TABLE I. *Probe analyses of babingtonite and epidote*

	Babingtonite		
	A	*B*	Epidote
SiO_2	53.22	53.00	38.30
TiO_2	0.01	0.02	0.08
Al_2O_3	1.33	0.50	22.05
FeO*	20.98	22.83	14.39
MnO	2.21	1.56	0.04
MgO	0.56	0.59	0.01
CaO	20.05	19.82	23.76
Na_2O	0.04	0.10	0.04
Total	98.40	98.42	98.70

A. Babingtonite in quartz vein.
B. Babingtonite in epidote-quartz vein.
* All Fe as FeO.

Analyses were carried out at the University of Western Australia using the correction procedure of Bence and Albee (1978). Sample 86480 of the Geology Department, University of Western Australia.

aggregates of lemon yellow epidote (average grain size 0.2 to 0.5 mm) with quartz, carbonate, little or no albite, and minor relict clinopyroxene. Babingtonite has been found in one epidote-rich metadomain. It exhibits characteristic pleochroism (α emerald green, β claret, γ pale brown) and occurs as ragged grains intergrown with epidote and quartz, subhedral grains in epidote-quartz-calcite veins and also as a partial replacement of clinopyroxene. Electron probe microanalyses of babingtonite and epidote are presented in Table I.

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Churchite from Wheal Pendarves, Camborne, Cornwall

CHURCHITE, the rare hydrous yttrium phosphate, has recently been discovered at Wheal Pendarves, an operating tin mine near Camborne, Cornwall. It occurs in the Tryphena lode, drive no. 204 east, on the no. 2 level. Here, the lode is heavily oxidized and consists of hematite and quartz, with lenses of cellular gossany quartz and limonite, the footwall being strongly hematized granite with limonite-coated joints. Decomposing iron pyrites occurs as small patches, and cavities in the quartz are lined with botryoidal and stalactitic iron oxides.

Churchite was found rarely as radiating tufts of silky white crystals attaining 6 mm in length, lining cavities and scattered on joints in gossany veinstuff composed of quartz and light to dark brown limonite, with occasional fragments of hematized granite wallrock. One specimen shows a small spray of churchite needles stained brownish-red by iron oxides. Small clear crystals of baryte occur underlying some of the tufts of churchite, and this mineral was also noticed scattered in cavities in spongy limonite and quartz in adjacent parts of the lode. The lode is in granite close to a major fault and elvan (quartz porphyry) dyke, and is very disordered and split at this point. Other minerals encountered in oxidized parts of the Tryphena lode on no. 2 level include native copper, cuprite, and its variety chalcotrichite, scorodite, pharmacosiderite, olivenite, connellite, and malachite. Apatite (var. francolite) has also been found as

small colourless crystals lining cavities in vein material and joints in granite wallrock.

The occurrence is of particular interest as it is only the second locality for churchite in the British Isles, and it has yielded the best examples. The other location (which is the type locality) is the Tretoil Mine near Bodmin in central Cornwall.

Identification of the churchite and baryte was undertaken by the Department of Mineralogy, British Museum (Natural History), using X-ray diffraction methods. Specimens from the occurrence have been deposited in the Museum collection.

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