

## NORTH SHORE GEOLOGY By Douglas H. Frazer

The bedrock beneath our homes, dating from the Silurian and Devonian periods, consists of dolomitic limestone beginning approximately 85 to 210 feet below ground. The general topography of the region, which towards the surface includes topsoil, clay,

glacial moraine (gravel), and our ravines, coincides with the last glacial retreat about 12,000 years ago.

Early European immigrants to the area quarried stone for the building of bridges, harbor piers, and buildings. For a number of years an important cement industry developed to exploit the limestone.

In 1896, the Consolidated Cement Company established itself in the area of Lake Drive and Greentree Road and mined limestone for the manufacture of cement. The mining method proved expensive; the company had to run tunnels under the bluff and below lake level. The company placed a mineshaft just east of the north end of 6800 North Barnett Lane, a hundred feet south of View Place. The shaft extended 22 feet below beach level. There it connected with the main tunnel that extended 210 feet north and south. From the main tunnel, the company extended branches called gallery drifts several hundred feet westward into the limestone. By the time of the Village's incorporation in 1926 the mining operation was no longer in operation.

Perhaps the most significant geological formation in the North Shore is the Fox Point terrace accessed by Beach Drive. A terrace is a geological term for a step-like platform that borders a shoreline. Fox Point is unique among the North Shore communities to have such a terrace.

The clay under the terrace topsoil proved suitable for brick making. In the early 1850s, Warren Phelps established a brickyard at what is now North Beach Court. The yard commissioned the construction of a pier at what is now 7328 North Beach Drive. The brickyard used the pier to bring in cordwood to fire the kilns and to ship out the finished bricks. Phelps liquidated the business in 1859.

Until Fox Point and Bayside offered municipal water, property owners relied on wells. The City of Mequon operates Bayside's water utility, but 14 percent of property owners have no access to municipal water and 20-25 percent elect not to use it. River Hills does not have a municipal water system and most property owners are dependent on wells.

Wells are typically between 90 and 640 feet deep, the variation occasioned by the fact that the bedrock strata, and the aquifers within, rise at steep angles from below Lake Michigan. The Department of Natural Resources maintains an online database of well construction reports, the contents of which detail the type and depth of the formations the shaft has penetrated. This is perhaps our most useful window as to what lies immediately below.

Douglas H. Frazer is a Fox Point resident and neighborhood contributor as well as the village president. The views expressed are his own and not necessarily those of the Village, the village board, other village board members, or Best Version Media, LLC.



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