



Preliminary Water Quality Report

### Report Number: 69773

### **Physical Address**

Amatola Water Scientific Services Nahoon Dam Complex

### Postal Address

Private Bag X2 East London 5247

Samples Submitted By: Ntombi Tshicilela Makana Municipality P.O.BOX 176 Grahamstown 6139

Reported Date: 03/12/2015

Enquiries: Mrs. N. Jiya

Tel No: (043) 709 3769 Fax No: (043) 745 9044

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## **Amatola Water Amanzi** - Water is life Scientific Services Department

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Test List: EFFLUENT Scheme: Alicedale WWTW Received Date: 26/11/2015

Sample Number			131471
Sample Description			Alicedale WWTW
Sample Received Date			26/11/2015
Sample Commencement Date			26/11/2015
Sample Completed Date			
Comment			
Test	Units	Method No	4
Chlorine	mg/l		0.1
( waste water(colliert)	MPN/100ML	M01	1733

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#### Test List: EFFLUENT

Scheme: Delmontvalley WWTW Received Date: 26/11/2015

Sample Number			131472
Sample Description			Delmontvalley WWTW
Sample Received Date			26/11/2015
Sample Commencement Date			26/11/2015
Sample Completed Date			
Comment			
Test	Units	Nethod No	-
E coli waste water(colilert)	MPN/100ML	M01	>2420

Test List: EFFLUENT Scheme: Mayfield Effluent

Received Date: 12/11/2015

Sample Number			131323
Sample Description			Mayfield Efluen
Sample Received Date			12/11/2015
Sample Commencement Date			12/11/2015
Sample Completed Date			
Comment		and an an investory.	
Test	Units	Method No	-
Ammonia as N	mg/l	C32	24.27
E coli waste water(collert)	MPN/100ML	M01	1553
EC @ 25°C	mS/m	C15	142.4
Nitrate as N	mg/l	C53	0.48
Nitrite as N	mg/l	C39	0.55
Ortho phosphate - Aquakern as P	mg/l	C37	5.54

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ey: (s) - Subcontracted | (T) - New result | (TT) - Result updated



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### Test List: EFFLUENT Scheme: Mayfield Effluent

Received Date: 26/11/2015

Sample Number			131470
Sample Description			Mayfield Effluent
Sample Received Date			26/11/2015
Sample Commencement Date			26/11/2015
Sample Completed Date			
Comment			
Test	Units	Method No	
E coli waste water(colilert)	MPN/100ML	M01	3



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#### Test List: FINAL\_MK

Scheme: Alicedale Community Tap WTW

Received Date: 03/11/2015

Sample Number	131214		
Sample Description	Alicedale Community Tap WTW		
Sample Received Date	03/11/2015		
Sample Commencement Date		en a see n.c E-E-E-Edb also	03/11/2015
Sample Completed Date			
Comment			
Test	Units	Method No	
Alkalinity - Autotitrator	mg/l	C28	89.5
/ nium as Al	hðy	C09	146.9
/ via as N	mg/l	C32	0.03
Caumium as Cd	hðyl	C03	0
Calcium as Ca	mg/l	C01	17.34
Chloride as Cl	mg/l	C34	178.83
Chlorine	mg/l		1
Chromium as Cr	hðy	C03	0
Cobalt as Co	hðy	C03	0.14
Copper as Cu	hðy	C02	0.71
EC - Autotitrator @ 25°C	mS/m	C29	72.31
Faecal coliforms count Member Filtration	CFU/100ml	M05	<1
Fluoride as F	mg/l	C35	0.16
Heterotrophic plate count @35°C	CFU/1ml	M03	<1
Iron (total) as Fe	hðh	C02	83.1
Lead as Pb	hðri	C02	0
Magnesium as Mg	mg/l	C01	13.24
Manganese as Mn	hðy	C02	5.78
Nickel as Ni	hôn	C03	0
pH - Autotitrator @ 25°C		C30	7.68
pH @ Water Treatment Works (Plants)	•		7.72
P sium as K	mg/l	C01	3.29
Sk mas Na	mg/l	C01	99.86
Su, e as SO4	mg/l	C33	22.89
Total coliform bacteria Membrane Filtration	CFU/100ml	M04	<1
Turbidity	NTU	C16	1.6
Turbidity @ WTW	NTU		1.61
Zinc as Zn	μοл	C02	16.57

Key: (s) - Subcontracted | (T) - New result | (TT) - Result updated



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Test List: FINAL\_MK

Scheme: Alicedale Community Tap WTW

Received Date: 12/11/2015

Sample Number	131320		
Sample Description			Alicedale Community Tap WTW
Sample Received Date			12/11/2015
Sample Commencement Date			12/11/2015
Sample Completed Date			
Comment			
Test	Units	Method No	
auminium as Al	hgų	C09	281.51
nonia as N	mg/l	C32	0
Cadmium as Cd	hðy	C03	0
Calcium as Ca	ng/l	C01	18.45
Chloride as Cl	mg/l	C34	163.29
Chlorine	mg/l		1.46
Chromium as Cr	Ngų	C03	0
Cobalt as Co	hðy	C03	0
Copper as Cu	hđđ	C02	0
EC - Autotitrator @ 25°C	mS/m	C29	70.36
Faecai coliforms count Member Filtration	CFU/100ml	M05	<1
Fluoride as F	mg/l	C35	0.14
Heterotrophic plate count @35°C	CFU/1ml	M03	<1
Iron (total) as Fe	hgh	C02	156.51
Lead as Pb	hgy	C02	0
Magnesium as Mg	mg/l	C01	14.05
Manganese as Mn	hgų	C02	17.25
Nickel as Ni	hgy	C03	0
pH - Autotitrator @ 25°C	-	C30	7.84
pH @ Water Treatment Works (Plants)	-		8.07
Potassium as K	mg/l	C01	3.62
Sodium as Na	mg/l	C01	100.7
Sulphate as SO4	mg/l	C33	20.17
Total coliform bacteria Membrane Filtration	CFU/100ml	M04	<1
Total Solids - dissolved	mg/l		351.8
Turbidity	NTU	C16	3.77
Turbidity @ WTW	NTU		4.62
Zinc as Zn	hðy	C02	19.8

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Test List: FINAL\_MK Scheme: Alicedale Community Tap WTW

Received Date: 17/11/2015

Sample Number			131362
Sample Description			Alicedale Community Tap WTW
Sample Received Date	17/11/2015		
Sample Commencement Date			17/11/2015
Sample Completed Date			
Comment			
Test	Units	Method No	
iinium as Al	hðil	C09	165.09
nonia as N	mg/l	C32	0
mium as Cd	hðri	C03	0
Calcium as Ca	mg/l	C01	18.5
Chloride as Cl	mg/l	C34	193.32
Chlorine	mg/l		2.2
Chromium as Cr	hðy	C03	0.36
Cobalt as Co	hðy	C03	0.31
Copper as Cu	hðy	C02	1.45
EC - Autotitrator @ 25°C	mS/m	C29	80.61
Faecal coliforms count Member Filtration	CFU/100ml	M05	<1
Fluoride as F	mg/l	C35	0.18
Heterotrophic plate count @35°C	CFU/1ml		1
Iron (total) as Fe	hðy	C02	94.44
Lead as Pb	hðy	C02	1.57
Magnesium as Mg	mg/l	C01	14.73
Manganese as Mn	hðy	C02	24
Nickel as Ni	hðy	C03	0
pH - Autotitrator @ 25°C	•	C30	7.89
pH @ Water Treatment Works (Plants)	-		8.52
ntassium as K	mg/l	C01	4.5
Jium as Na	mg/l	C01	109.79
hate as SO4	mg/i	C33	21.21
Total coliform bacteria Membrane Filtration	CFU/100ml	M04	<1
Total Solids - dissolved	mg/l		403.04
Turbidity	NTU	C16	5.57
Turbidity @ WTW	NTU		7.98
Zinc as Zn	hðy	C02	24.63



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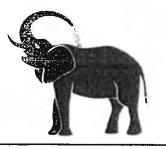
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Test List: FINAL\_MK

Scheme: Alicedale Community Tap WTW

Received Date: 26/11/2015

Sample Number			131467
Sample Description			Alicedale Community
Sample Received Date		The second secon	26/11/2015
Sample Commencement Date			26/11/2015
Sample Completed Date			
Comment			
Test	į Units	Method No	-
.cium as Ca	mg/l	C01	18.65
lorine	mg/l		2.25
Faecal coliforms count Member Filtration	CFU/100ml	M05	<1
Heterotrophic plate count @35°C	CFU/1ml	M03	2
Magnesium as Mg	mg/i	C01	13.84
pH @ Water Treatment Works (Plants)	•		7.93
Potassium as K	mg/l	C01	3.57
Sodium as Na	mg/l	C01	106.1
Total coliform bacteria Membrane Filtration	CFU/100ml	M04	<1
Turbidity	NTU	C16	1.62
Turbidity @ WTW	NTU		1.88



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Test List: FINAL\_MK Scheme: Beaufort Str Police Station

Received Date: 12/11/2015

Sample Number			131317
Sample Description			Beaufort Str Police Station
Sample Received Date			12/11/2015
Sample Commencement Date			12/11/2015
Sample Completed Date			
Comment			
Test		Method No	
.ninium as Al	hðy	C09	46.32
nonia as N	mg/l	C32	0
Cadmium as Cd	hðy	C03	0
Calcium as Ca	mg/l	C01	8.23
Chloride as Cl	mg/l	C34	45.18
Chlorine	mg/l		0.23
Chromium as Cr	hðh	C03	0
Cobalt as Co	Ngu	C03	0
Copper as Cu	hðy	C02	8.04
EC - Autotitrator @ 25°C	mS/m	C29	21.17
Faecal coliforms count Member Filtration	CFU/100ml	M05	<1
Fluonde as F	mg/l	C35	0.04
Heterotrophic plate count @35*C	CFU/1ml	M03	>1000
Iron (total) as Fe	Ngu	C02	77.52
Lead as Pb	hđi	C02	0
Magnesium as Mg	mg/l	C01	3 02
Manganese as Mn	Ngu	C02	2.45
Nickel as Ni	hðh	C03	0
pH - Autotitrator @ 25°C	-	C30	9.11
pH @ Water Treatment Works (Plants)	•		9.98
stassium as K	mg/l	C01	0.6
`rdium as Na	mg/l	C01	26.73
uphate as SO4	mg/l	C33	8.89
Total coliform bacteria Membrane Filtration	CFU/100ml	M04	<1
Total Solids - dissolved	mg/l		105.85
Turbidity	NTU	C16	0.67
Turbidity @ WTW	NTU		0.8
Zinc as Zn	hði h	C02	2.1



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### **Amatola Water Amanzi** - *Water is life* Scientific Services Department

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Test List: FINAL\_MK

Scheme: Beaufort Str Police Station

Received Date: 26/11/2015

Sample Number			131464
Sample Description			Beaufort Str Police Station
Sample Received Date			26/11/2015
Sample Commencement Date			26/11/2015
Sample Completed Date			
Comment			and the same as we had a first the descent of the same
Test	Units	Method No	
ium as Ca	mg/l	C01	5.66
ine	mg/l		0.09
wecal coliforms count Member Filtration	CFU/100ml	M05	<1
Heterotrophic plate count @35°C	CFU/1ml	M03	>1000
Magnesium as Mg	mg/l	C01	3.69
pH @ Water Treatment Works (Plants)			7.8
Potassium as K	mg/l	C01	0.54
Sodium as Na	mg/l	C01	26.22
Total coliform bacteria Membrane Filtration	CFU/100ml	MO4	<1
Turbidity	NTU	C16	0.4
Turbidity @ WTW	NTU		0.72

Test List: FINAL\_MK

Scheme: Riebeeck Communal Tap

Received Date: 26/11/2015

Sample Number			131463
Sample Description			Riebeeck Communal Tap
Sample Received Date			26/11/2015
nple Commencement Date			26/11/2015
nie Completed Date			
ment	0.4		
Test	Units	Method No	-
Calcium as Ca	mg/i	C01	8.64
Chlorine	mg/i		0.44
Faecal coliforms count Member Filtration	CFU/100ml	M05	<1
Heterotrophic plate count @35*C	CFU/1ml	M03	<1
Magnesium as Mg	mg/l	C01	13.81
pH @ Water Treatment Works (Plants)			7.01
Potassium as K	mg/l	C01	1,53
Sodium as Na	mg/l	C01	85.05
Total coliform bacteria Membrane Filtration	CFU/100ml	M04	<1
Turbidity	NTU	C16	3.64
Turbidity @ WTW	NTU		1.88

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Test List: FINAL\_MK Scheme: Extension 7 Clinic Received Date: 12/11/2015

Sample Number			131314
Sample Description	Extension 7 Clin		
Sample Received Date	12/11/2015		
Sample Commencement Date			12/11/2015
Sample Completed Date			
Comment			
Test	Units	Method No	
1 nium as Al	hôn	C09	38.66
onia as N	mg/l	C32	0
Cadmium as Cd	NGri	C03	0
Calcium as Ca	mg/l	C01	30.76
Chloride as Cl	mg/l	C34	102.12
Chlorine	mg/l		0.42
Chromium as Cr	hðy	C03	0.06
Cobalt as Co	hðy	C03	0.05
Copper as Cu	hđđ	C02	1.4
EC - Autotitrator @ 25°C	mS/m	C29	87.88
Faecal coliforms count Member Filtration	CFU/100ml	M05	<1
Fluoride as F	mg/l	C35	0.69
Heterotrophic plate count @35°C	CFU/1ml	M03	75
Iron (total) as Fe	hđy	C02	16.53
Lead as Pb	hđư	C02	0
Magnesium as Mg	mg/l	C01	23.84
Manganese as Mn	hgyl	C02	1.14
Nickel as Ni	hðy	C03	0
pH - Autotitrator @ 25°C	1 (d)	C30	8.64
pH @ Water Treatment Works (Plants)			9.76
Pritassium as K	mg/l	C01	2.98
Jm as Na	mg/l	C01	122.88
nate as SO4	mg/l	C33	65.61
Total coliform bacteria Membrane Filtration	CFU/100ml	M04	<1
Total Solids - dissolved	mg/l		439.42
Turbidity	NTU	C16	1.27
Turbidity @ WTW	NTU		1.36
Zinc as Zn	μдЛ	C02	0

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#### Test List: FINAL\_MK Scheme: Extension 7 Clinic

Received Date: 26/11/2015

Sample Number			131461
Sample Description	Extension 7 Clinic		
Sample Received Date			26/11/2015
Sample Commencement Date			26/11/2015
Sample Completed Date			
Comment			
Test	į Units	Method No	-
um as Ca	mg/l	C01	28.76
ine	mg/l		0.01
Ec- Autotitrator @ 25°C	mS/m	C29	86.05
Faecal coliforms count Member Filtration	CFU/100ml	M05	<1
Heterotrophic plate count @35°C	CFU/1ml	M03	25
Magnesium as Mg	mg/l	C01	23.57
pH - Autotitrator @ 25°C	•	C30	8.64
pH @ Water Treatment Works (Plants)	7		8.25
Potassium as K	mg/l	C01	3.01
Sodium as Na	mg/l	C01	131.68
Total coliform bacteria Membrane Filtration	CFU/100ml	M04	<1
Turbidity	NTU	C16	0.46
Turbidity @ WTW	NTU		0.69



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Test List: FINAL\_MK Scheme: Indoor Sports Centre Received Date: 12/11/2015

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Sample Number	131313		
Sample Description	Indoor Sports Centre		
Sample Received Date	12/11/2015		
Sample Commencement Date			12/11/2015
Sample Completed Date			
Comment			
Test	i Units	Method No	
Iminium as Al	hðų	C09	20.11
nmonia as N	mg/l	C32	0
Cadmium as Cd	hôy	C03	0
Calcium as Ca	mg/l	C01	30.88
Chloride as Cl	mg/l	C34	101.74
Chlorine	mg/l		0.29
Chromium as Cr	hðy	C03	0
Cobalt as Co	hðy	C03	0.09
Copper as Cu	hðy	C02	0.34
EC - Autotitrator @ 25°C	mS/m	C29	88.14
Faecal coliforms count Member Filtration	CFU/100ml	M05	<1
Fluoride as F	mg/t	C35	0.69
Heterotrophic plate count @35°C	CFU/1ml	M03	3
Iron (total) as Fe	hðy	C02	6.33
Lead as Pb	hði	C02	0
Magnesium as Mg	mg/l	C01	23.9
Manganese as Mn	hðy	C02	0.59
Nickel as Ni	hðy	C03	0
pH - Autotitrator @ 25°C		C30	8.64
pH @ Water Treatment Works (Plants)	-		9.68
Potassium as K	mg/l	C01	3.02
Jodium as Na	mg/l	C01	123.14
Sulphate as SO4	mg/l	C33	65.4
Total coliform bacteria Membrane Filtration	CFU/100ml	M04	<1
Total Solids - dissolved	mg/l	1	440.69
Turbidity	NTU	C16	0.79
Turbidity @ WTW	NTU		0.87
Zinc as Zn	μg/l	C02	0

Key: (s) - Subcontracted | (T) - New result | (TT) - Result updated



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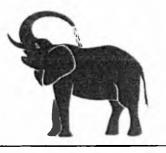
Test List: FINAL\_MK

Scheme: J / Kleinshans Final WTW

Received Date: 12/11/2015

Sample Number			131321
Sample Description	J / Kleinshans Fina WTW		
Sample Received Date			12/11/2015
Sample Commencement Date			12/11/2015
Sample Completed Date			
Comment			
Test	Units	Method No	
rinium as Al	μg/l	C09	61.61
ronia as N	mg/l	C32	0
.um as Cd	hðri	C03	0
Calcium as Ca	mg/i	C01	30.51
Chloride as Cl	mg/l	C34	103.35
Chlorine	mg/l		0.08
Chromium as Cr	hđy	C03	0
Cobait as Co	μgΛ	C03	0
Copper as Cu	hðy	C02	0
EC - Autotitrator @ 25°C	mS/m	C29	81.8
Faecal coliforms count Member Filtration	CFU/100ml	M05	<1
Fluoride as F	mg/i	C35	0.68
Heterotrophic plate count @35°C	CFU/1ml	M03	50
Iron (total) as Fe	hðy	C02	28.91
Lead as Pb	hgy	C02	0
Magnesium as Mg	mg/t	C01	23.77
Manganese as Mn	hðy	C02	0.99
Nickel as Ni	- hgy	C03	0
pH - Autotitrator @ 25°C		C30	8.64
pH @ Water Treatment Works (Plants)		_	8.28
Potassium as K	mg/l	C01	2.97
im as Na	mg/l	C01	122.93
ste as SO4	mg/l	C33	64.86
Toca coliform bacteria Membrane Filtration	CFU/100ml	M04	<1
Total Solids - dissolved	mg/l		409.02
Turbidity	NTU	C16	1.97
Turbidity @ WTW	NTU		2.66
Zinc as Zn	μα/Ι	C02	0





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### Test List: FINAL\_MK Scheme: J / Kleinshans Final WTW

Received Date: 17/11/2015

Sample Number			131363
Sample Description			J / Kleinshans Fina WTW
Sample Received Date			17/11/2015
Sample Commencement Date			17/11/2015
Sample Completed Date		~	
Comment		-	
Test	Units	Method No	
aminium as Al	Ngu	C09	29.49
.nmonia as N	mg/l	C32	0
Cadmium as Cd	hðri	C03	0
Calcium as Ca	mg/t	C01	29.81
Chloride as Cl	mg/i	C34	116.44
Chlorine	mg/t		0.14
Chromium as Cr	hðy	C03	0.68
Cobalt as Co	hây	C03	0.36
Copper as Cu	hðy	C02	4.58
EC - Autotitrator @ 25°C	mS/m	C29	90.53
Faecal coliforms count Member Filtration	CFU/100ml	M05	1
Fluoride as F	mg/l	C35	0.69
Heterotrophic plate count @35°C	CFU/1ml		>1000
Iron (total) as Fe	hộu	C02	7.71
Lead as Pb	hân	C02	1.23
Magnesium as Mg	mg/l	C01	24.98
Manganese as Mn	hgų	C02	0.37
Nickel as Ni	hộd	C03	0
pH - Autotitrator @ 25°C		C30	8.62
pH @ Water Treatment Works (Plants)			8.97
Potassium as K	mg/l	C01	3.1
Sodium as Na	l\gm	C01	124.06
Sulphate as SO4	ng/l	C33	65.52
Total coliform bacteria Membrane Filtration	CFU/100ml	M04	>2420
Total Solids - dissolved	mg/l		452.65
Turbidity	NTU	C16	1.03
Turbidity @ WTW	NTU		1.42
Zinc as Zn	hori	C02	0

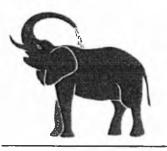


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Test List: FINAL\_MK Scheme: J / Kleinshans Final WTW Received Date: 26/11/2015

Sample Number			131468
Sample Description	J / Kleinshans Fina WTW		
Sample Received Date			26/11/2015
Sample Commencement Date			26/11/2015
Sample Completed Date			
Comment			
Test	Units	( Method No	_
sicium as Ca	mg/l	C01	29.45
orine	mg/l		0.81
ecal coliforms count Member Filtration	CFU/100ml	M05	<1
Heterotrophic plate count @35°C	CFU/1ml	M03	78
Magnesium as Mg	mg/l	C01	23.61
Potassium as K	mg/l	C01	3
Sodium as Na	mg/l	C01	131.79
Total coliform bacteria Membrane Filtration	CFU/100ml	MO4	7
Turbidity	NTU	C16	0.64
Turbidity @ WTW	NTU	1	2.86



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### Test List: FINAL\_MK Scheme: J Street Community Tap

Received Date: 12/11/2015

Sample Number	131312		
Sample Description			J Street Communit
Sample Received Date	12/11/2015		
Sample Commencement Date			12/11/2015
Sample Completed Date			
Comment			
Test	Units	Method No	-
huminium as Al	Ngu	C09	38.15
monia as N	mg/l	C32	0
Cadmium as Cd	Ngų	C03	0
Celcium as Ca	mg/l	C01	30.77
Chloride as Cl	mg/l	C34	102.07
Chlorine	mg/l		0.33
Chromium as Cr	hgy	C03	0.09
Cobalt as Co	Ngu	C03	0.08
Copper as Cu	hôri	C02	0
EC - Autotitrator @ 25°C	mS/m	C29	88.51
Faecal coliforms count Mcmber Filtration	CFU/100ml	M05	<1
Fluoride as F	mg/l	C35	0.69
Heterotrophic plate count @35°C	CFU/1ml	M03	126
Iron (total) as Fe	hðy	C02	16.05
Lead as Pb	hột	C02	0
Magnesium as Mg	mg/l	C01	23.85
Manganese as Mn	hộd	C02	1.02
Nickel as Ni	hgy	C03	0
pH - Autotitrator @ 25°C	+	C30	8.64
pH @ Water Treatment Works (Plants)	-		9.72
Potassium as K	mg/l	C01	2.99
Sodium as Na	mg/l	C01	122.98
Sulphate as SO4	mg/l	C33	65.52
Total coliform bacteria Membrane Filtration	CFU/100ml	MO4	3
Total Solids - dissolved	ng/l		442.55
Turbidity	NTU	C16	1.12
Turbidity @ WTW	NTU		2.04
Zinc as Zn	hôł	C02	0



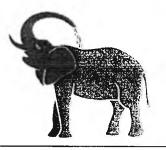
Preliminary Water Quality Report

### Report Number: 69773

Test List: FINAL\_MK Scheme: J Street Community Tap Received Date: 26/11/2015

Received Date: 20/11/2015

Sample Number			131459
Sample Description	J Street Community Tap		
Sample Received Date			26/11/2015
Sample Commencement Date			26/11/2015
Sample Completed Date			
Comment			
Test	Units	Method No	
cium as Ca	ng/t	C01	28.54
rine	mg/l		0.08
EC - Autotitrator @ 25°C	mS/m	C29	86.43
Faecal coliforms count Member Filtration	CFU/100ml	M05	<1
Heterotrophic plate count @35°C	CFU/1ml	M03	35
Magnesium as Mg	t/gm	C01	23.43
pH - Autotitrator @ 25°C	7	C30	8.63
pH @ Water Treatment Works (Plants)	-		8.3
Potassium as K	mg/l	C01	2.99
Sodium as Na	mg/l	C01	130.53
Total coliform bacteria Membrane Filtration	CFU/100ml	MO4	12
Turbidity	NTU	C16	0.8
Turbidity @ WTW	NTU		1.4



Preliminary Water Quality Report

#### Report Number: 69773

Test List: FINAL\_MK

Scheme: Nonzwakazi Community Tap in Alicedale

Received Date: 12/11/2015

Sample Number			131311
Sample Description			Nonzwakazi Community Tap in
Sample Received Date			12/11/2015
Sample Commencement Date			12/11/2015
Sample Completed Date			
Comment			1
			-
Test	Units	Method No	
luminium as Al	hđư	C09	4.82
onia as N	mg/l	C32	0
mium as Cd	hgų	C03	0
Calcium as Ca	mg/l	C01	18.03
Chloride as Cl	mg/l	C34	158.03
Chlorine	mg/l		0.05
Chromium as Cr	hgų	C03	0
Cobalt as Co	hðy	C03	0
Copper as Cu	hđų	C02	0
EC - Autotitrator @ 25°C	mS/m	C29	70.65
Faecal coliforms count Member Filtration	CFU/100ml	M05	1
Fluoride as F	mg/l	C35	0.14
Heterotrophic plate count @35°C	CFU/1ml	M03	54
Iron (total) as Fe	hðy	C02	0
Lead as Pb	hðy	C02	0
Magnesium as Mg	mg/l	C01	13.95
Manganese as Mn	hðy	C02	7.13
Nickel as Ni	hðy	C03	0
pH - Autotitrator @ 25°C	-	C30	7.91
pH @ Water Treatment Works (Plants)	•		8.04
Potassium as K	mg/l	C01	3.47
Sodium as Na	mg/l	C01	99.42
hate as SO4	mg/l	C33	20.72
Total coliform bacteria Membrane Filtration	CFU/100ml	MO4	49
Total Solids - dissolved	mg/l		353.24
Turbidity	NTU	C16	4.63
Turbidity @ WTW	NTU		3.64
Zinc as Zn	hðh	C02	68.18

Preliminary Water Quality Report

#### Report Number: 69773

Test List: FINAL\_MK

Scheme: Nonzwakazi Community Tap in Alicedale

Received Date: 26/11/2015

Sample Number			131458
Sam <b>ple Description</b>			Nonzwakazi Community Tap ir
Sample Received Date			28/11/2015
Sample Commencement Date			26/11/2015
Sample Completed Date			
Comment			
Test	Units	Method No	-
kium as Ca	mg/l	C01	18.31
rine	mg/l		0.12
al coliforms count Member Filtration	CFU/100ml	M05	<1
Heterotrophic plate count @35°C	CFU/1ml	M03	>1000
Magnesium as Mg	mg/t	C01	13.81
pH @ Water Treatment Works (Plants)			7.98
Potassium as K	mg/l	C01	3.51
Sodium as Na	mg/l	C01	99.93
Total coliform bacteria Membrane Filtration	CFU/100ml	M04	<1
Turbidity	NTU	C16	1.1
Turbidity @ WTW	NTU		1.71

Key: (s) - Subcontracted | (〒) - New result | (〒) - Result updated



Preliminary Water Quality Report

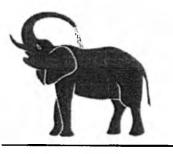
### Report Number: 69773

#### Test List: FINAL\_MK

Scheme: Riebeeck East Network Resevior

Received Date: 12/11/2015

Sample Number			131310
Sample Description		*** *** *** *** ***** ****************	Riebeeck East Network Reservior
Sample Received Date	12/11/2015		
Sample Commencement Date			12/11/2015
Sample Completed Date		-1	
Comment			
Test	Units	Method No	
inium as Al	hðy	C09	1.63
∾unonia as N	mg/l	C32	0
Jmium as Cd	hðų	C03	0
Calcium as Ca	mg/i	C01	9.05
Chloride as Cl	mg/l	C34	120.92
Chlorine	mg/l		0.58
Chromium as Cr	hðy	C03	0
Coball as Co	hðy	C03	0
Copper as Cu	hðy	C02	0
EC - Autotitrator @ 25°C	mS/m	C29	49.56
Faecal coliforms count Member Filtration	CFU/100ml	M05	<1
Fluoride as F	mg/l	C35	0.26
Heterotrophic plate count @35°C	CFU/1ml	M03	<1
Iron (total) as Fe	hðy	C02	0
Lead as Pb	Ngų	C02	0
Magnesium as Mg	mg/l	C01	14.58
Manganese as Mn	hðy	C02	1.79
Nickel as Ni	Ngų	C03	2.04
pH - Autotitrator @ 25°C		C30	7
pH @ Water Treatment Works (Plants)	-		8.67
Potassium as K	mg/l	C01	1.52
Jium as Na	mg/l	C01	82.1
phate as SO4	mg/l	C33	17.1
rotal coliform bacteria Membrane Filtration	CFU/100ml	M04	<1
Total Solids - dissolved	mg/l		247.79
Turbidity	NTU	C16	1.69
Turbidity @ WTW	NTU		1.79
Zinc as Zn	hột	C02	108.41



Preliminary Water Quality Report

#### Report Number: 69773

Test List: FINAL\_MK

Scheme: Riebeeck East Network Reservor

Received Date: 26/11/2015

Sample Number			131457
Sample Description			Riebeeck East Network Reservor
Sample Received Date			26/11/2015
Sample Commencement Date			26/11/2015
Sample Completed Date			
Comment			
Test	Units	Method No	_
∩alcium as Ca	mg/l	C01	8.32
lorine	mg/l		0.6
cal coliforms count Member Filtration	CFU/100ml	M05	<1
Heterotrophic plate count @35°C	CFU/1ml	M03	2
Magnesium as Mg	mg/l	C01	13.84
pH @ Water Treatment Works (Plants)	-		7.16
Potassium as K	mg/l	C01	1.3
Sodium as Na	mg/l	C01	82.19
Total coliform bacteria Membrane Filtration	CFU/100ml	MO4	<1
Turbidity	NTU	C16	1.76
Turbidity @ WTW	NTU		1.95

Key: (s) - Subcontracted | (T) - New result | (TT) - Result updated



Preliminary Water Quality Report

#### Report Number: 69773

#### Test List: FINAL\_MK

Scheme: Waainek WTW Final

Received Date: 03/11/2015

Sample Number			131210
Sample Description	Waainek WTW Final		
Sample Received Date	03/11/2015		
Sample Commencement Date			03/11/2015
Sample Completed Date			
Comment			
	-		
Test	Units	Method No	
*"-alinity - Autotitrator	mg/l	C28	20.19
.ninium as Al	hðy	C09	37.45
nonia as N	mg/l	C32	0.09
Cadmium as Cd	hðy	C03	0
Calcium as Ca	mg/l	C01	5.53
Chloride as Cl	mg/l	C34	48.95
Chlorine	mg/l		0.22
Chromium as Cr	hðy	C03	0
Cobait as Co	μαλ	C03	0.03
Copper as Cu	hðy	C02	0
EC - Autotitrator @ 25°C	mS/m	C29	20.2
Faecal coliforms count Member Futration	CFU/100ml	M05	1
Fluoride as F	mg/l	C35	0.02
Heterotrophic plate count @35°C	CFU/1mi	M03	203
Iron (total) as Fe	hôų	C02	16.62
Lead as Pb	hðų	C02	0
Magnesium as Mg	mg/l	C01	3.71
Manganese as Mn	Ngy	C02	6.38
Nickel as Ni	hôn	C03	0
pH - Autotitrator @ 25°C		C30	7.23
pH @ Water Treatment Works (Plants)	•		6.53
tassium as K	mg/l	C01	0.51
'ium as Na	mg/l	C01	25.28
oulphate as SO4	mg/l	C33	9.86
Total coliform bacteria Membrane Filtration	CFU/100ml	M04	148
Turbidity	NTU	C16	0.48
Turbidity @ WTW	NTU		0.64
Zinc as Zn	hðy	C02	0



Preliminary Water Quality Report

#### Report Number: 69773

#### Test LIst: FINAL\_MK Scheme: Waainek WTW Final Received Date: 12/11/2015

Received Date: 12/11/2015

Sample Number			131318
Sample Description			Waainek WTW Final
Sample Received Date			12/11/2015
Sample Commencement Date			12/11/2015
Sample Completed Date			
Comment			
Test	Units	Method No	-
Ahiminium as Al	, Jug/l	C09	35.01
.ionia as N	mg/l	C32	0
mium as Cd	нgл	C03	0
Calcium as Ca	mg/l	C01	2.73
Chloride as Cl	mg/l	C34	45.56
Chlorine	mg/l	+	0.99
Chromium as Cr	hgu hgu	C03	0
Cobalt as Co	hột	C03	0
Copper as Cu	hori	C02	0
EC - Autotitrator @ 25*C	mS/m	C29	19.18
Faecal coliforms count Member Filtration	CFU/100ml	M05	<1
Fluoride as F	mg/l	C35	0.03
Heterotrophic plate count @35°C	CFU/1ml	M03	<1
Iron (total) as Fe	hg/l	C02	18.87
Lead as Pb	höri	C02	0
Magnesium as Mg	mg/l	C01	3.95
Manganese as Mn	hor	C02	10.48
Nickel as Ni	μg/l	C03	0
pH - Autotitrator @ 25°C		C30	6.56
pH @ Water Treatment Works (Plants)	-		6.59
Potassium as K	mg/l	C01	0.55
'ium as Na	mg/l	C01	27.07
vhate as SO4	mg/l	C33	8.46
total coliform bacteria Membrane Filtration	CFU/100ml	MO4	<1
Total Solids - dissolved	mg/l		95.9
Turbidity	NTU	C16	0.62
Turbidity @ WTW	NTU		0.74
Zinc as Zn	μg/t	C02	1.07



Preliminary Water Quality Report

#### Report Number: 69773

Test List: FINAL\_MK Scheme: Waainek WTW Final Received Date: 17/11/2015

Sample Number			131360
Sample Description			Waainek WTW Fina
Sample Received Date			17/11/2015
Sample Commencement Date			17/11/2015
Sample Completed Date			
Comment			
Test	1.84-14-		-
Atuminium as Al	Units	( Method No	
	hgų	C09	29.1
.monia as N	mg/l	C32	0
nium as Cd	hây	C03	0
Calcium as Ca	mg/i	C01	2.94
Chloride as Cl	mg/l	C34	50.67
Chlorine	mg/l		0.78
Chromium as Cr	hðh	C03	0.19
Cobalt as Co	hðy	C03	0.34
Copper as Cu	hðy	C02	0.47
EC - Autotitrator @ 25°C	mS/m	C29	20.41
Faecal coliforms count Member Filtration	CFU/100ml	M05	<1
Fluoride as F	mg/l	C35	0
Heterotrophic plate count @35°C	CFU/1ml		2
Iron (total) as Fe	µg/l	C02	18.04
Lead as Pb	hov	C02	0.74
Magnesium as Mg	mg/l	C01	4.25
Manganese as Mn	hôri	C02	39.82
Nickel as Ni	μgγl	C03	0
pH - Autotitrator @ 25°C	-	C30	6.72
pH @ Water Treatment Works (Plants)	-		5.93
Potassium as K	mg/l	C01	0.56
dium as Na	mg/l	C01	28.62
hate as SO4	mg/l	C33	8.54
al coliform bacteria Membrane Filtration	CFU/100ml	M04	<1
Total Solids - dissolved	mg/l		102.05
Turbidity	NTU	C16	0.65
Turbidity @ WTW	NTU		0.74
Zinc as Zn	µg/l	C02	4.6



Preliminary Water Quality Report

### Report Number: 69773

Test List: FINAL\_MK

Scheme: Waainek WTW Final Received Date: 26/11/2015

Sample Number			131465
Sample Description			Waainek WTW Fina
Sample Received Date			26/11/2015
Sample Commencement Date			26/11/2015
Sample Completed Date			
Comment			
Test	Units	Method No	-
Calcium as Ca	mg/l	C01	2.82
orine	mg/l		2.02
al coliforms count Member Filtration	CFU/100ml	M05	<1
Heterotrophic plate count @35*C	CFU/1ml	M03	27
Magnesium as Mg	mg/l	C01	3.93
pH @ Water Treatment Works (Plants)			8.36
Potassium as K	mg/l	C01	0.5
Sodium as Na	mg/l	C01	26.22
Total coliform bacteria Membrane Filtration	CFU/100ml	M04	<1
Turbidity	NTU	C16	0.35
Turbidity @ WTW	NTU		0.47

Key: (s) Subcontracted | (T) - New result | (TT) - Result updated



Preliminary Water Quality Report

#### Report Number: 69773

Test List: RAW\_AUD\_MK Scheme: J / Kleinshans Raw WTW

Received Date: 03/11/2015

(

Sample Number			131216
Sample Description			J / Kleinshans Raw WTW
Sample Received Date			03/11/2015
Sample Commencement Date			03/11/2015
Sample Completed Date			
Comment			EMPTY
Test	Units	Method No	
*alinity - Autotitrator	mg/l	C28	273.5
monia as N	mg/l	C32	0
lium as Cd	hðri	C03	0
Calcium as Ca	mg/i	C01	32.15
Chloride as Ci	mg/l	C34	99.93
Chromlum as Cr	hgų	C03	0.15
Cobalt as Co	hgų	C03	0.23
Copper as Cu	hôy	C02	1.69
E coli waste water(colliert)	MPN/100ML	M01	15
Fluoride as F	mg/l	C35	0.78
Iron (total) as Fe	hĝų	C02	1.25
Lead as Pb	hgų	C02	0.05
Magnesium as Mg	mg/l	C01	22.79
Manganese as Mn	hđư	C02	0.26
Nickel as Ni	hðy	C03	0
pH @ Water Treatment Works (Plants)	(in the second		8.96
Potassium as K	mg/l	C01	2.68
Sodium as Na	mg/l	C01	125.45
Sulphate as SO4	mg/l	C33	65.14
Turbidity	NTU	C16	76.2
Turbidity @ WTW	NTU		103
inc as Zn	µg/l	C02	0.64

Key: (s) Subcontracted | (T) - New result | (TT) - Result updated



Preliminary Water Quality Report

#### Report Number: 69773

#### Test List: RAW\_AUD\_MK Scheme: J / Kleinshans Raw WTW

Received Date: 12/11/2015

Sample Number			131322
Sample Description			J / Kleinshans Raw WTW
Sample Received Date			12/11/2015
Sample Commencement Date			12/11/2015
Sample Completed Date			
Comment			
Test	( Units	Method No	
Ammonia as N	mgA	C32	0
mium as Cd	hộu	C03	0
ım as Ca	mg/l	C01	31.18
Cilloride as Cl	Ngm	C34	114.08
Chromium as Cr	hgų	C03	0
Cobalt as Co	Ngų	C03	0.08
Copper as Cu	Ngu	C02	0
E coli waste water(colilert)	MPN/100ML	M01	2
Fluoride as F	mg/l	C35	0.75
Iron (total) as Fe	hôri	C02	0.54
Leed as Pb	hội	C02	0
Magnesium as Mg	mg/l	C01	23.69
Manganese as Mn	hôn	C02	0.23
Nickel as Ni	hôy	C03	0
Potassium as K	mg/l	C01	2.97
Sodium as Na	mg/l	C01	124.74
Sulphate as SO4	ngn	C33	64.67
Turbidity	NTU	C16	39
Zinc as Zn	hgų	C02	0



Preliminary Water Quality Report

#### Report Number: 69773

#### Test List: RAW\_AUD\_MK Scheme: J / Kleinshans Raw WTW Received Date: 17/11/2015

Sample Number			131364
Sample Description			J / Kleinshans Raw WTW
Sample Received Date			17/11/2015
Sample Commencement Date			17/11/2015
Sample Completed Date			· · · · · · · · · · · · · · · · · · ·
Comment			
Test	Units	Method No	
Ammonia as N	mg/l	C32	0
.√dmium as Cd	hðh	C03	0
um as Ca	mg/l	C01	32.07
Chloride as Cl	mg/l	C34	112.04
Chromium as Cr	hðri	C03	0.96
Cobait as Co	hgy	C03	0.19
Copper as Cu	hđy	C02	2.29
E coli waste water(colilert)	MPN/100ML	M01	<1
Fluoride as F	mg/l	C35	0.77
Iron (total) as Fe	hôy	C02	0
Lead as Pb	hgų	C02	1.01
Magnesium as Mg	mg/l	C01	24.83
Manganese as Mn	hðy	C02	0.16
Nickel as Ni	hðy	C03	0
pH @ Water Treatment Works (Plants)	•		9.14
Potassium as K	Ngm	C01	3.14
Sodium as Na	mg/l	C01	125.01
Sulphate as SO4	mg/l	C33	65.5
Turbidity	NTU	C16	68.9
Turbidity @ WTW	NTU		86.7
Zinc as Zn	μα/l	C02	0.63

\_ist: RAW\_AUD\_MK

Scneme: J / Kleinshans Raw WTW

Received Date: 26/11/2015

Sample Number			131469
Sample Description			J / Kleinshans Rav WTW
Sample Received Date			26/11/2015
Sample Commencement Date			26/11/2015
Sample Completed Date			
Comment			
Test	Units	Method No	-
Calcium as Ca	mg/l	C01	31.26
E coli waste water(colilert)	MPN/100ML	M01	9
Magnesium as Mg	mg/l	C01	23.41
Potassium as K	mg/l	C01	3.05
Sodium as Na	mg/l	C01	133.06
Turbidity	NTU	C16	82.1
			And the second s

Key: (s) - Subcontracted | (T) - New result | (TT) - Result updated



Preliminary Water Quality Report

#### Report Number: 69773

Test List: RAW\_AUD\_MK Scheme: Waainek WTW Raw Received Date: 03/11/2015

Sample Number			131213
Sample Description			Waainek WTW Rav
Sample Received Date			03/11/2015
Sample Commencement Date			03/11/2015
Sample Completed Date			
Comment			
Test	( Units	Method No	~
Atkalinity - Autotitrator	mg/l	C28	13.06
.monia as N	mg/l	C32	0.04
nium as Cd	μgЛ	C03	0
calcium as Ca	mg/l	C01	3.16
Chloride as Cl	mg/i	C34	46.69
Chromium as Cr	hðy	C03	1.61
Cobalt as Co	hgy	C03	0
Copper as Cu	hõrt	C02	0.84
E coli waste water(colilert)	MPN/100ML	M01	4
Fluoride as F	mg/l	C35	0.11
Iron (total) as Fe	hgų	C02	163.97
Lead as Pb	hộd	C02	0
Magnesium as Mg	mg/l	C01	3.74
Manganese as Mn	hðy	C02	3.45
Nickel as Ni	Ngų	C03	0.35
pH @ Water Treatment Works (Plants)	•		6.33
Potassium as K	mg/l	C01	0.67
Sodium as Na	mg/l	C01	27.07
Sulphate as SO4	mg/l	C33	11.45
Turbidity	NTU	C16	22.1
Turbidity @ WTW	NTU		21.1
inc as Zn	µgЛ	C02	60.03

Key: (s) - Subcontracted | (T) - New result | (TT) - Result updated

29E



Preliminary Water Quality Report

#### Report Number: 69773

Test List: RAW\_AUD\_MK Scheme: Waainek WTW Raw Received Date: 12/11/2015

Sample Number			131319
Sample Description			Waainek WTW Raw
Sample Received Date			12/11/2015
Sample Commencement Date			12/11/2015
Sample Completed Date			
Comment			
Test	Units	Method No	
^mmonia as N	mg/l	C32	0
.dmium as Cd	hôn	C03	0
Jm as Ca	mg/l	C01	3.19
vride as Cl	mg/l	C34	50.26
Chromium as Cr	hđđ	C03	1.11
Cobalt as Co	hđđ	C03	0
Copper as Cu	hðy	C02	0
E coli waste water(colilert)	MPN/100ML	M01	3
Fluoride as F	mg/l	C35	0.1
Lead as Pb	hđy	C02	0
Magnesium as Mg	mg/i	C01	3.92
Manganese as Mn	hgy	C02	3.59
Nickel as Ni	ру	C03	0
pH @ Water Treatment Works (Plants)			6.43
Potassium as K	rng/l	C01	0.75
Sodium as Na	mg/l	C01	29.09
Sulphate as SO4	mg/l	C33	10.38
Turbidity	NTU	C16	19.9
Turbidity @ WTW	NTU		21.6
Zinc as Zn	lugu	C02	44.9



Preliminary Water Quality Report

#### Report Number: 69773

Test List: RAW\_AUD\_MK Scheme: Waainek WTW Raw Received Date: 17/11/2015

Sample Number			131361
Sample Description			Waainek WTW Raw
Sample Received Date		anno 1999 - Santa Anno 1990 - Santa Anno 1990 - An 1997 Anno 1997	17/11/2015
Sample Commencement Date			17/11/2015
Sample Completed Date			
Comment			
Test	į Units	Method No	1
Ammonia as N	mg/l	C32	0
Jmium as Cd	hôri	C03	0
ium as Ca	mg/l	C01	3.64
chloride as Cl	mg/l	C34	50.19
Chromium as Cr	hðv	C03	1.35
Cobalt as Co	hðh	C03	0.04
Copper as Cu	hðri	C02	0.72
Fluonde as F	mg/l	C35	0.13
Lead as Pb	hđđ	C02	0
Magnesium as Mg	mg/l	C01	4.23
Manganese as Mn	hðų	C02	11.22
Nickel as Ni	hðy	C03	0.38
Potassium as K	mg/l	C01	0.8
Sodium as Na	mg/l	C01	31.06
Sulphate as SO4	mg/l	C33	9.07
Turbidity	NTU	C16	41.4
Zinc as Zn	hgh	C02	53

#### Test List: RAW\_AUD\_MK

Scheme: Waainek WTW Raw

Received Date: 26/11/2015

aple Number			131466
Sample Description			Waainek WTW Rav
Sample Received Date			26/11/2015
Sample Commencement Date			26/11/2015
Sample Completed Date			
		and a second s	
Comment			
Comment Test	Units	Method No	
Test	Units mg/l	Method No	3.25
Test Calcium as Ca			3.25 3.91
Test Calcium as Ca Magnesium as Mg	mg/l	C01	
Comment Test Calcium as Ca Magnesium as Mg Potassium as K Sodium as Na	mg/l	C01 C01	3.91