

|                                | Results                                | WHO Drinking Water limits                                       | Limits Exceeded (Y/N) |
|--------------------------------|--|---|-----------------------|
| Sample_ID                      | S28_2018                               |   |                       |
| Sampling date                  | 06.05.2018                             |   |                       |
| Location ID                    | Cockle Park Farm                       |   |                       |
| Sample description             | K - Borehole, 35m from H and 150m deep |   |                       |
| Sample Source                  | Borehole - Groundwater                 |   |                       |
| Label                          | BH                                     |   |                       |
| Latitude                       | 55.212                                 |   |                       |
| Longitude                      | -1.6852755                             |   |                       |
| Sea Level (mAOD)               | 90.56                                  |   |                       |
| Depth below ground (m)         | 75                                     |   |                       |
| pH                             |  |   |                       |
| Temp (degC)                    |  |   |                       |
| Salinity (ppm)                 |  |   |                       |
| TDS (mg/l)                     |  |   |                       |
| Conductivity (uS)              |  |   |                       |
| Alkalinity (mg/L CaCO3)        |  |   |                       |
| Faecal Coliforms (count/100ml) | 22.5                                   | 0   | Y                     |
| Aluminium (mg/l)               | 0.010                                  | 0.2   | N                     |
| Ammonium (mg/l)                | 0.228                                  | <i>Not of health concerns at levels found in drinking water</i> | N                     |
| Antimony (mg/l)                | 0.005                                  | 0.02  | N                     |
| Arsenic (mg/l)                 | 0.005                                  | 0.01  | N                     |
| Barium (mg/l)                  | 0.102                                  | 1.3   | N                     |
| Bromide (mg/l)                 |  | 6   | N                     |
| Cadmium (mg/l)                 | 0.000                                  | 0.003   | N                     |
| Calcium (mg/l)                 | 18.258                                 | 100-300   | N                     |
| Chloride (mg/l)                | 25.450                                 | 250   | N                     |
| Chromium (mg/l)                | 0.001                                  | 0.05  | N                     |
| Copper (mg/l)                  | 0.002                                  | 2   | N                     |
| Fluoride (mg/l)                | 0.645                                  | 1.5   | N                     |

|                               |        |  |   |
|-------------------------------|--------|--|---|
| Iron (mg/l)                   | 0.021  | 2  | N |
| Lead (mg/l)                   | 0.005  | 0.01   | N |
| Magnesium (mg/l)              | 5.915  | Not of health concerns<br>at levels found in<br>drinking water | N |
| Manganese (mg/l)              | 0.617  | 0.4  | Y |
| Nickel (mg/l)                 | 0.002  | 0.07   | N |
| Nitrate (mg/l) (HACH)         | 25.233 | 50   | N |
| Nitrate.1 (mg/l) (Ion Chrom)  | 27.035 | 50   | N |
| Nitrite (mg/l) (HACH)         | 0.148  | 3  | N |
| Nitrite.1 (mg/l) (Ion Chrom)  | 0.147  | 3  | N |
| Phosphate (mg/l)              | 0.769  | Not of health concerns<br>at levels found in<br>drinking water | N |
| Potassium (mg/l)              | 4.389  | Not of health concerns<br>at levels found in<br>drinking water | N |
| Silicon (mg/l)                | 4.458  | Not of health concerns<br>at levels found in<br>drinking water | N |
| Sodium (mg/l)                 | 99.480 | 200  | N |
| Strontium (mg/l)              | 0.162  | 4  | N |
| Sulphate (mg/l)               | 17.996 | 500  | N |
| Zinc (mg/l)                   | 0.009  | Not of health concerns<br>at levels found in<br>drinking water | N |
| TOC (mg/l)                    |        |  |   |
| TIC (mg/l)                    |        |  |   |
| UV abs 200 (cm-1)             | 2.990  |  |   |
| UV abs 210 (cm-1)             | 2.895  |  |   |
| UV abs 220 (cm-1)             | 1.443  |  |   |
| UV abs 230 (cm-1)             | 0.337  |  |   |
| UV abs 254 (cm-1)             | 0.012  |  |   |
| UV abs 260 (cm-1)             | 0.011  |  |   |
| UV abs 280 (cm-1)             | 0.009  |  |   |
| UV abs 300 (cm-1)             | 0.007  |  |   |
| Total Coliforms (total count) | 73.5   |  |   |

|  |  |  |  |
|--|--|--|--|
| <b>Putative Pathogens - Human E.coli (total count)</b>   |  |  |  |
| <b>Putative Pathogens - Total E.coli (total count)</b>   |  |  |  |
| <b>Putative Pathogens - Total Coliform (total count)</b> |  |  |  |
| <b>Total Bacteria (total count)</b>                      |  |  |  |
| <b>Enterococci (count/100ml)</b>                         |  |  |  |
| <b>Contaminants</b>                                      | High faecal coliform count; High manganese level;  |  |  |
| <b>Health Effects</b>                                    | Faecal contamination can lead to vomiting and diarrhoea. Pathogens such as E coli, hepatitis and salmonella can cause severe health effects ; High manganese levels may cause taste to be affected;  |  |  |
| <b>Treatments</b>  | Faecal treatment - Heat water to a rolling boil and then allow to cool naturally, chemical disinfection, coagulation, distillation, reverse osmosis, slow sand filtration or solar disinfection; Manganese levels can be reduced using aeration or ion exchange; |  |  |