Tap outlets have been found to contain biofilms, which are a consortium of bacteria, fungi, viruses and protozoa. These microorganisms, especially Gram negative bacteria, could be pathogenic and highly resistant to antibiotics, leading to an increase in the prevalence of diseases worldwide. The Bowen University community depends on water from boreholes for consumption and domestic uses; as such, the need to identify the Gram negative bacteria is expedient. The significance of this research is to determine the potability of the water released from the taps, and ultimately reduce the incidence of biofilm-related water infections. Water samples were collected from five boreholes, and the tap outlets were swabbed with a sterile swab stick. The pH and conductivity of the water samples were determined. Coliforms were estimated from the water samples using the Most Probable Number (MPN) technique. Gram negative bacteria were isolated and identified from the swabbing using standard bacteriological and biochemical tests. The antibiotic resistance patterns of the isolates were also determined, and the genes responsible for the antibiotic resistance were identified using the DNA extraction and Polymerase Chain Reaction (PCR) methods. The pH of the tap water samples varied from 6.64 to 7.64, while the conductivity values ranged from 0.30 to 0.75. Bacterial counts of the samples varied from 6.0×105 cfu/mL to 1.4×106 cfu/mL. MPN values of the tap water samples varied from 4 to 1100+ cfu/100mL, which exceeded the WHO standards of water quality. A total of 31 bacteria were isolated, of which 8 were *Pseudomonas* sp (25.8%), 7 were *Proteus* sp (22.6%), 4 were *Klebsiella* sp (12.9%), 4 were *Escherichia coli* (12.9%)*,* 3 were *Enterobacter* sp (9.7%), 3 were *Citrobacter* sp (9.7%) and 2 were *Salmonella* sp (6.4%). All the bacteria showed resistance to different antibiotics used, especially the cephalosporins. The gene found to be responsible for the cephalosporin resistance was the TEM - 445. The taps and the water samples were found to contain a high number of coliforms, showing heavy faecal pollution. They also contain pathogenic microorganisms, which renders the water unfit for human consumption. The presence of these antibiotic resistant microorganisms in the tap outlets could pose a serious threat to public health.