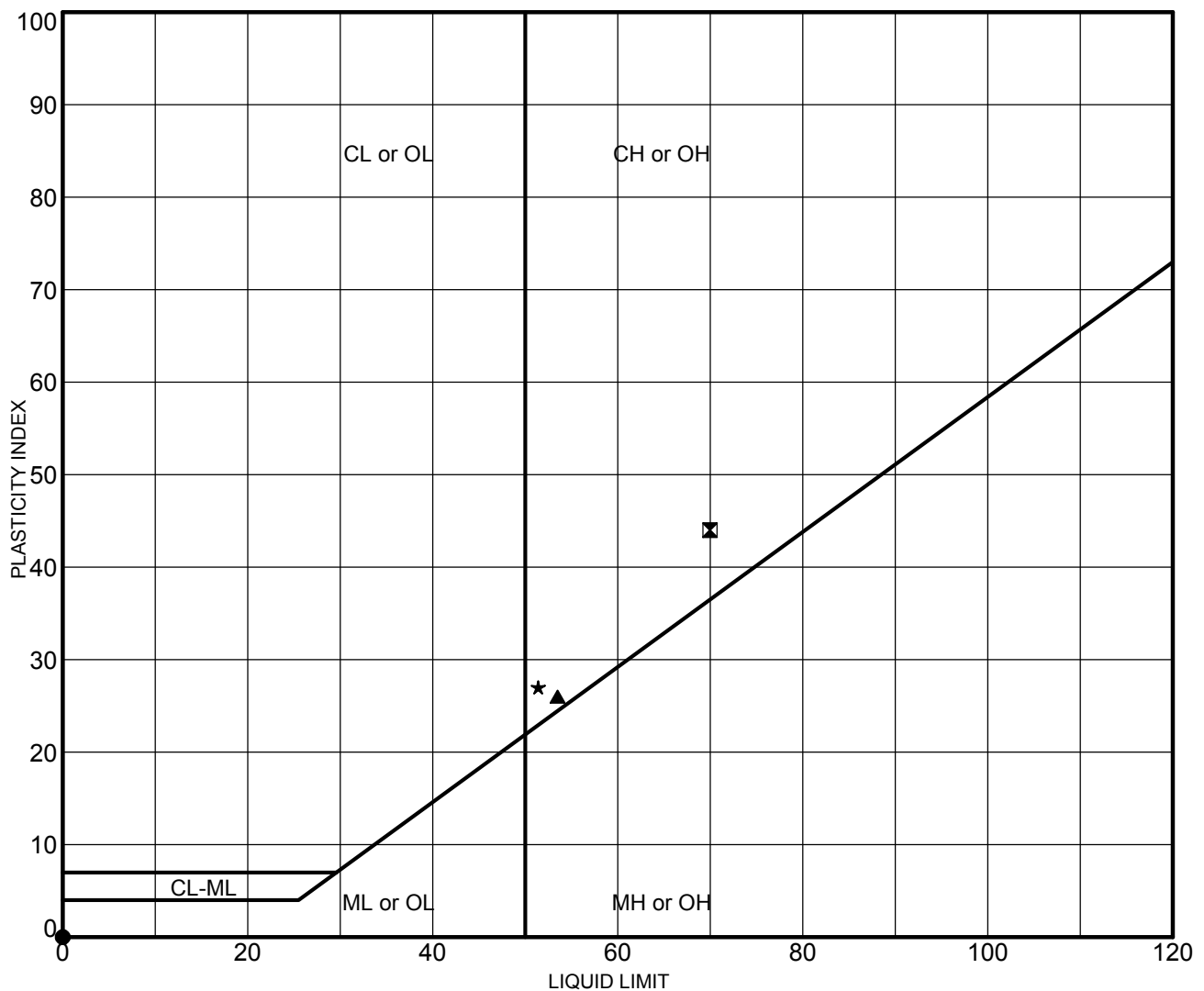




Sample	Depth (ft)	LL	PL	PI	Description
● B-3	3.0-4.5	NP	NP	NP	Reddish brown w/ black mottling clayey sand (SC) w/ some gravel
⊠ B-4	2.5-3.3	70	26	44	Reddish brown clay (CH) with gravel (basaltic)
▲ B-10	10.0-11.5	54	28	26	Dark brown sandy clay (CH) w/ some silt & gravel (basaltic)
★ B-11	10.0-11.5	51	24	27	Blackish brown sandy clay (CH)

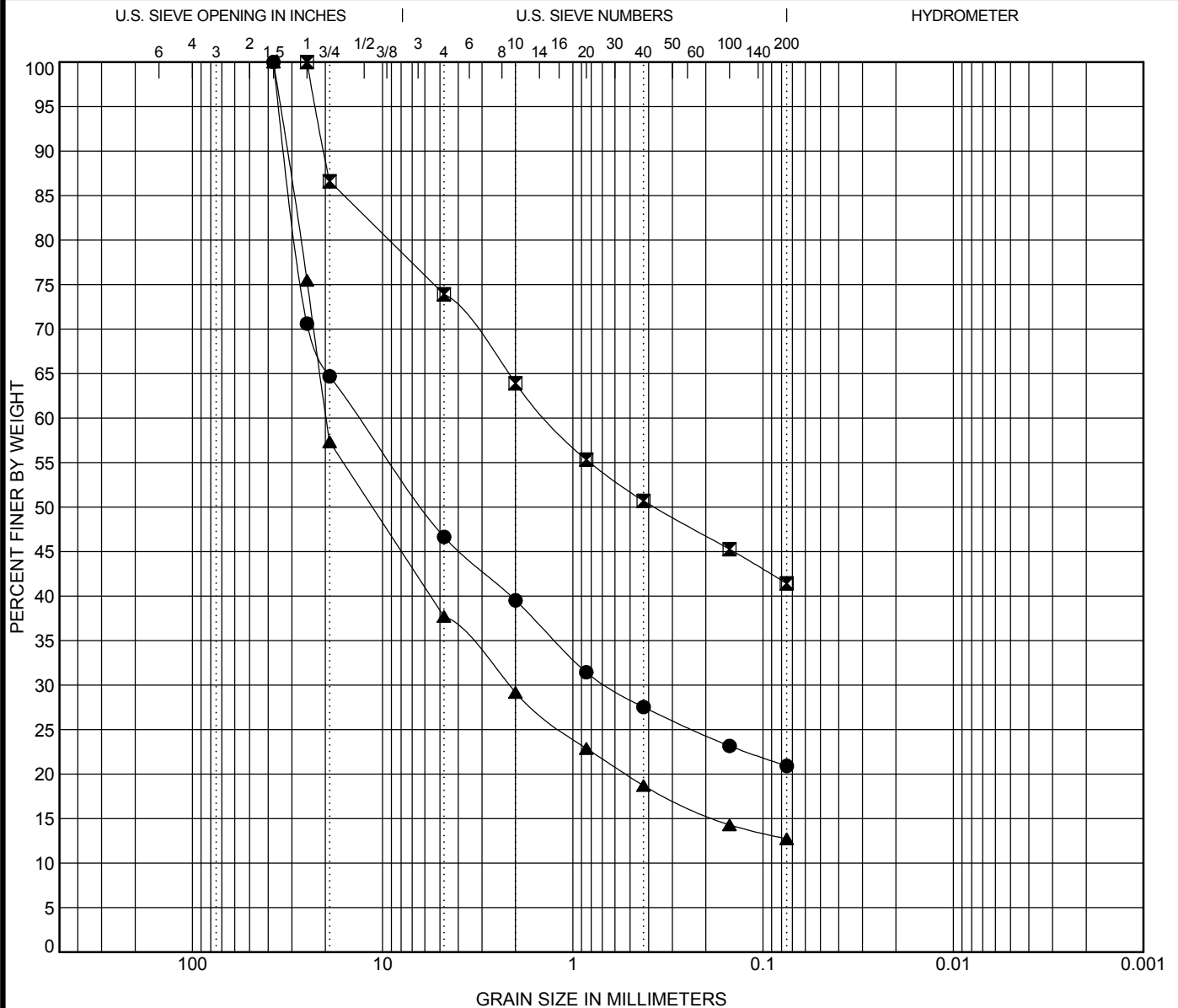


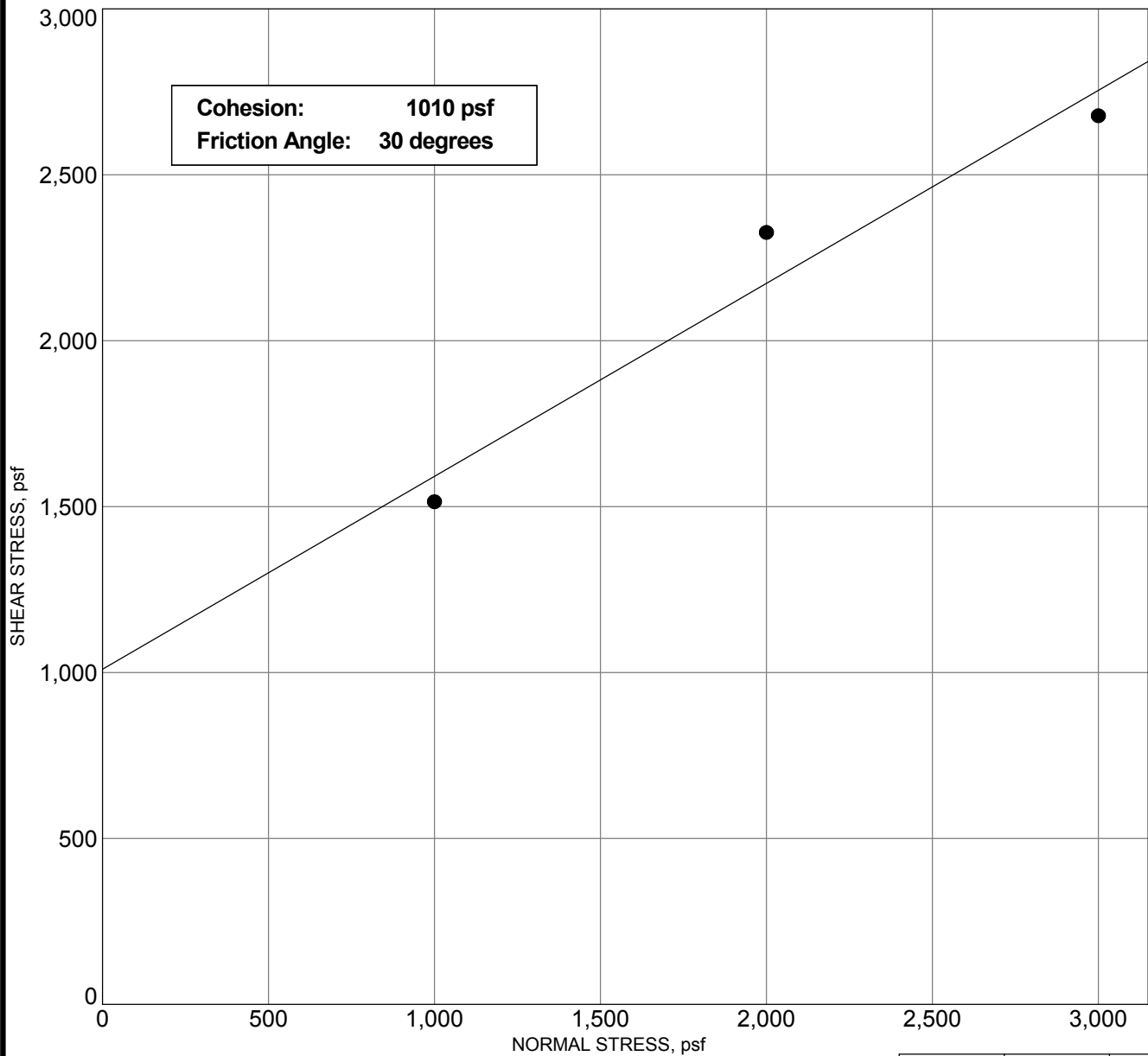
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ATTERBERG LIMITS TEST RESULTS - ASTM D4318

INTERSTATE ROUTE H-1 GUARDRAIL
 AND SHOULDER IMPROVEMENTS
 KAPIOLANI INTERCHANGE TO AINAKOA AVENUE
 HONOLULU, OAHU, HAWAII

Plate
B - 1





Sample: B-1
Depth: 5.0 - 6.3 feet
Description: Brownish gray gravel with sand and clay

		Sample #1	Sample #2	Sample #3
INITIAL	Moisture Content, %	13.3	13.0	12.4
	Dry Density, pcf	110.3	110.5	113.0
	Height, inches	1.00	1.00	1.00
FINAL	Moisture Content, %	21.7	21.5	18.6
	Dry Density, pcf	113.6	125.5	118.8
	Height, inches	0.971	0.881	0.951
	Diameter, inches	2.42	2.42	2.42
	Deformation Rate, inch/minute	0.0023	0.0025	0.0024
	Normal Stress, psf	1000	2000	3000
	Peak Shear Stress, psf	1515	2326	2678
	Shear Displacement, inches	0.19	0.44	0.36



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DIRECT SHEAR TEST - ASTM D3080

INTERSTATE ROUTE H-1 GUARDRAIL
AND SHOULDER IMPROVEMENTS
KAPIOLANI INTERCHANGE TO AINAKOA AVENUE
HONOLULU, OAHU, HAWAII

Plate
B - 3

Location	Depth	Length	Diameter	Length/ Diameter Ratio	Density	Load	Compressive Strength
	(feet)	(inches)	(inches)		(pcf)	(lbs.)	(psi)
B-4	5 - 7.5	6.810	3.239	2.10	172.2	91,083	11,050
B-4	7.5 - 10	6.795	3.241	2.10	175.2	112,332	13,620
B-7	2 - 5	6.810	3.243	2.10	148.0	26,281	3,180

ASTM D7012 (METHOD C)



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UNIAXIAL COMPRESSIVE STRENGTH TEST

INTERSTATE ROUTE H-1 GUARDRAIL
AND SHOULDER IMPROVEMENTS
KAPIOLANI INTERCHANGE TO AINAKOA AVENUE
HONOLULU, OAHU, HAWAII

Plate
B - 4