

*Note on the d.t.a. study of some rare Brazilian
phosphate minerals*

DIFFERENTIAL thermal analysis studies of phosphate minerals are not very well known. Only a few are recorded in the publications of the last decade.

Several new phosphate minerals from pegmatites and as satellite minerals in diamond sands have been reported in the last few years from Brazilian localities. Most of them appear seldom and in small quantities, and as such mineralogical data is often lacking on them.

Mineral	Locality	Peak temperatures in °C with intensities			
		Endothermic		Exothermic	
Arrojadite	Pedra Branca Pg., Pedra Lavrada, PB				780
Brasilianite	Corrego Frio Pg., Minas Gerais	640			W
Gorceixite	Diamantina, Minas Gerais	110	520		
Hurlbutite	Ico, Icozinho, Ceará State	—	W—M		—
Lazulite	João de Fogo Pg., Rio Grande do Norte	740			
Lithiophilite	Boqueirão Pg. Parelhas, Rio Grande do Norte	—			—
Metastrengite	Boqueirão Pg. Parelhas, Rio Grande do Norte	140	240		570
Moraesite	Sapucaia Pg., Minas Gerais	200	280	680	W—M
Plumbogummite	Capão de Lana, Ouro Preto, Minas Gerais	520			630 720
Scorzalite	Corrego Frio P., Minas Gerais	610			W VW
Svanbergite	Sands of Rio São João, Paraguassu	660			S VW
Vivianite	Patrimônio Pg., Paraíba State	100	250	460	575 560
Vivianite	São João del Rei, Minas Gerais	VW	S	W	VW W
			240		300 580
			VS		VW W

V—very; S—strong; M—medium; W—weak.

Differential thermal analysis study of these phosphates has been of interest in this Department and short communications have already been made on this aspect.^{1,2} This note brings together new data on some rare phosphates in Brazil.

The studies were made using a portable Eberbach set, with heating rate controlled to a 20°/min by the authors,³ and the results are tabulated above.

With two exceptions no data exists in the literature for these minerals. Details with a discussion of the heated product will be published elsewhere.

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¹ A. Bhaskara Rao, 1961. Not. de Pesquisas, J. Clube Mineral, Univ. Recife, II, 3/4, 50.

² A. Bhaskara Rao and Judson Cunha e Silva. XVI Congr. Brasil. Geol., Porto Alegre, 1962 (Abstract) 21-23. An. da Acad. Brasil. Ciencias, vol. 36, 1964 (in press).

³ A. Bhaskara Rao and Judson Cunha e Silva, 1961, Not. de Pesquisas, J. Clube Mineral, Univ. Recife, II, 3/4, 49.

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Scorodite from Brazil

A SAMPLE of dirty-green massive mineral was collected by one of us (J.A.V.C.) during a study of some pegmatites rich in cassiterite near Itapiuna, State of Ceará in northeastern Brazil. Since the occurrence is singular, a study was made of the mineral.

It is seen as lenticular masses and as concentrations in the heterogeneous pegmatite. Dirty green in colour with a light yellowish streak and a hardness of 4(Mohs), it occurs in intimate association with crystals of cassiterite, quartz, and some flakes of muscovite. Small druses are present in the sample, which are studded with finely crystalline material of the same colour. Some limonitic patches were noted, which are probably the resultant of some pyrite. Under the microscope it is seen to have faint coloration and no pleochroism. It is biaxial with a $2V_{\alpha} 60^{\circ}$. Some spherulitic masses were also observed in the section.

Chemical analysis of the sample disclosed a rather high quantity of As_2O_5 (51 %) and a normal amount of Fe_2O_3 (30 %) suggesting that the mineral is scorodite. Spectrochemical data showed some Bi and Sb.

The X-ray powder data obtained for the mineral gave good correspondence with scorodite $Fe^{III}(AsO_4) \cdot 2H_2O$ (A.S.T.M. Index; Correia Neves, 1960).