



Volunteer with CH2M Assesses Water Supply in Kenya with the CBT



CH2M is an American engineering company that provides consulting, design, construction and operations services for corporations and governments. Services include planning and design for potable water supply and treatment. www.ch2m.com



*Test results show five yellow compartments, signifying zero *E. coli* bacteria in the sample.*

About the CBT

The Aquagenx Compartment Bag Test (CBT) is a portable, simple water quality test kit that lets anyone, anywhere determine if drinking water contains *E. coli* bacteria and poses a health risk.



Challenge

In 2014, Paul Berg, a water systems engineer with CH2M, was involved in a volunteer project that consisted of providing an assessment and upgrading operations of a small water system serving a boarding school in Kijabe, Kenya. The owners and operators of the system specifically wanted to test for *E. coli* bacteria in drinking water to determine the safety of the water and to understand if the testing procedure was a viable approach for routine monitoring. The school is located about two hours from Nairobi, making lab testing inconvenient and expensive. Furthermore, it was desirable to obtain rapid results during the project trip to help inform the on-site work.

Solution

The volunteer group used the Aquagenx Compartment Bag Test (CBT) for this project because it is designed for on-site testing without the need for labs and resources such as electricity and other equipment. Working with local managers of the boarding school, water samples were collected with the plastic bottles included in the CBT I Kit. Volunteers added the *E. coli* growth medium to each sample, let it dissolve for about 15 minutes, and then poured the sample into the compartment bag. The incubation period was about 24 hours.

Test Results

After the incubation period, volunteers aligned each compartment bag to the MPN Table in the CBT Instructions sheet for easy, color-coded scoring. In all the samples they took, all five compartments were yellow. The CBT's quantified test results revealed the water system contained zero *E. coli* bacteria. The volunteer group showed photos of test results in a wrap-up presentation to the school community.

Conclusion

"Our group appreciated the enumeration aspect and rapid turn-around time the CBT provides" said Paul Berg. "The CBT's quantified test results gave us the data we needed and guided our thinking about disinfection effectiveness for the school's water system."

Paul anticipates using the CBT on future projects, both as a volunteer and in his work in CH2M because "it can be used in remote field locations where no lab facilities are available and it is very convenient."