

# Ancient use of zeolites to purify water

Read the full article at [rsc.li/3hh3ifl](https://rsc.li/3hh3ifl)

It was thought that people started using zeolites to make potable water at the beginning of the 20<sup>th</sup> century. But remnants of a reservoir in the ancient Maya city of Tikal suggest otherwise. Cyclones, volcanic events and droughts were common in this crowded city. Consequently, water supplies were easily contaminated by harmful microbes and toxic mineral leachates.

The city's inhabitants collected zeolites and quartz from a source near the city, where these minerals were deposited in volcanic rock. Zeolites are porous and non-toxic aluminosilicates with absorbing properties that can filter out microbes and toxins from drinking water. Researchers carbon dated the ancient minerals to show that, since 235 BC, people filtered water in one of the main city's reservoirs through a mixture of zeolites and crystalline quartz.



Example of zeolite mineral from the US Geological Survey

# Ancient use of zeolites to purify water

Read the full article at [rsc.li/3hh3ifl](https://rsc.li/3hh3ifl)

It was thought that people started using zeolites to make potable water at the beginning of the 20<sup>th</sup> century. But remnants of a reservoir in the ancient Maya city of Tikal suggest otherwise. Cyclones, volcanic events and droughts were common in this crowded city. Consequently, water supplies were easily contaminated by harmful microbes and toxic mineral leachates.

The city's inhabitants collected zeolites and quartz from a source near the city, where these minerals were deposited in volcanic rock. Zeolites are porous and non-toxic aluminosilicates with absorbing properties that can filter out microbes and toxins from drinking water. Researchers carbon dated the ancient minerals to show that, since 235 BC, people filtered water in one of the main city's reservoirs through a mixture of zeolites and crystalline quartz.



Example of zeolite mineral from the US Geological Survey

1. Describe the difference between potable and pure water.
2. Describe why water needs treating to become potable water.
3. Describe how fresh water is changed to potable water in modern times.