

GLACIAL SEDIMENTS Of Various Depositional Environments

- A. Diamicticton; Subglacial Till Facies; Note the uniformly distributed gravel clasts; Vertical Exposure, Iowa.

Very Stiff, Very Dark Gray (10YR 4/1) LEAN CLAY WITH SAND (CL); Moist, Low to Medium Plasticity, Cohesive, Massive, Uniform, UU, Some Sand with Trace Small Gravel Clasts; Diamicticton (Subglacial Till Facies); Wolf Creek Formation.

- B. Resedimented Diamicticton; Note Normally Graded Gravel Clasts; Exposure, Iowa.

Very Stiff, Brown (10YR 5/3) LEAN CLAY WITH SAND (CL); Moist, Low to Medium Plasticity, Cohesive, Thickly Bedded, UU, Some Sand with Trace Normally Graded Gravel Clasts Up to 3cm diamete; Diamicticton (Resedimented Till Facies); Wolf Creek Formation.

- C. Subglacial Diamicticton; Uniform; Subsurface Sample by Rotasonic; Indiana.

Stiff, Very Dark Gary (10YR 3/1) SANDY LEAN CLAY WITH GRAVEL (CL); Moist, Low to Medium Plasticity, Cohesive, Massive, Uniform, UU, Some Sand with Few Gravel Clasts; Diamicticton (Subglacial Till Facies); LaGrow Formation.

- D. Resedimented Diamicticton; Bedded, Note clasts are Non-Uniformly Distributed; Sample by Rotasonic, Ohio.

Stiff to Very Stiff, Grayish Brown (10YR 5/2) LEAN CLAY WITH SAND (CL); Moist, Medium Plasticity, Cohesive, Medium to Thickly Bedded, RU-UU, Some Sand with Trace Bedded (Reverse Graded?) Gravel Clasts; Diamicticton (Resedimented Till Facies); Site Unit B.

- E. Resedimented Diamicticton; Bedded, Note clasts are Non-Uniformly Distributed; MOU-MJRU Some Mottling and Jointing; Lean Clay (CL); Subsurface Sample by Rotasonic; Minnesota.

Medium to Very Stiff, Dark Grayish Brown (10YR 4/2) mottled with Brown (10YR 5/3) LEAN CLAY WITH SAND (CL); Moist, Medium Plasticity, Cohesive, Medium to Thickly Bedded, MJRU, Some Sand with Trace Bedded (Reverse Graded?) Gravel Clasts; Diamicticton (Resedimented Till Facies); Des Moines Lobe Deposits, Site Unit A

- F. Weathering Zone Exposed on Fresh Road Cut. Oxidized brown colors develop into the (originally all) gray deposits of the regionally mapped diamicticton unit.

- G. Subglacial Diamicticton over older Subglacial Diamicticton; Massive, UU, Lean Clay (CL) over older Massive, OU, Lean Clay (CL); Vertical Exposure; Iowa.

- H. Glaciofluvial Facies; 50% SPT Recovery Subsurface Sample by Standard Penetration Testing; New Hampshire.

Medium Dense, Brown (10YR 4/3), POORLY GRADED SAND (SP), Moist, Thinly Bedded with Horizontal Planar Beds, Non-Cohesive, OU, Uniform Fine to Medium Grained Sand; (Glaciofluvial Facies); Site Outwash Unit B.

- I. Lower Six Inches of the Sampler: Glaciofluvial Facies; (Question: What is the SPT Recovery? What observations can you use to determine the amount of slough in the sample?) Subsurface Sample by Standard Penetration Testing; North Dakota.

Medium Dense, Gray, WELL GRADED SAND (SW), Moist, Thinly Bedded with (mostly) Horizontal Planar Beds, Non-Cohesive, UU, Non-Uniform Fine to Course Grained Sand with fines and trace small gravel; (Glaciofluvial Facies); Site Outwash Unit 2.

- J. Oxidized jointing features developed in unoxidized diamicton; Fresh Preservation Related to Stream Erosion. Vertical Jointing Observed in Quasi-Polygonal Orientations.

K. Loess; Massive, OJL

L. Loess; Massive, OJL grading to MOJL

M. Glaciofluvial Facies; Thinly to Thick Bedded; OU; Variable Classifications; Vertical Exposure; Antioch, Illinois.

N. Glaciolacustrine Facies; Laminated to Thinly Bedded with Horizontal Planar Beds; UU; Alternating Lean Clay (CL) and Silt (ML); Subsurface Sample by Rotasonic; Massachusetts.

Soft to Medium, Dark Gray (10YR 4/1) SILT (ML) with alternating laminae of Grayish Brown (10YR 5/2) LEAN CLAY (CL), Moist, Medium Plasticity, Cohesive, Thinly Bedded to Varved; UU; Trace Fine Sand in Silt Laminae; Glaciolacustrine Facies; Equality Formation; Site Glaciolacustrine Unit B.

O. Glaciolacustrine Facies (3 samples); From left: Laminated with Horizontal Planar Laminae, UU, Silt (ML); over Laminated with Horizontal Planar Laminae, Massive, UU, Lean Clay (CL); over Massive, UU, Silt (ML); Subsurface Sample by Continuous Sampler; Illinois.

P. Glaciolacustrine Facies; Laminated with Low-Angle Planar Laminae, UU, Lean Clay (CL); over Laminated Horizontal Planar Laminae; UU, Silt (ML) (downhole is pictured to the top and curved edges are due to sampler drag); Subsurface Sample by Continuous Sampler; Minnesota.

Q. Glaciolacustrine Facies; Massive, UU, Silt (ML) with 2cm bed of Horizontal Planar Laminae of UU Silt (ML); Subsurface Sample by Continuous Sampler; Illinois.

ⁱ Consistency from rotasonic subsurface samples is determined by pocket penetrometer (Q_u). Note that Density (for coarse-grained sediments) cannot be determined from rotasonic subsurface samples using either pocket penetrometer or thumb-pressure methods (ASTM D-2488).