

lar porphyry occurs about half way on the Chambly Canal; and at St. Hyacinthe the strata are cut by a dark compact two feet greenstone dyke, with small disseminated crystals of feldspar giving it a porphyritic character.

Want of space precludes our attempting to refer in detail to various other stratifications and groups of rocks examined, in the course of Mr. Logan's researches in the Eastern Townships—such as dark coloured argillaceous shales, massive grey and black lime stone, several varieties of slate, trap, dolomite or magnesian limestone, serpentine, quartzose, chloritic, and other steatic rocks, noticed during one season; and the gneiss, sometimes of a granitic and sometimes of a syenitic character, white quartz rock, calciferous sandstones, and bituminous limestone, &c., observed in another, that we may have more room for noticing a few of the valuable and useful economic materials to be derived therefrom, comprehending magnetic and specular oxids of iron, bog-iron ore and iron ochre, chromic and titaniferous iron, wad or bog manganese, copper ore, gold, granite and other qualities of stone suited for building purposes, for mill-stones and for whet-stones; roofing slates, serpentine, soapstones, dolomite, common limestone, clay for bricks and common pottery, shell-marl, and phosphate of lime.

The *magnetic and specular iron oxids* are most abundant in the Townships of Sutton and Brome, and occur chiefly in the vicinity of dolomitic belts, occupying the two sides of a valley running from one township to the other. The *bog-iron* is obtained in Stanbridge and Simpson; the *ochre* in a marsh in a valley in Durham; and the *titaniferous ore* in St. Urbaine in the valley Gouffre.

The *oxyd of chromic iron*, extensively used as a colouring material in dyeing calico, in pottery, procelain, enamel, and in oil painting, is found in the Township of Bolton; and the *bog manganese or wad* is met with in three localities in Stanstead.

Copper pyrites and variegated copper had before been met with in several parts of this district, usually in the vicinity of the magnesian and whitish grey limestone of Upton, Acton, Wickham and Inverness; but excepting in three localities, where they occur in veins, bearing the character of a regular lode, hold out little prospect of a profitable result.

On the attractive subject of *gold* we feel justified in giving the following condensed particulars in Mr. Logan's own words:—*

It appears from the Reports of some of the State Geological Surveys of the American Union, from various papers which have come before the public in *Silliman's Journal of Science and Art*, and from the statements of Mr. James D. Dana and Professor Charles Upham Shepard in their works on Mineralogy, that the existence of gold in North America, occurring in more or less quantity in veins and alluvial deposits, has been traced at intervals, some of which are considerable, from Georgia, the Carolinas, Virginia and other Southern States, and even from Mexico to the Chaudière in Lower Canada. It is not improbable it may follow the run of one and the same geological formation through the whole distance, and will ultimately be traced to Gaspé.— Along the whole line it seems to be associated with or in the vicinity of rocks, strongly characterised by magnesia, such as dolomite, serpentine, talc and chlorite slates, and at the same time marked by the presence of chromic iron, titaniferous iron and rutile. It is found in similar association in other countries, and the description of the Ural Mountains, for which we are indebted to Sir R. I. Murchison, and his

* See Report of 1847-S, p. 73 to 80.