FIELD BORING LOG

Project Name: TRINITY RIVER - WALLISVILLE, TEXAS		Project No. 93-312G
Location: TRINITY RIVER		Client: ARMY CORP. OF ENG.
Boring No.: 93-271	Date Started: 3-4-94	El. of River: +2.447
Water Depth: 13.4'	Date Completed: 3-4-94	Easting: 3,353,522.89
Time Started: 8:00 AM	Northing: 744,382.44	Driller: PAT STEVENS
Time Completed: 4:00 PM	Logger: D. CANADA	Depth to caving:
Rig: MOBIL B-61	Weather: PARTLY CLOUDY 74 DEGREES	

DEPTH	SAMPLE NO.	SAMPLE TYPE	SAMPLES	SOIL DESCRIPTION	SOIL CLASSIFICATION	BLOWS/6"	BLOWS/6"	BLOWS/6"	TORVANE	HAND PENETROMETER (tsf)
0	S1	J		DK. GR. SA. W/GRAVEL	PT					
5										
	S2	P	X	MED. DENSE DK. GR. SA. W/GRAVEL SHELL	SP	6	6	5		
10										
	S3	P	X	MED. DENSE GR. SA.	SP	4	7	10		
15										
20	S4	P	X	MED. DENSE GR. SA.	SP	5	6	11		
25										
	S5	P	X	VERY DENSE LT. GR. SA.	SP	16	27	37		
30										

FIELD BORING LOG

Boring No.: 93-271

DEPTH	SAMPLE NO.	SAMPLE TYPE	SAMPLES	SOIL DESCRIPTION	SOIL CLASSIFICATION	BLOWS/6"	BLOWS/6"	BLOWS/6"	TORVANE	HAND PENETROMETER (LSF)
30										
	S6	P.	X	VERY LOOSE LT. DK. GR. SA.	SP	1	1	1		
35										
40	S7	P.	X	MED. DENSE LT. GR. SA. W/GRAVEL	SP	3	8	15		
45										
	S8	P	X	VERY DENSE TA. LT. GR. SA. W/GRAVEL SHELL	SP	10	25	35		
50										
	S9	P	X	VERY DENSE TA. LT. GR. SA. W/GRAVEL SHELL	SP	27-50/4				
55										
60	S10	P	X	~~MED. DENSE~~ stiff LT. GR. ~~SA. CL.~~ si. cl W/CAL.	CL	4	7	12		
65										
(S)	S11	S		~~MED.~~ Very STIFF LT. GR. TA. ~~SIL.~~ CL. W/CAL	CH				.4	2.75
(B)	S12	S		STIFF LT. GR. TA. ~~SIL.~~ CL. ~~SA.~~ w/SA, Cl, SMS W/CAL	CH				.35	2.75
70	S13	S		~~MED.~~ STIFF TA. LT. GR. ~~SIL.~~ CL. ~~SA POCKETS~~ w/SA	CH				.65	3.0

w/Si, Sa Pockets

(S) - SHORT SAMPLE

(B) - BROKEN SAMPLE

FIELD BORING LOG

Boring No.: 93-271

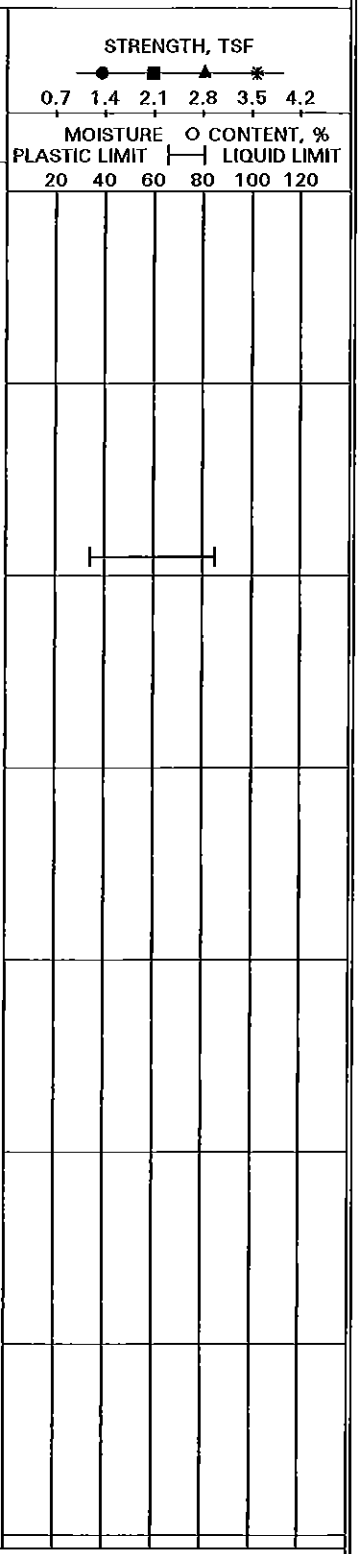
DEPTH	SAMPLE NO.	SAMPLE TYPE	SAMPLES	SOIL DESCRIPTION	SOIL CLASSIFICATION	BLOWS/6"	BLOWS/6"	BLOWS/6"	TORVANE	HAND PENETROMETER (tsf)
70	S13	S	////	~~MED.~~ V/ STIFF TA, LT. GR, ~~SIL~~, CL. ~~SA.~~ W/SA. POCKET S'Y	Clt				~~.65~~	3.0
75										
80										
85										
90										
95										
100										
105										
110										

LOG OF SOIL BORING

Project Name: Trinity River Soil Borings
Project No. 93-312G
Boring No.: 93-271
Mud Line Elevation: -10.95 feet (NGVD)
Completion Depth: 71 feet
Water Depth: 13.4 feet

Weather: Partly cloudy
Date: March 4, 1994
Technician: David Canada
Driller: Pat Stevens
Drilling Rig: Mobil B-61

ELEV. DEPTH, FEET	SOIL AND SAMPLER SYMBOLS	SOIL DESCRIPTION	BLOWS PER FOOT	% PASSING NO. 4 SIEVE	% PASSING NO. 10 SIEVE	% PASSING NO. 40 SIEVE	% PASSING NO. 100 SIEVE	% PASSING NO. 200 SIEVE	DRY DENSITY PCF
0		Dark gray and tan SAND w/ gasoline odor to 2'		100	100	99	26	6	
-15 / 5									
		medium dense w/ shell below 7'	11	100	99	57	6	4	
-20 / 10									
-25 / 15		Very stiff gray and tan CLAY w/ sand seams and pockets	17	100	100	99	86	51	
20		Medium dense tan and gray SILTY SAND	17	100	100	95	54	21	
-35 / 25									
		Very dense gray SAND w/ shell and gravel to 28'	64	100	100	87	6	2	
-40 / 30									
-45 / 35		very loose 33'-34.5'	2	100	100	88	13	6	
-50 / 40		medium dense 39.5'-41' tan and gray w/ shell and gravel below 39.5'	23	98	96	42	2	1	
-55 / 45									
-60 / 50			60	92	75	36	3	2	



● = Direct Hand Penetrometer ■ = Torvane ▲ = Unconfined Compression ✱ = Shear Stress

Plate 3A

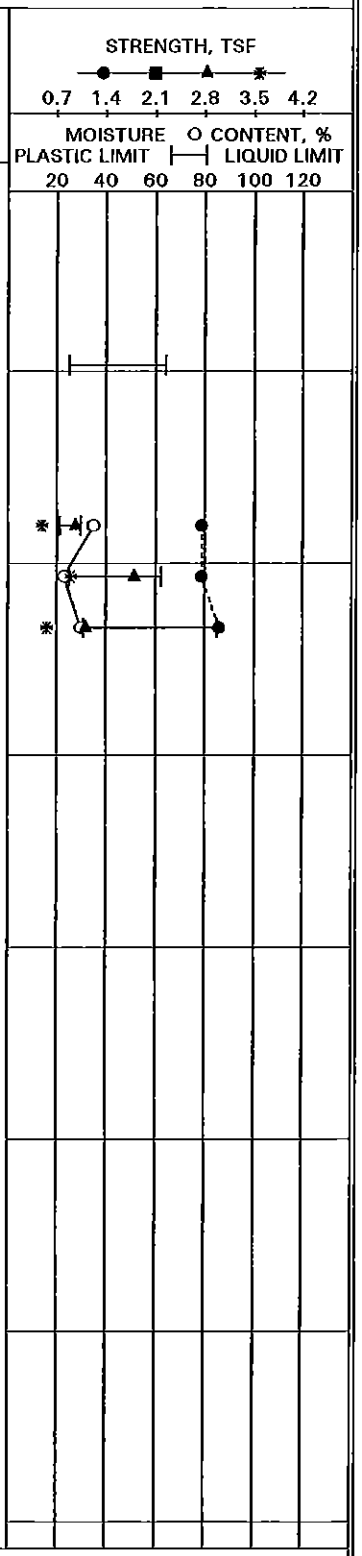
HVJ ASSOCIATES, INC.

LOG OF SOIL BORING

Project Name: Trinity River Soil Borings
Project No. 93-312G
Boring No.: 93-271
Mud Line Elevation: -10.95 feet (NGVD)
Completion Depth: 71 feet
Water Depth: 13.4 feet

Weather: Partly cloudy
Date: March 4, 1994
Technician: David Canada
Driller: Pat Stevens
Drilling Rig: Mobil B-61

ELEV. DEPTH, FEET	SOIL AND SAMPLER SYMBOLS	SOIL DESCRIPTION	BLOWS PER FOOT	% PASSING NO. 4 SIEVE	% PASSING NO. 10 SIEVE	% PASSING NO. 40 SIEVE	% PASSING NO. 100 SIEVE	% PASSING NO. 200 SIEVE	DRY DENSITY PCF
-65 / 55			50/4"	95	89	54	6	4	
-70 / 60		Very stiff gray CLAY w/ sand, silt stones, gravel, and calcareous nodules	19	99	99	99	98	93	
-75 / 65		Very stiff gray and brown SILTY CLAY w/ silt, silt stones, and gravel		100	100	99	99	99	86
-80 / 70		Very stiff brown and gray CLAY w/ silt and slickensides w/ sand pockets and gravel to 69' w/ calcareous nodules, silty sand pockets, and shell below 69'		100	100	99	99	93	99
				99	98	98	98	98	89
-85 / 75									
-90 / 80									
-95 / 85									
-100 / 90									
-105 / 95									
-110 / 100									
105									



● = Direct Hand Penetrometer ■ = Torvane ▲ = Unconfined Compression ✱ = Shear Stress

Plate 3B

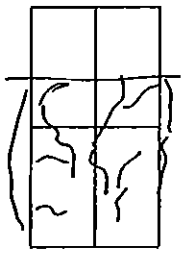
HVJ ASSOCIATES, INC.

UNCONFINED COMPRESSION TEST REPORT

Project: Trinity River - Wallisville, Texas
Project No. 93-312G
Boring No. 93-271
Sample No. S11
Depth: 65-67
El. -75.95
Date: 4/15/94
Type of specimen: undisturbed
Classification: Gray and brown clay

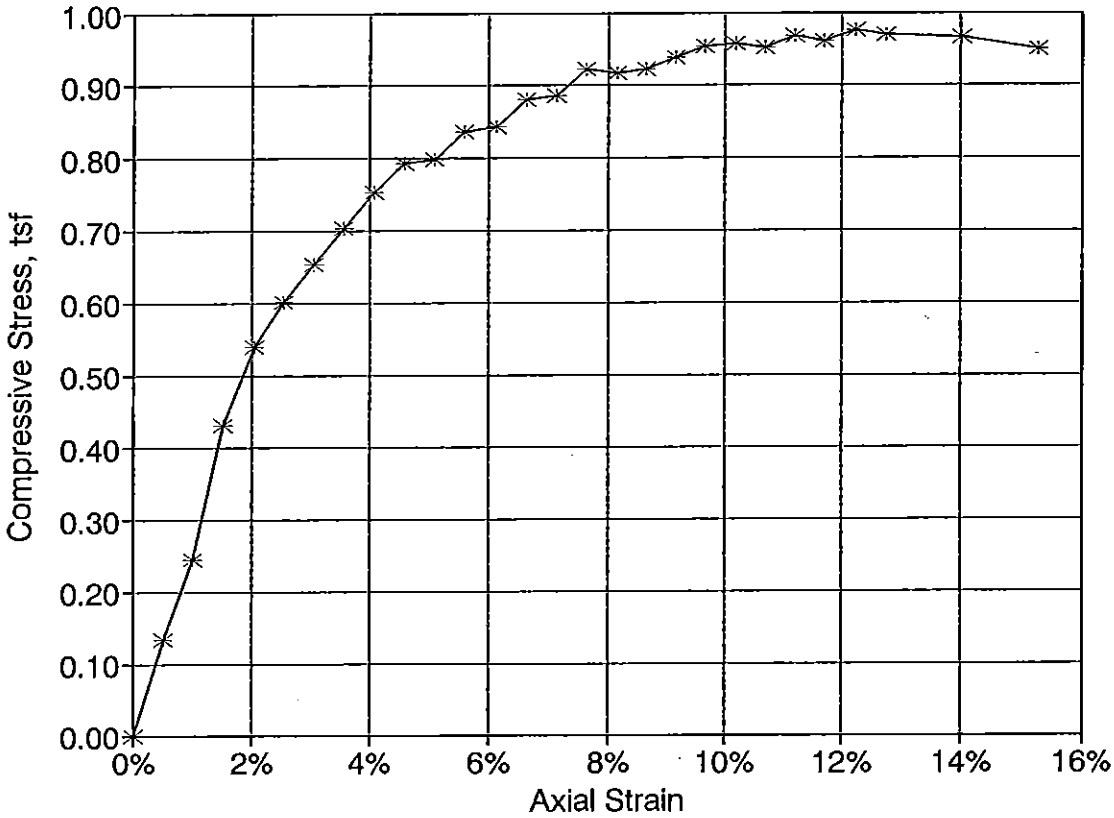
Initial water content	34.5
Dry density, pcf	85.9
Uncon. comp. strength, tsf	0.976
Undrained shear strength, tsf	0.488
Intitial specimen diameter, in	2.857
Initial specimen height, in	3.927
Liquid limit	30
Plastic limit	21
Plasticity index	9

Failure Sketch



☐ Controlled stress

☑ Controlled stain

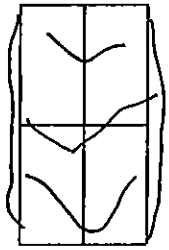


UNCONFINED COMPRESSION TEST REPORT

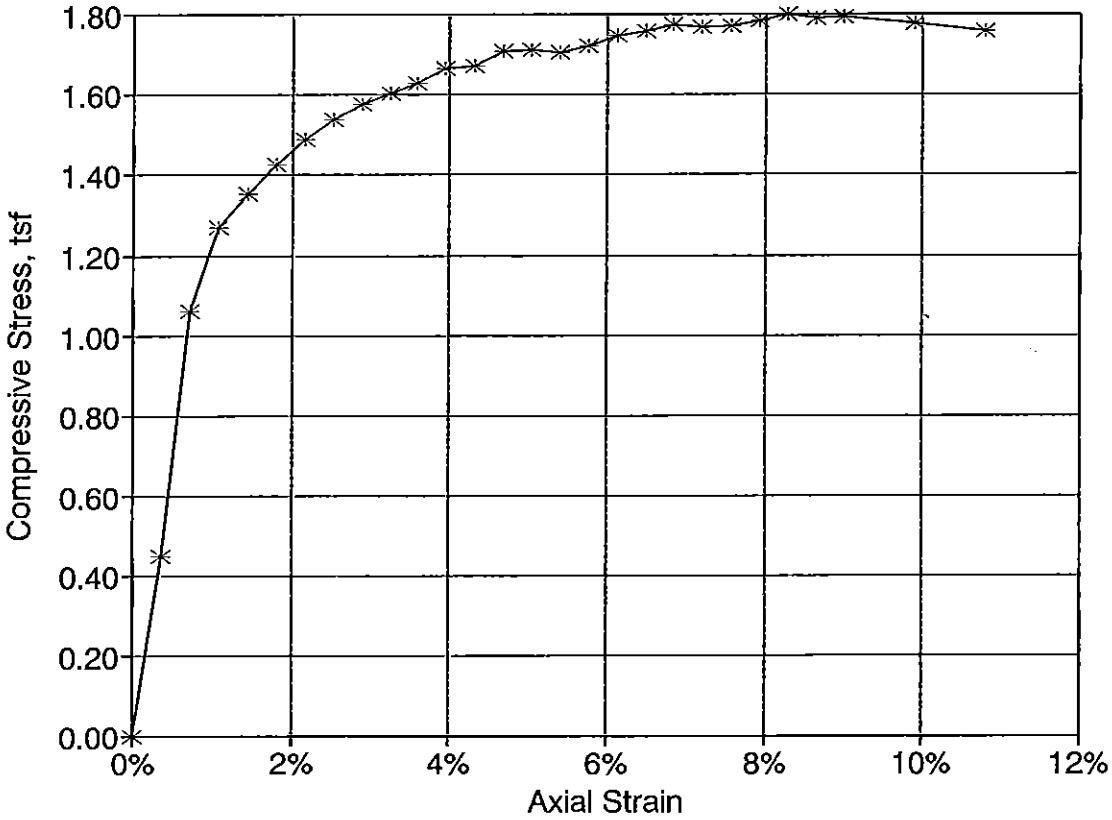
Project: Trinity River - Wallisville, Texas
Project No. 93-312G
Boring No. 93-271
Sample No. S12
Depth: 67-69
El. -77.95
Date: 4/15/94
Type of specimen: undisturbed
Classification: Brown and gray clay

Initial water content	22.6
Dry density, pcf	98.7
Uncon. comp. strength, tsf	1.797
Undrained shear strength, tsf	0.899
Intitial specimen diameter, in	2.853
Initial specimen height, in	5.548
Liquid limit	62
Plastic limit	25
Plasticity index	37

Failure Sketch



☐ Controlled stress
☑ Controlled stain

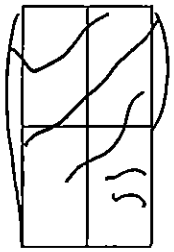


UNCONFINED COMPRESSION TEST REPORT

Project: Trinity River - Wallisville, Texas
Project No. 93-312G
Boring No. 93-271
Sample No. S13
Depth: 69-71
El. -79.95
Date: 4/15/94
Type of specimen: undisturbed
Classification: Brown and gray clay

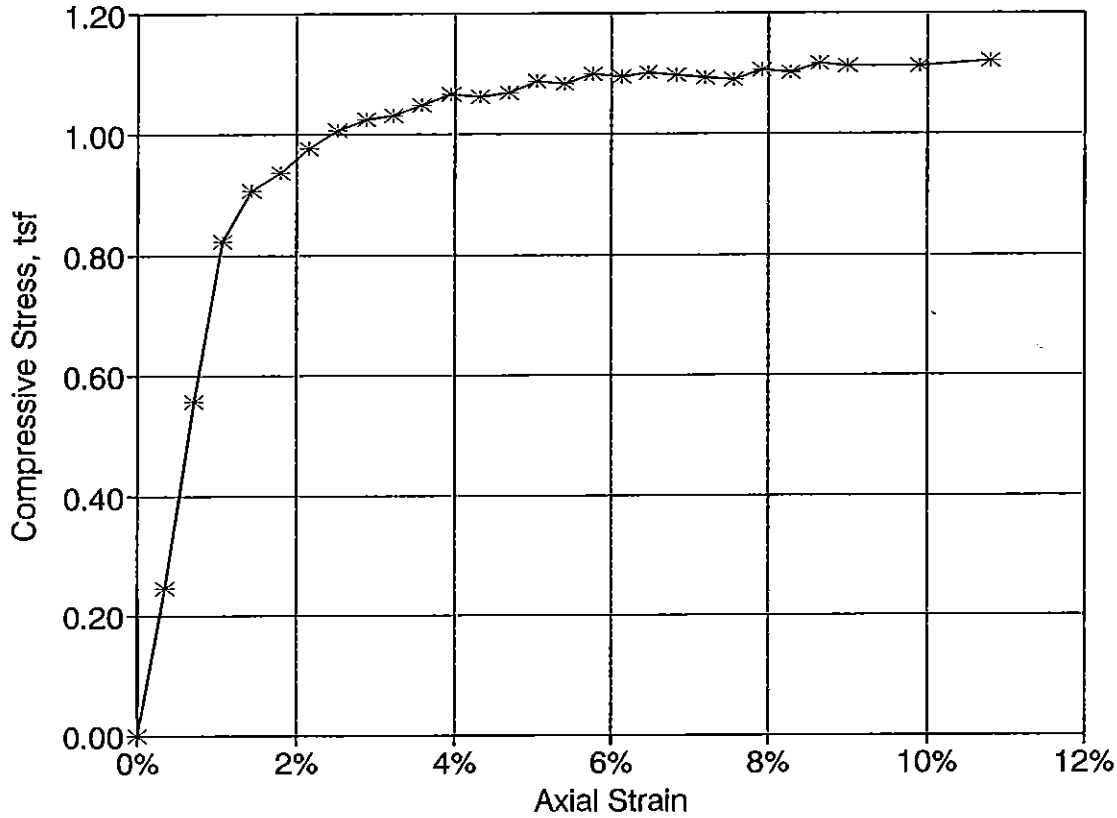
Initial water content	29.9
Dry density, pcf	88.5
Uncon. comp. strength, tsf	1.12
Undrained shear strength, tsf	0.56
Intitial specimen diameter, in	2.859
Initial specimen height, in	5.549
Liquid limit	85
Plastic limit	31
Plasticity index	54

Failure Sketch

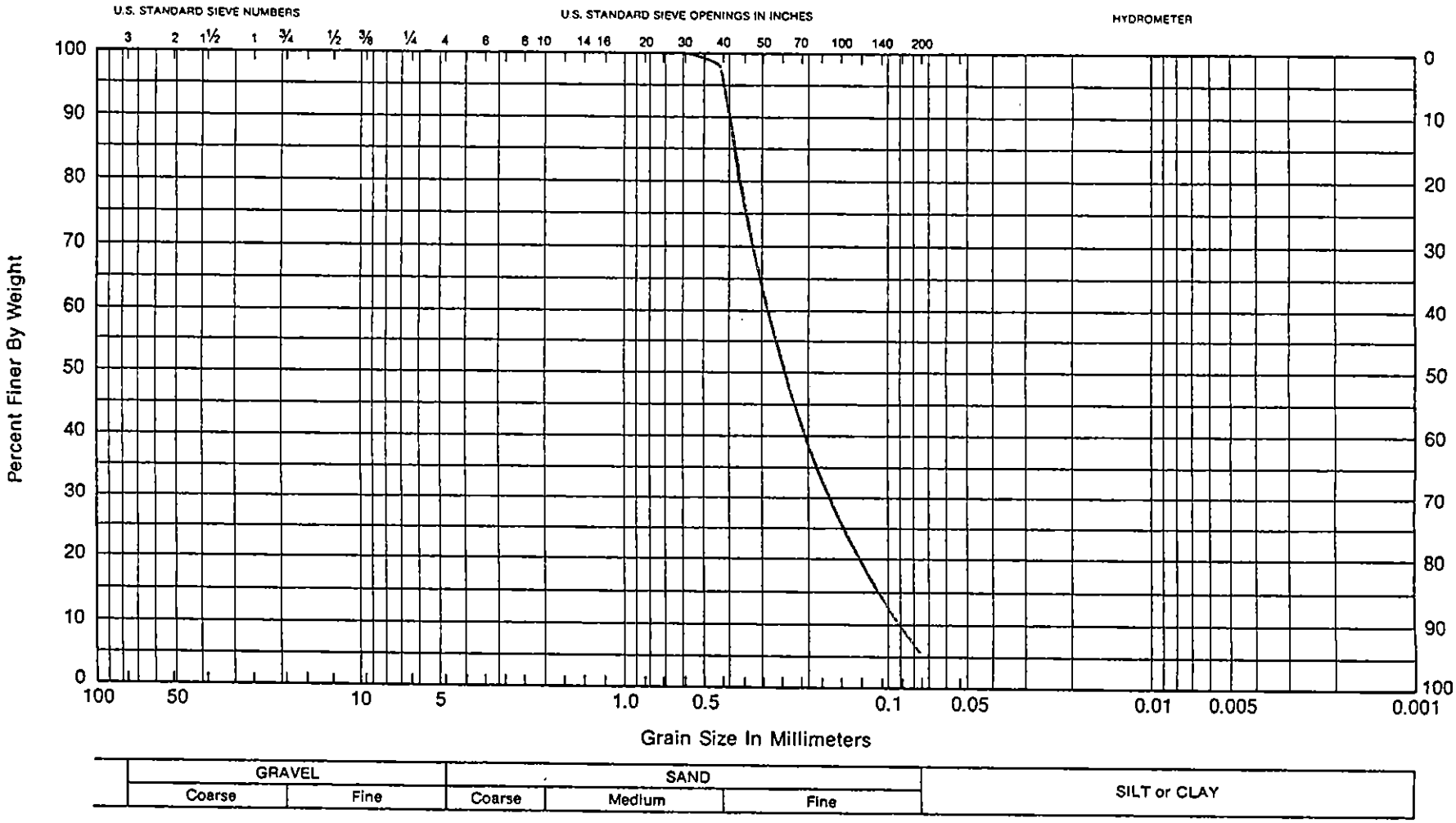


☐ Controlled stress

☑ Controlled stain

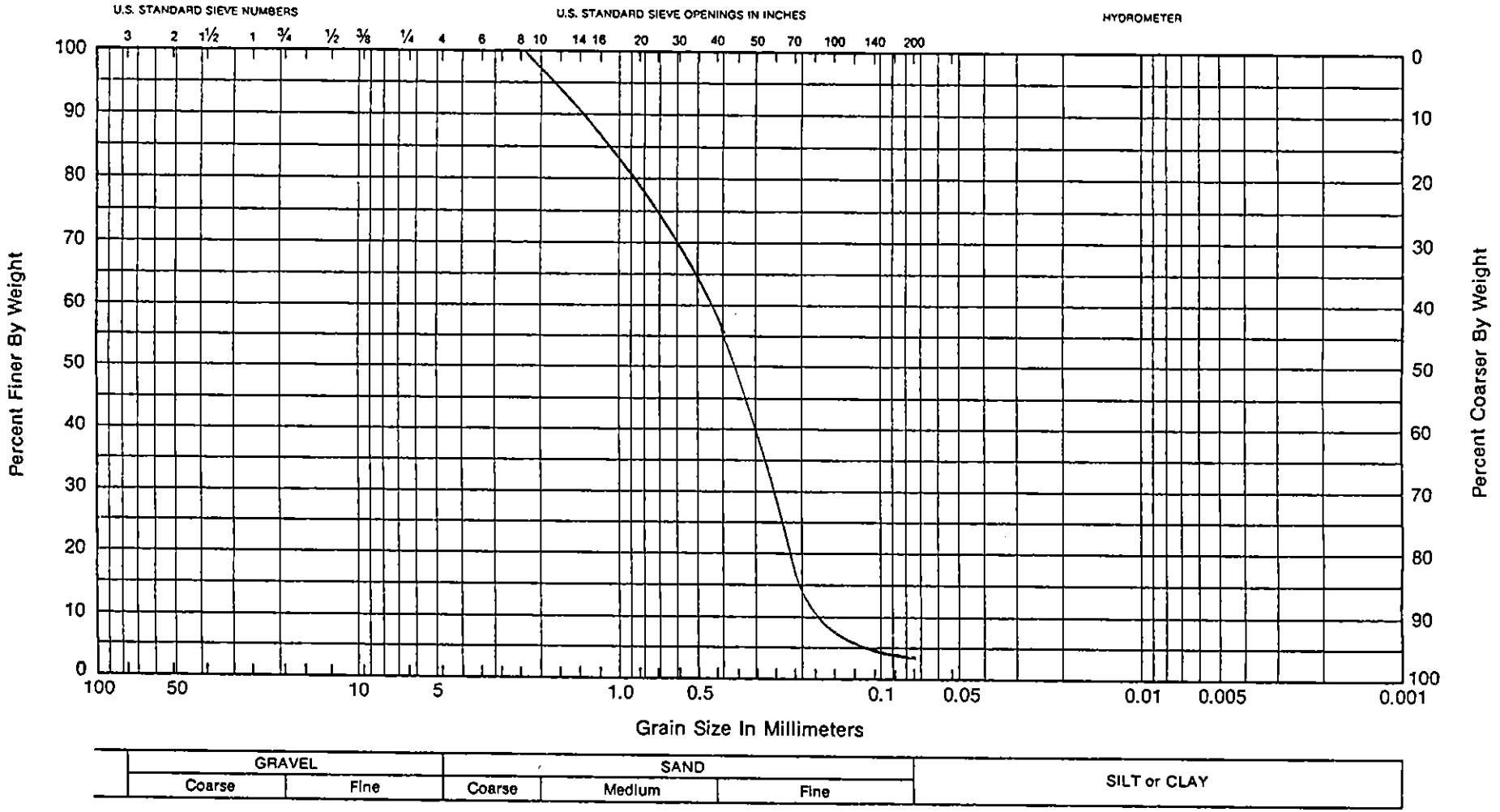


GRAIN SIZE CURVES



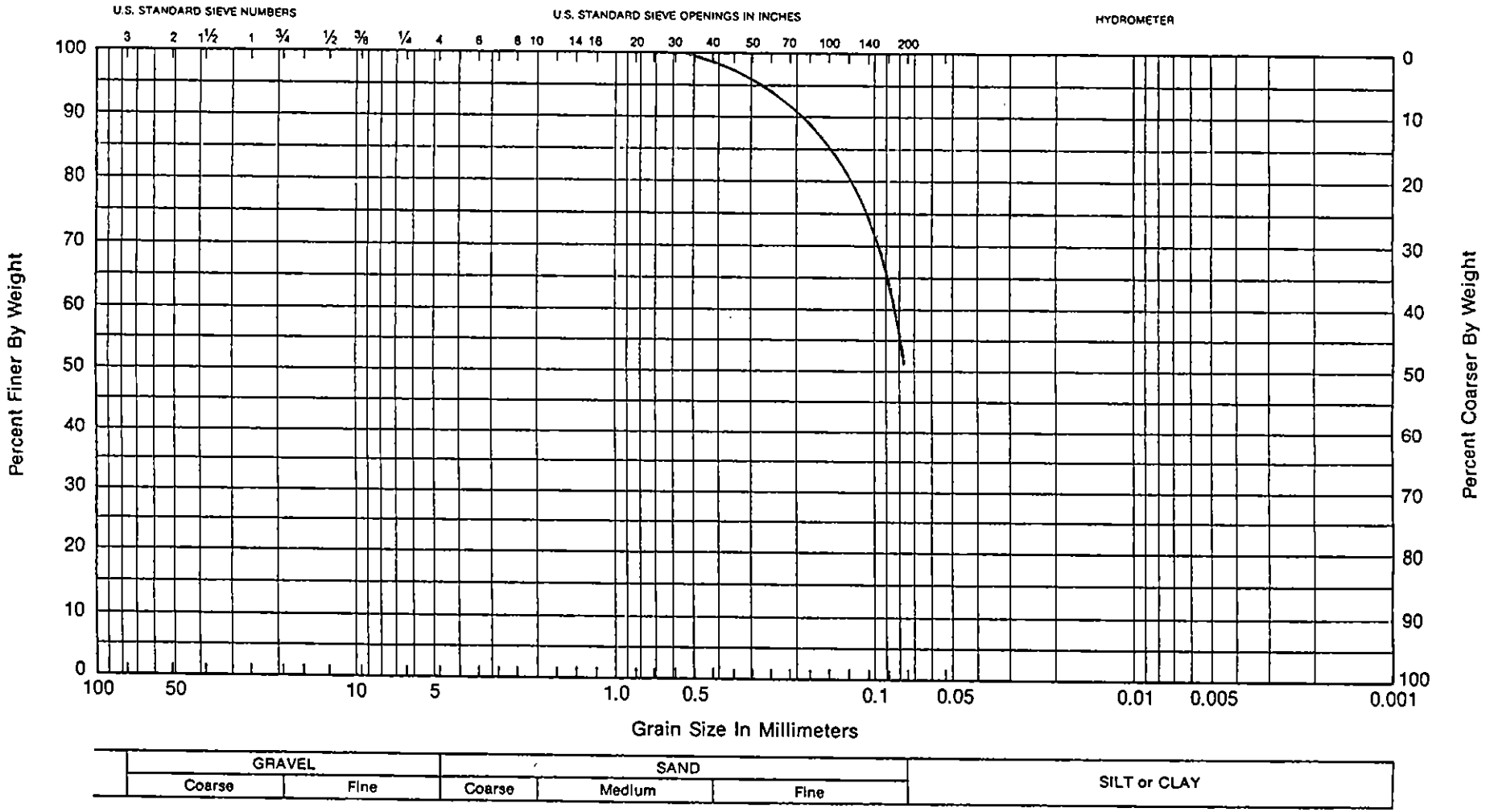
DACW 64-94-R-0011
WALLISVILLE RESERVOIR
93-271, S1, 0' - 2'
HVJ 93-312G
DARK GRAY AND TAN SAND
WITH PETROLEUM ODOR

GRAIN SIZE CURVES



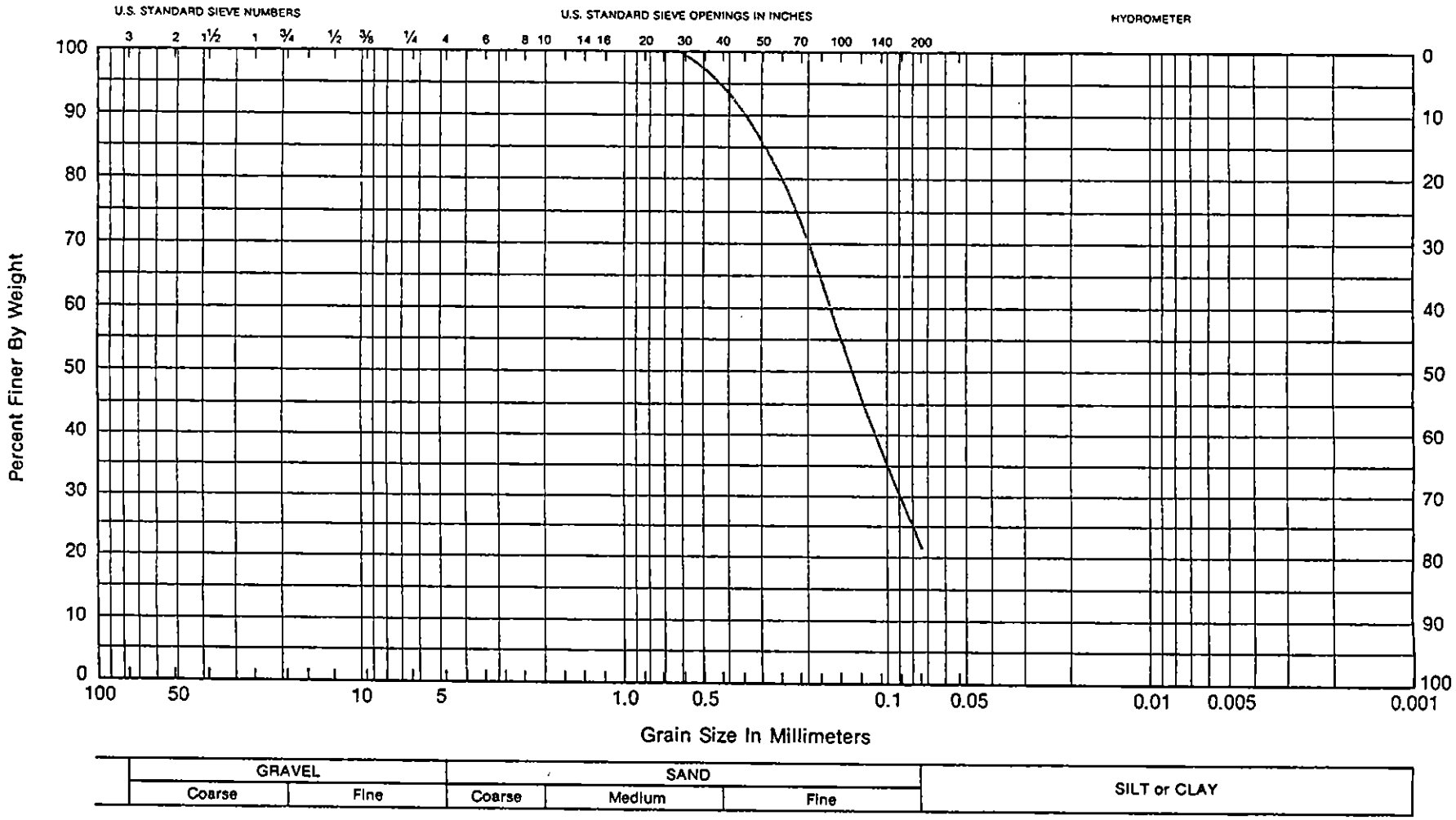
DACW 64-94-R-0011
WALLISVILLE RESERVOIR
93-271, S2, 7' - 8.5'
HVJ 93-312G
GRAY AND TAN SAND WITH
SHELL AND SANDY CLAY CLUMPS

GRAIN SIZE CURVES



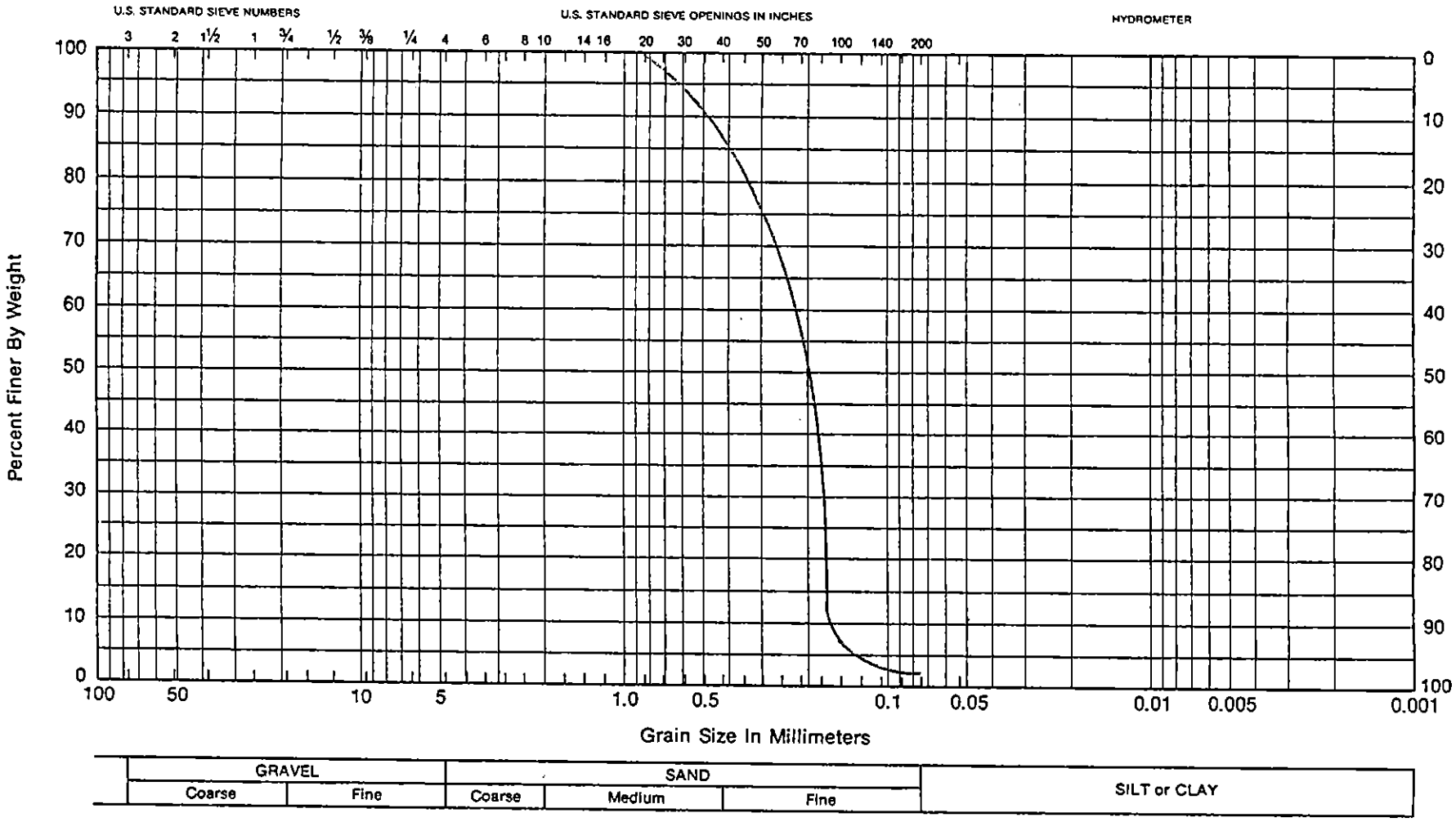
DACW 64-94-R-0011
WALLISVILLE RESERVOIR
93-271, S3, 13.5' - 15'
HVJ 93-312G
GRAY AND TAN SANDY CLAY WITH SILT

GRAIN SIZE CURVES



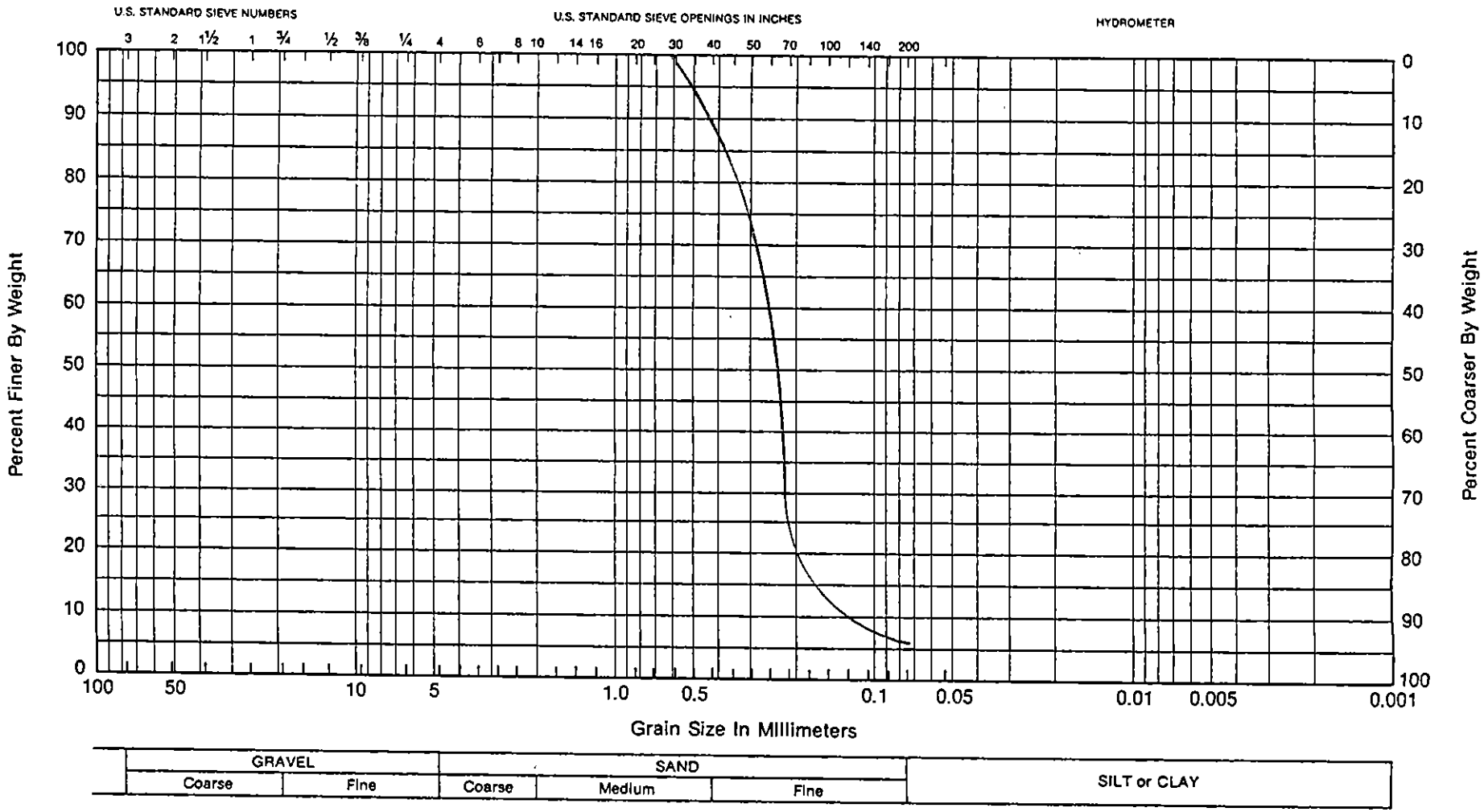
DACW 64-94-R-0011
WALLISVILLE RESERVOIR
93-271, S4, 20' - 21.5'
HVJ 93-312G
TAN AND GRAY CLAYEY SAND

GRAIN SIZE CURVES



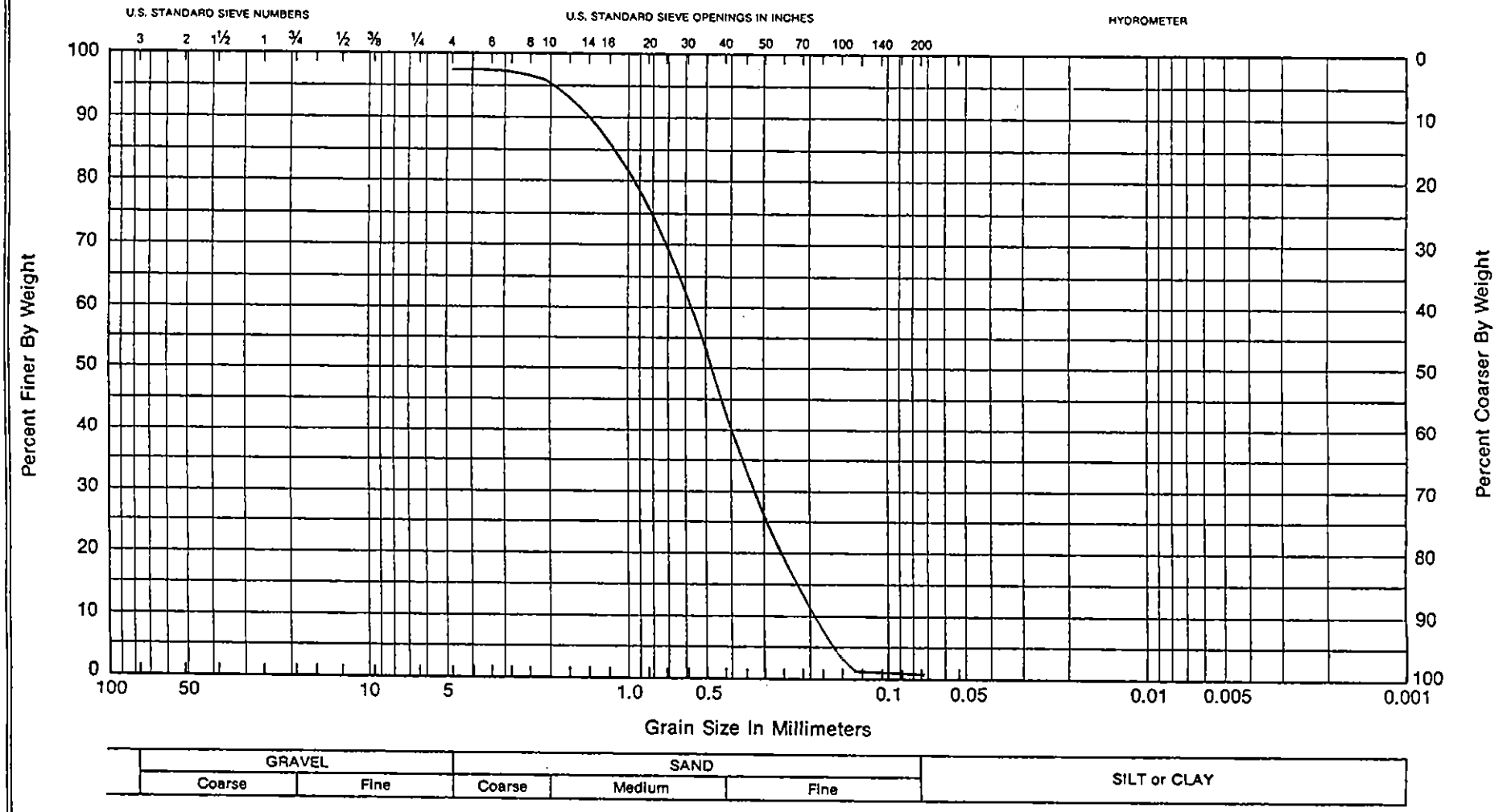
DACW 64-94-R-0011
WALLISVILLE RESERVOIR
93-271, S5, 26.5' - 28'
HVJ 93-312G
GRAY SAND WITH SHELL AND GRAVEL

GRAIN SIZE CURVES



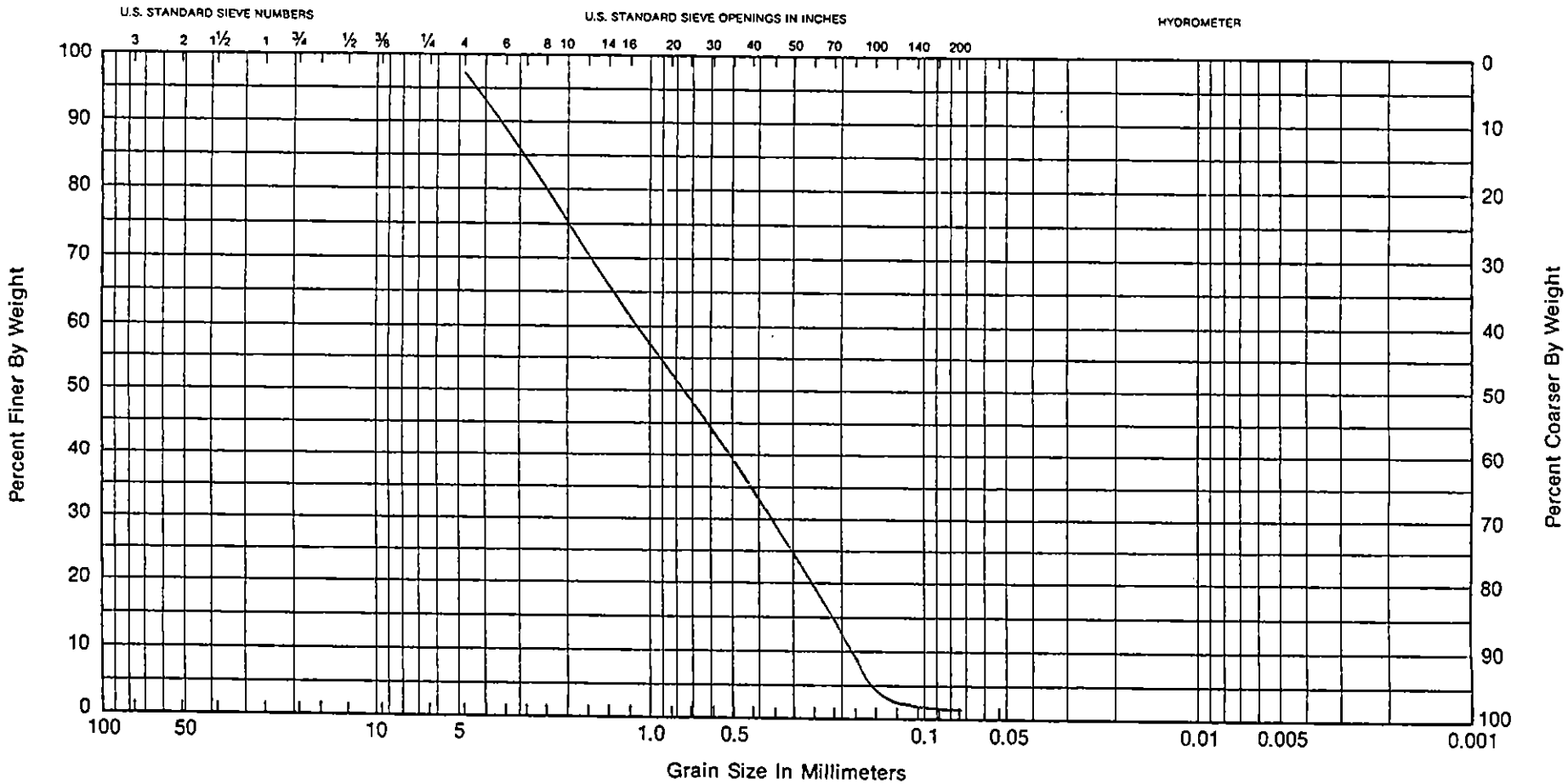
DACW 64-94-R-0011
WALLISVILLE RESERVOIR
93-271, S6, 35' - 36.5'
HVJ 93-312G
GRAY SAND WITH SANDY
CLAY CLUMPS

GRAIN SIZE CURVES



DACW 64-94-R-0011
WALLISVILLE RESERVOIR
93-271, S7, 39.5' - 41'
HVJ 93-312G
TAN AND GRAY SAND WITH
SHELL AND GRAVEL

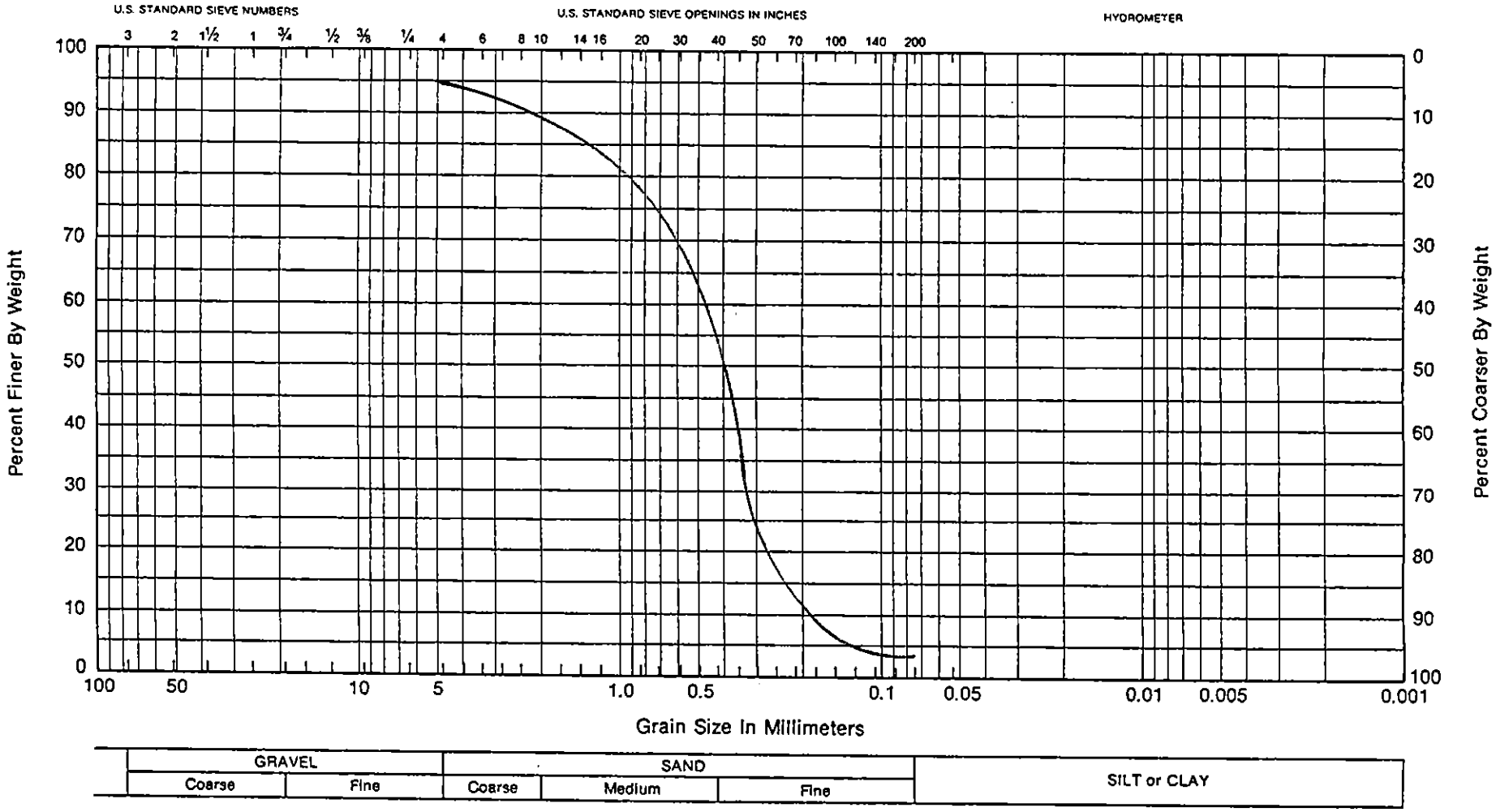
GRAIN SIZE CURVES



GRAVEL		SAND			SILT or CLAY
Coarse	Fine	Coarse	Medium	Fine	

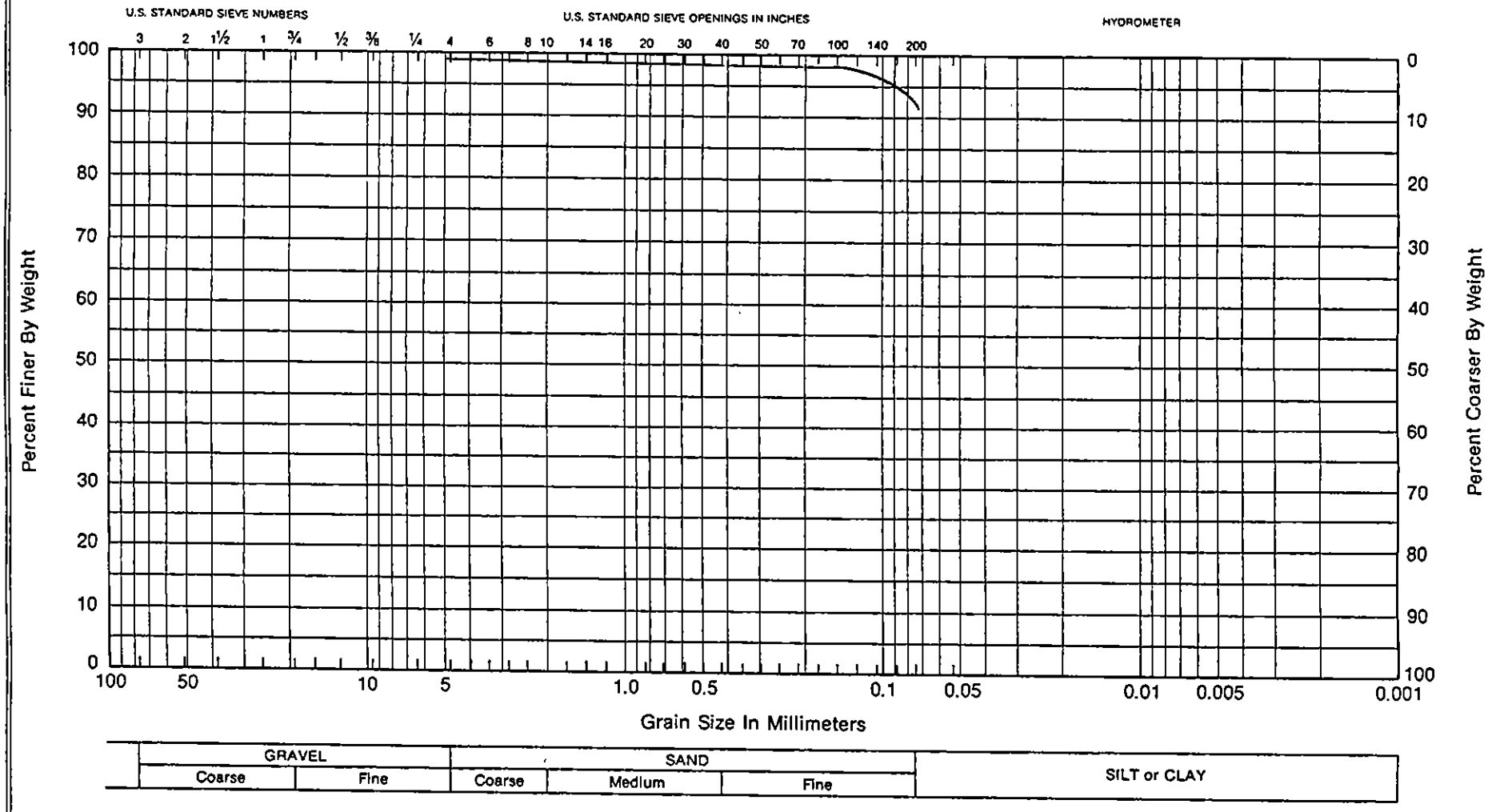
DACW 64-94-R-0011
WALLISVILLE RESERVOIR
93-271, S8, 46' - 47.5'
HVJ 93-312G
TAN AND GRAY COARSE SAND
WITH SHELL AND GRAVEL

GRAIN SIZE CURVES



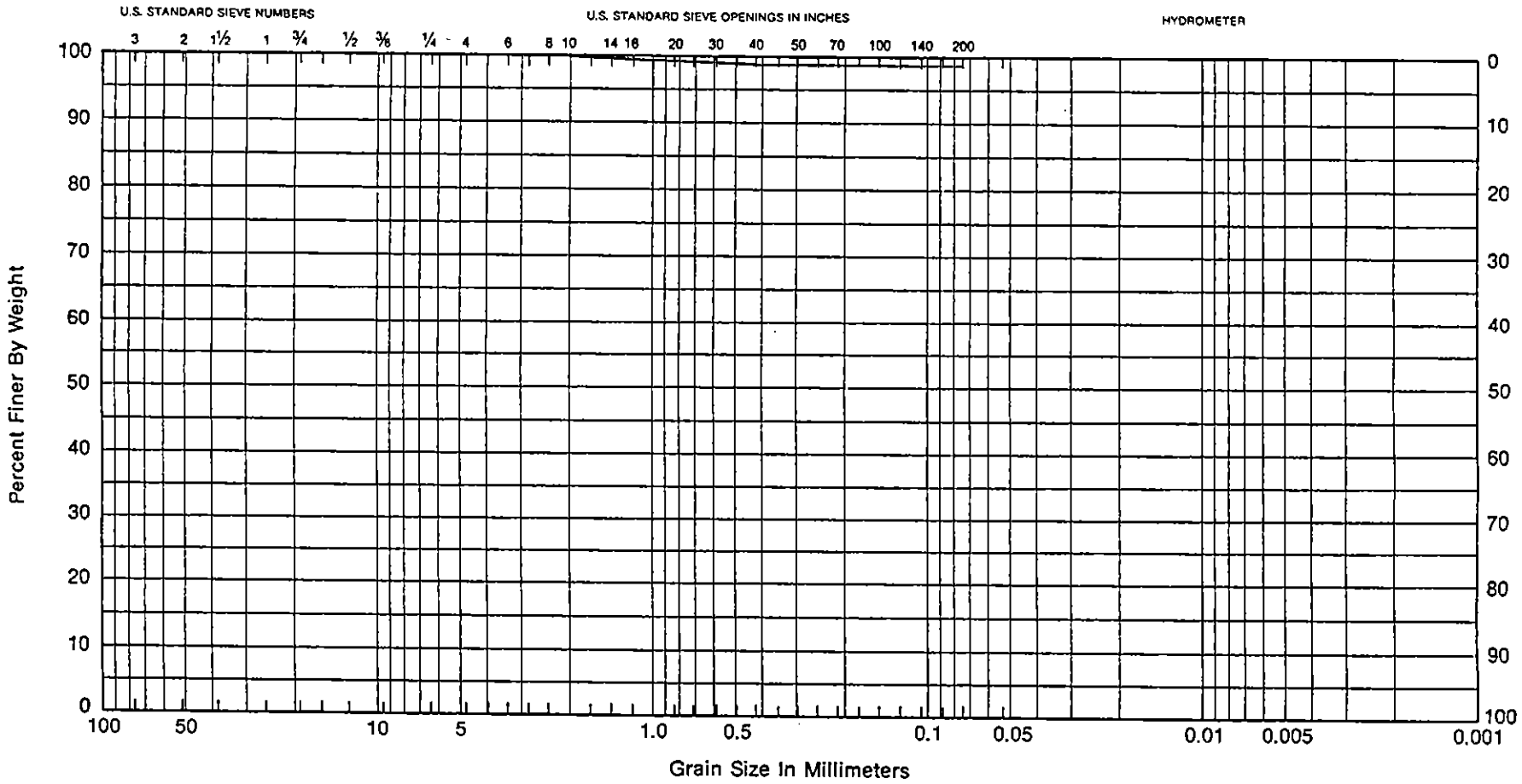
DACW 64-94-R-0011
WALLISVILLE RESERVOIR
93-271, S9, 52.5' - 54'
HVJ 93-312G
TAN AND GRAY SAND
WITH SHELL AND GRAVEL

GRAIN SIZE CURVES



DACW 64-94-R-0011
WALLISVILLE RESERVOIR
93-271, S10, 59' - 60.5'
HVJ 93-312G
GRAY CLAY WITH SAND, CALCAREOUS NODULES, SILTY STONE, AND GRAVEL

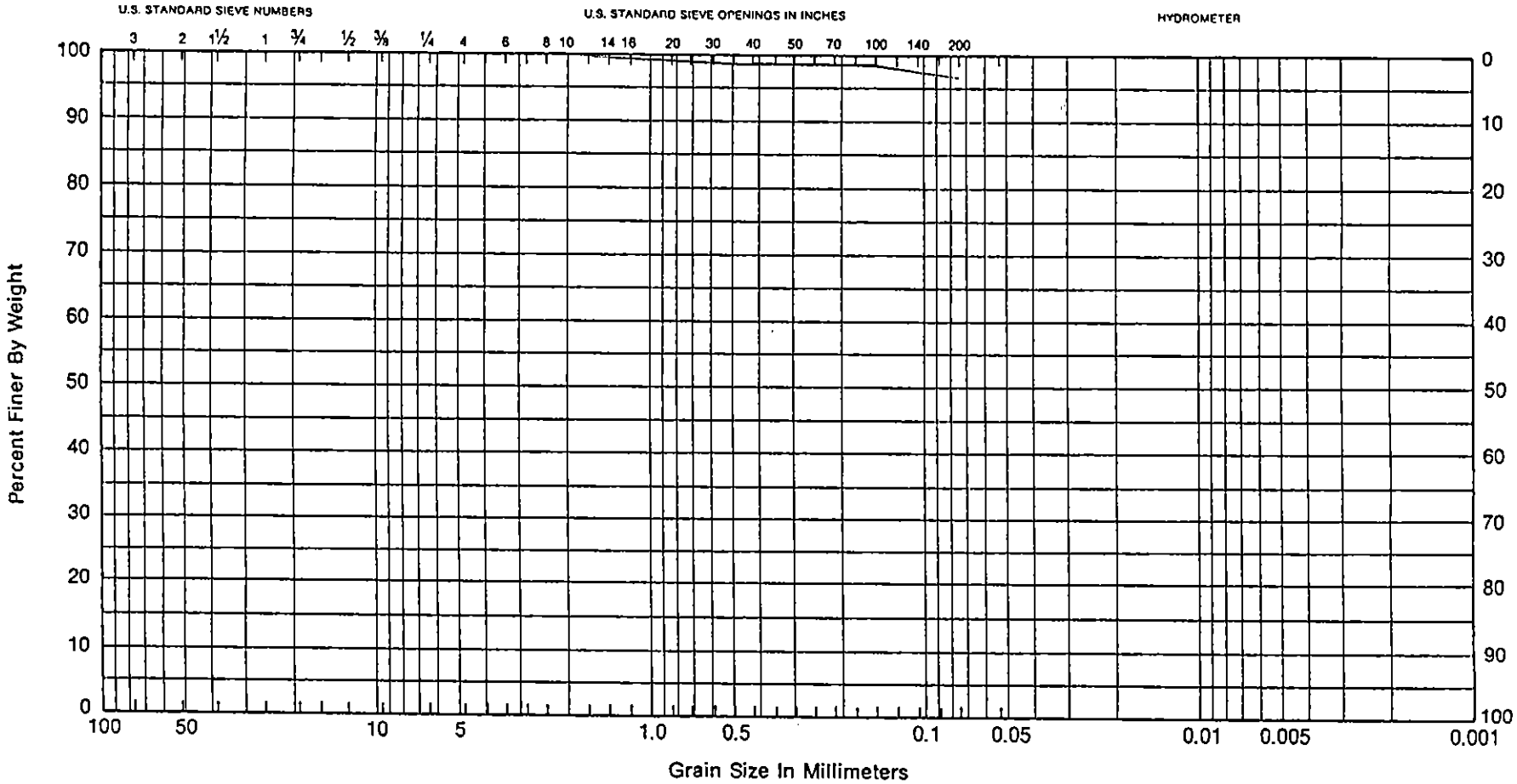
GRAIN SIZE CURVES



GRAVEL		SAND			SILT or CLAY
Coarse	Fine	Coarse	Medium	Fine	

DACW 64-94-R-0011
WALLISVILLE RESERVOIR
93-271, S11, 65' - 67'
HVJ 93-312G
GRAY AND BROWN SILTY CLAY
WITH STONE AND GRAVEL

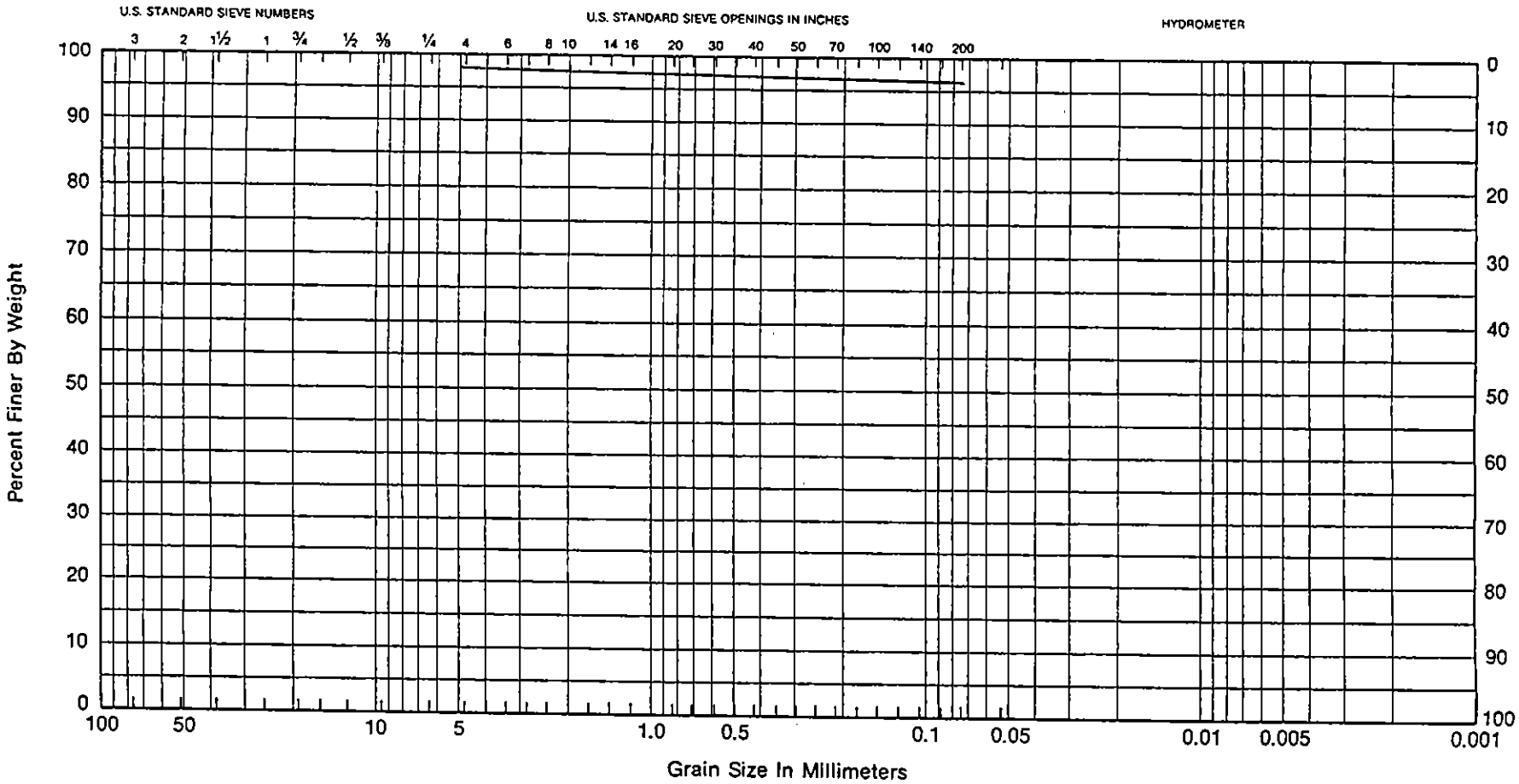
GRAIN SIZE CURVES



GRAVEL		SAND			SILT or CLAY
Coarse	Fine	Coarse	Medium	Fine	

DACW 64-94-R-0011
WALLISVILLE RESERVOIR
93-271, S12, 67' - 69'
HVJ 93-312G
BROWN AND GRAY CLAY WITH SILT, SAND POCKETS, GRAVEL AND SANDY CLAY SEAMS

GRAIN SIZE CURVES



GRAVEL		SAND			SILT or CLAY
Coarse	Fine	Coarse	Medium	Fine	

DACW 64-94-R-0011
WALLISVILLE RESERVOIR
93-271, S13, 69' - 71'
HVJ 93-312G
BROWN AND GRAY CLAY WITH SILT, SILTY SAND POCKETS, CALCAREOUS NODULES AND SHELL