



Consulting Analytical & Industrial Chemists  
Specialists in Water & Waste Water Treatment  
Telephone (021)448 6340/1  
After Hours (083-3263887)  
e-Mail Address :  
info@alabbott.co.za



T0276

Doc.No. 7.8 # 1 Rev.5

No. 1, Vine Park  
Vine Road  
7925  
WOODSTOCK  
CAPE TOWN

# Certificate of Analysis

## HESSEQUA MUNICIPALITY - TENDER NO. HES-TECH 06/2526

### Hessequa Final Effluents

### 3-HEIDELBERG

**DATE SAMPLED :** 2026/06/02

**DATE RECEIVED :** 2026/06/03

**DATE ANALYSIS  
COMMENCED :** 2026/06/03

**OUR REF. :** 2026/06/02/17850

**REPORT NO. :** 3865

|                    | Sample Number                          | 17850   |                                                    |                                 |
|--------------------|----------------------------------------|---------|----------------------------------------------------|---------------------------------|
| Mthd<br>ALA<br>No. | Analyses                               | Results | General Limit (Full)                               | % Uncertainty of<br>Measurement |
| 19                 | pH (at 25 °C)                          | 7.48    | 5.5-9.5                                            | 1.5                             |
| 9                  | Conductivity (mS/m) (at 25 °C)         | 171     | 70.0 Above Intake - 150 Max                        | 4.5                             |
| 6A                 | Total Suspended Solids (mg/l)          | 56      | 25                                                 | 18                              |
| 95                 | Ammonia Nitrogen (mg/l as N)           | 96.0    | 6.0                                                | 6                               |
| 100                | Nitrate & Nitrite Nitrogen (mg/l as N) | <0.20   | 15.0                                               | 10.2                            |
| Calc               | Nitrate Nitrogen (mg/l as N)           | <0.20   | N/A                                                | 3.4                             |
| 99                 | Nitrite Nitrogen (mg/l as N)           | <0.20   | 15.0 (sum of NO <sub>2</sub> & NO <sub>3</sub> -N) | 4                               |
| 101                | Ortho Phosphate (mg/l as P)            | 24.5    | 10.0                                               | 4.8                             |
| 2                  | Chemical Oxygen Demand (mg/l)          | 292     | 75.0 After Removal of Algae                        | 6.8                             |
| 66                 | Free Chlorine (mg/l)                   | 0.20    | 0.25                                               | -                               |
| 84                 | E.coli (count per 100 ml)              | <1      | 1000                                               | 4.9                             |
| 86                 | Faecal Coliforms (count per 100 ml)    | <1      | 1000                                               | 7                               |
|                    |                                        |         |                                                    |                                 |

Sampler : JACQUES MOUTON(ALA)

*This report relates only to the samples tested and is issued subject to the company's standard terms and conditions of business.*



Consulting Analytical & Industrial Chemists  
Specialists in Water & Waste Water Treatment  
Telephone (021)448 6340/1  
After Hours (083-3263887)  
e-Mail Address :  
info@alabbott.co.za



T0276

**Doc.No. 7.8 # 1 Rev.5**

No. 1, Vine Park  
Vine Road  
7925  
WOODSTOCK  
CAPE TOWN

# Certificate of Analysis

## **HESSEQUA MUNICIPALITY - TENDER NO. HES-TECH 06/2526**

### **Hessequa Final Effluents**

### **3-HEIDELBERG**

**DATE SAMPLED :** 2026/06/02

**DATE RECEIVED :** 2026/06/03

**DATE ANALYSIS**

**COMMENCED :** 2026/06/03

**OUR REF. :** 2026/06/02/17850

**REPORT NO. :** 3865

#### Notes:

1. Test marked with an asterisk (\*) on attached Appendix 1 (Doc. 7.8#3) are SANAS Accredited and are included in the SANAS Schedule of Accreditation for this laboratory.
2. Schedule of Accreditation excludes sampling. Where applicable pH and Free & Total Chlorine Residual results are supplied by the sampling officer and will be indicated on the Certificate of Analysis. This is marked as "Field".
3. Sampling plans are as requested by the customer. Sampling is done according to A.L. Abbott and Associates (Pty) Ltd sampling procedures which are available on request.
4. Uncertainty of Measurement and Method Description will be provided upon request.
5. Results are reported at the 95% Confidence Interval with a Coverage Factor K = 2.
6. The laboratory does not normally issue any statement of conformity, unless by prior arrangement.  
Decision Rule: Results reflecting on the Certificate of Analysis are actual results as obtained at the time of testing and do not include any uncertainty consideration.
7. The quality and integrity of samples submitted has a direct correlation on the results reported. Results reflected on this report therefore relate only to the sample as received.
8. In the absence of customer specified limits, SANS 241-1:2015 or General Limits will appear, as applicable.
9. This report may not be reproduced, except in full, without the prior written approval of the laboratory.
10. Opinions and interpretations are not included in the Certificate of Analysis.

N. VAN BINSBERGEN ( Pr.Sci.Nat.)  
DIRECTOR  
08 June 2026 (Date Issued)

TO: HESSEQUA MUNICIPALITY  
PO BOX 29  
RIVERSDALE  
6670

Att: Rhuschan Manho (rhuschan@hessequa.gov.za)

Sampler : JACQUES MOUTON(ALA)

*This report relates only to the samples tested and is issued subject to the company's standard terms and conditions of business.*



Consulting Analytical & Industrial Chemists  
Specialists in Water & Waste Water Treatment  
Telephone (021)448 6340/1  
After Hours (083-3263887)  
e-Mail Address :  
info@alabbott.co.za



T0276

Doc.No. 7.8 # 1 Rev.5

No. 1, Vine Park  
Vine Road  
7925  
WOODSTOCK  
CAPE TOWN

# Certificate of Analysis

## **HESSEQUA MUNICIPALITY - TENDER NO. HES-TECH 06/2526**

### **Hessequa Final Effluents**

### **3-HEIDELBERG**

**DATE SAMPLED :** 2026/06/02

**DATE RECEIVED :** 2026/06/03

**DATE ANALYSIS**  
**COMMENCED :** 2026/06/03

**OUR REF. :** 2026/06/02/17850

**REPORT NO. :** 3865

### **APPENDIX 1 : SPECIFIC METHODS USED FOR THE ANALYSES OF PARAMETERS INDICATED IN THIS REPORT**

| ALA Method No. | Parameter                                        | Method                                    | Limit of Detection | Limit of Quantification |
|----------------|--------------------------------------------------|-------------------------------------------|--------------------|-------------------------|
| 45             | Acidity (mg/l)                                   | STD Method 2310 B (1992)                  | -                  | -                       |
| 94             | Alkalinity (mg/l as CaCO <sub>3</sub> ) *        | Discrete Analyzer using the Gallery       | 5.0                | 11.0                    |
| N/A            | Algae Identification and Count (per ml)          | (Outsourced)                              | -                  | -                       |
| 92             | Aluminium (µg/l as Al) *                         | Based on SANS 11885 (ICP)                 | 9.8                | 40.0                    |
| 92a            | Aluminium (µg/l as Al) *                         | Based on SANS 11885 (ICP)                 | 1.9                | 40.0                    |
| 3              | Ammonia (mg/l as N) *                            | STD Method 4500-NH <sub>3</sub> :C (1992) | 0.14               | 0.15                    |
| 95             | Ammonia (mg/l as N) *                            | Discrete Analyzer using the Gallery       | 0.09               | 0.10                    |
| 92             | Antimony (µg/l as Sb) *                          | Based on SANS 11885 (ICP)                 | 3.6                | 20.0                    |
| 92a            | Antimony (µg/l as Sb) *                          | Based on SANS 11885 (ICP)                 | 2.9                | 20.0                    |
| 92             | Arsenic (µg/l as As) *                           | Based on SANS 11885 (ICP)                 | 2.7                | 10.0                    |
| 92a            | Arsenic (µg/l as As) *                           | Based on SANS 11885 (ICP)                 | 8.0                | 10.0                    |
| 92             | Barium (µg/l) *                                  | Based on SANS 11885 (ICP)                 | 0.08               | 20.0                    |
| 92a            | Barium (µg/l) *                                  | Based on SANS 11885 (ICP)                 | 1.07               | 20.0                    |
| 92             | Beryllium µg/l as Be) *                          | Based on SANS 11885 (ICP)                 | 0.05               | 20.0                    |
| 92a            | Beryllium µg/l as Be) *                          | Based on SANS 11885 (ICP)                 | 0.34               | 20.0                    |
| Calc           | Bicarbonate (mg/l)                               | Calculation                               | -                  | -                       |
| N/A            | Biochemical Oxygen Demand (mg/l O <sub>2</sub> ) | (Outsourced)                              | -                  | -                       |
| 92             | Boron (mg/l as B) *                              | Based on SANS 11885 (ICP)                 | 1.5                | 100                     |
| 92a            | Boron (µg/l as B) *                              | Based on SANS 11885 (ICP)                 | 1.2                | 100                     |
| N/A            | Bromine (mg/l as Br)                             | (Outsourced)                              | -                  | -                       |
| N/A            | Bromide (mg/l as Br-)                            | (Outsourced)                              | -                  | -                       |
| 92             | Cadmium (µg/l as Cd) *                           | Based on SANS 11885 (ICP)                 | 0.11               | 3.0                     |
| 92a            | Cadmium (µg/l as Cd) *                           | Based on SANS 11885 (ICP)                 | 0.67               | 3.0                     |
| 92             | Calcium (mg/l as Ca) *                           | Based on SANS 11885 (ICP)                 | 0.06               | 1.0                     |
| 92a            | Calcium (mg/l as Ca) *                           | Based on SANS 11885 (ICP)                 | 0.37               | 1.0                     |
| Calc           | Calcium (meq/l as Ca)                            | Calculation                               | -                  | -                       |
| Calc           | Calcium Carbonate Precipitation Potential        | Calculation                               | -                  | -                       |
| Calc           | Calcium Hardness *                               | Calculation                               | -                  | -                       |
| Calc           | Carbonate (mg/l)                                 | Calculation                               | -                  | -                       |
| 2              | Chemical Oxygen Demand (mg/l) *                  | SANS 6048                                 | 7.8                | 8.0                     |
| Calc           | Chloride (meq/l as Cl-)                          | Calculation                               | -                  | -                       |
| 25             | Chloride (mg/l as Cl) *                          | SABS 202                                  | 1.0                | 2.0                     |
| 96             | Chloride (mg/l as Cl) *                          | Discrete Analyzer using the Gallery       | 0.20               | 10.0                    |
| 69             | Chlorine Demand (mg/l)                           | STD Method 2350 B (1992)                  | -                  | 0.05                    |
| N/A            | Chlorophyll-a (µg/l)                             | (Outsourced)                              | -                  | -                       |
| 92             | Chromium (µg/l as Cr) *                          | Based on SANS 11885 (ICP)                 | 1.6                | 20.0                    |
| 92a            | Chromium (µg/l as Cr) *                          | Based on SANS 11885 (ICP)                 | 0.72               | 20.0                    |

**Sampler :** JACQUES MOUTON(ALA)

*This report relates only to the samples tested and is issued subject to the company's standard terms and conditions of business.*



Consulting Analytical & Industrial Chemists  
Specialists in Water & Waste Water Treatment  
Telephone (021)448 6340/1  
After Hours (083-3263887)  
e-Mail Address :  
info@alabbott.co.za



T0276

Doc.No. 7.8 # 1 Rev.5

No. 1, Vine Park  
Vine Road  
7925  
WOODSTOCK  
CAPE TOWN

# Certificate of Analysis

## HESSEQUA MUNICIPALITY - TENDER NO. HES-TECH 06/2526

### Hessequa Final Effluents

### 3-HEIDELBERG

**DATE SAMPLED :** 2026/06/02

**DATE RECEIVED :** 2026/06/03

**DATE ANALYSIS  
COMMENCED :** 2026/06/03

**OUR REF. :** 2026/06/02/17850

**REPORT NO. :** 3865

| ALA Method No. | Parameter                                          | Method                              | Limit of Detection | Limit of Quantification |
|----------------|----------------------------------------------------|-------------------------------------|--------------------|-------------------------|
| N/A            | Clostridium Perfringens (cfu/100 ml)               | (Outsourced)                        | -                  | -                       |
| 92             | Cobalt (µg/l as Co) *                              | Based on SANS 11885 (ICP)           | 0.49               | 20.0                    |
| 92a            | Cobalt (µg/l as Co) *                              | Based on SANS 11885 (ICP)           | 0.57               | 20.0                    |
| N/A            | Colony Count (cfu/ml)                              | (Outsourced)                        | -                  | -                       |
| 97             | Colour (mg/l as Pt) *                              | Discrete Analyzer using the Gallery | 4.0                | 4.0                     |
| Calc.          | Combined Nitrate & Nitrate (mg/l as N)             | Calculation                         | -                  | -                       |
| Calc.          | Combined Trihalomethanes                           | Calculation                         | -                  | -                       |
| Calc           | Corrosivity Ratio *                                | Calculation                         | -                  | -                       |
| 92             | Copper (µg/l as Cu) *                              | Based on SANS 11885 (ICP)           | 1.4                | 20.0                    |
| 92a            | Copper (µg/l as Cu) *                              | Based on SANS 11885 (ICP)           | 1.3                | 20.0                    |
| N/A            | Cryptosporidium (per 10 litres)                    | (Outsourced)                        | -                  | -                       |
| 51             | Cyanide (µg/l as CN)                               | Discrete Analyzer using the Gallery | -                  | 20.0                    |
| N/A            | Cytopathic Viruses (count per 10 litres)           | (Outsourced)                        | -                  | -                       |
| 125            | D-Glucose (mg/l)                                   | Discrete Analyzer using the Gallery | -                  | -                       |
| 105            | Dissolved Organic Carbon (mg/l as C)               | Hach 10129                          | -                  | 0.10                    |
| 68             | Dissolved Oxygen (mg/l)                            | STD Method 4500 O-G                 | -                  | 1.0                     |
| 78             | Dissolved Solids (mg/l)                            | STD Method 2501 A (1992)            | -                  | 6.0                     |
| 84             | E.coli (count per 100 ml) *                        | Colilert - 18 / Quanti-Tray Method  | 1.0                | 1.0                     |
| 9              | Electrical Conductivity (mS/m) (at 25 °C) *        | STD Method 2501 A                   | 0.32               | 5.0                     |
| 87             | Enterococci (count per 100 ml) *                   | Enterolert-24 / Quanti-Tray Method  | 1.0                | 1.0                     |
| 86             | Faecal Coliforms (count per 100 ml) *              | Colilert - 18 / Quanti-Tray Method  | 1.0                | 1.0                     |
| N/A            | Faecal Streptococcus (count per 100 ml) *          | (Outsourced)                        | -                  | -                       |
| N/A            | Formaldehyde                                       | (Outsourced)                        | -                  | -                       |
| 29             | Fluoride (mg/l as F) *                             | Hach 8029                           | 0.08               | 0.50                    |
| 98             | Fluoride (mg/l as F) *                             | Discrete Analyzer using the Gallery | 0.10               | 0.50                    |
| 66             | Free Chlorine (mg/l)                               | Lovibond Method 3                   | -                  | 0.05                    |
| N/A            | Giardia (per 10 litres)                            | (Outsourced)                        | -                  | -                       |
| N/A            | Helminth Ova (Total & Viable) (per 4 g dry weight) | (Outsourced)                        | -                  | -                       |
| 88             | Heterotrophic Plate Count (count per ml) *         | MC-Media Pad                        | 1.0                | 1.0                     |
| N/A            | Hexavalent Chromium (mg/l)                         | Hach 8023                           | -                  | 1.0                     |
| N/A            | Hydrocarbons                                       | (Outsourced)                        | -                  | -                       |
| 46             | Hydrogen Sulphide (mg/l)                           | Hach 8051                           | -                  | 0.01                    |
| 92             | Iron (µg/l as Fe) *                                | Based on SANS 11885 (ICP)           | 2.5                | 20.0                    |
| 92a            | Iron (µg/l as Fe) *                                | Based on SANS 11885 (ICP)           | 1.4                | 20.0                    |
| Calc           | Langelier Saturation Index (at 25 °C) *            | Calculation                         | -                  | Calc                    |
| 92             | Lead (µg/l as Pb) *                                | Based on SANS 11885 (ICP)           | 1.9                | 10.0                    |
| 92a            | Lead (µg/l as Pb) *                                | Based on SANS 11885 (ICP)           | 2.9                | 10.0                    |
| N/A            | Legionella (cfu/l)                                 | (Outsourced)                        | -                  | -                       |
| 92a            | Lithium (mg/l as Li)                               | Based on SANS 11885 (ICP)           | 2.0                | 7.0                     |

**Sampler :** JACQUES MOUTON(ALA)

*This report relates only to the samples tested and is issued subject to the company's standard terms and conditions of business.*



Consulting Analytical & Industrial Chemists  
Specialists in Water & Waste Water Treatment  
Telephone (021)448 6340/1  
After Hours (083-3263887)  
e-Mail Address :  
info@alabbott.co.za



T0276

Doc.No. 7.8 # 1 Rev.5

No. 1, Vine Park  
Vine Road  
7925  
WOODSTOCK  
CAPE TOWN

# Certificate of Analysis

## HESSEQUA MUNICIPALITY - TENDER NO. HES-TECH 06/2526

### Hessequa Final Effluents

### 3-HEIDELBERG

**DATE SAMPLED :** 2026/06/02

**DATE RECEIVED :** 2026/06/03

**DATE ANALYSIS**

**COMMENCED :** 2026/06/03

**OUR REF. :** 2026/06/02/17850

**REPORT NO. :** 3865

| ALA Method No. | Parameter                                | Method                                                       | Limit of Detection | Limit of Quantification |
|----------------|------------------------------------------|--------------------------------------------------------------|--------------------|-------------------------|
| N/A            | Listeria Monocytogenes (per 100 ml)      | (Outsourced)                                                 | -                  | -                       |
| Calc           | Magnesium (meq/l as Mg)                  | Calculation                                                  | -                  | -                       |
| 92             | Manganese (µg/l as Mn) *                 | Based on SANS 11885 (ICP)                                    | 0.53               | 20.0                    |
| 92a            | Manganese (µg/l as Mn) *                 | Based on SANS 11885 (ICP)                                    | 0.73               | 20.0                    |
| 92             | Magnesium (mg/l as Mg) *                 | Based on SANS 11885 (ICP)                                    | 0.05               | 1.1                     |
| 92a            | Magnesium (mg/l as Mg) *                 | Based on SANS 11885 (ICP)                                    | 0.25               | 1.1                     |
| Calc           | Magnesium Hardness *                     | Calculation                                                  | -                  | -                       |
| 92             | Mercury (µg/l as Hg)                     | Based on SANS 11885 (ICP)                                    | -                  | 5.0                     |
| N/A            | Monochloramine (mg/l)                    | Lovibond Method                                              | -                  | -                       |
| 92             | Molybdenum (µg/l as Mo) *                | Based on SANS 11885 (ICP)                                    | 0.58               | 20.0                    |
| 92a            | Molybdenum (µg/l as Mo) *                | Based on SANS 11885 (ICP)                                    | 0.99               | 20.0                    |
| N/A            | Mould (cfu/100 ml)                       | (Outsourced)                                                 | -                  | -                       |
| 92             | Nickel (µg/l as Ni) *                    | Based on SANS 11885 (ICP)                                    | 1.3                | 20.0                    |
| 92a            | Nickel (µg/l as Ni) *                    | Based on SANS 11885 (ICP)                                    | 0.47               | 20.0                    |
| 4              | Nitrate Nitrogen (mg/l as N) *           | Hach 8039 (Applicable to Sewage Analysis)                    | 0.19               | 0.20                    |
| 4B             | Nitrate & Nitrite Nitrogen (mg/l as N) * | Lovibond Method using Brucine (Applicable to Water Analysis) | 0.05               | 0.20                    |
| 100            | Nitrate Nitrogen (mg/l as N) *           | Discrete Analyzer using the Gallery                          | 0.04               | 0.20                    |
| 5              | Nitrite Nitrogen (mg/l as N) *           | Lovibond (Griess-Ilosvay's Reagent)                          | 0.08               | 0.20                    |
| 99             | Nitrite Nitrogen (mg/l as N) *           | Discrete Analyzer using the Gallery                          | 0.01               | 0.20                    |
| Calc           | Nitrate Nitrogen (mg/l as N) *           | Calculation                                                  | -                  | -                       |
| 18             | Oil & Grease (mg/l)                      | SABS 1051 (Nov. 1982)                                        | -                  | 1.0                     |
| 76             | Odour (Threshold Odour Number)           | STD Method 2150 (B)                                          | -                  | 1.0                     |
| N/A            | Organochlorine Pesticides (OCP)          | (Outsourced)                                                 | -                  | -                       |
| N/A            | Organophosphorus Pesticides (OPP)        | (Outsourced)                                                 | -                  | -                       |
| 10             | Ortho Phosphate (mg/l as P) *            | Hach 8114                                                    | 0.19               | 0.20                    |
| 101            | Ortho Phosphate (mg/l as P) *            | Discrete Analyzer using the Gallery                          | 0.10               | 0.20                    |
| 1              | Oxygen Absorbed (mg/l as O)              | SANS 5220                                                    | -                  | -                       |
| N/A            | Pesticides (µg/kg)                       | (Outsourced)                                                 | -                  | -                       |
| Calc           | Potassium (meq/l as K)                   | Calculation                                                  | -                  | -                       |
| 92a            | Potassium (mg/l as K) *                  | Based on SANS 11885 (ICP)                                    | 0.40               | 1.0                     |
| N/A            | Pseudomonas Aeruginosa (cfu/100 ml)      | (Outsourced)                                                 | -                  | -                       |
| 127            | pH (at 25 °C) – Lab *                    | SABS 11                                                      | 0.09               | 2.0                     |
| N/A            | pH (at 25 °C) – Field                    | SABS 11                                                      | -                  | -                       |
| Calc           | pHs (at 25 °C) *                         | Calculation                                                  | -                  | -                       |
| 52             | Phenols (mg/l)                           | Discrete Analyzer using the Gallery                          | -                  | 0.01                    |
| N/A            | Polychlorinated Biphenyls (PCB's)        | (Outsourced)                                                 | -                  | -                       |
| 92             | Potassium (mg/l as K) *                  | Based on SANS 11885 (ICP)                                    | 0.04               | 1.0                     |
| Calc           | Ryznar Index *                           | Calculation                                                  | -                  | -                       |
| N/A            | Salmonella (per 100 ml)                  | (Outsourced)                                                 | -                  | -                       |

**Sampler :** JACQUES MOUTON(ALA)

This report relates only to the samples tested and is issued subject to the company's standard terms and conditions of business.



Consulting Analytical & Industrial Chemists  
Specialists in Water & Waste Water Treatment  
Telephone (021)448 6340/1  
After Hours (083-3263887)  
e-Mail Address :  
info@alabbott.co.za



T0276

Doc.No. 7.8 # 1 Rev.5

No. 1, Vine Park  
Vine Road  
7925  
WOODSTOCK  
CAPE TOWN

# Certificate of Analysis

## HESSEQUA MUNICIPALITY - TENDER NO. HES-TECH 06/2526

### Hessequa Final Effluents

#### 3-HEIDELBERG

**DATE SAMPLED :** 2026/06/02

**DATE RECEIVED :** 2026/06/03

**DATE ANALYSIS  
COMMENCED :** 2026/06/03

**OUR REF. :** 2026/06/02/17850

**REPORT NO. :** 3865

| ALA<br>Method No. | Parameter                                     | Method                                  | Limit of<br>Detection | Limit of<br>Quantification |
|-------------------|-----------------------------------------------|-----------------------------------------|-----------------------|----------------------------|
| 92                | Selenium (µg/l as Se) *                       | Based on SANS 11885 (ICP)               | 4.1                   | 10.0                       |
| 92a               | Selenium (µg/l as Se) *                       | Based on SANS 11885 (ICP)               | 2.6                   | 10.0                       |
| 67                | Settleable Solids (ml/l)                      | STD Method 2540 F (1992)                | -                     | 0.10                       |
| N/A               | Shingella (per 100 ml)                        | (Outsourced)                            | -                     | -                          |
| Cal               | Silica (mg/l) *                               | Calculation                             | -                     | -                          |
| 92                | Silicon (µg/l)                                | Based on SANAS 11885 (ICP)              | 4.1                   | 20.0                       |
| 92a               | Silicon (µg/l) *                              | Based on SANAS 11885 (ICP)              | 4.9                   | 20.0                       |
| Calc.             | Silica (µg/l) *                               | Calculation                             | 58.0                  | 58.0                       |
| Calc              | % Sodium *                                    | Calculation                             | 1.0                   | -                          |
| Calc              | Sodium Absorption Ratio *                     | Calculation                             | 1.0                   | -                          |
| Calc              | Sodium (meq/l as Na)                          | Calculation                             | 1.0                   | -                          |
| 92                | Sodium (mg/l as Na) *                         | Based on SANS 11885 (ICP)               | 0.07                  | 1.0                        |
| 92a               | Sodium (mg/l as Na) *                         | Based on SANS 11885 (ICP)               | 0.45                  | 1.0                        |
| Calc              | % Solids                                      | Calculation                             | -                     | -                          |
| N/A               | Somatic Coliphages (count per 10 ml)          | Fast Phage Somatic Presence/Absence     | -                     | -                          |
| 92                | Strontium (mg/l) *                            | Based on SANS 11885 (ICP)               | 0.22                  | 40.0                       |
| 92a               | Strontium (mg/l) *                            | Based on SANS 11885 (ICP)               | 0.88                  | 40.0                       |
| 126               | Sucrose (mg/l)                                | Discrete Analyzer using the Gallery     | 0.02                  | -                          |
| 24                | Sulphate (mg/l as SO <sub>4</sub> ) *         | Hach 8051 (SulfaVer 4 Method)           | 4.0                   | 4.0                        |
| 102               | Sulphate (mg/l as SO <sub>4</sub> ) *         | Discrete Analyzer using the Gallery     | 0.20                  | 2.0                        |
| 46                | Sulphide (mg/l as S <sub>2</sub> -)           | STD Method 4500-S <sub>2</sub> D (1992) | 0.01                  | -                          |
| N/A               | Taste                                         | (Outsourced)                            | -                     | -                          |
| 92                | Tin (µg/l as Sn) *                            | Based on SANS 11885 (ICP)               | 1.0                   | 20.0                       |
| 92a               | Tin (µg/l as Sn) *                            | Based on SANS 11885 (ICP)               | 0.96                  | 20.0                       |
| 92                | Titanium (mg/l as Ti)                         | (Outsourced)                            | -                     | -                          |
| 92a               | Titanium (µg/l as Ti)                         | Based on SANS 11885 (ICP)               | -                     | 5.0                        |
| 28                | Total Alkalinity (mg/l as CaCO <sub>3</sub> ) | STD Methods 2320                        | 1.0                   | 1.0                        |
| Calc              | Total Carbonate Species (mg/l)                | Calculation                             | -                     | -                          |
| 66                | Total Chlorine                                | Lovibond Method 3                       | 0.01                  | 0.05                       |
| 85                | Total Coliforms Bacteria (count per 100 ml) * | Colilert - 18 / Quanti-Tray Method      | 1.0                   | 1.0                        |
| 7                 | Total Dissolved Solids                        | STD Method 2501 A (1992)                | 1.0                   | 1.0                        |
| 124               | Total Glucose (mg/l)                          | Discrete Analyzer using the Gallery     | -                     | -                          |
| Calc              | Total Hardness (mg/l as CaCO <sub>3</sub> ) * | Calculation                             | 1.0                   | 1.0                        |
| 15                | Total Kjeldahl Nitrogen (mg/l)                | Hach 8075                               | -                     | 0.15                       |
| 20                | Total Microcystin (µg/l as LR)                | Algal Toxin Strip Test                  | -                     | 0.15                       |
| 105               | Total Organic Carbon (mg/l as C)              | Hach 10129                              | -                     | 0.10                       |
| N/A               | Total Petroleum Hydrocarbons (TPH)            | (Outsourced)                            | -                     | -                          |
| 11                | Total Phosphorous (mg/l as P)                 | STD Method 4500-PB (1992) / Hach 8114   | -                     | 0.20                       |
| 13                | Total Plate Count (count per ml) *            | Petrifilm TM                            | 1.0                   | 1.0                        |

**Sampler :** JACQUES MOUTON(ALA)

*This report relates only to the samples tested and is issued subject to the company's standard terms and conditions of business.*





Consulting Analytical & Industrial Chemists  
Specialists in Water & Waste Water Treatment  
Telephone (021)448 6340/1  
After Hours (083-3263887)  
e-Mail Address :  
info@alabbott.co.za



T0276

No. 1, Vine Park  
Vine Road  
7925  
WOODSTOCK  
CAPE TOWN

# Certificate of Analysis

**HESSEQUA MUNICIPALITY - TENDER NO. HES-TECH 06/2526****Hessequa Final Effluents****3-HEIDELBERG****DATE SAMPLED :** 2026/06/02**DATE RECEIVED :** 2026/06/03**DATE ANALYSIS**  
**COMMENCED :** 2026/06/03**OUR REF. :** 2026/06/02/17850**REPORT NO. :** 3865

| ALA Method No. | Parameter                                    | Method                            | Limit of Detection | Limit of Quantification |
|----------------|----------------------------------------------|-----------------------------------|--------------------|-------------------------|
| N/A            | Total Trihalomethanese (µg/l)                | Gas Chromatography                | 1.0                | 10.0                    |
| N/A            | Trihalomethane (Chloroform) (µg/l)           | Gas Chromatography                | 1.0                | 10.0                    |
| N/A            | Trihalomethane (Bromodichloromethane) (µg/l) | Gas Chromatography                | 1.0                | 10.0                    |
| N/A            | Trihalomethane (Dibromochloromethane) (µg/l) | Gas Chromatography                | 1.0                | 10.0                    |
| N/A            | Trihalomethane (Bromoform) (µg/l)            | Gas Chromatography                | 1.0                | 10.0                    |
| 27             | Turbidity (NTU) *                            | Hach 8237                         | 0.07               | 0.08                    |
| 6A             | Total Suspended Solids (mg/l) *              | STD Method 2540 D                 | 3.7                | 4.0                     |
| N/A            | TOX (mg/l)                                   | (Outsourced)                      | -                  | -                       |
| 92             | Uranium (µg/l as U)                          | Based on SANS 11885 (ICP)         | 15.0               | 15.0                    |
| 92a            | Uranium (µg/l as U)                          | Based on SANS 11885 (ICP)         | 7.8                | 15.0                    |
| N/A            | UV Absorption (nm)                           | (Outsourced)                      | -                  | -                       |
| 92             | Vanadium (µg/l as V) *                       | Based on SANS 11885 (ICP)         | 0.61               | 10.0                    |
| 92a            | Vanadium (µg/l as V) *                       | Based on SANS 11885 (ICP)         | 0.56               | 10.0                    |
| N/A            | Viable Helminths                             | (Outsourced)                      | -                  | -                       |
| N/A            | Vibrio Cholerae (per 100 ml)                 | (Outsourced)                      | -                  | -                       |
| 17             | Volatile Fatty Acids (mg/l)                  | Hach 8196 (Esterification Method) | -                  | 1.0                     |
| Calc           | Volatile Fraction (%)                        | Calculation                       | -                  | -                       |
| 6B             | Volatile Suspended Solids (mg/l)             | STD Method 2540 E (1992)          | 4.0                | 4.0                     |
| N/A            | Yeast (cfu/100 ml)                           | (Outsourced)                      | -                  | -                       |
| 92             | Zinc (mg/l as Zn) *                          | Based on SANS 11885 (ICP)         | 0.003              | 0.01                    |
| 92a            | Zinc (µg/l as Zn) *                          | Based on SANS 11885 (ICP)         | 4.9                | 10.0                    |

**NOTE :** -Tests marked with (\*) in this Appendix are included in the SANAS Schedule of Accreditation for this laboratory.

-All bacteriological analyses carried out by Colilert Method unless otherwise indicated on the Certificate of Analysis.

-Bacteriological results reported as &lt;1, by the Colilert/Quanti-Tray method is equivalent to "Not Detected" Standard Limit of SANS 241-1:2015.

**Sampler :** JACQUES MOUTON(ALA)*This report relates only to the samples tested and is issued subject to the company's standard terms and conditions of business.*



Consulting Analytical & Industrial Chemists  
Specialists in Water & Waste Water Treatment  
Telephone (021)448 6340/1  
After Hours (083-3263887)  
e-Mail Address :  
info@alabbott.co.za



T0276

No. 1, Vine Park  
Vine Road  
7925  
WOODSTOCK  
CAPE TOWN

# *Certificate of Analysis*

## **HESSEQUA MUNICIPALITY - TENDER NO. HES-TECH 06/2526**

### **Hessequa Final Effluents**

### **3-HEIDELBERG**

**DATE SAMPLED :** 2026/06/02

**DATE RECEIVED :** 2026/06/03

**DATE ANALYSIS**

**COMMENCED :** 2026/06/03

**OUR REF. :** 2026/06/02/17850

**REPORT NO. :** 3865

### **TERMS AND CONDITIONS OF BUSINESS**

**All work is undertaken by A.L. Abbott and Associates (Pty) Ltd, (hereinafter called "the Company") on the following conditions :**

- (i) That the total liability of the Company, its officers, servants, agents or sub-contractors for any loss or damage caused by or resulting from improper or negligent performance, purported performance or non-performance of such work shall not exceed the sum equal to fifteen times the fee payable by the customer or R6000, whichever is the lesser sum.
- (ii) That the person with whom the Company shall have contracted to have performed the said work will indemnify the Company, its said officers, servants, agents and sub-contractors against all claims made by the third parties consequent upon the performance, purported performance or non-performance of such work to the extent to which the aggregate of such claims exceeds the maximum liability specified in paragraph (i) above.
- (iii) Without the prejudice to the foregoing every person who is or becomes an officer, servant, agent or sub-contractor of the Company shall have the benefit of the limitation of liability and indemnity contained in these conditions as if they were expressly made for his benefit and so far as relates to such conditions any contract entered into by the Company is entered into not only on its own benefit but also as agent and trustee for every such person as aforesaid.
- (iv) No employee, agent or representative of the Company (other than a Director) has authority to alter or waive or make any representation which will in any way conflict with or override any of the terms of these conditions.
- (v) The present conditions shall be governed by South African law and all disputes arising in relation thereto and/or in connection therewith shall be determined by the South African courts.