

**NELSON MANDELA METROPOLITAN MUNICIPALITY**  
**INFRASTRUCTURE & ENGINEERING**  
**SUPPORT SERVICES**  
**SCIENTIFIC SERVICES**  
**CERTIFICATE OF ANALYSIS**

CERTIFICATE NO.:	PARTICULARS OF SAMPLES : Ndlambe Municipality	DATE RECEIVED 26-07-2023
P 564-23	SUBMITTED BY: Mcingeli Madlebe PO Box 13, Causeway, Port Alfred. 6170 Fax No:	DATE OF REPORT 04-08-2023

ALL SAMPLES WERE ANALYSED ACCORDING TO APPROVED "STANDARD METHODS"

CHEMICAL RESULTS IN MILLIGRAMS PER LITRE ( unless otherwise stated )

Laboratory Number	564-23	565-23	566-23		
Sample Identification	Albany Coast Raw	Albany Coast Raw	Kenton		
pH	7.6	7.5	7.7		
CONDUCTIVITY at 25°C (mS / m)	4972	253	101		
APPARENT COLOUR (Pt - Co units)	<5	<5	<5		
TURBIDITY (N.T.U.)	0.34	< 0.1	0.14		
TOTAL HARDNESS as CaCO <sub>3</sub>	7309	42	47		
CALCIUM as CaCO <sub>3</sub>	2069	19	26		
MAGNESIUM as CaCO <sub>3</sub>	5240	23	21		
SODIUM as Na	10080	147	145		
POTASSIUM as K	379	6.1	6.4		
CHLORIDE as Cl	18058	244	245		
SULPHATE as SO <sub>4</sub>	2515	11	11		
FLUORIDE as F	< 0.01	< 0.01	< 0.01		
NITRATE as N	< 0.1	< 0.1	< 0.1		
NITRITE as N	< 0.001	< 0.001	< 0.001		
AMMONIA as N	0.5	< 0.1	< 0.1		
IRON (TOTAL) as Fe	6.39	0.24	0.13		
MANGANESE (TOTAL) as Mn	0.114	< 0.005	< 0.005		
ALUMINIUM (TOTAL) as Al	8.637	0.214	0.066		
BORON as B	4.6	1.0	1.0		
CADMIUM as Cd	0.057	0.002	< 0.001		
COPPER as Cu	0.942	0.047	0.005		
NICKEL as Ni	0.289	0.008	< 0.005		
ZINC as Zn	1.50	0.048	0.013		
RESIDUAL CHLORINE ( FREE )	0.02	1.3	0.48		
TRIHALOMETHANES ( µg/l )	<0.1	21.2	30.3		
CHLOROFORM ( µg/l )	<0.1	<0.1	<0.1		
BROMODICHLOROMETHANE ( µg/l )	<0.1	2.4	2.2		
DIBROMOCHLOROMETHANE ( µg/l )	<0.1	4.7	2.8		
BROMOFORM ( µg/l )	<0.1	14.1	25.3		
TOTAL/DISSOLVED ORGANIC CARBON	0.8	< 0.2	< 0.2		

COMMENTS :

This report relates only to sample/s supplied to the SCIENTIFIC SERVICES and does not relate to similar samples. This report may not be reproduced, except in full, without the written approval of the Manager Scientific Services. Although SCIENTIFIC SERVICES will endeavour to perform analyses correctly, neither SCIENTIFIC SERVICES nor its members shall be liable for loss or damage attributed directly or indirectly to the inaccuracy of analyses or their interpretation. Results not queried within 10 working days of the issuing of the report will result in the disposal of the original samples, unless SCIENTIFIC SERVICES are advised to the contrary.



ASSISTANT MANAGER SCIENTIFIC SERVICES : .....



( PAGE 1 OF

**NELSON MANDELA METROPOLITAN MUNICIPALITY**  
**INFRASTRUCTURE & ENGINEERING BUSINESS UNIT**  
**SUPPORT SERVICES**  
**SCIENTIFIC SERVICES**  
**CERTIFICATE OF ANALYSIS**

SAMPLES TAKEN AT: Ndlambe Municipality  
 SUBMITTED BY: Minceli Madibe  
 DATE RECEIVED: 26-07-2023  
 DATE REPORTED: 04-08-23

PO Box 13, Causeway, Port Alfred, 6170 Fax No:

CERTIFICATE NO.: L-552-23  
 ALL SAMPLES WERE ANALYSED ACCORDING TO APPROVED "STANDARD METHODS"  
 CHEMICAL RESULTS IN MILLIGRAMS PER LITRE (unless otherwise stated)

Laboratory Number	552-23	553-23	554-23	555-23	556-23	557-23	558-23	559-23	560-23	561-23	562-23	563-23
<b>Sample Identification</b>	Alexandra	Port Alfred	Bushmans	Seafield Reserve	Seafield Raw	Sea Fields Final	Port Alfred Raw	Port Alfred Network	Burthust Raw	Burthust Final	Boknes Raw	Boknes Final
pH	7.9	8.3	7.3	7.7	8.1	7.8	8.4	8.3	8.2	8.2	7.8	7.5
CONDUCTIVITY at 25°C (mS / m)	169	216	100	193	245	201	243	317	357	370	812	73.3
APPARENT COLOUR (Pt - Co units)	<5	26	<5	<5	44	<5	35	21	39	18	<5	<5
TURBIDITY (NTU)	<0.1	0.30	<0.1	<0.1	2.15	0.44	0.40	0.19	1.22	0.82	<0.1	<0.1
TOTAL HARDNESS as CaCO <sub>3</sub>	364	344	40	265	233	240	394	334	536	514	1007	44
CALCIUM as CaCO <sub>3</sub>	259	133	18	135	74	123	152	129	195	187	462	42
MAGNESIUM as CaCO <sub>3</sub>	105	211	22	130	159	117	242	205	341	327	545	2
SODIUM as Na	213	299	149	286	425	254	334	284	528	508	1154	55
POTASSIUM as K	4.2	8.1	6.7	3.2	9.2	1.7	9.1	7.7	6.7	5.8	23	1.3
CHLORIDE as Cl	375	494	237	497	530	502	563	484	861	867	2384	75
SULPHATE as SO <sub>4</sub>	56	84	11	54	77	55	97	81	145	145	329	18
FLUORIDE as F	0.33	0.29	<0.01	<0.01	0.46	<0.01	0.33	0.28	0.55	0.57	<0.01	<0.01
NITRATE as N	2.68	1.50	0.10	0.81	<0.1	0.83	1.78	1.44	1.79	1.78	4.82	0.66
NITRITE as N	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
AMMONIA as N	<0.1	<0.1	<0.1	<0.1	0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
IRON (TOTAL) as Fe	0.23	0.24	0.11	0.26	0.68	0.22	0.24	0.20	0.47	0.44	0.81	0.04
MANGANESE (TOTAL) as Mn	<0.005	<0.005	<0.005	0.009	2.177	0.013	<0.005	<0.005	0.007	<0.005	<0.005	<0.005
ALUMINIUM (TOTAL) as Al	0.37	0.17	0.13	0.17	0.53	0.34	0.43	0.23	0.79	0.78	0.59	0.03
BORON as B	0.19	0.30	1.08	0.20	0.38	0.16	0.22	0.31	0.34	0.32	0.63	0.47
CADMIUM as Cd	0.002	0.001	0.001	0.002	0.002	<0.001	0.002	<0.001	0.002	<0.001	<0.001	<0.001
COPPER as Cu	0.052	0.029	0.826	0.021	0.070	0.017	0.070	0.042	0.119	0.044	0.058	<0.005
NICKEL as Ni	0.006	0.010	0.009	0.015	0.010	<0.005	0.009	0.007	0.018	0.018	0.034	<0.005
ZINC as Zn	0.054	0.036	0.441	0.058	0.344	0.040	0.036	0.028	0.067	0.022	0.049	0.005
RESIDUAL CHLORINE (FREE)	0.90	0.05	0.30	<0.02	0.02	0.08	0.03	0.04	0.05	0.08	<0.02	0.29
TRIHALOMETHANES (µg/l)	4.6	4.8	3.9	<0.1	<0.1	<0.1	<0.1	48.9	<0.1	N/A	<0.1	2.9
CHLOROFORM ( µg/l )	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	5.7	<0.1	N/A	<0.1	<0.1
BROMODICHLOROMETHANE ( µg/l )	0.2	1.8	0.2	<0.1	<0.1	<0.1	<0.1	9.5	<0.1	N/A	<0.1	<0.1
DIBROMOCHLOROMETHANE ( µg/l )	<0.1	2.7	<0.1	<0.1	<0.1	<0.1	<0.1	14.2	<0.1	N/A	<0.1	1.4
BROMOFORM ( µg/l )	4.5	0.3	3.7	<0.1	<0.1	<0.1	<0.1	19.2	<0.1	N/A	<0.1	1.5
TOTAL DISSOLVED ORGANIC CARBON	0.4	6.2	<0.2	0.4	7.3	0.3	7.2	5.9	6.5	N/A	0.6	<0.2

**COMMENTS :**

N/A: The sample could not be analysed due to sample interferences.  
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*(Signature)*