

broken encrinites in the upper part; 9 feet 3 inches.

"2. Bluish-argillaceous and arenaceous shale, with thin bands of sandstone; 5 feet.

"Grey arenaceous limestone; 3 feet 5 inches.

"Bluish shale; 1 foot.

"Bluish-grey argillaceous limestone, with geodes of calcspar; this is probably fit for water cement; 5 feet 7 inches.

"3. Whitish limestone, with geodes of calcspar, containing nodules and patches of chert in considerable abundance; 16 feet 6 inches.

"4. Bluish-black bituminous shale, with thin bands of limestone holding fossils; the shale, which is in very thin laminae, presents surfaces covered with bituminous matter, and nodules of chert are sometimes met with in the limestone; 6 feet.

"5. Grey, strongly bituminous limestone, very unevenly deposited; 5 feet.

"Reddish grey, drab-weathering, bituminous, magnesian limestone, moderately thin-bedded; with partings of bituminous shale. The limestone holds disseminated crystals of galena associated with pearl-spar; 5 feet.

"6. Grey compact tough magnesian limestone; 3 feet.

"Bluish magnesian limestone, weathering into small pits on the surface, and containing small nodules of a carbonaceous matter, resembling coal; 3 feet.

"Blue and grey compact magnesian limestones; 3 feet.

"Gray compact magnesian limestone; 3 feet.

"Bluish magnesian limestone, weathering into irregular pits on the surface of the beds; the rock holds small masses or carbonaceous matter as above; 3 feet.

"Bluish-grey compact magnesian limestone, presenting under the influence of the weather a rough pitted surface, 5 feet.

Total 78 feet 3 inches.

"The limestones, 5, which overlie the black shales, 4, form the upper part of the ridge which extends between the falls of Niagara and the village of Ancaster. They are highly bituminous, and for the most part magnesian for the whole distance; and they abound in fine cabinet specimens of selenite, celestine, pearl-spar, blende and galena. Crystals of the latter mineral exist in greater or less quantity, in nearly all the limestones from the Pentamerus band to the summit of the upper beds; but they are in the greatest abundance in the latter

"Northward from this the black shale, 4, maintains for a few miles the thickness which it presents in the last section, and it is recognized above the beds already described as composing the Clinton formation, on the sixteenth and

seventeenth lots of the first range of Flamborough West, near Dundas. In ascending order these succeeding beds are:

"1. Grey magnesian limestone, with *Pentamerus oblongus* in abundance; 1 foot.

"2. Blue magnesian limestone, in very even and regular beds, of which the thickest are from sixteen to eighteen inches; separated by partings of bluish-grey shale. The limestone is used for building purposes; 7 feet.

"3. Light grey magnesian limestone in one bed; this is used for building purposes and is known by masons and quarrymen as the five foot band; 5 feet 6 inches.

"4. Bluish-grey calcareo-arenaceous shale, passing into black; it is hard and solid in the bed, but disintegrates and crumbles into a clay when exposed to the atmosphere, with the exception of thin interstratified beds, which resist the weather; 6 feet.

"5. Bluish-grey magnesian limestone, composed chiefly of broken encrinites. The beds are from three to four feet thick, and are separated by very thin layers of buff colored argillaceous shale. This limestone forms an excellent building stone, for which it is used, as well as for burning lime; 19 feet 3 inches.

"6. Dark bluish-grey argillaceous shale; this is a well marked band, and may be traced for some distance on the strike; 1 foot.

"7. Blue and grey limestone, including bands of white, buff and grey chert, and thickly studded with chert nodules; 20 feet.

"8. Brownish bituminous magnesian limestone, with small disseminated crystals of galena, and a few fossils; 10 feet.

"9. Grey bituminous magnesian limestone in rough irregular beds; 5 feet.

"10. Measures concealed; 5 feet.

"11. Black bituminous magnesian limestone in thin irregular layers; 2 feet.

"12. Black bituminous shale; 1 foot.

"13. Dark brown very bituminous magnesian limestone, in thin beds, with rough irregular surfaces; 2 feet.

"14. Dark brown bituminous magnesian limestone, holding disseminated crystals of galena; 5 feet.

"15. Black fissile shale; 2 feet.

"16. Dark very bituminous magnesian limestone, with black shale at the top, and with numerous fossils; 3 feet.

"17. Dark brown bituminous magnesian limestone; 2 feet.

"18. Black bituminous shaly limestone; 1 foot.

"19. Measures concealed; 2 feet.

"20. Black bituminous magnesian limestone, with obscure fossils in the lower part; 8 feet.