

	Results	WHO Drinking Water limits	Limits Exceeded (Y/N)
Sample_ID	S3_2019		
Sampling date	14.03.2019		
Location ID	Birtley WWTP		
Sample description	Reed bed effluent		
Sample Source	Surface water (polishing pond)		
Label	SW		
Latitude	54.90679		
Longitude	-1.5986		
Sea Level (mAOD)			
Depth below ground (m)	0		
pH	7.67		
Temp (degC)	11.2		
Salinity (ppm)	1560		
TDS (mg/l)	2090		
Conductivity (uS)	3000		
Alkalinity (mg/L CaCO3)	500		
Faecal Coliforms (count/100ml)	590	0	Y
Aluminium (mg/l)	0.004	0.2	N
Ammonium (mg/l)	0.046	<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)	0.022	1.3	N
Bromide (mg/l)		6	N
Cadmium (mg/l)	0.000	0.003	N
Calcium (mg/l)	200.274	100-300	Y
Chloride (mg/l)	345.173	250	Y
Chromium (mg/l)	0.001	0.05	N
Copper (mg/l)	0.001	2	N

Fluoride (mg/l)	0.100	1.5	N
Iron (mg/l)	0.048	2	N
Lead (mg/l)	0.001	0.01	N
Magnesium (mg/l)	77.364	<i>Not of health concerns at levels found in drinking water</i>	N
Manganese (mg/l)	0.416	0.4	Y
Nickel (mg/l)	0.009	0.07	N
Nitrate (mg/l) (HACH)	20.284	50	N
Nitrate.1 (mg/l) (Ion Chrom)	50.502	50	Y
Nitrite (mg/l) (HACH)	0.050	3	N
Nitrite.1 (mg/l) (Ion Chrom)		3	N
Phosphate (mg/l)	0.644	<i>Not of health concerns at levels found in drinking water</i>	N
Potassium (mg/l)	32.944	<i>Not of health concerns at levels found in drinking water</i>	N
Silicon (mg/l)	5.222	<i>Not of health concerns at levels found in drinking water</i>	N
Sodium (mg/l)	312.149	200	Y
Strontium (mg/l)	2.759	4	N
Sulphate (mg/l)	0.000	500	N
Zinc (mg/l)	0.011	<i>Not of health concerns at levels found in drinking water</i>	N
TOC (mg/l)	15.260		
TIC (mg/l)	12.475		
UV abs 200 (cm-1)	2.898		
UV abs 210 (cm-1)	2.548		
UV abs 220 (cm-1)	1.159		
UV abs 230 (cm-1)	0.301		
UV abs 254 (cm-1)	0.045		
UV abs 260 (cm-1)	0.042		
UV abs 280 (cm-1)	0.033		
UV abs 300 (cm-1)	0.025		

Total Coliforms (total count)	820		
Putative Pathogens - Human E.coli (total count)			
Putative Pathogens - Total E.coli (total count)			
Putative Pathogens - Total Coliform (total count)			
Total Bacteria (total count)			
Enterococci (count/100ml)			
Contaminants	High faecal coliform count; High calcium level; High chloride level; High manganese level; High nitrate level; High sodium level;		
Health Effects	Faecal contamination can lead to vomiting and diarrhoea. Pathogens such as E coli, hepatitis and salmonella can cause severe health effects ; High Calcium levels may cause taste to be affected; High Chloride levels may cause taste to be affected; High manganese levels may cause taste to be affected; High Nitrate levels can lead to cyanosis, asphyxia and blue-baby syndrome in infants; High Sodium levels may cause taste to be affected;		

Treatments	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; Calcium can be reduced using a water softener or point of use reverse osmosis; Chloride can be reduced using reverse osmosis, distillation or ion exchange; Manganese levels can be reduced using aeration or ion exchange; Nitrate can be reduced through ion exchange; Sodium can be reduced through distillation, ion exchange and reverse osmosis;		
-------------------	---	--	--