

<b>DRILLING LOG</b>		<b>DIVISION:</b> South Atlantic	<b>INSTALLATION:</b> Jacksonville District	<b>SHEET</b> 1 of 1
<b>1. PROJECT</b>		DELRAY BEACH		
<b>2. LOCATION</b>		(Coordinates or Station) X= 966,347 Y= 773,263		
<b>3. DRILLING AGENCY:</b>		ALPINE SEISMIC		
<b>4. HOLE NO.</b>		(As shown on drawing title and file number) DB-99-7		
<b>5. NAME OF DRILLER</b>		ROB SUSKO		
<b>6. DIRECTION OF HOLE</b>		VERTICAL		
<b>7. THICKNESS OF BURDEN</b>		0.0 FT		
<b>8. DEPTH DRILLED INTO ROCK</b>		0.0 FT		
<b>9. TOTAL DEPTH OF HOLE</b>		19.0' FT		
<b>10. SIZE AND TYPE OF BIT</b>		3"		
<b>11. DATUM FOR ELEVATION SHOWN</b>		(TBM or MSL) NGVD		
<b>12. MANUFACTURER'S DESIGNATION OF DRILL</b>		ALPINE PNEUMATIC		
<b>13. TOT NO. OF OVERBURDEN SAMPLES TAKEN</b>		disturbed: 0.0 undisturbed: 0.0		
<b>14. TOTAL NO. OF CORE BOXES</b>		1		
<b>16. ELEVATION GROUND WATER</b>				
<b>16. DATE HOLE</b>		Started Completed 4/20/99 4/20/99		
<b>17. ELEVATION TOP OF HOLE</b>		-35.0 ft.		
<b>18. TOTAL CORE RECOVERY FOR BORING</b>		95%		
<b>19. SIGNATURE OF GEOLOGIST</b>		IBRAHIM DREMALI		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS
-35	0					SP
	1		SAND, fine-grained, little shell hash, Gray (5Y-6/1) (SP)		1	Sample #1, Depth = 1.5' 0.35 mm, 1.10 phi sorting 2.76% silt
-37.2	2					
	3		fine-grained, little shell hash, Gray (5Y-6/1) (SP) from -37.2' to -40.5'		2	Sample #2, Depth = 3.6' 0.26 mm, 0.73 phi sorting 1.5% silt
	4					
-40.5	5					
	6					
	7		fine-grained, little shell hash, 0.5" whole shell at -41.1' Gray (5Y-6/1) (SP) from -40.5' to -43.9'		3	Sample #3, Depth = 7.0' 0.28 mm, 0.80 phi sorting 1.0% silt
	8					
-43.9	9					
	10				4	Sample #4, Depth = 9.8' 0.24 mm, 0.56 phi sorting 1.31% silt
	11					
	12					
	13		fine-grained, little shell hash, 0.5" whole shell at -51.6' Gray (5Y-6/1) (SP) from -43.9' to -54.0'		5	Sample #5, Depth = 13.0' 0.22 mm, 0.64 phi sorting 1.11% silt
	14					
	15					
	16					
	17				6	Sample #6, Depth = 16.0' 0.27 mm, 0.85 phi sorting 1.01% silt
	18					
-54	19		End of Boring			
	20					
	21					
	22					
	23					
	24					

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

PROJECT: Delray Beach

HOLE NUMBER:

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

SAMPLE NO.: DB99-7 S#1  
 SAMPLE ELEV. (FT. NGVD):  
 SAMPLE DEPTH (FT.): 1.5  
 SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 137.75  
 SAMPLE WEIGHT AFTER WASH (GRAMS): 133.98

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	1.53	1.11	98.89
7	-1.50	2.800	2.43	1.76	98.24
10	-1.00	2.000	4.29	3.11	96.89
14	-0.50	1.400	8.21	5.96	94.04
18	0.00	1.000	12.78	9.28	90.72
25	0.50	0.710	20.53	14.90	85.10
35	1.00	0.500	36.01	26.14	73.86
45	1.50	0.355	56.58	41.07	58.93
60	2.00	0.250	86.17	62.56	37.44
80	2.50	0.180	115.32	83.72	16.28
120	3.00	0.125	131.99	95.82	4.18
170	3.50	0.090	133.90	97.21	2.79
200	3.75	0.075	133.95	97.24	2.76
230	4.00	0.063	135.85	98.62	1.38
PAN			137.74	99.99	0.01

PHI(5): -0.67            PHI(16): 0.55            PHI(25): 0.95  
 PHI(50): 1.71            PHI(75): 2.29            PHI(84): 2.51  
 PHI(95): 2.97

SIEVE LOSS(g): 0.01            SILT/CLAY: 2.76%  
 SKEWNESS: -0.570            KURTOSIS: 1.108

GRAPHIC METHOD  
 MEAN (PHI): 1.41            SORTING: 0.98  
 MEAN (mm) : 0.38            MEDIAN (mm): 0.31  
 NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

MOMENT METHOD  
 MEAN (PHI): 1.50            SORTING: 1.10  
 MEAN (mm) : 0.35

DATA FILE NAME: DB99-7#1.TAB

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

SAMPLE NO.: DB99-7 S#2  
SAMPLE ELEV. (FT. NGVD):  
SAMPLE DEPTH (FT.): 3.6  
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 175.45  
SAMPLE WEIGHT AFTER WASH (GRAMS): 172.88

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	0.07	0.04	99.96
7	-1.50	2.800	0.32	0.18	99.82
10	-1.00	2.000	0.74	0.42	99.58
14	-0.50	1.400	1.54	0.88	99.12
18	0.00	1.000	2.88	1.64	98.36
25	0.50	0.710	5.75	3.28	96.72
35	1.00	0.500	14.96	8.53	91.47
45	1.50	0.355	35.17	20.05	79.95
60	2.00	0.250	79.01	45.03	54.97
80	2.50	0.180	138.12	78.72	21.28
120	3.00	0.125	168.59	96.09	3.91
170	3.50	0.090	172.65	98.40	1.60
200	3.75	0.075	172.82	98.50	1.50
230	4.00	0.063	174.17	99.27	0.73
PAN			175.45	100.00	0.00

PHI(5): 0.66                      PHI(16): 1.32                      PHI(25): 1.60  
PHI(50): 2.07                      PHI(75): 2.44                      PHI(84): 2.65  
PHI(95): 2.97

SIEVE LOSS(g): 0.00                      SILT/CLAY: 1.50%  
SKEWNESS: -0.388                      KURTOSIS: 1.117

GRAPHIC METHOD

MEAN (PHI): 1.94                      SORTING: 0.66  
MEAN (mm) : 0.26                      MEDIAN (mm): 0.24  
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

MOMENT METHOD

MEAN (PHI): 1.97                      SORTING: 0.73  
MEAN (mm) : 0.26

DATA FILE NAME: DB99-7#2.TAB

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

SAMPLE NO.: DB99-7 S#3  
SAMPLE ELEV. (FT. NGVD):  
SAMPLE DEPTH (FT.): 7.0  
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 215.01  
SAMPLE WEIGHT AFTER WASH (GRAMS): 212.96

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	0.34	0.16	99.84
7	-1.50	2.800	0.78	0.36	99.64
10	-1.00	2.000	1.81	0.84	99.16
14	-0.50	1.400	3.74	1.74	98.26
18	0.00	1.000	6.51	3.03	96.97
25	0.50	0.710	12.05	5.60	94.40
35	1.00	0.500	27.04	12.58	87.42
45	1.50	0.355	53.16	24.72	75.28
60	2.00	0.250	111.69	51.95	48.05
80	2.50	0.180	179.18	83.34	16.66
120	3.00	0.125	208.46	96.95	3.05
170	3.50	0.090	212.77	98.96	1.04
200	3.75	0.075	212.85	99.00	1.00
230	4.00	0.063	213.93	99.50	0.50
PAN			214.98	99.99	0.01

PHI(5): 0.38                      PHI(16): 1.14                      PHI(25): 1.51  
PHI(50): 1.96                      PHI(75): 2.37                      PHI(84): 2.52  
PHI(95): 2.93

SIEVE LOSS(g): 0.03                      SILT/CLAY: 1.00%  
SKEWNESS: -0.446                      KURTOSIS: 1.210

GRAPHIC METHOD

MEAN (PHI): 1.79                      SORTING: 0.69  
MEAN (mm): 0.29                      MEDIAN (mm): 0.26

NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

MOMENT METHOD

MEAN (PHI): 1.84                      SORTING: 0.80  
MEAN (mm): 0.28

DATA FILE NAME: DB99-7#3.TAB

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

SAMPLE NO.: DB99-7 S#4  
SAMPLE ELEV. (FT. NGVD):  
SAMPLE DEPTH (FT.): 9.8  
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 255.52  
SAMPLE WEIGHT AFTER WASH (GRAMS): 252.30

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	0.03	0.01	99.99
7	-1.50	2.800	0.03	0.01	99.99
10	-1.00	2.000	0.20	0.08	99.92
14	-0.50	1.400	0.40	0.16	99.84
18	0.00	1.000	1.11	0.43	99.57
25	0.50	0.710	2.69	1.05	98.95
35	1.00	0.500	9.77	3.82	96.18
45	1.50	0.355	31.30	12.25	87.75
60	2.00	0.250	106.48	41.67	58.33
80	2.50	0.180	208.10	81.44	18.56
120	3.00	0.125	248.49	97.25	2.75
170	3.50	0.090	252.12	98.67	1.33
200	3.75	0.075	252.17	98.69	1.31
230	4.00	0.063	253.82	99.33	0.67
PAN			255.49	99.99	0.01

PHI(5): 1.07            PHI(16): 1.56            PHI(25): 1.72  
PHI(50): 2.10           PHI(75): 2.42            PHI(84): 2.58  
PHI(95): 2.93

SIEVE LOSS(g): 0.03                            SILT/CLAY: 1.31%  
SKEWNESS: -0.207                                KURTOSIS: 1.085

GRAPHIC METHOD

MEAN (PHI): 2.05                                SORTING: 0.51  
MEAN (mm) : 0.24                                MEDIAN (mm): 0.23  
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

MOMENT METHOD

MEAN (PHI): 2.06                                SORTING: 0.56  
MEAN (mm) : 0.24

DATA FILE NAME: DB99-7#4.TAB

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

SAMPLE NO.: DB99-7 S#5  
SAMPLE ELEV. (FT. NGVD):  
SAMPLE DEPTH (FT.): 13.0  
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 157.91  
SAMPLE WEIGHT AFTER WASH (GRAMS): 156.20

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	0.32	0.20	99.80
7	-1.50	2.800	0.36	0.23	99.77
10	-1.00	2.000	0.78	0.49	99.51
14	-0.50	1.400	1.06	0.67	99.33
18	0.00	1.000	1.46	0.92	99.08
25	0.50	0.710	2.69	1.70	98.30
35	1.00	0.500	6.46	4.09	95.91
45	1.50	0.355	16.38	10.37	89.63
60	2.00	0.250	47.66	30.18	69.82
80	2.50	0.180	113.71	72.01	27.99
120	3.00	0.125	150.61	95.38	4.62
170	3.50	0.090	156.01	98.80	1.20
200	3.75	0.075	156.15	98.89	1.11
230	4.00	0.063	157.02	99.43	0.57
PAN			157.87	99.97	0.03

PHI(5): 1.07                      PHI(16): 1.64                      PHI(25): 1.87  
PHI(50): 2.24                      PHI(75): 2.56                      PHI(84): 2.76  
PHI(95): 2.99

SIEVE LOSS(g): 0.04                      SILT/CLAY: 1.11%  
SKEWNESS: -0.367                      KURTOSIS: 1.132

GRAPHIC METHOD

MEAN (PHI): 2.14                      SORTING: 0.56  
MEAN (mm) : 0.23                      MEDIAN (mm): 0.21  
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

MOMENT METHOD

MEAN (PHI): 2.17                      SORTING: 0.64  
MEAN (mm) : 0.22

DATA FILE NAME: DB99-7#5.TAB

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

SAMPLE NO.: DB99-7 S#6  
SAMPLE ELEV. (FT. NGVD):  
SAMPLE DEPTH (FT.): 16.0  
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 182.95  
SAMPLE WEIGHT AFTER WASH (GRAMS): 181.14

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	0.48	0.26	99.74
7	-1.50	2.800	0.50	0.27	99.73
10	-1.00	2.000	3.50	1.91	98.09
14	-0.50	1.400	3.51	1.92	98.08
18	0.00	1.000	6.34	3.47	96.53
25	0.50	0.710	11.40	6.23	93.77
35	1.00	0.500	23.39	12.78	87.22
45	1.50	0.355	43.20	23.61	76.39
60	2.00	0.250	83.40	45.59	54.41
80	2.50	0.180	142.14	77.69	22.31
120	3.00	0.125	181.02	98.95	1.05
170	3.50	0.090	181.09	98.98	1.02
200	3.75	0.075	181.10	98.99	1.01
230	4.00	0.063	182.02	99.49	0.51
PAN			182.94	99.99	0.01

PHI(5): 0.28            PHI(16): 1.15            PHI(25): 1.53  
PHI(50): 2.07           PHI(75): 2.46           PHI(84): 2.65  
PHI(95): 2.91

SIEVE LOSS(g): 0.01                            SILT/CLAY: 1.01%  
SKEWNESS: -0.635                                KURTOSIS: 1.163

GRAPHIC METHOD

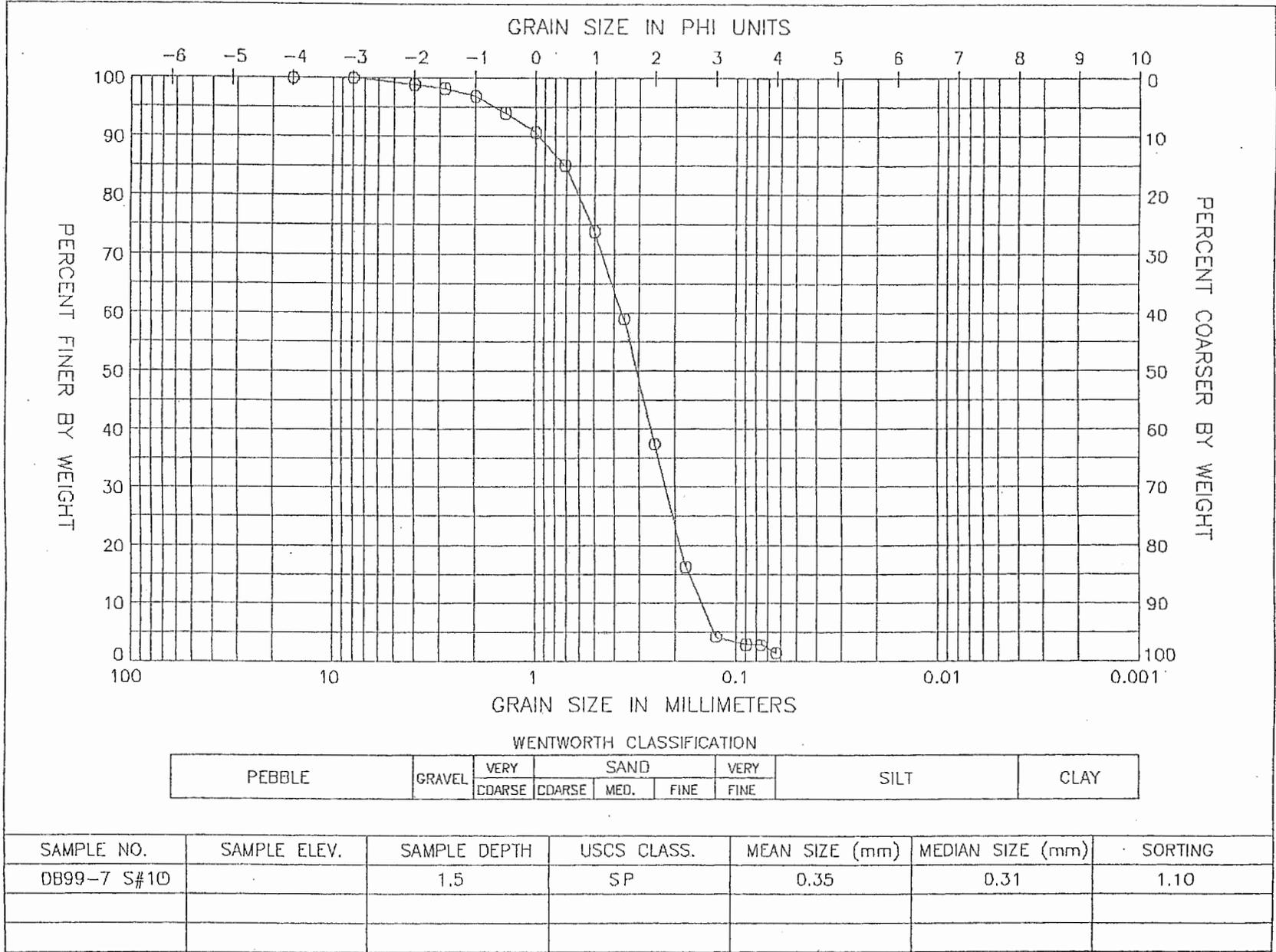
MEAN (PHI): 1.81                                SORTING: 0.75  
MEAN (mm) : 0.29                                MEDIAN (mm): 0.24  
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

MOMENT METHOD

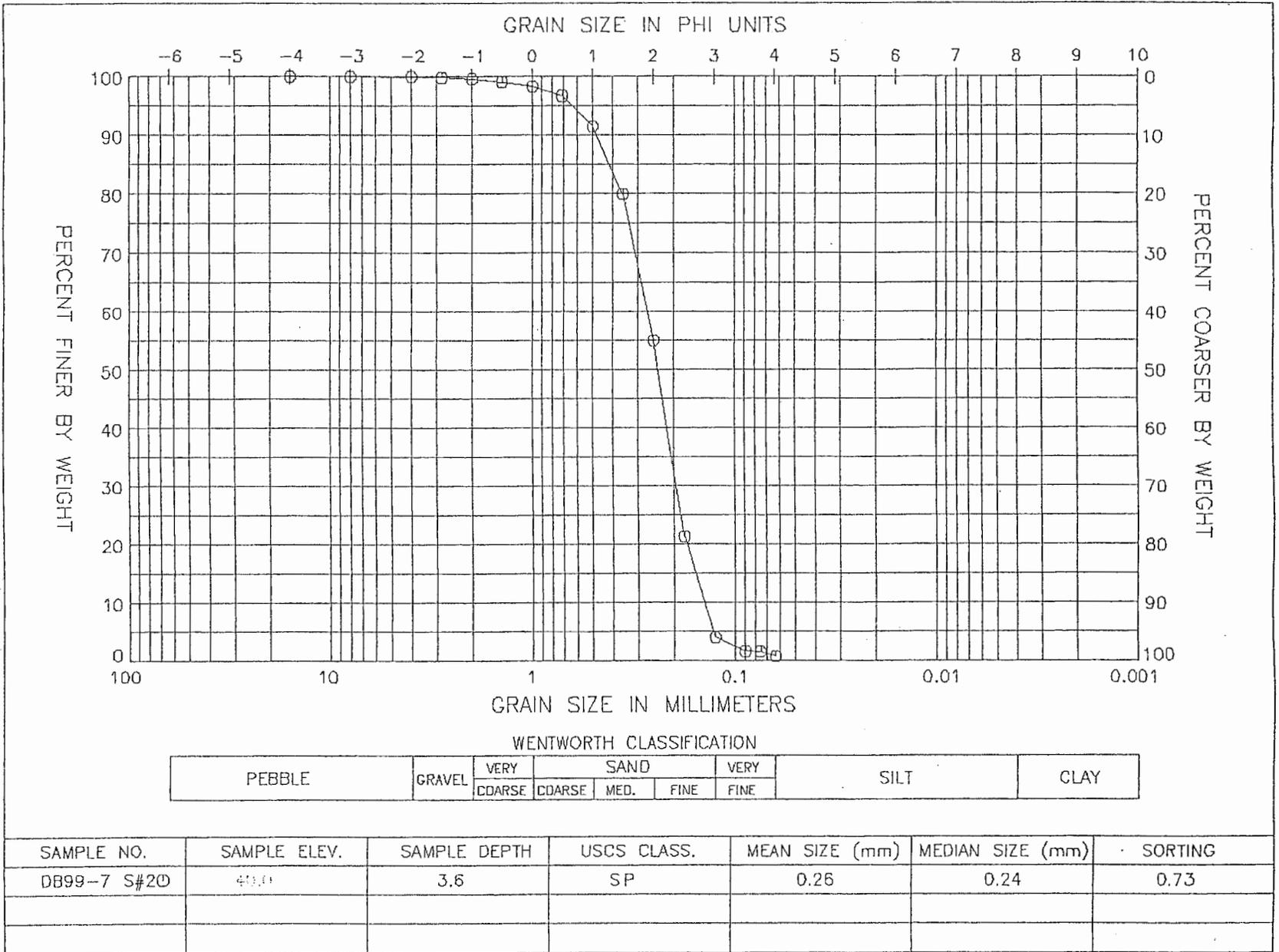
MEAN (PHI): 1.88                                SORTING: 0.85  
MEAN (mm) : 0.27

DATA FILE NAME: DB99-7#6.TAB

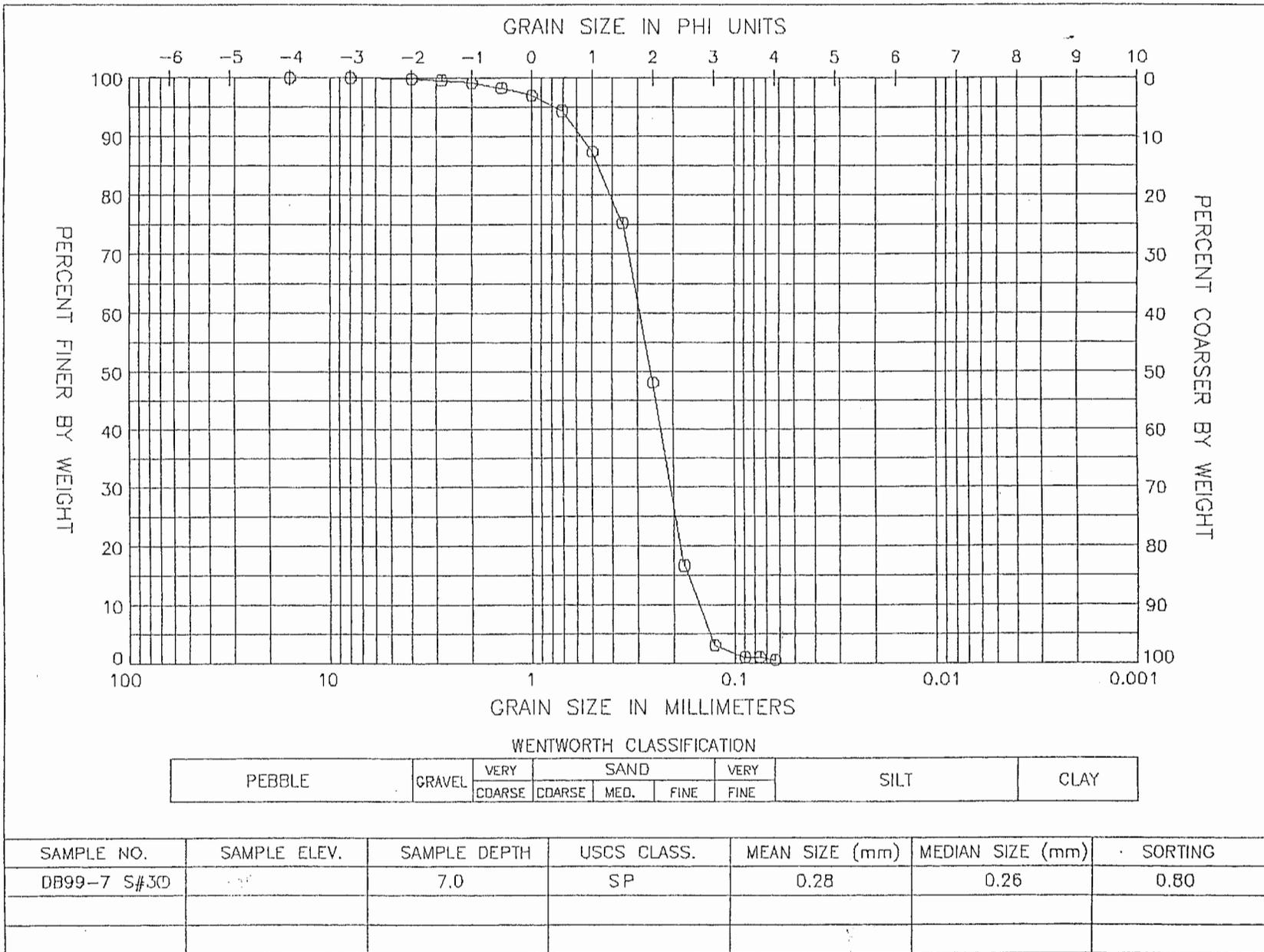
GRAIN SIZE DISTRIBUTION CURVE  
 DELRAY BEACH VIBRACORES 1999



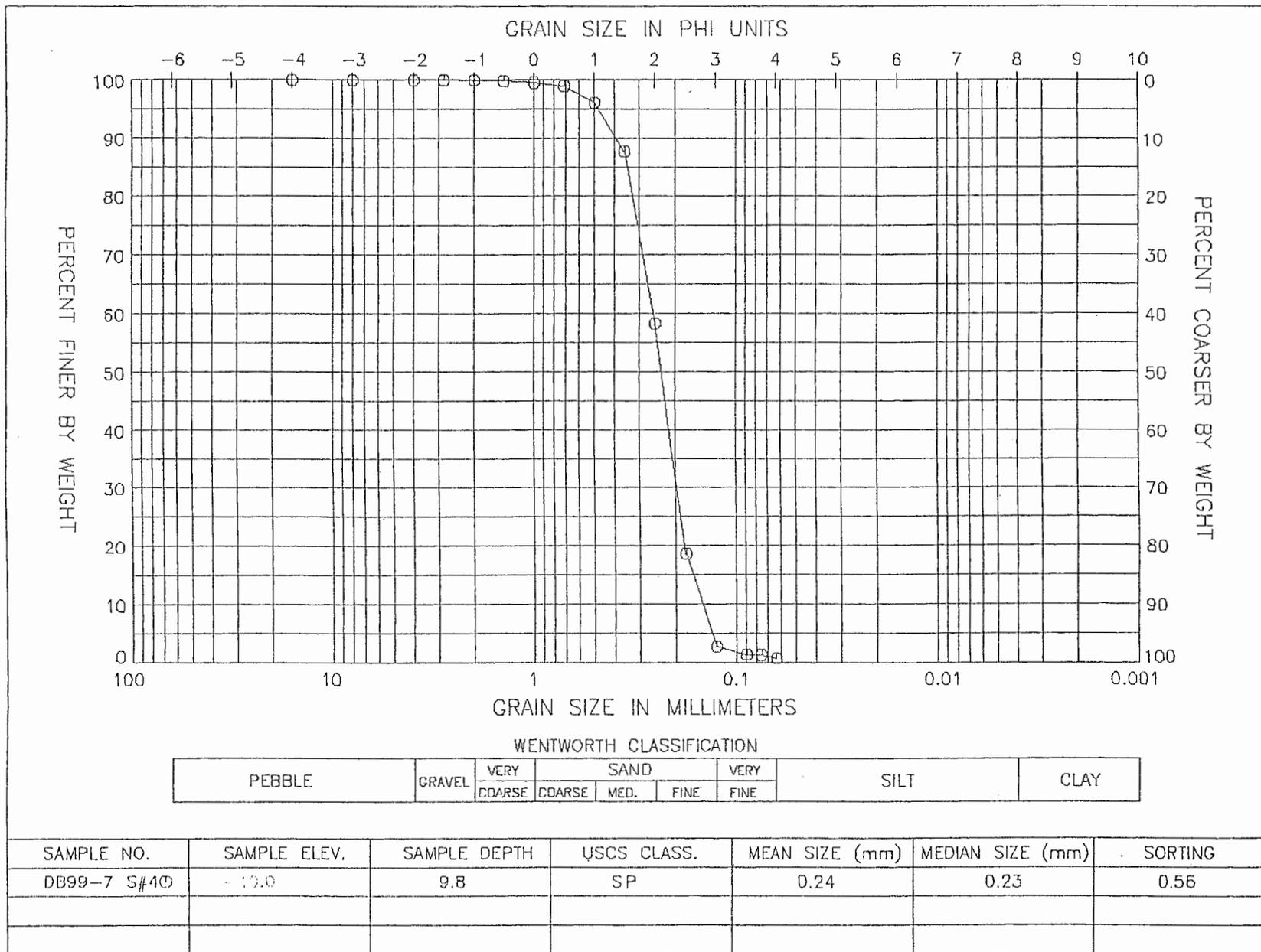
GRAIN SIZE DISTRIBUTION CURVE  
 DELRAY BEACH VIBRACORES 1999



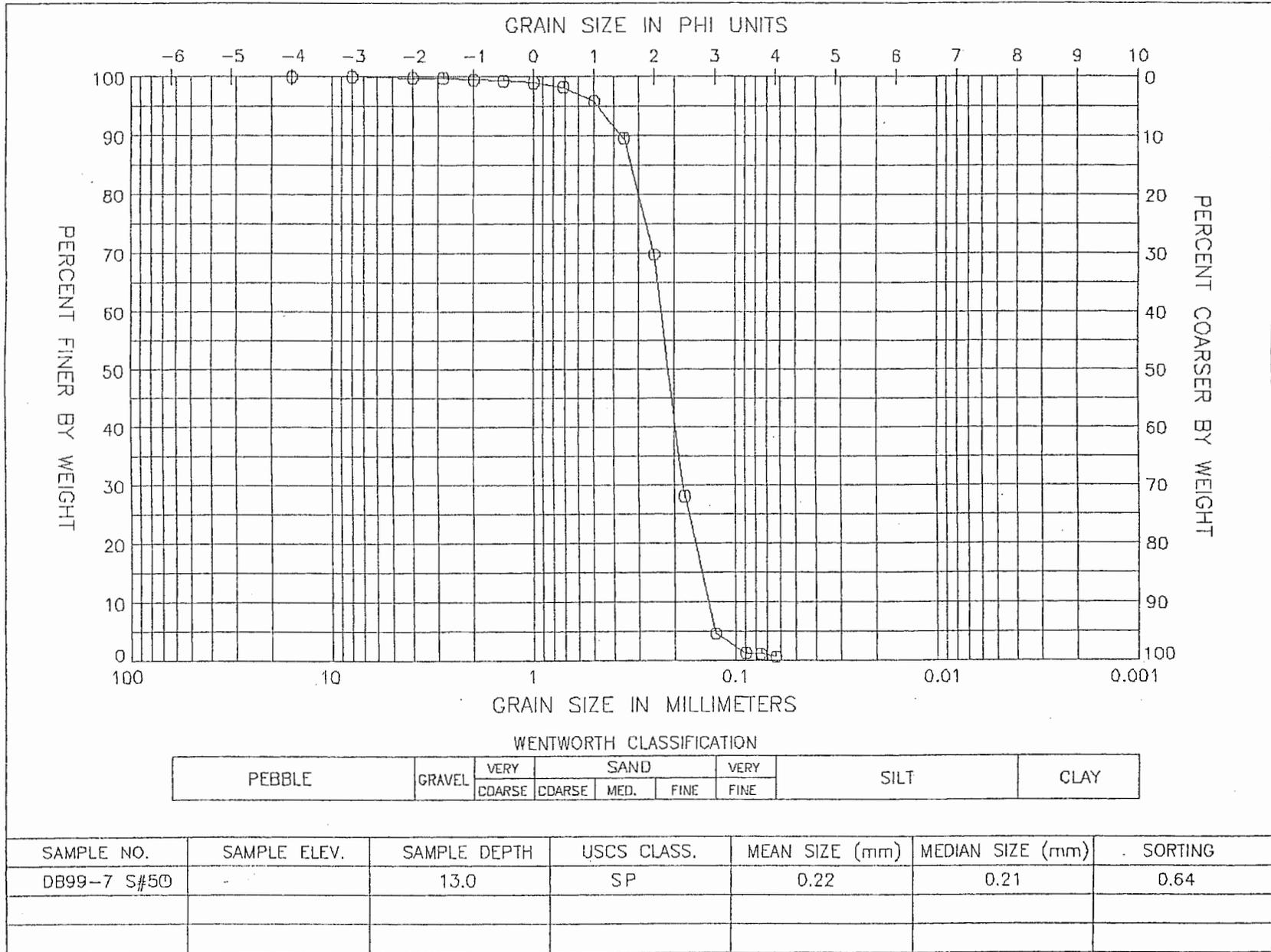
GRAIN SIZE DISTRIBUTION CURVE  
 DELRAY BEACH VIBRACORES 1999



GRAIN SIZE DISTRIBUTION CURVE  
 DELRAY BEACH VIBRACORES 1999



GRAIN SIZE DISTRIBUTION CURVE  
 DELRAY BEACH VIBRACORES 1999



GRAIN SIZE DISTRIBUTION CURVE  
 DELRAY BEACH VIBRACORES 1999

