



Directorate: Utility Services
Department: Water & Sanitation

Scientific Services

**WATER QUALITY MONITORING OF RIVERS AND WETLANDS:
CHEMICAL ANALYSIS REPORT**

Sampled Date: 11 July 2016

ZEEKOE - ZEEKOEVLEI AND BIG PRINCESSVLEI

Determinand	Units	POC02	PP01	PP02	PV03	PVWEIR	SCV	ZEV1S	ZEV2S	ZEV3S	ZEV4S	ZEV5
Temperature*	°C	12.7	13.4	12.3	13.6	13.9	17.3	13.3	13.8	13.3	12.9	16.5
Dissolved Oxygen*	mg/l O	6.91	8.86	9.75	10.16	10.72	12.76	4.08	0.22	6.82	7.61	3.64
Oxygen Saturation*	%	65	85	91	98	103	133	39	2	65	72	37
Total Suspended Solids @ 105 °C	mg/l	14	<5	14	22	42	<5	6	18	5	<5	<5
pH @ 25 °C	-	7.9	7.8	7.8	8.0	7.8	8.3	7.7	7.6	8.0	8.0	7.6
Conductivity @ 25 °C	mS/m	155	94	100	50	51	58	95	106	95	95	121
COD	mg/l O	53	33	59	34	52	24	51	117	34	45	40
Total Nitrogen*	mg/l N	1.021	0.830	1.000	0.632	0.579	7.079	11.78	15.88	8.672	8.225	21.18
Soluble Ammonia*	mg/l N	0.016	0.024	0.015	0.029	0.022	0.057	9.105	15.25	7.306	6.940	19.50
Un-Ionised Ammonia*	mg/l N	0.000	0.000	0.000	0.001	0.000	0.004	0.124	0.172	0.196	0.180	0.270
Soluble Nitrite + Nitrate*	mg/l N	0.065	<0.050	<0.050	<0.050	<0.050	7.039	0.293	0.145	0.370	0.342	0.171
Total Phosphorus*	mg/l P	0.172	0.087	0.123	0.115	0.119	0.252	1.490	2.140	1.320	1.290	7.050
Orthophosphate*	mg/l P	0.148	0.013	0.042	<0.010	0.010	0.170	1.450	1.625	1.278	1.232	7.026
Secchi*	cm	-	-	-	40	40	-	90	40	60	60	-

Sampling Point Key

PV03 - Princessvlei-centre
SCV - Southfield Canal at Victoria Road
PP01 - Pelican Park South Pond near Zeekoevlei
ZEV1S - Home Bay in front of Zeekoevlei Yacht Club
ZEV3S - In front of Cape Peninsula Aquatic Club
ZEV5 - At cutoff drain outfall into the zeekoe canal

PVWEIR - Princessvlei near outlet weir
POC02 - End of Philippi Stormwater Outlet Channel
PP02 - Pelican Park North Pond near Zeekoevlei
ZEV2S - Opposite inlet of Big Lotus River
ZEV4S - SW corner approx 200m from weir

Weather:

COMMENTS:

COD = Chemical Oxygen Demand

Un-ionised Ammonia: Calculated using the measured soluble ammonia, temperature, pH and conductivity values. A value of 0.000 means that the un-ionised ammonia concentration is <0.004 mg/l N. DWAFF Target Water Quality Range =<0.007 mg/l N.

Technical Signatory:

Laboratory Head: Analytical Laboratory:

(In absence Deputy signature)

Name: Ismail Halday

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Signature: 

Signature: 

APPENDIX 1: TEST METHODS

Parameter	Test Method	Uncertainty of Measurement (Worst case UoM for a confidence level of 95%)
Turbidity	MM/WL_TM/03	7%
pH @ 25 °C	MM/CCH_TM/01	12%
Conductivity @ 25 °C	MM/CCH_TM/02	17%
Chemical Oxygen Demand	MM/AL_TM/01	11%
Total Suspended Solids @ 105 °C	MM/CCH_TM/21	11%
Chloride	ISO 15682	See Note 5
Nitrite	ISO 10304	See Note 5
Nitrate & Nitrite	ISO 13395	See Note 5
Free Chlorine	ISO 7393	See Note 5
Alkalinity	ISO 9963	See Note 5
Ammonia	ISO 5664	See Note 5
Biological Oxygen Demand	ISO 5815	See Note 5
Colour	ISO 7887	See Note 5
Cyanide	ISO 6703	See Note 5
Fluoride	ISO 10359	See Note 5
ICP-MS for Metals	ISO 17294	See Note 5
ICP-OES for Metals	ISO 11885	See Note 5
Phenols	ISO 14402	See Note 5
Silica	ISO 16264	See Note 5
Sulphate	ISO 22743	See Note 5
Sulphide	ISO 33358	See Note 5
Total Kjeldahl Nitrogen	ISO 5663	See Note 5
Total & Ortho Phosphate	ISO 15681	See Note 5
Total Persulfate Oxidizable Nitrogen	ISO 11905	See Note 5
Total Organic Carbon	ISO 8245	See Note 5

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