

III. *River St. Simon.* (Plate, fig. 2.) This specimen is from a fine-grained, greyish-black dyke which cuts the Green Lake band of crystalline limestone on the St. Simon, a small tributary of the North River, in Terrehoane County east of Grenville. I am indebted for it to the Director of the Geological Survey. The dyke probably belongs to the same set as the Grenville ones just described, its general structure being the same, but it has apparently undergone very little alteration, the section being beautifully clear and transparent. With the microscope it is seen to consist of a network of plagioclase feldspar, with augite, magnetite and apatite (?) and a very little viridite. The feldspar as seen in the section is perfectly transparent and colourless, and with the polariscope shows a beautifully banded structure. In places it contains microlites which are possibly apatite, and also a few vapour- or gas-cavities, generally in groups. The augite is pale greyish-brown frequently penetrated by blades of feldspar and often containing groups of minute grains of magnetite. It appears to constitute about half the rock. The magnetite occurs mostly in irregular grains and masses of most fantastic shape, but now and then in rude crystals and rod-like forms. In some cases it is seen to be penetrated by blades of feldspar. (See figures on next page.)

The viridite is not very abundant and looks as if derived from

Under a lens the rock is seen to consist of a greenish-white feldspar with a scaly fracture, mingled with grains of pyroxene, occasional plates of mica, and grains of pyrites. It contains no carbonates. Two analyses of portions of the dolerite from dykes differing a little in texture gave as follows:

Silica .....	50.35	50.25
Alumina .....	17.35	32.10
Peroxyd of iron .....	12.50	
Lime .....	10.19	9.63
Magnesia .....	4.93	5.04
Potash .....	.69	.58
Soda .....	2.28	2.12
Volatile .....	.75	1.00
	<hr/> 99.04	<hr/> 100.72

"The iron in these analyses, although given above as peroxyd, exists in the form of protoxyd, and in the second specimen, in part as a sulphuret." (Am. Jour. of Sci., 1864, 2nd Ser., Vol. xxxviii, p. 174.) Which of the analyses applies to the specimen from Range IV and which to that from Range V is not stated.