

boulders and gravel are found at various elevations in Rigaud hills. A well-known example of this is the Devil's Garden, a deposit of rounded boulders lying in a terrace near the shrine south of Rigaud. Smaller deposits occur in the flat country near the Rigaud hills. A belt of sand lies along the northeastern foot of the mountain, from a point south of Rigaud, to Raquette river north of Martigny. A much larger sand area covers about 22 square miles south of Hudson and west of St. Lazare. Near the south end of the area sections reveal a fine-grained, well stratified, cross-bedded sand.

#### *St. Lawrence Belt.*

Beekmantown dolomites and magnesian limestones occur near Cardinal, but none of the exposures are of large extent.\* The stone is generally dark grey, fine to medium-grained, and thin-bedded, with a very slight dip north or west. Exposures of Black River limestones occur in several places north and west of Cornwall, the two more important occurrences lying, respectively, 4 miles north and  $5\frac{1}{2}$  miles west of the town. The stone is very dense and almost black in colour. It is massive, but with many pencil-like partings. One mile southeast of Summerstown station, Chazy limestone lies close to the surface over an area of a little over 2 acres. In an old quarry is an exposure of 2 feet of medium and even-grained, light grey, thick-bedded limestone which lies nearly flat.

A large part of the country west of Cornwall is covered with boulder clay; to the east the boulder clay is found more often on the higher land, lying in the form of little ridges and hills. In a few shallow sections it was found to be composed of rounded boulders and angular pebbles in a matrix of fine sand, silt, and clay. The pebbles are largely limestone. The matrix is light bluish grey in colour and seems to contain more clay west of Morrisburg than to the east. Small gravel deposits are found in many places and a few large ones occur 6 to 8 miles west of Cornwall where most of them form small, well-marked ridges lying on the western slope of larger boulder clay hills. They are as a rule very bouldery, becoming finer in depth. They contain marine shells, which occur in aggregations and undisturbed layers in the boulders and gravel to depths of 13 feet from the surface. Stratified, blue, marine clay occupies most of the flat country north and east of Cornwall and smaller strips of marine clay were seen west of the town near the river. A narrow belt of sand lies along the shore of the St. Lawrence river for a distance of 15 miles immediately west of Cornwall.

#### ROAD MATERIALS.

The road materials considered here are deposits of bedrock, boulders, and sand and gravel.

#### *Vaudreuil Area.*

In northwestern Vaudreuil there are large deposits of syenite porphyry, syenite, and granite that are apparently of good road-making quality and to the southeast of the mountain gneisses that are probably of inferior grade.