



Crooked River Geology

Appreciating our volcanic past

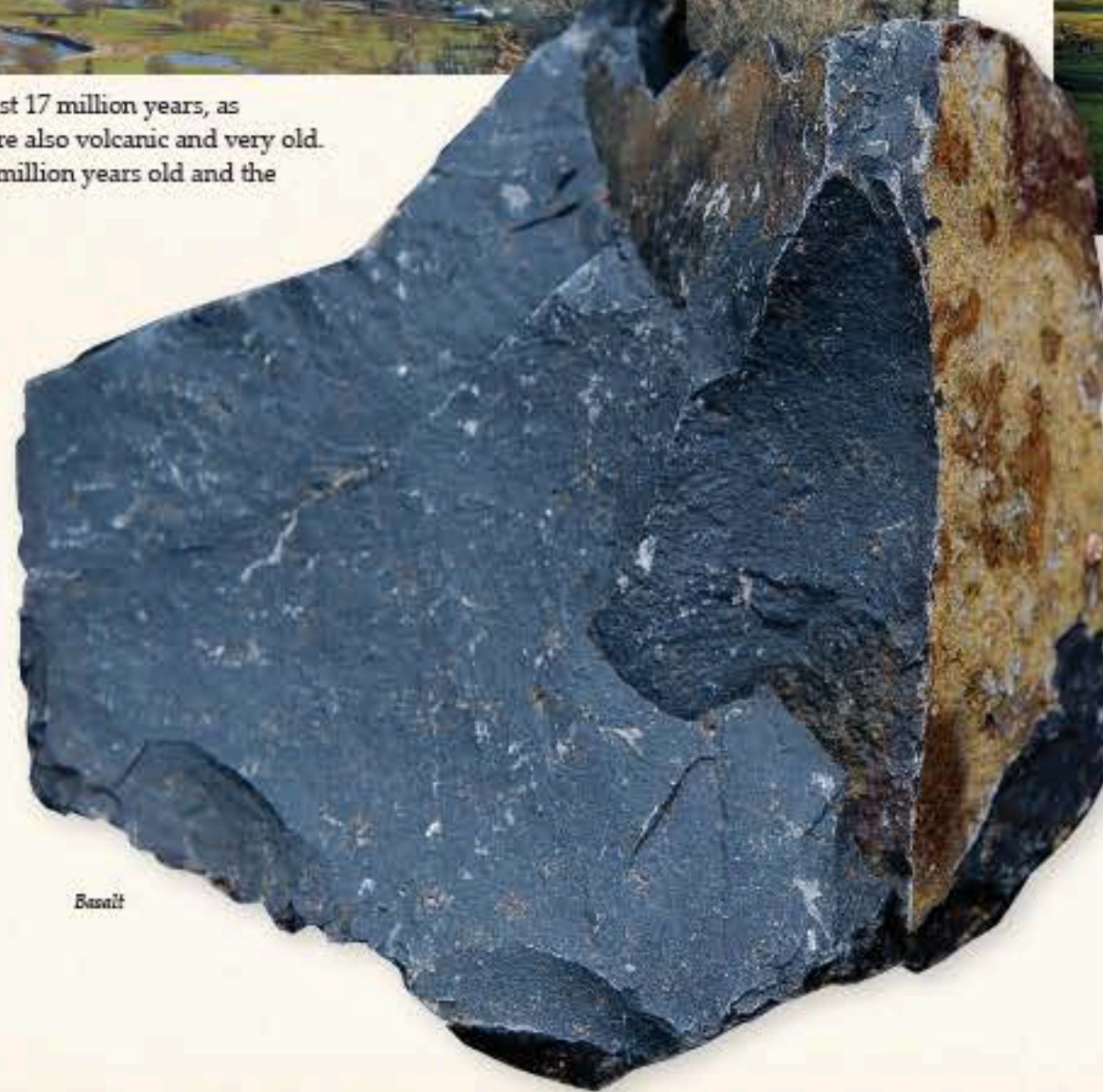
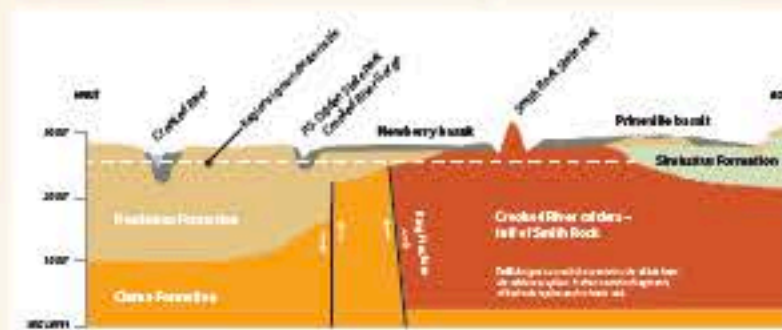
You are standing inside a massive volcanic crater called a caldera. The Crooked River Caldera formed during a cataclysmic eruption about 29.5 million years ago. During the eruption, the ground surface collapsed, leaving a volcanic depression that filled with ash and pumice at least a third of a mile thick. The volcano is now considered extinct.



Photo by Ellen Bishop



The Crooked River has been in the same general location for the past 17 million years, as evidenced by the rimrock. The mountains you see on the horizon are also volcanic and very old. The older valley floor looming above on the basalt rim rock is 5.42 million years old and the ground you are standing on is 29.5 million years old!



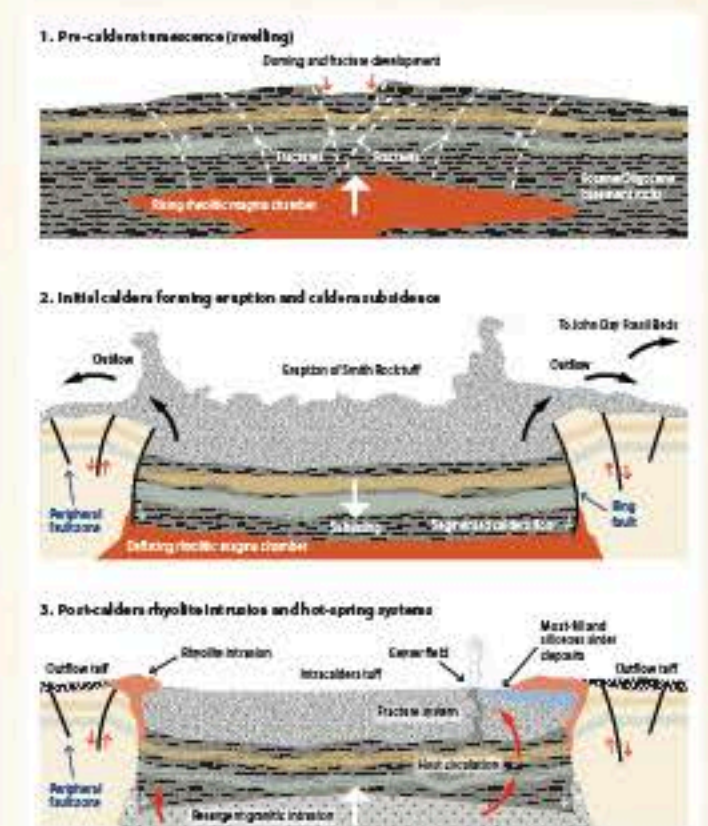
Courtesy of National Park Service

How was the caldera formed? Gas-rich magma moved upward, causing fractures through which the magma flowed. Depressurization caused explosive eruptions of ash and gas that covered the area. During the eruption, the area above the magma collapsed, forming the caldera.



Photo by Ryan Franklin

Thundereggs are only found in areas of previous volcanic activity. They appear nondescript from the outside, but when sawed open and polished they may reveal the most exquisite and colorful designs with agate, jasper or quartz crystals.



The Crooked River caldera is the largest single volcanic vent known in Oregon history. The caldera stretches about 300 square miles, from the Ochoco Dam to the east to Smith Rock State Park and Gray Butte to the west.



Thanks to:

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Design: Carrie Gordon, Geologist with the U.S. Forest Service.

Find out more

<http://www.oregongeology.org/pubs/og/OGv69n01-CrookedRivercaldera.pdf>

