



EXPLANATION

The Trommald formation of Animikie age is shown separated into its two facies and divided into zones according to a generalized classification of its manganese content. The formation is uncolored where no information was available on the manganese content

THICK-BEDDED FACIES	THIN-BEDDED FACIES
Manganiferous iron-formation About one-third of the iron-formation contains more than 10 percent manganese; most of remainder contains 5-10 percent	
Moderately manganiferous iron-formation Half of the iron-formation contains 5-10 percent manganese; the remainder mostly contains 0-5 percent manganese, but some may contain more than 10 percent	
Low-manganese iron-formation Generally contains less than 2 percent manganese although local analyses may be greater	

Geologic contact  
Dotted where established by mine exposures, drill holes, and projection of mine data; queried where not well defined; contact is shown projected to bedrock surface previous to mining

MANUEL  
Outline of ore body  
Determined by actual shape of open pit or caved area above underground mine as determined from aerial photographs; ore appears offset beneath hanging wall where mining has followed ore downdip



Base from maps provided by the M. A. Hanna Co.  
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GENERALIZED DISTRIBUTION OF MANGANESE IN THE TROMMALD FORMATION, CUYUNA NORTH RANGE, MINNESOTA

