



Diep River Sampling Report

20 May Sample

Notes on Potsdam Discharge Sampling Points and Results

- As anticipated, the Potsdam treatment facility has reverted to the more formalised weir discharge – Sample Point **PDA**.
- The alternative discharge sampling point's flow (**PDC**) was insignificant and presumably just residual effluent draining out. Therefore, we did not sample it.



PDA



PDC

- Due to excessive hyacinth growth we could not take a downstream sample. We did however attempt to take one just after the weir, but experienced sampling equipment failure and could only get a micro sample.



PDAA



Pots Dam Discharge Results



Results Discussion:

- Generally, the results are showing fair treatment.
- Some of the nutrient parameters are slightly above the limits and may contribute to the eutrophication.
- **However, the E. Coli is significantly high.**

	E-Coli PDA	E-Coli PDC	Potsdam 2015 Licence Limit	pH PDA	pH PDC	Potsdam 2015 Licence min	Potsdam 2015 Licence max	Electrical Conductivity PDA	Electrical Conductivity PDC	Potsdam 2015 Licence Limit	Total Susp. Solids PDA	Total Susp. Solids PDC	Potsdam 2015 Licence Limit
26 Feb 20	57 000		0	7.40		5.5	9.5	164		150	41		90
13 Mar 20	64 000		0	7.27		5.5	9.5	162		150	41		90
08 Apr 20		32000	0		7.18	5.5	9.5		175	150		2	90
21 Apr 20		12800	0		7.13	5.5	9.5		153	150		2	90
06 May 20	17 300	4400	0	7	6.9	5.5	9.5	132	239	150	2	2	90
20 May 20	102 000		0	7.32		5.5	9.5	137		150	7		90

	Nitrate as N PDA	Nitrate as N PDC	Potsdam 2015 Licence Limit	Ortho-phosphates PDA	Ortho-phosphates PDC	Potsdam 2015 Licence Limit	COD PDA	COD PDC	Potsdam 2015 Licence Limit	Amm-onia (NH3) PDA	Amm-onia (NH3) PDC	Amm-onia (NH4) PDA	Amm-onia (NH4) PDC	Potsdam 2015 Licence Limit
26 Feb 20	<0.50		15			5	87.2		75	36.91		30.36		10
13 Mar 20	<0.50		15			5	88.60		75	40.45		33.27		10
08 Apr 20		<0.10	15			5		16	75		46			10
21 Apr 20		3.03	15			5		30	75				23.6	10
06 May 20	<0.10	<0.10	15	4.74		5	66	133	75	5	90.8			10
20 May 20	0.39		15	5.91		5	43		75	14.9				10

General (all) Results

Date	Name	23 Jan 20	03 Feb 20	14 Feb 20	26 Feb 20	13 Mar 20	08 Apr 20	21 Apr 20	06 May 20	20 May 20
E-Coli	M14	1 100	300	200	200	800	20000	48000	420	200
	PDA				57 000	64 000			17 300	102 000
	PDB	11 000	34 000	43 000	49 000	46 000				
	PDD						63000	25000	25000	
	PDC						32000	12800	4400	
	TMS	6 000 000	18 000	2 600	2 400	31 000	143000	16000	3800	117000
	MCC	2 900	25 000	2 500	4 700	71 000	31000	7700	110000	1300
	PDAA									62000

Date	Name	23 Jan 20	03 Feb 20	14 Feb 20	26 Feb 20	13 Mar 20	08 Apr 20	21 Apr 20	06 May 20	20 May 20
pH	M14	7.78	7.46	7.66	8.11	7.51	7.39	7.51	7.56	7.71
	PDA				7.40	7.27			7.39	7.32
	PDB	7.09	7.35	7.54	7.37	7.38				
	PDD						7.08	7.28	7.2	
	PDC						7.18	7.13	6.9	
	TMS	8.22	7.82	8.58	9.37	7.55	7.05	7.35	7.43	7.42
	MCC	7.84	8.26	7.81	7.82	7.25	7.25	7.72	7.45	7.32

Date	Name	23 Jan 20	03 Feb 20	14 Feb 20	26 Feb 20	13 Mar 20	08 Apr 20	21 Apr 20	06 May 20	20 May 20
Electrical Conductivity	M14	461	313	297	249	260	216	256	322	328
	PDA				163.9	162			132	137
	PDB	167.2	157.3	160.6	165.8	162				
	PDD						176	165	151	
	PDC						175	153	239	
	TMS	292	335	317	297	372	270	291	362	331
	MCC	957	1 038	2 240	1 328	777	1706	1101	447	258



Date	Name	23 Jan 20	03 Feb 20	14 Feb 20	26 Feb 20	13 Mar 20	08 Apr 20	21 Apr 20	06 May 20	20 May 20
Total Suspended Solids	M14	57	31	27	27	18	10.4			
	PDA				41	41			<2.00	7
	PDB	115	184	30	225	34				
	PDD						17.2	2	108	
	PDC						<2.00	2	2.4	
	TMS	87	15	26	6	13	13.6			
	MCC	29	44	26	21	25	16.4			

Date	Name	23 Jan 20	03 Feb 20	14 Feb 20	26 Feb 20	13 Mar 20	08 Apr 20	21 Apr 20	06 May 20	20 May 20
Nitrate as N	M14	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	0.14	0.42	<0.10
	PDA				<0.50	<0.50			<0.10	0.39
	PDB	<0.50	<0.50	<0.50	<0.50	<0.50				
	PDD						<0.10	0.16	<0.10	
	PDC						<0.10	3.03	<0.10	
	TMS	<0.50	<0.50	<0.50	<0.50	<1	3.09	0.1	<0.10	0.90
	MCC	<0.50	<0.50	<0.50	<0.50	<0.50	0.11	0.1	<0.10	0.17

Date	Name	23 Jan 20	03 Feb 20	14 Feb 20	26 Feb 20	13 Mar 20	08 Apr 20	21 Apr 20	06 May 20	20 May 20
Ortho-phosphates	M14							5.02	2.94	3.28
	PDA								4.74	5.91
	PDB									
	PDD							5.71	4.36	
	PDC							8.06	34.5	
	TMS							0.88	0.74	0.61
	MCC							7.69	6.4	5.77

Date	Name	23 Jan 20	03 Feb 20	14 Feb 20	26 Feb 20	13 Mar 20	08 Apr 20	21 Apr 20	06 May 20	20 May 20
COD	M14	187	114	110	88.9	78.20	14.6	48	51	76
	PDA				87.2	88.60			66	43
	PDB	161	266	77.7	260	82.10				
	PDD						68	39	193	
	PDC						16	30	133	
	TMS	340	46.4	83.5	57.6	60.40	18	37	28	41
	MCC	250	319	494	326	218	<14.6	70	36	31

Date	Name	23 Jan 20	03 Feb 20	14 Feb 20	26 Feb 20	13 Mar 20	08 Apr 20	21 Apr 20	06 May 20	20 May 20
Faecal Coliforms	M14	2 000	400	300	500	800	17000			
	PDA				62 000	68 000				
	PDB	15 000	46 000	43 000	52 000	54 000				
	PDD						180000			
	PDC						24000			
	TMS	7 300 000	25 000	2 700	7 100	34 000	87000			
	MCC	3 300	53 000	2 500	5 700	73 000	21000			

Date	Name	23 Jan 20	03 Feb 20	14 Feb 20	26 Feb 20	13 Mar 20	08 Apr 20	21 Apr 20	06 May 20	20 May 20
Ammonia (NH3)	M14	0.43	2.61	9.63	19.03	14.19	20.5		4.34	0.29
	PDA				36.91	40.45			5.37	14.9
	PDB	22.08	18.80	37.74	36.54	38.37				
	PDD						40.2		7.43	
	PDC						46		90.8	
	TMS	11.79	0.16	0.39	0.16	3.08	2.2		0.22	0.33
	MCC	6.01	4.74	18.03	27.73	19.94	21.6		17.4	10.6

Date	Name	23 Jan 20	03 Feb 20	14 Feb 20	26 Feb 20	13 Mar 20	08 Apr 20	21 Apr 20	06 May 20	20 May 20
Free Chlorine	PDA					<0.02				
	PD						<0.2	0.1	0.02	0.09

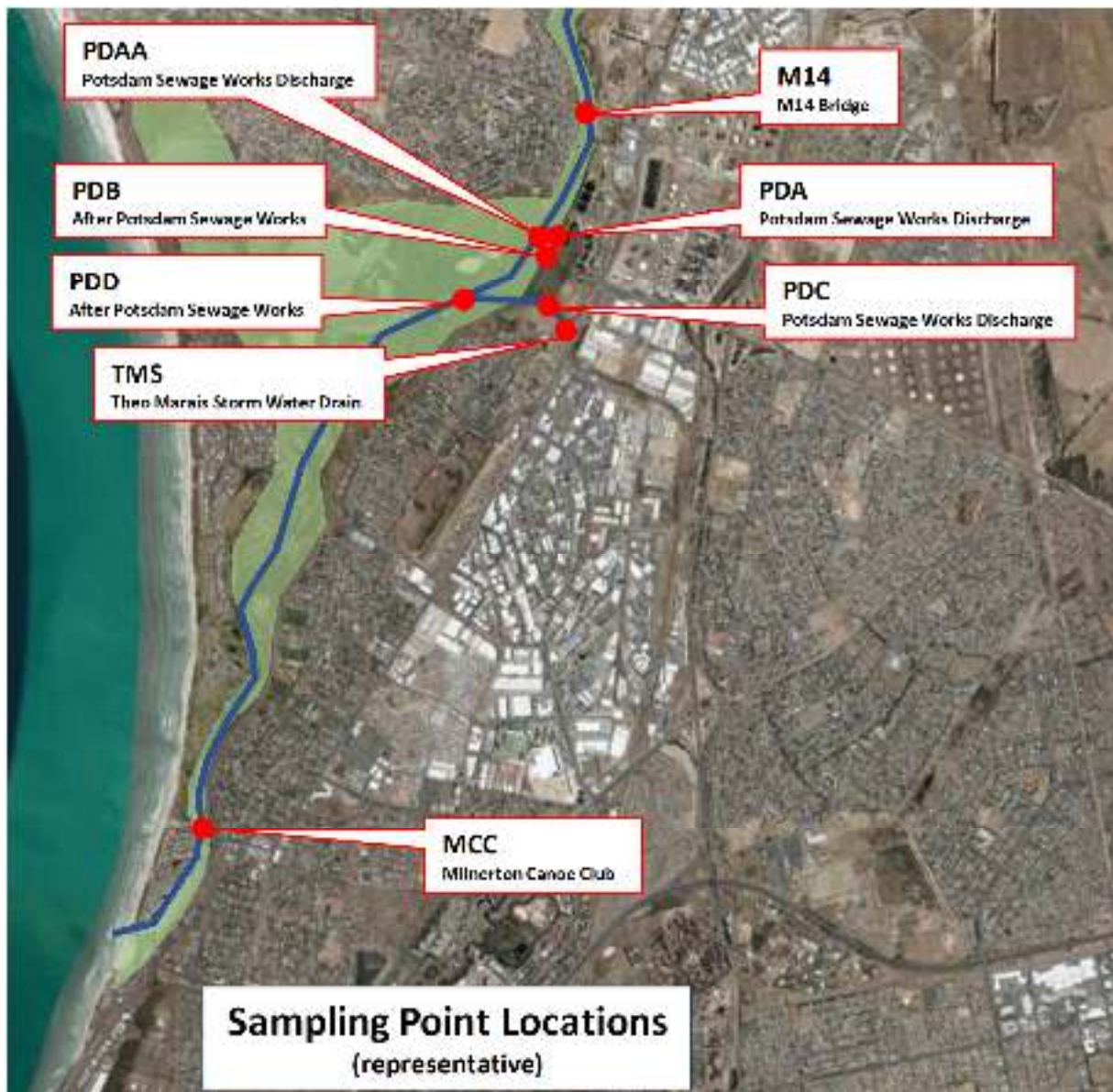


Date	Name	23 Jan 20	03 Feb 20	14 Feb 20	26 Feb 20	13 Mar 20	08 Apr 20	21 Apr 20	06 May 20	20 May 20
Ammonia (NH4)	M14	0.35	2.15	7.92	15.65	11.67		12		
	PDA				30.36	33.27				
	PDB	18.16	15.46	31.04	30.05	31.56				
	TMS	9.70	<0.15	0.32	<0.15	2.53		0.1		
	MCC	4.94	3.90	14.83	22.81	16.40		31.1		
	PDD							15.6		
	PDC							23.6		

Date	Name	23 Jan 20	03 Feb 20	14 Feb 20	26 Feb 20	13 Mar 20	08 Apr 20	21 Apr 20	06 May 20	20 May 20
Chloride (Cl)	PDC							233	302	
	PDD							268	256	
	PDA								216	232

Detailed Sampling History Record Report

Sample Locations





Detailed Sample Locations









23 Jan 2020

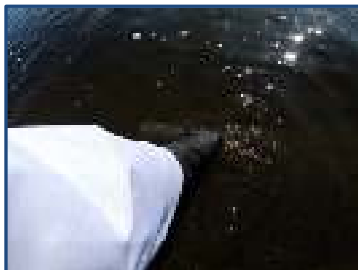
MCC – Milnerton Canoe Club

Date: 23 January 2020
Time: 09H10
Sampler: Craig Greggor
GPS Location: 33°52'53.2"S 18°29'23.0"E

Temperature	24°C
Cloud Cover	None
Wind	16km/h
Precipitation	None
Low Tide	08H41
High Tide	14H44

Observations and Photographic Records:

- No observations



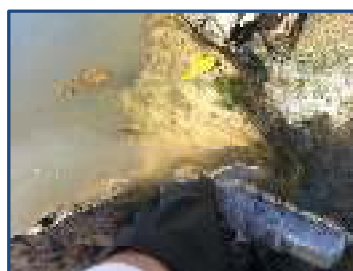
TMS – Theo Marais Stormwater Channel

Date: 23 January 2020
Time: 09H45
Sampler: Craig Greggor
GPS Location: 33°50'52.7"S 18°31'11.8"E

Temperature	25°C
Cloud Cover	None
Wind	16km/h
Precipitation	None
Low Tide	08H41
High Tide	14H44

Observations and Photographic Records:

- Makoya Amanzi noted anaerobic odours typical of raw sewage.
- Makoya Amanzi noted a stream of what looked like sewage flowing from an adjacent structure believed to be sewage lift station.





PDB – Potsdam

Date: 23 January 2020
Time: 10H30
Sampler: Craig Greggor
GPS Location: 33°50'36.2"S 18°31'05.9"E

Temperature	26°C
Cloud Cover	None
Wind	18km/h
Precipitation	None
Low Tide	08H41
High Tide	14H44

Observations and Photographic Records:

- A sampling weight was required due to the height of the bank.





M14 – Under the M14 bridge

Date: 23 January 2020

Time: 11H15

Sampler: Craig Greggor

GPS Location:

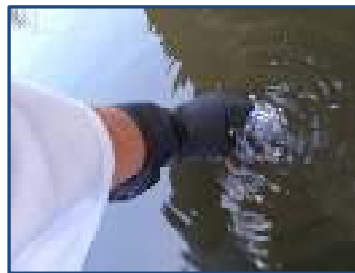
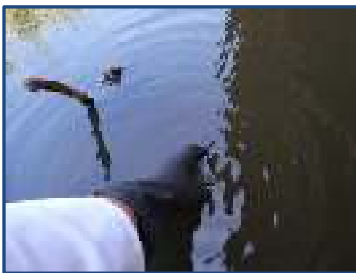
33°50'00.7"S 18°31'17.4"E

Weather Comment:

Temperature	26°C
Cloud Cover	None
Wind	18km/h
Precipitation	None
Low Tide	08H41
High Tide	14H44

Observations and Photographic Records:

- A sampling weight was required due to the height of the bank.




Sample Submission

Date: 23 Jan 2020

Time: 12:34










TEST REPORT
Water

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www.makoya.net
27 Jun 2020

CLIENT
Makoya Amanzi Environmental Solutions
Sanas Environmental
37 Pinehill Avenue
Durbanville, 7550

Client Details:

Sample ID	USE/USE #	WTS/S	WTS/S
Water Type			
Water Source			
Sample Description			
Remediation			
FO Number	M2012001	20162001	20162001
Due Period	03/03	03/03	03/03
Condition	Good	Good	Good

Water - Routine

Code	Parameter	Result	Unit	Standard
001	Temperature	20.1	°C	
002	pH	8.0		
003	Dissolved Oxygen	9.8	mg/L	
004	Total Dissolved Solids	165	mg/L	
005	Total Solids	165	mg/L	
006	Total Suspended Solids	165	mg/L	
007	Calcium	52	mg/L	
008	Magnesium	10	mg/L	
009	Hardness	62	mg/L	
010	Chloride	1.5	mg/L	
011	Sulfate	1.5	mg/L	
012	Total Hardness	3.0	mg/L	

Water - Micro

Code	Parameter	Result	Unit	Standard
013	Coliforms	200	per 100 ml	2000
014	Fecal Coliforms	200	per 100 ml	1000
015	E. coli	200	per 100 ml	200

Water - Metals

Code	Parameter	Result	Unit	Standard
016	Lead	< 0.01	mg/L	0.05
017	Copper	< 0.01	mg/L	0.05
018	Zinc	< 0.01	mg/L	0.05
019	Iron	< 0.01	mg/L	0.3
020	Manganese	< 0.01	mg/L	0.05
021	Nickel	< 0.01	mg/L	0.02
022	Selenium	< 0.01	mg/L	0.01
023	Vanadium	< 0.01	mg/L	0.05
024	Chromium	< 0.01	mg/L	0.05
025	Molybdenum	< 0.01	mg/L	0.02
026	Fluoride	< 0.01	mg/L	0.05
027	Boron	< 0.01	mg/L	0.05
028	Aluminum	< 0.01	mg/L	0.05
029	Barium	< 0.01	mg/L	0.05
030	Cadmium	< 0.01	mg/L	0.005
031	Cobalt	< 0.01	mg/L	0.01
032	Chromium	< 0.01	mg/L	0.05
033	Manganese	< 0.01	mg/L	0.05
034	Nickel	< 0.01	mg/L	0.02
035	Vanadium	< 0.01	mg/L	0.05
036	Barium	< 0.01	mg/L	0.05
037	Boron	< 0.01	mg/L	0.05
038	Cadmium	< 0.01	mg/L	0.005
039	Cobalt	< 0.01	mg/L	0.01
040	Copper	< 0.01	mg/L	0.05
041	Lead	< 0.01	mg/L	0.05
042	Manganese	< 0.01	mg/L	0.05
043	Nickel	< 0.01	mg/L	0.02
044	Selenium	< 0.01	mg/L	0.01
045	Vanadium	< 0.01	mg/L	0.05
046	Barium	< 0.01	mg/L	0.05
047	Boron	< 0.01	mg/L	0.05
048	Cadmium	< 0.01	mg/L	0.005
049	Cobalt	< 0.01	mg/L	0.01
050	Copper	< 0.01	mg/L	0.05
051	Lead	< 0.01	mg/L	0.05
052	Manganese	< 0.01	mg/L	0.05
053	Nickel	< 0.01	mg/L	0.02
054	Selenium	< 0.01	mg/L	0.01
055	Vanadium	< 0.01	mg/L	0.05
056	Barium	< 0.01	mg/L	0.05
057	Boron	< 0.01	mg/L	0.05
058	Cadmium	< 0.01	mg/L	0.005
059	Cobalt	< 0.01	mg/L	0.01
060	Copper	< 0.01	mg/L	0.05
061	Lead	< 0.01	mg/L	0.05
062	Manganese	< 0.01	mg/L	0.05
063	Nickel	< 0.01	mg/L	0.02
064	Selenium	< 0.01	mg/L	0.01
065	Vanadium	< 0.01	mg/L	0.05
066	Barium	< 0.01	mg/L	0.05
067	Boron	< 0.01	mg/L	0.05
068	Cadmium	< 0.01	mg/L	0.005
069	Cobalt	< 0.01	mg/L	0.01
070	Copper	< 0.01	mg/L	0.05
071	Lead	< 0.01	mg/L	0.05
072	Manganese	< 0.01	mg/L	0.05
073	Nickel	< 0.01	mg/L	0.02
074	Selenium	< 0.01	mg/L	0.01
075	Vanadium	< 0.01	mg/L	0.05
076	Barium	< 0.01	mg/L	0.05
077	Boron	< 0.01	mg/L	0.05
078	Cadmium	< 0.01	mg/L	0.005
079	Cobalt	< 0.01	mg/L	0.01
080	Copper	< 0.01	mg/L	0.05
081	Lead	< 0.01	mg/L	0.05
082	Manganese	< 0.01	mg/L	0.05
083	Nickel	< 0.01	mg/L	0.02
084	Selenium	< 0.01	mg/L	0.01
085	Vanadium	< 0.01	mg/L	0.05
086	Barium	< 0.01	mg/L	0.05
087	Boron	< 0.01	mg/L	0.05
088	Cadmium	< 0.01	mg/L	0.005
089	Cobalt	< 0.01	mg/L	0.01
090	Copper	< 0.01	mg/L	0.05
091	Lead	< 0.01	mg/L	0.05
092	Manganese	< 0.01	mg/L	0.05
093	Nickel	< 0.01	mg/L	0.02
094	Selenium	< 0.01	mg/L	0.01
095	Vanadium	< 0.01	mg/L	0.05
096	Barium	< 0.01	mg/L	0.05
097	Boron	< 0.01	mg/L	0.05
098	Cadmium	< 0.01	mg/L	0.005
099	Cobalt	< 0.01	mg/L	0.01
100	Copper	< 0.01	mg/L	0.05
101	Lead	< 0.01	mg/L	0.05
102	Manganese	< 0.01	mg/L	0.05
103	Nickel	< 0.01	mg/L	0.02
104	Selenium	< 0.01	mg/L	0.01
105	Vanadium	< 0.01	mg/L	0.05
106	Barium	< 0.01	mg/L	0.05
107	Boron	< 0.01	mg/L	0.05
108	Cadmium	< 0.01	mg/L	0.005
109	Cobalt	< 0.01	mg/L	0.01
110	Copper	< 0.01	mg/L	0.05
111	Lead	< 0.01	mg/L	0.05
112	Manganese	< 0.01	mg/L	0.05
113	Nickel	< 0.01	mg/L	0.02
114	Selenium	< 0.01	mg/L	0.01
115	Vanadium	< 0.01	mg/L	0.05
116	Barium	< 0.01	mg/L	0.05
117	Boron	< 0.01	mg/L	0.05
118	Cadmium	< 0.01	mg/L	0.005
119	Cobalt	< 0.01	mg/L	0.01
120	Copper	< 0.01	mg/L	0.05
121	Lead	< 0.01	mg/L	0.05
122	Manganese	< 0.01	mg/L	0.05
123	Nickel	< 0.01	mg/L	0.02
124	Selenium	< 0.01	mg/L	0.01
125	Vanadium	< 0.01	mg/L	0.05
126	Barium	< 0.01	mg/L	0.05
127	Boron	< 0.01	mg/L	0.05
128	Cadmium	< 0.01	mg/L	0.005
129	Cobalt	< 0.01	mg/L	0.01
130	Copper	< 0.01	mg/L	0.05
131	Lead	< 0.01	mg/L	0.05
132	Manganese	< 0.01	mg/L	0.05
133	Nickel	< 0.01	mg/L	0.02
134	Selenium	< 0.01	mg/L	0.01
135	Vanadium	< 0.01	mg/L	0.05
136	Barium	< 0.01	mg/L	0.05
137	Boron	< 0.01	mg/L	0.05
138	Cadmium	< 0.01	mg/L	0.005
139	Cobalt	< 0.01	mg/L	0.01
140	Copper	< 0.01	mg/L	0.05
141	Lead	< 0.01	mg/L	0.05
142	Manganese	< 0.01	mg/L	0.05
143	Nickel	< 0.01	mg/L	0.02
144	Selenium	< 0.01	mg/L	0.01
145	Vanadium	< 0.01	mg/L	0.05
146	Barium	< 0.01	mg/L	0.05
147	Boron	< 0.01	mg/L	0.05
148	Cadmium	< 0.01	mg/L	0.005
149	Cobalt	< 0.01	mg/L	0.01
150	Copper	< 0.01	mg/L	0.05
151	Lead	< 0.01	mg/L	0.05
152	Manganese	< 0.01	mg/L	0.05
153	Nickel	< 0.01	mg/L	0.02
154	Selenium	< 0.01	mg/L	0.01
155	Vanadium	< 0.01	mg/L	0.05
156	Barium	< 0.01	mg/L	0.05
157	Boron	< 0.01	mg/L	0.05
158	Cadmium	< 0.01	mg/L	0.005
159	Cobalt	< 0.01	mg/L	0.01
160	Copper	< 0.01	mg/L	0.05
161	Lead	< 0.01	mg/L	0.05
162	Manganese	< 0.01	mg/L	0.05
163	Nickel	< 0.01	mg/L	0.02
164	Selenium	< 0.01	mg/L	0.01
165	Vanadium	< 0.01	mg/L	0.05
166	Barium	< 0.01	mg/L	0.05
167	Boron	< 0.01	mg/L	0.05
168	Cadmium	< 0.01	mg/L	0.005
169	Cobalt	< 0.01	mg/L	0.01
170	Copper	< 0.01	mg/L	0.05
171	Lead	< 0.01	mg/L	0.05
172	Manganese	< 0.01	mg/L	0.05
173	Nickel	< 0.01	mg/L	0.02
174	Selenium	< 0.01	mg/L	0.01
175	Vanadium	< 0.01	mg/L	0.05
176	Barium	< 0.01	mg/L	0.05
177	Boron	< 0.01	mg/L	0.05
178	Cadmium	< 0.01	mg/L	0.005
179	Cobalt	< 0.01	mg/L	0.01
180	Copper	< 0.01	mg/L	0.05
181	Lead	< 0.01	mg/L	0.05
182	Manganese	< 0.01	mg/L	0.05
183	Nickel	< 0.01	mg/L	0.02
184	Selenium	< 0.01	mg/L	0.01
185	Vanadium	< 0.01	mg/L	0.05
186	Barium	< 0.01	mg/L	0.05
187	Boron	< 0.01	mg/L	0.05
188	Cadmium	< 0.01	mg/L	0.005
189	Cobalt	< 0.01	mg/L	0.01
190	Copper	< 0.01	mg/L	0.05
191	Lead	< 0.01	mg/L	0.05
192	Manganese	< 0.01	mg/L	0.05
193	Nickel	< 0.01	mg/L	0.02
194	Selenium	< 0.01	mg/L	0.01
195	Vanadium	< 0.01	mg/L	0.05
196	Barium	< 0.01	mg/L	0.05
197	Boron	< 0.01	mg/L	0.05
198	Cadmium	< 0.01	mg/L	0.005
199	Cobalt	< 0.01	mg/L	0.01
200	Copper	< 0.01	mg/L	0.05
201	Lead	< 0.01	mg/L	0.05
202	Manganese	< 0.01	mg/L	0.05
203	Nickel	< 0.01	mg/L	0.02
204	Selenium	< 0.01	mg/L	0.01
205	Vanadium	< 0.01	mg/L	0.05
206	Barium	< 0.01	mg/L</	



Makoya Amanzi
Water and Energy

Sampling Sheet

Date: 23 Jan 2020 Site Arrival Time: 09:31

PRE (tick the applicable box)

Sample Screen	<input checked="" type="checkbox"/>	Dust Jacket	<input checked="" type="checkbox"/>	Overall	<input checked="" type="checkbox"/>
Seal Hat	<input checked="" type="checkbox"/>	MP Straps	<input checked="" type="checkbox"/>	Waders	<input checked="" type="checkbox"/>

Weather Comment:

Temperature	<u>19.0 °C</u>	Wind	<u>14.0 km/h</u>
Cloud Cover	<u>0-10%</u>	Precipitation	<u>None</u>

Sample Details:

Sample Name:	<u>T.M.E</u>	Sample Name:	<u>Chlorine</u>
Type:	<u>Tap Water</u>	Type:	<u>Chlorine</u>
Time:	<u>09:31</u>	Time:	<u>09:31</u>
Location & Description:	<u>500m south of the school</u>	Location & Description:	<u>Chlorine</u>
Location GPS:	<u>33.511111, 18.511111</u>	Location GPS:	<u>33.511111, 18.511111</u>
Sampler(s):	<u>Craig Grogan</u>	Sampler(s):	<u>Craig Grogan</u>

Sign-off:

Sampler Name: Craig Grogan Observer Name: _____

Sampler Signature: _____ Observer Signature: _____

Sampling area photos
 Sampling point photos

Sample photos
 Contour photos

Makoya Amanzi Environmental Solutions CC
 09 Courbonne | Durbanville | 7550

Makoya Amanzi
Water and Energy

Sampling Sheet

Date: 23 Jan 2020 Site Arrival Time: 10:20

PRE (tick the applicable box)

Sample Screen	<input checked="" type="checkbox"/>	Dust Jacket	<input checked="" type="checkbox"/>	Overall	<input checked="" type="checkbox"/>
Seal Hat	<input checked="" type="checkbox"/>	MP Straps	<input checked="" type="checkbox"/>	Waders	<input checked="" type="checkbox"/>

Weather Comment:

Temperature	<u>20.0</u>	Wind	<u>18.0 km/h</u>
Cloud Cover	<u>0-10%</u>	Precipitation	<u>None</u>

Sample Details:

Sample Name:	<u>P.D.B</u>	Sample Name:	<u>M.G</u>
Type:	<u>Chlorine</u>	Type:	<u>Chlorine</u>
Time:	<u>10:20</u>	Time:	<u>10:20</u>
Location & Description:	<u>500m south of the school</u>	Location & Description:	<u>500m south of the school</u>
Location GPS:	<u>33.511111, 18.511111</u>	Location GPS:	<u>33.511111, 18.511111</u>
Sampler(s):	<u>Craig Grogan</u>	Sampler(s):	<u>Craig Grogan</u>

Sign-off:

Sampler Name: Craig Grogan Observer Name: _____

Sampler Signature: _____ Observer Signature: _____

Sampling area photos
 Sampling point photos

Sample photos
 Contour photos

Makoya Amanzi Environmental Solutions CC
 09 Courbonne | Durbanville | 7550



03 Feb 2020

MCC – Milnerton Canoe Club

Date: 03 February 2020
Time: 09h55
Sampler: Craig Greggor
GPS Location: 33°52'53.2"S 18°29'23.0"E

Temperature	19°C
Cloud Cover	None
Wind	8km/h
Precipitation	None
Low Tide	18H15
High Tide	12H40

Observations and Photographic Records:



TMS – Theo Marais Stormwater Channel

Date: 03 February 2020
Time: 08h10
Sampler: Craig Greggor
GPS Location: 33°50'52.7"S 18°31'11.8"E

Temperature	19°C
Cloud Cover	None
Wind	8km/h
Precipitation	None
Low Tide	18H15
High Tide	12H40

Observations and Photographic Records:





PDB – Potsdam

Date: 03 February 2020
Time: 08h30
Sampler: Craig Greggor
GPS Location: 33°50'36.2"S 18°31'05.9"E

Temperature	21°C
Cloud Cover	None
Wind	10km/h
Precipitation	None
Low Tide	18H15
High Tide	12H40

Observations and Photographic Records:



M14 – Under the M14 bridge

Date: 03 February 2020
Time: 08H30
Sampler: Craig Greggor
GPS Location: 33°50'00.7"S 18°31'17.4"E

Temperature	21°C
Cloud Cover	None
Wind	10km/h
Precipitation	None
Low Tide	18H15
High Tide	12H40

Observations and Photographic Records:





Sample Submission

Date: 03 Feb 2020
Time: 10:51



Sampling Sheet

Date: 03 Feb 2020 Site Arrival Time: 05:15

PPE (tick the applicable box)
 Safety Shoes Dust boot Goggles Hard Hat
 Solar suit Gloves Waders High Vis Vest

Weather Comments:
 Temperature: 21°C Wind: 10 km/h
 Cloud Cover: None Humidity: None Direction: None

Sample Details:

Sample Name:	<u>Milk</u>	Sample Name:	<u>BWB</u>
Type:	<u>2-Stagey Milk</u>	Type:	<u>Water</u>
Location & Description:	<u>Ch. 2</u>	Location & Description:	<u>Water</u>
Location GPS:	<u>34.000000</u>	Location GPS:	<u>34.000000</u>
Sampling:	<u>Early Morning</u>	Sampling:	<u>Evening</u>

Sampling area photos
 Sampling point photos
 Sample photos
 Cooler photos

Signed:

Sampler Name: Cathy G. Grogan Observer Name: David S. Grogan

Sampler Signature: [Signature] Observer Signature: [Signature]

Makoya Amanzi Environmental Solutions CC
 Sole Member: C A Grogan
 09 Courbonne, Oakwood, Pinehurst, Durbanville, 7550
 Tel: 010 223 7133, Mobile: 083 642 8822, Fax: 0866 229 121, E-mail: info@makoya.net



Makoya Amanzi
Water and Energy

09 Courbonne
Oakwood
Pinehurst
Durbanville
7550

Tel: 010 223 7133
Mobile: 083 642 8822
Fax: 0866 229 121
E-mail: info@makoya.net

Sampling Sheet

Date: 03 Feb 2020 Site Arrival Time: 07:57

PEE (tick the applicable box)

Serial # Date added Durability Handled - High Voltage
 Serial # Wet Boxes Washers

Weather Comments:
 Temperature 19°C Wind: None
 Cloud Cover: None Precipitation: None

Sample Details:

Sample Name	Type	Sample Name	Type
TMS	Trace	MCC	Trace
Dechlorination Polymers	Trace	Chlorine Residual	Trace
60 mg/l			
Location & Description: Pine Meadows Sample collected		Location & Description: 10g = 5L no further comment	
Location GPS: 34.26242667 Longitude		Location GPS: 34.26242667 Longitude	
Sampler: Craig Gregor		Sampler: Craig Gregor	

Additional Sample Details:

Sample Name	Type	Sample Name	Type
MCC	Trace	Chlorine Residual	Trace
Chlorine Residual	Trace	Location & Description: 10g = 5L no further comment	
Location & Description: 10g = 5L no further comment		Location GPS: 34.26242667 Longitude	
Sampler: Craig Gregor		Sampler: Craig Gregor	

Sign-off:

Sampler Name: Craig Gregor
 Sampler Signature: [Signature]
 Sampler Phone: [Blank]
 Sampler Email: [Blank]

Analyst Signature: [Signature]
 Analyst Name: [Blank]
 Analyst Phone: [Blank]
 Analyst Email: [Blank]

Scale 1: 100%
 Scale 2: 100%
 Scale 3: 100%

winlabH₂O
TEST REPORT
Water

0016
 09 Courbonne
 Oakwood
 Pinehurst
 Durbanville
 7550

09 Courbonne
 Oakwood
 Pinehurst
 Durbanville
 7550

Sanas

TEST REPORT

Water

Sample ID	DATE	REMARKS	ANALYST	STATUS
0016	03/02/2020			
0017	03/02/2020			
0018	03/02/2020			
0019	03/02/2020			
0020	03/02/2020			
0021	03/02/2020			
0022	03/02/2020			
0023	03/02/2020			
0024	03/02/2020			
0025	03/02/2020			
0026	03/02/2020			
0027	03/02/2020			
0028	03/02/2020			
0029	03/02/2020			
0030	03/02/2020			
0031	03/02/2020			
0032	03/02/2020			
0033	03/02/2020			
0034	03/02/2020			
0035	03/02/2020			
0036	03/02/2020			
0037	03/02/2020			
0038	03/02/2020			
0039	03/02/2020			
0040	03/02/2020			
0041	03/02/2020			
0042	03/02/2020			
0043	03/02/2020			
0044	03/02/2020			
0045	03/02/2020			
0046	03/02/2020			
0047	03/02/2020			
0048	03/02/2020			
0049	03/02/2020			
0050	03/02/2020			

Sanas

09 Courbonne
 Oakwood
 Pinehurst
 Durbanville
 7550

09 Courbonne
 Oakwood
 Pinehurst
 Durbanville
 7550

Sanas



14 February 2020

MCC – Milnerton Canoe Club

Date: 14 February 2020
Time: 12h05
Sampler: Craig Greggor

GPS Location: 33°52'53.2"S 18°29'23.0"E

Temperature	24°C
Cloud Cover	40%
Wind	21km/h
Precipitation	None
Low Tide	13:26
High Tide	19:27

Observations and Photographic Records:



TMS – Theo Marais Stormwater Channel

Date: 14 February 2020
Time: 11h30
Sampler: Craig Greggor
GPS Location: 33°50'52.7"S 18°31'11.8"E

Temperature	23°C
Cloud Cover	50%
Wind	21km/h
Precipitation	None
Low Tide	13:26
High Tide	19:27

Observations and Photographic Records:





PDB – Potsdam

Date: 14 February 2020
Time: 10h30
Sampler: Craig Greggor
GPS Location: 33°50'36.2"S 18°31'05.9"E

Temperature	21°C
Cloud Cover	95%
Wind	24km/h
Precipitation	None
Low Tide	13:26
High Tide	19:27

Observations and Photographic Records:



M14 – Under the M14 bridge

Date: 14 February 2020
Time: 11H05
Sampler: Craig Greggor
GPS Location: 33°50'00.7"S 18°31'17.4"E

Temperature	21°C
Cloud Cover	95%
Wind	24km/h
Precipitation	None
Low Tide	13:26
High Tide	19:27

Observations and Photographic Records:





Sample Submission

Date: 14 Feb 2020
Time: 13:12



Makoya Amanzi Water and Energy
Tel: 010 223 7133
Mobile: 083 642 8822
Fax: 0866 229 121
E-mail: info@makoya.net

Sampling Sheet

Date: 14 Feb 2020 Site Arrival Time: 13:00

ppm (tick the applicable box)

Subtle traces	<input checked="" type="checkbox"/>	Traceable	<input type="checkbox"/>
Some H ₂ S	<input checked="" type="checkbox"/>	High	<input type="checkbox"/>

Weather Comment: Wind: 7.0-8.0 kph
Temperature: 21°C
Cloud cover: 95%
Freshwater: Yes

Sample Details:

Sample Name: <u>P.D. B</u>	Sample Name: <u>P.D. B</u>
Type: <u>Chaparral/Artise</u>	Type: <u>Chemical or Filtered</u>
Time: <u>11:30</u>	Time: <u>11:30</u>
Location & Description: <u>West Bank</u>	Location & Description: <u>Chaparral</u>
Location GPS: <u>S 30° 40' E, 30.5 km</u>	Location GPS: <u>30° 40' E, 30.5 km</u>
Sampler(s): <u>Carly & Gregor</u>	Sampler(s): <u>Carly & Gregor</u>

Sign-off:

Sampler Name: Carly Gregor (Printer Name)

Sampler Signature: [Signature] (Printer Signature)

Temperature: _____
pH: _____
DO: _____



Makoya Amanzi
Water and Energy

09 Courbonne
Oakwood
Pinehurst
Durbanville
7550

Sampling Sheet

Date: 10/02/2020 Site Arrival Time: 11:20

PPH (tick the applicable box)

Soluble Solids	<input checked="" type="checkbox"/>	Total Solids	<input checked="" type="checkbox"/>
Conductivity	<input checked="" type="checkbox"/>	Temperature	<input checked="" type="checkbox"/>
pH	<input checked="" type="checkbox"/>	Wind	<input checked="" type="checkbox"/>
DO	<input checked="" type="checkbox"/>	Humidity	<input checked="" type="checkbox"/>
Turbidity	<input checked="" type="checkbox"/>	High Chloride	<input checked="" type="checkbox"/>
Ammonia	<input checked="" type="checkbox"/>	High Nitrate	<input checked="" type="checkbox"/>
Nitrate	<input checked="" type="checkbox"/>	High Nitrogen	<input checked="" type="checkbox"/>
Phosphate	<input checked="" type="checkbox"/>	High Phosphate	<input checked="" type="checkbox"/>

Weather Comment: 23°C
50%

Sample Details:

Sample Name: <u>7M3</u>	Sample Name: <u>Chlorine in Water</u>
Type: <u>Chemical</u>	Type: <u>Chemical in Water</u>
Time: <u>11:30</u>	Time: <u>11:30</u>
Location & Description: <u>7M3</u>	Location & Description: <u>7M3</u>
Location GPS: <u>34° 11' 30" S</u>	Location GPS: <u>34° 11' 30" S</u>
Sampler: <u>Craig Gregor</u>	Sampler: <u>Craig Gregor</u>

Sign-off:

Sampler Name: Craig Gregor Observer Name: _____

Sampler Signature: [Signature] Observer Signature: _____

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09 Courbonne, Durbanville 7550

Makoya Amanzi
Water and Energy

09 Courbonne
Oakwood
Pinehurst
Durbanville
7550

Sampling Sheet

Date: 18 Feb 2020 Site Arrival Time: 11:30

PPH (tick the applicable box)

Soluble Solids	<input checked="" type="checkbox"/>	Total Solids	<input checked="" type="checkbox"/>
Conductivity	<input checked="" type="checkbox"/>	Temperature	<input checked="" type="checkbox"/>
pH	<input checked="" type="checkbox"/>	Wind	<input checked="" type="checkbox"/>
DO	<input checked="" type="checkbox"/>	Humidity	<input checked="" type="checkbox"/>
Turbidity	<input checked="" type="checkbox"/>	High Chloride	<input checked="" type="checkbox"/>
Ammonia	<input checked="" type="checkbox"/>	High Nitrate	<input checked="" type="checkbox"/>
Nitrate	<input checked="" type="checkbox"/>	High Nitrogen	<input checked="" type="checkbox"/>
Phosphate	<input checked="" type="checkbox"/>	High Phosphate	<input checked="" type="checkbox"/>

Weather Comment: 24°C
40%

Sample Details:

Sample Name: <u>MCC</u>	Sample Name: <u>Chemical in Water</u>
Type: <u>Chemical</u>	Type: <u>Chemical in Water</u>
Time: <u>12:30</u>	Time: <u>12:30</u>
Location & Description: <u>MCC</u>	Location & Description: <u>MCC</u>
Location GPS: <u>34° 11' 30" S</u>	Location GPS: <u>34° 11' 30" S</u>
Sampler: <u>Craig Gregor</u>	Sampler: <u>Craig Gregor</u>

Sign-off:

Sampler Name: Craig Gregor Observer Name: _____

Sampler Signature: [Signature] Observer Signature: _____

Makoya Amanzi Environmental Solutions CC
09 Courbonne, Durbanville 7550



TEST REPORT
Water

Quality Water
Makoya Amanzi
010 223 7133
083 642 8822
info@makoya.net

QUDA
Rt. 2, Jubbah, Durbanville
7550, South Africa
P.O. Box 1056
Durbanville, 7550

Sample Details:

Sample ID:	TW1716	096-170
Water Type:	Flow	
Water Source:	Flow	
Sample Temperature:		
Description:	MFC Sampling	12.12.20
Site Number:		
Site Address:	12 Park Drive	
Coordinate:	0533	

Water Quality

Ultrasonic	05-04-2010	0.23
Total Hardness (CaCO ₃)	05-04-2010	87
CaCO ₃	05-04-2010	83.9
CaCO ₃ (Hardness)	05-04-2010	83.5
CaCO ₃ (Hardness)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	0.58
Hardness (CaCO ₃)	05-04-2010	20.08
Total Hardness (CaCO ₃)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	

Water - Mass

Total Calcium	05-04-2010	2790
CaCO ₃	05-04-2010	2800
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	

Coordinate: 30.1811, 27.8308
This sample is not for sale

Signature
Agnes Peters

TEST REPORT
Water

Quality Water
Makoya Amanzi
010 223 7133
083 642 8822
info@makoya.net

QUDA
Rt. 2, Jubbah, Durbanville
7550, South Africa
P.O. Box 1056
Durbanville, 7550

Sample Details:

Sample ID:	TW1716	096-170
Water Type:	Flow	
Water Source:	Flow	
Sample Temperature:		
Description:	MFC Sampling	12.12.20
Site Number:		
Site Address:	12 Park Drive	
Coordinate:	0533	

Water Quality

Ultrasonic	05-04-2010	7.87
Total Hardness (CaCO ₃)	05-04-2010	38.81
CaCO ₃	05-04-2010	37.4
CaCO ₃ (Hardness)	05-04-2010	36.24
CaCO ₃ (Hardness)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	0.58
Hardness (CaCO ₃)	05-04-2010	20.08
Total Hardness (CaCO ₃)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	

Water - Mass

Total Calcium	05-04-2010	2800
CaCO ₃	05-04-2010	2800
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	

Coordinate: 30.1811, 27.8308
This sample is not for sale

Signature
Agnes Peters

Page 1 of 1

Link to Makoya Amanzi
010 223 7133
083 642 8822

TEST REPORT
Water

Quality Water
Makoya Amanzi
010 223 7133
083 642 8822
info@makoya.net

QUDA
Rt. 2, Jubbah, Durbanville
7550, South Africa
P.O. Box 1056
Durbanville, 7550

Sample Details:

Sample ID:	TW1716	096-170
Water Type:	Flow	
Water Source:	Flow	
Sample Temperature:		
Description:	MFC Sampling	12.12.20
Site Number:		
Site Address:	12 Park Drive	
Coordinate:	0533	

Water Quality

Ultrasonic	05-04-2010	7.87
Total Hardness (CaCO ₃)	05-04-2010	38.81
CaCO ₃	05-04-2010	37.4
CaCO ₃ (Hardness)	05-04-2010	36.24
CaCO ₃ (Hardness)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	0.58
Hardness (CaCO ₃)	05-04-2010	20.08
Total Hardness (CaCO ₃)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	

Water - Mass

Total Calcium	05-04-2010	2800
CaCO ₃	05-04-2010	2800
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	

Coordinate: 30.1811, 27.8308
This sample is not for sale

Signature
Agnes Peters

TEST REPORT
Water

Quality Water
Makoya Amanzi
010 223 7133
083 642 8822
info@makoya.net

QUDA
Rt. 2, Jubbah, Durbanville
7550, South Africa
P.O. Box 1056
Durbanville, 7550

Sample Details:

Sample ID:	TW1716	096-170
Water Type:	Flow	
Water Source:	Flow	
Sample Temperature:		
Description:	MFC Sampling	12.12.20
Site Number:		
Site Address:	12 Park Drive	
Coordinate:	0533	

Water Quality

Ultrasonic	05-04-2010	7.87
Total Hardness (CaCO ₃)	05-04-2010	38.81
CaCO ₃	05-04-2010	37.4
CaCO ₃ (Hardness)	05-04-2010	36.24
CaCO ₃ (Hardness)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	0.58
Hardness (CaCO ₃)	05-04-2010	20.08
Total Hardness (CaCO ₃)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	
Total Hardness (CaCO ₃)	05-04-2010	

Water - Mass

Total Calcium	05-04-2010	2800
CaCO ₃	05-04-2010	2800
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	
CaCO ₃ (Hardness)	05-04-2010	

Coordinate: 30.1811, 27.8308
This sample is not for sale

Signature
Agnes Peters

Page 1 of 1

Link to Makoya Amanzi
010 223 7133
083 642 8822



26 February 2020

MCC – Milnerton Canoe Club

Date: 26 February 2020
Time: 12h55
Sampler: Craig Greggor

GPS Location: 33°52'53.2"S 18°29'23.0"E

Temperature	27°C
Cloud Cover	None
Wind	26km/h
Precipitation	None
Low Tide	11:00
High Tide	17:05

Observations and Photographic Records:



TMS – Theo Marais Stormwater Channel

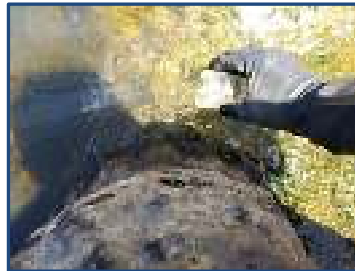
Date: 26 February 2020
Time: 12h25
Sampler: Craig Greggor

GPS Location:
33°50'52.7"S 18°31'11.8"E

Temperature	24°C
Cloud Cover	10%
Wind	26km/h
Precipitation	None
Low Tide	11:00
High Tide	17:05

Observations and Photographic Records:





PDB – Potsdam

Date: 26 February 2020
Time: 11h00
Sampler: Craig Greggor
GPS Location:
33°50'36.2"S 18°31'05.9"E

Temperature	24°C
Cloud Cover	50%
Wind	26km/h
Precipitation	None
Low Tide	11:00
High Tide	17:05

Observations and Photographic Records:



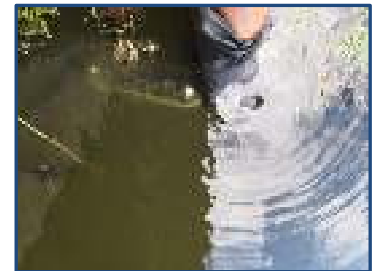
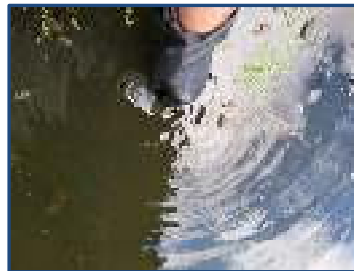


M14 – Under the M14 bridge

Date: 26 February 2020
Time: 11H58
Sampler: Craig Greggor
GPS Location:
33°50'00.7"S 18°31'17.4"E

Temperature	24°C
Cloud Cover	50%
Wind	26km/h
Precipitation	None
Low Tide	11:00
High Tide	17:05

Observations and Photographic Records:

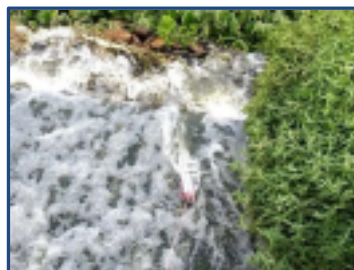


PDA – Pots Dam A

Date: 26 February 2020
Time: 11H28
Sampler: Craig Greggor
GPS Location: 33°50'31.5"S 18°31'08.9"E

Temperature	24°C
Cloud Cover	50%
Wind	26km/h
Precipitation	None
Low Tide	11:00
High Tide	17:05

Observations and Photographic Records:






Sample Submission

Date: 26 Feb 2020
Time: 13:55





091 Courbonne
Durbanville
Pinehurst
7550

010 223 7133
083 642 8822
0866 229 121
info@makoya.net

Sampling Sheet

Date: 26 Feb 2020 Site Arrival Time: 12:46

Put tick (also applicable box)

Salinity device	<input checked="" type="checkbox"/>	Dust filter	<input checked="" type="checkbox"/>	Depth	Height
Sub-sol	<input checked="" type="checkbox"/>	Wet glass	<input checked="" type="checkbox"/>	Waders	High/Low Vent

Weather Comments:

Temperature: 26.2°C Wind: 26 km/hr
 Cloud cover: 40% Precipitation: None

Sample Details:

Sample Name:	<u>M12</u>	Sample Name:	
Type:	<u>2.5 litre Meters</u>	Type:	<u>Continental Shelf</u>
Time:	<u>12:57</u>	Time:	
Location & Description:	<u>Makoya River</u>	Location & Description:	
Location GPS:	<u>34° 10' 50" S</u>	Location GPS:	
Site status:	<u>Coastal</u>	Site status:	

Sampling in progress
 Sampling completed

Sign-off

Sampler Name: _____ Collector Name: _____
 Sampler Signature: _____ Collector Signature: _____

Makoya Amanzi Environmental Solutions CC
 091 Courbonne, Durbanville, Cape Town, South Africa
 Page 1 of 1
 Issue Date: 2019-05-20



Makoya Amanzi
Water and Energy

Sampling Sheet

Date: 26 Feb 2020 Site Arrival Time: 10:30

PPE (tick the applicable box)

Safety Shoes	<input checked="" type="checkbox"/>	Dust Hood	<input checked="" type="checkbox"/>	Goggles		Hardhat	
Gloves	<input checked="" type="checkbox"/>	Eye Glass	<input checked="" type="checkbox"/>	Waiver		High top Vial	

Weather Comment:

Temperature: 26°C Wind: Light

Cloud Cover: 50% Humidity: 70%

Sample Details:

Sample Name:	<u>PDB</u>	Sample Name:	<u>PDA</u>
Type:	<u>Chemical/Physical</u>	Type:	<u>Chemical/Physical</u>
Time:	<u>11:00</u>	Time:	<u>11:20</u>
Location & Description:	<u>Pipe Down</u>	Location & Description:	<u>8m Pipe W/S</u>
Location GPS:	<u>30.512</u>	Location GPS:	<u>30.512</u>
Sample ID:	<u>CSG 1000</u>	Sample ID:	<u>CSG 1000</u>

Sign-off

Sampler Name: CSG 1000 Observer Name: _____

Sampler Signature: _____ Observer Signature: _____

Site Name: _____ Page 1 of 1

Site Address: _____ Date: _____

Makoya Amanzi
Water and Energy

Sampling Sheet

Date: 28 Feb 2020 Site Arrival Time: 12:11

PPE (tick the applicable box)

Safety Shoes	<input checked="" type="checkbox"/>	Dust Hood	<input checked="" type="checkbox"/>	Goggles		Hardhat	
Gloves	<input checked="" type="checkbox"/>	Eye Glass	<input checked="" type="checkbox"/>	Waiver		High top Vial	

Weather Comment:

Temperature: 26°C Wind: Light

Cloud Cover: 50% Humidity: 70%

Sample Details:

Sample Name:	<u>TDS</u>	Sample Name:	<u>Chemical/Physical</u>
Type:	<u>Chemical/Physical</u>	Type:	<u>Chemical/Physical</u>
Time:	<u>12:11</u>	Time:	<u>12:11</u>
Location & Description:	<u>Pipe Down</u>	Location & Description:	<u>8m Pipe W/S</u>
Location GPS:	<u>30.512</u>	Location GPS:	<u>30.512</u>
Sample ID:	<u>CSG 1000</u>	Sample ID:	<u>CSG 1000</u>

Sign-off


Sampler Name: CSG 1000 Observer Name: _____

Sampler Signature: _____ Observer Signature: _____

Site Name: _____ Page 1 of 1

Site Address: _____ Date: _____





QUITA
416 - Juba
318 Oakwood St
Sandton, Durbanville
2193

TEST REPORT
Water

010 223 7133
083 642 8822
0866 229 121
info@makoya.net


Facebook, Twitter, Instagram icons

Sample ID	CVI Line	WQ202	WQ201	WQ204	WQ205	WQ206
Water Type		Water	Water	Water	Water	Water
Water Source						
Storage Temperature						
Description						
PG Number						
Date Received						
Condition						

Parameter	Unit	Result	Standard	Pass/Fail	Date	Time
Temperature (Water)	°C	14.2	5-15	Pass	2020-08-20	10:29
Conductivity (Water)	µS/cm	124	100-200	Pass	2020-08-20	10:30
pH (Water)		8.9	7.0-8.5	Fail	2020-08-20	10:30
Ammonia (NH ₃)	mg/L	11.06	0.5	Fail	2020-08-20	10:30
Chloride (Cl ⁻)	mg/L	51.80	50.00	Fail	2020-08-20	10:30
Total Suspended Solids (TSS)	mg/L	21.00	2.00	Fail	2020-08-20	10:30
Ammonia (NH ₄ ⁺)	mg/L	27.75	1.00	Fail	2020-08-20	10:30
Calc. Total					2020-08-20	10:30

fsanas TERS

010 223 7133



QUITA
416 - Juba
318 Oakwood St
Sandton, Durbanville
2193

TEST REPORT
Water

010 223 7133
083 642 8822
0866 229 121
info@makoya.net

Facebook, Twitter, Instagram icons

Sample ID	CVI Line	WQ202	WQ201	WQ204	WQ205	WQ206
Water Type		Water	Water	Water	Water	Water
Water Source						
Storage Temperature						
Description						
PG Number						
Date Received						
Condition						

Parameter	Unit	Result	Standard	Pass/Fail	Date	Time
Temperature (Water)	°C	14.2	5-15	Pass	2020-08-20	10:29
Conductivity (Water)	µS/cm	124	100-200	Pass	2020-08-20	10:30
pH (Water)		8.9	7.0-8.5	Fail	2020-08-20	10:30
Ammonia (NH ₃)	mg/L	11.06	0.5	Fail	2020-08-20	10:30
Chloride (Cl ⁻)	mg/L	51.80	50.00	Fail	2020-08-20	10:30
Total Suspended Solids (TSS)	mg/L	21.00	2.00	Fail	2020-08-20	10:30
Ammonia (NH ₄ ⁺)	mg/L	27.75	1.00	Fail	2020-08-20	10:30
Calc. Total					2020-08-20	10:30

fsanas TERS

010 223 7133



13 March 2020

MCC – Milnerton Canoe Club

Date: 13 March 2020
Time: 08h46
Sampler: Craig Greggor

GPS Location: 33°52'53.2"S 18°29'23.0"E

Temperature	17°C
Cloud Cover	Light 80%
Wind	0-5 km/h
Precipitation	None
Low Tide	12:05
High Tide	18:12

Observations and Photographic Records:



TMS – Theo Marais Stormwater Channel

Date: 13 March 2020
T.O
Time: 06h40
Sampler: Craig Greggor
GPS Location:
33°50'52.7"S 18°31'11.8"E

Temperature	15°C
Cloud Cover	Misty
Wind	3-5 km/h
Precipitation	None
Low Tide	12:05
High Tide	18:12

Observations and Photographic Records:





PDB – Potsdam

Date: 13 March 2020
Time: 07h38
Sampler: Craig Greggor
GPS Location:
33°50'36.2"S 18°31'05.9"E

Temperature	16°C
Cloud Cover	Light 50%
Wind	3-5 km/h
Precipitation	None
Low Tide	12:05
High Tide	18:12

Observations and Photographic Records:



M14 – Under the M14 bridge

Date: 13 March 2020
Time: 08h05
Sampler: Craig Greggor
GPS Location:
33°50'00.7"S 18°31'17.4"E

Temperature	16°C
Cloud Cover	Light 50%
Wind	3-5 km/h
Precipitation	None
Low Tide	12:05
High Tide	18:12

Observations and Photographic Records:



PDA – Pots Dam A

Date: 13 March 2020
Time: 07h47
Sampler: Craig Greggor
GPS Location: 33°50'31.5"S 18°31'08.9"E

Temperature	16°C
Cloud Cover	Light 50%
Wind	3-5 km/h
Precipitation	None
Low Tide	12:05
High Tide	18:12



Observations and Photographic Records:



Sample Submission

Date: 13 March 2020

Time: 09h47





QUITA
115 114a, 114b, 114c, 114d, 114e
Tombes Park, Durbanville
7550

TEST REPORT

Water



Makoya Amanzi
Water and Energy
115 114a, 114b, 114c, 114d, 114e
Tombes Park, Durbanville
7550

Sample ID	Sample Name	Client	Analyst	Method	Result	Unit	Reference	Status
1001-001	Makoya Amanzi	Makoya Amanzi	J. van der Merwe	Standard Methods	14.5	mg/l	10-15	Pass
1001-002	Makoya Amanzi	Makoya Amanzi	J. van der Merwe	Standard Methods	12.8	mg/l	10-15	Pass
1001-003	Makoya Amanzi	Makoya Amanzi	J. van der Merwe	Standard Methods	11.2	mg/l	10-15	Pass
1001-004	Makoya Amanzi	Makoya Amanzi	J. van der Merwe	Standard Methods	10.5	mg/l	10-15	Pass
1001-005	Makoya Amanzi	Makoya Amanzi	J. van der Merwe	Standard Methods	9.8	mg/l	10-15	Pass
1001-006	Makoya Amanzi	Makoya Amanzi	J. van der Merwe	Standard Methods	9.1	mg/l	10-15	Pass
1001-007	Makoya Amanzi	Makoya Amanzi	J. van der Merwe	Standard Methods	8.4	mg/l	10-15	Pass
1001-008	Makoya Amanzi	Makoya Amanzi	J. van der Merwe	Standard Methods	7.7	mg/l	10-15	Pass
1001-009	Makoya Amanzi	Makoya Amanzi	J. van der Merwe	Standard Methods	7.0	mg/l	10-15	Pass
1001-010	Makoya Amanzi	Makoya Amanzi	J. van der Merwe	Standard Methods	6.3	mg/l	10-15	Pass

1001-011
 1001-012 | 1001-013 | 1001-014 | 1001-015 | 1001-016 | 1001-017 | 1001-018 | 1001-019 | 1001-020 |



1
1

1001-021
1001-022
1001-023
1001-024



QUITA
115 114a, 114b, 114c, 114d, 114e
Tombes Park, Durbanville
7550

TEST REPORT

Water



Makoya Amanzi
Water and Energy
115 114a, 114b, 114c, 114d, 114e
Tombes Park, Durbanville
7550

Sample ID	Sample Name	Client	Analyst	Method	Result	Unit	Reference	Status
1001-001	Makoya Amanzi	Makoya Amanzi	J. van der Merwe	Standard Methods	14.5	mg/l	10-15	Pass
1001-002	Makoya Amanzi	Makoya Amanzi	J. van der Merwe	Standard Methods	12.8	mg/l	10-15	Pass
1001-003	Makoya Amanzi	Makoya Amanzi	J. van der Merwe	Standard Methods	11.2	mg/l	10-15	Pass
1001-004	Makoya Amanzi	Makoya Amanzi	J. van der Merwe	Standard Methods	10.5	mg/l	10-15	Pass
1001-005	Makoya Amanzi	Makoya Amanzi	J. van der Merwe	Standard Methods	9.8	mg/l	10-15	Pass
1001-006	Makoya Amanzi	Makoya Amanzi	J. van der Merwe	Standard Methods	9.1	mg/l	10-15	Pass
1001-007	Makoya Amanzi	Makoya Amanzi	J. van der Merwe	Standard Methods	8.4	mg/l	10-15	Pass
1001-008	Makoya Amanzi	Makoya Amanzi	J. van der Merwe	Standard Methods	7.7	mg/l	10-15	Pass
1001-009	Makoya Amanzi	Makoya Amanzi	J. van der Merwe	Standard Methods	7.0	mg/l	10-15	Pass
1001-010	Makoya Amanzi	Makoya Amanzi	J. van der Merwe	Standard Methods	6.3	mg/l	10-15	Pass


1001-011
 1001-012 | 1001-013 | 1001-014 | 1001-015 | 1001-016 | 1001-017 | 1001-018 | 1001-019 | 1001-020 |



1
1

1001-021
1001-022
1001-023
1001-024





Makoya Amanzi
Water and Energy

27 The Avenue
Oakwood
Pinehurst
Durbanville
7550

Tel: 010 223 7133
Mobile: 083 642 8822
Fax: 0866 229 121
E-mail: info@makoya.net

Sampling Sheet

Date: 13/03/2020 Site Arrival Time: 08:38

PRE (tick the applicable box)

Sample Name	<input checked="" type="checkbox"/> Duff (deck)	<input type="checkbox"/> Sewer	Location
Substrate	<input type="checkbox"/> Wet floors	<input type="checkbox"/> Terrace	Height above

Weather Comment:
Temperature: 17°C Wind: None
Cloud Cover: Light Fog

Sample Details:

Sample Name:	<u>PCC</u>	Sample Name:	<u>Shed floor tiles</u>
Type:	<u>Concrete</u>	Type:	<u>Shed floor tiles</u>
Location & Room/room:	<u>Office</u>	Location & Room/room:	<u>Shed</u>
Location GPS:	<u>Private Club</u>	Location GPS:	<u>None</u>
Sampling:	<u>Crack & seep</u>	Sampling:	

Sample Name:	<u>Shed floor tiles</u>	Sample Name:	<u>Crack in wall</u>
Type:	<u>Concrete</u>	Type:	<u>Crack in wall</u>
Location & Room/room:	<u>Office</u>	Location & Room/room:	<u>Shed</u>
Location GPS:	<u>Private Club</u>	Location GPS:	<u>None</u>
Sampling:	<u>Crack & seep</u>	Sampling:	

Sign-off:

Sample Name: Crack & seep Observer Name: _____

Sample Name: _____ Observer Name: _____

Sampling on site
 Sampling post-lab test
 Sample photo
 Tools photo

Water and Energy Environmental Solutions
Sole Member: C A Gregor

Page 1 of 1
Date: 13/03/2020
Time: 08:38



Makoya Amanzi
Water and Energy

Sampling Sheet

Date: 13/03/2020 Site Arrival Time: 07:15

PPE (tick the applicable box)

Safety Shoes	<input checked="" type="checkbox"/>	Full PPE	<input checked="" type="checkbox"/>	Hardhat	<input type="checkbox"/>
Gloves	<input type="checkbox"/>	Wet clothes	<input checked="" type="checkbox"/>	High-visibility	<input type="checkbox"/>

Weather Comment:

Temperature	<u>17°C</u>	Wind	<u>3-5 km/h</u>
Cloud cover	<u>Light SWB</u>	Precipitation	<u>None</u>

Sample Details:

Sample Name:	<u>PDA</u>	Sample Name:	<u>PDA C1</u>
Type:	<u>Chlorine + Nitrate</u>	Type:	<u>Chlorine + Nitrate</u>
Location & Description:	<u>Access point</u>	Location & Description:	<u>Access point</u>
Location GPS:	<u>Access point</u>	Location GPS:	<u>Access point</u>
Sampler:	<u>Craig Gregor</u>	Sampler:	<u>Craig Gregor</u>

Sample Name:	<u>PDA</u>	Sample Name:	<u>M16</u>
Type:	<u>Chlorine + Nitrate</u>	Type:	<u>Chlorine + Nitrate</u>
Location & Description:	<u>Access point</u>	Location & Description:	<u>Under M16 bridge</u>
Location GPS:	<u>Access point</u>	Location GPS:	<u>Access point</u>
Sampler:	<u>Craig Gregor</u>	Sampler:	<u>Craig Gregor</u>

• Sampling area photos
• Sampling point photos

Sign-off

Sampler Name: Craig Gregor Observer Name: Donald Snyman

Sampler Signature: [Signature] Observer Signature: [Signature]

Makoya Amanzi Environmental Solutions CC
13/03/2020

Makoya Amanzi
Water and Energy

Sampling Sheet

Date: 13/03/2020 Site Arrival Time: 06:37

PPE (tick the applicable box)

Safety Shoes	<input checked="" type="checkbox"/>	Full PPE	<input checked="" type="checkbox"/>	Hardhat	<input type="checkbox"/>
Gloves	<input type="checkbox"/>	Wet clothes	<input checked="" type="checkbox"/>	High-visibility	<input type="checkbox"/>

Weather Comment:

Temperature	<u>18°C</u>	Wind	<u>3-5 km/h</u>
Cloud cover	<u>Light</u>	Precipitation	<u>None</u>

Sample Details:

Sample Name:	<u>TMS</u>	Sample Name:	<u>Chlorine + Nitrate</u>
Type:	<u>Chlorine + Nitrate</u>	Type:	<u>Chlorine + Nitrate</u>
Location & Description:	<u>Access point</u>	Location & Description:	<u>Access point</u>
Location GPS:	<u>Access point</u>	Location GPS:	<u>Access point</u>
Sampler:	<u>Craig Gregor</u>	Sampler:	<u>Craig Gregor</u>

Sample Name:	<u>Chlorine + Nitrate</u>	Sample Name:	<u>Chlorine + Nitrate</u>
Type:	<u>Chlorine + Nitrate</u>	Type:	<u>Chlorine + Nitrate</u>
Location & Description:	<u>Access point</u>	Location & Description:	<u>Access point</u>
Location GPS:	<u>Access point</u>	Location GPS:	<u>Access point</u>
Sampler:	<u>Craig Gregor</u>	Sampler:	<u>Craig Gregor</u>

• Sampling area photos
• Sampling point photos

Sign-off

Sampler Name: Craig Gregor Observer Name: _____

Sampler Signature: [Signature] Observer Signature: _____

Makoya Amanzi Environmental Solutions CC
13/03/2020



08 April 2020

MCC – Milnerton Canoe Club

Date: 08 April 2020
Time: 11h20
Sampler: Craig Greggor

GPS Location: 33°52'53.2"S 18°29'23.0"E

Temperature	22°C
Cloud Cover	None
Wind	7 km/h SE
Precipitation	None
Low Tide	09:41
High Tide	15:48

Observations and Photographic Records:



TMS – Theo Marais Stormwater Channel

Date: 08 April 2020
Time: 10h50
Sampler: Craig Greggor
GPS Location: 33°50'52.7"S 18°31'11.8"E

Temperature	20°C
Cloud Cover	2%
Wind	9 km/h
Precipitation	None
Low Tide	09:41
High Tide	15:48

Observations and Photographic Records:



PD – Free Chlorine

Date: 08 April 2020
Time: 10h00
Sampler: Craig Greggor
GPS Location: 33°50'45.3"S 18°31'03.9"E

Temperature	18°C
Cloud Cover	1%
Wind	11 km/h
Precipitation	None
Low Tide	09:41
High Tide	15:48



Observations and Photographic Records:



PDC –

Date: 08 April 2020
Time: 10h00
Sampler: Craig Greggor
GPS Location: 33°50'45.3"S 18°31'03.9"E

Temperature	18°C
Cloud Cover	1%
Wind	11 km/h
Precipitation	None
Low Tide	09:41
High Tide	15:48

Observations and Photographic Records:



M14 – Under the M14 bridge

Date: 08 April 2020
Time: 10h30
Sampler: Craig Greggor
GPS Location: 33°50'00.7"S 18°31'17.4"E

Temperature	18°C
Cloud Cover	1%
Wind	11km/h
Precipitation	None
Low Tide	09:41
High Tide	15:48

Observations and Photographic Records:





PDD

Date: 08 April 2020
Time: 11h00
Sampler: Craig Greggor
GPS Location: 33°50'46.8"S 18°30'57.7"E

Temperature	20°C
Cloud Cover	2%
Wind	9 km/h
Precipitation	None
Low Tide	09:41
High Tide	15:48

Observations and Photographic Records:



Sample Submission

Date: 08 April 2020
Time: 13:06





Integral Labs (Pty) Ltd
141 Oxley Road, Sandton, Cape Town, South Africa
Tel: 021 531 1100 Fax: 021 531 1104
Email: info@integral-labs.co.za



100%

Certificate of Analysis

Client: Makoya Amanzi Environmental Solutions
Reference: 2020/05/01
Sample: 2020/05/01
Location: 2020/05/01
Client Address: 09 Courbonne, Oakwood, Durbanville, 7550

Sample Received By: Makoya Amanzi Environmental Solutions
Received On: 11 April 2020
Sample Collected By: Makoya Amanzi Environmental Solutions
Collected On: 09 April 2020
Valid Until: 09 April 2020

Sample Number	Reference No.	Sample Description	Test Description	Result	Unit	Pass/Fail	Analysis Date
2020/05/01	2020/05/01	Water	Water Quality	1.2	mg/L	Pass	2020/05/01
2020/05/01	2020/05/01	Water	Water Quality	0.5	mg/L	Pass	2020/05/01
2020/05/01	2020/05/01	Water	Water Quality	0.1	mg/L	Pass	2020/05/01
2020/05/01	2020/05/01	Water	Water Quality	0.05	mg/L	Pass	2020/05/01
2020/05/01	2020/05/01	Water	Water Quality	0.01	mg/L	Pass	2020/05/01
2020/05/01	2020/05/01	Water	Water Quality	0.001	mg/L	Pass	2020/05/01
2020/05/01	2020/05/01	Water	Water Quality	0.0001	mg/L	Pass	2020/05/01
2020/05/01	2020/05/01	Water	Water Quality	0.00001	mg/L	Pass	2020/05/01



Integral Labs (Pty) Ltd
141 Oxley Road, Sandton, Cape Town, South Africa
Tel: 021 531 1100 Fax: 021 531 1104
Email: info@integral-labs.co.za



100%


Certificate of Analysis

Client: Makoya Amanzi Environmental Solutions
Reference: 2020/05/01
Sample: 2020/05/01
Location: 2020/05/01
Client Address: 09 Courbonne, Oakwood, Durbanville, 7550


Sample Received By: Makoya Amanzi Environmental Solutions
Received On: 11 April 2020
Sample Collected By: Makoya Amanzi Environmental Solutions
Collected On: 09 April 2020
Valid Until: 09 April 2020

Sample Number	Reference No.	Sample Description	Test Description	Result	Unit	Pass/Fail	Analysis Date
2020/05/01	2020/05/01	Water	Water Quality	1.2	mg/L	Pass	2020/05/01
2020/05/01	2020/05/01	Water	Water Quality	0.5	mg/L	Pass	2020/05/01
2020/05/01	2020/05/01	Water	Water Quality	0.1	mg/L	Pass	2020/05/01
2020/05/01	2020/05/01	Water	Water Quality	0.05	mg/L	Pass	2020/05/01
2020/05/01	2020/05/01	Water	Water Quality	0.01	mg/L	Pass	2020/05/01
2020/05/01	2020/05/01	Water	Water Quality	0.001	mg/L	Pass	2020/05/01
2020/05/01	2020/05/01	Water	Water Quality	0.0001	mg/L	Pass	2020/05/01
2020/05/01	2020/05/01	Water	Water Quality	0.00001	mg/L	Pass	2020/05/01





Integral Laboratories
Integral Environmental Solutions (Pty) Ltd
14, 20110101 P.O. Box 49180 JHB
www.integral-lab.co.za



100%


Certificate of Analysis

Client: Water of Lesotho 20 Courbonne Durbanville 7550	Sample Name: Water of Lesotho 20 Courbonne Durbanville 7550	Sample Description: Water of Lesotho 20 Courbonne Durbanville 7550	Requester: Water of Lesotho 20 Courbonne Durbanville 7550
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Sample No.	Parameter	Unit	Result	Unit	Result	Analysis Date
1	Temperature	°C	18.5	°C	18.5	2020-05-10

Page 4 of 7

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Integral Laboratories
Integral Environmental Solutions (Pty) Ltd
14, 20110101 P.O. Box 49180 JHB
www.integral-lab.co.za



100%

Certificate of Analysis

Client: Water of Lesotho 20 Courbonne Durbanville 7550	Sample Name: Water of Lesotho 20 Courbonne Durbanville 7550	Sample Description: Water of Lesotho 20 Courbonne Durbanville 7550	Requester: Water of Lesotho 20 Courbonne Durbanville 7550
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Sample No.	Parameter	Unit	Result	Unit	Result	Analysis Date
1	Temperature	°C	18.5	°C	18.5	2020-05-10
2	pH		7.1		7.1	2020-05-10
3	Total Dissolved Solids (TDS)	mg/L	1.8	mg/L	1.8	2020-05-10
4	Total Suspended Solids (TSS)	mg/L	0.0	mg/L	0.0	2020-05-10
5	Hardness (Calcium + Magnesium)	mg/L	0.0	mg/L	0.0	2020-05-10
6	Calcium	mg/L	0.0	mg/L	0.0	2020-05-10
7	Magnesium	mg/L	0.0	mg/L	0.0	2020-05-10
8	Chloride	mg/L	0.0	mg/L	0.0	2020-05-10
9	Sulfate	mg/L	0.0	mg/L	0.0	2020-05-10
10	Total Hardness (Calcium + Magnesium + Chloride + Sulfate)	mg/L	0.0	mg/L	0.0	2020-05-10

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Makoya Amanzi
Water and Energy

Sampling Sheet

Site Arrival Time: 10:20

Date: 8 May 2020

PPE (tick the applicable box)

Safety Shoes	<input checked="" type="checkbox"/> Disinfect	✓	Gloves	<input checked="" type="checkbox"/>
Solar Hat	<input checked="" type="checkbox"/> Eye Goggles	<input checked="" type="checkbox"/>	High Vis Vest	<input checked="" type="checkbox"/>

Weather Comments:

Temperature	<u>20°C</u>	Wind	<u>4 km/h SE</u>
Cloud Cover	<u>2%</u>	Humidity	<u>0</u>

Sample Details:

Sample Name:	<u>TR1</u>	Sample Name:	<u>TR1</u>
Type:	<u>Spot Sample</u>	Type:	<u>Spot Sample</u>
Location & Description:	<u>at 10m</u>	Location & Description:	<u>at 10m</u>
Location GPS:	<u>33° 50' 00" S</u>	Location GPS:	<u>33° 50' 00" S</u>
Sampler:	<u>100 ml</u>	Sampler:	<u>100 ml</u>

Sign-off:

Sampler Name: C. A. Gregor Observer Name: _____

Sampler Signature: _____ Observer Signature: _____

Makoya Amanzi
Water and Energy

Sampling Sheet

Site Arrival Time: 09:30

Date: 8 May 2020

PPE (tick the applicable box)

Safety Shoes	<input checked="" type="checkbox"/> Disinfect	✓	Gloves	<input checked="" type="checkbox"/>
Solar Hat	<input checked="" type="checkbox"/> Eye Goggles	<input checked="" type="checkbox"/>	High Vis Vest	<input checked="" type="checkbox"/>

Weather Comments:

Temperature	<u>18.6</u>	Wind	<u>11 km/h SE</u>
Cloud Cover	<u>1%</u>	Humidity	<u>0</u>

Sample Details:

Sample Name:	<u>TR1</u>	Sample Name:	<u>TR1</u>
Type:	<u>Spot Sample</u>	Type:	<u>Spot Sample</u>
Location & Description:	<u>at 10m</u>	Location & Description:	<u>at 10m</u>
Location GPS:	<u>33° 50' 00" S</u>	Location GPS:	<u>33° 50' 00" S</u>
Sampler:	<u>100 ml</u>	Sampler:	<u>100 ml</u>

Sign-off:

Sampler Name: C. A. Gregor Observer Name: _____

Sampler Signature: _____ Observer Signature: _____



TMS – Theo Marais Stormwater Channel

Date: 21 April 2020
Time: 11h36
Sampler: Craig Greggor
GPS Location:
33°50'52.7"S 18°31'11.8"E

Temperature	19°C
Cloud Cover	10%
Wind	11km/h
Precipitation	None
Low Tide	08:47
High Tide	14:53

Observations and Photographic Records:



PD – Free Chlorine

Date: 21 April 2020
Time: 10h50
Sampler: Craig Greggor
GPS Location: 33°50'45.3"S 18°31'03.9"E

Temperature	19°C
Cloud Cover	10%
Wind	7 km/h
Precipitation	None
Low Tide	08:47
High Tide	14:53

Observations and Photographic Records:





PDC – Discharge

Date: 21 April 2020
Time: 10h50
Sampler: Craig Greggor
GPS Location: 33°50'45.3"S 18°31'03.9"E

Temperature	19°C
Cloud Cover	10%
Wind	7 km/h
Precipitation	None
Low Tide	08:47
High Tide	14:53

Observations and Photographic Records:



M14 – Under the M14 bridge

Date: 21 April 2020
Time: 11:15
Sampler: Craig Greggor
GPS Location: 33°50'00.7"S 18°31'17.4"E

Temperature	19°C
Cloud Cover	10%
Wind	7 km/h
Precipitation	None
Low Tide	08:47
High Tide	14:53

Observations and Photographic Records:





PDD -

Date: 21 April 2020
Time: 11h45
Sampler: Craig Greggor
GPS Location: 33°50'46.8"S 18°30'57.7"E

Temperature	19°C
Cloud Cover	10%
Wind	11 km/h
Precipitation	None
Low Tide	08:47
High Tide	14:53

Observations and Photographic Records:



Sample Submission

Date: 21 April 2020
Time: 12:55





Makoya Amanzi
Water and Energy

Sampling Sheet

Date: 21/06/2020 Site Arrival Time: 08:30

PPE (tick the applicable box)

Safety Shoes	<input checked="" type="checkbox"/>	Dark boots	<input checked="" type="checkbox"/>	Goggles		Hard hat	
Solar suit	<input checked="" type="checkbox"/>	Anti-splash	<input checked="" type="checkbox"/>	Waders		High vis vest	<input checked="" type="checkbox"/>

Weather Comments:

Temperature: 19°C Wind: Light NW

Cloud Cover: 0% Precipitation: 0

Sample Details:

Sample Name:	<u>WATER SAMPLE</u>	Sample Name:	<u>PO1</u>
Type:	<u>Water</u>	Type:	<u>Water</u>
Time:	<u>08:30</u>	Time:	<u>08:30</u>
Location & Position:	<u>PO1</u>	Location & Position:	<u>PO1</u>
Location GPS:	<u>33.511111</u>	Location GPS:	<u>33.511111</u>
Sample ID:	<u>W001</u>	Sample ID:	<u>W001</u>

Sign-off:

Sampler Name: _____ Checker Name: _____

Sampler Signature: _____ Checker Signature: _____

Company registration #: CK 005/068724/23
VAT #: 413 0222 054

Makoya Amanzi
Water and Energy

Sampling Sheet

Date: 21/06/2020 Site Arrival Time: 11:30

PPE (tick the applicable box)

Safety Shoes	<input checked="" type="checkbox"/>	Dark boots	<input checked="" type="checkbox"/>	Goggles		Hard hat	
Solar suit	<input checked="" type="checkbox"/>	Anti-splash	<input checked="" type="checkbox"/>	Waders		High vis vest	<input checked="" type="checkbox"/>

Weather Comments:

Temperature: 19°C Wind: Light NW

Cloud Cover: 0% Precipitation: 0

Sample Details:

Sample Name:	<u>WATER SAMPLE</u>	Sample Name:	<u>PO2</u>
Type:	<u>Water</u>	Type:	<u>Water</u>
Time:	<u>11:30</u>	Time:	<u>11:30</u>
Location & Position:	<u>PO2</u>	Location & Position:	<u>PO2</u>
Location GPS:	<u>33.511111</u>	Location GPS:	<u>33.511111</u>
Sample ID:	<u>W002</u>	Sample ID:	<u>W002</u>

Sign-off:

Sampler Name: _____ Checker Name: _____

Sampler Signature: _____ Checker Signature: _____

Company registration #: CK 005/068724/23
VAT #: 413 0222 054



Makoya Amanzi
Water and Energy

Sampling Sheet

Date: 21/05/2020 Site Arrival Time: 11:30

PRE (tick the applicable box)

Very Good	<input checked="" type="checkbox"/>	Dull/Lesser	<input checked="" type="checkbox"/>	Cloudy	<input checked="" type="checkbox"/>	Windy	<input checked="" type="checkbox"/>	Windy	<input checked="" type="checkbox"/>
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Weather Comments:
Temperature: 18.6 Wind: 11 km/h SW
Cloud Cover: 10% Humidity: 0

Sample Details:

Sample Name:	<u>TMS</u>	Sample Name:	<u>PDS</u>
Type:	<u>Open Jarred</u>	Type:	<u>Plastic Jar</u>
Time:	<u>11:30</u>	Time:	<u>11:30</u>
Location & Description:	<u>RM</u>	Location & Description:	<u>RM</u>
Localities:	<u>C. GARDNER</u>	Localities:	<u>C. GARDNER</u>
Temperature:		Temperature:	

Sign-off:

Sampler Name: _____ Observer Name: _____

Sampler Signature: _____ Observer Signature: _____

Project Name: _____ Date: _____

Site: _____

Integral Laboratories


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Certificate of Analysis


Sample Name	Sample No.	Sample Description	Quantity	Unit	Result	Method	Sample Date
Lead (Pb)	101	Water	1000	mg/L	0.00	203.2-2-21	2020-05-21
Copper (Cu)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Iron (Fe)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Manganese (Mn)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Zinc (Zn)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Nickel (Ni)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Chromium (Cr)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Vanadium (V)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Selenium (Se)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Cadmium (Cd)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Mercury (Hg)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Chloride (Cl)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Sulfate (SO4)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Ammonia (NH3)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Nitrate (NO3)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Phosphate (PO4)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Fluoride (F)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Calcium (Ca)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Magnesium (Mg)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Total Hardness	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Total Dissolved Solids (TDS)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Total Suspended Solids (TSS)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Total Solids (TS)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Total Phosphorus (TP)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Total Nitrogen (TN)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Total Organic Carbon (TOC)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Total Organic Nitrogen (TON)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Total Organic Phosphorus (TOP)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Total Dissolved Phosphorus (TDP)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Total Dissolved Nitrogen (TDN)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Total Dissolved Organic Carbon (TDOC)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Total Dissolved Organic Nitrogen (TDON)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Total Dissolved Organic Phosphorus (TDOP)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Total Dissolved Inorganic Carbon (TDIC)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Total Dissolved Inorganic Nitrogen (TDIN)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Total Dissolved Inorganic Phosphorus (TDIP)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Total Dissolved Inorganic Nitrogen + Phosphorus (TDIN+P)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Total Dissolved Inorganic Phosphorus + Nitrogen (TDIP+N)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Total Dissolved Inorganic Carbon + Nitrogen (TDIC+N)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Total Dissolved Inorganic Carbon + Phosphorus (TDIC+P)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Total Dissolved Inorganic Carbon + Nitrogen + Phosphorus (TDIC+N+P)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Total Dissolved Organic Carbon + Nitrogen (TDOC+N)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Total Dissolved Organic Carbon + Phosphorus (TDOC+P)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Total Dissolved Organic Carbon + Nitrogen + Phosphorus (TDOC+N+P)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Total Dissolved Organic Nitrogen + Phosphorus (TDON+P)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Total Dissolved Organic Phosphorus + Nitrogen (TDOP+N)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Total Dissolved Organic Carbon + Nitrogen + Phosphorus (TDOC+N+P)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Total Dissolved Organic Nitrogen + Phosphorus + Carbon (TDON+P+C)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Total Dissolved Organic Phosphorus + Nitrogen + Carbon (TDOP+N+C)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Total Dissolved Organic Carbon + Nitrogen + Phosphorus + Carbon (TDOC+N+P+C)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Total Dissolved Organic Nitrogen + Phosphorus + Carbon (TDON+P+C)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Total Dissolved Organic Phosphorus + Nitrogen + Carbon (TDOP+N+C)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21
Total Dissolved Organic Carbon + Nitrogen + Phosphorus + Carbon (TDOC+N+P+C)	101	Water	1000	mg/L	0.01	203.2-2-21	2020-05-21

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Integral Laboratories (Pty) Ltd
101 Cambridge Road, Durbanville, Cape Town, 7800
Tel: 021 952 1818, 021 952 1814
Email: info@integral-lab.co.za



TSO


Certificate Of Analysis

Client: F. van der Merwe Address: 251 Oakwood Durbanville 7800 021 952 1818 021 952 1814 info@integral-lab.co.za	Service Provided By: Ops Date of Collection: 20 May 2020 Job ID: 2020-0520 Client Ref: 2020-0520 Date of Sampling: 20 May 2020 Date of Report: 21 May 2020	
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Sample ID/Ref	NO. OF TESTS	Sample Description	Volume	Unit	Result	Unit	Result	Sample Date
Chemistry (Standard Parameters)								
Iron (Fe)	1	ML	100	mg/L	0.2	mg/L	0.2	2020-05-20
Quality								
Free Chlorine	1	ML	25.00	mg/L	0.0	mg/L	0.0	2020-05-20

Print Report

021 952 1818
info@integral-lab.co.za



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101 Cambridge Road, Durbanville, Cape Town, 7800
Tel: 021 952 1818, 021 952 1814
Email: info@integral-lab.co.za



TSO

Certificate Of Analysis


Client: F. van der Merwe Address: 251 Oakwood Durbanville 7800 021 952 1818 021 952 1814 info@integral-lab.co.za	Service Provided By: Ops Date of Collection: 20 May 2020 Job ID: 2020-0520 Client Ref: 2020-0520 Date of Sampling: 20 May 2020 Date of Report: 21 May 2020	
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Sample ID/Ref	NO. OF TESTS	Sample Description	Volume	Unit	Result	Unit	Result	Sample Date
Chemistry (Standard Parameters)								
Iron (Fe)	1	ML	100	mg/L	0.0	mg/L	0.0	2020-05-20
Physical (Standard Parameters)								
Water and Sediment Temp (T)	1	ML	100	°C	21.0	°C	21.0	2020-05-20
Standard Methods (Standard Parameters)								
Ammonia Nitrogen (NH ₃ -N)	1	ML	100	mg/L	0.0	mg/L	0.0	2020-05-20
Nitrite Nitrogen (NO ₂ -N)	1	ML	100	mg/L	0.0	mg/L	0.0	2020-05-20
Nitrate Nitrogen (NO ₃ -N)	1	ML	100	mg/L	0.0	mg/L	0.0	2020-05-20
Orthophosphate (PO ₄ -P)	1	ML	100	mg/L	0.0	mg/L	0.0	2020-05-20
Standard Parameters								
Chemical Oxygen Demand (COD)	1	ML	100	mg/L	0.0	mg/L	0.0	2020-05-20


Print Report

021 952 1818
info@integral-lab.co.za





Integral Laboratories
Private Laboratory (Pty) Ltd
18 Cambridge Road, Rosebank, Johannesburg, South Africa 2195
Tel: +27 (0)11 805 8800, 805 8814
Email: info@integral-lab.co.za



tsanas
Water and Energy

Certificate of Analysis

Client: **09 Courbonne**
Date of Collection: **06 May 2020**
Site: **09 Courbonne**
Sample ID: **09C01-2020**
Date of Report: **06 May 2020**

Parameter	Unit	Result	Standard
Temperature	°C	17.1	10-20
Cloud Cover	%	1	0-100
Wind	km/h	Light	0-100
Precipitation	mm	None	0-100
Low Tide	Time	08:36	
High Tide	Time	14:45	

Print Report

tsanas.com

06 May 2020

MCC – Milnerton Canoe Club

Date: 06 May 2020
Time: 12h20
Sampler: Craig Greggor

GPS Location: 33°52'53.2"S 18°29'23.0"E

Temperature	
Cloud Cover	1%
Wind	Light
Precipitation	None
Low Tide	08:36
High Tide	14:45

Observations and Photographic Records:





TMS – Theo Marais Stormwater Channel

Date: 06 May 2020
Time: 11h25
Sampler: Craig Greggor
GPS Location:
33°50'52.7"S 18°31'11.8"E

Temperature	23°C
Cloud Cover	1%
Wind	13 km/hr
Precipitation	None
Low Tide	08:36
High Tide	14:45

Observations and Photographic Records:





PD – Free Chlorine

Date: 06 May 2020
Time: 10h10
Sampler: Craig Greggor
GPS Location: 33°50'45.3"S 18°31'03.9"E

Temperature	19°C
Cloud Cover	1%
Wind	11 km/hr
Precipitation	None
Low Tide	08:36
High Tide	14:45

Observations and Photographic Records:



PDC – Discharge

Date: 06 May 2020
Time: 10h10
Sampler: Craig Greggor
GPS Location: 33°50'45.3"S 18°31'03.9"E

Temperature	19°C
Cloud Cover	1%
Wind	11 km/hr
Precipitation	None
Low Tide	08:36
High Tide	14:45

Observations and Photographic Records:

- Reduced flow but still a prominent discharge.





PDA – Discharge

Date: 06 May 2020
Time: 10h30
Sampler: Craig Greggor
GPS Location: 33°50'45.3"S 18°31'03.9"E

Temperature	19°C
Cloud Cover	1%
Wind	11 km/hr
Precipitation	None
Low Tide	08:36
High Tide	14:45

Observations and Photographic Records:

- Relatively low flow, but still a visible discharge.

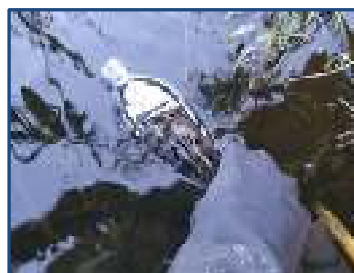
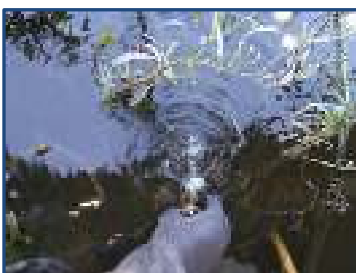


M14 – Under the M14 bridge

Date: 06 May 2020
Time: 11h00
Sampler: Craig Greggor
GPS Location: 33°50'00.7"S 18°31'17.4"E

Temperature	19°C
Cloud Cover	1%
Wind	11 km/hr
Precipitation	None
Low Tide	08:36
High Tide	14:45

Observations and Photographic Records:





PDD - Down Stream

Date: 06 May 2020
Time: 11h46
Sampler: Craig Greggor
GPS Location: 33°50'46.8"S 18°30'57.7"E

Temperature	23°C
Cloud Cover	1%
Wind	13 km/hr
Precipitation	None
Low Tide	08:36
High Tide	14:45

Observations and Photographic Records:

- Very congested with sludge.




Sample Submission


Date: 06 May 2020
Time: 14:20







Integral Laboratories
Integral Laboratories (Pty) Ltd
14, 2011 10th Ave, 40130 JHB
Tel: 011 481 4811




1067

Certificate Of Analysis


Customer Reference: Water of 20 Courbonne Oakwood Durbanville 7550	Sample Description: Water of 20 Courbonne Oakwood Durbanville 7550	Client Reference: 1067	Sample Date: 20 May 2020	Analysis Date: 20 May 2020
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Parameter	Unit	Result	Pass/Fail	Analysis Date
Temperature	°C	18.5	Pass	20 May 2020
pH		7.5	Pass	20 May 2020
Total Dissolved Solids (TDS)	mg/L	120	Pass	20 May 2020
Total Suspended Solids (TSS)	mg/L	5	Pass	20 May 2020
Calcium	mg/L	150	Pass	20 May 2020
Magnesium	mg/L	10	Pass	20 May 2020
Hardness	mg/L	160	Pass	20 May 2020
Chloride	mg/L	10	Pass	20 May 2020
Sulfate	mg/L	10	Pass	20 May 2020
Total Hardness	mg/L	170	Pass	20 May 2020

Page 1 of 1



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14, 2011 10th Ave, 40130 JHB
Tel: 011 481 4811



1067

Certificate Of Analysis

Customer Reference: Water of 20 Courbonne Oakwood Durbanville 7550	Sample Description: Water of 20 Courbonne Oakwood Durbanville 7550	Client Reference: 1067	Sample Date: 20 May 2020	Analysis Date: 20 May 2020
--	--	----------------------------------	------------------------------------	--------------------------------------


Parameter	Unit	Result	Pass/Fail	Analysis Date
Temperature	°C	18.5	Pass	20 May 2020
pH		7.5	Pass	20 May 2020
Total Dissolved Solids (TDS)	mg/L	120	Pass	20 May 2020
Total Suspended Solids (TSS)	mg/L	5	Pass	20 May 2020
Calcium	mg/L	150	Pass	20 May 2020
Magnesium	mg/L	10	Pass	20 May 2020
Hardness	mg/L	160	Pass	20 May 2020
Chloride	mg/L	10	Pass	20 May 2020
Sulfate	mg/L	10	Pass	20 May 2020
Total Hardness	mg/L	170	Pass	20 May 2020

Page 1 of 1






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Integral Environmental Solutions (Pty) Ltd
14, 2011 10th Ave, 40130 JHB
Tel: 011 481 4811



1067

Certificate Of Analysis

Sample Information Sample Number: 1067 Sample Description: 1067	Client Information Client Name: Makoya Amanzi Contact Person: Makoya Amanzi Address: Makoya Amanzi	Analysis Details Analysis Name: 1067 Analysis Code: 1067 Analysis Date: 2020-05-20	Sample Details Sample ID: 1067 Sample Description: 1067	Analysis Results Parameter: 1067 Result: 1067 Unit: 1067 Status: 1067
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Tel: 011 481 4811




1067


Certificate Of Analysis

Sample Information Sample Number: 1067 Sample Description: 1067	Client Information Client Name: Makoya Amanzi Contact Person: Makoya Amanzi Address: Makoya Amanzi	Analysis Details Analysis Name: 1067 Analysis Code: 1067 Analysis Date: 2020-05-20	Sample Details Sample ID: 1067 Sample Description: 1067	Analysis Results Parameter: 1067 Result: 1067 Unit: 1067 Status: 1067
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Integral Environmental Solutions (Pty) Ltd
14, 20110101 P.O. Box 48180 JHB
Johannesburg, South Africa



1067


Certificate Of Analysis

Client: Makoya Amanzi Environmental Solutions (Pty) Ltd Address: 09 Courbonne, Oakwood, Pinehurst, Durbanville, 7550 Project: Durbanville	Sample No. For: Durbanville Sample Location: Durbanville Sample Date: 20 May 2020 Analyst: M. J. van der Merwe	Sample No. For: Durbanville Sample Location: Durbanville Sample Date: 20 May 2020 Analyst: M. J. van der Merwe
--	---	---


Sample No.	Parameter	Unit	Result	Unit	Limit	Pass/Fail	Analysis Date
1	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020

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Integral Environmental Solutions (Pty) Ltd



INTEGRAL LABORATORIES
Integral Environmental Solutions (Pty) Ltd
14, 20110101 P.O. Box 48180 JHB
Johannesburg, South Africa



1067

Certificate Of Analysis


Client: Makoya Amanzi Environmental Solutions (Pty) Ltd Address: 09 Courbonne, Oakwood, Pinehurst, Durbanville, 7550 Project: Durbanville	Sample No. For: Durbanville Sample Location: Durbanville Sample Date: 20 May 2020 Analyst: M. J. van der Merwe	Sample No. For: Durbanville Sample Location: Durbanville Sample Date: 20 May 2020 Analyst: M. J. van der Merwe
--	---	---

Sample No.	Parameter	Unit	Result	Unit	Limit	Pass/Fail	Analysis Date
1	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
2	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
3	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
4	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
5	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
6	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
7	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
8	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
9	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
10	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
11	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
12	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
13	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
14	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
15	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
16	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
17	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
18	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
19	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
20	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
21	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
22	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
23	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
24	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
25	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
26	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
27	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
28	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
29	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
30	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
31	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
32	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
33	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
34	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
35	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
36	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
37	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
38	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
39	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
40	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
41	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
42	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
43	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
44	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
45	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
46	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
47	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
48	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
49	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020
50	Ammonia Nitrogen	mg/L	0.15	mg/L	0.5	Pass	20 May 2020


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Integral Environmental Solutions (Pty) Ltd





INTEGRAL LABORATORIES
Integral Environmental Solutions (Pty) Ltd
14, 15 & 16, 100th Ave, 16160 BPT
Durbanville, Western Cape, South Africa




1007

Certificate of Analysis


Client: Makoya Amanzi Environmental Solutions (Pty) Ltd Address: 09 Courbonne, Oakwood, Pinehurst, Durbanville, Western Cape, South Africa Project: Durbanville	Sample Name: Durbanville Sample Description: From Tapwater Matrix:	Reference: SANS 2410:2015 Method: 11.1 Unit: mg/L	Analysis Date: 2020-05-12
--	---	--	----------------------------------

Parameter / Analyte	Unit	Result	Limit	Pass/Fail	Analysis Date
Ammonia Nitrogen (NH ₃ -N)	mg/L	0.05	0.5	Pass	2020-05-12
Chloride (Cl ⁻)	mg/L	15.2	250	Pass	2020-05-12
Copper (Cu)	mg/L	0.02	0.05	Pass	2020-05-12
Lead (Pb)	mg/L	0.01	0.05	Pass	2020-05-12
Mercury (Hg)	mg/L	0.001	0.01	Pass	2020-05-12
Nitrate Nitrogen (NO ₃ -N)	mg/L	12.5	50	Pass	2020-05-12
Orthophosphate (PO ₄ -P)	mg/L	0.05	0.1	Pass	2020-05-12
Zinc (Zn)	mg/L	0.05	0.1	Pass	2020-05-12

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Integral Laboratories (Pty) Ltd



INTEGRAL LABORATORIES
Integral Environmental Solutions (Pty) Ltd
14, 15 & 16, 100th Ave, 16160 BPT
Durbanville, Western Cape, South Africa



1007


Certificate of Analysis

Client: Makoya Amanzi Environmental Solutions (Pty) Ltd Address: 09 Courbonne, Oakwood, Pinehurst, Durbanville, Western Cape, South Africa Project: Durbanville	Sample Name: Durbanville Sample Description: From Tapwater Matrix:	Reference: SANS 2410:2015 Method: 11.1 Unit: mg/L	Analysis Date: 2020-05-12
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Parameter / Analyte	Unit	Result	Limit	Pass/Fail	Analysis Date
Ammonia Nitrogen (NH ₃ -N)	mg/L	0.05	0.5	Pass	2020-05-12
Chloride (Cl ⁻)	mg/L	15.2	250	Pass	2020-05-12
Copper (Cu)	mg/L	0.02	0.05	Pass	2020-05-12
Lead (Pb)	mg/L	0.01	0.05	Pass	2020-05-12
Mercury (Hg)	mg/L	0.001	0.01	Pass	2020-05-12
Nitrate Nitrogen (NO ₃ -N)	mg/L	12.5	50	Pass	2020-05-12
Orthophosphate (PO ₄ -P)	mg/L	0.05	0.1	Pass	2020-05-12
Zinc (Zn)	mg/L	0.05	0.1	Pass	2020-05-12

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Integral Laboratories (Pty) Ltd





INTEGRAL LABORATORIES
Integral Environmental Solutions (Pty) Ltd
14, 15 & 16, 100th Ave, 4101 10th
Durbanville, Western Cape 7550



1007


Certificate Of Analysis

Client: Makoya Amanzi Address: 14, 15 & 16, 100th Ave, 4101 10th, Durbanville, Western Cape 7550 Phone: 083 642 8822	Sample Name: Makoya Amanzi Sample ID: 1007	Sample Description: From 100th Ave Unit: L/m ³	Analysis Date: 2020-05-12
---	---	--	----------------------------------


Parameter	Unit	Result	Limit	Pass/Fail	Analysis Date
Temperature (°C)	°C	18.5	10-20	Pass	2020-05-12
pH	ppH	7.5	6.5-8.5	Pass	2020-05-12
Dissolved Oxygen (mg/L)	mg/L	8.5	7.0-9.0	Pass	2020-05-12
Total Dissolved Solids (TDS) (mg/L)	mg/L	120	500	Pass	2020-05-12
Total Suspended Solids (TSS) (mg/L)	mg/L	15	50	Pass	2020-05-12
Ammonia Nitrogen (mg/L)	mg/L	0.1	1.0	Pass	2020-05-12
Nitrate Nitrogen (mg/L)	mg/L	0.5	10	Pass	2020-05-12
Chloride (mg/L)	mg/L	15	250	Pass	2020-05-12
Sulfate (mg/L)	mg/L	10	250	Pass	2020-05-12

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Integral Laboratories (Pty) Ltd
14, 15 & 16, 100th Ave, 4101 10th, Durbanville, Western Cape 7550



INTEGRAL LABORATORIES
Integral Environmental Solutions (Pty) Ltd
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Durbanville, Western Cape 7550



1007

Certificate Of Analysis


Client: Makoya Amanzi Address: 14, 15 & 16, 100th Ave, 4101 10th, Durbanville, Western Cape 7550 Phone: 083 642 8822	Sample Name: Makoya Amanzi Sample ID: 1007	Sample Description: From 100th Ave Unit: L/m ³	Analysis Date: 2020-05-12
---	---	--	----------------------------------

Parameter	Unit	Result	Limit	Pass/Fail	Analysis Date
Temperature (°C)	°C	18.5	10-20	Pass	2020-05-12
pH	ppH	7.5	6.5-8.5	Pass	2020-05-12
Dissolved Oxygen (mg/L)	mg/L	8.5	7.0-9.0	Pass	2020-05-12
Total Dissolved Solids (TDS) (mg/L)	mg/L	120	500	Pass	2020-05-12
Total Suspended Solids (TSS) (mg/L)	mg/L	15	50	Pass	2020-05-12
Ammonia Nitrogen (mg/L)	mg/L	0.1	1.0	Pass	2020-05-12
Nitrate Nitrogen (mg/L)	mg/L	0.5	10	Pass	2020-05-12
Chloride (mg/L)	mg/L	15	250	Pass	2020-05-12
Sulfate (mg/L)	mg/L	10	250	Pass	2020-05-12


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Integral Laboratories (Pty) Ltd
14, 15 & 16, 100th Ave, 4101 10th, Durbanville, Western Cape 7550





INTEGRAL LABORATORIES
Integral Laboratory (Pty) Ltd
11 Claremont, Durbanville, Cape Town, 7801
Tel: 021 959 2222
Email: info@integral-lab.com




Sanas Accredited
No. 2

Certificate of Analysis


Client: Makoya Amanzi 0177 807 7000 11 Claremont Durbanville 7801 Cape Town	Client Reference: 1106/2020 11 May 2020 Date Completed: 04 May 2020 Date of Receipt: 01 May 2020	Sample/Condition: 20/20 Unit: mg/L	Result: 0.02
---	--	---	---------------------

Sample Description	Method	Unit	Result	Acceptance
Free Chlorine	DPH 2002	mg/L	0.02	0.02 - 0.20

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www.integral-lab.com
info@integral-lab.com



INTEGRAL LABORATORIES
Integral Laboratory (Pty) Ltd
11 Claremont, Durbanville, Cape Town, 7801
Tel: 021 959 2222
Email: info@integral-lab.com



Sanas Accredited
No. 2

Certificate of Analysis

Client: Makoya Amanzi 0177 807 7000 11 Claremont Durbanville 7801 Cape Town	Client Reference: 1106/2020 11 May 2020 Date Completed: 04 May 2020 Date of Receipt: 01 May 2020	Sample/Condition: 20/20 Unit: mg/L	Result: 0.0
---	--	---	--------------------

Physical/Chemical Parameter	Method	Unit	Result	Acceptance
Microbial Concentration (MFC)	DPH 2002	CFU/100ml	0	0 - 100
Biochemical Oxygen Demand (BOD ₅)	DPH 2002	mg/L	0.0	0.0 - 1.0
Chemical Oxygen Demand (COD)	DPH 2002	mg/L	0.0	0.0 - 1.0
Total Suspended Solids (TSS)	DPH 2002	mg/L	0.0	0.0 - 1.0
Ammonia Nitrogen (NH ₄ -N)	DPH 2002	mg/L	0.0	0.0 - 1.0

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20 May 2020

MCC – Milnerton Canoe Club

Date: 20 May 2020
Time: 12h40
Sampler: Craig Greggor

GPS Location: 33°52'53.2"S 18°29'23.0"E

Temperature	28°C
Cloud Cover	None
Wind	13 km/hr
Precipitation	None
Low Tide	08:08
High Tide	14:19

Observations and Photographic Records:



M14 – Under the M14 bridge

Date: 20 May 2020
Time: 11h38
Sampler: Craig Greggor

GPS Location:
33°50'00.7"S 18°31'17.4"E

Temperature	25°C
Cloud Cover	None
Wind	3km/h
Precipitation	None
Low Tide	08:08
High Tide	14:19

Observations and Photographic Records:





TMS – Theo Marais Stormwater Channel

Date: 20 May 2020
Time:
Sampler: Craig Greggor
GPS Location:
33°50'52.7"S 18°31'11.8"E

Temperature	
Cloud Cover	
Wind	
Precipitation	
Low Tide	08:08
High Tide	14:19

Observations and Photographic Records:



PD – Free Chlorine

Date: 20 May 2020
Time:
Sampler: Craig Greggor
GPS Location: 33°50'45.3"S 18°31'03.9"E

Temperature	25°C
Cloud Cover	None
Wind	3km/h
Precipitation	None
Low Tide	08:08
High Tide	14:19

Observations and Photographic Records:





PDAA

Date: 20 May 2020
Time: 11h15
Sampler: Craig Greggor
GPS Location: 33°50'45.3"S 18°31'03.9"E

Temperature	25°C
Cloud Cover	None
Wind	3km/h
Precipitation	None
Low Tide	08:08
High Tide	14:19

Observations and Photographic Records:



PDA – Discharge

Date: 20 May 2020
Time: 10h50
Sampler: Craig Greggor
GPS Location: 33°50'45.3"S 18°31'03.9"E

Temperature	25°C
Cloud Cover	None
Wind	3km/h
Precipitation	None
Low Tide	08:08
High Tide	14:19

Observations and Photographic Records:



Sample Submission

Date: 20 May 2020
Time: 13:46





Makoya Amanzi
Water and Energy

Sampling Sheet

Date: 20 May 2023 Site Arrival Time: 10:30

PPF (tick the applicable box)

Sample Shown	<input checked="" type="checkbox"/>	Overfill	<input type="checkbox"/>
Seal Intact	<input checked="" type="checkbox"/>	Washed	<input checked="" type="checkbox"/>

Weather Comments:
Temperature: 23°C Wind: 3 km/hr
Cloud Cover: 20% Precipitation: 0

Sample Details:

Sample Name:	<u>PDA</u>	Sample Name:	<u>PDA</u>
Type:	<u>Chlor + Phos</u>	Type:	<u>Phos</u>
Time:	<u>10:30</u>	Time:	<u>10:30</u>
Location & Description:	<u>Wetland area</u>	Location & Description:	<u>Wetland area</u>
Location GPS:	<u>33.580</u>	Location GPS:	<u>33.580</u>
Sampler(s):	<u>Craig Gregor</u>	Sampler(s):	<u>Craig Gregor</u>

Sign-off:

Sampler Name: Craig Gregor Observer Name: _____
 Sampler Signature: [Signature] Observer Signature: _____

Additional Information: Date of Use: _____
 Bar Number: CA000000 Sample Number: 000000

Makoya Amanzi
Water and Energy

Sampling Sheet

Date: 20 May 2023 Site Arrival Time: 10:30

PPF (tick the applicable box)

Sample Shown	<input checked="" type="checkbox"/>	Overfill	<input type="checkbox"/>
Seal Intact	<input checked="" type="checkbox"/>	Washed	<input checked="" type="checkbox"/>

Weather Comments:
Temperature: 23°C Wind: 3 km/hr
Cloud Cover: 20% Precipitation: 0

Sample Details:


Sample Name:	<u>MGB</u>	Sample Name:	<u>MGB</u>
Type:	<u>Chlor + Phos</u>	Type:	<u>MGB</u>
Time:	<u>10:30</u>	Time:	<u>10:30</u>
Location & Description:	<u>Wetland area</u>	Location & Description:	<u>Wetland area</u>
Location GPS:	<u>33.580</u>	Location GPS:	<u>33.580</u>
Sampler(s):	<u>Craig Gregor</u>	Sampler(s):	<u>Craig Gregor</u>

Sign-off:

Sampler Name: Craig Gregor Observer Name: _____
 Sampler Signature: [Signature] Observer Signature: _____


Additional Information: Date of Use: _____
 Bar Number: CA000000 Sample Number: 000000





INTEGRAL LABORATORIES

1001 Louisa Drive, Durbanville
Tel: 021 959 1111
Fax: 021 959 1112
Email: info@integral.co.za



tsanas

WATER & ENERGY SOLUTIONS


Certificate of Analysis

CLIENT: Makoya Amanzi
Address: 09 Courbonne, Oakwood, Durbanville
Sample Ref: 20200520-01
Analysis Date: 2020-05-20

Sample Description: Water


Parameter	Unit	Result	Limit	Pass/Fail	Compliance
Temperature	°C	18.5	10-25	Pass	2000:20.00
pH		7.8	6.5-8.5	Pass	2000:7.00
Total Dissolved Solids (TDS)	mg/L	120	500	Pass	2000:500
Total Suspended Solids (TSS)	mg/L	15	50	Pass	2000:50
Calcium	mg/L	120	500	Pass	2000:500
Magnesium	mg/L	10	50	Pass	2000:50
Hardness	mg/L	130	500	Pass	2000:500
Chloride	mg/L	10	50	Pass	2000:50
Sulfate	mg/L	10	50	Pass	2000:50
Total Hardness	mg/L	140	500	Pass	2000:500

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INTEGRAL LABORATORIES

1001 Louisa Drive, Durbanville
Tel: 021 959 1111
Fax: 021 959 1112
Email: info@integral.co.za



tsanas

WATER & ENERGY SOLUTIONS

Certificate of Analysis

CLIENT: Makoya Amanzi
Address: 09 Courbonne, Oakwood, Durbanville
Sample Ref: 20200520-01
Analysis Date: 2020-05-20

Sample Description: Water

Parameter	Unit	Result	Limit	Pass/Fail	Compliance
Temperature	°C	18.5	10-25	Pass	2000:20.00
pH		7.8	6.5-8.5	Pass	2000:7.00
Total Dissolved Solids (TDS)	mg/L	120	500	Pass	2000:500
Total Suspended Solids (TSS)	mg/L	15	50	Pass	2000:50
Calcium	mg/L	120	500	Pass	2000:500
Magnesium	mg/L	10	50	Pass	2000:50
Hardness	mg/L	130	500	Pass	2000:500
Chloride	mg/L	10	50	Pass	2000:50
Sulfate	mg/L	10	50	Pass	2000:50
Total Hardness	mg/L	140	500	Pass	2000:500

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