

OCCURRENCE OF PUMICE IN THE SOUTHERN PART  
OF THE LEUCITE HILLS, SWEETWATER COUNTY,  
WYOMING

The Leucite Hills are a group of isolated lava-capped mesas located just northeast of Superior, Wyoming. They are reached most easily by a graded dirt road which leads east from Superior. A number of motor trails lead into and through the area, but only Zirkel Mesa, the largest of the group, can be climbed by car. Zirkel and Emmons mesas were visited during the present investigation.

The cappings of the mesas are made up to two peculiar types of extrusive igneous rocks, wyomingite and orendite. Upon these cappings various volcanic cones have been built of a light pumiceous rock, apparently of the same composition as the wyomingite and orendite. The pumice varies considerably in the amount of pore space and in the size of the vesicles. In places the pumice is porphyritic, bearing phenocrysts of plogopite and rarely leucite and sanicline. The pumice is a light-red to yellow or brown in color.

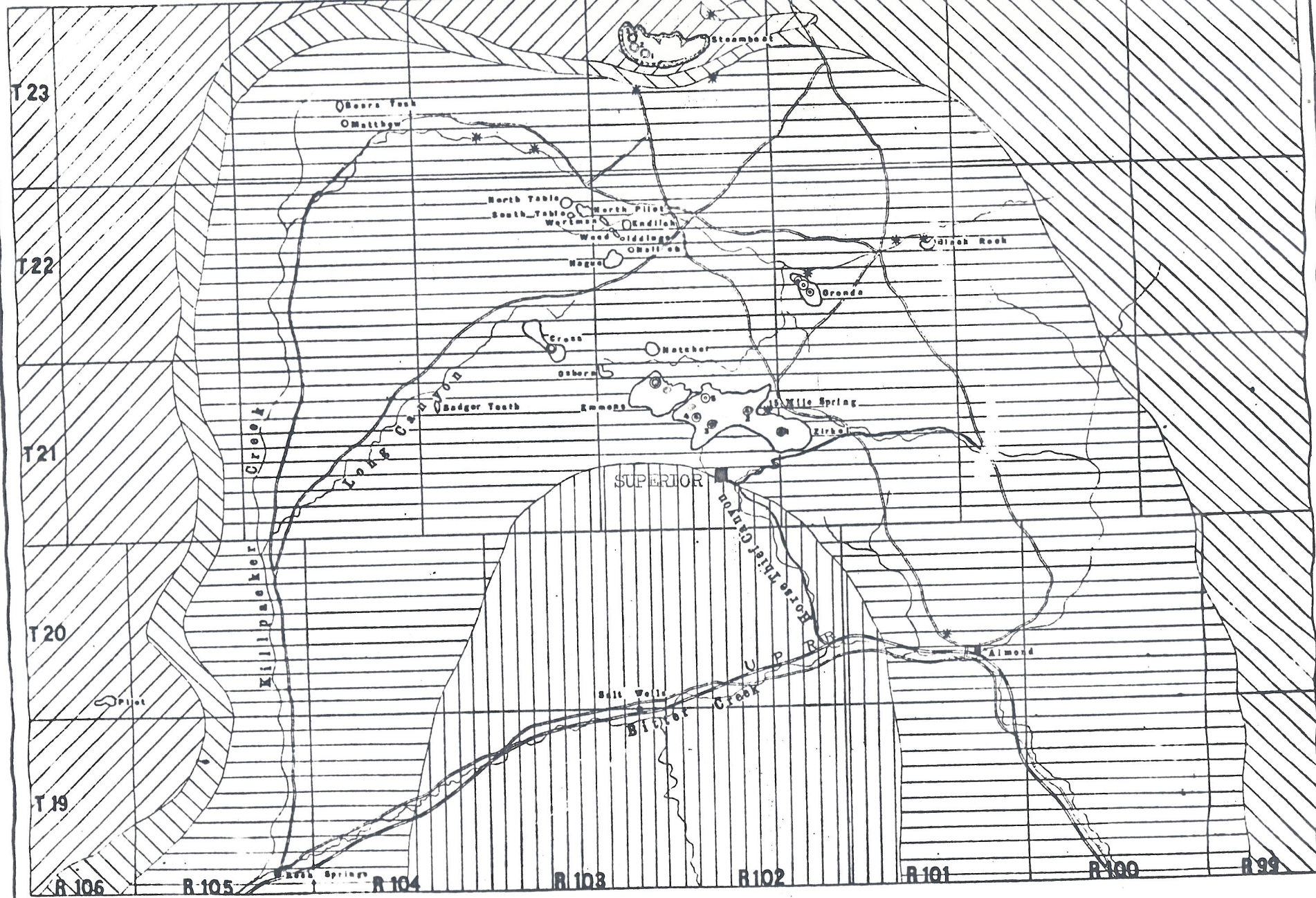
Cones 1, 2, 3, and 4 on Zirkel Mesa are made up of the pumiceous material, as is the cone on Emmons Mesa. Knight and Kemp in 1930 reported the three cones on Orenda Mesa to be composed of pumice, and they appear to be such, though this mesa was not visited. Pumiceous material is also found surrounding cone number 1 on Zirkel Mesa, on a rounded hill near the northwestern edge of Zirkel Mesa, and on Emmons Mesa, just east of Emmons Cone. All cones are approximately of the same size, being about 200 feet high. The slope of the surface of the cones is about 18 to 20 degrees.

If the pumiceous material should prove useful as light-weight aggregate for building material, it is believed the cones on Zirkel Mesa offer the best possibilities, as the other mesas are not readily accessible.

SAMPLE KEY

<u>Sample</u>	<u>Locality</u>
Zirkel #1	West edge of extrusive exposures, $\frac{1}{4}$ mile west of cone #1, Zirkel Mesa.
Zirkel #2	South slope of cone #1, Zirkel Mesa, near the center of section 24, T. 21 N., R. 102 W.
Zirkel #3	South slope of cone #2, Zirkel Mesa, about half way up.
Emmons #1	Subdued rounded knoll, just east of Emmons Cone, Emmons Mesa
Emmons Cone	Near summit of Emmons Cone
Prospect pit, Emmons Cone	Pit about 50 feet east of summit, Emmons Cone, Emmons Mesa

Frank W. Osterwald  
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### LEGEND.

Pre Laramie

Laramie

Wasatch.

Green River.

Bridger.

Cone.

Water.

Roads.

Railroad.

Pumice

Road

Scale of Miles 0 1 2 3 4 5

GEOLOGICAL MAP OF THE LEUCITE HILLS, SWEETWATER COUNTY, WYOMING

By W. C. Krieger and J. F. Kerr