

<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=967,054 Y=778,460		
<b>3. DRILLING AGENCY:</b>		ALPINE SEISMIC		
<b>4. HOLE NO.</b>		(As shown on drawing title and file number) DB-99-2		
<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>		18.4' 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>15. ELEVATION GROUND WATER</b>				
<b>16. DATE HOLE</b>		Started Completed 4/20/99 4/20/99		
<b>17. ELEVATION TOP OF HOLE</b>		-33.5 ft.		
<b>18. TOTAL CORE RECOVERY FOR BORING</b>		96%		
<b>19. SIGNATURE OF GEOLOGIST</b>		IBRAHIM DREMALI		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS
-33.5	0					SP
	1		SAND, fine-grained, little shell hash, Gray (5Y-5/1) (SP)		1	Sample #1, Depth = 1.0' 0.25 mm, 0.78 phi sorting 1.86% silt
-35.9	2					
-36.4	3		fine grained, trace shell hash, Gray (5Y-5/1) (SP) from -35.9' to -36.4'		2	Sample #2, Depth = 2.6' 0.21 mm, 0.67 phi sorting 2.33% silt
	4				3	Sample #3, Depth = 3.5' 0.25 mm, 0.75 phi sorting 1.74% silt
	5		fine-grained, trace shell hash, Gray (5Y-5/1) (SP) from -36.4' to -41.1'			
	6				4	Sample #4, Depth = 5.8' 0.22 mm, 0.71 phi sorting 1.47% silt
-41.1	7					
-42.1	8		fine-grained, trace shell hash, Gray (5Y-5/1) (SP) from -41.1' to -42.1'		5	Sample #5, Depth = 8.0' 0.30 mm, 0.84 phi sorting 1.07% silt
	9					
	10				6	Sample #6, Depth = 10.0' 0.24 mm, 0.81 phi sorting 1.10% silt
	11					
	12					
	13		fine-grained, trace shell hash, 0.5" coral fragment at 43.4', Gray (5Y-5/1) (SP) from -42.1' to -51.9'			
	14					
	15				7	Sample #7, Depth = 14.0' 0.23 mm, 0.62 phi sorting 1.16% silt
	16					
	17					
-51.9	18					
	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.: DB99-2 S#1  
SAMPLE ELEV. (FT. NGVD):  
SAMPLE DEPTH (FT.): 1.0  
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 259.77  
SAMPLE WEIGHT AFTER WASH (GRAMS): 255.01

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	0.17	0.07	99.93
7	-1.50	2.800	0.55	0.21	99.79
10	-1.00	2.000	1.69	0.65	99.35
14	-0.50	1.400	3.46	1.33	98.67
18	0.00	1.000	6.23	2.40	97.60
25	0.50	0.710	11.51	4.43	95.57
35	1.00	0.500	25.62	9.86	90.14
45	1.50	0.355	50.61	19.48	80.52
60	2.00	0.250	113.94	43.86	56.14
80	2.50	0.180	198.04	76.24	23.76
120	3.00	0.125	248.09	95.50	4.50
170	3.50	0.090	254.82	98.09	1.91
200	3.75	0.075	254.94	98.14	1.86
230	4.00	0.063	257.35	99.07	0.93
PAN			259.75	99.99	0.01

PHI(5): 0.55                      PHI(16): 1.32                      PHI(25): 1.61  
PHI(50): 2.09                      PHI(75): 2.48                      PHI(84): 2.70  
PHI(95): 2.99

SIEVE LOSS(g): 0.02                      SILT/CLAY: 1.86%  
SKEWNESS: -0.470                      KURTOSIS: 1.150

GRAPHIC METHOD

MEAN (PHI): 1.93                      SORTING: 0.69  
MEAN (mm) : 0.26                      MEDIAN (mm): 0.23  
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

MOMENT METHOD

MEAN (PHI): 1.97                      SORTING: 0.78  
MEAN (mm) : 0.25

DATA FILE NAME: DB99-2#1.TAB

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

SAMPLE NO.: DB99-2 S#2  
SAMPLE ELEV. (FT. NGVD):  
SAMPLE DEPTH (FT.): 2.6  
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 260.71  
SAMPLE WEIGHT AFTER WASH (GRAMS): 254.74

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	0.10	0.04	99.96
7	-1.50	2.800	0.24	0.09	99.91
10	-1.00	2.000	0.71	0.27	99.73
14	-0.50	1.400	1.60	0.61	99.39
18	0.00	1.000	2.81	1.08	98.92
25	0.50	0.710	5.44	2.09	97.91
35	1.00	0.500	11.46	4.40	95.60
45	1.50	0.355	23.06	8.85	91.15
60	2.00	0.250	67.41	25.86	74.14
80	2.50	0.180	161.31	61.87	38.13
120	3.00	0.125	239.63	91.91	8.09
170	3.50	0.090	254.34	97.56	2.44
200	3.75	0.075	254.64	97.67	2.33
230	4.00	0.063	257.66	98.83	1.17
PAN			260.68	99.99	0.01

PHI(5): 1.07                      PHI(16): 1.71                      PHI(25): 1.97  
PHI(50): 2.34                      PHI(75): 2.72                      PHI(84): 2.87  
PHI(95): 3.27

SIEVE LOSS(g): 0.03                      SILT/CLAY: 2.33%  
SKEWNESS: -0.284                      KURTOSIS: 1.216

GRAPHIC METHOD

MEAN (PHI): 2.25                      SORTING: 0.58  
MEAN (mm) : 0.21                      MEDIAN (mm): 0.20  
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

MOMENT METHOD

MEAN (PHI): 2.26                      SORTING: 0.67  
MEAN (mm) : 0.21

DATA FILE NAME: DB99-2#2.TAB

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

SAMPLE NO.: DB99-2 S#3  
SAMPLE ELEV. (FT. NGVD):  
SAMPLE DEPTH (FT.): 3.5  
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 265.56  
SAMPLE WEIGHT AFTER WASH (GRAMS): 261.05

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	0.40	0.15	99.85
7	-1.50	2.800	0.81	0.31	99.69
10	-1.00	2.000	1.68	0.63	99.37
14	-0.50	1.400	3.03	1.14	98.86
18	0.00	1.000	4.86	1.83	98.17
25	0.50	0.710	8.99	3.39	96.61
35	1.00	0.500	22.01	8.29	91.71
45	1.50	0.355	46.28	17.43	82.57
60	2.00	0.250	112.78	42.47	57.53
80	2.50	0.180	202.49	76.25	23.75
120	3.00	0.125	252.36	95.03	4.97
170	3.50	0.090	260.77	98.20	1.80
200	3.75	0.075	260.93	98.26	1.74
230	4.00	0.063	263.27	99.14	0.86
PAN			265.55	100.00	0.00

PHI(5): 0.66                      PHI(16): 1.42                      PHI(25): 1.65  
PHI(50): 2.11                      PHI(75): 2.48                      PHI(84): 2.71  
PHI(95): 3.00

SIEVE LOSS(g): 0.01                      SILT/CLAY: 1.74%  
SKEWNESS: -0.435                      KURTOSIS: 1.152

GRAPHIC METHOD

MEAN (PHI): 1.98                      SORTING: 0.64  
MEAN (mm) : 0.25                      MEDIAN (mm): 0.23  
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

MOMENT METHOD

MEAN (PHI): 2.01                      SORTING: 0.75  
MEAN (mm) : 0.25

DATA FILE NAME: DB99-2#3.TAB

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

SAMPLE NO.: DB99-2 S#4  
SAMPLE ELEV. (FT. NGVD):  
SAMPLE DEPTH (FT.): 5.8  
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 247.86  
SAMPLE WEIGHT AFTER WASH (GRAMS): 244.43

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	0.11	0.04	99.96
7	-1.50	2.800	0.33	0.13	99.87
10	-1.00	2.000	0.75	0.30	99.70
14	-0.50	1.400	1.55	0.63	99.37
18	0.00	1.000	2.92	1.18	98.82
25	0.50	0.710	6.48	2.61	97.39
35	1.00	0.500	15.36	6.20	93.80
45	1.50	0.355	32.12	12.96	87.04
60	2.00	0.250	83.83	33.82	66.18
80	2.50	0.180	167.37	67.53	32.47
120	3.00	0.125	231.29	93.31	6.69
170	3.50	0.090	244.00	98.44	1.56
200	3.75	0.075	244.22	98.53	1.47
230	4.00	0.063	246.11	99.30	0.70
PAN			247.86	100.00	0.00

PHI (5): 0.83                      PHI (16): 1.57                      PHI (25): 1.79  
PHI (50): 2.24                      PHI (75): 2.64                      PHI (84): 2.82  
PHI (95): 3.16

SIEVE LOSS(g): 0.00                      SILT/CLAY: 1.47%  
SKEWNESS: -0.387                      KURTOSIS: 1.116

GRAPHIC METHOD

MEAN (PHI): 2.13                      SORTING: 0.62  
MEAN (mm) : 0.23                      MEDIAN (mm): 0.21  
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

MOMENT METHOD

MEAN (PHI): 2.15                      SORTING: 0.71  
MEAN (mm) : 0.22

DATA FILE NAME: DB99-2#4.TAB

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

SAMPLE NO.: DB99-2 S#5  
SAMPLE ELEV. (FT. NGVD):  
SAMPLE DEPTH (FT.): 8.0  
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 241.13  
SAMPLE WEIGHT AFTER WASH (GRAMS): 238.59

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	0.30	0.12	99.88
7	-1.50	2.800	1.14	0.47	99.53
10	-1.00	2.000	3.06	1.27	98.73
14	-0.50	1.400	5.83	2.42	97.58
18	0.00	1.000	9.53	3.95	96.05
25	0.50	0.710	16.76	6.95	93.05
35	1.00	0.500	36.89	15.30	84.70
45	1.50	0.355	70.06	29.05	70.95
60	2.00	0.250	139.70	57.94	42.06
80	2.50	0.180	205.35	85.16	14.84
120	3.00	0.125	234.48	97.24	2.76
170	3.50	0.090	238.36	98.85	1.15
200	3.75	0.075	238.54	98.93	1.07
230	4.00	0.063	239.83	99.46	0.54
PAN			241.11	99.99	0.01

PHI(5): 0.17                      PHI(16): 1.03                      PHI(25): 1.35  
PHI(50): 1.86                      PHI(75): 2.31                      PHI(84): 2.48  
PHI(95): 2.91

SIEVE LOSS(g): 0.02                      SILT/CLAY: 1.07%  
SKEWNESS: -0.443                      KURTOSIS: 1.166

GRAPHIC METHOD

MEAN (PHI): 1.69                      SORTING: 0.73  
MEAN (mm) : 0.31                      MEDIAN (mm): 0.27  
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

MOMENT METHOD

MEAN (PHI): 1.75                      SORTING: 0.84  
MEAN (mm) : 0.30

DATA FILE NAME: DB99-2#5.TAB

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

SAMPLE NO.: DB99-2 S#6  
SAMPLE ELEV. (FT. NGVD):  
SAMPLE DEPTH (FT.): 10.0  
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 223.27  
SAMPLE WEIGHT AFTER WASH (GRAMS): 220.90

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	1.50	0.67	99.33
5	-2.00	4.000	2.18	0.98	99.02
7	-1.50	2.800	2.50	1.12	98.88
10	-1.00	2.000	3.31	1.48	98.52
14	-0.50	1.400	3.98	1.78	98.22
18	0.00	1.000	4.77	2.14	97.86
25	0.50	0.710	6.55	2.93	97.07
35	1.00	0.500	11.33	5.07	94.93
45	1.50	0.355	22.69	10.16	89.84
60	2.00	0.250	81.11	36.33	63.67
80	2.50	0.180	174.66	78.23	21.77
120	3.00	0.125	216.28	96.87	3.13
170	3.50	0.090	220.75	98.87	1.13
200	3.75	0.075	220.82	98.90	1.10
230	4.00	0.063	222.05	99.46	0.54
PAN			223.25	99.99	0.01

PHI(5): 0.98                      PHI(16): 1.61                      PHI(25): 1.78  
PHI(50): 2.16                      PHI(75): 2.46                      PHI(84): 2.65  
PHI(95): 2.95

SIEVE LOSS(g): 0.02                      SILT/CLAY: 1.10%  
SKEWNESS: -0.378                      KURTOSIS: 1.189

GRAPHIC METHOD

MEAN (PHI): 2.07                      SORTING: 0.52  
MEAN (mm) : 0.24                      MEDIAN (mm): 0.22

NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

MOMENT METHOD

MEAN (PHI): 2.05                      SORTING: 0.81  
MEAN (mm) : 0.24

DATA FILE NAME: DB99-2#6.TAB

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

SAMPLE NO.: DB99-2 S#7  
 SAMPLE ELEV. (FT. NGVD)  
 SAMPLE DEPTH (FT.): 14.0  
 SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 192.56  
 SAMPLE WEIGHT AFTER WASH (GRAMS): 190.40

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	0.00	0.00	100.00
7	-1.50	2.800	0.11	0.06	99.94
10	-1.00	2.000	0.38	0.20	99.80
14	-0.50	1.400	0.68	0.35	99.65
18	0.00	1.000	1.28	0.66	99.34
25	0.50	0.710	2.80	1.45	98.55
35	1.00	0.500	8.93	4.64	95.36
45	1.50	0.355	22.84	11.86	88.14
60	2.00	0.250	70.71	36.72	63.28
80	2.50	0.180	140.96	73.20	26.80
120	3.00	0.125	183.88	95.49	4.51
170	3.50	0.090	190.23	98.79	1.21
200	3.75	0.075	190.33	98.84	1.16
230	4.00	0.063	191.46	99.43	0.57
PAN			192.56	100.00	0.00

PHI (5): 1.03            PHI (16): 1.58            PHI (25): 1.76  
 PHI (50): 2.18        PHI (75): 2.54            PHI (84): 2.74  
 PHI (95): 2.99

SIEVE LOSS(g): 0.00                            SILT/CLAY: 1.16%  
 SKEWNESS: -0.302                              KURTOSIS: 1.037

GRAPHIC METHOD

MEAN (PHI): 2.10                                SORTING: 0.58  
 MEAN (mm) : 0.23                                MEDIAN (mm): 0.22

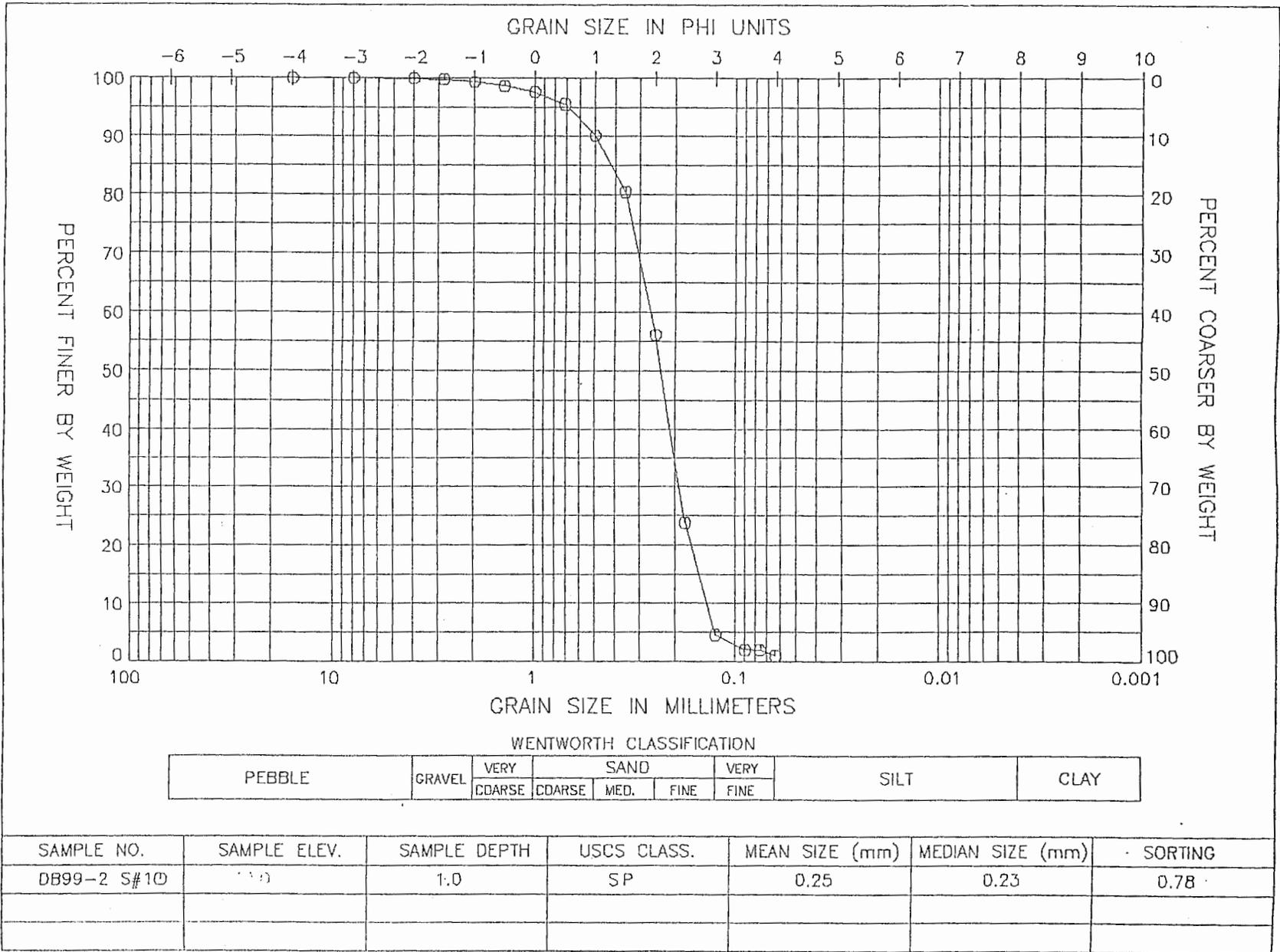
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

MOMENT METHOD

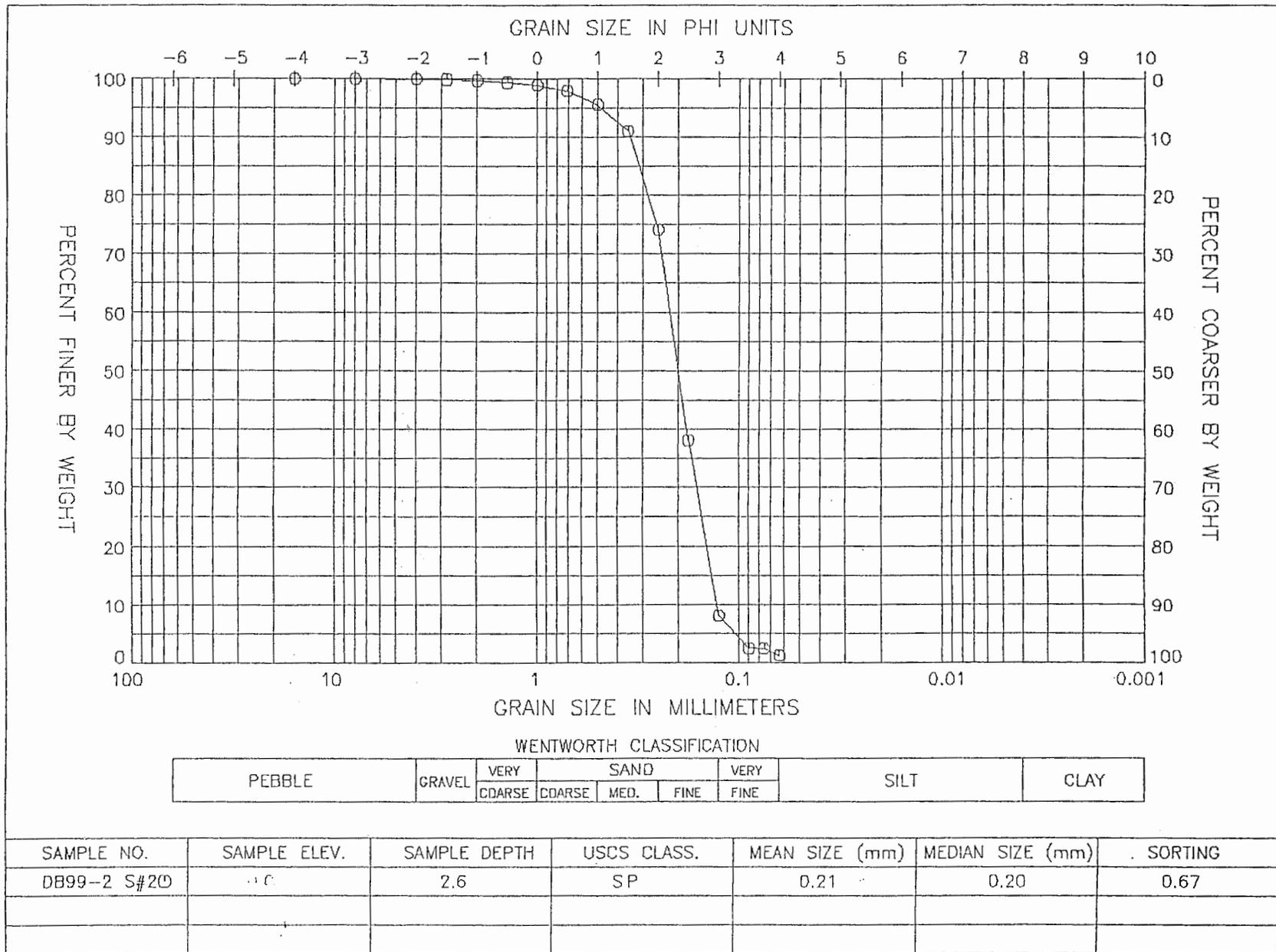
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 MEAN (mm) : 0.23

DATA FILE NAME: DB99-2#7.TAB

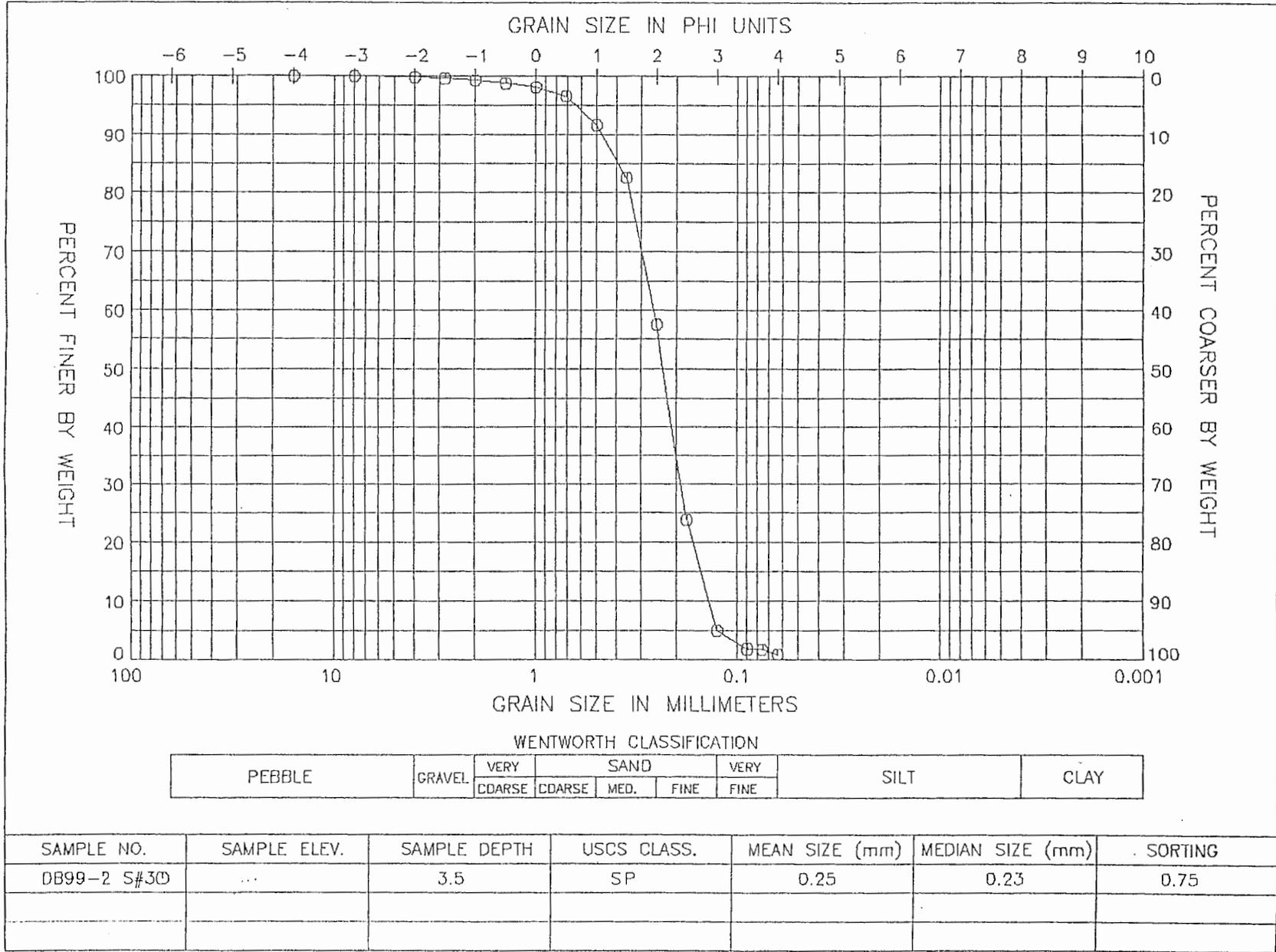
GRAIN SIZE DISTRIBUTION CURVE  
 DELRAY BEACH VIBRACORES 1999



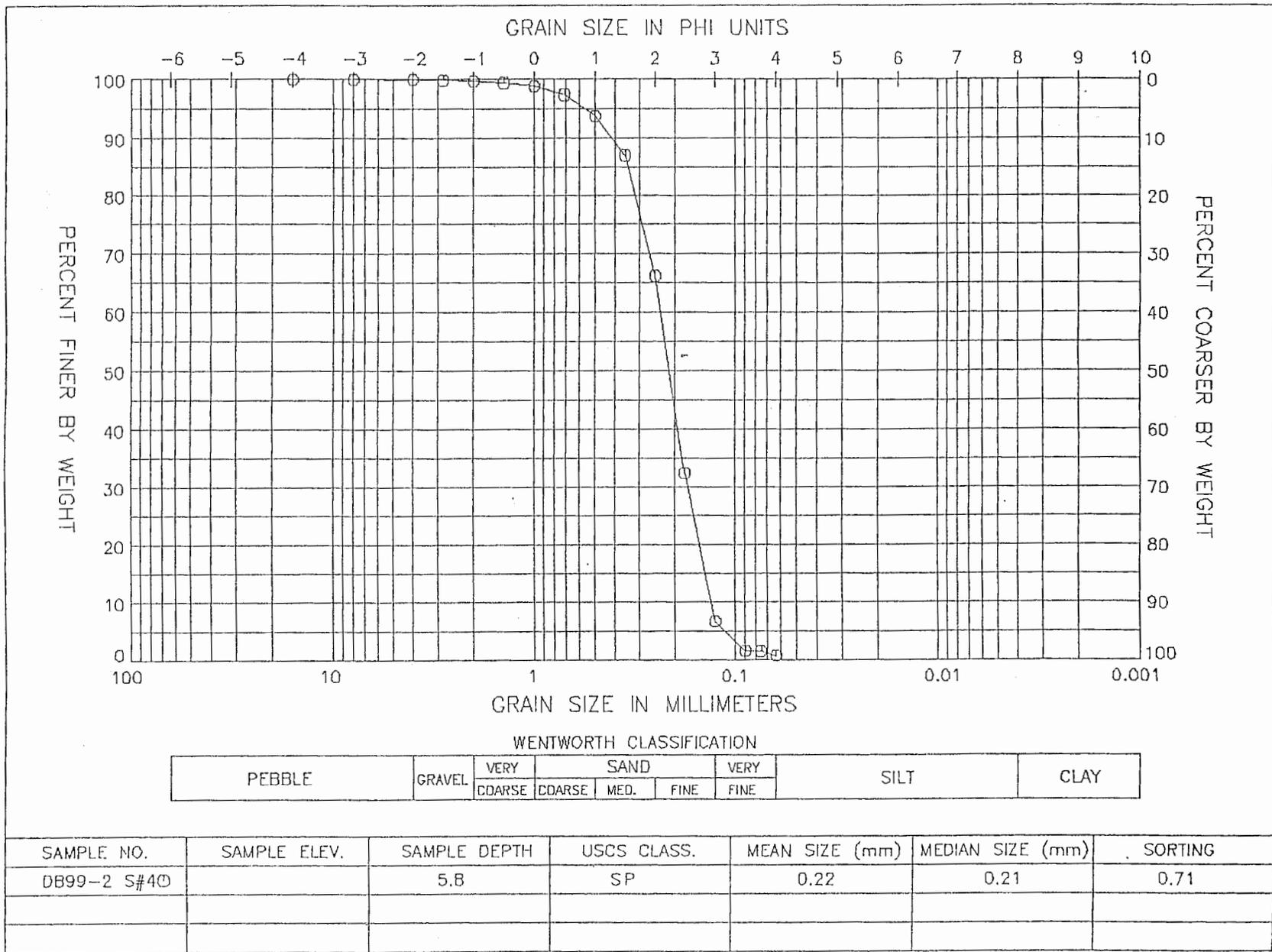
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DELRAY BEACH VIBRACORES 1999



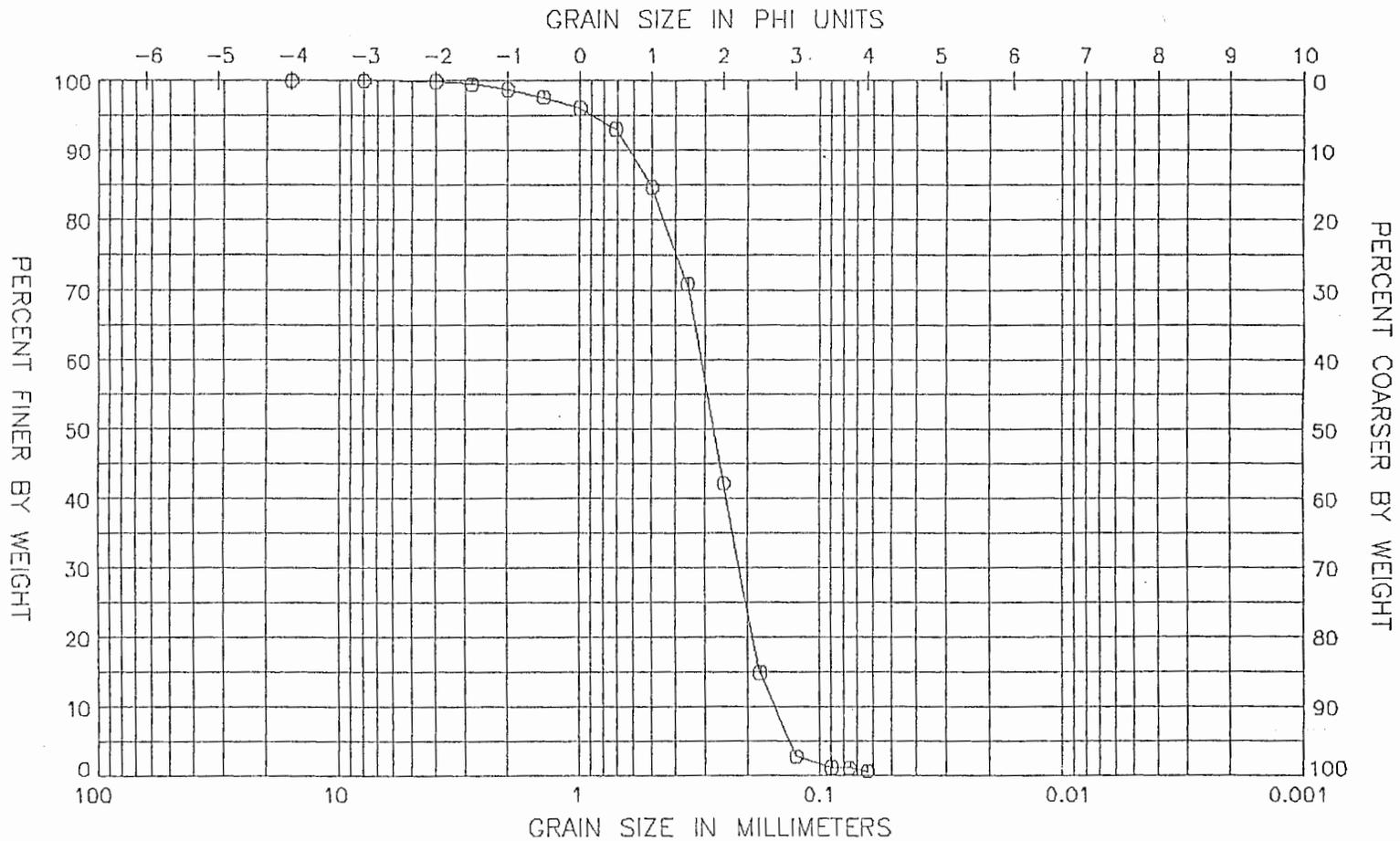
GRAIN SIZE DISTRIBUTION CURVE  
 DELRAY BEACH VIBRACORES 1999



GRAIN SIZE DISTRIBUTION CURVE  
 DELRAY BEACH VIBRACORES 1999



GRAIN SIZE DISTRIBUTION CURVE  
 DELRAY BEACH VIBRACORES 1999

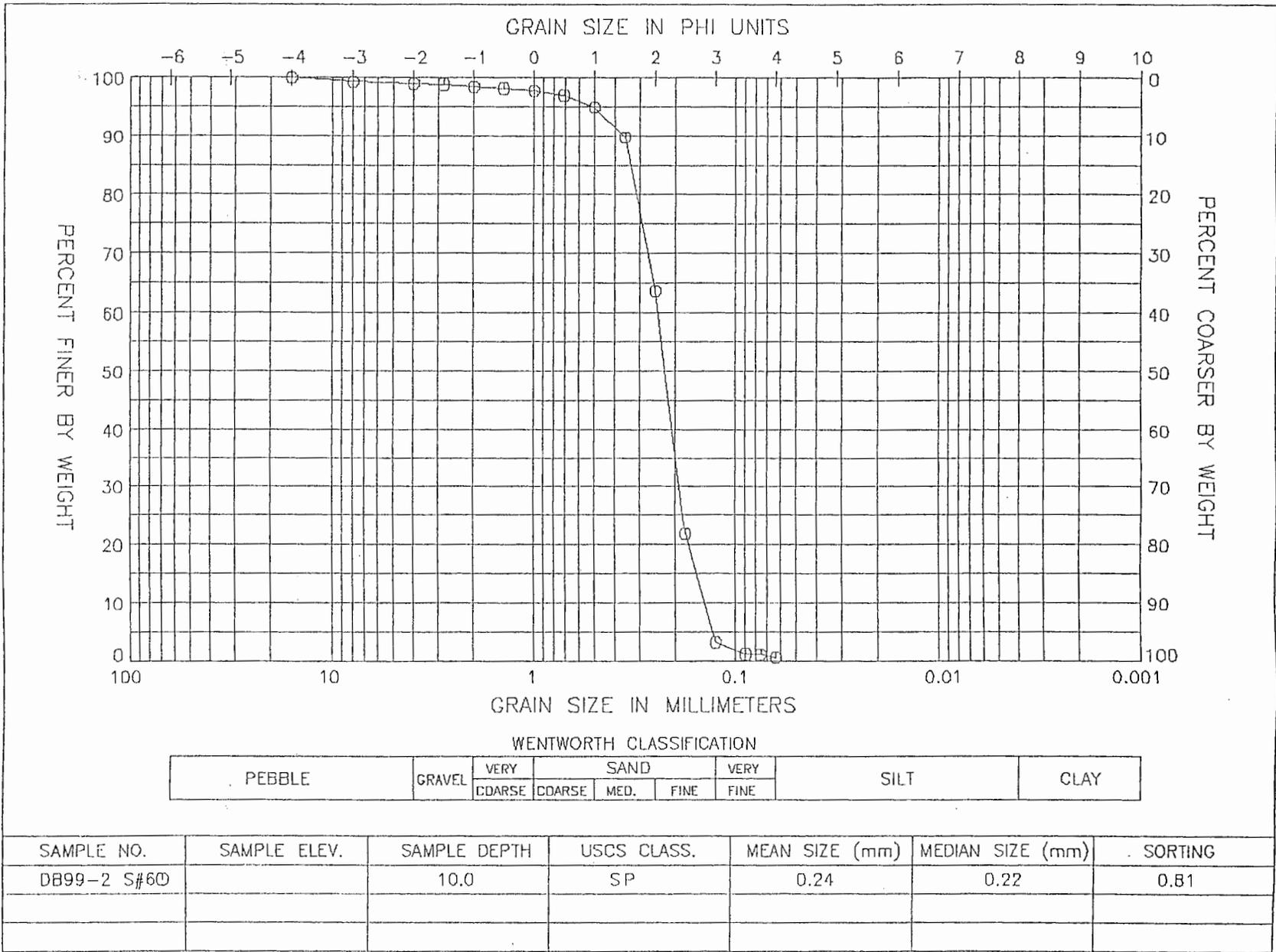


WENTWORTH CLASSIFICATION

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
DB99-2 S#50	-4.0	B.0	SP	0.30	0.27	0.84

GRAIN SIZE DISTRIBUTION CURVE  
 DELRAY BEACH VIBRACORES 1999



GRAIN SIZE DISTRIBUTION CURVE  
 DELRAY BEACH VIBRACORES 1999

