

Birah Borehole Syndicate
2 Aloe Lane
Birah
5612
Eastern Cape

22/11/2021

To Whom It May Concern,

RE: BOREHOLE WATER PURIFICATION SYSTEM

We are a syndicate comprised of families from 3 households based in a small seaside resort called Birah in the Eastern Cape. The objective of the syndicate has been identify solutions to combat the unstable supply, and poor quality municipal water provided to our homes.

After engaging multiple stakeholders we concluded our best option to be the commissioning of a borehole that would be shared amongst the properties. In May 2019 the a contactor was appointed to drill a well, but much to our disappointment, the water quality was not suitable for human consumption. The main challenges lay in the high EC (electrical conductivity) levels which determined that the well had high salt and chemical levels. Measurements of total dissolved solids (TDS) and chlorine were also on the high side. Various methods were employed to try and resolve this including the flushing of the well (100,000 litres), and lifting the submersible within the well in the hope that the purer water would be accessible higher up. Water samples were extracted for testing after each proposed remedy, but there was no improvement in water quality. Please refer to the attached spreadsheet reflecting various stages of water testing and analysis.

Located within 200 meters from the Indian Ocean, the borehole site is underlain by windblown sand which in turn is underlain by weathered and fractured rocks of the Adelaide Formation of the Beaufort and Karoo Super-group. It is known that whilst these rocks produce moderate quality ground water in the Karoo, we were to anticipate varying levels of salty water as a result of our geographic position being close to the ocean. The water analysis confirmed this, but the salinity levels where higher than expected. This called for a more technical solution to the problem.

In this regard the water filtration and purification companies we approached proposed *off the shelf* Reverse Osmosis (RO) systems with various capabilities. They offered proposed solutions packaged in all shapes, sizes and costs. We were concerned because there was co common ground amongst these companies. Each proposal differed from all the other making it necessary for us to find an independent consultant to safe guard our interests. After consultations with BLM H2O Services we discovered that none of the proposed systems would suffice, and a more comprehensive-bespoke solution was required to tackle the chemical determinants in our water.

After months of discussions between the syndicate and Bruce, it was agreed that BLM H2O Services would design and construct a mini (pilot plant) water softer and filtration plant to be trialled on the borehole. In February 2021, BLM H2O Services installed the pilot plant from which a water sample was extracted and analysed on the 3rd March 2021. As per the attached, the analysis confirmed the effectiveness in removing the harmful chemicals from the pumped water. Encouraged by this result,



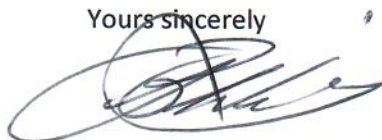
BLM H2O Services designed and developed a much larger plant to deliver the potable water requirements for the three homes. This was installed in July 2021 and the attached water analysis results of 05/08/2021 confirm that a solution had now been found.

Throughout the process we found Bruce Moir to be most approachable. He has elevated levels of patience and which was much needed in dealing with all the questions we had before, during and after the plant installation. In a project of this nature there is a lot of technical jargon that best describes the process, but Bruce was sensitive to our lack of knowledge on this topic and wilfully explained the entire process in laymen terms so that we could better understand the project.

The building within which the plant was to be accommodated was only designed to house the borehole pumps and a few pipes. Despite having such a small area within which to accommodate the plant, Bruce managed to design the system so it would fit without us having to modify the building. In addition, the design is extremely neat, and the qualities of materials used are of the highest standard.

We are pleased to confirm that the plant has been in operation for 3 months now and that the water quality produced is good enough for bottling. The 'after service' received from Bruce has been amazing. After three months in operation it was noted that the brine tank was not refilling as programmed. Bruce travelled all the way from Pretoria to Birah (A 10 hour drive each way) at his own cost to address the issue which involved replacing a float valve. I would recommend BLM H2O Services to anyone needing a water specialist to resolve on going purification issues.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Jason Wilson', written over a horizontal line.

Jason Wilson

Syndicate Representative