

DRILLING LOG		DIVISION: South Atlantic		INSTALLATION: Jacksonville District		SHEET 1 of 1	
1. PROJECT ESTERO ISLAND BEACH RESTORATION		10. SIZE AND TYPE OF BIT 3 5/8"					
(Coordinates or Station)		11. DATUM FOR ELEVATION SHOWN <sup>(TBM or MSL)</sup>					
2. LOCATION X= 687253 Y= 751198		NGVD					
3. DRILLING AGENCY: Alpine Ocean Seismic Survey Inc.		12. MANUFACTURER'S DESIGNATION OF DRILL		ALPINE PNEUMATIC VIBRACORE			
4. HOLE NO. (As shown on drawing title and file number)		13. TOT NO. OF OVERBURDEN SAMPLES TAKEN		Disturbed: 0.0 Undisturbed: 0.0			
EI-00-07		14. TOTAL NO. OF CORE BOXES					
5. NAME OF DRILLER MAURIZIO ROSSI		15. ELEVATION GROUND WATER					
6. DIRECTION OF HOLE VERTICAL		16. DATE HOLE		Started Completed			
		8/5/00		1420			
7. THICKNESS OF BURDEN 0.0 FT		17. ELEVATION TOP OF HOLE -8.5 ft					
8. DEPTH DRILLED INTO ROCK N/A		18. TOTAL CORE RECOVERY FOR BORING 73%					
9. TOTAL DEPTH OF HOLE 18.5 ft		19. SIGNATURE OF GEOLOGIST SYED KHALIL					

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS
-8.5	0		SAND, fine-grained, some shell hash/shell fragments, Light gray (5Y-7/1) SP-SM)			Sample #1, Depth = 1.0' Mean (mm): 0.36, Phi Sorting: 2.01 Silt: 5.5%
-9.5	1		fine-grained, trace silt, shell hash/shell fragments, Gray (5Y-5/1) (SP-SM) from -9.5' to -11.1'		1	
	2				5	Sample #5, Depth = 1.4' Mean (mm): 0.25, Phi Sorting: 1.78 Silt: 10.0%
-11.1	3					
	4		fine-grained, trace shell hash/shell fragments, silt pocket @ 12.0', Light gray (5Y-7/1) (SP-SM) from -11.1' to -14.9'		2	Sample #2, Depth = 4.0' Mean (mm): 0.14, Phi Sorting: 1.05 Silt: 7.7%
	5					
-14.9	6				3	Sample #3, Depth = 5.5' Mean (mm): 0.14, Phi Sorting: 0.85 Silt: 5.3%
	7		SILTY SAND, fine-grained, trace shell hash/shell fragments, Gray (5Y-5/1) (SM)		4	Sample #4, Depth = 7.0' Mean (mm): 0.16, Phi Sorting: 1.59 Silt: 13.6%
-17	8					
	9		SILTY CLAY, some shell hash/shell fragments, Dark gray (5Y-4/1) (ML-CL)			
-19.4	10					
	11		SAND, fine-grained, trace silt, trace shell hash, Dark brown to Dark gray (5Y-5/1) (SP-SM)			
-21	12					
	13		SILTY SAND, some clay, Gray (5Y-5/1) (SM)			
-22.9	14					
	15					
	16					
	17					
-27	18					
	19		End of Boring			
	20					
	21		Note: 1) Soils are field visually classified in accordance with the Unified Soil Classification System.			LAT - LONG  26 24.021 N 81 54.296 W
	22					
	23					
	24					

## GRADATION ANALYSIS REPORT

ESTERO VC 2000

TESTED BY: ID ON: 8/00

SAMPLE NO.: EI-00-07#1

SAMPLE ELEV. (FT. NGVD): 1.0

SAMPLE DEPTH (FT.): 1.0

SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP-SM

DRY SAMPLE WEIGHT (GRAMS): 99.85

SAMPLE WEIGHT AFTER WASH (GRAMS): 94.98

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	5.65	5.66	94.34
7	-1.50	2.800	10.68	10.70	89.30
10	-1.00	2.000	18.50	18.53	81.47
14	-0.50	1.400	26.01	26.05	73.95
18	0.00	1.000	30.19	30.24	69.76
25	0.50	0.710	33.20	33.25	66.75
35	1.00	0.500	35.19	35.24	64.76
45	1.50	0.355	36.47	36.52	63.48
60	2.00	0.250	37.89	37.95	62.05
80	2.50	0.180	42.38	42.44	57.56
120	3.00	0.125	73.97	74.08	25.92
170	3.50	0.090	93.14	93.28	6.72
200	3.75	0.075	94.33	94.47	5.53
230	4.00	0.063	97.11	97.26	2.74
PAN			99.83	99.98	0.02

PHI (5): -2.12

PHI (16): -1.16

PHI (25): -0.57

PHI (50): 2.62

PHI (75): 3.02

PHI (84): 3.26

PHI (95): 3.80

SIEVE LOSS (g): 0.02

SILT/CLAY: 5.53%

SKEWNESS: -0.805

KURTOSIS: 0.674

## GRAPHIC METHOD

MEAN (PHI): 1.28

SORTING: 2.21

MEAN (mm): 0.41

MEDIAN (mm): 0.16

NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

## MOMENT METHOD

MEAN (PHI): 1.46

SORTING: 2.01

MEAN (mm): 0.36

DATA FILE NAME: EI-00-07#1.TAB

GRADATION ANALYSIS REPORT  
ESTERO VC 2000  
TESTED BY: ID            ON: 9/00

SAMPLE NO.: EI-00-07#5  
SAMPLE ELEV. (FT. NGVD): 1.4  
SAMPLE DEPTH (FT.): 1.4  
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP-SM

DRY SAMPLE WEIGHT (GRAMS): 88.18  
SAMPLE WEIGHT AFTER WASH (GRAMS): 79.73

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	4.37	4.96	95.04
7	-1.50	2.800	7.77	8.81	91.19
10	-1.00	2.000	11.08	12.57	87.43
14	-0.50	1.400	13.69	15.53	84.47
18	0.00	1.000	15.10	17.12	82.88
25	0.50	0.710	16.52	18.73	81.27
35	1.00	0.500	17.50	19.85	80.15
45	1.50	0.355	18.32	20.78	79.22
60	2.00	0.250	19.07	21.63	78.37
80	2.50	0.180	25.56	28.99	71.01
120	3.00	0.125	65.79	74.61	25.39
170	3.50	0.090	78.30	88.80	11.20
200	3.75	0.075	79.38	90.02	9.98
230	4.00	0.063	83.78	95.00	5.00
PAN			88.18	100.00	0.00

PHI (5): -1.99            PHI (16): -0.35            PHI (25): 2.23  
PHI (50): 2.73            PHI (75): 3.01            PHI (84): 3.33  
PHI (95): 4.00

SIEVE LOSS (g): 0.00            SILT/CLAY: 9.98%  
SKEWNESS: -0.938            KURTOSIS: 3.131

GRAPHIC METHOD

MEAN (PHI): 1.54            SORTING: 1.84  
MEAN (mm): 0.34            MEDIAN (mm): 0.15  
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

MOMENT METHOD

MEAN (PHI): 1.99            SORTING: 1.78  
MEAN (mm): 0.25

DATA FILE NAME: EI-00-07#5.TAB



GRADATION ANALYSIS REPORT  
ESTERO VC 2000  
TESTED BY: ID ON: 8/00

SAMPLE NO.: EI-00-07#2  
SAMPLE ELEV. (FT. NGVD): 4.0  
SAMPLE DEPTH (FT.): 4.0  
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP-SM

DRY SAMPLE WEIGHT (GRAMS): 98.19  
SAMPLE WEIGHT AFTER WASH (GRAMS): 94.59

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	1.31	1.33	98.67
7	-1.50	2.800	2.24	2.28	97.72
10	-1.00	2.000	3.13	3.19	96.81
14	-0.50	1.400	3.84	3.91	96.09
18	0.00	1.000	4.39	4.47	95.53
25	0.50	0.710	4.83	4.92	95.08
35	1.00	0.500	5.16	5.26	94.74
45	1.50	0.355	5.42	5.52	94.48
60	2.00	0.250	5.92	6.03	93.97
80	2.50	0.180	7.57	7.71	92.29
120	3.00	0.125	47.59	48.47	51.53
170	3.50	0.090	90.18	91.84	8.16
200	3.75	0.075	90.59	92.26	7.74
230	4.00	0.063	96.17	97.94	2.06
PAN			98.19	100.00	0.00

PHI (5): 0.62 PHI (16): 2.60 PHI (25): 2.71  
PHI (50): 3.02 PHI (75): 3.31 PHI (84): 3.41  
PHI (95): 3.87

SIEVE LOSS (g): 0.00 SILT/CLAY: 7.74%  
SKEWNESS: -1.912 KURTOSIS: 2.243

GRAPHIC METHOD

MEAN (PHI): 2.70 SORTING: 0.40  
MEAN (mm): 0.15 MEDIAN (mm): 0.12  
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

MOMENT METHOD

MEAN (PHI): 2.81 SORTING: 1.05  
MEAN (mm): 0.14

DATA FILE NAME: EI-00-07#2.TAB

GRADATION ANALYSIS REPORT  
ESTERO VC 2000  
TESTED BY: ID            ON: 9/00

SAMPLE NO.: EI-00-07#3  
SAMPLE ELEV. (FT. NGVD): 5.5  
SAMPLE DEPTH (FT.): 5.5  
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP-SM

DRY SAMPLE WEIGHT (GRAMS): 86.92  
SAMPLE WEIGHT AFTER WASH (GRAMS): 83.12

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	0.22	0.25	99.75
5	-2.00	4.000	0.56	0.64	99.36
7	-1.50	2.800	0.94	1.08	98.92
10	-1.00	2.000	1.42	1.63	98.37
14	-0.50	1.400	1.46	1.68	98.32
18	0.00	1.000	2.60	2.99	97.01
25	0.50	0.710	2.83	3.26	96.74
35	1.00	0.500	3.07	3.53	96.47
45	1.50	0.355	3.33	3.83	96.17
60	2.00	0.250	3.39	3.90	96.10
80	2.50	0.180	5.11	5.88	94.12
120	3.00	0.125	45.38	52.21	47.79
170	3.50	0.090	78.39	90.19	9.81
200	3.75	0.075	82.36	94.75	5.25
230	4.00	0.063	84.82	97.58	2.42
PAN			86.92	100.00	0.00

PHI (5): 2.28            PHI (16): 2.61            PHI (25): 2.71  
PHI (50): 2.98            PHI (75): 3.30            PHI (84): 3.42  
PHI (95): 3.77

SIEVE LOSS (g): 0.00            SILT/CLAY: 5.25%  
SKEWNESS: 0.120            KURTOSIS: 1.031

GRAPHIC METHOD

MEAN (PHI): 3.01            SORTING: 0.40  
MEAN (mm): 0.12            MEDIAN (mm): 0.13  
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

MOMENT METHOD

MEAN (PHI): 2.87            SORTING: 0.85  
MEAN (mm): 0.14

DATA FILE NAME: EI-00-07#3.TAB



## GRADATION ANALYSIS REPORT

ESTERO VC 2000

TESTED BY: ID ON: 9/00

SAMPLE NO.: EI-00-07#4

SAMPLE ELEV. (FT. NGVD): 7.0

SAMPLE DEPTH (FT.): 7.0

SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP-SM

DRY SAMPLE WEIGHT (GRAMS): 94.62

SAMPLE WEIGHT AFTER WASH (GRAMS): 84.44

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	2.65	2.80	97.20
7	-1.50	2.800	4.28	4.52	95.48
10	-1.00	2.000	7.38	7.80	92.20
14	-0.50	1.400	9.95	10.52	89.48
18	0.00	1.000	10.72	11.33	88.67
25	0.50	0.710	11.23	11.87	88.13
35	1.00	0.500	11.65	12.31	87.69
45	1.50	0.355	12.02	12.70	87.30
60	2.00	0.250	12.28	12.98	87.02
80	2.50	0.180	14.30	15.11	84.89
120	3.00	0.125	31.90	33.71	66.29
170	3.50	0.090	72.67	76.80	23.20
200	3.75	0.075	81.74	86.39	13.61
230	4.00	0.063	88.93	93.99	6.01
PAN			94.61	99.99	0.01

PHI (5): -1.43

PHI (16): 2.52

PHI (25): 2.77

PHI (50): 3.19

PHI (75): 3.48

PHI (84): 3.69

PHI (95): 4.03

SIEVE LOSS (g): 0.01

SILT/CLAY: 13.61%

SKEWNESS: -3.241

KURTOSIS: 3.137

## GRAPHIC METHOD

MEAN (PHI): 2.40

SORTING: 0.58

MEAN (mm): 0.19

MEDIAN (mm): 0.11

NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

## MOMENT METHOD

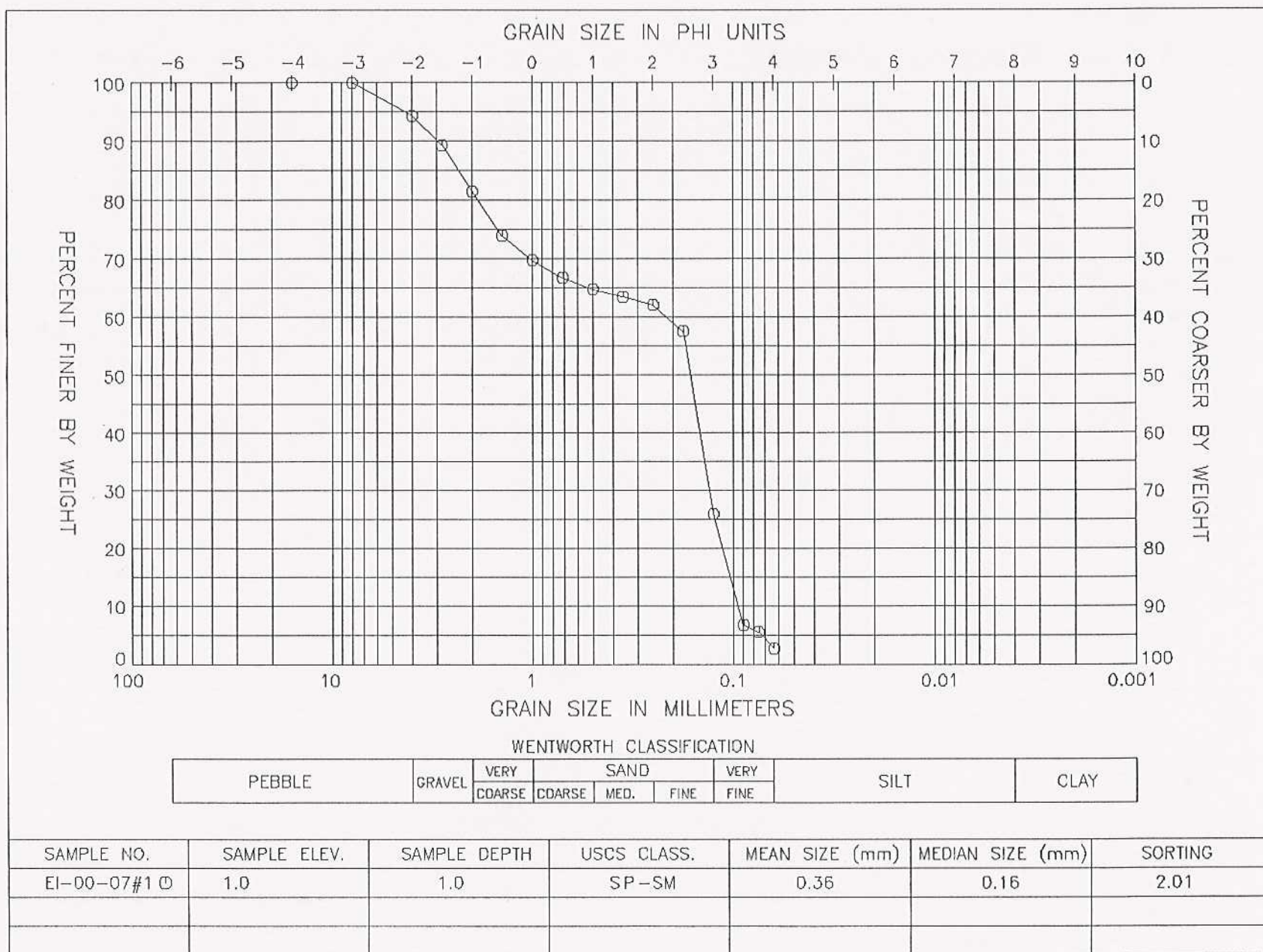
MEAN (PHI): 2.61

SORTING: 1.59

MEAN (mm): 0.16

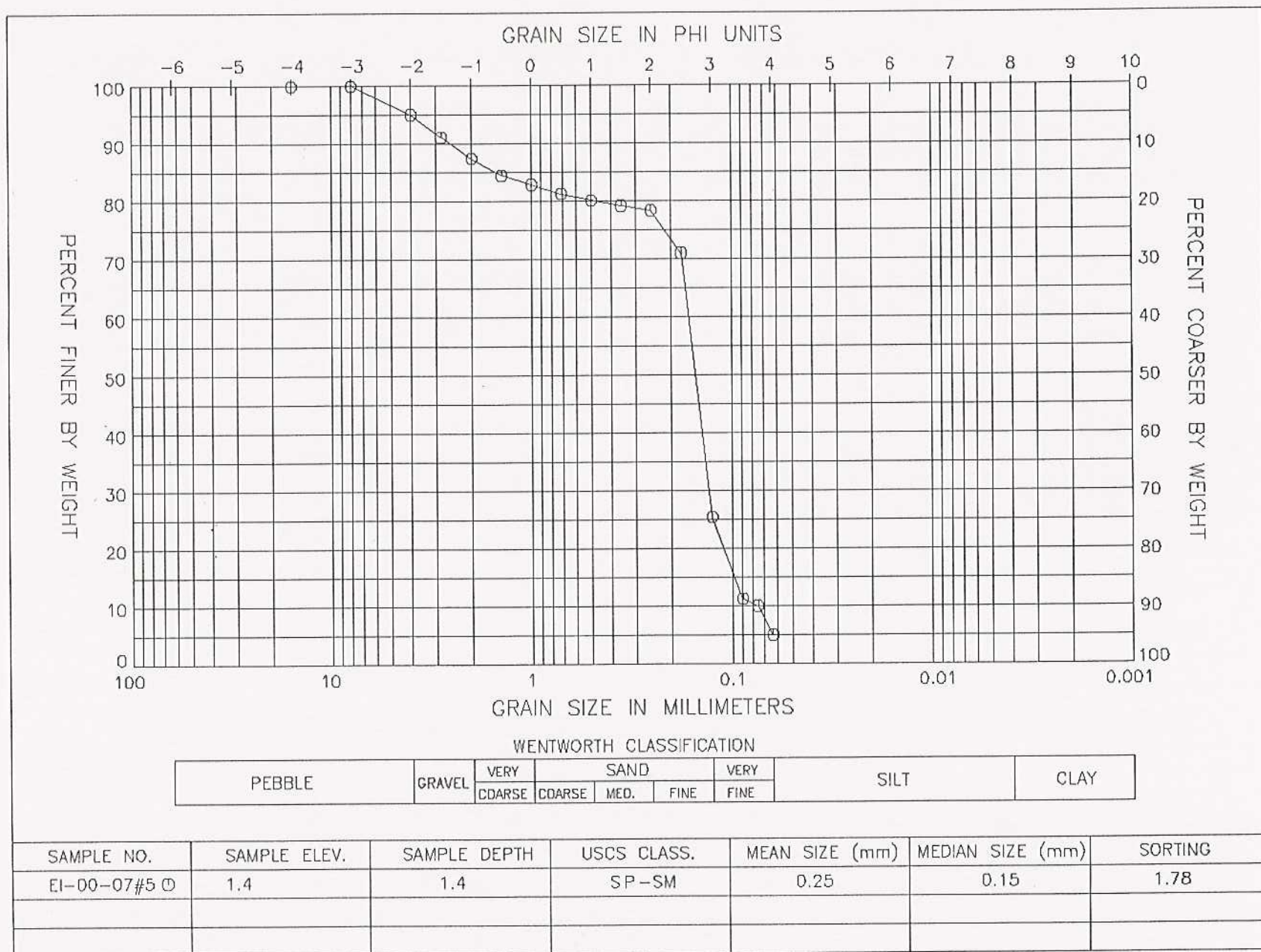
DATA FILE NAME: EI-00-07#4.TAB

GRAIN SIZE DISTRIBUTION CURVE  
ESTERO VC 2000



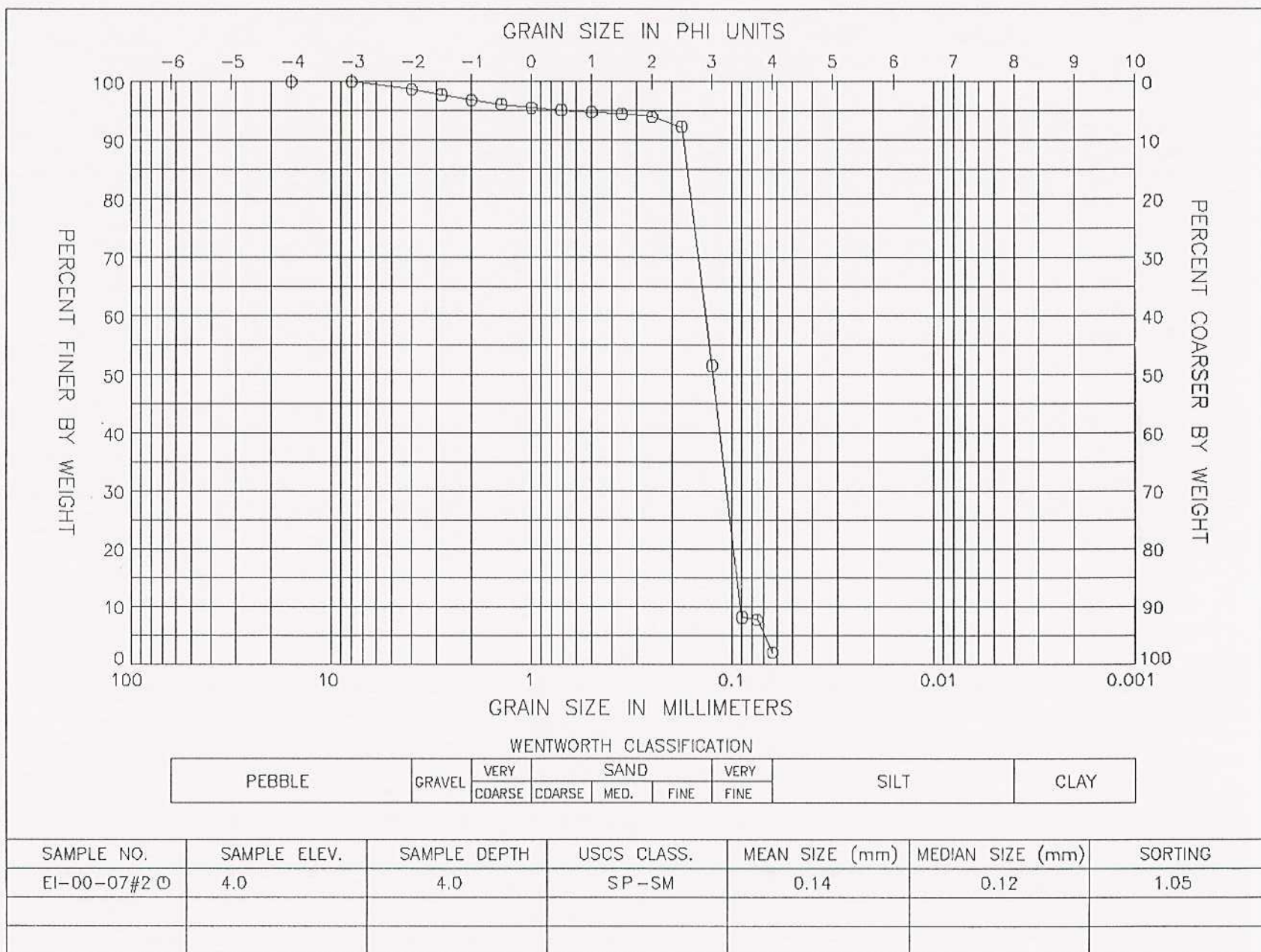


# GRAIN SIZE DISTRIBUTION CURVE ESTERO VC 2000

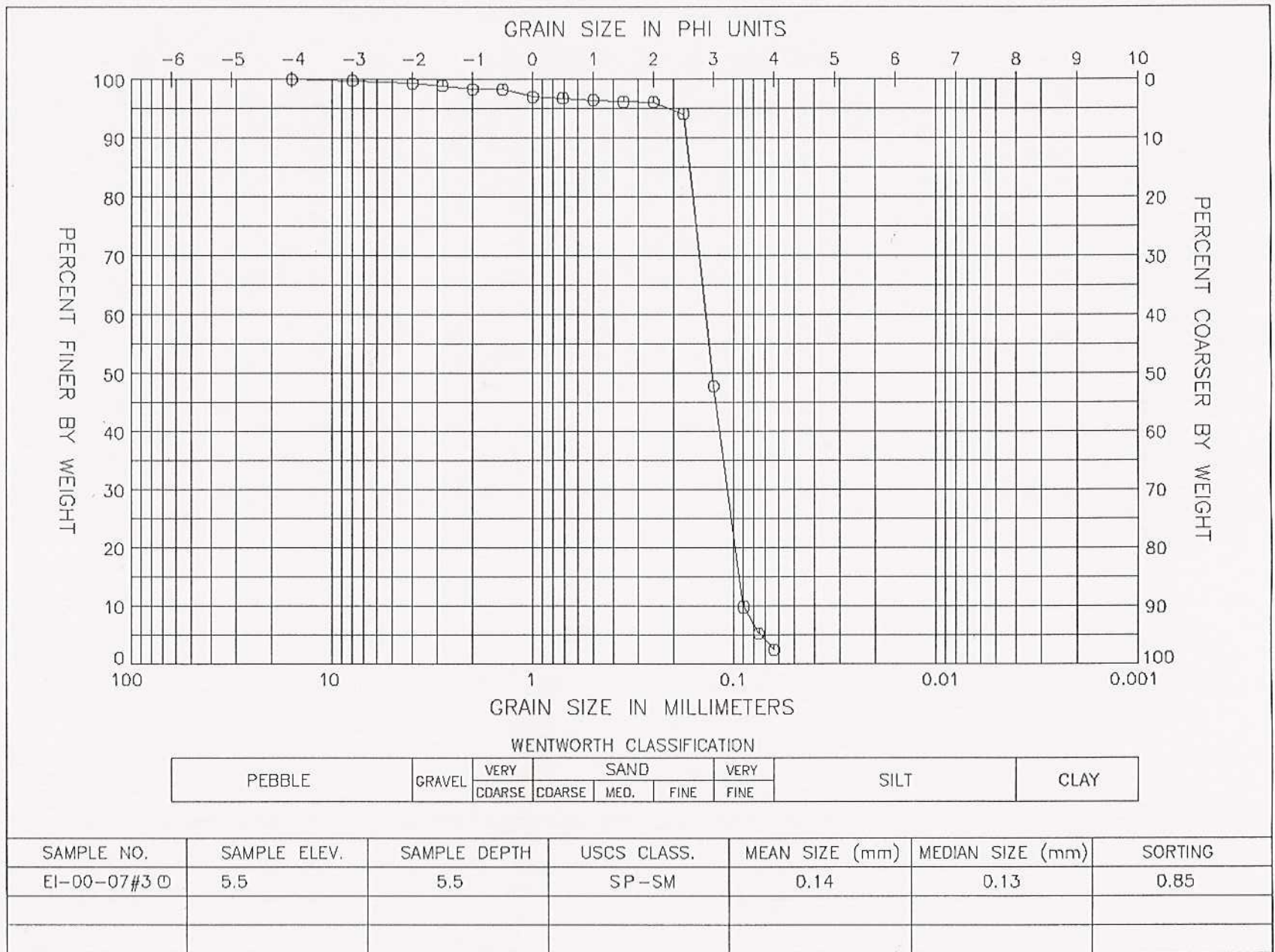




GRAIN SIZE DISTRIBUTION CURVE  
ESTERO VC 2000



GRAIN SIZE DISTRIBUTION CURVE  
ESTERO VC 2000





GRAIN SIZE DISTRIBUTION CURVE  
ESTERO VC 2000

