

ANALCITE FROM BREWSTER COUNTY, TEXAS

JOHN T. LONSDALE, *University of Texas.*

The specimens of analcite reported in this paper were secured from the dump of the abandoned quicksilver workings on Section 248, Block G4, in the Terlingua district, Brewster County, Texas. They are thought to be the first record of the mineral in Texas. The quicksilver workings were not accessible because of water but reliable information indicates that a body of analcite-bearing basalt was encountered at a depth of about 75 feet. The region is one in which Tertiary intrusive and extrusive igneous rocks are abundant. No analcite bearing rocks or related types have been found before this time but the igneous rocks are not well known and the discovery of additional occurrences will not be surprising.

The specimens of analcite found were light gray to white crystals ranging in size from 1 mm. to 6 mm., a number of which were coated with asphalt from a seep in the workings. The basalt containing the crystals was so extensively altered that they were readily removed. The alteration is of a type not seen in the igneous rocks found at the surface nearby and is possibly related to the mineralization that produced the quicksilver deposits.

Many of the analcite crystals were euhedral. The greater number of these showed a trapezohedron, probably (211) without other forms in combination. A few crystals showed the cube (001), in combination with the trapezohedron but only very slightly developed. The index of refraction was determined as 1.484, a somewhat lower value than commonly given for analcite but believed to be correct in this instance. All sections examined showed the slight birefringence frequently observed in this mineral.

A chemical analysis of the analcite, made in the Bureau of Industrial Chemistry, University of Texas, is given below.

SiO ₂	56.53
Al ₂ O ₃	21.61
Na ₂ O.....	9.95
K ₂ O.....	2.20
CaO.....	0.81
MgO.....	0.18
H ₂ O+.....	0.58
H ₂ O-.....	8.15
Insoluble in HCl.....	1.51

The slight double refraction shown by the crystals is so uniformly present and regularly disposed that its anomalous character is questioned. The crystals are divided optically into sectors each of which is bisected by a crystallographic axis. The two sectors on opposite sides of the crystal behave similarly and in all sectors the vibration directions are parallel to the crystallographic axes. The vibration direction parallel to the crystal axis bisecting any given sector is always greater than the direction at right angles to the crystal axis. An indistinct biaxial interference figure was secured from some of the sections. Through the kindness of Professor A. N. Winchell an X-ray pattern of the mineral was made. According to Professor Winchell the analcite pattern does not correspond to an isometric structure but is not greatly different from one.

The analcite apparently is primary in the basalt. There is some suggestion from the crystal habit that analcite has replaced leucite and the extensive alteration already mentioned might account for such a change. However, in the absence of conclusive evidence the mineral is regarded as primary.