

| Sample Points | Sample Point Description | Ammonia | Chloride | Fluoride | M-Alkalinity | Nitrate | Phosphate | Sulphate | Chemical Oxygen Demand | Conductivity | pH | E. coli |
|---------------|---|---------|----------|----------|--------------|---------|-----------|----------|------------------------|--------------|------|---------|
| VE | Vaal River @ Ermelo 26°21'46.17"S 30° 6'31.15"E | 0.12 | <10 | 0.19 | 63 | 0.16 | <0.05 | 7.00 | 27 | 17 | 7.3 | |
| | | 0.11 | 11.00 | 0.18 | 78 | 1.10 | <0.05 | 20.00 | 19 | 26 | 7 | |
| | | 0.12 | 18.00 | 0.25 | 67 | 0.12 | <0.05 | 48.00 | 21 | 33 | 7.1 | |
| | | 0.11 | <10 | 0.13 | 50 | 0.13 | 0.07 | 34.00 | 23 | 18 | 7 | |
| ZD | Zaihoek Dam 27°09'47.0"S 29°52'42.8"E | 0.12 | <10 | 0.12 | 76 | 0.16 | <0.05 | 9.50 | <10 | 15 | 7.2 | |
| | | 0.12 | <10 | 0.16 | 46 | <0.10 | <0.05 | 10.00 | <10 | 12 | 6.7 | |
| VKV | Klein Vaal River @ Goedehoop 26°49'12.19"S 30° 8'12.00"E | 0.12 | <10 | 0.15 | 48 | 0.21 | <0.05 | 6.70 | <10 | 14 | 7.2 | |
| | | 0.12 | <10 | 0.14 | 40 | 0.20 | <0.05 | 12.00 | 19 | 13 | 6.7 | |
| | | 0.12 | <10 | 0.15 | 43 | 0.14 | 0.11 | 15.00 | 15 | 17 | 6.9 | |
| | | 0.11 | <10 | 0.16 | 36 | 0.31 | 0.05 | 32.00 | 24 | 11 | 6.9 | |
| VRA | Rietspruit below Amersfoort 26°54'47.20"S 29°52'19.22"E | 0.12 | 14.00 | 0.28 | 175 | 0.12 | <0.05 | 37.00 | 13 | 43 | 8.1 | |
| | | 1.50 | 11.00 | 0.23 | 105 | 0.70 | 0.26 | 27.00 | 19 | 29 | 7.2 | |
| | | 0.12 | <10 | 0.19 | 89 | 0.35 | 0.05 | 28.00 | 17 | 32 | 7.3 | |
| | | 0.11 | <10 | 0.28 | 87 | 0.29 | 0.07 | 28.00 | 19 | 27 | 7.3 | |
| VKK | Brummerspruit below Ermelo 26°30'49.51"S 29°54'27.37"E | 20.00 | 56.00 | 0.56 | 210 | 1.40 | 4.60 | 115.00 | 51 | 85 | 7.6 | |
| | | 12.00 | 55.00 | 0.28 | 185 | 1.10 | 2.80 | 125.00 | 56 | 79 | 7.5 | |
| | | 10.00 | 48.00 | 0.34 | 150 | 3.10 | 1.90 | 215.00 | 38 | 87 | 7.2 | |
| | | 3.60 | 31.00 | 0.42 | 81 | 1.30 | 0.93 | 105.00 | 35 | 57 | 6.9 | |
| VKR | Tweefontein @ Riverside 26°37'21.17"S 29°50'16.24"E | 7.10 | 48.00 | 0.39 | 160 | 3.60 | 1.70 | 97.00 | 29 | 70 | 7.5 | |
| | | 5.00 | 52.00 | 0.38 | 145 | 4.70 | 2.30 | 115.00 | 42 | 63 | 7.3 | |
| | | 4.20 | 31.00 | 0.35 | 135 | 0.79 | 1.70 | 120.00 | 32 | 65 | 7.2 | |
| | | 0.11 | <10 | 0.32 | 105 | 0.33 | 0.29 | 31.00 | 27 | 38 | 7.3 | |
| VK | Brummerspruit before Vaal River 26°46'51.26"S 29°48'23.51"E | 0.75 | 44.00 | 0.38 | 155 | 2.00 | 0.19 | 98.00 | 29 | 63 | 7.7 | |
| | | 0.81 | 36.00 | 0.56 | 140 | 4.10 | 0.84 | 71.00 | 35 | 56 | 7.5 | |
| | | 2.30 | 35.00 | 0.35 | 110 | 0.24 | 1.10 | 100.00 | 45 | 56 | 7.1 | |
| | | 0.11 | <10 | 0.35 | 99 | 0.39 | 0.23 | 50.00 | 34 | 37 | 7.3 | |
| VAS | Vaal River above Standerton 26°51'18.56"S 29°41'51.61"E | 0.12 | 12.00 | 0.16 | 96 | <0.10 | 0.08 | 30.00 | 10 | 30 | 7.6 | |
| | | 0.12 | <10 | 0.18 | 53 | 0.79 | <0.05 | 20.00 | 15 | 18 | 6.8 | |
| | | 0.12 | 12.00 | 0.64 | 79 | 0.42 | <0.05 | 94.00 | 19 | 33 | 7.2 | |
| | | 0.11 | <10 | 0.24 | 63 | 0.18 | 0.11 | 28.00 | 21 | 22 | 7.1 | |
| VGK | Geelkipspruit below Amersfoort 26°57'53.51"S 29°40'19.12"E | 0.12 | 16.00 | 0.25 | 220 | 0.35 | 0.13 | 40.00 | 11 | 52 | 8.4 | |
| | | 0.12 | 20.00 | 0.29 | 215 | 0.13 | 0.11 | 64.00 | 16 | 45 | 8.1 | |
| | | 0.12 | 11.00 | 0.28 | 185 | 0.16 | 0.09 | 58.00 | 27 | 63 | 7.6 | |
| | | 0.11 | 12.00 | 0.40 | 150 | 0.21 | 0.08 | 53.00 | 25 | 44 | 7.9 | |
| VBB | Blesbokspruit below Bethal 26°34'2.11"S 29°26'41.21"E | 8.60 | 59.00 | 0.34 | 235 | 4.00 | 3.00 | 30.00 | 50 | 72 | 7.9 | |
| | | 11.00 | 57.00 | 0.54 | 420 | 3.00 | 5.80 | 26.00 | 97 | 70 | 7.5 | |
| | | 5.70 | 41.00 | 0.56 | 185 | 1.20 | 1.90 | 45.00 | 46 | 63 | 7.4 | |
| | | 3.00 | 24.00 | 0.41 | 145 | 1.40 | 1.00 | 32.00 | 35 | 44 | 7.3 | |
| VBS | Blesbokspruit @ Skaapkraal 26°38'17.35"S 29°27'6.24"E | 0.12 | 60.00 | 0.34 | 240 | <0.10 | 0.91 | 52.00 | 42 | 70 | 8.9 | |
| | | 4.40 | 54.00 | 0.43 | 245 | 1.50 | 22.00 | 35.00 | 45 | 62 | 9.1 | |
| | | 0.81 | 23.00 | 0.44 | 120 | 1.10 | 1.80 | 33.00 | 67 | 42 | 7.1 | |
| | | 3.10 | 24.00 | 0.33 | 140 | 0.68 | 0.61 | 39.00 | 34 | 46 | 7.4 | |
| VB | Blesbokspruit @ Vaal River Confluence 26°49'57.05"S 29°30'32.95"E | 0.12 | 53.00 | 0.35 | 290 | 0.62 | 0.20 | 53.00 | 38 | 68 | 7.8 | |
| | | 4.10 | 54.00 | 0.47 | 325 | 0.71 | 6.10 | 53.00 | 31 | 68 | 7.8 | |
| | | 0.67 | 17.00 | 0.39 | 110 | 0.78 | 1.40 | 38.00 | 85 | 38 | 7.2 | |
| | | 2.60 | 14.00 | 0.28 | 115 | 0.21 | 0.55 | 35.00 | 33 | 37 | 7.3 | |
| ND-LEEU | Leeuspruit @ New Denmark Colliery 26°51'16.79"S 29°19'31.56"E | 0.12 | 18.00 | 0.26 | 135 | 0.16 | <0.05 | 40.00 | 26 | 52 | 7.5 | |
| | | 0.12 | 31.00 | 0.36 | 130 | 0.24 | 1.70 | 56.00 | 24 | 48 | 7.4 | |
| | | 0.12 | 20.00 | 0.40 | 98 | 0.14 | 0.18 | 38.00 | 52 | 40 | 7.3 | |
| | | 3.30 | 11.00 | 0.29 | 105 | 0.34 | 0.73 | 28.00 | 30 | 35 | 7.3 | |
| VS | Vaal River @ Standerton 26°56'51.37"S 29°15'32.09"E | 0.12 | <10 | 0.26 | 105 | 0.11 | <0.05 | 27.00 | 16 | 37 | 7.9 | |
| | | 0.12 | <10 | 0.27 | 120 | 0.12 | 0.06 | 28.00 | 17 | 22 | 6.0 | |
| | | 0.12 | 12.00 | 0.34 | 91 | 0.12 | 0.08 | 30.00 | 20 | 32 | 7.1 | |
| | | 0.18 | <10 | 0.28 | 81 | 0.60 | <0.05 | 36.00 | 20 | 26 | 7.1 | |
| S-BETHAL | Bethal Sewage Works 26°29'8.05"S 29°27'15.88"E | 8.30 | 46.00 | 0.26 | 160 | 2.00 | 2.00 | 37.00 | 44 | 58 | 7.8 | 66 |
| | | 12.00 | 34.00 | 0.20 | 455 | 0.23 | 3.00 | 13.00 | 170 | 60 | 7.3 | 951 |
| | | 2.40 | 29.00 | 0.28 | 86 | 7.80 | 0.73 | 145.00 | 110 | 66 | 7.2 | 105 |
| | | 9.90 | 91.00 | 0.18 | 110 | 5.40 | 5.40 | 67.00 | 71.00 | 78.00 | 7.20 | 52.00 |
| S-ESW | Ermelo Sewage Works 26°30'42.84"S 29°57'51.11"E | 49.00 | 67.00 | 0.32 | 520 | 0.58 | 33.00 | 86.00 | 205 | 120 | 7.1 | 50 |
| | | 0.10 | 59.00 | 0.27 | 87 | 7.10 | 0.87 | 115.00 | 68 | 71 | 6.9 | 9560 |
| | | 3.30 | 56.00 | 0.22 | 77 | 8.50 | 1.40 | 145.00 | 60 | 71 | 6.9 | 7720 |
| | | 2.50 | 47.00 | 0.24 | 95 | 2.00 | 2.10 | 130.00 | 67 | 72 | 7.1 | 65840 |
| S-TUTU | Tutukani Sewage Works 26°47'36.70"S 29°17'30.43"E | 8.20 | 48.00 | 0.26 | 120 | 0.27 | 1.80 | 48.00 | 34 | 60 | 7.4 | 170 |
| | | 5.50 | 66.00 | 0.35 | 145 | 2.20 | 3.10 | 61.00 | 46 | 56 | 7.6 | 3800 |
| | | 3.40 | 71.00 | 0.30 | 125 | 1.80 | 0.99 | 65.00 | 39 | 65 | 7.6 | 215 |
| | | 13.00 | 63.00 | 0.26 | 110 | 7.70 | 2.30 | 57.00 | 38 | 64 | 7.5 | 52 |
| S-MAJUBA | Majuba Power Station Sewage Works 27° 5'23.45"S 29°46'11.44"E | 4.00 | 36.00 | 0.24 | 65 | 16.00 | 1.40 | 23.00 | 74 | 51 | 7.0 | 1500 |
| | | 0.32 | 37.00 | 0.21 | 22 | 11.00 | 0.66 | 45.00 | 28 | 42 | 6.4 | 67 |
| | | 2.40 | 29.00 | 0.28 | 86 | 7.80 | 0.73 | 145.00 | 110 | 66 | 7.2 | 105 |
| | | 11.00 | 34.00 | 0.22 | 140 | 2.90 | 3.50 | 150.00 | 49 | 77 | 7.3 | 83 |
| S-ND-SOUTH | New Denmark Colliery - South Shaft 26°44'41.51"S 29°18'31.70"E | 6.00 | 66.00 | 0.23 | 130 | 7.60 | 1.80 | 60.00 | 49 | 68 | 7.6 | 9 |
| | | 4.00 | 76.00 | 0.29 | 120 | 5.20 | 11.00 | 42.00 | 58 | 62 | 7.6 | 910 |
| | | 3.20 | 56.00 | 0.42 | 145 | 4.80 | 1.30 | 66.00 | 46 | 65 | 7.5 | 630 |
| | | 1.90 | 77.00 | 0.22 | 125 | 7.00 | 1.50 | 52.00 | 49 | 73 | 7.3 | 58 |

| Sample Points | Sample Point Description | Ammonia | Chloride | Fluoride | M-Alkalinity | Nitrate | Phosphate | Sulphate | Chemical Oxygen Demand | Conductivity | pH | E. coli |
|--|---|---------|----------|----------|--------------|---------|-----------|----------|------------------------|--------------|-----|---------|
| Sewage Works Compliance (where applicable) to General Standard (GN 1191 Oct 1999) | | | | | | | | | | | | |
| S-BETHAL | Bethal Sewage Works 26°29'8.05"S 29°27'15.88"E | 8.30 | 46 | 0.26 | 160.00 | 2.00 | 2.00 | 37.00 | 44 | 58 | 7.8 | 66 |
| | | 12.00 | 34 | 0.20 | 455 | 0.23 | 3.00 | 13.00 | 170 | 60 | 7.3 | 951 |
| | | 2.40 | 29 | 0.28 | 86 | 7.80 | 0.73 | 145.00 | 110 | 66 | 7.2 | 105 |
| S-ESW | Ermelo Sewage Works 26°30'42.84"S 29°57'51.11"E | 9.90 | 91 | 0.18 | 110 | 5.40 | 5.40 | 67 | 71 | 78 | 7.2 | 52 |
| | | 49.00 | 67 | 0.32 | 520 | 0.58 | 33.00 | 86.00 | 205 | 120 | 7.1 | 50 |
| | | 0.10 | 59 | 0.27 | 87 | 7.10 | 0.87 | 115 | 68 | 71 | 6.9 | 9560 |
| S-TUTU | Tutukani Sewage Works 26°47'36.70"S 29°17'30.43"E | 3.30 | 56 | 0.22 | 77 | 8.50 | 1.40 | 145 | 60 | 71 | 6.9 | 7720 |
| | | 2.50 | 47 | 0.24 | 95 | 2.00 | 2.10 | 130 | 67 | 72 | 7.1 | 65840 |
| | | 8.20 | 48 | 0.26 | 120 | 0.27 | 1.80 | 48 | 34 | 60 | 7.4 | 170 |
| S-MAJUBA | Majuba Power Station Sewage Works 27° 5'23.45"S 29°46'11.44"E | 5.50 | 66 | 0.35 | 145 | 2.20 | 3.10 | 61 | 46 | 56 | 7.6 | 3800 |
| | | 3.40 | 71 | 0.30 | 125 | 1.80 | 0.99 | 65 | 39 | 65 | 7.6 | 215 |
| | | 13.00 | 63 | 0.26 | 110 | 7.70 | 2.30 | 57 | 38 | 64 | 7.5 | 52 |
| S-ND-SOUTH | New Denmark Colliery - South Shaft 26°44'41.51"S 29°18'31.70"E | 4.00 | 36 | 0.24 | 65 | 16.00 | 1.40 | 23 | 74 | 51 | 7.0 | 1500 |
| | | 0.32 | 37 | 0.21 | 22 | 11.00 | 0.66 | 45 | 28 | 42 | 6.4 | 67 |
| | | 2.40 | 29 | 0.28 | 86 | 7.80 | 0.73 | 145 | 110 | 66 | 7.2 | 105 |
| S-ND-SOUTH | New Denmark Colliery - South Shaft 26°44'41.51"S 29°18'31.70"E | 11.00 | 34 | 0.22 | 140 | 2.90 | 3.50 | 150 | 49 | 77 | 7.3 | 83 |
| | | 6.00 | 66 | 0.23 | 130 | <0.10 | 1.80 | 60 | 49 | 68 | 7.6 | 9 |
| | | 4.00 | 76 | 0.29 | 120 | 5.2 | 11.00 | 42.00 | 58 | 62 | 7.6 | 910 |
| S-ND-SOUTH | New Denmark Colliery - South Shaft 26°44'41.51"S 29°18'31.70"E | 3.20 | 56 | 0.42 | 145 | 4.80 | 1.30 | 66.00 | 46 | 65 | 7.5 | 630 |
| | | 1.90 | 77 | 0.22 | 125 | 7.00 | 1.50 | 52.00 | 49 | 73 | 7.3 | 58 |

Key

| | | | | |
|----|-----------------------------|------|---|------------------------|
| VE | Vaal River above Standerton | 0.12 | - | 1 Apr 12 - 30 Jun 12 |
| | | 0.12 | - | 1 July 12 - 30 Sept 12 |
| | | 0.12 | - | 1 Oct 12 - 31 Dec 12 |
| | | 0.12 | - | 1 Jan 13 - 31 Mar 13 |

Water Quality Guidelines

| | | |
|--|---|--------------|
| | - | Ideal |
| | - | Acceptable |
| | - | Tolerable |
| | - | Unacceptable |

| Sewage Works Compliance to General Standard (GN 1191 Oct 1999) | | | |
|--|--------------|------------------------------|--------------|
| Variables | Measured as | Acceptable Management Target | Unacceptable |
| Physical | | | |
| Conductivity | mS/m | <150 | >=150 |
| pH | pH units | 5.5 - 9.5 | < 5.5; >9.5 |
| Organic | | | |
| Chemical Oxygen Demand (COD)** | mg/l | <75 | >=75 |
| Macro Elements | | | |
| Ammonia (NH ₄) | mg/l | <3 | >=3 |
| Fluoride (F) | mg/l | <1 | >=1 |
| Nitrate (NO ₃) | mg/l | <15 | >=15 |
| Phosphate (PO ₄) | mg/l | <10 | >10 |
| Bacteriological | | | |
| Faecal coliform: | counts/100ml | <1000 | >=1000 |
| ** After removal of algae | | | |