706.2', 938'-948', 973'-975' (scattered), 1246'-1270' (scattered). Stratiform veins at 421.7'-421.8', 630'-669' (scattered), 973'-975' (scattered), 975'-1303' (few, scattered). Local, scattered 1-2 mm calcite concretions. 3 x ½ cm pyrite concretion at 952'.

Acid Test Results

Footage	Angle of Hole from Horizontal	Bedding Angle with Core Axis
120	49°	60°
420	56°	67°
720	63°	75°
1000	65°	79°

Notes: Eight thin section heels have been cut. Six composite samples have been sent in for analysis. Analytical results follow in Table ZM-1. Can tuffs be correlated with volcanism in other parts of the basin? Detailed log is available for study.

CONDENSED GEOLOGIC LOG FOR DDH TS-1

Hole drilled at 90° angle (vertical).

0'-3' **Ice.**

3'-10' **Water.**

10'-32' **Gyttja.**

32'-99' **Overburden.**

99'-241' T.D. Interlaminated-bedded black-dark brownish grey-grey hornfelsed siliceous-sideritic siltstone. Minor color variations due to graphite, pyrite, and/or siderite content. Bedding angles to core axis are 35° near top to 5° at base. Schistosity is poorly developed near the top (37° to core axis), but becomes more recognizable with depth (50° to core axis). Schistosity cuts across bedding, and locally offsets it. Core is locally very broken. Pyrite varies from 2-10%, with higher disseminated amounts in darker bands. Pyrite also found along cleavage and in quartz-calcite veinlets (often subparallel to core axis). 155'-156.7' is a disturbed (folded-brecciated), recrystallized, somewhat calcareous zone with local coarse-grained calcite; very fine-grained brown sideritic mudstone; green-black serpentine-chlorite; and medium-grained altered plagioclase(?) (calcite) and pyroxene-olivine (serpentine-chlorite). Believed to be edge of dike from Duluth Complex.

Notes: Ten thin section heels have been cut. Rock may show slightly increased recrystallization with depth. One composite and seven individual samples have been sent in for analysis. Analytical results follow in Table TS-1. Detailed log is available for study.

CONDENSED GEOLOGIC LOG FOR DDH BM-2

Hole drilled at a 51° angle and an azimuth of 182°.

0'-85' **Overburden.**

85'-97' **No core.**

97'-554.3' Medium-dark grey phyllitic siltstone. Slightly graphitic. Very minor, thin, white siliceous-clayey altered tuff(?) laminae. Phyllite may contain up to 5% fine disseminated pyrite. Core fairly broken to 323' and sporadically to 554.3' (decreasing in general with depth). Foliation is typically 45-60° to core axis. Bedding is folded and is often at a low angle to core axis. Graphite decreases(?) with depth. Local hairline fractures-veinlets with pyrite. Local thicker, irregular quartz-pyrite veins-masses. They typically appear deformed to broken and are subsequently healed. Veins at: 212.8'-213'; 529'-540' (with few scattered irregular masses to .2'); 545-545.2' (irregular with minor vugs and chlorite); 546.4'-546.8'; 552'-555.7' (interval with irregular veining with vugs and chlorite).

554.3'-1025' Interbedded phyllite, para- and orthoconglomerate, and siliceous-tuffaceous greywacke. Ratio phyllite:conglomerate:greywacke = 4.0:4.7:1. Phyllite similar to above unit, except black to dark grey to dark grey-brown. Typically with good cleavage, local tuffaceous laminae and slightly calcareous. Greywacke poorly to moderately sorted, typically very siliceous with grey silty-graphitic to green chloritic matrix. Orthoconglomerate composed of coarse to fine pebbles and is generally polymictic, largely quartz pebbles, with lesser pink felsic pebbles, K-spar and plagioclase phenocrysts, phyllite pebbles, chloritic pebbles, and tuffaceous greywacke intraclasts and/or volcaniclasts. Quartz is typically sub-moderately rounded, with other pebbles less rounded. Some quartz pebbles appear to be embayed (phenocrysts?). Matrix is usually fine-grained, chloritic, and may be tuffaceous. Minor sand also in matrix. Monomictic-oligomictic "greywacke" intraclast orthoconglomerate, may be volcaniclastic (in either case, matrix is similar to clasts). Grain shapes tend to be subangular, subprismoidal. As conglomerate pebbles become finer grained, grain size distribution becomes less bimodal, and sediment grades into paraconglomerate and coarser greywackes. There is also some tendency for finer greywackes to grade into tuffaceous phyllites. In general, lithologic contacts are fairly sharp. Some contacts show slickensides and may, in part, be tectonic. Little grading within beds. Quartz pebbles-grains