



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: 5-Dec-18  
 Date Analyzed: 5-Dec-18  
 Date Reported: 7-Dec-18  
 Quantity Analyzed: 17

Ref No: L 256 - 272 / 18 B

LAB REF ID	LAB NO	SAMPLE NAME	STERILIZED BOTTLE		STANDARD LIMITS				
					≤ 10	Nil	Nil	≤ 1000	
					TOTAL COLIFORM BACTERIA PER / 100ML	FAECAL COLIFORM PER / 100 ML	ESCHERISCHIA COLIFORM PER 100 ML	HETEROTROPHIC PLATE COUNT PER 1.0 ML	
DULLSTROOM			YES	NO	A / B				
D	L 256	EDS1/12/18: Dullstroom Waterworks Inlet	x		>2420	B	2	1	1850
D	L 257	EDS3/12/18: Dullstroom Waterworks Final	x		Nil	B	Nil	Nil	20
S	L 258	EDS8/12/18: 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 EDS3/12/18: 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 EDS1/12/18: 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

**SANS**  
**241-1**  
**Edition 2**  
**2015**



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**EMAKHAZENI LOCAL  
 MUNICIPALITY**

Address: P O Box 17  
 Belfast  
 1100

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Ref No: L 256 - 272 / 18 B

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					≤ 10	Nil	Nil	≤ 1000	
					TOTAL COLIFORM BACTERIA PER / 100ML	FAECAL COLIFORM PER / 100 ML	ESCHERISCHIA COLIFORM PER 100 ML	HETEROTROPHIC PLATE COUNT PER 1.0 ML	
BELFAST			YES	NO	A / B				
D	L 259	EBF1/12/18: Belfast Waterworks Inlet	X		435	B	5	3	462
D	L 260	EBF3/12/18: Belfast Waterworks Final	X		Nil	B	Nil	Nil	15
S	L 261	EBF8/12/18: 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.

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REMARKS:

- a.) Sample EBF3/12/18: 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 EBF1/12/18: 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.**

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**MICROBIOLOGICAL ANALYSIS  
TEST REPORT**

Sample From:

**EMAKHAZENI LOCAL  
MUNICIPALITY**

Address: P O Box 17  
Belfast  
1100

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Quantity Analyzed: 17

Ref No: L 256 - 272 / 18 B

LAB REF ID	LAB NO	SAMPLE NAME	STERILIZED BOTTLE		STANDARD LIMITS				
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					TOTAL COLIFORM BACTERIA PER / 100ML	FAECAL COLIFORM PER / 100 ML	ESCHERISCHIA COLIFORM PER 100 ML	HETEROTROPHIC PLATE COUNT PER 1.0 ML	
MACHADODORP					YES	NO	A / B		
D	L 262	EMH1/12/18: Machado Waterworks Inlet	x		>2420	B	120	81	1439
D	L 263	EMH3/12/18: Machado Waterworks Final	x		Nil	B	Nil	Nil	15
S	L 264	EMH12/12/18: Emthonjeni Sewerworks Final	x		-	B	280	-	-
D	L 265	EMH5/12/18: Leeuwspruit Before Sewerworks	x		>2420	B	1490	172	1262
D	L 266	EMH7/12/18: Leeuwspruit After Sewerworks	x		>2420	B	185	166	1335
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.

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**Edition 2**  
**2015**

REMARKS:

- a.) Sample EMH3/12/18: 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 EMH1/12/18: Machado Waterworks Inlet, EMH5/12/18: Leeuwspruit Before Sewerworks and EMH7/12/18: Leeuwspruit 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.**

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		<b>WATERVALBOVEN</b>	YES	NO		A / B			
D	L 267	EWB1/12/18: W/Boven Waterworks Inlet	x		579	B	50	32	434
D	L 268	EWB3/12/18: W/Boven Waterworks Final	x		Nil	B	Nil	Nil	14
S	L 269	EWB8/12/18: W/Boven Sewerworks Final	x		-	B	>1000	-	-
D	L 270	EWB17/12/18: Elandsrivier Before Sewer	x		>2420	B	TNTC	>2420	1659
D	L 271	EWB19/12/18: Elandsrivier After Sewer	x		>2420	B	1500	1300	1297
D	L 272	EWB16/12/18: Boven Reservoir	x		Nil	B	Nil	Nil	20
METHOD USED					A - SANAS 5221 (CFU) OR B - COLILERT (MPN)		SANS 5221	COLILERT (MPN)	SANS 5221
REGEN WATERS METHOD : MLPM 4A AND 4 B									

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Determinant	Risk	Unit	Standard limits
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These results relate only to samples tested.

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REMARKS:

- a.) Samples EWB3/12/18: W/Boven Waterworks Final, EWB16/12/18: Boven 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 EWB1/12/18: W/Boven Waterworks Inlet, EWB17/12/18: Elandsrivier Before Sewer and EWB19/12/18: Elandsrivier 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.**

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