

Packer Test Work Sheet

Well Number

Date

Test begin time

Time test complete

Bore diameter

Total depth

Depth to water

**Height of gauge
above ground**

Interval tested

From

To

Length

Flow meter

Start reading

End reading

**Water
Loss**

**Elapsed
Time**

**Flow Rate
(Q)**

Pressure

Gauge (+)

Column (+)

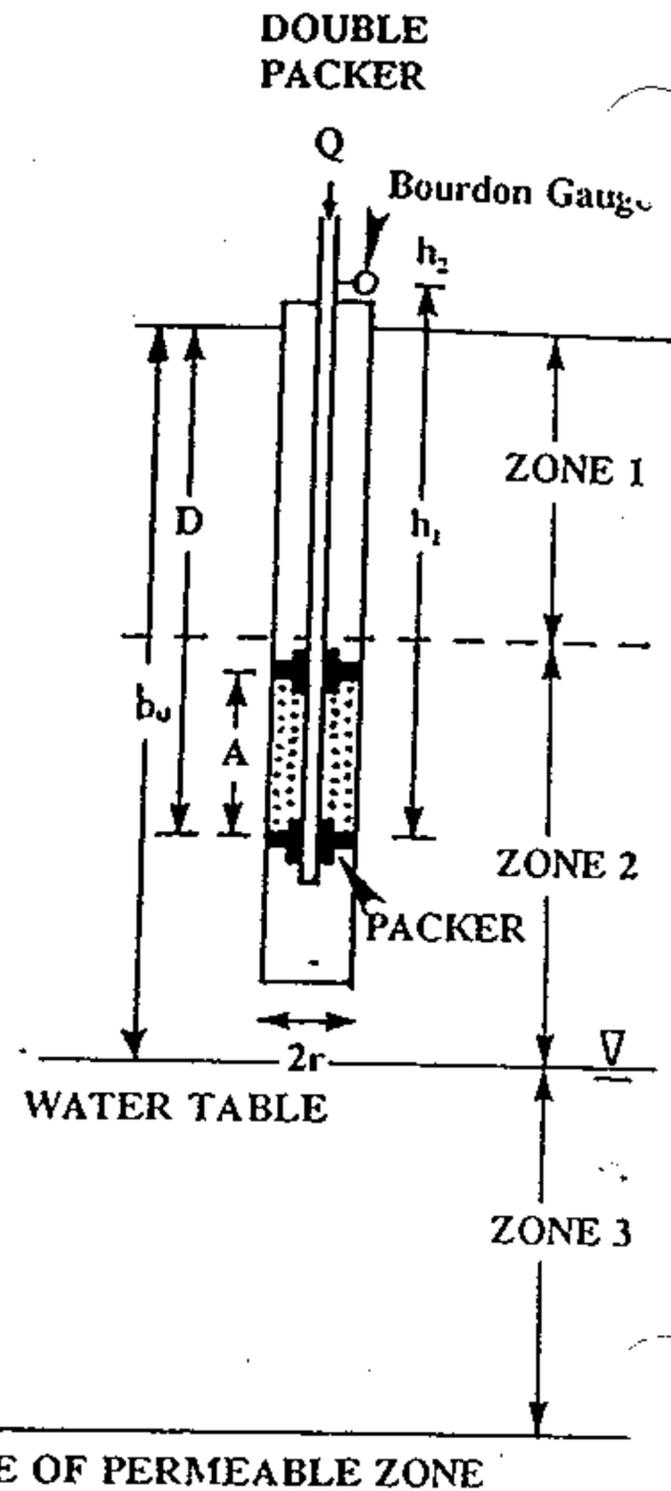
Friction (-)

Net

Comments

Packer test work sheet

Zone 1 worksheet	Zone 2 worksheet	Zone 3 worksheet
Q = ft ³ /sec	Q = ft ³ /sec	Q = ft ³ /sec
A = ft	A = ft	A = ft
r = ft	r = ft	r = ft
H/r =	A/r =	A/r =
C _u =	C _s =	C _s =
h ₁ = ft	b _u = ft	h ₁ = ft
h ₂ = ft	D = ft	h ₂ = ft
L = ft	h ₁ = ft	L = ft
H = ft	h ₂ = ft	H = ft
K = ft/sec	L = ft	K = ft/sec
	H = ft	Equations Zone 1 K=Q/C _u *r*H Zone 2 K=2Q/(C _s *r)(T _u +H-A) Zone 3 K=Q/C _s *r*H
	T _u = ft	
	K = ft/sec	



K = Permeability (ft/sec)

Q = Flow (cubic ft/sec)

A = Length of test section (ft)

r = Radius of the test hole (ft)

C_u = Conductivity coefficient for unsaturated materials with partially penetrating cylindrical test wells (from chart A)

C_s = Conductivity coefficient for semi-spherical flow in saturated materials with partially penetrating cylindrical test wells (from chart B)

T_u = Distance in feet from the water surface in the well to the water table. T_u = b_u - D + H where:

b_u = Thickness of unsaturated material

D = Distance from the ground surface to the bottom of the test section

H = Effective head in feet (h₁ + h₂ - L) where:

L = head loss in feet due to friction for measurement use length of pipe between the gauge and the top of the test section (head loss may be disregarded for a Q less than 4 gal/min in 1.25-inch pipe)

L = 10.44 * P_L * Q^{1.85} / (c^{1.85} * d^{4.865}) Where:

P_L = Length of drill pipe

Q = Flow (gal/min)

c = 140 (Pipe surface roughness coefficient)

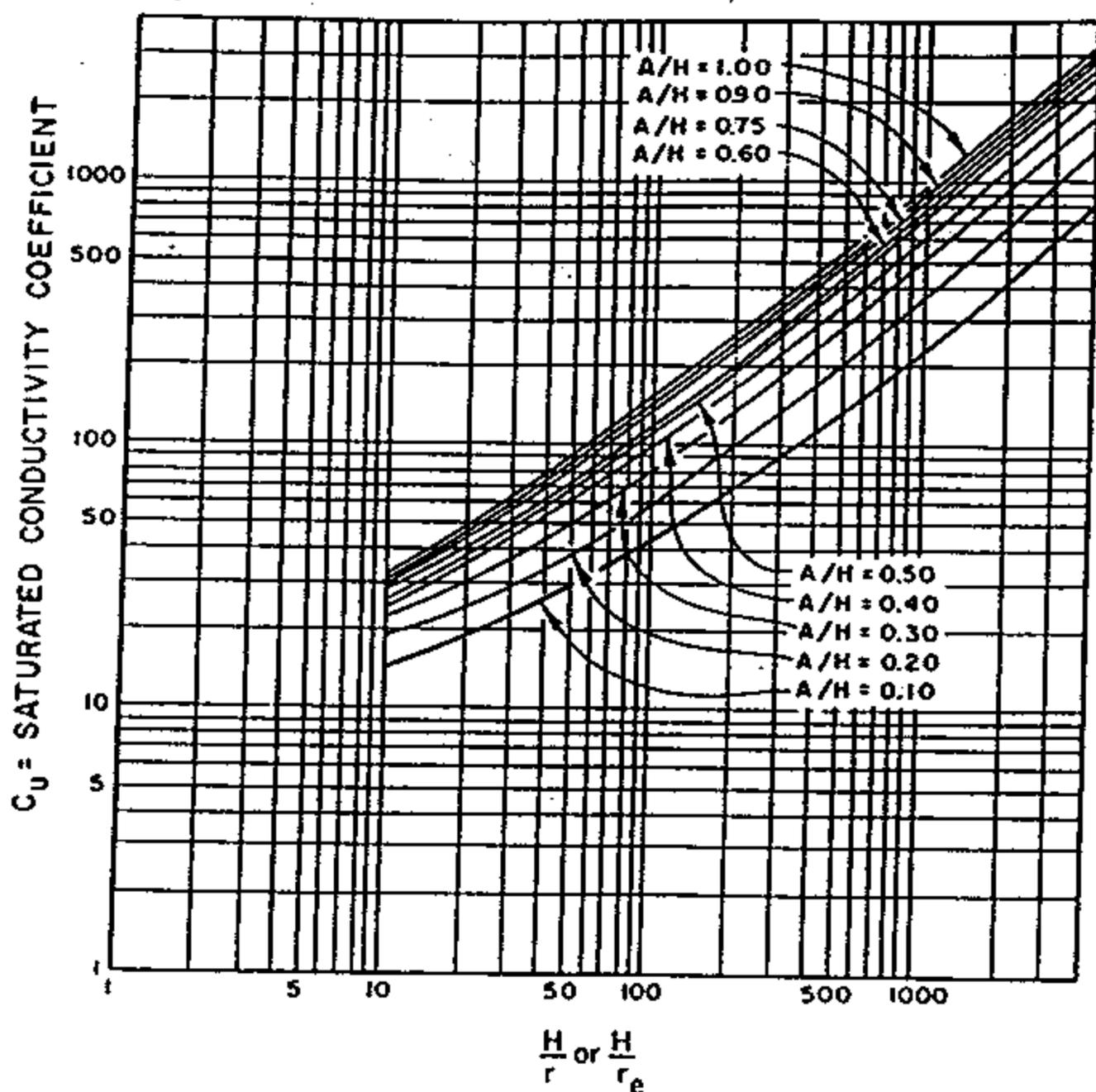
d = Diameter of pipe (in)

h₁ = For Zone 1 & 2 (above water table) distance between the Bourdon gauge and the upper surface of the lower packer (ft)

h₁ = For Zone 3 (below water table) distance between the gauge and the water table (ft)

h₂ = applied pressure at the gauge (1psi=2.307 ft of head) (ft/2.307=psi)

A

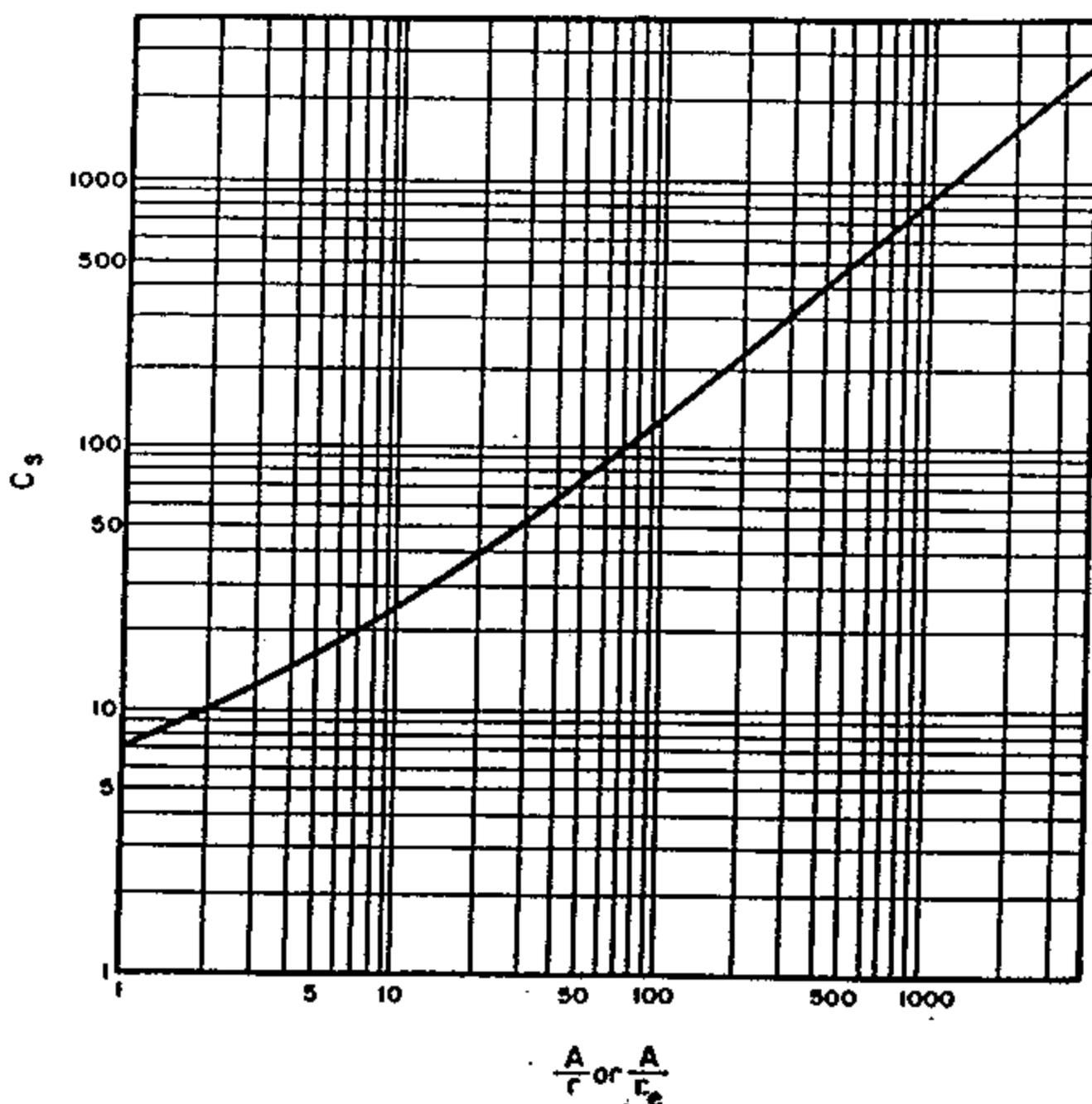


Conductivity coefficients for permeability determination in unsaturated materials with partially penetrating cylindrical test wells. 103-D-1476

PERMEABILITY TESTS IN INDIVIDUAL DRILL HOLES

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B



Conductivity coefficients for semispherical flow in saturated materials through partially penetrating cylindrical test wells. 103-D-1477.