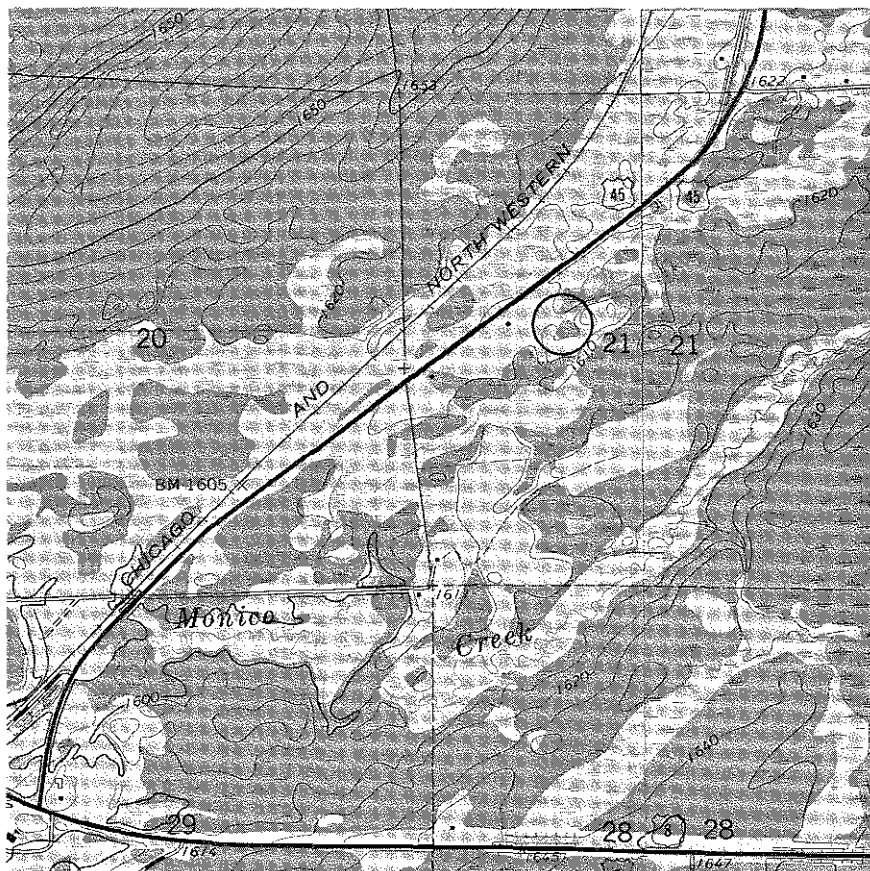


Title: Witte Farm - Coarse Felsic Agglomerate

Location: 1.4 miles north of intersection of U.S. 8 and U.S. 45. Outcrop located 400 feet east of highway behind abandoned house. SE $\frac{1}{4}$, NW $\frac{1}{4}$, Sec. 21, T.36N., R.11E., Oneida County (Monico 7 $\frac{1}{2}$ -minute topographic quadrangle, 1965).



Author: M.G. Mudrey, Jr. (1979)

Description: Three-foot long, angular, dacite clasts range in size from inches to several feet are set in an amphibole-bearing tuff or graywacke. Within the clasts, sparse euhedral plagioclase phenocrysts (An₂₀) up to 1.8 mm in maximum dimension are set in a flow banded matrix which wraps around the crystals. The rock is intensively altered, and sericite extensively replaces plagioclase. The groundmass consists predominantly of quartz, muscovite, and calcite. Blood red hematite is present, along with local concentrations of epidote and chlorite.

The matrix for the clasts consists of altered mineral grains 0.3 to 0.4 mm in size. A few relict (? pyroxene (?)) and amphibole crystals remain, but the grains in the matrix consist predominantly of epidote-chlorite-muscovite-quartz granules. Calcite occurs abundantly as granules and in veins. Blood red hematite is sparse, and reflect glass shards can be seen in thin sections.

The trend of bedding is N. 70°-75° W. and dips 85° SW. About 700 feet to the northeast, intermediate pillow lavas appear to top south, however the bedding trend at this locality is N. 60° W. This is the only area of the quadrangle in which folding has been suggested.

A small body of intrusive granodiorite can be found about one thousand feet north.

Discussion: Sangster (1972) noted the close spatial association between felsic agglomerates (or coarse pyroclastics) and massive sulfide ores, and that these agglomerates were a characteristic feature of many mining regions. Sangster (1972, p. 3) remarks that "the author / Sangster / once remarked to his colleagues that whenever he stood on the outcrop containing the largest fragments of acid pyroclastic in any given mining camp, he could invariably hear the mine mill nearby. His colleagues immediately dubbed this distinctive lithology 'millrock' and since then, 'millrock' has been observed close by most massive sulfide deposits in Precambrian volcanic rocks." The interpretation of this distinctive lithology is still open. Millrock is generally found in, or close to volcanic units in which the massive sulfides occur. The belt of rocks from the Pelican deposit, about 7 miles west, to several miles east of this locality has been extensively explored since the early 1970's. Although only the Pelican deposit has been announced as a possible massive sulfide deposit, the intensity of exploration attests to the favorable terrane.

References Cited:

Sangster, D.F., 1972, Precambrian volcanogenic massive sulfide deposits in Canada:
A review: Geological Survey of Canada Paper 72-22, 44 p.