Rand Water

Quarterly Water Quality Status of the Wilge River Catchment

1 Jan 2018 - 31 Dec 2018

RAND WATER

Sample Points	Sample Point Description	Quarter	Ammonia	Chemical Oxygen Demand	Chloride	Conductivity	*E.coli*	Fluoride	M-Alkalinity	Nitrate	pH	Phosphate	Sulphate
WLA	Lesotho Highlands Ash River Outfall	1	<0.05	<10	<1.7	11	714	<0.19	32	0.24	7.0	<0.2	4
		2	0.06	22	<1.7	10	149	<0.19	40	0.48	7.3	<0.2	6
		3	<0.05	<10	<2	8	35	<0.19	36	<0.44	7.4	<0.2	6
	28° 26.369'S 28° 23.827'E	4	0.06	<10	<2	9	38	<0.2	37	<0.5	7.4	<0.25	6
WLB	Wilge Liebenbergsvlei @ Bethlehem	1	0.23	<10	38	11		0.29	39	<0.44	7.1	<0.2	16
		2	0.06	30	4	11		<0.19	77	<0.44	7.2	<0.2	6
		3	<0.05	<10	<2	8		<0.19	37	<0.44	7.5	<0.2	6
	28° 11.448'S 28° 20.616'E	4	0.07	<10	<2	10		<0.2	39	<0.5	7.6	<0.25	6
WJ	Jordaanspruit below Bethlehem	1	3.70	38	31	38		0.20	148	0.21	7.1	2.18	12
		2	1.58	25	23	21		<0.19	61	0.90	7.2	0.44	18
		3	11.03	32	43	51		<0.19	163	0.86	7.3	1.97	22
	28° 10.027'S 28° 18.680'E	4	9.37	49	54	58		0.38	167	2.50	7.2	1.98	27
WLBB	Wilge River below Bethlehem	1	<0.05	<10	3	10		<0.19	37	1.20	7.2	<0.2	5
		2	0.07	44	3	10		<0.19	38	<0.44	7.2	<0.2	7
		3	0.05	<10	<2	11		<0.19	38	<0.44	7.5	<0.2	6
	28° 4.051'S 28° 18.632'E	4	0.11	<10	<2	9		<0.2	38	<0.5	7.5	<0.25	6
WLR	Wilge River @ Reitz	1	<0.05	<10	2	10		<0.19	37	0.17	7.3	<0.2	4
		2	0.07	49	3	13		<0.19	107	<0.44	7.2	<0.2	7
		3	0.02	<10	2	10		<0.19	37	<0.44	7.5	<0.2	7
	27° 42.075'S 28° 19.380'E	4	0.10	<10	<2	9		<0.2	39	<0.5	7.6	<0.25	6
WL	Liebenbergsvlei River between Tweeling & Frankfort	1	<0.05	11	3	12		<0.19	39	0.83	7.3	<0.2	6
		2	0.07	18	3	13		<0.19	48	<0.44	7.1	<0.2	7
		3	<0.05	<10	2	12		<0.19	38	<0.44	7.5	<0.2	6
	27° 28.249'S 28° 31.518'E	4	0.10	<10	2	10		<0.2	41	<0.5	7.5	<0.25	7
EQQ	Elands River below Qwa-Qwa	1	0.49	15	6	19		<0.15	60	0.98	7.2	0.45	9
		2	1.17	24	14	27		<0.19	90	0.64	7.4	<0.2	12
		3	3.83	15	18	39		<0.19	130	0.56	7.2	0.35	13
	28° 22.557'S 28° 51.635'E	4	4.55	35	18	52		0.25	155	<0.5	7.2	0.54	9
WE	Elands River @ Aberfeldy	1	0.09	16	7	21		0.17	67	0.94	7.3	<0.2	10
		2	0.20	15	13	25		<0.19	82	1.25	7.4	<0.2	12
		3	0.82	17	17	36		<0.19	142	2.03	7.6	<0.2	13
	28° 13.814'S 28° 51.046'E	4	0.83	21	19	39		0.24	148	2.43	7.5	0.45	9
STERK	Sterkfontein Dam	1	<0.05	<10	2	14		<0.19	43	<0.44	7.2	<0.2	4
		2											
		3	0.15	<10	2	11		<0.19	42	<0.44	7.6	<0.2	4
	28° 24.500'S 29° 2.238'E	4											
WN	Nuwejaarspruit d/s of Sterkfontein Dam	1	<0.05	15	3	13		<0.19	77	0.94	7.1	<0.2	3
		2	0.08	33	4	14		<0.19	105	<0.44	7.5	<0.2	5
		3	0.10	<10	2	14		<0.19	52	<0.44	7.6	<0.2	5
	28° 17.321'S 29° 5.465'E	4	0.18	27	2	11		<0.2	52	<0.5	7.6	<0.25	5
WAH	Wilge above Harrismith	1	0.94	27	4	14		<0.19	31	0.12	7.0	0.37	6
		2	0.10	23	14	32		<0.19	72	<0.44	6.7	<0.2	6
		3	<0.05	39	5	35		<0.19	106	<0.44	7.5	<0.2	7
	28° 18.366'S 29° 7.968'E	4	0.07	12	9	14		<0.2	54	<0.5	7.5	<0.25	10
WH	Wilge River below Harrismith	1	0.21	19	4	10		<0.19	48	3.80	6.9	<0.2	5
		2	1.03	15	8	21		<0.19	64	0.89	7.1	<0.2	7
		3	2.10	12	14	24		<0.19	91	0.81	7.2	<0.2	9
	28° 13.332'S 28° 57.945'E	4	4.75	32	15	23		0.32	75	1.43	7.2	1.13	8

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Sample Points	Sample Point Description	Quarter	Ammonia	Chemical Oxygen Demand	Chloride	Conductivity	*E.coli*	Fluoride	M-Alkalinity	Nitrate	pH	Phosphate	Sulphate
MR	Meul River downstream of Ribbokspruit	1	<0.05	12	6	14		<0.19	40	<0.44	7.3	0.76	9
		2											
		3											
	28° 1.591'S 29° 15.009'E	4	1.04	12	40	33		0.47	140	7.00	8.1	0.60	67
WM	Mollen River @ Letuka	1	<0.05	11	5	15		<0.19	37	<0.44	7.0	<0.2	10
		2											
		3											
	28° 1.403'S 28° 59.691'E	4	0.12	14	23	38		0.35	165	<0.5	7.9	<0.25	14
WMW	Wilge Meul @ Waaiwater	1	<0.05	16	4	8		<0.19	23	0.27	6.9	<0.2	4
		2	0.06	17	10	25		<0.19	115	0.82	7.5	<0.2	10
		3	<0.05	10	15	31		<0.19	123	1.03	7.9	<0.2	13
	27° 54.204'S 28° 48.452'E	4	0.08	20	22	32		0.26	137	<0.5	7.7	<0.25	12
WC	Cornelis River below Warden	1											
		2											
		3											
	27° 50.555'S 28° 57.644'E	4											
WAF	Wilge above Frankfort	1	0.05	14	4	15		<0.19	39	0.48	7.1	<0.2	7
		2	0.09	13	10	20		<0.19	71	<0.44	7.4	<0.2	14
		3	0.05	12	16	30		0.19	119	<0.44	7.7	<0.2	21
	27° 18.607'S 28° 31.977'E	4	0.07	10	37	39		0.36	125	0.73	7.5	<0.25	32
WF	Wilge River @ Frankfort	1	<0.2	18	3	16	727	0.22	78	4.30	7.5	0.10	16
		2	0.07	32	4	19	251	<0.19	60	<0.44	7.6	<0.2	8
		3	0.08	20	6	13	348	<0.19	47	<0.44	7.5	<0.2	13
	27° 16.311'S 28° 29.489'E	4	0.11	<10	5	11	283	0.23	44	0.52	7.6	<0.25	14

Key

WLA	Lesotho Highlands Ash River Outfall	1	<0.05	- 1 Jan to 31 Mar 2018
		2	0.06	- 1 Apr to 30 Jun 2018
		3	<0.05	- 1 Jul to 30 Sept 2018
	28° 26.369'S 28° 23.827'E	4	0.06	- 1 Oct to 31 Dec 2018

Water Quality Guidelines

- Ideal
- Acceptable
- Tolerable
- Unacceptable

Sewage Works Compliance (where applicable) to General Standard (GN 1191 Oct 1999)

Sample Points	Sample Point Description	Quarter	Ammonia	Chemical Oxygen Demand	Chloride	Conductivity	*Faecal coliforms*	Fluoride	M-Alkalinity	Nitrate	pH	Phosphate	Sulphate
S-BETH	Bethlehem Sewage Works	1	21.33	172	31	57	2 135 667	0.38	193	<0.44	6.9	3.10	20
		2	17.00	98	36	55	4 896 000	<0.19	172	<0.44	7.0	1.50	35
		3	26.67	128	36	56	2 677 667	<0.19	197	<0.44	7.0	2.23	28
	28° 12.823'S 28° 18.656'E	4	13.02	250	39	59	4 369 633	<0.2	218	<0.5	6.9	1.24	25
S-HSW	Harrismith Sewage Works	1	27.33	2083	42	77	594 000	0.37	308	<0.44	6.7	3.54	10
		2	32.00	147	46	84	5 059 333	<0.19	248	<0.44	6.8	3.27	11
		3	30.00	123	46	91	6 083 800	<0.19	323	<0.44	6.5	2.33	14
	28° 16.622'S 29° 5.363'E	4	28.00	283	61	91	5 097 333	<0.2	365	<0.5	6.8	2.87	15
S-QWAQWA	Qwa-Qwa Sewage Works	1											
		2	0.23	77	35	89	10	<0.19	185	<0.44	7.4	4.60	10
		3											
	28° 30.320'S 28° 49.472'E	4											
S-TSIAME	Tsiame Sewage Works	1	23.00	90	24	57	28 392	0.45	198	<0.44	7.1	5.27	20
		2	25.33	75	37	69	35 944	<0.19	207	<0.44	7.4	4.00	31
		3	25.00	81	39	64	2 751	<0.19	220	<0.44	7.4	2.93	46
	28° 16.780'S 28° 59.287'E	4	18.35	133	46	68	50 179	0.39	250	<0.5	7.3	2.61	37

Key

S-QWAQWA	Qwa-Qwa Sewage Works	1		- 1 Jan to 31 Mar 2018
		2	0.23	- 1 Apr to 30 Jun 2018
		3		- 1 Jul to 30 Sept 2018
	28° 30.320'S 28° 49.472'E	4		- 1 Oct to 31 Dec 2018

Water Quality Guidelines

- Acceptable
- Unacceptable

Sewage Works Compliance to General Standard (GN 1191 Oct 1999)

Variables	Measured as	Acceptable Management Target	Unacceptable
Physical			
Conductivity	mS/m	< 150	>= 150
pH	pH units	5.5 - 9.5	< 5.5; > 9.5
Organic			
Chemical Oxygen Demand (COD)*	mg/l	< 75	>= 75
Macro Elements			
Ammonia (NH_4)	mg/l	< 3	>= 3
Fluoride (F)	mg/l	< 1	>= 1
Nitrate (NO_3)	mg/l	< 15	>= 15
Phosphate (PO_4)	mg/l	< 10	>= 10
Bacteriological			
Faecal coliforms	counts/100ml	< 1,000	>= 1,000

**After removal of algae*

Visit Visit http://www.reservoir.co.za/ to find the water quality status report and forum dates