

DRILLING LOG		DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 of 1
1. PROJECT DELRAY BEACH		10. SIZE AND TYPE OF BIT 3"		
2. LOCATION (Coordinates or Station) X= 965317 Y= 764564		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) NGVD		
3. DRILLING AGENCY: ALPINE SEISMIC		12. MANUFACTURER'S DESIGNATION OF DRILL ALPINE PNEUMATIC		
4. HOLE NO. (As shown on drawing title and file number) DB-99-14		13. TOT NO. OF OVERBURDEN SAMPLES TAKEN disturbed: 0.0 undisturbed: 0.0		
5. NAME OF DRILLER ROB SUSKO		14. TOTAL NO. OF CORE BOXES 1		
6. DIRECTION OF HOLE VERTICAL		15. ELEVATION GROUND WATER		
7. THICKNESS OF BURDEN 0.0 FT		16. DATE HOLE Started Completed 4/20/99 4/20/99		
8. DEPTH DRILLED INTO ROCK 0.0 FT		17. ELEVATION TOP OF HOLE -34.1 ft.		
9. TOTAL DEPTH OF HOLE 18.9' FT		18. TOTAL CORE RECOVERY FOR BORING 98%		
19. SIGNATURE OF GEOLOGIST IBRAHIM DREMALI				

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS
-34.1	0					SP
-35.6	1		SAND, fine grained, trace shell hash, Light Gray (5Y-7/1) (SP)		1	Sample #1, Depth = 0.8' 0.20 mm, 0.74 phi sorting 1.88% silt
-36.3	2		fine-grained, trace shell hash, Gray (5Y-6/1) (SP) from -35.6' to -36.3'		2	Sample #2, Depth = 2.0' 0.24 mm, 0.97 phi sorting 2.67% silt
-37.3	3		medium-grained, little shell hash, Gray (5Y-6/1) (SP) from -36.3' to -37.3'		3	Sample #3, Depth = 2.8' 0.41 mm, 1.24 phi sorting 1.23% silt
-39.3	4		fine-grained, trace shell hash, Gray(5Y-6/1)(SP) from -37.3' to -39.3'		4	Sample #4, Depth = 3.6' 0.26 mm, 0.79 phi sorting 1.40% silt
	5					
	6					
	7				5	Sample #5, Depth = 7.0' 0.25 mm, 0.80 phi sorting 1.59% silt
	8					
	9					
	10					
	11		fine-grained, trace shell hash, Gray (5Y-6/1) (SP) from -39.3' to -50.6'			
	12					Sample #6, Depth = 13.0' 0.25 mm, 0.62 phi sorting 1.13% silt
	13				6	
	14					
	15					
-50.6	16					
	17		fine-grained, trace shell hash, Gray (5Y-6/1) (SP) from -50.6' to -50.9'			Sample #7, Depth = 16.6' 0.32 mm, 0.92 phi sorting 1.13% silt
	18		fine-grained, trace shell hash, Light Gray (5Y-7/1) (SP) from -50.9' to -53.0'		7	
-53	19					
	20		End of Boring			
	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.: DB99-14 S#1
SAMPLE ELEV. (FT. NGVD):
SAMPLE DEPTH (FT.): 0.8
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 169.60
SAMPLE WEIGHT AFTER WASH (GRAMS): 166.54

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	0.17	0.10	99.90
10	-1.00	2.000	0.43	0.25	99.75
14	-0.50	1.400	1.05	0.62	99.38
18	0.00	1.000	2.05	1.21	98.79
25	0.50	0.710	4.34	2.56	97.44
35	1.00	0.500	10.61	6.26	93.74
45	1.50	0.355	19.40	11.44	88.56
60	2.00	0.250	40.47	23.86	76.14
80	2.50	0.180	89.46	52.75	47.25
120	3.00	0.125	147.17	86.77	13.23
170	3.50	0.090	166.19	97.99	2.01
200	3.75	0.075	166.41	98.12	1.88
230	4.00	0.063	168.02	99.07	0.93
PAN			169.58	99.99	0.01

PHI(5): 0.83 PHI(16): 1.68 PHI(25): 2.02
PHI(50): 2.45 PHI(75): 2.83 PHI(84): 2.96
PHI(95): 3.37

SIEVE LOSS(g): 0.02 SILT/CLAY: 1.88%
SKEWNESS: -0.555 KURTOSIS: 1.288

GRAPHIC METHOD

MEAN (PHI): 2.26 SORTING: 0.64
MEAN (mm) : 0.21 MEDIAN (mm): 0.18
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

MOMENT METHOD

MEAN (PHI): 2.32 SORTING: 0.74
MEAN (mm) : 0.20

DATA FILE NAME: DB99-14#1.TAB

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

SAMPLE NO.: DB99-14 S#2
SAMPLE ELEV. (FT. NGVD):
SAMPLE DEPTH (FT.): 2.0
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 194.88
SAMPLE WEIGHT AFTER WASH (GRAMS): 189.75

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	0.04	0.02	99.98
7	-1.50	2.800	0.21	0.11	99.89
10	-1.00	2.000	1.30	0.67	99.33
14	-0.50	1.400	3.78	1.94	98.06
18	0.00	1.000	8.13	4.17	95.83
25	0.50	0.710	15.95	8.18	91.82
35	1.00	0.500	31.21	16.01	83.99
45	1.50	0.355	46.96	24.10	75.90
60	2.00	0.250	71.79	36.84	63.16
80	2.50	0.180	112.27	57.61	42.39
120	3.00	0.125	177.35	91.00	9.00
170	3.50	0.090	189.50	97.24	2.76
200	3.75	0.075	189.68	97.33	2.67
230	4.00	0.063	192.29	98.67	1.33
PAN			194.85	99.98	0.02

PHI(5): 0.10	PHI(16): 1.00	PHI(25): 1.54
PHI(50): 2.32	PHI(75): 2.76	PHI(84): 2.90
PHI(95): 3.32		

SIEVE LOSS(g): 0.03	SILT/CLAY: 2.67%
SKEWNESS: -0.638	KURTOSIS: 1.076

GRAPHIC METHOD

MEAN (PHI): 1.93	SORTING: 0.95
MEAN (mm) : 0.26	MEDIAN (mm): 0.20
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD	

MOMENT METHOD

MEAN (PHI): 2.04	SORTING: 0.97
MEAN (mm) : 0.24	

DATA FILE NAME: DB99-14#2.TAB

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

SAMPLE NO.: DB99-14 S#3
SAMPLE ELEV. (FT. NGVD):
SAMPLE DEPTH (FT.): 2.8
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 202.69
SAMPLE WEIGHT AFTER WASH (GRAMS): 200.22

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	1.30	0.64	99.36
5	-2.00	4.000	2.30	1.13	98.87
7	-1.50	2.800	4.11	2.03	97.97
10	-1.00	2.000	8.56	4.22	95.78
14	-0.50	1.400	17.63	8.70	91.30
18	0.00	1.000	28.86	14.24	85.76
25	0.50	0.710	48.00	23.68	76.32
35	1.00	0.500	78.93	38.94	61.06
45	1.50	0.355	103.15	50.89	49.11
60	2.00	0.250	131.77	65.01	34.99
80	2.50	0.180	167.70	82.74	17.26
120	3.00	0.125	194.44	95.93	4.07
170	3.50	0.090	200.10	98.72	1.28
200	3.75	0.075	200.19	98.77	1.23
230	4.00	0.063	201.43	99.38	0.62
PAN			202.68	100.00	0.00

PHI(5): -0.91 PHI(16): 0.09 PHI(25): 0.54
PHI(50): 1.46 PHI(75): 2.28 PHI(84): 2.55
PHI(95): 2.96

SIEVE LOSS(g): 0.01 SILT/CLAY: 1.23%
SKEWNESS: -0.356 KURTOSIS: 0.914

GRAPHIC METHOD

MEAN (PHI): 1.23 SORTING: 1.23
MEAN (mm) : 0.43 MEDIAN (mm): 0.36
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

MOMENT METHOD

MEAN (PHI): 1.29 SORTING: 1.24
MEAN (mm) : 0.41

DATA FILE NAME: DB99-14#3.TAB

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

SAMPLE NO.: DB99-14 S#4
SAMPLE ELEV. (FT. NGVD):
SAMPLE DEPTH (FT.): 3.6
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 167.28
SAMPLE WEIGHT AFTER WASH (GRAMS): 164.95

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	0.26	0.16	99.84
10	-1.00	2.000	0.96	0.57	99.43
14	-0.50	1.400	2.33	1.39	98.61
18	0.00	1.000	4.36	2.61	97.39
25	0.50	0.710	8.21	4.91	95.09
35	1.00	0.500	19.30	11.54	88.46
45	1.50	0.355	36.74	21.96	78.04
60	2.00	0.250	75.81	45.32	54.68
80	2.50	0.180	129.20	77.24	22.76
120	3.00	0.125	161.58	96.59	3.41
170	3.50	0.090	164.90	98.58	1.42
200	3.75	0.075	164.93	98.60	1.40
230	4.00	0.063	166.11	99.30	0.70
PAN			167.28	100.00	0.00

PHI(5): 0.51	PHI(16): 1.21	PHI(25): 1.57
PHI(50): 2.07	PHI(75): 2.46	PHI(84): 2.67
PHI(95): 2.96		

SIEVE LOSS(g): 0.00	SILT/CLAY: 1.40%
SKEWNESS: -0.466	KURTOSIS: 1.117

GRAPHIC METHOD

MEAN (PHI): 1.89	SORTING: 0.73
MEAN (mm): 0.27	MEDIAN (mm): 0.24
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD	

MOMENT METHOD

MEAN (PHI): 1.93	SORTING: 0.79
MEAN (mm): 0.26	

DATA FILE NAME: DB99-14#4.TAB

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

SAMPLE NO.: DB99-14 S#5
SAMPLE ELEV. (FT. NGVD):
SAMPLE DEPTH (FT.): 7.0
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 177.38
SAMPLE WEIGHT AFTER WASH (GRAMS): 175.04

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	0.27	0.15	99.85
7	-1.50	2.800	0.63	0.36	99.64
10	-1.00	2.000	1.40	0.79	99.21
14	-0.50	1.400	2.57	1.45	98.55
18	0.00	1.000	4.22	2.38	97.62
25	0.50	0.710	7.57	4.27	95.73
35	1.00	0.500	18.06	10.18	89.82
45	1.50	0.355	36.92	20.81	79.19
60	2.00	0.250	77.25	43.55	56.45
80	2.50	0.180	129.03	72.74	27.26
120	3.00	0.125	170.47	96.10	3.90
170	3.50	0.090	174.36	98.30	1.70
200	3.75	0.075	174.56	98.41	1.59
230	4.00	0.063	175.91	99.17	0.83
PAN			177.36	99.99	0.01

PHI(5): 0.56	PHI(16): 1.27	PHI(25): 1.59
PHI(50): 2.11	PHI(75): 2.55	PHI(84): 2.74
PHI(95): 2.98		

SIEVE LOSS(g): 0.02	SILT/CLAY: 1.59%
SKEWNESS: -0.465	KURTOSIS: 1.035

GRAPHIC METHOD

MEAN (PHI): 1.93	SORTING: 0.73
MEAN (mm): 0.26	MEDIAN (mm): 0.23
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD	

MOMENT METHOD

MEAN (PHI): 1.98	SORTING: 0.80
MEAN (mm): 0.25	

DATA FILE NAME: DB99-14#5.TAB

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

SAMPLE NO.: DB99-14 S#6
SAMPLE ELEV. (FT. NGVD):
SAMPLE DEPTH (FT.): 13.0
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 174.34
SAMPLE WEIGHT AFTER WASH (GRAMS): 172.44

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	0.03	0.02	99.98
10	-1.00	2.000	0.22	0.13	99.87
14	-0.50	1.400	0.47	0.27	99.73
18	0.00	1.000	0.99	0.57	99.43
25	0.50	0.710	2.76	1.58	98.42
35	1.00	0.500	11.16	6.40	93.60
45	1.50	0.355	29.81	17.10	82.90
60	2.00	0.250	82.18	47.14	52.86
80	2.50	0.180	140.33	80.49	19.51
120	3.00	0.125	169.07	96.98	3.02
170	3.50	0.090	172.32	98.84	1.16
200	3.75	0.075	172.37	98.87	1.13
230	4.00	0.063	173.33	99.42	0.58
PAN			174.34	100.00	0.00

PHI(5): 0.85 PHI(16): 1.45 PHI(25): 1.63
PHI(50): 2.04 PHI(75): 2.42 PHI(84): 2.61
PHI(95): 2.94

SIEVE LOSS(g): 0.00 SILT/CLAY: 1.13%
SKEWNESS: -0.252 KURTOSIS: 1.087

GRAPHIC METHOD

MEAN (PHI): 1.98 SORTING: 0.58
MEAN (mm) : 0.25 MEDIAN (mm): 0.24
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

MOMENT METHOD

MEAN (PHI): 1.99 SORTING: 0.62
MEAN (mm) : 0.25

DATA FILE NAME: DB99-14#6.TAB

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

SAMPLE NO.: DB99-14 S#7
SAMPLE ELEV. (FT. NGVD):
SAMPLE DEPTH (FT.): 16.6
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 164.37
SAMPLE WEIGHT AFTER WASH (GRAMS): 162.61

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	0.44	0.27	99.73
7	-1.50	2.800	0.77	0.47	99.53
10	-1.00	2.000	3.04	1.85	98.15
14	-0.50	1.400	5.26	3.20	96.80
18	0.00	1.000	9.05	5.51	94.49
25	0.50	0.710	16.53	10.06	89.94
35	1.00	0.500	33.89	20.62	79.38
45	1.50	0.355	58.09	35.34	64.66
60	2.00	0.250	100.63	61.22	38.78
80	2.50	0.180	139.94	85.14	14.86
120	3.00	0.125	159.71	97.16	2.84
170	3.50	0.090	162.44	98.83	1.17
200	3.75	0.075	162.52	98.87	1.13
230	4.00	0.063	163.43	99.43	0.57
PAN			164.34	99.98	0.02

PHI(5): -0.11	PHI(16): 0.78	PHI(25): 1.15
PHI(50): 1.78	PHI(75): 2.29	PHI(84): 2.48
PHI(95): 2.91		

SIEVE LOSS(g): 0.03	SILT/CLAY: 1.13%
SKEWNESS: -0.452	KURTOSIS: 1.086

GRAPHIC METHOD

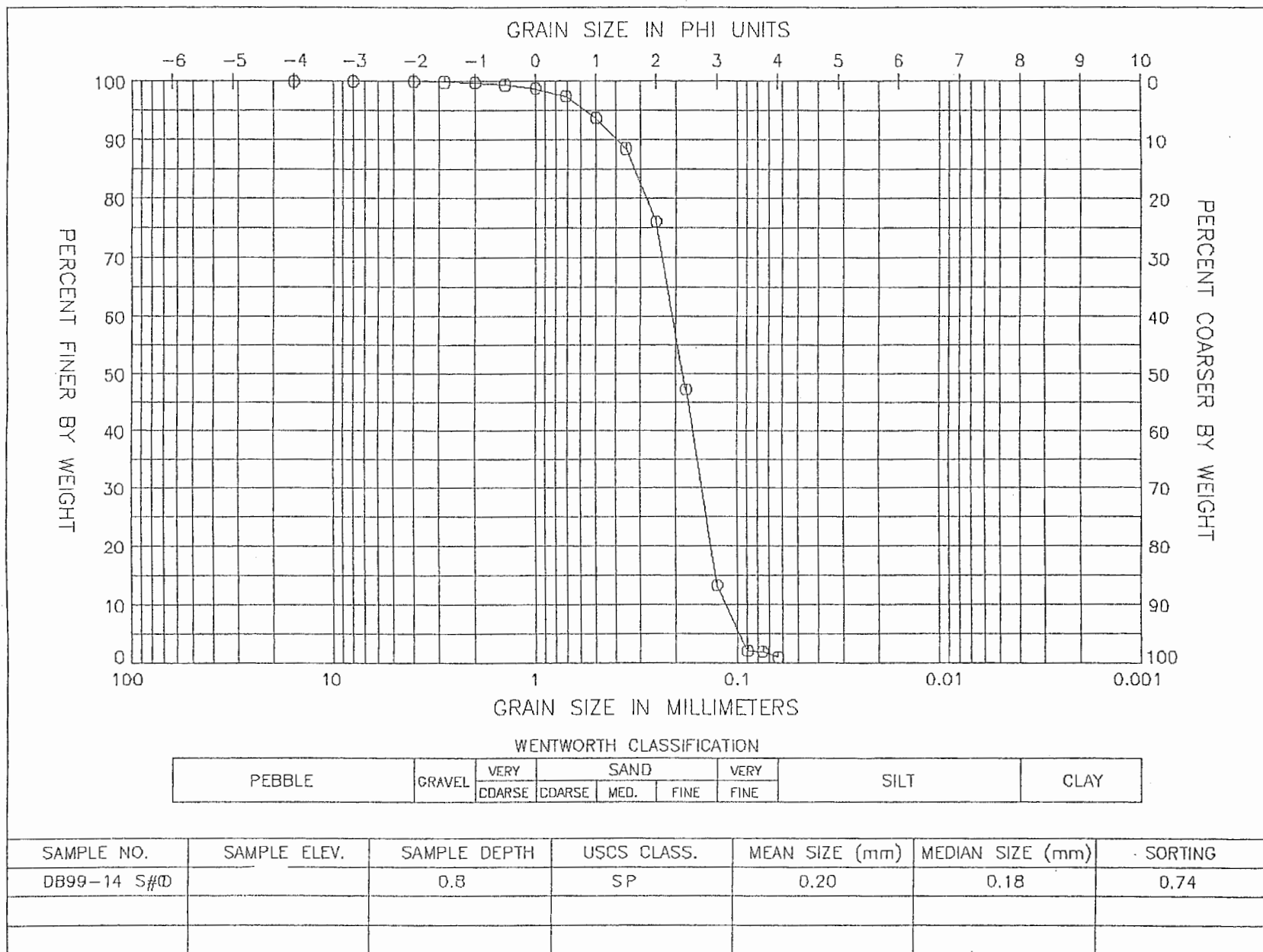
MEAN (PHI): 1.57	SORTING: 0.85
MEAN (mm): 0.34	MEDIAN (mm): 0.29
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD	

MOMENT METHOD

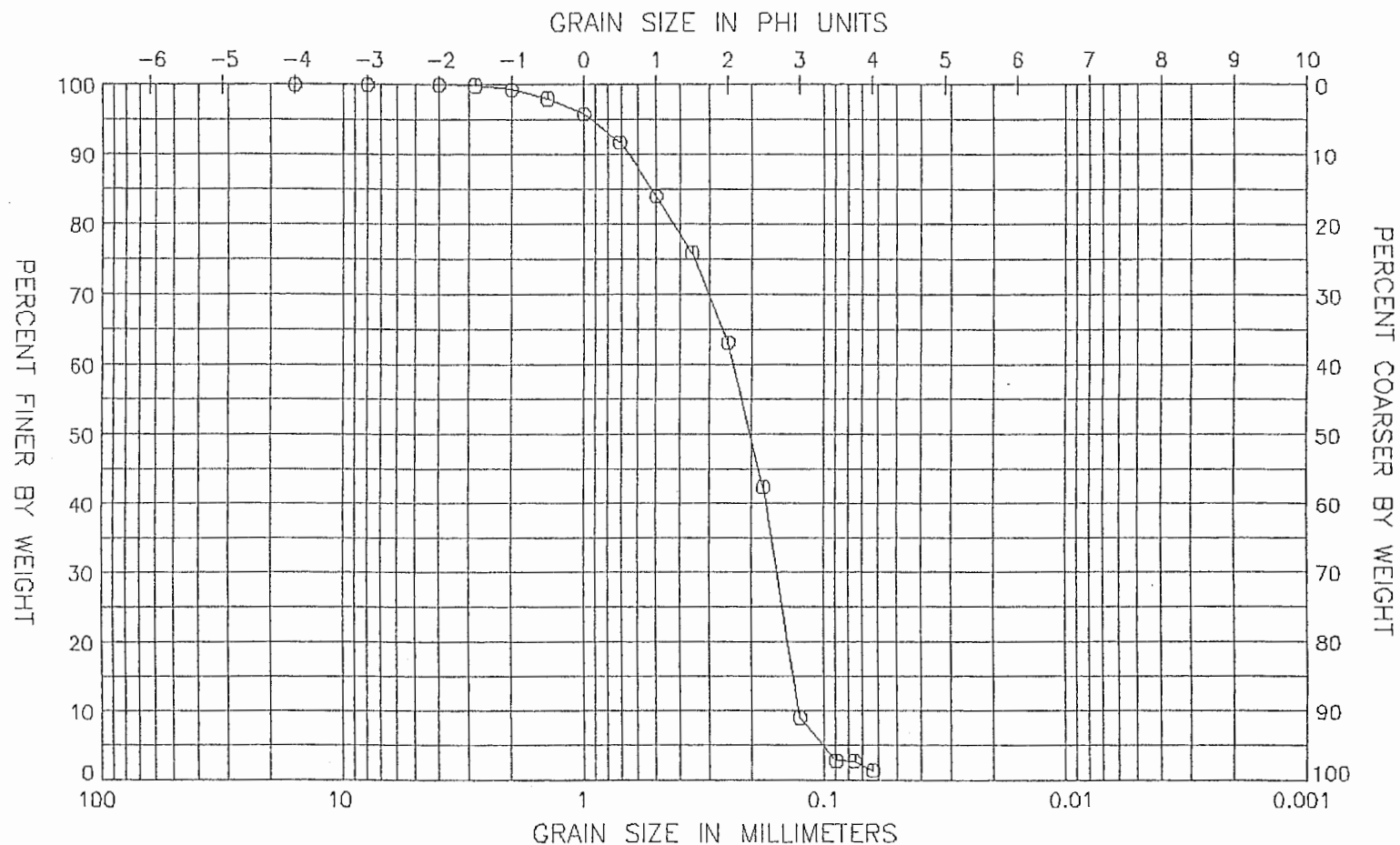
MEAN (PHI): 1.64	SORTING: 0.92
MEAN (mm): 0.32	

DATA FILE NAME: DB99-14#7.TAB

GRAIN SIZE DISTRIBUTION CURVE
 DELRAY BEACH VIBRACORES 1999



GRAIN SIZE DISTRIBUTION CURVE
 DELRAY BEACH VIBRACORES 1999

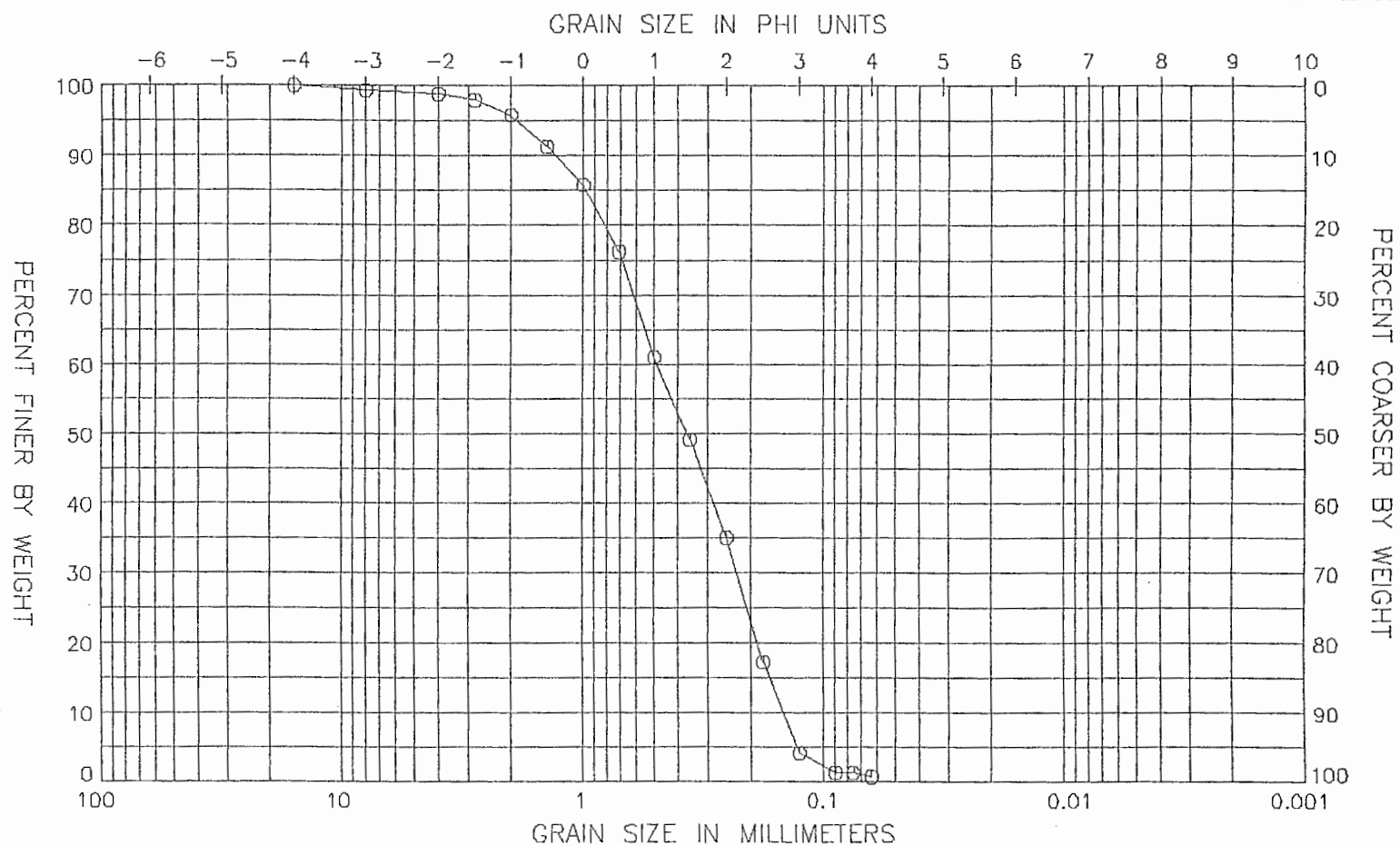


WENTWORTH CLASSIFICATION

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

SAMPLE NO.	SAMPLE ELEV.	SAMPLE DEPTH	USCS CLASS.	MEAN SIZE (mm)	MEDIAN SIZE (mm)	SORTING
DB99-14 S#2	-4	2.0	SP	0.24	0.20	0.97

GRAIN SIZE DISTRIBUTION CURVE
 DELRAY BEACH VIBRACORES 1999

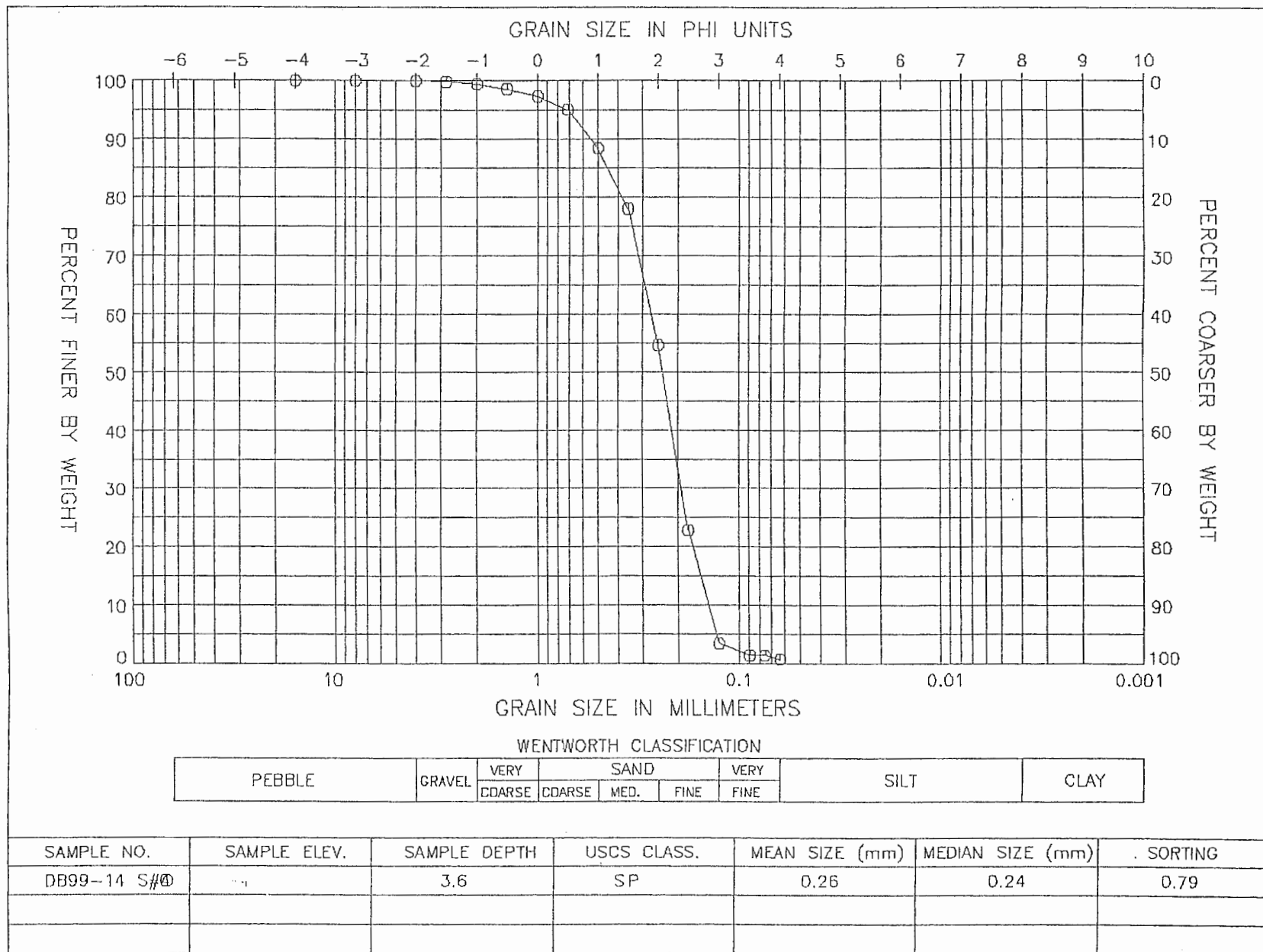


WENTWORTH CLASSIFICATION

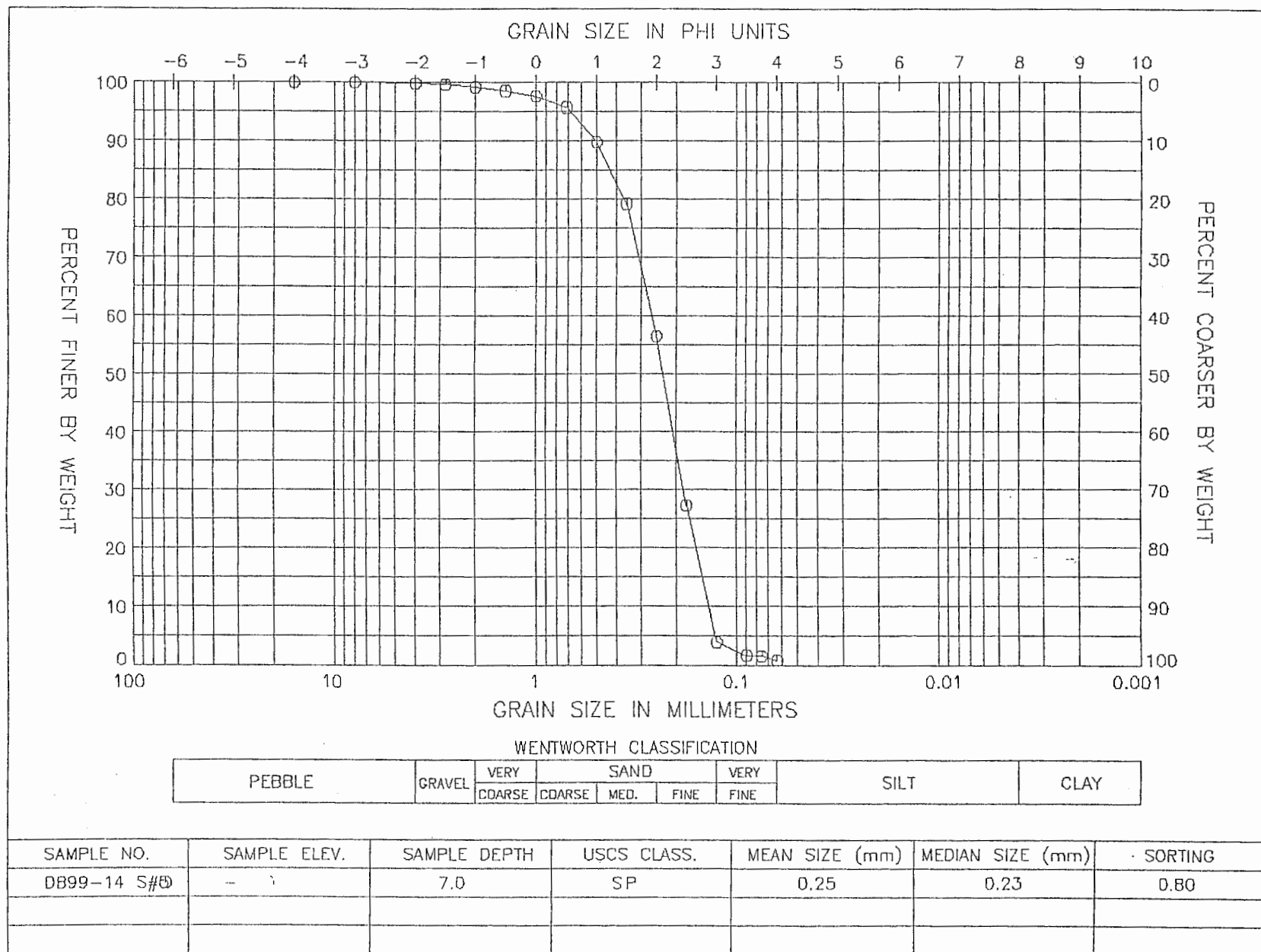
PEBBLE	GRAVEL	VERY	SAND			VERY	SILT	CLAY
		COARSE	COARSE	MED.	FINE	FINE		

SAMPLE NO.	SAMPLE ELEV.	SAMPLE DEPTH	USCS CLASS.	MEAN SIZE (mm)	MEDIAN SIZE (mm)	SORTING
DB99-14 S#0	0	2.8	SP	0.41	0.36	1.24

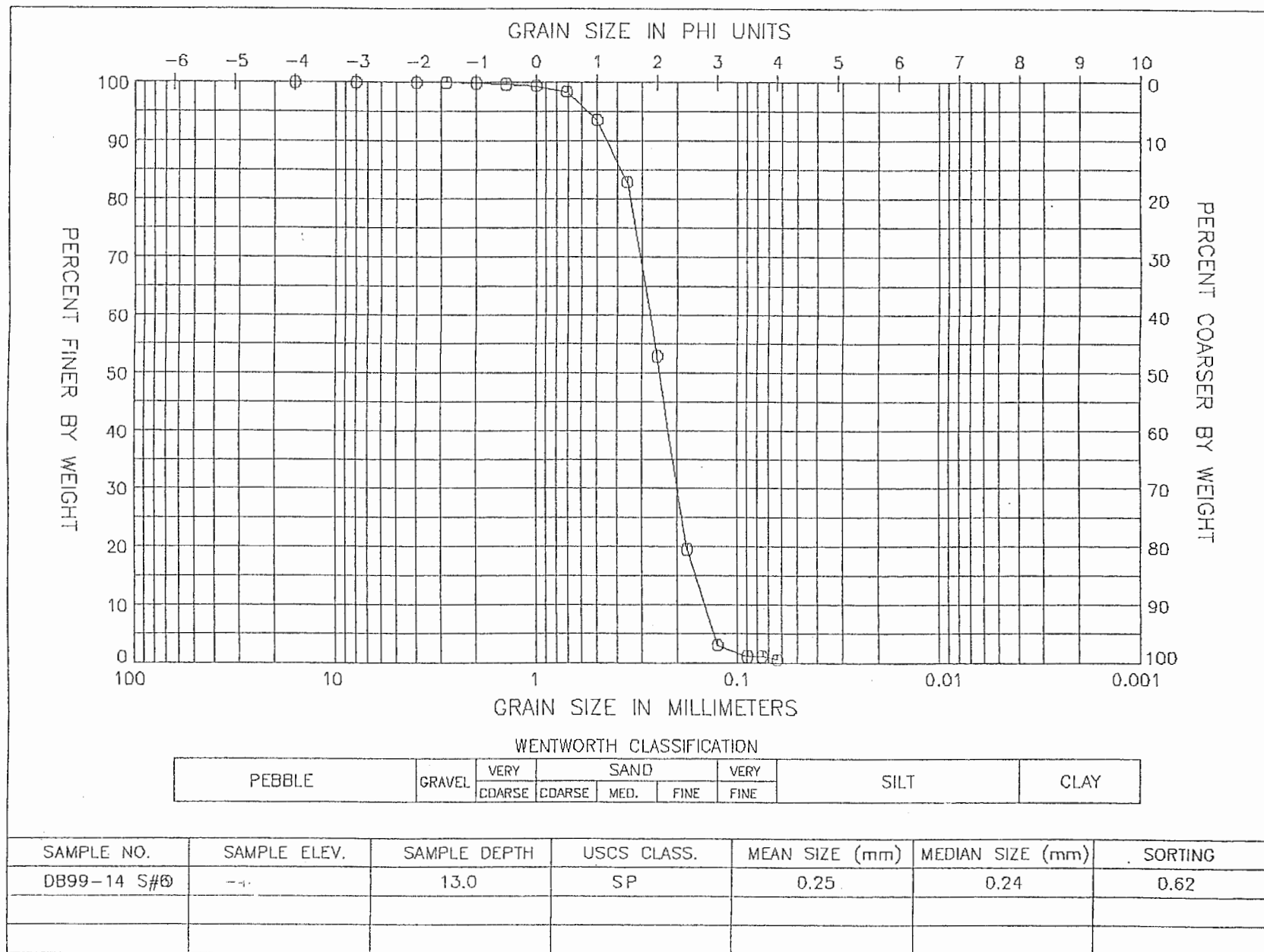
GRAIN SIZE DISTRIBUTION CURVE
 DELRAY BEACH VIBRACORES 1999



GRAIN SIZE DISTRIBUTION CURVE
 DELRAY BEACH VIBRACORES 1999



GRAIN SIZE DISTRIBUTION CURVE
 DELRAY BEACH VIBRACORES 1999



GRAIN SIZE DISTRIBUTION CURVE
 DELRAY BEACH VIBRACORES 1999

