

DRILLING LOG		DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 of 1
1. PROJECT		DELRAY BEACH		
2. LOCATION		(Coordinates or Station) X= 965,812 Y= 768,294		
3. DRILLING AGENCY:		ALPINE SEISMIC		
4. HOLE NO.		(As shown on drawing title and file number) DB-99-12		
5. NAME OF DRILLER		BOB SUSKO		
6. DIRECTION OF HOLE		VERTICAL		
7. THICKNESS OF BURDEN		0.0 FT		
8. DEPTH DRILLED INTO ROCK		0.0 FT		
9. TOTAL DEPTH OF HOLE		18.9 FT		
10. SIZE AND TYPE OF BIT		3"		
11. DATUM FOR ELEVATION SHOWN		(TBM or MSL) NGVD		
12. MANUFACTURER'S DESIGNATION OF DRILL		ALPINE PNEUMATIC		
13. TOT NO. OF OVERBURDEN SAMPLES TAKEN		disturbed: 0 undisturbed: 0		
14. TOTAL NO. OF CORE BOXES				
15. ELEVATION GROUND WATER				
16. DATE HOLE		Started Completed 4/20/00 4/20/00		
17. ELEVATION TOP OF HOLE		-35.2 ft		
18. TOTAL CORE RECOVERY FOR BORING		945		
19. SIGNATURE OF GEOLOGIST		IBRAHIM DREMALI		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS
-35.2	0					
-35.9	0.7		SAND, fine-grained, trace shell hash, Gray (5Y-5/1) (SP)		1	SP Sample #1, Depth = 0.5' 0.29 mm, 1.12 phi sorting 1.03% silt
-36.4	1.2		medium-grained, trace shell hash, Gray (5Y-6/1) (SP) from -35.9' to -36.4'		2	
-37.5	2.3		fine-grained, trace shell hash, Gray (5Y-6/1) (SP) from -36.4 to -37.5'		3	Sample #2, Depth = 1.0' 0.62 mm, 1.30 phi sorting 0.97% silt
-38.1	2.9		medium-grained, trace shell hash, Gray (5Y-6/1) (SP) from -37.5' to -38.1'		4	Sample #3, Depth = 2.0' 0.27 mm, 0.87 phi sorting 1.29% silt
	4				5	Sample #4, Depth = 3.0' 0.58 mm, 1.49 phi sorting 0.98% silt Sample #5, Depth = 5.0' 0.26 mm, 0.75 phi sorting 1.4% silt
	10		fine-grained, little shell hash, Gray (5Y-6/1) (SP) from -38.1' to -54.1'		6	Sample #6, Depth = 10.0' 0.29 mm, 0.83 phi sorting 1.42% silt
	15				7	Sample #7, Depth = 15.0' 0.27 mm, 0.73 phi sorting 1.63% silt
-54.1	18.9		End of Boring			
	20					
	21					
	22					
	23					
	24					

Note: Soils are classified in accordance with the Unified Soils Classification System.

GRADATION ANALYSIS REPORT
 DELRAY BEACH VIBRACORES 1999
 TESTED BY: RW ON: 8/99

SAMPLE NO.: DB99-12 S#1
 SAMPLE ELEV. (FT. NGVD):
 SAMPLE DEPTH (FT.): 0.5
 SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 257.72
 SAMPLE WEIGHT AFTER WASH (GRAMS): 255.15

SIEVE SIZE	PHI SIZE	MESH SIZE (mm)	RETAINED (GRAMS)	RETAINED (%)	PASSED (%)
5/8	-4.00	16.000	0.00	0.00	100.00
5/16	-3.00	8.000	0.00	0.00	100.00
5	-2.00	4.000	1.35	0.52	99.48
7	-1.50	2.800	3.47	1.35	98.65
10	-1.00	2.000	7.02	2.72	97.28
14	-0.50	1.400	13.75	5.34	94.66
18	0.00	1.000	22.10	8.58	91.42
25	0.50	0.710	34.85	13.52	86.48
35	1.00	0.500	56.57	21.95	78.05
45	1.50	0.355	80.10	31.08	68.92
60	2.00	0.250	115.92	44.98	55.02
80	2.50	0.180	178.46	69.25	30.75
120	3.00	0.125	246.66	95.71	4.29
170	3.50	0.090	254.92	98.91	1.09
200	3.75	0.075	255.06	98.97	1.03
230	4.00	0.063	256.38	99.48	0.52
PAN			257.69	99.99	0.01

PHI(5): -0.56 PHI(16): 0.65 PHI(25): 1.17
 PHI(50): 2.10 PHI(75): 2.61 PHI(84): 2.78
 PHI(95): 2.99

SIEVE LOSS(g): 0.03 SILT/CLAY: 1.03%
 SKEWNESS: -0.837 KURTOSIS: 1.009

GRAPHIC METHOD

MEAN (PHI): 1.59 SORTING: 1.07
 MEAN (mm) : 0.33 MEDIAN (mm): 0.23
 NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

MOMENT METHOD

MEAN (PHI): 1.77 SORTING: 1.12
 MEAN (mm) : 0.29

DATA FILE NAME: DB99-12#1.TAB

GRADATION ANALYSIS REPORT
DELRAY BEACH VIBRACORES 1999
TESTED BY: RW ON: 8/99

SAMPLE NO.: DB99-12 S#2
SAMPLE ELEV. (FT. NGVD):
SAMPLE DEPTH (FT.): 1.0
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 272.90
SAMPLE WEIGHT AFTER WASH (GRAMS): 270.27

SIEVE SIZE	PHI SIZE	MESH SIZE (mm)	RETAINED (GRAMS)	RETAINED (%)	PASSED (%)
5/8	-4.00	16.000	0.00	0.00	100.00
5/16	-3.00	8.000	1.07	0.39	99.61
5	-2.00	4.000	5.46	2.00	98.00
7	-1.50	2.800	11.36	4.16	95.84
10	-1.00	2.000	26.32	9.64	90.36
14	-0.50	1.400	49.50	18.14	81.86
18	0.00	1.000	81.05	29.70	70.30
25	0.50	0.710	119.24	43.69	56.31
35	1.00	0.500	165.75	60.74	39.26
45	1.50	0.355	191.97	70.34	29.66
60	2.00	0.250	218.36	80.01	19.99
80	2.50	0.180	249.96	91.59	8.41
120	3.00	0.125	267.92	98.18	1.82
170	3.50	0.090	270.22	99.02	0.98
200	3.75	0.075	270.25	99.03	0.97
230	4.00	0.063	271.58	99.51	0.49
PAN			272.90	100.00	0.00

PHI(5): -1.42 PHI(16): -0.63 PHI(25): -0.20
PHI(50): 0.69 PHI(75): 1.74 PHI(84): 2.17
PHI(95): 2.76

SIEVE LOSS (g): 0.00 SILT/CLAY: 0.97%
SKEWNESS: -0.012 KURTOSIS: 0.882

GRAPHIC METHOD

MEAN (PHI): 0.71 SORTING: 1.40
MEAN (mm): 0.61 MEDIAN (mm): 0.62
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

MOMENT METHOD

MEAN (PHI): 0.69 SORTING: 1.30
MEAN (mm): 0.62

DATA FILE NAME: DB99-12#2.TAB

GRADATION ANALYSIS REPORT
DELRAY BEACH VIBRACORES 1999
TESTED BY: RW ON: 8/99

SAMPLE NO.: DB99-12 S#3
SAMPLE ELEV. (FT. NGVD):
SAMPLE DEPTH (FT.): 2.0
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 245.78
SAMPLE WEIGHT AFTER WASH (GRAMS): 242.68

SIEVE SIZE	PHI SIZE	MESH SIZE (mm)	RETAINED (GRAMS)	RETAINED (%)	PASSED (%)
5/8	-4.00	16.000	0.00	0.00	100.00
5/16	-3.00	8.000	0.00	0.00	100.00
5	-2.00	4.000	0.68	0.28	99.72
7	-1.50	2.800	2.15	0.87	99.13
10	-1.00	2.000	2.93	1.19	98.81
14	-0.50	1.400	4.62	1.88	98.12
18	0.00	1.000	9.04	3.68	96.32
25	0.50	0.710	17.42	7.09	92.91
35	1.00	0.500	18.86	7.67	92.33
45	1.50	0.355	69.12	28.12	71.88
60	2.00	0.250	119.60	48.66	51.34
80	2.50	0.180	182.48	74.25	25.75
120	3.00	0.125	235.89	95.98	4.02
170	3.50	0.090	242.50	98.67	1.33
200	3.75	0.075	242.62	98.71	1.29
230	4.00	0.063	244.22	99.37	0.63
PAN			245.78	100.00	0.00

PHI(5): 0.19 PHI(16): 1.20 PHI(25): 1.42
PHI(50): 2.03 PHI(75): 2.52 PHI(84): 2.72
PHI(95): 2.98

SIEVE LOSS(g): 0.00 SILT/CLAY: 1.29%
SKEWNESS: -0.579 KURTOSIS: 1.043

GRAPHIC METHOD

MEAN (PHI): 1.83 SORTING: 0.76
MEAN (mm) : 0.28 MEDIAN (mm): 0.25
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

MOMENT METHOD

MEAN (PHI): 1.90 SORTING: 0.87
MEAN (mm) : 0.27

DATA FILE NAME: DB99-12#3.TAB

GRADATION ANALYSIS REPORT
DELRAY BEACH VIBRACORES 1999
TESTED BY: RW ON: 8/99

SAMPLE NO.: DB99-12 S#4
SAMPLE ELEV. (FT. NGVD):
SAMPLE DEPTH (FT.): 3.0
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 257.22
SAMPLE WEIGHT AFTER WASH (GRAMS): 254.77

SIEVE SIZE	PHI SIZE	MESH SIZE (mm)	RETAINED (GRAMS)	RETAINED (%)	PASSED (%)
5/8	-4.00	16.000	0.00	0.00	100.00
5/16	-3.00	8.000	10.11	3.93	96.07
5	-2.00	4.000	14.98	5.82	94.18
7	-1.50	2.800	19.21	7.47	92.53
10	-1.00	2.000	26.82	10.43	89.57
14	-0.50	1.400	41.17	16.01	83.99
18	0.00	1.000	57.72	22.44	77.56
25	0.50	0.710	85.82	33.36	66.64
35	1.00	0.500	132.72	51.60	48.40
45	1.50	0.355	167.37	65.07	34.93
60	2.00	0.250	201.54	78.35	21.65
80	2.50	0.180	232.02	90.20	9.80
120	3.00	0.125	251.49	97.77	2.23
170	3.50	0.090	254.61	98.99	1.01
200	3.75	0.075	254.69	99.02	0.98
230	4.00	0.063	255.93	99.50	0.50
PAN			257.22	100.00	0.00

PHI(5): -2.44 PHI(16): -0.50 PHI(25): 0.12
PHI(50): 0.96 PHI(75): 1.87 PHI(84): 2.24
PHI(95): 2.82

SIEVE LOSS(g): 0.00 SILT/CLAY: 0.98%
SKEWNESS: -0.559 KURTOSIS: 1.225

GRAPHIC METHOD
MEAN (PHI): 0.62 SORTING: 1.37
MEAN (mm) : 0.65 MEDIAN (mm): 0.52
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

MOMENT METHOD
MEAN (PHI): 0.79 SORTING: 1.49
MEAN (mm) : 0.58

DATA FILE NAME: DB99-12#4.TAB

GRADATION ANALYSIS REPORT
DELRAY BEACH VIBRACORES 1999
TESTED BY: RW ON: 8/99

SAMPLE NO.: DB99-12 S#5
SAMPLE ELEV. (FT. NGVD):
SAMPLE DEPTH (FT.): 5.0
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 156.45
SAMPLE WEIGHT AFTER WASH (GRAMS): 154.38

SIEVE SIZE	PHI SIZE	MESH SIZE (mm)	RETAINED (GRAMS)	RETAINED (%)	PASSED (%)
5/8	-4.00	16.000	0.00	0.00	100.00
5/16	-3.00	8.000	0.00	0.00	100.00
5	-2.00	4.000	0.05	0.03	99.97
7	-1.50	2.800	0.26	0.17	99.83
10	-1.00	2.000	0.63	0.40	99.60
14	-0.50	1.400	1.58	1.01	98.99
18	0.00	1.000	3.14	2.01	97.99
25	0.50	0.710	6.52	4.17	95.83
35	1.00	0.500	16.04	10.25	89.75
45	1.50	0.355	31.04	19.84	80.16
60	2.00	0.250	68.22	43.60	56.40
80	2.50	0.180	122.21	78.11	21.89
120	3.00	0.125	150.48	96.18	3.82
170	3.50	0.090	154.23	98.58	1.42
200	3.75	0.075	154.26	98.60	1.40
230	4.00	0.063	155.36	99.30	0.70
PAN			156.41	99.97	0.03

PHI(5): 0.57 PHI(16): 1.30 PHI(25): 1.61
PHI(50): 2.09 PHI(75): 2.45 PHI(84): 2.66
PHI(95): 2.97

SIEVE LOSS(g): 0.04 SILT/CLAY: 1.40%
SKEWNESS: -0.477 KURTOSIS: 1.162

GRAPHIC METHOD
MEAN (PHI): 1.92 SORTING: 0.68
MEAN (mm) : 0.26 MEDIAN (mm): 0.23
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

MOMENT METHOD
MEAN (PHI): 1.97 SORTING: 0.75
MEAN (mm) : 0.26

DATA FILE NAME: DB99-12#5.TAB

GRADATION ANALYSIS REPORT
DELRAY BEACH VIBRACORES 1999
TESTED BY: RW ON: 8/99

SAMPLE NO.: DB99-12 S#6
SAMPLE ELEV. (FT. NGVD):
SAMPLE DEPTH (FT.): 10.0
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 169.34
SAMPLE WEIGHT AFTER WASH (GRAMS): 167.01

SIEVE SIZE	PHI SIZE	MESH SIZE (mm)	RETAINED (GRAMS)	RETAINED (%)	PASSED (%)
5/8	-4.00	16.000	0.00	0.00	100.00
5/16	-3.00	8.000	0.00	0.00	100.00
5	-2.00	4.000	0.16	0.09	99.91
7	-1.50	2.800	0.46	0.27	99.73
10	-1.00	2.000	2.00	1.18	98.82
14	-0.50	1.400	3.67	2.17	97.83
18	0.00	1.000	5.81	3.43	96.57
25	0.50	0.710	10.50	6.20	93.80
35	1.00	0.500	24.67	14.57	85.43
45	1.50	0.355	45.91	27.11	72.89
60	2.00	0.250	92.34	54.53	45.47
80	2.50	0.180	141.05	83.29	16.71
120	3.00	0.125	164.02	96.86	3.14
170	3.50	0.090	166.89	98.55	1.45
200	3.75	0.075	166.93	98.58	1.42
230	4.00	0.063	168.14	99.29	0.71
PAN			169.32	99.99	0.01

PHI(5): 0.28 PHI(16): 1.06 PHI(25): 1.42
PHI(50): 1.92 PHI(75): 2.36 PHI(84): 2.53
PHI(95): 2.93

SIEVE LOSS(g): 0.02 SILT/CLAY: 1.42%
SKEWNESS: -0.422 KURTOSIS: 1.155

GRAPHIC METHOD

MEAN (PHI): 1.74 SORTING: 0.73
MEAN (mm) : 0.30 MEDIAN (mm): 0.26
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

MOMENT METHOD

MEAN (PHI): 1.80 SORTING: 0.83
MEAN (mm) : 0.29

DATA FILE NAME: DB99-12#6.TAB

GRADATION ANALYSIS REPORT
 DELRAY BEACH VIBRACORES 1999
 TESTED BY: RW ON: 8/99

SAMPLE NO.: DB99-12 S#7
 SAMPLE ELEV. (FT. NGVD):
 SAMPLE DEPTH (FT.): 15.0
 SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 159.42
 SAMPLE WEIGHT AFTER WASH (GRAMS): 156.91

SIEVE SIZE	PHI SIZE	MESH SIZE (mm)	RETAINED (GRAMS)	RETAINED (%)	PASSED (%)
5/8	-4.00	16.000	0.00	0.00	100.00
5/16	-3.00	8.000	0.00	0.00	100.00
5	-2.00	4.000	0.01	0.01	99.99
7	-1.50	2.800	0.17	0.11	99.89
10	-1.00	2.000	0.88	0.55	99.45
14	-0.50	1.400	1.45	0.91	99.09
18	0.00	1.000	2.37	1.49	98.51
25	0.50	0.710	4.52	2.84	97.16
35	1.00	0.500	12.27	7.70	92.30
45	1.50	0.355	26.76	16.79	83.21
60	2.00	0.250	64.27	40.31	59.69
80	2.50	0.180	116.62	73.15	26.85
120	3.00	0.125	151.51	95.04	4.96
170	3.50	0.090	156.72	98.31	1.69
200	3.75	0.075	156.82	98.37	1.63
230	4.00	0.063	158.13	99.19	0.81
PAN			159.42	100.00	0.00

PHI (5): 0.72 PHI (16): 1.46 PHI (25): 1.67
 PHI (50): 2.15 PHI (75): 2.54 PHI (84): 2.75
 PHI (95): 3.00

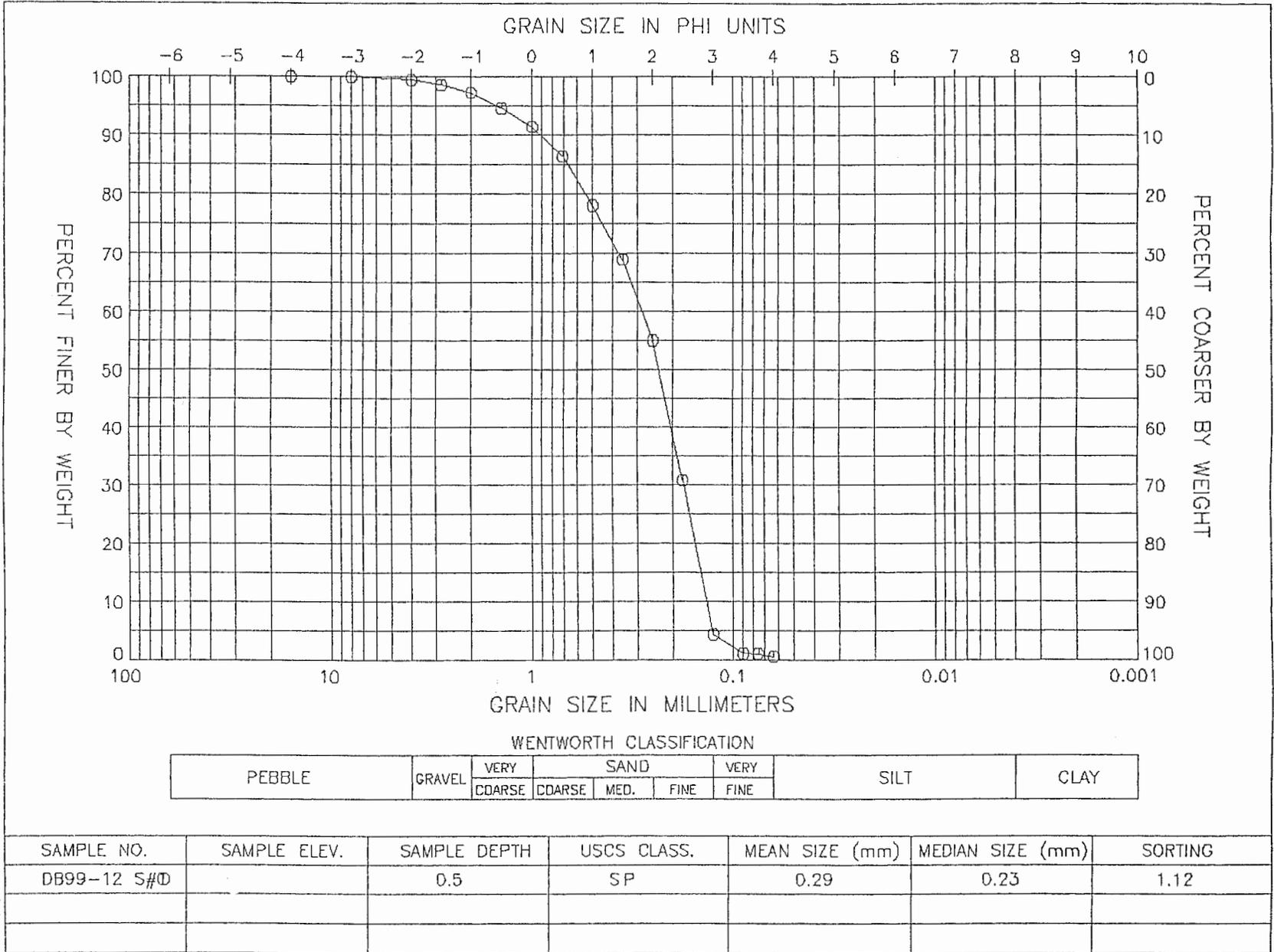
SIEVE LOSS(g): 0.00 SILT/CLAY: 1.63%
 SKEWNESS: -0.444 KURTOSIS: 1.075

GRAPHIC METHOD
 MEAN (PHI): 2.01 SORTING: 0.65
 MEAN (mm) : 0.25 MEDIAN (mm): 0.23
 NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

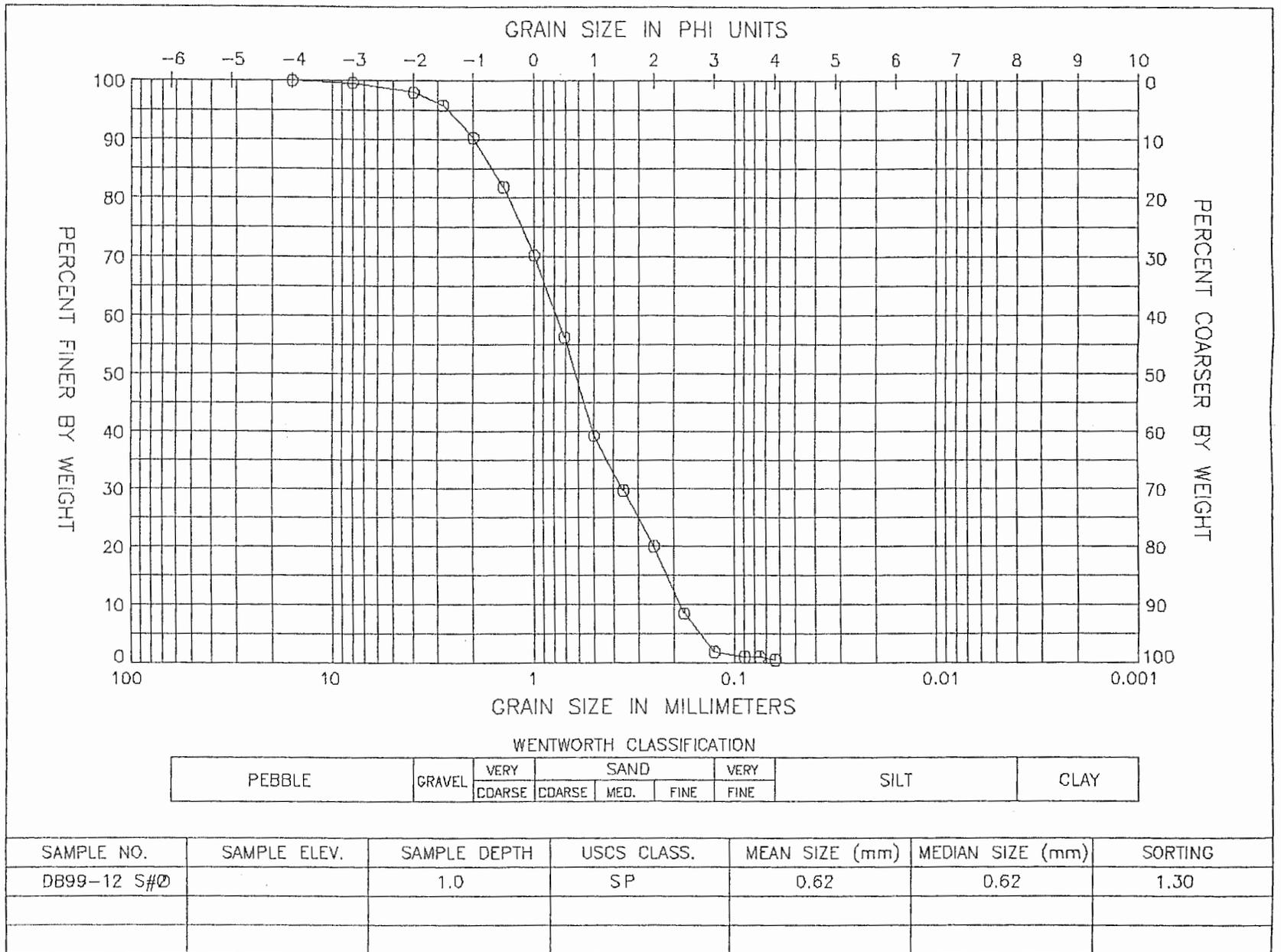
MOMENT METHOD
 MEAN (PHI): 2.05 SORTING: 0.73
 MEAN (mm) : 0.24

DATA FILE NAME: DB99-12#7.TAB

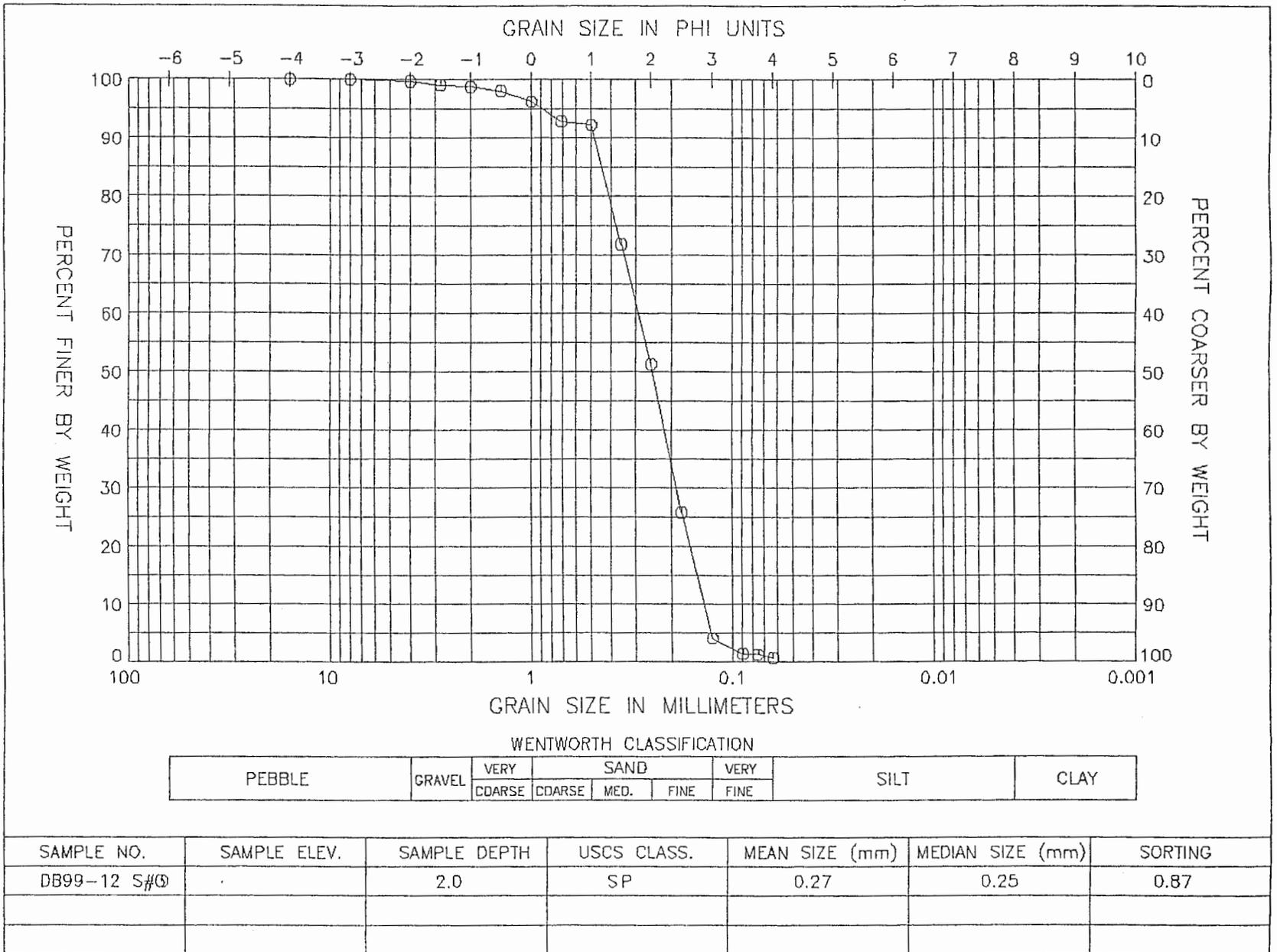
GRAIN SIZE DISTRIBUTION CURVE
 DELRAY BEACH VIBRACORES 1999



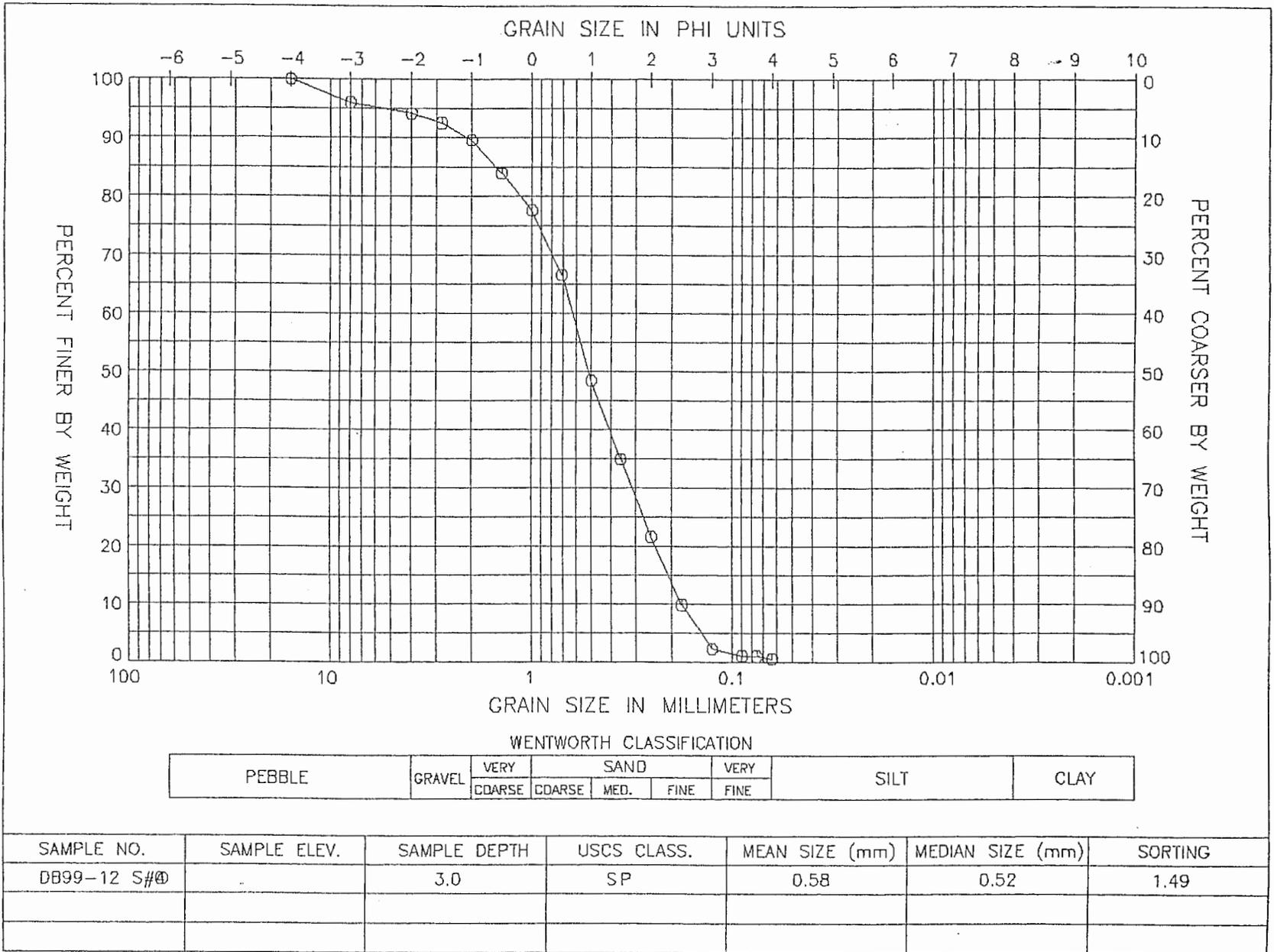
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 DELRAY BEACH VIBRACORES 1999



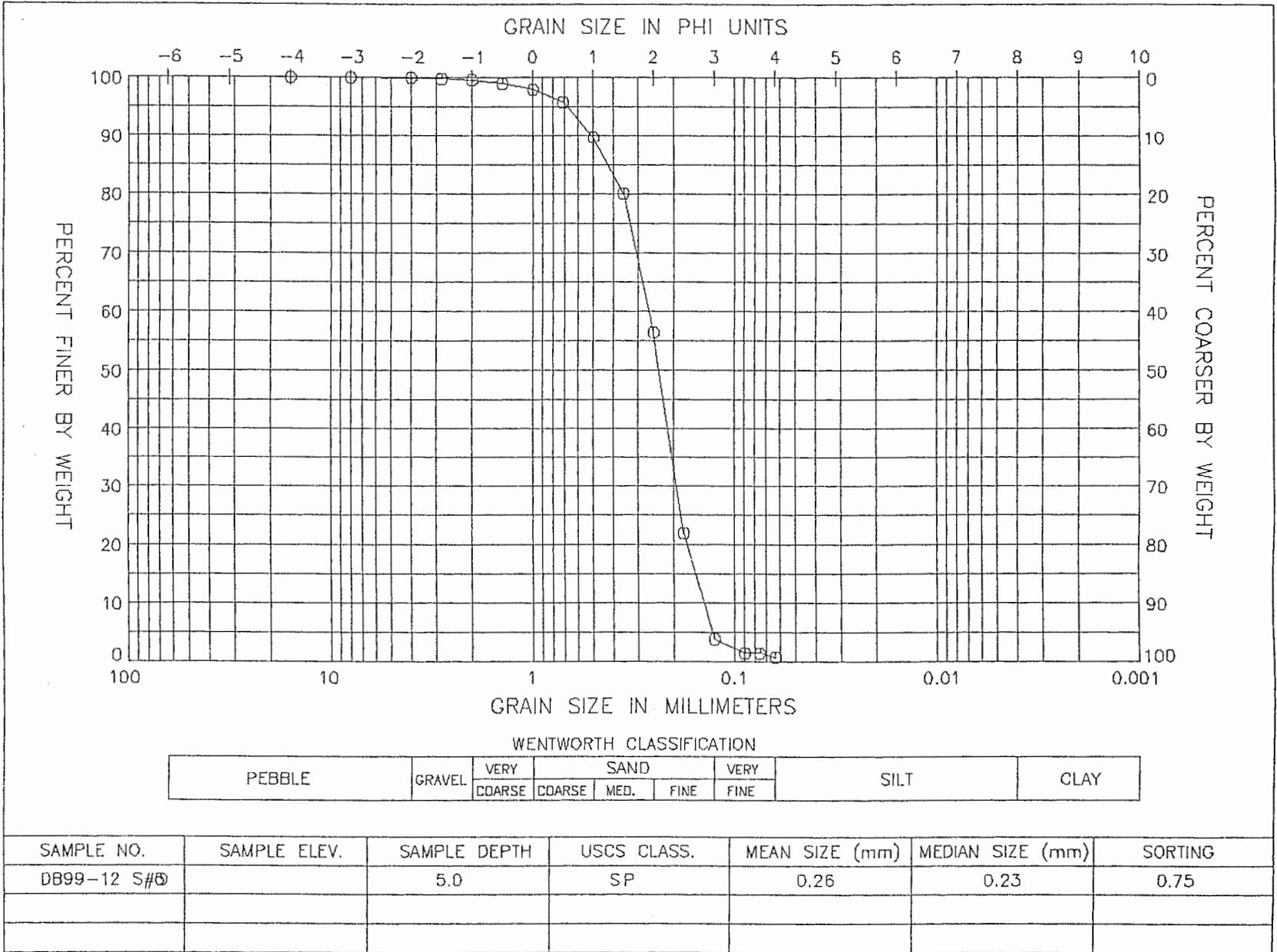
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 DELRAY BEACH VIBRACORES 1999



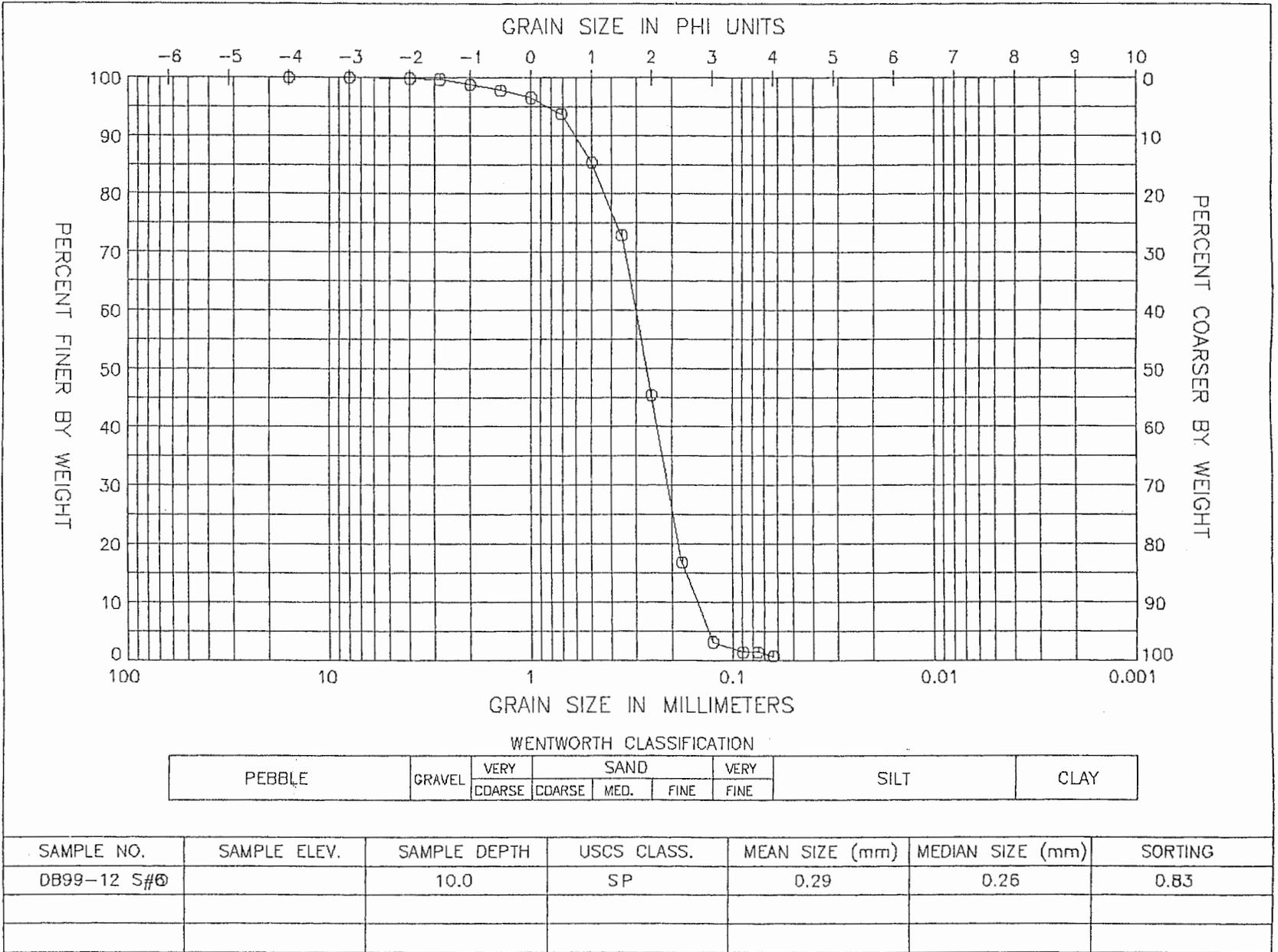
GRAIN SIZE DISTRIBUTION CURVE
 DELRAY BEACH VIBRACORES 1999



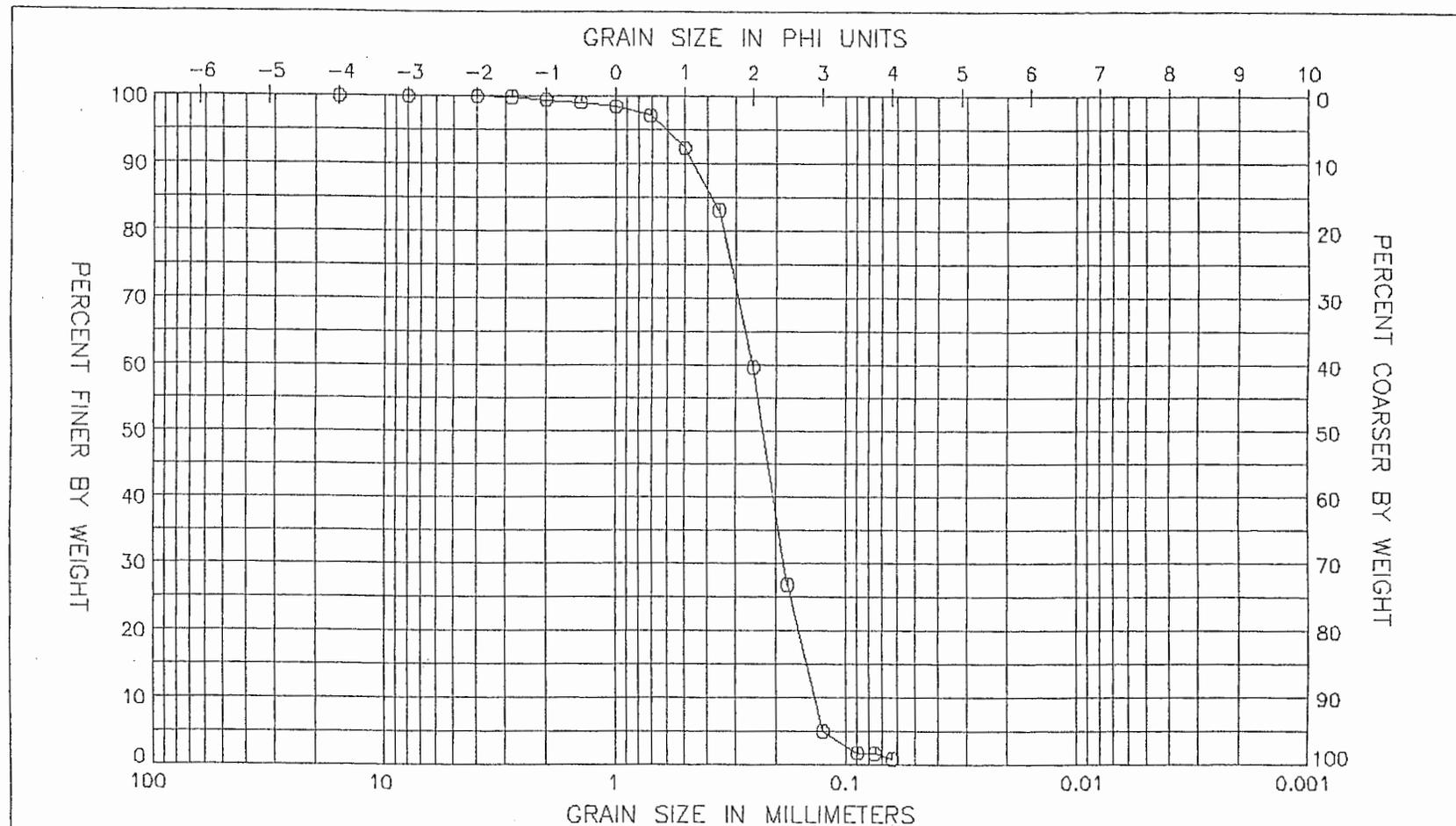
GRAIN SIZE DISTRIBUTION CURVE
 DELRAY BEACH VIBRACORES 1999



GRAIN SIZE DISTRIBUTION CURVE
 DELRAY BEACH VIBRACORES 1999



GRAIN SIZE DISTRIBUTION CURVE
 DELRAY BEACH VIBRACORES 1999



WENTWORTH CLASSIFICATION

PEBBLE	GRAVEL	VERY	SAND		VERY	SILT	CLAY
		COARSE	COARSE	MED.	FINE		

SAMPLE NO.	SAMPLE ELEV.	SAMPLE DEPTH	USCS CLASS.	MEAN SIZE (mm)	MEDIAN SIZE (mm)	SORTING
DB99-12 S#D		15.0	SP	0.24	0.23	0.73