





b.n. kirk (natal) cc <small>Reg.No. CK 1994/015428/23</small>														
Water, Sewage & Industrial Effluent Testing Laboratory														
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CERTIFICATE OF ANALYSIS - BN Kirk (Natal) cc														
WORKS :	KWADUKUZA RIVER SURVEY										BNK Ref.:	S37 - Kwadukuza River Survey		
CLIENT:	Ilembe District Municipality										Report Date:	14-04-2014		
Address	P.O. Box 1788 Kwadukuza 4450										Date Received:	02-04-2014		
ATTENTION :	Mr. H.N. Maphumulo										Analysis Date:	07-04-2014		
e-mail	Group 2 Details													
In accordance with the visit schedule and procedure QP21.				Date Sampled										
Sample Date	2014	Test Method No.	Units	08-01	04-02	03-03	02-04							
Mvoti River above WTW														
pH	P09/042	pH units		7.4	7.2	7.1	7.3							
Conductivity	P09/044	mS/m		21	15	22	18							
Ammonia as NH ³	P09/076	mg/l		<0.1	<0.1	1.0	<0.1							
Nitrate as NO ³	P09/018	mg/l		0.50	<0.01	4.0	0.30							
Nitrate as N ^d	P09/018	mg/l		0.11	0.00	0.90	0.07							
o-Phosphate as PO ⁴	P09/023	mg/l		0.05	0.35	0.18	0.08							
o-Phosphate as P	P09/023	mg/l		0.02	0.11	0.06	0.03							
Chemical oxygen demand	P09/006	mg/l		<20	23	<20	<20							
Chloride as Cl ⁻ {A}	P09/007	mg/l		26	21	30	23							
E.coli ^a {A}	P09/046	/100ml		24	70	760	100							
Faecal coliforms ^b {A}	P09/046	/100ml		36	82	764	110							
Sample Date	2014	Test Method No.	Units	08-01	04-02	03-03	02-04							
Mvoti River at Addington Weir														
pH	P09/042	pH units		7.5	7.5	7.4	7.7							
Conductivity	P09/044	mS/m		22	19	21	17							
Ammonia as NH ³	P09/076	mg/l		<0.1	<0.1	<0.1	<0.1							
Nitrate as NO ³	P09/018	mg/l		0.40	0.33	6.3	0.30							
Nitrate as N ^d	P09/018	mg/l		0.09	0.07	1.4	0.07							
o-Phosphate as PO ⁴	P09/023	mg/l		0.04	0.22	0.26	0.06							
o-Phosphate as P	P09/023	mg/l		0.01	0.07	0.08	0.02							
Chemical oxygen demand	P09/006	mg/l		<20	<20	<20	<20							
Chloride as Cl ⁻ {A}	P09/007	mg/l		28	27	29	24							
E.coli ^a {A}	P09/046	/100ml		166	122	744	52							
Faecal coliforms ^b {A}	P09/046	/100ml		182	122	744	64							
Sample Date	2014	Test Method No.	Units	08-01	04-02	03-03	02-04							
Mvoti River at N2 Bridge														
pH	P09/042	pH units		7.3	7.3	7.2	7.2							
Conductivity	P09/044	mS/m		34	29	29	27							
Ammonia as NH ³	P09/076	mg/l		<0.1	<0.1	1.2	0.40							

Ammonia as NH ³	P09/076	mg/l	<0.1	<0.1	<0.1	4.7								
Nitrate as NO ³	P09/018	mg/l	25	47	10	14								
Nitrate as N ^a	P09/018	mg/l	5.7	11	2.3	3.2								
o-Phosphate as PO ⁴	P09/023	mg/l	9.5	2.0	5.5	13								
o-Phosphate as P	P09/023	mg/l	3.1	0.65	1.8	4.2								
Alkalinity as CaCO ³	P09/001	mg/l	80	48	92	91								
Chemical oxygen demand	P09/006	mg/l	23	100	44	99								
Oxygen Absorbed {A}	P09/020	mg/l	7.0	14	4.4	10								
Chloride as Cl ⁻ {A}	P09/007	mg/l	61	60	50	87								
Suspended solids	P09/029	mg/l	31	90	22	47								
Total Residual Chlorine	P09/025	mg/l	0.15	0.19	No Data	>5.00								
Free Residual Chlorine	P09/025	mg/l	0.06	0.16	No Data	>5.00								
E.coli* {A}	P09/046	/100ml	>10000**	>10000**	>10000**	2								
Faecal coliforms* {A}	P09/046	/100ml	>10000**	>10000**	>10000**	2								
Sample Date	2014	Test Method No	Units	13-01	10-02	10-03	07-04							
Stanger Final Effluent														
pH	P09/042	pH units	7.0	6.8	7.0	6.0								
Conductivity	P09/044	mSm	55	52	49	57								
Ammonia as NH ³	P09/076	mg/l	0.40	<0.1	<0.1	0.74								
Nitrate as NO ³	P09/018	mg/l	29	51	63	22								
Nitrate as N ^a	P09/018	mg/l	6.6	12	14	5.0								
Alkalinity as CaCO ³	P09/001	mg/l	50	44	42	8.6								
Chemical oxygen demand	P09/006	mg/l	<20	87	55	<20								
Oxygen Absorbed {A}	P09/020	mg/l	9.0	11	57	3.0								
Chloride as Cl ⁻ {A}	P09/007	mg/l	69	66	57	74								
Suspended solids	P09/029	mg/l	46	73	16	5.0								
Total Residual Chlorine	P09/025	mg/l	0.93	0.20	0.34	1.36								
Free Residual Chlorine	P09/025	mh/l	0.54	0.15	0.23	1.00								
E.coli* {A}	P09/046	/100ml	16	>10000**	>10000**	2								
Faecal coliforms* {A}	P09/046	/100ml	22	>10000**	>10000**	4								
KEY ** = TOO NUMEROUS TO COUNT ns = NOT SPECIFIED														
<i>for and on behalf of B N KIRK (Natal) cc</i>														
				14-04-2014										
Dawn Bester - Laboratory Manager		S. Subban - Chemistry Lab Supervisor		Date										
Technical Signatory		Technical Signatory												
Disclaimer:														
1. While every reasonable precaution is taken in obtaining these results the Company does not accept responsibility for any matters arising from the further use of these results.														
2. In the case of sample/s submitted by the client, the results expressed in this certificate represent only the sample/s as received.														
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Accreditation Disclaimer:														
1. Results marked {A} are included in the SANAS Schedule of accreditation for this laboratory.														
2. Results marked "Subcontracted Test" in this report, are not included in the SANAS Schedule of accreditation for this laboratory.														
3. The estimated uncertainty of measurements for the accredited test results is obtainable from the laboratory - QP24 Appendix A.														
4. The results relate to the sample tested and the most recent methods available with a 95% confidence level.														

End of Report