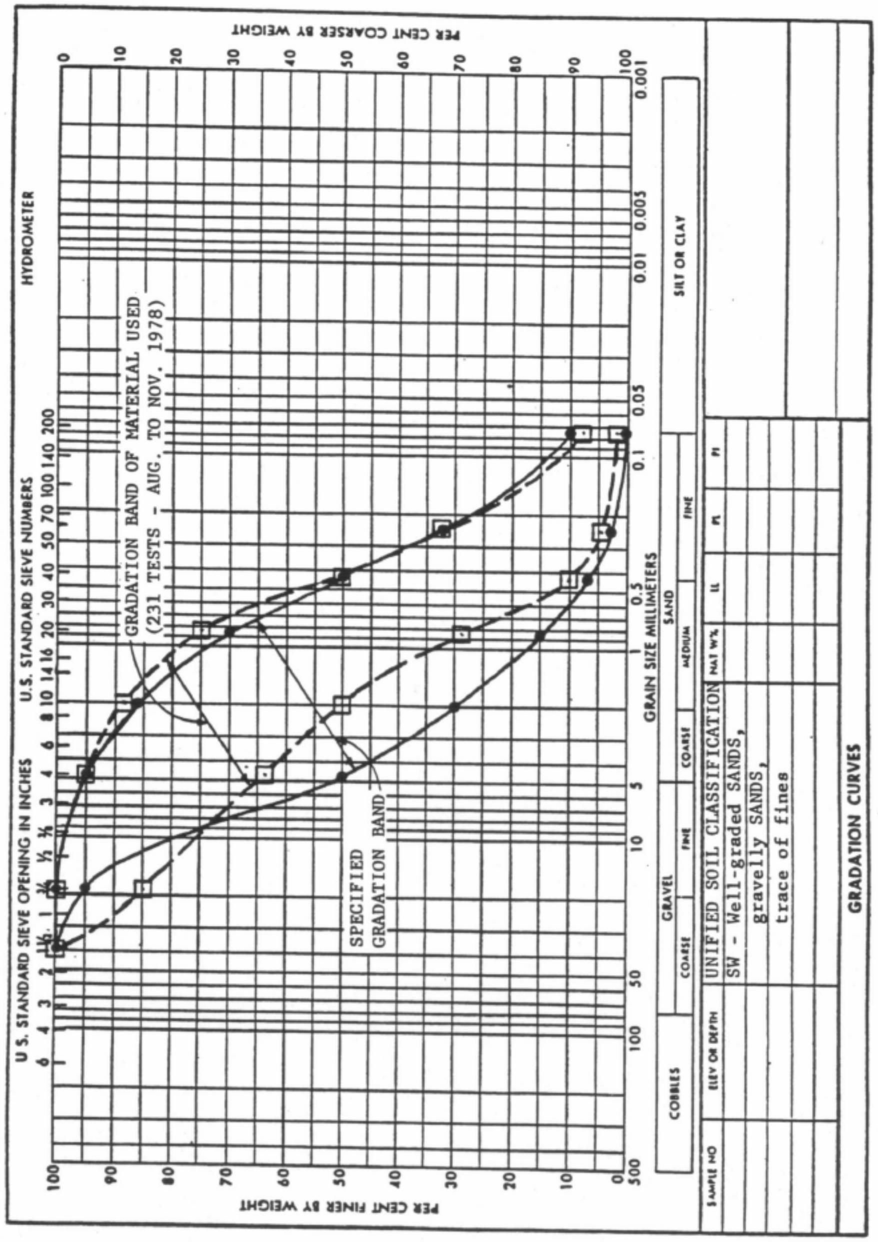
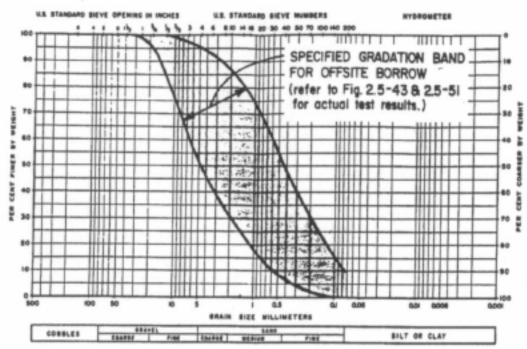
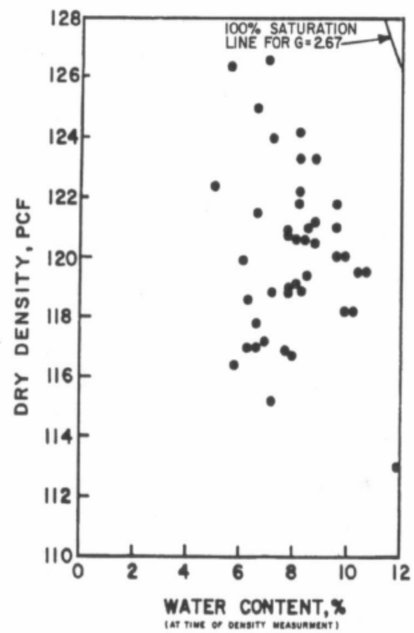
SECURITY-RELATED INFORMATION – WITHHELD UNDER 5 U.S.C. SECTION 552(b)(4) AND 5 U.S.C. SECTION 552(b)(7)(F)

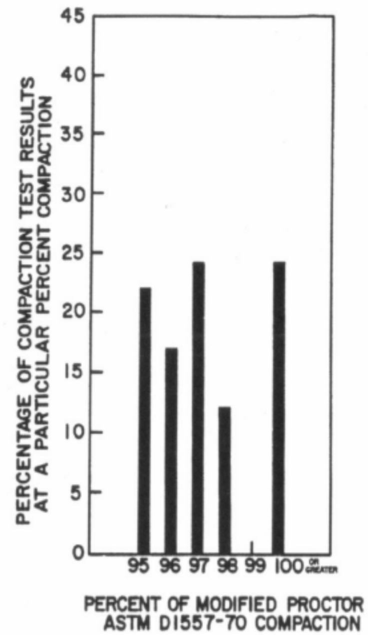
SECURITY-RELATED INFORMATION – WITHHELD UNDER 5 U.S.C. SECTION 552(b)(4) AND 5 U.S.C. SECTION 552(b)(7)(F)

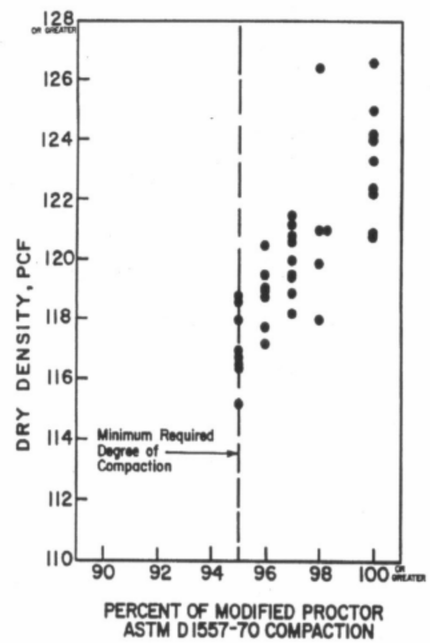


SEABROOK STATION UPDATED FINAL SAFETY ANALYSIS REPORT	Offsite Borrow
	Figure 2.5-51

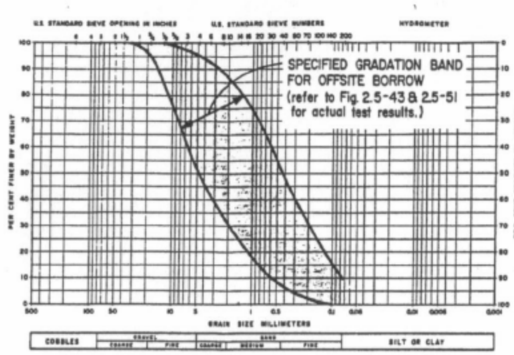


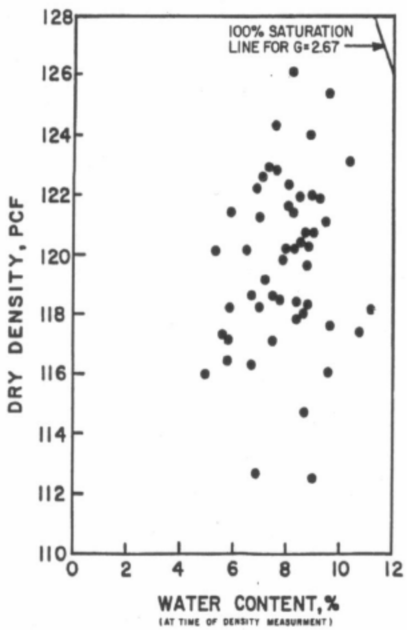


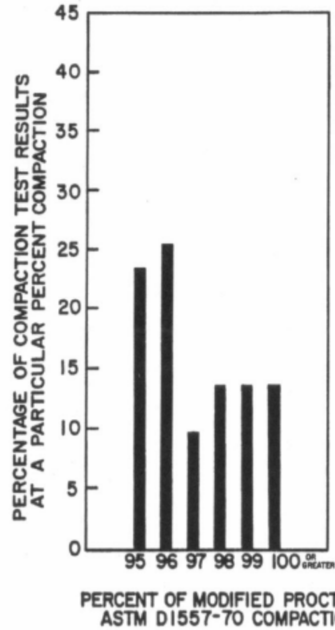


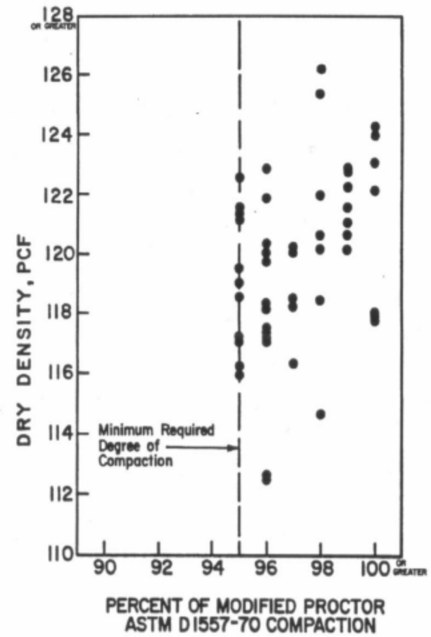


NOTES:
(1) Results shown correspond to all field density tests on Offsite Borrow placed in various safety-related areas of the plant site during Feb. 1978, Feb. 1979, March 1979, Jan. 1980, Feb. 1980, and Feb. 1981. Field density tests were performed according to ASTM D2922-71. A one-point compaction test was done for each field density test.
(2) All layers were compacted to at least 95% of ASTM D1557-70 compaction. If the measured degree of compaction for any layer was less than 95%, the layer was recompacted and retested until adequate compaction was achieved. Only the final compaction result for each layer was plotted in this figure.
(3) The total number of test results used to prepare the histogram is 41.







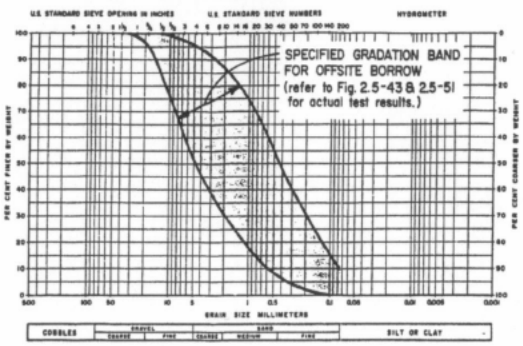


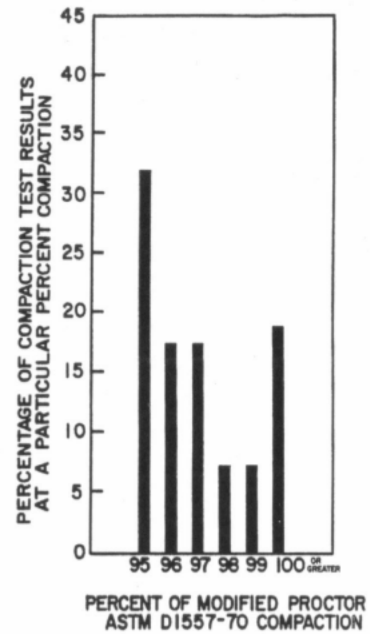
NOTES: (1) Results shown correspond to all field density tests on Offsite Borrow placed in various safety-related areas of the plant site during April and May for both 1978 and 1979. Field density tests were performed according to ASTM D2922-71. A one-point compaction test was done for each field density test.

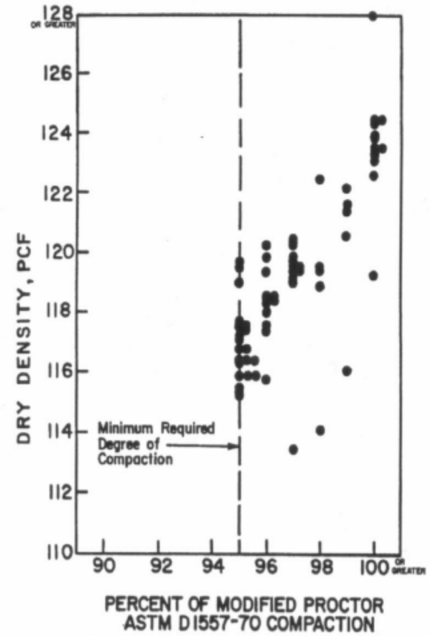
(2) All layers were compacted to at least 95% of ASTM D1557-70 compaction. If the measured degree of compaction for any layer was less than 95%, the layer was recompacted and retested until adequate compaction was achieved. Only the final compaction result for each layer was plotted in this figure.

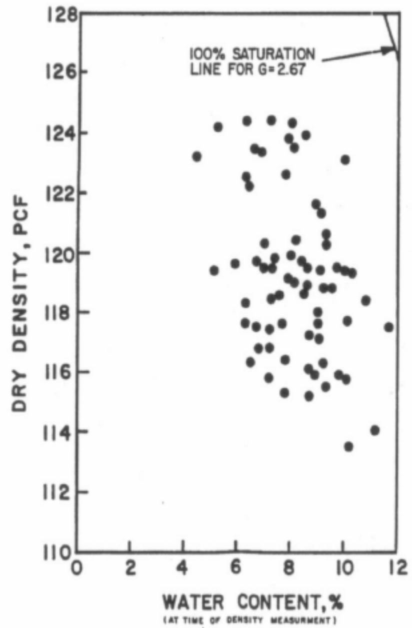
(3) The total number of test results used to prepare the histogram is 51.

SEABROOK STATION UPDATED FINAL SAFETY ANALYSIS REPORT	Offsite Borrow Compaction Test Results – Typical Spring Period
	Figure 2.5-53



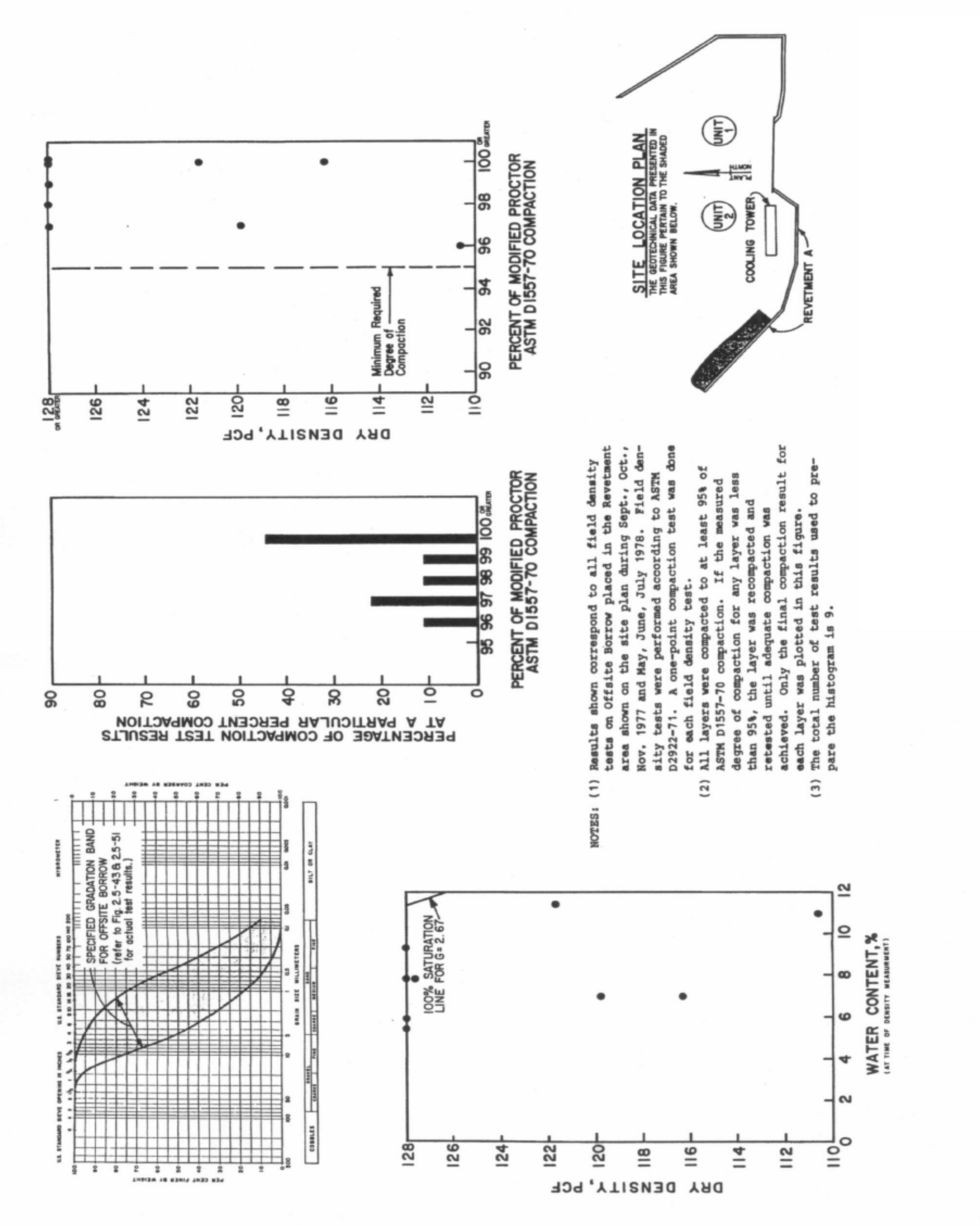




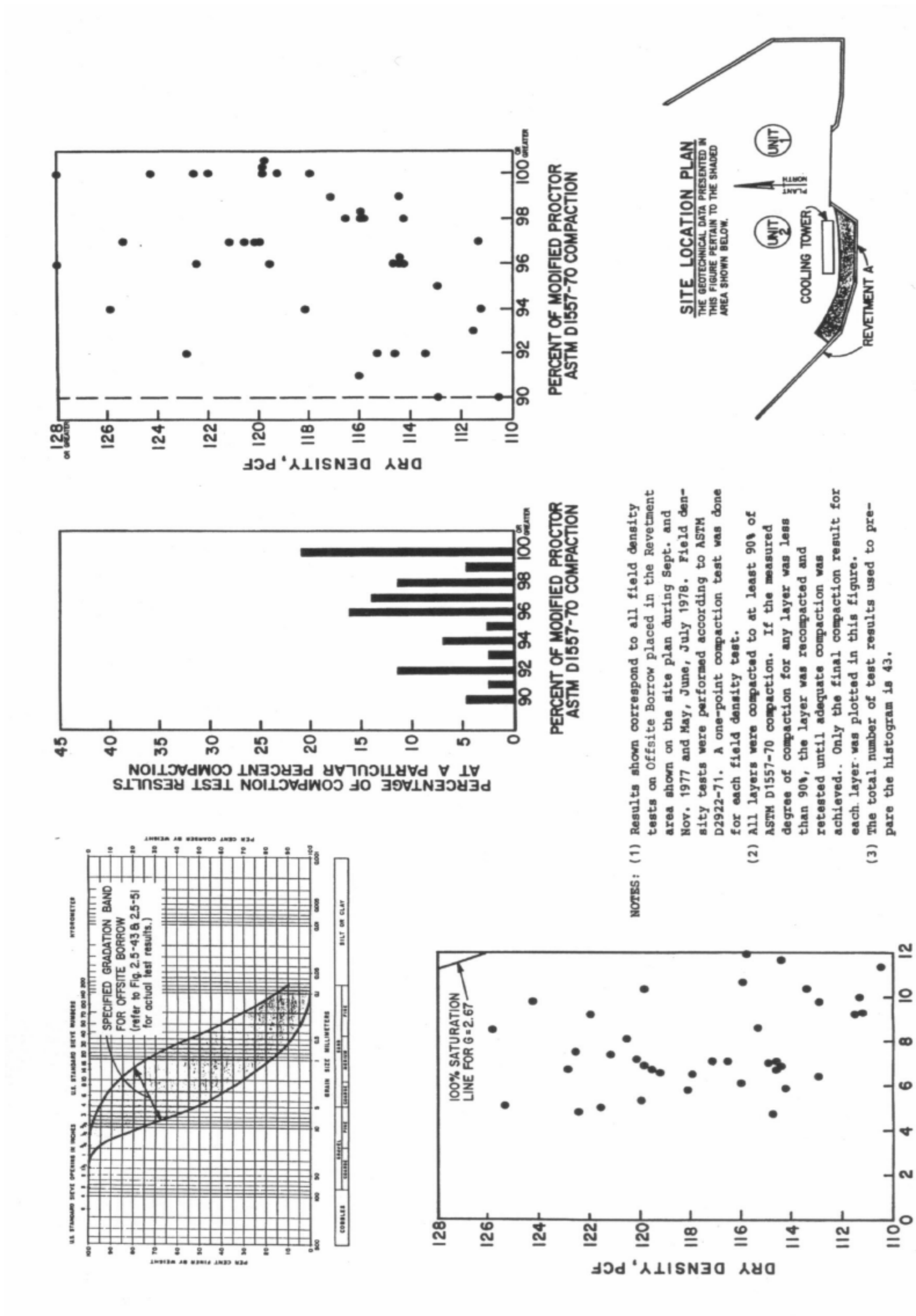


NOTES:
(1) Results shown correspond to all field density tests on Offsite Borrow placed in various safety-related areas of the plant site during August 1 through 15 of 1979. Field density tests were performed according to ASTM D2922-71. A one-point compaction test was done for each field density test.
(2) All layers were compacted to at least 95% of ASTM D1557-70 compaction. If the measured degree of compaction for any layer was less than 95%, the layer was recompacted and retested until adequate compaction was achieved. Only the final compaction result for each layer was plotted in this figure.
(3) The total number of test results used to prepare the histogram is 69.

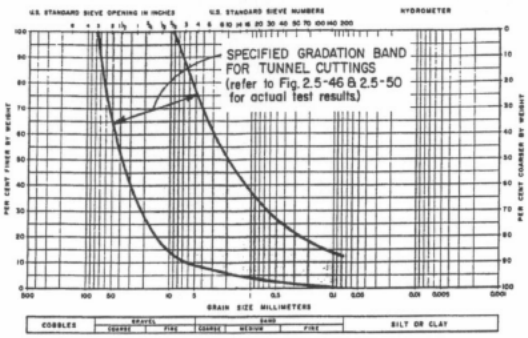
SEABROOK STATION UPDATED FINAL SAFETY ANALYSIS REPORT	Offsite Borrow Compaction Test Results – Typical Summer Period
	Figure 2.5-54

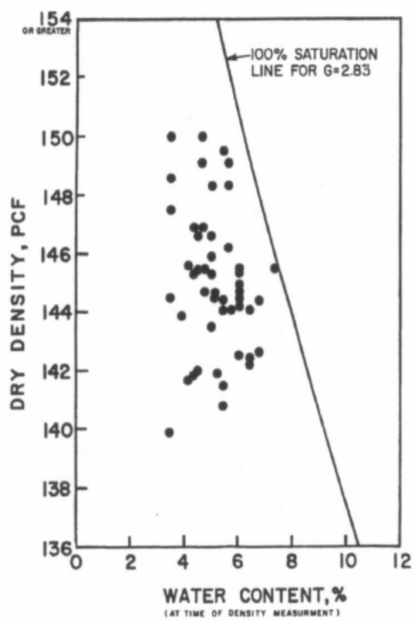


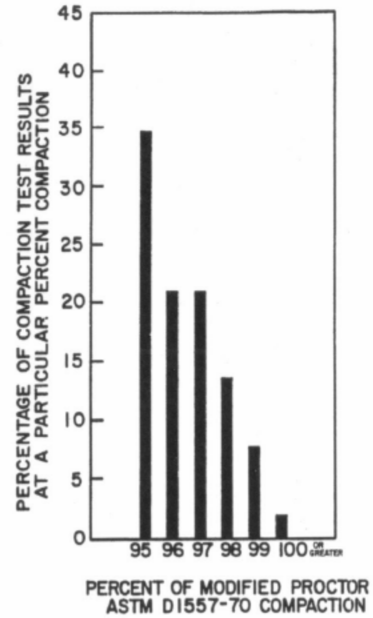
SEABROOK STATION UPDATED FINAL SAFETY ANALYSIS REPORT	Offsite Borrow Compaction Test Results 95% Critieria – Revetment Area
	Figure 2.5-55

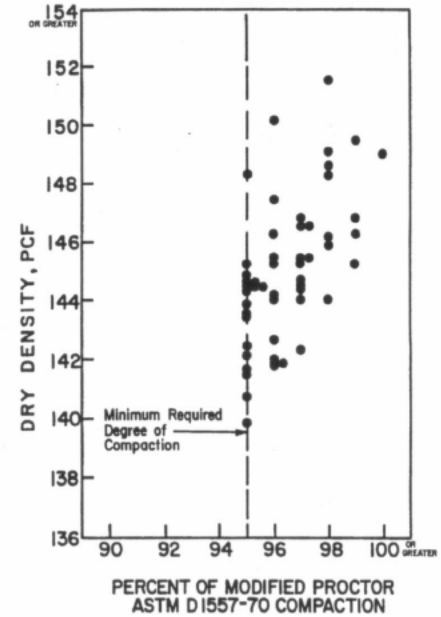


SEABROOK STATION UPDATED FINAL SAFETY ANALYSIS REPORT	Offsite Borrow Compaction Test Results 90% Critieria – Revetment Area	
		Figure 2.5-56







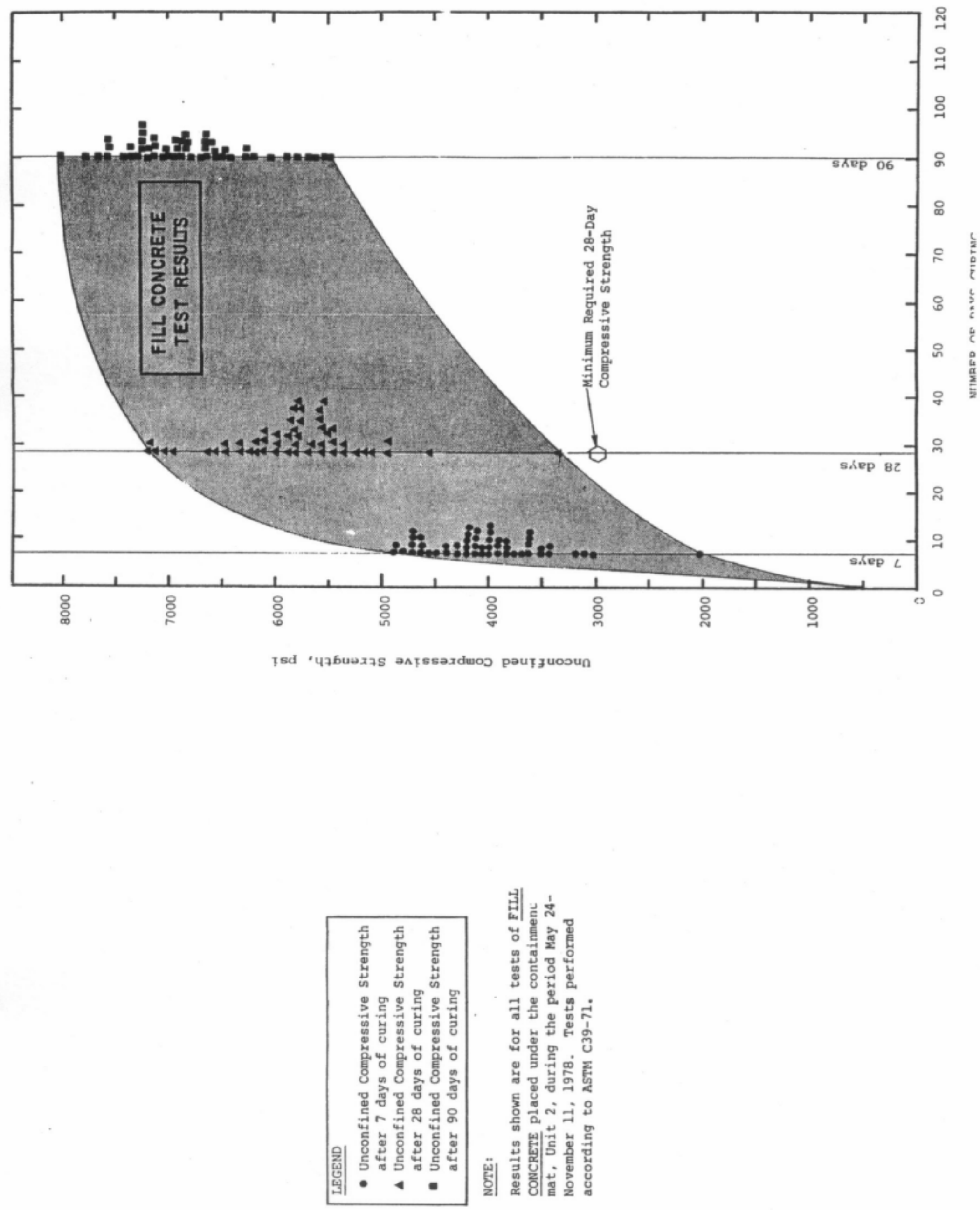


NOTES: (1) Results shown correspond to all field density tests performed on Tunnel Cuttings in safety-related areas of the plant site. These areas were N10160-10220±, E5290-5360± (August 13-26, 1981) and N10140-10210±, E5420-5550± (September 11, 1980-May 20, 1981). Field density tests were performed according to ASTM D2922-71. A one-point compaction test was done for each field density test.

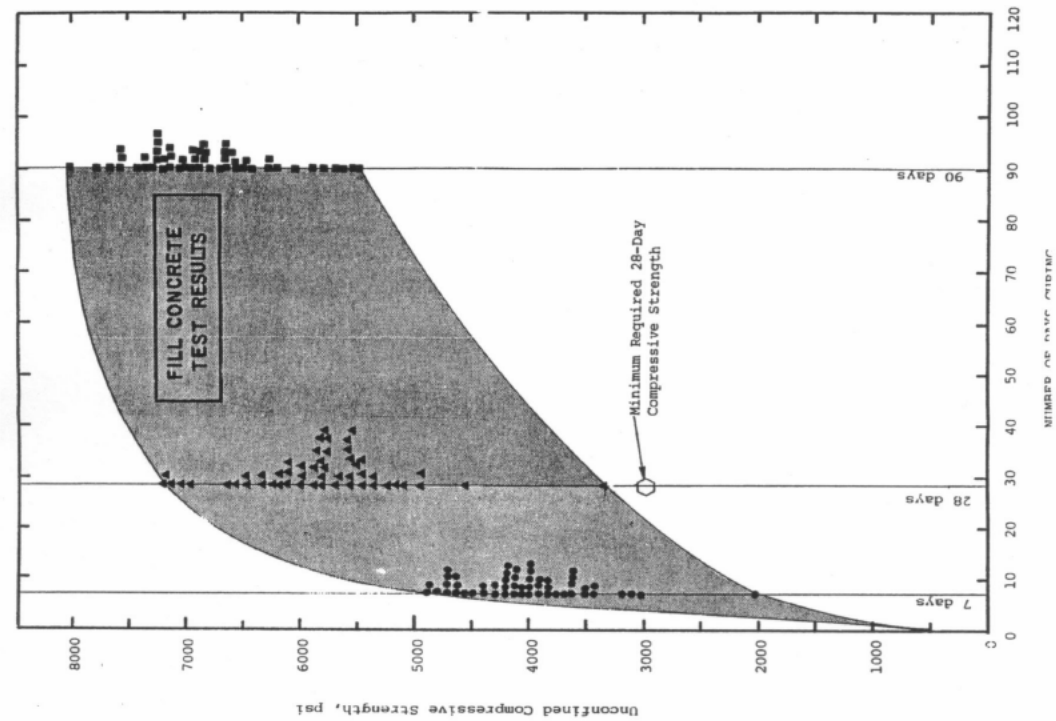
(2) All layers were compacted to at least 95% of ASTM D1557-70 compaction. If the measured degree of compaction for any layer was less than 95%, the layer was recompacted and retested until adequate compaction was achieved. Only the final compaction result for each layer was plotted in this figure.

(3) The total number of test results used to prepare the histogram is 52.

SEABROOK STATION UPDATED FINAL SAFETY ANALYSIS REPORT	Tunnel Cuttings Compaction Test Results	
		Figure 2.5-57



SEABROOK STATION UPDATED FINAL SAFETY ANALYSIS REPORT	Fill Concrete Test Results	
		Figure 2.5-59



LEGEND

- ● Unconfined Compressive Strength after 7 days of curing
- ▲ Unconfined Compressive Strength after 28 days of curing
- ■ Unconfined Compressive Strength after 90 days of curing

NOTE:

Results shown are for all tests of FILL CONCRETE placed under the containment mat, Unit 2, during the period May 24-November 11, 1978. Tests performed according to ASTM C39-71.

LEGEND

- ● Unconfined Compressive Strength after 7 days of curing
- ▲ Unconfined Compressive Strength after 28 days of curing
- ■ Unconfined Compressive Strength after 90 days of curing

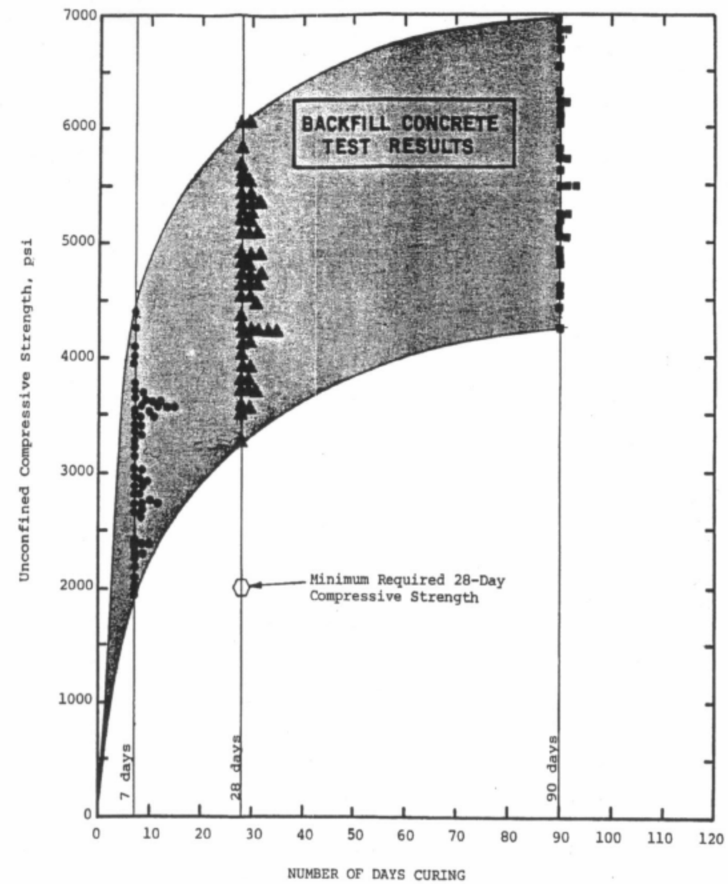
NOTE:

Test results shown are typical for BACKFILL CONCRETE placed in various safety-related areas of the plant site during the period May 30, 1978 to October 30, 1980. Tests performed according to ASTM C39-71.

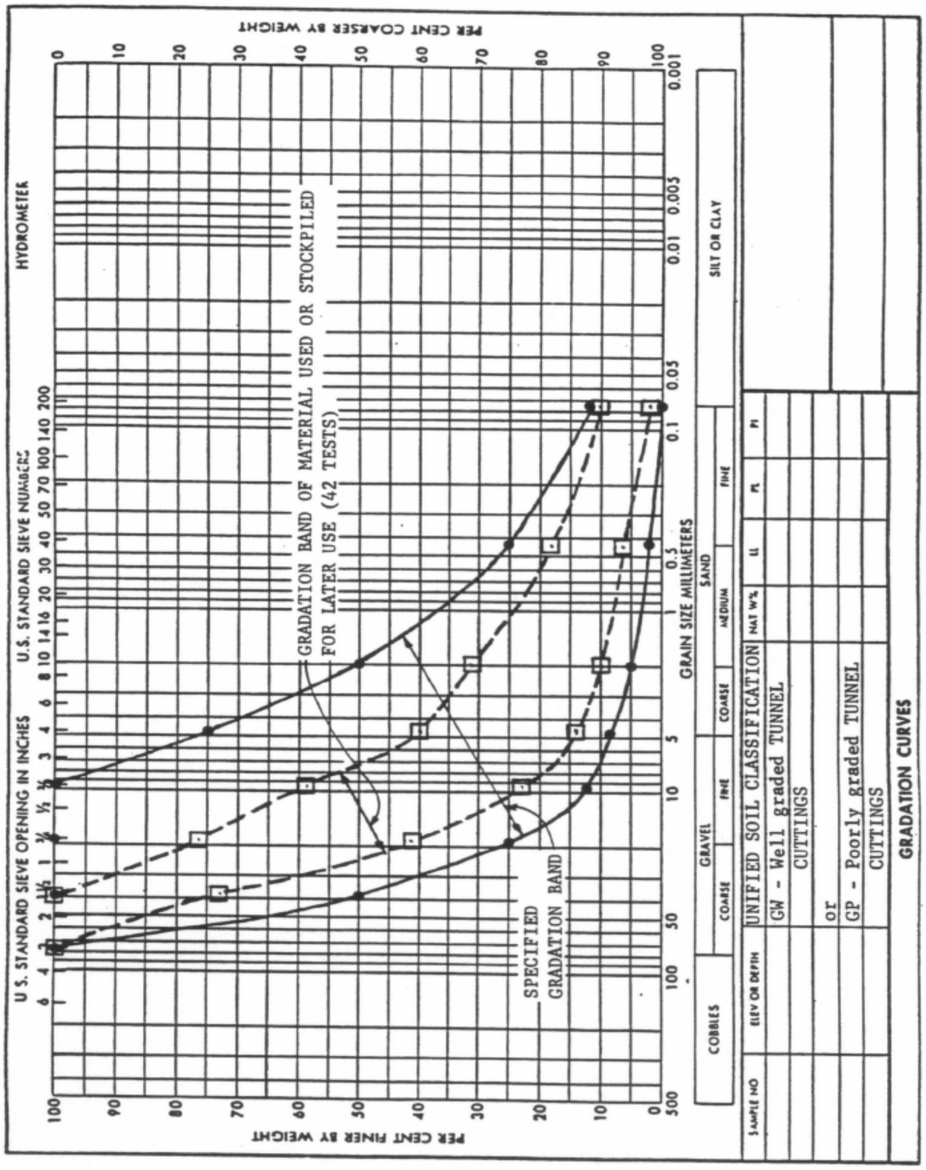
NOTE:

These test results pertain to BACKFILL CONCRETE placed around the outer walls of the following safety-related structures on the dates indicated:

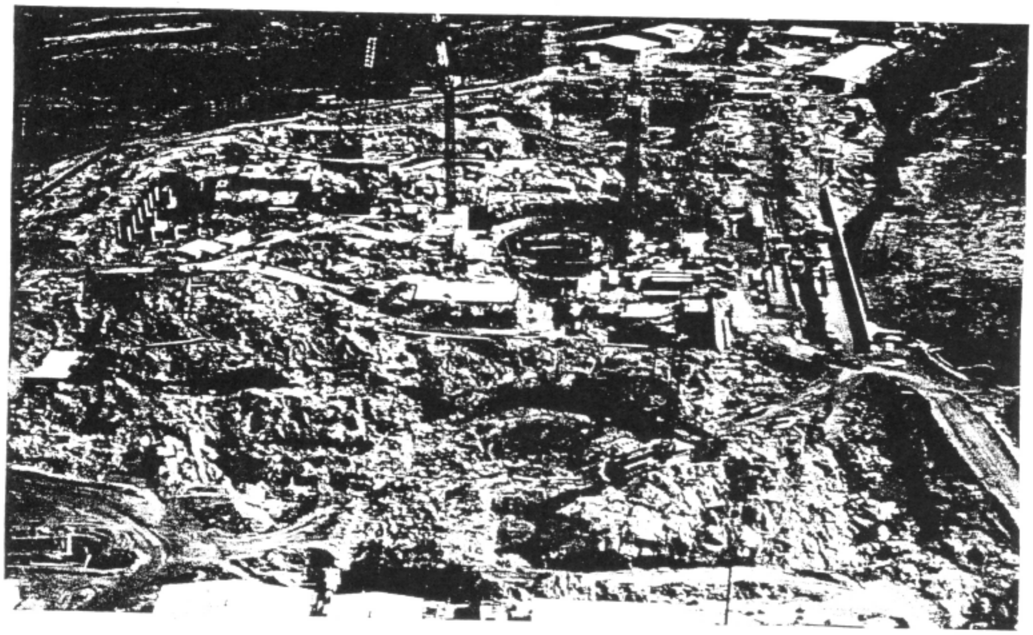
Structure	Date of Pour
Waste Processing Bldg.	May 30,31, 1978 December 19, 1979 October 30, 1980
Diesel Gen. Bldg., Unit 1	March 23,27, 1979 May 4,8,22,23,24,29,30, 1979
Fuel Storage Bldg., Unit 1	September 21,25, 1979 March 12, 1980
Primary Aux. Bldg., Unit 1	May 16,18, 1979
Service Water Pumphouse	January 4, 1980 July 14, 1980
Containment Bldg., Unit 1	June 4,28, 1979 July 3,6, 1979
Control Bldg., Unit 1	March 8, 1979 June 1, 1979



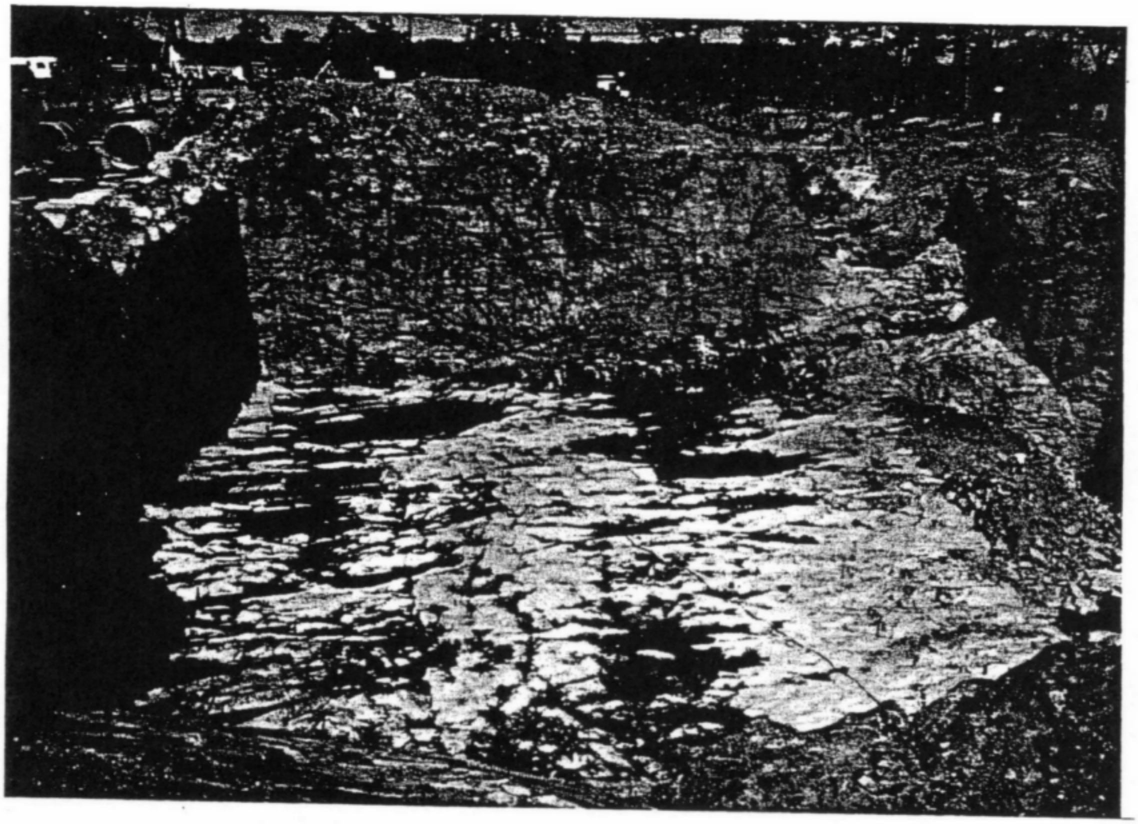
SEABROOK STATION UPDATED FINAL SAFETY ANALYSIS REPORT	Backfill Concrete Test Results	
		Figure 2.5-60



SEABROOK STATION UPDATED FINAL SAFETY ANALYSIS REPORT	Tunnel Cuttings
	Figure 2.5-61

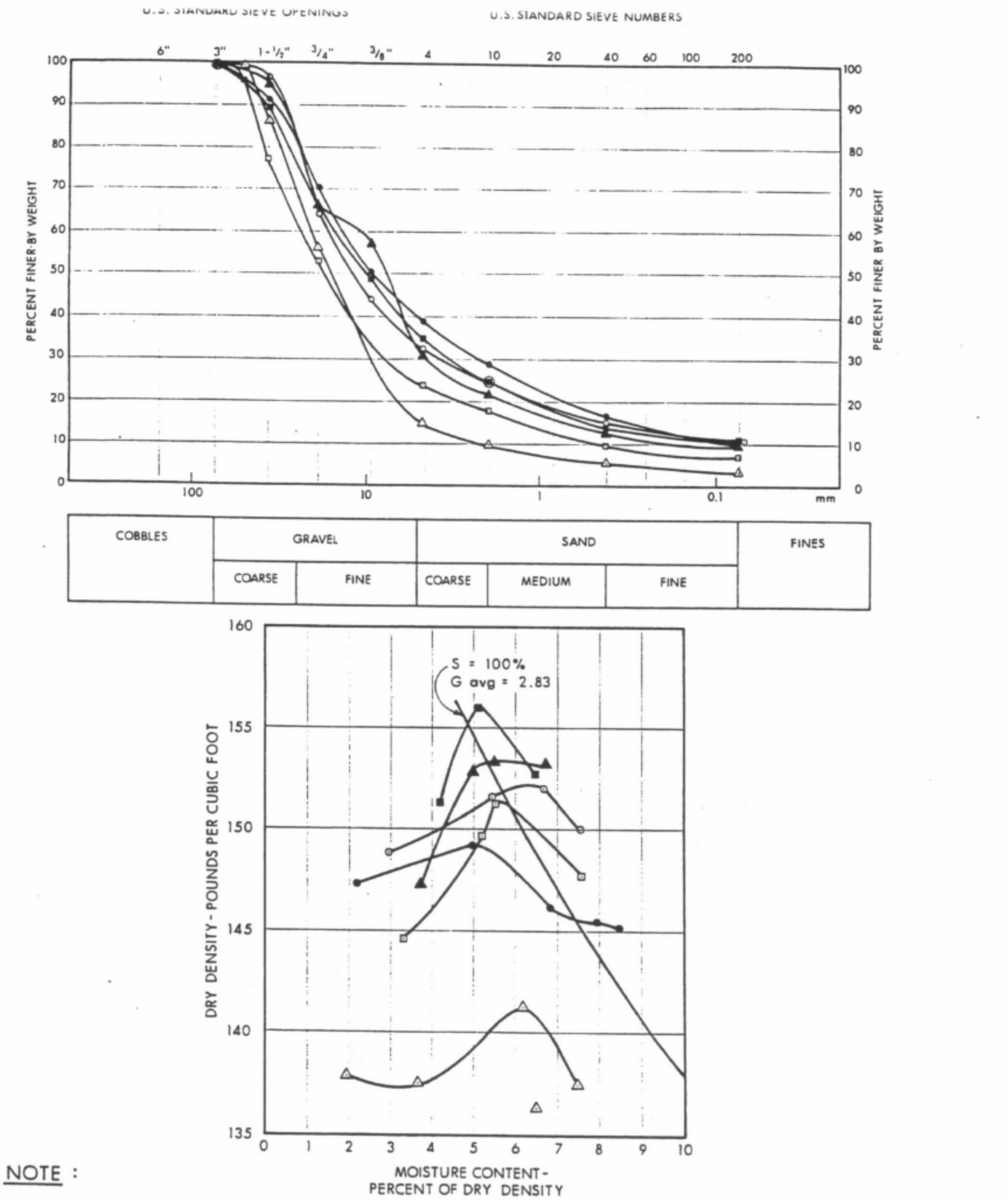


SEABROOK STATION UPDATED FINAL SAFETY ANALYSIS REPORT	Overall View of Foundation Excavations, Looking East from Unit 2 toward Unit 1	
		Figure 2.5-62



Foundation Excavation for Service and Circulating Water Pumphouse Looking North

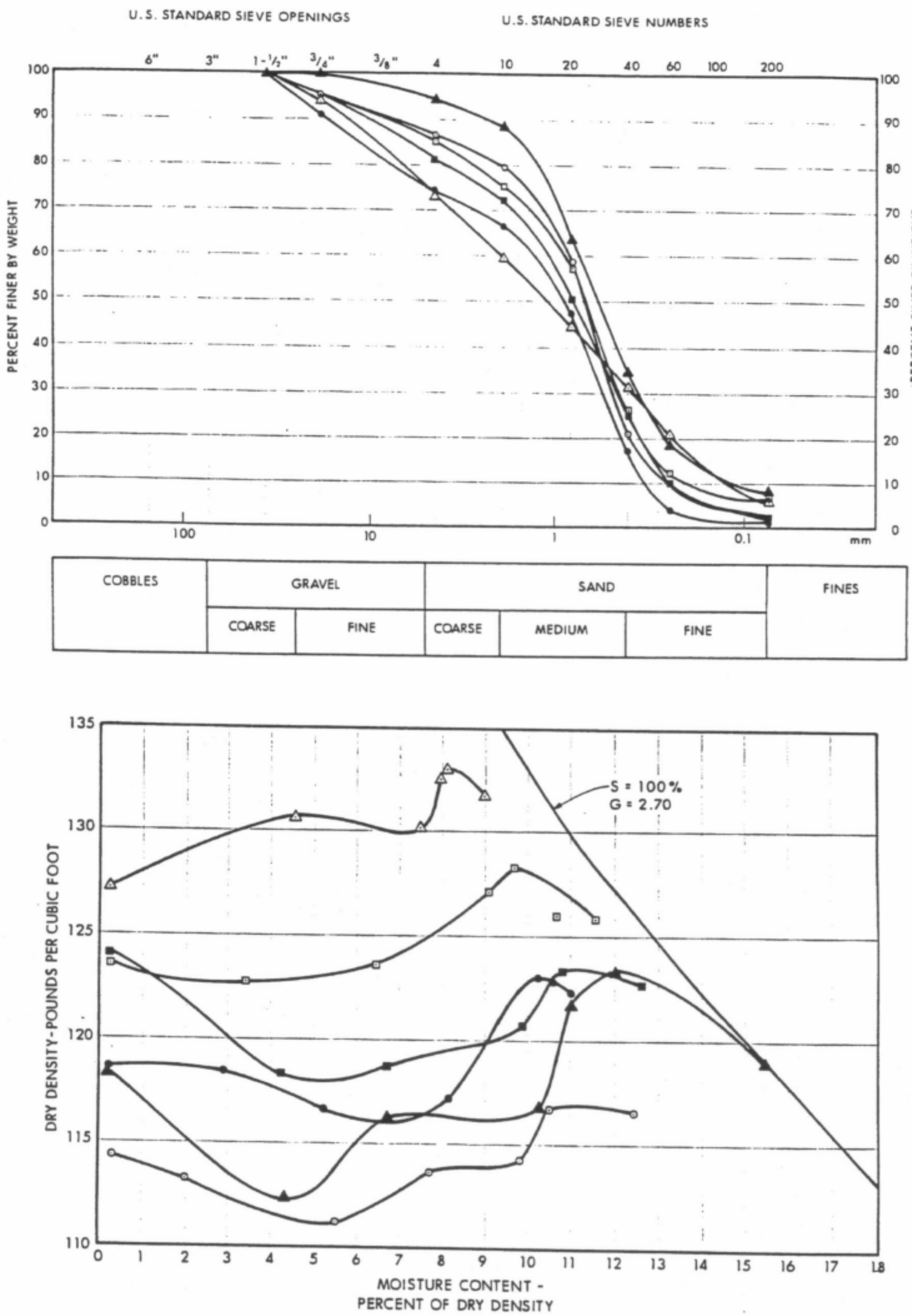
Figure 2.5-63



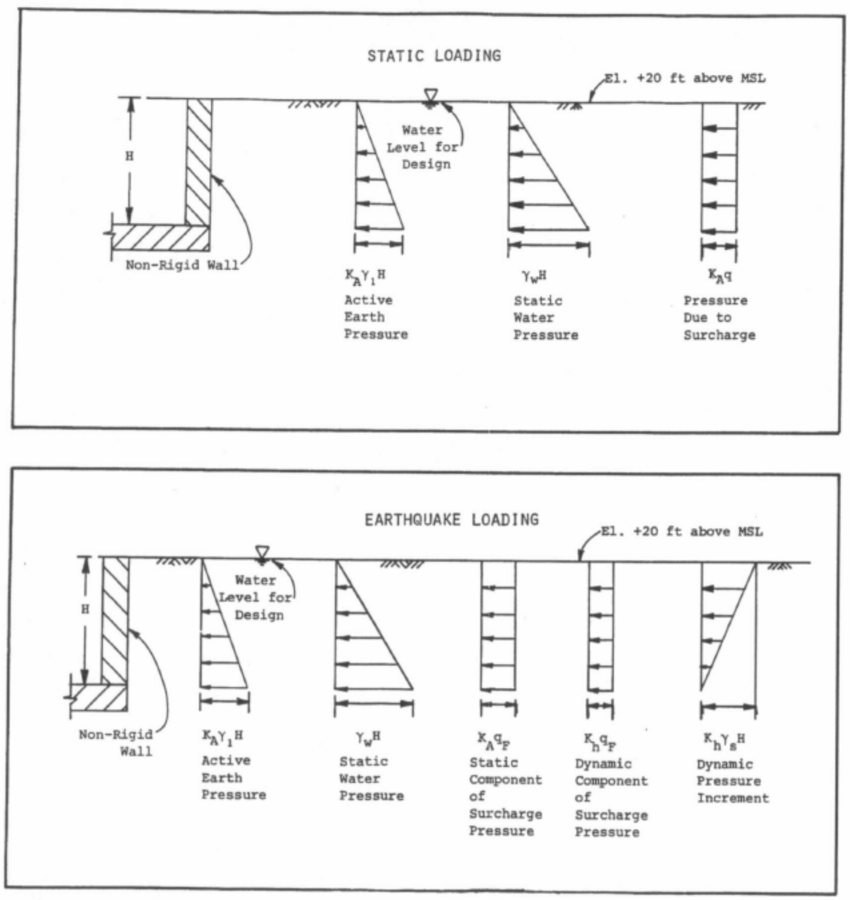
NOTE :

PEAKS OF SOME OF THE PROCTORS OVER THE 100% SATURATION LINE ARE DUE TO MATERIAL HAVING HIGHER SPECIFIC GRAVITY.

SEABROOK STATION UPDATED FINAL SAFETY ANALYSIS REPORT	Summary Plot of Compaction Curves for Tunnel Cuttings (March to September 1979)
	Figure 2.5-64



SEABROOK STATION UPDATED FINAL SAFETY ANALYSIS REPORT	Summary Plot of Compaction Curves for Offsite Borrow (June to December 1979)	
		Figure 2.5-65



NOTATION

H = Depth of wall below grade, ft.

γ_1 = Buoyant Unit Weight, use 62.5 pcf for offsite borrow

γ_s = Saturated Unit Weight, use 125 pcf for offsite borrow

γ_w = Unit Weight of water, use 62.5 pcf

q = Live Load Surcharge = 500 psf minimum

q_F = Fixed or Permanent Surcharge, psf (where applicable)

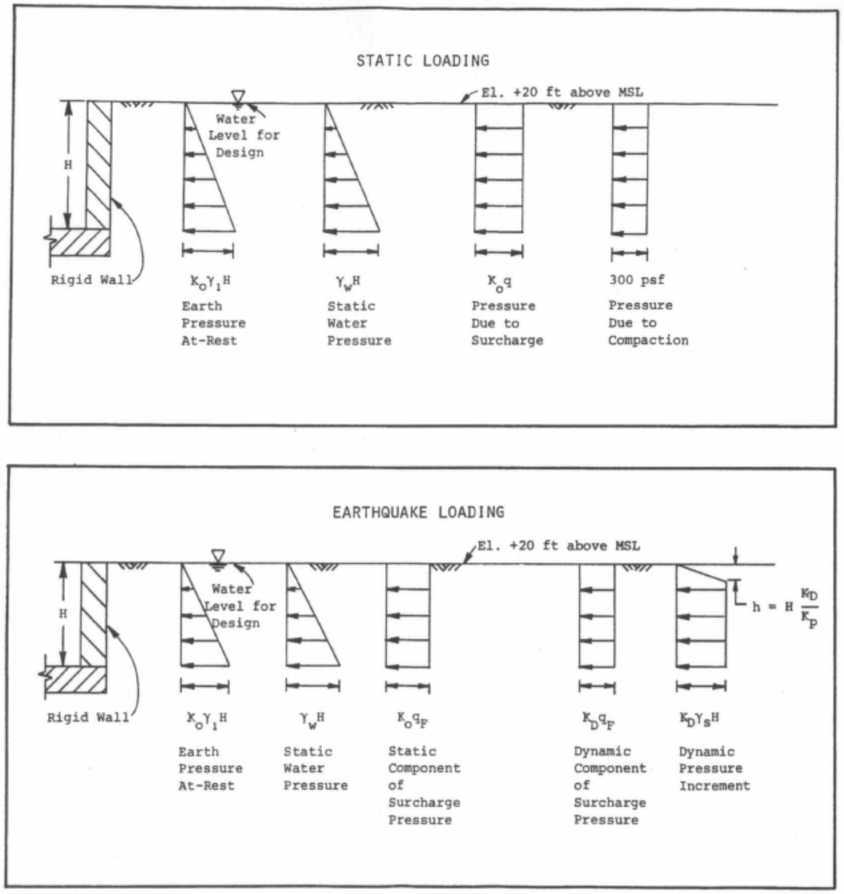
K_A = Coefficient of Active Earth Pressure, use K_A =0.30

K_h = Coefficient of Dynamic Earth Pressure, use K_h = 0.19 for SSE
K_h = 0.10 for OBE

NOTES

1. A non-rigid wall is defined as a retaining wall which is not supported at the top by floors, etc., and can deflect under earth pressure.
2. Finished plant grade is +20 ft MSL. Design groundwater level is El. +20 ft MSL (refer to Section 2.5.4.6).
3. See Fig. 2.5-53 for lateral loads on rigid walls.

SEABROOK STATION UPDATED FINAL SAFETY ANALYSIS REPORT	Lateral Loading Diagrams for Nonrigid Walls
	Figure 2.5-66



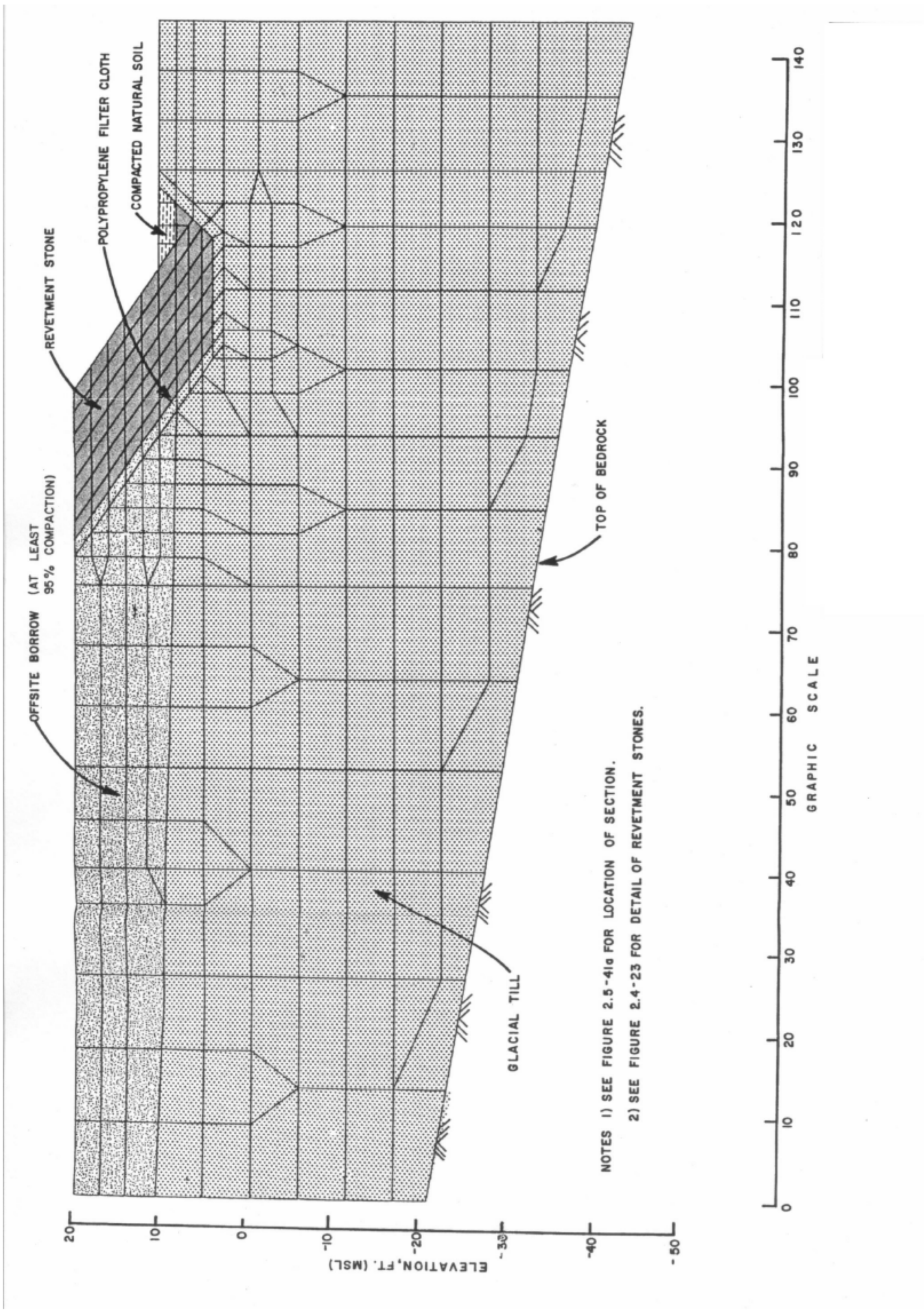
NOTATION

- H = Depth of wall below grade, ft.
- γ_1 = Buoyant Unit Weight, use 62.5 pcf for offsite borrow
- γ_s = Saturated Unit Weight, use 125 pcf for offsite borrow
- γ_w = Unit weight of water, use 62.5 pcf
- q = Live Load Surcharge = 500 psf minimum
- q_F = Fixed or Permanent Surcharge, psf (where applicable)
- K_o = Coefficient of At-Rest Earth Pressure, use $K_o = 0.5$
- K_p = Coefficient of Passive Earth Pressure, use $K_p = 3.3$
- K_D = Coefficient of Dynamic Earth Pressure, use $K_D = 0.28$ for SSE, $K_D = 0.15$ for OBE

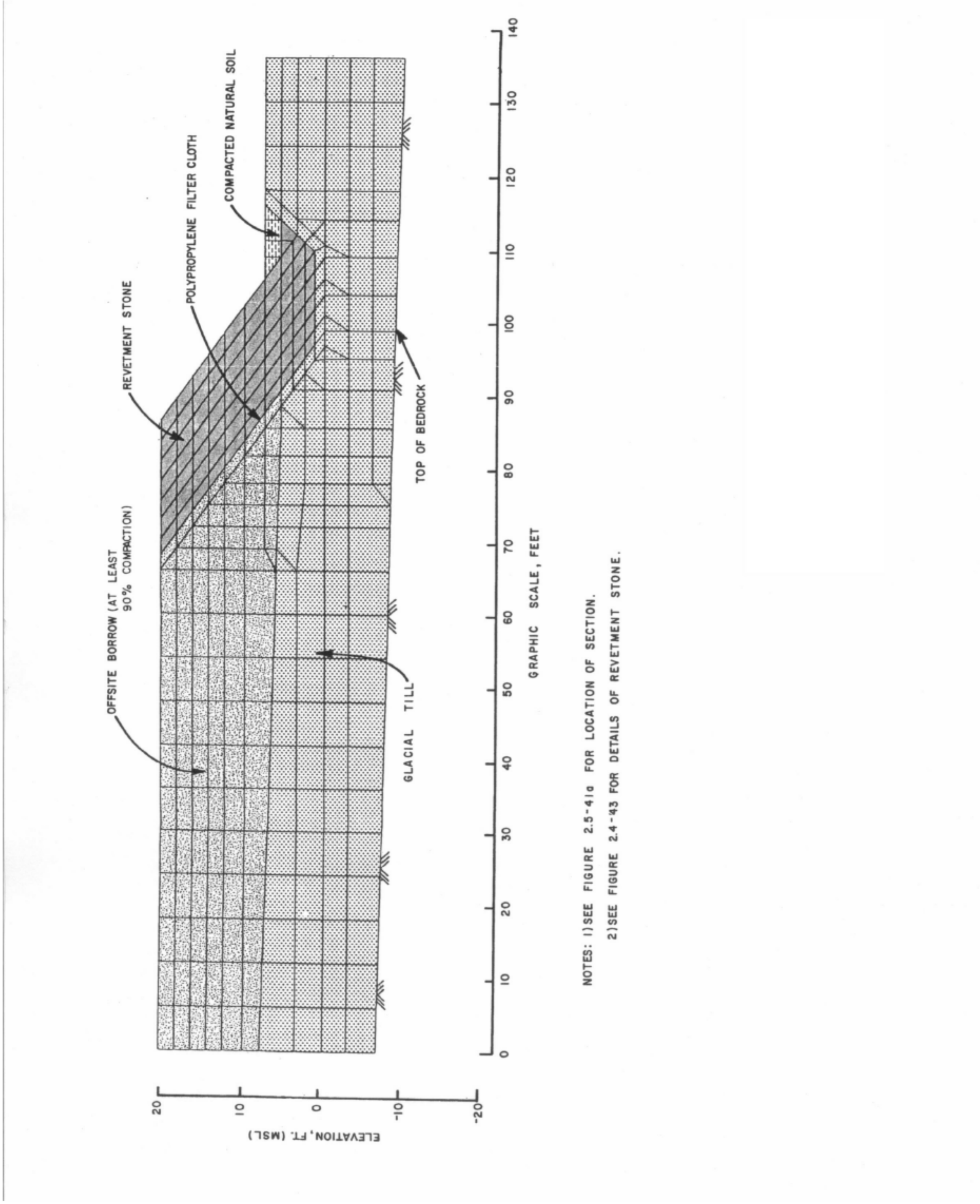
NOTES

1. A rigid wall is defined as a foundation wall supported and effectively restrained by the floors, walls, etc., which cannot deflect under earth pressure.
2. Finished plant grade is +20 ft MSL. Design groundwater level is El. +20 ft MSL (refer to Section 2.5.4.6).
3. See Fig. 2.5-52 for lateral loads on non-rigid walls.

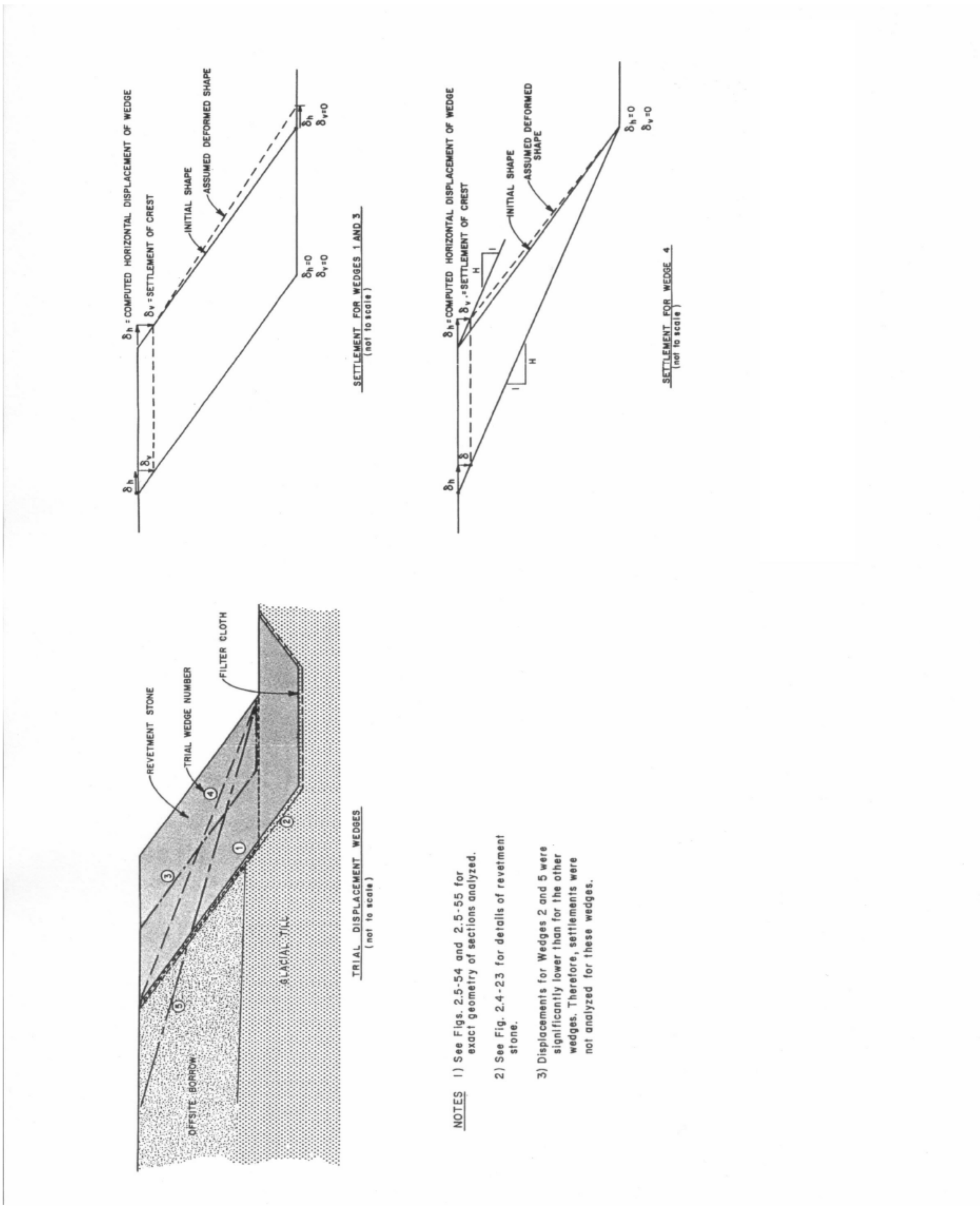
SEABROOK STATION UPDATED FINAL SAFETY ANALYSIS REPORT	Lateral Loading Diagrams for Rigid Walls
	Figure 2.5-67



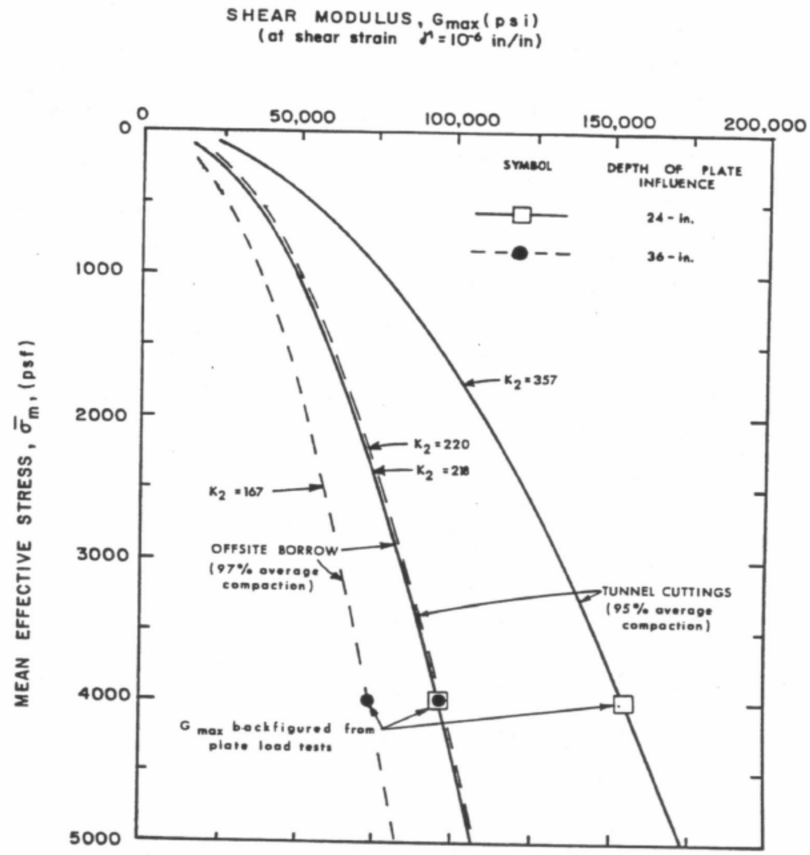
SEABROOK STATION UPDATED FINAL SAFETY ANALYSIS REPORT	Soil Profile and Finite Mesh Revetment A – Deepest Soil Deposit Cross Section Q-Q	
		Figure 2.5-68



SEABROOK STATION UPDATED FINAL SAFETY ANALYSIS REPORT	Soil Profile and Finite Mesh Revetment A – Highest Section Cross Section R-R	
		Figure 2.5-69



SEABROOK STATION UPDATED FINAL SAFETY ANALYSIS REPORT	Trial Wedges and Method of Settlement Analysis Revetment	
		Figure 2.5-70



NOTES:
1. See FSAR text, Subsection 2.5.4.7 for description of method used to backfigure G_{max} from plate load tests.
2. Curves for G_{max} vs $\bar{\sigma}_m$ were generated from the plate load test data using the relationship $G_{2max} = G_{1max}\sqrt{\sigma_{2m}/\sigma_{1m}}$ with G_1 and σ_1 being the plate load test values.
3. Values of G for shear strain levels greater than 10^{-6} in./in. can be obtained using the average modulus reduction curve for sands presented in Seed and Idriss (1970).
4. Values of K_2 for use in the equation $G_{max}=1000\ K_2\,(\bar{\sigma}_m)^{1/2}$ are shown next to each curve.

SEABROOK STATION UPDATED FINAL SAFETY ANALYSIS REPORT	Shear Modules at Low Strain Levels for Offsite Borrow and Tunnel Cuttings	
		Figure 2.5-71