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DOLERITE FROM QUEBRADA CHAGUARAMAL, GUACURIPIA,
VENEZUELA

The structure, texture, mineral and chemical composition of a tholeiitic dolerite from Guacuripia in Venezuela is given as below.

South of Guacuripia in Imataca gneiss, quebrada Chaguaramal (Tajder 1965), there is a younger shallow intrusion of dolerite sill. It elongates in the direction E-W and SE-NW. On the surface the dolerite is seen in greater or smaller balls, as the result of spheroidal weathering. The rock is weathered only in a thin mantle on the surface, inside it is very fresh.

It is dark, grayish-black. Its megascopic fine granularity is visible, with many lath-shaped plagioclases. The rock is nonporphyritic.

Its texture is holocrystalline, ophitic. The lath-shaped feldspars are in a crisscross orientation, and between them there is interstitial augite.

The mineral composition is as follows: basic plagioclase (labradorite) and clinopyroxene (augite-pigeonite). Accessory minerals are: titaniferous magnetite, some ilmenite, and apatite.

Plagioclases are labradorites with about 62% *an*. They are lath-shaped, usually twinned on the Albite and Carlsbad law. Very fine zonal structure is frequent. Cleavages on (010) and (001) and strong marked cross-fractures are developed on every grain. These fractures are due to the movement of more or less crystallized magma during its developmental stages. All the feldspars are fresh and unaltered.

Pyroxene is brownish, probably titaniferous augite. It shows a smaller optic angle than typical augite. Therefore, it is supposed to be pyroxene with more magnesia and iron than in the case of the composition of diopside-augite. It belongs to clinohypersthene - pigeonite. The grains of pyroxene are xenomorphic with common twinning on (100). Pyroxenes are also unaltered.

Titaniferous magnetite and sparsely ilmenite occur in irregular grains, and sometimes in skeleton crystals.

Apatite occurs in small grains.

The chemical composition of one dolerite found in the Chaguaramal quebrada north of the road to the hacienda, is given in the following analysis (analysts M. T a j d e r and D. S a r v a n).

SiO ₂	50,92	Normative composition	
TiO ₂	1,23	(CIPW)	
Al ₂ O ₃	16,70	Q	6,5
Fe ₂ O ₃	3,90	or	5,0
FeO	9,15	ab	18,9
MnO	0,29	an	33,1
MgO	4,80	di	5,6
CaO	8,36	hy	20,8
Na ₂ O	2,20	mt	5,5
K ₂ O	0,82	il	2,3
P ₂ O ₅	0,22	ap	0,7
S	0,27	pr	0,5
H ₂ O ⁺	1,34		
H ₂ O ⁻	0,28		
	100,48		
	-0 0,06		
	100,42		

From a microscopical investigation and the normative composition (CIPW), the mineral composition is deduced as follows (water is not included):

quartz	6,6
labradorite	57,6
pigeonite	26,7
accessory minerals	9,1
	<u>100,0</u>

All this characterizes a typically oversaturated basaltic magma. Therefore, this rock is to be named tholleitic dolerite. As quartz does not appear in that rock, this name is better than that of quartzdolerite.

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LITERATURE

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DOLERIT VODODERINE CHAGUARAMAL, GUACURIPIA, VENEZUELA

U gnajsu Imataca serije u vododerini Chaguaramal, južno od Guacuripie, država Venezuela, Estado Bolivar, nalazi se mlada plitka intruzija dolerita. Površinski dolerit se javlja u manjim kuglama kao posljedica sferoidalnog trošenja. Stijena je u srednjim dijelovima kugle vrlo svježa.

Strukture je ofitske.

Mineralni je sastav: plagioklas, labrador s oko 62% *an*, i klinopiroksen koji prema optičkim svojstvima pripada seriji augit-pižonita. Akcesorni su minerali: titanski magnetit, ilmenit i apatit.

Kemijsku analizu, normativni sastav (CIPW) i po mikroskopskim istraživanjima iz kemijske analize izračunan mineralni sastav, vidi u tekstu.

Stijena pripada zasićenoj bazaltnoj magmi i nazvana je toleitski dolerit.

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