

V. — *Note on the occurrence of Scorodite, Pharmacosiderite and Olivenite in Greenstone at Terras Mine, St. Stephens.*

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AT Terras mine there is an interesting junction of a well-marked tin-bearing elvan, whose course is about north and south, with a bed of greenstone, whose general bearing is nearly east and west.* Near the junction, a few years since, a shaft was sunk 40 fathoms deep for the purpose of working a tin lode which was believed to cross the elvan just referred to at that point. At a depth of about 10 fathoms the bed of greenstone was met with, and it continued for 6 fathoms in depth in a very hard state, but from thence to the bottom of shaft it was much softer.

The rock is one of the hardest and toughest I have ever come across. Ordinarily it is composed of a fine-grained mixture of hornblende and silica, but it contains numerous narrow cavities or partial fissures, which near the shaft in question are often studded over or lined with small crystals of the three arseniates mentioned above.†

* This is the greenstone referred to by Mr. J. A. Phillips, in his paper recently read to the Geological Society, Vol. xxxii., Part 2, p. 175. Mr. Phillips gives its analysis as follows:—

Water	{ hygrometric	...	...	...	...	20	...	...	22
	{ combined	...	...	...	...	77	...	...	67
Silica	...	...	...	...	...	46.89	...	...	46.96
Phosphoric Anhydride	...	...	...	...	...	.31	...	...	.32
Alumina	...	...	...	...	...	20.46	...	...	20.53
Ferric Oxide	...	...	...	...	...	2.19	...	...	2.09
Ferric Persulphide	..	...	...	...	...	traces	...	...	traces
Ferrous Oxide	...	...	...	...	...	11.15	...	...	11.18
Manganous Oxide	...	...	...	...	...	trace	...	...	trace
Lime	...	...	...	...	...	8.37	...	...	8.42
Magnesia	...	...	...	...	...	5.83	...	...	5.91
Potassa	...	...	...	...	...	trace	...	...	trace
Soda	..	...	...	...	...	3.87	...	...	3.80
						100.04			100.10

† My attention was first called to this locality for scorodite and pharmacosiderite in 1872, by Mr. T. Forrester Matthews, of St. Austell. The Olivenite I have discovered recently.

The scorodite is most common. It occurs sometimes in irregular rhombic pyramids or sphenoids of a pale bluish green color, but usually in stellate or divergent groups of minute feathery crystals.

The pharmacosiderite occurs in the usual cubical forms, which are of a fine deep green color, and sometimes modified at the angles.

I have only found one specimen of olivenite; this occurred in connexion with the scorodite in the usual tabular barytes-like form. I have not seen any other metallic minerals in this greenstone, but some of the cavities are marked with beautiful shining lines of some oxide of iron, which look like raised snail tracks.

The greenstone is very largely worked in a surface quarry for road material, within a furlong of this locality, but no arseniates have been found by the quarrymen. Probably such might be found if the quarry were opened in depth.