

Clase 9-10

Prof.: Ricardo Moffat C.

Resistencia de materiales finos

- Resistencia drenada
- Resistencia No-drenada

Carga No drenada (General)

- Parámetros de presión de poros A y B
- Ensayos Consolidados
- Ensayos no consolidados

VALUES OF PARAMETER <i>B</i>			
Material	<i>S</i> (%)	<i>B</i>	Reference
Sandstone	100	0.286	
Granite	100	0.342	
Marble	100	0.550	Computed from compressibi- lities given by Skempton (1961)
Concrete	100	0.582	
Dense sand	100	0.9921	
Loose sand	100	0.9984	
London clay (OC)	100	0.9981	
Gosport clay (NC)	100	0.9998	
Vicksburg buckshot clay	100	0.9990	M.I.T.
Kawasaki clay	100	0.9988 to 0.9996	M.I.T.
Boulder clay	93	0.69	Measured by Skempton (1954)
	87	0.33	
	76	0.10	
VALUES OF PARAMETER <i>A</i>			
Material (<i>S</i> = 100%)	<i>A</i> (at failure)		Reference
Very loose fine sand	2 to 3		Typical values given by Bjerrum
Sensitive clay	1.5 to 2.5		
Normally consolidated clay	0.7 to 1.3		
Lightly overconsolidated clay	0.3 to 0.7		
Heavily overconsolidated clay	-0.5 to 0		
<i>A</i>			
Material (<i>S</i> = 100%)	(for foundation settlement)		Reference
Very sensitive soft clays	>1		From Skempton and Bjerrum (1957)
Normally consolidated clays	$\frac{1}{2}$ to 1		
Overconsolidated clays	$\frac{1}{4}$ to $\frac{1}{2}$		
Heavily overcon- solidated sandy clays	0 to $\frac{1}{4}$		

Variación de B con el grado de saturación

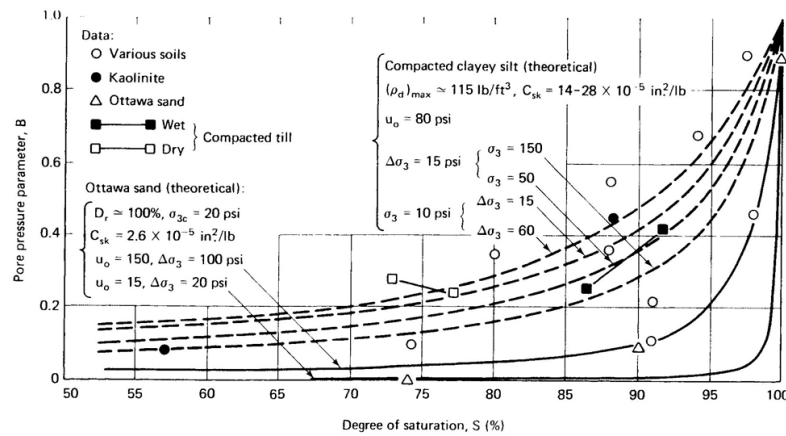
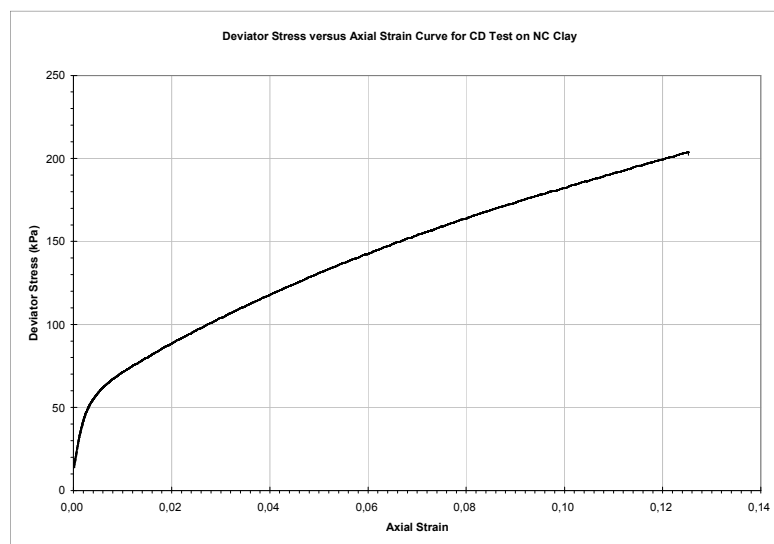
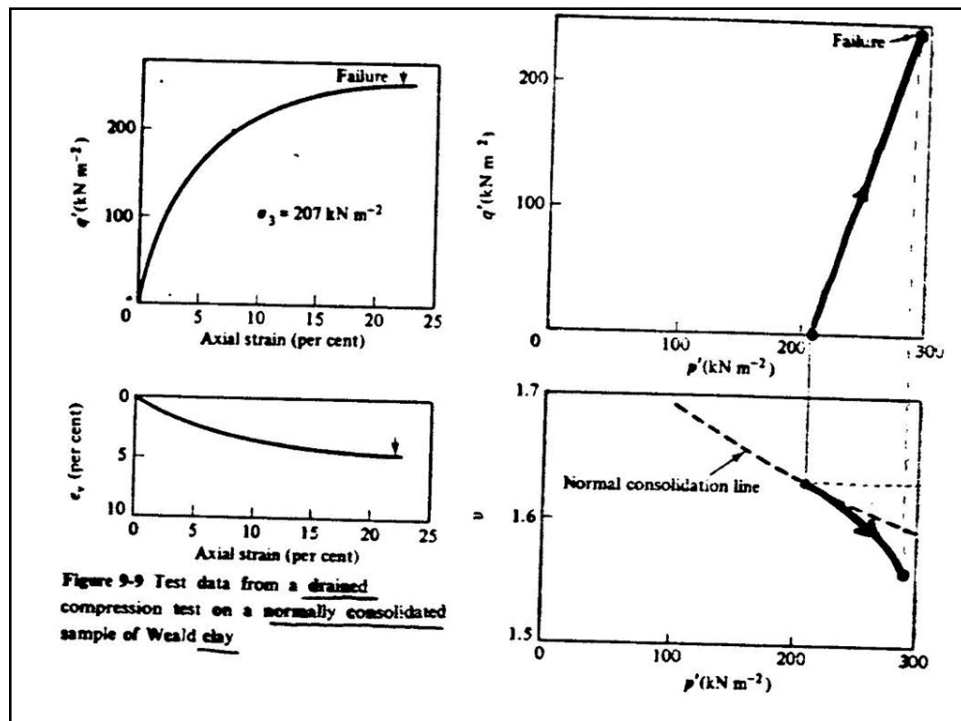
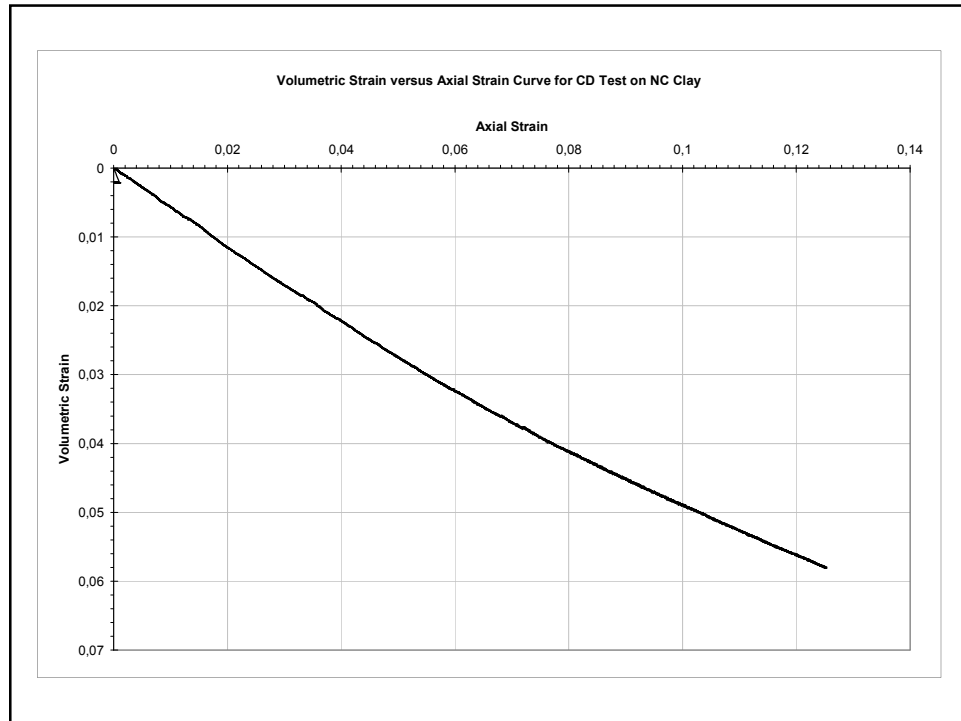


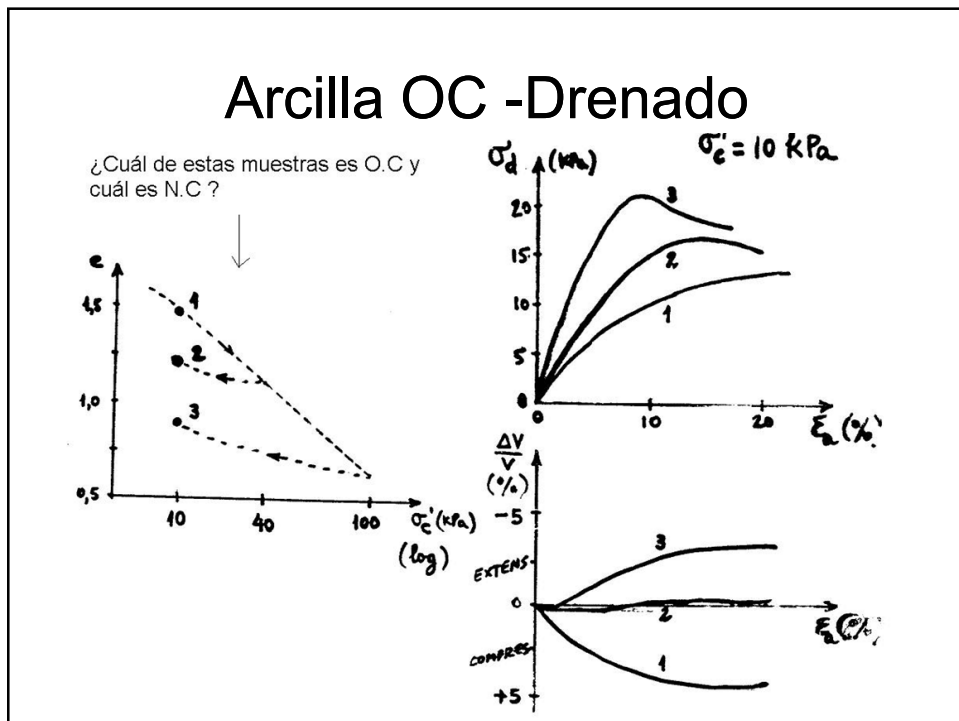
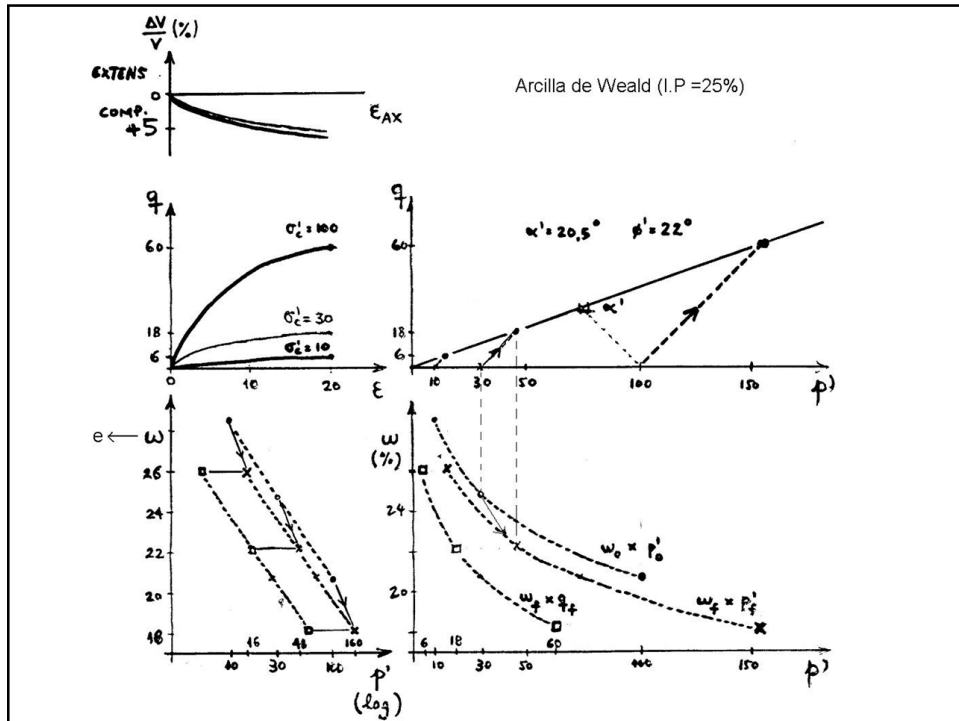
Fig. 11.67 The pore pressure parameter B as a function of the degree of saturation for several soils (after Black and Lee, 1973).

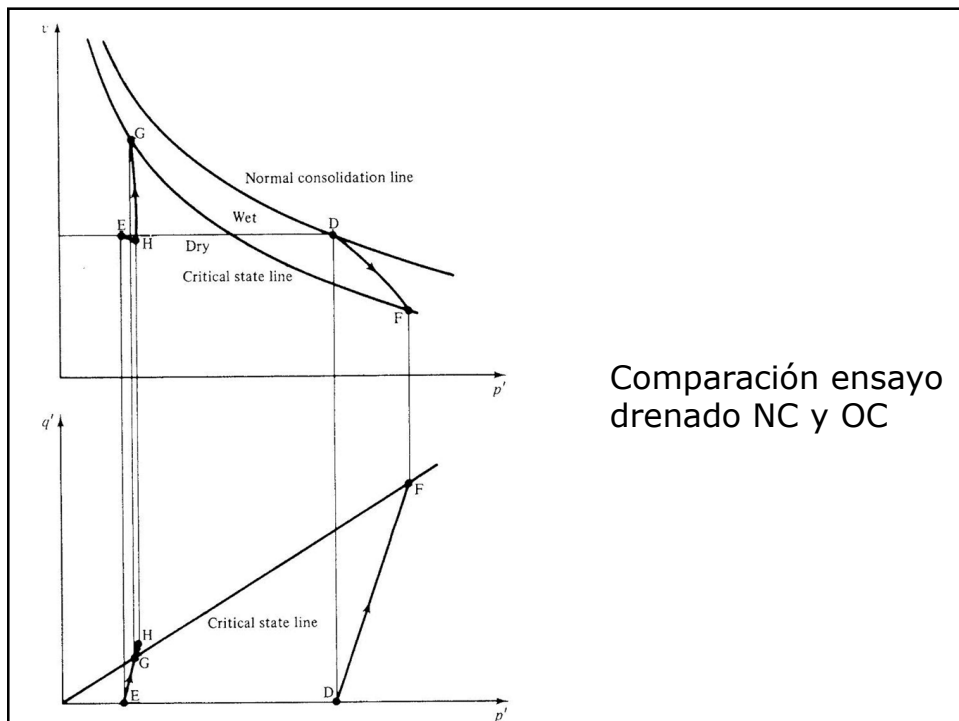
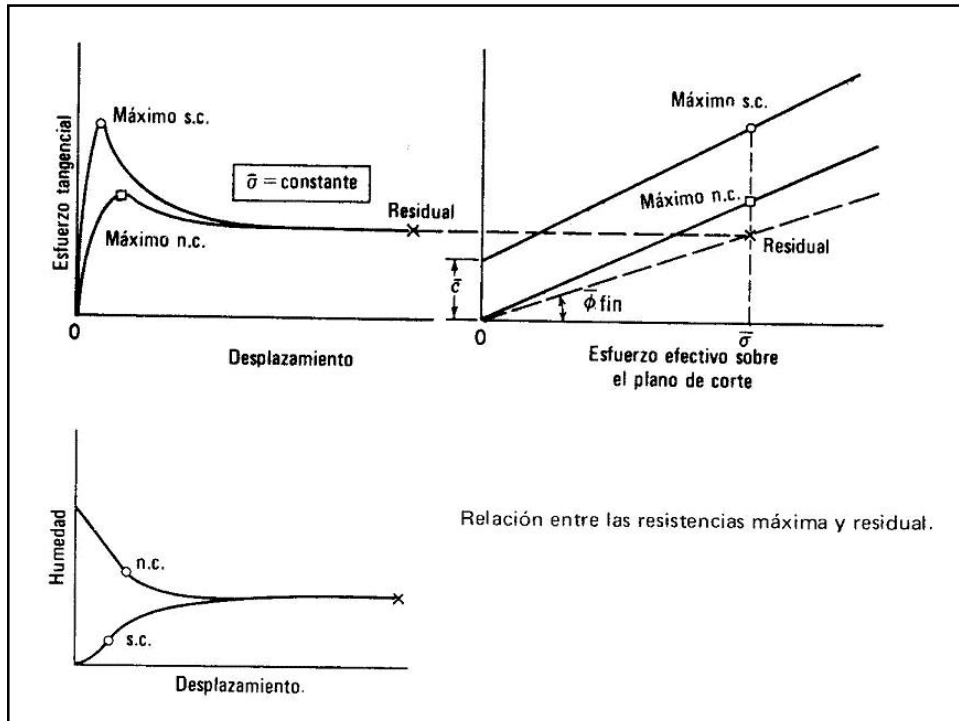
(Kovacs, 1981)

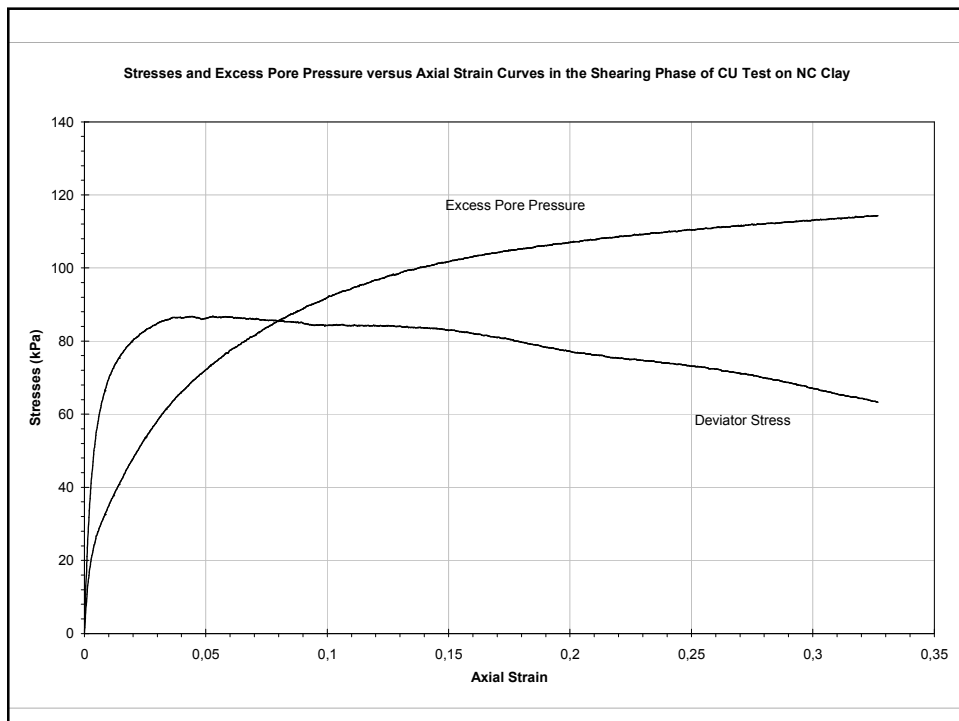
Ensayo drenado en arcilla NC

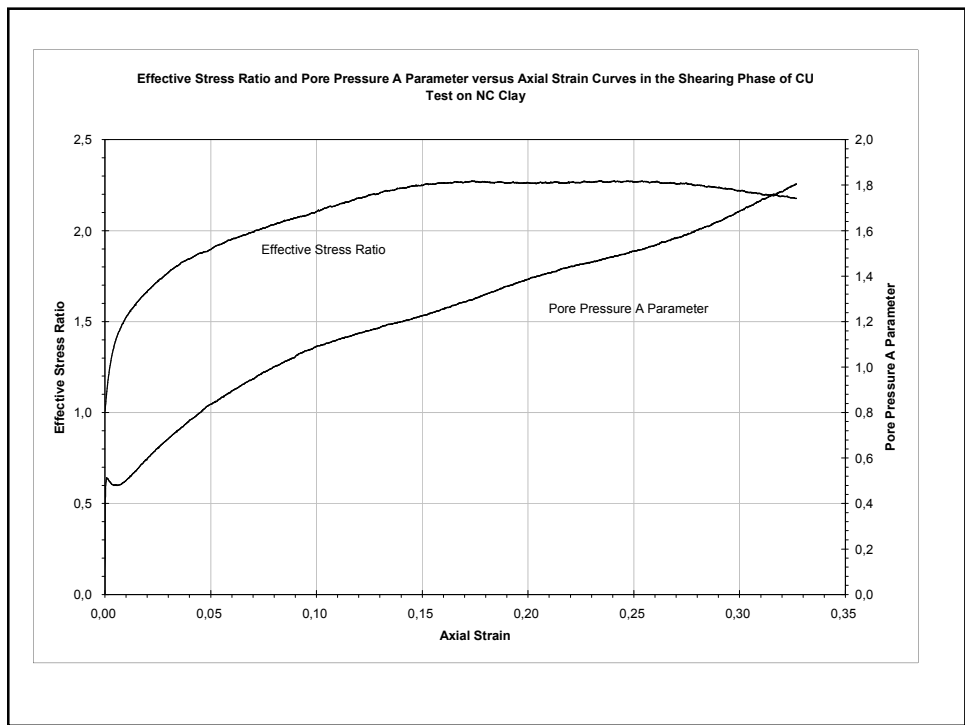
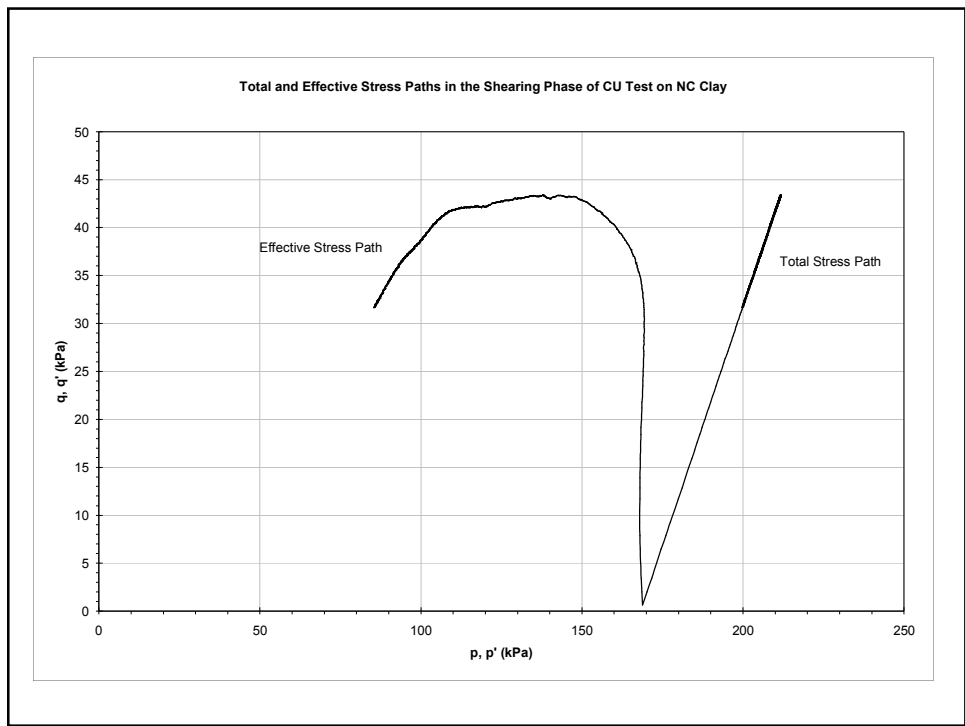


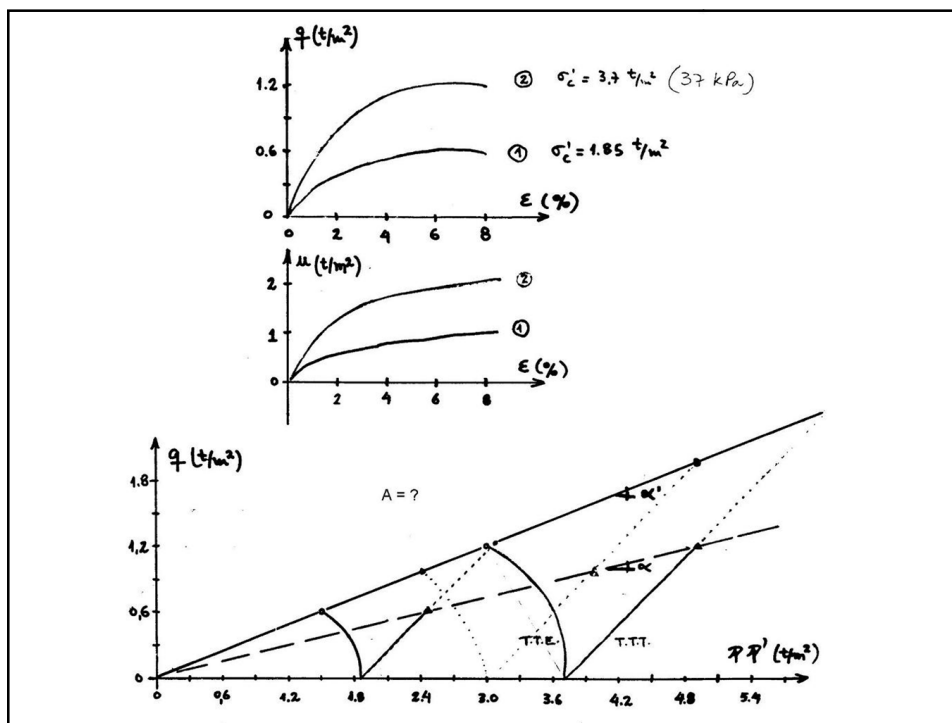
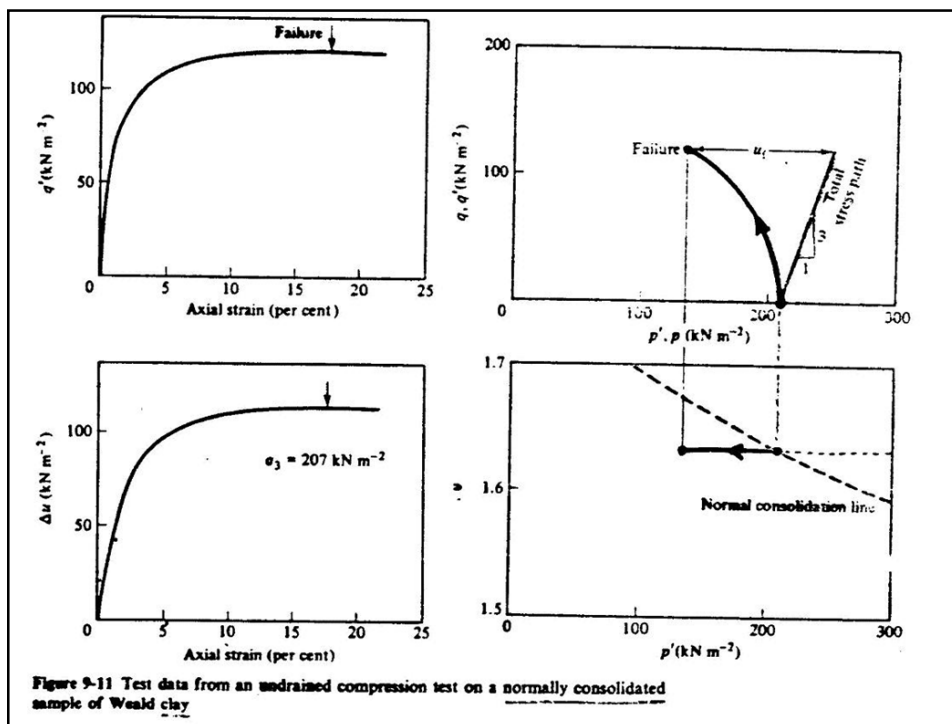


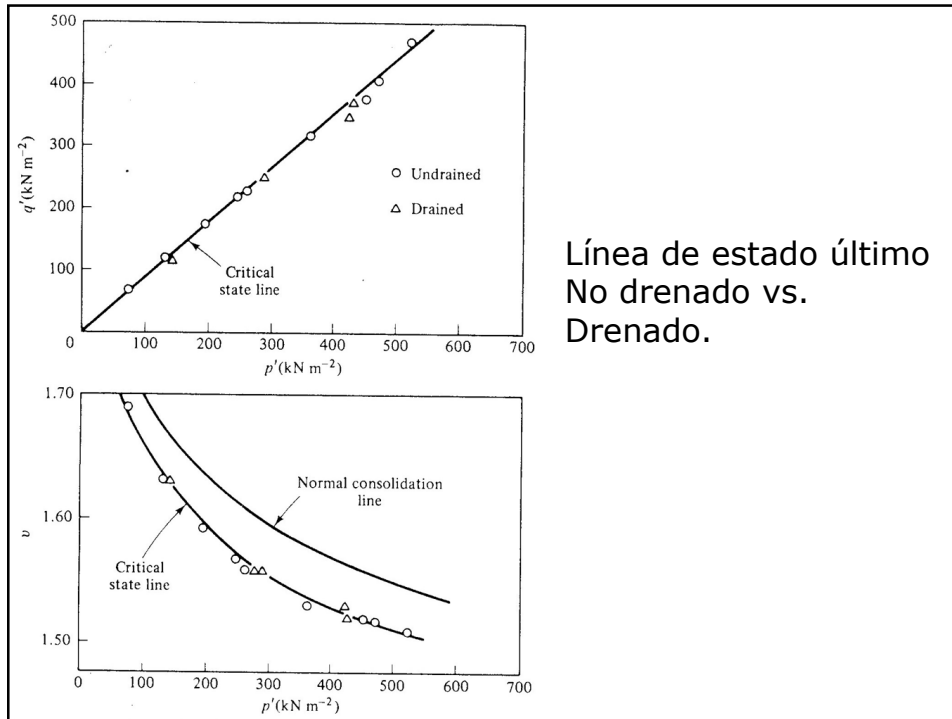




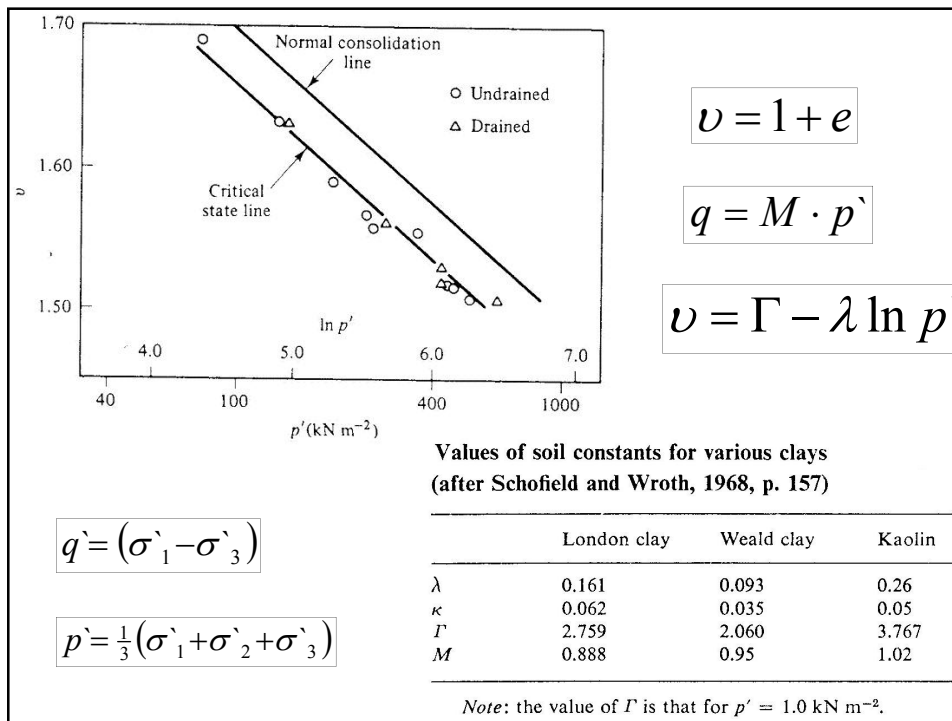






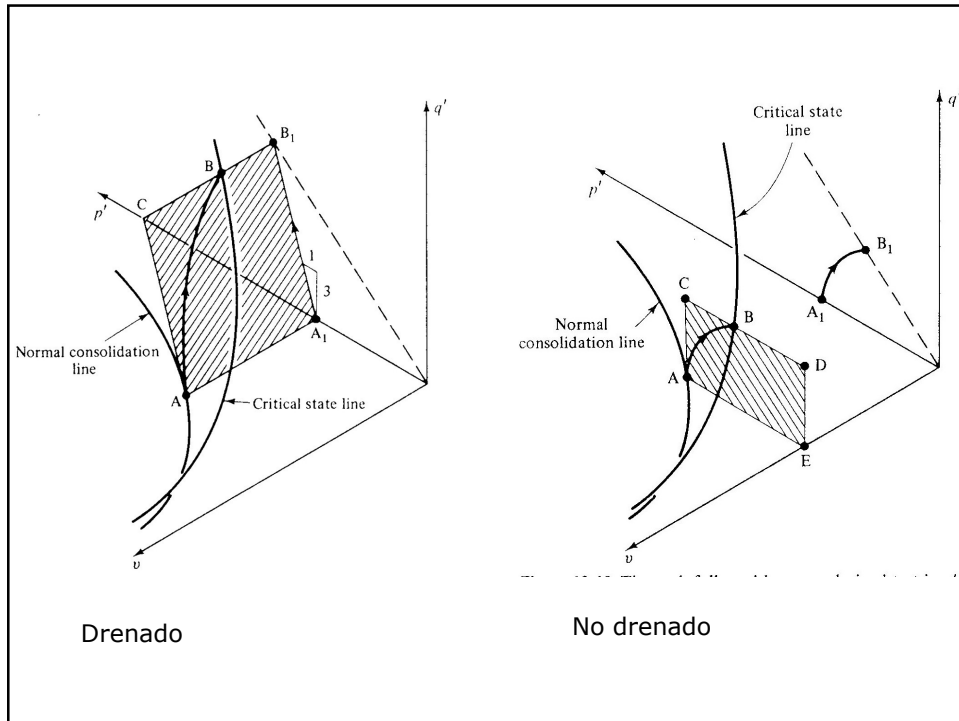


Línea de estado último
No drenado vs.
Drenado.

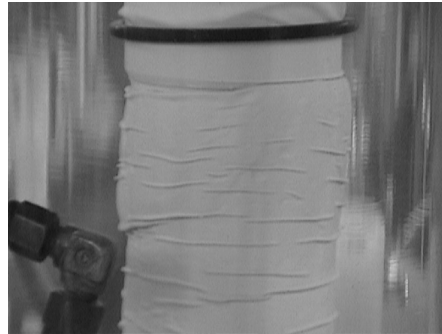
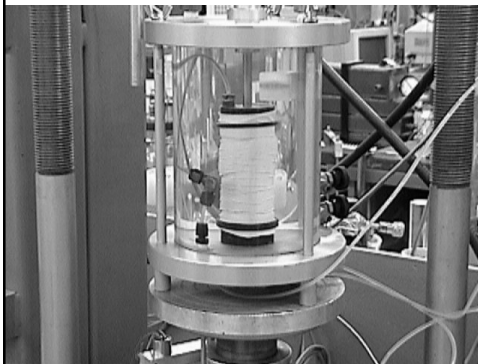


$$q' = (\sigma'_1 - \sigma'_3)$$

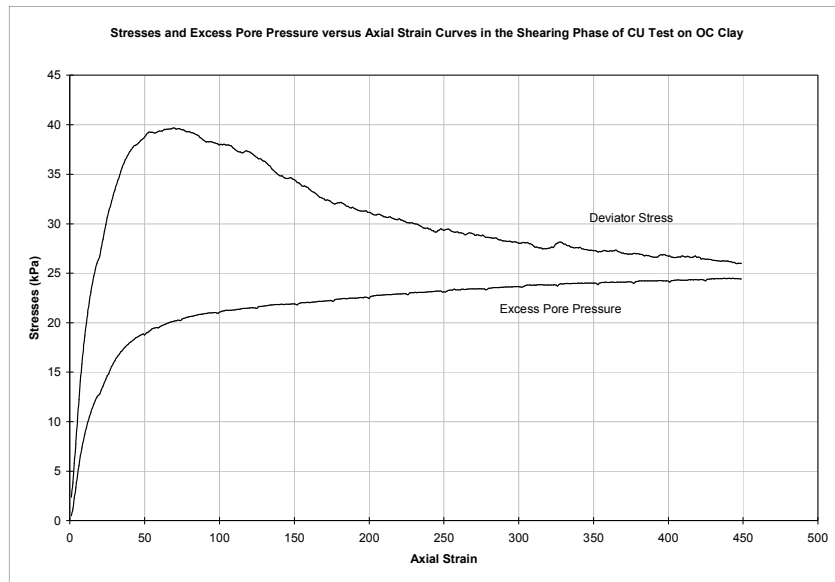
$$p' = \frac{1}{3}(\sigma'_1 + \sigma'_2 + \sigma'_3)$$



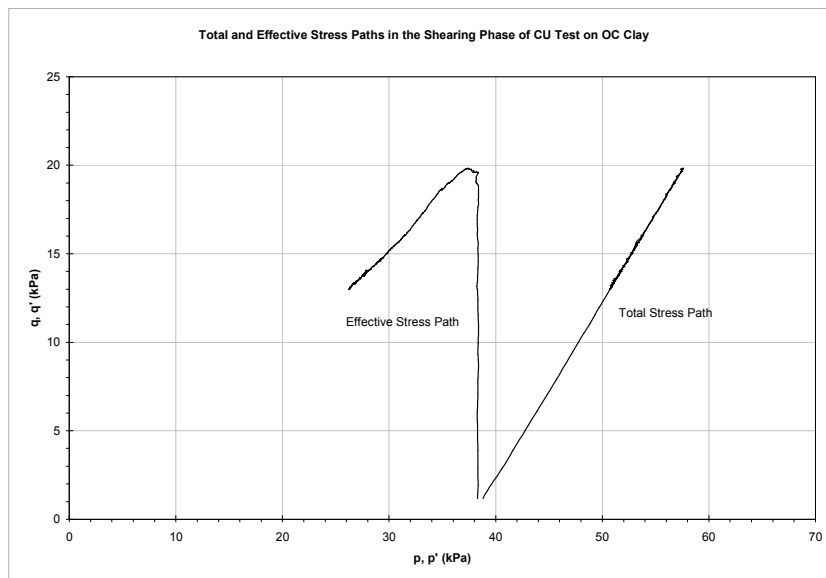
Arcilla OC- No drenado



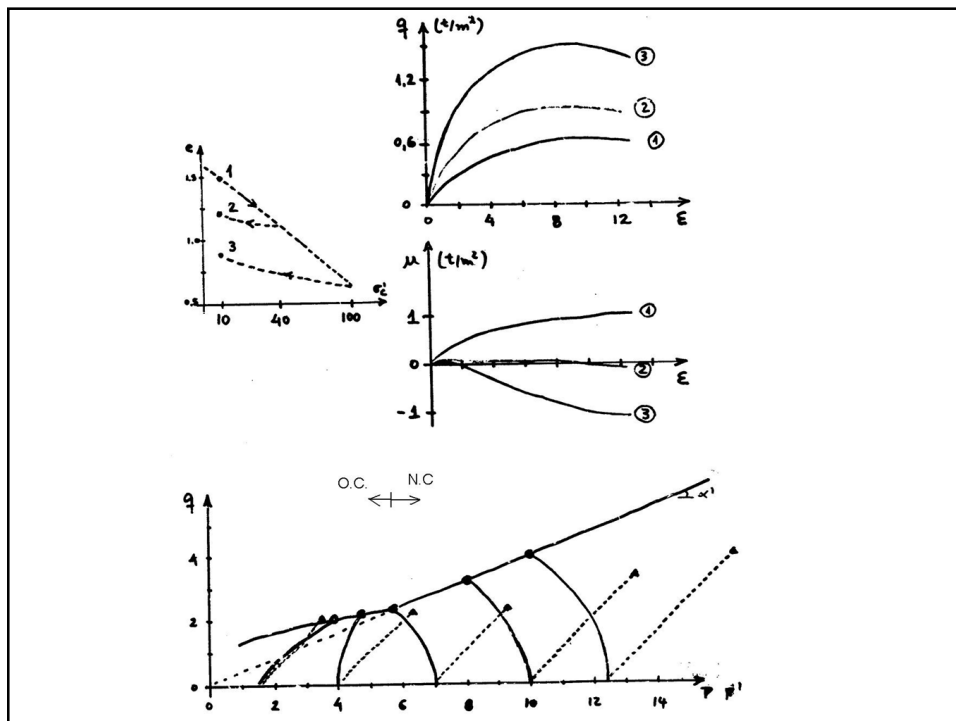
LEVEMENTE PRECONSOLIDADO



LEVEMENTE PRECONSOLIDADO



LEVEMENTE PRECONSOLIDADO



Ensayos No consolidados

