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Compute

THE COOPER UNION
Albert Nerken School of Engineering
SOIL MECHANICS LABORATORY
Experiment No. 7 - Variable Head Permeability Test

Name:

Date: 4/4/1224/4/122

Group No.:

Members:

Location:

Depth:

Horizon:

Boring:

Elevation:

Agronomic Name:

Geological Region:

Sample:

Description:

Table 1 [Data Sheet (A)]: Sample Preparation Data

Determination Number:	1	2	3
Area of Permeameter, A (cm ²):	78.54		
Length of Sample, L (cm):	11.70		
Total Volume of Sample, V _t (cm ³):	918.918	-----	-----
Weight of Permeameter & Sample (g):	4636		
Weight of Permeameter (g):	2739		
Weight of Soil Sample, W _t (g):	1897	-----	-----
Water Content, w (%):	21.4		
Specific Gravity, G _s :	2.75		
Dry Unit Weight (pcf):	106.1100392430	-----	-----
Void Ratio, e:	0.617189110701	-----	-----
Porosity, n (%):	38.16431279539	-----	-----

Table 2 [Data Sheet (B)]: Run Data

Determination Number:	1	Diameter of Standpipe, d, (cm):	0.283	Area of Standpipe, a, (cm ²):	0.062901753		
Run Number	Initial Standpipe Reading, h ₀ (cm)	Final Standpipe Reading, h ₁ (cm)	h ₀ /h ₁	Elapsed Time, t _T (sec)	Temperature, T (:C)	Elapsed Time, t ₂₀ (sec)	ln(h ₀ /h ₁)
1	1131.2	1131.2	1	0	18.4	0	0
2	1131.2	1060.2	1.066968496	300	18.5	289.1971870	0.064821446
3	1131.2	997.2	1.134376253	600	18.5	578.3943740	0.126082943
4	1131.2	935.2	1.209580838	900	18.5	867.5915611	0.190273884
5	1131.2	880.2	1.285162463	1200	18.5	1156.788748	0.250885140
6	1131.2	825.2	1.370819195	1500	18.5	1445.985935	0.315408513
7	1131.2	786.2	1.438819638	1800	18.55	1737.323749	0.363823082
8	1131.2	734.2	1.540724598	2100	18.55	2026.877707	0.432252824

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