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Geotechnical Profiles for Thirty-One Sites on the Mid-Atlantic Upper Continental Slope

By

Harold W. Olsen and Thomas L. Rice

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EXPLANATION OF SYMBOLS

Physical properties

% fines	= % of dry soil weight finer than 0.074 mm
% clay	= % of dry soil weight finer than 0.002 mm
w	= moisture content in % of dry soil weight
w_n	= natural moisture content
LL	= liquid limit in % of dry soil weight
PL	= plastic limit in % of dry soil weight
PI	= plasticity index = LL - PL
A	= activity = PI/% clay
G	= specific gravity
γ_t	= bulk density in gm/cc or Mg/m^3
γ_b	= buoyant density in gm/cc or Mg/m^3

Volume change parameters

C_c	= compression index
C_s	= swelling index

Stress

$\bar{\sigma}_v$	= vertical effective stress in kN/m^2
$\bar{\sigma}_h$	= horizontal effective stress in kN/m^2
$\bar{\sigma}_n$	= normal effective stress in kN/m^2
τ	= shear stress in kN/m^2
$\bar{\sigma}_{vm}$	= preconsolidation stress in kN/m^2
$\bar{\sigma}_{vb}$	= bouyant overburden stress in kN/m^2
$\bar{\sigma}_c$	= isotropic effective stress applied to soil specimen in triaxial chamber in kN/m^2
$\bar{\sigma}_{cm}$	= maximum $\bar{\sigma}_c$
$\bar{\sigma}_{cs}$	= preshear $\bar{\sigma}_c$
q	= deviator stress = $\bar{\sigma}_v - \bar{\sigma}_h$
p	= mean effective stress = $(\bar{\sigma}_v + 2\bar{\sigma}_h)/3$
$\tau/\bar{\sigma}_{vb}$	= normalized shear stress

EXPLANATION OF SYMBOLS--Continued

Consolidation state

$SIGV'_m - SIGV'_b = \bar{\sigma}_{vm} - \bar{\sigma}_{vb}$ or $\bar{\sigma}_{cm} - \bar{\sigma}_{cs}$ in kN/m^2

$OCR = \frac{\bar{\sigma}_{vm}}{\bar{\sigma}_v}$ or $\frac{\bar{\sigma}_{cm}}{\bar{\sigma}_{cs}}$ = overconsolidation ratio

$U = \frac{\bar{\sigma}_{vm}}{\bar{\sigma}_{vb}}$ = degree of underconsolidation when $\bar{\sigma}_{vm} \leq \bar{\sigma}_{vb}$

n = OCR of unknown magnitude

Shear strength

S	= shear strength in kN/m^2
S_d	= drained shear strength in kN/m^2
S_u	= undrained shear strength in kN/m^2
$\frac{S_d}{\bar{\sigma}_v}$	= normalized drained shear strength
$\frac{S_u}{\bar{\sigma}_v}$	= normalized undrained shear strength
$\frac{S_u}{\bar{\sigma}_v}$ (n.c.)	= normalized undrained shear strength for normally consolidated conditions in kN/m^2
k	= intercept of failure line in q-p space
M	= slope of failure line in q-p space
$\bar{c} = k/2$	= effective stress cohesion intercept in kN/m^2
$\bar{\Phi} = \sin^{-1}(3M/6+M)$	= effective stress friction angle in degrees
Λ	= pore pressure parameter defined in equation 6
Shansep	= acronym for method proposed by Ladd and Foott (1974) to estimate in situ undrained shear strength; acronym stands for "stress history and normalized soil engineering properties"
R	$= \frac{S_u/\bar{\sigma}_{vb}(\text{Vane})}{S_u/\bar{\sigma}_{vb}(\text{Shansep})} = \frac{S_u\ (\text{Vane})}{S_u(\text{Shansep})}$

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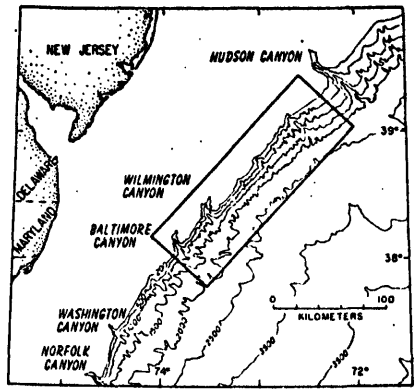
INTRODUCTION

This report presents an engineering interpretation of geotechnical profiles at 31 sites on the mid-Atlantic Upper Continental Slope. These sites are in a variety of locations on valley axes, valley walls, and intervalley ridges in water depths ranging from 328 to 1342 m.

The geotechnical profiles show, for each site, the physical properties of the materials, their consolidation state, their shear strength for both drained and undrained conditions, and the in situ shear stress calculated from an infinite slope model of the site. The profiles were derived from laboratory consolidation, triaxial, and associated physical property measurements, and from regional slope angles interpreted from geophysical data.

This study was undertaken to assist the U.S Geological Survey (USGS) in its assessment of potential geologic hazards and constraints for blocks in the proposed mid-Atlantic OCS oil and gas lease sale 59. The results of this study are incorporated in that assessment, which was released to the public in USGS Open-File Report 81-725 (Keer and Cardinell, 1981). One purpose of this report is to document the basis of the geotechnical information used in that assessment. In addition, this report is intended to provide a convenient source of information on near-surface geotechnical conditions on the mid-Atlantic Upper Continental Slope that will be useful to research, planning, and regulatory activities associated with resource development in this region.

The study is based on the geotechnical test results obtained under USGS Contract No. 14-08-0001-18707 with Woodward Clyde Consultants, Plymouth Meeting, Pa., and USGS Contract No. 14-08-0001-18708 with Law Engineering Testing Company, McLean, Va. These data were released to the public in USGS Open-File Report 81-366 (Olsen and others, 1981). The samples tested under the above contract were taken from piston cores collected on the mid-Atlantic Upper Continental Slope by the USGS in September 1979. Figure 1 and table 1 show the locations of these cores together with the locations of additional cores that were analyzed at the USGS laboratory at Corpus Christi, Tex. The geotechnical data and interpretations from the latter cores are documented in USGS Open-File Report 81-733 (Booth and others, 1981).



USGS SEDIMENT CORE SITES
R/V ENDEAVOR 1979

0 50
KILOMETERS

● CD SITES
♦ GD SITES

Bathymetry in Meters

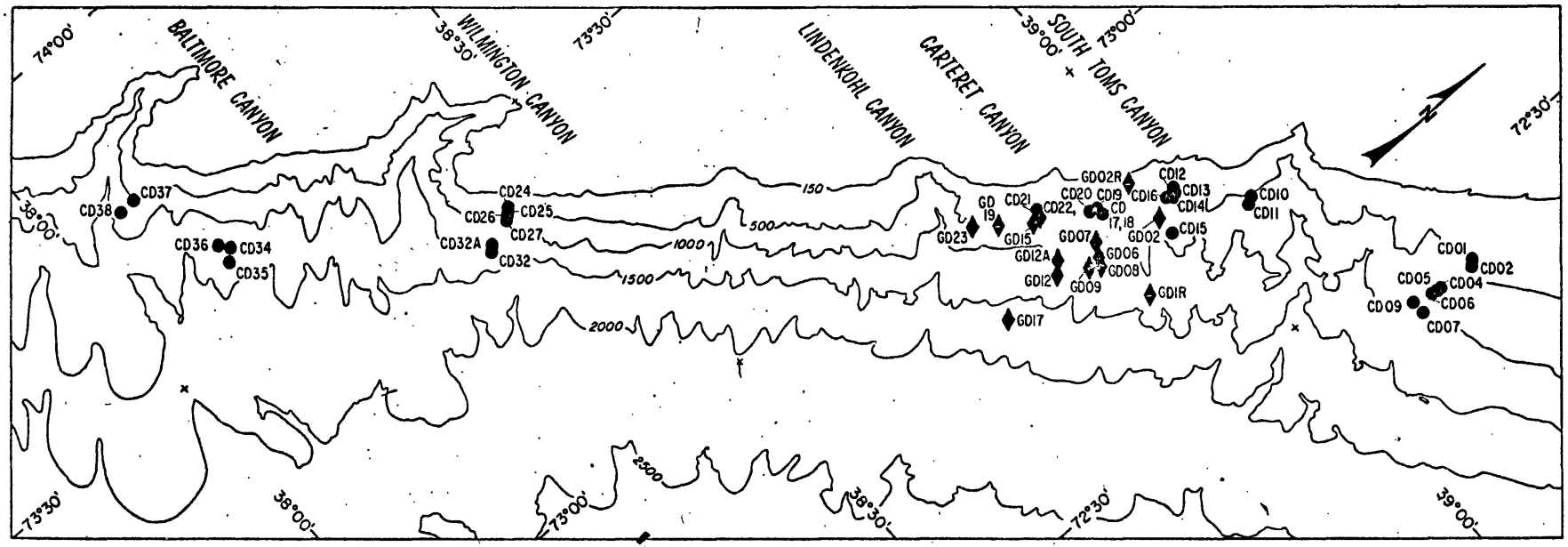


Figure 1.--Sites (numbered dots) where piston cores were obtained for this study.

Table 1.--Piston core data, U.S. Geological Survey sediment core program, R/V ENDEAVOR 1979, on the mid-Atlantic Upper Continental Slope

[USGS-CC, U.S. Geological Survey, Corpus Christi, Tex.; WCC-PM, Woodward Clyde Consultants, Plymouth Meeting, Pa.; LAW-MV, Law Engineering Testing Company, McLean, Va.]

Station no.	Core no.	Latitude (north)	Longitude (west)	Water depth (m)	Core recovered (m)	Geotechnical laboratory
GD1R	PC54	38°54.13'	72°40.75'	1145	8.58	USGS-CC
GD2R	PC39	38°57.94'	72°49.40'	246	5.72	USGS-CC
GD07	PC51	38°53.25'	72°46.13'	1103	.17	USGS-CC
GD07	PC52	38°53.02'	72°47.37'	813	6.13	USGS-CC
GD08	PC46	38°52.84'	72°46.53'	930	7.05	USGS-CC
GD09	PC53	38°52.32'	72°46.06'	1035	10.06	USGS-CC
GD12	PC40	38°50.26'	72°47.53'	1113	7.08	USGS-CC
GD12A	PC41	38°50.93'	72°48.08'	1123	4.54	USGS-CC
GD15	PC43	38°51.37'	72°52.18'	620	9.42	USGS-CC
GD19	PC45	38°49.52'	72°54.03'	688	6.97	USGS-CC
GD23	PC44	38°48.11'	72°55.42'	575	4.50	USGS-CC
CD01	PC05	39°12.23'	72°24.30'	412	6.66	WCC-PM
CD04	PC03	39°09.12'	72°24.30'	708	6.94	WCC-PM
CD05	PC04	39°08.90'	72°24.09'	740	6.37	WCC-PM
CD06	PC09	39°08.53'	72°24.32'	784	8.03	WCC-PM
CD07	PC10	39°07.27'	72°23.25'	979	7.82	WCC-PM
CD09	PC07	39°07.23'	72°24.94'	1148	4.47	WCC-PM
CD09	PC08	39°07.21'	72°24.82'	1180	5.85	USGS-CC
CD10	PC11	39°03.69'	72°41.32'	435	8.24	WCC-PM
CD11	PC12	39°03.30'	72°40.58'	666	7.72	WCC-PM
CD11	PC13	39°03.32'	72°40.83'	556	5.32	USGS-CC
CD12	PC14	39°00.16'	72°46.43'	403	6.10	WCC-PM
CD13	PC15	38°59.98'	72°46.07'	471	8.19	WCC-PM
CD14	PC16	38°59.66'	72°45.80'	543	5.37	LAW-MV
CD15	PC18	38°57.98'	72°43.52'	810	8.08	LAW-MV
CD16	PC17	38°59.40'	72°46.16'	475	8.33	LAW-MV
CD17	PC19	38°55.36'	72°48.90'	592	6.76	LAW-MV
CD18	PC20	38°55.32'	72°48.80'	598	3.72	LAW-MV
CD19	PC21	38°55.23'	72°49.49'	595	5.05	LAW-MV
CD20	PC22	38°04.71'	72°49.59'	525	6.89	LAW-MV
CD21	PC23	38°52.15'	72°52.74'	505	7.40	LAW-MV
CD22	PC24	38°51.87'	72°52.27'	637	6.26	LAW-MV
CD22	PC25	38°51.86'	72°52.30'	607	6.21	LAW-MV
CD24	PC28	38°24.91'	73°23.54'	328	3.23	LAW-MV
CD25	PC29	38°24.74'	73°23.24'	392	2.75	LAW-MV
CD26	PC30	38°24.51'	73°22.92'	520	5.61	LAW-MV
CD27	PC31	38°24.38'	73°22.80'	553	5.58	LAW-MV
CD32	PC32	38°22.05'	73°21.50'	1098	8.02	LAW-MV
CD32A	PC33	38°22.49'	73°21.98'	1040	8.17	LAW-MV
CD34	PC34	38°08.72'	73°36.42'	1221	5.80	LAW-MV
CD35	PC35	38°08.01'	73°36.57'	1342	7.21	LAW-MV
CD36	PC36	38°08.12'	73°37.25'	1300	7.33	LAW-MV
CD37	PC37	38°05.71'	73°45.02'	573	3.84	LAW-MV
CD38	PC38	38°04.54'	73°45.04'	877	2.90	LAW-MV

BACKGROUND

The piston coring system used to obtain the samples involved in this study was generally rigged with a 1364-kg (3,000-lb) weight, two 6.1-m (20-ft) steel barrels, four 3.05-m (10-ft) liner sections having an internal diameter of 8.89 cm (3.5 in.), and a head with a cutting angle of less than 10°. The 10-ft liner sections were taped outside and beveled inside to control their alinement in the core barrel and facilitate smooth piston and core movement through the liner.

Once on shipboard each 3.05-m (10-ft) core section was mounted in a chain vice jig that made it possible to cut the 3.05-m (10-ft) section into two 1.5-m (5-ft) sections with a minimum of disturbance. The liner was cut with a tube cutter and the sediment with a wire saw. The core sections were then capped, taped, sealed with wax, and stored under refrigeration in foam rubber padded containers designed to store and transport cores in the vertical position.

Immediately following the cruise the samples were transported to the USGS refrigerated storage facility in Woods Hole, Mass. There they were X-rayed and visual descriptions, moisture contents, and laboratory vane shear measurements were obtained near the top of each core section. On the basis of this information, core intervals were selected and subsampled for consolidation, triaxial, and associated physical property measurements.

Woodward Clyde Consultants transported subsections of 10 piston cores to their laboratory in Plymouth Meeting, Pa., and Law Engineering Testing Company transported subsections from 21 piston cores to their laboratory in McLean, Va. These core subsections were packed in foam padded boxes, transported in refrigerated vans, and stored at the contractors' laboratories under refrigeration until they were tested.

The geotechnical laboratory test program provided information on the physical properties of the materials, their consolidation characteristics, and their shear strength parameters for both drained and undrained conditions. The program included, for most of the cores, conventional consolidation tests on three specimens, suites of triaxial tests on three sample sets, and physical property measurements on the material in or adjacent to each of the consolidation and triaxial specimens. The physical properties measured included particle-size distribution, liquid limit, plastic limit, natural moisture content, bulk density, and specific gravity. A few cores did not contain sufficient suitable material to accomplish the entire test program outlined above. Details concerning the laboratory test procedures employed are documented elsewhere (Olsen and others, 1981).

Most of the triaxial program included undrained tests with pore pressure measurements on specimens that were isotropically consolidated, and in some cases rebounded, prior to shear. Although limited data were also obtained on anisotropically consolidated specimens, their interpretation is beyond the scope of this study. The triaxial test program was designed to obtain both drained and undrained shear strength parameters for the materials in each piston core, in accordance with the concepts and procedures described by Bishop and Henkel (1962), Ladd and Foott (1974), and Mayne (1980).

Table 2 shows the specifications established for preshear consolidation and rebound of the isotropically consolidated triaxial specimens from each of the piston cores. The set 1 specimens provide data for preshear consolidation stresses, $\bar{\sigma}_{cs}$, ranging from somewhat below to about three times the bouyant overburden stress, $\bar{\sigma}_{vb}$. The set 2 and set 3 specimens provide data for known consolidation state conditions, as defined by the overconsolidation ratio (OCR). Specimens 2a and 3a are normally consolidated (OCR=1) because the preshear consolidation stress, $\bar{\sigma}_{cs}$, substantially exceeds the in situ preconsolidation stress, $\bar{\sigma}_{vm}$, as determined from consolidation tests on nearby specimens. For the remaining samples in sets 2 and 3, the initial consolidation and subsequent rebound of the specimens (prior to shear) were designed to obtain data over a range of known OCR values. The guidelines in table 2 were generally followed in the triaxial test program, with occasional exceptions to obtain a larger range of OCR values, and where insufficient material was available from a piston core to acccomplish the entire program.

METHODS

The methods used to augment and interpret the geotechnical test results obtained under contract were as follows:

Vane Shear and Associated Water Content Data

Vane shear and associated water content measurements were obtained near the top of each 1.5-m (5-ft) core section, prior to selecting subsections for consolidation, triaxial, and associated physical property measurements. The vane shear measurements were obtained with a Wykeham Farrance Laboratory Vane Shear Tester (motor driven) equipped with a 4-bladed 12.7-mm square vane. A rapid rate of rotation was used, on the order of 90° per minute, after the vane was inserted to a depth of about 20 mm into the material parallel to the axis and near the center of the tube cross section. The results are presented

Table 2.--Specifications for preshear isotropic consolidation and rebound of triaxial test specimens

Set	Specimen	$\bar{\sigma}_{cm}$	$\bar{\sigma}_{cs}$	OCR
1	a	0.75 $\bar{\sigma}_{vb}$	0.75 $\bar{\sigma}_{vb}$	n
	b	1.50 $\bar{\sigma}_{vb}$	1.50 $\bar{\sigma}_{vb}$	n
	c	3.0 $\bar{\sigma}_{vb}$	3.0 $\bar{\sigma}_{vb}$	n
2	a	6.0 $\bar{\sigma}_{vm}$	6.0 $\bar{\sigma}_{vm}$	1.0
	b	6.0 $\bar{\sigma}_{vm}$	3.0 $\bar{\sigma}_{vm}$	2.0
	c	6.0 $\bar{\sigma}_{vm}$	1.5 $\bar{\sigma}_{vm}$	4.0
3	a	3.0 $\bar{\sigma}_{vm}$	3.0 $\bar{\sigma}_{vm}$	1.0
	b	3.0 $\bar{\sigma}_{vm}$	1.5 $\bar{\sigma}_{vm}$	2.0
	c	3.0 $\bar{\sigma}_{vm}$	0.75 $\bar{\sigma}_{vm}$	4.0

$\bar{\sigma}_v$ = in situ effective overburden stress

$\bar{\sigma}_{vb}$ = bouyant overburden stress

$\bar{\sigma}_{vm}$ = preconsolidation stress, or maximum past effective overburden stress

$\bar{\sigma}_c$ = effective isotropic stress applied to specimen in triaxial chamber

$\bar{\sigma}_{cm}$ = maximum $\bar{\sigma}_c$

$\bar{\sigma}_{cs}$ = preshear $\bar{\sigma}_c$

OCR = $\frac{\bar{\sigma}_{cm}}{\bar{\sigma}_{cs}}$ or $\frac{\bar{\sigma}_{vm}}{\bar{\sigma}_v}$

n designates OCR of unknown magnitude

in the next section in terms of the undrained shear strength, S_u, and also the normalized undrained shear strength, $\frac{S_u}{\bar{\sigma}_{vb}}$, where $\bar{\sigma}_{vb}$ is the calculated bouyant overburden stress for the depth in the core at which the measurement was obtained.

Water content samples were taken from the zone disturbed by the vane shear test, and water content determinations were conducted in accordance with ASTM (American Society for Testing and Materials, 1978) procedure D-2216-71, except that the results were corrected for dissolved salt in the pore fluid using the relation

$$w_c = \frac{w_u(1+c_s)}{1-(c_s w_u)} \tag{1}$$

where w_c is the corrected water content, w_u is the uncorrected water content, and c_s is the concentration of dissolved salt in the pore fluid. c_s was assumed to be 0.035 g/ml.

Physical Properties and Volume Change Parameters

The information included in this report on particle-size distribution, specific gravity, and bulk density were taken from the contractors' results without modification. Their data on liquid limit, plastic limit, and water content have been corrected for dissolved salt in the pore fluid using equation 1. The volume change parameters, C_c (compression index) and C_s (swelling index), were obtained directly from the void ratio versus log effective stress plots for the consolidation test results presented by the contractors (Olsen and others, 1981).

Drained Shear Strength Parameters

For each site the effective strength parameters, $\bar{c}$ (cohesion intercept) and $\bar{\Phi}$ (friction angle), were interpreted from a plot of the effective stress paths for all the specimens from the piston core that were subjected to isotropically consolidated undrained triaxial tests with pore pressure measurements. These plots are presented in the results (next section; see, for example, fig. 3b) together with the interpreted failure lines that define the magnitudes of $\bar{c}$ and $\bar{\Phi}$ for each site.

The vertical axis on these plots is the deviator stress,

$$q = \bar{\sigma}_v - \bar{\sigma}_h \tag{2}$$

where $\bar{\sigma}_v$ and $\bar{\sigma}_h$ are the vertical and horizontal effective stresses in the triaxial specimen. The horizontal axis on these plots is the mean effective stress,

$$p = \frac{\bar{\sigma}_v + 2\,\bar{\sigma}_h}{3} . \tag{3}$$

The intercept and slope of the interpreted failure line on the stress path plot are customarily designated by the symbols k and M respectively. The relations between these quantities and the effective strength parameters, $\bar{c}$ and $\bar{\Phi}$, are (Schofield and Wroth, 1968)

$$\bar{\Phi} = \sin^{-1}\left(\frac{3\,M}{6+M}\right) \tag{4}$$

and

$$\bar{c} = \frac{k}{2} \tag{5}$$

The interpreted failure lines on each of the stress path plots were located with primary consideration being given to (a) the set 1 specimens and the normally consolidated specimens in sets 2 and 3, as defined in table 2, and (b) the peak deviator stress for each of these specimens. Consideration was also given to occasional inconsistencies among the data sets which could have resulted from variability in the material in the specimens and (or) experimental difficulties.

Undrained Shear Strength Parameters

The following undrained shear strength parameters were interpreted from the same triaxial tests used to interpret the effective stress parameters:

(1) the normalized undrained shear strength for the material in the normally consolidated state, $\frac{S_u}{\bar{\sigma}_{cs}}$ (n.c.) where S_u equals half the maximum deviator stress observed within 20 percent axial strain, and

(2) the pore pressure parameter, Λ, which describes the variation of $\frac{S_u}{\bar{\sigma}_{cs}}$ with the overconsolidation ratio (OCR) and is defined by Mayne (1980) as follows:

$$\Lambda = \frac{\ln \frac{S_u}{\bar{\sigma}_{cs}} - \ln \frac{S_u}{\bar{\sigma}_{cs}}\ (n.c.)}{\ln OCR} \tag{6}$$

where $OCR = \frac{\bar{\sigma}_{cm}}{\bar{\sigma}_{cs}}$ (7)

and $\bar{\sigma}_{cm}$ and $\bar{\sigma}_{cs}$ are defined in table 2.

For each site one value was obtained for the normalized undrained shear strength of the material in the normally consolidated state, $\frac{S_u}{\bar{\sigma}_{cs}}$ (n.c.), from a plot of undrained shear strength, S_u, versus the preshear effective consolidation stress, $\bar{\sigma}_{cs}$, for all the triaxial specimens tested at that site (for example, see fig. 3c). The interpreted line is drawn through the origin and generally equidistant between the two points from the normally consolidated specimens, as defined in table 1. The remaining points generally lie above the interpreted line because they were obtained from overconsolidated specimens. The latter points are included, even though they do not represent normally consolidated conditions, because they provide an indication of the internal consistency of the data from all the specimens tested, and hence the degree to which the two normally consolidated specimens are representative of the material in the entire piston core.

Interpretations of the pore pressure parameter, Λ, were obtained with plots for each site (for example, see fig. 3d), of $\ln \frac{S_u}{\bar{\sigma}_{cs}}$ (ratio of the undrained shear strength to the effective consolidation stress prior to shear) versus ln OCR. Each plot shows data from sample sets 2 and 3 (see table 2) for which the OCR values are known. The interpreted line for each site was fitted by eye through the data for OCR values greater than 1, and through the intersection of the vertical line for OCR=1 [ln (OCR=1) = 0] and the horizontal line through the value of $\frac{S_u}{\bar{\sigma}_{cs}}$ (n.c.) that was determined as described in the preceding paragraph. The slope of the interpreted line is the value of Λ as defined by equation 6.

Preconsolidation Stress

Interpretations of preconsolidation stresses were derived from both consolidation and triaxial test results.

The Casagrande procedure, as described by Lambe (1951) was used to obtain preconsolidation stresses from the consolidation test results. Because this procedure often does not yield clearly defined values for preconsolidation stresses, the values obtained in this study are documented in the next section of this report (see, for example, fig. 3e) on figures that show the void ratio versus log effective stress relation obtained for each consolidation test by the contractors, and the "Casagrande construction" used to define the preconsolidation stress in this study.

The procedure proposed by Mayne (1980) was used to obtain a preconsolidation stress value from the triaxial data from each piston core. This procedure is based on the application of equation 6 to two or more specimens having the same preconsolidation stress, $\bar{\sigma}_{vm}$. For this condition it follows from equation 6 that

$$\ln \frac{S_{u2}}{\bar{\sigma}_{cs2}} - \ln \frac{S_{u1}}{\bar{\sigma}_{cs1}} = \Lambda[\ln \bar{\sigma}_{cs1} - \ln \bar{\sigma}_{cs2}] \qquad (8)$$

where $\bar{\sigma}_v = \bar{\sigma}_{cs}$, $\bar{\sigma}_{vm} = \bar{\sigma}_{cm}$,

and $\bar{\sigma}_{cs2} \leq \bar{\sigma}_{cs1} \leq \bar{\sigma}_{vm}$.

In other words, for triaxial specimens having the same preconsolidation stress, equation 8 describes an inverse linear relationship between the natural log of the normalized undrained shear strength, $\ln \frac{S_u}{\bar{\sigma}_{cs}}$, and the natural log of the effective consolidation stress prior to shear, $\ln \bar{\sigma}_{cs}$, in the range where $\bar{\sigma}_{cs} \leq \bar{\sigma}_{cm}$.

Application of this procedure to the triaxial data was accomplished with plots of $\ln \frac{S_u}{\bar{\sigma}_{cs}}$ versus $\ln \bar{\sigma}_{cs}$ for each piston core. For example, figure 3e shows this plot for the data from piston core 5 at station 1. Note that the data from sample sets 1, 2, and 3 (defined in table 2) are designated by the symbols +, x, and *, respectively. Further, the previously defined value of $\ln \frac{S_u}{\bar{\sigma}_{cs}}$ for the normally consolidated state is shown as a horizontal line that lies midway between the normally consolidated specimens in sample sets 2 and 3.

For each sample set, $\ln \frac{S_u}{\bar{\sigma}_{cs}}$ varies inversely with $\ln \bar{\sigma}_{cs}$, according to equation 8, and the preconsolidation stress for each sample group is defined by the intersection of its $\ln \frac{S_u}{\bar{\sigma}_{cs}}$ versus $\ln \bar{\sigma}_{cs}$ relation and the horizontal line that defines the magnitude of $\frac{S_u}{\bar{\sigma}_{cs}}$ for the normally consolidated state. For sets 2 and 3 specimens, these relations intersect at magnitudes of $\bar{\sigma}_{cs}$ equal to $\bar{\sigma}_{vm}$, which are also the maximum effective stresses, $\bar{\sigma}_{cm}$, used to initially consolidate the specimens into the normally consolidated state. For

the set 1 specimens, the intersection of these relations occurs at a magnitude of $\bar{\sigma}_{cs}$ which is the magnitude of the preconsolidation stress sought in this analysis.

It is further to be noted that the slope of the $\ln \frac{S_u}{\bar{\sigma}_{cs}}$ versus $\ln \bar{\sigma}_{cs}$ relation, in figure 3e for example, is the same slope, Λ, that governs the variation of $\ln \frac{S_u}{\bar{\sigma}_{cs}}$ versus ln OCR in figure 3d for the same triaxial data set. In general the value of Λ was more clearly defined in the plots of $\ln \frac{S_u}{\bar{\sigma}_{cs}}$ versus ln OCR than in the plots of $\ln \frac{S_u}{\bar{\sigma}_{cs}}$ versus $\ln \bar{\sigma}_{cs}$. Therefore, the value of Λ obtained from the $\ln \frac{S_u}{\bar{\sigma}_{cs}}$ versus ln OCR plot for the triaxial data from each piston core was transferred to the corresponding $\frac{S_u}{\bar{\sigma}_{cs}}$ versus $\ln \bar{\sigma}_{cs}$ plot and fitted to the data from the group 1 specimens, as illustrated in figure 3e.

The results presented in the next section include, for each site, in addition to the preconsolidation stress values obtained from the consolidation and triaxial data, calculated values for the corresponding consolidation states defined in terms of both the overconsolidation ratio, OCR, and the stress difference, $\bar{\sigma}_{vm} - \bar{\sigma}_{vb}$.

Normalized Shear Stresses and Shear Strengths

The relations used to calculate normalized shear stresses and shear strengths are outlined below following the concepts and symbols used by Lambe and Whitman (1969) for the infinite-slope model in a subaqueous environment, illustrated in figure 2. These relations are based on the assumption that the pore pressure distribution is hydrostatic beneath the sea floor except for excess pore pressures, u_e, associated with underconsolidated materials.

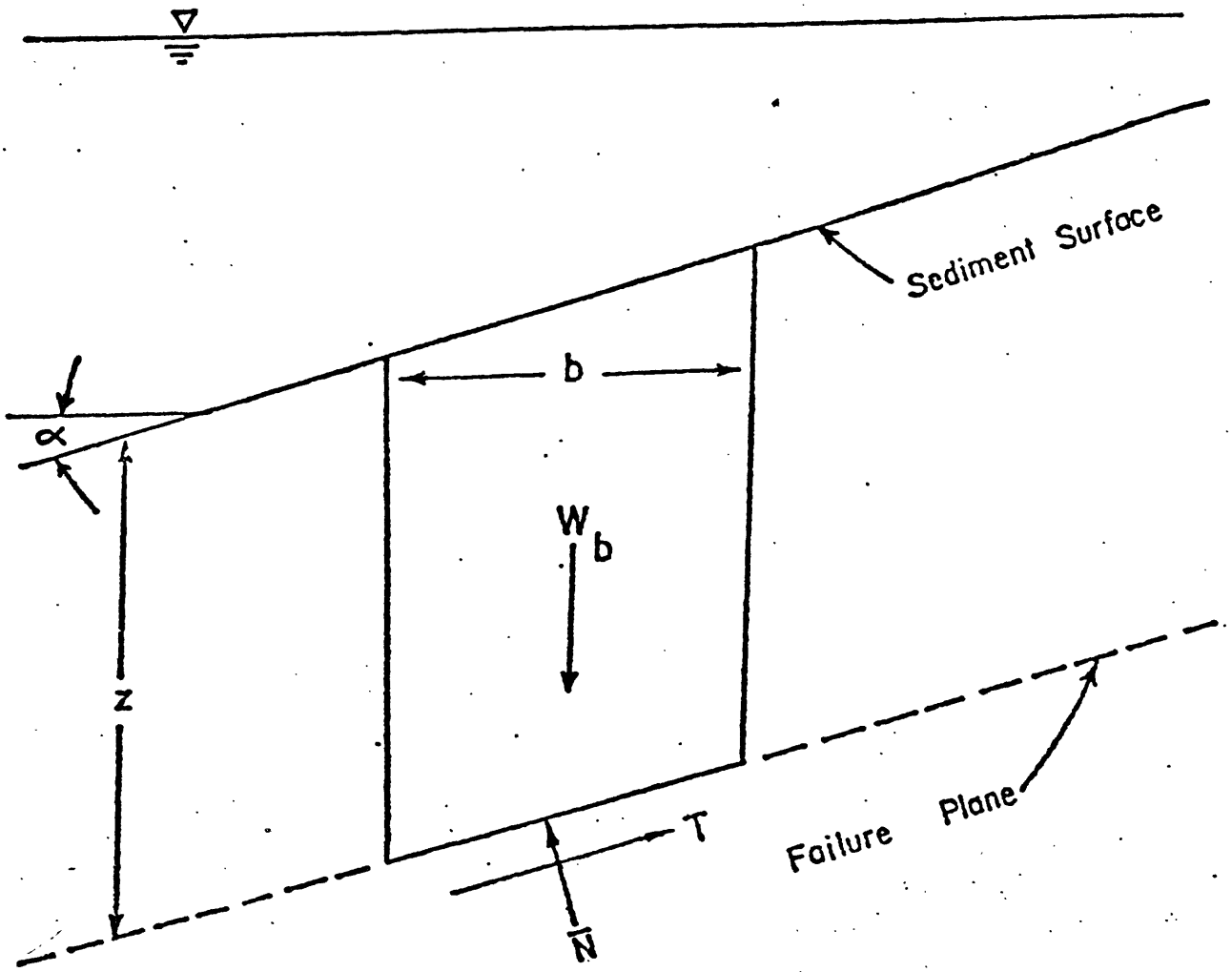
Normalized shear stress values were calculated from

$$\tau / \bar{\sigma}_{vb} = \cos \alpha \sin \alpha \tag{9}$$

where $\tau = (\gamma_b z) \cos \alpha \sin \alpha$ (10)

and $\bar{\sigma}_{vb} = \gamma_b z$ (11)

γ_b is the buoyant density and z, the depth below the sea floor.



Where:

$\bar{\sigma}_{vb} = \gamma_b z$

$W_b = (\gamma_b z)b = \bar{\sigma}_{vb})b$

$T = W_b \sin \alpha = (\gamma_b z)b \sin \alpha$

$\bar{N} = W_b \cos \alpha = (\gamma_b z)b \cos \alpha$

$\tau = \frac{T \cos \alpha}{b} = (\gamma_b z) \cos \alpha \sin \alpha$

$\bar{\sigma}_n = \bar{N} \frac{\cos \alpha}{b} = (\gamma_b z) \cos^2 \alpha$

Figure 2.--Infinite slope stability model.

Normalized drained shear strength values were calculated from

$$\frac{S_d}{\bar{\sigma}_{vb}} = \cos^2 \alpha \tan \bar{\Phi} \qquad (12)$$

This relation follows from the definition of drained shear strength

$$S_d = \bar{c} + \bar{\sigma}_n \tan \bar{\Phi} \ , \qquad (13)$$

where $\bar{\sigma}_n = (\bar{\sigma}_v) \cos^2 \alpha$, (14)

and $\bar{\sigma}_v = \bar{\sigma}_{vb} - u_e$, (15)

when $\bar{c}$ and u_e are assumed equal to zero. $\bar{c}$ and $\bar{\Phi}$ are the effective stress shear strength parameters.

A single value of $\frac{S_d}{\bar{\sigma}_{vb}}$ was obtained for each site based on the value of $\bar{\Phi}$ interpreted from all the triaxial tests, and the maximum slope angle, α, in the vicinity of the site.

Normalized undrained shear strength values were calculated from the laboratory vane shear strength measurements obtained near the top of each core section immediately following the cruise. Values were also obtained from the consolidation and triaxial data using the Shansep method proposed by Ladd and Foott (1974). Following Mayne (1980), this method may be expressed for normally to overconsolidated materials in terms of

$$\frac{S_u}{\bar{\sigma}_{vb}} = \left[\frac{S_u}{\bar{\sigma}_v} (n.c.)\right] [OCR]^{\Lambda} \qquad (16)$$

where $\frac{S_u}{\bar{\sigma}_{vb}}$ is the normalized undrained shear strength; $[\frac{S_u}{\bar{\sigma}_{vb}} (n.c.)]$ is the normalized undrained shear strength of the same material in the normally consolidated state; OCR is the overconsolidation ratio, $\frac{\bar{\sigma}_{vm}}{\bar{\sigma}_v}$; and Λ characterizes the variation of normalized undrained shear strength with the overconsolidation ratio.

Following Morgenstern (1967), the Shansep method may be expressed for underconsolidated materials in terms of

$$\frac{S_u}{\bar{\sigma}_{vb}} = \left[\frac{S_u}{\bar{\sigma}_v} (n.c.)\right] U \qquad (17)$$

U, the degree of underconsolidation, equals

$$U = \frac{\bar{\sigma}_{vm}}{\bar{\sigma}_{vb}} \tag{18}$$

where $\bar{\sigma}_{vm} = \bar{\sigma}_{vb} - u_e$ (19)

when $\bar{\sigma}_{vm} \leq \bar{\sigma}_{vb}$.

Values of $\frac{S_u}{\bar{\sigma}_{vb}}$ were calculated for each site based on the single value of $\frac{S_u}{\bar{\sigma}_{cs}}$ (n.c.) interpreted from the triaxial tests and the values of preconsolidation stress, $\bar{\sigma}_{vm}$, interpreted from the consolidation tests.

Values of $\bar{\sigma}_{vm}$ derived from the triaxial tests were not used to calculate normalized undrained shear strengths in this study for two reasons. First, the method used to derive $\bar{\sigma}_{vm}$ from triaxial data is new (Mayne, 1980), and its reliability compared with the widely used Casagrande method with consolidation data is unknown. Second, the values of $\bar{\sigma}_{vm}$ derived from the consolidation data are generally smaller than those derived from the triaxial data, and hence provide more conservative (that is, smaller) estimates of the normalized undrained shear strength.

Factors of Safety

For each site, factors of safety were calculated for both drained and undrained conditions, and for maximum and average slope angles in the region. The factors of safety were obtained in terms of the normalized drained and undrained shear strengths as follows:

Following Lambe and Whitman (1969), the factor of safety, FS, for the infinite slope model in figure 2 is

$$FS = \frac{S}{\tau} \tag{20}$$

where S = the shear strength, and τ = the shear stress on the potential failure plane. In terms of normalized quantities equation 12 may be written, for drained conditions,

$$FS = \frac{S_{d/}\,\bar{\sigma}_{vb}}{\tau/\,\bar{\sigma}_{vb}} \tag{21}$$

and for undrained conditions,

$$FS = \frac{S_{u/}\,\bar{\sigma}_{vb}}{\tau/\,\bar{\sigma}_{vb}} \tag{22}$$

Factor of safety values for undrained conditions were calculated for normalized undrained strength data obtained from equations 16 and 17 which

express the "Shansep" method, proposed by Ladd and Foott (1974). Factor of safety values were not calculated for the normalized undrained strength data obtained from laboratory vane tests.

The geotechnical profile for each site (see, for example, fig. 3a) provides a convenient visual basis for comparing the normalized shear strengths and factors of safety for drained and undrained conditions, and for undrained strengths obtained both from laboratory vane measurements and from Shansep interpretations of the triaxial data. Each profile shows directly how the magnitudes of the normalized strengths compare, and the amount by which they exceed the normalized shear stress. It follows from equations 21 and 22 that the latter comparison provides a direct measure of the magnitudes of the factors of safety, and their variation with depth in the profile.

RESULTS

The results are presented for each site in the numerical sequence the stations and cores are listed in table 1. The scope of the results includes all the stations and cores from CD-01-PC-05 through CD-38-PC-38, except CD-09-PC-08 and CD-11-PC-13. Results from the latter sites are reported elsewhere (Booth and others, 1981).

For each site, the results include a set of six figures and two tables, and the symbols and units used therein are defined and explained in the list and explanation of symbols that precedes the introduction of this report. The first figure in each set is a geotechnical profile that summarizes the results, and their variation with depth below the sea floor in meters, concerning the following:

(a) The depth intervals from which subsections of the piston core were taken for consolidation, triaxial, and associated physical property measurements.

(b) The physical properties of the materials including texture indices, activity, Atterberg limits, and natural moisture content.

(c) The consolidation state of the materials defined in terms of the difference between the preconsolidation stress, $\bar{\sigma}_{vm}$, and the bouyant overburden stress, $\bar{\sigma}_{vb}$. The dotted line through $\bar{\sigma}_{vm} - \bar{\sigma}_{vb} = 0$ defines the normally consolidated state. The experimental values obtained from the consolidation and triaxial tests are shown with the symbols o and x, respectively.

(d) A comparison of the normalized shear stress at the site with the normalized shear strength of the materials for both drained and undrained conditions. In addition, a comparison of normalized undrained shear strengths

obtained from laboratory vane measurements, and interpreted from the consolidation and triaxial test results using the Shansep method (Ladd and Foott, 1974). These data show the differences in normalized strengths of various conditions and test methods. According to equations 21 and 22, the factor of safety may be defined in terms of the ratio of the normalized shear strength to the normalized shear stress. Thus, factors of safety greater, equal, or less than 1.0 are reflected by whether the normalized shear strengths exceed, equal, or are less than the normalized shear stress.

The five figures associated with each geotechnical profile document the interpretations of the consolidation and triaxial data according to the procedures described in the previous section on methods. In the order presented, the figures show (a) the drained shear strength parameters, $\bar{c}$ and $\bar{\Phi}$; (b) the normalized undrained shear strength for the normally consolidated state, $\frac{S_u}{\bar{\sigma}_{cs}}$ (n.c.); (c) the pore pressure parameter, Λ, which describes the variation of the natural log of the normalized undrained shear strength, $\ln \frac{S_u}{\bar{\sigma}_{cs}}$, with the natural log of the overconsolidation ratio, ln OCR; (d) the preconsolidation stress, interpreted from the triaxial data, and (e) the preconsolidation stress interpreted from the consolidation data.

The two tables associated with each set of results include all the measured, interpreted, and calculated results involved in this study for each site. The first table includes the initial lab vane and water content measurements on the piston cores, results of physical property measurements reported by the contractors, and the properties interpreted in this study from the contractors' consolidation and triaxial test results. Properties and factors calculated from these results are presented in the second table. The procedures and equations involved are described in the above section on methods, except for those that are standardized and (or) well established.

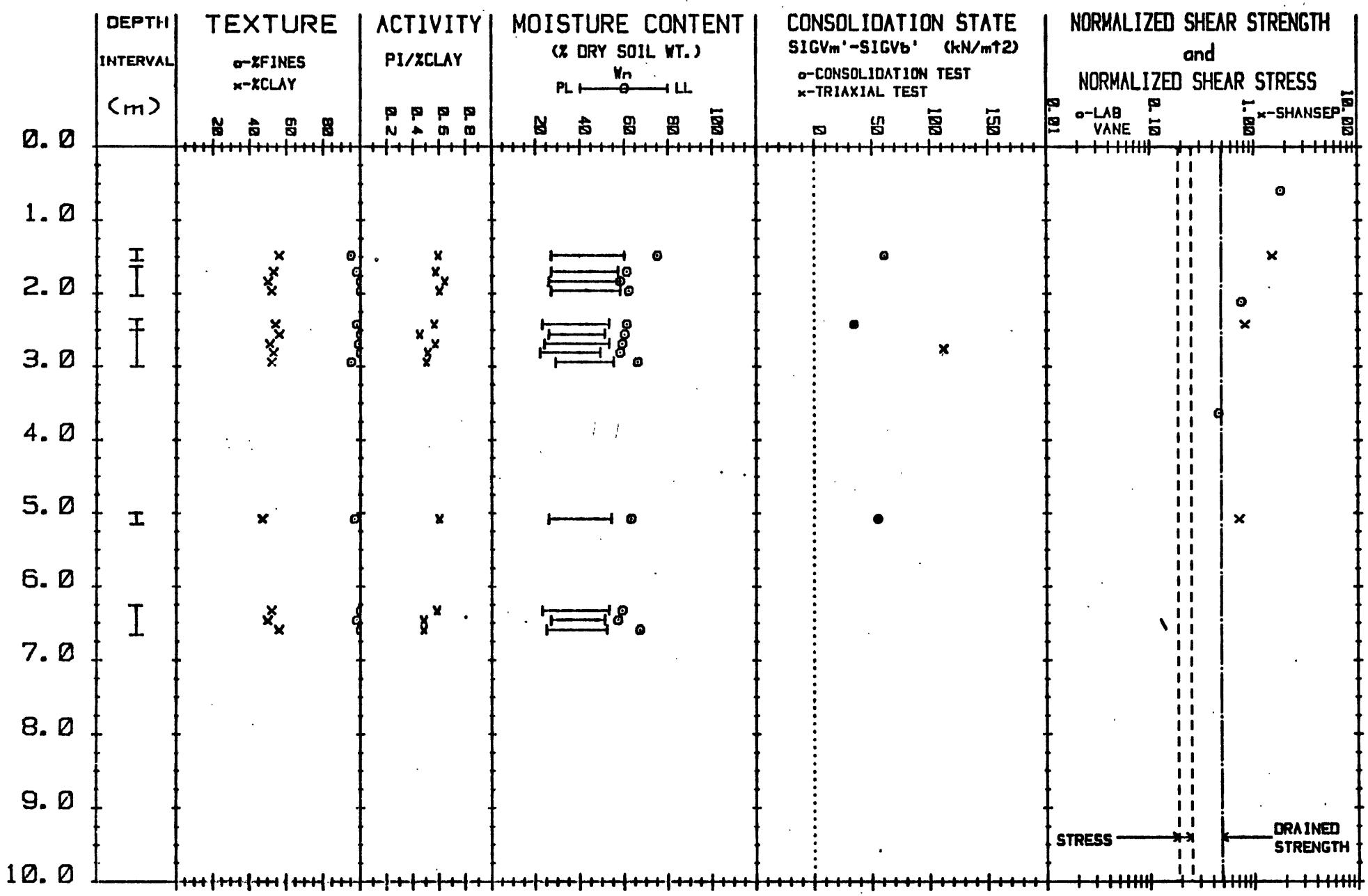


Figure 3a.--Geotechnical profile*.

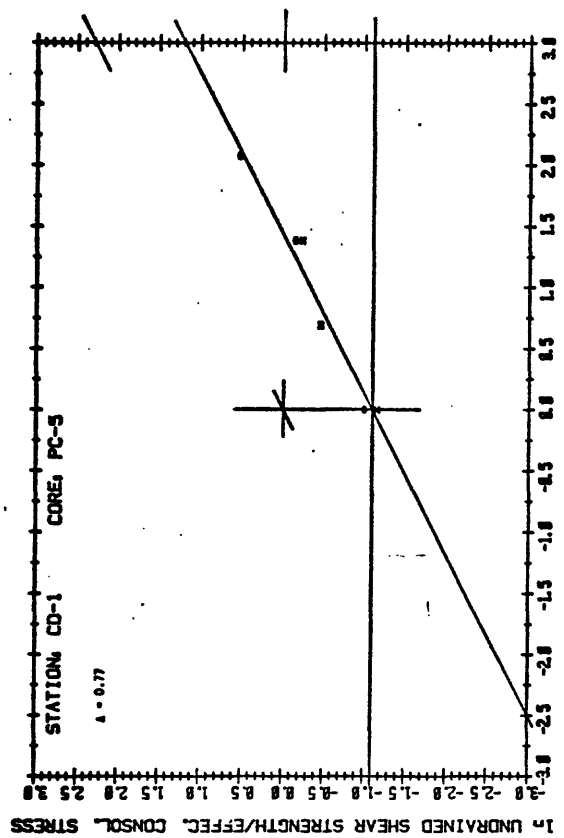


Figure 3d.--Interpretation of the pore pressure parameter A.

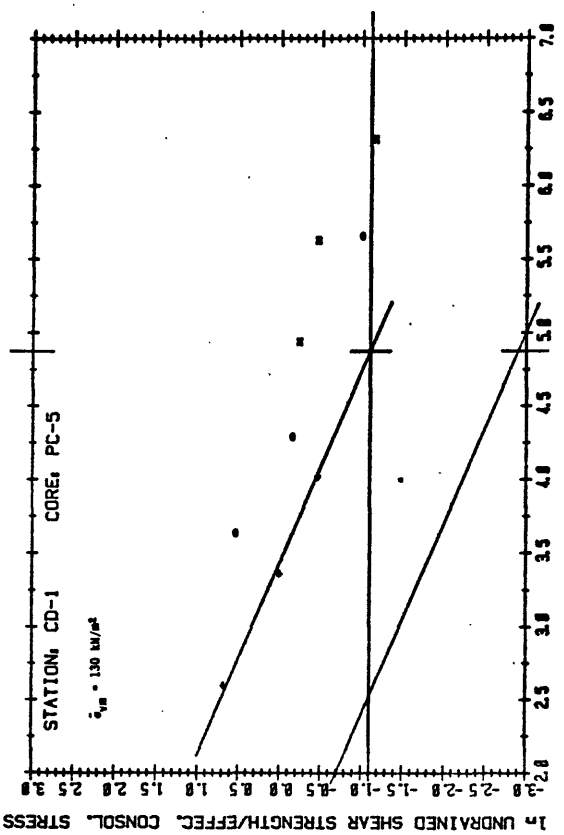


Figure 3e.--Interpretation of the preconsolidation stress from triaxial data.

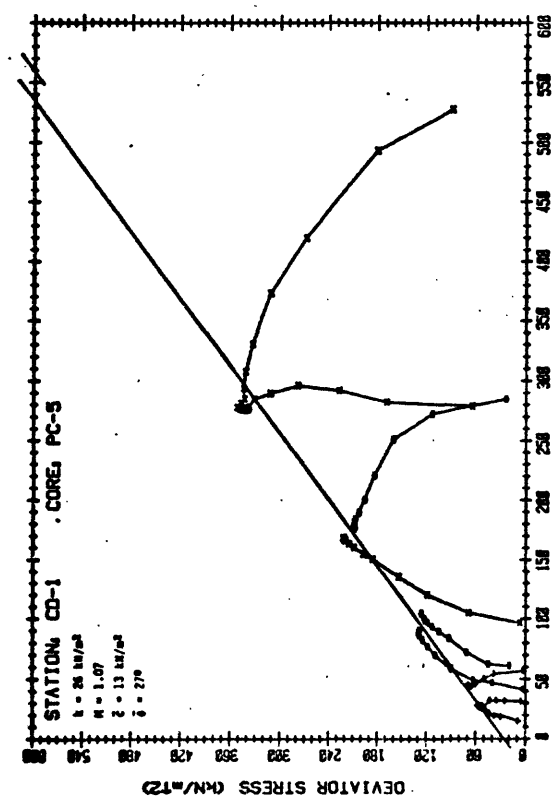


Figure 3b.--Interpretation of drained shear strength parameters.

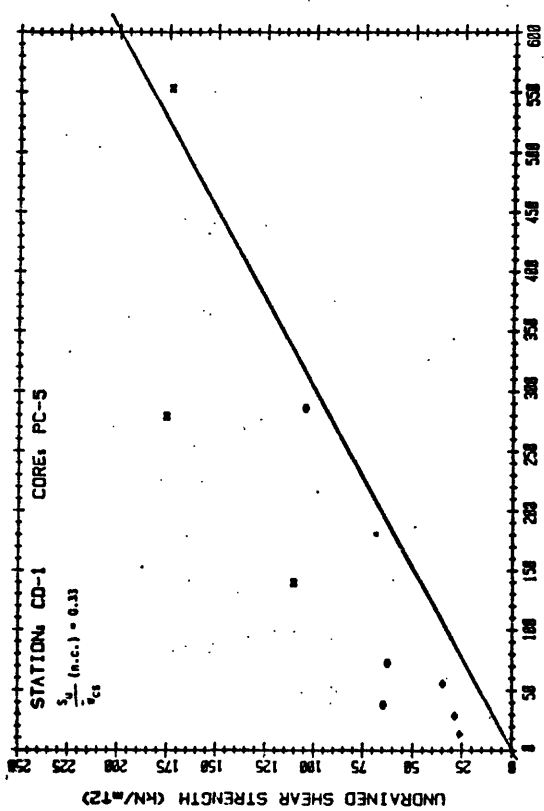


Figure 3c.--Interpretation of the normalized undrained shear strength for the normally consolidated state.

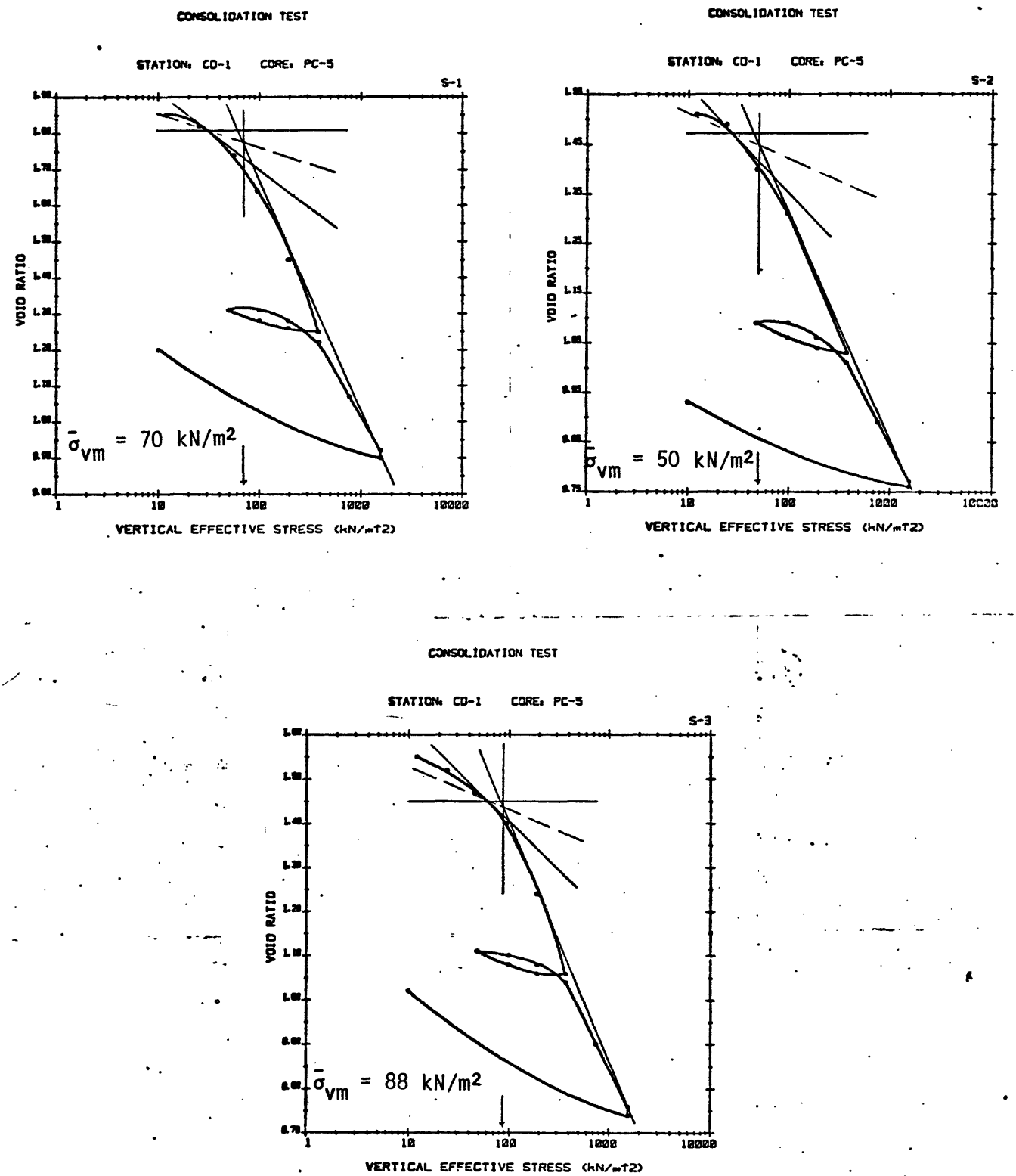


Figure 3f.--Interpretation of the preconsolidation stress from consolidation data.

Table 3a.--Geotechnical test results for site no. CD-1, core no. PC-5

[Lat 39°12.23' N., long 72°24.30' W.; water depth 412 m; core recovery 6.66 m; ----, indicate no information]

Sample depth (m)			Physical properties							Consolidation test results			Lab vane	Triaxial test conditions			Triaxial test results						
Top	Bottom	Average	Fines	Clay	LL	PL	G	w	γ_t	$\bar{\sigma}'_{vm}$	C_c	C_s	S_u	Set	Symbol	$\bar{\sigma}'_{cm}$	$\bar{\sigma}'_c$	S_u	$\frac{S_u}{\bar{\sigma}'_c}$	$\frac{S_u}{\bar{\sigma}'_c}$ (n.c.)	$\bar{\sigma}'_{vm}$	Λ	$\bar{c}$	$\bar{\phi}$
0.00	----	0.01	---	--	--	--	----	64	----	---	----	----	7.9	-	-	---	-----	-----	----	----	---	----	--	--
----	----	.59	---	--	--	--	----	62	----	---	----	----	7.0	-	-	---	-----	-----	----	----	---	----	--	--
1.40	1.55	1.48	95	56	60	27	2.74	75	1.62	70	0.62	0.06	----	-	-	---	-----	-----	----	----	---	----	--	--
1.63	----	1.70	98	53	57	27	2.67	61	1.69	---	----	----	----	3	*	286	38	65	1.71	----	---	----	--	--
----	----	1.83	100	50	58	26	2.72	58	1.72	---	----	----	----	3	*	286	73	63	.86	----	---	----	--	--
----	2.03	1.96	100	52	58	27	2.72	62	1.69	---	----	----	----	3	*	286	286	105	.37	----	---	----	--	--
----	----	2.11	---	--	--	--	----	63	----	---	----	----	10.4	-	-	---	-----	-----	----	----	---	----	--	--
2.35	2.50	2.42	98	54	53	23	2.74	61	1.70	50	.46	.06	----	-	-	---	-----	-----	----	----	---	----	--	--
2.50	----	2.56	100	56	51	26	2.70	60	1.69	---	----	----	----	1	+	---	13.4	26.4	1.97	----	---	----	--	--
----	----	2.69	99	51	53	24	2.68	59	1.71	---	----	----	----	1	+	---	28.8	29.0	1.01	----	---	----	--	--
----	----	2.75	---	--	--	--	----	--	----	---	----	----	----	-	-	---	-----	-----	----	----	---	----	--	--
----	----	2.81	100	53	49	22	2.69	58	1.73	---	----	----	----	1	+	---	55.7	35.0	.63	----	---	----	--	--
----	3.00	2.94	95	52	55	29	2.73	66	1.73	---	----	----	----	1	+	---	-----	-----	----	----	---	----	--	--
----	----	3.63	---	--	--	--	----	57	----	---	----	----	10.9	-	-	---	-----	-----	----	----	---	----	--	--
5.00	5.15	5.08	97	47	54	26	2.71	63	1.69	88	.56	.06	----	-	-	---	-----	-----	----	----	---	----	--	--
6.26	----	6.33	100	52	53	23	2.72	59	1.65	---	----	----	----	2	x	553	140	110.7	.79	----	---	----	--	--
----	----	6.46	98	50	51	27	2.75	57	1.67	---	----	----	----	2	x	553	279	175.7	.68	----	---	----	--	--
----	6.66	6.59	100	56	52	25	2.73	67	1.69	---	----	----	----	2	x	553	553	173.6	.31	----	---	----	--	--
Average values:																								
2.50	3.00	----------																			130	----------		
0.00	6.66	----------																		0.33	---	0.77	13	27

Table 3b.--Calculated geotechnical results for site no. CD-1, core no. PC-5

[Regional slope angle: 15° maximum, 11° average; ----, indicate no information]

Average sample depth (m)						Consolidation state				Normalized shear strength			Normalized shear stress		Factor of safety			
						OCR		$\bar{\sigma}'_{vm} - \bar{\sigma}'_{vb}$		Undrained					Undrained Shansep		Drained	
	PI	A	LI	γ_b	$\bar{\sigma}'_{vb}$	Consolidated data	Triaxial data	Consolidated data	Triaxial data	Drained	Vane	Shansep	Maximum slope angle	Average slope angle	Maximum	Average	Maximum	Average
0.01	--	----	----	----	-----	----	----	------	-------	----	----	----	----	----	----	----	----	----
.59	--	----	----	----	3.84	----	----	------	-------	----	1.82	----	----	----	----	----	----	----
1.48	33	0.59	1.45	----	9.63	7.27	----	60.37	-------	----	----	1.52	----	----	6.00	8.01	----	----
1.70	30	.57	1.13	----	11.07	----	----	------	-------	----	----	----	----	----	----	----	----	----
1.83	32	.64	1.00	----	11.91	----	----	------	-------	----	----	----	----	----	----	----	----	----
1.96	31	.60	1.13	----	12.76	----	----	------	-------	----	----	----	----	----	----	----	----	----
2.11	--	----	----	----	13.74	----	----	------	-------	----	.76	----	----	----	----	----	----	----
2.42	30	.56	1.27	----	15.75	3.17	----	34.25	-------	----	----	.80	----	----	3.28	4.38	----	----
2.56	25	.45	1.36	----	16.67	----	----	------	-------	----	----	----	----	----	----	----	----	----
2.69	29	.57	1.21	----	17.51	----	----	------	-------	----	----	----	----	----	----	----	----	----
2.75	--	----	----	----	17.90	----	7.26	------	112.10	----	----	----	----	----	----	----	----	----
2.81	27	.51	1.33	----	18.29	----	----	------	-------	----	----	----	----	----	----	----	----	----
2.94	26	.50	1.42	----	19.14	----	----	------	-------	----	----	----	----	----	----	----	----	----
3.63	--	----	----	----	23.63	----	----	------	-------	----	.46	----	----	----	----	----	----	----
5.08	28	.60	1.32	----	33.07	2.66	----	54.93	-------	----	----	.72	----	----	2.88	3.84	----	----
6.33	30	.58	1.20	----	41.21	----	----	------	-------	----	----	----	----	----	----	----	----	----
6.46	24	.48	1.25	----	42.05	----	----	------	-------	----	----	----	----	----	----	----	----	----
6.59	27	.48	1.56	----	42.90	----	----	------	-------	----	----	----	----	----	----	----	----	----
Average values for entire core.				0.66	----------					0.48	----------		0.25	0.19	----------		1.90	2.62

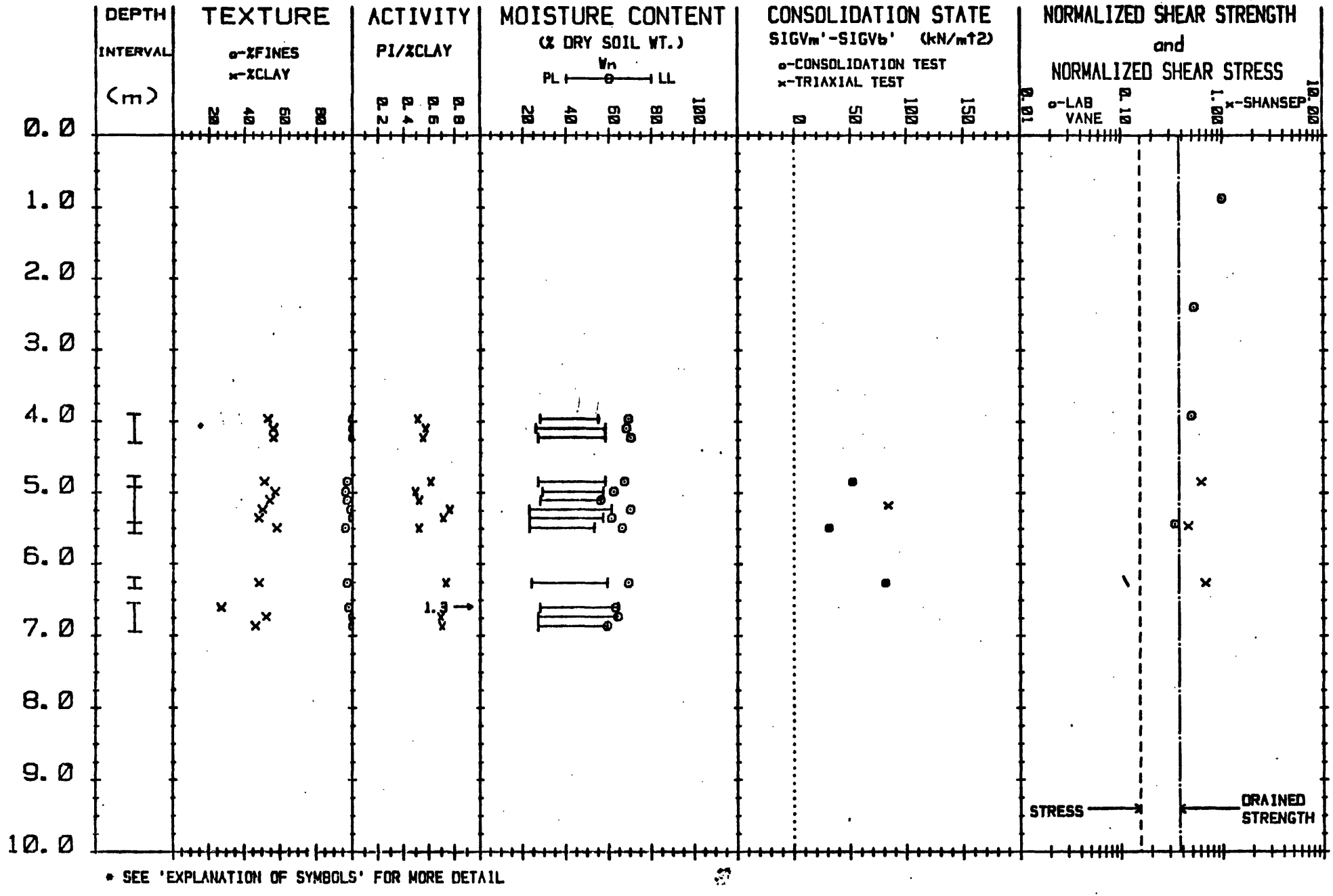


Figure 4a.--Geotechnical profile*.

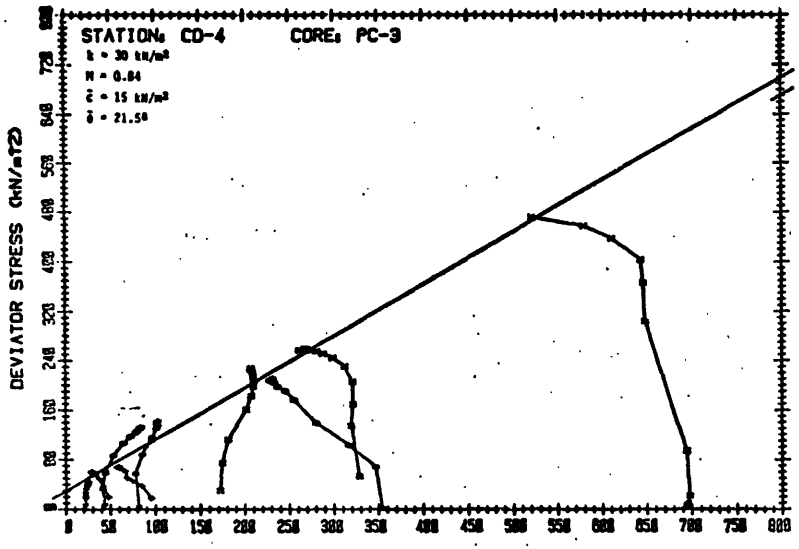


Figure 4b.--Interpretation of drained shear strength parameters.

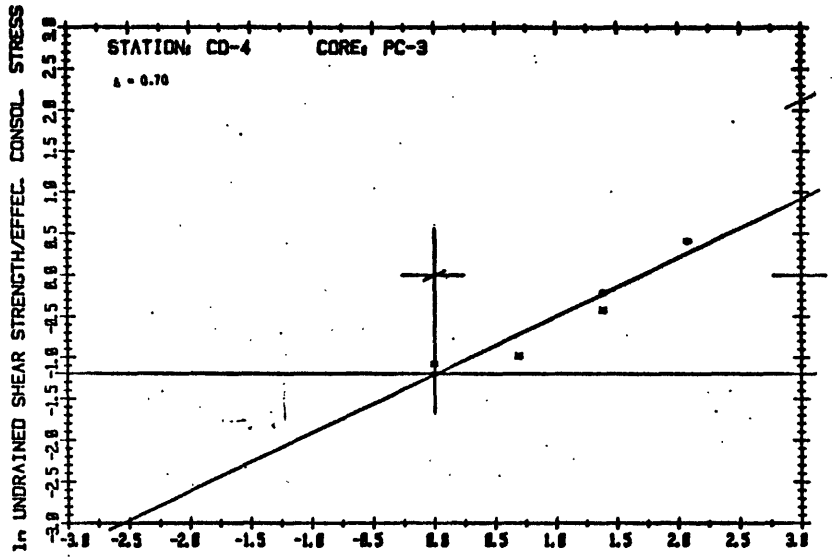


Figure 4d.--Interpretation of the pore pressure parameter Λ.

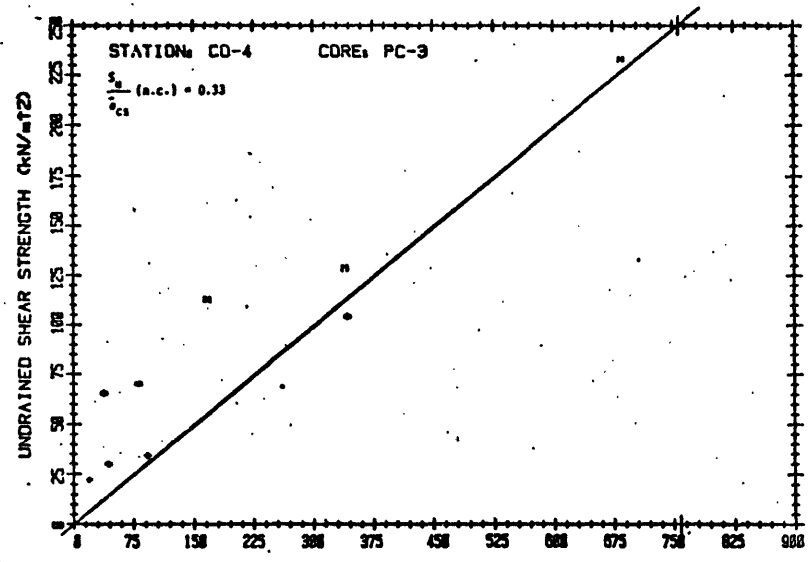


Figure 4c.--Interpretation of the normalized undrained shear strength for the normally consolidated state.

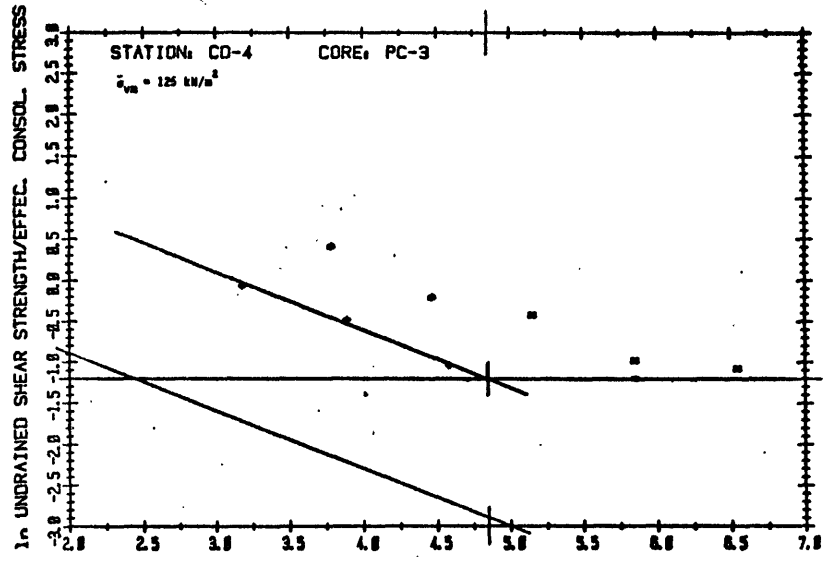
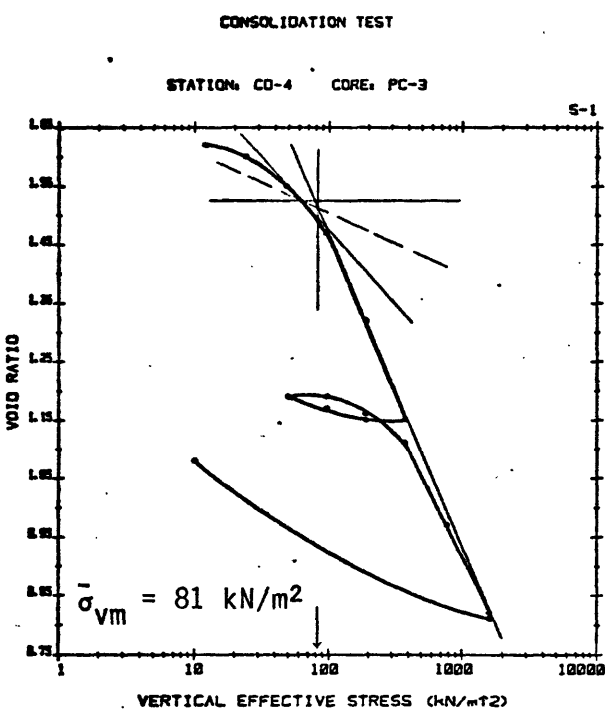
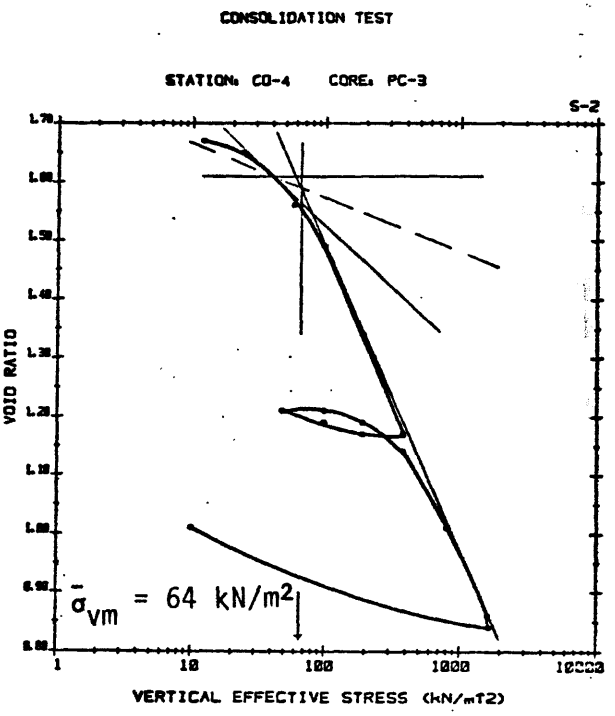


Figure 4e.--Interpretation of the preconsolidation stress from triaxial data.





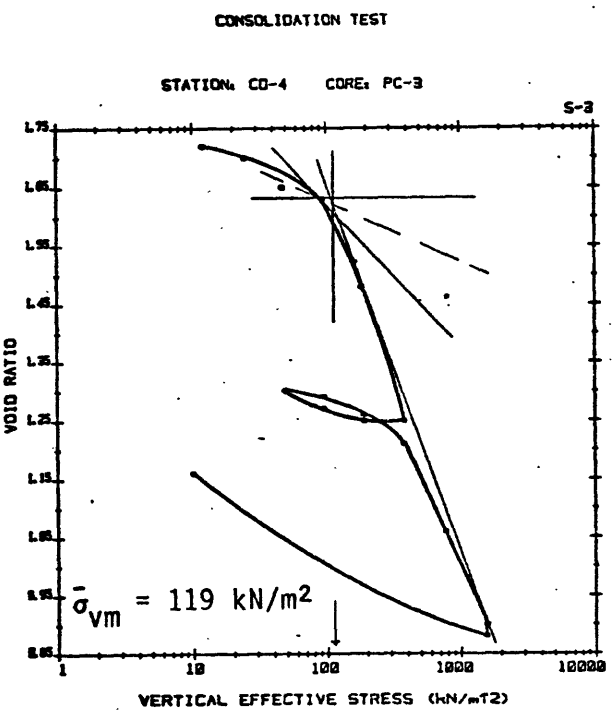


Figure 4f.--Interpretation of the preconsolidation stress from consolidation data.

Table 4a.--Geotechnical test results for site no. CD-4, core no. PC-3

[Lat 39°09.12' N., long 72°24.30' W.; water depth 708 m; core recovery 6.94 m; ----, indicate no information]

Sample depth (m)			Physical properties							Consolidation test results			Lab vane	Triaxial test conditions				Triaxial test results					
Top	Bottom	Average	Fines	Clay	LL	PL	G	w	γ_t	$\bar{\sigma}'_{vm}$	C_c	C_s	S_u	Set	Symbol	$\bar{\sigma}'_{cm}$	$\bar{\sigma}'_c$	S_u	$S_u/\bar{\sigma}'_c$	$S_u/\bar{\sigma}'_c$ (n.c.)	$\bar{\sigma}'_{vm}$	Λ	ε	ϕ
0.00	----	0.87	---	---	--	--	----	54	----	---	----	----	5.2	-	-	---	---	-----	----	----	---	----	--	----
----	----	2.39	---	--	--	--	----	55	----	---	----	----	7.6	-	-	---	---	-----	----	----	---	----	--	----
----	----	3.91	---	--	--	--	----	52	----	---	----	----	11.8	-	-	---	---	-----	----	----	---	----	--	----
3.90	----	3.96	100	53	55	28	2.68	69	1.66	---	----	----	----	3	*	349	44	66.4	1.51	----	---	----	--	----
----	----	4.09	100	56	58	26	2.69	68	1.65	---	----	----	----	3	*	349	87	70.9	.81	----	---	----	--	----
----	4.30	4.22	100	56	58	27	2.68	70	1.64	---	----	----	----	3	*	349	349	105.3	.30	----	---	----	--	----
4.77	4.92	4.84	97	51	58	27	2.71	67	1.67	81	0.56	0.06	----	-	-	---	---	-----	----	----	---	----	--	----
4.92	----	4.98	96	57	57	29	2.74	62	1.67	---	----	----	----	1	+	---	24	22.5	.94	----	---	----	--	----
----	----	5.10	97	54	56	28	2.73	56	1.48	---	----	----	----	1	+	---	49	30.4	.62	----	---	----	--	----
----	----	5.17	---	--	--	--	----	--	----	---	----	----	----	-	-	---	---	-----	----	----	---	----	--	----
----	----	5.23	99	50	61	23	2.69	70	1.65	---	----	----	----	1	+	---	98	34.6	.35	----	---	----	--	----
----	5.42	5.35	100	48	57	23	2.70	61	1.66	---	----	----	----	1	+	---	---	-----	----	----	---	----	--	----
----	----	5.43	---	--	--	--	----	64	----	---	----	----	11.2	-	-	---	---	-----	----	----	---	----	--	----
5.42	5.57	5.49	96	58	53	23	2.71	66	1.67	64	.54	.06	----	-	-	---	---	-----	----	----	---	----	--	----
6.19	6.34	6.26	97	48	59	24	2.74	69	1.66	119	.62	.06	----	-	-	---	---	-----	----	----	---	----	--	----
6.54	----	6.60	98	27	64	28	2.73	63	1.67	---	----	----	----	2	x	693	173	114	.66	----	---	----	--	----
----	----	6.73	100	52	63	27	2.72	64	1.61	---	----	----	----	2	x	693	346	130	.38	----	---	----	--	----
----	6.94	6.86	100	46	59	27	2.72	59	1.69	---	----	----	----	2	x	693	693	236	.34	----	---	----	--	----
Average values:																								
4.92	5.42	----------																			125	----	--	----
0.00	6.94	----------																		0.33	---	0.70	15	21.5

Table 4b.--Calculated geotechnical results for site no. CD-4, core no. PC-3

[Regional slope angle: 9° maximum, 9° average; ----, indicate no information]

Average sample depth (m)						Consolidation state				Normalized shear strength			Normalized shear stress		Factor of safety			
						OCR		$\bar{\sigma}'_{vm} - \bar{\sigma}'_{vb}$		Undrained					Undrained Shansep		Drained	
	PI	A	LI	γ_b	$\bar{\sigma}'_{vb}$	Consolidated data	Triaxial data	Consolidated data	Triaxial data	Drained	Vane	Shansep	Maximum slope angle	Average slope angle	Maximum	Average	Maximum	Average
0.87	--	----	----	----	5.28	----	----	-----	-----	----	0.98	----	----	----	----	----	---	---
2.39	--	----	----	----	14.51	----	----	-----	-----	----	.52	----	----	----	----	----	---	---
3.91	--	----	----	----	23.73	----	----	-----	-----	----	.50	----	----	----	----	----	---	---
3.96	27	0.51	1.52	----	24.04	----	----	-----	-----	----	----	----	----	----	----	----	---	---
4.09	32	.57	1.31	----	24.83	----	----	-----	-----	----	----	----	----	----	----	----	---	---
4.22	31	.55	1.39	----	25.62	----	----	-----	-----	----	----	----	----	----	----	----	---	---
4.84	31	.61	1.29	----	29.38	2.76	----	51.71	-----	----	----	0.67	----	----	4.01	4.01	---	---
4.98	28	.49	1.18	----	30.23	----	----	-----	-----	----	----	----	----	----	----	----	---	---
5.10	28	.52	1.00	----	31.25	----	----	-----	-----	----	----	----	----	----	----	----	---	---
5.17	--	----	----	----	31.38	----	3.98	-----	93.62	----	----	----	----	----	----	----	---	---
5.23	38	.76	1.24	----	31.75	----	----	-----	-----	----	----	----	----	----	----	----	---	---
5.35	34	.71	1.12	----	32.47	----	----	-----	-----	----	----	----	----	----	----	----	---	---
5.43	--	----	----	----	32.96	----	----	-----	-----	----	.34	----	----	----	----	----	---	---
5.49	30	.52	1.43	----	33.32	1.92	----	30.65	-----	----	----	.52	----	----	2.98	2.98	---	---
6.26	35	.73	1.29	----	38.00	3.13	----	80.94	-----	----	----	.73	----	----	4.40	4.40	---	---
6.60	36	1.33	.97	----	40.06	----	----	-----	----	----	----	----	----	----	----	----	---	---
6.73	36	.69	1.03	----	40.85	----	----	-----	-----	----	----	----	----	----	----	----	---	---
6.86	32	.70	1.00	----	41.64	----	----	-----	-----	----	----	----	----	----	---	----	---	---
Average values for entire core.				0.62	----------					0.38	----------		0.16	0.16	---------		2.5	2.5

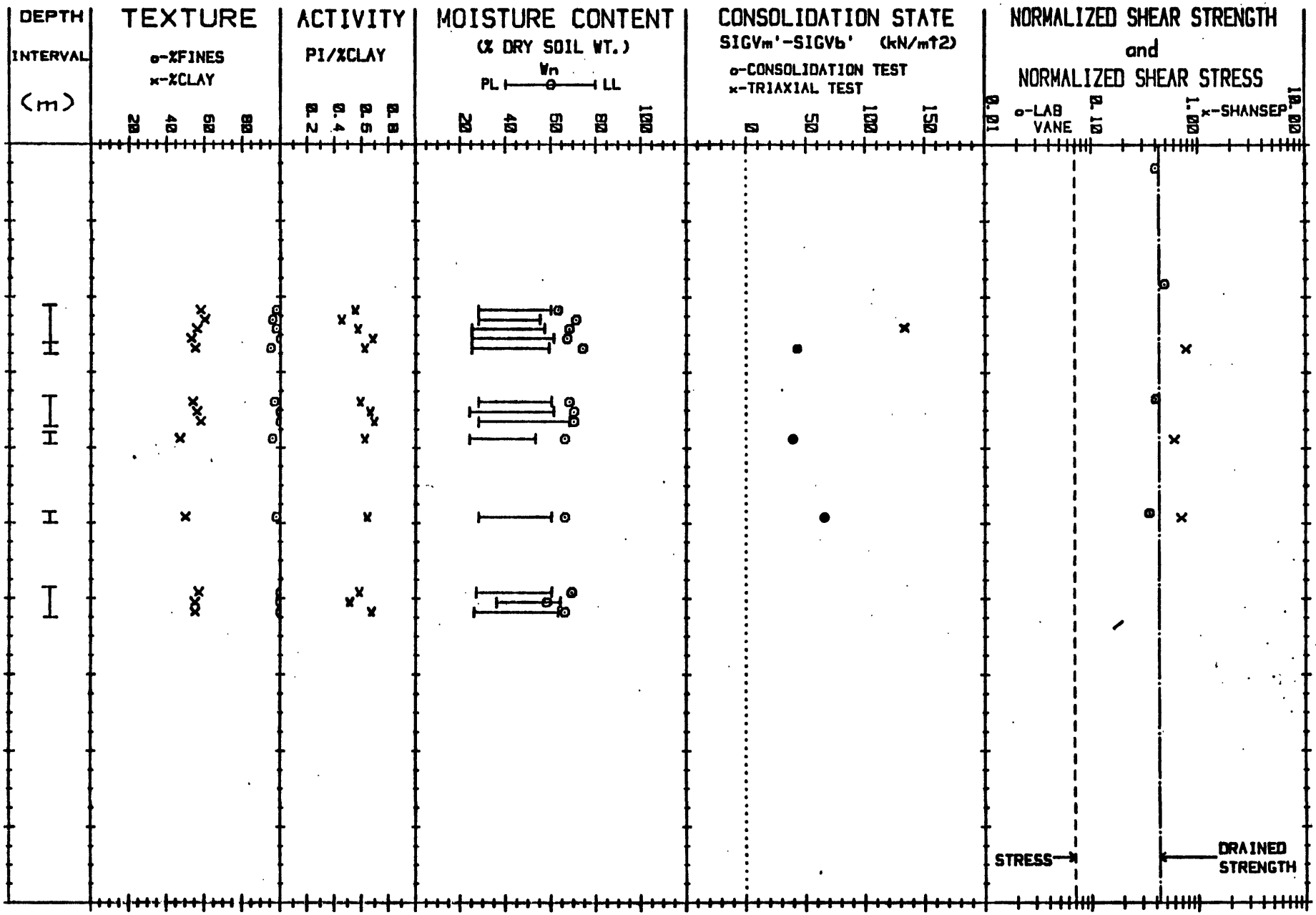


Figure 5a.--Geotechnical profile*.

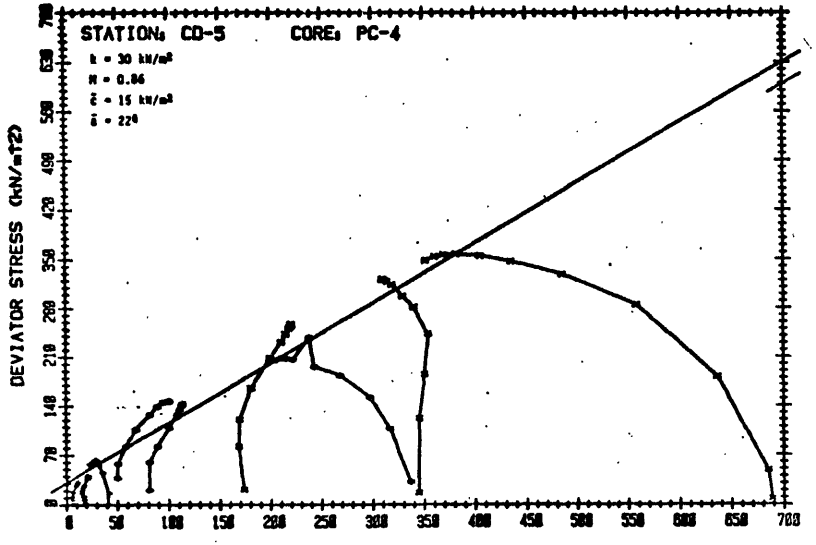


Figure 5b.--Interpretation of drained shear strength parameters.

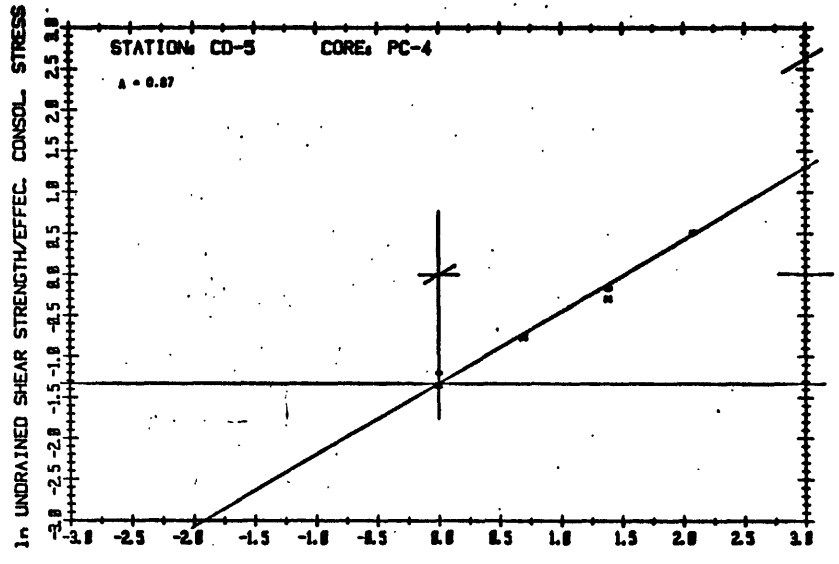


Figure 5d.--Interpretation of the pore pressure parameter A.

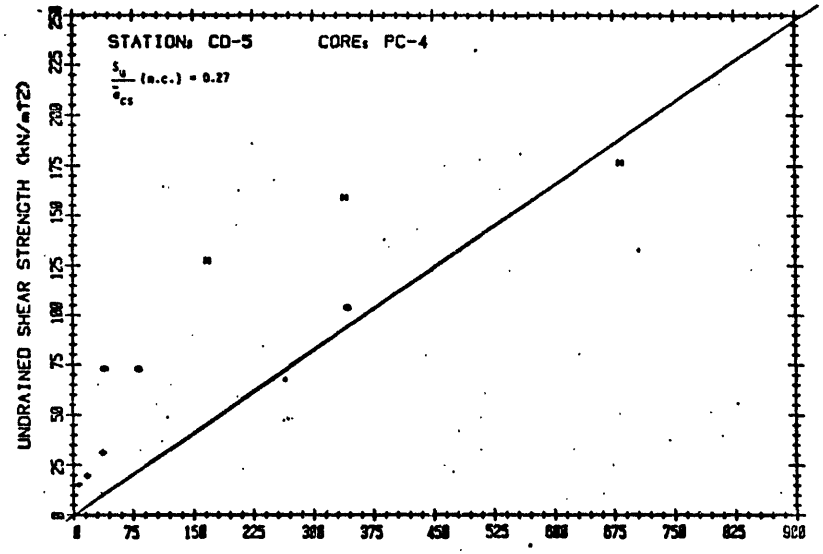


Figure 5c.--Interpretation of the normalized undrained shear strength for the normally consolidated state.

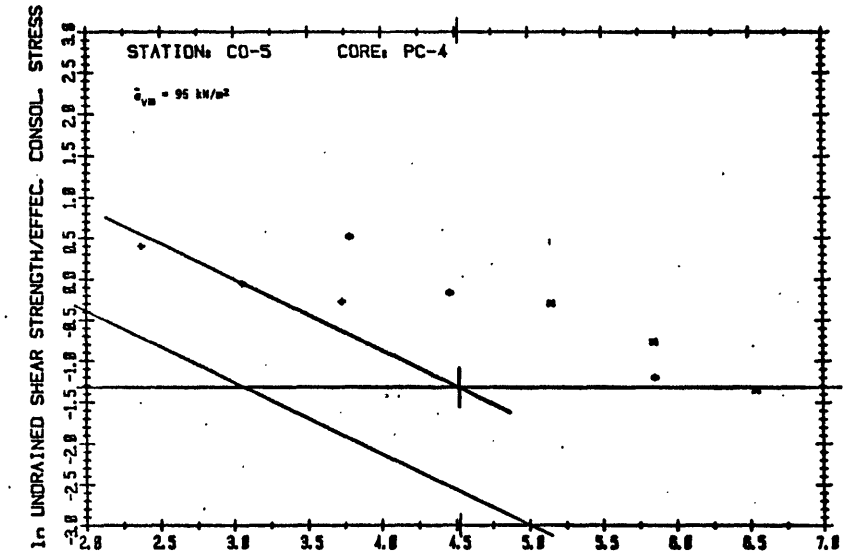


Figure 5e.--Interpretation of the preconsolidation stress from triaxial data.

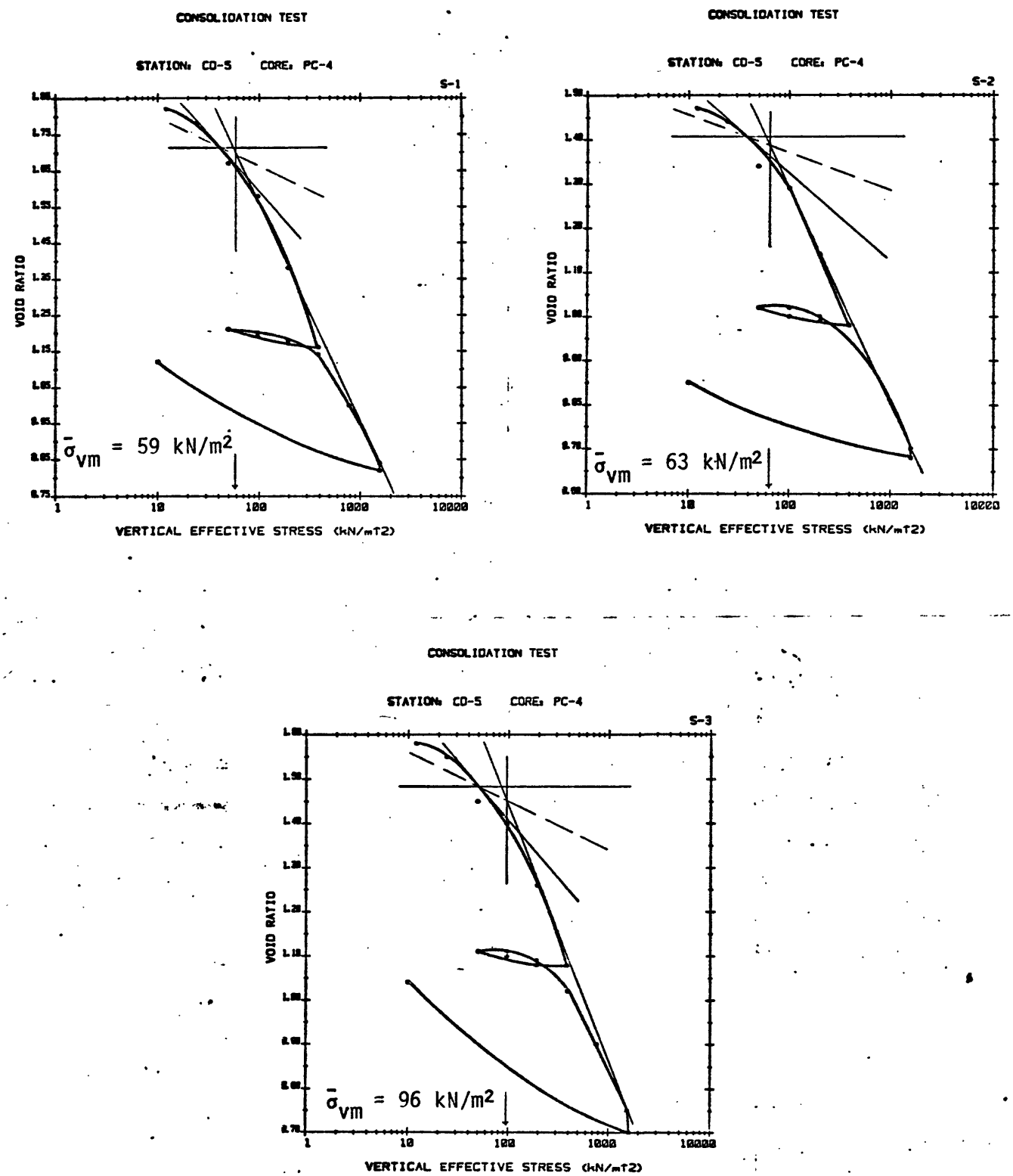


Figure 5f.--Interpretation of the preconsolidation stress from consolidation data.

Table 5a.--Geotechnical test results for site no. CD-5, core no. PC-4

[Lat 39°08.90' N., long 72°24.09' W.; water depth 740 m; core recovery 6.37 m; ----, indicate no information]

Sample depth (m)			Physical properties							Consolidation test results			Lab vane	Triaxial test conditions				Triaxial test results						
Top	Bottom	Average	Fines	Clay	LL	PL	G	w	γ_t	$\bar{\sigma}'_{vm}$	C_c	C_s	S_u	Set	Symbol	$\bar{\sigma}'_{cm}$	$\bar{\sigma}'_c$	S_u	$S_u/\bar{\sigma}'_c$	$S_u/\bar{\sigma}'_c$ (n.c.)	$\bar{\sigma}'_{vm}$	A	$\bar{c}$	$\bar{\phi}$
0.00	----	0.01	---	--	--	--	----	64	----	---	----	----	0.8	-	-	---	-----	-----	----	----	---	----	--	--
----	----	1.82	---	--	--	--	----	68	----	---	----	----	5.5	-	-	---	-----	-----	----	----	---	----	--	--
2.11	----	2.17	98	58	60	28	2.73	63	1.68	---	----	----	----	1	+	---	10.7	16.0	1.50	----	---	----	--	--
----	----	2.30	96	60	55	28	2.73	71	1.66	---	----	----	----	1	+	---	21.3	20.3	.95	----	---	----	--	--
----	----	2.36	---	--	--	--	----	--	----	---	----	----	----	-	-	---	-----	-----	----	----	---	----	--	--
----	----	2.42	98	56	57	25	2.74	68	1.64	---	----	----	----	1	+	---	41.7	31.8	.76	----	---	----	--	--
----	2.61	2.55	100	53	61	25	2.72	67	1.66	---	----	----	----	1	+	---	-----	-----	----	----	---	----	--	--
2.61	2.76	2.68	95	55	59	25	2.74	74	1.63	59	0.62	0.06	----	-	-	---	-----	-----	----	----	---	----	--	--
----	----	3.34	---	--	--	--	----	65	----	---	----	----	8.4	-	-	---	-----	-----	----	----	---	----	--	--
3.32	----	3.39	97	54	60	28	2.70	68	1.66	---	----	----	----	3	*	349	44	74	1.68	----	---	----	--	--
----	----	3.52	100	56	61	24	2.65	70	1.65	---	----	----	----	3	*	349	87	74	.85	----	---	----	--	--
----	3.72	3.65	100	58	68	28	2.67	70	1.65	---	----	----	----	3	*	349	349	105	.30	----	---	----	--	--
3.80	3.95	3.88	96	47	53	24	2.66	66	1.68	63	.48	.04	----	-	-	---	-----	-----	----	----	---	----	--	--
----	----	4.86	---	--	--	--	----	58	----	---	----	----	10.6	-	-	---	-----	-----	----	----	---	----	--	--
4.85	5.00	4.92	98	50	60	28	2.74	66	1.69	96	.56	.05	----	-	-	---	-----	-----	----	----	---	----	--	--
5.85	----	5.92	100	57	60	27	2.74	69	1.63	---	----	----	----	2	x	692	173	129	.75	----	---	----	--	--
----	----	6.05	100	55	64	36	2.75	58	1.67	---	----	----	----	2	x	692	346	161	.47	----	---	----	--	--
----	6.25	6.18	100	55	63	26	2.73	66	1.68	---	----	----	----	2	x	692	692	179	.26	----	---	----	--	--
Average values:																								
2.11	2.61	----------																			95	----------		
0.00	6.25	----------																		0.27	---	0.87	15	22

Table 5b.--Calculated geotechnical results for site no. CD-5, core no. PC-4

[Regional slope angle: 4° maximum, 4° average; ----, indicate no information]

Average sample depth (m)						Consolidation state				Normalized shear strength			Normalized shear stress		Factor of safety			
						OCR		$\bar{\sigma}'_{vm} - \bar{\sigma}'_{vb}$		Undrained					Undrained Shansep		Drained	
	PI	A	LI	γ_b	$\bar{\sigma}'_{vb}$	Consolidated data	Triaxial data	Consolidated data	Triaxial data	Drained	Vane	Shansep	Maximum slope angle	Average slope angle	Maximum	Average	Maximum	Average
0.01	--	----	----	----	-----	----	----	-----	-----	----	----	----	----	----	-----	-----	----	----
1.82	--	----	----	----	11.32	----	----	-----	-----	----	0.49	----	----	----	-----	-----	----	----
2.17	32	0.55	1.09	----	13.50	----	----	-----	-----	----	----	----	----	----	-----	-----	----	----
2.30	27	.45	1.59	----	14.31	----	----	-----	-----	----	----	----	----	----	-----	-----	----	----
2.36	--	----	----	----	14.68	----	6.47	-----	80.32	----	----	----	----	----	-----	-----	----	----
2.42	32	.57	1.34	----	15.05	----	----	-----	-----	----	----	----	----	----	-----	-----	----	----
2.55	36	.68	1.17	----	15.86	----	----	-----	-----	----	----	----	----	----	-----	-----	----	----
2.68	34	.62	1.44	----	16.67	3.54	----	42.33	-----	----	----	0.81	----	----	11.06	11.06	----	----
3.34	--	----	----	----	20.77	----	----	-----	-----	----	.40	----	----	----	-----	-----	----	----
3.39	32	.59	1.25	----	21.09	----	----	-----	-----	----	----	----	---	----	-----	-----	-----	----
3.52	37	.66	1.24	----	21.89	----	----	-----	-----	----	----	----	----	----	-----	-----	----	----
3.65	40	.69	1.05	----	22.70	----	----	-----	-----	----	----	----	----	----	-----	-----	----	----
3.88	29	.62	1.45	----	24.13	2.61	----	38.87	-----	----	----	.62	----	----	8.62	8.62	----	----
4.86	--	----	----	----	30.23	----	----	-----	-----	----	.35	----	----	----	-----	-----	----	----
4.92	32	.64	1.19	----	30.60	3.14	----	65.48	-----	----	----	.73	----	----	10.06	10.06	----	----
5.92	33	.58	1.27	----	36.82	----	----	-----	-----	----	----	----	----	----	-----	-----	----	----
6.05	28	.51	.79	----	37.63	----	----	-----	-----	----	----	----	----	----	-----	-----	----	----
6.18	37	.67	1.08	----	38.44	----	----	-----	-----	----	----	----	----	----	-----	-----	----	----
Average values for entire core.				0.63	----------					0.40	----------		0.07	0.07	----------		5.78	5.78

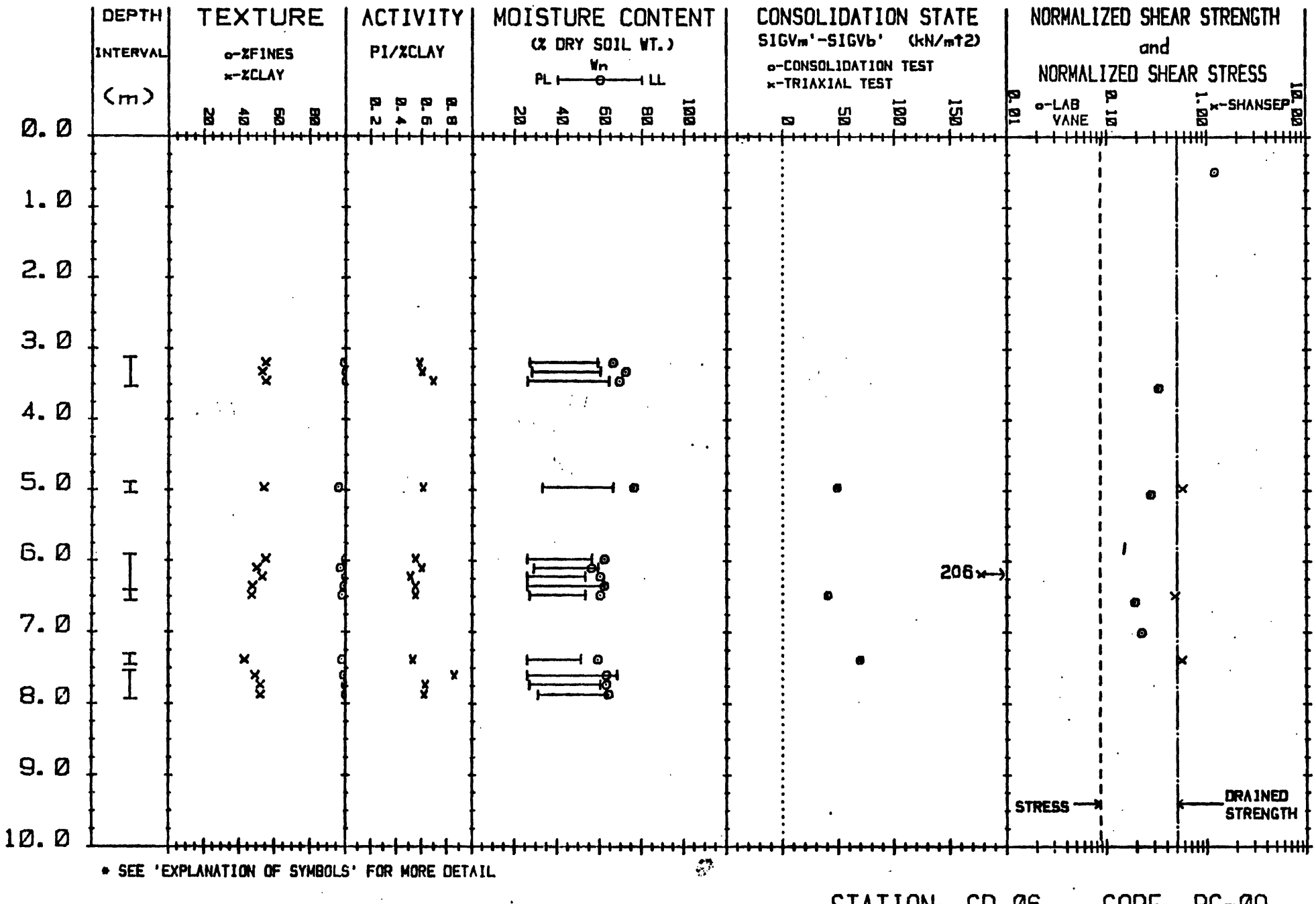


Figure 6a.--Geotechnical profile*.

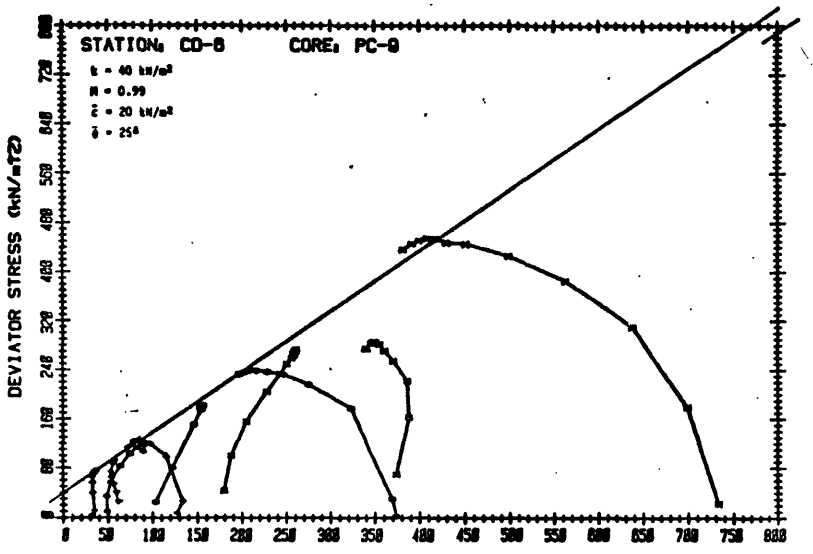


Figure 6b.--Interpretation of drained shear strength parameters.

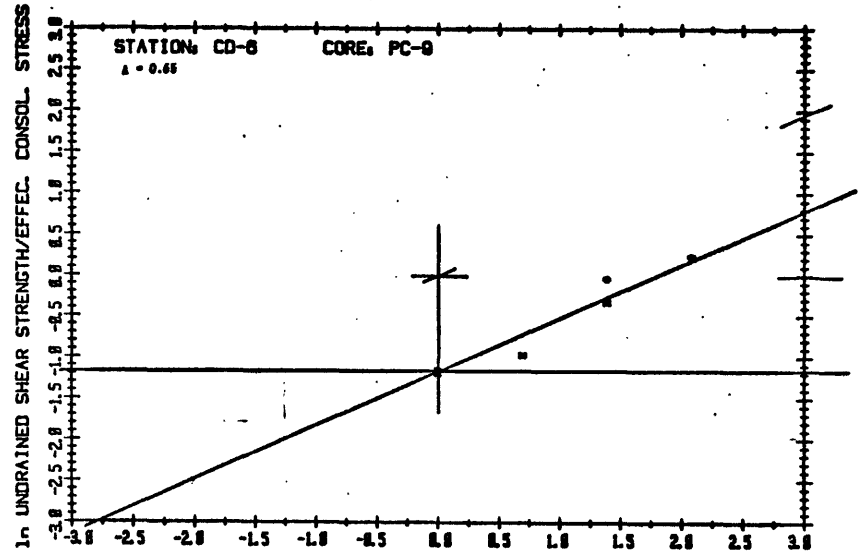


Figure 6d.--Interpretation of the pore pressure parameter Λ.

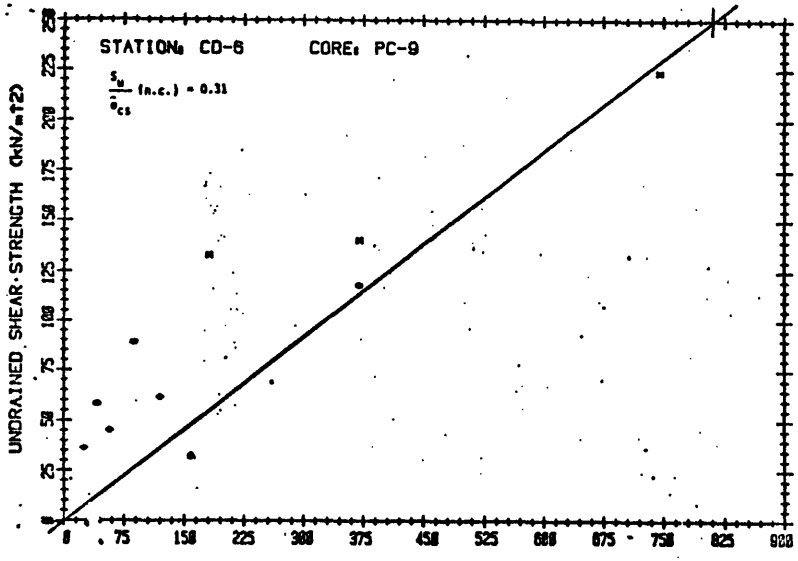


Figure 6c.--Interpretation of the normalized undrained shear strength for the normally consolidated state.

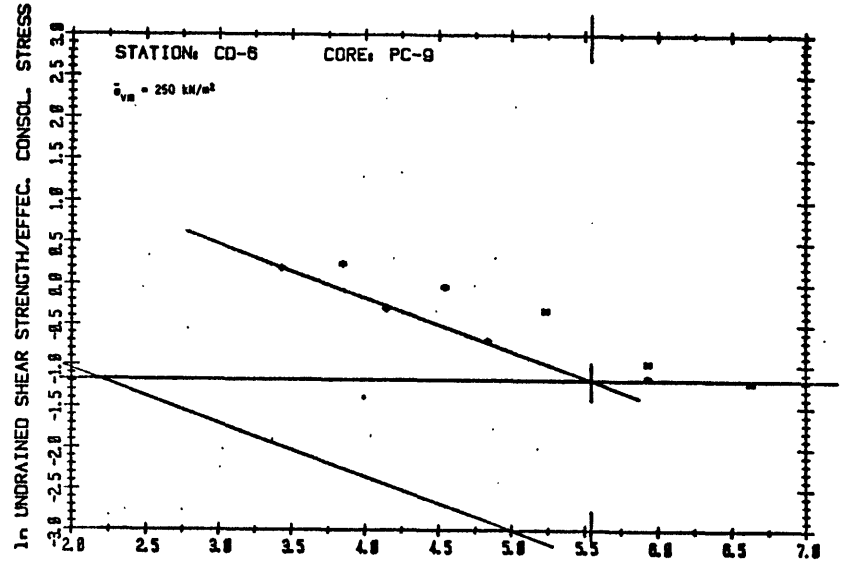


Figure 6e.--Interpretation of the preconsolidation stress from triaxial data.

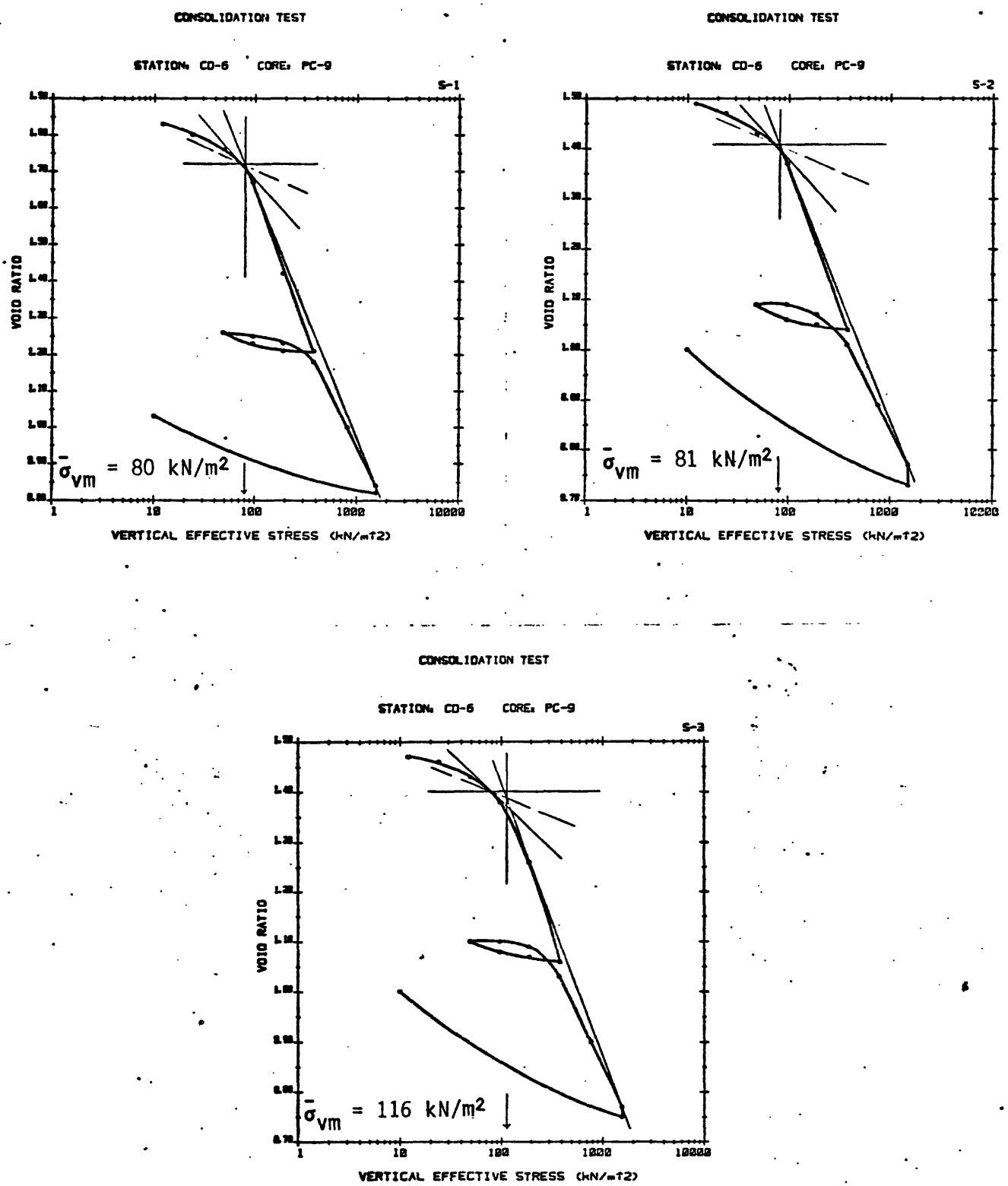


Figure 6f.--Interpretation of the preconsolidation stress from consolidation data.

Table 6a.--Geotechnical test results for site no. CD-6, core no. PC-9

[Lat 39°08.53' N., long 72°24.32' W.; water depth 784 m; core recovery 8.03 m; ----, indicate no information]

Sample depth (m)			Physical properties							Consolidation test results				Triaxial test conditions			Triaxial test results						
Top	Bottom	Average	Fines	Clay	LL	PL	G	w	γ_t	$\bar{\sigma}'_{vm}$	C_c	C_s	Lab vane S_u	Set	Symbol	$\bar{\sigma}'_{cm}$	$\bar{\sigma}'_c$	S_u	$S_u/\bar{\sigma}'_c$	$S_u/\bar{\sigma}'_c$ (n.c.)	$\bar{\sigma}'_{vm}$	A	$\bar{c}$	$\bar{\phi}$
0.00	----	0.01	---	----	--	--	----	75	----	---	----	----	----	-	-	---	-----	-----	----	----	---	----	--	--
----	----	.49	---	----	--	--	----	62	----	---	----	----	3.8	-	-	---	-----	-----	----	----	---	----	--	--
----	----	2.01	---	----	--	--	----	64	----	---	----	----	7.5	-	-	---	-----	-----	----	----	---	----	--	--
3.12	----	3.19	99	55	59	27	2.71	66	1.67	---	----	----	----	3	*	377	47	60	1.28	----	---	----	--	--
----	----	3.32	100	53	60	28	2.69	72	1.63	---	----	----	----	3	*	377	94	91	.97	----	---	----	--	--
----	3.53	3.45	100	55	64	26	2.68	69	1.64	---	----	----	----	3	*	377	377	120	.32	----	---	----	--	--
----	----	3.54	---	----	--	--	----	69	----	---	----	----	8.9	-	-	---	-----	-----	----	----	---	----	--	--
4.89	5.04	4.96	96	54	66	33	2.68	76	1.62	80	0.68	0.07	----	-	-	---	-----	-----	----	----	---	----	--	--
----	----	5.05	---	----	--	--	----	79	----	---	----	----	8.1	-	-	---	-----	-----	----	----	---	----	--	--
5.91	----	5.97	100	55	56	26	2.75	62	1.66	---	----	----	----	1	+	---	31	37.6	1.21	----	---	----	--	--
----	----	6.10	97	50	59	29	2.75	56	1.69	---	----	----	----	1	+	---	63.1	46.6	.74	----	---	----	--	--
----	----	6.16	---	----	--	--	----	--	----	---	----	----	----	-	-	---	-----	-----	----	----	---	----	--	--
----	----	6.22	100	53	53	26	2.71	60	1.70	---	----	----	----	1	+	---	126.1	63.3	.50	----	---	----	--	--
----	6.41	6.35	99	47.5	62	26	2.74	62	1.70	---	----	----	----	1	+	---	-----	-----	----	----	---	----	--	--
6.41	6.56	6.48	98	47	53	27	2.71	60	1.70	81	.51	.06	----	-	-	---	-----	-----	----	----	---	----	--	--
----	----	6.57	---	----	--	--	----	54	----	---	----	----	10.0	-	-	---	-----	-----	----	----	---	----	--	--
7.30	7.45	7.38	98	43	51	26	2.73	59	1.71	116	.54	.06	----	-	-	---	-----	-----	----	----	---	----	--	--
7.53	----	7.60	99	49	68	26	2.73	63	1.68	---	----	----	----	2	x	755	188	135.4	.72	----	---	----	--	--
----	----	7.73	100	52	60	27	2.71	63	1.69	---	----	----	----	2	x	755	378	142.7	.38	----	---	----	--	--
----	7.93	7.87	100	52	63	31	2.70	64	1.68	---	----	----	----	2	x	755	755	227.4	.30	----	---	----	--	--
Average values:																								
5.91	6.41	----------																			250	----	----	----
0.00	7.93	----------																		0.31	---	0.65	20	25

Table 6b.--Calculated geotechnical results for site no. CD-6, core no. PC-9

[Regional slope angle: 5° maximum, 5° average; ----, indicate no information]

Average sample depth (m)	PI	A	LI	γ_b	$\bar{\sigma}'_{vb}$	Consolidation state: OCR		Consolidation state: $\bar{\sigma}'_{vm} - \bar{\sigma}'_{vb}$		Normalized shear strength: Undrained			Normalized shear stress		Factor of safety: Undrained Shansep		Factor of safety: Drained	
						Consolidated data	Triaxial data	Consolidated data	Triaxial data	Drained	Vane	Shansep	Maximum slope angle	Average slope angle	Maximum	Average	Maximum	Average
0.01	--	----	----	----	-----	----	----	-----	------	----	----	----	----	----	----	----	----	----
0.49	--	----	----	----	3.12	----	----	-----	------	----	1.20	----	----	----	----	----	----	----
2.01	--	----	----	----	12.80	----	----	-----	------	----	.59	----	----	----	----	----	----	----
3.19	32	0.58	1.22	----	20.32	----	----	-----	------	----	----	----	----	----	----	----	----	----
3.32	32	.60	1.38	----	21.15	----	----	-----	------	----	----	----	----	----	----	----	----	----
3.45	38	.69	1.13	----	21.98	----	----	-----	------	----	----	----	----	----	----	----	----	----
3.54	--	----	----	----	22.55	----	----	-----	------	----	.39	----	----	----	----	----	----	----
4.96	33	.61	1.30	----	31.60	2.53	----	48.40	------	----	----	0.58	----	----	6.68	6.68	----	----
5.05	--	----	----	----	32.17	----	----	-----	------	----	.25	----	----	----	----	----	----	----
5.97	30	.55	1.20	----	38.03	----	----	-----	------	----	----	----	----	----	----	----	----	----
6.10	30	.60	.90	----	38.86	----	----	-----	------	----	----	----	----	----	----	----	----	----
6.16	--	----	----	----	39.24	----	6.37	-----	210.76	----	----	----	----	----	----	----	----	----
6.22	27	.51	1.26	----	39.62	----	----	-----	------	----	----	----	----	----	----	----	----	----
6.35	26	.55	1.38	----	40.45	----	----	-----	------	----	----	----	----	----	----	----	----	----
6.48	26	.55	1.27	----	41.28	1.96	----	39.72	------	----	----	.48	----	----	5.53	5.53	----	----
6.57	--	----	----	----	41.85	----	----	-----	------	----	.24	----	----	----	----	----	----	----
7.38	25	.53	1.32	----	47.01	2.47	----	68.99	------	----	----	.56	----	----	6.45	6.45	----	----
7.60	42	.86	.88	----	48.41	----	----	-----	------	----	----	----	----	----	----	----	----	----
7.73	33	.63	1.09	----	49.24	----	----	-----	------	----	----	----	----	----	----	----	----	----
7.87	32	.62	1.03	----	50.13	----	----	-----	------	----	----	----	----	----	----	----	----	----
Average values for entire core.				0.65	----------					0.46	----------		0.09	0.09	----------		5.33	5.33

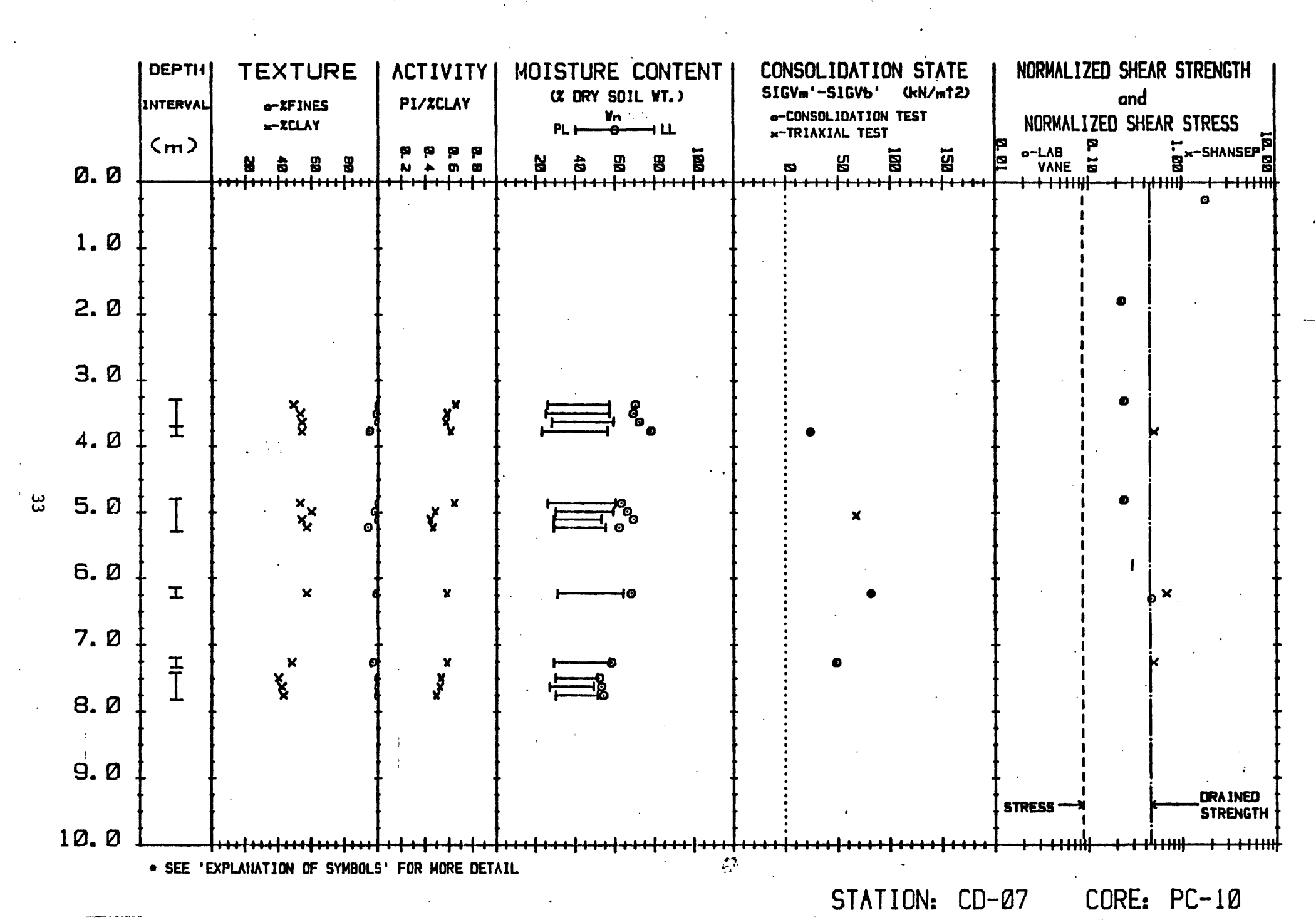


Figure 7a.--Geotechnical profile*.

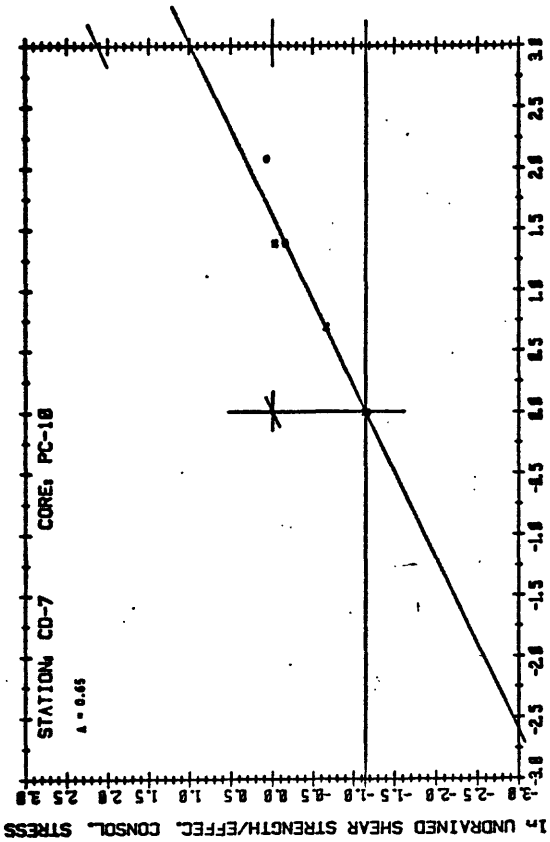


Figure 7d.--Interpretation of the pore pressure parameter A.

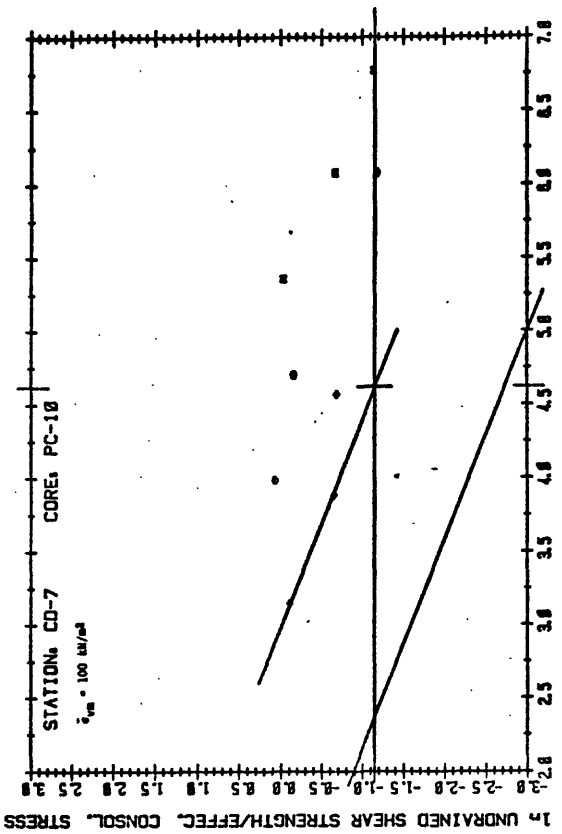


Figure 7e.--Interpretation of the preconsolidation stress from triaxial data.

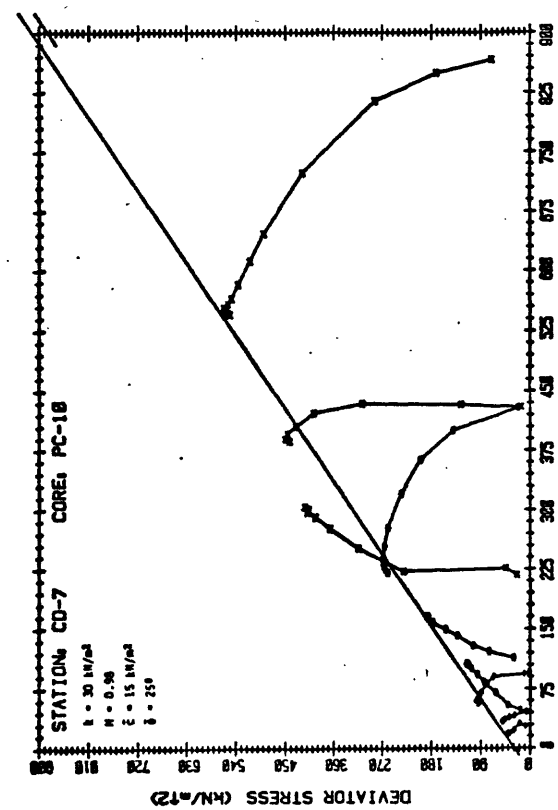


Figure 7b.--Interpretation of drained shear strength parameters.

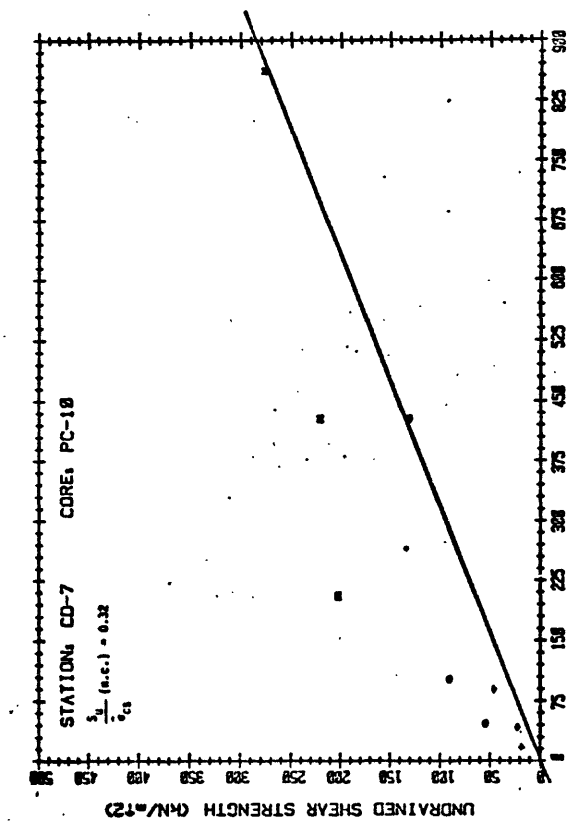
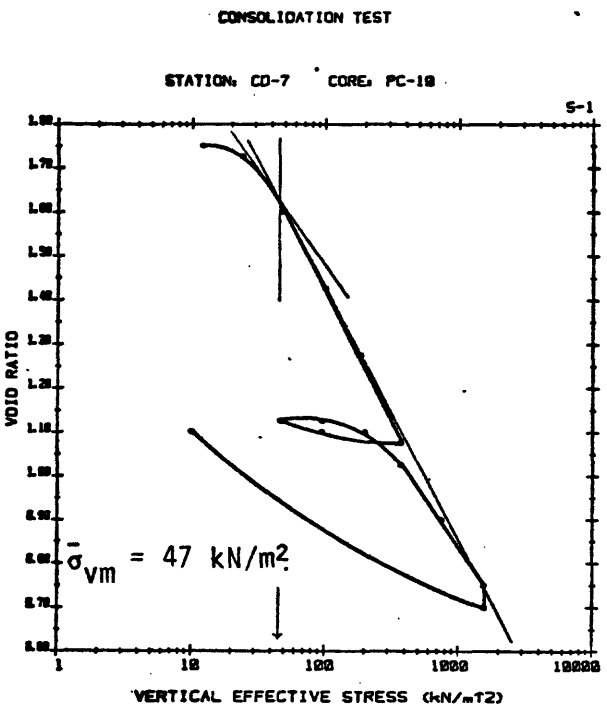
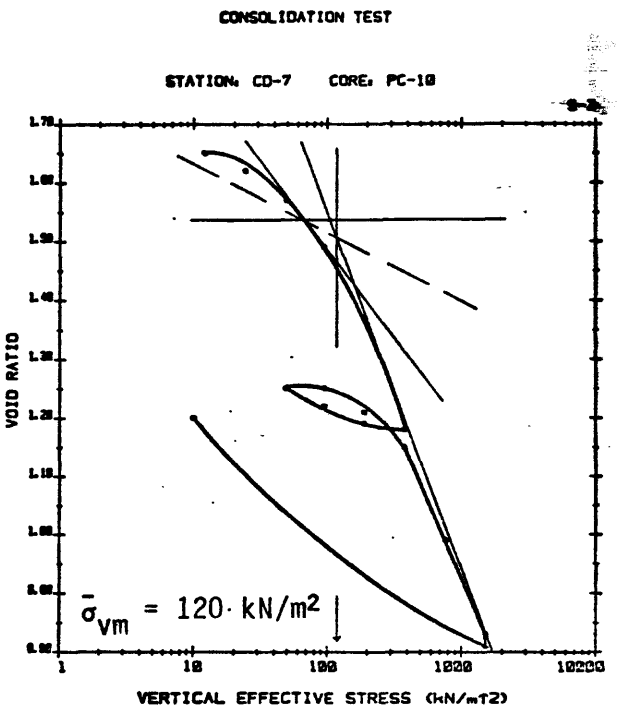


Figure 7c.--Interpretation of the normalized undrained shear strength for the normally consolidated state.





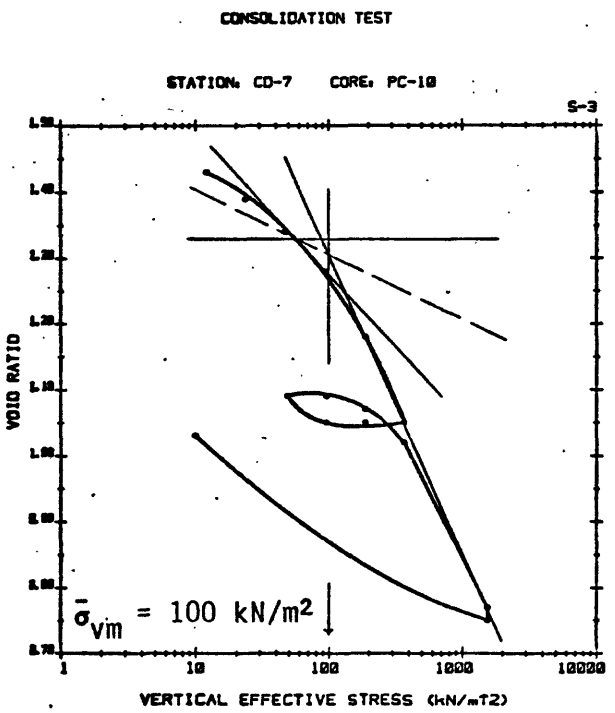


Figure 7f.--Interpretation of the preconsolidation stress from consolidation data.

Table 7a.--Geotechnical test results for site no. CD-7, core no. PC-10

[Lat 39°07.27' N., long 72°23.25' W.; water depth 979 m; core recovery 7.82 m; ----, indicate no information]

Sample depth (m)			Physical properties							Consolidation test results			Lab vane	Triaxial test conditions				Triaxial test results					
Top	Bottom	Average	Fines	Clay	LL	PL	G	w	γ_t	$\bar{\sigma}_{vm}$	C_c	C_s	S_u	Set	Symbol	$\bar{\sigma}_{cm}$	$\bar{\sigma}_c$	S_u	$S_u/\bar{\sigma}_c$	$S_u/\bar{\sigma}_c$ (n.c.)	$\bar{\sigma}_{vm}$	A	$\bar{c}$	$\bar{\phi}$
0.00	----	0.26	---	--	--	--	----	101	----	---	----	----	2.9	-	-	---	-----	-----	----	----	---	----	--	--
----	----	1.78	---	--	--	--	----	56	----	---	----	----	2.5	-	-	---	-----	-----	----	----	---	----	--	--
----	----	3.30	---	--	--	--	----	73	----	---	----	----	4.9	-	-	---	-----	-----	----	----	---	----	--	--
3.29	----	3.36	100	49	57	26	2.72	70	1.65	---	----	----	----	3	*	437	54	58	1.07	----	---	----	--	--
----	----	3.49	99	53	57	25	2.70	69	1.64	---	----	----	----	3	*	437	110	94	.85	----	---	----	--	--
----	3.69	3.62	100	54	59	28	2.72	72	1.65	---	----	----	----	3	*	437	437	134	.31	----	---	----	--	--
3.69	3.84	3.76	95	54	56	23	2.69	78	1.63	47	0.70	0.09	----	-	-	---	-----	-----	----	----	---	----	--	--
----	----	4.80	---	--	--	--	----	69	----	---	----	----	7.1	-	-	---	-----	-----	----	----	---	----	--	--
4.79	----	4.85	100	53	60	26	2.65	63	1.68	---	----	----	----	1	+	---	23.3	20.9	.90	----	---	----	--	--
----	----	4.98	98	60	59	30	2.74	66	1.66	---	----	----	----	1	+	---	48.5	25.4	.52	----	---	----	--	--
----	----	5.04	---	--	--	--	----	---	----	---	----	----	----	-	-	---	-----	-----	-----	----	---	----	--	--
----	----	5.10	100	54	53	29	2.72	69	1.66	---	----	----	----	1	+	---	96.4	49.1	.51	----	---	----	--	--
----	5.29	5.22	94	57	55	29	2.75	62	1.70	---	----	----	----	1	+	---	-----	-----	----	----	---	----	--	--
6.14	6.29	6.22	99	57	64	31	2.72	68	1.67	120	.61	.09	----	-	-	---	-----	-----	----	----	---	----	--	--
----	----	6.30	---	--	--	--	----	61	----	---	----	----	18.4	-	-	---	-----	-----	----	----	---	----	--	--
----	6.74	----	---	--	--	--	----	---	----	---	----	----	----	-	-	---	-----	-----	----	----	---	----	--	--
6.74	----	----	---	--	--	--	----	---	----	---	----	----	----	-	-	---	-----	-----	----	----	---	----	--	--
7.19	7.34	7.26	97	48	57	29	2.73	58	1.72	100	.44	.06	----	-	-	---	-----	-----	----	----	---	----	--	--
7.42	----	7.49	100	40	51	30	2.75	52	1.76	---	----	----	----	2	x	873	213	207	.97	----	---	----	--	--
----	----	7.62	100	42	49	27	2.75	53	1.77	---	----	----	----	2	x	873	437	225	.51	----	---	----	--	--
----	7.82	7.75	100	43	51	30	2.73	54	1.76	---	----	----	----	2	x	873	873	281	.32	----	---	----	--	--
Average values:																								
4.79	5.29	----------																			100	----------		
0.00	7.82	----------																			0.32	---	0.71	15	25

Table 7b.--Calculated geotechnical results for site no. CD-7, core no. PC-10

[Regional slope angle: 5° maximum, 5° average; ----, indicate no information]

Average sample depth (m)	PI	A	LI	γ_b	$\bar{\sigma}_{vb}$	Consolidation state: OCR		$\bar{\sigma}_{vm} - \bar{\sigma}_{vb}$		Normalized shear strength: Undrained			Normalized shear stress		Factor of safety: Undrained Shansep		Factor of safety: Drained	
						Consolidated data	Triaxial data	Consolidated data	Triaxial data	Drained	Vane	Shansep	Maximum slope angle	Average slope angle	Maximum	Average	Maximum	Average
0.26	--	----	----	----	1.61	----	----	-----	------	----	1.79	----	----	----	----	----	----	----
1.78	--	----	----	----	11.05	----	----	-----	------	----	.23	----	----	----	----	----	----	----
3.30	--	----	----	----	20.49	----	----	-----	------	----	.24	----	----	----	----	----	----	----
3.36	31	0.65	1.42	----	20.87	----	----	-----	------	----	----	----	----	----	----	----	----	----
3.49	32	.58	1.38	----	21.67	----	----	-----	------	----	----	----	----	----	----	----	----	----
3.62	31	.57	1.42	----	22.48	----	----	-----	------	----	----	----	----	----	----	----	----	----
3.76	33	.61	1.67	----	23.35	2.01	----	23.65	------	----	----	0.50	----	----	5.76	5.76	----	----
4.80	--	----	----	----	29.81	----	----	-----	------	----	.24	----	----	----	----	----	----	----
4.85	34	.64	1.09	----	30.12	----	----	-----	------	----	----	----	----	----	----	----	----	----
4.98	29	.48	1.24	----	30.93	----	----	-----	------	----	----	----	----	----	----	----	----	----
5.04	--	----	----	----	31.30	----	3.19	-----	68.70	----	----	----	----	----	----	----	----	----
5.10	24	.44	1.67	----	31.67	----	----	-----	------	----	----	----	----	----	----	----	----	----
5.22	26	.46	1.27	----	32.42	----	----	-----	------	----	----	----	----	----	----	----	----	----
6.22	33	.58	1.12	----	38.63	3.11	----	81.37	------	----	----	.68	----	----	7.83	7.83	----	----
6.30	--	----	----	----	39.12	----	----	-----	------	----	.47	----	----	----	----	----	----	----
6.74	--	----	----	----	41.86	----	-----	------	------	----	----	----	----	----	----	----	----	----
6.74	--	----	----	----	41.86	----	----	-----	------	----	----	----	----	----	----	----	----	----
7.26	28	.58	1.04	----	45.56	2.19	----	54.44	------	----	----	.53	----	----	6.10	6.10	----	----
7.49	21	.53	1.05	----	47.20	----	----	-----	------	----	----	----	----	----	----	----	----	----
7.62	22	.52	1.18	----	48.12	----	----	-----	------	----	----	----	----	----	----	----	----	----
7.75	21	.49	1.14	----	49.05	----	----	-----	------	----	----	----	----	----	----	----	----	----
Average values:																		
0.26 to 6.74			----	0.63	----------													
6.74 to 7.75			----	.73	----------													
0.26 to 7.75			----------							0.46	----------		0.09	0.09	----------		5.33	5.33

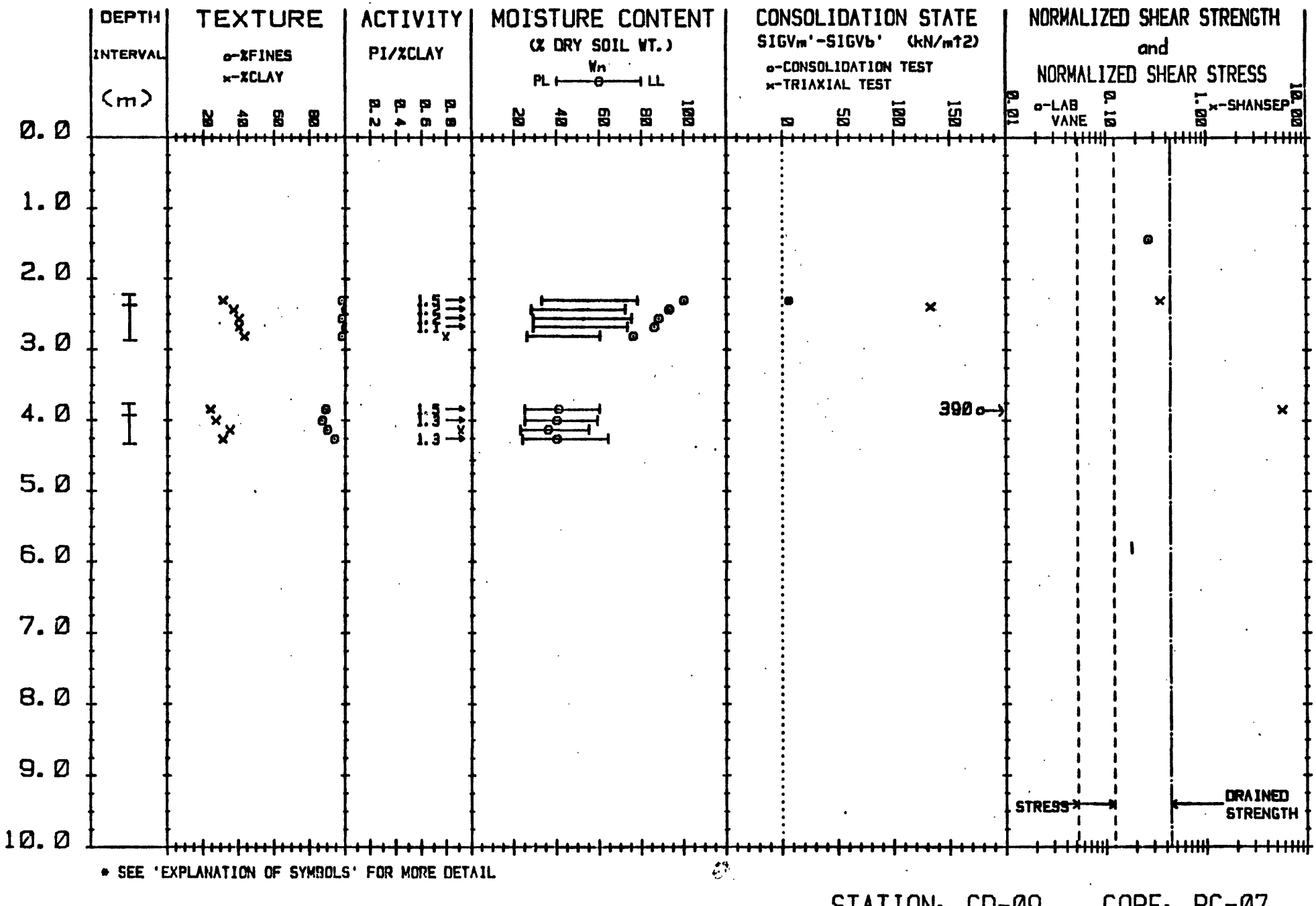


Figure 8a.--Geotechnical profile*.

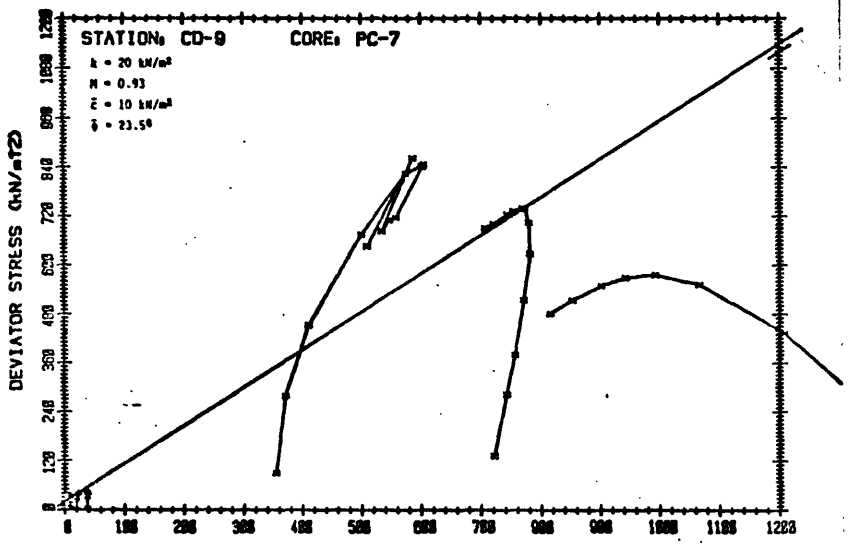


Figure 8b.--Interpretation of drained shear strength parameters.

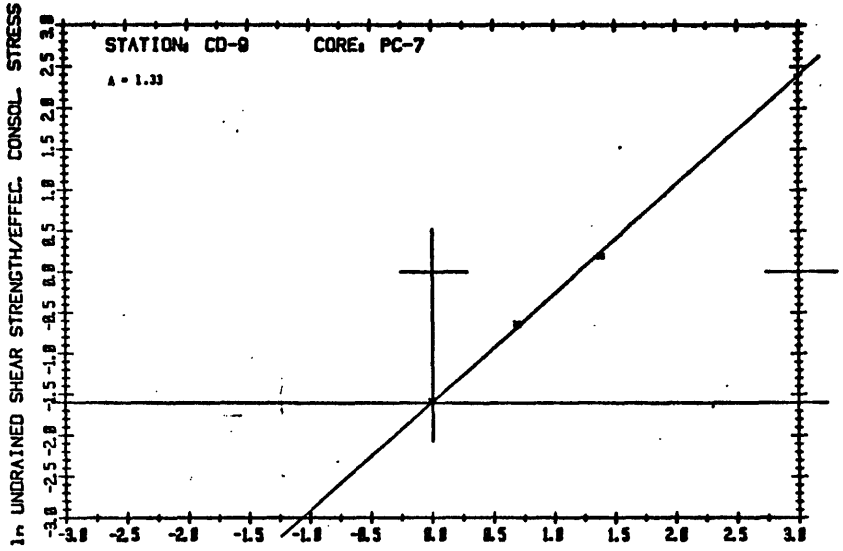


Figure 8d.--Interpretation of the pore pressure parameter A.

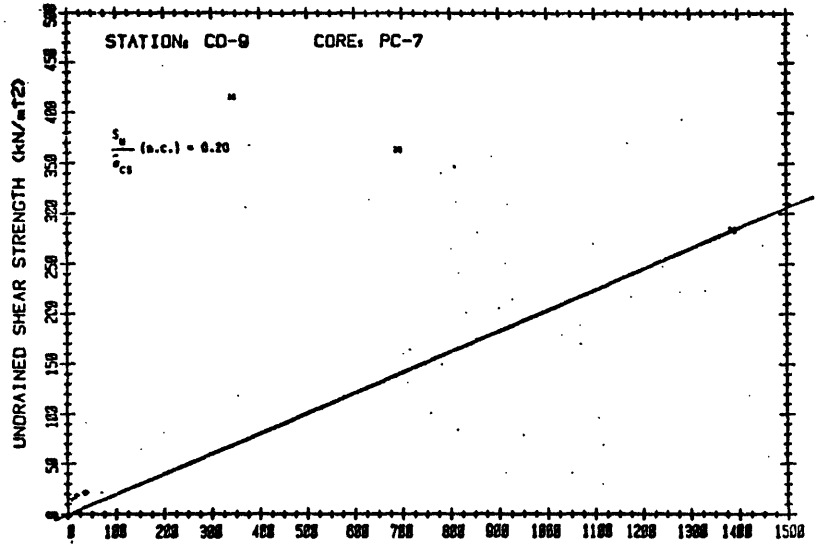


Figure 8c.--Interpretation of the normalized undrained shear strength for the normally consolidated state.

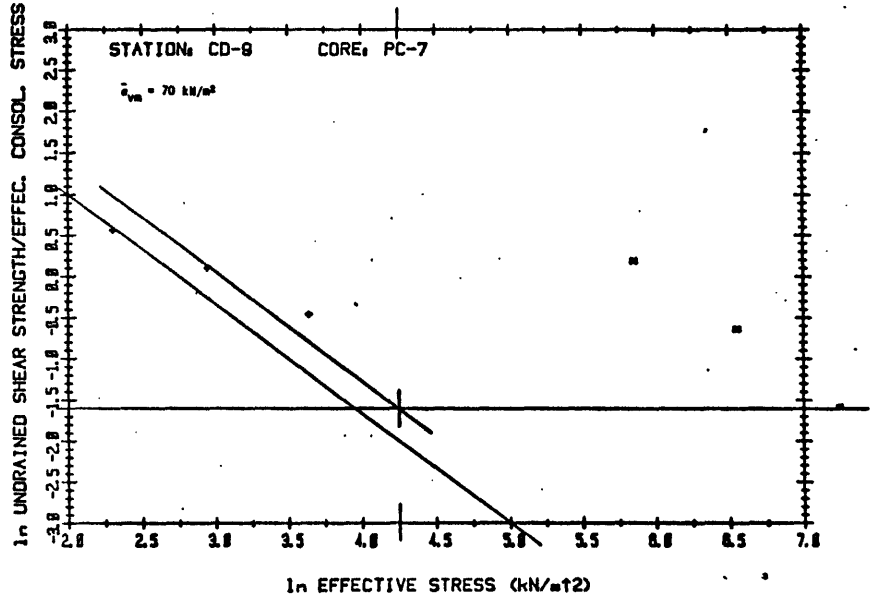


Figure 8a.--Interpretation of the preconsolidation stress from triaxial data.

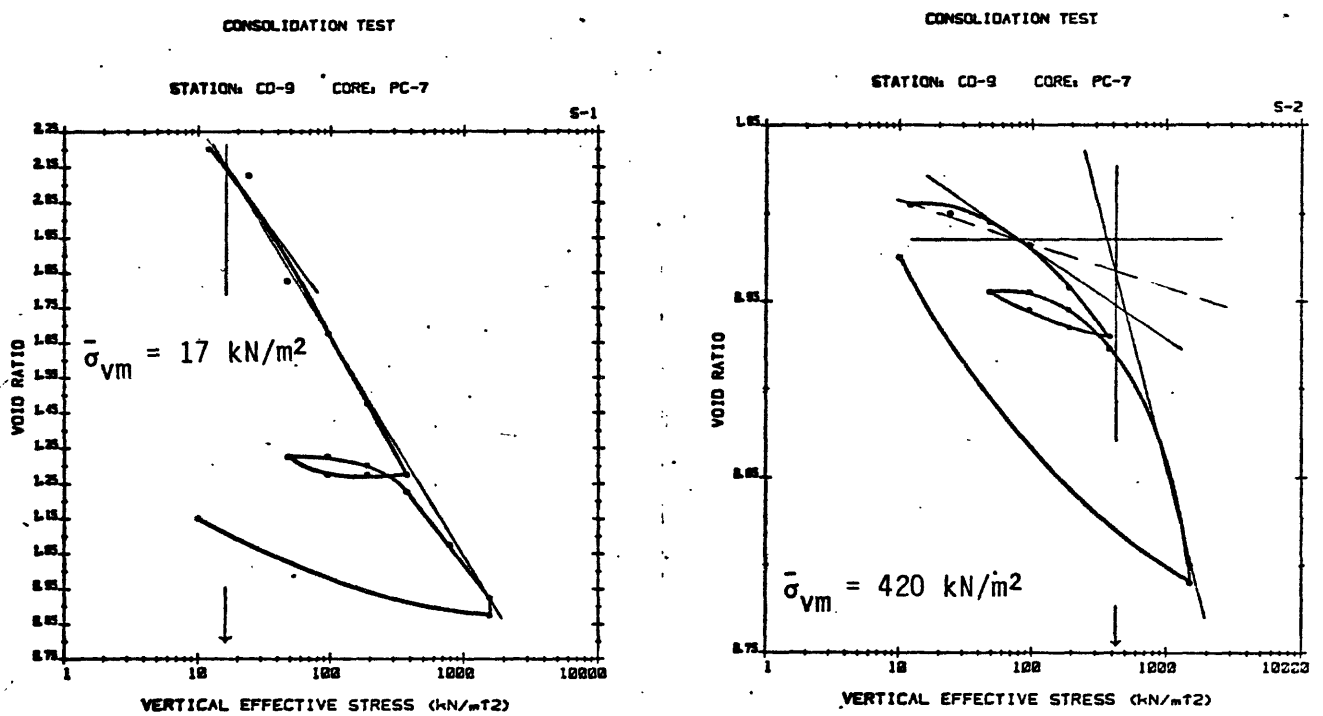


Figure 8f.--Interpretation of the preconsolidation stress from consolidation data.

Table 8a.--Geotechnical test results for site no. CD-9, core no. PC-7

[Lat 39°07.23' N., long 72°24.94' W.; water depth 1148 m; core recovery 4.47 m; ----, indicate no information]

Sample depth (m)			Physical properties							Consolidation test results			Lab vane	Triaxial test conditions			Triaxial test results						
Top	Bottom	Average	Fines	Clay	LL	PL	G	w	γ_t	$\bar{\sigma}'_{vm}$	C_c	C_s	S_u	Set	Symbol	$\bar{\sigma}'_{cm}$	$\bar{\sigma}'_c$	S_u	$S_u/\bar{\sigma}'_c$	$S_u/\bar{\sigma}'_c$ (n.c.)	$\bar{\sigma}'_{vm}$	A	$\bar{c}$	$\bar{\phi}$
0.00	----	0.01	---	--	--	--	----	150	----	---	----	----	---	-	-	----	----	-----	----	----	---	----	--	----
----	----	1.44	---	--	--	--	----	112	----	---	----	----	1.9	-	-	----	----	-----	----	----	---	----	--	----
2.22	2.37	2.30	98	31	78	33	2.65	100	1.50	17	0.65	0.10	---	-	-	----	----	-----	----	----	---	----	--	----
2.37	----	2.43	100	37	72	28	2.68	93	1.46	---	----	----	---	1	+	----	10	17.6	1.76	----	---	----	--	----
----	----	2.56	98	40	75	29	2.69	88	1.51	---	----	----	---	1	+	----	19	21.1	1.11	----	---	----	--	----
----	----	2.62	---	--	--	--	----	---	----	---	----	----	---	-	-	----	----	-----	----	----	---	----	--	----
----	----	2.68	100	40	73	29	2.67	86	1.54	---	----	----	---	1	+	----	38	24.1	.63	----	---	----	--	----
----	2.87	2.81	98	43	60	26	2.68	76	1.60	---	----	----	---	1	+	----	----	-----	----	----	---	----	--	----
----	----	2.96	---	--	--	--	----	16	----	---	----	----	---	-	-	----	----	-----	----	----	---	----	--	----
----	3.32	----	---	--	--	--	----	---	----	---	----	----	---	-	-	----	----	-----	----	----	---	----	--	----
3.32	----	----	---	--	--	--	----	---	----	---	----	----	---	-	-	----	----	-----	----	----	---	----	--	----
3.76	3.93	3.84	89	24	60	25	2.68	41	1.86	420	.24	.03	---	-	-	----	----	-----	----	----	---	----	--	----
3.93	----	4.00	87	27	59	25	2.75	40	1.80	---	----	----	---	2	x	1396	349	423	1.21	----	---	----	--	----
----	----	4.13	90	35	55	23	2.73	36	1.90	---	----	----	---	2	x	1396	698	370	.53	----	---	----	--	----
----	4.33	4.26	94	31	64	24	2.73	40	1.76	---	----	----	---	2	x	1396	1396	288	.21	----	---	----	--	----
Average values:																								
2.37	2.87	----------																			70	----------		
0.00	4.33	----------																		0.20	---	1.33	10	23.5

Table 8b.--Calculated geotechnical results for site no. CD-9, core no. PC-7

[Regional slope angle: 7° maximum, 3° average; ----, indicate no information]

Average sample depth (m)						Consolidation state				Normalized shear strength			Normalized shear stress		Factor of safety			
						OCR		$\bar{\sigma}'_{vm} - \bar{\sigma}'_{vb}$		Undrained					Undrained Shansep		Drained	
	PI	A	LI	γ_b	$\bar{\sigma}'_{vb}$	Consolidated data	Triaxial data	Consolidated data	Triaxial data	Drained	Vane	Shansep	Maximum slope angle	Average slope angle	Maximum	Average	Maximum	Average
0.01	--	----	----	----	-----	----	----	-------	------	----	----	----	----	----	-----	-------	----	----
1.44	--	----	----	----	7.03	----	----	-------	------	----	0.27	----	----	----	-----	-------	----	----
2.30	45	1.45	1.49	----	11.22	1.52	----	5.78	------	----	----	0.36	----	----	2.89	6.70	----	----
2.43	44	1.19	1.48	----	11.86	-----	----	-------	------	----	----	----	----	----	-----	-------	----	----
2.56	46	1.15	1.28	----	12.49	-----	----	-------	------	----	----	----	----	----	-----	-------	----	----
2.62	--	----	----	----	12.79	-----	5.47	-------	57.21	----	----	----	----	----	-----	-------	----	----
2.68	44	1.10	1.30	----	13.08	-----	----	-------	------	----	----	----	----	----	-----	-------	----	----
2.81	34	.79	1.47	----	13.71	-----	----	-------	------	----	----	----	----	----	-----	-------	----	----
2.96	--	----	----	----	14.44	-----	----	-------	------	----	----	----	-----	----	-----	-------	----	----
3.32	--	----	----	----	14.44	-----	----	-------	------	----	----	----	----	----	-----	-------	----	----
3.32	--	----	----	----	16.20	-----	----	-------	------	----	----	----	----	----	-----	-------	----	----
3.84	35	1.46	.46	----	20.30	20.69	----	399.70	------	----	----	9.60	----	----	79.36	183.68	----	----
4.00	34	1.26	.44	----	21.57	-----	----	-------	------	----	----	----	----	----	-----	-------	----	----
4.13	32	.91	.41	----	22.59	-----	----	-------	------	----	----	----	----	----	-----	-------	----	----
4.26	40	1.29	.40	----	23.62	-----	----	-------	------	----	----	----	----	----	-----	-------	----	----
Average values:																		
0.01 to 3.32			----	0.50	----------													
3.32 to 4.26			----	.81	----------													
0.01 to 4.26			----------							0.43	----------		0.12	0.05	----------		3.54	8.30

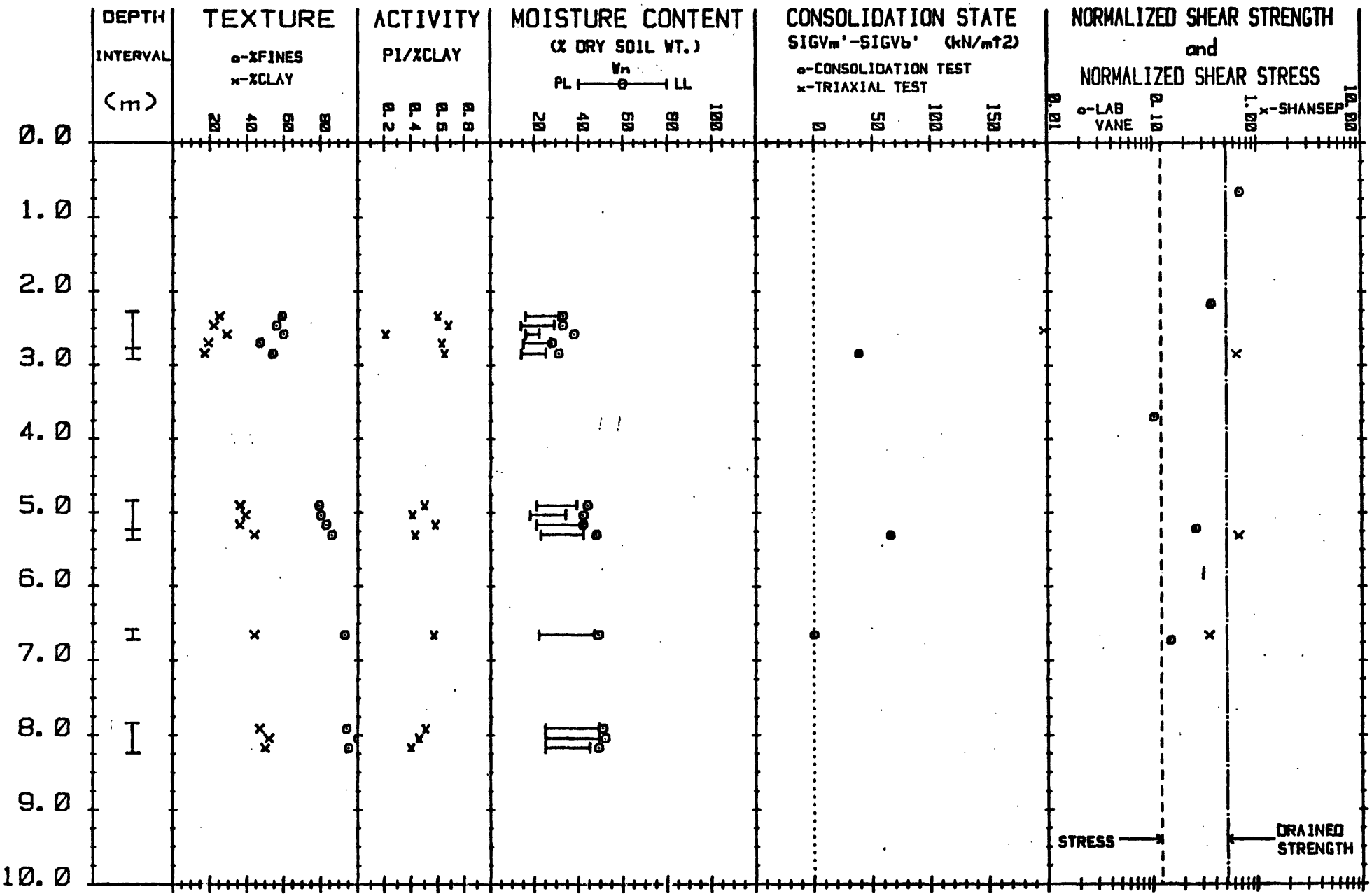


Figure 9a.--Geotechnical profile*.

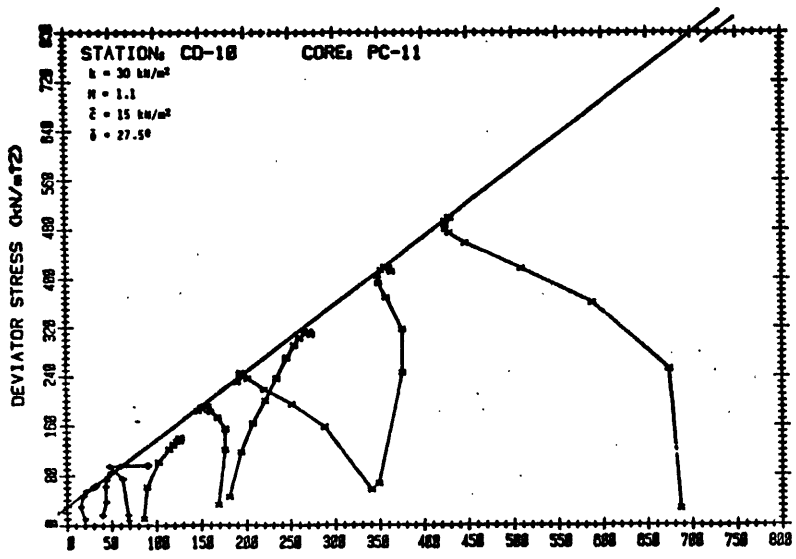


Figure 9b.--Interpretation of drained shear strength parameters.

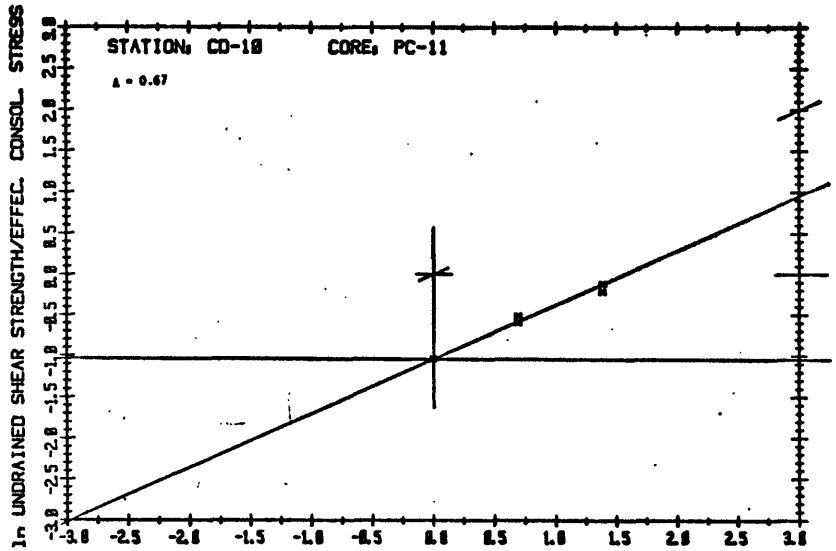


Figure 9d.--Interpretation of the pore pressure parameter A.

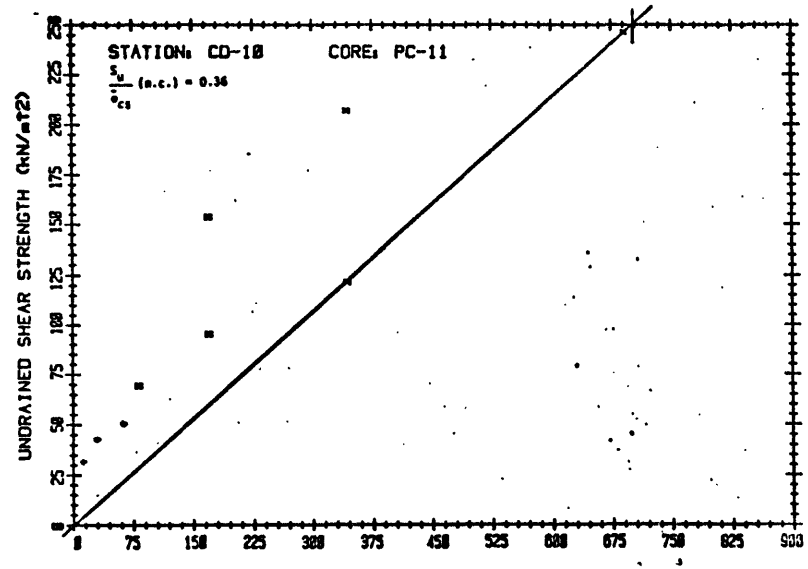


Figure 9c.--Interpretation of the normalized undrained shear strength for the normally consolidated state.

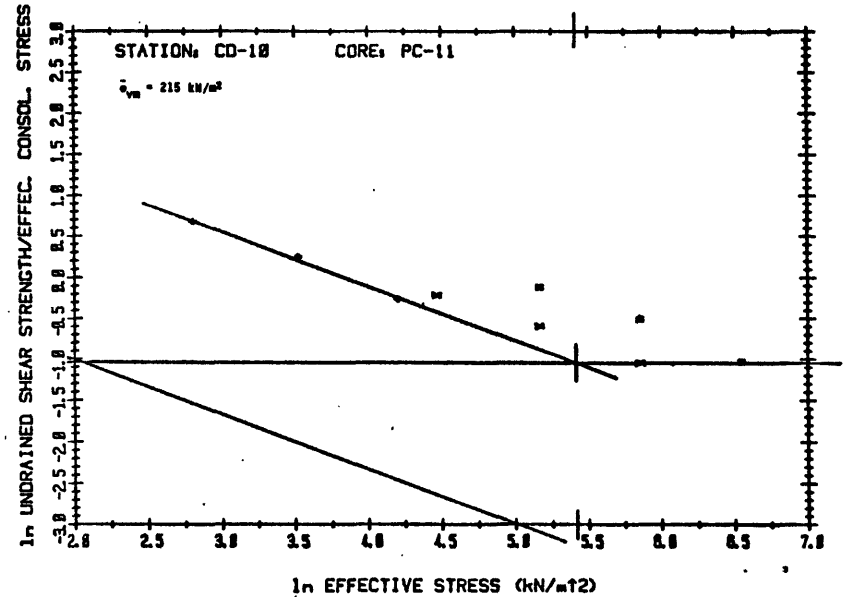
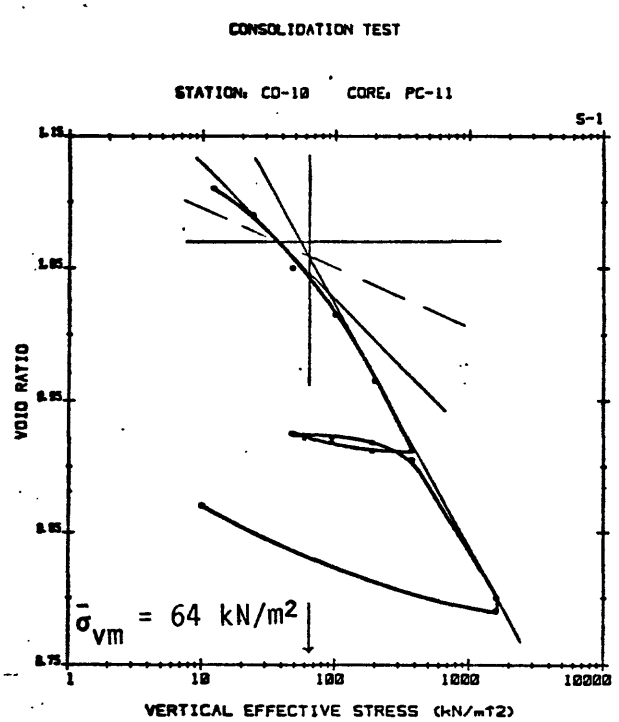
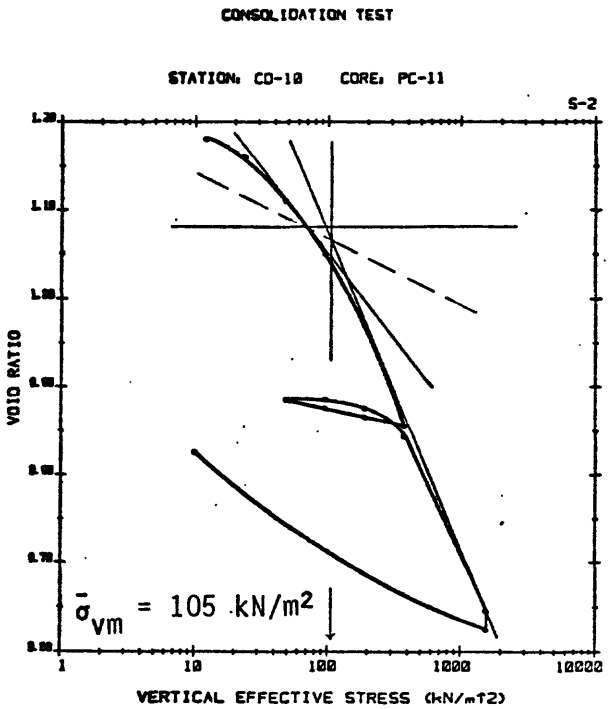


Figure 9e.--Interpretation of the preconsolidation stress from triaxial data.





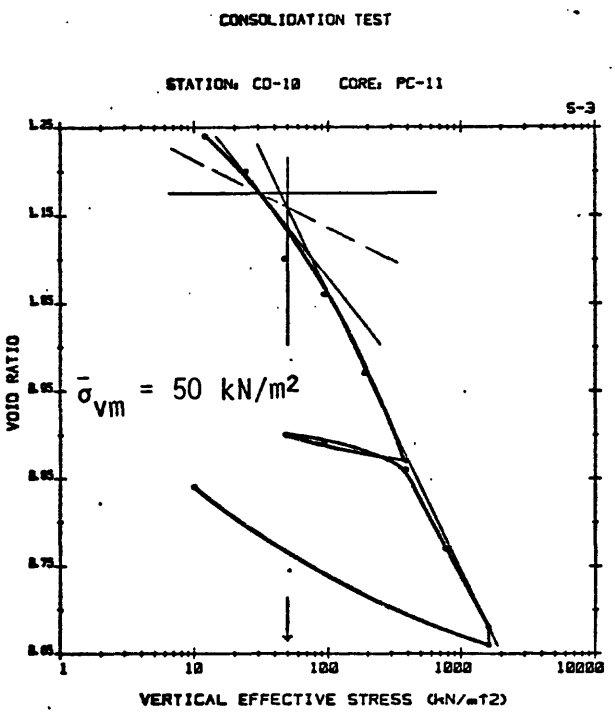


Figure 9f.--Interpretation of the preconsolidation stress from consolidation data.

Table 9a.--Geotechnical test results for site no. CD-10, core no. PC-11

[Lat 39°03.69' N., long 72°41.32' W.; water depth 435 m; core recovery 8.24 m; ----, indicate no information]

Sample depth (m)			Physical properties							Consolidation test results			Lab vane	Triaxial test conditions				Triaxial test results							
Top	Bottom	Average	Fines	Clay	LL	PL	G	w	γ_t	$\bar{\sigma}_{vm}$	C_c	C_s	S_u	Set	Symbol	$\bar{\sigma}_{cm}$	$\bar{\sigma}_c$	S_u	$S_u/\bar{\sigma}_c$	$S_u/\bar{\sigma}_c$ (n.c.)	$\bar{\sigma}_{vm}$	A	$\bar{c}$	$\bar{\phi}$
0.00	----	0.01	---	--	--	--	----	26	----	---	----	----	----	-	-	---	-----	-----	----	----	---	----	--	----
----	----	.65	---	--	--	--	----	54	----	---	----	----	4.1	-	-	---	-----	-----	----	----	---	----	--	----
----	----	2.17	---	--	--	--	----	40	----	---	----	----	7.2	-	-	---	-----	-----	----	----	---	----	--	----
2.27	----	2.33	59	25	31	16	2.71	33	1.93	---	----	----	----	1	+	---	16.5	32.4	1.96	----	---	----	--	----
----	----	2.46	56	22	29	14	2.74	33	1.93	---	----	----	----	1	+	---	34.0	43.6	1.28	----	---	----	--	----
----	----	2.52	---	--	--	--	----	--	----	---	----	----	----	-	-	---	-----	-----	----	----	---	----	--	----
----	----	2.58	60	29	22	16	2.70	38	1.92	---	----	----	----	1	+	---	66.9	51.5	.77	----	---	----	--	----
----	2.77	2.70	47	19	27	15	2.72	28	2.03	---	----	----	----	1	+	---	-----	-----	----	----	---	----	--	----
2.77	2.92	2.84	54	17	25	14	2.72	31	1.98	64	0.18	0.02	----	-	-	---	-----	-----	----	----	---	----	--	----
----	----	3.69	---	--	--	--	----	50	----	---	----	----	2.9	-	-	---	-----	-----	----	----	---	----	--	----
----	3.87	----	---	--	--	--	----	--	----	---	----	----	----	-	-	---	-----	-----	----	----	---	----	--	----
3.87	----	----	---	--	--	--	----	--	----	---	----	----	----	-	-	---	-----	-----	----	----	---	----	--	----
4.83	----	4.90	79	36	39	21	2.71	44	1.82	---	----	----	----	2	x	349	87	70.5	.81	----	---	----	--	----
----	----	5.03	80	39	34	18	2.72	42	1.86	---	----	----	----	2	x	349	175	96.7	.55	----	---	----	--	----
----	5.23	5.16	83	36	42	21	2.72	42	1.82	---	----	----	----	2	x	349	349	123.2	.35	----	---	----	--	----
----	----	5.21	---	--	--	--	----	39	----	---	----	----	10.2	-	-	---	-----	-----	----	----	---	----	--	----
5.23	5.37	5.30	86	44	42	23	2.72	48	1.79	105	.36	.04	----	-	-	---	-----	-----	----	----	---	----	--	----
6.58	6.72	6.65	93	44	47	22	2.72	49	1.75	50	.32	.04	----	-	-	---	-----	-----	----	----	---	----	--	----
----	----	6.73	---	--	--	--	----	44	----	---	----	----	7.5	-	-	---	-----	-----	----	----	---	----	--	----
7.84	----	7.91	94	47	49	25	2.71	51	1.74	---	----	----	----	2	x	698	175	156	.89	----	---	----	--	----
----	----	8.04	100	52	49	25	2.71	52	1.77	---	----	----	----	2	x	698	349	210	.60	----	---	----	--	----
----	8.24	8.17	95	50	45	25	2.71	49	1.77	---	----	----	----	2	x	698	698	250	.36	----	---	----	--	----
Average values:																									
2.27	2.77	----------																			215	----------			
0.00	8.24	----------																		0.36	---	0.67	15	27.5	

Table 9b.--Calculated geotechnical results for site no. CD-10, core no. PC-11

[Regional slope angle: 7° maximum, 7° average; ----, indicate no information]

Average sample depth (m)						Consolidation state				Normalized shear strength			Normalized shear stress		Factor of safety			
						OCR		$\bar{\sigma}_{vm} - \bar{\sigma}_{vb}$		Undrained					Undrained Shansep		Drained	
	PI	A	LI	γ_b	$\bar{\sigma}_{vb}$	Consolidated data	Triaxial data	Consolidated data	Triaxial data	Drained	Vane	Shansep	Maximum slope angle	Average slope angle	Maximum	Average	Maximum	Average
0.01	--	----	----	----	-----	----	----	-----	------	----	----	----	----	----	----	----	----	----
0.65	--	----	----	----	5.93	----	----	-----	------	----	0.70	----	----	----	----	----	----	----
2.17	--	----	----	----	19.79	----	----	-----	------	----	.37	----	----	----	----	----	----	----
2.33	15	0.60	1.13	----	21.25	----	----	-----	------	----	----	----	----	----	----	----	----	----
2.46	15	.68	1.27	----	22.44	----	----	-----	------	----	----	----	----	----	----	----	----	----
2.52	--	----	----	----	22.98	----	9.36	-----	192.02	----	----	----	----	----	----	----	----	----
2.58	6	.21	3.67	----	23.53	----	----	-----	------	----	----	----	----	----	----	----	----	----
2.70	12	.63	1.08	----	24.62	----	----	-----	------	----	----	----	----	----	----	----	----	----
2.84	11	.65	1.55	----	25.90	2.47	----	38.10	------	----	----	0.64	----	----	5.29	5.29	----	----
3.69	--	----	----	----	33.65	----	----	-----	------	----	.09	----	----	----	----	----	----	----
3.87	--	----	----	----	35.29	----	----	-----	------	----	----	----	----	----	----	----	----	----
3.87	--	----	----	----	35.29	----	----	-----	------	----	----	----	----	----	----	----	----	----
4.90	18	.50	1.28	----	43.03	----	----	-----	------	----	----	----	----	----	----	----	----	----
5.03	16	.41	1.50	----	44.01	----	----	-----	------	----	----	----	----	----	----	----	----	----
5.16	21	.58	1.00	----	44.98	----	----	-----	------	----	----	----	----	----	----	----	----	----
5.21	--	----	----	----	45.36	----	----	-----	------	----	.23	----	----	----	----	----	----	----
5.30	19	.43	1.32	----	46.03	2.28	----	58.97	------	----	----	.61	----	----	5.04	5.04	----	----
6.65	25	.57	1.08	----	56.17	.89	----	-6.17	------	----	----	.32	----	----	2.73	2.73	----	----
6.73	--	----	----	----	56.77	----	----	-----	------	----	.13	----	----	----	----	----	----	----
7.91	24	.51	1.08	----	65.63	----	----	-----	------	----	----	----	----	----	----	----	----	----
8.04	24	.46	1.13	----	66.61	----	----	-----	------	----	----	----	----	----	----	----	----	----
8.17	20	.40	1.20	----	67.59	----	----	-----	------	----	----	----	----	----	----	----	----	----
Average values:																		
0.01 to 3.87			----	0.93	----------													
3.87 to 8.17			----	0.77	----------													
0.01 to 8.17			----------							0.51	----------		0.12	0.12	---------		4.24	4.24

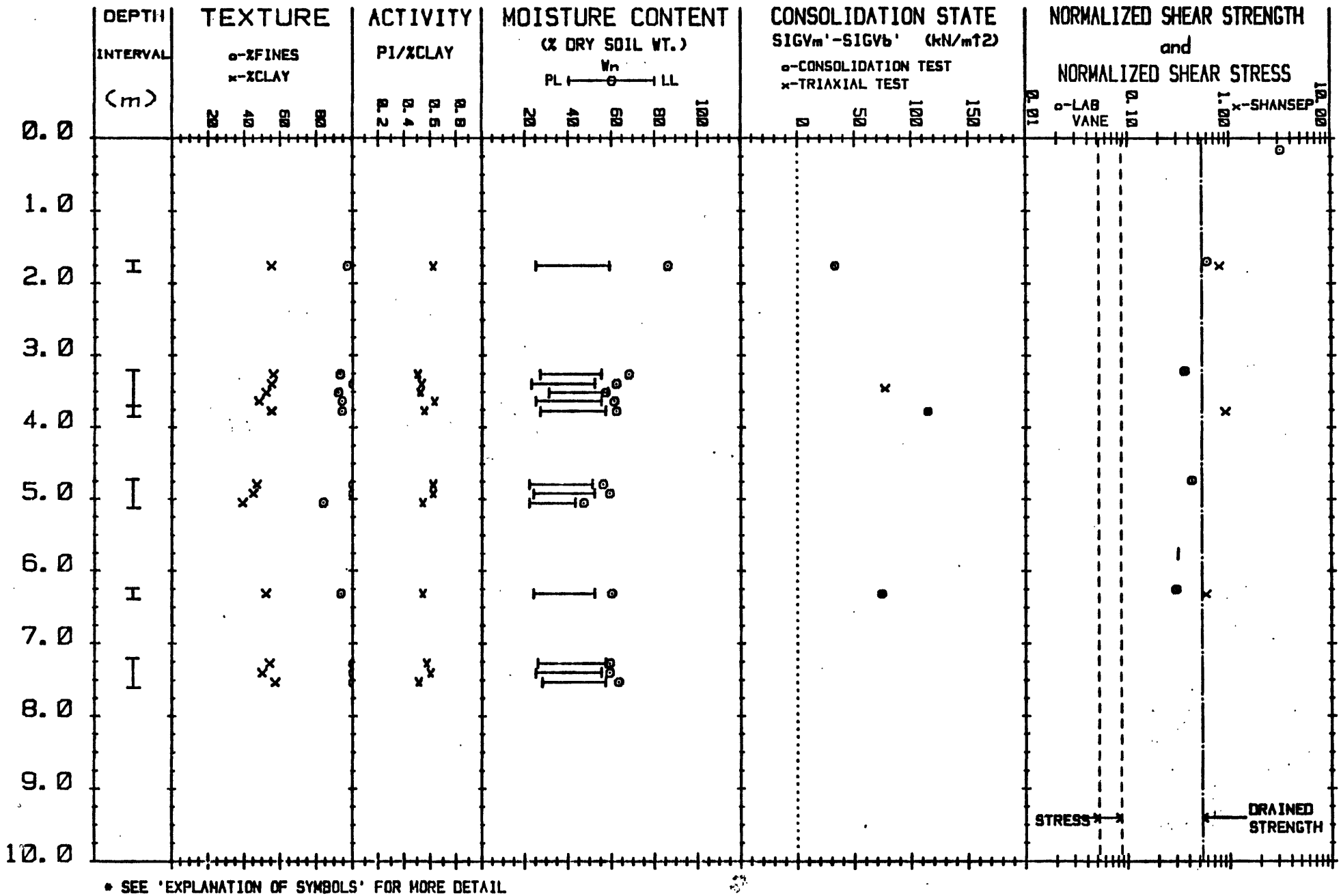


Figure 10a.--Geotechnical profile*.

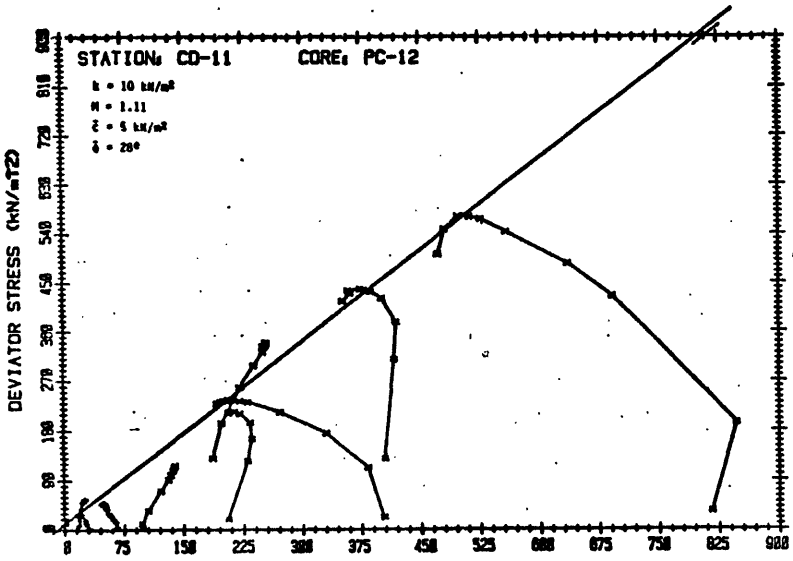


Figure 10b.--Interpretation of drained shear strength parameters.

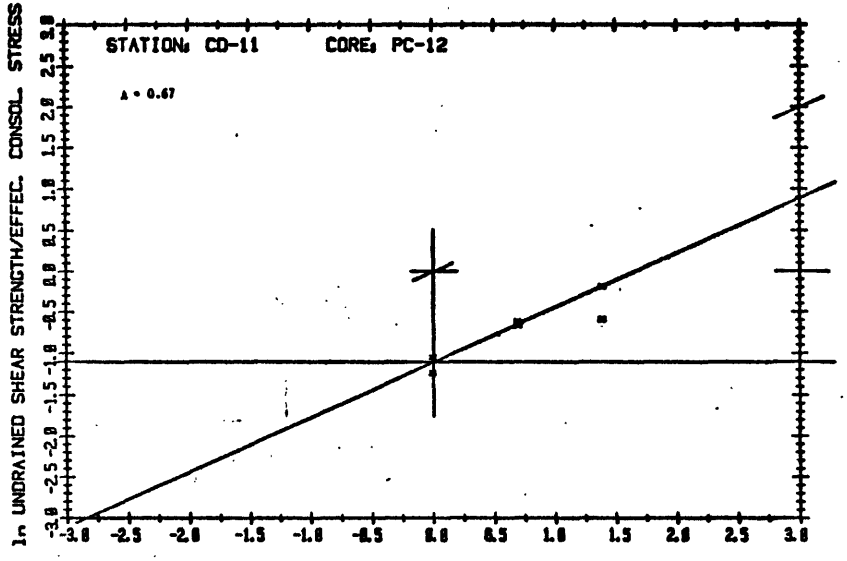


Figure 10d.--Interpretation of the pore pressure parameter A.

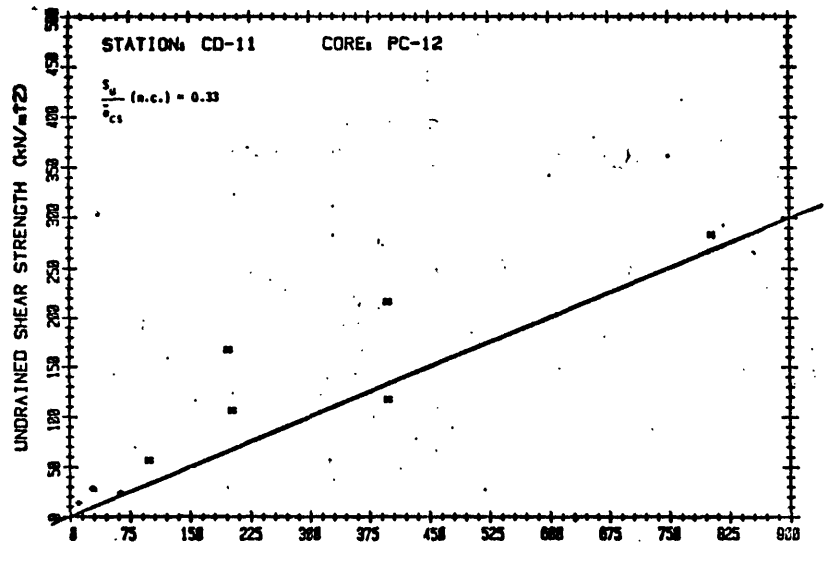


Figure 10c.--Interpretation of the normalized undrained shear strength for the normally consolidated state.

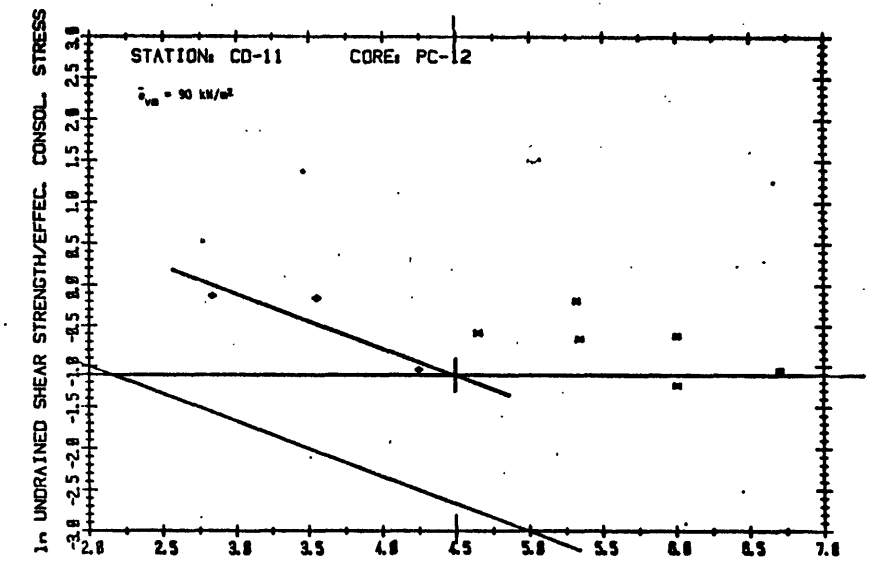


Figure 10e.--Interpretation of the preconsolidation stress from triaxial data.

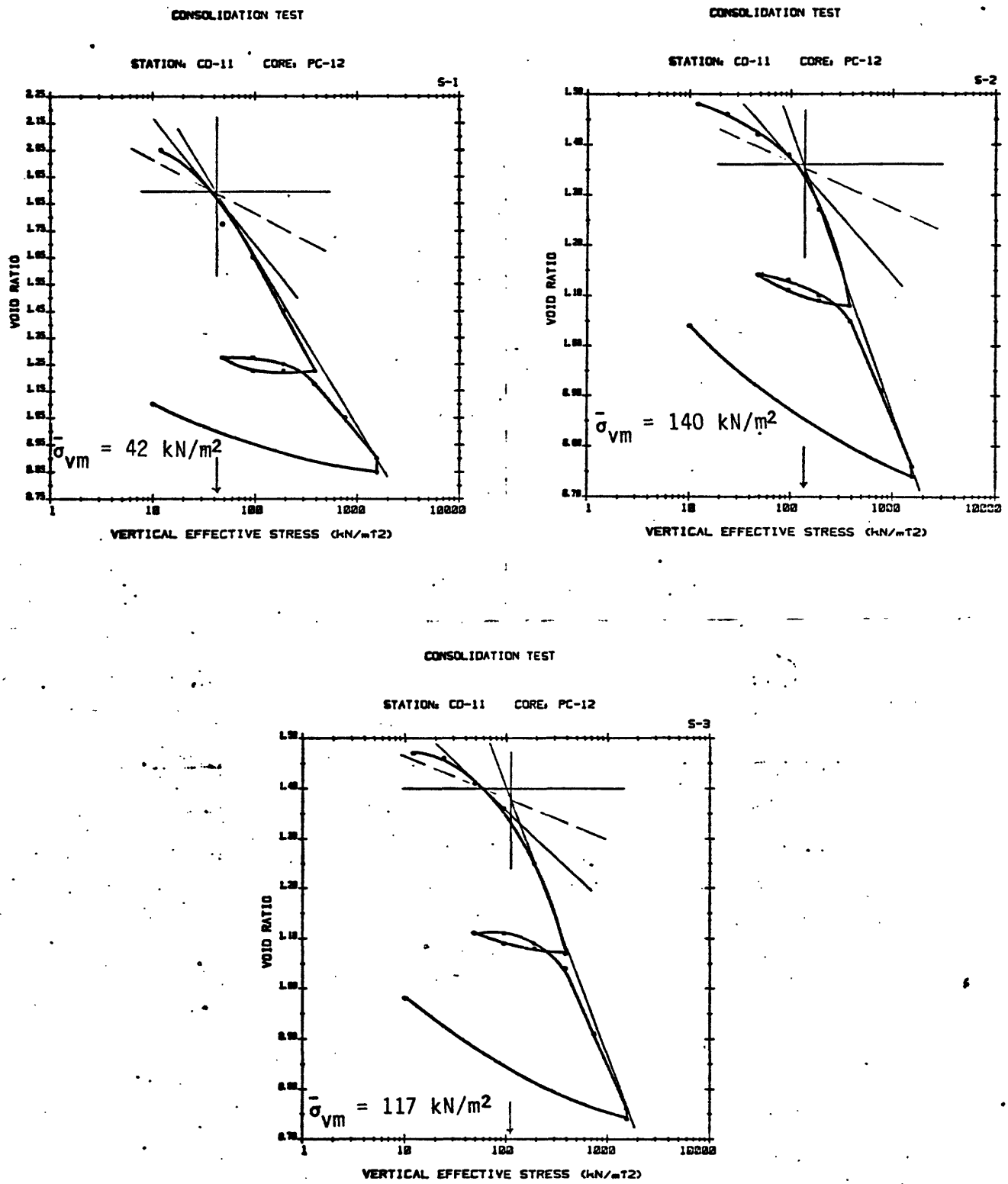


Figure 10f.--Interpretation of the preconsolidation stress from consolidation data.

Table 10a.--Geotechnical test results for site no. CD-11, core no. PC-12

[Lat 39°03.30' N., long 72°40.58' W.; water depth 566 m; core recovery 7.72 m; ----, indicate no information]

Sample depth (m)			Physical properties							Consolidation test results			Lab vane	Triaxial test conditions				Triaxial test results					
Top	Bottom	Average	Fines	Clay	LL	PL	G	w	γ_t	$\bar{\sigma}_{vm}$	C_c	C_s	S_u	Set	Symbol	$\bar{\sigma}_{cm}$	$\bar{\sigma}_c$	S_u	$\frac{S_u}{\bar{\sigma}_c}$	$\frac{S_u}{\bar{\sigma}_c}$ (n.c.)	$\bar{\sigma}_{vm}$	A	$\bar{\epsilon}$	$\bar{\phi}$
0.00	----	0.17	-----	--	--	--	----	65	----	---	----	----	2.8	-	-	---	---	-----	----	----	---	----	--	--
----	----	1.69	-----	--	--	--	----	86	----	---	----	----	5.5	-	-	---	---	-----	----	----	---	----	--	--
1.68	1.83	1.75	97	55	59	25	2.68	86	1.57	42	0.63	0.05	----	-	-	---	---	-----	----	----	---	----	--	--
----	2.51	----	-----	--	--	--	----	--	----	---	----	----	----	-	-	---	---	-----	----	----	---	----	--	--
2.51	----	----	-----	--	--	--	----	--	----	---	----	----	----	-	-	---	---	-----	----	----	---	----	--	--
----	----	3.21	-----	--	--	--	----	77	----	---	----	----	8	-	-	---	---	-----	----	----	---	----	--	--
3.20	----	3.26	93	56	55	27	2.75	68	1.65	---	----	----	----	1	+	---	17	14.9	0.88	----	---	----	--	--
----	----	3.39	100	55	52	23	2.75	62	1.70	---	----	----	----	1	+	---	35	29.9	.85	----	---	----	--	--
----	----	3.45	-----	--	--	--	----	--	----	---	----	----	----	-	-	---	---	-----	----	----	---	----	--	--
----	----	3.51	92	52	58	31	2.72	57	1.74	---	----	----	----	1	+	---	70	24.7	.35	----	---	----	--	--
----	3.70	3.63	94	48	55	25	2.74	61	1.73	---	----	----	----	1	+	---	---	-----	----	----	---	----	--	--
3.70	3.85	3.77	94	55	57	27	2.67	62	1.70	140	.56	.07	----	-	-	---	---	-----	----	----	---	----	--	--
----	----	4.73	-----	--	--	--	----	44	----	---	----	----	13.9	-	-	---	---	-----	----	----	---	----	--	--
4.72	----	4.79	100	47	51	22	2.67	56	1.76	---	----	----	----	2	x	407	105	58.2	.55	----	---	----	--	--
----	----	4.92	100	45	52	24	2.73	59	1.73	---	----	----	----	2	x	407	210	108.3	.52	----	---	----	--	--
----	5.12	5.05	84	39	43	22	2.72	47	1.81	---	----	----	----	2	x	407	407	118.4	.29	----	---	----	--	--
----	----	6.25	-----	--	--	--	----	57	----	---	----	----	12.8	-	-	---	---	-----	----	----	---	----	--	--
6.24	6.39	6.31	93.5	52	52	24	2.73	60	1.73	117	.55	.04	----	-	-	---	---	-----	----	----	---	----	--	--
7.20	----	7.27	100	54	57	26	2.73	59	1.69	---	----	----	----	2	x	815	205	170	.83	----	---	----	--	--
----	----	7.40	100	50	55	25	2.69	59	1.71	---	----	----	----	2	x	815	407	219	.54	----	---	----	--	--
----	7.60	7.53	100	57	57	28	2.72	63	1.72	---	----	----	----	2	x	815	815	286	.35	----	---	----	--	--
Average values:																								
3.20	3.70	----------																			90	----------		
0.00	7.60	----------																		0.33	---	0.67	5	28

Table 10b.--Calculated geotechnical results for site no. CD-11, core no. PC-12

[Regional slope angle: 5° maximum, 3° average; ----, indicate no information]

Average sample depth (m)	PI	A	LI	γ_b	$\bar{\sigma}_{vb}$	Consolidation state: OCR		Consolidation state: $\bar{\sigma}_{vm} - \bar{\sigma}_{vb}$		Normalized shear strength: Undrained			Normalized shear stress		Factor of safety: Undrained Shansep		Factor of safety: Drained	
						Consolidated data	Triaxial data	Consolidated data	Triaxial data	Drained	Vane	Shansep	Maximum slope angle	Average slope angle	Maximum	Average	Maximum	Average
0.17	--	----	----	----	0.91	----	----	------	-----	----	3.02	----	----	----	-----	-----	----	-----
1.69	--	----	----	----	9.08	----	----	------	-----	----	.61	----	----	----	-----	-----	----	-----
1.75	34	0.62	1.79	----	9.40	4.47	----	32.60	-----	----	----	0.90	----	----	10.37	17.22	----	-----
2.51	--	----	----	----	13.48	----	----	------	-----	----	----	----	----	----	-----	-----	----	-----
2.51	--	----	----	----	13.48	----	----	------	-----	----	----	----	----	----	-----	-----	----	-----
3.21	--	----	----	----	18.25	----	----	------	-----	----	.44	----	----	----	-----	-----	----	-----
3.26	28	.50	1.46	----	18.59	----	----	------	-----	----	----	----	----	----	-----	-----	----	-----
3.39	29	.53	1.34	----	19.48	----	----	------	-----	----	----	----	----	----	-----	-----	----	-----
3.45	--	----	----	----	19.89	----	4.52	------	70.11	----	----	----	----	----	-----	-----	----	-----
3.51	27	.52	.96	----	20.30	----	----	------	-----	----	----	----	----	----	-----	-----	----	-----
3.63	30	.63	1.20	----	21.12	----	----	------	-----	----	----	----	----	----	-----	-----	----	-----
3.77	30	.55	1.17	----	22.07	6.34	----	117.93	-----	----	----	1.13	----	----	13.01	21.62	----	-----
4.73	--	----	----	----	28.62	----	----	------	-----	----	.48	----	----	----	-----	-----	----	-----
4.79	29	.62	1.17	----	29.03	----	----	------	-----	----	----	----	----	----	-----	-----	----	-----
4.92	28	.62	1.25	----	29.91	----	----	------	-----	----	----	----	----	----	-----	-----	----	-----
5.05	21	.54	1.19	----	30.80	----	----	------	-----	----	----	----	----	----	-----	-----	----	-----
6.25	--	----	----	----	38.99	----	----	------	-----	----	.33	----	----	----	-----	-----	----	-----
6.31	28	.54	1.29	----	39.39	2.97	----	77.61	-----	----	----	.68	----	----	7.83	13.01	----	-----
7.27	31	.57	1.06	----	45.94	----	----	------	-----	----	----	----	----	----	-----	-----	----	-----
7.40	30	.60	1.13	----	46.83	----	----	------	-----	----	----	----	----	----	-----	-----	----	-----
7.53	29	.51	1.21	----	47.72	----	----	------	-----	----	----	----	----	----	-----	-----	----	-----
Average values:																		
0.17 to 2.51			----	0.55	----------													
2.51 to 7.53			----	.70	----------													
0.17 to 7.53			----------							0.53	----------		0.09	0.05	----------		6.08	10.15

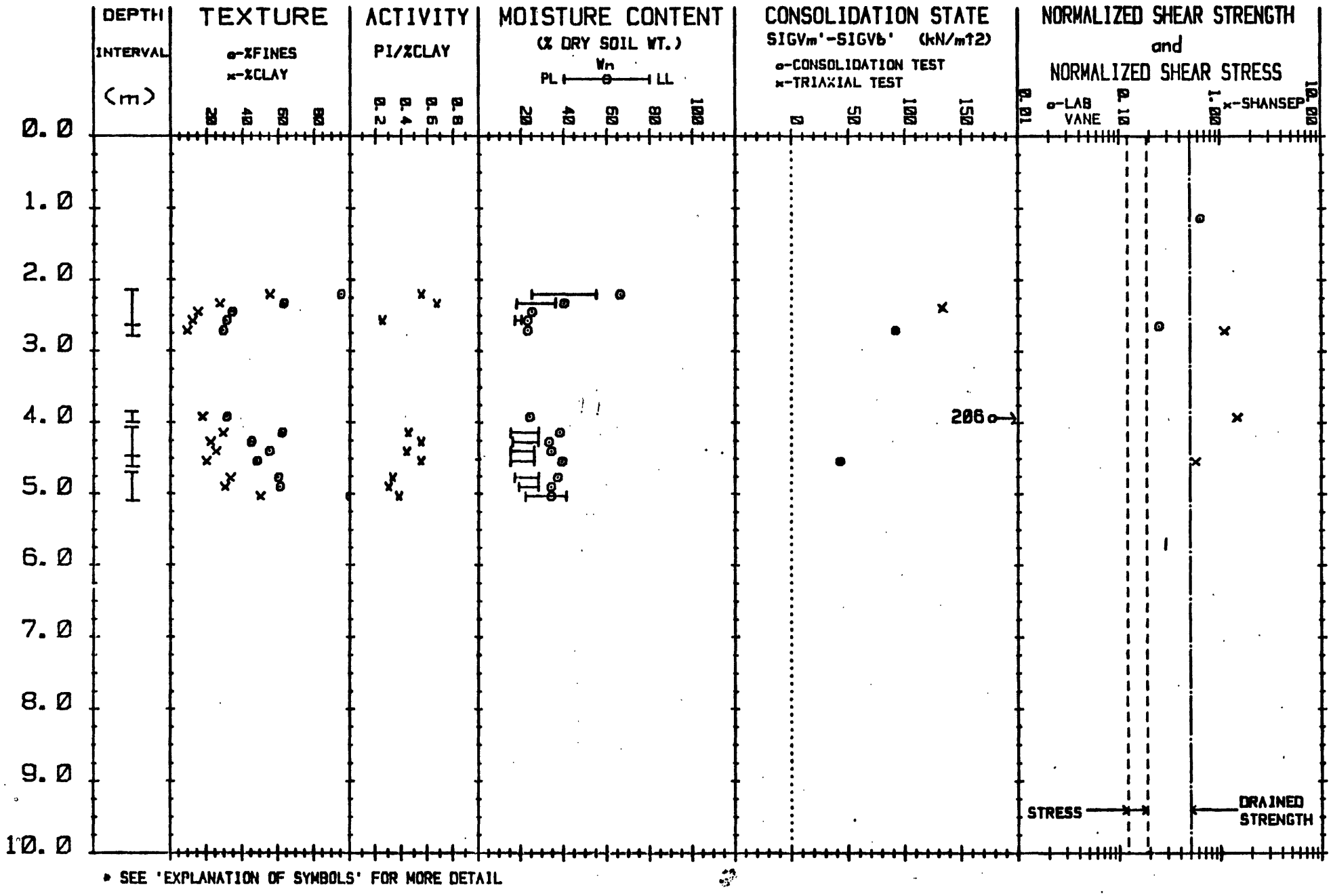


Figure 11a.--Geotechnical profile*.

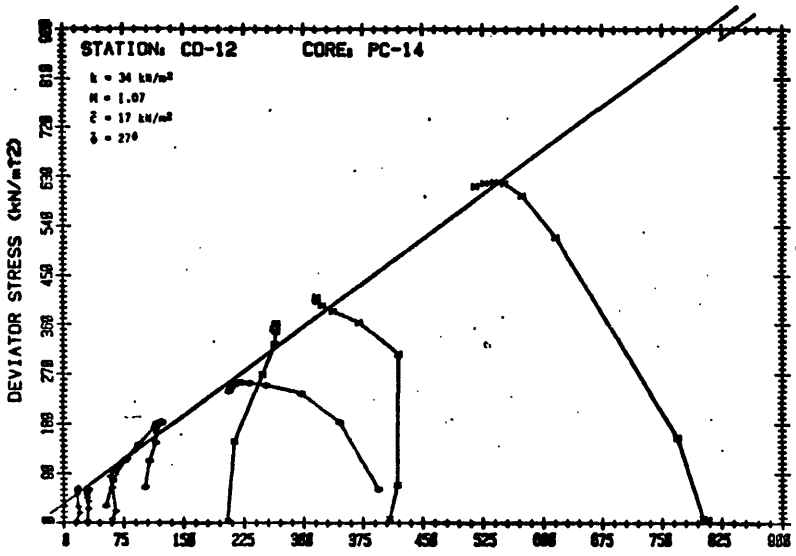


Figure 11b.--Interpretation of drained shear strength parameters.

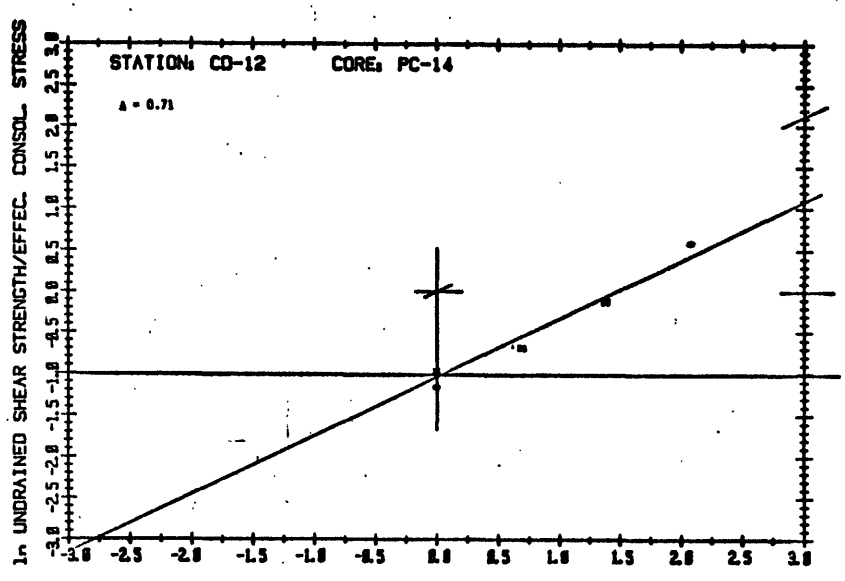


Figure 11d.--Interpretation of the pore pressure parameter A.

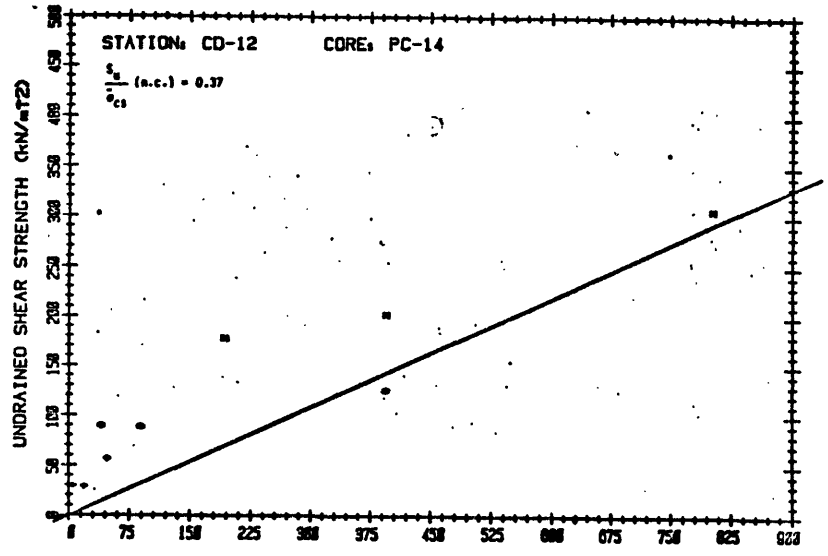


Figure 11c.--Interpretation of the normalized undrained shear strength for the normally consolidated state.

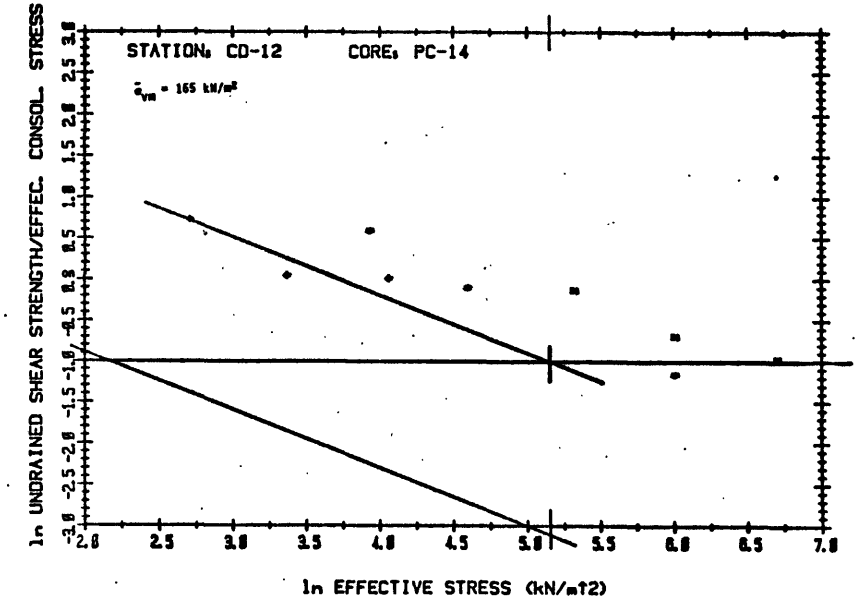


Figure 11e.--Interpretation of the preconsolidation stress from triaxial data.

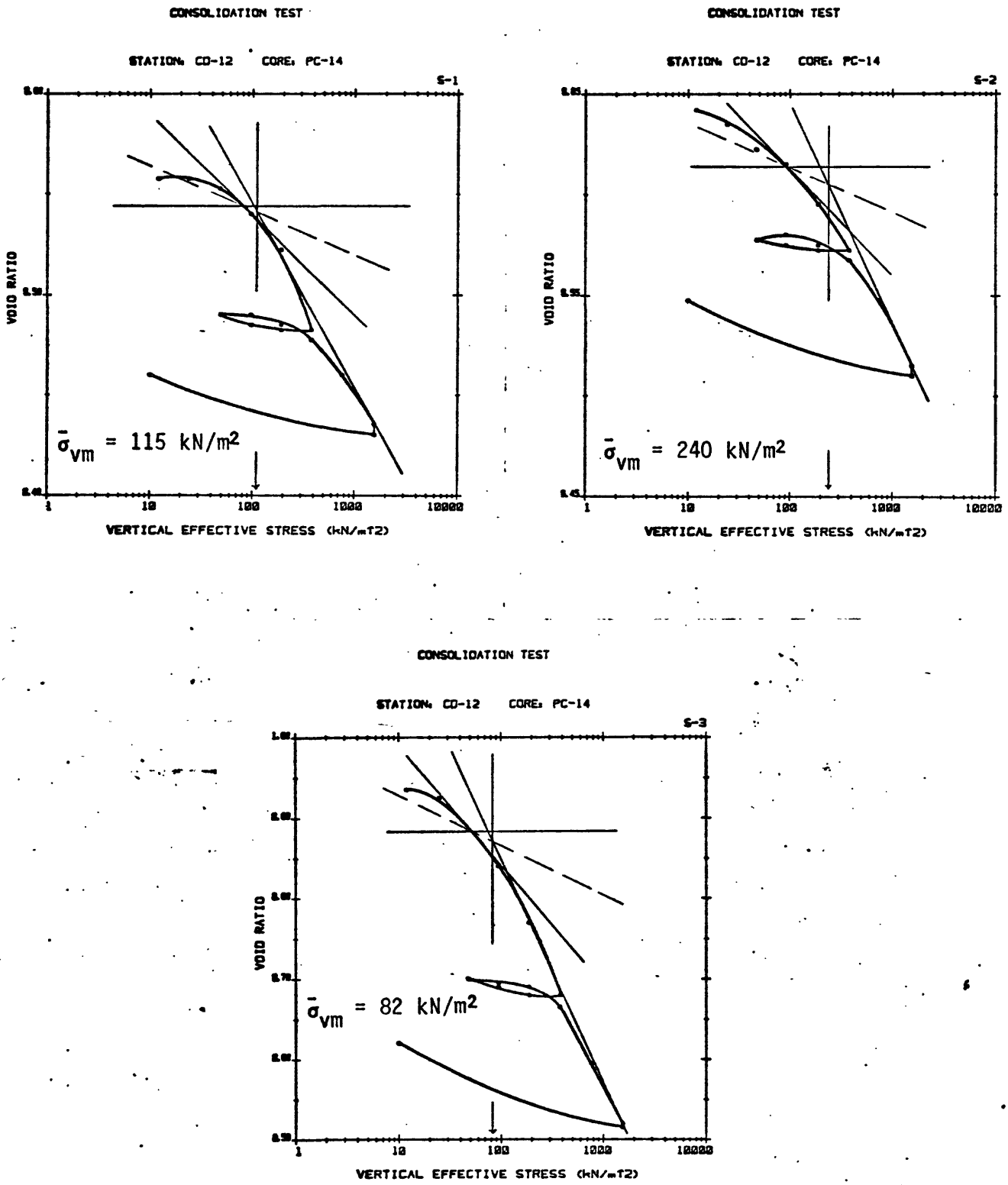


Figure 11f.--Interpretation of the preconsolidation stress from consolidation data.

Table 11a.--Geotechnical test results for site no. CD-12, core no. PC-14

[Lat 39°00.16' N., long 72°46.43' W.; water depth 403 m; core recovery 5.1 m; ----, indicate no information]

Sample depth (m)			Physical properties							Consolidation test results				Triaxial test conditions				Triaxial test results						
Top	Bottom	Average	Fines	Clay	LL	PL	G	w	γ_t	$\bar{\sigma}'_{vm}$	C_c	C_s	Lab vane S_u	Set	Symbol	$\bar{\sigma}_{cm}$	$\bar{\sigma}_c$	S_u	$S_u/\bar{\sigma}'_c$	$S_u/\bar{\sigma}'_c$ (n.c.)	$\bar{\sigma}_{vm}$	A	$\bar{c}$	$\bar{\phi}$
0.00	----	0.01	---	----	--	--	----	67	----	---	----	----	----	-	-	---	---	-----	----	----	---	----	--	--
----	----	1.14	---	----	--	--	----	72	----	---	----	----	8.4	-	-	---	---	-----	----	----	---	----	--	--
2.14	----	2.20	95	55	55	25	2.73	66	1.67	---	----	----	----	1	+	---	15	31.0	2.07	----	---	----	--	--
----	----	2.33	63	27	36	18	2.73	40	1.83	---	----	----	----	1	+	---	29	30.3	1.04	----	---	----	--	--
----	----	2.39	---	----	--	--	----	--	----	---	----	----	----	-	-	---	---	-----	----	----	---	----	--	--
----	----	2.45	34	15	--	--	2.72	25	2.03	---	----	----	----	1	+	---	58	58.7	1.01	----	---	----	--	--
----	2.64	2.57	31	12	20	17	2.72	23	1.67	---	----	----	----	1	+	---	---	-----	----	----	---	----	--	--
----	----	2.65	---	----	--	--	----	24	----	---	----	----	5.8	-	-	---	---	-----	----	----	---	----	--	--
2.64	2.79	2.71	29	9	--	--	2.72	23	2.12	115	0.10	0.01	----	-	-	---	---	-----	----	----	---	----	--	--
3.85	4.00	3.92	31	17.5	--	--	2.71	24	2.04	240	.10	.01	----	-	-	---	---	-----	----	----	---	----	--	--
4.07	----	4.14	62	29	28	15	2.69	38	1.90	---	----	----	----	3	*	407	51	92.2	1.81	----	---	----	--	--
----	----	4.27	45	22	28	16	2.72	33	1.96	---	----	----	----	3	*	407	100	90.5	.91	----	---	----	--	--
----	4.47	4.40	55	25	26	15	2.75	34	1.93	---	----	----	----	3	*	407	407	127.6	.31	----	---	----	--	--
4.47	4.62	4.54	48	20	26	15	2.72	39	1.90	82	.28	.02	----	-	-	---	---	-----	----	----	---	----	--	--
4.70	----	4.77	60	33	28	17	2.71	37	1.92	---	----	----	----	2	x	817	205	180.3	.88	----	---	----	--	--
----	----	4.90	61	30	28	19	2.74	34	1.97	---	----	----	----	2	x	817	408	205	.50	----	---	----	--	--
----	5.10	5.03	100	50	41	22	2.74	34	1.97	---	----	----	---	2	x	817	817	310	.38	----	---	----	--	--
Average values:																								
2.14	2.64	----------																			165	----------		
0.00	5.10	----------																		0.37	---	0.71	17	27

Table 11b.--Calculated geotechnical results for site no. CD-12, core no. PC-14

[Regional slope angle: 11° maximum, 7° average; ----, indicate no information]

Average sample depth (m)						Consolidation state				Normalized shear strength			Normalized shear stress		Factor of safety			
						OCR		$\bar{\sigma}'_{vm} - \bar{\sigma}'_{vb}$		Undrained					Undrained Shansep		Drained	
	PI	A	LI	γ_b	$\bar{\sigma}'_{vb}$	Consolidated data	Triaxial data	Consolidated data	Triaxial data	Drained	Vane	Shansep	Maximum slope angle	Average slope angle	Maximum	Average	Maximum	Average
0.01	--	----	----	----	-----	----	----	-------	-------	----	----	----	----	----	----	----	----	----
1.14	--	----	----	----	9.96	----	----	-------	-------	----	0.84	----	----	----	----	-----	----	----
2.20	30	0.55	1.37	----	19.23	----	----	-------	-------	----	----	----	----	----	----	-----	----	----
2.33	18	.67	1.22	----	20.36	----	----	-------	-------	----	----	----	----	----	----	-----	----	----
2.39	--	----	----	----	20.89	----	7.90	-------	144.11	----	----	----	----	----	----	-----	----	----
2.45	--	----	----	----	21.41	----	----	-------	-------	----	----	----	----	----	----	-----	----	----
2.57	3	.25	2.00	----	22.46	----	----	-------	-------	----	----	----	----	----	----	-----	----	----
2.65	--	----	----	----	23.16	----	----	-------	-------	----	.25	----	----	----	----	----	----	----
2.71	--	----	----	----	23.69	4.85	----	91.31	-------	----	----	1.10	----	----	5.87	9.09	----	----
3.92	--	----	----	----	34.26	7.01	----	205.74	-------	----	----	1.47	----	----	7.85	12.15	----	----
4.14	13	.45	1.77	----	36.18	----	----	-------	-------	----	----	----	----	----	----	-----	----	----
4.27	12	.55	1.42	----	37.32	----	----	-------	-------	----	----	----	----	----	----	-----	----	----
4.40	11	.44	1.73	----	38.46	----	----	-------	-------	----	----	----	----	----	----	-----	----	----
4.54	11	.55	2.18	----	39.68	2.07	----	42.32	-------	----	----	.57	----	----	3.04	4.71	----	----
4.77	11	.33	1.82	----	41.69	----	----	-------	-------	----	----	----	----	----	----	-----	----	----
4.90	9	.30	1.67	----	42.83	----	----	-------	-------	----	----	----	----	----	----	-----	----	----
5.03	19	.38	.63	----	43.96	----	----	-------	-------	----	----	----	----	----	----	-----	----	----
Average values for entire core.				0.89	----------					0.49	----------		0.19	0.12	----------		2.62	4.15

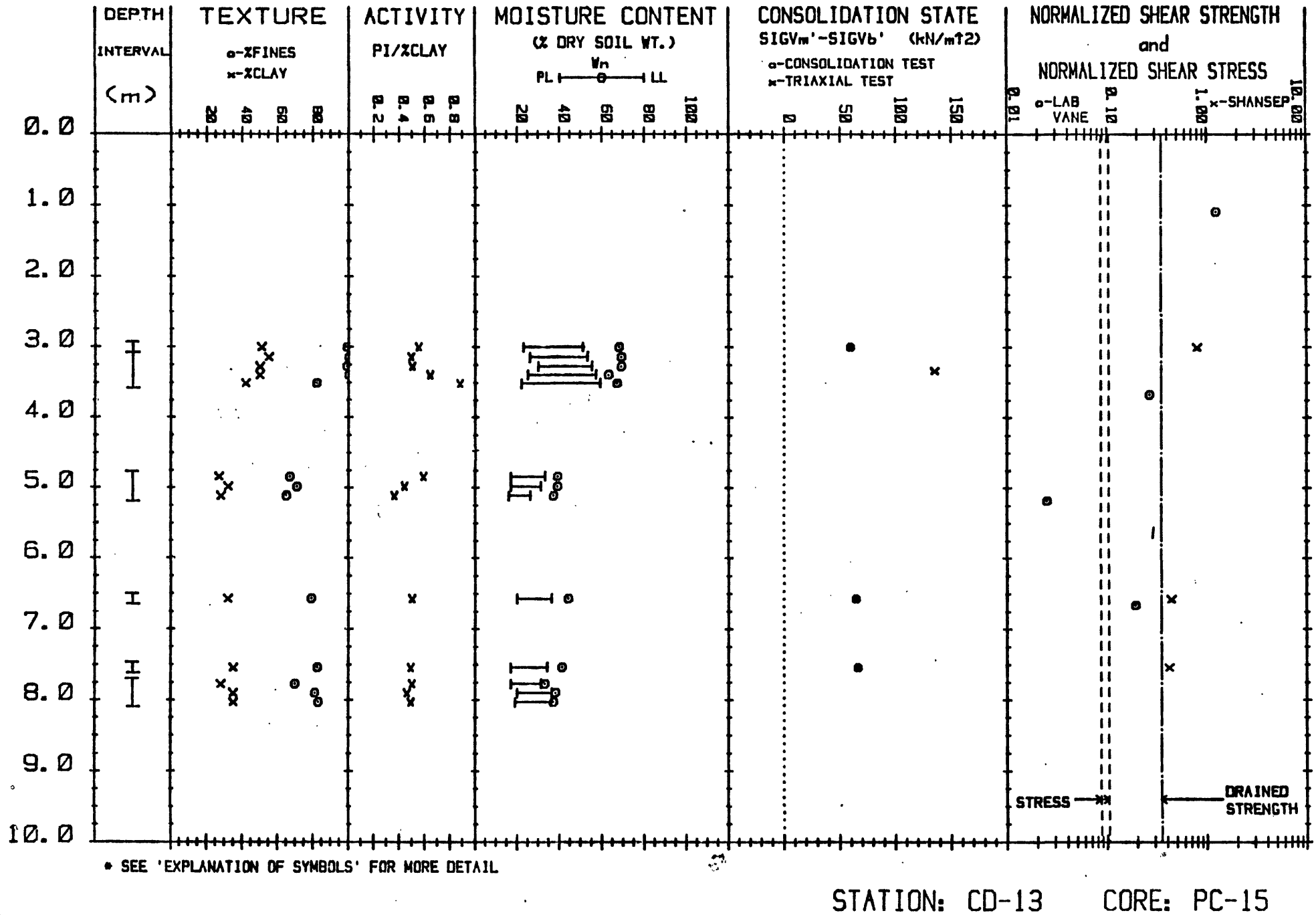


Figure 12a.--Geotechnical profile*.

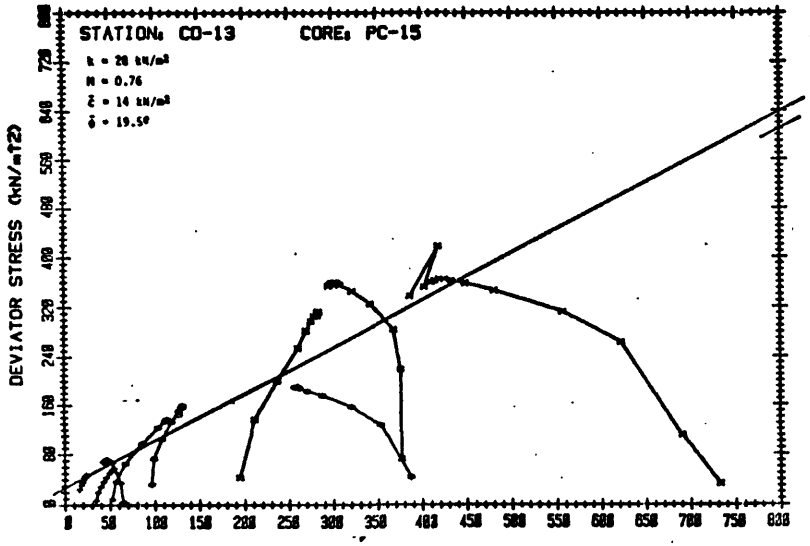


Figure 12b.--Interpretation of drained shear strength parameters.

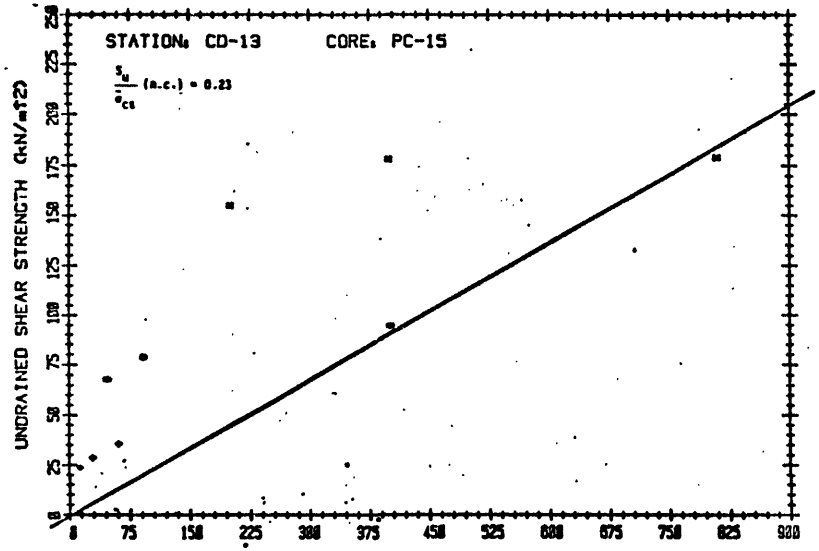


Figure 12c.--Interpretation of the normalized undrained shear strength for the normally consolidated state.

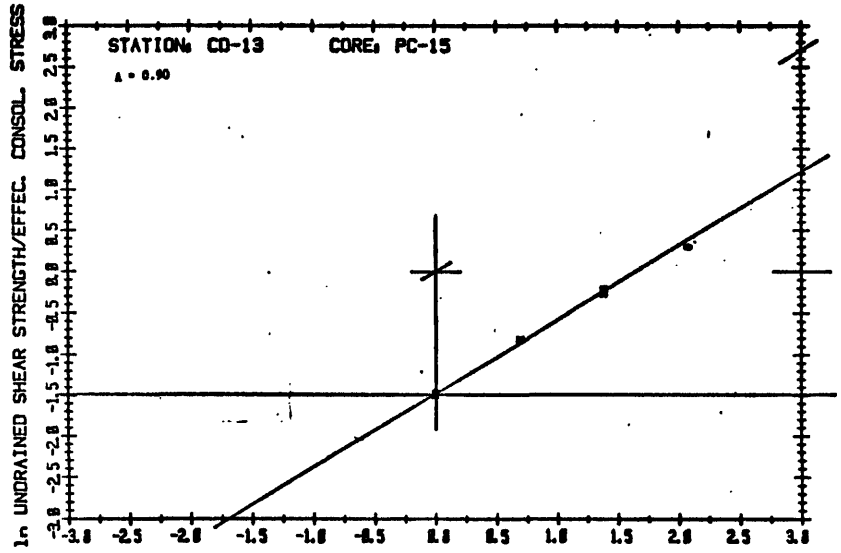


Figure 12d.--Interpretation of the pore pressure parameter Λ.

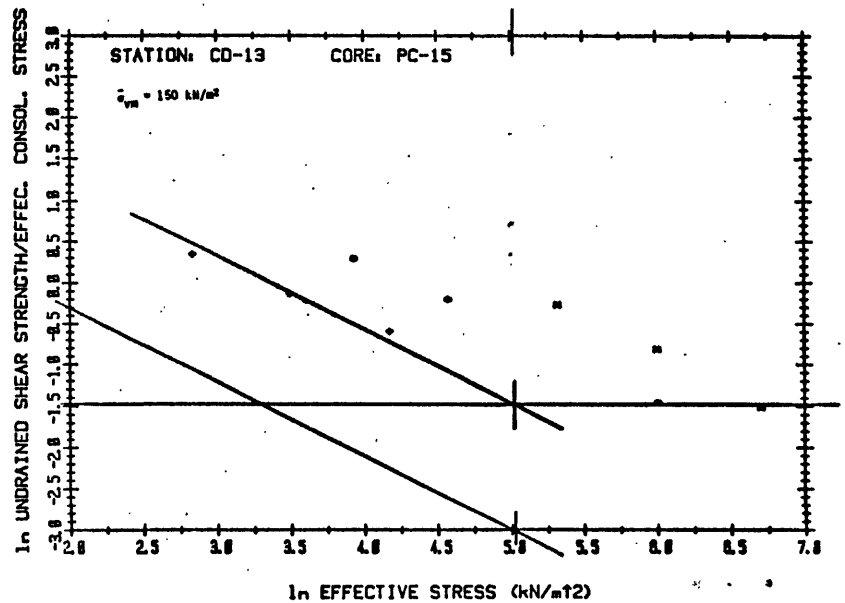


Figure 12e.--Interpretation of the preconsolidation stress from triaxial data.

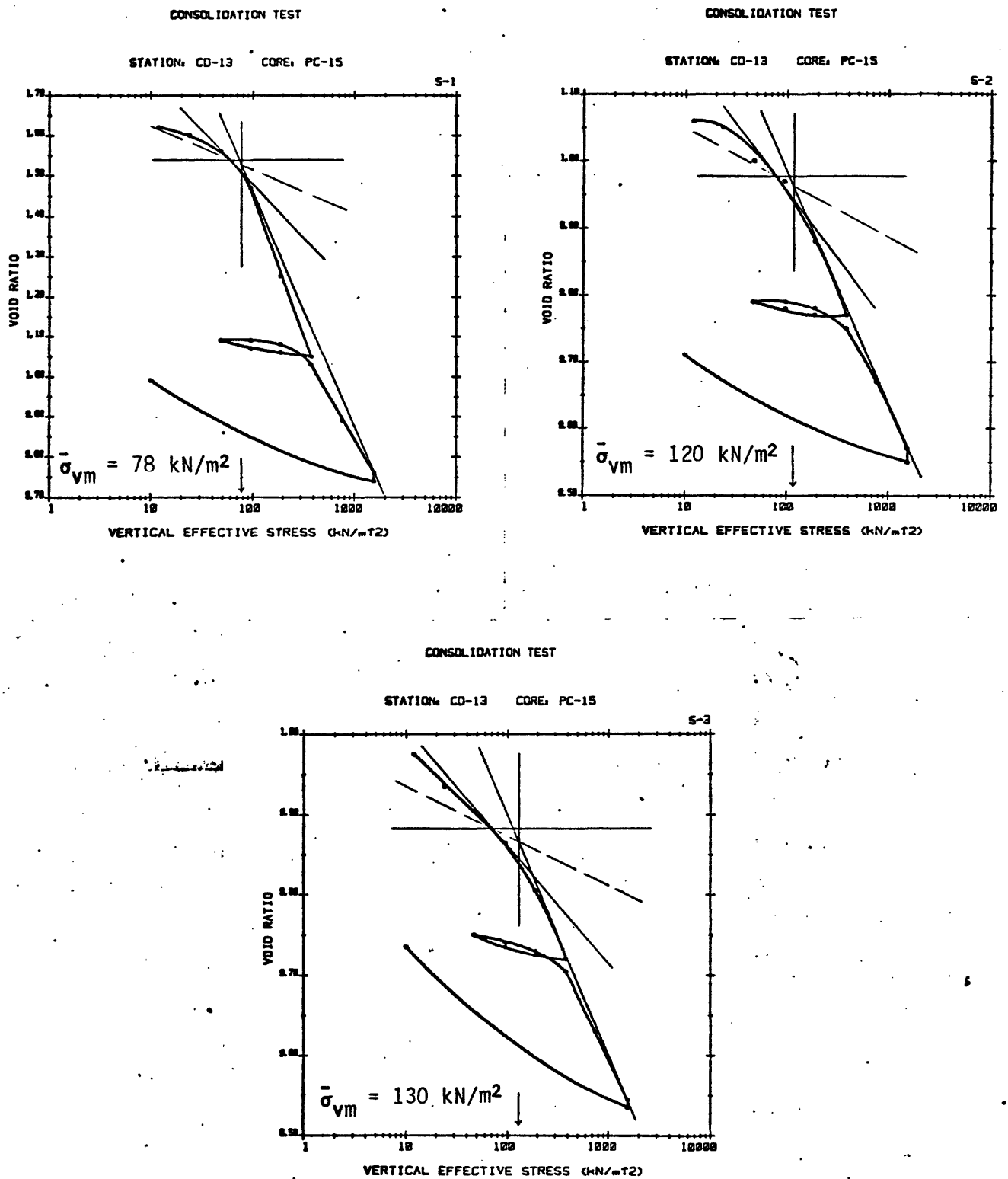


Figure 12f.--Interpretation of the preconsolidation stress from consolidation data.

Table 12a.--Geotechnical test results for site no. CD-13, core no. PC-15

[Lat 28°59.98' N., long 72°46.07' W.; water depth 471 m; core recovery 8.19 m; ----, indicate no information]

Sample depth (m)			Physical properties							Consolidation test results			Lab vane	Triaxial test conditions				Triaxial test results					
Top	Bottom	Average	Fines	Clay	LL	PL	G	w	γ_t	$\bar{\sigma}'_{vm}$	C_c	C_s	S_u	Set	Symbol	$\bar{\sigma}'_{cm}$	$\bar{\sigma}'_c$	S_u	$S_u/\bar{\sigma}'_c$	$\delta_u/\bar{\sigma}'_c$ (n.c.)	$\bar{\sigma}_{vm}$	A	$\bar{c}$	$\bar{\phi}$
----	----	0.01	---	--	--	--	----	81	----	---	----	----	0.75	-	-	---	---	-----	----	----	---	--	--	--
----	----	1.09	---	--	--	--	----	74	----	---	----	----	8.6	-	-	---	---	-----	----	----	---	--	--	--
----	----	2.15	---	--	--	--	----	73	----	---	----	----	9.8	-	-	---	---	-----	----	----	---	--	--	--
2.93	3.08	3.00	99	51	51	23	2.71	68	1.67	78	0.59	0.05	-----	-	-	--	---	-----	----	----	---	--	--	--
3.08	----	3.14	100	55	53	26	2.73	69	1.67	---	----	----	-----	1	+	---	17	24	1.41	----	---	--	--	--
----	----	3.27	99	50	55	30	2.75	69	1.67	---	----	----	-----	1	+	---	33	29	.88	----	---	--	--	--
----	----	3.33	---	--	--	--	----	--	----	---	----	----	-----	-	-	---	---	-----	----	----	---	--	--	--
----	----	3.39	100	50	57	25	2.75	63	1.70	---	----	----	-----	1	+	---	65	36	.55	----	---	--	--	--
----	3.58	3.51	82	42	59	22	2.73	67	1.65	---	----	----	-----	1	-	---	---	-----	----	----	---	--	--	--
----	----	3.67	---	--	--	--	----	40	----	---	----	----	6.3	-	-	---	---	-----	----	----	---	--	--	--
----	4.01	----	---	--	--	--	----	--	----	---	----	----	-----	-	-	---	---	-----	----	----	---	--	--	--
4.01	----	----	---	--	--	--	----	--	----	---	----	----	-----	-	-	---	---	-----	----	----	---	--	--	--
4.77	----	4.84	67	27	33	17	2.68	39	1.89	---	----	----	-----	3	*	407	51	68.6	1.35	----	---	--	--	--
----	----	4.98	71	32	31	17	2.71	39	1.89	---	----	----	-----	3	*	407	97	79.6	.82	----	---	--	--	--
----	5.19	5.11	65	28	26	16	2.73	37	1.90	---	----	----	-----	3	*	407	407	95.5	.23	----	---	--	--	--
----	----	5.18	---	--	--	--	----	39	----	---	----	----	1.1	-	-	---	---	-----	----	----	---	--	--	--
6.50	6.65	6.57	79	32	36	20	2.70	44	1.85	120	.35	.03	-----	-	-	---	---	-----	----	----	---	--	--	--
----	----	6.66	---	--	--	--	----	40	----	---	----	----	11	-	-	---	---	-----	----	----	---	--	--	--
7.47	7.62	7.54	83	35	34	17	2.71	41	1.91	130	.30	.04	-----	-	-	---	---	----	----	----	---	--	--	--
7.70	----	7.77	70	28	31	17	2.75	33	1.94	---	----	----	-----	2	x	817	204	156.7	.76	----	---	--	--	--
----	----	7.90	81	35	36	20	2.73	38	1.90	---	----	----	-----	2	x	817	409	180.1	.44	----	---	--	--	--
----	8.10	8.03	83	35	36	19	2.74	37	1.91	---	----	----	-----	2	x	817	817	181	.22	----	---	--	--	--
Average values:																								
3.08	3.39	----------																			156	---------		
0.00	8.10	----------																		0.23	---	0.9	13	20

Table 12b.--Calculated geotechnical results for site no. CD-13, core no. PC-15

[Regional slope angle: 6° maximum, 5° average; ----, indicate no information]

Average sample depth (m)	PI	A	LI	γ_b	$\bar{\sigma}'_{vb}$	Consolidation state: OCR		Consolidation state: $\bar{\sigma}'_{vm} - \bar{\sigma}'_{vb}$		Normalized shear strength: Undrained			Normalized shear stress		Factor of safety: Undrained Shansep		Factor of safety: Drained	
						Consolidated data	Triaxial data	Consolidated data	Triaxial data	Drained	Vane	Shansep	Maximum slope angle	Average slope angle	Maximum	Average	Maximum	Average
0.01	--	----	----	----	-----	----	----	----	----	----	----	----	-----	-----	----	----	---	---
1.09	--	----	----	----	6.9	----	----	----	----	----	1.24	----	-----	-----	----	----	---	---
2.15	--	----	----	----	13.65	----	----	----	----	----	.72	----	-----	-----	----	----	---	---
3.00	28	0.55	1.61	----	19.1	4.1	----	59	----	----	----	0.8	-----	-----	7.7	9.2	---	---
3.14	27	.49	.96	----	20.0	----	----	----	----	----	----	----	-----	-----	----	----	---	---
3.27	25	.50	1.56	----	20.8	----	----	----	----	----	----	----	-----	-----	----	----	---	---
3.33	--	----	----	----	21.15	----	7.38	----	136	----	----	----	-----	-----	----	----	---	---
3.39	32	.64	1.19	----	21.6	----	----	----	----	----	----	----	-----	-----	----	----	---	---
3.51	37	.88	1.22	----	22.4	----	----	----	----	----	----	----	-----	-----	----	----	---	---
3.67	--	----	----	----	23.4	----	----	----	----	----	.27	----	-----	-----	----	----	---	---
4.01	--	----	----	----	25.5	----	----	----	----	----	----	----	-----	-----	----	----	---	---
4.01	--	----	----	----	25.5	----	----	----	----	----	----	----	-----	-----	----	----	---	---
4.34	16	.59	1.38	----	28.3	----	----	----	----	----	----	----	-----	-----	----	----	---	---
4.98	14	.44	1.43	----	33.8	----	----	----	----	----	----	----	-----	-----	----	----	---	---
5.11	10	.36	2.10	----	34.9	----	----	----	----	----	----	----	-----	-----	----	----	---	---
5.18	--	----	----	----	35.5	----	----	----	----	----	.03	----	-----	-----	----	----	---	---
6.57	16	.50	1.50	----	47.3	2.5	----	73	----	----	----	.51	-----	-----	4.9	5.9	---	---
6.66	--	----	----	----	48.1	----	----	----	----	----	.23	----	-----	-----	----	----	---	---
7.54	17	.49	1.41	----	55.6	2.3	----	74	----	----	----	.47	-----	-----	4.5	5.4	---	---
7.77	14	.50	1.14	----	57.6	----	----	----	----	----	----	----	-----	-----	----	----	---	---
7.90	16	.46	1.13	----	58.7	----	----	----	----	----	----	----	-----	-----	----	----	---	---
8.03	17	.59	1.06	----	59.8	----	----	----	----	----	----	----	-----	-----	----	----	---	---
Average values:																		
0.01 to 4.01	----	0.65	----------															
4.01 to 8.03	----	.87	----------															
0.01 to 8.03	----------									0.36	----------		0.104	0.087	----------		3.5	4.1

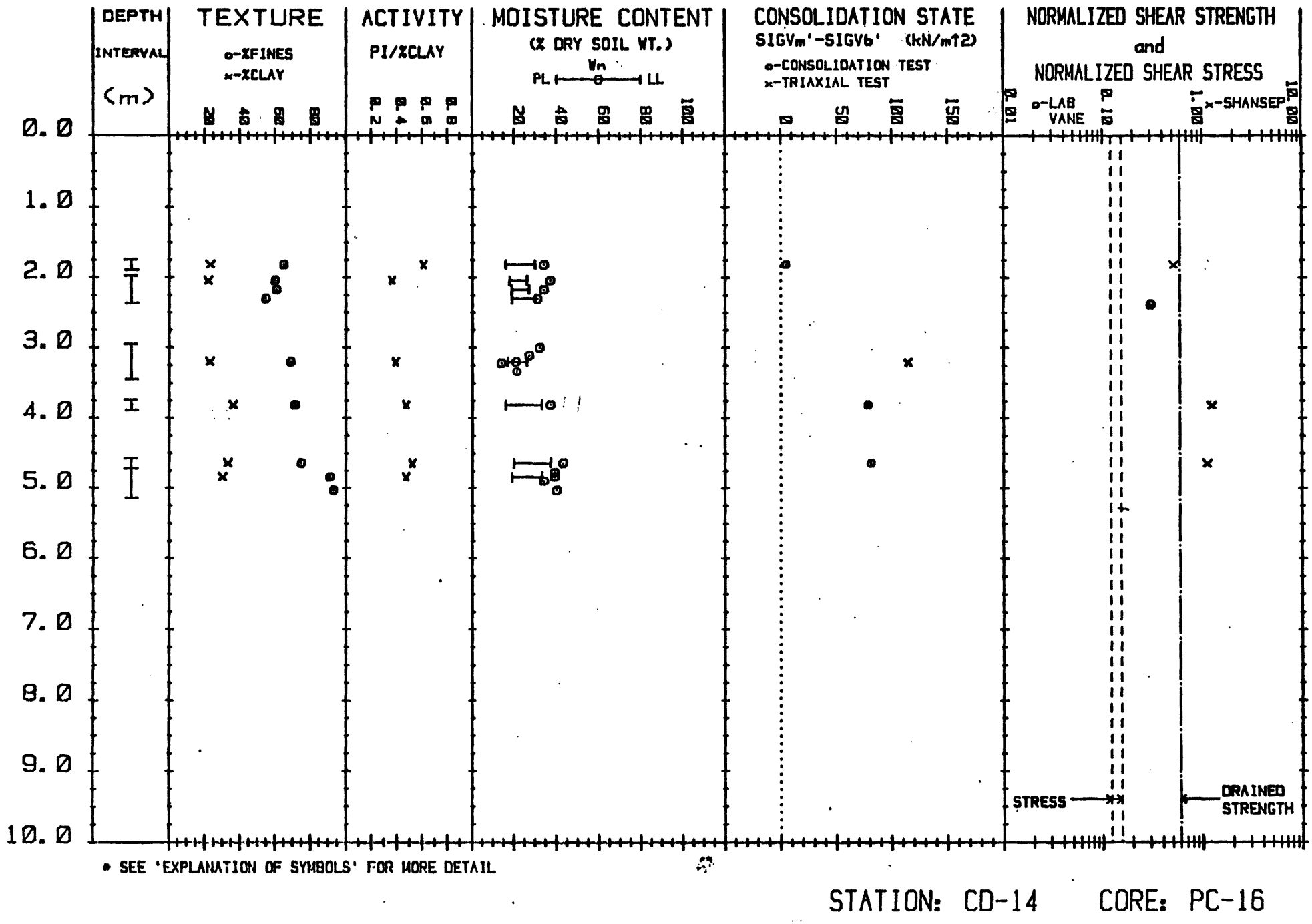


Figure 13a.--Geotechnical profile*.

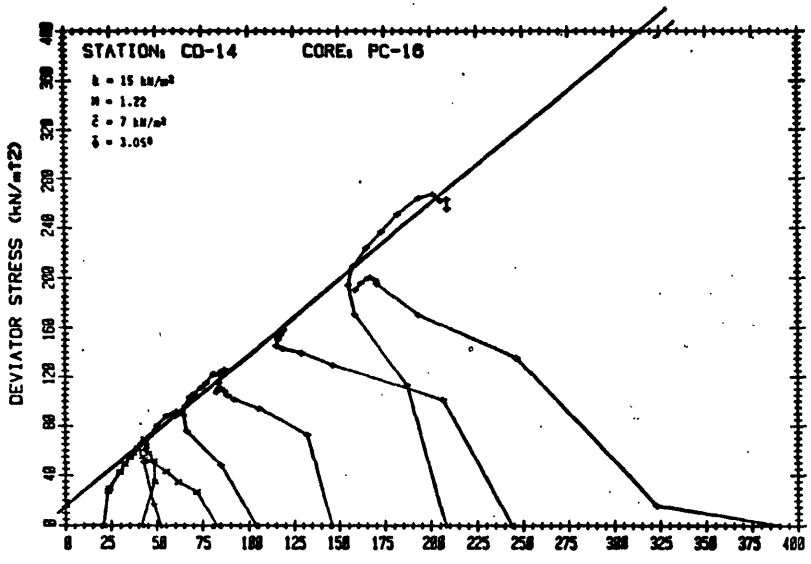


Figure 13b.--Interpretation of drained shear strength parameters.

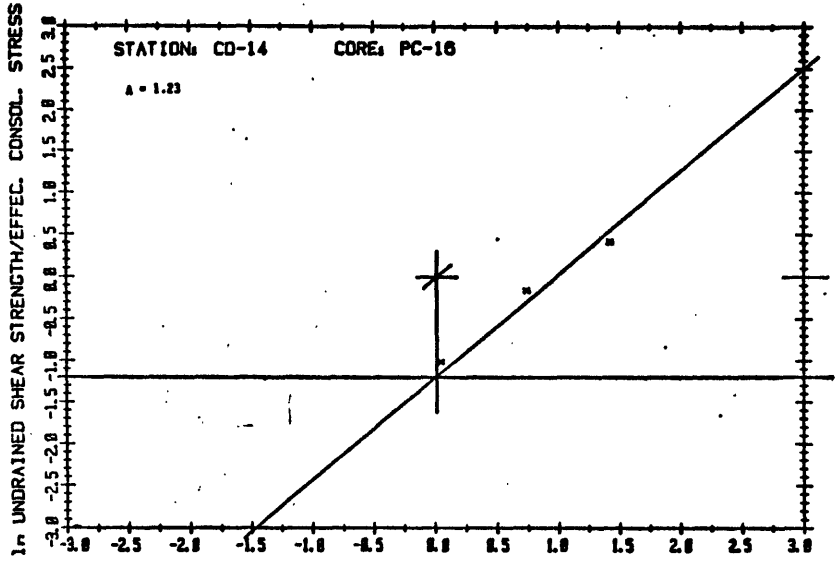


Figure 13d.--Interpretation of the pore pressure parameter A.

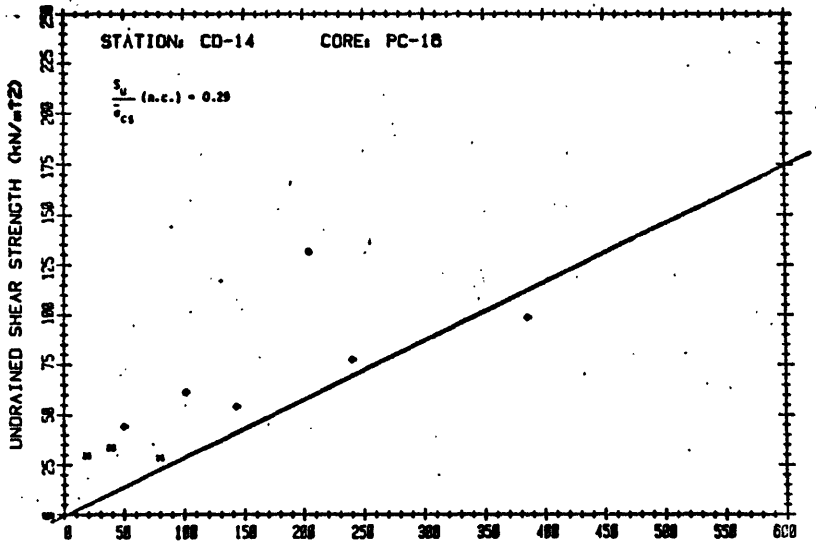


Figure 13c.--Interpretation of the normalized undrained shear strength for the normally consolidated state.

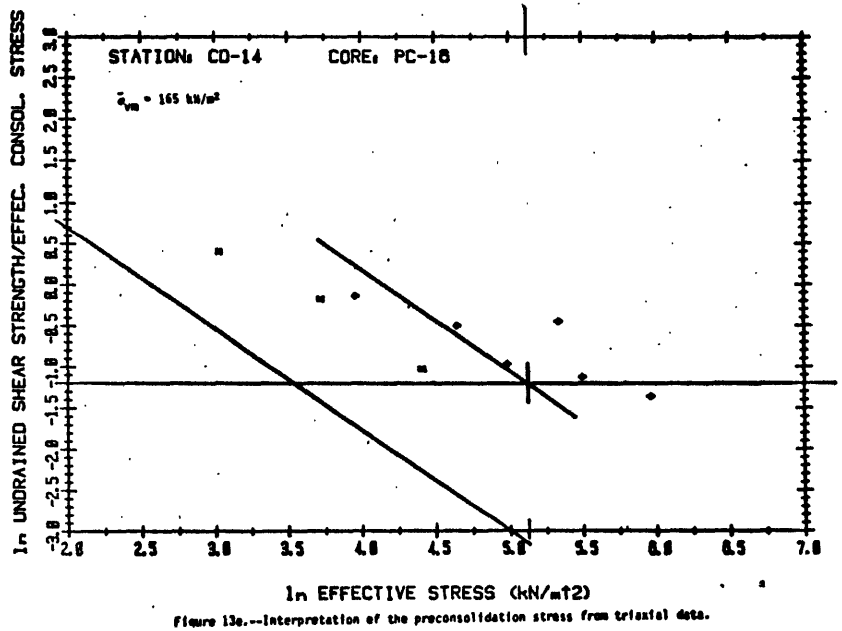


Figure 13e.--Interpretation of the preconsolidation stress from triaxial data.

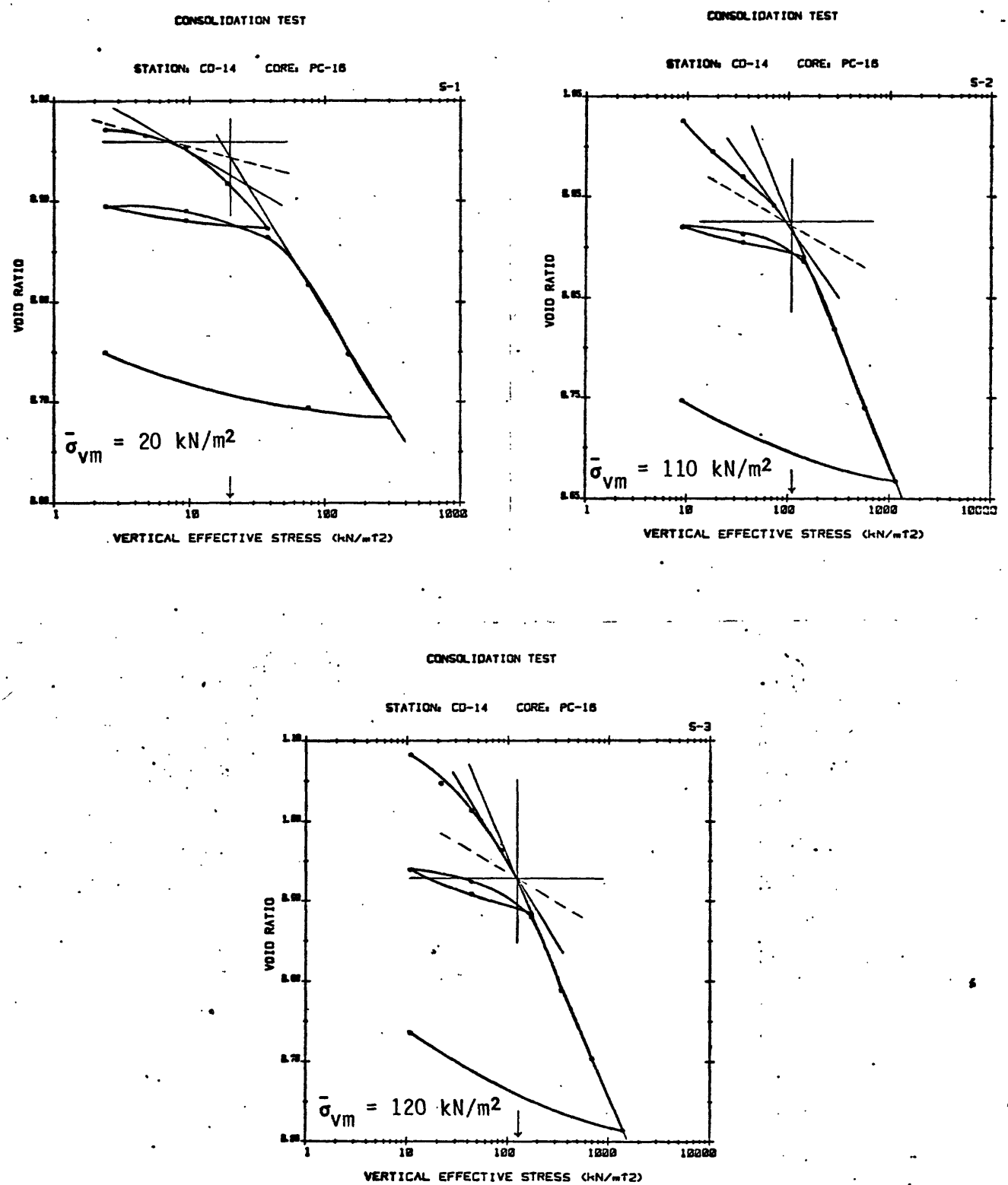


Figure 13f.--Interpretation of the preconsolidation stress from consolidation data.

Table 13a.--Geotechnical test results for site no. CD-14, core no. PC-16

[Lat 38°59.66' N., long 72°45.80' W.; water depth 543 m; core recovery 5.37 m; ----, indicate no information]

Sample depth (m)			Physical properties							Consolidation test results			Lab vane	Triaxial test conditions			Triaxial test results						
Top	Bottom	Average	Fines	Clay	LL	PL	G	w	γ_t	$\bar{\sigma}'_{vm}$	C_c	C_s	S_u	Set	Symbol	$\bar{\sigma}'_{cm}$	$\bar{\sigma}'_c$	S_u	$S_u/\bar{\sigma}'_c$	$S_u/\bar{\sigma}'_c$ (n.c.)	$\bar{\sigma}'_{vm}$	Λ	$\bar{c}$	$\bar{\phi}$
0.00	----	0.01	---	--	--	--	----	76	----	---	----	----	1.2	-	-	---	-----	-----	----	----	---	----	--	----
----	----	.86	---	--	--	--	----	70	----	---	----	----	3.8	-	-	---	-----	-----	----	----	---	----	--	----
1.74	1.89	1.81	65	23	30	16	2.81	34	1.89	20	0.21	0.03	---	-	-	---	-----	-----	----	----	---	----	--	----
1.97	----	2.04	60	22	26	18	2.74	37	1.87	---	----	----	---	2	x	83	82.7	29.4	0.36	----	---	----	--	----
----	----	2.17	61	--	27	19	----	34	1.91	---	----	----	---	2	x	83	41.3	34.7	.84	----	---	----	--	----
----	2.37	2.30	55	--	30	19	----	31	1.92	---	----	----	---	2	x	83	20.7	30.8	1.49	----	---	----	--	----
----	----	2.38	---	--	--	--	----	38	----	---	----	----	6.2	-	-	---	-----	-----	----	----	---	----	--	----
----	2.66	----	---	--	--	--	----	--	----	---	----	----	---	-	-	---	-----	-----	----	----	---	----	--	----
2.66	----	----	---	--	--	--	----	--	----	---	----	----	---	-	-	---	-----	-----	----	----	---	----	--	----
2.95	----	3.00	---	--	--	--	----	32	2.02	---	----	----	---	1	+	---	52.4	45.7	.87	----	---	----	--	----
----	----	3.11	---	--	--	--	----	27	2.06	---	----	----	---	1	+	---	104.0	62.8	.60	----	---	----	--	----
----	----	3.20	69	23	26	17	2.74	21	----	---	----	----	---	-	-	---	-----	-----	----	----	---	----	--	----
----	----	3.22	---	--	--	--	----	14	2.14	---	----	----	---	1	+	---	-----	-----	----	----	---	----	--	----
----	3.45	3.33	---	--	--	--	----	21	2.11	---	----	----	---	1	+	---	208.1	133.6	.64	----	---	----	--	----
----	3.60	----	---	--	--	--	----	--	----	---	----	----	---	-	-	---	-----	-----	----	----	---	----	--	----
3.60	----	----	---	--	--	--	----	--	----	---	----	----	---	-	-	---	-----	-----	----	----	---	----	--	----
3.74	3.89	3.81	71	36	33	16	2.83	37	1.85	110	.24	.04	---	-	-	---	-----	-----	----	----	---	----	--	----
----	----	3.90	---	--	--	--	----	41	----	---	----	----	---	-	-	---	-----	-----	----	----	---	----	--	----
4.57	----	4.64	75	33	37	20	2.80	43	1.86	120	.30	.06	---	-	-	---	-----	-----	----	----	---	----	--	----
----	----	4.78	---	--	--	--	----	39	1.91	---	----	----	---	1	+	---	146.1	55.5	.38	----	---	----	--	----
----	----	4.84	91	30	33	19	2.83	39	----	---	----	----	---	-	-	---	-----	-----	----	----	---	----	--	----
----	----	4.90	---	--	--	--	----	34	1.89	---	----	----	---	1	+	---	243.9	79.0	.32	----	---	----	--	----
----	5.14	5.03	93	--	--	--	----	40	1.91	---	----	----	---	1	+	---	390.0	100.2	.26	----	---	----	--	----
Average values:																								
2.95	3.45	----------																			165	----------		
0.00	5.14	----------																		0.29	---	1.23	7	30.5

Table 13b.--Calculated geotechnical results for site no. CD-14, core no. PC-16

[Regional slope angle: 9° maximum, 7° average; ----, indicate no information]

Average sample depth (m)	PI	A	LI	γ_b	$\bar{\sigma}'_{vb}$	Consolidation state: OCR		Consolidation state: $\bar{\sigma}'_{vm} - \bar{\sigma}'_{vb}$		Normalized shear strength: Undrained			Normalized shear stress		Factor of safety: Undrained Shansep		Factor of safety: Drained	
						Consolidated data	Triaxial data	Consolidated data	Triaxial data	Drained	Vane	Shansep	Maximum slope angle	Average slope angle	Maximum	Average	Maximum	Average
0.01	--	----	----	----	-----	----	----	-----	------	----	----	----	----	----	---	---	---	---
0.86	--	----	----	----	7.35	----	----	-----	------	----	0.51	----	----	----	---	---	---	---
1.81	14	0.61	1.29	----	15.48	1.29	----	4.52	------	----	----	0.52	----	----	3.4	4.3	---	---
2.04	8	.36	2.38	----	17.44	----	----	-----	------	----	----	----	----	----	---	---	---	---
2.17	8	----	1.88	----	18.55	----	----	-----	------	----	----	----	----	----	---	---	---	---
2.30	11	----	1.09	----	19.67	----	----	-----	------	----	----	----	----	----	---	---	---	---
2.38	--	----	----	----	20.35	----	----	-----	------	----	.31	----	----	----	---	---	---	---
2.66	--	----	----	----	22.74	----	----	-----	------	----	----	----	----	----	---	---	---	---
2.66	--	----	----	----	22.74	----	----	-----	------	----	----	----	----	----	---	---	---	---
3.00	--	----	----	----	26.27	----	----	-----	------	----	----	----	----	----	---	---	---	---
3.11	--	----	----	----	27.41	----	----	-----	------	----	----	----	----	----	---	---	---	---
3.20	9	.39	.44	----	28.35	----	5.82	----	136.65	----	----	----	----	----	---	---	---	---
3.22	--	----	----	----	28.56	----	----	-----	------	----	----	----	----	----	---	---	---	---
3.33	--	----	----	----	29.70	----	----	-----	------	----	----	----	----	----	---	---	---	---
3.60	--	----	----	----	32.50	----	----	-----	------	----	----	----	----	----	---	---	---	---
3.60	--	----	----	----	32.50	----	----	-----	------	----	----	----	----	----	---	---	---	---
3.81	17	.47	1.24	----	34.26	3.21	----	75.74	------	----	----	1.15	----	----	7.4	9.5	---	---
3.90	--	----	----	----	35.02	----	----	-----	------	----	----	----	----	----	---	---	---	---
4.64	17	.52	1.35	----	41.23	2.91	----	78.77	------	----	----	1.06	----	----	6.9	8.8	---	---
4.78	--	----	----	----	42.40	----	----	-----	------	----	----	----	----	----	---	---	---	---
4.84	14	.47	1.43	----	42.90	----	----	-----	------	----	----	----	----	----	---	---	---	---
4.90	--	----	----	----	43.41	----	----	-----	------	----	----	----	----	----	---	---	---	---
5.03	--	----	----	----	44.50	----	----	-----	------	----	----	----	----	----	---	---	---	---
Average values:																		
0.01 to 2.66			----	0.87	----------													
2.66 to 3.60			----	1.06	----------													
3.60 to 5.03			----	.86	----------													
0.01 to 5.03			----------							0.57	---------		0.16	0.12	--------		3.7	4.8

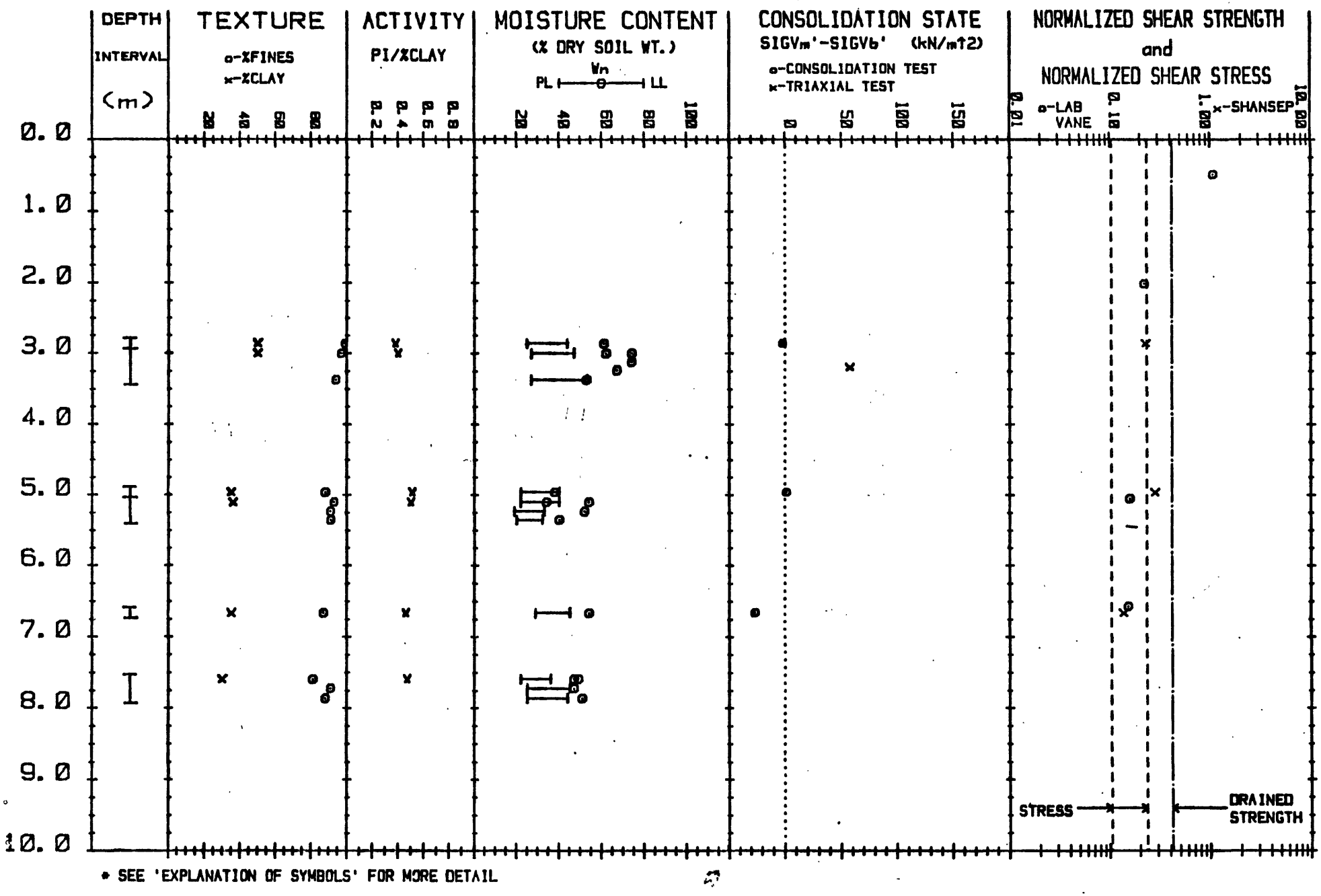


Figure 14a.--Geotechnical profile*.

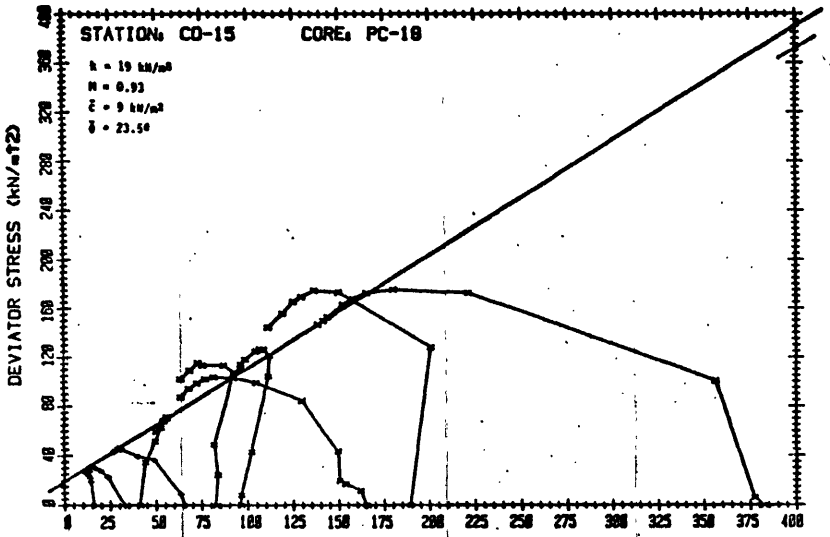


Figure 14b.--Interpretation of drained shear strength parameters.

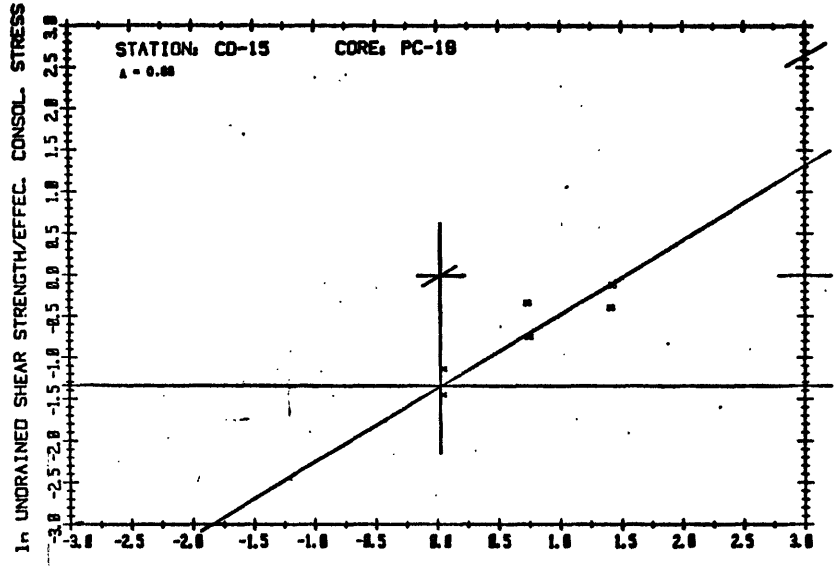


Figure 14d.--Interpretation of the pore pressure parameter A.

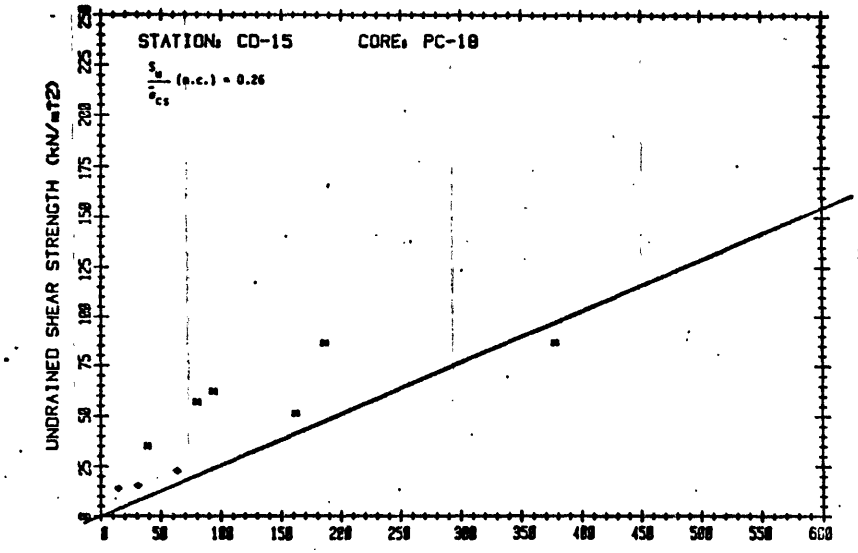


Figure 14c.--Interpretation of the normalized undrained shear strength for the normally consolidated state.

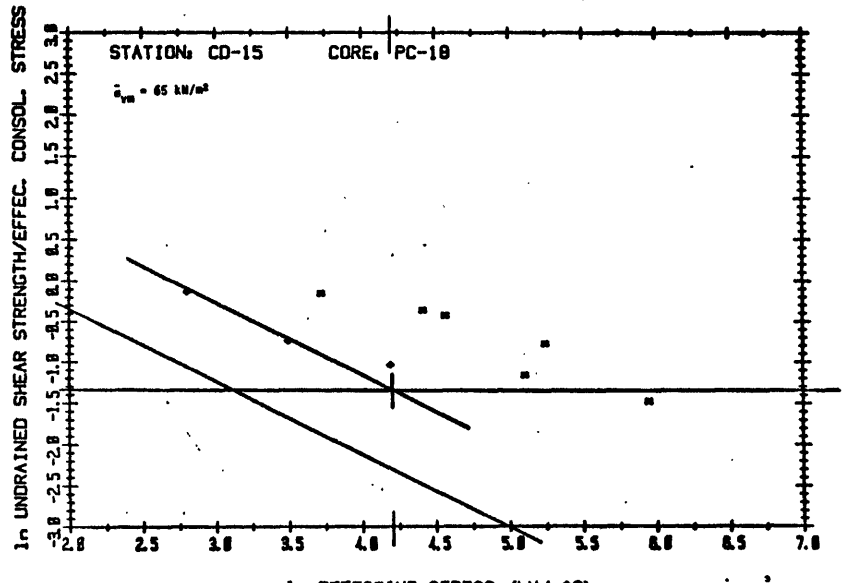


Figure 14a.--Interpretation of the preconsolidation stress from triaxial data.

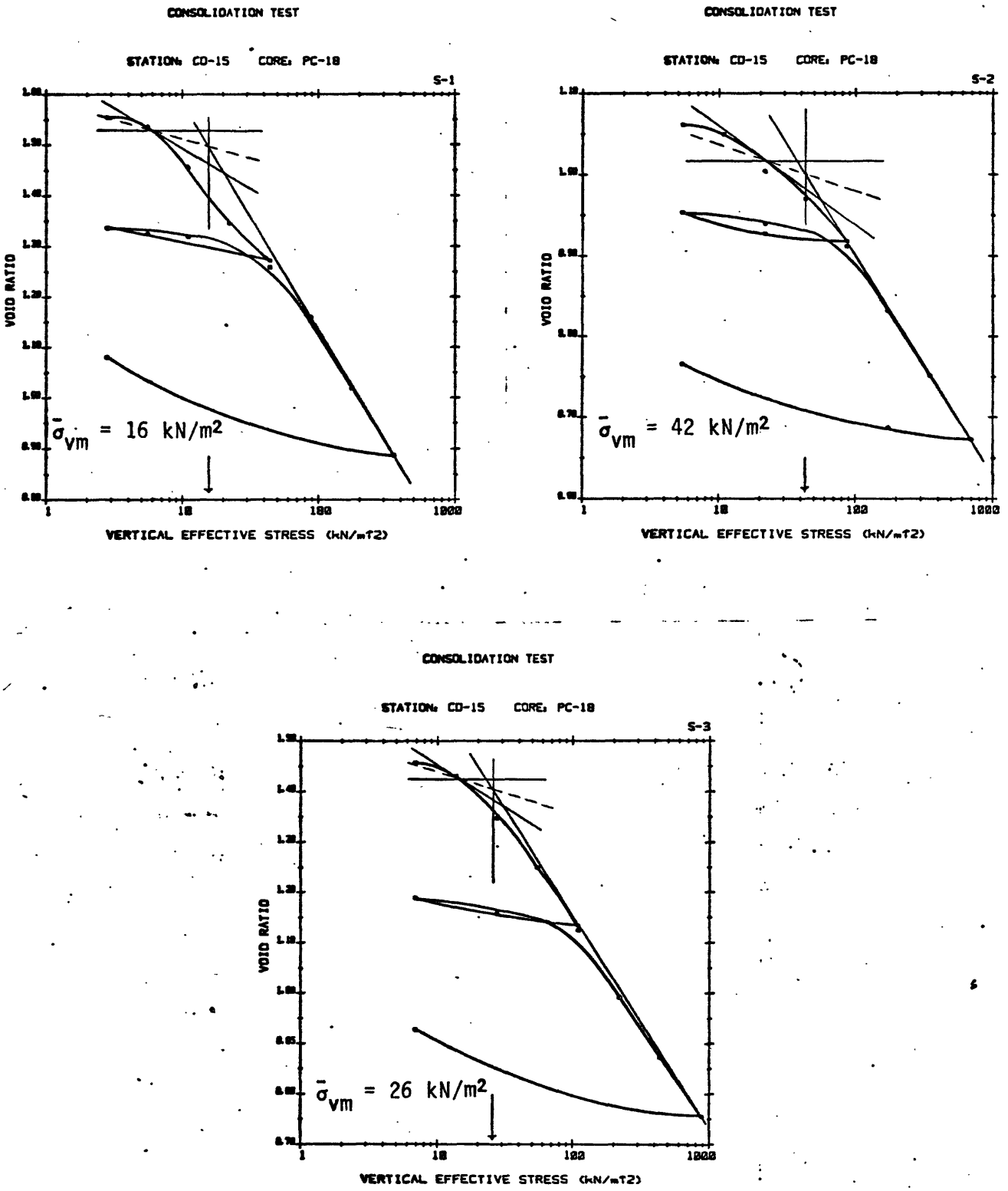


Figure 14f.--Interpretation of the preconsolidation stress from consolidation data.

Table 14a.--Geotechnical test results for site no. CD-15, core no. PC-18

[Lat 38°57.98' N., long 72°43.52' W.; water depth 810 m; core recovery 8.08 m; ----, indicate no information]

Sample depth (m)			Physical properties							Consolidation test results			Triaxial test conditions				Triaxial test results						
Top	Bottom	Average	Fines	Clay	LL	PL	G	w	γ_t	$\bar{\sigma}'_{vm}$	C_c	C_s	Lab vane S_u	Set	Symbol	$\bar{\sigma}'_{cm}$	$\bar{\sigma}'_c$	S_u	$S_u/\bar{\sigma}'_c$	$S_u/\bar{\sigma}'_c$ (n.c.)	$\bar{\sigma}_{vm}$	A	$\bar{\epsilon}$	$\bar{\phi}$
0.00	----	0.49	---	--	--	--	----	91	----	---	----	----	3.2	-	-	-----	-----	----	----	----	---	----	--	----
----	----	2.01	---	--	--	--	----	76	----	---	----	----	2.8	-	-	-----	-----	----	----	----	---	----	--	----
2.79	2.94	2.86	99	50	44	25	2.70	61	1.66	16	0.47	0.09	---	-	-	-----	-----	----	----	----	---	----	--	----
2.94	----	3.00	97	50	47	27	2.75	74/62	1.70	---	----	----	---	1	+	-----	66.1	23.4	0.36	----	---	----	--	----
----	----	3.12	---	--	--	--	----	74	1.63	---	----	----	---	1	+	-----	33.0	15.8	.48	----	---	----	--	----
----	----	3.19	---	--	--	--	----	--	----	---	----	----	---	-	-	-----	-----	----	----	----	---	----	--	----
----	----	3.24	---	--	--	--	----	67	1.61	--	----	----	---	1	+	-----	16.5	14.4	.88	----	---	----	--	----
----	3.44	3.37	94	--	53	27	----	53	1.72	---	----	----	---	1	+	-----	-----	----	----	----	---	----	--	----
----	----	3.53	---	--	--	--	----	62	----	---	----	----	4.0	-	-	-----	-----	----	----	----	---	----	--	----
----	4.17	----	---	--	--	--	----	--	----	---	----	----	---	-	-	-----	-----	----	----	----	---	----	--	----
4.17	----	----	---	--	--	--	----	--	----	---	----	----	---	-	-	-----	-----	----	----	----	---	----	--	----
4.89	5.04	4.96	88	35	40	22	2.80	38	1.84	42	.27	.04	---	-	-	-----	-----	----	----	----	---	----	--	----
----	----	5.05	---	--	--	--	----	32	----	---	----	----	6.0	-	-	-----	-----	----	----	----	---	----	--	----
5.04	----	5.10	93	36	40	22	2.76	34/54	1.74	---	----	----	---	2	x	165	165.4	51.8	.31	----	---	----	--	----
----	----	5.23	91	--	33	19	----	52	1.71	---	----	----	---	2	x	165	82.7	57.7	.70	----	---	----	--	----
----	5.41	5.35	91	--	32	20	----	40	1.91	---	----	----	---	2	x	165	41.3	35.8	.87	----	---	----	--	----
----	----	6.57	---	--	--	--	----	50	----	---	----	----	7.0	-	-	-----	-----	----	----	----	---	----	--	----
6.59	6.74	6.66	87	35	45	29	2.80	54	1.71	26	.40	.08	---	-	-	-----	-----	----	----	----	---	----	--	----
7.53	----	7.59	81	30	36	22	2.77	47/49	1.74	---	----	----	---	2	x	382.4	382.4	87.6	.23	----	---	----	--	----
----	----	7.72	91	--	45	25	----	47	1.79	---	----	----	---	2	x	382.4	189.5	87.3	.46	----	---	----	--	----
----	7.93	7.86	88	--	44	25	----	51	1.72	---	----	----	---	2	x	382.4	96.5	63.2	.65	----	---	----	--	----
Average values:																								
2.94	3.44	----------																			65	----------		
0.00	7.93	----------																	0.26	---	0.88	9	23.5	

Table 14b.--Calculated geotechnical results for site no. CD-15, core no. PC-18

[Regional slope angle: 14° maximum, 6° average; ----, indicate no information]

Average sample depth (m)	PI	A	LI	γ_b	$\bar{\sigma}'_{vb}$	Consolidation state: OCR		Consolidation state: $\bar{\sigma}'_{vm} - \bar{\sigma}'_{vb}$		Normalized shear strength: Undrained			Normalized shear stress		Factor of safety: Undrained Shansep		Factor of safety: Drained	
						Consolidated data	Triaxial data	Consolidated data	Triaxial data	Drained	Vane	Shansep	Maximum slope angle	Average slope angle	Maximum	Average	Maximum	Average
0.49	--	----	----	----	3.08	----	----	------	-----	----	1.06	----	----	----	---	---	---	---
2.01	--	----	----	----	12.62	----	----	------	-----	----	.22	----	----	----	---	---	---	---
2.86	19	0.38	1.89	----	17.96	0.89	----	-1.96	-----	----	----	0.24	----	----	1.0	2.3	---	---
3.00	20	.40	2.35	----	18.84	----	----	------	-----	----	----	----	----	----	---	---	---	---
3.12	--	----	----	----	19.59	----	----	------	-----	----	----	----	----	----	---	---	---	---
3.19	--	----	----	----	20.03	----	3.25	------	44.97	----	----	----	----	----	---	---	---	---
3.24	--	----	----	----	20.35	----	----	------	-----	----	----	----	----	----	---	---	---	---
3.37	26	----	1.00	----	21.16	----	----	------	-----	----	----	----	----	----	---	---	---	---
3.53	--	----	----	----	22.17	----	----	------	-----	----	.18	----	----	----	---	---	---	---
4.17	--	----	----	----	26.19	----	----	------	-----	----	----	----	----	----	---	---	---	---
4.17	--	----	----	----	26.19	----	----	------	-----	----	----	----	----	----	---	---	---	---
4.96	18	.51	.89	----	31.96	1.31	----	10.04	-----	----	----	.33	----	----	3.0	6.8	---	---
5.05	--	----	----	----	32.62	----	----	------	-----	----	.18	----	----	----	---	---	---	---
5.10	18	.50	1.78	----	32.99	----	----	------	-----	----	----	----	----	----	---	---	---	---
5.23	14	----	2.36	----	33.94	----	----	------	-----	----	----	----	----	----	---	---	---	---
5.35	12	----	1.67	----	34.81	----	----	------	-----	----	----	----	----	----	---	---	---	---
6.57	--	----	----	----	43.73	----	----	------	-----	----	.16	----	----	----	---	---	---	---
6.66	16	.46	1.56	----	44.39	.59	----	-18.39	-----	----	----	.16	----	----	.7	1.5	---	---
7.59	14	.47	1.79	----	51.19	----	----	------	-----	----	----	----	----	----	---	---	---	---
7.72	20	----	1.10	----	52.14	----	----	------	-----	----	----	----	----	----	---	---	---	---
7.86	19	----	1.37	----	53.16	----	----	------	-----	----	----	----	----	----	---	---	---	---
Average values:																		
0.49 to 4.17			----	0.64	----------													
4.17 to 7.86			----	.75	----------													
0.49 to 7.86			----------							0.41	----------		0.24	0.10	--------		1.7	4.1

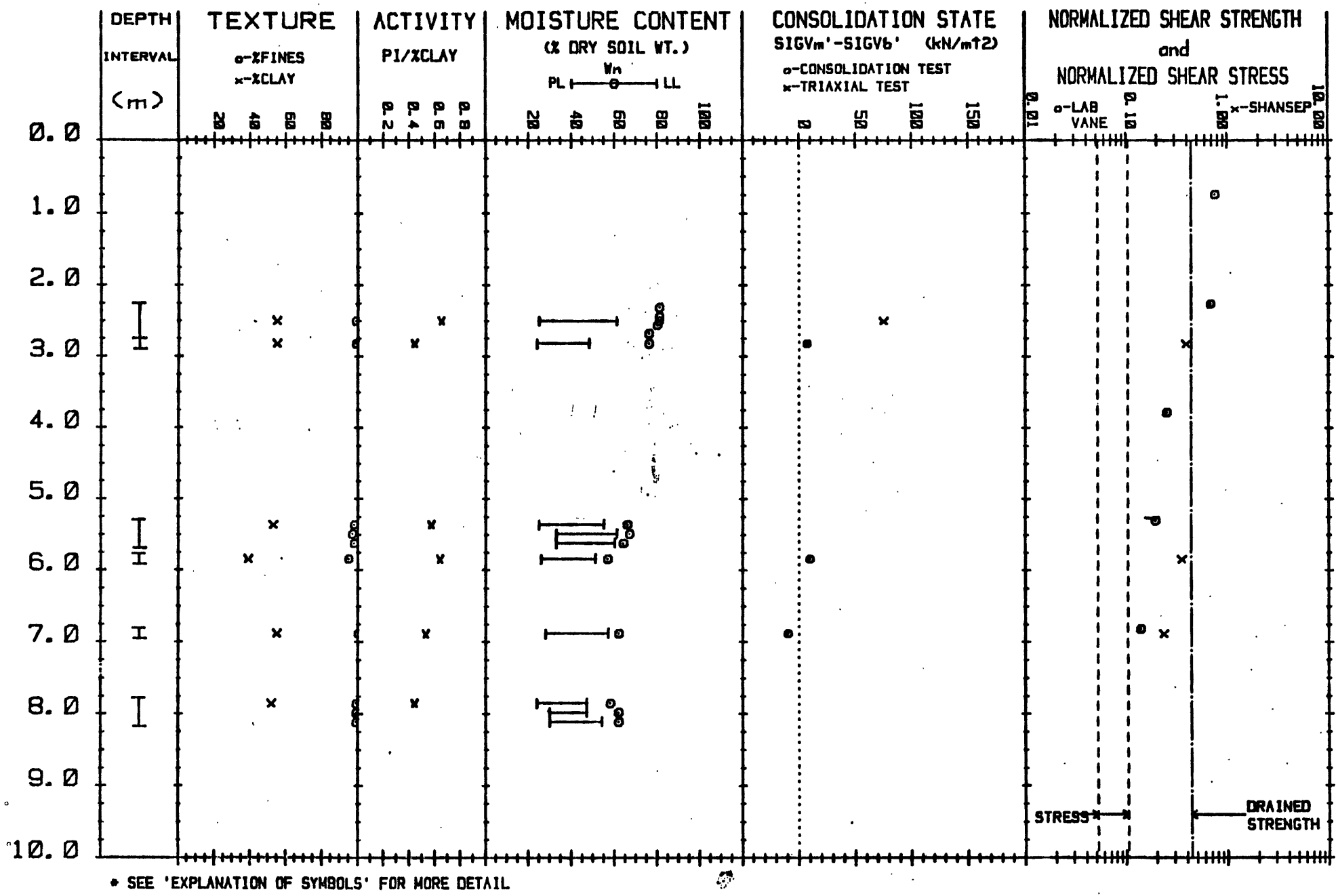


Figure 15a.--Geotechnical profile*.

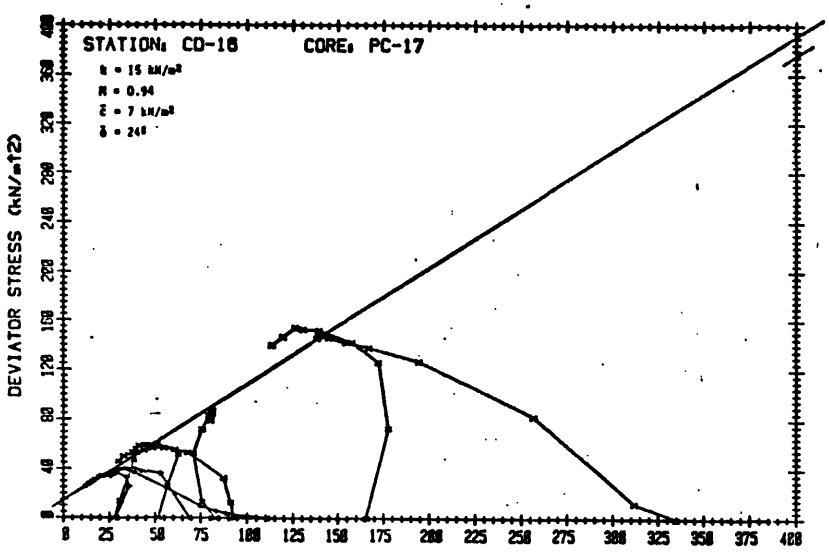


Figure 15b.--Interpretation of drained shear strength parameters.

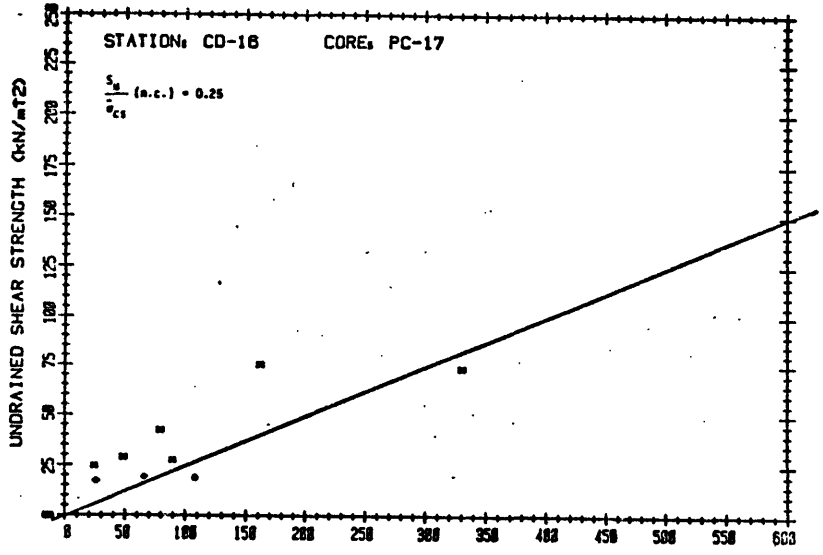


Figure 15c.--Interpretation of the normalized undrained shear strength for the normally consolidated state.

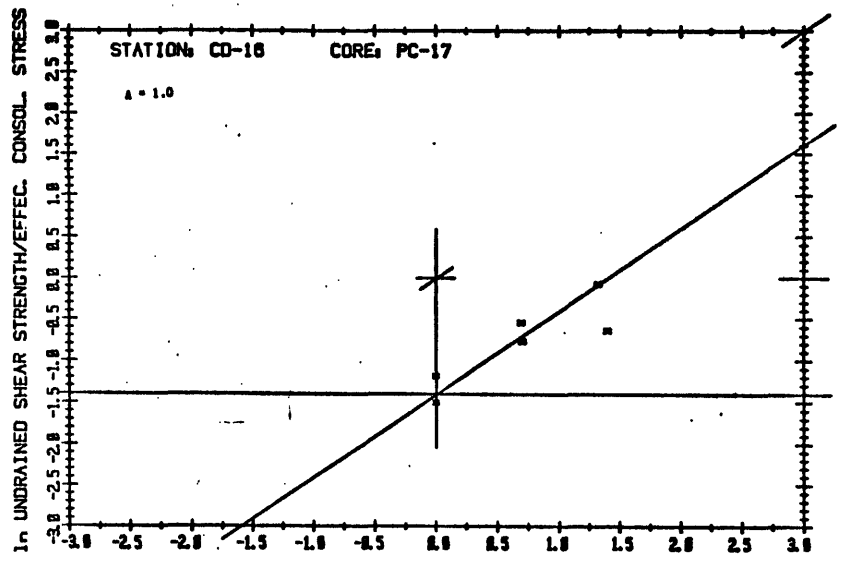


Figure 15d.--Interpretation of the pore pressure parameter A.

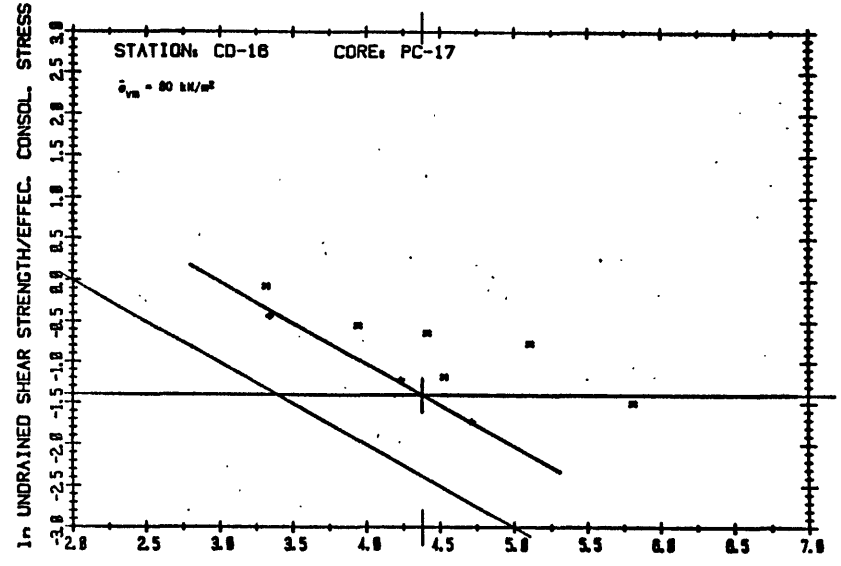


Figure 15e.--Interpretation of the preconsolidation stress from triaxial data.

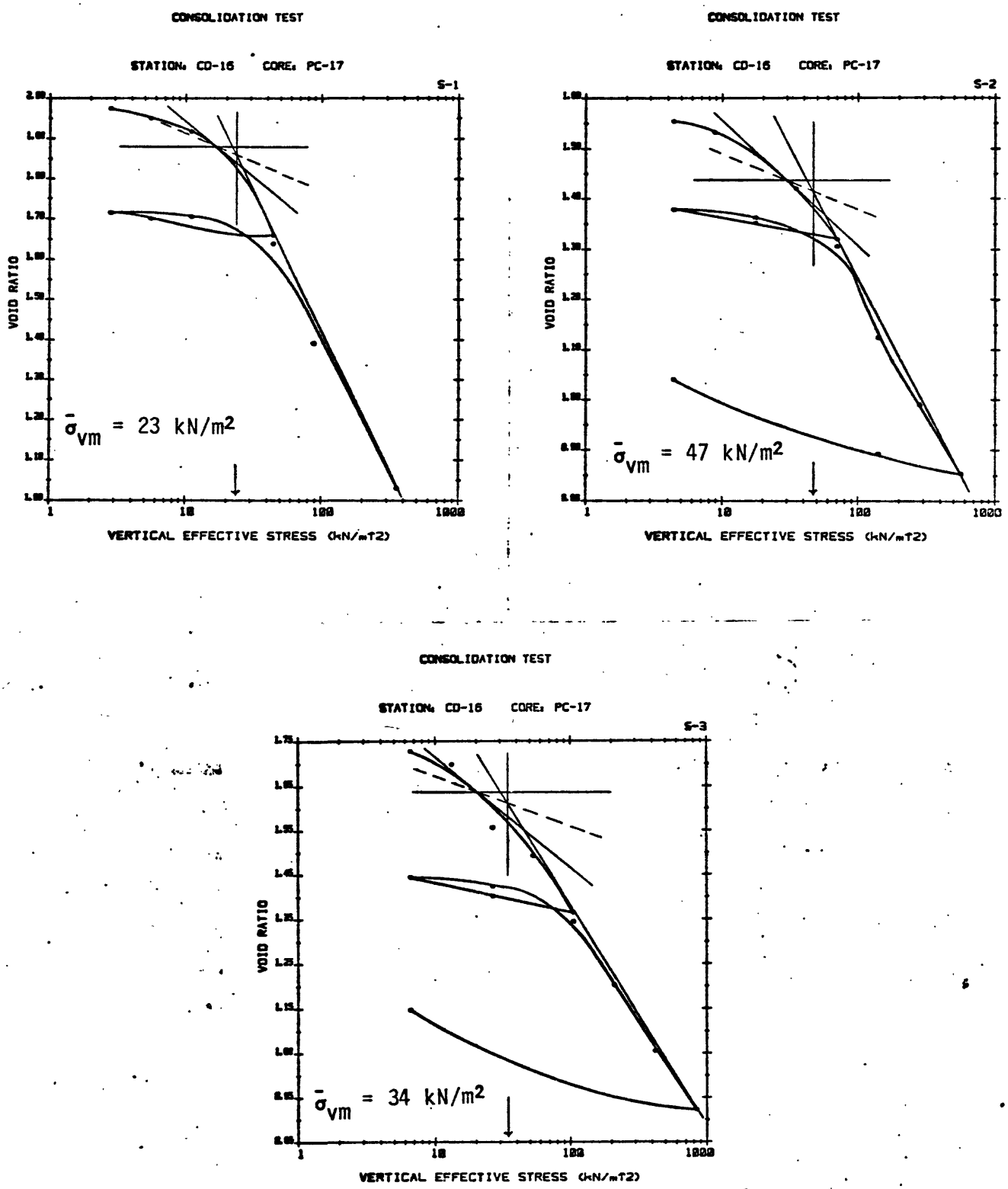


Figure 15f.--Interpretation of the preconsolidation stress from consolidation data.

Table 15a.--Geotechnical test results for site no. CD-16, core no. PC-17

[Lat 38°59.40' N., long 72°46.16' W.; water depth 475 m; core recovery 8.33 m; ----, indicate no information]

Sample depth (m)			Physical properties							Consolidation test results				Triaxial test conditions				Triaxial test results						
Top	Bottom	Average	Fines	Clay	LL	PL	G	w	γ_t	$\bar{\sigma}'_{vm}$	C_c	C_s	Lab vane S_u	Set	Symbol	$\bar{\sigma}'_{cm}$	$\bar{\sigma}'_c$	S_u	$\frac{S_u}{\bar{\sigma}'_c}$	$\frac{S_u}{\bar{\sigma}'_c}$ (n.c.)	$\bar{\sigma}'_{vm}$	A	$\bar{c}$	$\bar{\phi}$
0.00	----	0.01	---	--	--	--	----	65	----	---	----	----	---	-	-	-----	-----	----	----	----	---	---	--	--
----	----	.74	---	--	--	--	----	52	----	---	----	----	2.9	-	-	-----	-----	----	----	----	---	---	--	--
----	----	2.26	---	--	--	--	----	70	----	---	----	----	7.9	-	-	-----	-----	----	----	----	---	---	--	--
2.25	----	2.31	---	--	--	--	----	81	1.46	---	----	----	---	1	+	-----	28.3	18.4	0.65	----	---	---	--	--
----	----	2.44	---	--	--	--	----	81	1.56	---	----	----	---	1	+	-----	68.9	20.2	.29	----	---	---	--	--
----	----	2.50	99	55	61	25	2.82	81	----	---	----	----	---	-	-	-----	-----	----	----	----	---	---	--	--
----	----	2.56	---	--	--	--	----	80	1.55	---	----	----	---	1	+	-----	111.9	19.9	.18	----	---	---	--	--
----	2.75	2.68	---	--	--	--	----	76	1.62	---	----	----	---	1	+	-----	-----	----	----	----	---	---	--	--
2.75	2.90	2.82	99	55	48	24	2.77	76	1.59	23	0.70	0.05	---	-	-	-----	-----	----	----	----	---	---	--	--
----	----	3.78	---	--	--	--	----	75	----	---	----	----	5.9	-	-	-----	-----	----	----	----	---	---	--	--
----	4.10	----	---	--	--	--	----	--	----	---	----	----	---	-	-	-----	-----	----	----	----	---	---	--	--
4.10	----	----	---	--	--	--	----	--	----	---	----	----	---	-	-	-----	-----	----	----	----	---	---	--	--
----	----	5.30	---	--	--	--	----	68	----	---	----	----	6.4	-	-	-----	-----	----	----	----	---	---	--	--
5.29	----	5.36	98	53	55	25	2.73	66	1.65	---	----	----	---	2	x	93.1	93.1	28.5	.31	----	---	---	--	--
----	----	5.49	97	--	61	33	----	67	1.65	---	----	----	---	2	x	103.4	51.7	30.1	.58	----	---	---	--	--
----	5.69	5.62	98	--	60	33	----	64	1.61	---	----	----	---	2	x	103.4	27.6	25.8	.93	----	---	---	--	--
5.77	5.92	5.84	95	39	51	26	2.76	57	1.65	47	.45	.08	---	-	-	-----	-----	----	----	----	---	---	--	--
----	----	6.82	---	--	--	--	----	55	----	---	----	----	5.8	-	-	-----	-----	----	----	----	---	---	--	--
6.81	6.96	6.88	100	55	57	28	2.87	62	1.64	34	.49	.11	---	-	-	-----	-----	----	----	----	---	---	--	--
7.78	----	7.85	99	52	47	24	2.82	58 59	1.71	---	----	----	---	2	x	334.9	165.4	76.9	.46	----	---	---	--	--
----	----	7.98	99	--	47	30	----	62	1.68	---	----	----	---	2	x	334.9	334.9	74.6	.22	----	---	---	--	--
----	8.18	8.11	99	--	54	30	----	62	1.68	---	----	----	---	2	x	334.9	82.7	43.8	.53	----	---	---	--	--
Average values:																								
2.25	2.75	----------																			80	----------		
0.00	8.18	----------																		0.25	---	1.0	7	24

Table 15b.--Calculated geotechnical results for site no. CD-16, core no. PC-17

[Regional slope angle: 6° maximum, 3° average; ----, indicate no information]

Average sample depth (m)	PI	A	LI	γ_b	$\bar{\sigma}'_{vb}$	Consolidation state: OCR		Consolidation state: $\bar{\sigma}'_{vm} - \bar{\sigma}'_{vb}$		Normalized shear strength: Undrained			Normalized shear stress		Factor of safety: Undrained Shansep		Factor of safety: Drained	
						Consolidated data	Triaxial data	Consolidated data	Triaxial data	Drained	Vane	Shansep	Maximum slope angle	Average slope angle	Maximum	Average	Maximum	Average
0.01	--	----	----	----	-----	----	----	-----	----	----	----	----	----	----	---	---	---	---
0.74	--	----	----	----	3.85	----	----	-----	----	----	0.75	----	----	----	---	---	---	---
2.26	--	----	----	----	11.75	----	----	-----	----	----	.67	----	----	----	---	---	---	---
2.31	--	----	----	----	12.01	----	----	-----	----	----	----	----	----	----	---	---	---	---
2.44	--	----	----	----	12.69	----	----	-----	----	----	----	----	----	----	---	---	---	---
2.50	36	0.65	1.56	----	13.00	----	6.15	-----	67.0	----	----	----	----	----	---	---	---	---
2.56	--	----	----	----	13.31	----	----	-----	----	----	----	----	----	----	---	---	---	---
2.68	--	----	----	----	13.94	----	----	-----	----	----	----	----	----	----	---	---	---	---
2.82	24	.44	2.17	----	14.66	1.57	----	8.34	----	----	----	0.39	----	----	3.8	7.5	---	---
3.78	--	----	----	----	19.66	----	----	-----	----	----	.30	----	----	----	---	---	---	---
4.10	--	----	----	----	21.32	----	----	-----	----	----	----	----	----	----	---	---	---	---
4.10	--	----	----	----	21.32	----	----	-----	----	----	----	----	----	----	---	---	---	---
5.30	--	----	----	----	28.81	----	----	-----	----	----	.22	----	----	----	---	---	---	---
5.36	30	.57	1.37	----	29.18	----	----	-----	----	----	----	----	----	----	---	---	---	---
5.49	28	----	1.21	----	29.99	----	----	-----	----	----	----	----	----	----	---	---	---	---
5.62	27	----	1.15	----	30.80	----	----	-----	----	----	----	----	----	----	---	---	---	---
5.84	25	.64	1.24	----	32.18	1.46	----	14.82	----	----	----	.37	----	----	3.6	7.1	---	---
6.82	--	----	----	----	38.29	----	----	-----	----	----	.15	----	----	----	---	---	---	---
6.88	29	.53	1.17	----	38.67	.88	----	-4.67	----	----	----	.22	----	----	2.1	4.2	---	---
7.85	23	.44	1.48	----	44.72	----	----	-----	----	----	----	----	----	----	---	---	---	---
7.98	17	----	1.88	----	45.53	----	----	-----	----	----	----	----	----	----	---	---	---	---
8.11	24	----	1.33	----	46.34	----	----	-----	----	----	----	----	----	----	---	---	---	---
Average values:																		
0.01 to 4.10			----	0.53	----------													
4.10 to 8.11			----	.64	----------													
0.01 to 8.11			----------							0.44	----------		0.10	0.05	---------		4.2	8.5

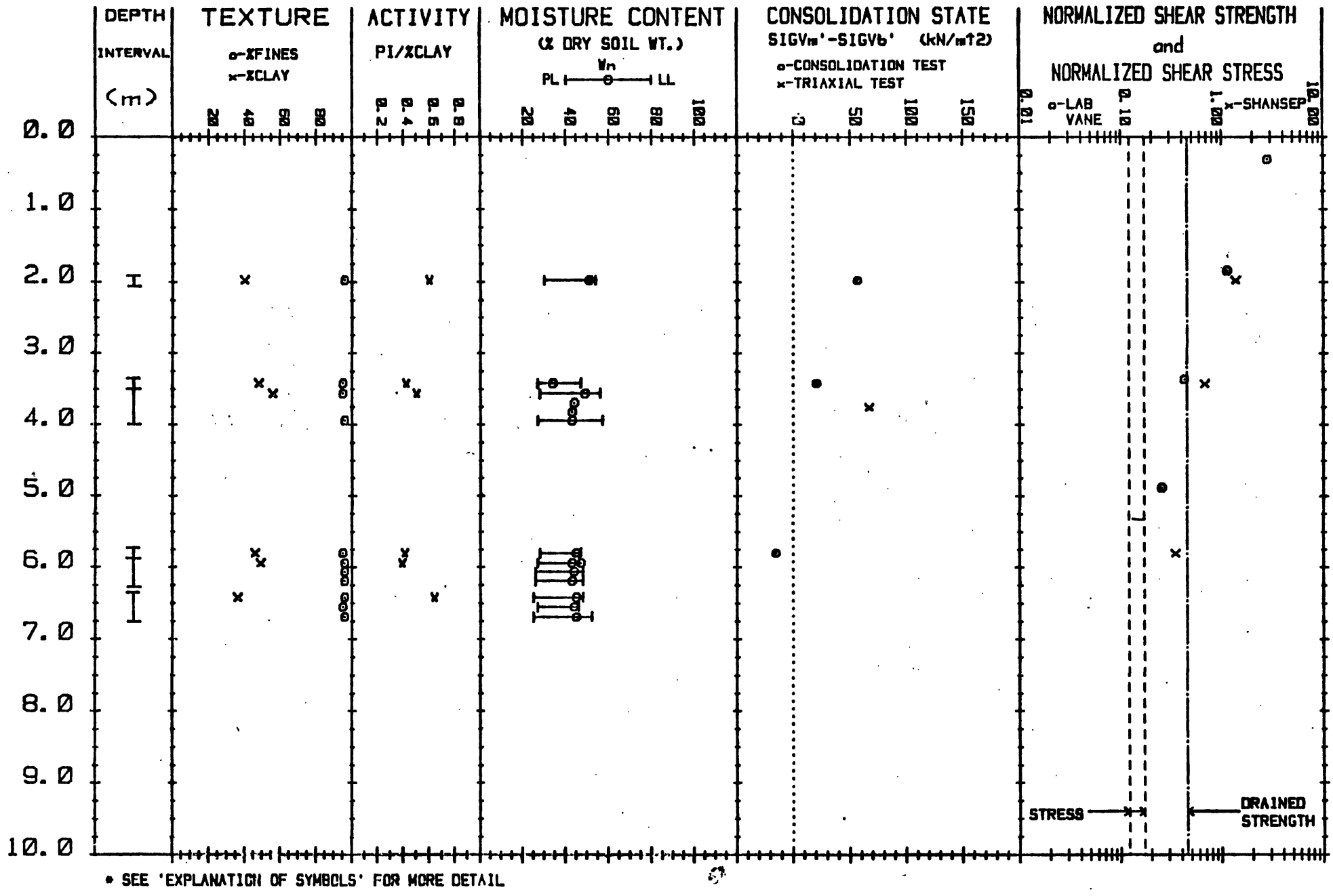


Figure 16a.--Geotechnical profile*.

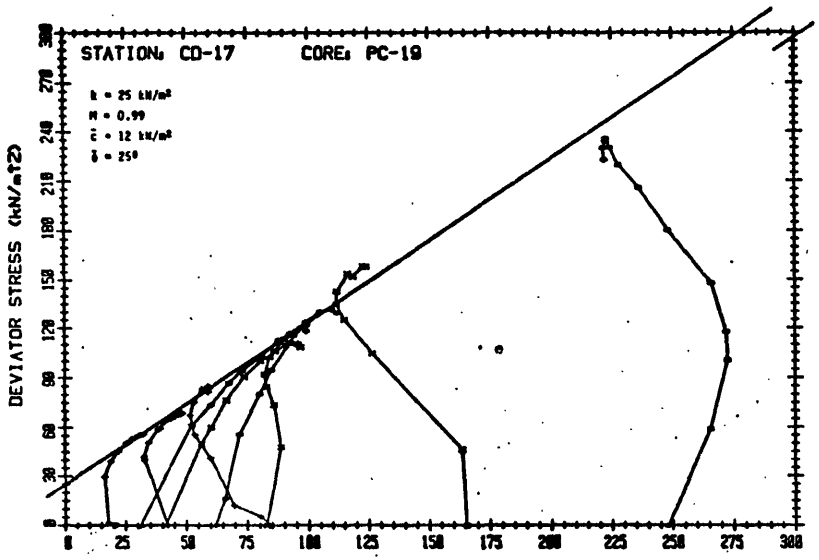


Figure 16b.--Interpretation of drained shear strength parameters.

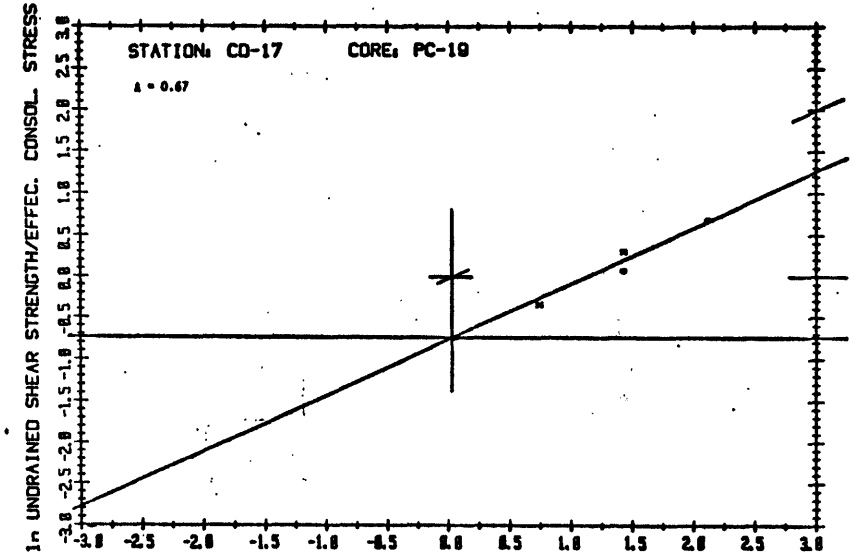


Figure 16d.--Interpretation of the pore pressure parameter A.

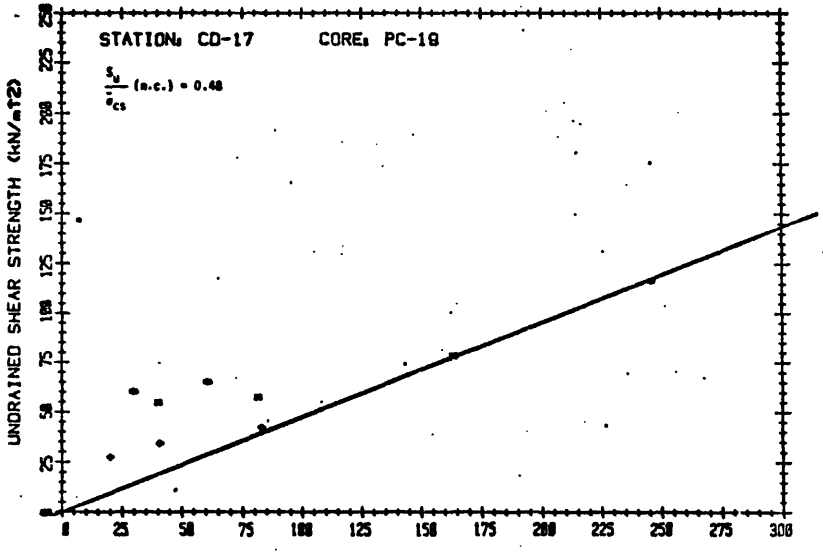


Figure 16c.--Interpretation of the normalized undrained shear strength for the normally consolidated state.

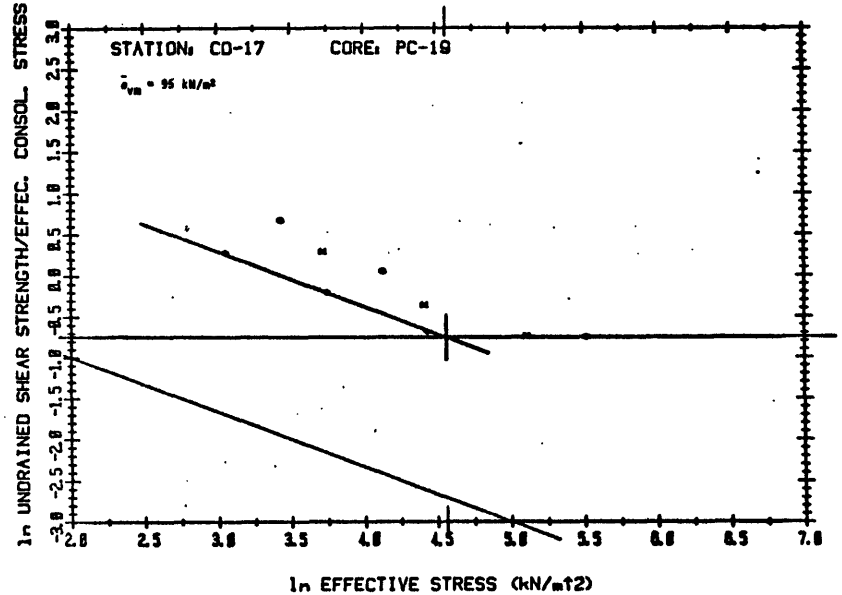


Figure 16e.--Interpretation of the preconsolidation stress from triaxial data.

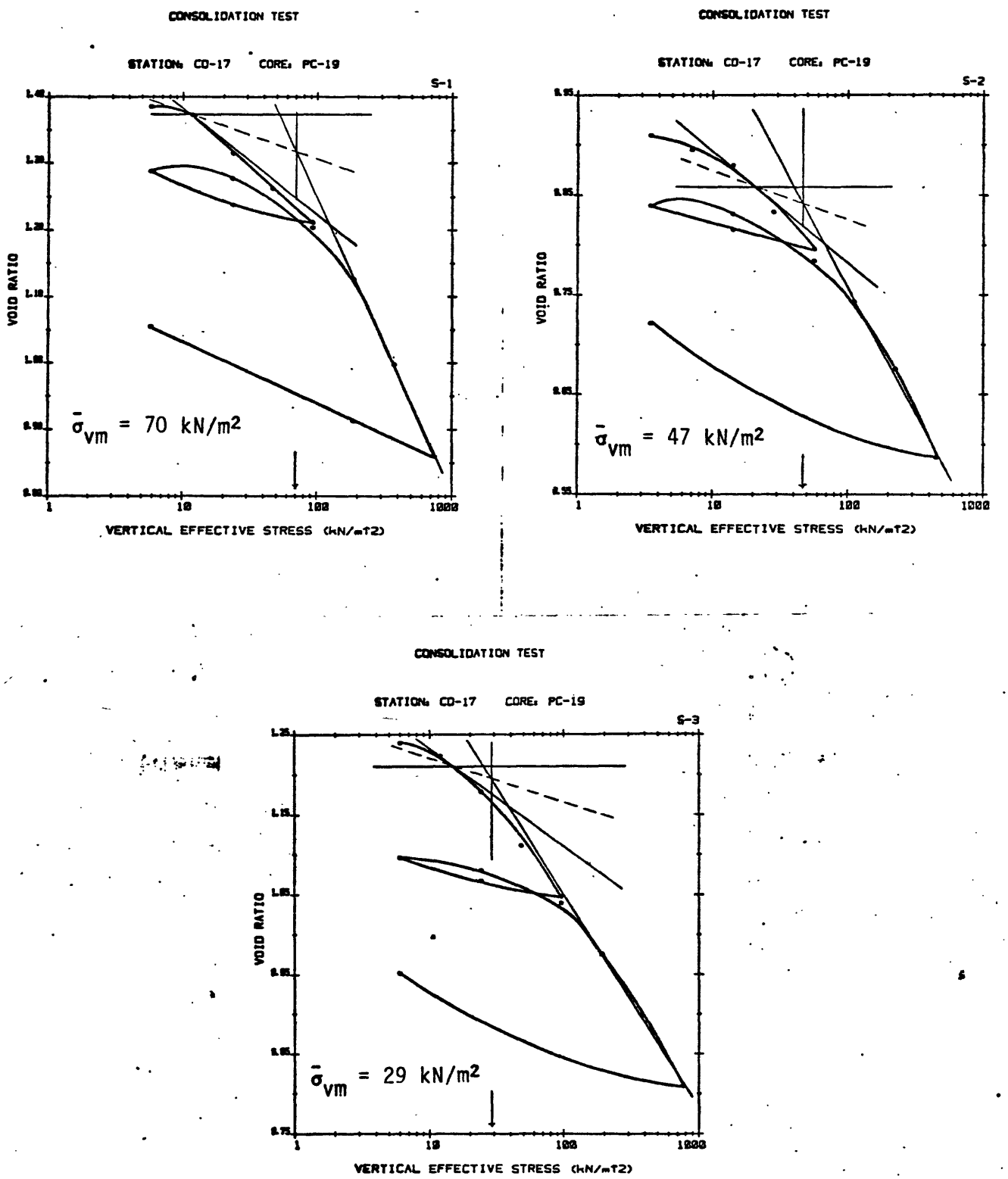


Figure 16f.--Interpretation of the preconsolidation stress from consolidation data.

Table 16a.--Geotechnical test results for site no. CD-17, core no. PC-19

[Lat 38°55.36' N., long 72°48.90' W.; water depth 592 m; core recovery 6.76 m; ----, indicate no information]

Sample depth (m)			Physical properties							Consolidation test results			Lab vane	Triaxial test conditions			Triaxial test results					
Top	Bottom	Average	Fines	Clay	LL	PL	G	w	γ_t	$\bar{\sigma}'_{vm}$	C_c	C_s	S_u	Set	Symbol	$\bar{\sigma}'_{cm}$	$\bar{\sigma}'_c$	S_u	$S_u/\bar{\sigma}'_c$	$S_u/\bar{\sigma}'_c$ (n.c.)	$\bar{\sigma}_{vm}$	A	$\bar{\epsilon}$	$\bar{\phi}$
0.00	----	0.31	--	--	--	--	----	81	----	---	----	----	5.6	-	-	-----	-----	-----	----	----	---	----	--	--
----	----	1.84	--	--	--	--	----	56	----	---	----	----	13.9	-	-	-----	-----	-----	----	----	---	----	--	--
1.91	2.06	1.97	96	40	54	30	2.76	51	1.71	70	0.46	0.09	----	-	-	-----	-----	-----	----	----	---	----	--	--
----	----	3.36	--	--	--	--	----	58	----	---	----	----	10.9	-	-	-----	-----	-----	----	----	---	----	--	--
3.35	3.50	3.42	95	48	47	27	2.75	34	1.80	47	.29	.06	----	-	-	-----	-----	-----	----	----	---	----	--	--
3.50	----	3.56	95	56	56	28	2.75	49	1.77	---	----	----	----	1	+	-----	21.1	27.9	1.32	----	---	----	--	--
----	----	3.69	--	--	--	--	----	--	1.80	---	----	----	----	1	+	-----	42.2	34.6	.82	----	---	----	--	--
----	----	3.75	--	--	--	--	----	--	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	--
----	----	3.82	--	--	--	--	----	--	1.81	---	----	----	----	1	+	-----	84.3	42.6	.50	----	---	----	--	--
----	4.00	3.94	96	--	57	27	----	43	1.77	---	----	----	----	1	+	-----	-----	-----	----	----	---	----	--	--
----	----	4.88	--	--	--	--	----	46	----	---	----	----	9.1	-	-	-----	-----	-----	----	----	---	----	--	--
5.73	5.88	5.80	95	46	47	28	2.82	45	1.78	29	.30	.07	----	-	-	-----	-----	-----	----	----	---	----	--	--
5.88	----	5.94	96	49	46	27	2.81	43 47	1.84	---	----	----	----	2	x	165.4	165.4	79.0	.48	----	---	----	--	--
----	----	6.06	96	--	48	26	----	44	1.79	---	----	----	----	2	x	165.4	82.7	58.0	.70	----	---	----	--	--
----	6.28	6.19	96	--	48	26	----	43	1.81	---	----	----	----	2	x	165.4	41.3	55.3	1.34	----	---	----	--	--
6.36	----	6.42	96	36	48	25	2.81	45	1.84	---	----	----	----	3	*	248.0	248.1	117.7	.47	----	---	----	--	--
----	----	6.55	95	--	46	27	----	44	1.82	---	----	----	----	3	*	248.0	62.0	65.8	1.06	----	---	----	--	--
----	6.76	6.69	96	--	52	25	----	45	1.79	---	----	----	----	3	*	248.0	31.0	61.0	1.97	----	---	----	--	--
Average values:																								
3.50	4.00	----------																			95	----------		
0.00	6.76	----------																		0.48	---	0.67	12	25

Table 16b.--Calculated geotechnical results for site no. CD-17, core no. PC-19

[Regional slope angle: 10° maximum, 7° average; ----, indicate no information]

Average sample depth (m)	PI	A	LI	γ_b	$\bar{\sigma}'_{vb}$	Consolidation state: OCR		Consolidation state: $\bar{\sigma}'_{vm} - \bar{\sigma}'_{vb}$		Normalized shear strength: Undrained			Normalized shear stress		Factor of safety: Undrained Shansep		Factor of safety: Drained	
						Consolidated data	Triaxial data	Consolidated data	Triaxial data	Drained	Vane	Shansep	Maximum slope angle	Average slope angle	Maximum	Average	Maximum	Average
0.31	--	----	----	----	2.33	----	----	------	-----	----	2.41	----	----	----	----	----	----	----
1.84	--	----	----	----	13.86	----	----	------	-----	----	1.00	----	----	----	----	----	----	----
1.97	24	0.60	0.88	----	14.83	4.72	----	55.17	-----	----	----	1.32	----	----	7.7	10.9	----	----
3.36	--	----	----	----	25.30	----	----	------	-----	----	.43	----	----	----	----	----	----	----
3.42	20	.42	.35	----	25.75	1.83	----	21.25	-----	----	----	.70	----	----	4.1	5.8	----	----
3.56	28	.50	.75	----	26.81	----	----	------	-----	----	----	----	----	----	----	----	----	----
3.69	--	----	----	----	27.79	----	----	------	-----	----	----	----	----	----	----	----	----	----
3.75	--	----	----	----	28.24	----	3.36	------	66.76	----	----	----	----	----	----	----	----	----
3.82	--	----	----	----	28.76	----	----	------	-----	----	----	----	----	----	----	----	----	----
3.94	30	----	.53	----	29.67	----	----	------	-----	----	----	----	----	----	----	----	----	----
4.88	--	----	----	----	36.75	----	----	------	-----	----	.25	----	----	----	----	----	----	----
5.80	19	.41	.83	----	43.67	.66	----	-14.67	-----	----	----	.36	----	----	2.1	3.0	----	----
5.94	19	.39	.84	----	44.73	----	----	------	-----	----	----	----	----	----	----	----	----	----
6.06	22	----	.82	----	45.63	----	----	------	-----	----	----	----	----	----	----	----	----	----
6.19	22	----	.77	----	46.61	----	----	------	-----	----	----	----	----	----	----	----	----	----
6.42	23	.64	.87	----	48.34	----	----	------	-----	----	----	----	----	----	----	----	----	----
6.55	19	----	.89	----	49.32	----	----	------	-----	----	----	----	----	----	----	----	----	----
6.69	27	----	.74	----	50.38	----	----	------	-----	----	----	----	----	----	----	----	----	----
Average values for entire core.				0.77	----------					0.45	----------		0.17	0.12	----------		2.6	3.8

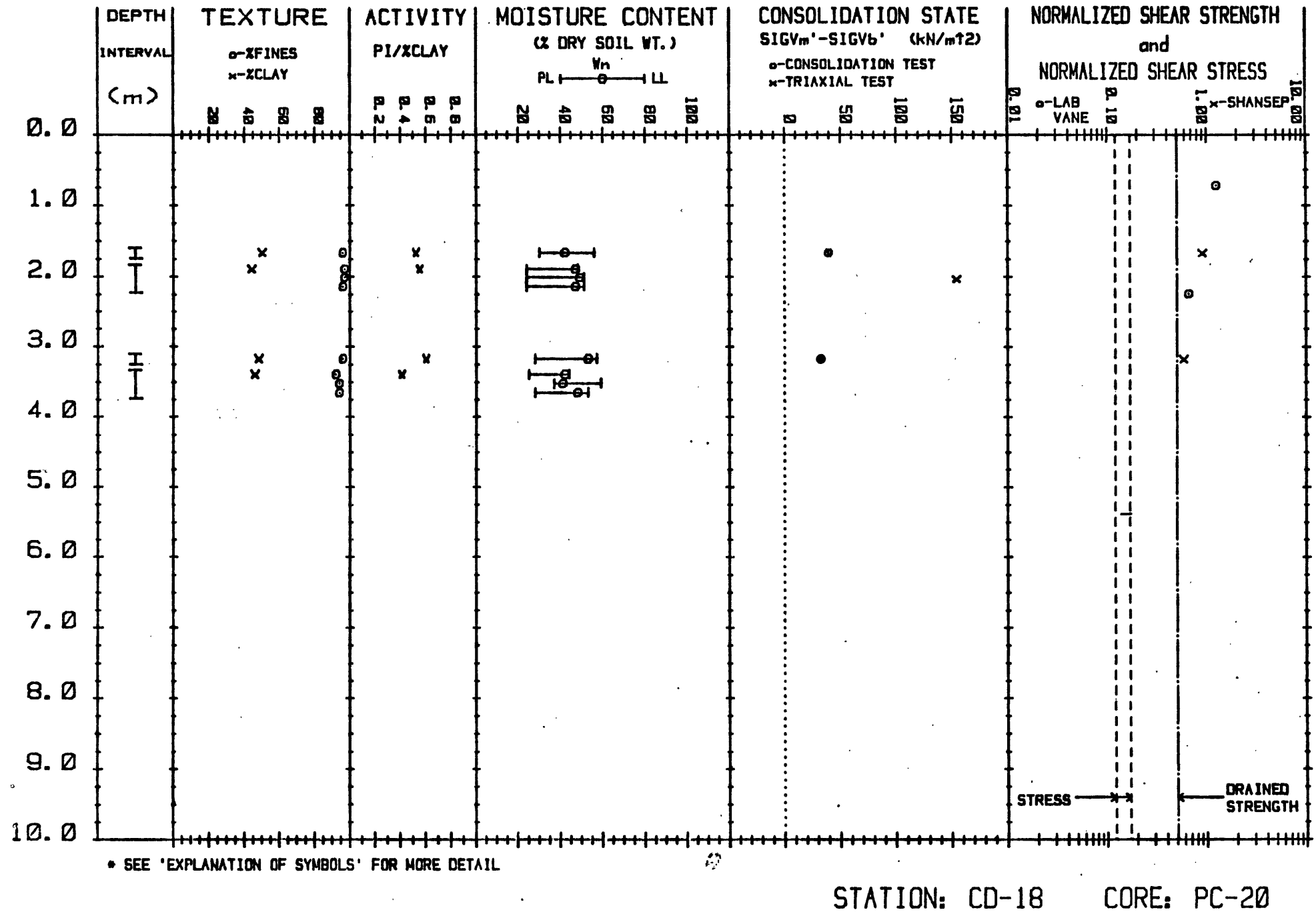


Figure 17a.--Geotechnical profile*.

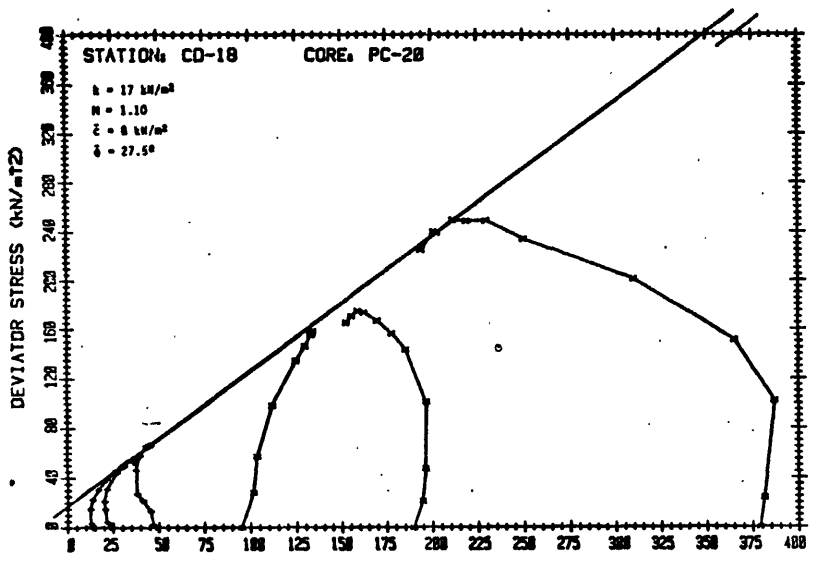


Figure 17b.--Interpretation of drained shear strength parameters.

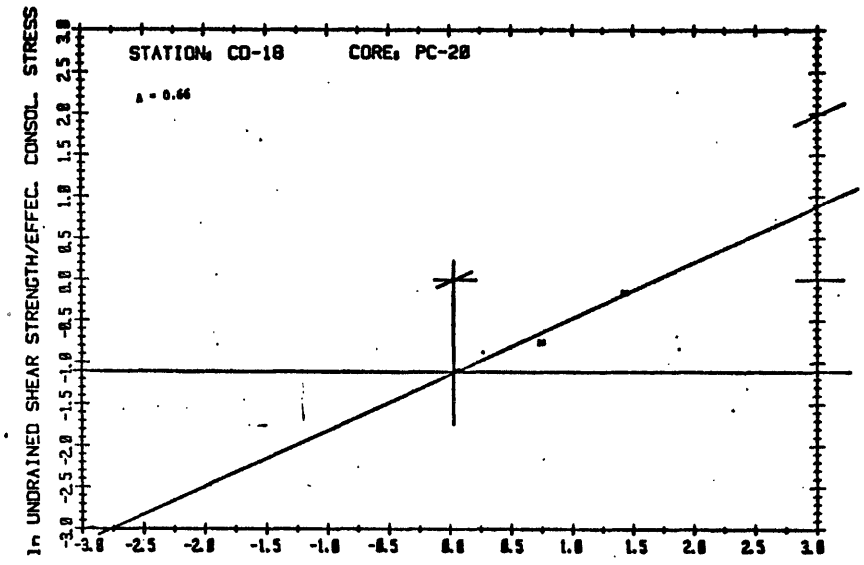


Figure 17d.--Interpretation of the pore pressure parameter A.

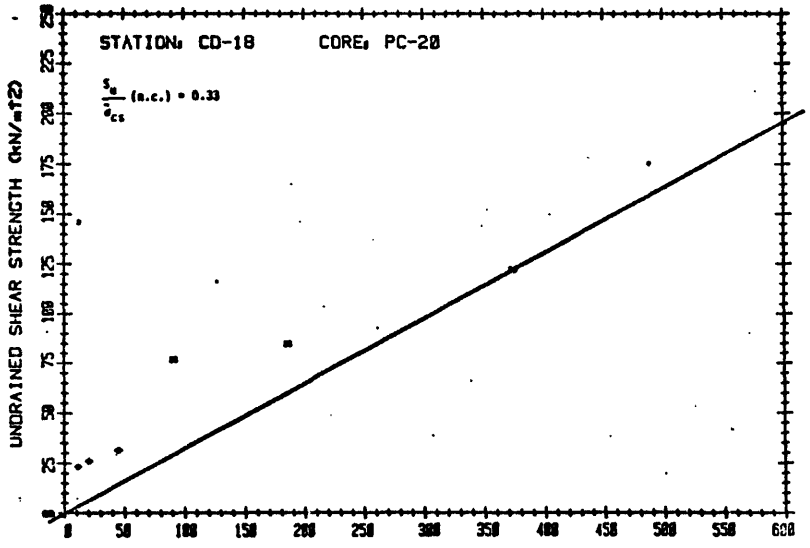


Figure 17c.--Interpretation of the normalized undrained shear strength for the normally consolidated state.

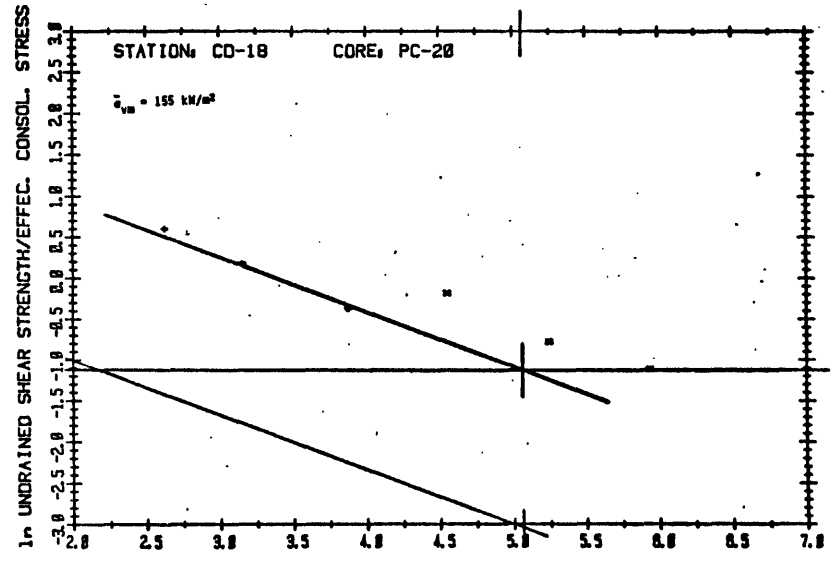


Figure 17e.--Interpretation of the preconsolidation stress from triaxial data.

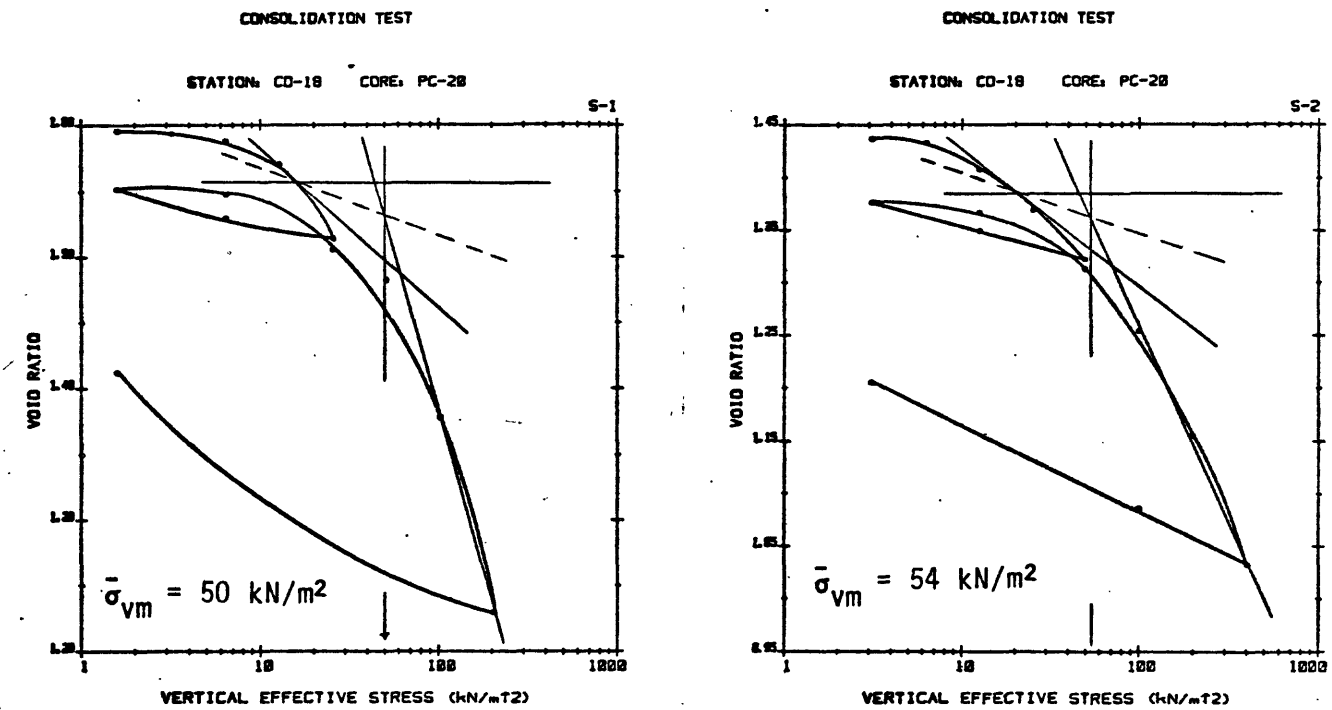


Figure 17f.--Interpretation of the preconsolidation stress from consolidation data.

Table 17a.--Geotechnical test results for site no. CD-18, core no. PC-20

[Lat 38°55.32' N., long 72°48.80' W.; water depth 598 m; core recovery 3.72 m; ----, indicate no information]

Sample depth (m)			Physical properties							Consolidation test results				Triaxial test conditions				Triaxial test results							
Top	Bottom	Average	Fines	Clay	LL	PL	G	w	γ_t	$\bar{\sigma}'_{vm}$	C_c	C_s	Lab vane S_u	Set	Symbol	$\bar{\sigma}_{cm}$	$\bar{\sigma}_c$	S_u	$\frac{S_u}{\bar{\sigma}'_c}$	$\frac{S_u}{\bar{\sigma}'_c}$ (n.c.)	$\bar{\sigma}_{cm}$	Λ	$\bar{c}$	$\bar{\phi}$
0.00	----	0.01	--	--	--	--	----	68	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	.72	--	--	--	--	----	71	----	---	----	----	5.4	-	-	-----	-----	-----	----	----	---	----	--	----
1.59	1.74	1.66	96	50	56	30	2.84	42	1.64	50	0.49	0.09	----	-	-	-----	-----	-----	----	----	---	----	--	----
1.83	----	1.89	97	44	48	24	2.80	47	1.79	---	----	----	----	1	+	-----	23.4	28.0	1.19	----	---	----	--	----
----	----	2.01	97	--	51	24	----	49	1.77	---	----	----	----	1	+	-----	13.8	25.2	1.82	----	---	----	--	----
----	----	2.03	--	--	--	--	----	--	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	----
----	2.23	2.14	96	--	51	24	----	47	1.80	---	----	----	----	1	+	-----	48.2	33.2	.69	----	---	----	--	----
----	----	2.24	--	--	--	--	----	48	----	---	----	----	11.2	-	-	-----	-----	-----	----	----	---	----	--	----
3.10	3.25	3.17	96	48	57	28	2.76	53	1.70	54	.41	.08	----	-	-	-----	-----	-----	----	----	---	----	--	----
3.33	----	3.39	92	46	44	25	2.75	42	1.86	---	----	----	----	2	x	378.9	379	147.2	.33	----	---	----	--	----
----	----	3.52	94	--	59	37	----	41	1.83	---	----	----	----	2	x	378.9	189.5	87.2	.46	----	---	----	--	----
----	3.73	3.65	94	--	53	28	----	48	1.81	---	----	----	----	2	x	378.9	95.1	79.2	.83	----	---	----	--	----
Average values:																								
1.83	2.23	----------																			155	----------		
0.00	3.73	----------																		0.33	---	0.66	8	27.5

Table 17b.--Calculated geotechnical results for site no. CD-18, core no. PC-20

[Regional slope angle: 10° maximum, 7° average; ----, indicate no information]

Average sample depth (m)	PI	A	LI	γ_b	$\bar{\sigma}'_{vb}$	Consolidation state: OCR		Consolidation state: $\bar{\sigma}'_{vm} - \bar{\sigma}'_{vb}$		Normalized shear strength: Undrained			Normalized shear stress		Factor of safety: Undrained Shansep		Factor of safety: Drained	
						Consolidated data	Triaxial data	Consolidated data	Triaxial data	Drained	Vane	Shansep	Maximum slope angle	Average slope angle	Maximum	Average	Maximum	Average
0.01	--	----	----	----	-----	----	-----	-----	------	----	----	----	----	----	----	----	----	----
0.72	--	----	----	----	5.27	----	-----	-----	------	----	1.02	----	----	----	----	----	----	----
1.66	26	0.52	0.46	----	12.15	4.12	-----	37.85	------	----	----	0.82	----	----	4.8	6.8	----	----
1.89	24	.55	.96	----	13.83	----	-----	-----	------	----	----	----	----	----	----	----	----	----
2.01	27	----	.93	----	14.71	----	-----	-----	------	----	----	----	----	----	----	----	----	----
2.03	--	----	----	----	14.86	----	10.43	-----	140.14	----	----	----	----	----	----	----	----	----
2.14	27	----	.85	----	15.66	----	-----	-----	------	----	----	----	----	----	----	----	----	----
2.24	--	----	----	----	16.40	----	-----	-----	------	----	.69	----	----	----	----	----	----	----
3.17	29	.60	.86	----	23.20	2.33	-----	30.80	------	----	----	.57	----	----	3.3	4.7	----	----
3.39	19	.41	.89	----	24.81	----	-----	-----	------	----	----	----	----	----	----	----	----	----
3.52	22	----	.18	----	25.77	----	-----	-----	------	----	----	----	----	----	----	----	----	----
3.65	25	----	.80	----	26.72	----	-----	-----	------	----	----	----	----	----	----	----	----	----
Average values for entire core.				0.75	----------					0.50	----------		0.17	0.12	----------		3.0	4.2

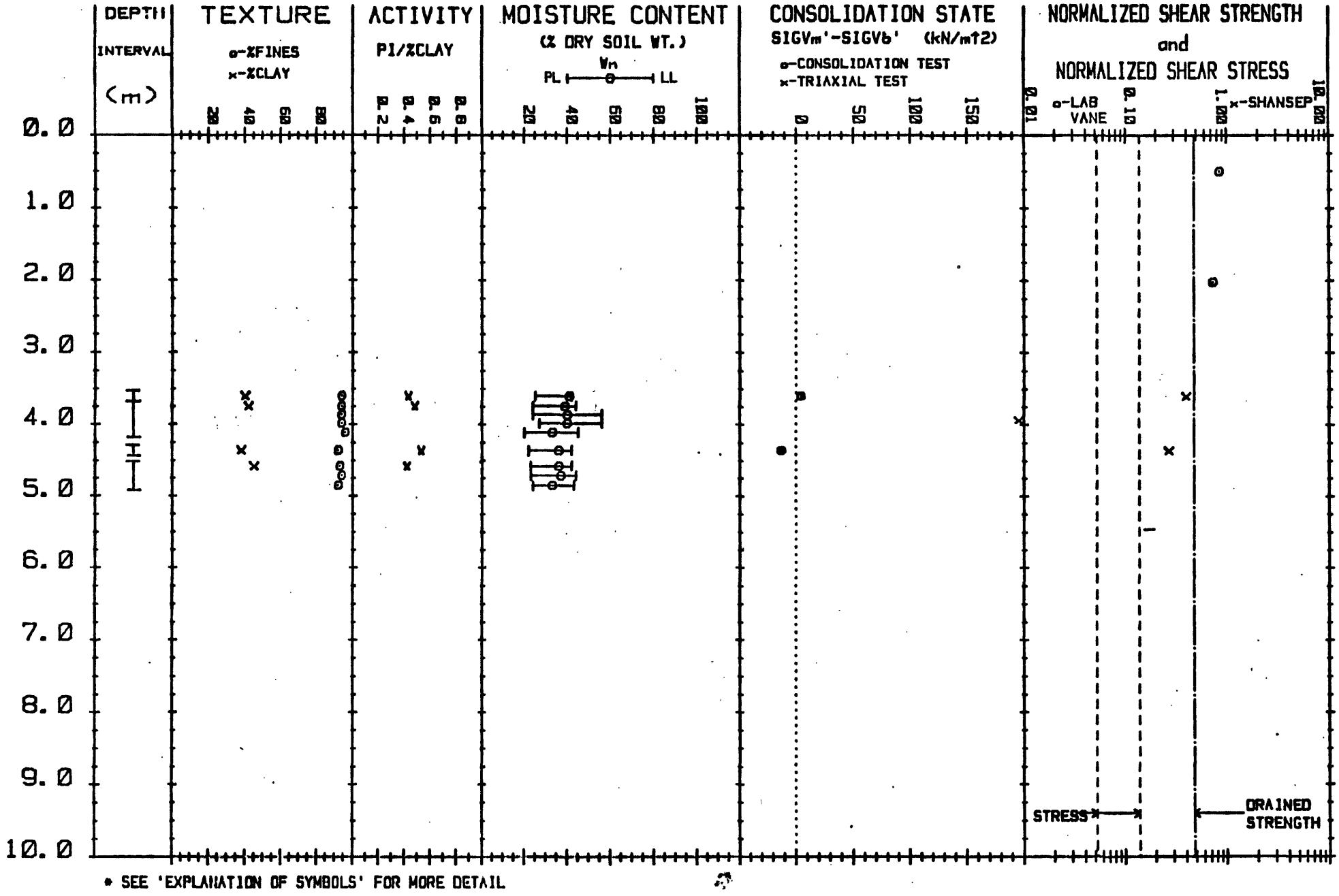


Figure 18a.--Geotechnical profile*. STATION: CD-19 CORE: PC-21

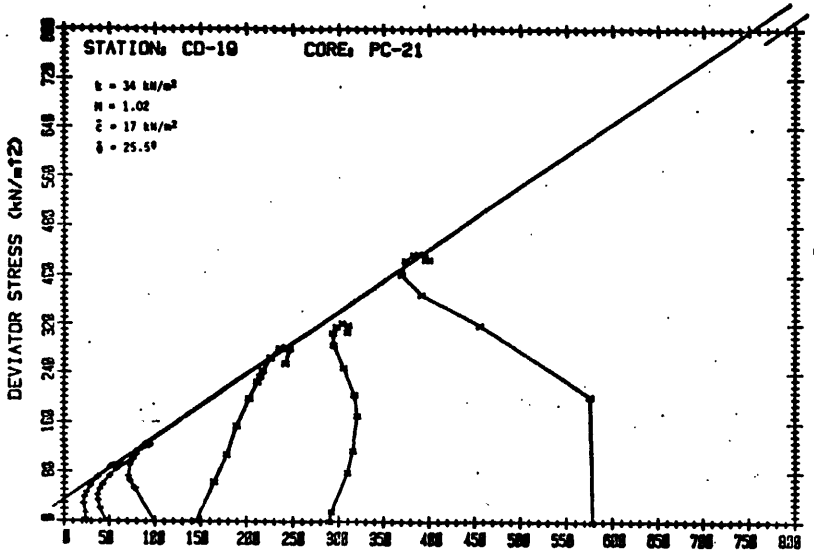


Figure 18b.--Interpretation of drained shear strength parameters.

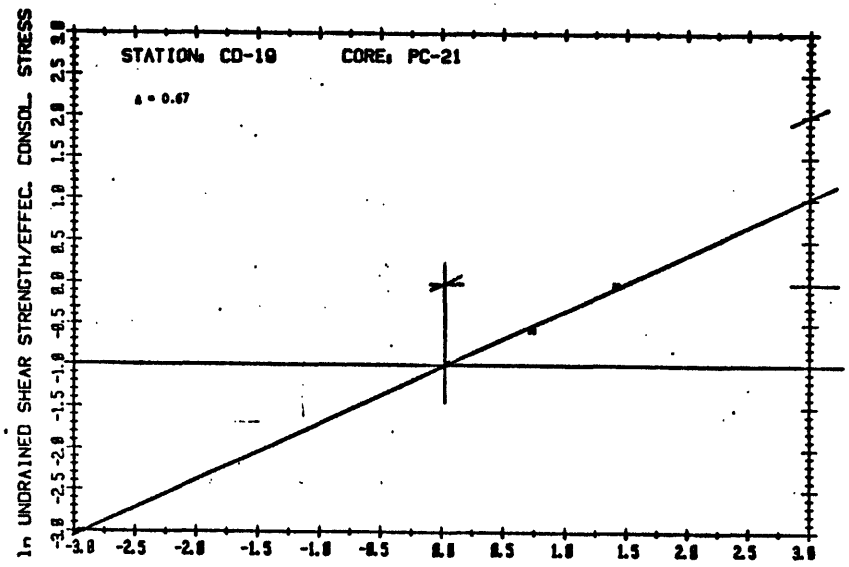


Figure 18d.--Interpretation of the pore pressure parameter A.

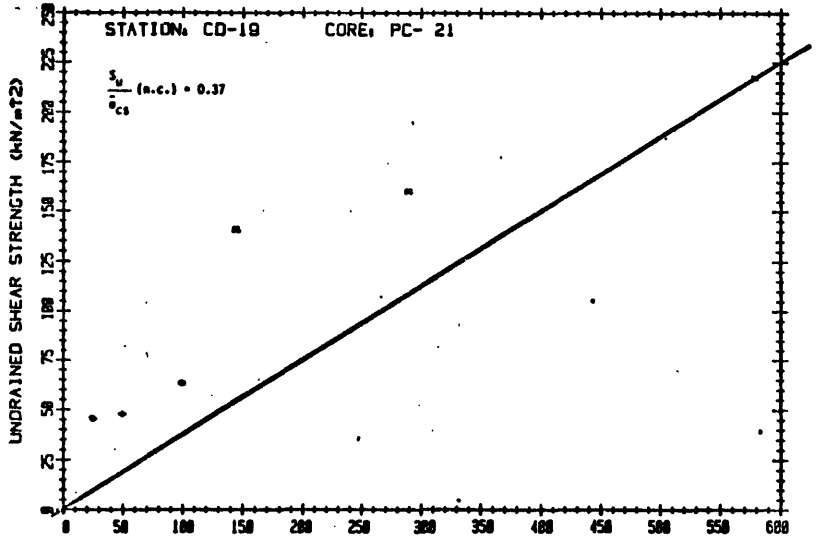


Figure 18c.--Interpretation of the normalized undrained shear strength for the normally consolidated state.

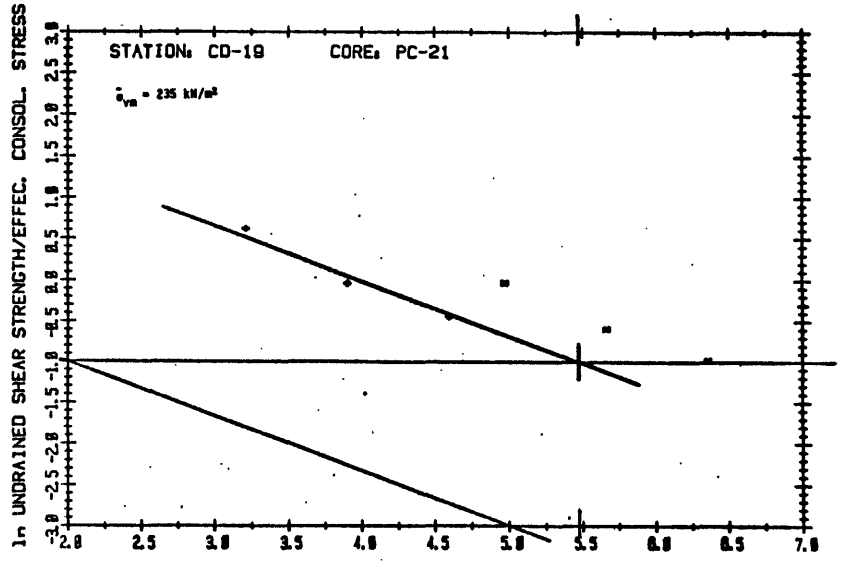


Figure 18e.--Interpretation of the preconsolidation stress from triaxial data.

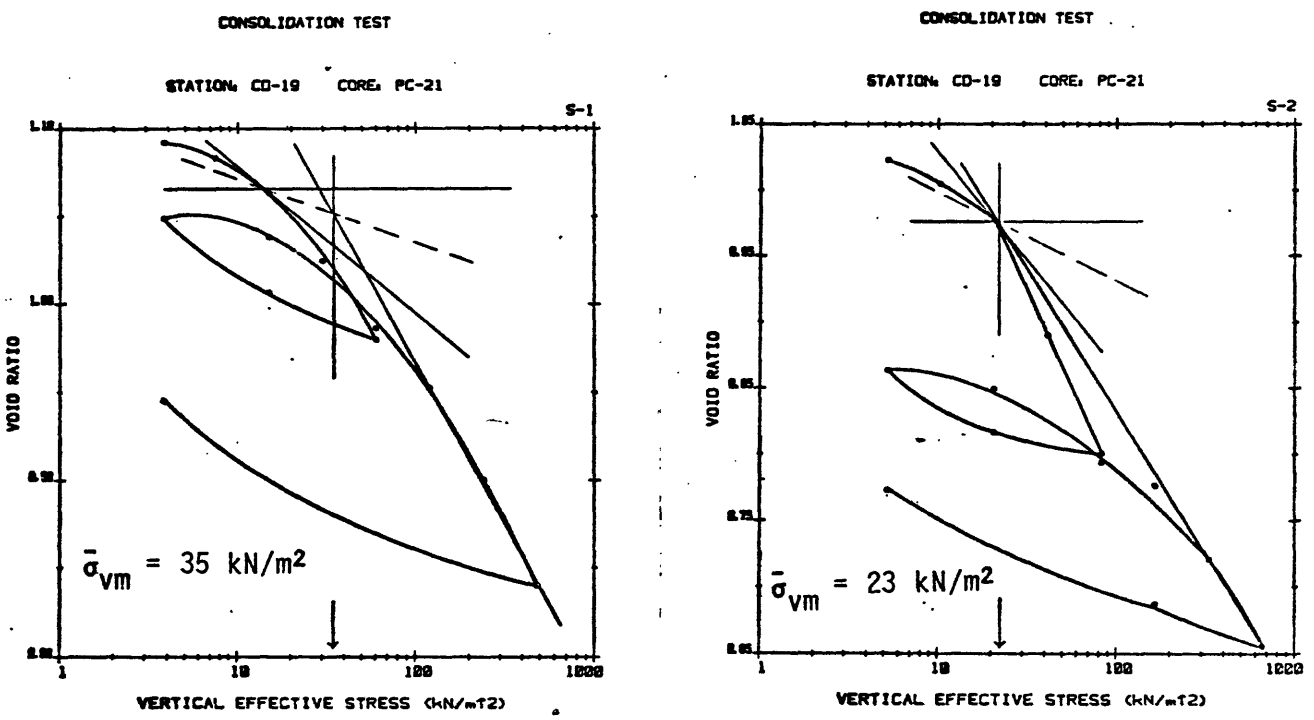


Figure 18f.--Interpretation of the preconsolidation stress from consolidation data.

Table 18a.--Geotechnical test results for site no. CD-19, core no. PC-21

[Lat 38°55.23' N., long 72°49.49' W.; water depth 595 m; core recovery 5.05 m; ----, indicate no information]

Sample depth (m)			Physical properties							Consolidation test results				Triaxial test conditions			Triaxial test results						
Top	Bottom	Average	Fines	Clay	LL	PL	G	w	γ_t	$\bar{\sigma}'_{vm}$	C_c	C_s	Lab vane S_u	Set	Symbol	$\bar{\sigma}'_{cm}$	$\bar{\sigma}'_c$	S_u	$S_u/\bar{\sigma}'_c$	$S_u/\bar{\sigma}'_c$ (n.c.)	$\bar{\sigma}_{vm}$	A	$\bar{\epsilon}$	$\bar{\phi}$
0.0-	----	0.01	--	--	--	--	----	65	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	.50	--	--	--	--	----	81	----	---	----	----	3.5	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	2.02	--	--	--	--	----	38	----	---	----	----	12.2	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	3.54	--	--	--	--	----	39	----	---	----	----	13.5	-	-	-----	-----	-----	----	----	---	----	--	----
3.53	3.68	3.60	94	40	42	25	2.84	41	1.88	35	0.20	0.05	----	-	-	-----	-----	-----	----	----	---	----	--	----
3.68	----	3.74	94	42	44	24	2.84	39	1.86	---	----	----	----	1	+	-----	99.2	63.4	0.64	----	---	----	--	----
----	----	3.86	94	--	56	24	----	40	1.88	---	----	----	----	1	+	-----	49.6	47.8	.96	----	---	----	--	----
----	----	3.93	--	--	--	--	----	--	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	3.98	94	--	56	27	----	40	1.87	---	----	----	----	1	+	-----	24.8	45.8	1.85	----	---	----	--	----
----	4.18	4.11	96	--	45	20	----	33	1.92	---	----	----	----	1	+	-----	-----	-----	----	----	---	----	--	----
4.29	4.44	4.36	92	38	42	22	2.81	36	1.84	23	.22	.06	----	-	-	-----	-----	-----	----	----	---	----	--	----
4.52	----	4.58	93	45	42	23	2.79	36	1.89	---	----	----	----	2	x	578.5	289.4	160.3	.55	----	---	----	--	----
----	----	4.71	94	--	44	23	----	37	1.92	---	----	----	----	2	x	578.5	578.5	217.6	.38	----	---	----	--	----
----	4.92	4.85	92	--	43	24	----	33	1.90	---	----	----	----	2	x	578.5	144.7	140.8	.97	----	---	----	--	----
Average values:																								
3.68	4.18	----------																			235	----------		
0.00	4.92	----------																		0.37	---	0.67	17	25.5

Table 18b.--Calculated geotechnical results for site no. CD-19, core no. PC-21

[Regional slope angle: 8° maximum, 3° average; ----, indicate no information]

Average sample depth (m)	PI	A	LI	γ_b	$\bar{\sigma}'_{vb}$	Consolidation state: OCR		Consolidation state: $\bar{\sigma}'_{vm} - \bar{\sigma}'_{vb}$		Normalized shear strength: Undrained			Normalized shear stress		Factor of safety: Undrained Shansep		Factor of safety: Drained	
						Consolidated data	Triaxial data	Consolidated data	Triaxial data	Drained	Vane	Shansep	Maximum slope angle	Average slope angle	Maximum	Average	Maximum	Average
0.01	--	----	----	----	-----	----	----	------	------	----	----	----	----	----	----	----	----	----
0.50	--	----	----	----	4.21	----	----	------	------	----	0.83	----	----	----	----	----	----	----
2.02	--	----	----	----	16.99	----	----	------	------	----	.72	----	----	----	----	----	----	----
3.54	--	----	----	----	29.77	----	----	------	------	----	.45	----	----	----	----	----	----	----
3.60	17	0.43	0.94	----	30.28	1.16	----	4.72	------	----	----	0.41	----	----	3.0	7.8	----	----
3.74	20	.48	.75	----	31.45	----	----	------	------	----	----	----	----	----	----	----	----	----
3.86	32	----	.50	----	32.46	----	----	------	------	----	----	----	----	----	----	----	----	----
3.93	--	----	----	----	33.05	----	7.11	------	201.95	----	----	----	----	----	----	----	----	----
3.98	29	----	.45	----	33.47	----	----	------	------	----	----	----	----	----	----	----	----	----
4.11	25	----	.52	----	34.57	----	----	------	------	----	----	----	----	----	----	----	----	----
4.36	20	.53	.70	----	36.67	.63	----	-13.67	------	----	----	.27	----	----	2.0	5.2	----	----
4.58	19	.42	.68	----	38.52	----	----	------	------	----	----	----	----	----	----	----	----	----
4.71	21	----	.67	----	39.61	----	----	------	------	----	----	----	----	----	----	----	----	----
4.85	19	----	.47	----	40.79	----	----	------	------	----	----	----	----	----	----	----	----	----
Average values for entire core.				0.86	----------					0.47	----------		0.14	0.05	----------		3.4	9.1

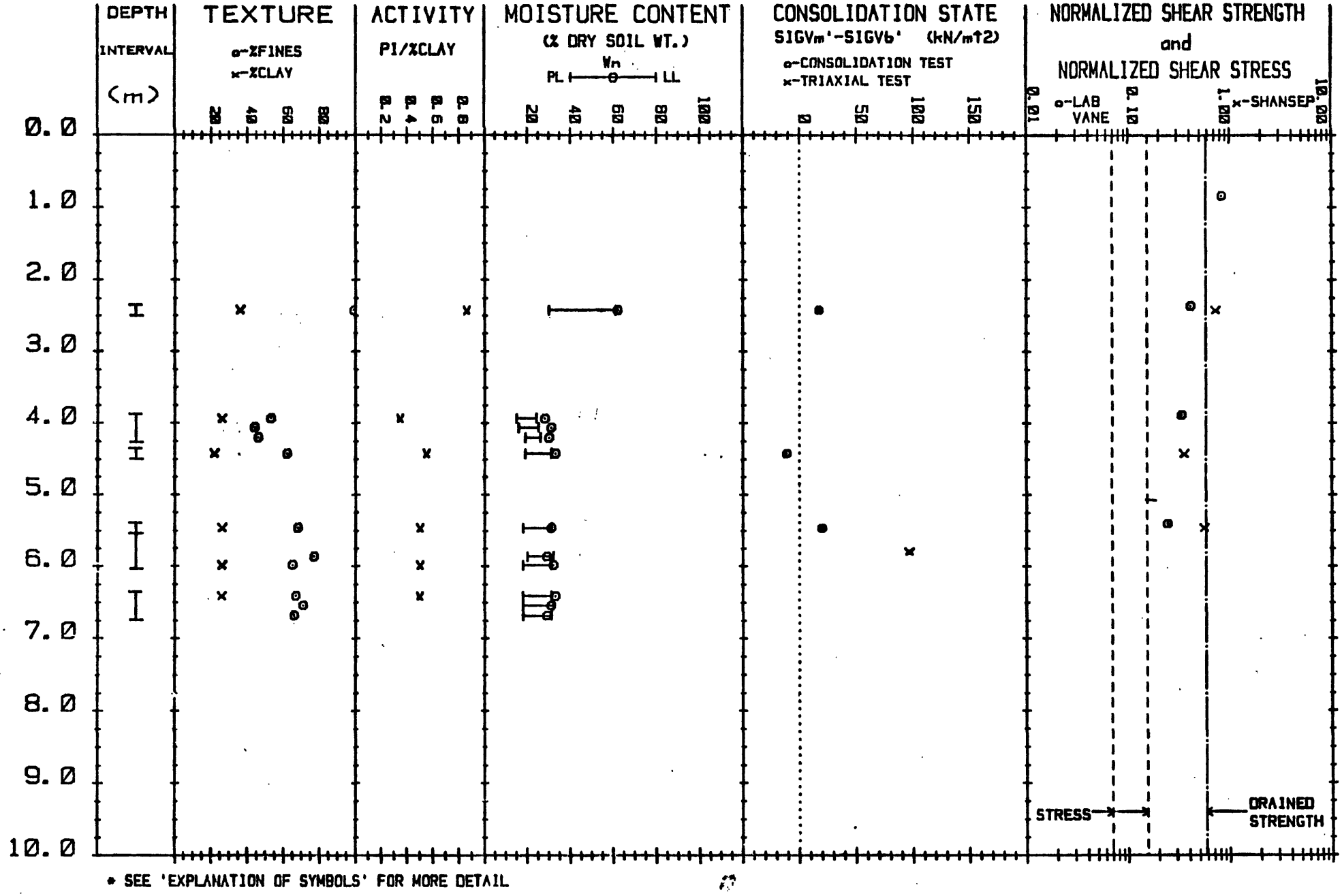


Figure 19a.--Geotechnical profile*.

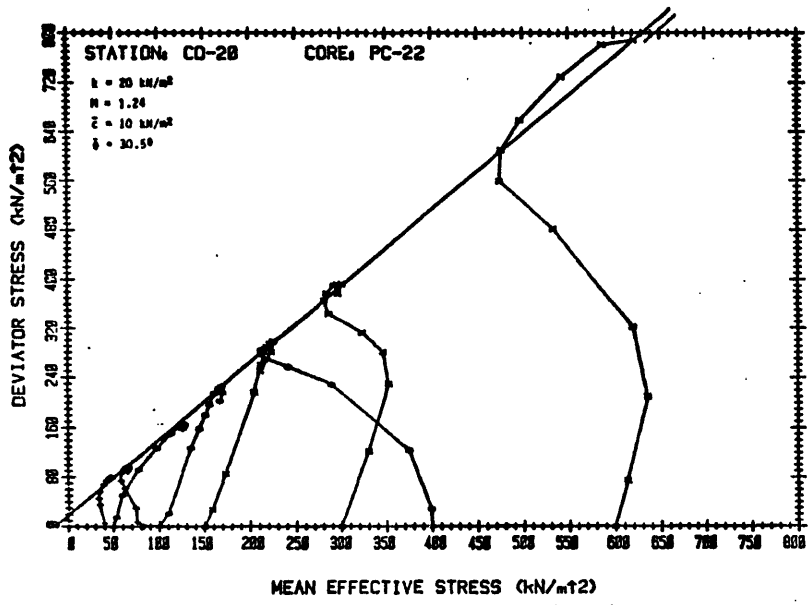


Figure 19b.--Interpretation of drained shear strength parameters.

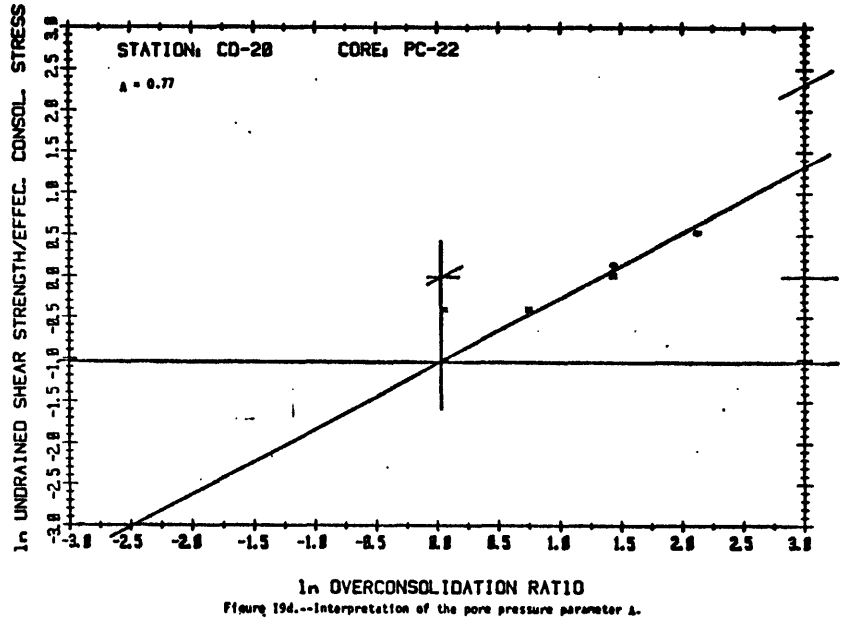


Figure 19d.--Interpretation of the pore pressure parameter A.

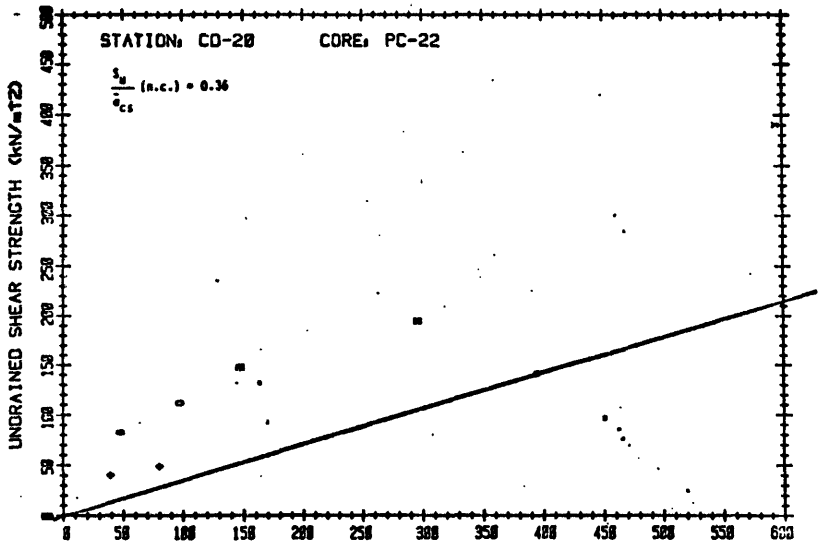


Figure 19c.--Interpretation of the normalized undrained shear strength for the normally consolidated state.

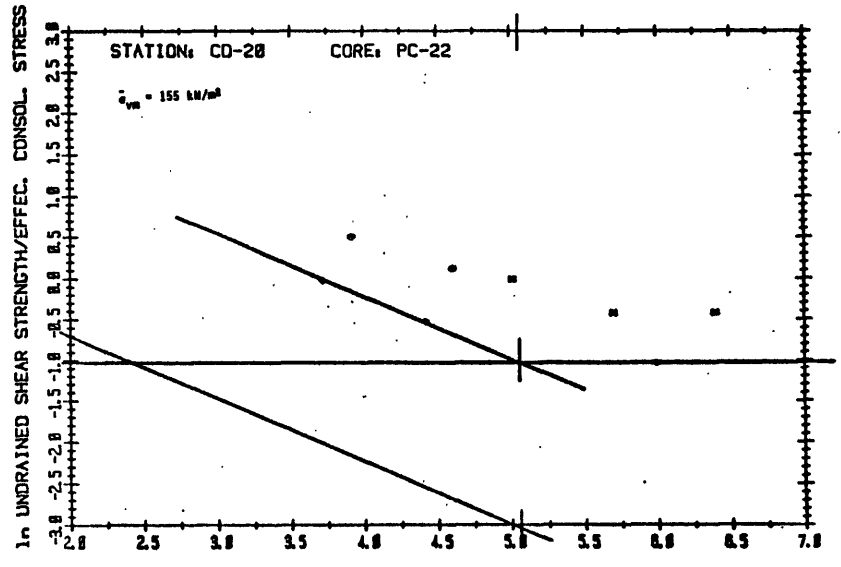


Figure 19e.--Interpretation of the preconsolidation stress from triaxial data.

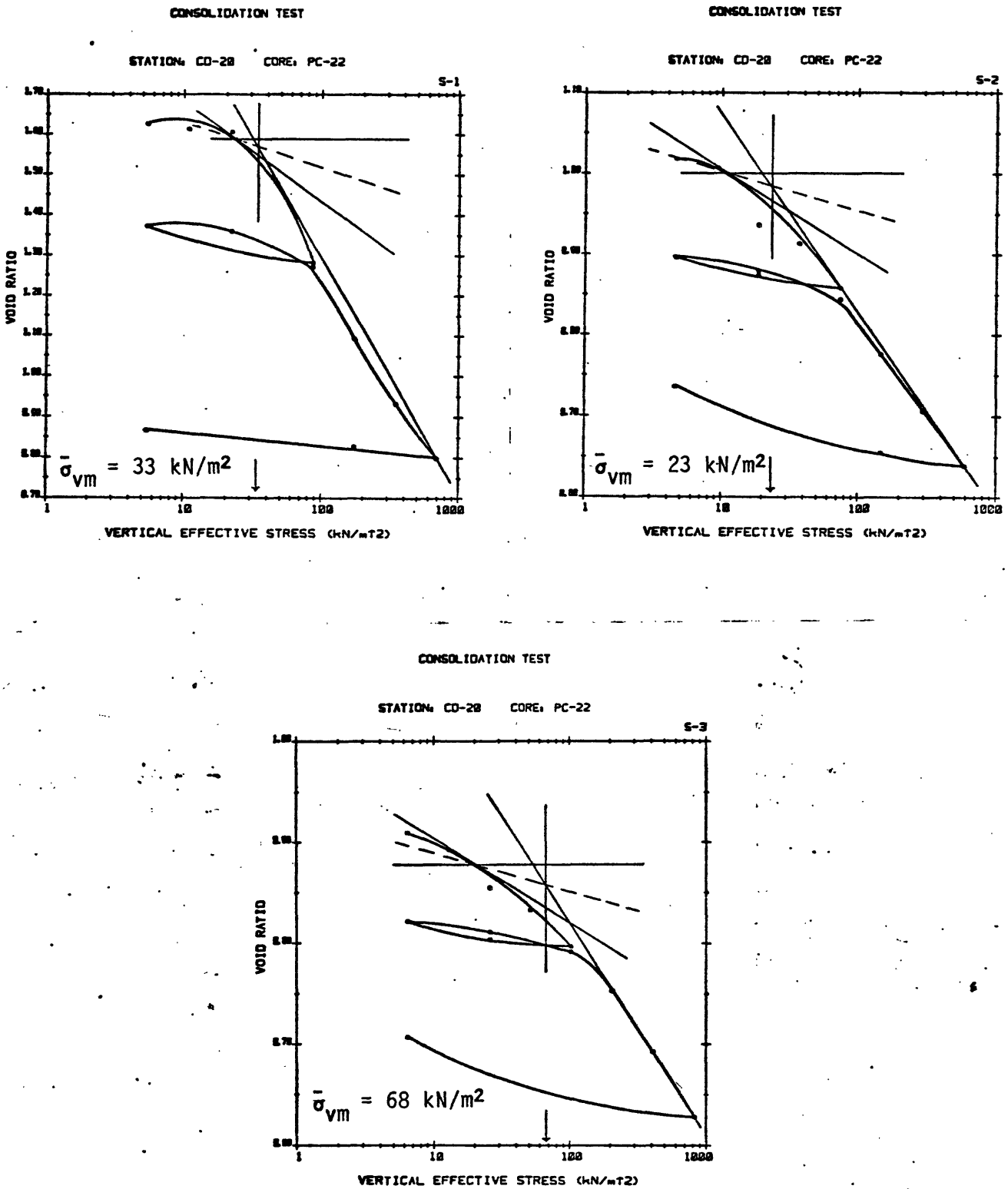


Figure 19f.--Interpretation of the preconsolidation stress from consolidation data.

Table 19a.--Geotechnical test results for site no. CD-20, core no. PC-22

[Lat 38°54.71' N., long 72°49.59' W.; water depth 525 m; core recovery 6.89 m; ----, indicate no information]

Sample depth (m)			Physical properties							Consolidation test results				Triaxial test conditions				Triaxial test results						
Top	Bottom	Average	Fines Clay	LL	PL	G	w	γ_t	$\bar{\sigma}'_{vm}$	C_c	C_s	Lab vane S_u	Set	Symbol	$\bar{\sigma}'_{cm}$	$\bar{\sigma}'_c$	S_u	$S_u/\bar{\sigma}'_c$	$S_u/\bar{\sigma}'_c$ (n.c.)	$\bar{\sigma}_{vm}$	A	$\bar{c}$	$\bar{\phi}$
0.00	----	0.01	--	--	--	--	----	50	----	---	----	----	1.6	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	.84	--	--	--	--	----	53	----	---	----	----	4.4	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	2.36	--	--	--	--	----	62	----	---	----	----	6.1	-	-	-----	-----	-----	----	----	---	----	--	----
2.35	2.50	2.42	99	36	61	30	2.76	62	1.66	33	0.53	0.04	----	-	-	-----	-----	-----	----	----	---	----	--	----
----	3.19	----	--	--	--	--	----	--	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	----
3.19	----	----	--	--	--	--	----	--	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	3.88	--	--	--	--	----	38	----	---	----	----	12.8	-	-	-----	-----	-----	----	----	---	----	--	----
3.87	----	3.93	53	26	24	15	2.74	28	2.02	---	----	----	----	2	x	599.2	599.5	394.3	0.66	----	---	----	--	----
----	----	4.06	44	--	25	16	----	31	2.00	---	----	----	----	2	x	599.2	299.7	196.3	.66	----	---	----	--	----
----	4.27	4.20	46	--	26	19	----	30	2.00	---	----	----	----	2	x	599.2	150.2	149.01	.99	----	---	----	--	----
4.35	4.50	4.42	62	22	31	19	2.74	33	1.80	23	.22	.04	----	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	5.40	--	--	--	--	----	32	----	---	----	----	11.5	-	-	-----	-----	-----	----	----	---	----	--	----
5.39	5.54	5.46	68	26	31	18	2.82	31	1.91	68	.21	.04	----	-	-	-----	-----	-----	----	----	---	----	--	----
5.54	----	5.79	--	--	--	--	----	--	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	5.86	77	--	32	20	----	29	1.96	---	----	----	----	1	+	-----	82.7	49.0	.59	----	---	----	--	----
----	6.04	5.98	65	26	31	18	2.81	32	1.92	---	----	----	----	1	+	-----	41.3	40.2	.97	----	---	----	--	----
6.35	----	6.41	67	26	31	18	2.81	33	1.96	---	----	----	----	3	*	399	99.9	113.0	1.13	----	---	----	--	----
----	----	6.54	71	--	32	18	----	31	1.96	---	----	----	----	3	*	399	399.6	142.4	.36	----	---	----	--	----
----	6.75	6.68	66	--	31	18	----	29	1.98	---	----	----	----	3	*	399	50	82.9	1.66	----	---	----	--	----
Average values:																								
5.54	6.04	----------																			155	----		
0.00	6.75	----------																		0.36	---	0.77	10	30.5

Table 19b.--Calculated geotechnical results for site no. CD-20, core no. PC-22

[Regional slope angle: 9° maximum, 4° average; ----, indicate no information]

Average sample depth (m)						Consolidation state				Normalized shear strength			Normalized shear stress		Factor of safety			
						OCR		$\bar{\sigma}'_{vm} - \bar{\sigma}'_{vb}$		Undrained			Maximum slope angle	Average slope angle	Undrained Shansep		Drained	
	PI	A	LI	γ_b	$\bar{\sigma}'_{vb}$	Consolidated data	Triaxial data	Consolidated data	Triaxial data	Drained	Vane	Shansep			Maximum	Average	Maximum	Average
0.01	--	----	----	----	-----	----	----	-----	------	----	----	----	----	----	----	----	----	----
0.84	--	----	----	----	5.23	----	----	-----	------	----	0.84	----	----	----	----	----	----	----
2.36	--	----	----	----	14.70	----	----	-----	------	----	.42	----	----	----	----	----	----	----
2.42	31	0.86	1.03	----	15.08	2.19	----	17.92	------	----	----	0.65	----	----	4.2	9.3	----	----
3.19	--	----	----	----	19.87	----	----	-----	------	----	----	----	----	----	----	----	----	----
3.19	--	----	----	----	19.87	----	----	-----	------	----	----	----	----	----	----	----	----	----
3.88	--	----	----	----	26.13	----	----	-----	------	----	.49	----	----	----	----	----	----	----
3.93	9	.35	1.44	----	26.59	----	----	-----	------	----	----	----	----	----	----	----	----	----
4.06	9	----	1.67	----	27.76	----	----	-----	------	----	----	----	----	----	----	----	----	----
4.20	7	----	1.57	----	29.03	----	----	-----	------	----	----	----	----	----	----	----	----	----
4.42	12	.55	1.17	----	31.03	.74	----	-8.03	------	----	----	.28	----	----	1.8	4.0	----	----
5.40	--	----	----	----	39.92	----	----	-----	------	----	.29	----	----	----	----	----	----	----
5.46	13	.50	1.00	----	40.46	1.68	----	27.54	------	----	----	.53	----	----	3.4	7.6	----	----
5.79	--	----	----	----	43.46	----	----	-----	------	----	----	----	----	----	----	----	----	----
5.86	12	----	.75	----	44.09	----	3.52	-----	110.91	----	----	----	----	----	----	----	----	----
5.98	13	.50	1.08	----	45.18	----	----	-----	------	----	----	----	----	----	----	----	----	----
6.41	13	.50	1.15	----	49.08	----	----	-----	------	----	----	----	----	----	----	----	----	----
6.54	14	----	.93	----	50.26	----	----	-----	------	----	----	----	----	----	----	----	----	----
6.68	13	----	.85	----------														
Average values:																		
0.01 to 3.19			----	0.64	----------													
3.19 to 6.54			----	.93	----------													
0.01 to 6.54			----------							0.57	----------		0.16	0.07	----------		3.7	8.4

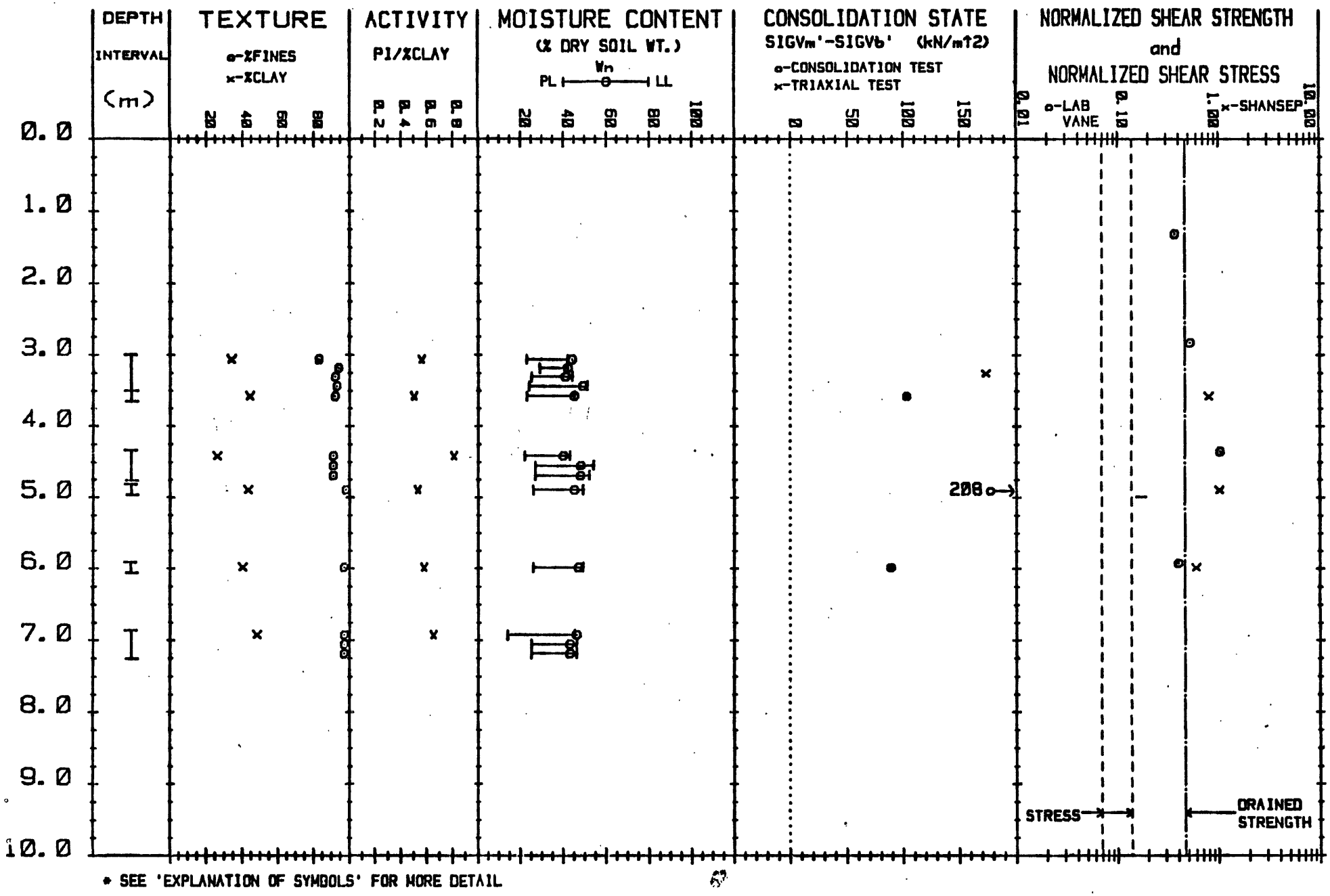


Figure 20a.--Geotechnical profile*.

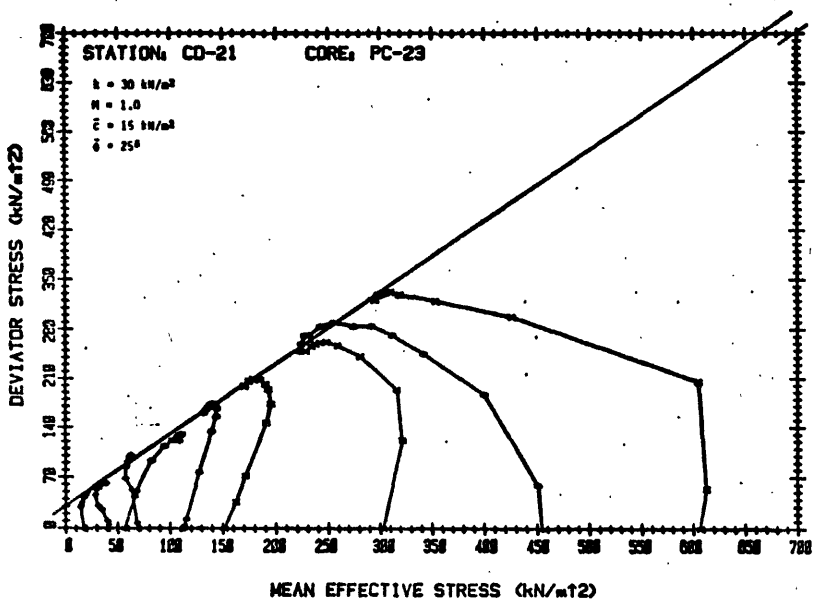


Figure 20b.--Interpretation of drained shear strength parameters.

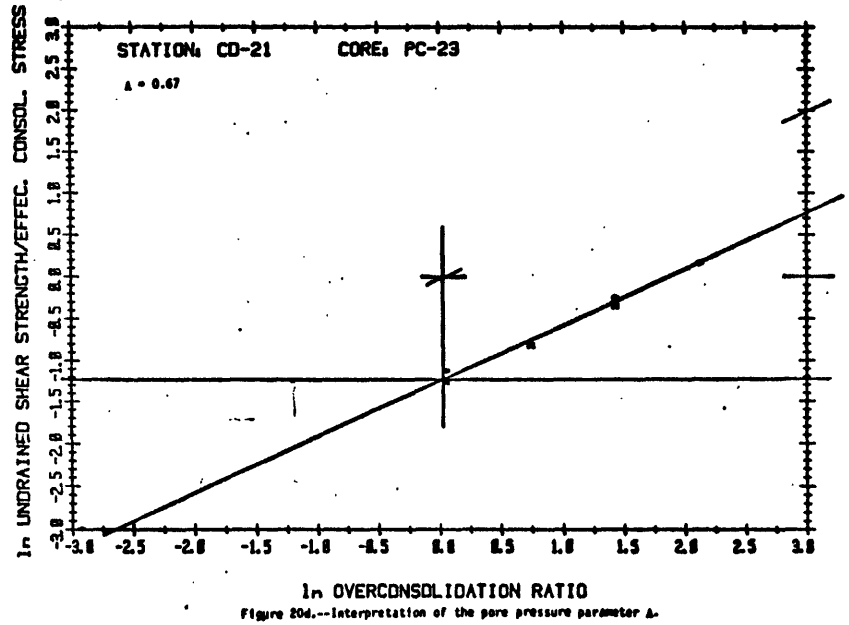


Figure 20d.--Interpretation of the pore pressure parameter Δ.

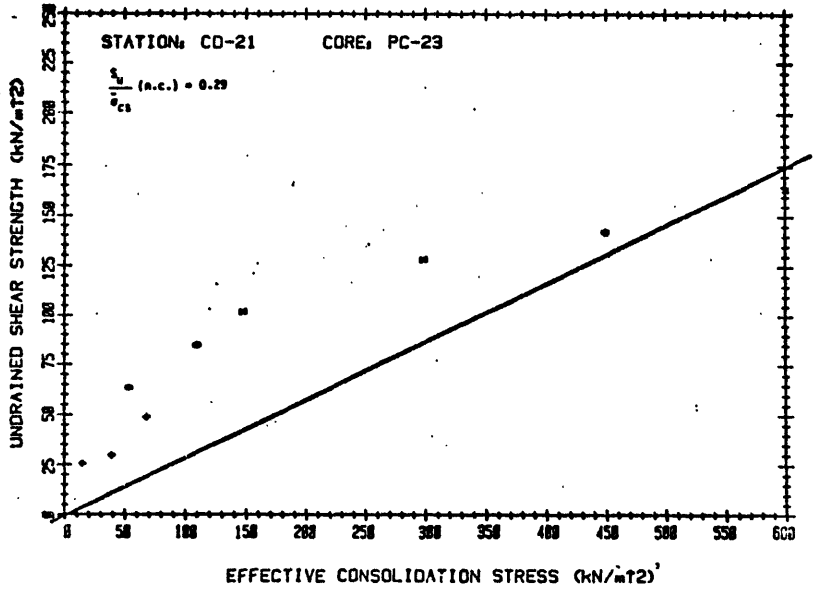


Figure 20c.--Interpretation of the normalized undrained shear strength for the normally consolidated state.

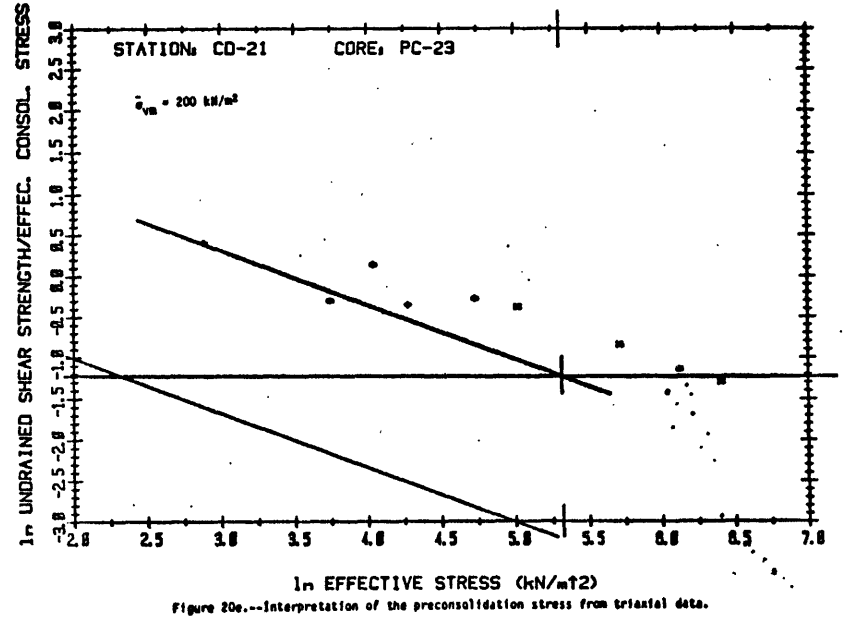
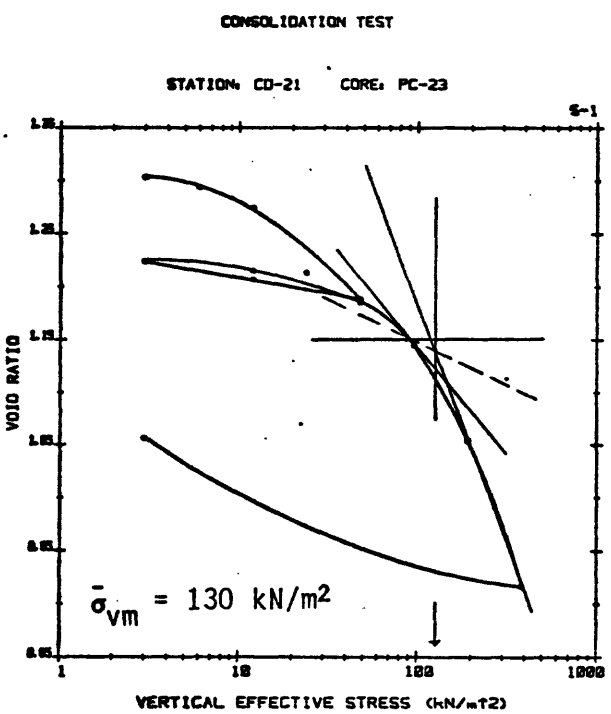
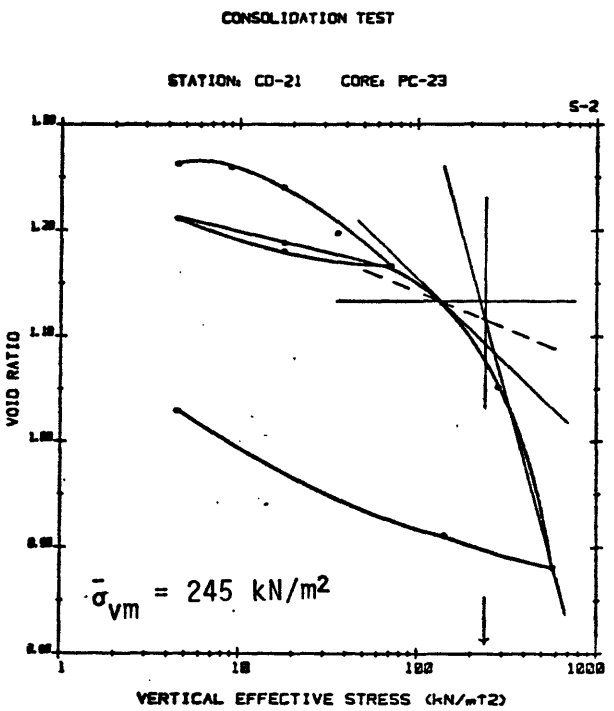


Figure 20e.--Interpretation of the preconsolidation stress from triaxial data.





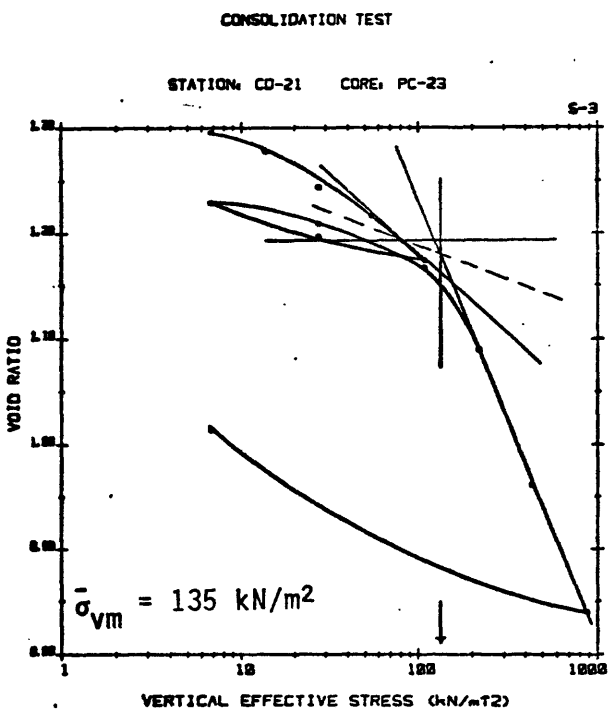


Figure 20f.--Interpretation of the preconsolidation stress from consolidation data.

Table 20a.--Geotechnical test results for site no. CD-21, core no. PC-23

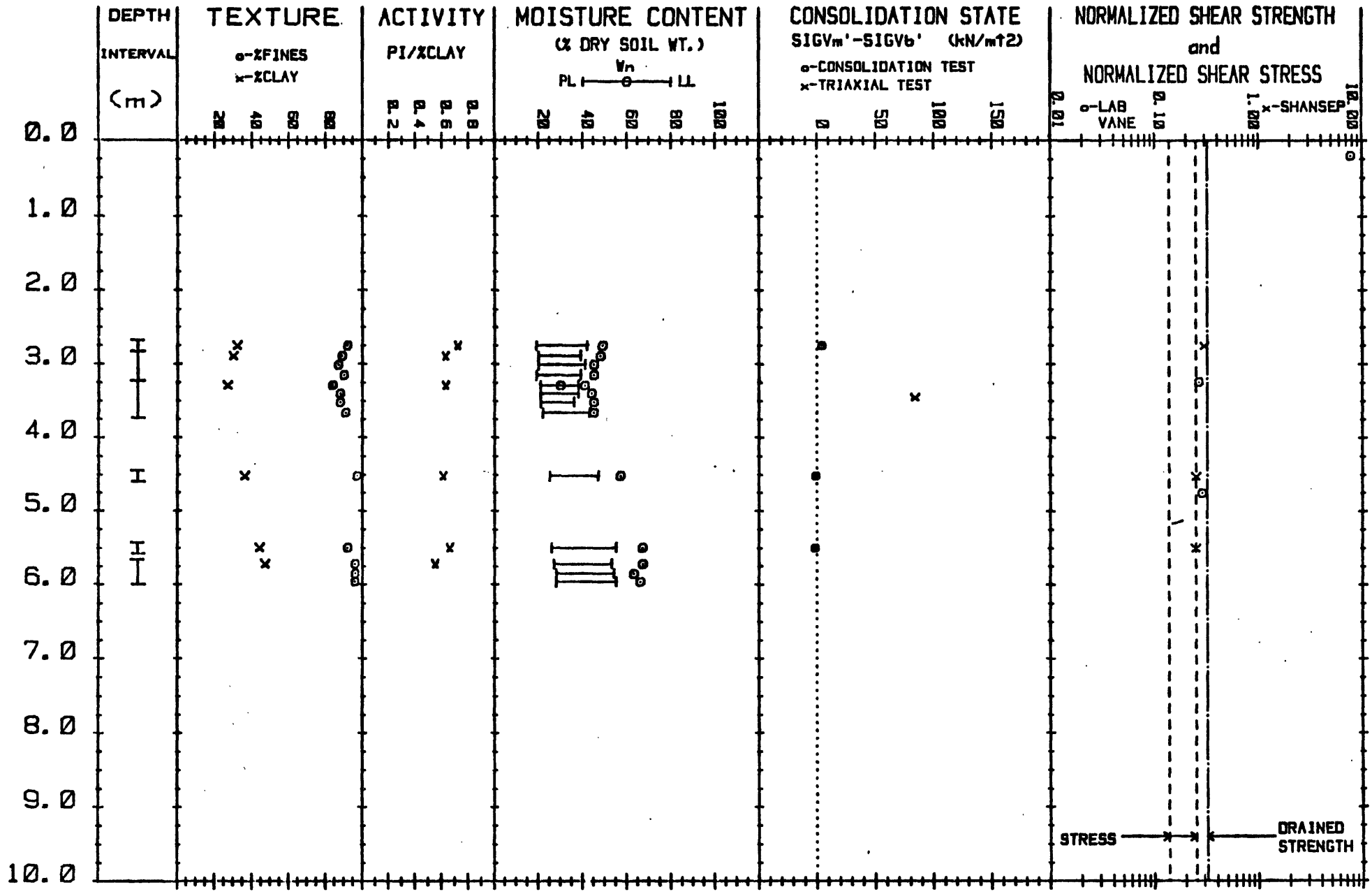
[Lat 38°52.15' N., long 72°52.74' W.; water depth 505 m; core recovery 7.4 m; ----, indicate no information]

Sample depth (m)			Physical properties							Consolidation test results				Triaxial test conditions				Triaxial test results						
Top	Bottom	Average	Fines	Clay	LL	PL	G	w	γ_t	$\bar{\sigma}'_{vm}$	C_c	C_s	Lab vane S_u	Set	Symbol	$\bar{\sigma}'_{cm}$	$\bar{\sigma}'_c$	S_u	$S_u/\bar{\sigma}'_c$	$S_u/\bar{\sigma}'_c$ (n.c.)	$\bar{\sigma}_{vm}$	Λ	$\bar{c}$	$\bar{\phi}$
0.00	----	0.01	--	--	--	--	----	40	----	---	----	----	1.6	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	1.31	--	--	--	--	----	44	----	---	----	----	3.4	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	2.83	--	--	--	--	----	43	----	---	----	----	11.5	-	-	-----	-----	-----	----	----	---	----	--	----
3.00	----	3.06	83	34	42	23	2.85	44	1.83	---	----	----	----	1	+	-----	17.9	26.9	1.50	----	---	----	--	----
----	----	3.18	94	--	42	29	----	42	1.84	---	----	----	----	1	+	-----	42.2	31.2	.74	----	---	----	--	----
----	----	3.25	--	--	--	--	----	--	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	3.30	92	--	44	25	----	41	1.90	---	----	----	----	1	+	-----	71.7	50.6	.71	----	---	----	--	----
----	3.50	3.43	93	--	51	24	----	49	1.63	---	----	----	----	1	+	-----	-----	-----	----	----	---	----	--	----
3.50	3.65	3.57	92	44	45	23	2.85	45	1.77	130	0.46	0.07	----	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	4.35	--	--	--	--	----	48	----	---	----	----	32.1	-	-	-----	-----	-----	----	----	---	----	--	----
4.34	----	4.41	91	26	43	22	2.79	40	1.75	---	----	----	----	3	*	455	113.7	86.9	.76	----	---	----	--	----
----	----	4.55	91	--	54	27	----	48	1.78	---	----	----	----	3	*	455	454.8	144.5	.32	----	---	----	--	----
----	4.76	4.69	91	--	52	27	----	48	1.71	---	----	----	----	3	*	455	56.8	65.3	1.15	----	---	----	--	----
4.82	4.97	4.89	98	43	49	26	2.79	45	1.76	245	.57	.06	----	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	5.92	--	--	--	--	----	46	----	---	----	----	17.9	-	-	-----	-----	-----	----	----	---	----	--	----
5.91	6.06	5.98	97	40	49	26	2.85	47	1.79	135	.40	.08-	----	-	-	-----	-----	-----	----	----	---	----	--	----
6.86	----	6.92	97	48	45	14	2.79	46	1.84	---	----	----	----	2	x	606	151.6	104.4	.69	----	---	----	--	----
----	----	7.05	94	--	46	25	----	43	1.83	---	----	----	----	2	x	606	606.4	166.0	.27	----	---	----	--	----
----	7.26	7.18	97	--	46	25	----	43	1.81	---	----	----	----	2	x	606	303.2	130.6	.43	----	---	----	--	----
Average values:																								
3.00	3.50	----------																			200	----------		
0.00	7.26	----------																		0.29	---	0.67	15	25

Table 20b.--Calculated geotechnical results for site no. CD-21, core no. PC-23

[Regional slope angle: 8° maximum, 4° average; ----, indicate no information]

Average sample depth (m)						Consolidation state				Normalized shear strength			Normalized shear stress		Factor of safety			
						OCR		$\bar{\sigma}'_{vm} - \bar{\sigma}'_{vb}$		Undrained					Undrained Shansep		Drained	
	PI	A	LI	γ_b	$\bar{\sigma}'_{vb}$	Consolidated data	Triaxial data	Consolidated data	Triaxial data	Drained	Vane	Shansep	Maximum slope angle	Average slope angle	Maximum	Average	Maximum	Average
0.01	--	----	----	----	-----	----	----	------	------	----	----	----	----	----	----	----	----	----
1.31	--	----	----	----	9.80	----	----	------	------	----	0.34	----	----	----	----	----	----	----
2.83	--	----	----	----	21.17	----	----	------	------	----	.54	----	----	----	----	----	----	----
3.06	19	0.56	1.11	----	22.89	----	----	------	------	----	----	----	----	----	----	----	----	----
3.18	13	----	1.00	----	23.79	----	----	------	------	----	----	----	----	----	----	----	----	----
3.25	--	----	----	----	24.31	----	8.23	------	175.69	----	----	----	----	----	----	----	----	----
3.30	19	----	.84	----	24.68	----	----	------	------	----	----	----	----	----	----	----	----	----
3.43	27	----	.93	----	25.66	----	----	------	------	----	----	----	----	----	----	----	----	----
3.57	22	.50	1.00	----	26.70	4.87	----	103.3	------	----	----	0.83	----	----	6.0	11.9	----	----
4.35	--	----	----	----	32.54	----	----	------	------	----	.99	----	----	----	----	----	----	----
4.41	21	.81	.86	----	32.99	----	----	------	------	----	----	----	----	----	----	----	----	----
4.55	27	----	.78	----	34.03	----	----	------	------	----	----	----	----	----	----	----	----	----
4.69	25	----	.84	----	35.08	----	----	------	------	----	----	----	----	----	----	----	----	----
4.89	23	.53	.83	----	36.58	6.70	----	208.42	------	----	----	1.02	----	----	7.4	14.7	----	----
5.92	--	----	----	----	44.28	----	----	------	------	----	.40	----	----	----	----	----	----	----
5.98	23	.58	.91	----	44.73	3.02	----	90.27	------	----	----	.61	----	----	4.4	8.8	----	----
6.92	31	.65	1.03	----	51.76	----	----	------	------	----	----	----	----	----	----	----	----	----
7.05	21	----	.86	----	52.73	----	----	------	------	----	----	----	----	----	----	----	----	----
7.18	21	----	.86	----	53.71	----	----	------	------	----	----	----	----	----	----	----	----	----
Average values for entire core.				0.76	----------					0.46	----------		0.14	0.07	----------		3.3	6.7



STATION: CD-22 CORE: PC-24

Figure 21a.--Geotechnical profile*.

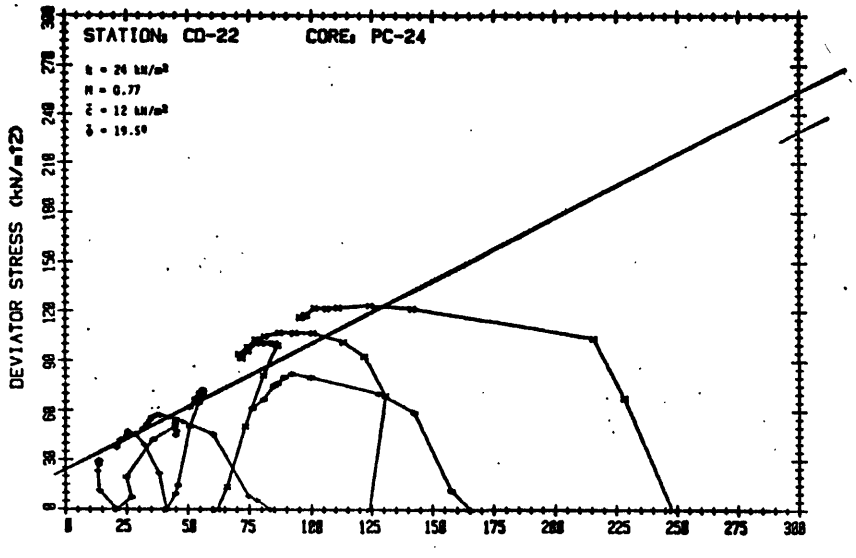


Figure 21b.--Interpretation of drained shear strength parameters.

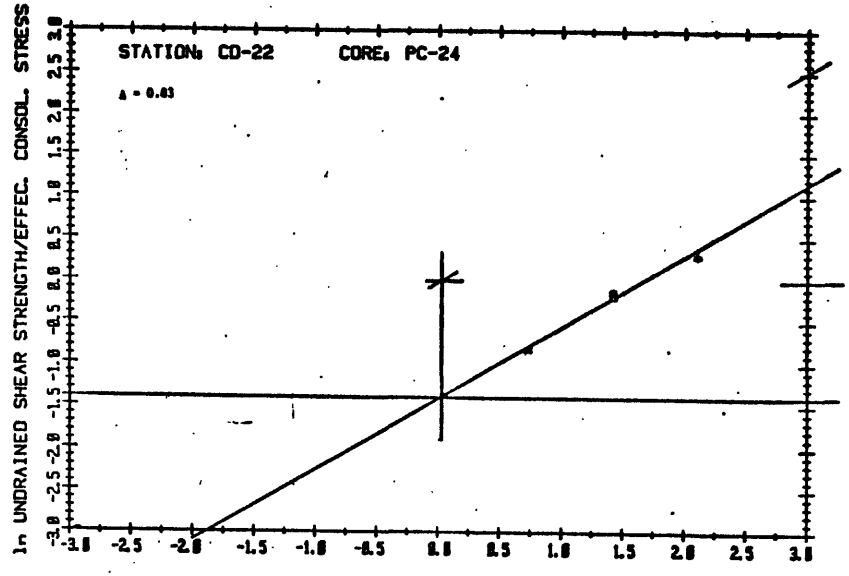


Figure 21d.--Interpretation of the pore pressure parameter A.

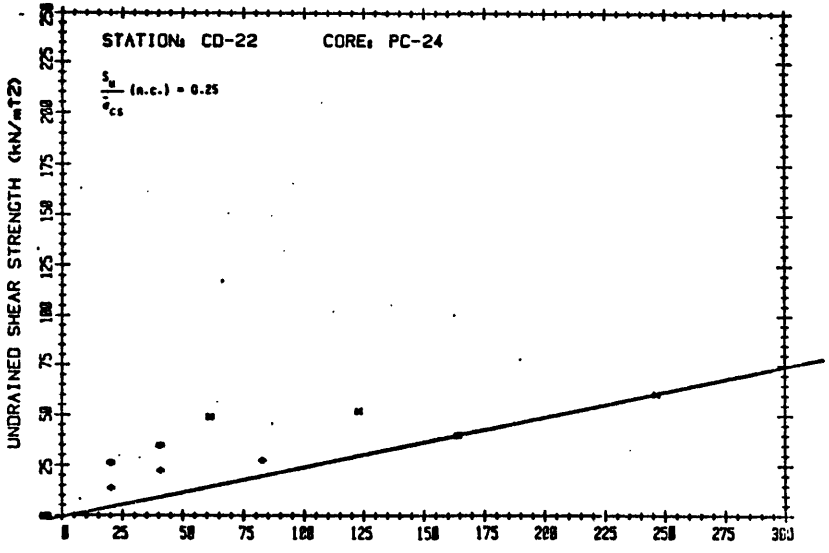


Figure 21c.--Interpretation of the normalized undrained shear strength for the normally consolidated state.

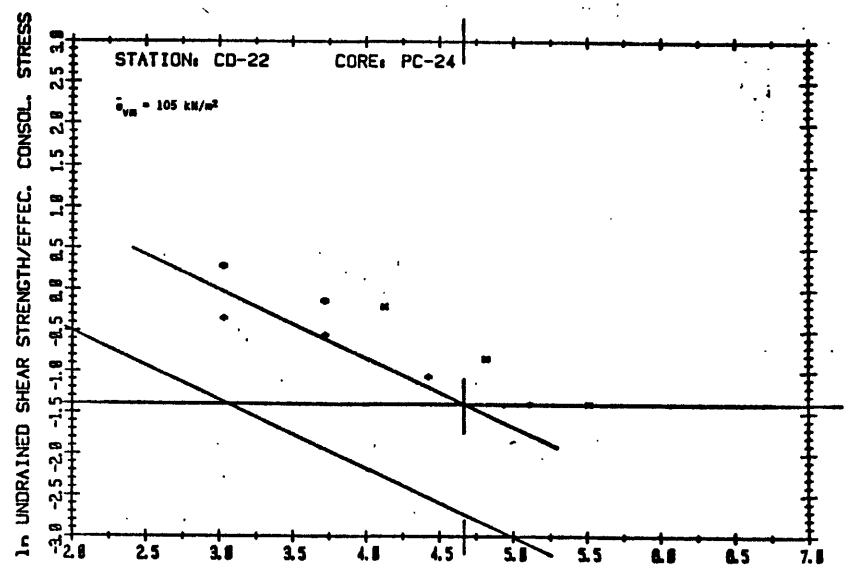


Figure 21e.--Interpretation of the preconsolidation stress from triaxial data.

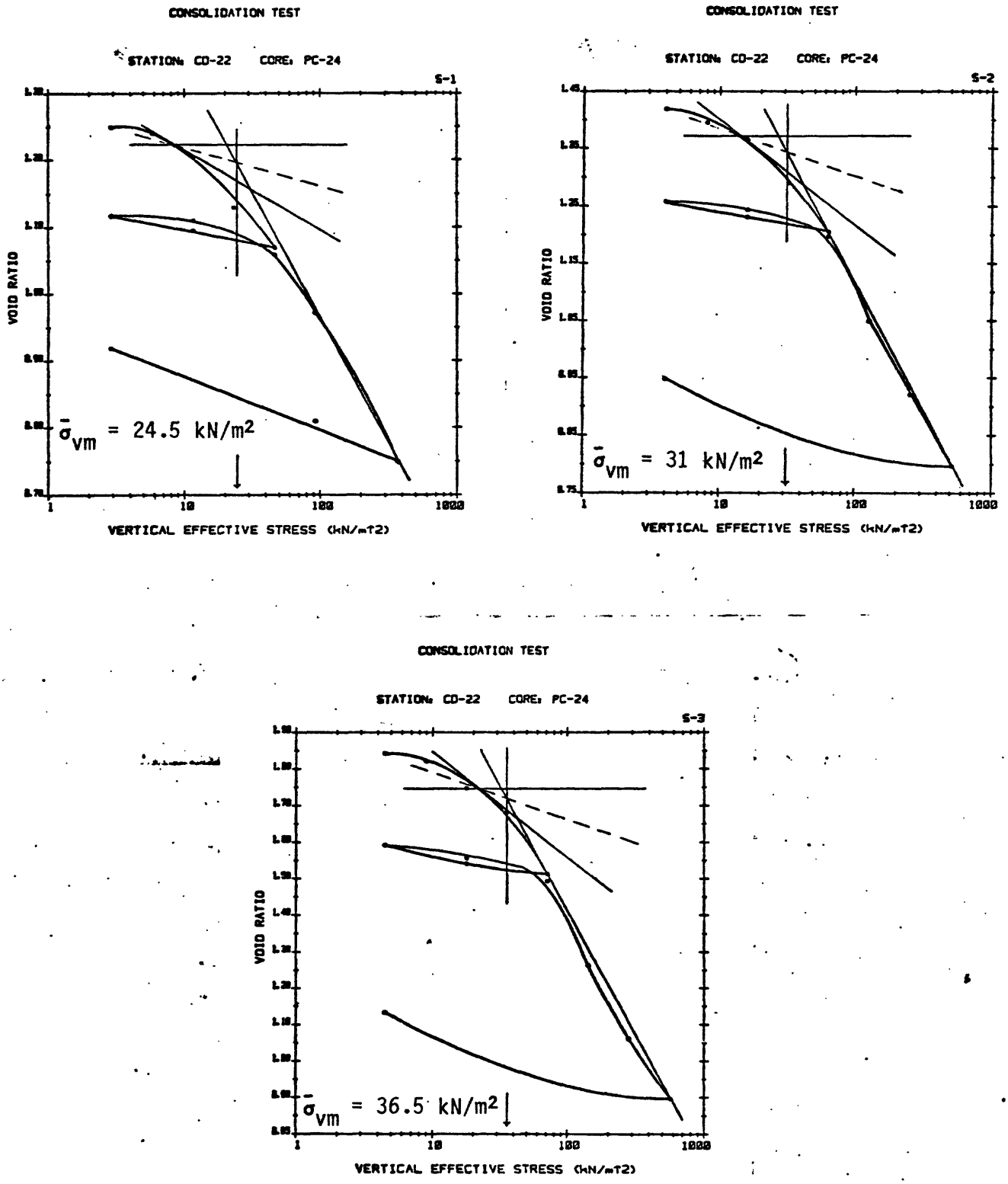


Figure 21f.--Interpretation of the preconsolidation stress from consolidation data.

Table 21a.--Geotechnical test results for site no. CD-22, core no. PC-24

[Lat 38°51.87' N., long 72°52.27' W.; water depth 637 m; core recovery 6.26 m; ----, indicate no information]

Sample depth (m)			Physical properties							Consolidation test results				Triaxial test conditions				Triaxial test results						
Top	Bottom	Average	Fines	Clay	LL	PL	G	w	γ_t	$\bar{\sigma}_{vm}$	C_c	C_s	Lab vane S_u	Set	Symbol	$\bar{\sigma}_{cm}$	$\bar{\sigma}_c$	S_u	$\frac{S_u}{\bar{\sigma}_c}$	$\frac{S_u}{\bar{\sigma}_c}$ (n.c.)	$\bar{\sigma}_{vm}$	A	$\bar{\epsilon}$	$\bar{\phi}$
0.00	----	0.01	--	--	--	--	----	60	----	----	----	----	2.8	-	-	-----	-----	----	----	----	---	----	--	----
----	----	.21	--	--	--	--	----	31	----	----	----	----	1.4	-	-	-----	-----	----	----	----	---	----	--	----
2.68	2.83	2.75	92	32	42	19	2.73	49	1.78	24.5	0.40	0.09	----	-	-	-----	-----	----	----	----	---	----	--	----
2.83	----	2.89	89	30	39	20	2.80	48	1.67	----	----	----	----	3	*	165	165.4	41	0.25	----	---	----	--	----
----	----	3.01	87	--	41	20	----	45	1.78	----	----	----	----	3	*	165	41.3	36.2	.88	----	---	----	--	----
----	3.23	3.15	90	--	39	19	----	45	1.81	----	----	----	----	3	*	165	20.7	27.4	1.32	----	---	----	--	----
----	----	3.24	--	--	--	--	----	43	----	----	----	----	6.9	-	-	-----	-----	----	----	----	---	----	--	----
3.23	----	3.29	84	27	38	21	2.72	30 41	1.83	----	----	----	----	1	+	-----	20.7	14.9	.71	----	---	----	--	----
----	----	3.40	88	--	38	21	----	44	1.81	----	----	----	----	1	+	-----	41.3	23.8	.58	----	---	----	--	----
----	----	3.45	--	--	--	--	----	--	----	----	----	----	----	-	-	-----	-----	----	----	----	---	----	--	----
----	----	3.52	88	--	36	21	----	45	1.80	----	----	----	----	1	+	-----	83.4	28.6	.34	----	---	----	--	----
----	3.73	3.66	91	--	43	22	----	45	1.81	----	----	----	----	1	+	-----	-----	----	----	----	---	----	--	----
----	4.09	----	--	--	--	--	----	--	----	----	----	----	----	-	-	-----	-----	----	----	----	---	----	--	----
4.09	----	----	--	--	--	--	----	--	----	----	----	----	----	-	-	-----	-----	----	----	----	---	----	--	----
4.45	4.60	4.52	97	36	47	25	2.73	57	1.73	31	.41	.07	----	-	-	-----	-----	----	----	----	---	----	--	----
----	----	4.75	--	--	--	--	----	59	----	----	----	----	8.1	-	-	-----	-----	----	----	----	---	----	--	----
5.43	5.58	5.50	92	44	55	26	2.79	67	1.59	36.5	.68	.11	---	-	-	-----	-----	----	----	----	---	----	--	----
5.66	----	5.72	96	47	53	27	2.77	67	1.63	----	----	----	----	2	x	248	248.1	61.8	.25	----	---	----	--	----
----	----	5.85	96	--	54	28	----	63	1.64	----	----	----	----	2	x	248	124	53.4	.43	----	---	----	--	----
----	6.00	5.96	96	--	55	28	----	66	1.65	----	----	----	----	2	x	248	62	50.5	.82	----	---	----	--	----
Average values:																								
3.23	3.73	----------																			105	----	----	----
0.00	6.00	----------																		0.25	---	0.83	12	19.5

Table 21b.--Calculated geotechnical results for site no. CD-22, core no. PC-24

[Regional slope angle: 15° maximum, 8° average; ----, indicate no information]

Average sample depth (m)	PI	A	LI	γ_b	$\bar{\sigma}_{vb}$	Consolidation state: OCR: Consolidated data	Consolidation state: OCR: Triaxial data	Consolidation state: $\bar{\sigma}_{vm} - \bar{\sigma}_{vb}$: Consolidated data	Consolidation state: $\bar{\sigma}_{vm} - \bar{\sigma}_{vb}$: Triaxial data	Normalized shear strength: Undrained: Drained	Normalized shear strength: Undrained: Vane	Normalized shear strength: Undrained: Shansep	Normalized shear stress: Maximum slope angle	Normalized shear stress: Average slope angle	Factor of safety: Undrained Shansep: Maximum	Factor of safety: Undrained Shansep: Average	Factor of safety: Drained: Maximum	Factor of safety: Drained: Average
0.01	--	----	----	----	-----	----	----	-----	-----	----	----	----	----	----	----	----	----	----
0.21	--	----	----	----	1.57	----	----	-----	-----	----	0.88	----	----	----	----	----	----	----
2.75	23	0.72	1.30	----	20.52	1.19	----	3.98	-----	----	----	0.30	----	----	1.2	2.2	----	----
2.89	19	.63	1.47	----	21.56	----	----	-----	-----	----	----	----	----	----	----	----	----	----
3.01	21	----	1.19	----	22.45	----	----	-----	-----	----	----	----	----	----	----	----	----	----
3.15	20	----	1.30	----	23.50	----	----	-----	-----	----	----	----	----	----	----	----	----	----
3.24	--	----	----	----	24.17	----	----	-----	-----	----	.28	----	----	----	----	----	----	----
3.29	17	.63	.53	----	24.54	----	----	-----	-----	----	----	----	----	----	----	----	----	----
3.40	17	----	1.35	----	25.36	----	----	-----	-----	----	----	----	----	----	----	----	----	----
3.45	--	----	----	----	25.74	----	4.08	-----	79.26	----	----	----	----	----	----	----	----	----
3.52	15	----	1.60	----	26.26	----	----	-----	-----	----	----	----	----	----	----	----	----	----
3.66	21	----	1.10	----	27.30	----	----	-----	-----	----	----	----	----	----	----	----	----	----
4.09	--	----	----	----	30.51	----	----	-----	-----	----	----	----	----	----	----	----	----	----
4.09	--	----	----	----	30.51	----	----	-----	-----	----	----	----	----	----	----	----	----	----
4.52	22	.61	1.45	----	33.13	.94	----	-2.13	-----	----	----	.24	----	----	1.0	1.7	----	----
4.75	--	----	----	----	34.54	----	----	-----	-----	----	.24	----	----	----	----	----	----	----
5.50	29	.66	1.41	----	39.11	.93	----	-2.61	-----	----	----	.24	----	----	1.0	1.7	----	----
5.72	26	.55	1.54	----	40.45	----	----	-----	-----	----	----	----	----	----	----	----	----	----
5.85	26	----	1.35	----	41.25	----	----	-----	-----	----	----	----	----	----	----	----	----	----
5.96	27	----	1.41	----	41.92	----	----	-----	-----	----	----	----	----	----	----	----	----	----
Average values:																		
0.01 to 4.09			----	0.76	----------													
4.09 to 5.96			----	.62	----------													
0.01 to 5.96			----------							0.33	----------		0.25	0.14	----------		1.3	2.5

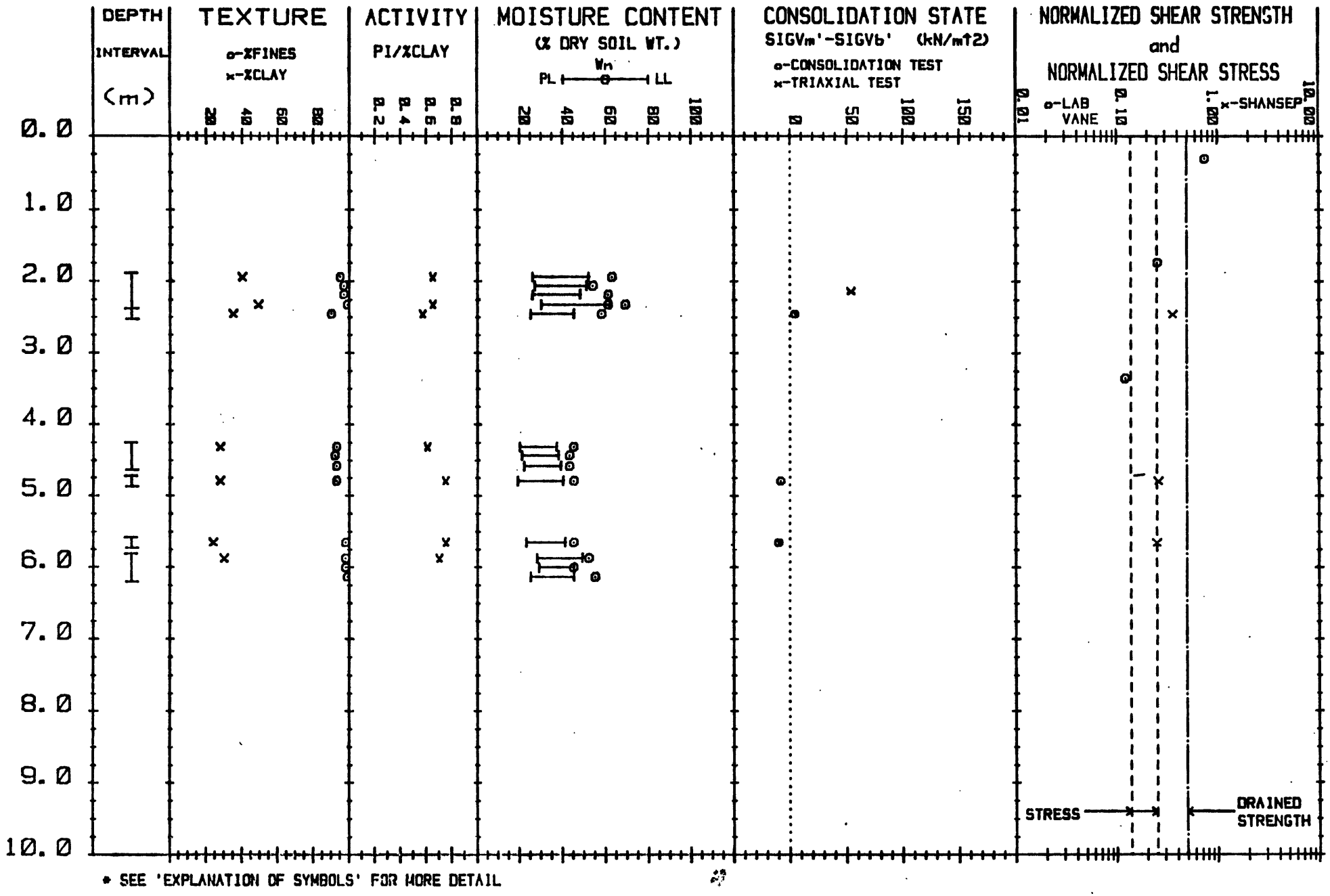


Figure 22a.--Geotechnical profile*.

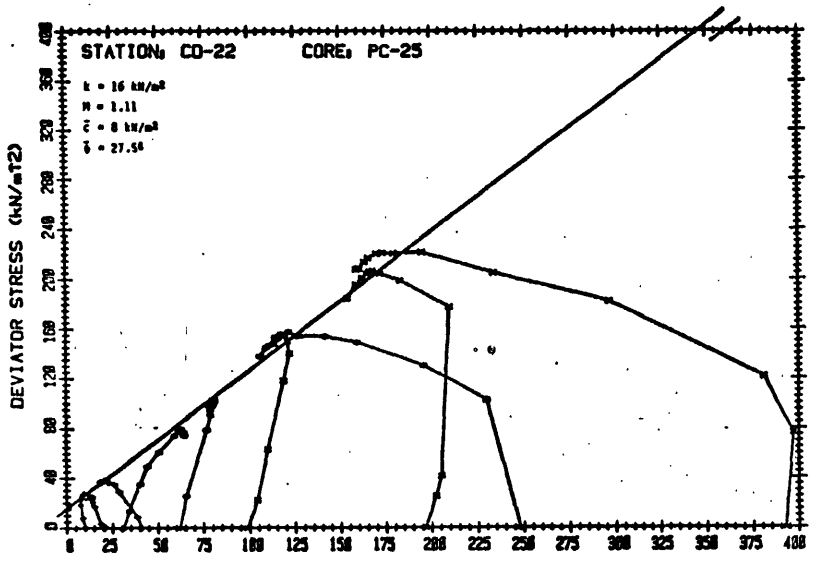


Figure 22b.--Interpretation of drained shear strength parameters.

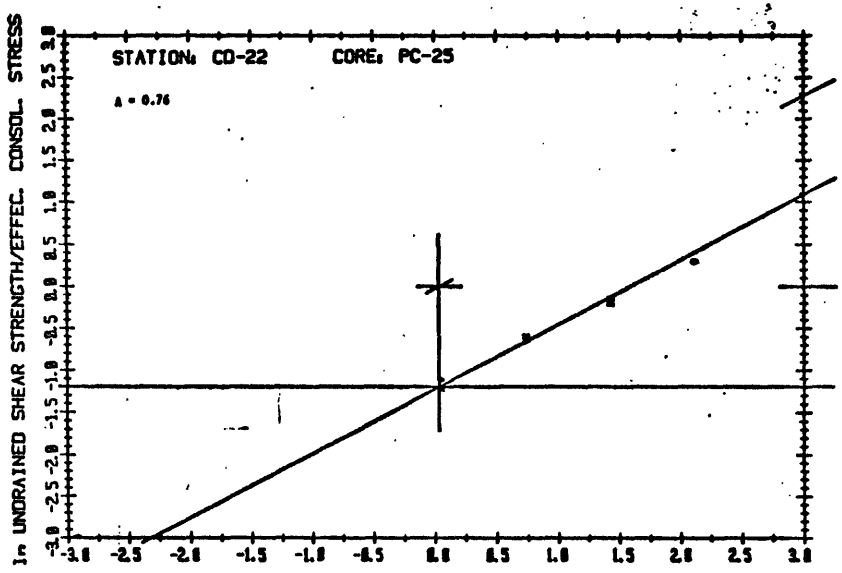


Figure 22d.--Interpretation of the pore pressure parameter A.

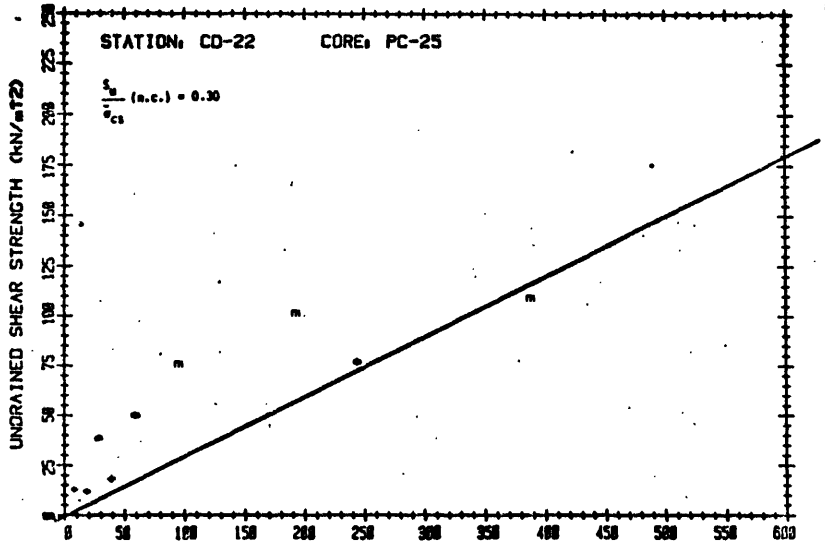


Figure 22c.--Interpretation of the normalized undrained shear strength for the normally consolidated state.

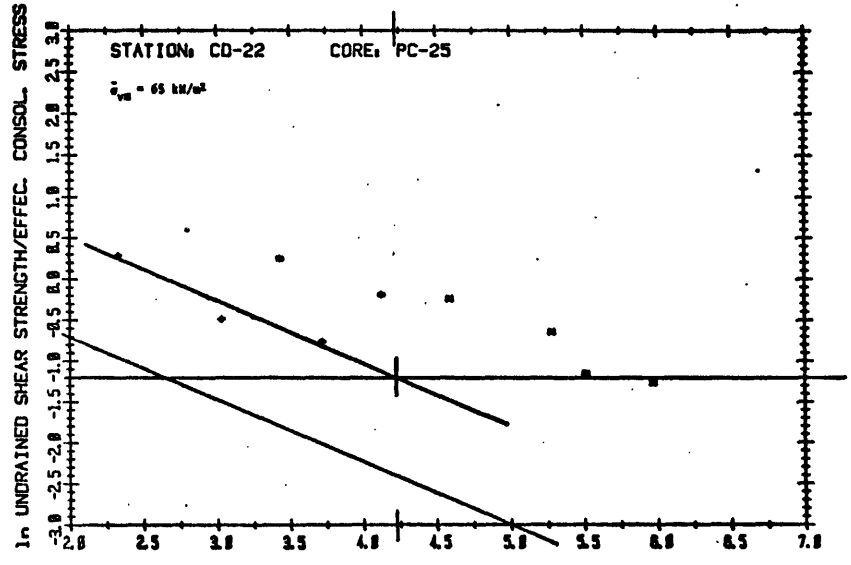


Figure 22e.--Interpretation of the preconsolidation stress from triaxial data.

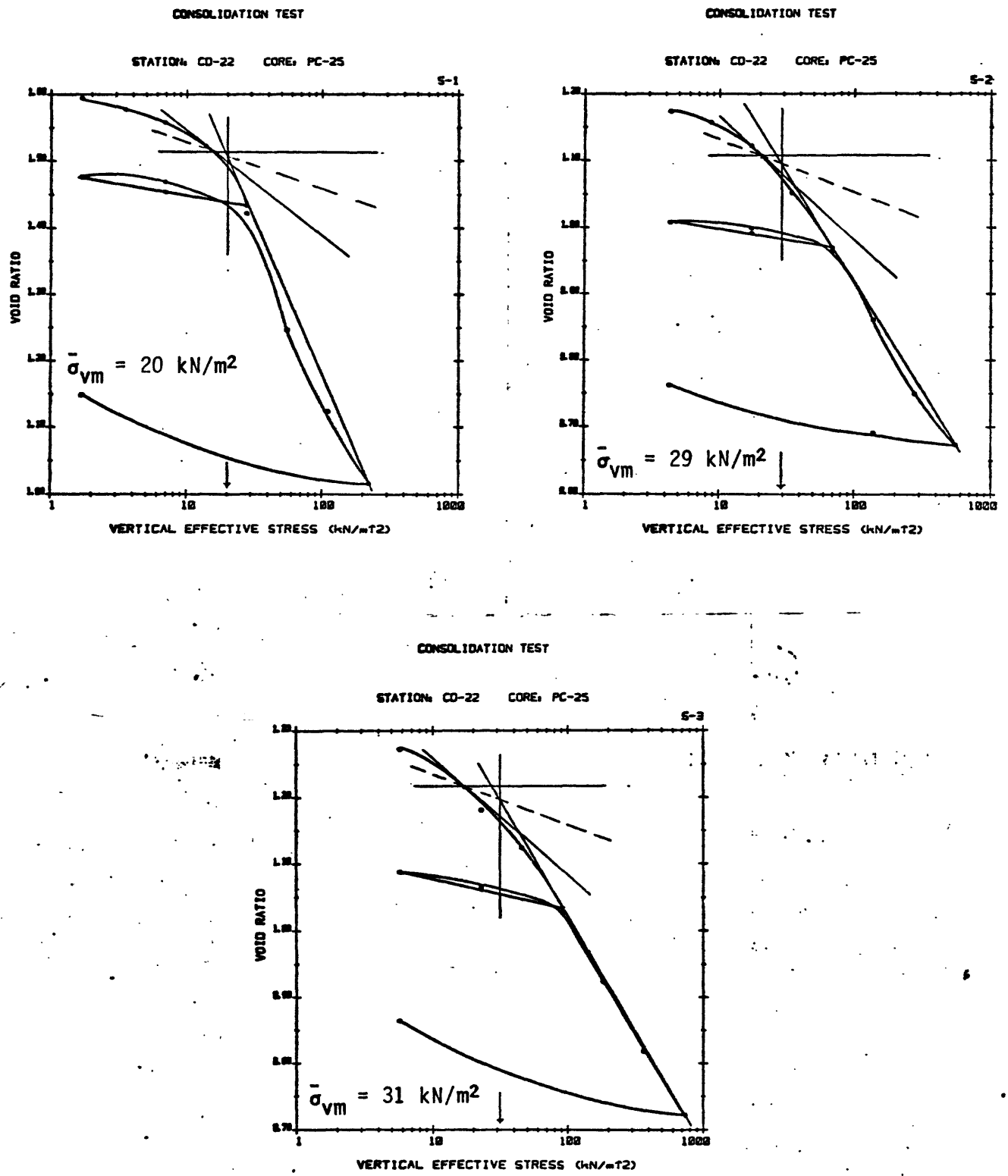


Figure 22f.--Interpretation of the preconsolidation stress from consolidation data.

Table 22a.--Geotechnical test results for site no. CD-22, core no. PC-25

[Lat 38°51.86' N., long 72°52.30' W.; water depth 607 m; core recovery 6.21 m; ----, indicate no information]

Sample depth (m)			Physical properties							Consolidation test results				Triaxial test conditions			Triaxial test results						
Top	Bottom	Average	Fines	Clay	LL	PL	G	w	γ_t	$\bar{\sigma}'_{vm}$	C_c	C_s	Lab vane S_u	Set	Symbol	$\bar{\sigma}'_{cm}$	$\bar{\sigma}'_c$	S_u	$S_u/\bar{\sigma}'_c$	$S_u/\bar{\sigma}'_c$ (n.c.)	$\bar{\sigma}_{vm}$	A	$\bar{c}$	$\bar{\phi}$
0.00	----	0.01	--	--	--	--	----	56	----	---	----	----	2.1	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	.31	--	--	--	--	----	40	----	---	----	----	1.4	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	1.74	--	--	--	--	----	74	----	---	----	----	2.6	-	-	-----	-----	-----	----	----	---	----	--	----
1.88	----	1.94	95	40	52	26	2.77	63	1.63	---	----	----	----	1	+	-----	10.3	13.8	1.34	----	---	----	--	----
----	----	2.06	97	--	51	27	----	54	1.67	---	----	----	----	1	+	-----	20.7	12.8	.62	----	---	----	--	----
----	----	2.13	--	--	--	--	----	--	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	2.18	97	--	48	26	----	61	1.68	---	----	----	----	1	+	-----	41.3	19.3	.47	----	---	----	--	----
----	2.38	2.32	99	49	62	30	2.72	69 61	1.69	---	----	----	----	1	+	-----	-----	-----	----	----	---	----	--	----
2.38	2.53	2.45	90	35	45	25	2.77	58	1.66	20	0.36	0.06	----	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	3.35	--	--	--	--	----	54	----	---	----	----	2.6	-	-	-----	-----	-----	----	----	---	----	--	----
----	3.39	----	--	--	--	--	----	--	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	----
3.39	----	----	--	--	--	--	----	--	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	----
4.25	----	4.31	93	28	37	20	2.81	45	1.83	---	----	----	----	3	*	246.1	248.1	78.7	.32	----	---	----	--	----
----	----	4.43	92	--	38	21	----	43	1.81	---	----	----	----	3	*	248.1	62.0	51.6	.83	----	---	----	--	----
----	4.64	4.58	93	--	39	22	----	43	1.78	---	----	----	----	3	*	248	31.0	39.8-	1.28	----	---	----	--	----
4.72	4.87	4.79	93	28	40	19	2.75	45	1.80	29	.37	.04	----	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	4.88	--	--	--	--	----	46	----	---	----	----	6.2	-	-	-----	-----	-----	----	----	---	----	--	----
5.58	5.73	5.65	98	24	41	23	2.79	45	1.74	31	.32	.07	----	-	-	-----	-----	-----	----	----	---	----	--	----
5.81	----	5.87	98	30	49	28	2.79	52	1.75	- -	----	----	----	2	x	392.5	392.8	110.6	.28	----	---	----	--	----
----	----	6.00	98	--	45	29	----	45	1.80	---	----	----	----	2	x	392.5	196.4	103.3	.53	----	---	----	--	----
----	6.21	6.13	99	--	45	25	----	55	1.71	---	----	----	----	2	x	392.5	98.5	77.6	.79	----	---	----	--	----
Average values:																								
1.88	2.38	----------																			65	----------		
0.00	6.21	----------																		0.30	---	0.76	8	27.5

Table 22b.--Calculated geotechnical results for site no. CD-22, core no. PC-25

[Regional slope angle: 15° maximum, 8° average; ----, indicate no information]

Average sample depth (m)						Consolidation state				Normalized shear strength			Normalized shear stress		Factor of safety			
						OCR		$\bar{\sigma}'_{vm} - \bar{\sigma}'_{vb}$		Undrained					Undrained Shansep		Drained	
	PI	A	LI	γ_b	$\bar{\sigma}'_{vb}$	Consolidated data	Triaxial data	Consolidated data	Triaxial data	Drained	Vane	Shansep	Maximum slope angle	Average slope angle	Maximum	Average	Maximum	Average
0.01	--	----	----	----	-----	----	----	-----	-----	----	----	----	----	----	----	----	----	----
0.31	--	----	----	----	1.95	----	----	-----	-----	----	0.71	----	----	----	----	----	----	----
1.74	--	----	----	----	10.93	----	----	-----	-----	----	.24	----	----	----	----	----	----	----
1.94	26	0.65	1.42	----	12.18	----	----	-----	-----	----	----	----	----	----	----	----	----	----
2.06	24	----	1.13	----	12.94	----	----	-----	-----	----	----	----	----	----	----	----	----	----
2.13	--	----	----	----	13.38	----	4.86	-----	51.62	----	----	----	----	----	----	----	----	----
2.18	22	----	1.59	----	13.69	----	----	-----	-----	----	----	----	----	----	----	----	----	----
2.32	32	.65	1.22	----	14.57	----	----	-----	-----	----	----	----	----	----	----	----	----	----
2.45	20	.57	1.65	----	15.39	1.30	----	4.61	-----	----	----	0.37	----	----	1.5	2.7	----	----
3.35	--	----	----	----	21.04	----	----	-----	-----	----	.12	----	----	----	----	----	----	----
3.39	--	----	----	----	21.29	----	----	-----	-----	----	----	----	----	----	----	----	----	----
3.39	--	----	----	----	21.29	----	----	-----	-----	----	----	----	----	----	----	----	----	----
4.31	17	.61	1.47	----	28.06	----	----	-----	-----	----	----	----	----	----	----	----	----	----
4.43	17	----	1.29	----	28.94	----	----	-----	-----	----	----	----	----	----	----	----	----	----
4.58	17	----	1.24	----	30.05	----	----	-----	-----	----	----	----	----	----	----	----	----	----
4.79	21	.75	1.24	----	31.59	.92	----	-2.59	-----	----	----	.28	----	----	1.2	2.1	----	----
4.88	--	----	----	----	32.26	----	----	-----	-----	----	.19	----	----	----	----	----	----	----
5.65	18	.75	1.22	----	37.92	.82	----	-6.92	-----	----	----	.25	----	----	1.1	2.0	----	----
5.87	21	.70	1.14	----	39.54	----	----	-----	-----	----	----	----	----	----	----	----	----	----
6.00	16	----	1.00	----	40.50	----	----	-----	-----	----	----	----	----	----	----	----	----	----
6.13	20	----	1.50	----	41.46	----	----	-----	-----	----	----	----	----	----	----	----	----	----
Average values:																		
0.01 to 3.39			----	0.64	----------													
3.39 to 6.13			----	.75	----------													
0.01 to 6.13			----------							0.49	----------		0.25	0.14	----------		1.9	3.7

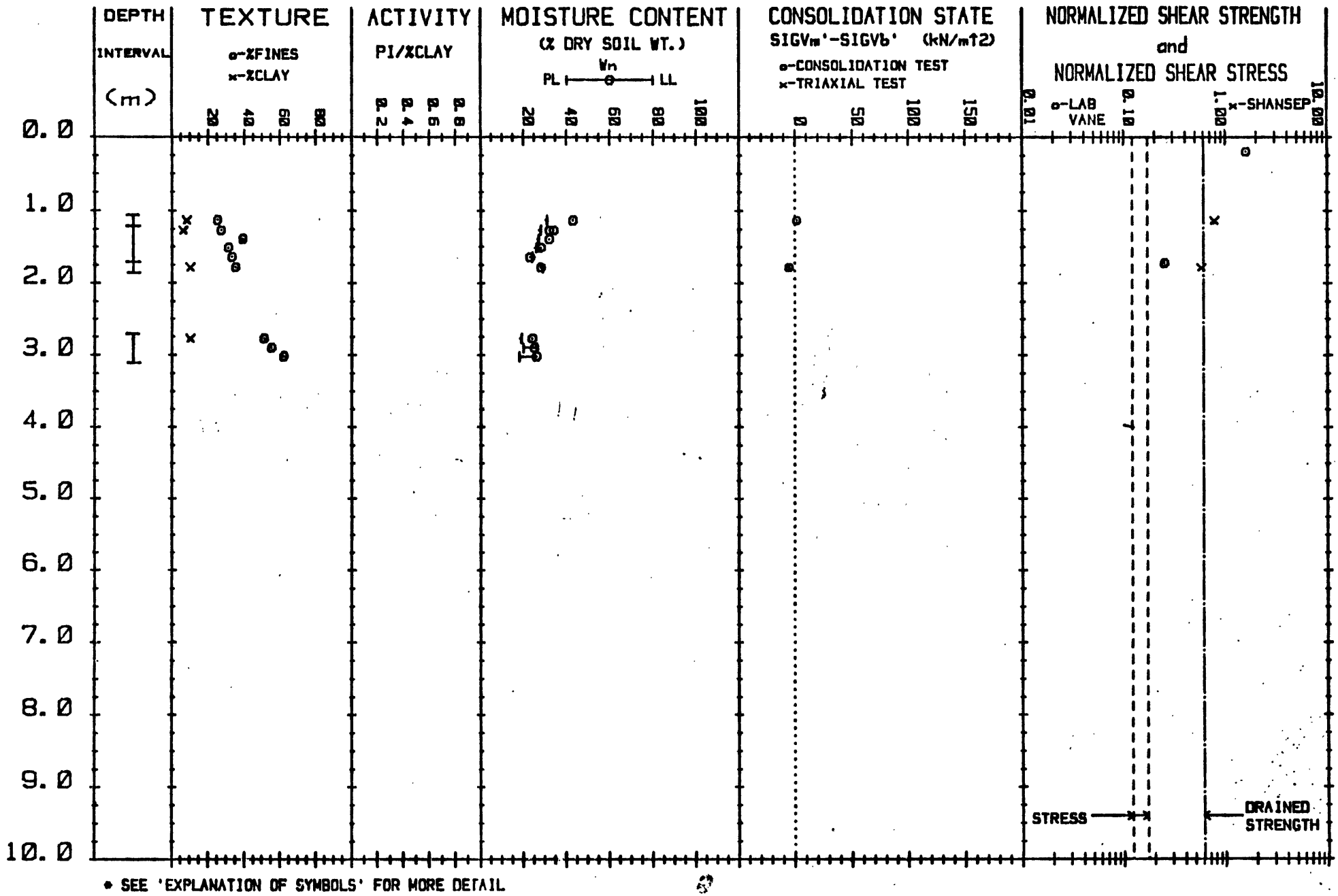


Figure 23a.--Geotechnical profile*.

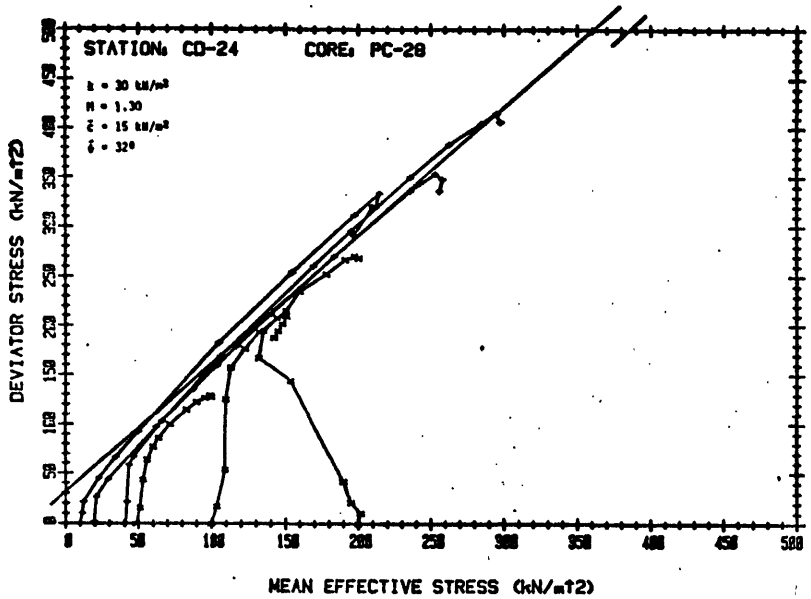


Figure 23b.--Interpretation of drained shear strength parameters.

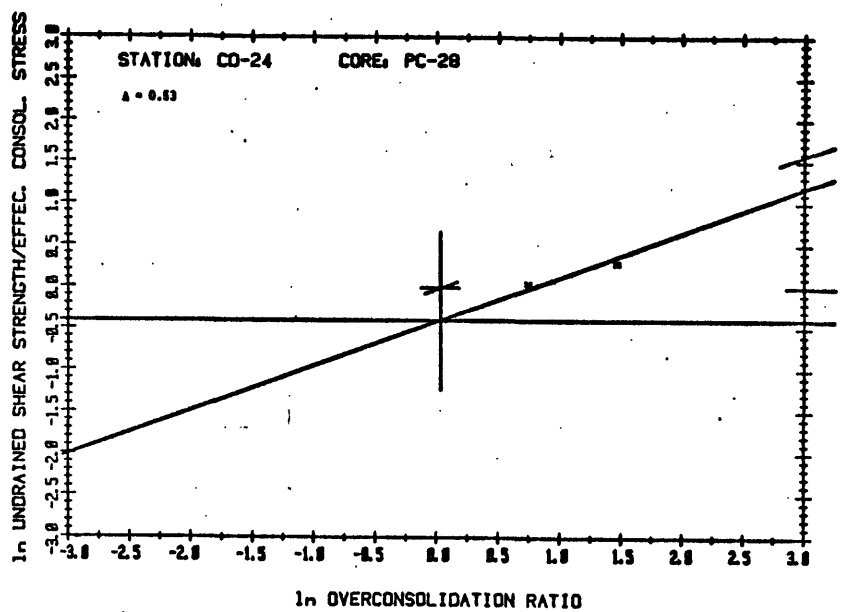


Figure 23d.--Interpretation of the pore pressure parameter A.

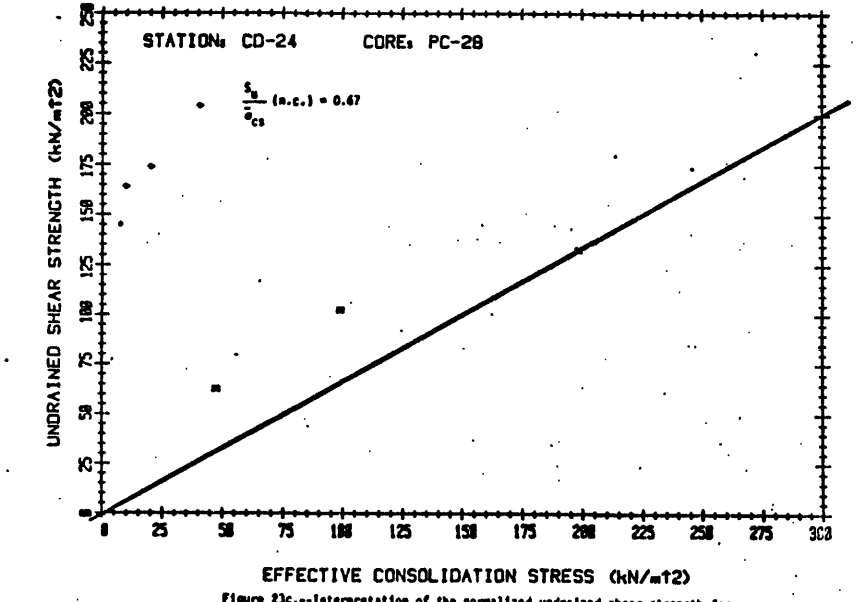


Figure 23c.--Interpretation of the normalized undrained shear strength for the normally consolidated state.

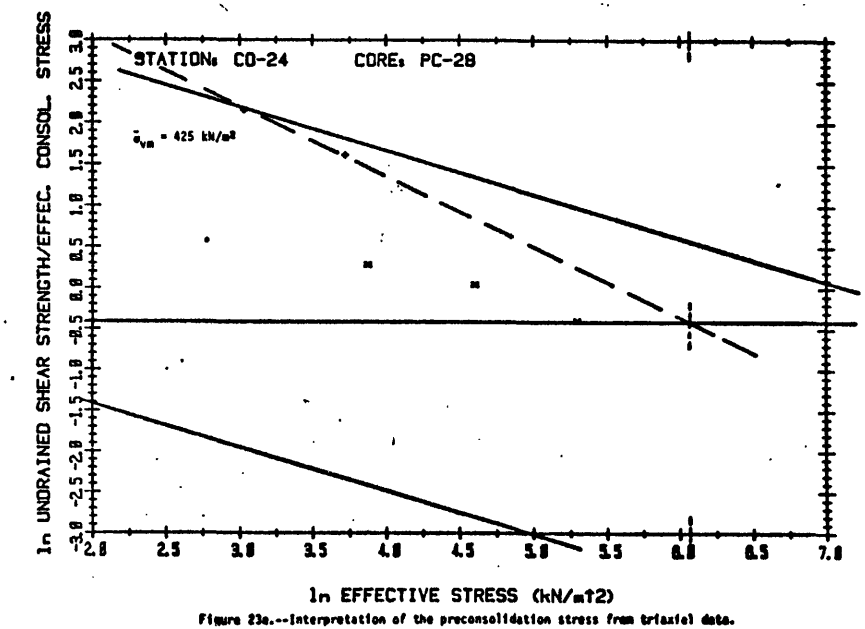


Figure 23a.--Interpretation of the preconsolidation stress from triaxial data.

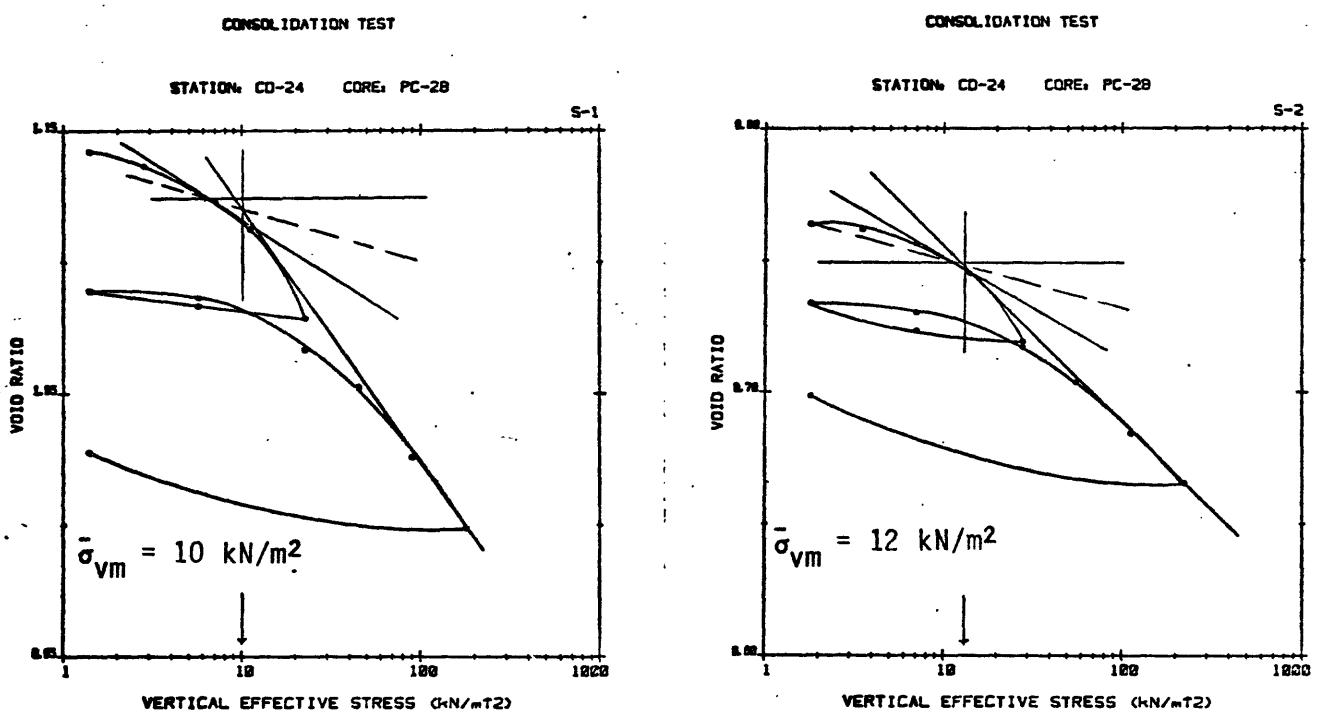


Figure 23f.--Interpretation of the preconsolidation stress from consolidation data.

Table 23a.--Geotechnical test results for site no. CD-24, core no. PC-28

[Lat 38°24.91' N., long 73°23.54' W.; water depth 328 m; core recovery 3.23 m; ----, indicate no information]

Sample depth (m)			Physical properties							Consolidation test results				Triaxial test conditions				Triaxial test results						
Top	Bottom	Average	Fines	Clay	LL	PL	G	w	γ_t	$\bar{\sigma}_{vm}$	C_c	C_s	Lab vane S_u	Set	Symbol	$\bar{\sigma}_{cm}$	$\bar{\sigma}_c$	S_u	$S_u/\bar{\sigma}_c$	$S_u/\bar{\sigma}_c$ (n.c.)	$\bar{\sigma}_{vm}$	A	$\bar{c}$	$\bar{\phi}$
0.00	----	0.01	--	--	--	--	----	35	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	--
----	----	.20	--	--	--	--	----	54	----	---	----	----	2.4	-	-	-----	-----	-----	----	----	---	----	--	--
1.06	1.21	1.13	25	8	31	--	2.72	43	1.79	10	0.09	0.01	----	-	-	-----	-----	-----	----	----	---	----	--	--
1.21	----	1.27	27	6	28	--	2.72	32/34	1.95	---	----	----	----	1	+	-----	10.3	166.8	16.2	----	---	----	--	--
----	----	1.39	39	--	27	--	----	32	1.93	---	----	----	----	1	+	-----	20.7	176.6	8.53	----	---	----	--	--
----	----	1.46	--	--	--	--	----	--	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	--
----	----	1.51	31	--	26	--	----	28	1.95	---	----	----	----	1	+	-----	41.3	207.4	5.02	----	---	----	--	--
----	1.71	1.64	33	--	24	--	----	23	2.04	---	----	----	----	1	+	-----	-----	-----	----	----	---	----	--	--
----	----	1.72	--	--	--	--	----	29	----	---	----	----	4.1	-	-	-----	-----	-----	----	----	---	----	--	--
1.71	1.86	1.78	35	10	29	--	2.76	28	1.98	12	.06	.02	----	-	-	-----	-----	-----	----	----	---	----	--	--
----	2.29	----	--	--	--	--	----	--	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	--
2.29	----	----	--	--	--	--	----	--	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	--
2.71	----	2.77	51	10	19	--	2.75	24	2.09	---	----	----	----	2	x	199.7	199.8	135.2	.68	----	---	----	--	--
----	----	2.90	55	--	26	20	----	25	2.04	---	----	----	----	2	x	199.7	99.9	104.6	1.05	----	---	----	--	--
----	3.11	3.02	62	--	25	18	----	26	2.06	---	----	----	----	2	x	199.7	48.2	64.4	1.34	----	---	----	--	--
Average values:																								
1.21	1.71	----------																			425	----------		
0.00	3.11	----------																		0.67	---	0.53	15	32

Table 23b.--Calculated geotechnical results for site no. CD-24, core no. PC-28

[Regional slope angle: 10° maximum, 7° average; ----, indicate no information]

Average sample depth (m)						Consolidation state				Normalized shear strength			Normalized shear stress		Factor of safety			
						OCR		$\bar{\sigma}_{vm} - \bar{\sigma}_{vb}$		Undrained					Undrained Shansep		Drained	
	PI	A	LI	γ_b	$\bar{\sigma}_{vb}$	Consolidated data	Triaxial data	Consolidated data	Triaxial data	Drained	Vane	Shansep	Maximum slope angle	Average slope angle	Maximum	Average	Maximum	Average
0.01	--	----	----	----	-----	----	-----	------	------	----	----	----	----	----	----	----	----	----
0.20	--	----	----	----	1.80	----	-----	------	------	----	1.32	----	----	----	----	----	----	----
1.13	--	----	----	----	10.16	0.98	-----	-0.16	------	----	----	0.69	----	----	4.0	5.7	----	----
1.27	--	----	----	----	11.42	----	-----	------	------	----	----	----	----	----	----	----	----	----
1.39	--	----	----	----	12.50	----	-----	------	------	----	----	----	----	----	----	----	----	----
1.46	--	----	----	----	13.13	----	32.37	------	411.87	----	----	----	----	----	----	----	----	----
1.51	--	----	----	----	13.57	----	-----	------	------	----	----	----	----	----	----	----	----	----
1.64	--	----	----	----	14.74	----	-----	------	------	----	----	----	----	----	----	----	----	----
1.72	--	----	----	----	15.46	----	-----	------	------	----	.27	----	----	----	----	----	----	----
1.78	--	----	----	----	16.00	.75	-----	-4.0	------	----	----	.61	----	----	3.6	5.0	----	----
2.29	--	----	----	----	20.59	----	-----	------	------	----	----	----	----	----	----	----	----	----
2.29	--	----	----	----	20.59	----	-----	------	------	----	----	----	----	----	----	----	----	----
2.77	--	----	----	----	25.47	----	-----	------	------	----	----	----	----	----	----	----	----	----
2.90	6	----	0.31	----	26.80	----	-----	------	------	----	----	----	----	----	----	----	----	----
3.02	7	----	1.14	----	28.02	----	-----	------	------	----	----	----	----	----	----	----	----	----
Average values:																		
0.01 to 2.29			----	0.92	----------													
2.29 to 3.02			----	1.04	----------													
0.01 to 3.02			----------							0.61	----------		0.17	0.12	----------		3.5	5.1

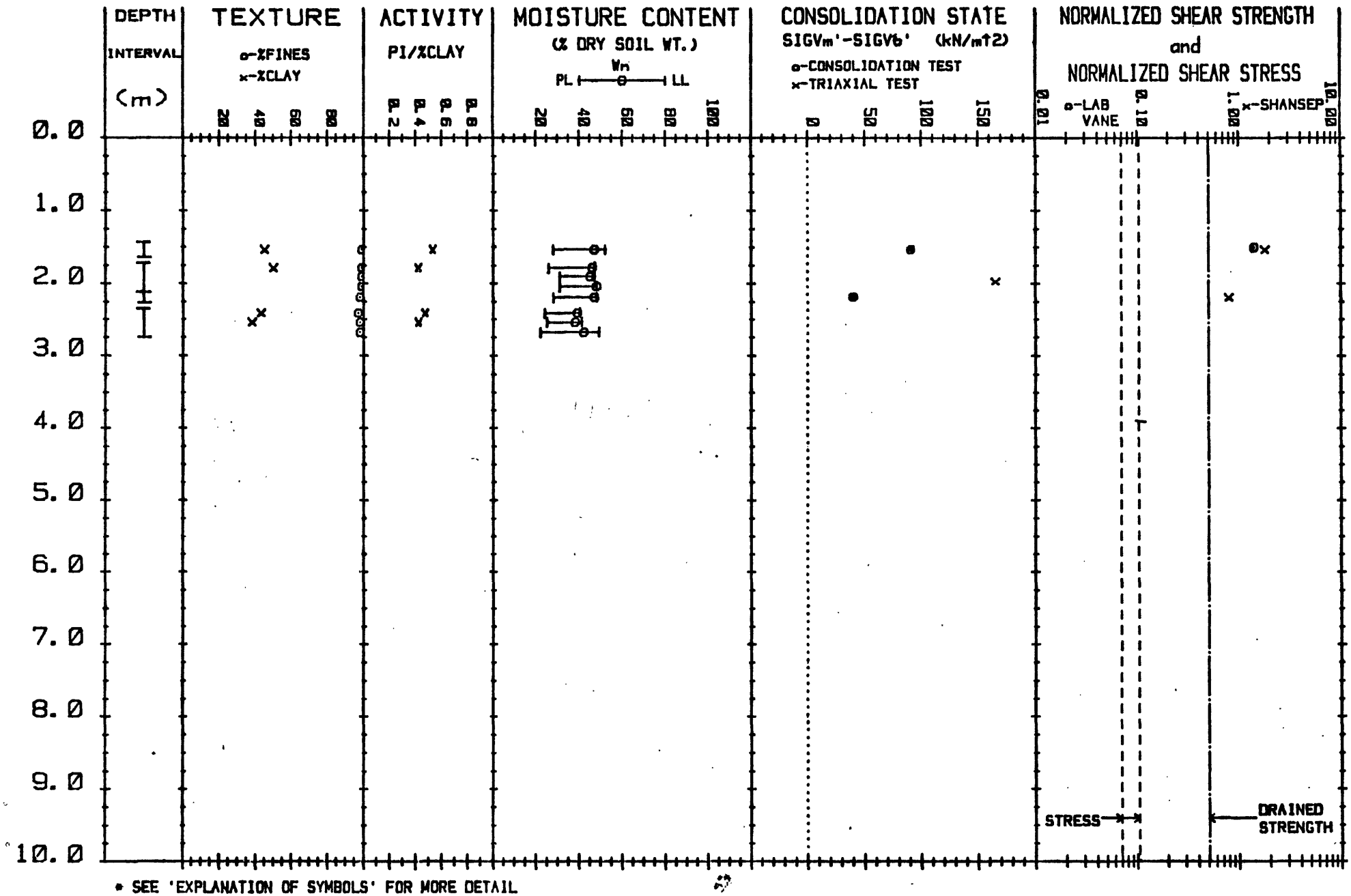


Figure 24a.--Geotechnical profile*.

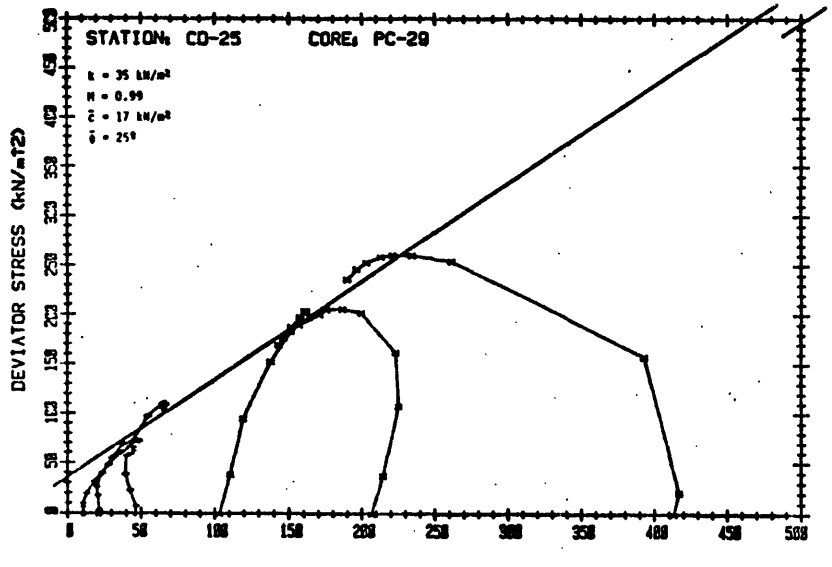


Figure 24b.--Interpretation of drained shear strength parameters.

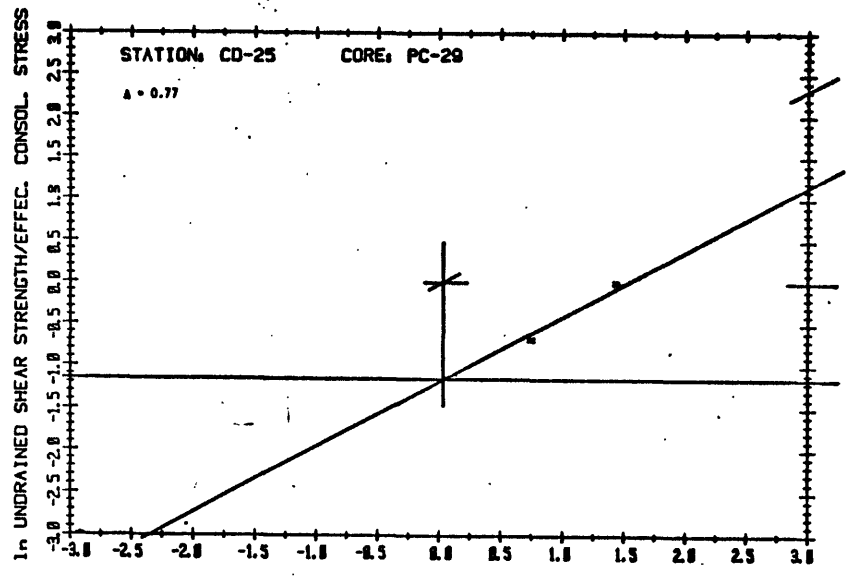


Figure 24d.--Interpretation of the pore pressure parameter A.

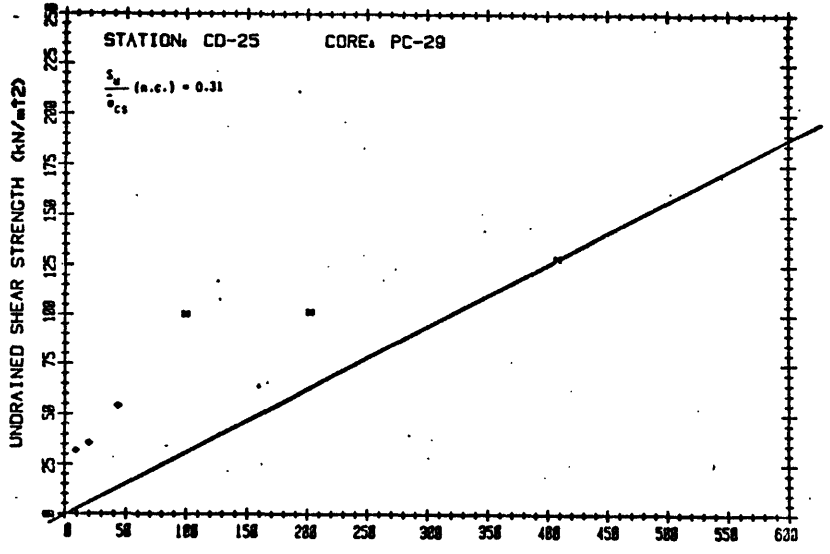


Figure 24c.--Interpretation of the normalized undrained shear strength for the normally consolidated state.

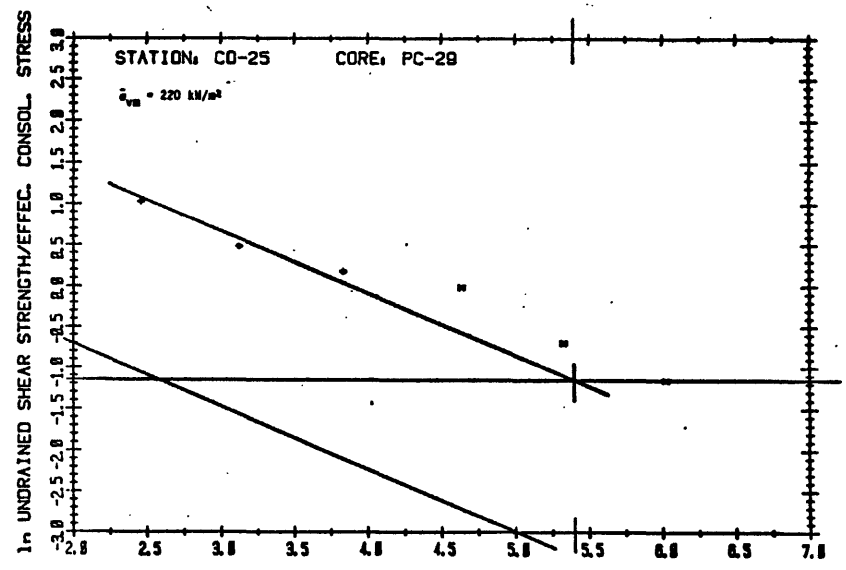


Figure 24e.--Interpretation of the preconsolidation stress from triaxial data.

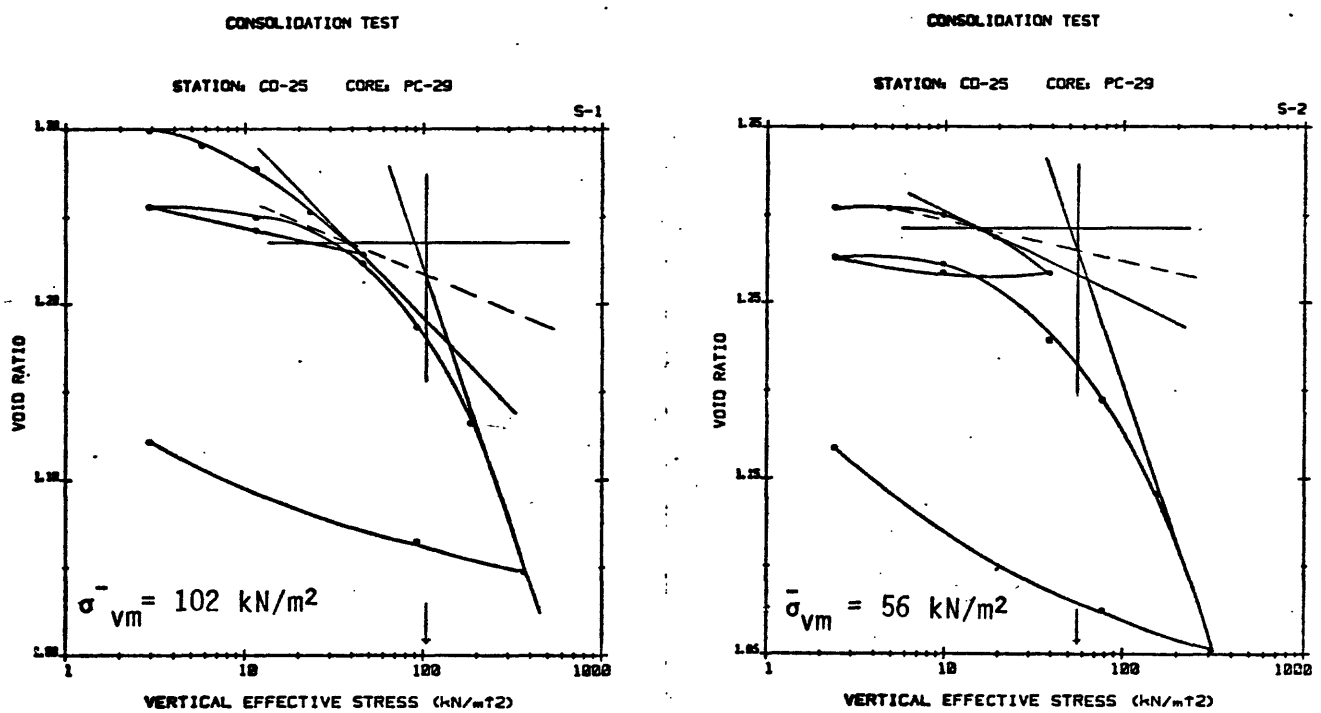


Figure 24f.--Interpretation of the preconsolidation stress from consolidation data.

Table 24a.--Geotechnical test results for site no. CD-25, core no. PC-29

[Lat 38°24.74' N., long 73°23.24' W.; water depth 392 m; core recovery 2.75 m; ----, indicate no information]

Sample depth (m)			Physical properties							Consolidation test results				Triaxial test conditions				Triaxial test results						
Top	Bottom	Average	Fines	Clay	LL	PL	G	w	γ_t	$\bar{\sigma}'_{vm}$	C_c	C_s	Lab vane S_u	Set	Symbol	$\bar{\sigma}'_{cm}$	$\bar{\sigma}'_c$	S_u	$S_u/\bar{\sigma}'_c$	$S_u/\bar{\sigma}'_c$ (n.c.)	$\bar{\sigma}'_{vm}$	A	$\bar{c}$	$\bar{\phi}$
0.00	----	0.01	--	--	--	--	----	33	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	--
1.43	1.64	1.53	99	45	52	28	2.78	47	1.75	102	0.28	0.03	----	-	-	-----	-----	-----	----	----	---	----	--	--
----	----	1.65	--	--	--	--	----	35	----	---	----	----	15.0	-	-	-----	-----	-----	----	----	---	----	--	--
1.72	----	1.78	99	50	47	26	2.83	46	1.82	---	----	----	----	1	+	-----	11.7	32.8	2.8	----	---	----	--	--
----	----	1.90	99	--	47	31	----	45	1.82	---	----	----	----	1	+	-----	22.7	36.6	1.61	----	---	----	--	--
----	----	1.97	--	--	--	--	----	--	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	--
----	2.12	2.04	99	--	48	31	----	48	1.78	---	----	----	----	1	+	-----	46.2	55.2	1.20	----	---	----	--	--
2.12	2.27	2.19	98	43	48	28	2.80	47	1.76	56	.30	.05	----	-	-	-----	-----	-----	----	----	---	----	--	--
2.35	----	2.41	97	38	40	24	2.72	39	1.91	---	----	----	----	2	x	413.4	413.4	130.2	.32	----	---	----	--	--
----	----	2.54	98	--	41	25	----	38	1.94	---	----	----	----	2	x	413	206.7	102.9	.50	----	---	----	--	--
----	2.75	2.68	98	--	49	22	----	42	1.83	---	----	----	----	2	x	413	103.4	101.9	.99	----	---	----	--	--
Average values:																								
1.72	2.12	----------																			220	----------		
0.00	2.75	----------																		0.31	---	0.77	17	25

Table 24b.--Calculated geotechnical results for site no. CD-25, core no. PC-29

[Regional slope angle: 6° maximum, 4° average; ----, indicate no information]

Average sample depth (m)						Consolidation state				Normalized shear strength			Normalized shear stress		Factor of safety			
						OCR		$\bar{\sigma}'_{vm} - \bar{\sigma}'_{vb}$		Undrained					Undrained Shansep		Drained	
	PI	A	LI	γ_b	$\bar{\sigma}'_{vb}$	Consolidated data	Triaxial data	Consolidated data	Triaxial data	Drained	Vane	Shansep	Maximum slope angle	Average slope angle	Maximum	Average	Maximum	Average
0.01	--	----	----	----	-----	----	-----	-----	------	----	----	----	----	----	----	----	----	----
1.53	24	0.53	0.79	----	11.98	8.51	-----	90.02	------	----	----	1.61	----	----	17.1	25.6	----	----
1.65	--	----	----	----	12.92	----	-----	-----	------	----	1.16	----	----	----	----	----	----	----
1.78	21	.42	.95	----	13.94	----	-----	-----	------	----	----	----	----	----	----	----	----	----
1.90	16	----	.88	----	14.88	----	-----	-----	------	----	----	----	----	----	----	----	----	----
1.97	--	----	----	----	15.43	----	14.26	-----	204.57	----	----	----	----	----	----	----	----	----
2.04	17	----	1.00	----	15.97	----	-----	-----	------	----	----	----	----	----	----	----	----	----
2.19	20	.47	.95	----	17.15	3.27	-----	38.85	------	----	----	.82	----	----	7.9	11.8	----	----
2.41	16	.42	.94	----	18.87	----	-----	-----	------	----	----	----	----	----	----	----	----	----
2.54	16	----	.81	----	19.89	----	-----	-----	------	----	----	----	----	----	----	----	----	----
2.68	27	----	.74	----	20.98	----	-----	-----	------	----	----	----	----	----	----	----	----	----
Average values for entire core.				0.80	----------					0.46	----------		0.10	0.07	----------		4.4	6.7

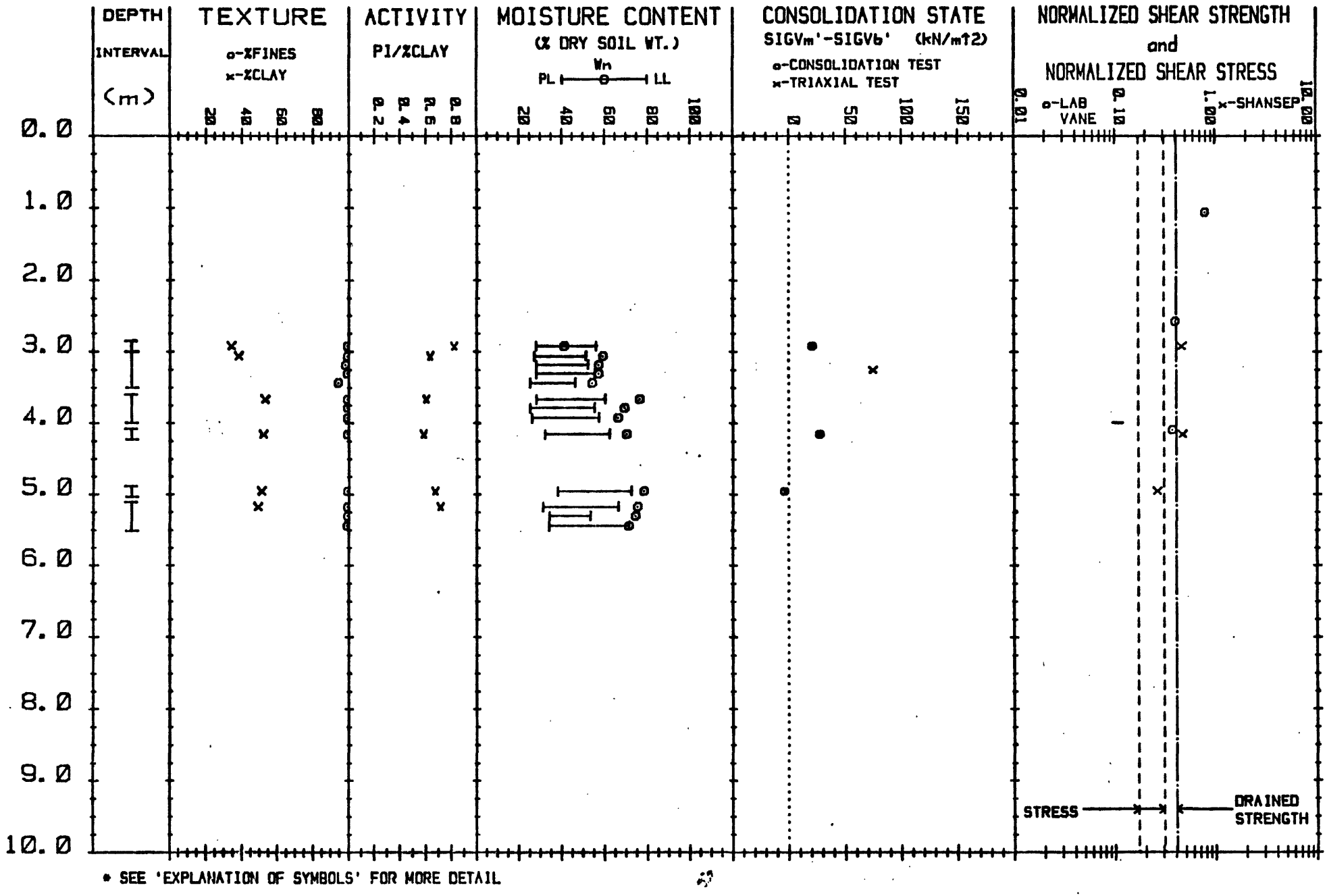


Figure 25a.--Geotechnical profile*.

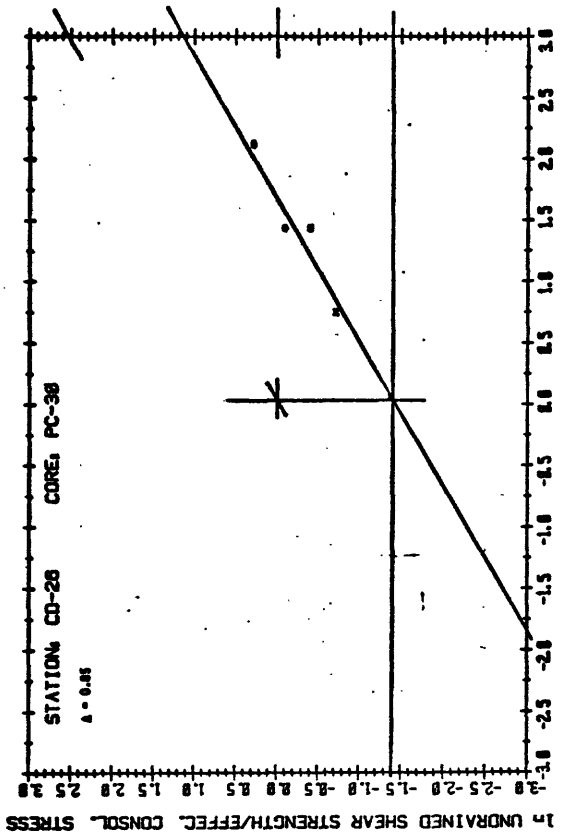


Figure 25d.--Interpretation of the pore pressure parameter A.

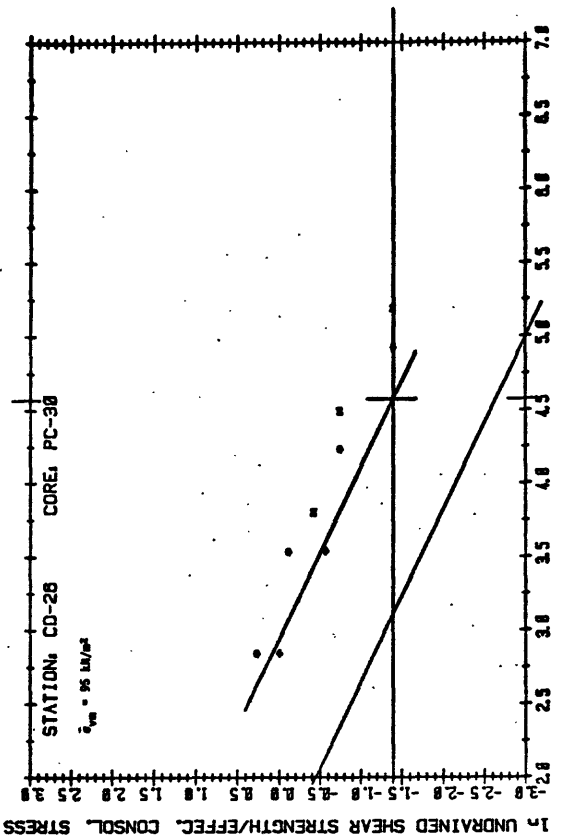


Figure 25a.--Interpretation of the preconsolidation stress from triaxial data.

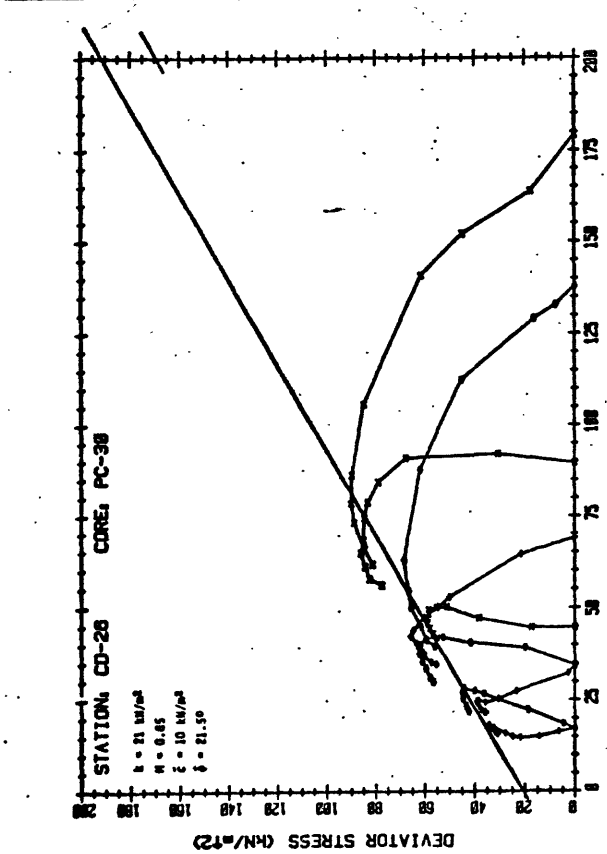


Figure 25b.--Interpretation of drained shear strength parameters.

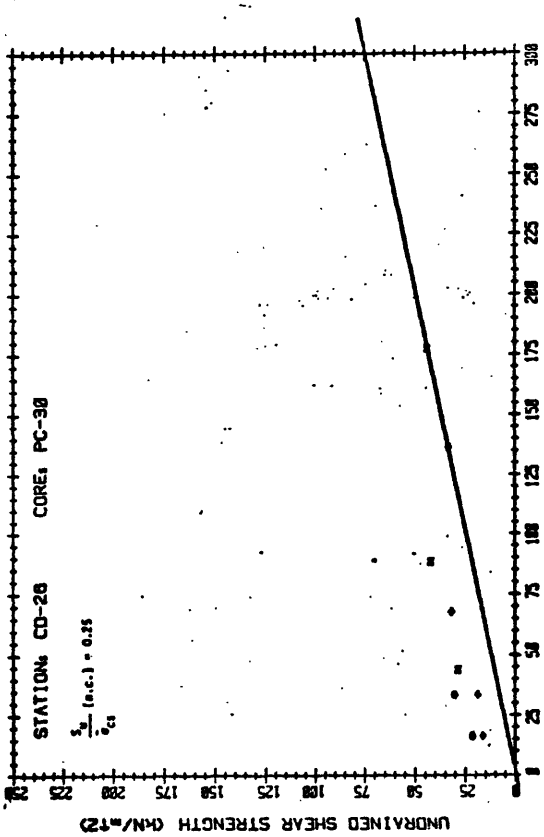


Figure 25c.--Interpretation of the normalized undrained shear strength for the normally consolidated state.

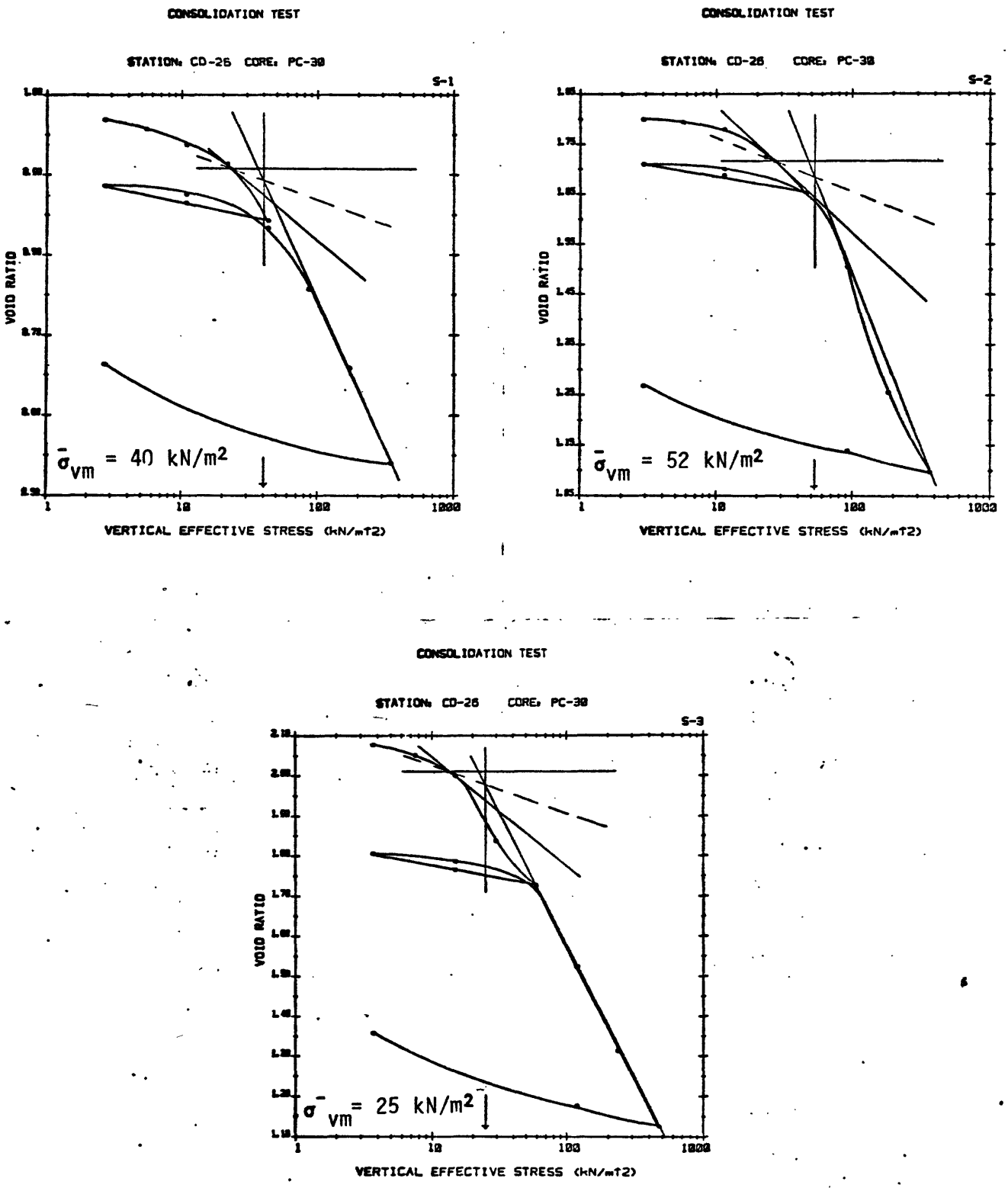


Figure 25f.--Interpretation of the preconsolidation stress from consolidation data.

Table 25a.--Geotechnical test results for site no. CD-26, core no. PC-30

[Lat 38°24.51' N., long 73°22.92' W.; water depth 520 m; core recovery 5.51 m; ----, indicate no information]

Sample depth (m)			Physical properties							Consolidation test results				Triaxial test conditions				Triaxial test results						
Top	Bottom	Average	Fines	Clay	LL	PL	G	w	γ_t	$\bar{\sigma}_{vm}$	C_c	C_s	Lab vane S_u	Set	Symbol	$\bar{\sigma}_{cm}$	$\bar{\sigma}_c$	S_u	$\frac{S_u}{\bar{\sigma}_c}$	$\frac{S_u}{\bar{\sigma}_c}$ (n.c.)	$\bar{\sigma}_{vm}$	A	$\bar{c}$	$\bar{\phi}$
0.00	----	0.01	--	--	--	--	----	67	----	---	----	----	3.2	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	1.06	--	--	--	--	----	47	----	---	----	----	5.4	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	2.58	--	--	--	--	----	55	----	---	----	----	6.6	-	-	-----	-----	-----	----	----	---	----	--	----
2.85	3.00	2.92	99	34	56	28	2.80	41	1.68	40	0.39	0.06	----	-	-	-----	-----	-----	----	----	---	----	--	----
3.00	----	3.06	99	38	51	27	2.76	59	1.70	---	----	----	----	1	+	-----	17.2	17.2	1.00	----	---	----	--	----
----	----	3.18	98	--	52	28	----	57	1.69	---	----	----	----	1	+	-----	34.5	19.6	.57	----	---	----	--	----
----	----	3.25	--	--	--	--	----	--	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	3.30	99	--	55	28	----	57	1.67	---	----	----	----	1	+	-----	68.9	32.8	.48	----	---	----	--	----
----	3.50	3.43	94	--	46	25	----	54	1.79	---	----	----	----	1	+	-----	-----	-----	----	----	---	----	--	----
----	3.55	----	--	--	--	--	----	--	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	----
3.55	----	----	--	--	--	--	----	--	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	----
3.60	----	3.66	99	53	60	28	2.65	76	1.54	---	----	----	----	3	*	137.6	137.8	34.2	.25	----	---	----	--	----
----	----	3.78	99	--	55	25	----	69	1.58	---	----	----	----	3	*	136	34.5	31.0	.90	----	---	----	--	----
----	----	3.92	99	--	57	26	----	66	1.67	---	----	----	----	3	*	137.6	17.2	22.4	1.30	----	---	----	--	----
----	4.00	----	--	--	--	--	----	--	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	4.09	--	--	--	--	----	69	----	---	----	----	8.8	-	-	-----	-----	-----	----	----	---	----	--	----
4.08	4.23	4.15	99	52	62	32	2.71	70	1.61	52	.52	.08	----	-	-	-----	-----	-----	----	----	---	----	--	----
4.88	5.03	4.95	99	51	72	38	2.75	78	1.54	25	.62	.10	----	-	-	-----	-----	-----	----	----	---	----	--	----
5.11	----	5.17	99	49	66	31	2.72	75	1.61	---	----	----	----	2	x	179	179.2	45	.25	----	---	----	--	----
----	----	5.30	99	--	53	34	----	74	1.63	---	----	----	----	2	x	179	89.6	43	.48	----	---	----	--	----
----	5.51	5.44	99	--	71	34	----	71	1.59	---	----	----	----	2	x	179	44.8	29.5	.66	----	---	----	--	----
Average values:																								
3.00	3.50	----------																			95	----------		
0.00	5.51	----------																		0.25	---	0.85	10	21.5

Table 25b.--Calculated geotechnical results for site no. CD-26, core no. PC-30

[Regional slope angle: 19° maximum, 10° average; ----, indicate no information]

Average sample depth (m)	PI	A	LI	γ_b	$\bar{\sigma}_{vb}$	Consolidation state: OCR		Consolidation state: $\bar{\sigma}_{vm} - \bar{\sigma}_{vb}$		Normalized shear strength: Undrained			Normalized shear stress		Factor of safety: Undrained Shansep		Factor of safety: Drained	
						Consolidated data	Triaxial data	Consolidated data	Triaxial data	Drained	Vane	Shansep	Maximum slope angle	Average slope angle	Maximum	Average	Maximum	Average
0.01	--	----	----	----	-----	----	----	-----	-----	----	----	----	----	----	----	----	----	----
1.06	--	----	----	----	7.08	----	----	-----	-----	----	0.76	----	----	----	----	----	----	----
2.58	--	----	----	----	17.23	----	----	-----	-----	----	.38	----	----	----	----	----	----	----
2.92	28	0.82	0.46	----	19.51	2.05	----	20.49	-----	----	----	0.46	----	----	1.5	2.7	----	----
3.06	24	.63	1.33	----	20.44	----	----	-----	-----	----	----	----	----	----	----	----	----	----
3.18	24	----	1.21	----	21.24	----	----	-----	-----	----	----	----	----	----	----	----	----	----
3.25	--	----	----	----	21.71	----	4.38	-----	73.29	----	----	----	----	----	----	----	----	----
3.30	27	----	1.07	----	22.04	----	----	-----	-----	----	----	----	----	----	----	----	----	----
3.43	21	----	1.38	----	22.91	----	----	-----	-----	----	----	----	----	----	----	----	----	----
3.55	--	----	----	----	23.71	----	----	-----	-----	----	----	----	----	----	----	----	----	----
3.55	--	----	----	----	23.71	----	----	-----	-----	----	----	----	----	----	----	----	----	----
3.66	32	.60	1.50	----	24.33	----	----	-----	-----	----	----	----	----	----	----	----	----	----
3.78	30	----	1.47	----	25.00	----	----	-----	-----	----	----	----	----	----	----	----	----	----
3.92	31	----	1.29	----	25.79	----	----	-----	-----	----	----	----	----	----	----	----	----	----
4.09	--	----	----	----	26.74	----	----	-----	-----	----	.33	----	----	----	----	----	----	----
4.15	30	.58	1.27	----	27.08	1.92	----	24.92	-----	----	----	.44	----	----	1.4	2.6	----	----
4.95	34	.67	1.18	----	31.57	.79	----	-6.57	-----	----	----	.22	----	----	.7	1.3	----	----
5.17	35	.71	1.26	----	32.80	----	----	------	-----	----	----	----	----	----	----	----	----	----
5.30	19	----	2.11	----	33.53	----	----	------	-----	----	----	----	----	----	----	----	----	----
5.44	37	1.00	----	----	34.32	----	----	------	-----	----	----	----	----	----	----	----	----	----
Average values:																		
0.01 to 3.55			----	0.68	----------													
3.55 to 5.44			----	.57	----------													
0.01 to 5.44			----------							0.35	----------		0.31	0.17	----------		1.1	2.2

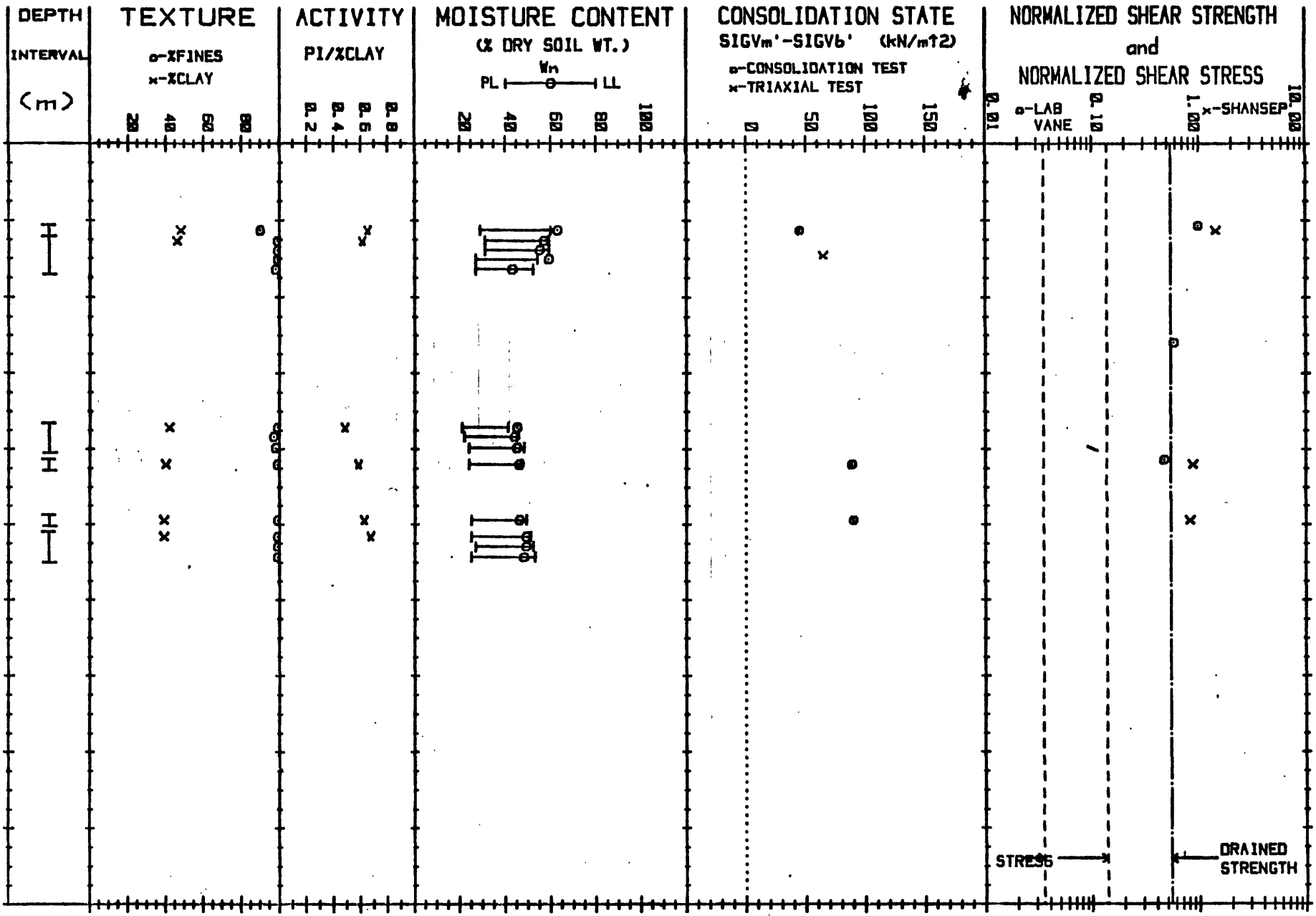


Figure 26a.--Geotechnical profile*.

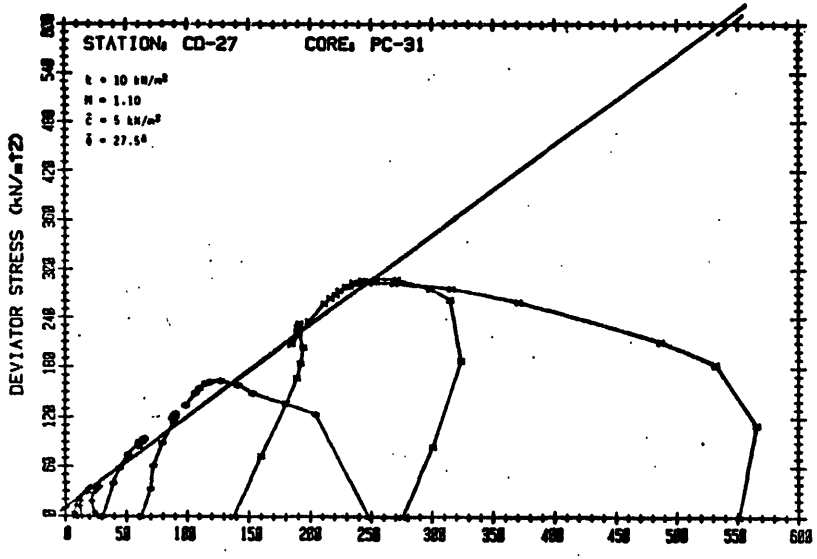


Figure 26b.--Interpretation of drained shear strength parameters.

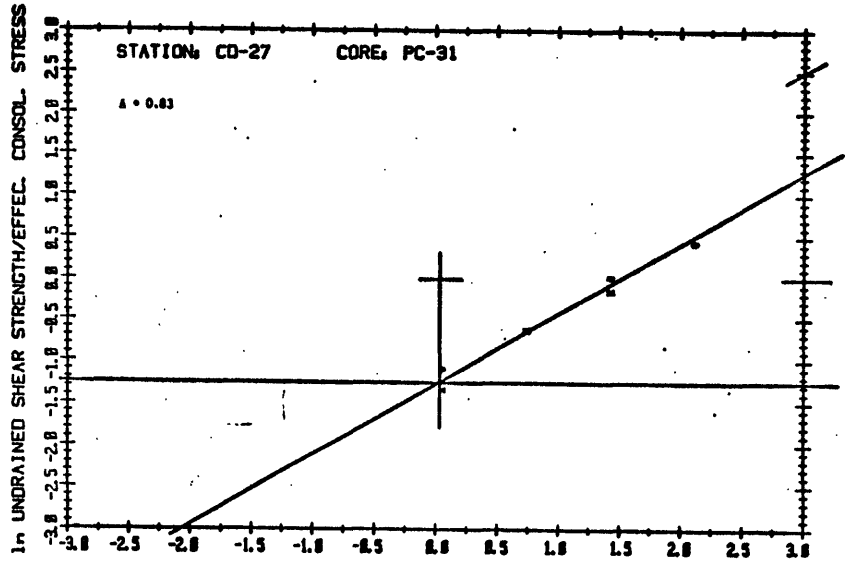


Figure 26d.--Interpretation of the pore pressure parameter A.

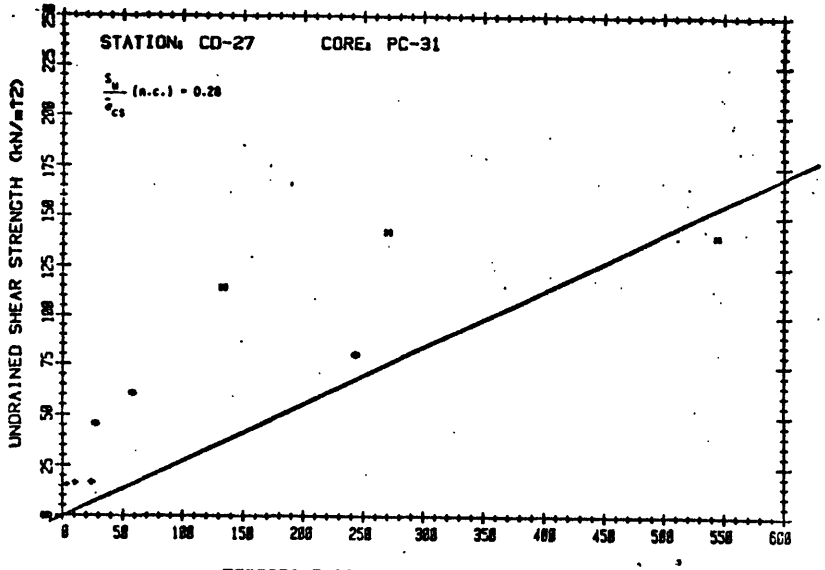


Figure 26c.--Interpretation of the normalized undrained shear strength for the normally consolidated state.

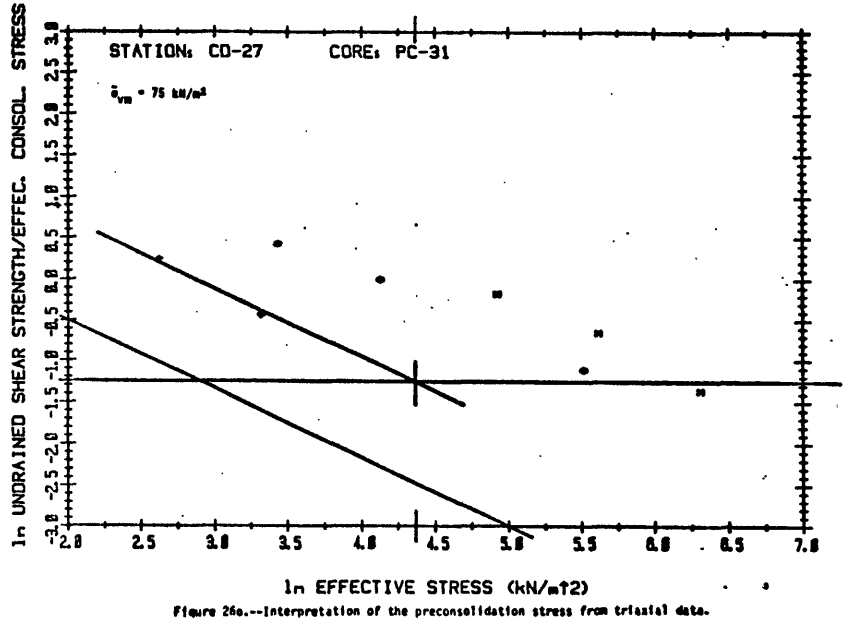


Figure 26a.--Interpretation of the preconsolidation stress from triaxial data.

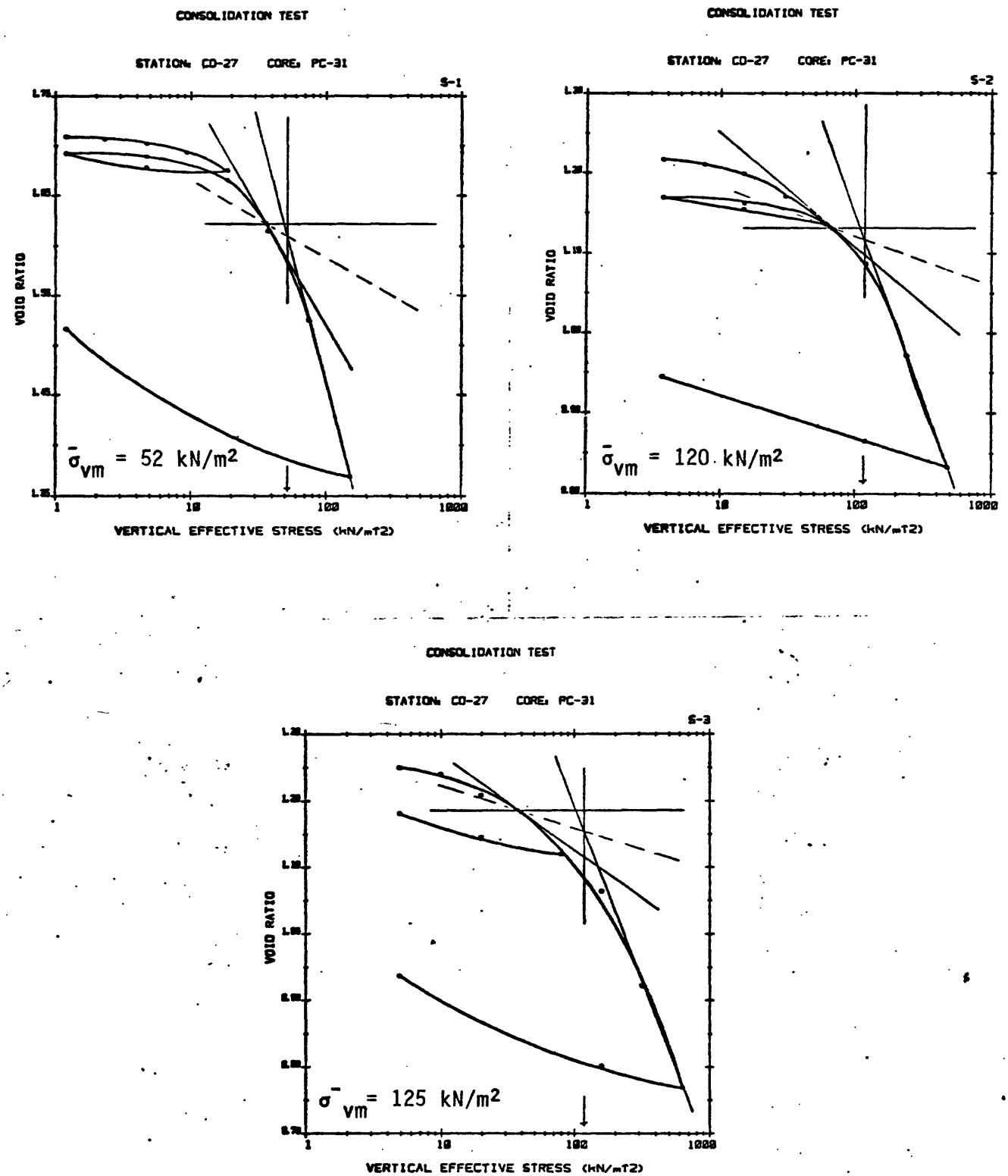


Figure 26f.--Interpretation of the preconsolidation stress from consolidation data.

Table 26a.--Geotechnical test results for site no. CD-27, core no. PC-31

[Lat 28°24.38' N., long 73°22.80' W.; water depth 553 m; core recovery 5.58 m; ----, indicate no information]

Sample depth (m)			Physical properties							Consolidation test results				Triaxial test conditions				Triaxial test results						
Top	Bottom	Average	Fines	Clay	LL	PL	G	w	γ_t	$\bar{\sigma}'_{vm}$	C_c	C_s	Lab vane S_u	Set	Symbol	$\bar{\sigma}'_{cm}$	$\bar{\sigma}'_c$	S_u	$S_u/\bar{\sigma}'_c$	$S_u/\bar{\sigma}'_c$ (n.c.)	$\bar{\sigma}_{vm}$	A	$\bar{c}$	$\bar{\phi}$
0.00	----	0.01	--	--	--	--	----	55	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	1.07	--	--	--	--	----	65	----	---	----	----	6.5	-	-	-----	-----	-----	----	----	---	----	--	----
1.06	1.21	1.13	90	48	60	29	2.81	63	1.65	52	0.52	0.07	----	-	-	-----	-----	-----	----	----	---	----	--	----
1.21	----	1.27	99	46	59	31	2.82	57	1.69	---	----	----	----	1	+	-----	6.9	16.7	2.42	----	---	----	--	----
----	----	1.39	99	--	59	31	----	55	1.72	---	----	----	----	1	+	-----	13.8	17.6	1.28	----	---	----	--	----
----	----	1.46	--	--	--	--	----	--	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	1.51	99	--	54	27	----	59	1.68	---	----	----	----	1	+	-----	27.6	17.9	.65	----	---	----	--	----
----	1.71	1.64	98	--	52	27	----	43	1.79	---	----	----	----	1	+	-----	-----	-----	----	----	---	----	--	----
----	----	2.60	--	--	--	--	----	49	----	---	----	----	11.4	-	-	-----	-----	-----	----	----	---	----	--	----
----	2.68	----	--	--	--	--	----	--	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	----
2.68	----	----	--	--	--	--	----	--	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	----
3.65	----	3.71	99	42	41	21	2.76	45	1.83	---	----	----	----	3	*	248	62	62.4	1.01	----	---	----	--	----
----	----	3.83	97	--	45	22	----	44	1.82	---	----	----	----	3	*	248	248.1	81.8	.33	----	---	----	--	----
----	----	3.98	98	--	48	24	----	45	1.80	---	----	----	----	3	*	248	31.0	47.4	1.53	----	---	----	--	----
----	4.05	----	--	--	--	--	----	--	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	4.14	--	--	--	--	----	46	----	---	----	----	14.0	-	-	-----	-----	-----	----	----	---	----	--	----
4.13	4.28	4.20	99	40	47	24	2.72	46	1.76	120	.46	.05	----	-	-	-----	-----	-----	----	----	---	----	--	----
4.87	5.02	4.94	99	39	49	25	2.71	46	1.73	125	.51	.07	----	-	-	-----	-----	-----	----	----	---	----	--	----
5.10	----	5.16	99	39	51	25	2.76	49	1.78	---	----	----	----	2	x	551	551.2	141.6	.28	----	---	----	--	----
----	----	5.29	99	--	52	27	----	49	1.79	---	----	----	----	2	x	551	275.6	144.2	.52	----	---	----	--	----
----	5.50	5.43	99	--	53	25	----	48	1.81	---	----	----	----	2	x	551	137.8	116.1	.84	----	---	----	--	----
Average values:																								
1.21	1.71	----------																			75	----------		
0.00	5.50	----------																		0.28	---	0.83	5	27.5

Table 26b.--Calculated geotechnical results for site no. CD-27, core no. PC-31

[Regional slope angle: 8° maximum, 2° average; ----, indicate no information]

Average sample depth (m)	PI	A	LI	γ_b	$\bar{\sigma}_{vb}$	Consolidation state: OCR		Consolidation state: $\bar{\sigma}'_{vm} - \bar{\sigma}'_{vb}$		Normalized shear strength: Undrained			Normalized shear stress		Factor of safety: Undrained Shansep		Factor of safety: Drained	
						Consolidated data	Triaxial data	Consolidated data	Triaxial data	Drained	Vane	Shansep	Maximum slope angle	Average slope angle	Maximum	Average	Maximum	Average
0.01	--	----	----	----	------	----	----	------	------	----	----	----	----	----	----	----	----	----
1.07	--	----	----	----	7.16	----	----	------	------	----	0.91	----	----	----	----	----	----	----
1.13	31	0.65	1.10	----	7.56	6.88	----	44.44	------	----	----	1.39	----	----	10.1	39.8	----	----
1.27	28	.61	.93	----	8.50	----	----	------	------	----	----	----	----	----	----	----	----	----
1.39	28	----	.86	----	9.30	----	----	------	------	----	----	----	----	----	----	----	----	----
1.46	--	----	----	----	9.77	----	7.68	------	65.23	----	----	----	----	----	----	----	----	----
1.51	27	----	1.19	----	10.10	----	----	------	------	----	----	----	----	----	----	----	----	----
1.64	25	----	.64	----	10.97	----	----	------	------	----	----	----	----	----	----	----	----	----
2.60	--	----	----	----	17.39	----	----	------	------	----	.65	----	----	----	----	----	----	----
2.68	--	----	----	----	17.93	----	----	------	------	----	----	----	----	----	----	----	----	----
2.68	--	----	----	----	17.93	----	----	------	------	----	----	----	----	----	----	----	----	----
3.71	20	.48	1.20	----	25.63	----	----	------	------	----	----	----	----	----	----	----	----	----
3.83	23	----	.96	----	26.53	----	----	------	------	----	----	----	----	----	----	----	----	----
3.98	24	----	.88	----	27.65	----	----	------	------	----	----	----	----	----	----	----	----	----
4.14	--	----	----	----	28.85	----	----	------	------	----	.49	----	----	----	----	----	----	----
4.20	23	.58	.96	----	29.30	4.10	----	90.70	------	----	----	.92	----	----	6.7	26.4	----	----
4.94	24	.62	.88	----	34.83	3.59	----	90.17	------	----	----	.84	----	----	6.1	24.1	----	----
5.16	26	.67	.92	----	36.48	----	----	------	------	----	----	----	----	----	----	----	----	----
5.29	25	----	.88	----	37.45	----	----	------	------	----	----	----	----	----	----	----	----	----
5.43	28	----	.82	----	38.50	----	----	------	------	----	----	----	----	----	----	----	----	----
Average values:																		
0.01 to 2.68		----		0.68	----------													
2.68 to 5.43		----		.76	----------													
0.01 to 5.43		----------								0.51	----------		0.14	0.04	----------		3.7	14.9

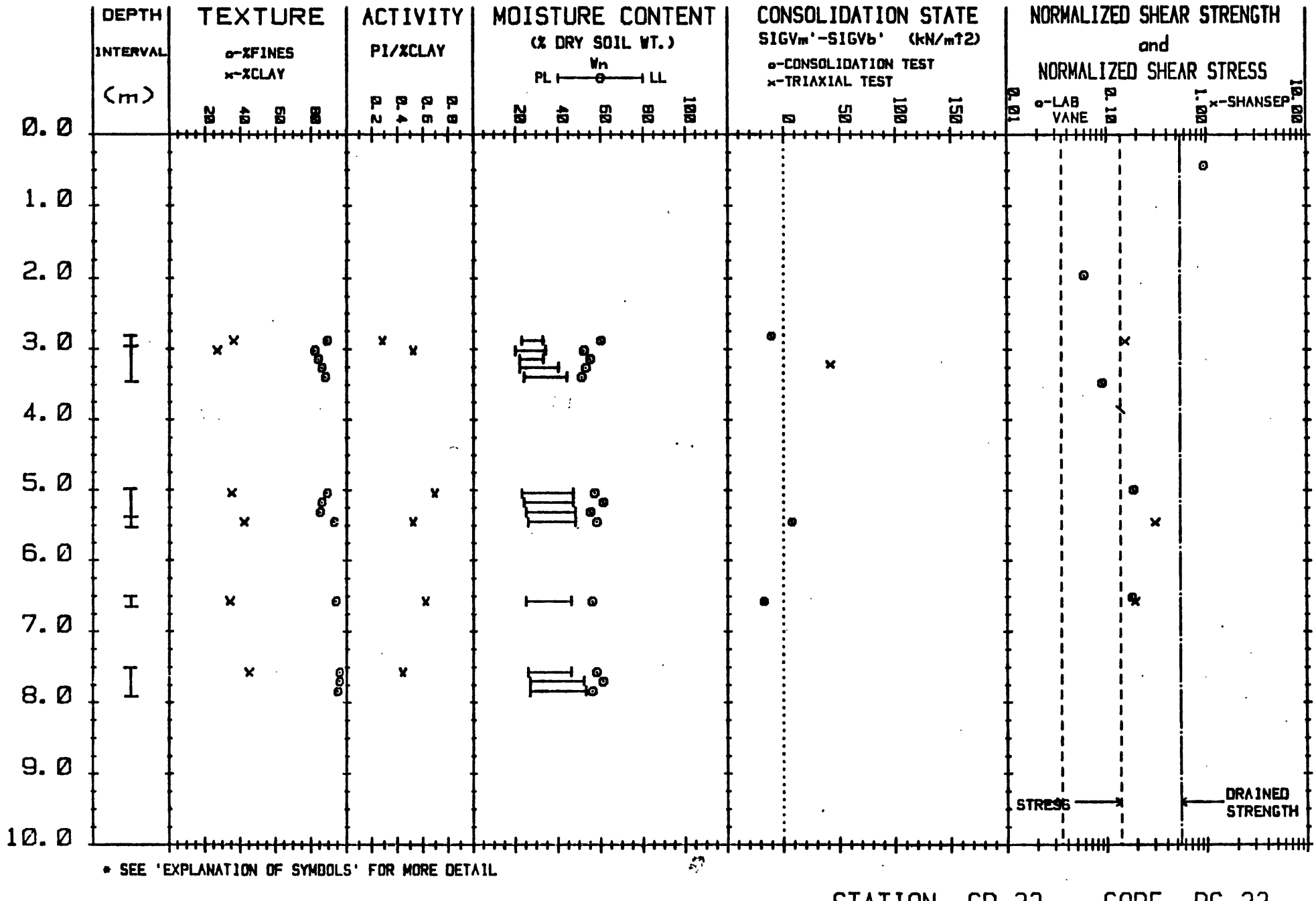


Figure 27a.--Geotechnical profile*.

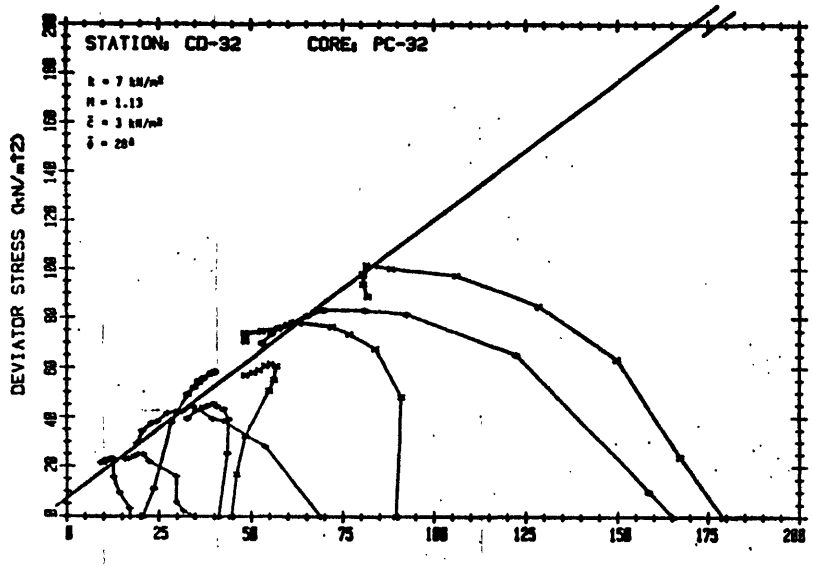


Figure 27b.--Interpretation of drained shear strength parameters.

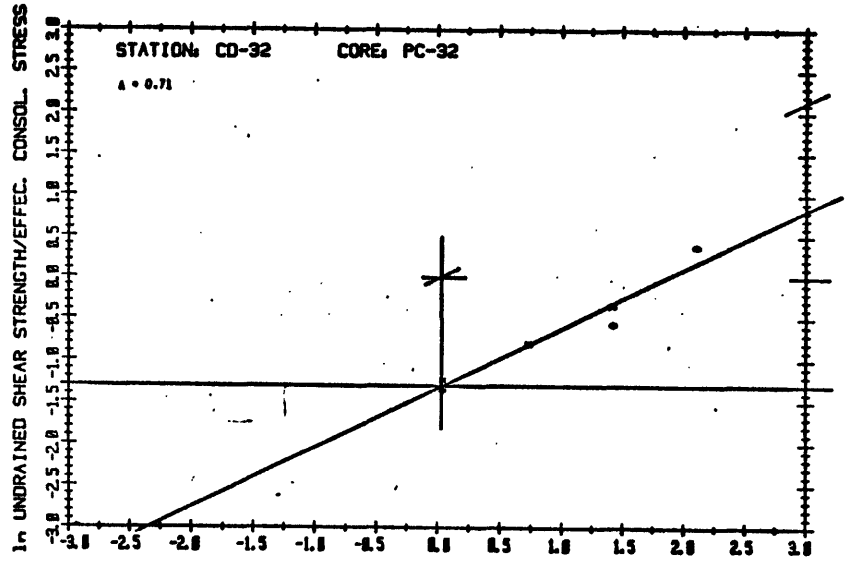


Figure 27d.--Interpretation of the pore pressure parameter A.

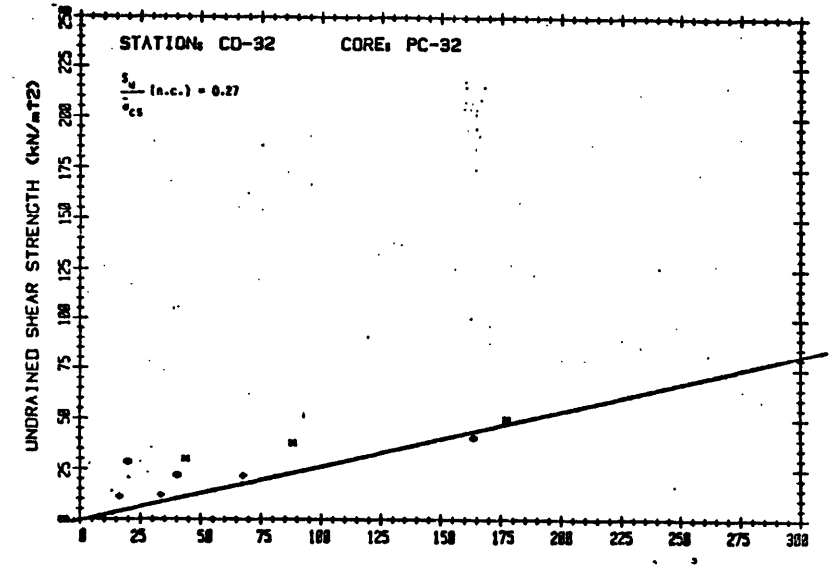


Figure 27c.--Interpretation of the normalized undrained shear strength for the normally consolidated state.

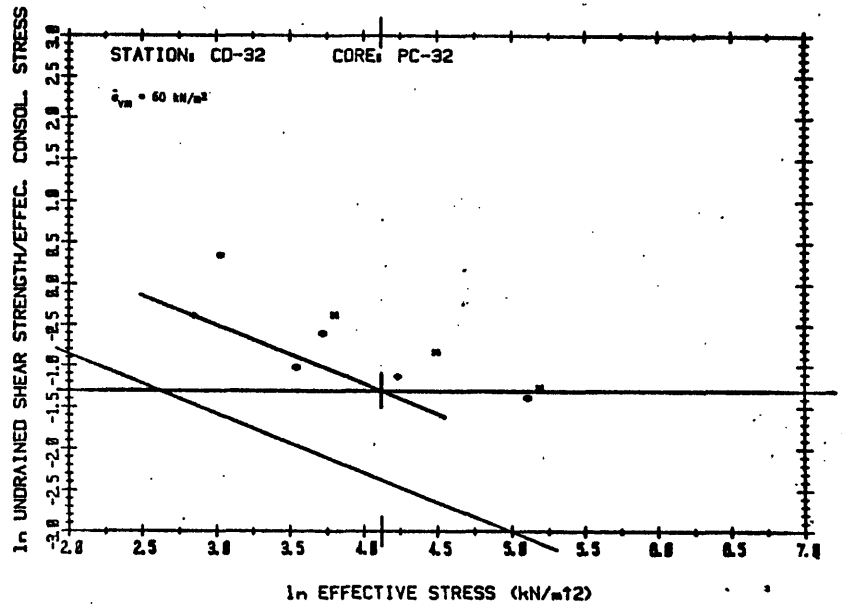


Figure 27e.--Interpretation of the preconsolidation stress from triaxial data.

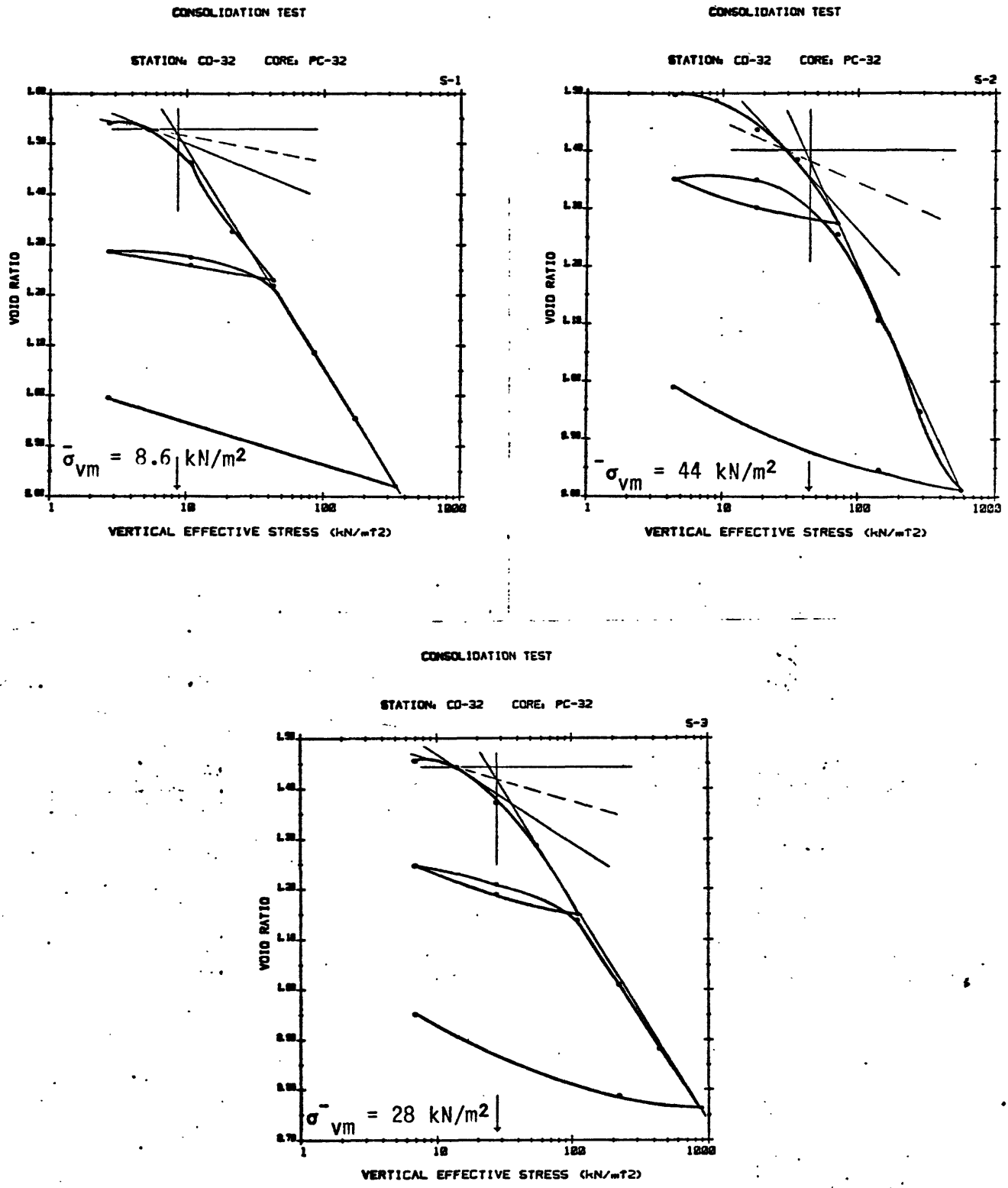


Figure 27f.--Interpretation of the preconsolidation stress from consolidation data.

Table 27a.--Geotechnical test results for site no. CD-32, core no. PC-32

[Lat 38°22.05' N., long 73°21.05' W.; water depth 1098 m; core recovery 8.02 m; ----, indicate no information]

Sample depth (m)			Physical properties							Consolidation test results			Lab vane	Triaxial test conditions			Triaxial test results						
Top	Bottom	Average	Fines	Clay	LL	PL	G	w	γ_t	$\bar{\sigma}'_{vm}$	C_c	C_s	S_u	Set	Symbol	$\bar{\sigma}'_{cm}$	$\bar{\sigma}'_c$	S_u	$S_u/\bar{\sigma}'_c$	$S_u/\bar{\sigma}'_c$ (n.c.)	$\bar{\sigma}'_{vm}$	A	$\bar{\epsilon}$	$\bar{\gamma}$
0.00	----	0.01	--	--	--	--	----	95	----	----	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	--
----	----	.43	--	--	--	--	----	84	----	----	----	----	2.6	-	-	-----	-----	-----	----	----	---	----	--	--
----	----	1.95	--	--	--	--	----	80	----	----	----	----	.8	-	-	-----	-----	-----	----	----	---	----	--	--
2.81	2.96	2.88	89	36	33	23	2.74	60	1.68	8.6	0.44	0.08	----	-	-	-----	-----	-----	----	----	---	----	--	--
2.96	----	3.02	82	27	34	20	2.77	52	1.70	----	----	----	----	1	+	-----	17.2	106.6	0.68	----	---	----	--	--
----	----	3.14	84	--	33	22	----	55	1.70	----	----	----	----	1	+	-----	34.5	12.4	.36	----	---	----	--	--
----	----	3.21	--	--	--	--	----	--	----	----	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	--
----	----	3.26	86	--	40	22	----	53	1.71	----	----	----	----	1	+	-----	68.9	22.2	.32	----	---	----	--	--
----	3.46	3.39	88	--	44	24	----	51	1.72	----	----	----	----	1	+	-----	-----	-----	----	----	---	----	--	--
----	----	3.47	--	--	--	--	----	68	----	----	----	----	2.1	-	-	-----	-----	-----	----	----	---	----	--	--
----	----	4.99	--	--	--	--	----	55	----	----	----	----	6.2	-	-	-----	-----	-----	----	----	---	----	--	--
4.98	----	5.04	89	35	47	23	2.78	57	1.70	----	----	----	----	3	*	165.6	165.4	41.5	.25	----	---	----	--	--
----	----	5.17	86	--	47	24	----	61	1.69	----	----	----	----	3	*	165.4	41.3	22.6	.55	----	---	----	--	--
----	5.38	5.31	85	--	48	25	----	55	1.72	----	----	----	----	3	*	165.4	20.7	29.2	1.41	----	---	----	--	--
5.38	5.53	5.45	93	42	48	26	2.71	58	1.68	44	.50	.08	----	-	-	-----	-----	-----	----	----	---	----	--	--
----	----	6.51	--	--	--	--	----	53	----	----	----	----	7.8	-	-	-----	-----	-----	----	----	---	----	--	--
6.50	6.65	6.57	94	34	46	25	2.76	56	1.70	28	.42	.07	----	-	-	-----	-----	-----	----	----	---	----	--	--
7.51	----	7.57	96	45	46	26	2.74	58	1.72	----	----	----	----	2	x	179.1	179.2	50.8	.28	----	---	----	--	--
----	----	7.70	96	--	52	27	----	61	1.65	----	----	----	----	2	x	179.1	89.6	39	.44	----	---	----	--	--
----	7.91	7.84	95	--	53	27	----	56	1.71	----	----	----	----	2	x	179.1	44.8	30.7	.68	----	---	----	--	--
Average values:																								
2.96	3.46	----------																			60	----------		
0.00	7.91	----------																		0.27	---	0.71	3	28

Table 27b.--Calculated geotechnical results for site no. CD-32, core no. PC-32

[Regional slope angle: 8° maximum, 2° average; ----, indicate no information]

Average sample depth (m)	PI	A	LI	γ_b	$\bar{\sigma}'_{vb}$	Consolidation state: OCR		Consolidation state: $\bar{\sigma}'_{vm} - \bar{\sigma}'_{vb}$		Normalized shear strength: Undrained			Normalized shear stress		Factor of safety: Undrained Shansep		Factor of safety: Drained	
						Consolidated data	Triaxial data	Consolidated data	Triaxial data	Drained	Vane	Shansep	Maximum slope angle	Average slope angle	Maximum	Average	Maximum	Average
0.01	--	----	----	----	-----	----	----	-----	-----	----	----	----	----	----	----	----	----	----
0.43	--	----	----	----	2.85	----	----	------	------	----	0.92	----	----	----	----	----	----	----
1.95	--	----	----	----	12.91	----	----	------	------	----	.06	----	----	----	----	----	----	----
2.88	10	0.28	3.70	----	19.07	0.45	----	-10.47	------	----	----	0.12	----	----	1.1	4.3	----	----
3.02	14	.52	2.29	----	19.99	----	----	------	------	----	----	----	----	----	----	----	----	----
3.14	11	----	3.00	----	20.79	----	----	------	------	----	----	----	----	----	----	----	----	----
3.21	--	----	----	----	21.25	----	2.82	------	38.75	----	----	----	----	----	----	----	----	----
3.26	18	----	1.72	----	21.58	----	----	------	------	----	----	----	----	----	----	----	----	----
3.39	20	----	1.35	----	22.44	----	----	------	------	----	----	----	----	----	----	----	----	----
3.47	--	----	----	----	22.97	----	----	------	------	----	.09	----	----	----	----	----	----	----
4.99	--	----	----	----	33.03	----	----	------	------	----	.19	----	----	----	----	----	----	----
5.04	24	.69	1.42	----	33.36	----	----	------	------	----	----	----	----	----	----	----	----	----
5.17	23	----	1.61	----	34.23	----	----	------	------	----	----	----	----	----	----	----	----	----
5.31	23	----	1.30	----	35.15	----	----	------	------	----	----	----	----	----	----	----	----	----
5.45	22	.52	1.45	----	36.08	1.22	----	7.92	------	----	----	.31	----	----	2.2	8.9	----	----
6.51	--	----	----	----	43.10	----	----	------	------	----	.18	----	----	----	----	----	----	----
6.57	21	.62	1.48	----	43.49	.64	----	-15.49	------	----	----	.17	----	----	1.4	5.7	----	----
7.57	20	.44	1.23	----	50.11	----	----	------	------	----	----	----	----	----	----	----	----	----
7.70	25	----	1.36	----	50.97	----	----	------	------	----	----	----	----	----	----	----	----	----
7.84	26	----	1.12	----	51.90	----	----	------	------	----	----	----	----	----	----	----	----	----
Average values for entire core.				0.68	----------					0.52	----------		0.14	0.04	----------		3.8	15.2

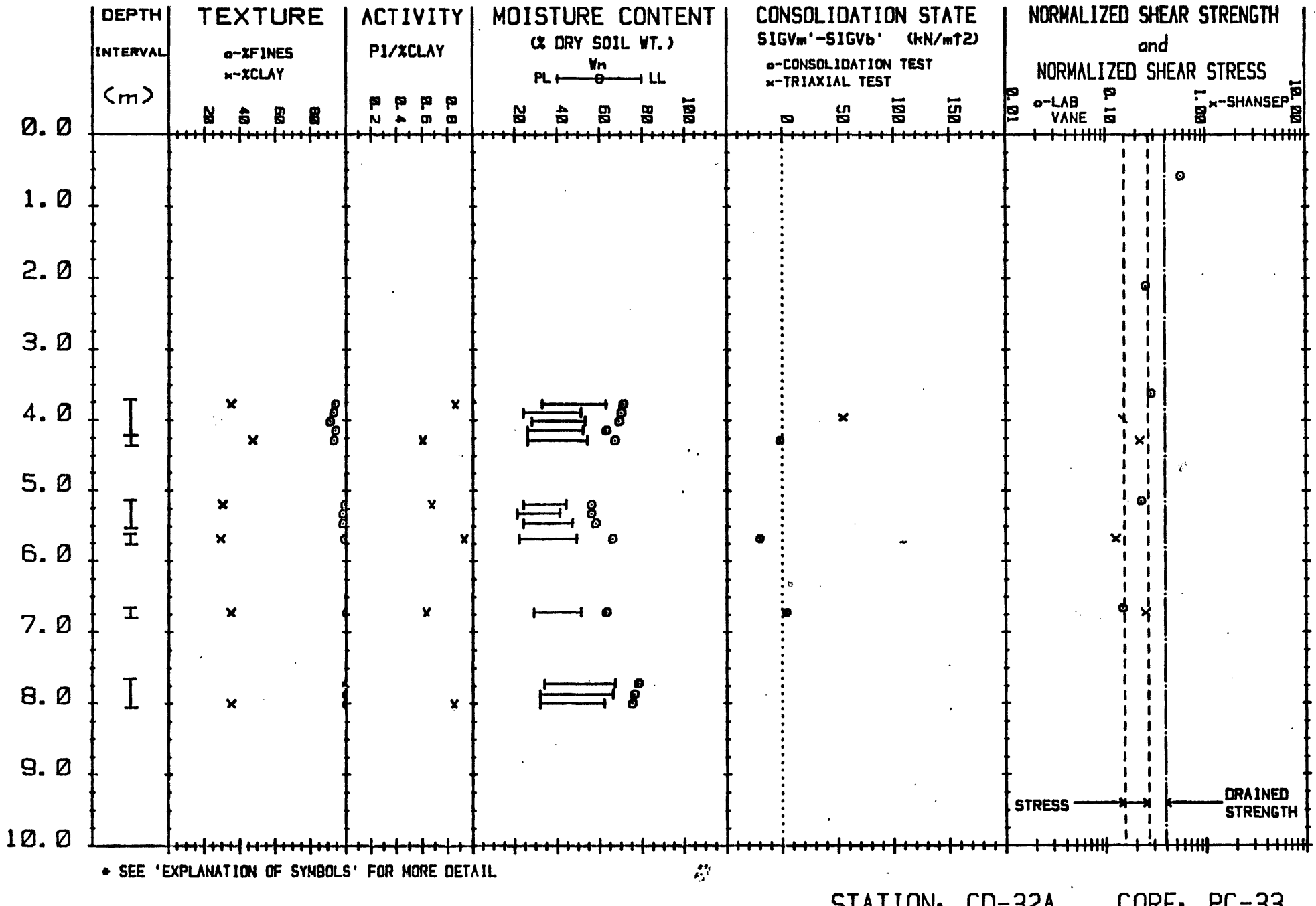


Figure 28a.--Geotechnical profile*.

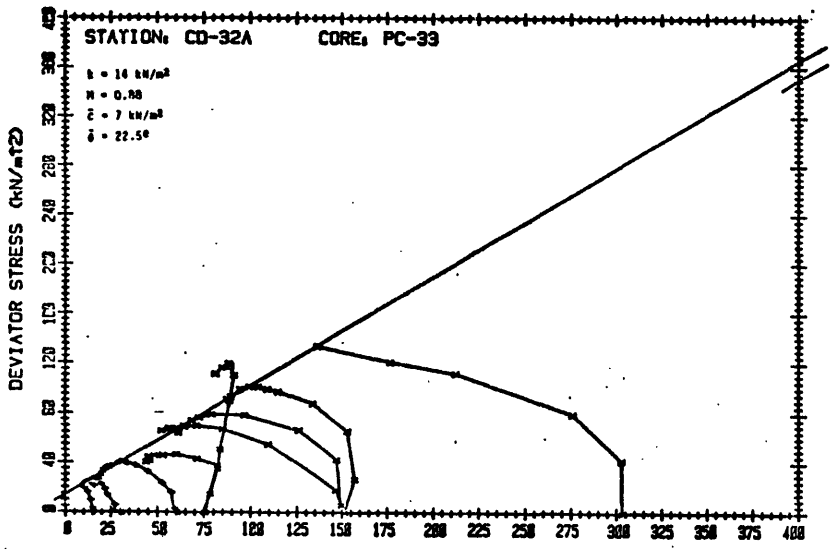


Figure 28b.--Interpretation of drained shear strength parameters.

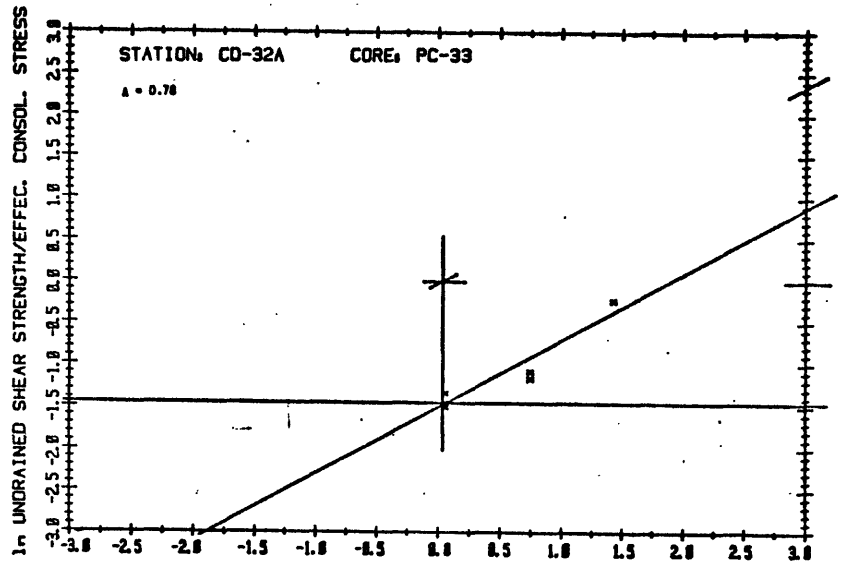


Figure 28d.--Interpretation of the pore pressure parameter Λ.

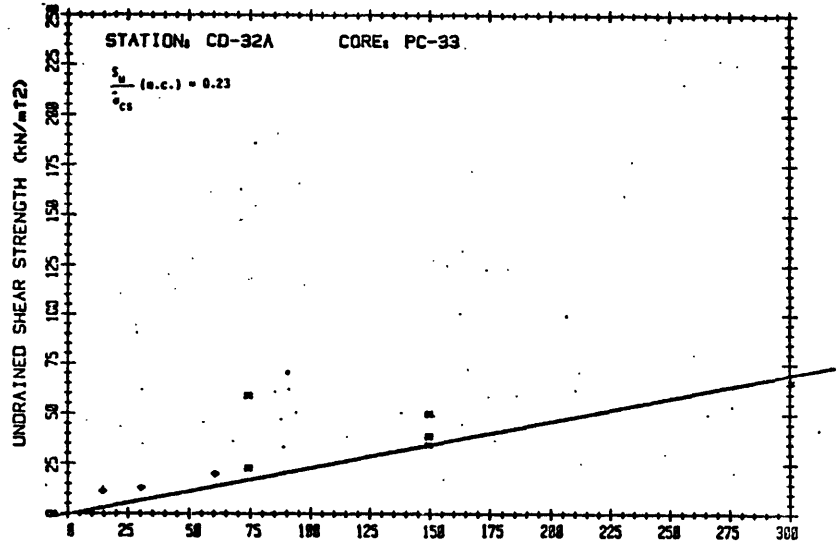


Figure 28c.--Interpretation of the normalized undrained shear strength for the normally consolidated state.

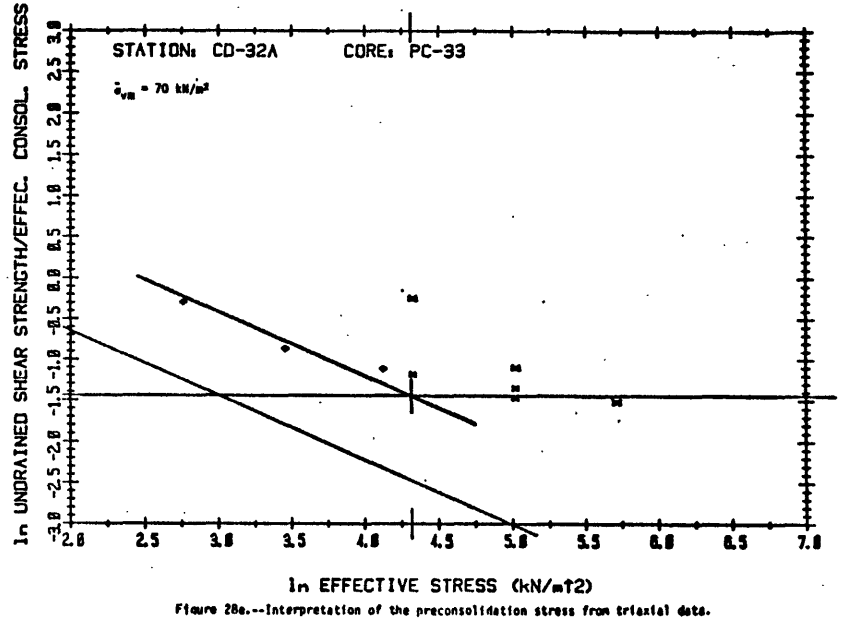


Figure 28a.--Interpretation of the preconsolidation stress from triaxial data.

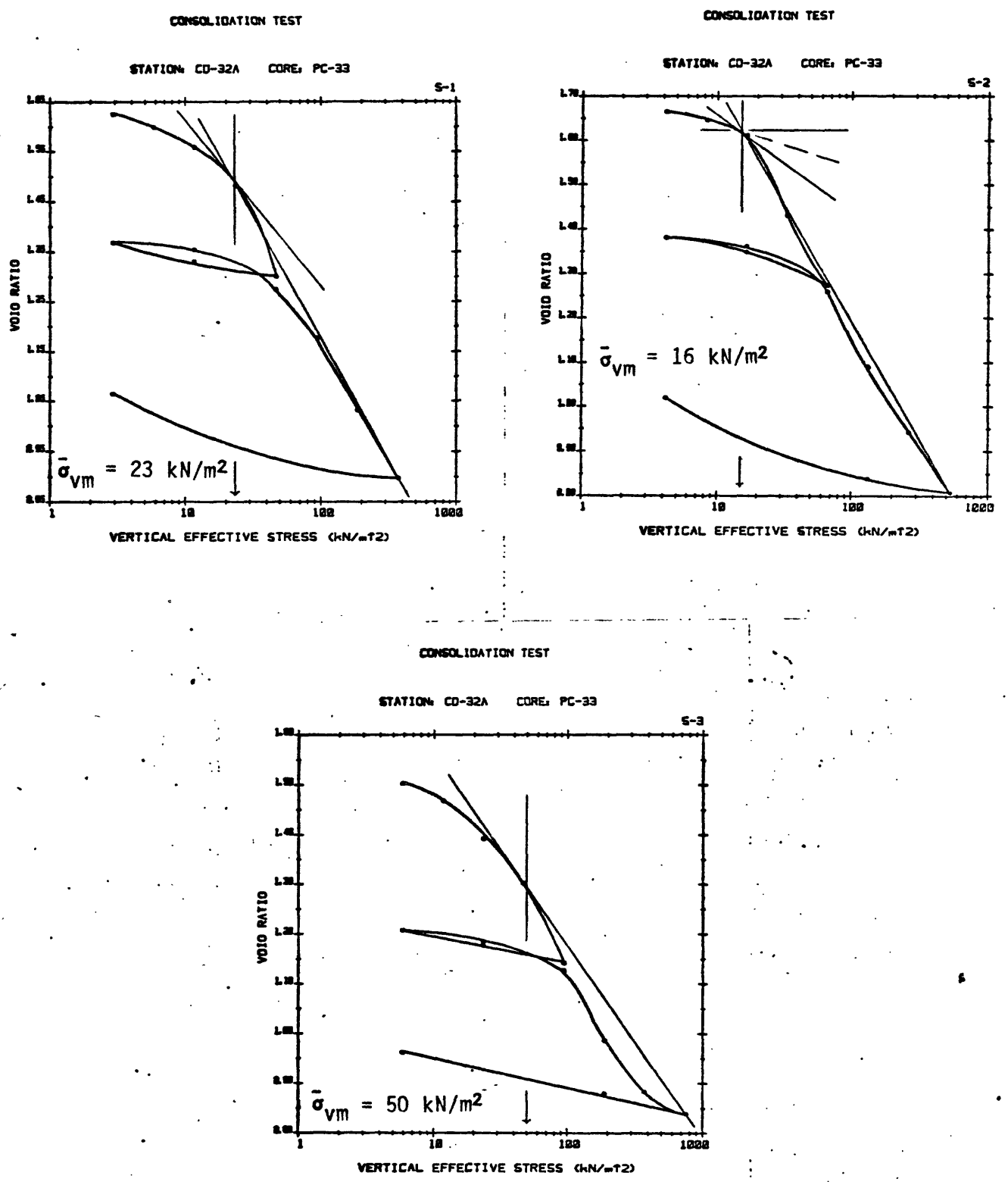


Figure 28f.--Interpretation of the preconsolidation stress from consolidation data.

Table 28a.--Geotechnical test results for site no. CD-32A, core no. PC-33

[Lat 38°22.49' N., long 73°21.98' W.; water depth 1040 m; core recovery 8.17 m; ----, indicate no information]

Sample depth (m)			Physical properties						Consolidation test results				Triaxial test conditions				Triaxial test results						
Top	Bottom	Average	Fines	Clay	LL	PL	G	w	γ_t	$\bar{\sigma}_{vm}$	C_c	C_s	Lab vane S_u	Set	Symbol	$\bar{\sigma}_{cm}$	$\bar{\sigma}_c$	S_u	$S_u/\bar{\sigma}_c$	$S_u/\bar{\sigma}_c$ (n.c.)	$\bar{\sigma}_{vm}$	A	$\bar{c}$	$\bar{\phi}$
0.00	----	0.01	---	--	--	--	----	151	----	---	----	----	0.9	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	.58	---	--	--	--	----	107	----	---	----	----	1.6	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	2.10	---	--	--	--	----	92	----	---	----	----	2.6	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	3.62	---	--	--	--	----	93	----	---	----	----	5.1	-	-	-----	-----	-----	----	----	---	----	--	----
3.71	----	3.77	94	35	63	33	2.80	71	1.54	---	----	----	----	1	+	-----	15.8	11.8	0.75	----	---	----	--	----
----	----	3.89	93	--	51	24	----	70	1.52	---	----	----	----	1	+	-----	31.7	13.4	.42	----	---	----	--	----
----	----	3.96	---	--	--	--	----	---	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	4.01	91	--	53	28	----	69	1.56	---	----	----	----	1	+	-----	62.0	20.4	.33	----	---	----	--	----
----	4.21	4.14	94	--	52	26	----	63	1.62	---	----	----	----	1	+	-----	-----	-----	----	----	---	----	--	----
4.21	4.36	4.28	93	47	54	26	2.60	67	1.60	23	0.45	0.08	----	-	-	-----	-----	-----	----	----	---	----	--	----
----	4.75	----	---	--	--	--	----	---	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	----
4.75	----	----	---	--	--	--	----	---	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	5.14	---	--	--	--	----	46	----	---	----	----	7.8	-	-	-----	-----	-----	----	----	---	----	--	----
5.13	----	5.19	99	30	44	24	2.74	56	1.70	---	----	----	----	2	x	303	75.8	59.6	.79	----	---	----	--	----
----	----	5.32	98	--	41	21	----	56	1.66	---	----	----	----	2	x	303	303.2	66.6	.22	----	---	----	--	----
----	5.53	5.46	98	--	47	24	----	58	1.65	---	----	----	----	2	x	303	151.6	50.6	.33	----	---	----	--	----
5.61	5.76	5.68	99	29	49	22	2.72	66	1.65	16	.49	.08	----	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	6.66	---	--	--	--	----	81	----	---	----	----	6.6	-	-	-----	-----	-----	----	----	---	----	--	----
6.65	6.80	6.72	100	35	51	29	2.71	63	1.70	50	.47	.06	----	-	-	-----	-----	-----	----	----	---	----	--	----
----	7.23	----	--	--	--	--	----	---	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	----
7.23	----	----	--	--	--	--	----	--	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	----
7.65	----	7.72	100	--	67	34	----	78	1.58	---	----	----	----	2	x	151.5	151.6	35.0	.23	----	---	----	--	----
----	----	7.87	100	--	66	32	2.78	76	1.55	---	----	----	----	2	x	151.5	75.8	23.3	.31	----	---	----	--	----
----	8.06	8.00	100	--	62	32	----	75	1.58	---	----	----	----	2	x	151.5	151.6	39.4	.26	----	---	----	--	----
Average values:																								
3.71	4.21	----------																			70	----		
0.00	8.06	----------																		0.23	---	0.78	7	22.5

Table 28b.--Calculated geotechnical results for site no. CD-32A, core no. PC-33

[Regional slope angle: 16° maximum, 9° average; ----, indicate no information]

Average sample depth (m)	PI	A	LI	γ_b	$\bar{\sigma}_{vb}$	Consolidation state: OCR		Consolidation state: $\bar{\sigma}_{vm} - \bar{\sigma}_{vb}$		Normalized shear strength: Undrained			Normalized shear stress		Factor of safety: Undrained Shansep		Factor of safety: Drained	
						Consolidated data	Triaxial data	Consolidated data	Triaxial data	Drained	Vane	Shansep	Maximum slope angle	Average slope angle	Maximum	Average	Maximum	Average
0.01	--	----	----	----	-----	----	----	------	-----	----	----	----	----	----	----	----	----	----
0.58	--	----	----	----	3.09	----	----	------	-----	----	0.52	----	----	----	----	----	----	----
2.10	--	----	----	----	11.19	----	----	------	-----	----	.23	----	----	----	----	----	----	----
3.62	--	----	----	----	19.29	----	----	------	-----	----	.27	----	----	----	----	----	----	----
3.77	30	0.86	1.27	----	20.09	----	----	------	-----	----	----	----	----	----	----	----	----	----
3.89	27	----	1.70	----	20.73	----	----	------	-----	----	----	----	----	----	----	----	----	----
3.96	--	----	----	----	21.11	----	3.32	------	48.89	----	----	----	----	----	----	----	----	----
4.01	25	----	1.64	----	21.37	----	----	------	-----	----	----	----	----	----	----	----	----	----
4.14	26	----	1.42	----	22.07	----	----	------	-----	----	----	----	----	----	----	----	----	----
4.28	28	.60	1.46	----	22.81	1.01	----	0.19	-----	----	----	0.24	----	----	0.9	1.6	----	----
4.75	--	----	----	----	25.32	----	----	------	-----	----	----	----	----	----	----	----	----	----
4.75	--	----	----	----	25.32	----	----	------	-----	----	----	----	----	----	----	----	----	----
5.14	--	----	----	----	27.79	----	----	------	-----	----	.28	----	----	----	----	----	----	----
5.19	20	.67	1.60	----	28.11	----	----	------	-----	----	----	----	----	----	----	----	----	----
5.32	20	----	1.75	----	28.94	----	----	------	-----	----	----	----	----	----	----	----	----	----
5.46	23	----	1.48	----	29.83	----	----	------	-----	----	----	----	----	----	----	----	----	----
5.68	27	.93	1.63	----	31.22	.51	----	-15.22	-----	----	----	.14	----	----	.5	.9	----	----
6.66	--	----	----	----	37.45	----	----	------	-----	----	.18	----	----	----	----	----	----	----
6.72	22	.63	1.55	----	37.83	1.32	----	12.17	-----	----	----	.29	----	----	1.1	1.9	----	----
7.23	--	----	----	----	41.07	----	----	------	-----	----	----	----	----	----	----	----	----	----
7.23	--	----	----	----	41.07	----	----	------	-----	----	----	----	----	----	----	----	----	----
7.72	33	----	1.33	----	43.69	----	----	------	-----	----	----	----	----	----	----	----	----	----
7.87	34	----	1.29	----	44.49	----	----	------	-----	----	----	----	----	----	----	----	----	----
8.00	30	.85	1.43	----	45.19	----	----	------	-----	----	----	----	----	----	----	----	----	----
Average values:																		
0.01 to 4.75			----	0.54	----------													
4.75 to 7.23			----	.65	----------													
7.23 to 8.00			----	.55	----------													
0.01 to 8.00			----------							0.38	----------		0.26	0.16	----------		1.4	2.6

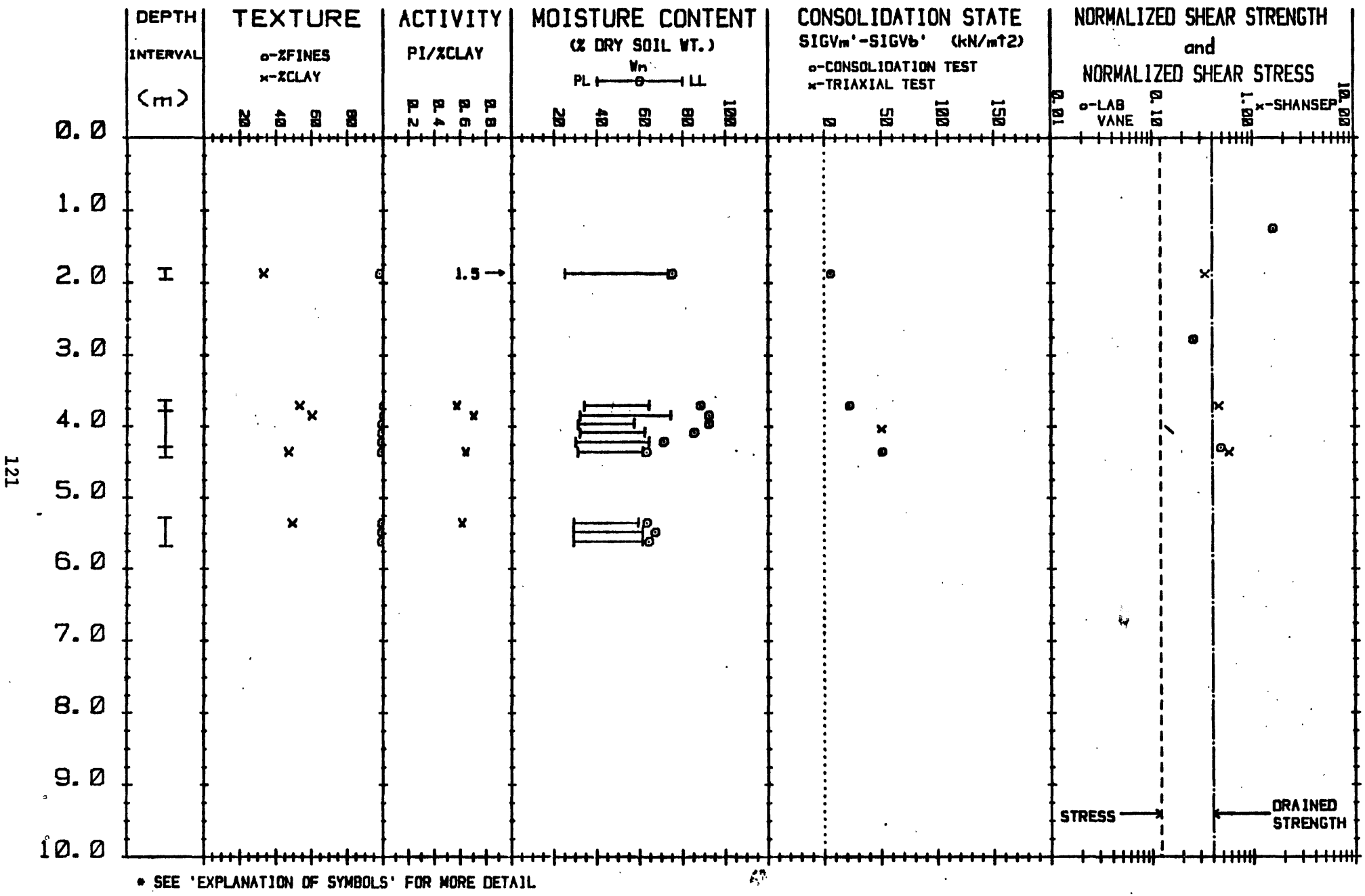


Figure 29a.--Geotechnical profile*.

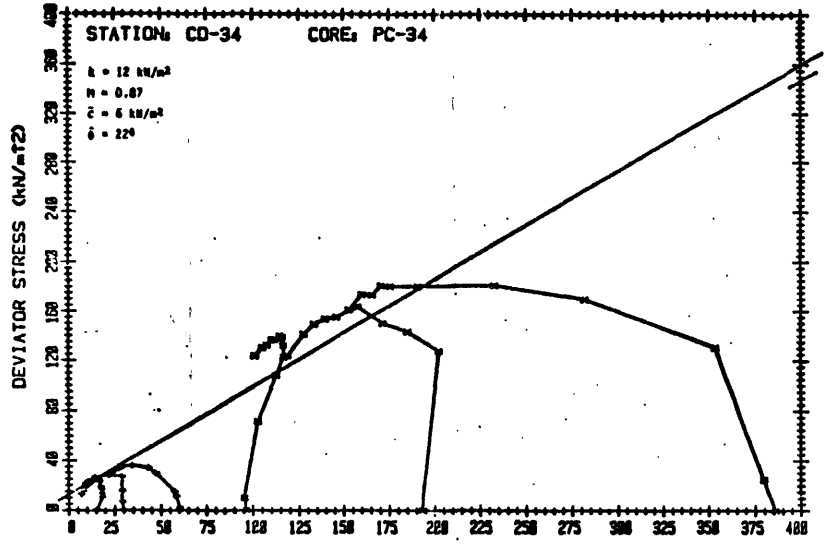


Figure 29b.--Interpretation of drained shear strength parameters.

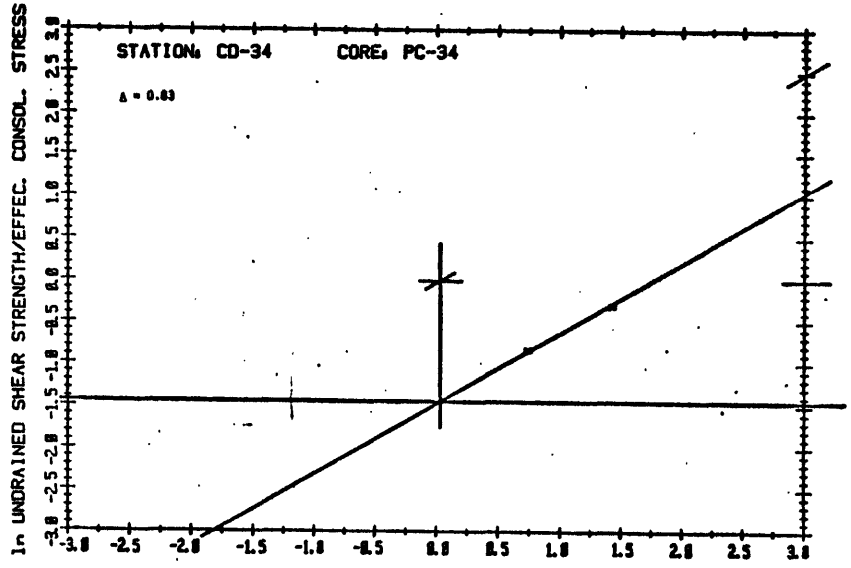


Figure 29d.--Interpretation of the pore pressure parameter Δ.

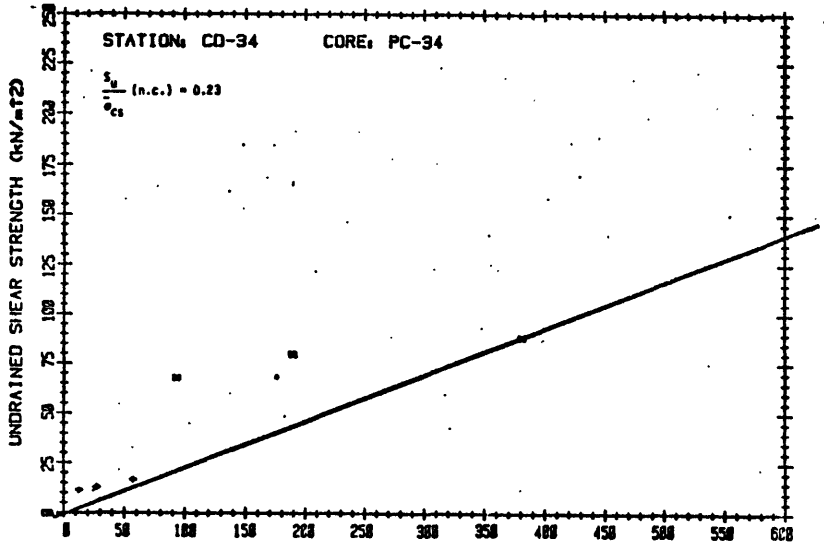


Figure 29c.--Interpretation of the normalized undrained shear strength for the normally consolidated state.

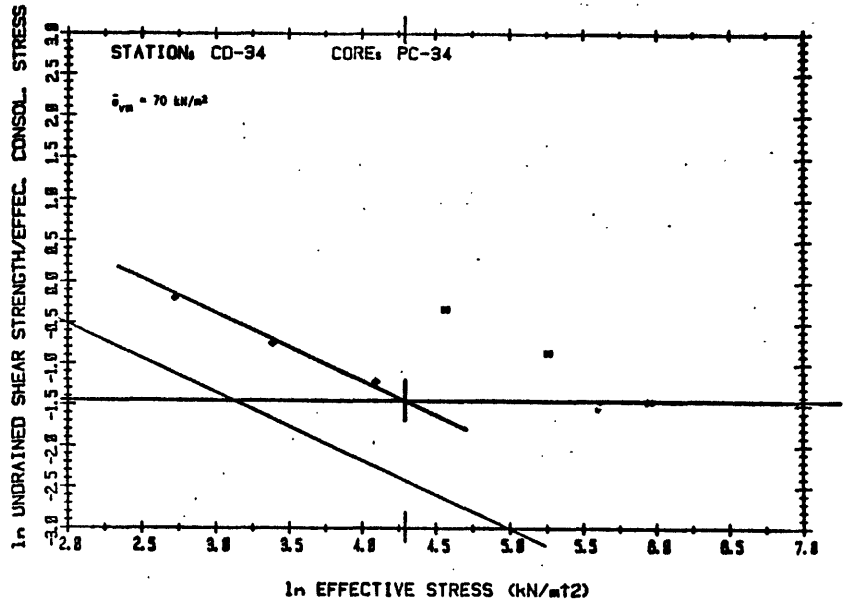


Figure 29e.--Interpretation of the preconsolidation stress from triaxial data.

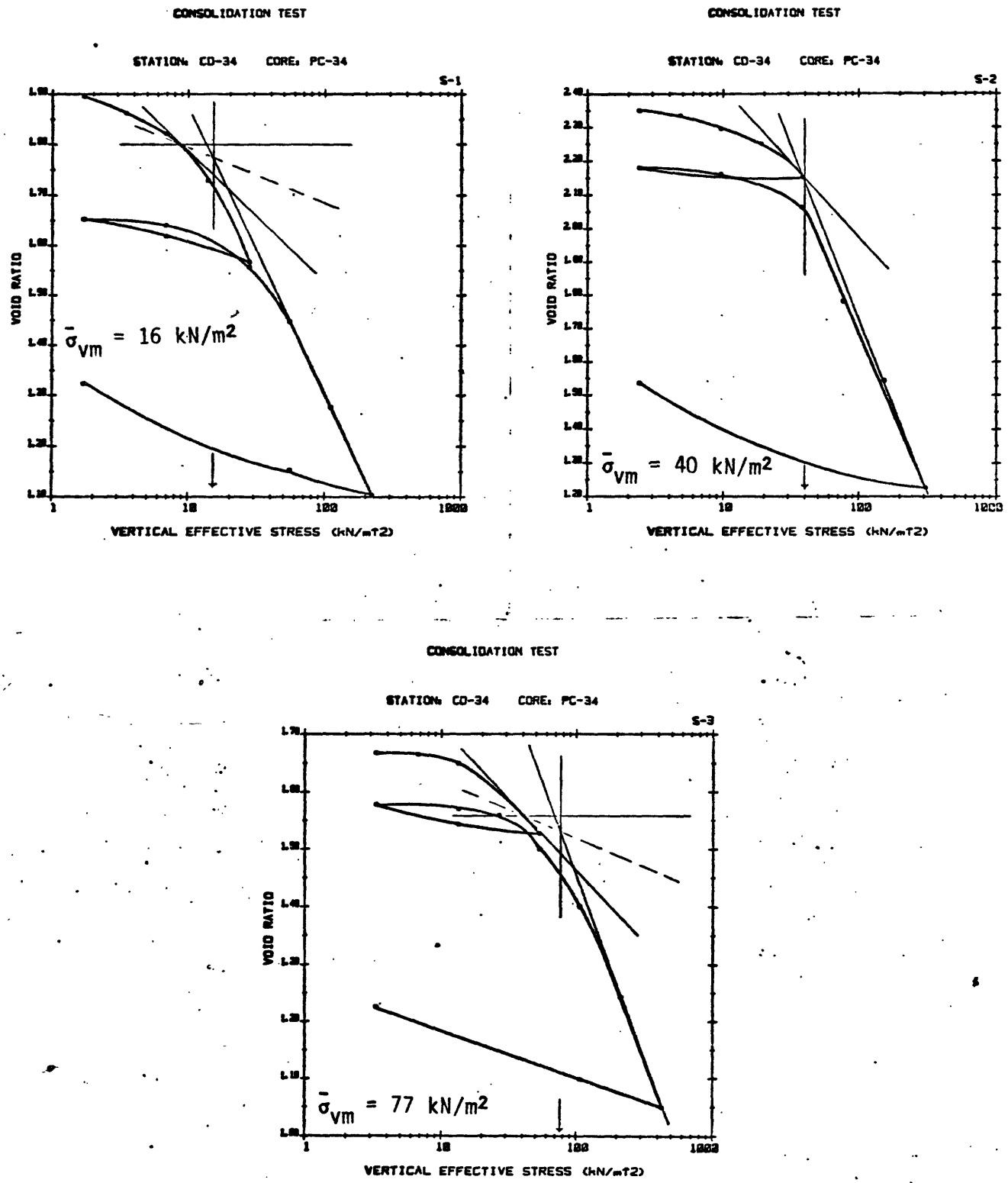


Figure 29f.--Interpretation of the preconsolidation stress from consolidation data.

Table 29a.--Geotechnical test results for site no. CD-34, core no. PC-34

[Lat 38°08.72' N., long 73°36.42' W.; water depth 1221 m; core recovery 5.8 m; ----, indicate no information]

Sample depth (m)			Physical properties							Consolidation test results				Triaxial test conditions				Triaxial test results						
Top	Bottom	Average	Fines	Clay	LL	PL	G	w	γ_t	$\bar{\sigma}_{vm}$	C_c	C_s	Lab vane S_u	Set	Symbol	$\bar{\sigma}_{cm}$	$\bar{\sigma}_c$	S_u	$S_u/\bar{\sigma}_c$	$S_u/\bar{\sigma}_c$ (n.c.)	$\bar{\sigma}_{vm}$	A	$\bar{c}$	$\bar{\phi}$
0.00	----	0.01	---	--	--	--	----	129	----	---	----	----	1.1	-	-	-----	-----	----	----	----	---	----	--	--
----	----	1.25	---	--	--	--	----	73	----	---	----	----	10.2	-	-	-----	-----	----	----	----	---	----	--	--
1.80	1.95	1.87	98	33	73	25	2.69	75	1.56	16	0.57	0.10	----	-	-	-----	-----	----	----	----	---	----	--	--
----	----	2.77	---	--	--	--	----	97	----	---	----	----	3.2	-	-	-----	-----	----	----	----	---	----	--	--
3.63	3.78	3.70	100	53	64	34	2.78	88	1.50	40	.93	.15	----	-	-	-----	-----	----	----	----	---	----	--	--
3.78	----	3.84	100	60	74	32	2.81	92	1.49	---	----	----	----	1	+	-----	15.2	12.4	0.82	----	---	----	--	--
----	----	3.96	99	--	57	31	----	92	1.53	---	----	----	----	-	+	-----	29.6	14.0	.47	----	---	----	--	--
----	----	4.03	---	--	--	--	----	---	----	---	----	----	----	-	-	-----	-----	----	----	----	---	----	--	--
----	----	4.08	99	--	62	32	----	85	1.54	---	----	----	----	1	+	-----	59.9	17.8	.30	----	---	----	--	--
----	4.14	----	---	--	--	--	----	---	----	---	----	----	----	-	-	-----	-----	----	----	----	---	----	--	--
4.14	----	----	---	--	--	--	----	---	----	---	----	----	----	-	-	-----	-----	----	----	----	---	----	--	--
----	4.28	4.21	99	--	64	30	----	71	1.64	---	----	----	----	1	+	-----	-----	----	----	----	---	----	--	--
----	----	4.29	---	--	--	--	----	61	----	---	----	----	12.1	-	-	-----	-----	----	----	----	---	----	--	--
4.28	4.43	4.35	99	47	61	31	2.69	63	1.62	77	.64	.08	----	-	-	-----	-----	----	----	----	---	----	--	--
5.28	----	5.35	99	49	59	29	2.71	63	1.67	---	----	----	----	2	x	385.7	385.9	90.2	.23	----	---	----	--	--
----	----	5.48	99	--	61	29	----	67	1.60	---	----	----	----	2	x	385.7	192.9	81.5	.42	----	---	----	--	--
----	5.68	5.61	99	--	61	29	----	64	1.67	---	----	----	----	2	x	385.7	96.5	69.6	.72	----	---	----	--	--
Averages values:																								
3.78	4.28	----------																			70	----------		
0.00	5.68	----------																		0.23	---	0.83	6	22

Table 29b.--Calculated geotechnical results for site no. CD-34, core no. PC-34

[Regional slope angle: 7° maximum, 7° average; ----, indicate no information]

Average sample depth (m)						Consolidation state				Normalized shear strength			Normalized shear stress		Factor of safety			
						OCR		$\bar{\sigma}_{vm} - \bar{\sigma}_{vb}$		Undrained					Undrained Shansep		Drained	
	PI	A	LI	γ_b	$\bar{\sigma}_{vb}$	Consolidated data	Triaxial data	Consolidated data	Triaxial data	Drained	Vane	Shansep	Maximum slope angle	Average slope angle	Maximum	Average	Maximum	Average
0.01	--	----	----	----	-----	----	----	-----	-----	----	----	----	----	----	----	----	----	----
1.25	--	----	----	----	6.11	----	----	-----	-----	----	1.68	----	----	----	----	----	----	----
1.87	48	1.45	1.04	----	9.14	1.75	----	6.86	-----	----	----	0.38	----	----	3.1	3.1	----	----
2.77	--	----	----	----	13.55	----	----	-----	-----	----	.24	----	----	----	----	----	----	----
3.70	30	.57	1.80	----	18.09	2.21	----	21.91	-----	----	----	.46	----	----	3.8	3.8	----	----
3.84	42	.70	1.43	----	18.78	----	----	-----	-----	----	----	----	----	----	----	----	----	----
3.96	26	----	2.35	----	19.36	----	----	-----	-----	----	----	----	----	----	----	----	----	----
4.03	--	----	----	----	19.71	----	3.55	-----	50.29	----	----	----	----	----	----	----	----	----
4.08	30	----	1.77	----	19.95	----	----	-----	-----	----	----	----	----	----	----	----	----	----
4.14	--	----	----	----	20.24	----	----	-----	-----	----	----	----	----	----	----	----	----	----
4.14	--	----	----	----	20.24	----	----	-----	-----	----	----	----	----	----	----	----	----	----
4.21	34	----	1.21	----	20.67	----	----	-----	-----	----	----	----	----	----	----	----	----	----
4.29	--	----	----	----	21.15	----	----	-----	-----	----	.57	----	----	----	----	----	----	----
4.35	30	.64	1.07	----	21.51	3.5	----	55.49	-----	----	----	.68	----	----	5.6	5.6	----	----
5.35	30	.61	1.13	----	27.54	----	----	-----	-----	----	----	----	----	----	----	----	----	----
5.48	32	----	1.19	----	28.32	----	----	-----	-----	----	----	----	----	----	----	----	----	----
5.61	32	----	1.09	----	29.11	----	----	-----	-----	----	----	----	----	----	----	----	----	----
Average values:																		
0.01 to 4.14			----	0.50	----------													
4.14 to 5.61			----	.62	----------													
0.01 to 5.61			----------							0.40	----------		0.12	0.12	----------		3.3	3.3

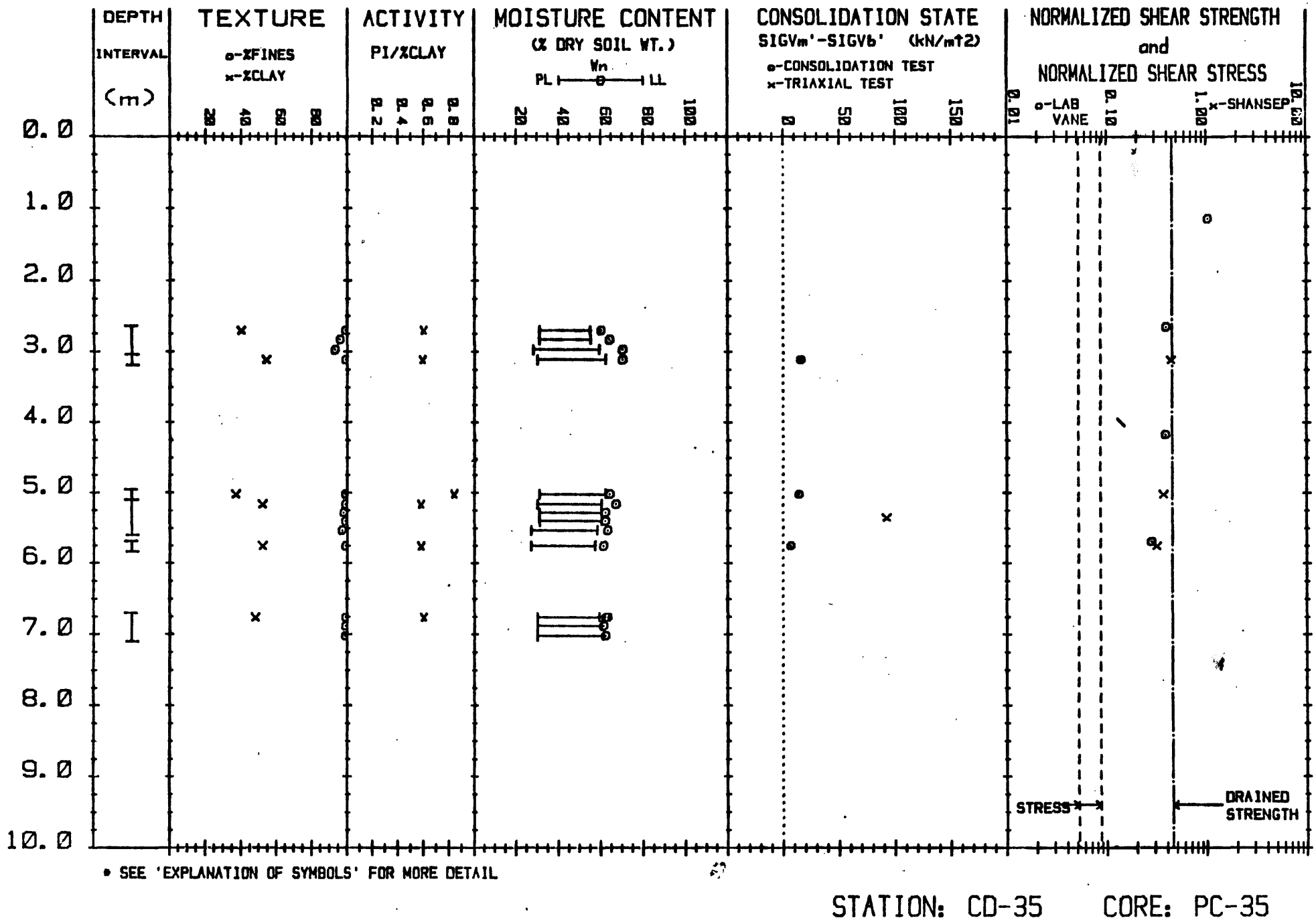


Figure 30a.--Geotechnical profile*.

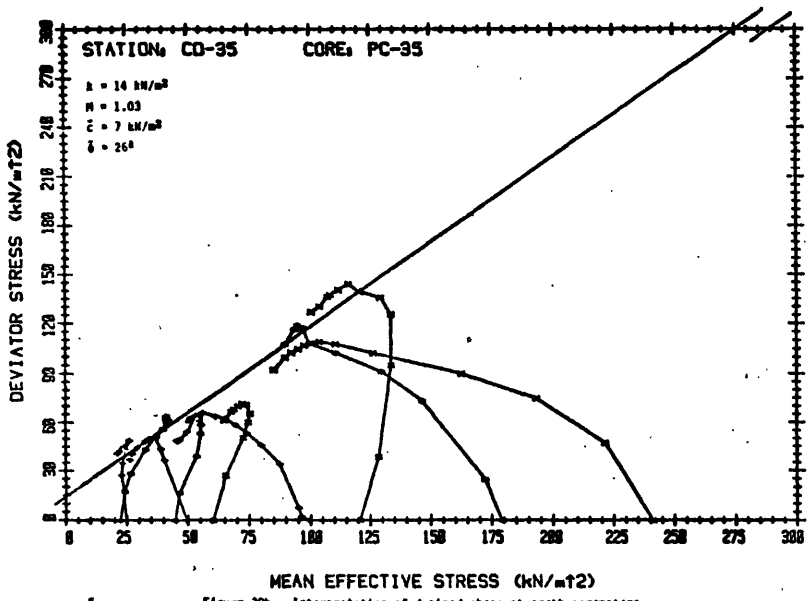


Figure 30b.--Interpretation of drained shear strength parameters.

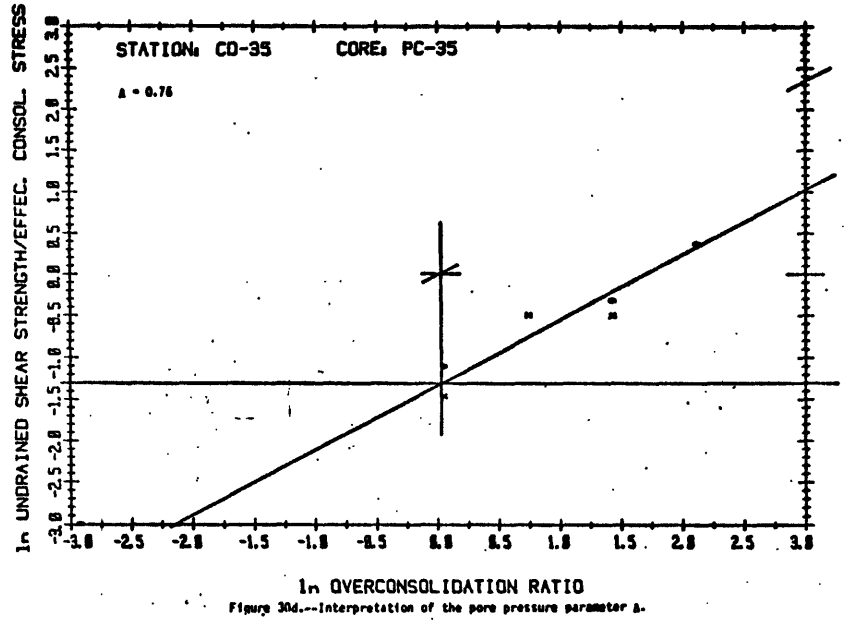


Figure 30d.--Interpretation of the pore pressure parameter A.

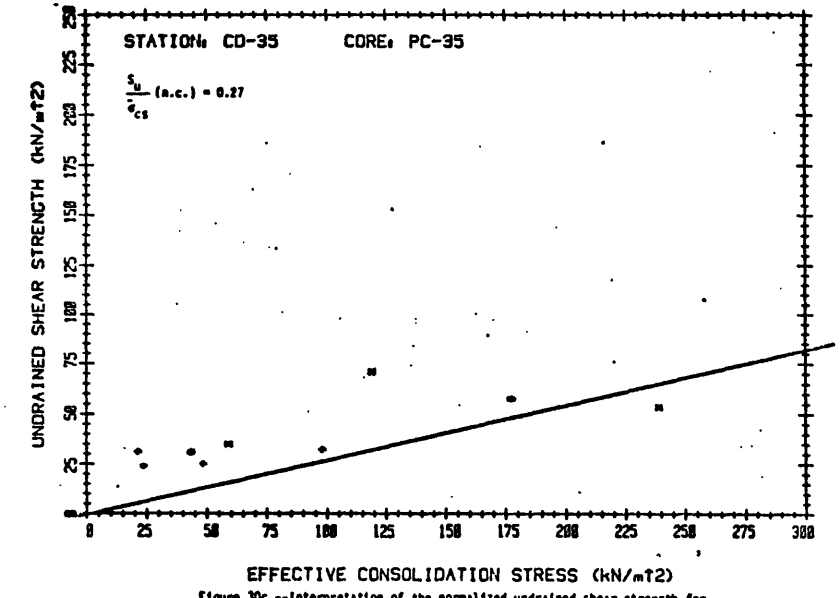


Figure 30c.--Interpretation of the normalized undrained shear strength for the normally consolidated state.

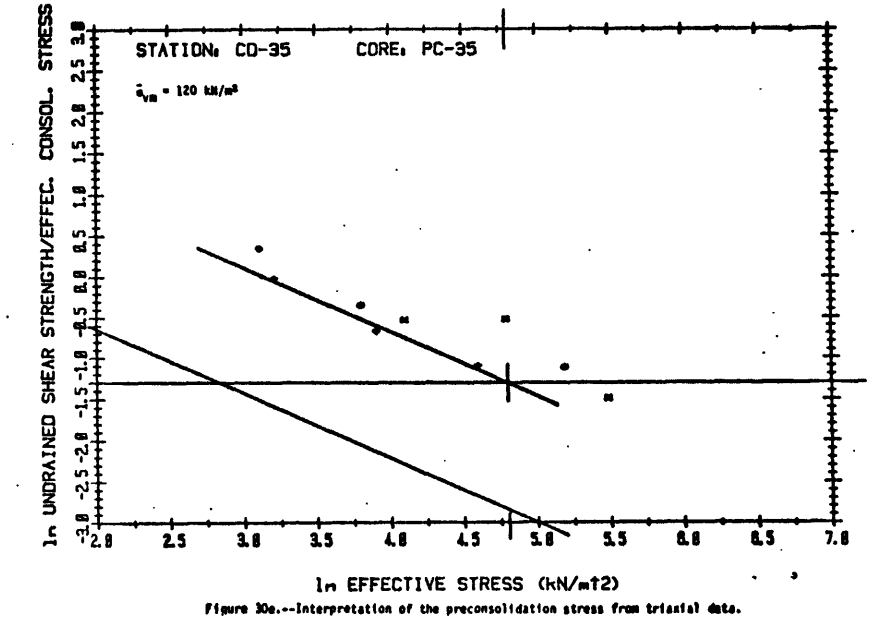
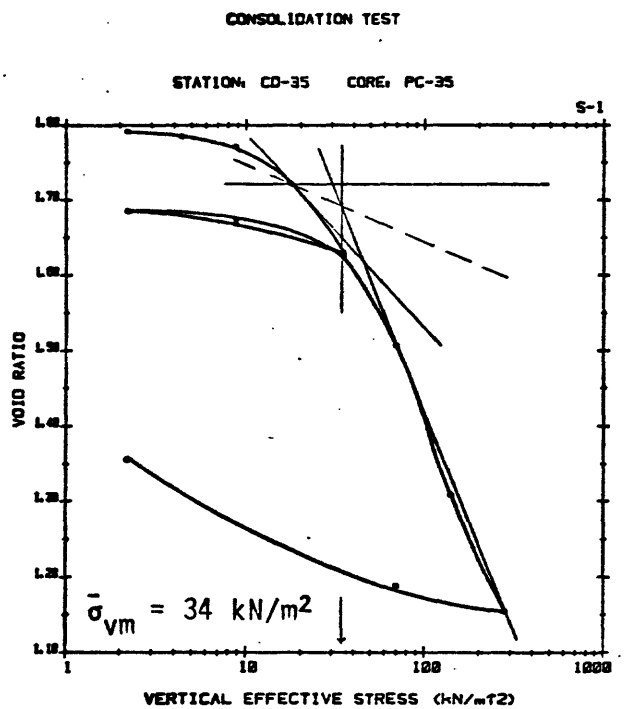
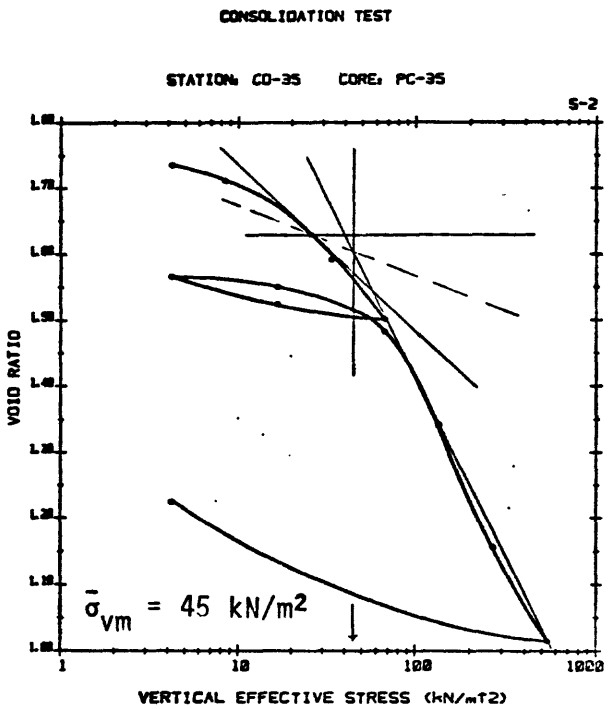


Figure 30e.--Interpretation of the preconsolidation stress from triaxial data.





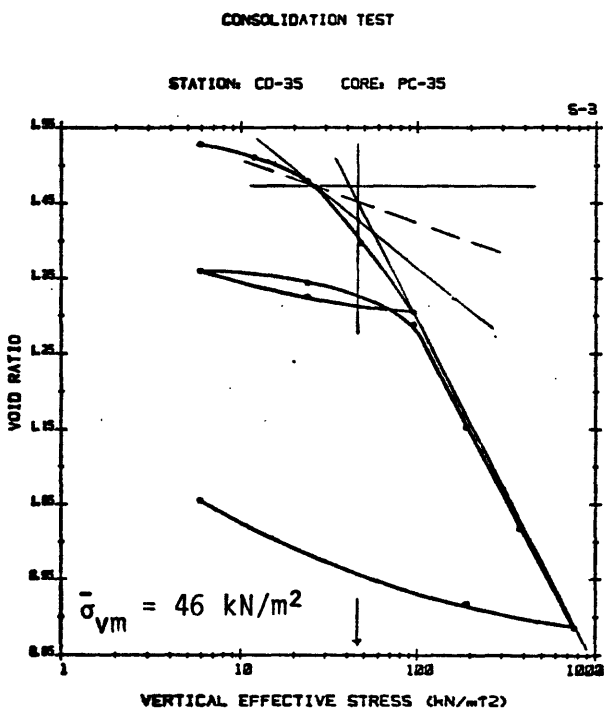


Figure 30f.--Interpretation of the preconsolidation stress from consolidation data.

Table 30a.--Geotechnical test results for site no. CD-35, core no. PC-35

[Lat 38°08.01' N., long 73°35.57' W.; water depth 1342 m; core recovery 7.21 m; ----, indicate no information]

Sample depth (m)			Physical properties							Consolidation test results				Triaxial test conditions			Triaxial test results							
Top	Bottom	Average	Fines	Clay	LL	PL	G	w	γ_t	$\bar{\sigma}'_{vm}$	C_c	C_s	Lab vane S_u	Set	Symbol	$\bar{\sigma}'_{cm}$	$\bar{\sigma}'_c$	S_u	$S_u/\bar{\sigma}'_c$	$S_u/\bar{\sigma}'_c$ (n.c.)	$\bar{\sigma}'_{vm}$	A	$\bar{c}$	$\bar{\phi}$
0.00	----	0.01	--	--	--	--	----	121	----	---	----	----	2.5	-	-	-----	-----	-----	----	----	---	----	--	--
----	----	1.14	--	--	--	--	----	81	----	---	----	----	7.5	-	-	-----	-----	-----	----	----	---	----	--	--
----	----	2.65	--	--	--	--	----	67	----	---	----	----	6.6	-	-	-----	-----	-----	----	----	---	----	--	--
2.64	----	2.70	99	40	55	31	2.76	60	1.67	---	----	----	----	3	*	179.2	179.2	58.6	0.33	----	---	----	--	--
----	----	2.83	96	--	55	31	----	64	1.63	---	----	----	----	3	*	179.2	44.8	31.8	.71	----	---	----	--	--
----	3.04	2.97	93	--	59	28	----	70	1.63	---	----	----	----	3	*	179.2	22.4	31.8	1.42	----	---	----	--	--
3.04	3.19	3.11	99	54	62	30	2.72	70	1.61	34	0.52	0.08	----	-	-	-----	-----	-----	----	----	---	----	--	--
----	----	4.17	--	--	--	--	----	70	----	---	----	----	9.5	-	-	-----	-----	-----	----	----	---	----	--	--
4.95	5.10	5.02	99	37	62	31	2.78	64	1.63	45	.47	.10	----	-	-	-----	-----	-----	----	----	---	----	--	--
5.10	----	5.16	99	52	60	30	2.73	67	1.63	---	----	----	----	1	+	-----	24.8	24.5	.99	----	---	----	--	--
----	----	5.28	98	--	60	31	----	62	1.67	---	----	----	----	1	+	-----	49.6	25.4	.51	----	---	----	--	--
----	----	5.35	--	--	--	--	----	---	---	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	--
----	----	5.40	99	--	60	31	----	62	1.68	---	----	----	----	1	+	-----	99.2	32.9	.33	----	---	----	--	--
----	5.60	5.53	97	--	58	27	----	63	1.68	---	----	----	----	1	+	-----	-----	-----	----	----	---	----	--	--
----	----	5.69	--	--	--	--	----	57	----	---	----	----	10.6	-	-	-----	-----	-----	----	----	---	----	--	--
5.68	5.83	5.75	99	52	57	27	2.75	61	1.70	46	.45	.08	----	-	-	-----	-----	-----	----	----	---	----	--	--
6.70	----	6.76	99	48	59	30	2.75	63 62	1.63	---	----	----	----	2	x	241	241.2	54.4	.23	----	---	----	--	--
----	----	6.88	99	--	60	30	----	61	1.64	---	----	----	----	2	x	241	120.6	72.0	.60	----	---	----	--	--
----	7.10	7.02	99	--	61	30	----	62	1.64	---	----	----	----	2	x	241	60.3	35.6	.59	----	---	----	--	--
Average values:																								
5.10	5.60	----------																			120	----------		
0.00	7.10	----------																		0.27	---	0.76	7	26

Table 30b.--Calculated geotechnical results for site no. CD-35, core no. PC-35

[Regional slope angle: 5° maximum, 3° average; ----, indicate no information]

Average sample depth (m)	PI	A	LI	γ_b	$\bar{\sigma}'_{vb}$	Consolidation state: OCR		Consolidation state: $\bar{\sigma}'_{vm} - \bar{\sigma}'_{vb}$		Normalized shear strength: Undrained			Normalized shear stress		Factor of safety: Undrained Shansep		Factor of safety: Drained	
						Consolidated data	Triaxial data	Consolidated data	Triaxial data	Drained	Vane	Shansep	Maximum slope angle	Average slope angle	Maximum	Average	Maximum	Average
0.01	--	----	----	----	-----	----	----	-----	-----	----	----	----	----	----	----	----	----	----
1.14	--	----	----	----	6.99	----	----	-----	-----	----	1.07	----	----	----	----	----	----	----
2.65	--	----	----	----	16.24	----	----	-----	-----	----	.41	----	----	----	----	----	----	----
2.70	24	0.60	1.21	----	16.55	----	----	-----	-----	----	----	----	----	----	----	----	----	----
2.83	24	----	1.38	----	17.35	----	----	-----	-----	----	----	----	----	----	----	----	----	----
2.97	31	----	1.35	----	18.21	----	----	-----	-----	----	----	----	----	----	----	----	----	----
3.11	32	.59	1.25	----	19.06	1.78	----	14.94	-----	----	----	0.43	----	----	5.0	8.2	----	----
4.17	--	----	----	----	25.56	----	----	-----	-----	----	.37	----	----	----	----	----	----	----
5.02	31	.84	1.06	----	30.77	1.46	----	14.23	-----	----	----	.37	----	----	4.3	7.1	----	----
5.16	30	.58	1.23	----	31.63	----	----	-----	-----	----	----	----	----	----	----	----	----	----
5.28	29	----	1.07	----	32.37	----	----	-----	-----	----	----	----	----	----	----	----	----	----
5.35	--	----	----	----	32.80	----	3.66	-----	87.2	----	----	----	----	----	----	----	----	----
5.40	29	----	1.07	----	33.10	----	----	-----	-----	----	----	----	----	----	----	----	----	----
5.53	31	----	1.16	----	33.90	----	----	-----	-----	----	----	----	----	----	----	----	----	----
5.69	--	----	----	----	34.88	----	----	-----	-----	----	.30	----	----	----	----	----	----	----
5.75	30	.58	1.13	----	35.25	1.30	----	10.75	-----	----	----	.34	----	----	3.9	6.5	----	----
6.76	29	.60	1.14	----	41.44	----	----	-----	-----	----	----	----	----	----	----	----	----	----
6.88	30	----	1.03	----	42.17	----	----	-----	-----	----	----	----	----	----	----	----	----	----
7.02	31	----	1.03	----	43.03	----	----	-----	-----	----	----	----	----	----	----	----	----	----
Average values for entire core.				0.63	----------					0.48	----------		0.09	0.05	----------		5.6	9.3

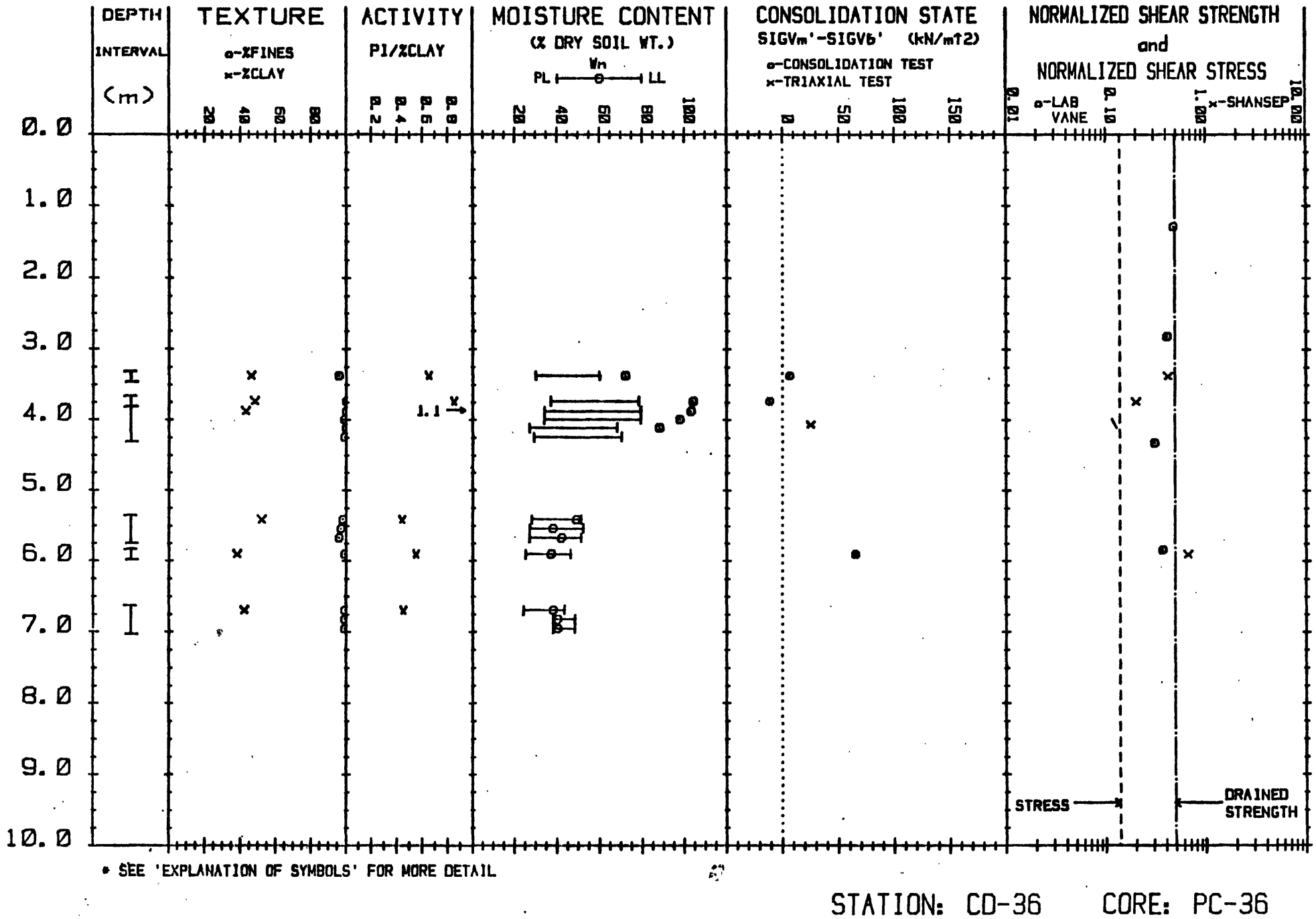


Figure 31a.--Geotechnical profile*.

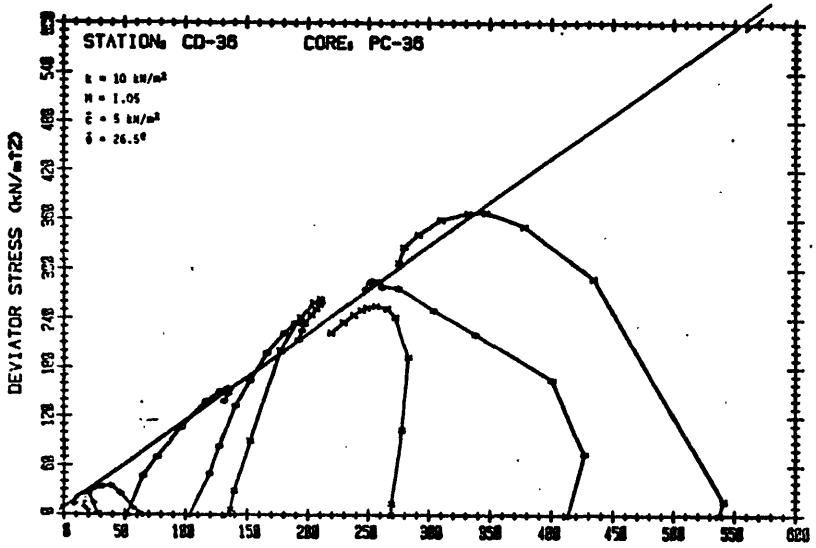


Figure 31b.--Interpretation of drained shear strength parameters.

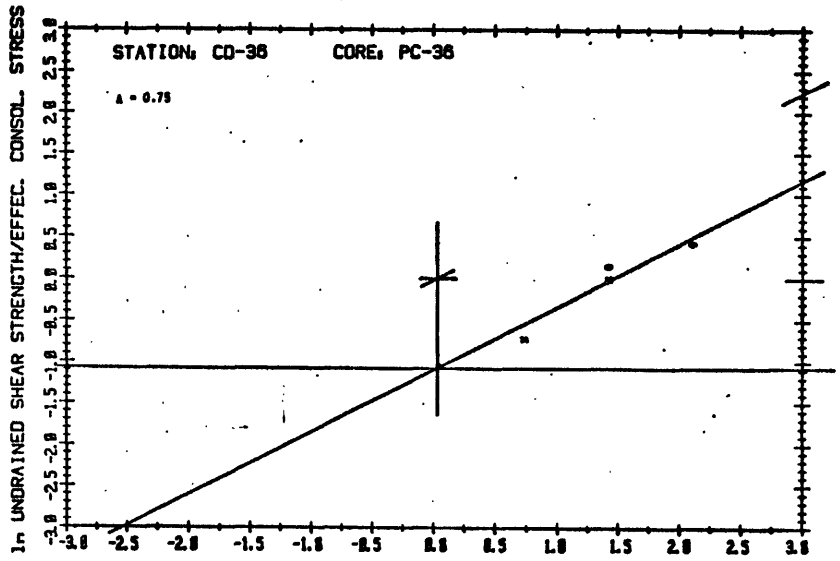


Figure 31d.--Interpretation of the pore pressure parameter A.

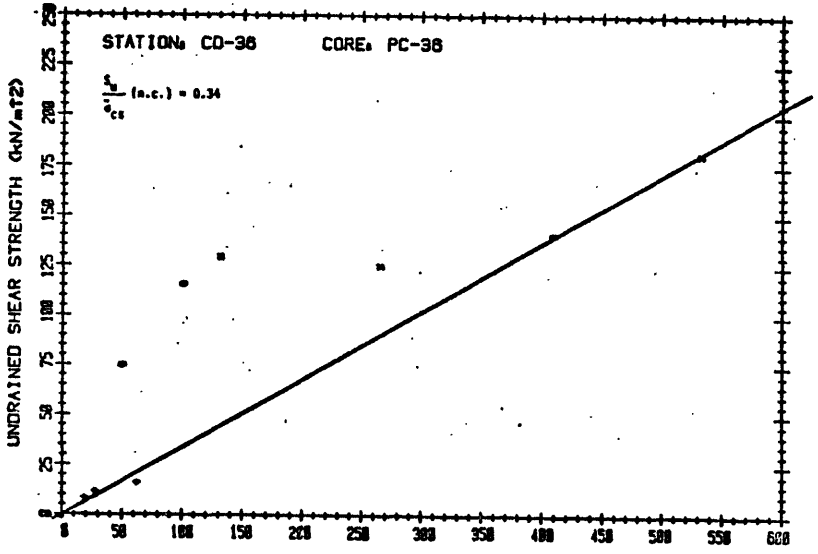


Figure 31c.--Interpretation of the normalized undrained shear strength for the normally consolidated state.

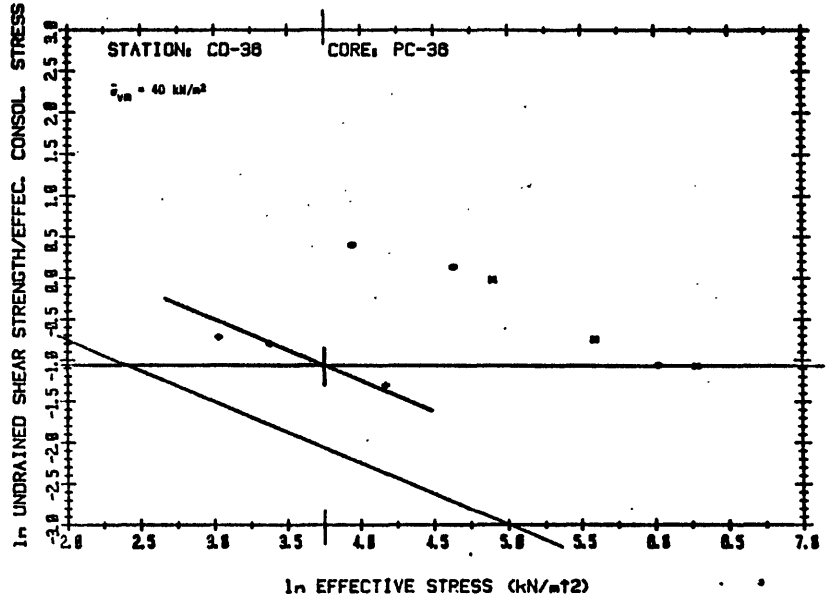


Figure 31e.--Interpretation of the preconsolidation stress from triaxial data.

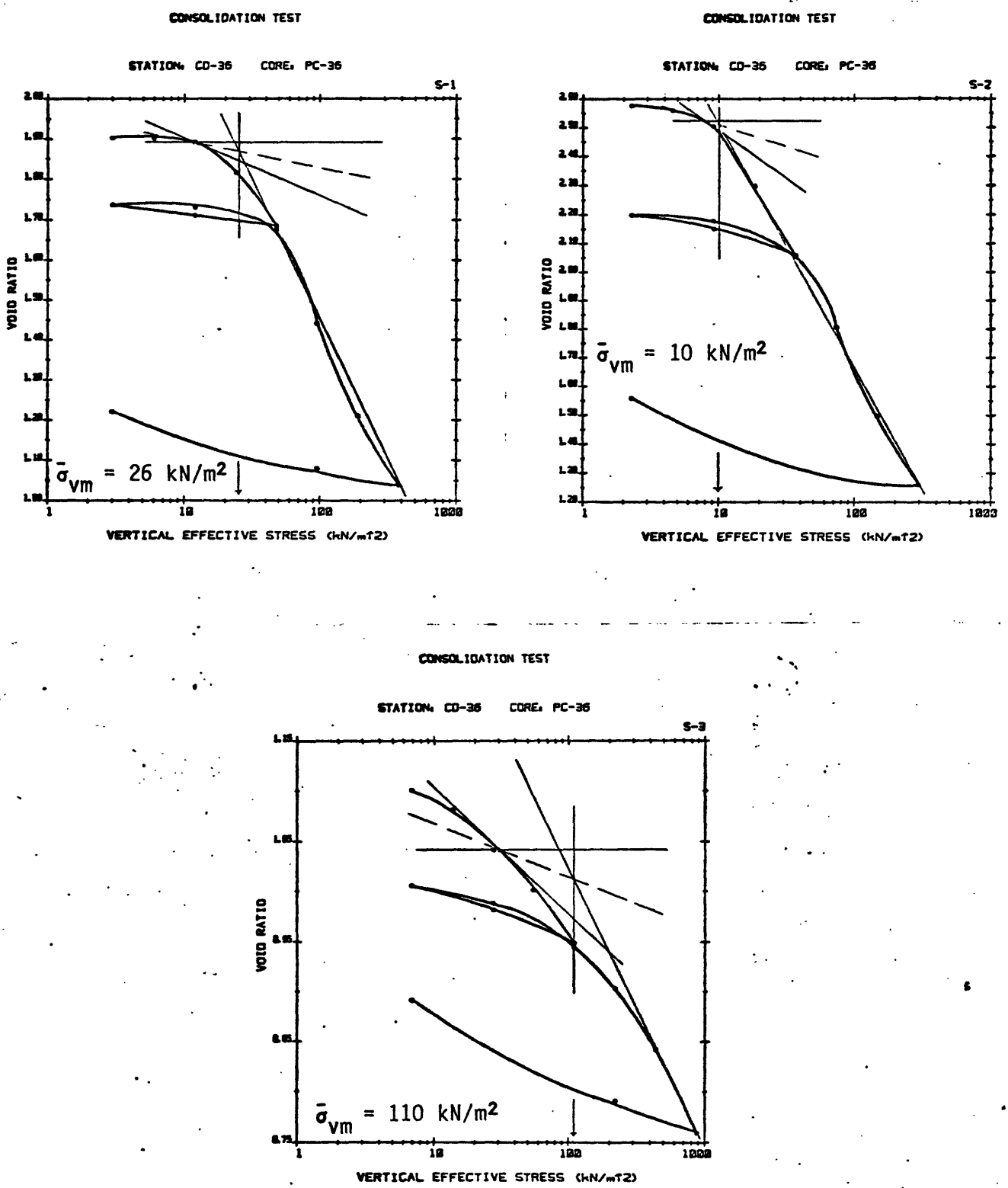


Figure 31f.--Interpretation of the preconsolidation stress from consolidation data.

Table 31a.--Geotechnical test results for site no. CD-36, core no. PC-36

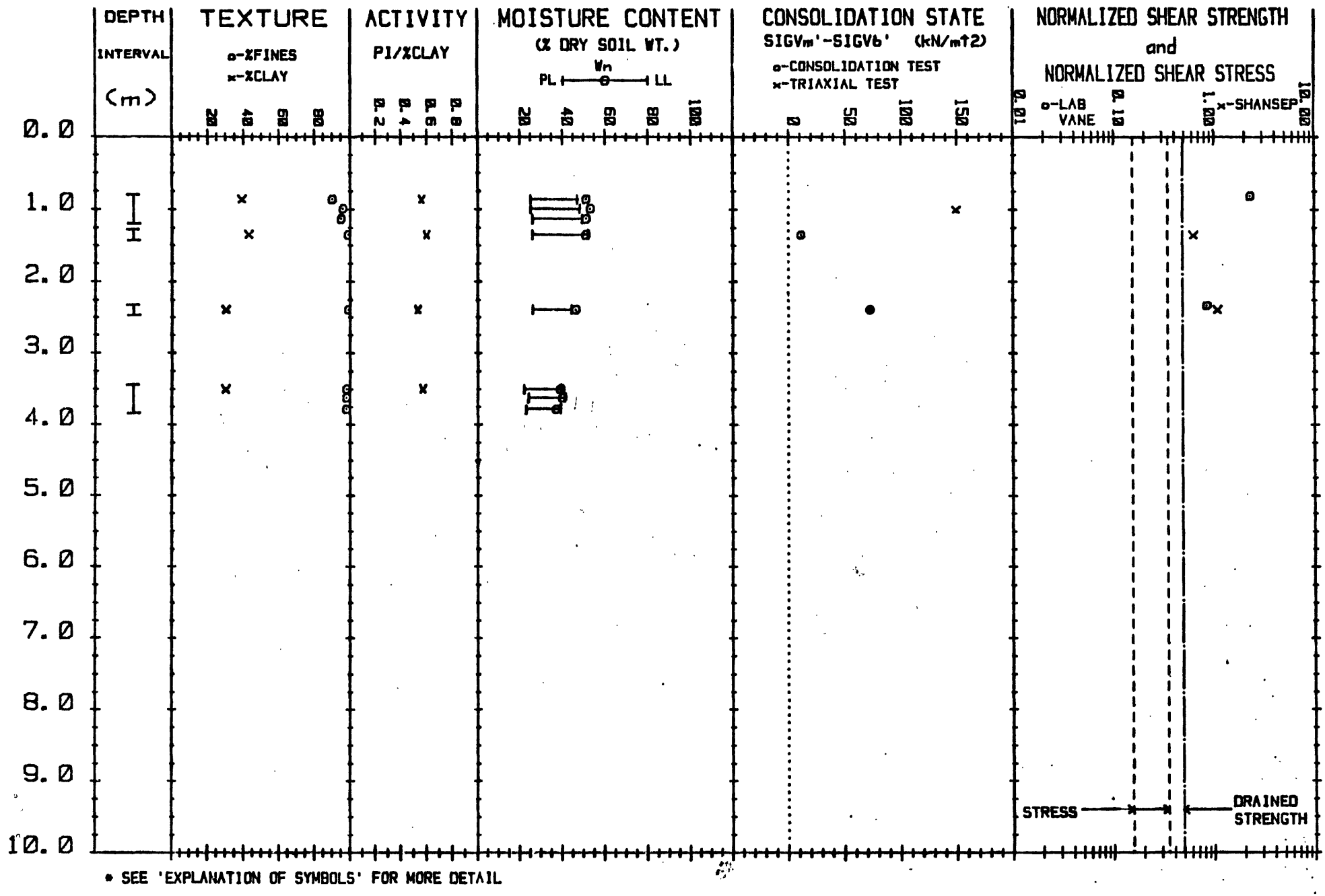
[Lat 28°08.12' N., long 73°37.25' W.; water depth 1300 m; core recovery 7.33 m; ----, indicate no information]

Sample depth (m)			Physical properties							Consolidation test results				Triaxial test conditions				Triaxial test results						
Top	Bottom	Average	Fines	Clay	LL	PL	G	w	γ_t	$\bar{\sigma}'_{vm}$	C_c	C_s	Lab vane S_u	Set	Symbol	$\bar{\sigma}'_{cm}$	$\bar{\sigma}'_c$	S_u	$S_u/\bar{\sigma}'_c$	$S_u/\bar{\sigma}'_c$ (n.c.)	$\bar{\sigma}'_{vm}$	A	$\bar{c}$	$\bar{\phi}$
0.00	----	0.01	---	--	--	--	----	148	----	---	----	----	0.6	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	1.29	---	--	--	--	----	108	----	---	----	----	3.2	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	2.82	---	--	--	--	----	81	----	---	----	----	5.8	-	-	-----	-----	-----	----	----	---	----	--	----
3.31	3.46	3.37	96	46	60	30	2.75	72	1.60	26	0.76	0.08	----	-	-	-----	-----	-----	----	----	---	----	--	----
3.66	3.81	3.73	100	48	78	37	2.66	104	1.46	10	.88	.14	----	-	-	-----	-----	-----	----	----	---	----	--	----
3.81	----	3.87	100	43	79	34	2.80	103	1.49	---	----	----	----	1	+	-----	20.7	10.1	0.49	----	---	----	--	----
----	----	3.99	99	--	79	34	----	98	1.48	---	----	----	----	1	+	-----	29.6	13.3	.45	----	---	----	--	----
----	----	4.06	---	--	--	--	----	---	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	4.11	100	--	68	27	----	88	1.53	---	----	----	----	1	+	-----	64.8	17.6	.27	----	---	----	--	----
----	4.31	4.24	99	--	70	29	----	---	----	---	----	----	----	1	+	-----	-----	-----	----	----	---	----	--	----
----	----	4.32	---	--	--	--	----	78	----	---	----	----	6.6	-	-	-----	-----	-----	----	----	---	----	--	----
----	4.83	----	---	--	--	--	----	---	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	----
4.83	----	----	---	--	--	--	----	---	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	----
5.35	----	5.41	98	52	51	28	2.76	49	1.71	---	----	----	----	3	*	413.6	413.4	142.8	.35	----	---	----	--	----
----	----	5.54	97	--	52	27	----	38	1.91	---	----	----	----	3	*	413.6	103.4	118.4	1.14	----	---	----	--	----
----	5.75	5.67	96	--	51	27	----	42	1.84	---	----	----	----	3	*	413.6	51.7	77.2	1.49	----	---	----	--	----
----	----	5.84	---	--	--	--	----	39	----	---	----	----	17.1	-	-	-----	-----	-----	----	----	---	----	--	----
5.83	5.98	5.90	99	38	46	25	2.78	37	1.78	110	.28	.06	----	-	-	-----	-----	-----	----	----	---	----	--	----
6.63	----	6.69	99	42	43	24	2.74	38	1.81	---	----	----	----	2	x	537	537.5	184.1	.34	----	---	----	--	----
----	----	6.82	99	--	48	38	----	40	1.86	---	----	----	----	2	x	537	268.7	127.6	.48	----	---	----	--	----
----	7.03	6.95	99	--	48	38	----	40	1.87	---	----	----	----	2	x	537	134.4	131.8	.98	----	---	----	--	----
Average values:																								
3.81	4.31	----------																			40	----------		
0.00	7.03	----------																		0.34	---	0.75	5	26.5

Table 31b.--Calculated geotechnical results for site no. CD-36, core no. PC-36

[Regional slope angle: 8° maximum, 8° average; ----, indicate no information]

Average sample depth (m)	PI	A	LI	γ_b	$\bar{\sigma}'_{vb}$	Consolidation state: OCR		Consolidation state: $\bar{\sigma}'_{vm} - \bar{\sigma}'_{vb}$		Normalized shear strength: Undrained			Normalized shear stress		Factor of safety: Undrained Shansep		Factor of safety: Drained	
						Consolidated data	Triaxial data	Consolidated data	Triaxial data	Drained	Vane	Shansep	Maximum slope angle	Average slope angle	Maximum	Average	Maximum	Average
0.01	--	----	----	----	-----	----	----	-----	-----	----	----	----	----	----	----	----	----	----
1.29	--	----	----	----	6.15	----	----	-----	-----	----	0.53	----	----	----	----	----	----	----
2.82	--	----	----	----	13.45	----	----	-----	-----	----	.43	----	----	----	----	----	----	----
3.37	30	0.65	1.40	----	16.07	1.62	----	9.93	-----	----	----	0.49	----	----	3.6	3.6	----	----
3.73	41	.85	1.63	----	17.79	.56	----	-7.79	-----	----	----	.19	----	----	1.6	1.6	----	----
3.87	45	1.05	1.53	----	18.46	----	----	-----	-----	----	----	----	----	----	----	----	----	----
3.99	45	----	1.42	----	19.03	----	----	-----	-----	----	----	----	----	----	----	----	----	----
4.06	--	----	----	----	19.37	----	2.07	-----	20.63	----	----	----	----	----	----	----	----	----
4.11	41	----	1.49	----	19.60	----	----	-----	-----	----	----	----	----	----	----	----	----	----
4.24	41	----	----	----	20.22	----	----	-----	-----	----	----	----	----	----	----	----	----	----
4.32	--	----	----	----	20.61	----	----	-----	-----	----	.32	----	----	----	----	----	----	----
4.83	--	----	----	----	23.04	----	----	-----	-----	----	----	----	----	----	----	----	----	----
4.83	--	----	----	----	23.04	----	----	-----	-----	----	----	----	----	----	----	----	----	----
5.41	23	.44	.51	----	27.66	----	----	-----	-----	----	----	----	----	----	----	----	----	----
5.54	25	----	.44	----	28.70	----	----	-----	-----	----	----	----	----	----	----	----	----	----
5.67	24	----	.63	----	29.73	----	----	-----	-----	----	----	----	----	----	----	----	----	----
5.84	--	----	----	----	31.09	----	----	-----	-----	----	.55	----	----	----	----	----	----	----
5.90	21	.55	.57	----	31.57	3.48	----	78.43	-----	----	----	.86	----	----	6.2	6.2	----	----
6.69	19	.45	.74	----	37.86	----	----	-----	-----	----	----	----	----	----	----	----	----	----
6.82	10	----	.20	----	38.90	----	----	------	------	----	----	----	----	----	----	----	----	----
6.95	10	----	.20	----	39.94	----	----	------	------	----	----	----	----	----	----	----	----	----
Average values:																		
0.01 to 4.83			----	0.49	----------													
4.83 to 6.95			----	.81	----------													
0.01 to 6.95			----------							0.49	----------		0.14	0.14	----------		3.6	3.6



* SEE 'EXPLANATION OF SYMBOLS' FOR MORE DETAIL

STATION: CD-37 CORE: PC-37

Figure 32a.--Geotechnical profile*.

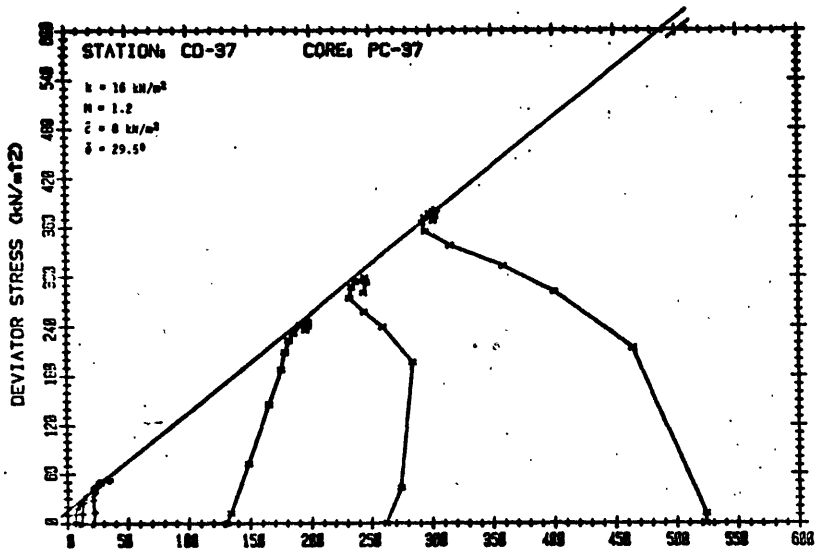


Figure 32b.--Interpretation of drained shear strength parameters.

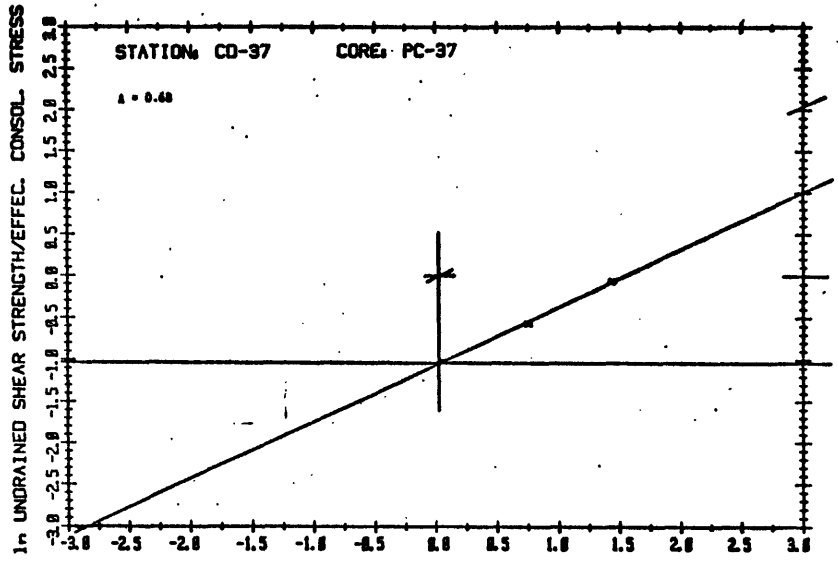


Figure 32d.--Interpretation of the pore pressure parameter A.

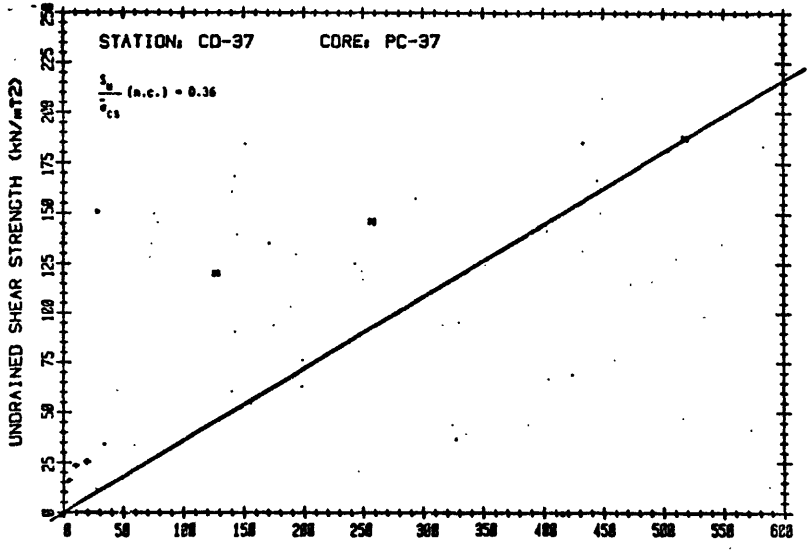


Figure 32c.--Interpretation of the normalized undrained shear strength for the normally consolidated state.

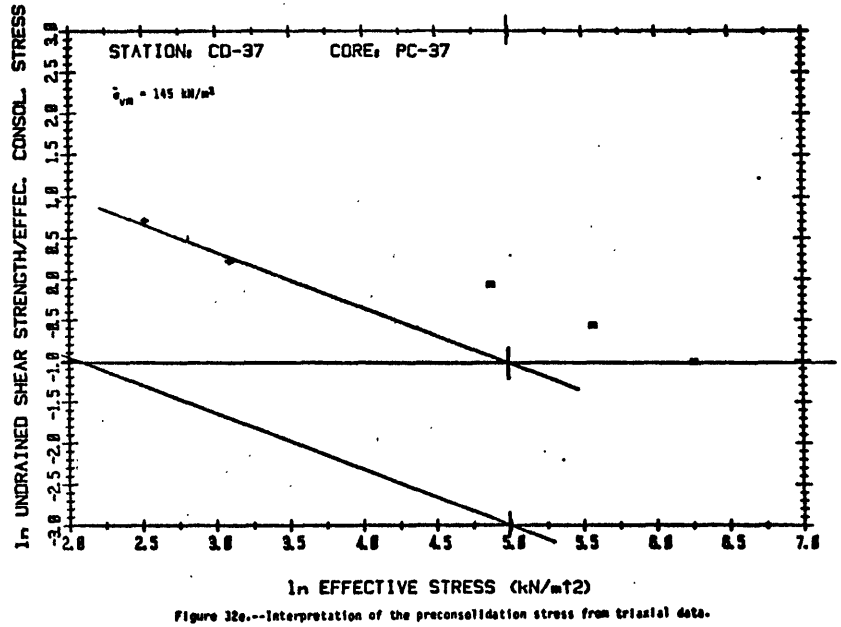


Figure 32e.--Interpretation of the preconsolidation stress from triaxial data.

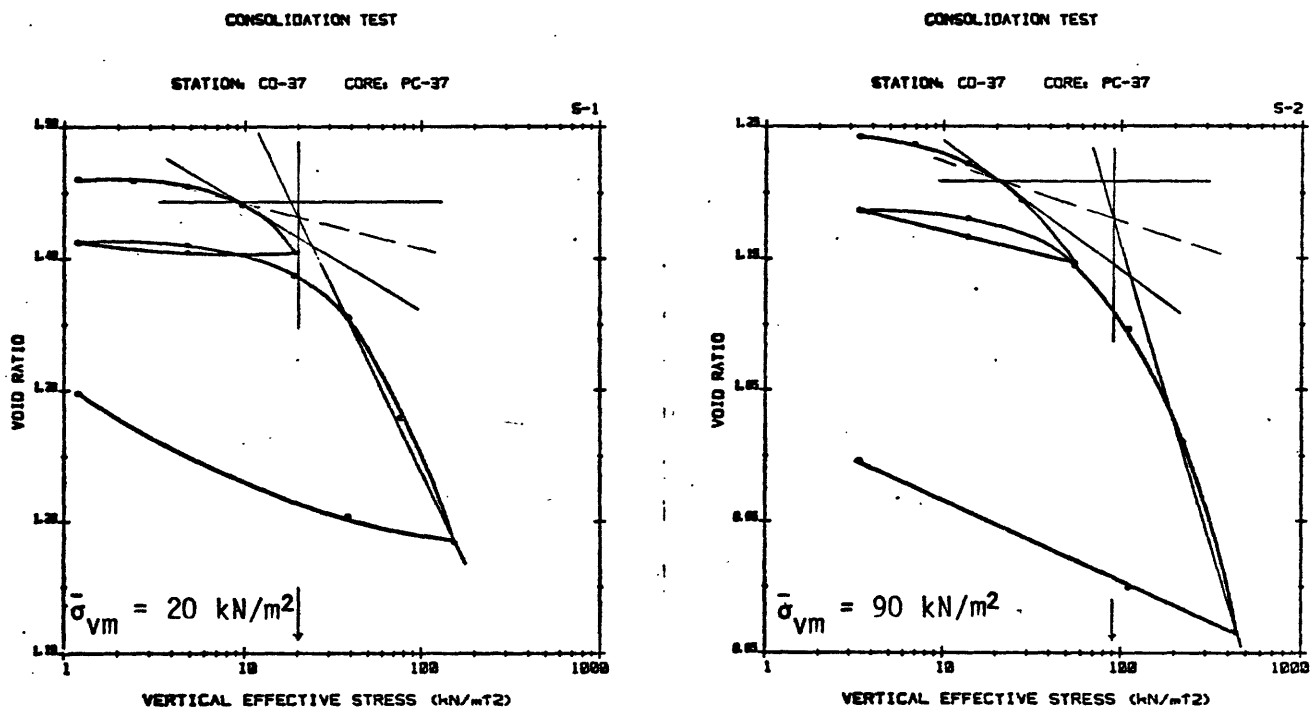


Figure 32f.--Interpretation of the preconsolidation stress from consolidation data.

Table 32a.--Geotechnical test results for site no. CD-37, core no. PC-37

[Lat 38°05.71' N., long 73°45.02' W.; water depth 573 m; core recovery 3.84 m; ----, indicate no information]

Sample depth (m)			Physical properties							Consolidation test results				Triaxial test conditions			Triaxial test results							
Top	Bottom	Average	Fines	Clay	LL	PL	G	w	γ_t	$\bar{\sigma}_{vm}$	C_c	C_s	Lab vane S_u	Set	Symbol	$\bar{\sigma}_{cm}$	$\bar{\sigma}_c$	S_u	$S_u/\bar{\sigma}_c$	$S_u/\bar{\sigma}_c$ (n.c.)	$\bar{\sigma}_{vm}$	Λ	$\bar{c}$	$\bar{\phi}$
0.00	----	0.01	--	--	--	--	----	53	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	.81	--	--	--	--	----	51	----	---	----	----	13.4	-	-	-----	-----	-----	----	----	---	----	--	----
0.80	----	.86	90	39	47	25	2.84	51	1.77	---	----	----	----	1	+	-----	6.9	17.8	2.59	----	---	----	--	----
----	----	1.00	96	--	48	25	----	53	1.73	---	----	----	----	1	+	-----	12.4	25.2	2.04	----	---	----	--	----
----	1.20	1.13	95	--	49	26	----	51	1.73	---	----	----	----	1	+	-----	22.0	27.3	1.24	----	---	----	--	----
1.28	1.43	1.35	99	43	52	26	2.79	51	1.68	20	0.31	0.04	----	-	-	-----	-----	-----	----	----	---	----	--	----
----	----	2.33	--	--	--	--	----	48	----	---	----	----	14.8	-	-	-----	-----	-----	----	----	---	----	--	----
2.32	2.47	2.39	99	30	44	26	2.78	46	1.78	90	.48	.06	----	-	-	-----	-----	-----	----	----	---	----	--	----
----	2.96	----	--	--	--	--	----	--	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	----
2.96	----	----	--	--	--	--	----	--	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	----
3.44	----	3.50	98	30	39	22	2.81	39	1.87	---	----	----	----	2	x	523	523.7	190.4	.36	----	---	----	--	----
----	----	3.62	98	--	41	24	----	40	1.88	---	----	----	----	2	x	523	261.8	149.1	.57	----	---	----	--	----
----	3.84	3.78	98	--	39	23	----	37	1.85	---	----	----	----	2	x	523	130.9	122.9	.94	----	---	----	--	----
Average values:																								
0.80	1.20	----------																			145	----------		
0.00	3.84	----------																		0.36	---	0.68	8	29.5

Table 32b.--Calculated geotechnical results for site no. CD-37, core no. PC-37

[Regional slope angle: 22° maximum, 9° average; ----, indicate no information]

Average sample depth (m)						Consolidation state				Normalized shear strength			Normalized shear stress		Factor of safety			
						OCR		$\bar{\sigma}_{vm} - \bar{\sigma}_{vb}$		Undrained					Undrained Shansep		Drained	
	PI	A	LI	γ_b	$\bar{\sigma}_{vb}$	Consolidated data	Triaxial data	Consolidated data	Triaxial data	Drained	Vane	Shansep	Maximum slope angle	Average slope angle	Maximum	Average	Maximum	Average
0.01	--	----	----	----	-----	----	-----	-----	------	----	----	----	----	----	----	----	----	----
0.81	--	----	----	----	5.65	----	-----	------	------	----	2.37	----	----	----	----	----	----	----
0.86	22	0.56	1.18	----	6.00	----	-----	------	------	----	----	----	----	----	----	----	----	----
1.00	23	----	1.22	----	6.98	----	20.77	------	138.02	----	----	----	----	----	----	----	----	----
1.13	23	----	1.09	----	7.89	----	-----	------	------	----	----	----	----	----	----	----	----	----
1.35	26	.60	.96	----	9.42	2.12	-----	10.58-	------	----	----	0.61	----	----	1.8	4.0	----	----
2.33	--	----	----	----	16.26	----	-----	------	------	----	.91	----	----	----	----	----	----	----
2.39	16	.53	1.25	----	16.68	5.40	-----	73.32-	------	----	----	1.15	----	----	3.3	7.4	----	----
2.96	--	----	----	----	20.66	----	-----	------	------	----	----	----	----	----	----	----	----	----
2.96	--	----	----	----	20.66	----	-----	------	------	----	----	----	----	----	----	----	----	----
3.50	17	.57	1.00	----	25.12	----	-----	------	------	----	----	----	----	----	----	----	----	----
3.62	17	----	.94	----	26.11	----	-----	------	------	----	----	----	----	----	----	----	----	----
3.78	16	----	.88	----	27.43	----	-----	------	------	----	----	----	----	----	----	----	----	----
Average values:																		
0.01 to 2.96			----	0.71	----------													
2.96 to 3.78			----	.84	----------													
0.01 to 3.78			----------							D.49	----------		0.35	0:16	----------		1.4	3.6

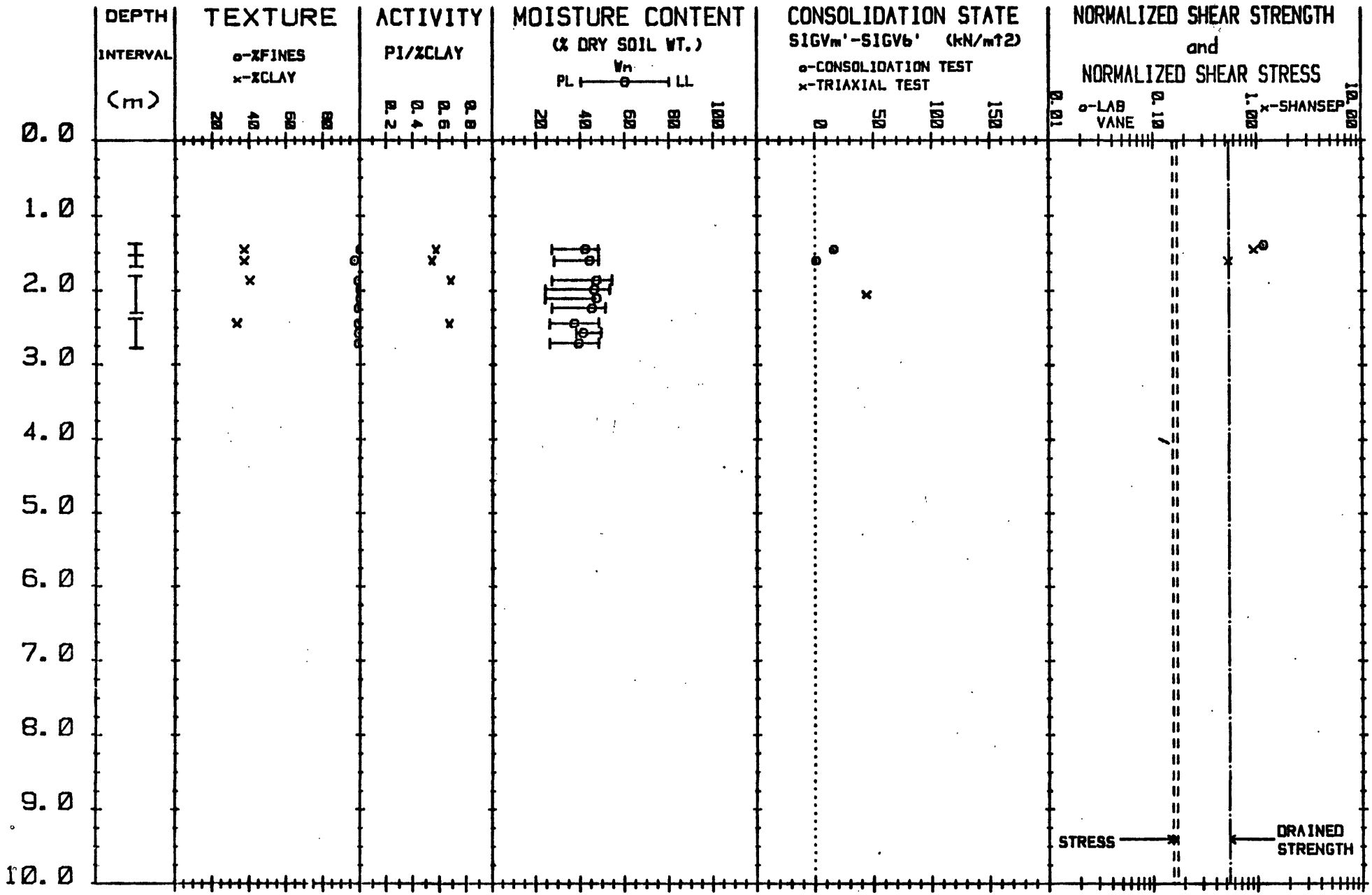


Figure 33a.--Geotechnical profile*.

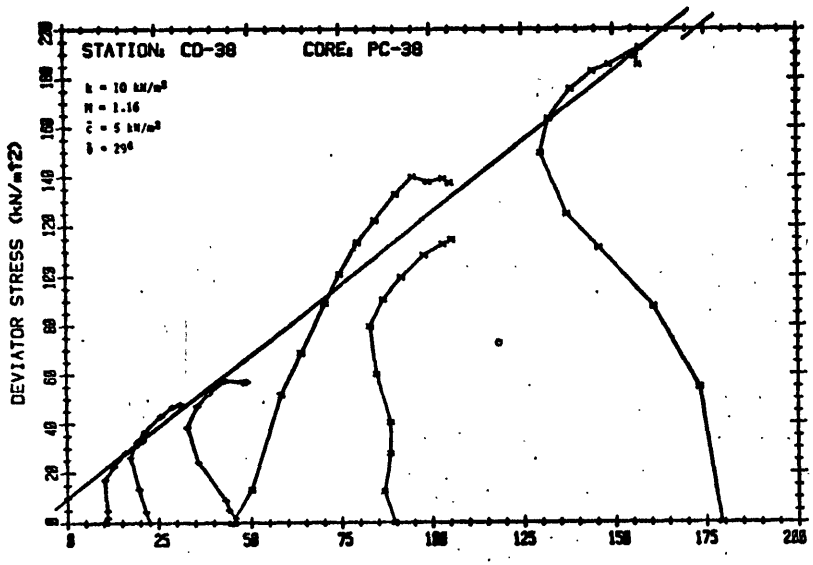


Figure 33b.--Interpretation of drained shear strength parameters.

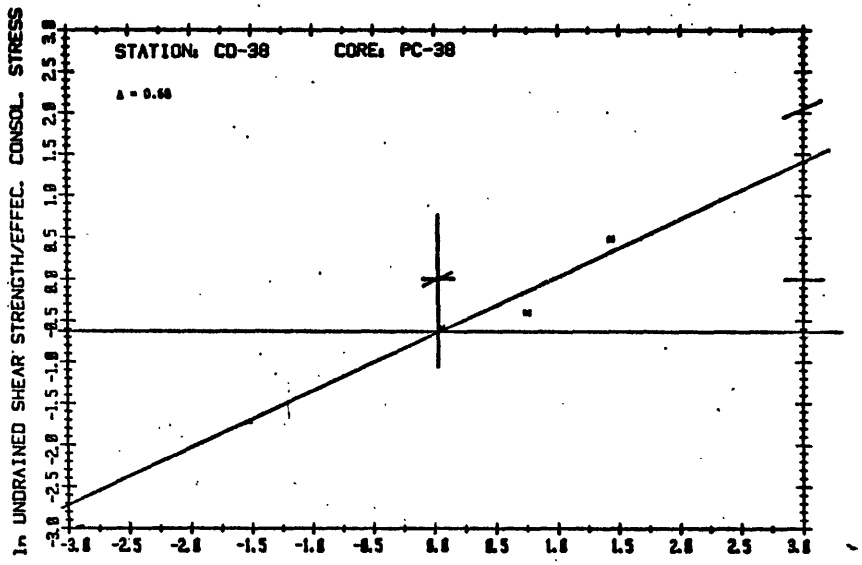


Figure 33d.--Interpretation of the pore pressure parameter A.

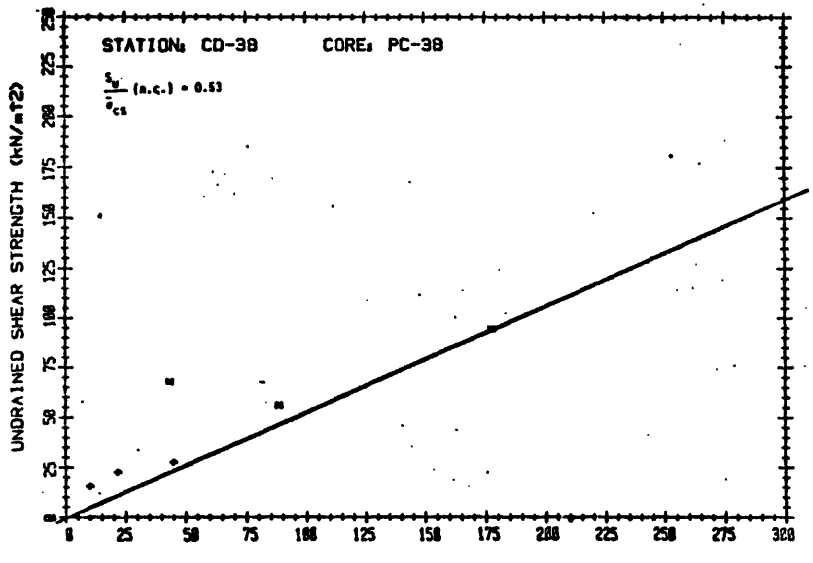


Figure 33c.--Interpretation of the normalized undrained shear strength for the normally consolidated state.

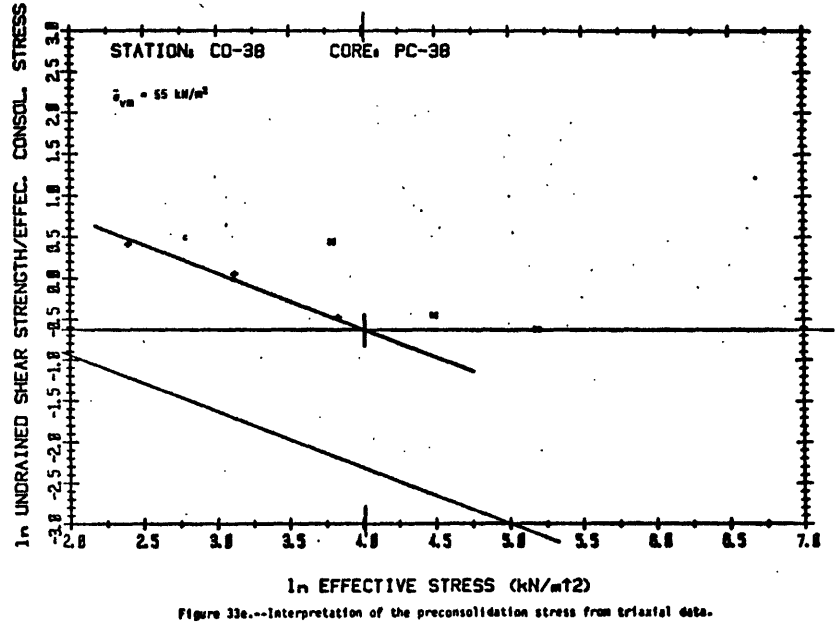


Figure 33e.--Interpretation of the preconsolidation stress from triaxial data.

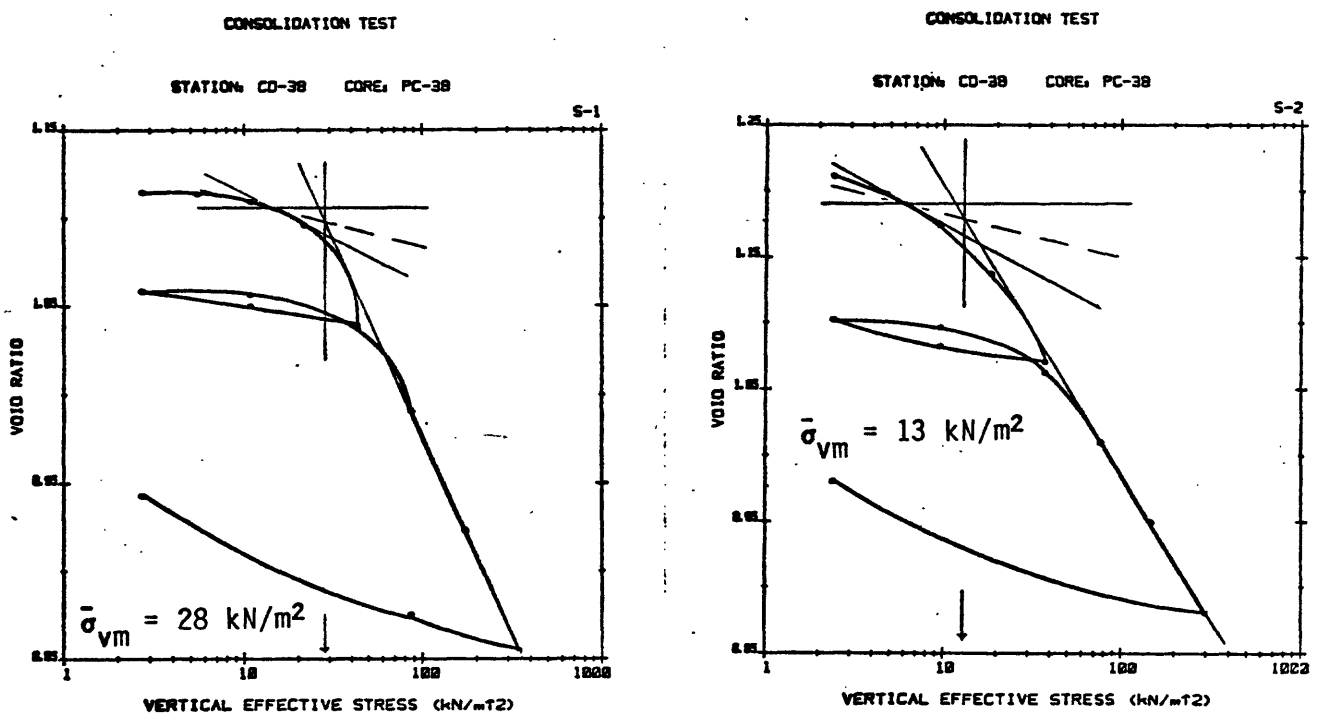


Figure 33f.--Interpretation of the preconsolidation stress from consolidation data.

Table 33a.--Geotechnical test results for site no. CD-38, core no. PC-38

[Lat 38°04.54' N., long 73°45.04' W.; water depth 877 m; core recovery 2.9 m; ----, indicate no information]

Sample depth (m)			Physical properties							Consolidation test results				Triaxial test conditions				Triaxial test results						
Top	Bottom	Average	Fines	Clay	LL	PL	G	w	γ_t	$\bar{\sigma}_{vm}$	C_c	C_s	Lab vane S_u	Set	Symbol	$\bar{\sigma}_{cm}$	$\bar{\sigma}_c$	S_u	$\frac{S_u}{\bar{\sigma}_c}$	$\frac{S_u}{\bar{\sigma}_c}$ (n.c.)	$\bar{\sigma}_{vm}$	A	$\bar{c}$	$\bar{\phi}$
0.00	----	0.01	---	--	--	--	----	105	----	---	----	----	1.1	-	-	-----	-----	-----	----	----	---	----	--	--
----	----	1.39	---	--	--	--	----	42	----	---	----	----	12.8	-	-	-----	-----	-----	----	----	---	----	--	--
1.38	1.53	1.45	100	37	48	27	2.81	42	1.86	28	0.23	0.04	----	-	-	-----	-----	-----	----	----	---	----	--	--
1.53	1.68	1.60	97	37	48	28	2.81	44	1.78	13	.23	.05	----	-	-	-----	-----	-----	----	----	---	----	--	--
1.80	----	1.86	99	40	54	27	2.76	47	1.77	---	----	----	----	1	+	-----	11.0	16.6	1.51	----	---	----	--	--
----	----	1.98	100	--	53	24	----	46	1.80	---	----	----	----	1	+	-----	22.7	23.9	1.05	----	---	----	--	--
----	----	2.05	---	--	--	--	----	---	----	---	----	----	----	-	-	-----	-----	-----	----	----	---	----	--	--
----	----	2.10	100	--	46	24	----	47	1.79	---	----	----	----	1	+	-----	46.2	28.8	.62	----	---	----	--	--
----	2.30	2.23	99	--	51	27	----	45	1.80	---	----	----	----	1	+	-----	-----	-----	----	----	---	----	--	--
2.38	----	2.44	99	33	48	26	2.83	37	1.87	---	----	----	----	2	x	179	179.2	96.3	.54	----	---	----	--	--
----	----	2.57	99	--	49	38	----	41	1.82	---	----	----	----	2	x	179	89.6	57.3	.64	----	---	----	--	--
----	2.78	2.71	99	--	48	26	----	39	1.84	---	----	----	----	2	x	179	44.8	69.6	1.55	----	---	----	--	--
Average values:																								
1.80	2.30	----------																			55	----------		
0.00	2.78	----------																		0.53	---	0.68	5	29

Table 33b.--Calculated geotechnical results for site no. CD-38, core no. PC-38

[Regional slope angle: 10° maximum, 9° average; ----, indicate no information]

Average sample depth (m)	PI	A	LI	γ_b	$\bar{\sigma}_{vb}$	Consolidation state: OCR		Consolidation state: $\bar{\sigma}_{vm} - \bar{\sigma}_{vb}$		Normalized shear strength: Undrained			Normalized shear stress		Factor of safety: Undrained Shansep		Factor of safety: Drained	
						Consolidated data	Triaxial data	Consolidated data	Triaxial data	Drained	Vane	Shansep	Maximum slope angle	Average slope angle	Maximum	Average	Maximum	Average
0.01	--	----	----	----	-----	----	----	-----	-----	----	----	----	----	----	----	----	----	----
1.39	--	----	----	----	10.70	----	----	-----	-----	----	1.19	----	----	----	----	----	----	----
1.45	21	0.57	0.71	----	11.17	2.51	----	16.83	-----	----	----	1.00	----	----	5.8	6.5	----	----
1.60	20	.54	.80	----	12.32	1.06	----	.68	-----	----	----	.53	----	----	3.1	3.4	----	----
1.86	27	.68	.74	----	14.32	----	----	-----	-----	----	----	----	----	----	----	----	----	----
1.98	29	----	.76	----	15.25	----	----	-----	-----	----	----	----	----	----	----	----	----	----
2.05	--	----	----	----	15.79	----	3.48	-----	39.21	----	----	----	----	----	----	----	----	----
2.10	22	----	1.05	----	16.17	----	----	-----	-----	----	----	----	----	----	----	----	----	----
2.23	24	----	.75	----	17.17	----	----	-----	-----	----	----	----	----	----	----	----	----	----
2.44	22	.67	.50	----	18.79	----	----	-----	-----	----	----	----	----	----	----	----	----	----
2.57	11	----	.27	----	19.79	----	----	-----	-----	----	----	----	----	----	----	----	----	----
2.71	22	----	.59	----	20.87	----	----	-----	-----	----	----	----	----	----	----	----	----	----
Average values for entire core.				0.79	----------					0.54	----------		0.17	0.16	----------		3.1	3.5

SUMMARY

Profiles having similar suites of geotechnical properties (geotechnical conditions) were assembled into groups to provide a basis for characterizing the variety of geotechnical conditions found, and their association with the locations, morphologic settings, and stability of the core sites.

Four profile groups were identified which include 28 of the 31 profiles in this study. The dominant characteristics of these groups are:

Group 1--silty clay/clayey silt; liquidity index relatively low; overconsolidated. Figure 34a shows one of the four profiles in this group.

Group 2--silty clay/clayey silt; liquidity index relatively high; overconsolidated. Figure 34b shows one of the 11 profiles in this group.

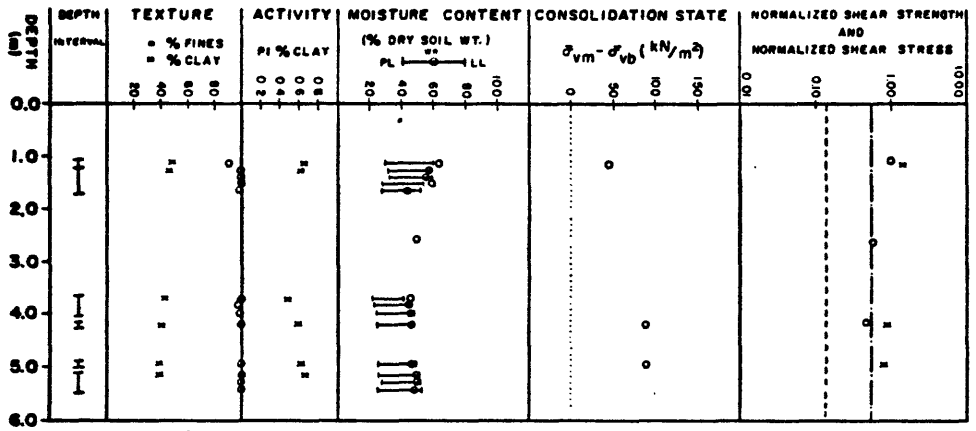
Group 3--silty clay/clayey silt; liquidity index relatively low; normally consolidated to underconsolidated. Figure 34c shows one of the three profiles in this group.

Group 4--silty clay/clayey silt; liquidity index relatively high; normally consolidated to underconsolidated. Figure 34d shows one of the 10 profiles in this group.

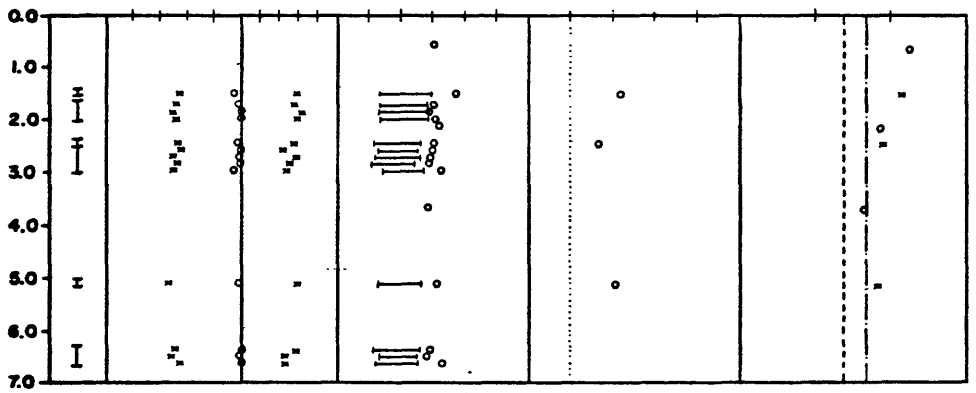
The similarities and differences among these groups are illustrated on figure 35. The averages and ranges in values shown, for selected properties, are those for all the profiles in each group. These data show that the profile groups contain materials with similar texture and plasticity characteristics. However, the principal differences among the groups occur in their liquidity index, consolidation state, and undrained shear strength.

Table 34 documents in more detail the average properties or characteristics of each profile and also each profile group. The last three profiles listed are those not included in the four groups. Core 28 is listed separately because it is very sandy compared to the other cores in this study. Cores 7 and 36 differ from the other cores in that they contain abrupt discontinuities between soft clayey silt overlying similar material in a more highly consolidated state. For these cores, average property values are shown, where possible, for the core sections above and below the discontinuities.

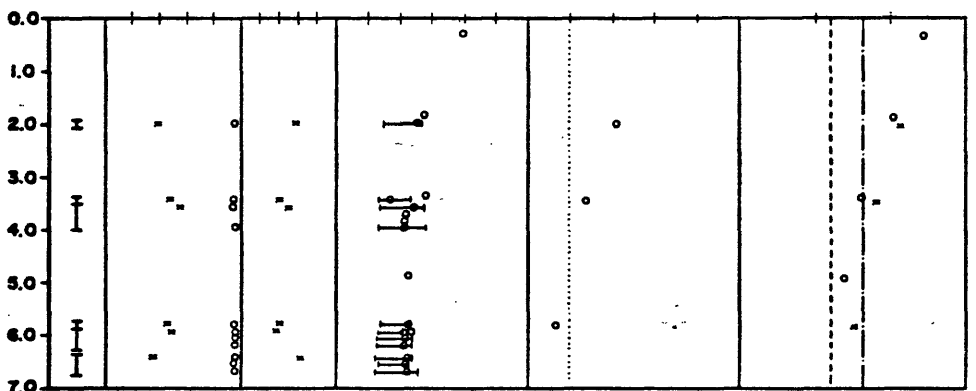
The group 1 profiles have the highest values of normalized undrained shear strength and consolidation state. These values indicate the materials are overconsolidated by an amount equal to the buoyant weight of about 10 m of overburden material. The group 2 profiles also contain materials that are overconsolidated, although to a somewhat lesser extent. The group 3 and



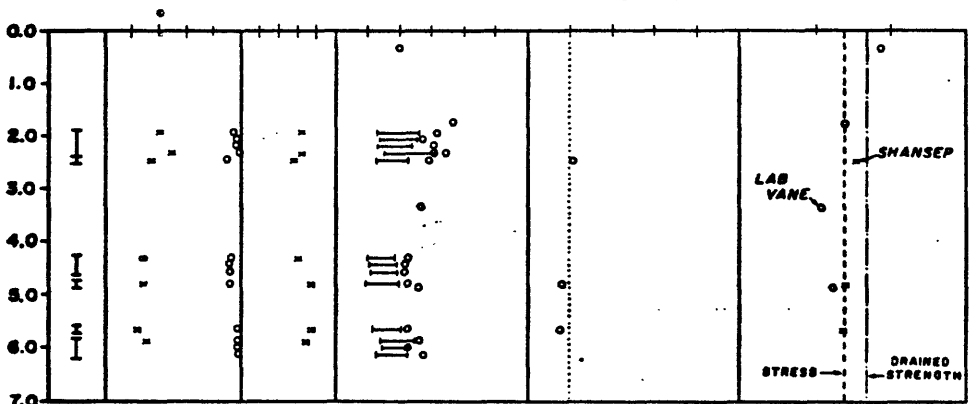
a) --Geotechnical profile core 31 group 1



b) --Geotechnical profile core 5 group 2



c) --Geotechnical profile core 19 group 3



d) --Geotechnical profile core 25 group 4

Figure 34.--Examples of geotechnical profiles from each profile group.

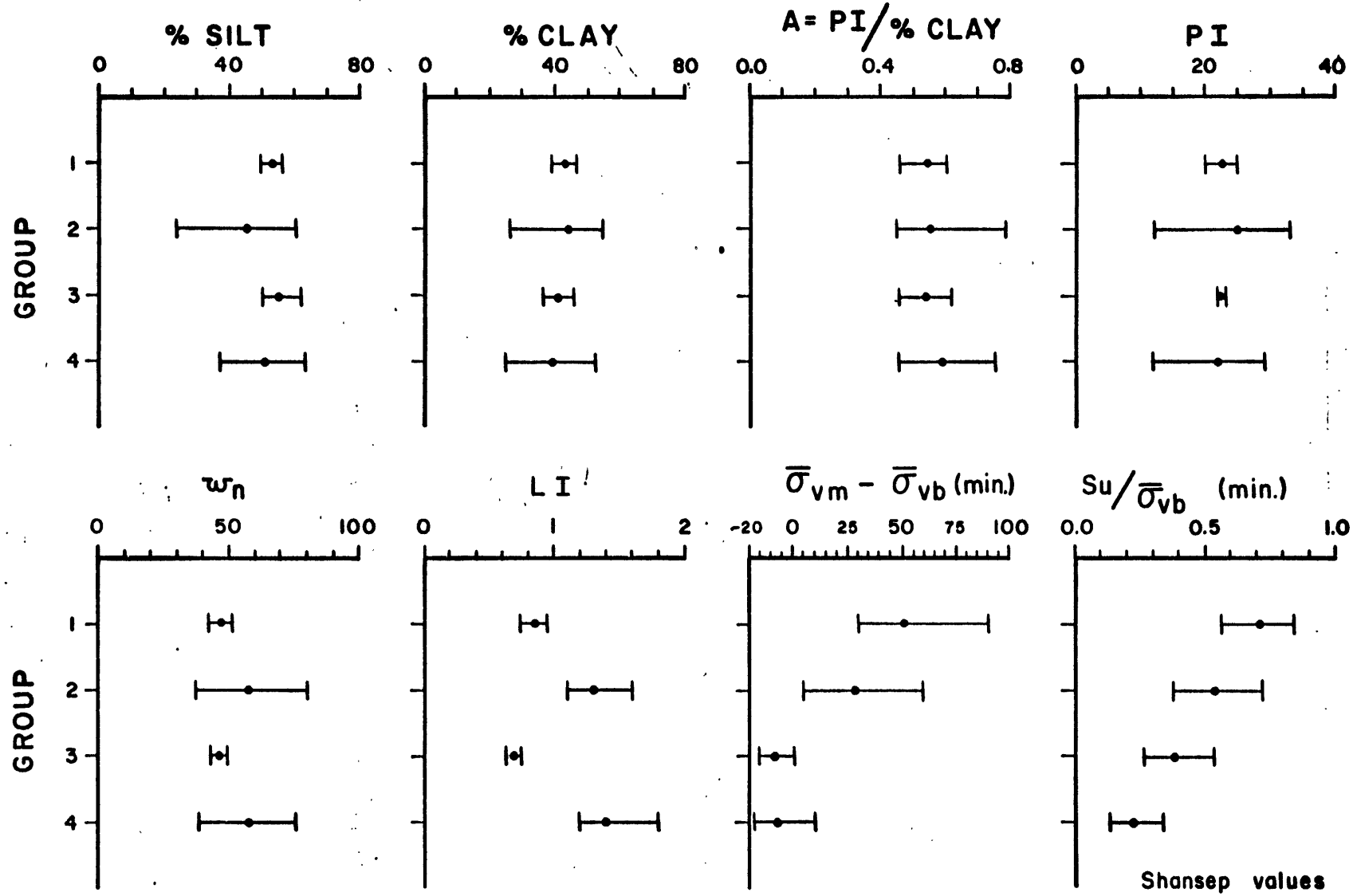


Figure 35. — Average (dot) and range (bar) of geotechnical properties for all the cores in each profile group

Table 34.--Geotechnical profile characteristics

[See section on "Explanation of symbols"; NGA, no group assigned; ----, no values obtained]

Group	Core no.	Normalized shear strength (triaxial) $S_u/\bar{\sigma}_{vb}$ min	$S_u/\bar{\sigma}_{vb}$ avg	$S_d/\bar{\sigma}_{vb}$	Shear strength parameters (triaxial) $S_u/\bar{\sigma}_v$ (n.c.)	A	$\bar{c}$	$\bar{\phi}$	Consolidation state $\bar{\sigma}_{vm} - \bar{\sigma}_{vb}$ min	avg	Laboratory vane strength data $S_u/\bar{\sigma}_{vb}$	S_u	R	Physical properties LI	w	LL	PL	PI	A	Clay-silt-sand
1	31	0.84	1.05	0.51	0.28	0.83	5	28	44	75	0.68	11	0.7	0.94	51	52	26	25	0.60	42-56- 2
1	29	.82	1.30	.46	.31	.77	17	25	39	65	1.16	15	1.0	.88	42	47	27	20	.46	44-54- 2
1	23	.61	.82	.46	.29	.67	15	25	90	104	.57	13	.9	.91	44	47	24	22	.61	39-54- 7
1	20	.57	.70	.50	.33	.66	8	28	31	34	.86	8	.9	.74	51	52	28	25	.52	47-48- 5
1	avg	.71	.97	.48	.30	.73	11	27	51	70	.82	12	.9	.87	47	50	26	23	.55	43-53- 4
2	5	.72	1.01	.48	.33	.77	13	27	34	50	.46	9	.8	1.3	62	54	26	29	.55	53-45- 2
2	12	.68	.90	.53	.33	.67	5	28	33	76	.97	9	.4	1.3	63	54	25	28	.57	51-45- 4
2	37	.61	.88	.49	.36	.68	8	30	11	42	1.64	14	.7	1.1	47	45	25	20	.57	36-61- 3
2	4	.60	.69	.40	.27	.87	15	22	39	49	.41	6	.6	1.2	66	60	27	33	.60	55-33- 2
2	14	.57	1.05	.49	.37	.71	17	27	42	113	.55	7	.2	1.6	38	32	27	14	.45	27-28-45
2	16	.52	.91	.57	.29	1.23	7	31	5	35	.41	4	.5	1.4	37	30	18	12	.47	28-43-29
2	10	.50	.57	.46	.32	.65	15	25	24	53	.59	6	.6	1.3	66	56	28	28	.55	51-48- 1
2	9	.48	.54	.46	.31	.65	20	25	40	52	.53	8	.5	1.2	65	60	28	31	.61	51-48- 1
2	15	.47	.49	.36	.23	.90	14	20	59	65	.50	6	.4	1.4	52	41	21	15	.49	32-23-25
2	3	.46	.59	.38	.33	.70	15	22	31	54	.58	9	.8	1.2	63	58	26	32	.67	50-48- 2
2	34	.38	.51	.40	.23	.83	6	22	7	29	.83	7	.7	1.4	80	64	30	33	.79	48-51- 1
2	avg	.54	.74	.46	.31	.79	12	25	30	56	.68	8	.6	1.3	58	50	26	25	.57	44-44-12
3	38	.53	.77	.54	.53	.68	5	29	1	9	1.19	7	1.2	.69	49	49	27	22	.62	37-62- 1
3	19	.32	.79	.45	.48	.67	12	25	-15	21	1.03	10	.7	.75	48	50	27	23	.49	46-50- 4
3	21	.23	.34	.47	.37	.67	17	26	-14	5	.67	10	1.0	.63	43	46	24	22	.47	41-53- 6
3	avg	.39	.63	.49	.46	.67	11	27	-9	12	.96	9	1.0	.69	47	48	26	22	.53	41-55- 4
4	35	.34	.38	.48	.27	.76	7	26	11	13	.54	7	.9	1.2	68	59	30	29	.63	47-52- 1
4	11	.32	.52	.51	.36	.67	15	28	-6	34	.30	6	.4	1.4	42	37	20	17	.51	35-41-24
4	22	.27	.41	.57	.36	.77	10	31	-8	10	.51	7	.7	1.2	38	32	19	12	.48	25-37-38
4	25	.25	.31	.49	.30	.76	8	28	-7	-2	.32	3	.5	1.3	53	46	25	21	.67	33-63- 4
4	24	.23	.26	.33	.25	.83	12	20	-2	0	.47	5	1.0	1.3	50	45	23	22	.63	36-55- 9
4	30	.20	.37	.35	.25	.85	10	22	-7	13	.49	6	.8	1.3	64	58	30	29	.67	46-53- 1
4	17	.22	.33	.44	.25	1.0	7	24	-5	6	.42	6	.6	1.5	67	54	28	26	.55	52-46- 2
4	18	.15	.37	.41	.26	.88	9	24	-18	3	.36	5	.8	1.6	56	42	24	18	.46	39-52- 9
4	32	.17	.22	.52	.27	.71	3	28	-16	-6	.29	4	.7	1.8	61	44	24	20	.51	37-52-11
4	33	.12	.22	.38	.23	.78	7	23	-15	-1	.30	4	1.0	1.5	76	54	27	27	.76	35-62- 3
4	avg	.23	.34	.45	.28	.80	9	25	-7	7	.40	5	.7	1.4	58	47	25	22	.59	39-51-10
NGA	28	.50	.65	.61	.67	.53	15	32	-4	-2	.80	3	.5	---	32	26	19	3	----	9-31-60
NGA	7*	----	----	.43	.20	1.33	10	24	----	---	----	--	.8	---	---	--	--	--	----	--------
	7**	----	.36	----	----	----	--	--	----	6	.27	2	---	1.4	101	72	29	43	1.14	38-61- 1
	7***	----	9.6	----	----	----	--	--	----	400	----	--	---	.4	39	60	24	35	1.23	29-61-10
NGA	36*	----	----	.49	.34	.75	5	27	----	---	----	--	1.0	---	---	--	--	--	----	--------
	36**	.22	.36	----	----	----	--	--	-8	1	.43	4	---	1.5	98	72	32	41	.85	46-53- 1
	36***	----	.86	----	----	----	--	--	21	---	.55	17	---	.7	40	48	30	19	.48	44-54- 2

*Average values for entire cores.

**Values for core above contact.

***Values for core below contact.

group 4 profiles contain materials that, on the average, are close to normally consolidated. However, underconsolidated materials exist within these profiles, as indicated by the minimum values for both the normalized undrained shear strength and the consolidation state (fig. 35; table 34).

The distribution of the profile groups is documented in table 35 and summarized in table 36. The information in these tables concerning locations, morphologic settings, sea floor gradients, and water depths is that reported by McGregor (1982). Generally each profile group is represented in more than one morphologic setting, and two or more regional locations. However, the two groups (1 and 3) with relatively low liquidity index values are not represented on intervalley ridges. Moreover, they are found in a narrower range of water depths than groups 2 and 4. No clear trends are evident concerning the variation of geotechnical conditions with morphology.

The factors of safety calculated for both drained and undrained conditions at each site are presented in table 35, together with information concerning the site location, morphologic setting, and profile type. Also listed in a separate column is the minimum factor of safety, that is, the smaller of the values obtained for drained and undrained conditions.

The factor of safety values are conservative in that the sea floor gradients used are the maximum gradients in the vicinity of each site, and the shear strength values used were the minimum values obtained in each profile.

Low safety factor values, on the order of 1.0 or less, were obtained for five core sites (30, 33, 25, 24, 18), all of whose geotechnical profiles fall in group 4. Moreover, these sites are on relatively steep slopes ranging from 14° to 19°. Four of these sites are on valley walls, and one on an intervalley ridge.

The remainder of the sites, including those containing underconsolidated group 3 and group 4 materials, have substantially larger safety factors, generally greater than 2.0.

Finally, the results contain information concerning the significance of liquidity index and laboratory vane shear strength data.

Variations of liquidity index among the profile groups do not correlate with variations in consolidation state. (fig. 35). Whereas the latter decreases, respectively, in groups 1 through 4, the average liquidity index is less than 0.9 in groups 1 and 3, and approximately 1.3 to 1.4 in groups 2 and 4 (fig. 6, table 2).

Regarding laboratory vane shear strength measurements, figure 34 shows the laboratory vane and Shansep values of normalized undrained shear strength

Table 35.--Locations, morphologic settings, profile types, and stability of core sites

[IVR, intervalley ridge; VW, valley wall; VA, valley axis; NGA, no group assigned; ----, no data]

Location	Core no.	Morphologic setting	Possible feature	Water depth (m)	Seafloor gradient (degrees)	Profile group	Factor of safety		
							Drained	Undrained	Minimum
Baltimore Canyon area.	35	IVR	Slump	1342	5	4	5.6	3.9	3.9
	34	IVR	Scar	1221	7	2	3.3	3.1	3.1
	38	VW	-----	877	10	3	3.1	3.1	3.1
	36	VA	Slump	1300	8	NGA	3.6	1.6	1.6
	37	VW	-----	573	22	2	1.4	1.8	1.4
Wilmington Canyon area.	29	VW	-----	392	6	1	4.4	7.9	4.4
	31	VW	-----	553	8	1	3.7	6.1	3.7
	28	IVR	-----	328	10	NGA	3.5	2.9	2.9
	32	IVR	Slump	1098	8	4	3.8	1.2	1.2
	30	VW	-----	520	19	4	1.1	.6	.6
	33	VW	Slump	1040	16	4	1.4	.5	.5
Carteret to Berkeley Canyons.	15	VA	-----	471	6	2	3.5	4.5	3.5
	16	VW	-----	543	9	2	3.7	3.4	3.4
	23	VW	-----	505	8	1	3.3	4.4	3.3
	20	VW	-----	598	10	1	3.0	3.3	3.0
	14	VA	-----	403	11	2	2.6	3.0	2.6
	19	VW	-----	592	10	3	2.6	1.9	1.9
	17	IVR	-----	475	6	4	4.2	2.2	2.2
	21	VA	-----	595	8	3	3.4	1.7	1.7
	22	VW	-----	525	9	4	3.7	1.7	1.7
	25	VW	-----	607	15	4	1.9	1.0	1.0
	24	VW	-----	637	15	4	1.3	.9	.9
	18	IVR	-----	810	14	4	1.7	.6	.6
South Toms to Mey Canyons.	12	VW	-----	566	5	2	6.1	7.8	6.1
	4	IVR	-----	840	4	2	5.8	8.6	5.8
	10	IVR	Scar	979	5	2	5.3	5.8	5.3
	9	IVR	-----	784	5	2	5.3	5.5	5.3
	7	VA	-----	1148	7	NGA	3.5	2.9	2.9
	11	IVR	-----	435	7	4	4.2	2.7	2.7
	3	IVR	-----	708	9	2	2.5	3.0	2.5
	5	IVR	-----	412	15	2	1.9	2.9	1.9

Table 36.--Distribution of profile groups

[IVR, intervalley ridge; VW, valley wall; VA, valley axis]

Profile group	Number of profiles	Morphologic setting			Location				Range of water depths (m)
		IVR	VW	VA	Baltimore Canyon	Wilmington Canyon	Carteret to Berkeley Canyons	South Toms to Mey Canyons	
1	4	0	4	0	0	2	2	0	398- 598
2	11	6	3	2	2	0	3	6	403-1222
3	3	0	2	1	1	0	2	0	592- 877
4	10	5	5	0	1	3	5	1	435-1342

vary consistently with depth. However, the laboratory vane values were generally smaller in magnitude. Table 34 shows the ratios, of laboratory vane and Shansep values obtained, for each profile, at core depths where the normalized undrained strength profiles for the two methods could be conveniently compared. This ratio is generally less than 1.0 and varies from 0.2 to 1.2, with an overall average value on the order of 0.7 to 0.8.

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