

erals occur in polysynthetically twinned crystals with an extinction angle varying from 25° to 36° and 2 V = 86° for andesine and 78° for labradorite. Andesine is optically negative and labradorite positive.

Rhombic Pyroxenes (Hypersthene and Enstatite) upto 34 per cent. These minerals have straight extinction, good cleavage. Hypersthene shows marked pleochroism. The 2 V for Hypersthene = 86° and it is optically negative. Enstatite is optically positive. The pleochroic formula for Hypersthene is: X = red-dish; Y = pale yellow; Z = pale green.

Monoclinic Pyroxenes (Diilage mostly) below 20 per cent. with its usual characters.

Other minerals are biotite, magnetite and a few more accessories. Their chemical analysis reveals the following points:—

Chemical Analysis of the Rock

SiO ₂ ..	50.30%	MgO ..	8.74%
Al ₂ O ₃ ..	18.32%	CaO ..	9.37%
Fe ₂ O ₃ ..	2.76%	Na ₂ O ..	1.86%
FeO ..	5.56%	K ₂ O ..	1.90%
TiO ₂ ..	trace	Water ..	1.24%

Megascopically they are more or less coarse-grained granular, hypidiomorphic and black coloured. Sp. gr. varies from 2.93 to 3.1.

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TRACHYBASALTS FROM THE CUDDUPAH TRAPS (PRE-CAMBRIAN)

DURING the course of a detailed investigation of the igneous rocks associated with the Cuddupah sediments, a portion of which has already been published by the author,¹ an interesting variety of rock has been discovered near Royalcheruvu (Ananthapur District) which on examination shows extremely well-developed fluidal texture of microlites of fel-

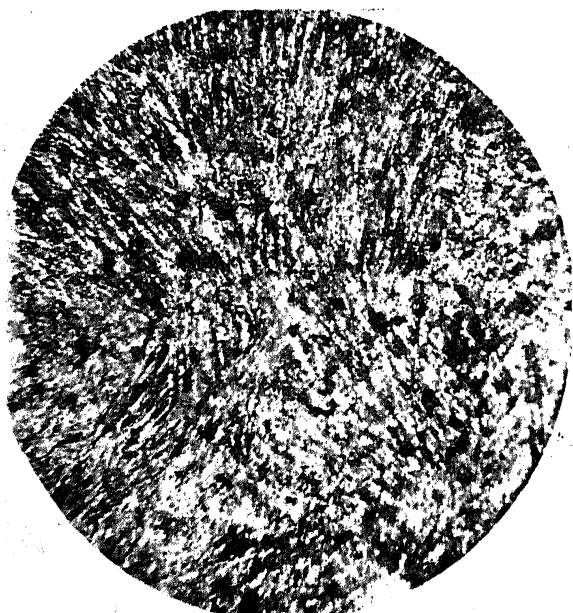


FIG. 1 × 45. Trachybasalt showing fluidal texture. spar (vide Fig 1). Such a rock with a definite trachytic texture had not been noticed so

far from among the basic volcanic rocks of Cuddupah.

The sp. gr. of the rock is 2.9, rather much higher than the ordinary trachytes which usually show an average sp. gr. of 2.6. The rock is greenish grey in colour with a typical aphanitic appearance. Under the microscope it shows a colourless glassy groundmass with numerous microlites of feldspar arranged in typical trachytic manner. Some of these show straight extinction and are, therefore, oligoclase microlites; while others, which are untwinned are orthoclase microlites. There are numerous colourless granules of augite, olivine and cubes of magnetite. A few corroded microphenocrysts of feldspar with numerous inclusions have also been noticed. Though the texture is typically trachytic the rock is termed a trachybasalt on account of its high sp. gr. value and the basic character of the feldspar microlites. On comparison, it is found to be almost similar to the mugearites described by Harker² from the Skye islands, and the trachybasalts described by W. Cambell Smith³ from Kenya colony. The rock is being chemically analysed and the details will be published shortly.

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1. Srinivasa Rao, M. R., "The composite sill of Jutoor, Cuddupah formations" *Mys. Uni. Journl.*, 1945, 6, 47. 2. Harker, A., *Tertiary Igneous Rocks of Skye*, 1904, 264. 3. Cambell Smith, W., "Trachytes and Phonolites from Kenya Colony." *Q.J.G.S.*, 1931, 87, 253.

ELASTIC CONSTANTS OF ALUMS AND MIXED ALUMS

THE elastic constants of potassium alum, chromium alum and mixed alums of both of these of varying compositions by weight have been determined by using the wedge method developed in this laboratory.

Suitable single crystals have been grown from solutions and they all belong to the cubic system. 100, 110, and 111 sections of about 1 mm. thick are cut and ground; and frequencies ranging from 1 to 10 megacycles have been employed.

The following values for C₁₁, C₁₂, C₄₄ in units of 10¹¹ dynes/cm.² are obtained in each case. Densities are determined by the author

No.	Substance	Percentage in gm. of pot. alum.	Density (gm/cm ³)	C ₁₁	C ₁₂	C ₄₄
1	Potassium alum.	100	1.760	2.56	1.07	0.86
2	Mixed alum. ..	86.5	1.772	2.52	1.05	0.81
3	Do. ..	60	1.796	2.47	1.01	0.78
4	Do. ..	54.5	1.802	2.44	1.00	0.78
5	Chromium alum	0	1.845	2.37	0.93	0.77