

LEGEND SYMBOLS

- ▲ Clay, sandy with gravels, Illinoian till; 40% 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. Shale fragments are both gray and red. Occasional coal inclusions. Soil color is generally red brown, moist, speedy moisture test results in 11.8, 16.7, and 30% moisture for 3 samples range from grade to CL to SC. Blow count for 3 samples average of 57 blows per foot. This strata correlation can vary to a SC with 10% medium plastic fines and a gray color. Field tests indicate that the strata is generally impermeable.
- ▲ Wisconsin (?) Drift - Well graded sand, gravelly with 20-30% medium plastic fines (SM-SC) 30% well graded gravel, 10% cobbles and boulders. Red brown, very compact blow count varies from 57 to 146 blows per foot with an average of 113 blows per foot.
- ▲ SC - Well graded sand, gravelly with 20-30% medium plastic fines, 20-30% well gravels - Illinoian Till, 20% cobbles and boulders red brown to gray. Moist to wet, compact sandstone and shale fragments compose part of the sand and gravel portion of the soil.
- ▲ Gray shale, black when wet, some calcareous sections, soft to moderately soft, broken; clay seams, fossiliferous in part. See water testing report for strata permeability.
- ▲ Black shale, hard solid to moderately broken, some broken with areas of calcite deposition, some calcareous portions. Water testing results can be obtained from the water testing sheet of the report.
- ▲ Alluvium - Silt, fine sandy 30% qtz. sand, moist to wet, brown to gray. Standard Penetration Test gives 1 - 10 blows per foot, correlation includes gray CL strata and old channels with cobbles and boulders. One speedy moisture test samples show 2.1% moisture content.
- ▲ Burland soil - Clay, silty, with 20% well graded sand, (ML-CL) occasional shale fragments, Yellow brown to red brown, impermeable, moist, one speedy moisture content of 18%. Flowcount ranged from 8 - 12 blows per foot with an average of 10 blows per foot.

ABBREVIATIONS

aq	aquifer	fr	friable	DH	DRILL HOLE
cav	cavities	lam	laminated	TP	TEST PIT
Q	centerline	mas	massive		
con	concretions	TD	total depth		
US	undisturbed samples	v	very		
DS	disturbed samples	wj	with		
dip	dipping	wea	weathered		
frac	fractured	WL	(date) groundwater level on a specified date		

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**

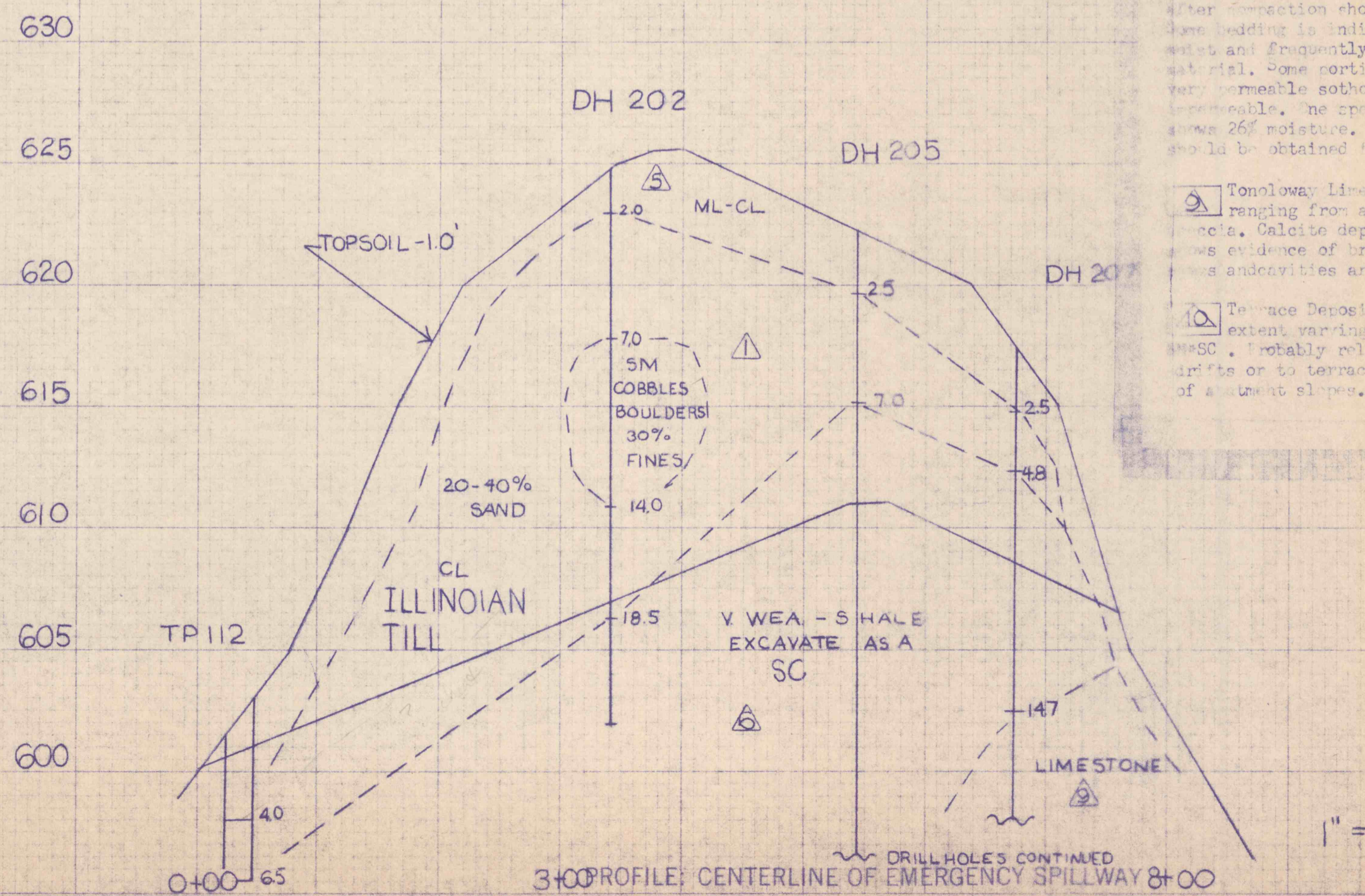
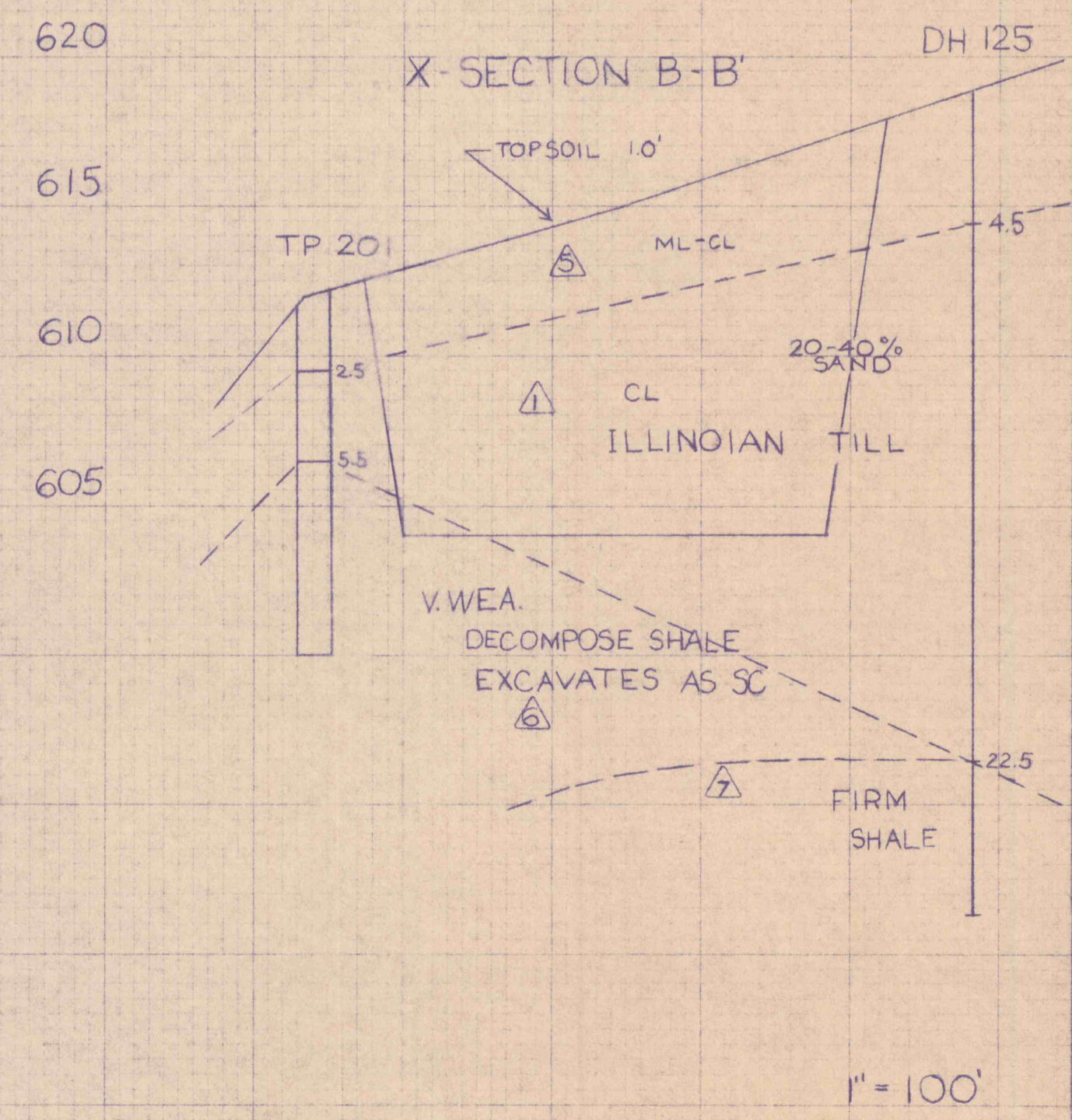
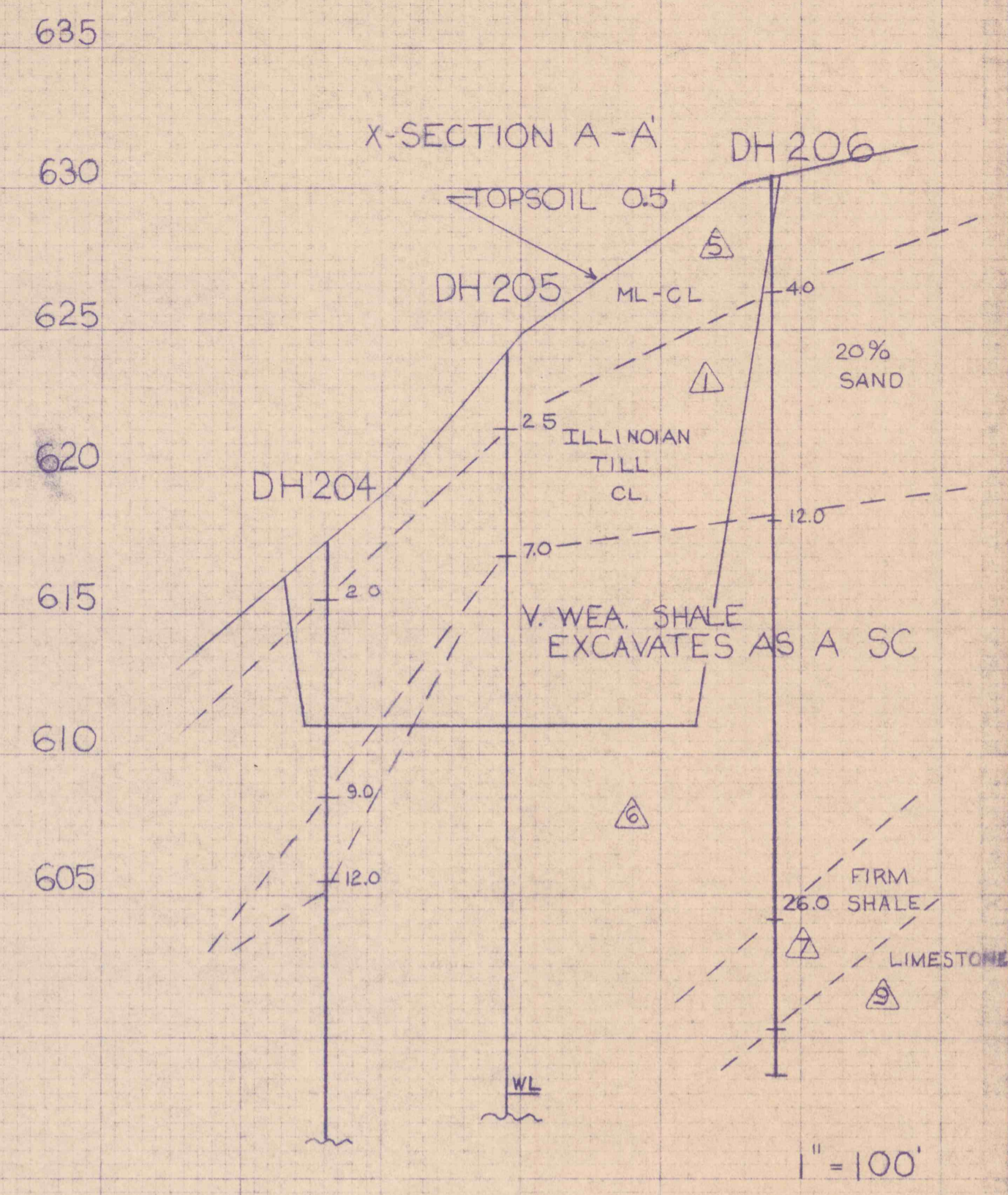
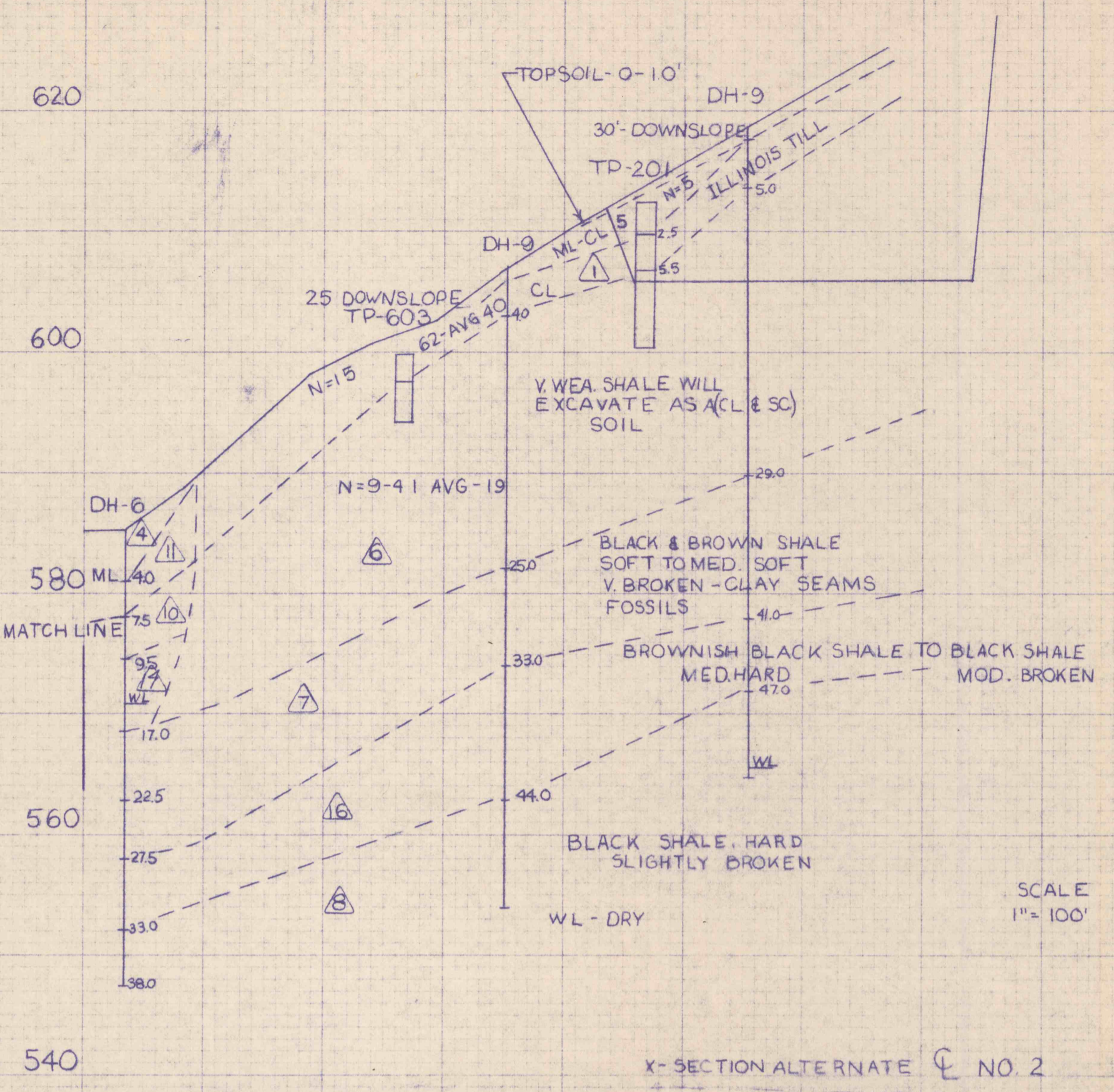
- GW Well graded gravels; gravel-sand mixtures
- GP Poorly graded gravels
- GM Silty gravels; gravel-sand-silt mixtures
- GC Clayey gravels; gravel-sand-clay mixtures
- SW Well graded sands; sand-gravel mixtures
- SP Poorly graded sands
- SM-1 Silty coarse sand
- SM-2 Silty fine sand
- SC Clayey sands; sand-clay mixtures
- ML Silts; 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 Geologist	Date	Approved by
Checked by G.C. Johnson		Title
Drawn by F.D. DODATO	Sheet 3	Drawing No.



Very weathered and decomposed shale, Hamilton shale, basically a clay shale with fractures filled with clay. The strata will excavate as an SC soil and after excavation should breakdown further into a CL soil. Some bedding is indicated in upper shales. Material is moist and frequently has a water table on top of the material. Some portions of the strata have zones which are very permeable although the strata is frequently impermeable. One speedy moisture sample moisture samples show 26% moisture. Detailed standard penetration test data should be obtained from the logs of this horizon.

▲ Tonoloway Limestone Formation, Gray limestone ranging from a shaly limestone to a limestone. Calcareous. Calcite deposition fills some of the seams and shows evidence of breakage and re-orientation; other cavities are open or clay filled.

▲ Terrace Deposits of limited lateral and vertical extent varying in lateral gradation from ML to SC. Probably related to water sorting of fluvial drifts or to terraces. Generally located at the base of a steep slope.

GEOLOGIC CROSS SECTIONS OF EMERGENCY SPILLWAY