GEOLOGICAL SURVEY
UNIVERSITY OF MINNESOTA

Special Publication Series SP-9
PLATE 1

EXPLANATION

QUATERNARY

HOLOCENE

Qal — Alluvium
Stream deposits of stratified gravel, sand, silt, and clay; 1-50 feet thick

Qs — Swamp and marsh deposits
Generally water-saturated organic materials intermixed with sand, silt, and clay; 5-60 feet thick

Qt — Terrace alluvium
Redeposited alluvium marking former positions of stream channels; at altitudes of 845, 835, 800, and 750 feet

PLEISTOCENE

WISCONSIN STAGE

GRANTSBURG SUBLOBE OF DES MOINES LOBE

Qdo / Qdv — Outwash
Stratified sediments deposited by streams, mostly medium sand; 25-250 feet thick
Qo, *outwash plain, includes fill materials*
Qvt, *valley train*

Qdl — Lake sediments
Stratified fine sand, silt, and clay redeposited within shallow glacial basins

Qdt — Till deposits
Gray to tan, unstratified material boulder-to clay-size, characterized by carbonates, quartzite, and shale particles; 5-40 feet thick

SUPERIOR LOBE

Qst — Till deposits
Pale red, unstratified material, mostly sand, characterized by sandstone, felsite, and gabbro particles; 15-45 feet thick

Bedrock

Approximate contact

Terrace

Linear ice-contact deposits

Stone orientation in till deposits

Active sand and gravel pit

Active rock quarry

Sand and gravel or stone processing plant
Described in text

Locality
Described in text

Sand and gravel / *Clay*
Sample locality
Described in text

Base from U.S. Geological Survey, 1954
Interstate highways and associated collectors as of 1969
Lakes and swamps as of 1969
Pits and quarries as of 1969

Williams & Heintz Map Corporation, Washington, D.C. 20027

Geology mapped in 1964-68

GEOLOGIC MAP OF THE MINNEAPOLIS QUADRANGLE, MINNESOTA

SURFICIAL GEOLOGY

By
R. K. Hogberg

SCALE 1:48,000

6° TRUE NORTH / MAGNETIC NORTH
APPROXIMATE MEAN DECLINATION, 1954

1 ½ 0 1 2 3 4 MILES
3000 0 3000 6000 9000 12000 15000 18000 21000 FEET
1 .5 0 1 2 3 4 5 KILOMETERS

CONTOUR INTERVAL 20 FEET
DATUM IS MEAN SEA LEVEL

MINN.
QUADRANGLE LOCATION

1970