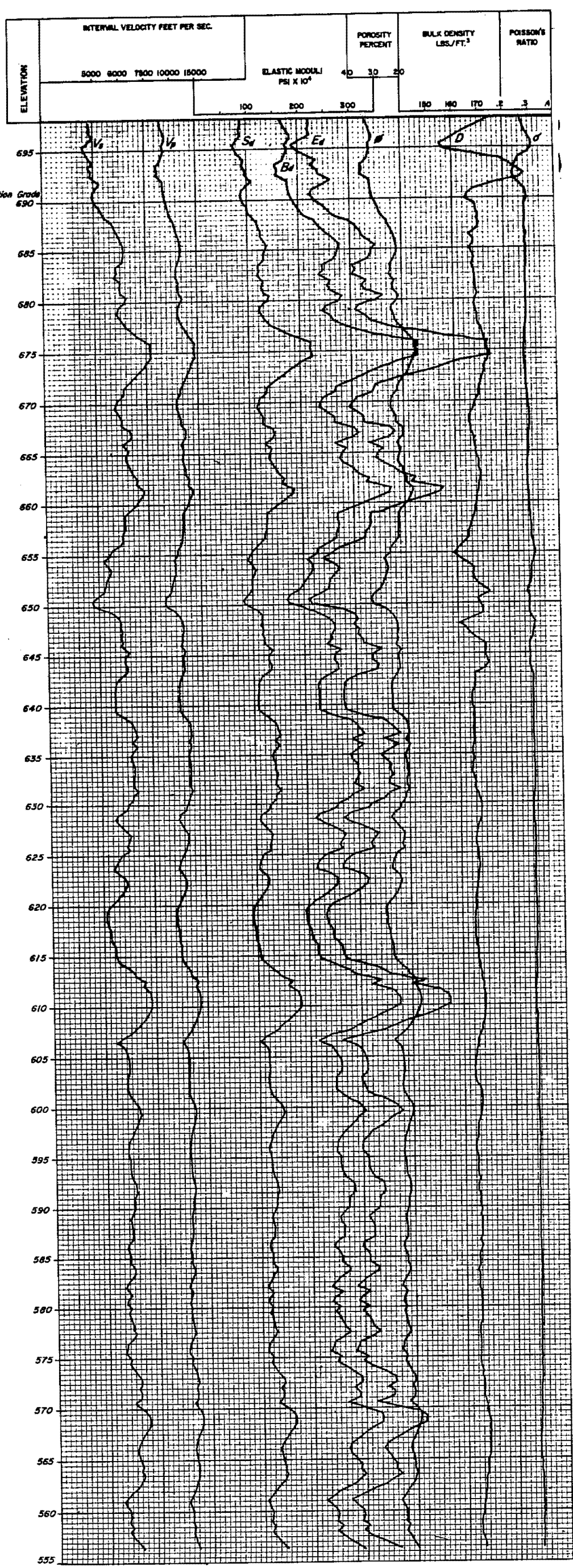
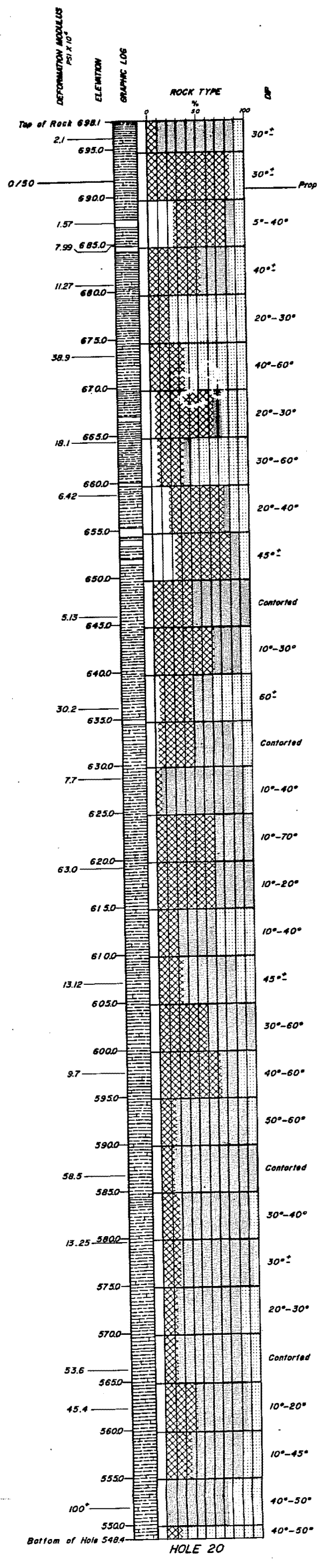




V_s = Shear Velocity.
 V_p = Compressional Velocity.
 S_d = Dynamic Shear Modulus.
 B_d = Dynamic Bulk Modulus.
 E_d = Dynamic Young's Modulus.
 β = Porosity.
 D = Density.
 σ = Poisson's Ratio.

LEGEND

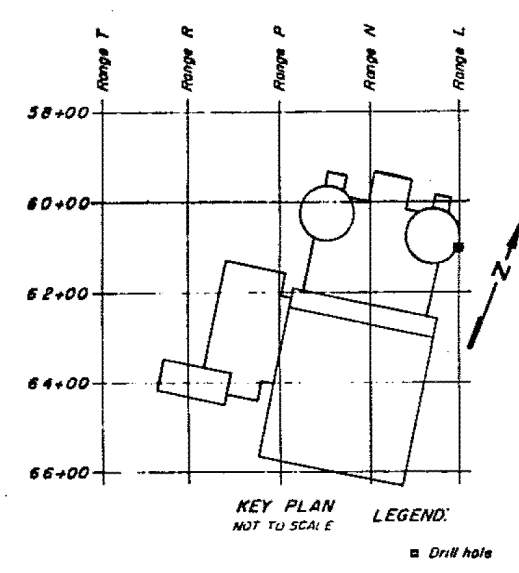
GRAPHIC LOG
D/50 Water Test
Porewater showing
Core Loss
gal per min/psi

GENERAL ROCK DESCRIPTION
THE FOUNDATION ROCK IS COMPOSED OF THE CONRADIA FORMATION. THIS FORMATION CONSISTS OF CONCRETED GRAY-GREEN SHALES INTERBEDDED WITH LENSES OF LIMESTONES.

ROCK TYPE
Given graphically in % and showing ranges of test values for deformation modulus (psi x 10^4)
Type 0 - Core loss
Type 1 - Soft shale 1 to 10
Type 2 - Hard shale 5 to 60
Type 3 - Limestone 100+
THESE TYPES WERE IDENTIFIED FROM VISUAL INSPECTION OF THE CORE. GENERALLY, DETERMINATIONS WERE MADE FOR EACH FIVE FOOT LENGTH OF CORE IN THE BOX.

NOTES:

1. THE HOLE WAS DRILLED WITH AN 8x WIRE LINE CORE DRILL.
2. THE DRILL HOLE WAS INSPECTED WITH A BOREHOLE TELEVISION CAMERA BETWEEN ELEVATIONS 698.1 AND 619.7. THE INSPECTION SHOWED THE CORE LOSS AREAS TO BE SOFT SHALE.
3. THE DEFORMATION MODULUS IS DEFINED AS THE IN-SITU SECANT MODULUS INCLUDING BOTH ELASTIC AND PLASTIC DEFORMATION AS DETERMINED FROM THE RESULTS OF THE MENARD PRESSUREMETER TESTS.
4. THE BOREHOLE SURVEY FOR THE DYNAMIC ELASTIC MODULI WAS MADE BY THE BIRDMELL DIVISION OF SEISMOGRAPH SERVICE CORPORATION.



**WATTS BAR NUCLEAR PLANT
FINAL SAFETY
ANALYSIS REPORT**

GRAPHIC LOG AND
ELASTIC MODULI
STA. L-61+00
Figure 2.5-71