



	Results	WHO Drinking Water limits	Limits Exceeded (Y/N)
Sample_ID	S5		
Sampling date	19.06.2019		
Location ID	Birtley WWTP		
Sample description	Combine mine water and WWTP effluent		
Sample Source	Surface water + groundwater		
Label	SW/GW		
Latitude	54.90574		
Longitude	-1.60148		
Sea Level (mAOD)			
Depth below ground (m)			
pH	7.38		
Temp (degC)			
Salinity (ppm)	1540		
TDS (mg/l)	2090		
Conductivity (uS)	2980		
Alkalinity (mg/L CaCO3)	420		
Faecal Coliforms (count/100ml)	43200	0	Y
Aluminium (mg/l)	0.006	0.2	N

Ammonium (mg/l)	1.662	<i>Not of health concerns at levels found in drinking water</i>	N
Antimony (mg/l)	0.003	0.02	N
Arsenic (mg/l)	0.000	0.01	N
Barium (mg/l)	0.023	1.3	N
Bromide (mg/l)		6	N
Cadmium (mg/l)	0.000	0.003	N
Calcium (mg/l)	164.835	100-300	Y
Chloride (mg/l)	326.077	250	Y
Chromium (mg/l)	0.000	0.05	N
Copper (mg/l)	0.001	2	N
Fluoride (mg/l)	0.652	1.5	N
Iron (mg/l)	0.038	2	N
Lead (mg/l)	0.000	0.01	N
Magnesium (mg/l)	72.291	<i>Not of health concerns at levels found in drinking water</i>	N
Manganese (mg/l)	0.888	0.4	Y
Nickel (mg/l)	0.020	0.07	N
Nitrate (mg/l) (HACH)	20.097	50	N
Nitrate.1 (mg/l) (Ion Chrom)	45.371	50	N
Nitrite (mg/l) (HACH)	0.355	3	N
Nitrite.1 (mg/l) (Ion Chrom)	2.186	3	N
Phosphate (mg/l)	0.700	<i>Not of health concerns at levels found in drinking water</i>	N
Potassium (mg/l)	37.503	<i>Not of health concerns at levels found in drinking water</i>	N
Silicon (mg/l)		<i>Not of health concerns at levels found in drinking water</i>	N
Sodium (mg/l)	347.260	200	Y
Strontium (mg/l)	2.080	4	N

Sulphate (mg/l)	0.001	500	N
Zinc (mg/l)	0.014	<i>Not of health concerns at levels found in drinking water</i>	N
TOC (mg/l)	39.700		
TIC (mg/l)	101.500		
UV abs 200 (cm-1)	2.817		
UV abs 210 (cm-1)	2.524		
UV abs 220 (cm-1)	1.211		
UV abs 230 (cm-1)	0.348		
UV abs 254 (cm-1)	0.074		
UV abs 260 (cm-1)	0.066		
UV abs 280 (cm-1)	0.052		
UV abs 300 (cm-1)	0.040		
Total Coliforms (total count)	56000		
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)	6500		
Contaminants	High faecal coliform count; High calcium level; High chloride level; High manganese level; High sodium level;		

<p>Health Effects</p>	<p>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 Sodium levels may cause taste to be affected;</p>		
<p>Treatments</p>	<p>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; Sodium can be reduced through distillation, ion exchange and reverse osmosis;</p>		