MUSLIKH
9008/TS
UGM

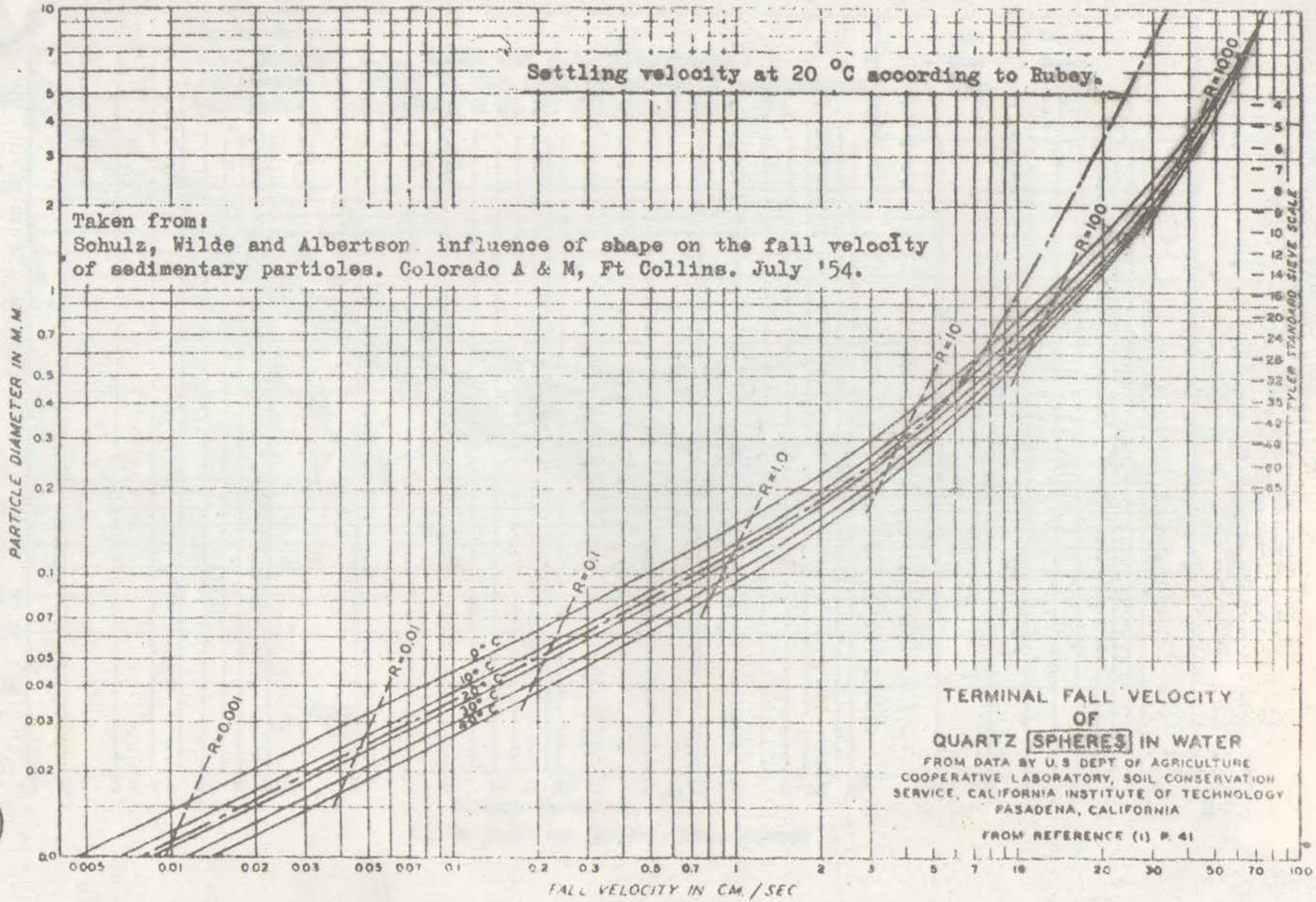
KUMPULAN GRAFIK

PENGANGKUTAN SEDIMEN

(SEDIMENT TRANSPORTATION)

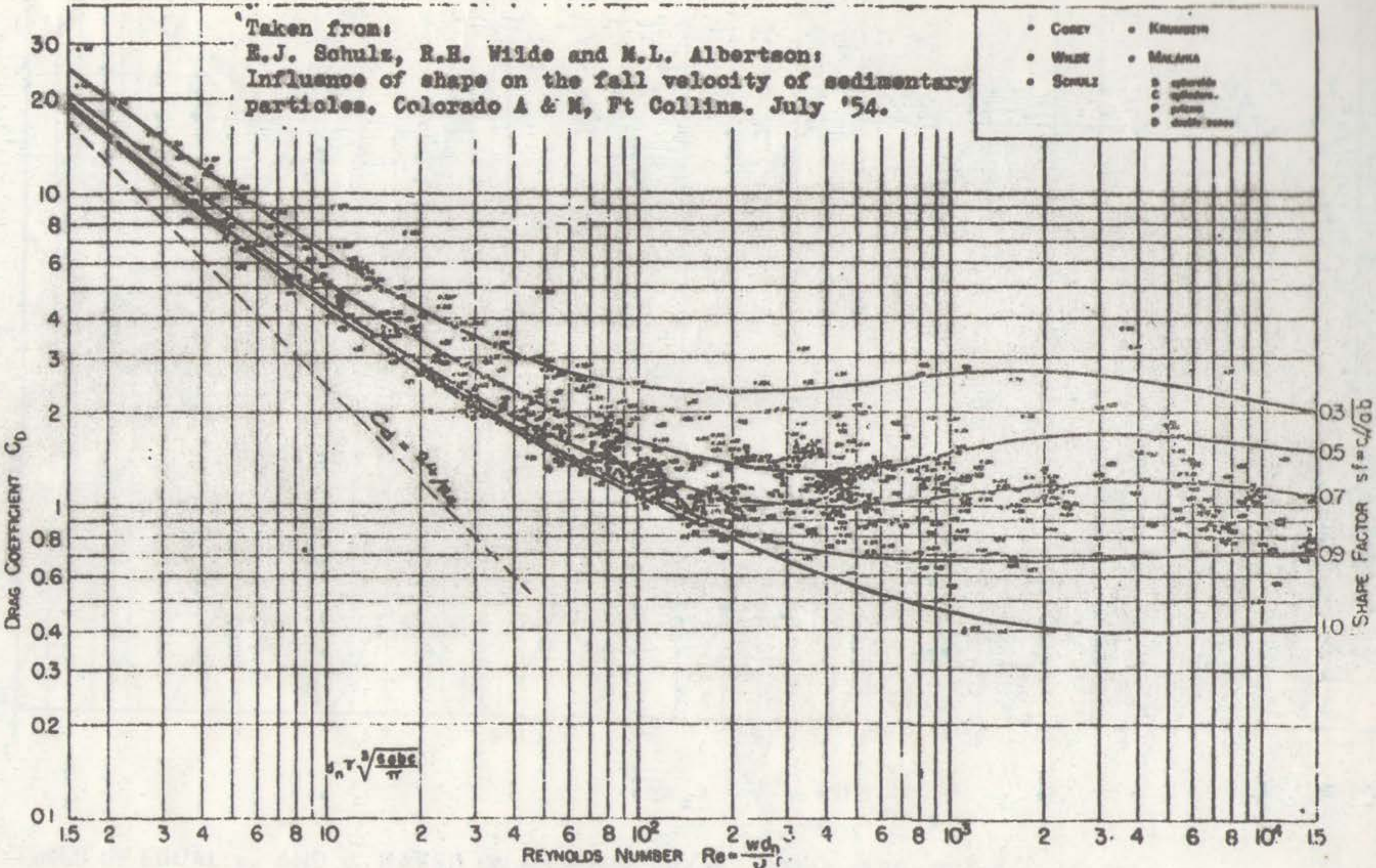
DEPT. PENDIDIKAN
KMTS
UNIV. GADJAHMADA

BAGIAN TEKNIK SIPIL FAKULTAS TEKNIK U.G.M.

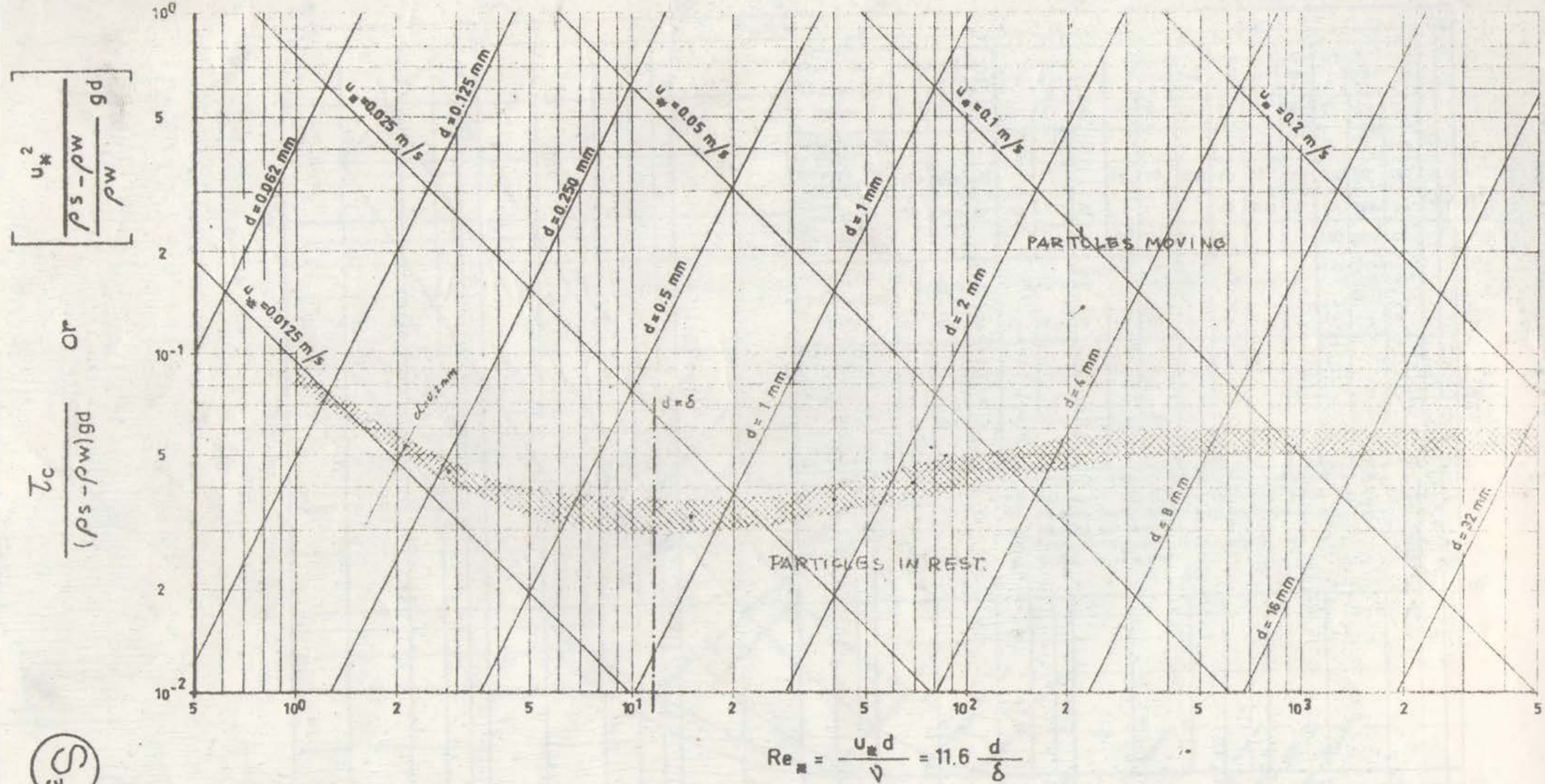


(S1)

MUSLIKH
9908/73
UGM

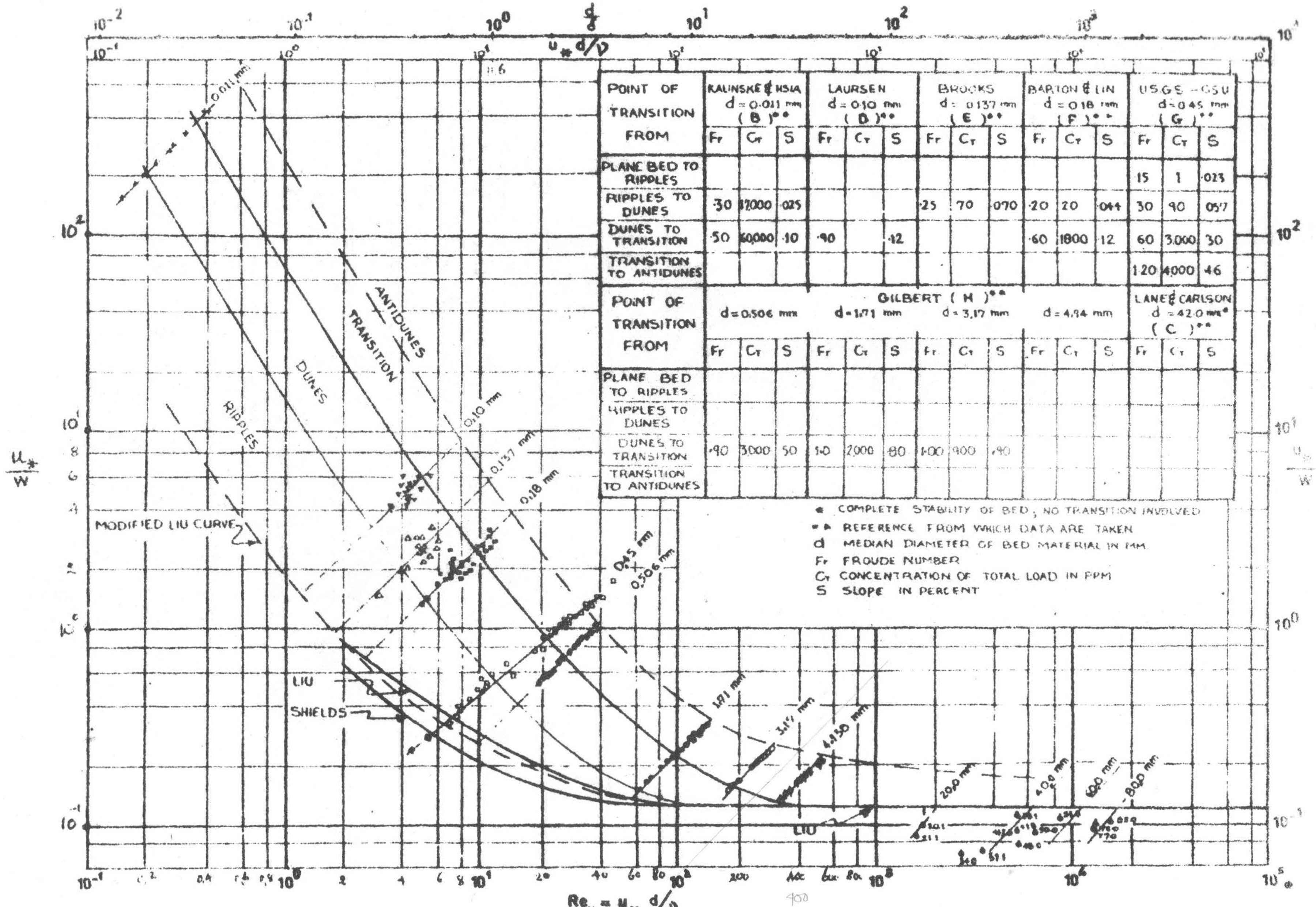


C_D : Re Graph for Naturally Worn Sediments



LINES OF EQUAL u_* AND d BASED ON $\rho_s = 2650\ kg/m^3$ AND $\nu = 1.25 \times 10^{-6} m^2/s$ (12 °C)

RELATIONSHIP OF CRITICAL SHEAR STRESS AND DIAMETER FOR A BED OF UNIFORM GRAINS. ACC. TO SHIELDS (1936)



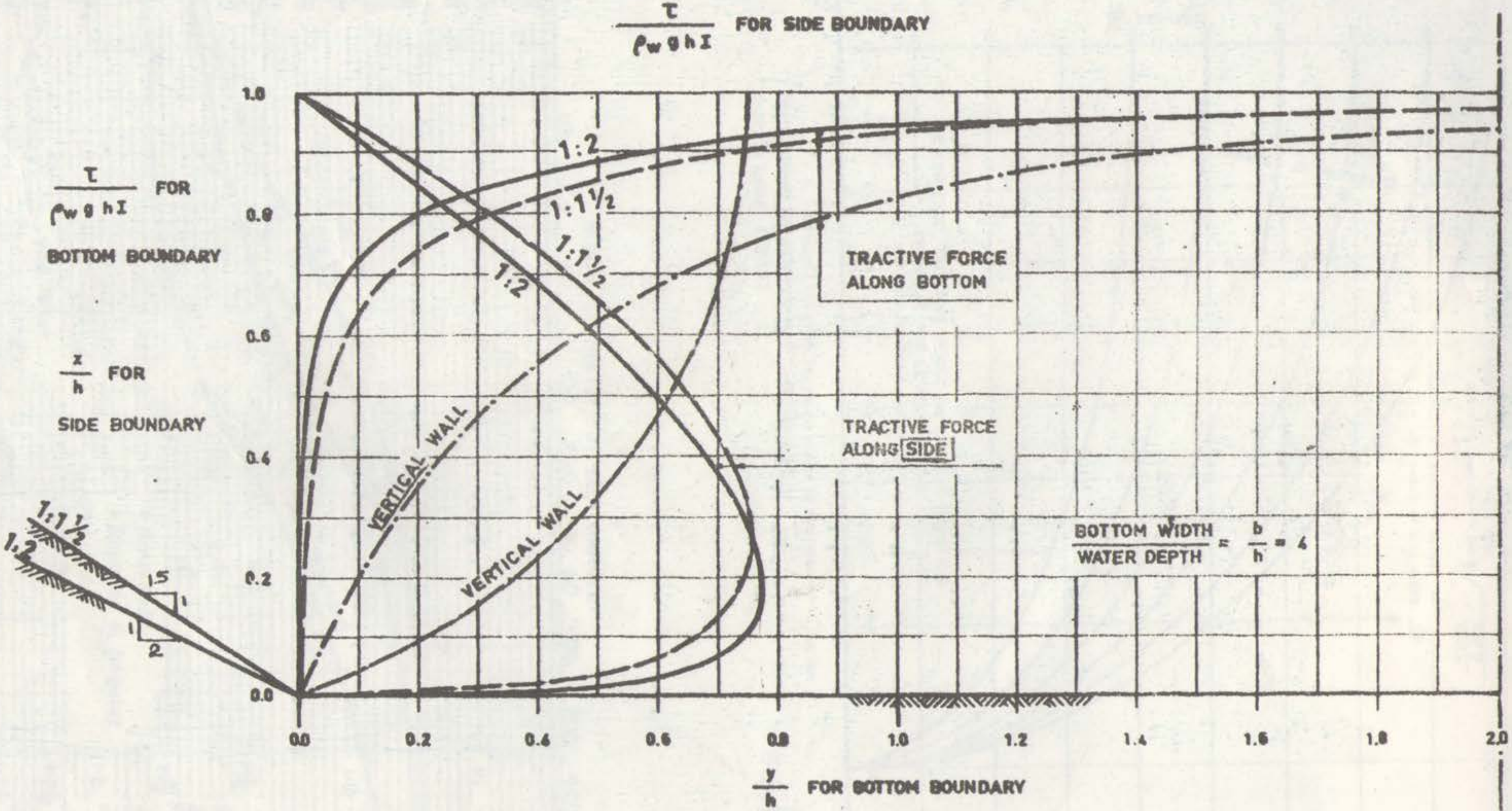
POINT OF TRANSITION FROM	KALINSKE & HSIA d = 0.011 mm (B)**			LAURSEN d = 0.10 mm (D)**			BROOKS d = 0.137 mm (E)**			BARTON & LIN d = 0.18 mm (F)**			U.S.G.S. – CSU d = 0.45 mm (G)**		
	Fr	C_T	S	Fr	C_T	S	Fr	C_T	S	Fr	C_T	S	Fr	C_T	S
PLANE BED TO RIPPLES													15	1	.023
RIPPLES TO DUNES	.30	17,000	.025				.25	70	.070	.20	20	.044	30	90	.057
DUNES TO TRANSITION	.50	60,000	.10	.90		.12				.60	1800	.12	60	3,000	30
TRANSITION TO ANTIDUNES													1.20	4,000	.46

POINT OF TRANSITION FROM	GILBERT (H)** d = 0.506 mm			d = 1.71 mm			d = 3.17 mm			d = 4.94 mm			LANE & CARLSON d = 42.0 mm* (C)**		
	Fr	C_T	S	Fr	C_T	S	Fr	C_T	S	Fr	C_T	S	Fr	C_T	S
PLANE BED TO RIPPLES															
RIPPLES TO DUNES															
DUNES TO TRANSITION	.90	3000	.50	1.0	2000	.80	1.00	900	.90						
TRANSITION TO ANTIDUNES															

CRITERIA FOR ROUGHNESS IN ALLUVIAL CHANNELS

FROM ALBERTSON ET AL (1958) ASCE PAPER 1558 PG. 23

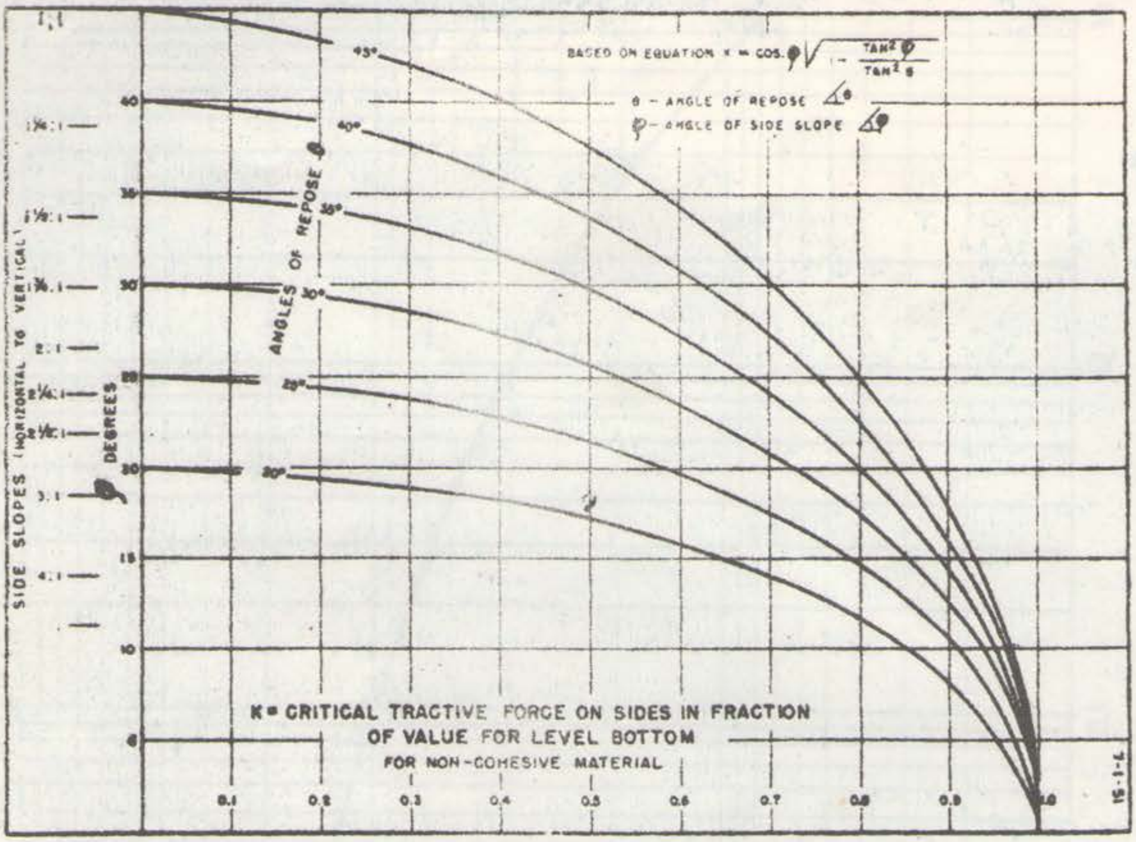
S4



DISTRIBUTION OF TRACTIVE FORCE IN CHANNELS
(Illustration taken from table 5, Lane 1955)

FIG. A

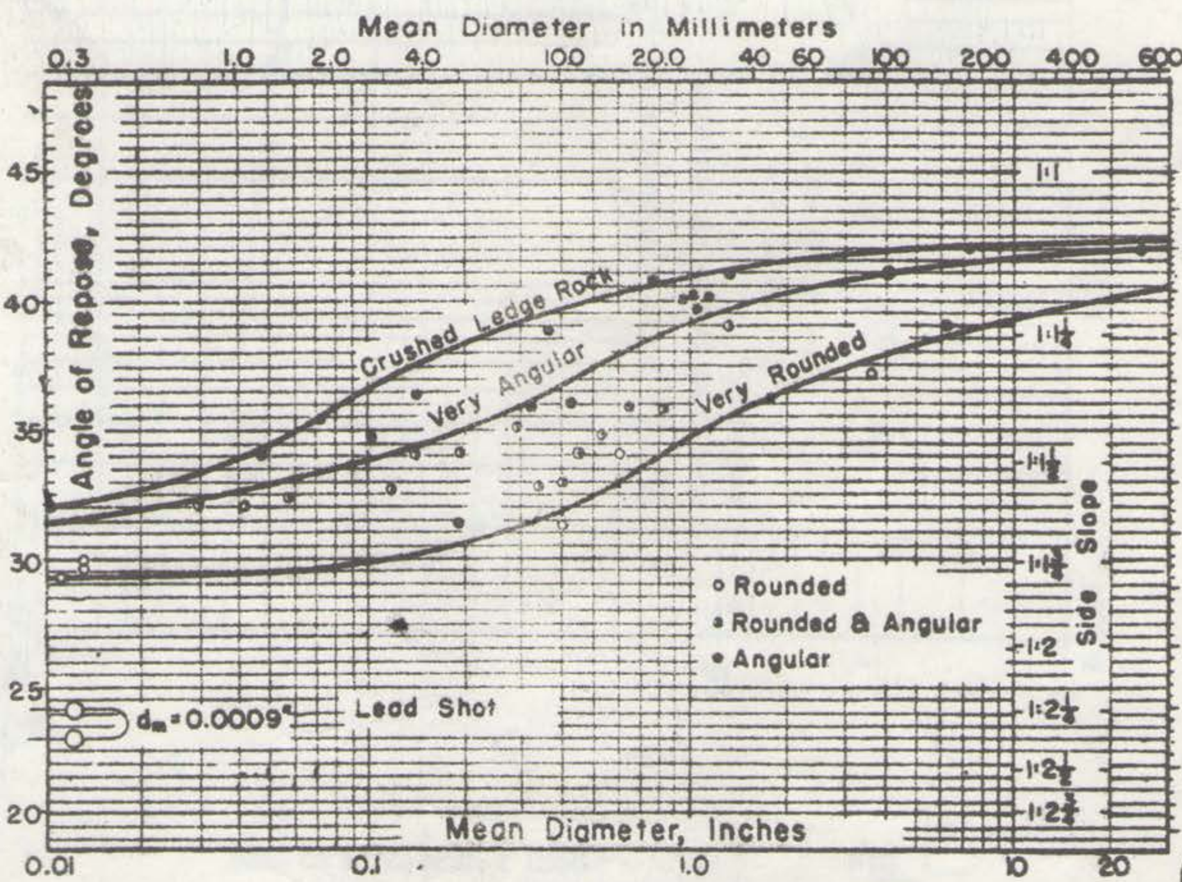
S5



- K = Critical tractive force on sides in fraction of value for level bottom for non-cohesive material. $K = \tau_{sc}/\tau_{oc}$

Acc. to Lane (1955)

FIG. B

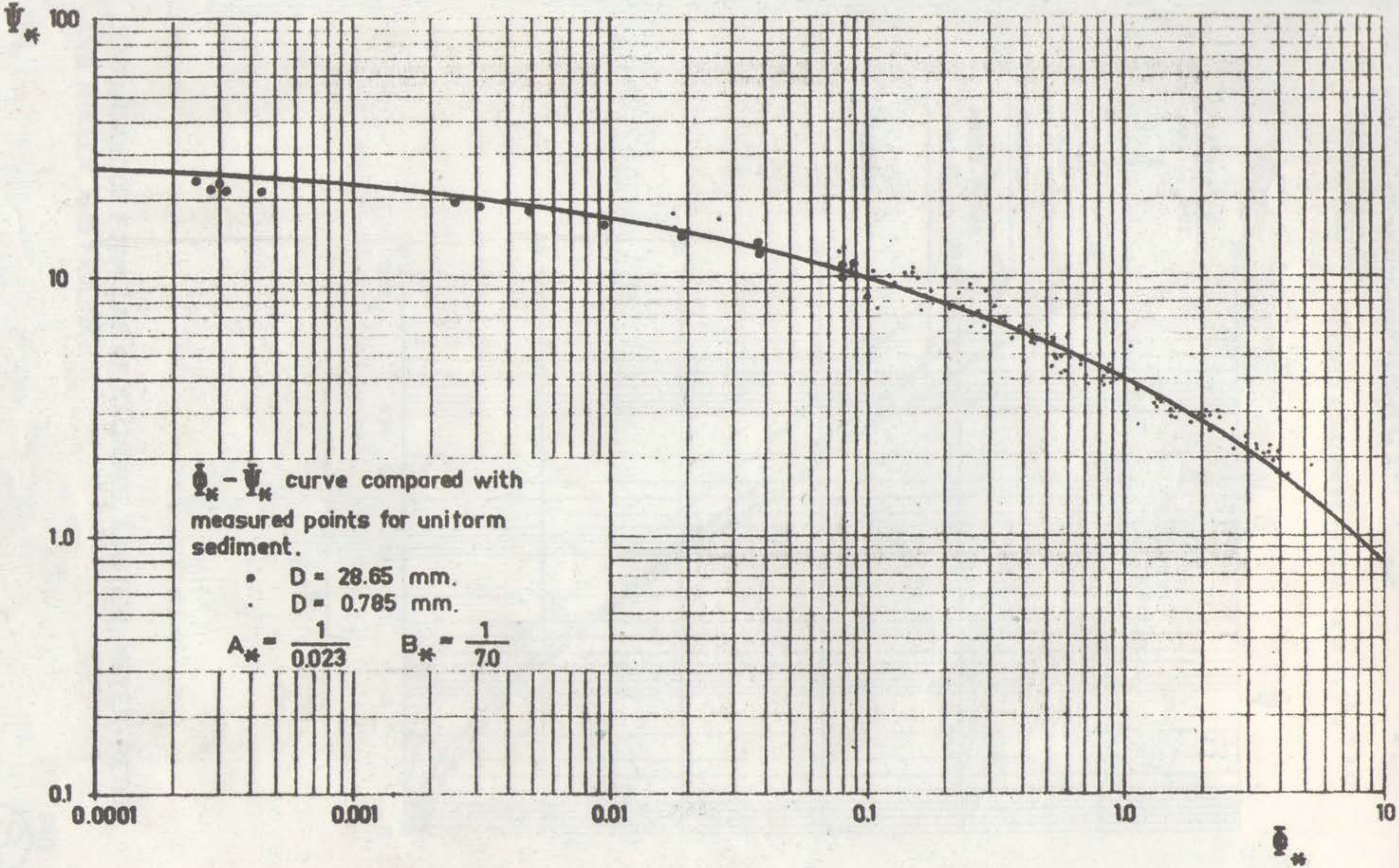


ANGLE OF REPOSE OF NON-COHESIVE MATERIAL

Acc. to Simons and Albertson (1960)

FIG. C

S6

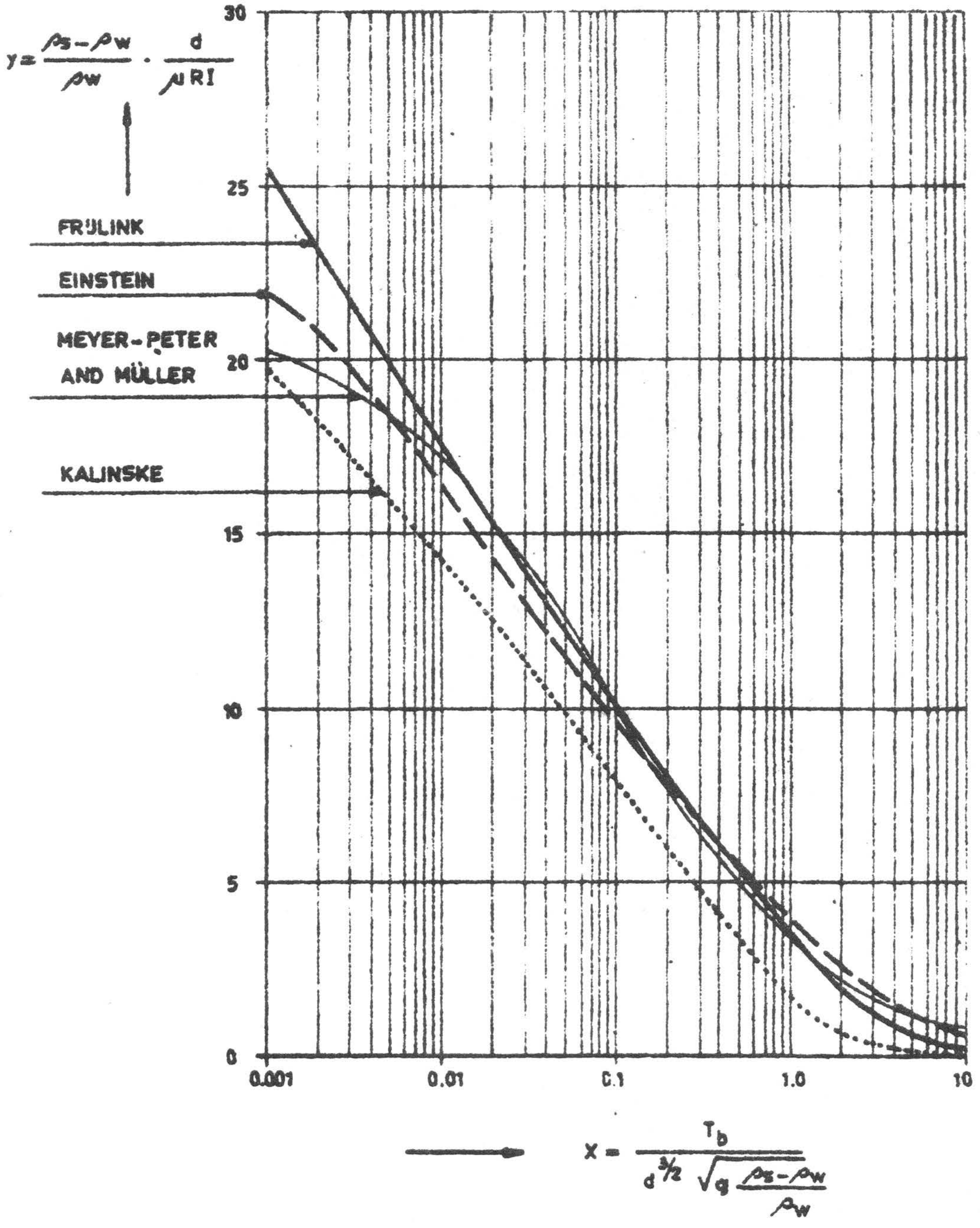


Acc. to EINSTEIN (1950)

FIG. E

S7

PROPOSED EQUATION BY FRIJLINK: $X = 5y^{-1/2}e^{-0.27y}$



COMPARISON OF FORMULAE OF KALINSKE, EINSTEIN, MEYER-PETER AND MULLER, AND FRIJLINK.

FIG. F

S8

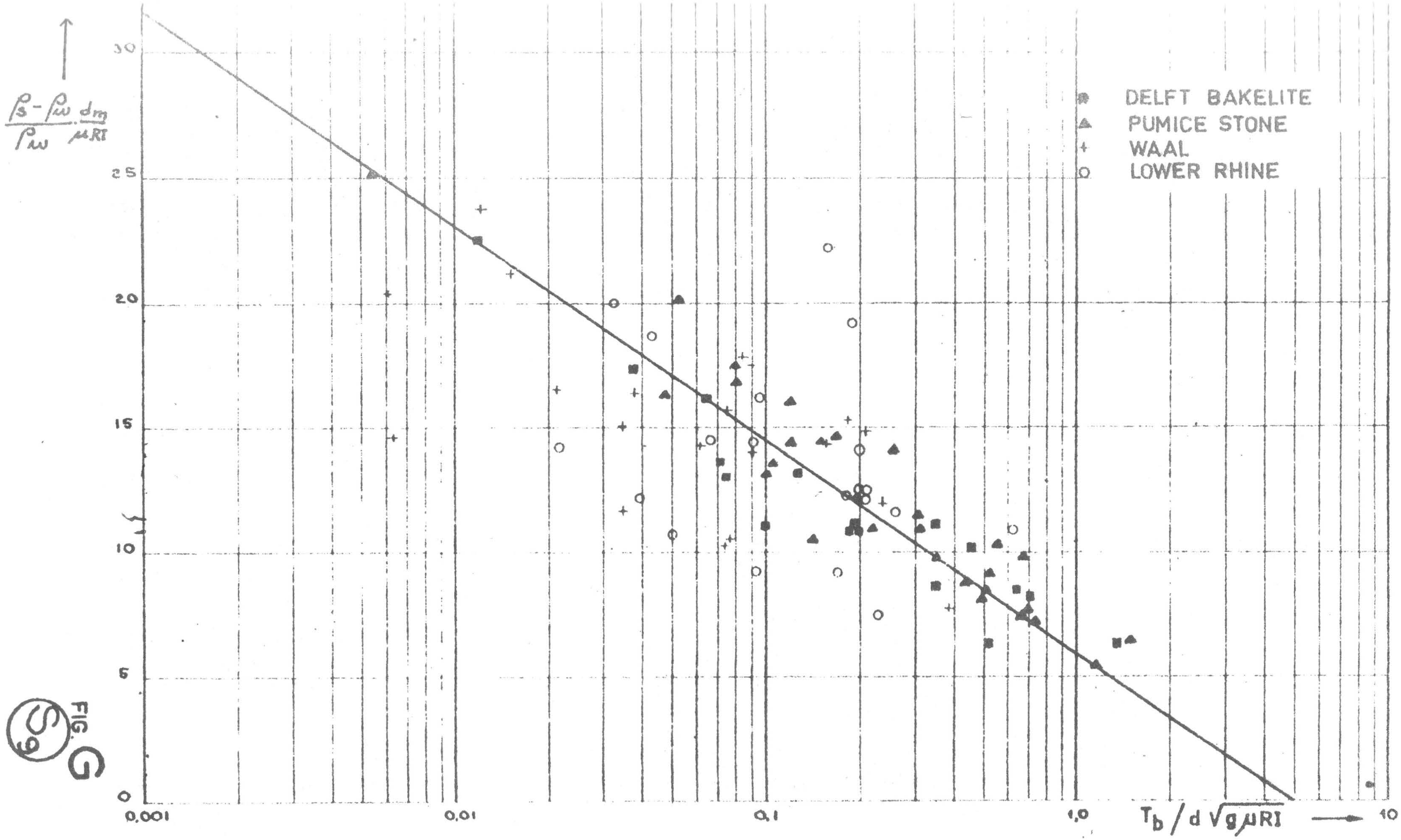
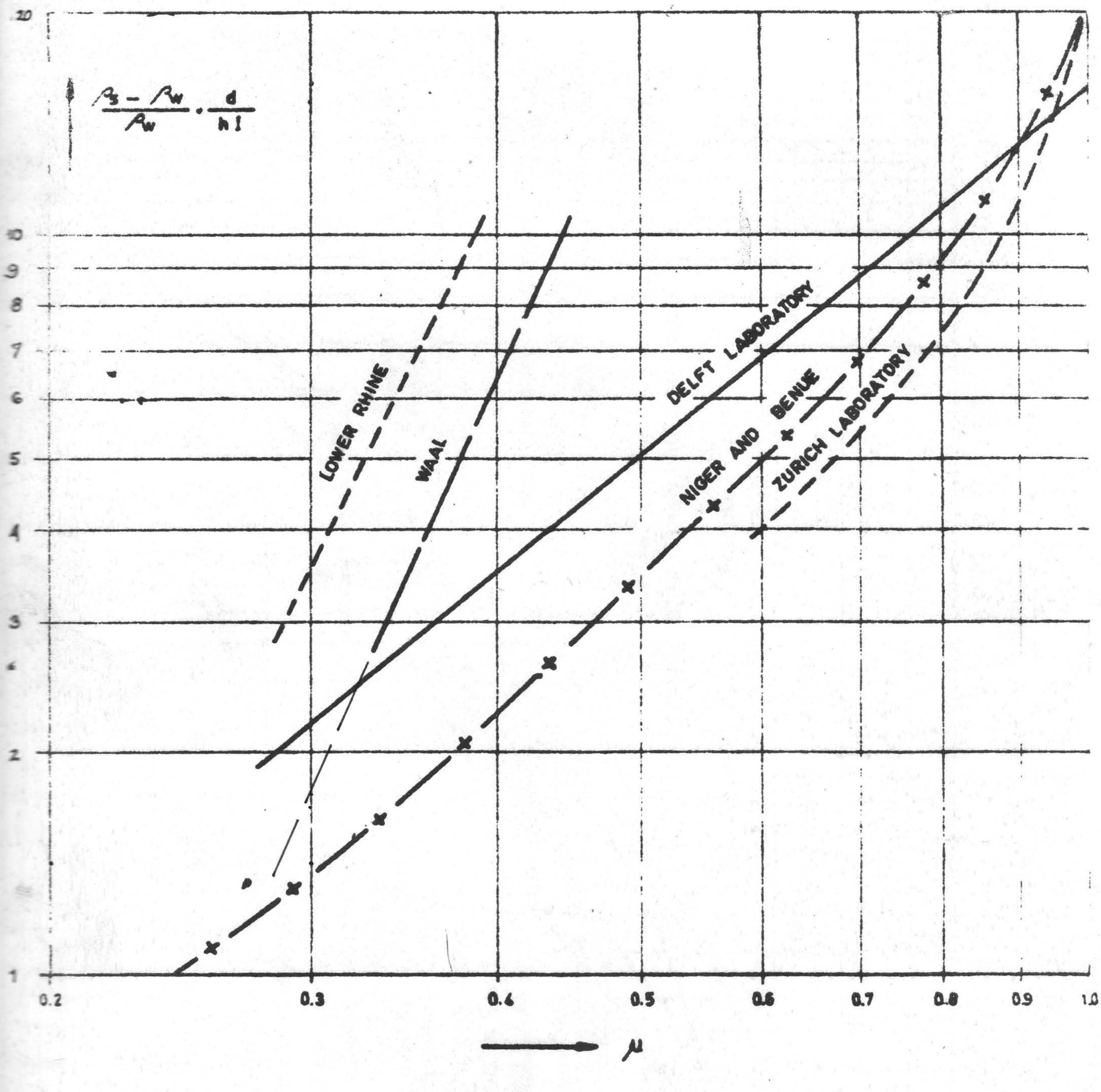


FIG. G (S9)

SIMPLIFIED BED-LOAD EQUATION ACC. TO FRIJLINK (1952)
MODEL-AND PROTOTYPE MEASUREMENTS



EXPERIMENTAL RELATIONSHIPS BETWEEN RIPPLE-FACTOR μ

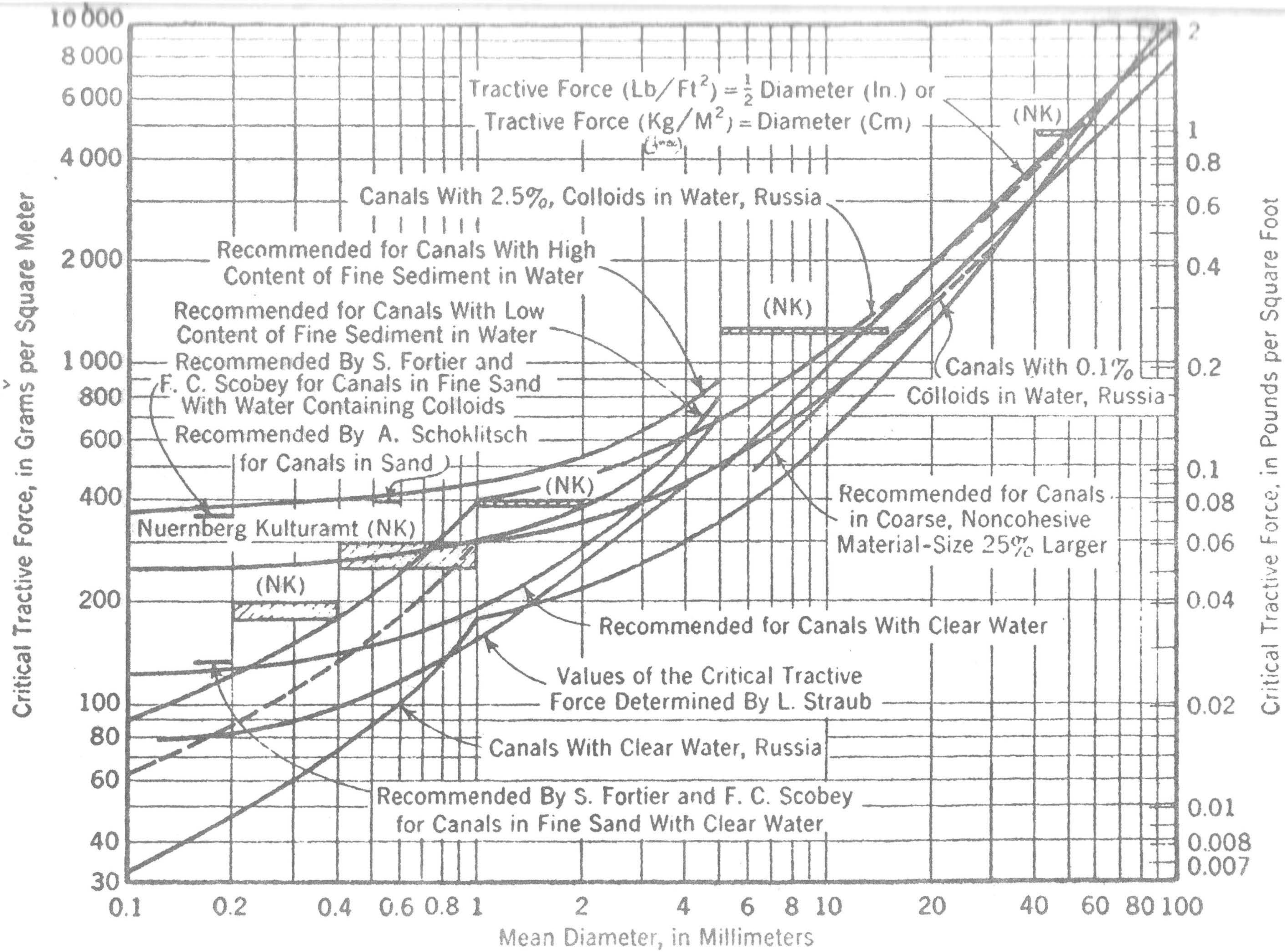
AND $\frac{\rho_s - \rho_w}{\rho_w} \cdot \frac{d}{h\,I}$

Acc. to Frijlink (1952)

FIG. H

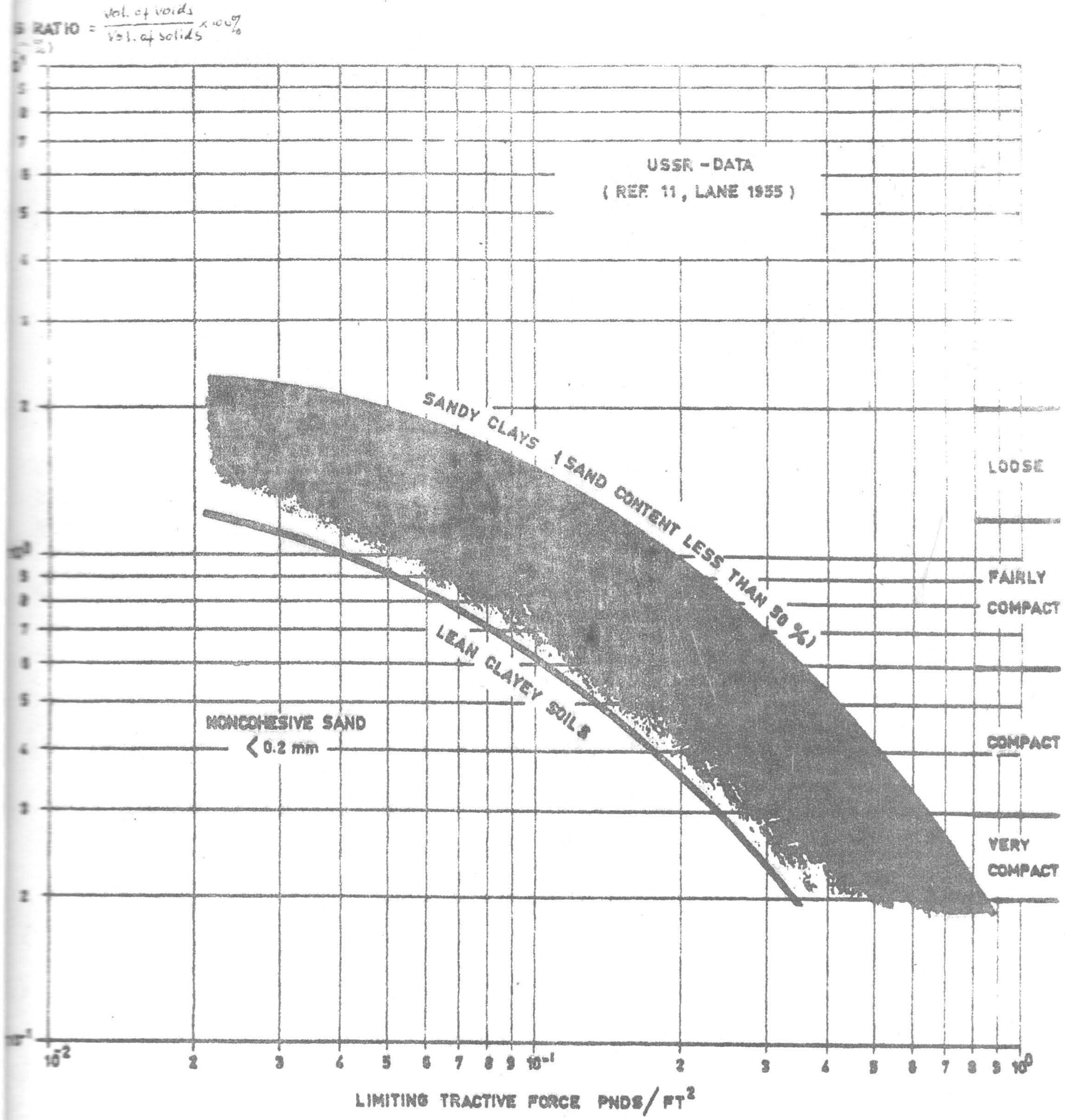
S10

FIG. F
S11



Recommended Limiting Tractive Forces for Canals

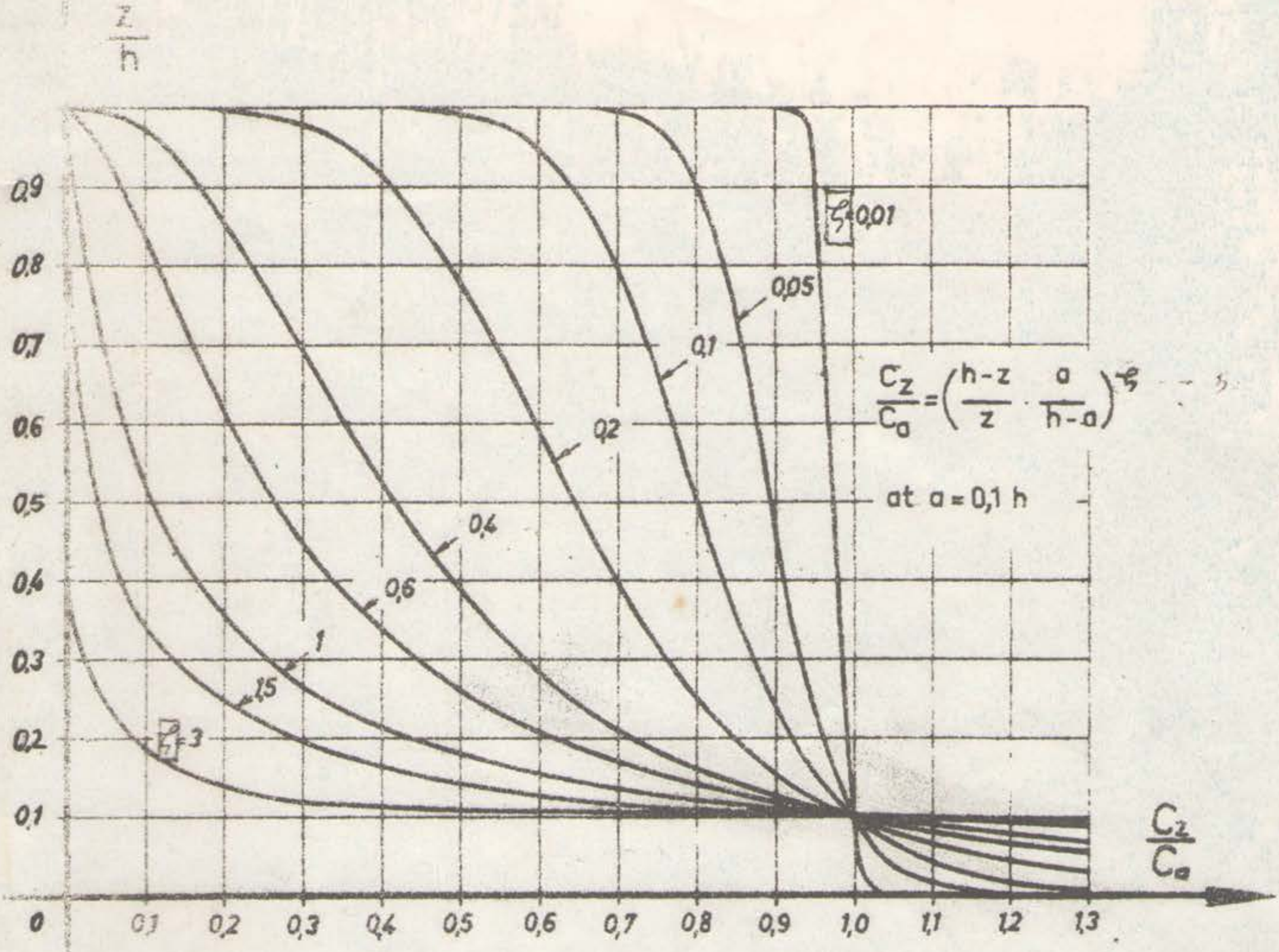
Acc. to Lane (1955)



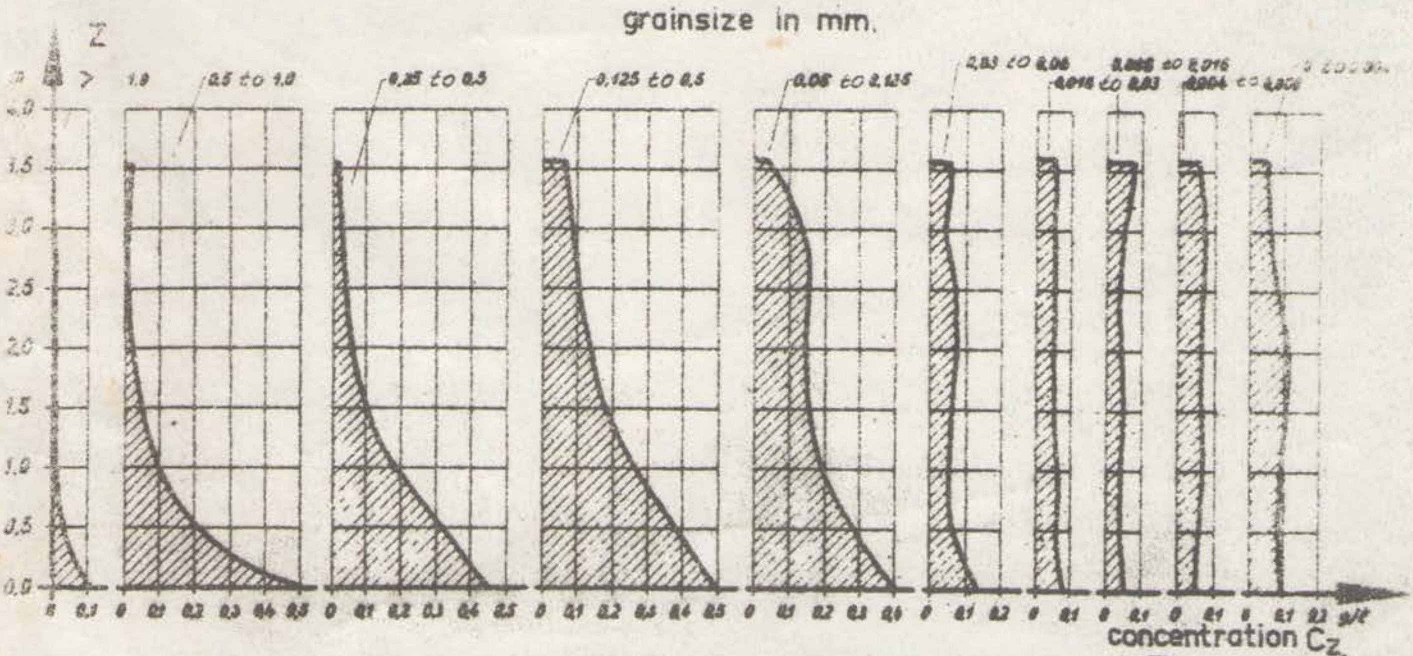
TRACTIVE FORCES IN COHESIVE MATERIAL.

FIG. G

S12



DISTRIBUTION OF SUSPENSION AS A FUNCTION OF ζ



DISTRIBUTION OF SUSPENSION IN THE MISSOURI RIVER.

S13 FIG. A