

Figure 1 Plate 1 - Plot Plan

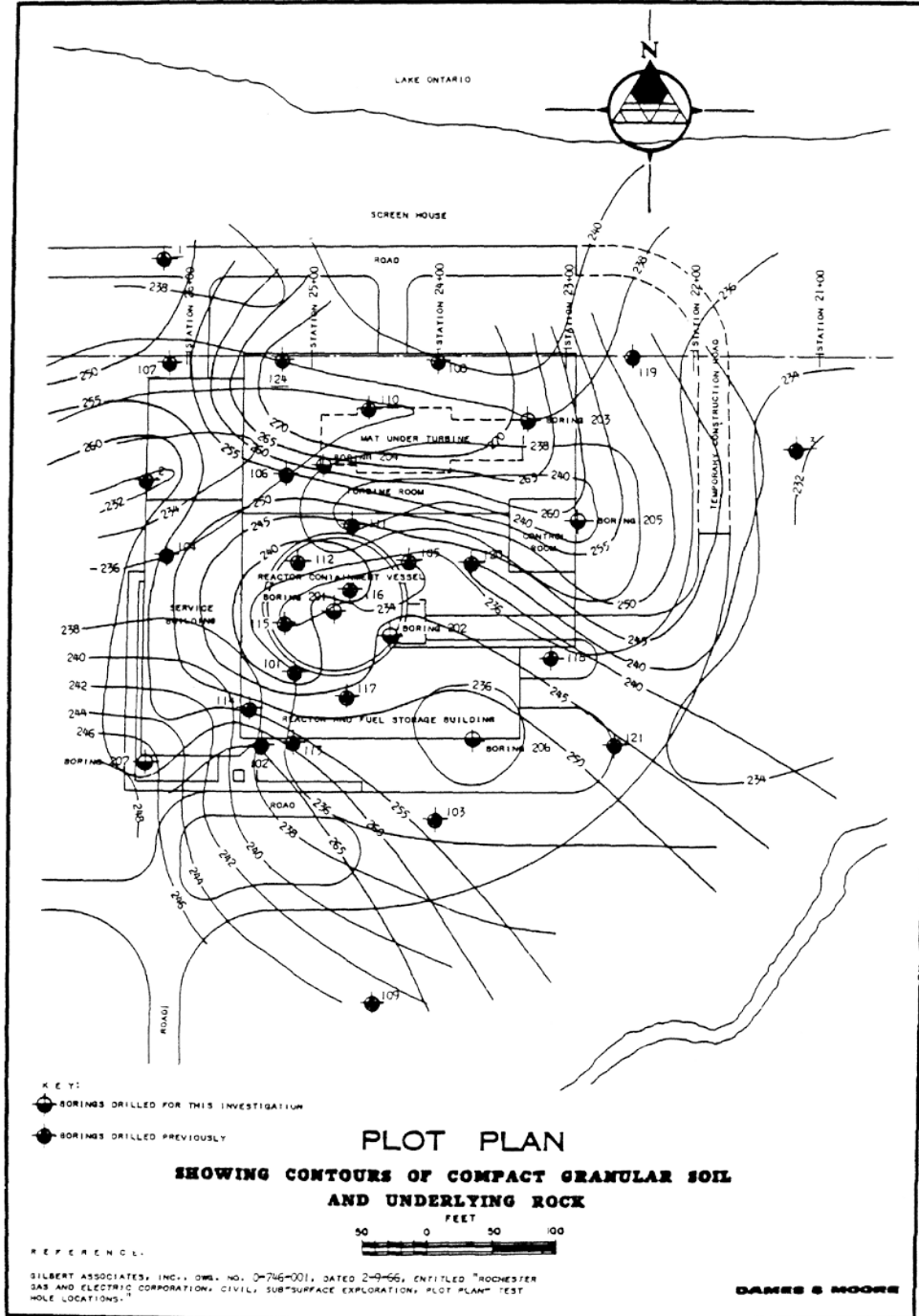


PLATE 1

Figure 2 Plate 2 - Foundation Design Data

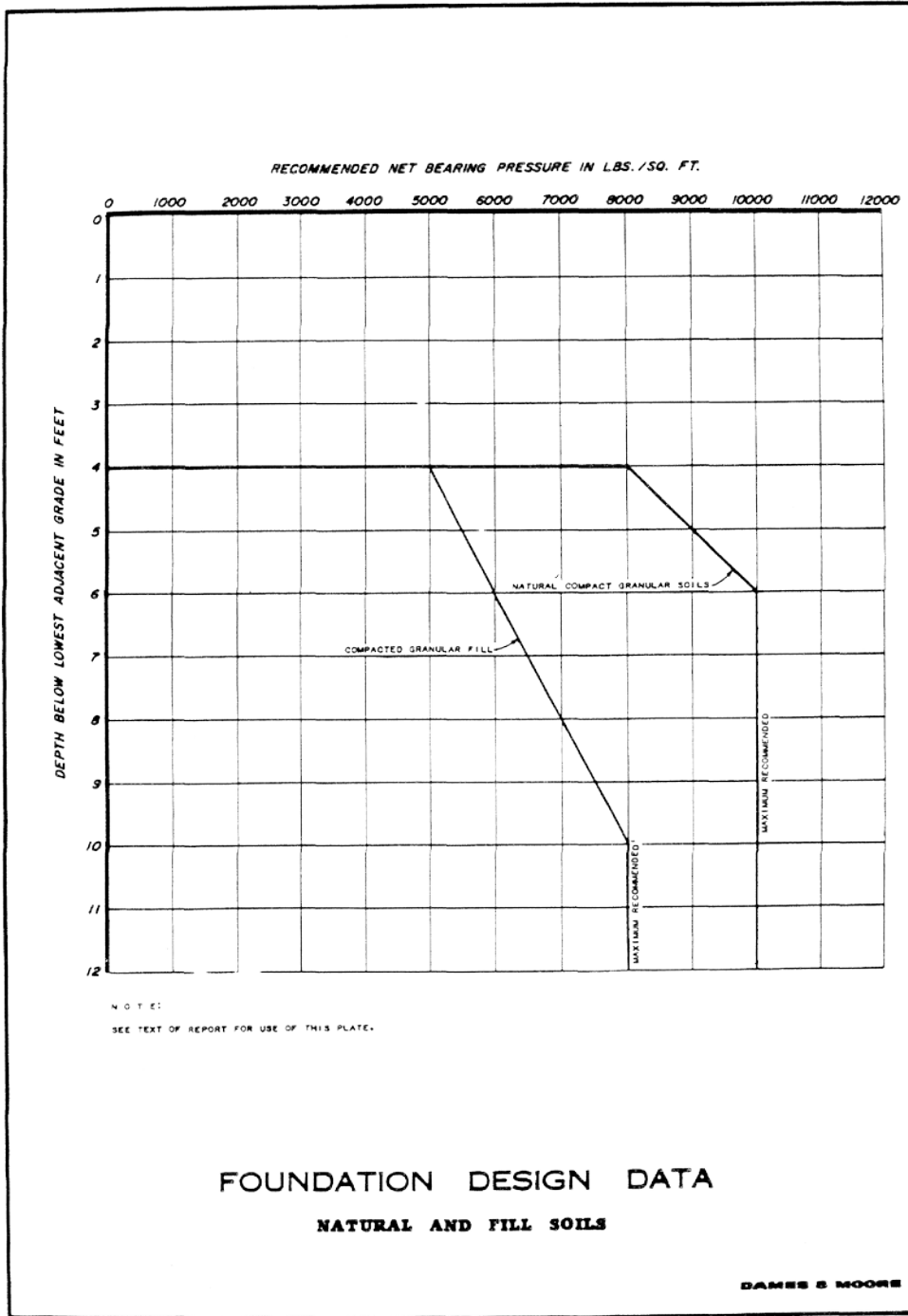
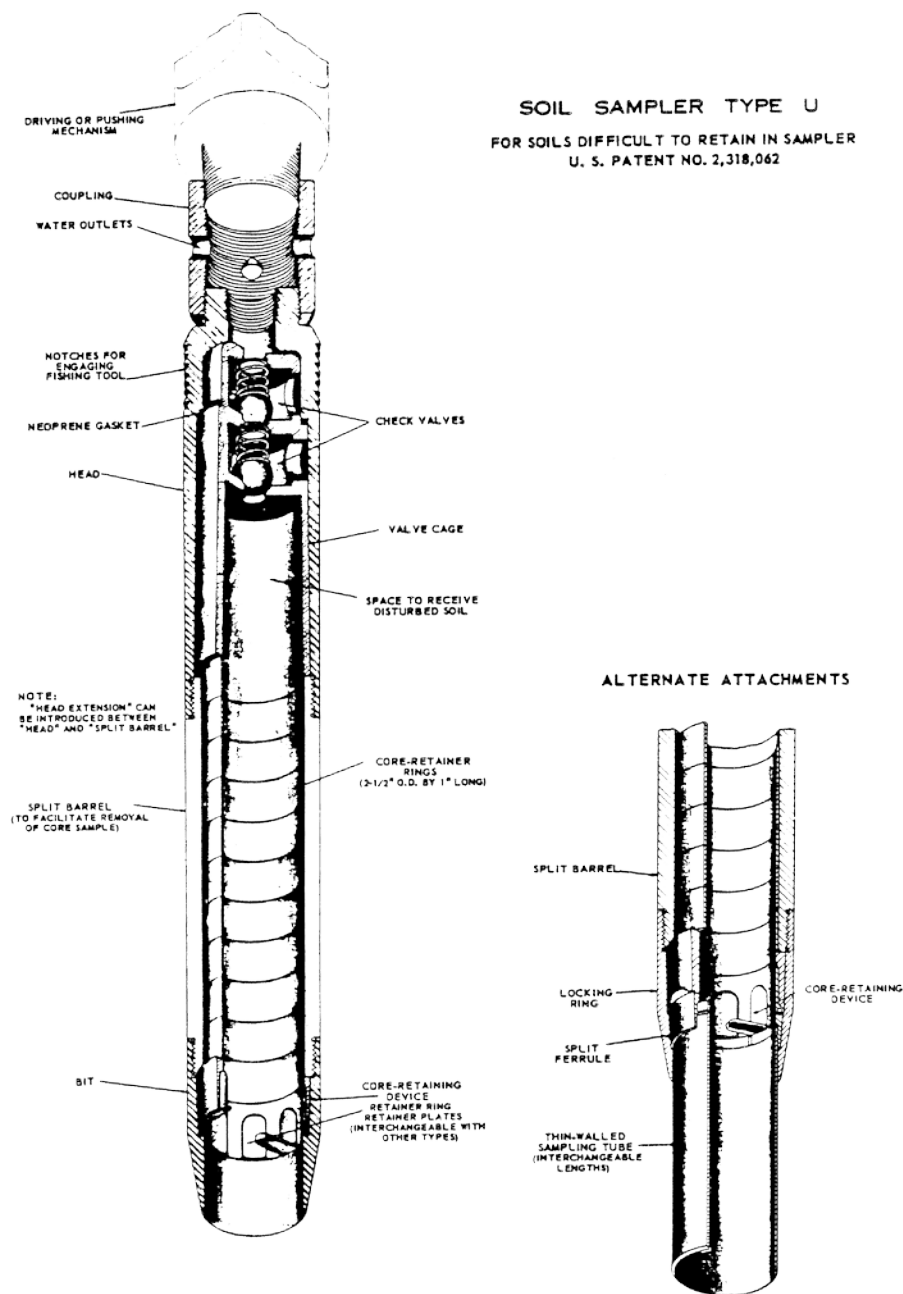


Figure 3 Soil Sampler Type U



**Figure 4** *Methods of Performing Unconfined Compression and Triaxial Compression Tests*

METHODS OF PERFORMING UNCONFINED COMPRESSION AND TRIAXIAL COMPRESSION TESTS

THE SHEARING STRENGTHS OF SOILS ARE DETERMINED FROM THE RESULTS OF UNCONFINED COMPRESSION AND TRIAXIAL COMPRESSION TESTS. IN TRIAXIAL COMPRESSION TESTS THE TEST METHOD AND THE MAGNITUDE OF THE CONFINING PRESSURE ARE CHOSEN TO SIMULATE ANTICIPATED FIELD CONDITIONS.

UNCONFINED COMPRESSION AND TRIAXIAL COMPRESSION TESTS ARE PERFORMED ON UNDISTURBED OR REMOLDED SAMPLES OF SOIL APPROXIMATELY SIX INCHES IN LENGTH AND TWO AND ONE-HALF INCHES IN DIAMETER. THE TESTS ARE RUN EITHER STRAIN-CONTROLLED OR STRESS-CONTROLLED. IN A STRAIN-CONTROLLED TEST THE SAMPLE IS SUBJECTED TO A CONSTANT RATE OF DEFLECTION AND THE RESULTING STRESSES ARE RECORDED. IN A STRESS-CONTROLLED TEST THE SAMPLE IS SUBJECTED TO EQUAL INCREMENTS OF LOAD WITH EACH INCREMENT BEING MAINTAINED UNTIL AN EQUILIBRIUM CONDITION WITH RESPECT TO STRAIN IS ACHIEVED.

YIELD, PEAK, OR ULTIMATE STRESSES ARE DETERMINED FROM THE STRESS-STRAIN PLOT FOR EACH SAMPLE AND THE PRINCIPAL STRESSES ARE EVALUATED. THE PRINCIPAL STRESSES ARE PLOTTED ON A MOHR'S CIRCLE DIAGRAM TO DETERMINE THE SHEARING STRENGTH OF THE SOIL TYPE BEING TESTED.

UNCONFINED COMPRESSION TESTS CAN BE PERFORMED ONLY ON SAMPLES WITH SUFFICIENT COHESION SO THAT THE SOIL WILL STAND AS AN UNSUPPORTED CYLINDER. THESE TESTS MAY BE RUN AT NATURAL MOISTURE CONTENT OR ON ARTIFICIALLY SATURATED SOILS.

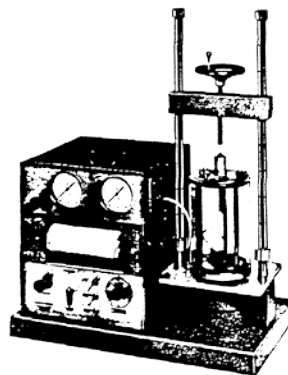
IN A TRIAXIAL COMPRESSION TEST THE SAMPLE IS ENCASED IN A RUBBER MEMBRANE, PLACED IN A TEST CHAMBER, AND SUBJECTED TO A CONFINING PRESSURE THROUGHOUT THE DURATION OF THE TEST. NORMALLY, THIS CONFINING PRESSURE IS MAINTAINED AT A CONSTANT LEVEL, ALTHOUGH FOR SPECIAL TESTS IT MAY BE VARIED IN RELATION TO THE MEASURED STRESSES. TRIAXIAL COMPRESSION TESTS MAY BE RUN ON SOILS AT FIELD MOISTURE CONTENT OR ON ARTIFICIALLY SATURATED SAMPLES. THE TESTS ARE PERFORMED IN ONE OF THE FOLLOWING WAYS:

**UNCONSOLIDATED-UNDRAINED:** THE CONFINING PRESSURE IS IMPOSED ON THE SAMPLE AT THE START OF THE TEST. NO DRAINAGE IS PERMITTED AND THE STRESSES WHICH ARE MEASURED REPRESENT THE SUM OF THE INTERGRANULAR STRESSES AND PORE WATER PRESSURES.

**CONSOLIDATED-UNDRAINED:** THE SAMPLE IS ALLOWED TO CONSOLIDATE FULLY UNDER THE APPLIED CONFINING PRESSURE PRIOR TO THE START OF THE TEST. THE VOLUME CHANGE IS DETERMINED BY MEASURING THE WATER AND/OR AIR EXPELLED DURING CONSOLIDATION. NO DRAINAGE IS PERMITTED DURING THE TEST AND THE STRESSES WHICH ARE MEASURED ARE THE SAME AS FOR THE UNCONSOLIDATED-UNDRAINED TEST.

**DRAINED:** THE INTERGRANULAR STRESSES IN A SAMPLE MAY BE MEASURED BY PERFORMING A DRAINED, OR SLOW, TEST. IN THIS TEST THE SAMPLE IS FULLY SATURATED AND CONSOLIDATED PRIOR TO THE START OF THE TEST. DURING THE TEST, DRAINAGE IS PERMITTED AND THE TEST IS PERFORMED AT A SLOW ENOUGH RATE TO PREVENT THE BUILDUP OF PORE WATER PRESSURES. THE RESULTING STRESSES WHICH ARE MEASURED REPRESENT ONLY THE INTERGRANULAR STRESSES. THESE TESTS ARE USUALLY PERFORMED ON SAMPLES OF GENERALLY NON-COHESIVE SOILS, ALTHOUGH THE TEST PROCEDURE IS APPLICABLE TO COHESIVE SOILS IF A SUFFICIENTLY SLOW TEST RATE IS USED.

AN ALTERNATE MEANS OF OBTAINING THE DATA RESULTING FROM THE DRAINED TEST IS TO PERFORM AN UNDRAINED TEST IN WHICH SPECIAL EQUIPMENT IS USED TO MEASURE THE PORE WATER PRESSURES. THE DIFFERENCES BETWEEN THE TOTAL STRESSES AND THE PORE WATER PRESSURES MEASURED ARE THE INTERGRANULAR STRESSES.



TRIAXIAL COMPRESSION TEST UNIT

Figure 5 Plate A-1A - Log of Borings (Borings 201 through 202)

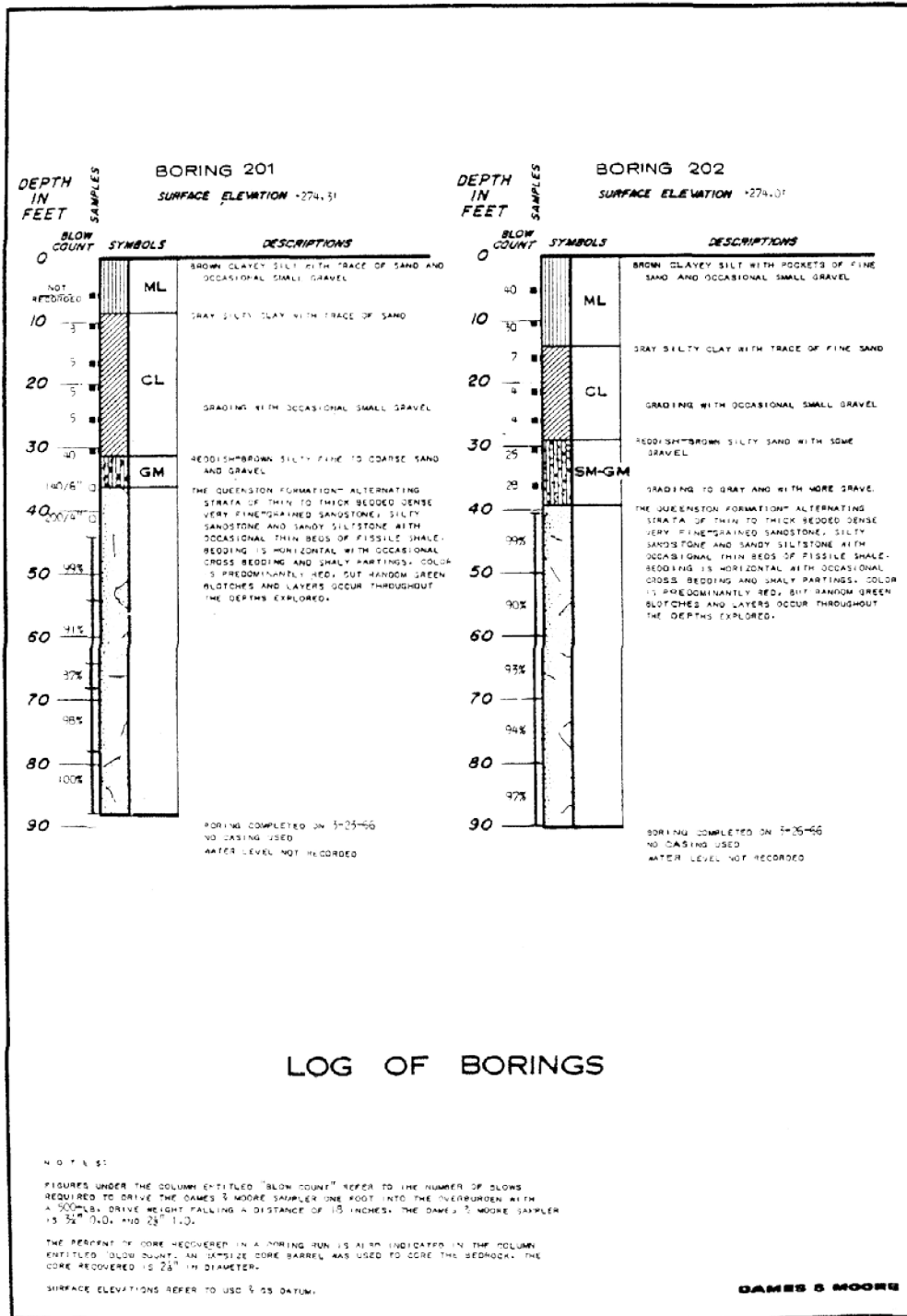


Figure 6 Plate A-1B - Log of Borings (Borings 203 through 207)

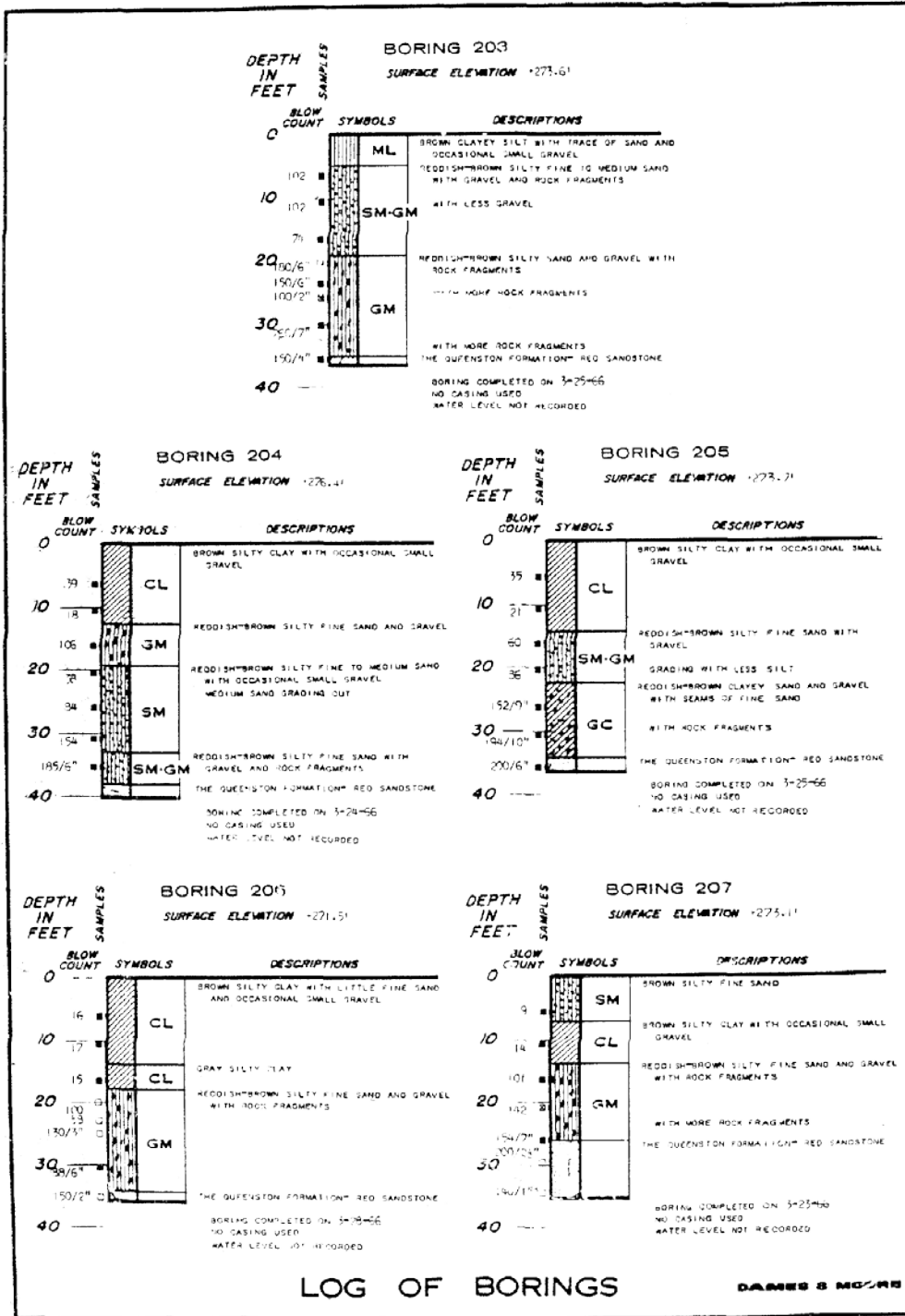
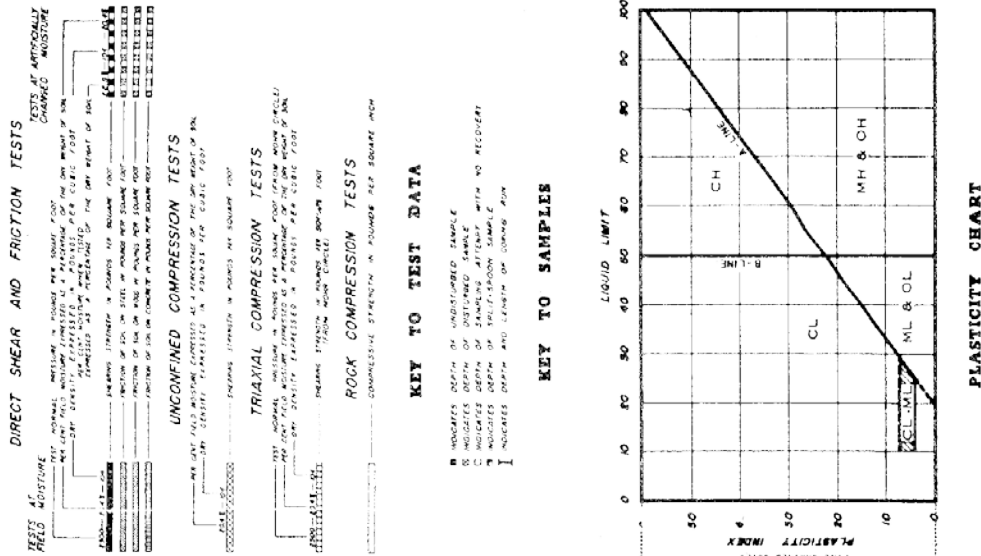


Figure 7 Plate A-2 - Unified Soil Classification System and Key to Test Data



MAJOR DIVISIONS	GRAPH SYMBOL	LETTER SYMBOL	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS	[Symbol: Coarse sand with gravel]	GW	WELL-SORTED SANDS, GRAVELS, SILTS OR NO FINES
		GP	POORLY-SORTED SANDS, GRAVELS, SILTS OR NO FINES
	[Symbol: Silty sand]	GM	SILT, GRAVELS, SANDS, SILTS OR SILT MIXTURES
		GC	CLAY GRAVELS, SANDS, SILTS OR SILT MIXTURES
FINE GRAINED SOILS	[Symbol: Clean sand]	SW	WELL-SORTED SANDS, GRAVELS, SILTS OR NO FINES
		SP	POORLY-SORTED SANDS, GRAVELS, SILTS, LITTLE OR NO FINES
	[Symbol: Silty clay]	SM	SILT, SANDS, SANDSILTY MIXTURES
		SC	CLAYEY SANDS, SAND-CLAY MIXTURES
HIGHLY ORGANIC SOILS	[Symbol: Silty clay]	ML	LOW PLASTICITY SILTS AND CLAYS, ORGANIC SILTS AND CLAYS, FINE SANDS, SILTS OR CLAYEY FINE SANDS, SILTS OR CLAYS
		CL	HIGH PLASTICITY SILTS AND CLAYS, ORGANIC SILTS AND CLAYS, SANDY CLAYS, SILTY CLAYS, CLAYEY SILTS
	[Symbol: Silty clay]	OL	ORGANIC SILTS AND CLAYS OF LOW PLASTICITY
		MH	HIGH PLASTICITY SILTS AND CLAYS OF MEDIUM TO HIGH PLASTICITY
	[Symbol: Clay]	CH	ORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
		OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
		PT	PEATS, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

**KEY TO TEST DATA**

- INDICATES DEPTH OF UNDISTURBED SAMPLE
- INDICATES DEPTH OF DISTURBED SAMPLE
- INDICATES DEPTH OF SAMPLE WITH NO RECOVERY
- △ INDICATES DEPTH OF SAMPLE WITH RECOVERY
- ∇ INDICATES DEPTH AND LENGTH OF SAMPLE

**KEY TO SAMPLES**

- INDICATES DEPTH OF UNDISTURBED SAMPLE
- INDICATES DEPTH OF DISTURBED SAMPLE
- INDICATES DEPTH OF SAMPLE WITH NO RECOVERY
- △ INDICATES DEPTH OF SAMPLE WITH RECOVERY
- ∇ INDICATES DEPTH AND LENGTH OF SAMPLE

**UNCOMFINED COMPRESSION TESTS**

- INDICATES DEPTH OF SAMPLE
- INDICATES DEPTH OF SAMPLE
- INDICATES DEPTH OF SAMPLE
- △ INDICATES DEPTH OF SAMPLE
- ∇ INDICATES DEPTH AND LENGTH OF SAMPLE

**TRIAXIAL COMPRESSION TESTS**

- INDICATES DEPTH OF UNDISTURBED SAMPLE
- INDICATES DEPTH OF DISTURBED SAMPLE
- INDICATES DEPTH OF SAMPLE WITH NO RECOVERY
- △ INDICATES DEPTH OF SAMPLE WITH RECOVERY
- ∇ INDICATES DEPTH AND LENGTH OF SAMPLE

**ROCK COMPRESSION TESTS**

- INDICATES DEPTH OF UNDISTURBED SAMPLE
- INDICATES DEPTH OF DISTURBED SAMPLE
- INDICATES DEPTH OF SAMPLE WITH NO RECOVERY
- △ INDICATES DEPTH OF SAMPLE WITH RECOVERY
- ∇ INDICATES DEPTH AND LENGTH OF SAMPLE

**TESTS AT APPROPRIATE MOISTURE**

- INDICATES DEPTH OF UNDISTURBED SAMPLE
- INDICATES DEPTH OF DISTURBED SAMPLE
- INDICATES DEPTH OF SAMPLE WITH NO RECOVERY
- △ INDICATES DEPTH OF SAMPLE WITH RECOVERY
- ∇ INDICATES DEPTH AND LENGTH OF SAMPLE

**TESTS AT APPROPRIATE MOISTURE**

- INDICATES DEPTH OF UNDISTURBED SAMPLE
- INDICATES DEPTH OF DISTURBED SAMPLE
- INDICATES DEPTH OF SAMPLE WITH NO RECOVERY
- △ INDICATES DEPTH OF SAMPLE WITH RECOVERY
- ∇ INDICATES DEPTH AND LENGTH OF SAMPLE