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U.S. Army Corps of Engineers (USACE)

FALLING HEAD PERMEABILITY TEST WITH CONSOLIDOMETER

For use of this form, see EM 1110-2-1906; the Proponent agency is CECW-EC.

Purpose: This form is to document falling-head permeability tests using a consolidometer.

Date: _____

Project: _____

Boring No.: _____ Sample or Specimen No.: _____

Sample or Specimen

Weight In Grams	Tare Plus Dry Soil			Diameter of Specimen, cm.	D	
	Tare			Area of Specimen, Square cm.	A	
	Dry Soil	W_S		Initial Height of Specimen, cm.	L	
Specific Gravity		G		Initial Volume of Specimen, cc = AL	V	
Volume of Solids, cc = W_S / G_S		V_S		Initial Void Ratio = $(V - V_S) / V_S$	e	
Area of Standpipe, SQ CM		a		Constant = (2.303 x a)/A	C	
Capillary Rise, CM		h_c		Initial Dial Reading, IN..	D_O	
Height of Tailwater, CM		h_t		Corrected Tailwater, cm, h_t-h_c	Δh	

Test No.		1	2	3
Load Increament, T/Sq Ft	P			
Dial Reading at Start, In .	D_1			
Change in Ht of spec, inches = D_o - D_t	ΔD			
Height of spec, cm = L - 2.54 x ΔD	L			
Void Ratio = $(AL-V_S)/V_S$	e			

		1a	1b	2a	2b	3a	3b
Initial Time	t_o						
Final Time	t_f						
Elapsed Time, Sec = t_f - t_f	t_f						
Initial Height, Cm	h_1						
Final Height, Cm	h_2						
Water Temperature °C	T						
Viscosity Correction Factor (1)	R_T						
Coefficient of Permeability, (2) Cm/Sec	k_{20}						
	AVG						

(1) Correction factor for viscosity of water at 20°C obtained from Table VII-1.

(2) k_{20} = 2.303 x a/A x L/t (Log h_1 - $\Delta h/h_2$ - Δh) R_T = CL/t (Log h_1 - $\Delta h/h_2$ - Δh) R_T

Remarks

Technician (*Last, First Mi*)	b. Date	c. Technician's Signature
Computed By (*Last, First Mi*)	b. Date	c. Computed By Signature
Checked By (*Last, First Mi*)	b. Date	c. Checked By Signature