

LEGEND SYMBOLS

- 1 Silt, fine sandy, 20% fine quartz sand, soft, moist to wet, brown. Standard Penetration Test results in 3-10 blows per foot. This strata correlation includes gray till strata and areas of old channels which contain cobbles. All alluviums correlate with this strata. One moisture sample has a 25.4% moisture.
- 2 Wisconsin Drift - SC - well graded sand, gravelly with 20-30% medium plastic fines; 30% well graded gravel; 10% cobbles and boulders. Red brown, very compact. Blow count for the strata vary from 57 to 156 blows per foot with a numerical average of 113 blows per foot. Permeability is variable from slow to rapid varying upon the amount of Wisconsin age drifts are correlated with this strata under test.
- 3 Terrace deposits of limited lateral and vertical extent varying in lateral gradation from 50' to 50-50'. Probably related to water sorting of glacial drifts or to terraces. Generally located at the base of abutment slopes.
- 4 Subsoil developed from glacial materials - ML - CL Clay, silty, with 20% well graded sand, occasional shale fragments, yellow brown to red brown, impermeable, moist, speedy moisture content of one sample was 16%, medium hard, blow count ranged from 8 - 12 blows per foot.
- 5 Illinoian Till - Clay, sandy with gravels - CL; 10% well graded sand, 20% well graded gravel, occasional cobbles. Coarse sand and gravel portions consist of both sub-angular shale particles and sub-rounded quartz grains. Soil color is both gray and red brown, slightly moist, hard. Generally impermeable. Speedy moisture test samples (3) vary from 11.3 to 20% moisture.
- 6 Very weathered and decomposed shale, Hamilton Group. Basically a clay shale with fractures filled with clay. The strata will excavate as a SC soil and after compaction should breakdown further into a TL soil. Some bedding is indicated in the strata. Material is moist and the water table is frequently on top of the material. Some portions of the strata have sandy zones which are very permeable although the strata is frequently impermeable. Standard Penetration Information should be obtained from the individual logs.

SUPPLEMENTARY MAP AND PLAN LEGEND

- Tonolway (?) Limestone Formation: Gray limestone, brecciated in part with seams filled with calcite, frequently fossiliferous, cavernous with some large openings partially filled with clay.
- Hamilton Group (Marcellus Formation): Shale, black when wet, dries to medium gray, weathers moderately deep to deep with clay filled zones in top weathered zone. In upper portions of the deeply weathered zones the shale is very decomposed, yellow brown in color, and very soft. Some seams in the fresher zones are open with secondary deposition of calcite.
- Chert: Gray chert, very broken. Some fine sand particles. May be related to the Keyser formation.
- 1/ Leverett, Frank; Glacial Deposits Outside the Wisconsin Terminal Moraine in Penna. Bul G-7, 1931.
- Illinoian Till: grades from a sandy clay (CL) to a clayey sand (SC). hard, associated cobbles boulders and gravels. The till generally has a two foot thick layer of (ML-CL) silty clay soil overlying the till. The color is characteristically red to orange brown although some portions of the material are gray.
- Alluvium overlying drift: up to three feet of alluvium overlying glacial drift (Wisconsin). The drift probably relates to Frank Leverett's 1/ identification of various glacial features in the watershed. The site is within the upper elevations of the valley basin limits and possibly represents either a transition or source of these deposits. The soil varies from a sand to gravel in gradation, contains both sub-rounded and sub-angular particles, and ranges from a trace to 30% fine grained material.

ABBREVIATIONS

- aq aquifer
- ca cavities
- cl centerline
- con coniferous
- US undisturbed samples
- DS disturbed samples
- dh dipping
- fr fractured
- fr friable
- lam laminated
- mas massive
- TD total depth
- v very
- w/ with
- wea weathered
- WL (date) groundwater level on a specified date
- PIT OR TRENCH
- HOLE LOGGED ONLY
- DIP AND STRIKE
- HOLE SAMPLED

TEST HOLE NUMBERING SYSTEM

- Centerline of dam 1-99
 - Borrow area 101-199
 - Emergency spillway 201-299
 - Centerline of outlet structure 301-399
 - Stream channel 401-499
 - Relief wells 501-599
- CORRELATION OF FORMATION
- 601-699
 - 701-799

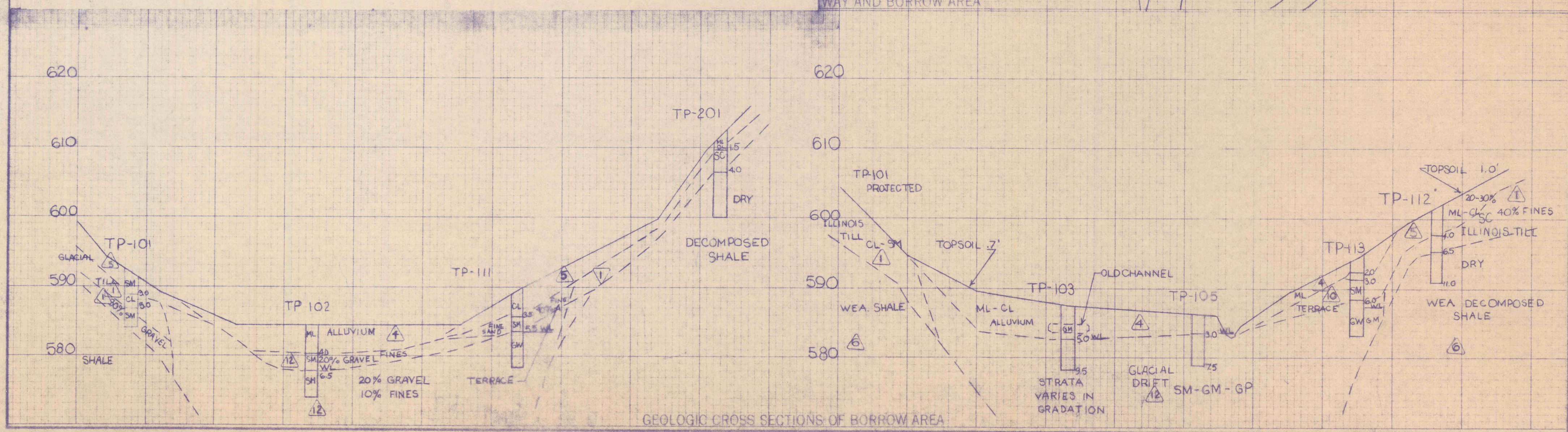
- * UNIFIED SOIL CLASSIFICATION SYSTEM SYMBOLS
- GW Well graded gravels; gravel-sand mixtures
 - GP Poorly graded gravels
 - GM Silty gravels; gravel-sand-silt mixtures
 - GC Clayey gravels; gravel-sand-clay mixtures
 - SW Well graded sands; sand-gravel mixtures
 - SP Poorly graded sands
 - SM-1 Silty coarse sand
 - SM-2 Silty fine sand
 - SC Clayey sands; sand-clay mixtures
 - ML Silty, silty, v. fine sands; sandy or clayey silts
 - CL-1 Clays of low plasticity; silty, sandy or gravelly clays
 - CL-2 Clays of medium plasticity; silty, sandy or gravelly clays
 - CH Clays of high plasticity; fat clays
 - MH Elastic silts, micaceous or diatomaceous silts
 - OL Organic silts and organic silty clays of low plasticity
 - OH Organic clays or silts of medium to high plasticity
- * CLASSIFICATION BY VISUAL FIELD METHODS

PLAN AND PROFILES FOR GEOLOGIC INVESTIGATIONS

PA-497
 BRIAR CREEK WATERSHED
 COLUMBIA COUNTY, PENNA.
 U. S. DEPARTMENT OF AGRICULTURE
 SOIL CONSERVATION SERVICE

Investigated by T.A. DUMPER
 Title Geologist
 Checked by G.C. JOHNSON
 DRAWN BY F.D. DIODATO

Approved by _____
 Date _____
 Title _____
 Sheet _____
 Drawing No. 1-4



GEOLOGIC CROSS SECTIONS OF BORROW AREA

SCALE 1" = 200'