

CSIR WATER QUALITY AUDIT RESULTS OF WATER SUPPLIED BY RAND WATER

| CSIR randomly selected sample point | D-BRAK_RES | D-AIR_RES | D-KWA-THEMA | D-BEN_RES | D-ZK_FHILL | |
|--|------------------|---|-------------|---------------|-------------------------------|--|
| Sampling area | Ekuruleni | Ekuruleni | Ekuruleni | Ekuruleni | Johannesburg | |
| Sampling date : 12/10/2017 | | | | | Report date:30/10/2017 | |
| Parameter | Units of measure | Specifications (based on SANS241: 2015) | | No of results | Achieved compliance levels | |
| | | Required compliance | | | Class I | |
| | | 99% Class I | | | | |

SPECIFICATIONS

Chemical and Physical properties

| | | | | |
|------------------------|----------------|----------------|---|---------|
| Colour | (mg / l as Pt) | < 15 | 5 | 100.00% |
| Conductivity | (mS / m) | < 170 | 5 | 100.00% |
| pH | (pH units) | ≥ 5.0 to ≤ 9.5 | 5 | 100.00% |
| Turbidity | (NTU) | < 5 | 5 | 100.00% |
| Total Dissolved Solids | (mg / l) | < 1200 | 5 | 100.00% |
| Taste | (TTN) | < 5 | 5 | 100.00% |
| Odour | (TON) | < 5 | 5 | 100.00% |

Organic Determinants

| | | | | |
|---|----------|------|---|---------|
| Total Trihalomethanes | (ug / l) | < 1 | 5 | 100.00% |
| Phenols as C ₆ H ₅ OH | (ug / l) | < 10 | 5 | 100.00% |
| Total Organic Carbon | (mg / l) | N/A | 5 | 100.00% |

Micro Elements

| | | | | |
|-----------------------|----------------|-------|---|---------|
| Antimony | (µg / l as Sb) | < 20 | 5 | 100.00% |
| Boron | (µg / l as B) | 2400 | 5 | 100.00% |
| Barium | (µg / l as Ba) | 700 | 5 | 100.00% |
| Arsenic | (µg / l as As) | 10 | 5 | 100.00% |
| Cadmium | (µg / l as Cd) | 3 | 5 | 100.00% |
| Chromium (Total) | (µg / l as Cr) | < 50 | 5 | 100.00% |
| Cobalt | (µg / l as Co) | N/A | 5 | 100.00% |
| Cyanide (Recoverable) | (µg / l as CN) | < 200 | 5 | 100.00% |
| Lead | (µg / l as Pb) | < 10 | 5 | 100.00% |
| Mercury | (µg / l as Hg) | < 6 | 5 | 100.00% |
| Nickel | (µg / l as Ni) | < 70 | 5 | 100.00% |
| Selenium | (µg / l as Se) | < 40 | 5 | 100.00% |
| Uranium | (µg / l as U*) | < 30 | 5 | 100.00% |
| Vanadium | (µg / l as V) | N/A | 5 | 100.00% |

Macro Elements & Miscellaneous Determinants

| | | | | |
|-------------------|------------------------------|-------|---|---------|
| Aluminium | (mg / l as Al) | < 0.3 | 5 | 100.00% |
| Ammonia | (mg / l as N) | < 1.5 | 5 | 100.00% |
| Calcium | (mg / l as Ca) | N/A | 5 | 100.00% |
| Chloride | (mg / l as Cl) | < 300 | 5 | 100.00% |
| Copper | (mg / l as Cu) | < 2 | 5 | 100.00% |
| Fluoride | (mg / l as F) | < 1.5 | 5 | 100.00% |
| Iron | (mg / l as Fe) | < 2 | 5 | 100.00% |
| Magnesium | (mg / l as Mg) | N/A | 5 | 100.00% |
| Manganese | (mg / l as Mn) | < 0.4 | 5 | 100.00% |
| Nitrate | (mg / l as N) | < 11 | 5 | 100.00% |
| Nitrite | (mg / l as N) | < 0.9 | 5 | 100.00% |
| Nitrate & Nitrite | (mg / l as N) | < 1 | 5 | 100.00% |
| Potassium | (mg / l as K) | N/A | 5 | 100.00% |
| Sodium | (mg / l as Na) | < 200 | 5 | 100.00% |
| Sulphate | (mg / l as SO ₄) | < 500 | 5 | 100.00% |
| Zinc | (mg / l as Zn) | < 5 | 5 | 100.00% |

Microbiological

| | | | | |
|---------|------------------|--|---|---------|
| E. coli | (cfu per 100 ml) | minimum of 99% of the original results shall be non-detected | 5 | 100.00% |
|---------|------------------|--|---|---------|

Other Determinants as required by supply contract

| | | | | |
|----------------------------------|----------|-------|---|---------|
| Free chlorine and monochloramine | (mg / l) | ≥ 0.2 | 5 | 100.00% |
|----------------------------------|----------|-------|---|---------|

Notes :

(1) Specification date of effect : March 2015

CSIR representative:

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Signature:

