00
Manganese	(µg / L as Mn)	Aesthetic	95.0%	≤100	59	100.0%	10.07	0.37	12.00
Mercury	(µg / L as Hg)	Chronic health	97.0%	≤6	52	100.0%	0.80	0.00	0.80
Nickel	(µg / L as Ni)	Chronic health	97.0%	≤70	59	100.0%	10.00	0.00	10.00
Selenium	(µg / L as Se)	Chronic health	97.0%	≤40	52	100.0%	0.96	1.04	5.23
Uranium	(µg / L as U)	Chronic health	97.0%	≤30	52	100.0%	0.25	0.27	1.46
Organic determinands									
Total Organic Carbon	(mg / L)	Chronic health	97.0%	≤10	52	100.0%	3.91	0.72	5.74
Phenols as C ₆ H ₅ OH	(µg / L)	Aesthetic	95.0%	≤10	30	100.0%	5.00	0.00	5.00
Chloroform - CHCl ₃	(µg / L)	Chronic health	97.0%	≤300	52	100.0%	47.08	7.39	63.96
Bromoform - CHBr ₃	(µg / L)	Chronic health	97.0%	≤100	52	100.0%	0.50	0.00	0.50
Dibromochloromethane - CHBr ₂ Cl	(µg / L)	Chronic health	97.0%	≤100	52	100.0%	1.52	0.86	3.15
Bromodichloromethane - CHBrCl ₂	(µg / L)	Chronic health	97.0%	≤60	52	100.0%	14.93	2.05	19.00
Combined trihalomethanes (8)	(µg / L)	Chronic health	97.0%	≤1	52	100.0%	0.43	0.05	0.54
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	59	100.0%	17.32	2.79	23.42
Hardness	(mg / L as CaCO ₃)	Operational	not applicable	≥ 20 to ≤ 200	59	100.0%	64.47	9.80	87.42
Magnesium	(mg / L as Mg)	Aesthetic	not applicable	≤70	59	100.0%	6.11	1.03	8.87
Potassium	(mg / L as K)	Aesthetic	not applicable	≤50	59	100.0%	3.72	0.32	4.44
Rand Water Risk Determinands (RWRD)									
Odour	TON	RWRD	95.0%	≤2	231	100.0%	1.00	0.00	1.00
Taste	FTN	RWRD	95.0%	≤2	232	100.0%	1.00	0.00	1.00

Risk	Required compliance to SANS 241: 2015 standard	Overall Compliance-SANS 241
Acute health microbiological	99.00%	100.00%
Acute health chemical	99.00%	99.72%
Chronic health	97.00%	100.00%
Aesthetic	95.00%	100.00%
Operational	95.00%	99.13%

- Notes:**
- Specification date of effect : 1 July 2016
 - Free chlorine : Results from chloraminated system
 - Monochloramine : Results are from the chloraminated systems
 - Residual disinfectant : Results from chloraminated system
 - Measured at water treatment works exit points
 - Customer request: Results not included in the risk indices compliance calculations
 - (NO₂/0.9 + NO₃/11)
 - (CHCl₃/300 + CHBr₃/100 + CHBr₂Cl/100 + CHBrCl₂/60)