



CK. 89/14418/23
REGEN WATERS
 LABORATORY • LABORATORIUM

4 Woltemade Street
 P.O. Box 8328
 WITBANK 1035
 Tel.: 013-690-1487
 Fax: 013-656-5050
 E-mail: regenlab@mweb.co.za

**MICROBIOLOGICAL ANALYSIS
 TEST REPORT**

Sample From:

**EMAKHAZENI LOCAL
 MUNICIPALITY**

Address: **P O Box 17
 Belfast
 1100**

Date Received: **16-Nov-18**
 Date Analyzed: **16-Nov-18**
 Date Reported: **18-Nov-18**
 Quantity Analyzed: **17**

Ref No: **K 1174 - 1189 / 18 B**

LAB REF ID	LAB NO	SAMPLE NAME	STERILIZED BOTTLE		STANDARD LIMITS				
					≤ 10 TOTAL COLIFORM BACTERIA PER / 100ML	Nil FAECAL COLIFORM PER / 100 ML	Nil ESCHERISCHIA COLIFORM PER 100 ML	≤ 1000 HETEROTROPHIC PLATE COUNT PER 1.0 ML	
		WATERVALBOVEN	YES	NO		A / B			
D	K1174	EWB1/10/18: Watervalboven Waterworks Inlet	x		1553	B	60	22	344
D	K1175	EWB3/10/18: Watervalboven Waterworks Final	x		Nil	B	Nil	Nil	133
S	K1176 A	EWB8/10/18: Watervalboven Sewerworks Final	x		-	B	870	-	-
D	K1176 B	EWB16/10/18: Watervalboven Reservoir	x		Nil	B	Nil	Nil	27
D	K1177	EWB26/10/18: Elandsrivier before Sewerworks	x		>2420	B	1500	1120	410
D	K1178	EWB28/10/18: Elandsrivier after Sewerworks	x		>2420	B	610	411	353
METHOD USED					A - SANAS 5221 (CFU) OR B - COLILERT (MPN)		SANS 5221	COLILERT (MPN)	SANS 5221
REGEN WATERS METHOD : MLFPM 4A AND 4 B									

S.A.N.S. 241-1:2015 MICROBIOLOGICAL REQUIREMENTS
 Allowable compliance for **DRINKING WATER**

Determinant	Risk	Unit	Standard limits
Escherichia Coliform / or Faecal Coliform bacteria	Acute Health - 1	Count per 100 ml	Not Detected
Heterotrophic Plate Count	Operational	Count per 1 ml	≤ 1 000
Total Coliform Bacteria	Operational	Count per 100 ml	≤ 10

Results exceeding alert levels will require immediate remedial action and follow-up sampling.

EFFLUENT WATER

Regional Standard (Department Water Affairs and Forestry) of 26 March 2004 No.399 for Waste water specifies : Waste water or Effluent shall not contain more than 1000 Faecal Coliform per 100 ml.

These results relate only to samples tested.

Opinions and interpretations expressed herein are outside the scope of SANAS accreditation.

- Samples highlighted in grey are not within the limits as specified.

REMARKS:

- a.) Samples EWB3/10/18: Watervalboven Waterworks Final, EWB16/10/18: Watervalboven Reservoir complies with the SANS 241:2015 microbiological drinking water standard for the tested parameters. These water samples are bacteriologically suitable for domestic use.
- b.) Samples EWB1/10/18: Watervalboven Waterworks Inlet, EWB26/10/18: Elandsrivier before Sewerworks and EWB28/10/18: Elandsrivier after Sewerworks tested positive for pathogenic bacteria (E.Coli/ Faecal coliform bacteria). These bacteria are disease forming and the water samples are not safe for human consumption. It is recommended to investigate the source of contamination and chlorinate these water samples for total disinfection. **DO NOT DRINK THIS WATER.**

P.L.G UYS / A. KOHRS

Technical Signatory

(A signed copy of this report is available)

SANS
241-1
Edition 2
2015



CK. 89/14418/23
REGEN WATERS
 LABORATORY • LABORATORIUM

4 Woltemade Street
 P.O. Box 8328
 WITBANK 1035
 Tel.: 013-690-1487
 Fax: 013-656-5050
 E-mail: regenlab@mweb.co.za

**MICROBIOLOGICAL ANALYSIS
 TEST REPORT**

Sample From:

**EMAKHAZENI LOCAL
 MUNICIPALITY**

Address: **P O Box 17
 Belfast
 1100**

Date Received: **16-Nov-18**
 Date Analyzed: **16-Nov-18**
 Date Reported: **18-Nov-18**
 Quantity Analyzed: **17**

Ref No: **K 1174 - 1189 / 18 B**

LAB REF ID	LAB NO	SAMPLE NAME	STERILIZED BOTTLE		STANDARD LIMITS				
					≤ 10 TOTAL COLIFORM BACTERIA PER / 100ML	Nil FAECAL COLIFORM PER / 100 ML	Nil ESCHERISCHIA COLIFORM PER 100 ML	≤ 1000 HETEROTROPHIC PLATE COUNT PER 1.0 ML	
		DULLSTROOM	YES	NO		A / B			
D	K 1179	EDS1/11/18: Dullstroom Waterworks Inlet	X		1986	B	12	5	397
D	K 1180	EDS3/11/18: Dullstroom Waterworks Final	X		Nil	B	Nil	Nil	4
S	K 1181	EDS5/11/18: Dullstroom Sewerworks Final	X		-	B	>1000	-	-
METHOD USED					A - SANAS 5221 (CFU) OR B - COLILERT (MPN)		SANS 5221	COLILERT (MPN)	SANS 5221
REGEN WATERS METHOD : MLPM 4A AND 4 B									

S.A.N.S. 241-1:2015 MICROBIOLOGICAL REQUIREMENTS
 Allowable compliance for **DRINKING WATER**

Determinant	Risk	Unit	Standard limits
Escherichia Coliform / or Faecal Coliform bacteria	Acute Health - 1	Count per 100 ml	Not Detected
Heterotrophic Plate Count	Operational	Count per 1 ml	≤ 1 000
Total Coliform Bacteria	Operational	Count per 100 ml	≤ 10

Results exceeding alert levels will require immediate remedial action and follow-up sampling.

EFFLUENT WATER

Regional Standard (Department Water Affairs and Forestry) of 26 March 2004 No.399 for Waste water specifies :
 Waste water or Effluent shall not contain more than 1000 Faecal Coliform per 100 ml.

These results relate only to samples tested.

Opinions and interpretations expressed herein are outside the scope of SANAS accreditation.

- Samples highlighted in grey are not within the limits as specified.

REMARKS:

- a.) Sample EDS3/11/18: Dullstroom Waterworks Final complies with the SANS 241:2015 microbiological drinking water standard for the tested parameters. The water is bacteriologically suitable for domestic use.
- b.) Sample EDS1/11/18: Dullstroom Waterworks Inlet tested positive for pathogenic bacteria (E.Coli/ Faecal coliform bacteria). These bacteria are disease forming and the water is not safe for human consumption. It is recommended to investigate the source of contamination and chlorinate the water for total disinfection. **DO NOT DRINK THIS WATER.**

P.L.G UYS / A. KOHRS

Technical Signatory

(A signed copy of this report is available)

SANS
241-1
Edition 2
2015



CK. 89/14418/23
REGEN WATERS
 LABORATORY • LABORATORIUM

4 Woltemade Street
 P.O. Box 8328
 WITBANK 1035
 Tel.: 013-650-1487
 Fax: 013-656-5050
 E-mail: regenlab@mweb.co.za

**MICROBIOLOGICAL ANALYSIS
 TEST REPORT**

Sample From:

**EMAKHAZENI LOCAL
 MUNICIPALITY**

Address: **P O Box 17
 Belfast
 1100**

Date Received: **16-Nov-18**
 Date Analyzed: **16-Nov-18**
 Date Reported: **18-Nov-18**
 Quantity Analyzed: **17**

Ref No: **K 1174 - 1189 / 18 B**

LAB REF ID	LAB NO	SAMPLE NAME	STERILIZED BOTTLE		STANDARD LIMITS				
					≤ 10 TOTAL COLIFORM BACTERIA PER / 100ML	Nil FAECAL COLIFORM PER / 100 ML	Nil ESCHERISCHIA COLIFORM PER 100 ML	≤ 1000 HETEROTROPHIC PLATE COUNT PER 1.0 ML	
BELFAST			YES	NO	A / B				
D	K 1182	EBF1/11/18: Belfast Waterworks Inlet	X		344	B	7	3	493
D	K 1183	EBF3/11/18: Belfast Waterworks Final	X		Nil	B	Nil	Nil	3
S	K 1184	EBF8/11/18: Belfast Sewerworks Final	X		-	B	Nil	-	-
METHOD USED					A - SANAS 5221 (CFU) OR B - COLILERT (MPN)		SANS 5221	COLILERT (MPN)	SANS 5221
REGEN WATERS METHOD : MLPM 4A AND 4 B									

S.A.N.S. 241-1:2015 MICROBIOLOGICAL REQUIREMENTS
 Allowable compliance for **DRINKING WATER**

Determinant	Risk	Unit	Standard limits
Escherichia Coliform / or Faecal Coliform bacteria	Acute Health - 1	Count per 100 ml	Not Detected
Heterotrophic Plate Count	Operational	Count per 1 ml	≤ 1 000
Total Coliform Bacteria	Operational	Count per 100 ml	≤ 10

Results exceeding alert levels will require immediate remedial action and follow-up sampling.

EFFLUENT WATER

Regional Standard (Department Water Affairs and Forestry) of 26 March 2004 No.399 for Waste water specifies : Waste water or Effluent shall not contain more than 1000 Faecal Coliform per 100 ml.

These results relate only to samples tested.

Opinions and interpretations expressed herein are outside the scope of SANAS accreditation.

- Samples highlighted in grey are not within the limits as specified.

REMARKS:

- a.) Sample EBF3/11/18: Belfast Waterworks Final complies with the SANS 241:2015 microbiological drinking water standard for the tested parameters. The water is bacteriologically suitable for domestic use.
- b.) Sample EBF1/11/18: Belfast Waterworks Inlet tested positive for pathogenic bacteria (E.Coli/ Faecal coliform bacteria). These bacteria are disease forming and the water is not safe for human consumption. It is recommended to investigate the source of contamination and chlorinate the water for total disinfection. **DO NOT DRINK THIS WATER.**

P.L.G UYS / A. KOHRS

Technical Signatory

(A signed copy of this report is available)

SANS
241-1
Edition 2
2015



CK: 89/14418/23
REGEN WATERS
 LABORATORY • LABORATORIUM

4 Woltemade Street
 P.O. Box 8328
 WITBANK 1035
 Tel.: 013-690-1487
 Fax: 013-656-5050
 E-mail: regenlab@mweb.co.za

**MICROBIOLOGICAL ANALYSIS
 TEST REPORT**

Sample From:

**EMAKHAZENI LOCAL
 MUNICIPALITY**

Address: **P O Box 17
 Belfast
 1100**

Date Received: **16-Nov-18**

Date Analyzed: **16-Nov-18**

Date Reported: **18-Nov-18**

Quantity Analyzed: **17**

Ref No: **K 1174 - 1189 / 18 B**

LAB REF ID	LAB NO	SAMPLE NAME	STERILIZED BOTTLE		STANDARD LIMITS				
					≤ 10 TOTAL COLIFORM BACTERIA PER / 100ML	Nil FAECAL COLIFORM PER / 100 ML	Nil ESCHERISCHIA COLIFORM PER 100 ML	≤ 1000 HETEROTROPHIC PLATE COUNT PER 1.0 ML	
		MACHADODORP	YES	NO		A / B			
D	K 1185	EMH1/11/18: Machado Waterworks Inlet	X		>2420	B	250	185	316
D	K 1186	EMH3/11/18: Machado Waterworks Final	X		Nil	B	Nil	Nil	2
S	K 1187	EMH12/11/18: Emthonjeni Sewer Final	X		-	B	30	-	-
D	K 1188	EMH05/11/18: Leeuwspruit Before Sewer	X		>2420	B	270	199	321
D	K 1189	EMH07/11/18: Leeuwspruit After Sewer	X		>2420	B	260	179	259
METHOD USED					A - SANAS 5221 (CFU) OR B - COLILERT (MPN)		SANS 5221	COLILERT (MPN)	SANS 5221
REGEN WATERS METHOD: MLPM 4A AND 4 B									

S.A.N.S. 241-1:2015 MICROBIOLOGICAL REQUIREMENTS
 Allowable compliance for **DRINKING WATER**

Determinant	Risk	Unit	Standard limits
Escherichia Coliform / or Faecal Coliform bacteria	Acute Health - 1	Count per 100 ml	Not Detected
Heterotrophic Plate Count	Operational	Count per 1 ml	≤ 1 000
Total Coliform Bacteria	Operational	Count per 100 ml	≤ 10

Results exceeding alert levels will require immediate remedial action and follow-up sampling.

EFFLUENT WATER

Regional Standard (Department Water Affairs and Forestry) of 26 March 2004 No.399 for Waste water specifies : Waste water or Effluent shall **not** contain more than 1000 Faecal Coliform per 100 ml.

These results relate only to samples tested.

Opinions and interpretations expressed herein are outside the scope of SANAS accreditation.

- Samples highlighted in grey are not within the limits as specified.

REMARKS:

- a.) Sample EMH3/11/18: Machado Waterworks Final complies with the SANS 241:2015 microbiological drinking water standard for the tested parameters. The water is bacteriologically suitable for domestic use.
- b.) Samples EMH1/11/18: Machado Waterworks Inlet, EMH05/11/18: Leeuwspruit Before Sewer and EMH07/11/18: Leeuwspruit After Sewer tested positive for pathogenic bacteria (E.Coli/ Faecal coliform bacteria). These bacteria are disease forming and the water samples are not safe for human consumption. It is recommended to investigate the source of contamination and chlorinate these water samples for total disinfection. **DO NOT DRINK THIS WATER.**

P.L.G UYS / A. KOHRS

Technical Signatory

(A signed copy of this report is available)

SANS
241-1
Edition 2
2015