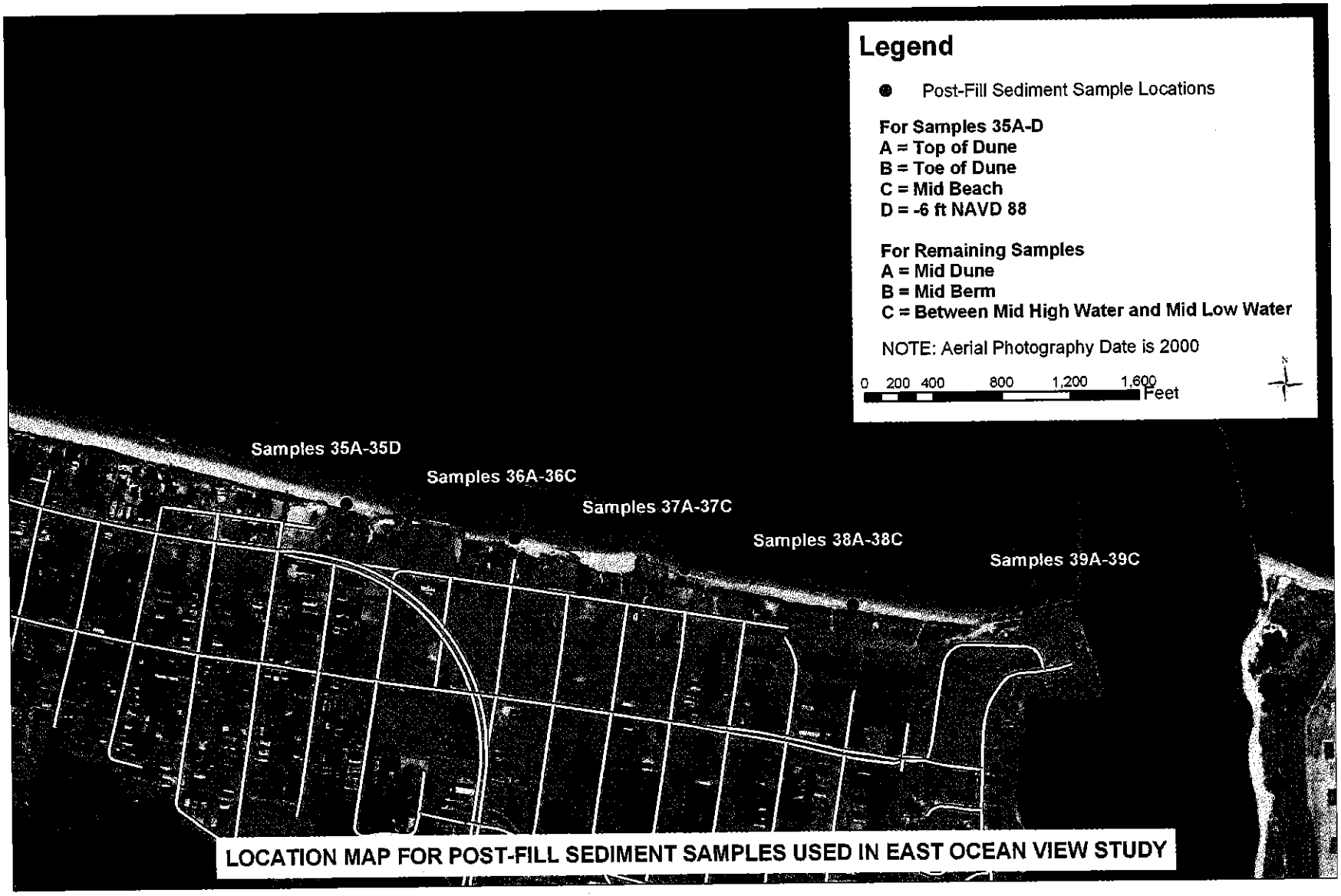
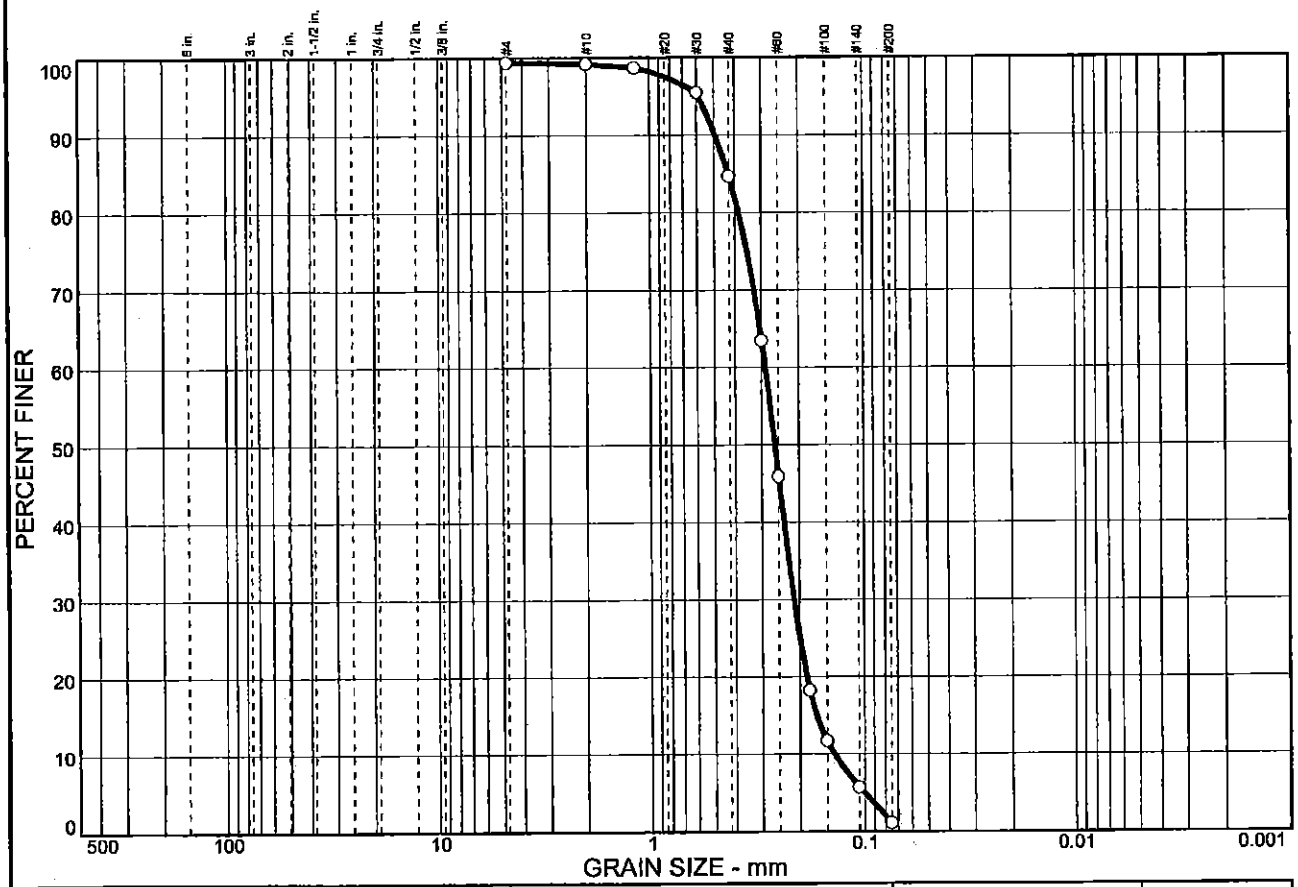
APPENDIX E – Sediment Grain Size Distributions for East Ocean View Beach Area – Post-Nourishment



LOCATION MAP FOR POST-FILL SEDIMENT SAMPLES USED IN EAST OCEAN VIEW STUDY

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
		98.3	1.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	99.4		
#10	99.2		
#16	98.7		
#30	95.5		
#40	84.7		
#50	63.5		
#60	45.9		
#80	18.2		
#100	11.7		
#140	5.7		
#200	1.1		

* (no specification provided)

Soil Description

Tan, Poorly Graded SAND

Atterberg Limits

PL= NP LL= NP PI= NP

Coefficients

D_{85}= 0.428 D_{60}= 0.288 D_{50}= 0.260
D_{30}= 0.212 D_{15}= 0.168 D_{10}= 0.139
C_u= 2.08 C_c= 1.12

Classification

USCS= SP AASHTO= A-3

Remarks

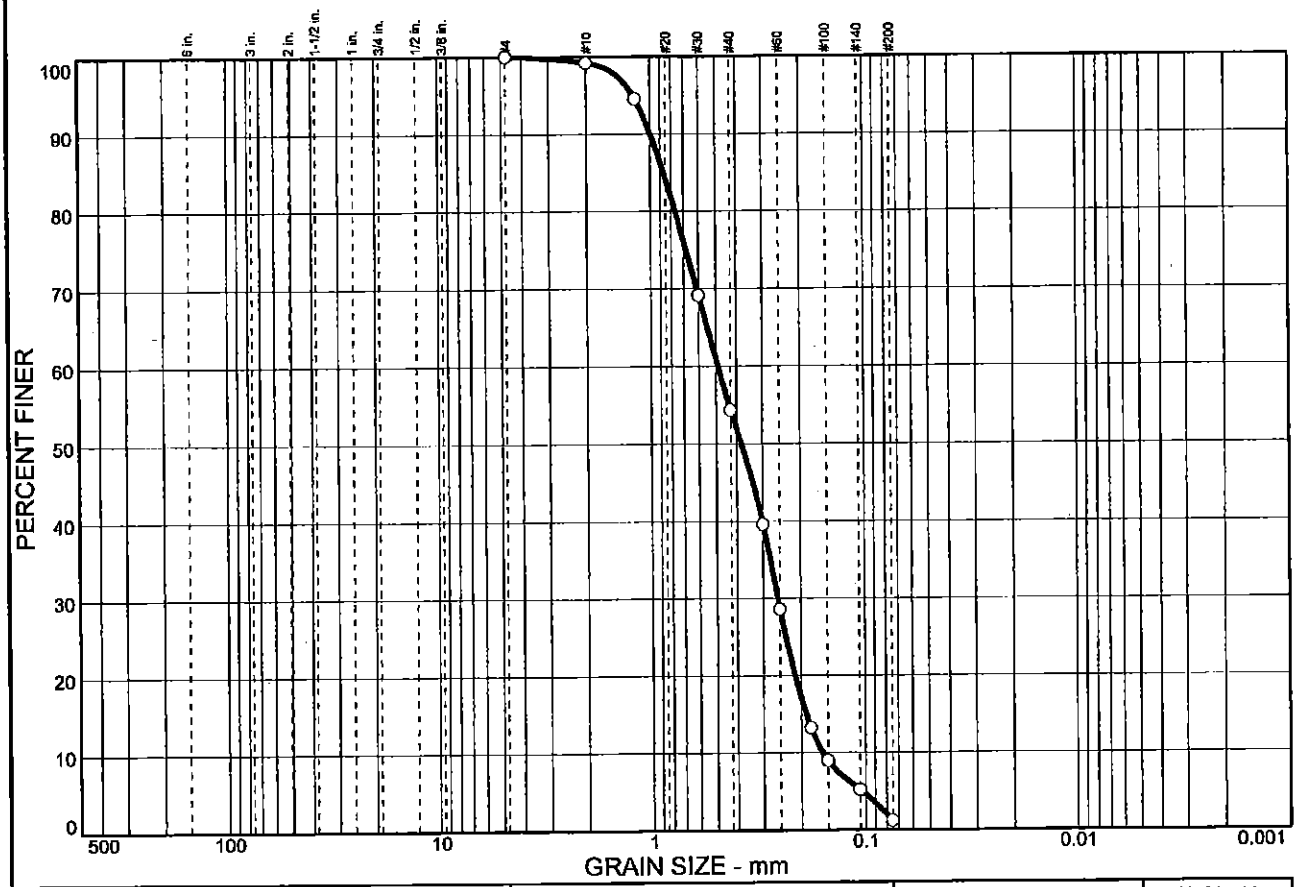
OV-35
Sample A

Sample No.: A **Source of Sample:** **Date:** 4/21/04
Location: OV-35 **Elev./Depth:** NA

GET SOLUTIONS, INC.

Client: Waterway Surveys and Engineering
Project: Ocean View Sediment Analyysis
Project No: VB04-131G **Figure** 35A

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	98.8	1.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.2		
#16	94.5		
#30	69.1		
#40	54.3		
#50	39.6		
#60	28.6		
#80	13.2		
#100	9.0		
#140	5.2		
#200	1.2		

* (no specification provided)

Soil Description

Tan, Poorly Graded SAND

Atterberg Limits

PL= NP LL= NP PI= NP

Coefficients

D_{85}= 0.868 D_{60}= 0.488 D_{50}= 0.379
D_{30}= 0.256 D_{15}= 0.190 D_{10}= 0.159
C_u= 3.08 C_c= 0.85

Classification

USCS= SP AASHTO= A-3

Remarks

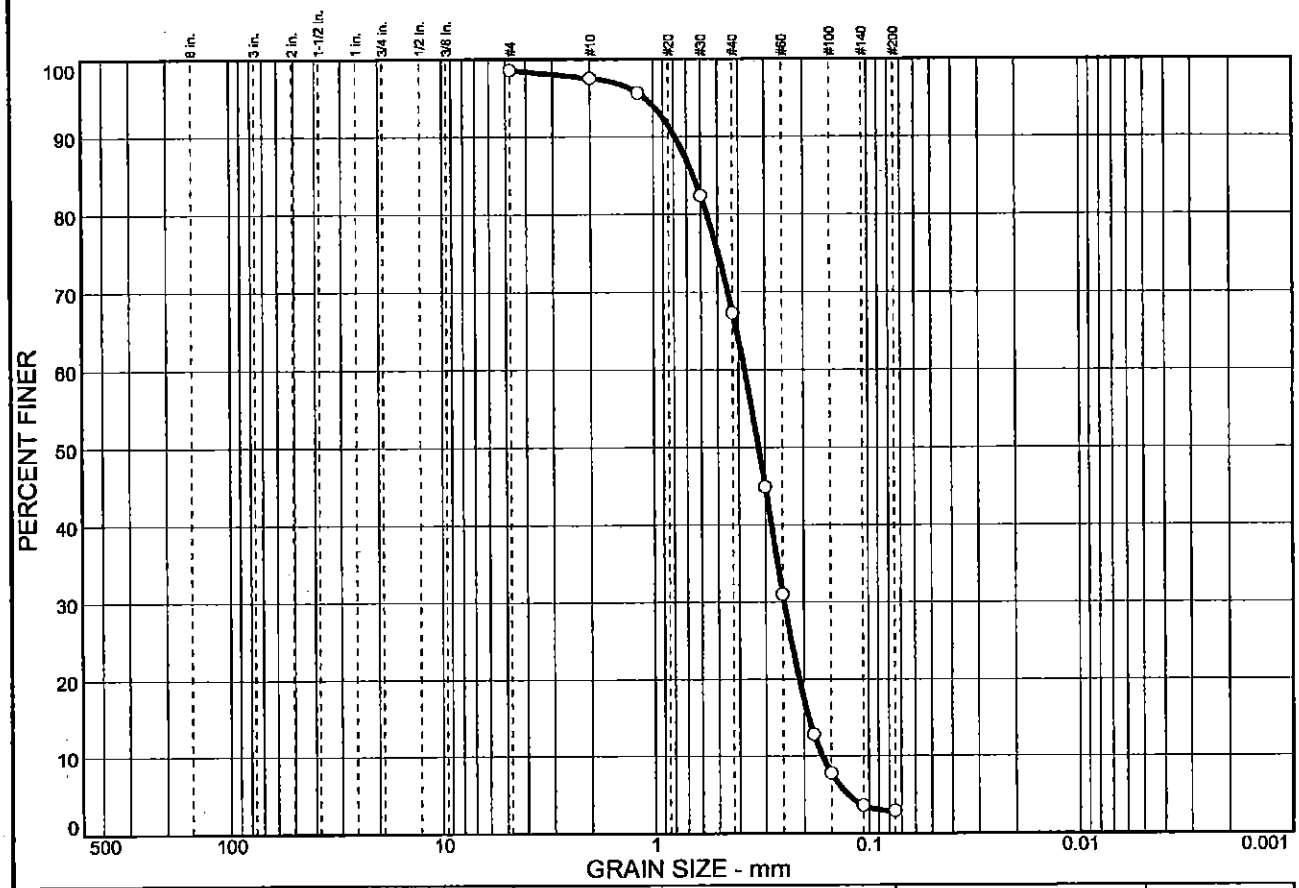
OV-35
Sample B

Sample No.: B **Source of Sample:** **Date:** 4/21/04
Location: OV-35 **Elev./Depth:** NA

GET SOLUTIONS, INC.

Client: Waterway Surveys and Engineering
Project: Ocean View Sediment Analyysis
Project No: VB04-131G **Figure** 35B

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
		95.7	2.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	98.6		
#10	97.5		
#16	95.6		
#30	82.4		
#40	67.3		
#50	44.9		
#60	31.0		
#80	12.8		
#100	7.8		
#140	3.6		
#200	2.9		

* (no specification provided)

Soil Description

Tan, Poorly Graded SAND

Atterberg Limits

PL= NP LL= NP PI= NP

Coefficients

D_{85}= 0.651 D_{60}= 0.374 D_{50}= 0.322
D_{30}= 0.247 D_{15}= 0.190 D_{10}= 0.165
C_u= 2.27 C_c= 0.99

Classification

USCS= SP AASHTO= A-3

Remarks

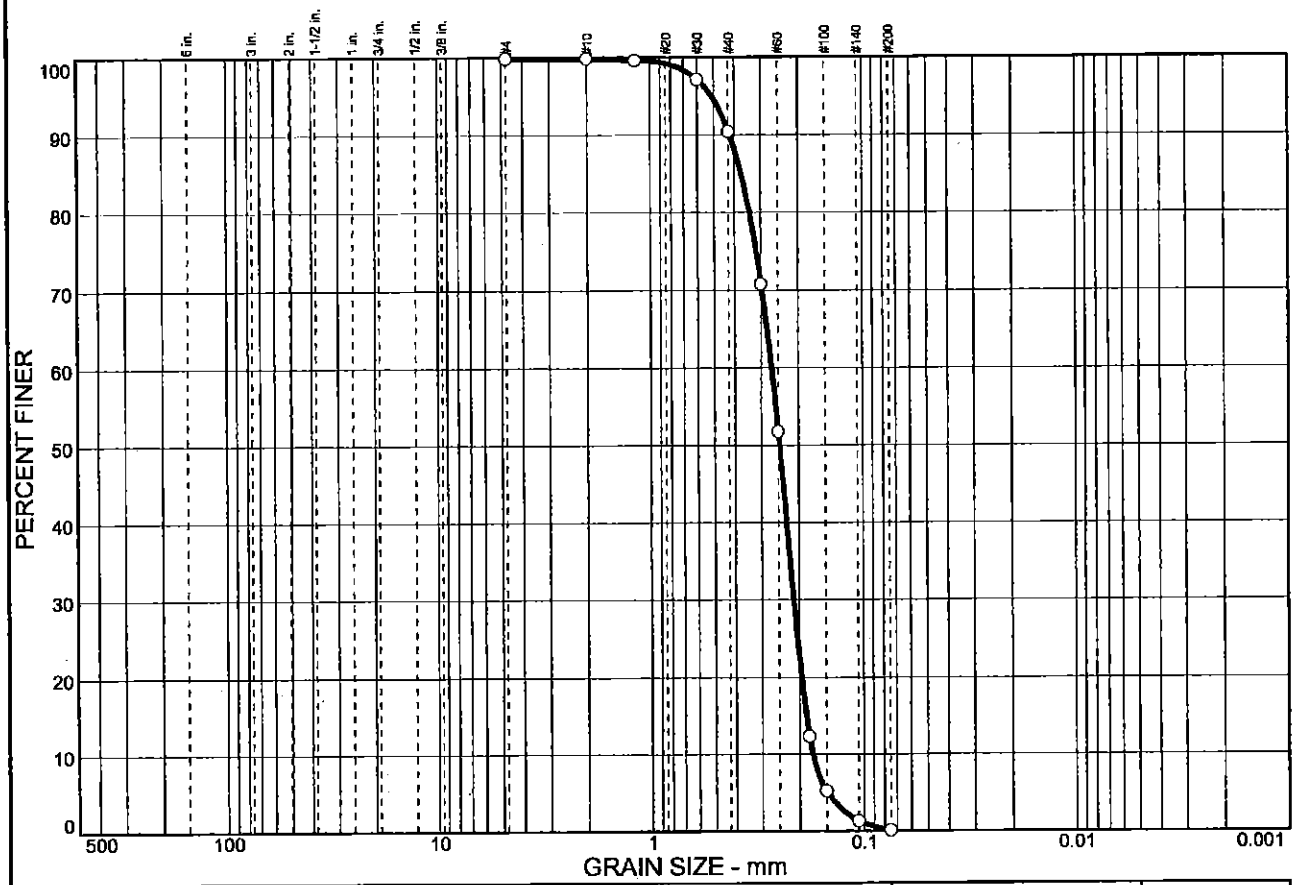
OV-35
Sample C

Sample No.: C **Source of Sample:** **Date:** 4/22/04
Location: OV-35 **Elev./Depth:** NA

GET SOLUTIONS, INC.

Client: Waterway Surveys and Engineering
Project: Ocean View Sediment Analyysis
Project No: VB04-131G **Figure** 35C

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
		99.7	0.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	99.8		
#10	99.8		
#16	99.6		
#30	97.1		
#40	90.4		
#50	70.8		
#60	51.8		
#80	12.3		
#100	5.2		
#140	1.3		
#200	0.1		

* (no specification provided)

Soil Description

Tan, Poorly Graded SAND

Atterberg Limits

PL= NP LL= NP PI= NP

Coefficients

D_{85}= 0.372 D_{60}= 0.268 D_{50}= 0.246
D_{30}= 0.212 D_{15}= 0.186 D_{10}= 0.174
C_u= 1.54 C_c= 0.97

Classification

USCS= SP AASHTO= A-3

Remarks

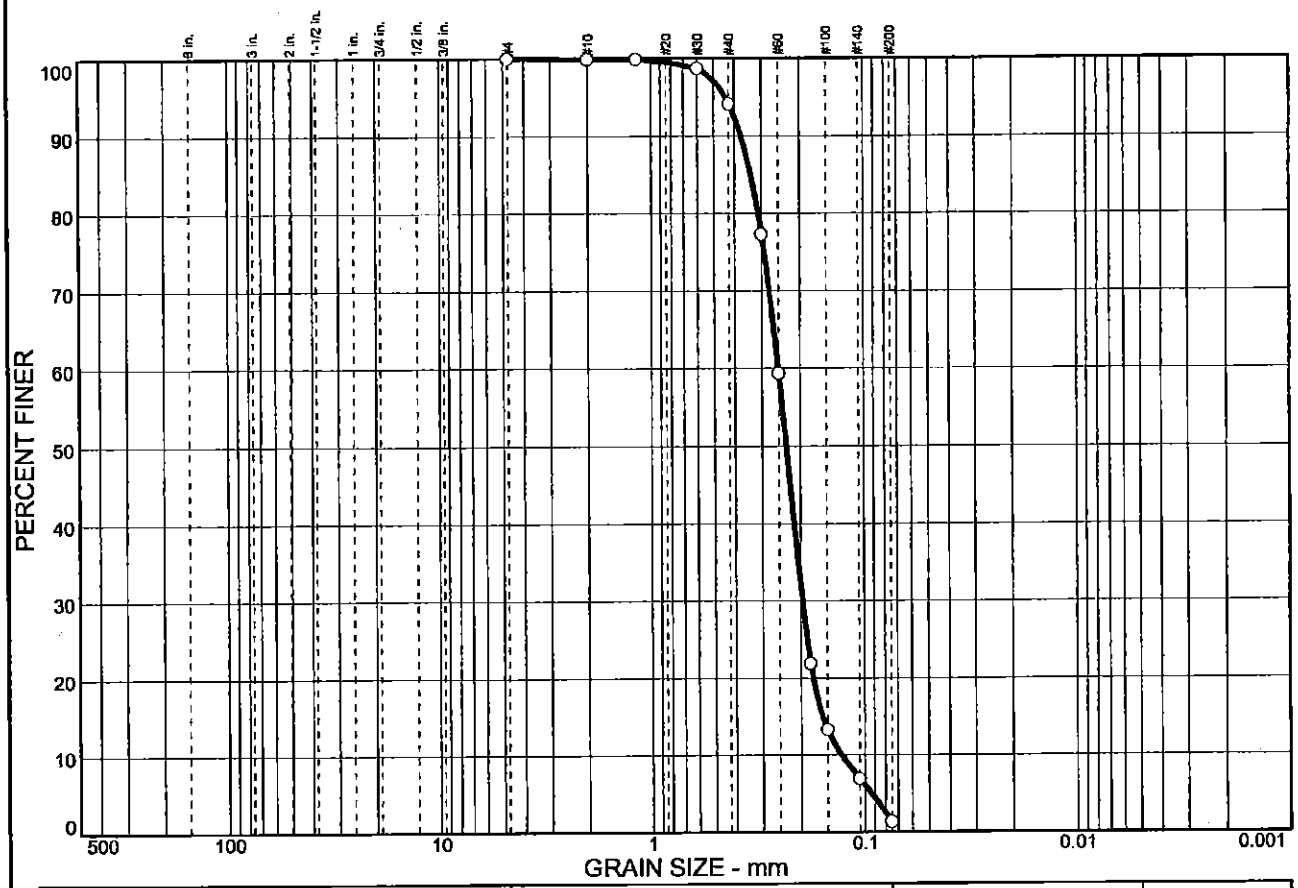
OV-35
Sample D

Sample No.: D **Source of Sample:** **Date:** 4/22/04
Location: OV-35 **Elev./Depth:** NA

GET SOLUTIONS, INC.

Client: Waterway Surveys and Engineering
Project: Ocean View Sediment Analyysis
Project No: VB04-131G **Figure** 35D

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	98.7	1.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#16	99.9		
#30	98.7		
#40	94.1		
#50	77.3		
#60	59.4		
#80	21.9		
#100	13.3		
#140	6.9		
#200	1.3		

* (no specification provided)

Soil Description

Tan, Poorly Graded SAND

Atterberg Limits

PL= NP LL= NP PI= NP

Coefficients

D_{85}= 0.336 D_{60}= 0.251 D_{50}= 0.232
D_{30}= 0.196 D_{15}= 0.158 D_{10}= 0.130
C_u= 1.94 C_c= 1.18

Classification

USCS= SP AASHTO= A-3

Remarks

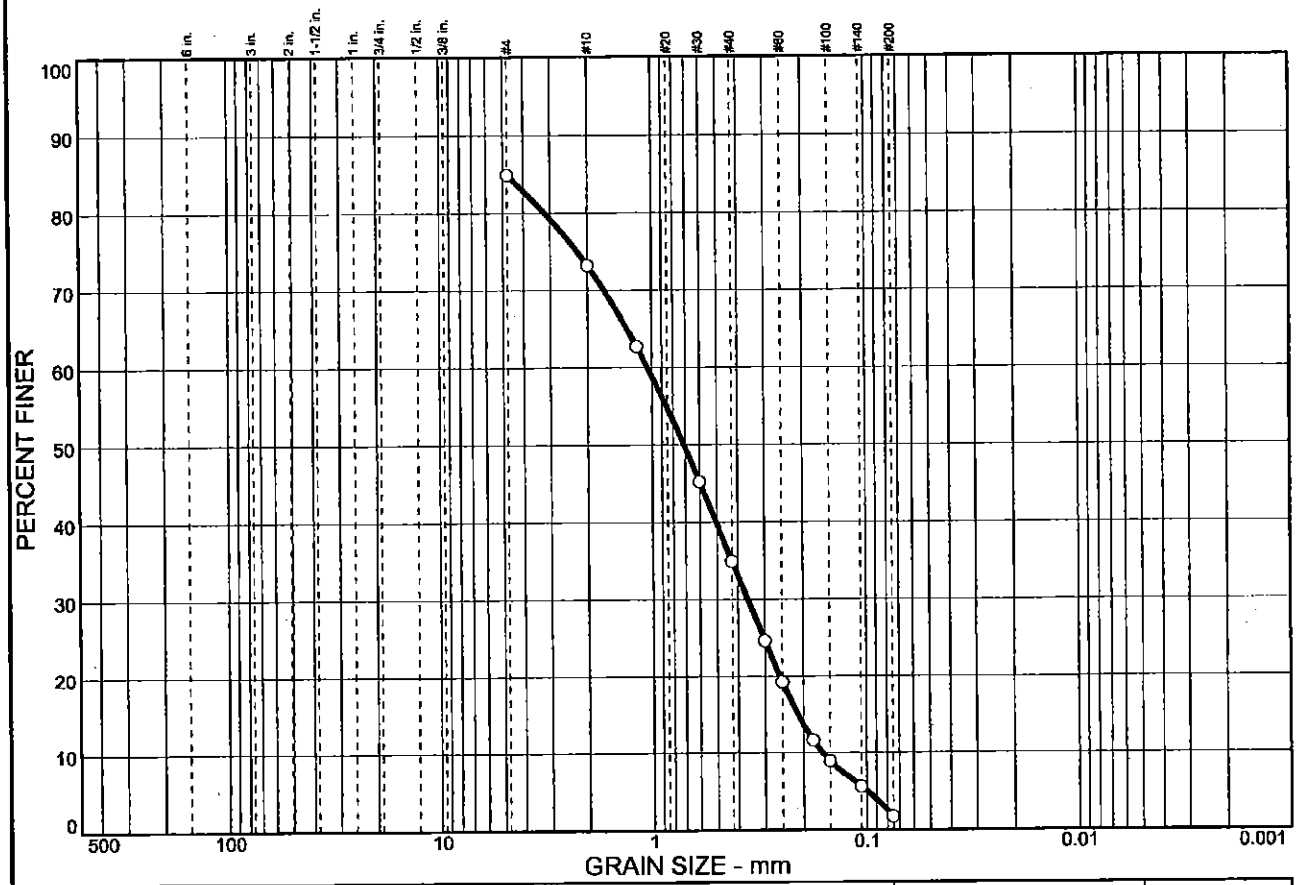
OV-36
Sample A

Sample No.: A **Source of Sample:** **Date:** 4/22/04
Location: OV-36 **Elev./Depth:** NA

GET SOLUTIONS, INC.

Client: Waterway Surveys and Engineering
Project: Ocean View Sediment Analyysis
Project No: VB04-131G **Figure** 36A

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
		83.2	1.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	84.9		
#10	73.2		
#16	62.7		
#30	45.2		
#40	34.9		
#50	24.6		
#60	19.2		
#80	11.6		
#100	8.9		
#140	5.6		
#200	1.7		

* (no specification provided)

Soil Description

Tan, Poorly Graded SAND

Atterberg Limits

PL= NP LL= NP PI= NP

Coefficients

D_{85}= D_{60}= 1.05 D_{50}= 0.711
D_{30}= 0.360 D_{15}= 0.212 D_{10}= 0.163
C_u= 6.44 C_c= 0.76

Classification

USCS= SP AASHTO= A-1-b

Remarks

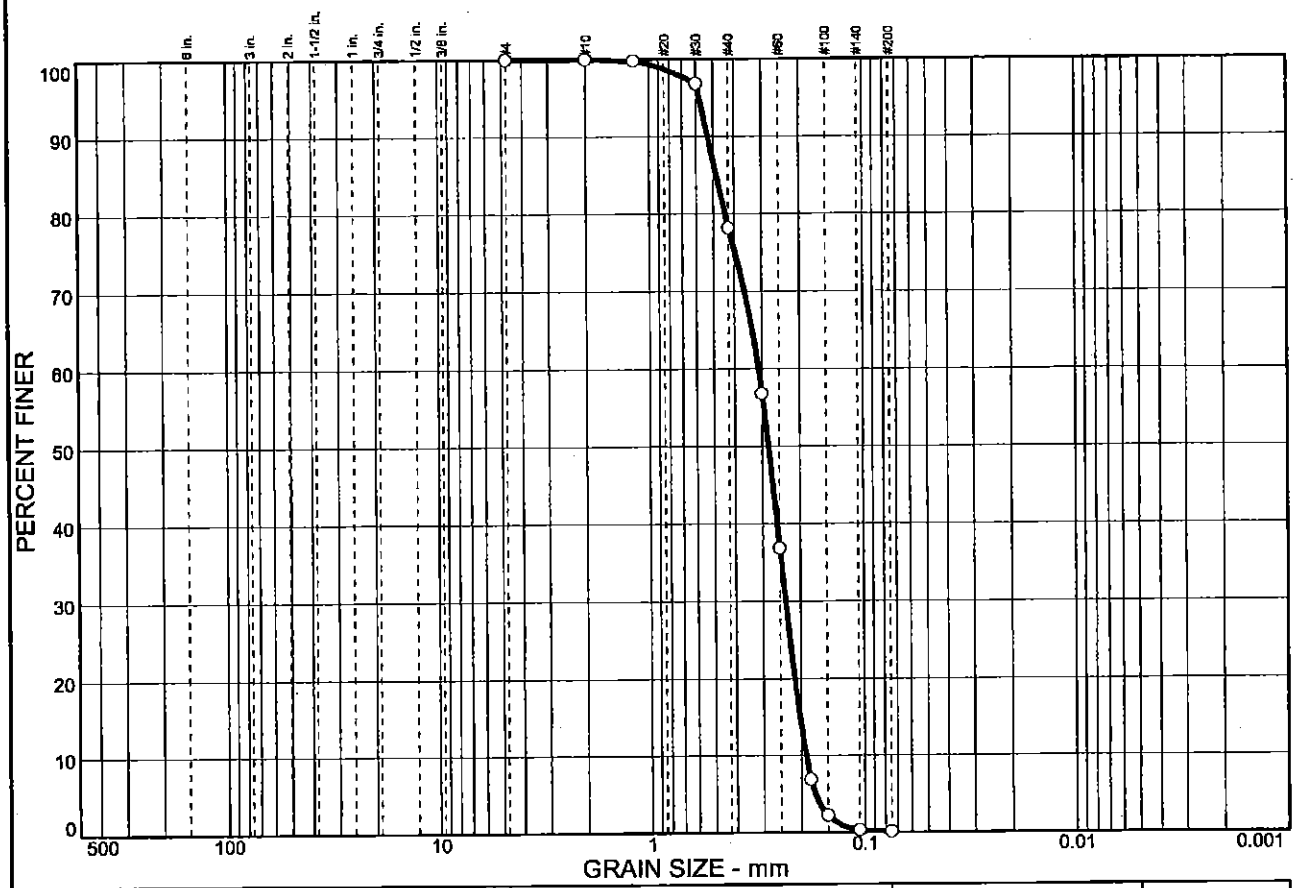
OV-36
Sample B

Sample No.: B **Source of Sample:** **Date:** 4/22/04
Location: OV-36 **Elev./Depth:** NA

GET SOLUTIONS, INC.

Client: Waterway Surveys and Engineering
Project: Ocean View Sediment Analyysis
Project No: VB04-131G **Figure** 36B

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	99.9	0.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#16	99.8		
#30	96.8		
#40	78.2		
#50	56.8		
#60	36.8		
#80	6.9		
#100	2.2		
#140	0.3		
#200	0.1		

* (no specification provided)

Soil Description

Tan, Poorly Graded SAND

Atterberg Limits

PL= NP LL= NP PI= NP

Coefficients

D_{85}= 0.485 D_{60}= 0.311 D_{50}= 0.281
D_{30}= 0.236 D_{15}= 0.203 D_{10}= 0.190
C_u= 1.64 C_c= 0.94

Classification

USCS= SP AASHTO= A-3

Remarks

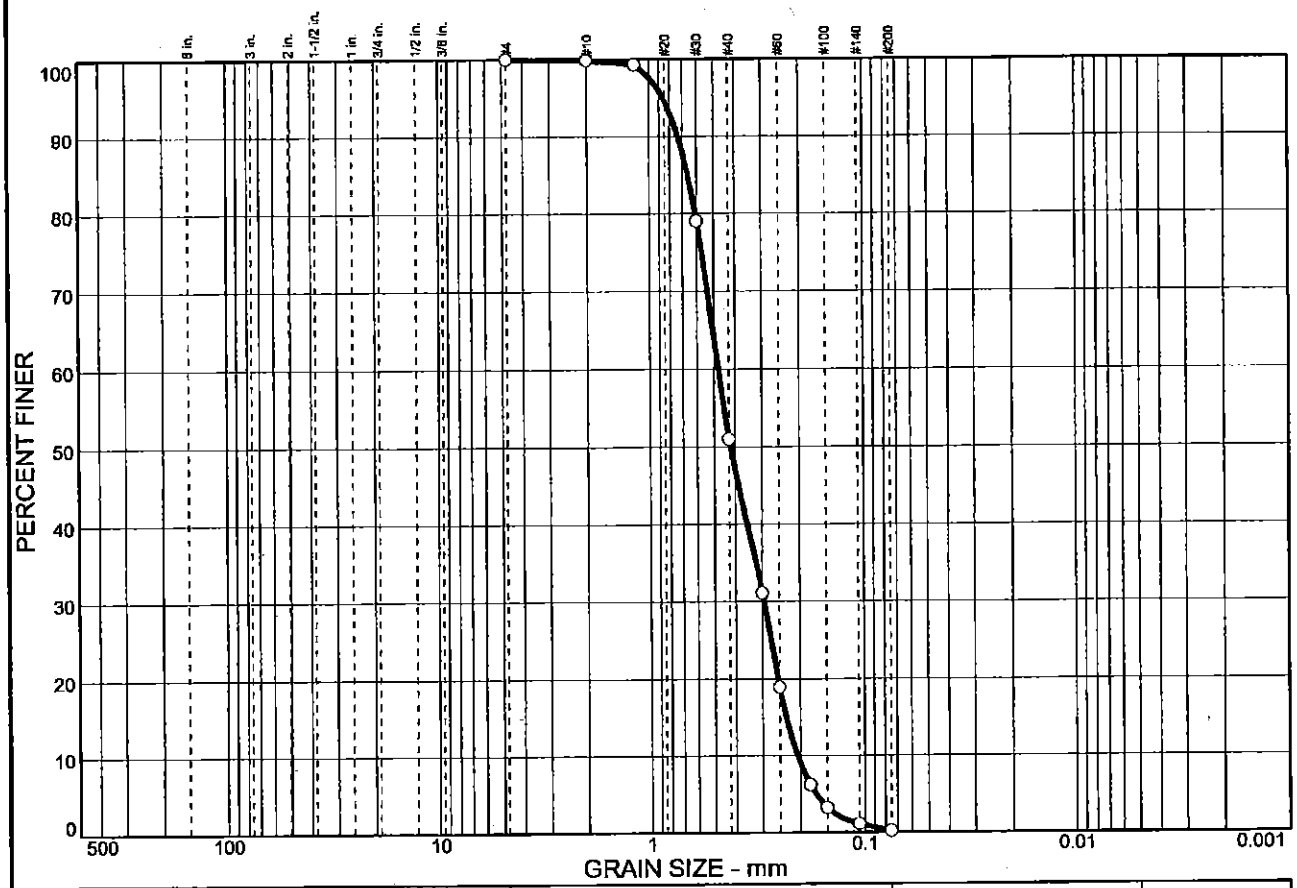
OV-36
Sample C

Sample No.: C **Source of Sample:** **Date:** 4/22/04
Location: OV-36 **Elev./Depth:** NA

GET SOLUTIONS, INC.

Client: Waterway Surveys and Engineering
Project: Ocean View Sediment Analyysis
Project No: VB04-131G **Figure** 36C

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	99.8	0.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#16	99.3		
#30	79.0		
#40	51.0		
#50	31.1		
#60	18.9		
#80	6.2		
#100	3.2		
#140	1.1		
#200	0.2		

* (no specification provided)

Soil Description

Tan, Poorly Graded SAND

Atterberg Limits

PL= NP LL= NP PI= NP

Coefficients

D_{85}= 0.660 D_{60}= 0.477 D_{50}= 0.419
D_{30}= 0.295 D_{15}= 0.233 D_{10}= 0.207
C_u= 2.31 C_c= 0.88

Classification

USCS= SP AASHTO= A-3

Remarks

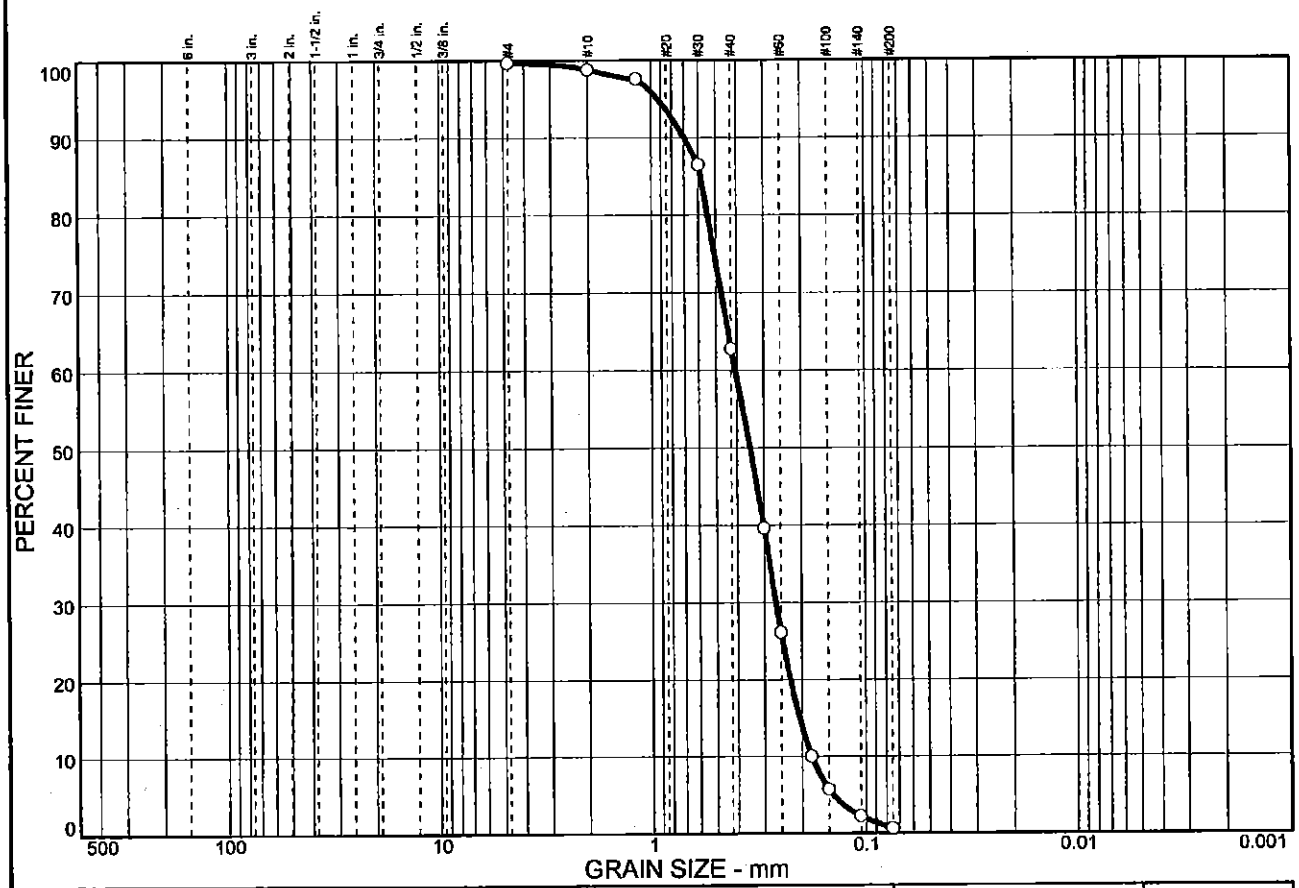
OV-37
Sample A

Sample No.: A **Source of Sample:** **Date:** 4/22/04
Location: OV-37 **Elev./Depth:** NA

GET SOLUTIONS, INC.

Client: Waterway Surveys and Engineering
Project: Ocean View Sediment Analyysis
Project No: VB04-131G **Figure** 37A

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
		99.1	0.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	99.7		
#10	98.8		
#16	97.6		
#30	86.5		
#40	62.8		
#50	39.6		
#60	26.1		
#80	10.0		
#100	5.7		
#140	2.2		
#200	0.6		

* (no specification provided)

Soil Description

Tan, Poorly Graded SAND

Atterberg Limits

PL= NP LL= NP PI= NP

Coefficients

D_{85}= 0.587 D_{60}= 0.407 D_{50}= 0.349
D_{30}= 0.264 D_{15}= 0.205 D_{10}= 0.180
C_u= 2.26 C_c= 0.95

Classification

USCS= SP AASHTO= A-3

Remarks

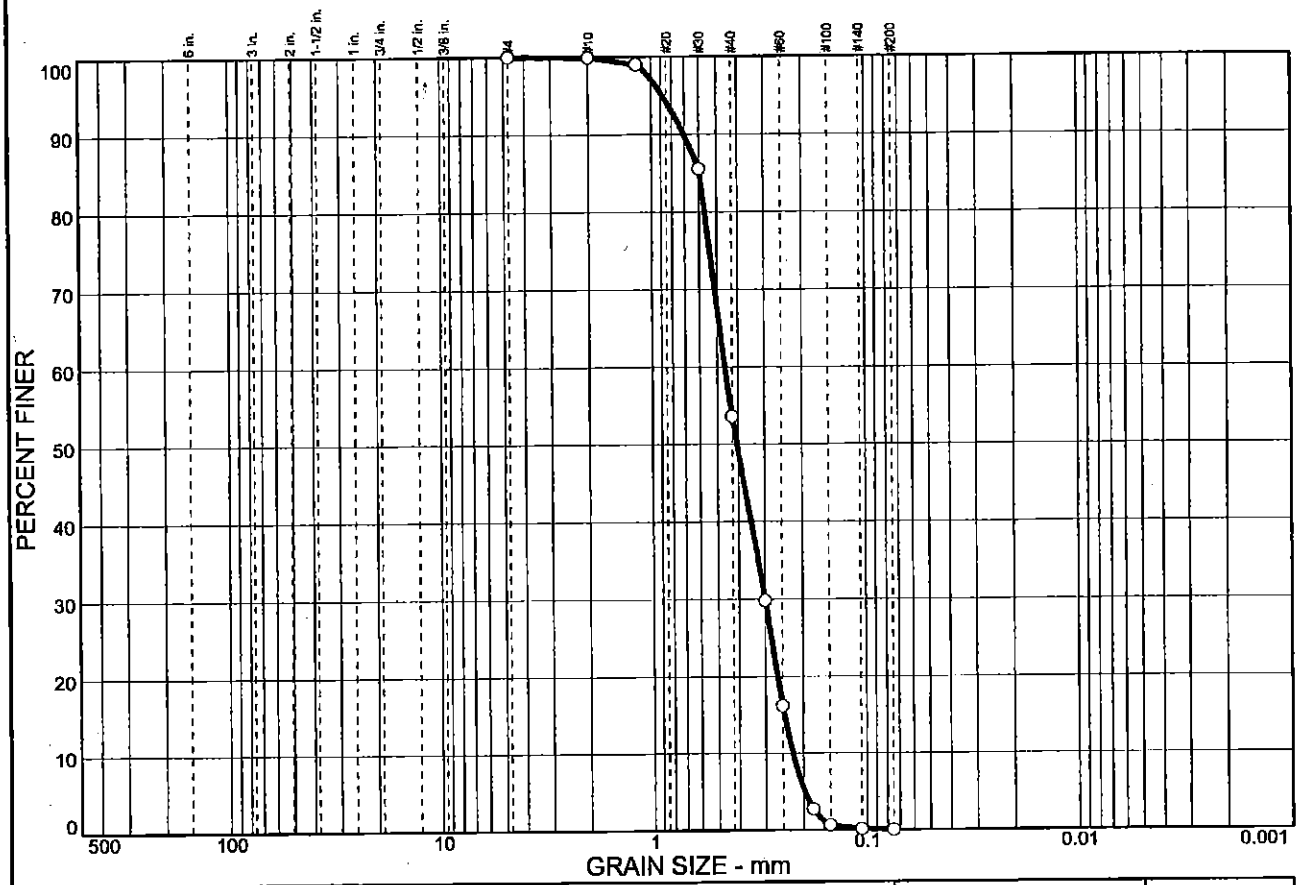
OV-37
Sample B

Sample No.: B **Source of Sample:** **Date:** 4/22/04
Location: OV-37 **Elev./Depth:** NA

GET SOLUTIONS, INC.

Client: Waterway Surveys and Engineering
Project: Ocean View Sediment Analyysis
Project No: VB04-131G **Figure** 37B

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	100.0	0.0	0.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#16	99.0		
#30	85.5		
#40	53.6		
#50	29.8		
#60	16.2		
#80	2.7		
#100	0.6		
#140	0.1		
#200	0.0		

* (no specification provided)

Soil Description

Tan, Poorly Graded SAND

Atterberg Limits

PL= NP LL= NP PI= NP

Coefficients

D_{85}= 0.597 D_{60}= 0.459 D_{50}= 0.405
D_{30}= 0.301 D_{15}= 0.245 D_{10}= 0.224
C_u= 2.04 C_c= 0.88

Classification

USCS= SP AASHTO= A-3

Remarks

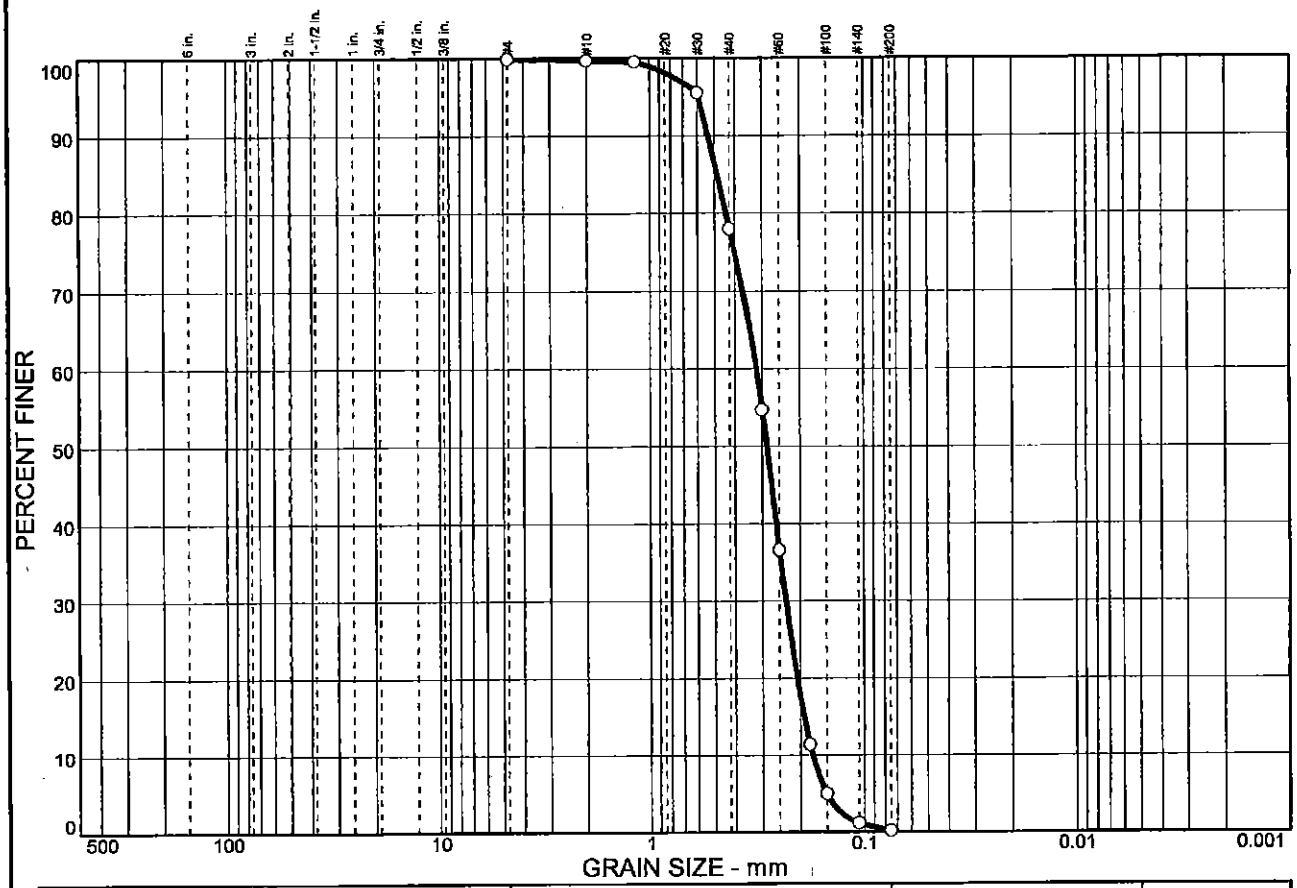
OV-37
Sample C

Sample No.: C **Source of Sample:** **Date:** 4/22/04
Location: OV-37 **Elev./Depth:** NA

GET SOLUTIONS, INC.

Client: Waterway Surveys and Engineering
Project: Ocean View Sediment Analyysis
Project No: VB04-131G **Figure** 37C

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
		99.7	0.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	99.9		
#10	99.7		
#16	99.5		
#30	95.5		
#40	78.0		
#50	54.7		
#60	36.6		
#80	11.4		
#100	5.0		
#140	1.2		
#200	0.2		

* (no specification provided)

Soil Description

Tan, Poorly Graded SAND

Atterberg Limits

PL= NP LL= NP PI= NP

Coefficients

D_{85}= 0.486 D_{60}= 0.319 D_{50}= 0.285
D_{30}= 0.233 D_{15}= 0.192 D_{10}= 0.175
C_u= 1.83 C_c= 0.97

Classification

USCS= AASHTO= A-3

Remarks

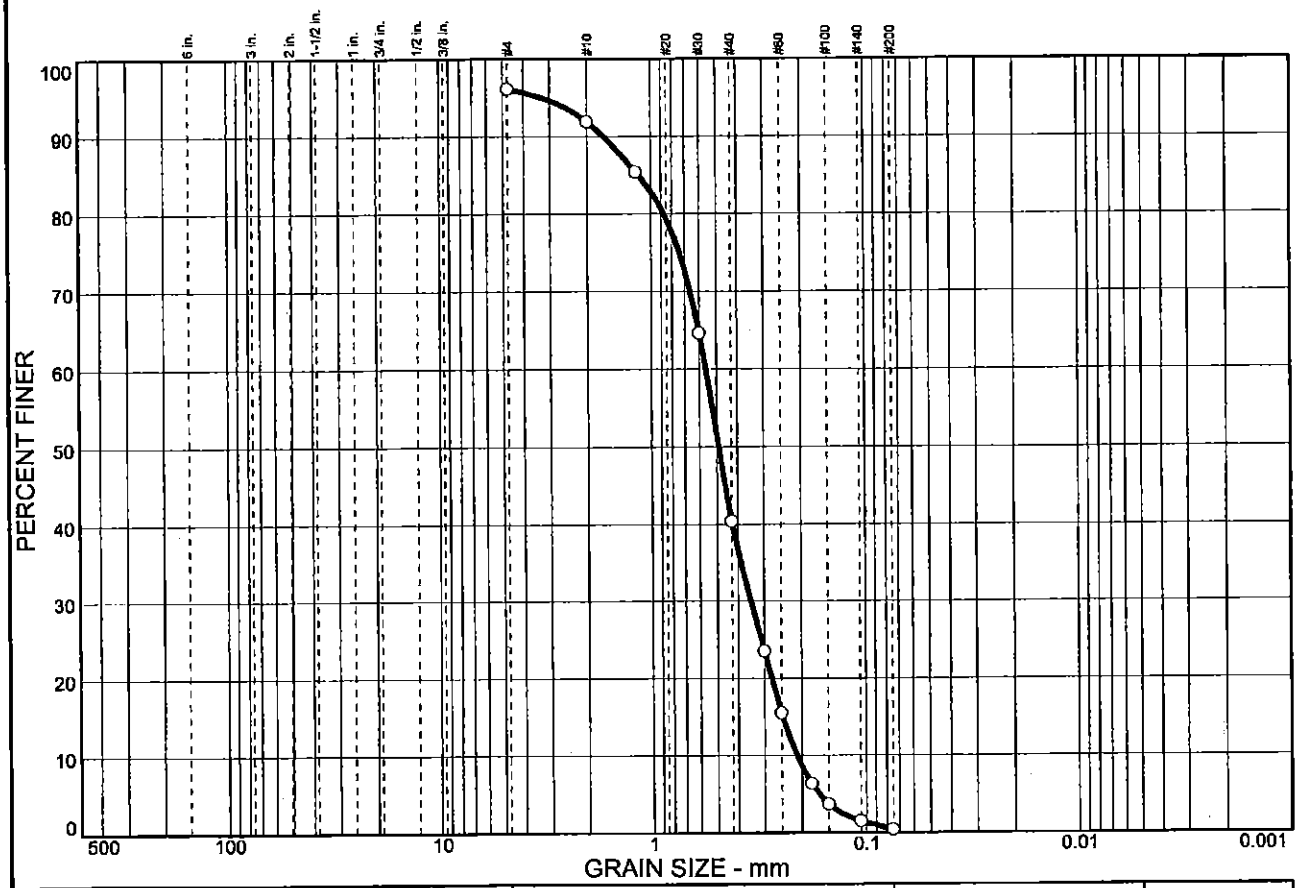
OV-38
Sample A

Sample No.: A **Source of Sample:** **Date:** 4/22/04
Location: OV-38 **Elev./Depth:** NA

GET SOLUTIONS, INC.

Client: Waterway Surveys and Engineering
Project: Ocean View Sediment Analyysis
Project No: VB04-131G **Figure** 38A

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
		95.7	0.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	96.1		
#10	91.9		
#16	85.4		
#30	64.6		
#40	40.4		
#50	23.5		
#60	15.5		
#80	6.4		
#100	3.7		
#140	1.5		
#200	0.4		

* (no specification provided)

Soil Description

Tan, Poorly Graded SAND

Atterberg Limits

PL= NP LL= NP PI= NP

Coefficients

D_{85}= 1.15 D_{60}= 0.560 D_{50}= 0.488
D_{30}= 0.348 D_{15}= 0.247 D_{10}= 0.211
C_u= 2.65 C_c= 1.02

Classification

USCS= SP AASHTO= A-1-b

Remarks

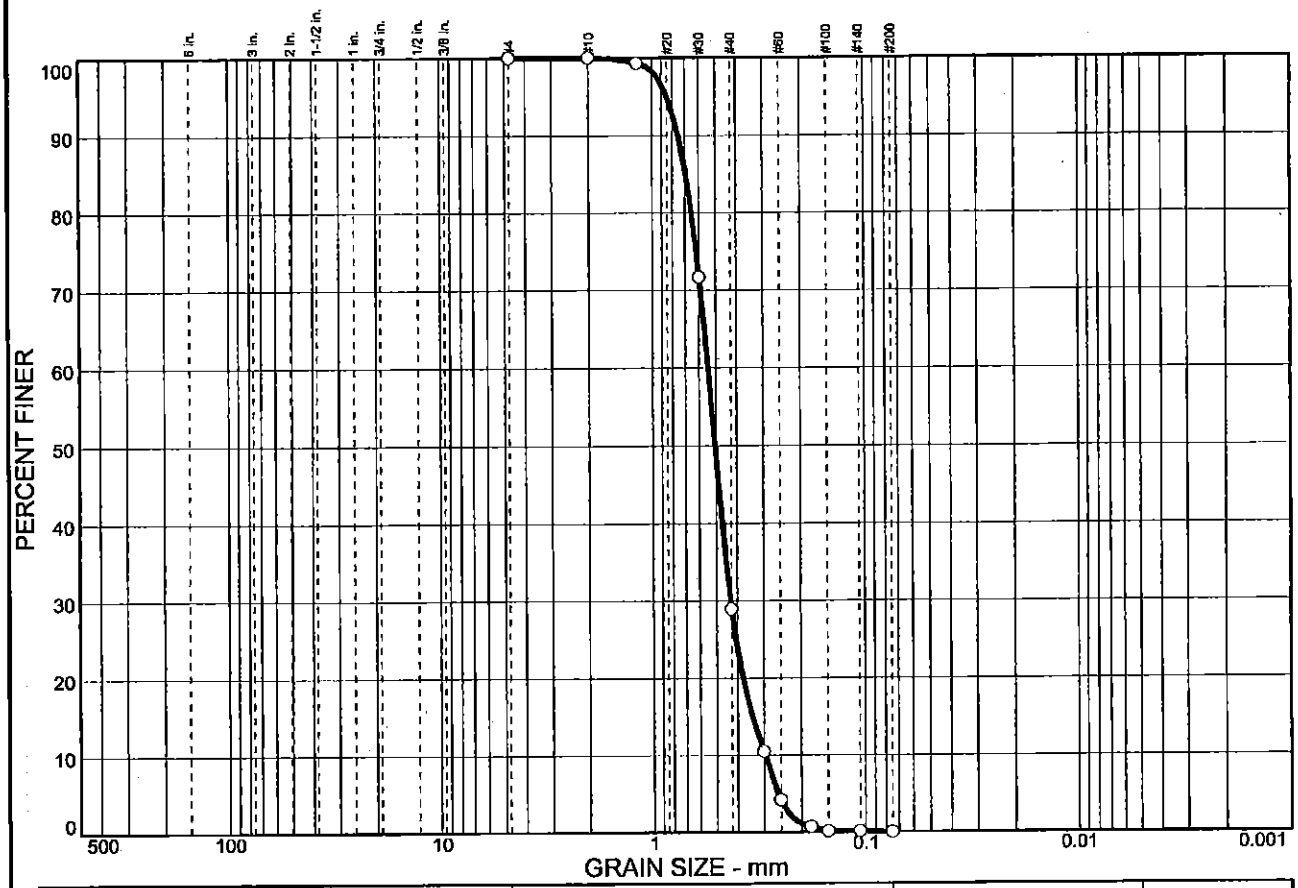
OV-38
Sample B

Sample No.: B **Source of Sample:** **Date:** 4/23/04
Location: OV-38 **Elev./Depth:** NA

GET SOLUTIONS, INC.

Client: Waterway Surveys and Engineering
Project: Ocean View Sediment Analyysis
Project No: VB04-131G **Figure** 38B

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	100.0	0.0	0.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#16	99.3		
#30	71.7		
#40	28.9		
#50	10.5		
#60	4.2		
#80	0.7		
#100	0.1		
#140	0.1		
#200	0.0		

* (no specification provided)

Soil Description

Tan, Poorly Graded SAND

Atterberg Limits

PL= NP LL= NP PI= NP

Coefficients

D_{85}= 0.695 D_{60}= 0.546 D_{50}= 0.506
D_{30}= 0.430 D_{15}= 0.340 D_{10}= 0.296
C_u= 1.84 C_c= 1.14

Classification

USCS= SP AASHTO= A-1-b

Remarks

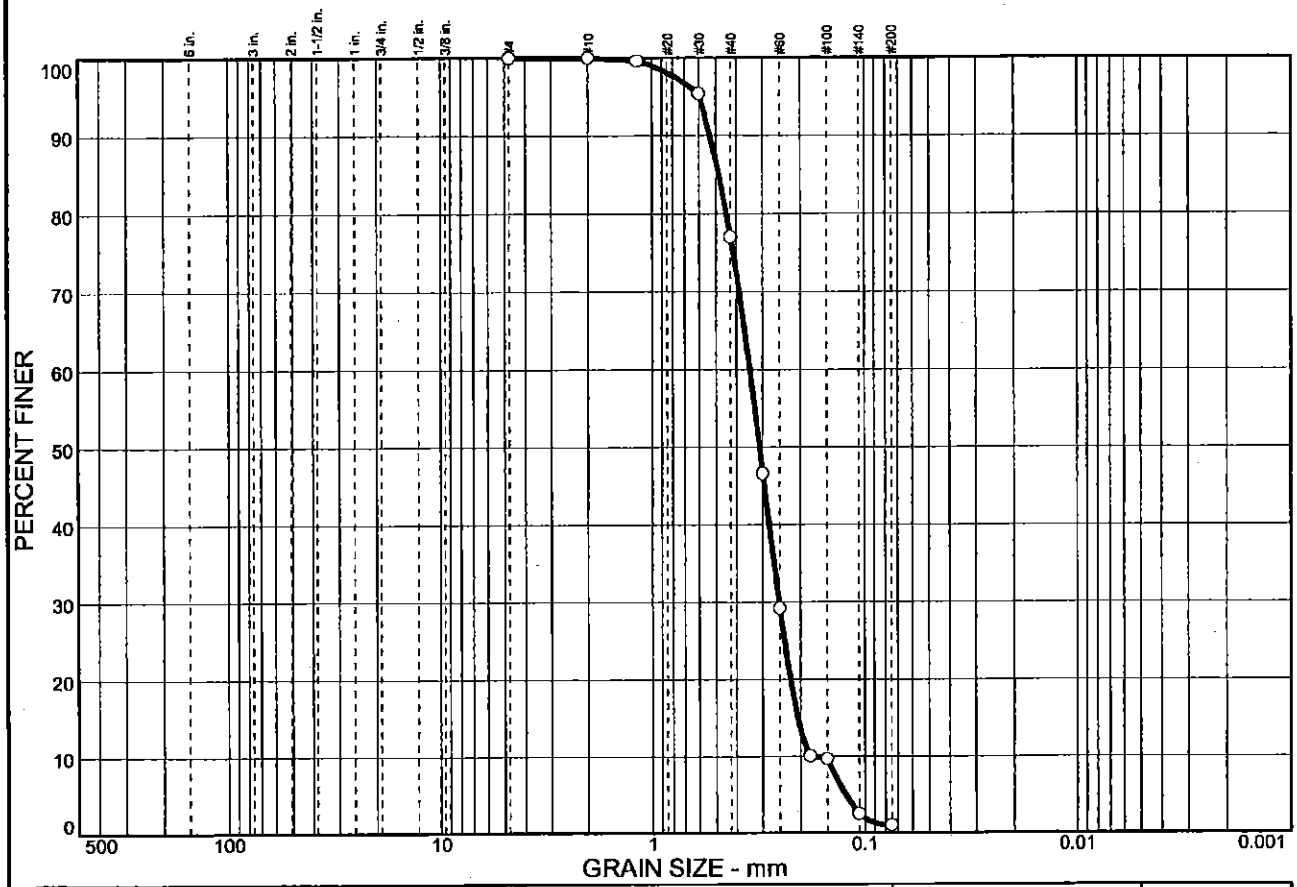
OV-38
Sample C

Sample No.: C **Source of Sample:** **Date:** 4/23/04
Location: OV-38 **Elev./Depth:** NA

GET SOLUTIONS, INC.

Client: Waterway Surveys and Engineering
Project: Ocean View Sediment Analyysis
Project No: VB04-131G **Figure** 38C

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	99.0	1.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#16	99.6		
#30	95.4		
#40	77.0		
#50	46.6		
#60	29.2		
#80	10.1		
#100	9.7		
#140	2.5		
#200	1.0		

* (no specification provided)

Soil Description

Tan, Poorly Graded SAND

Atterberg Limits

PL= NP LL= NP PI= NP

Coefficients

D_{85}= 0.484 D_{60}= 0.345 D_{50}= 0.311
D_{30}= 0.252 D_{15}= 0.206 D_{10}= 0.172
C_u= 2.01 C_c= 1.07

Classification

USCS= SP AASHTO= A-3

Remarks

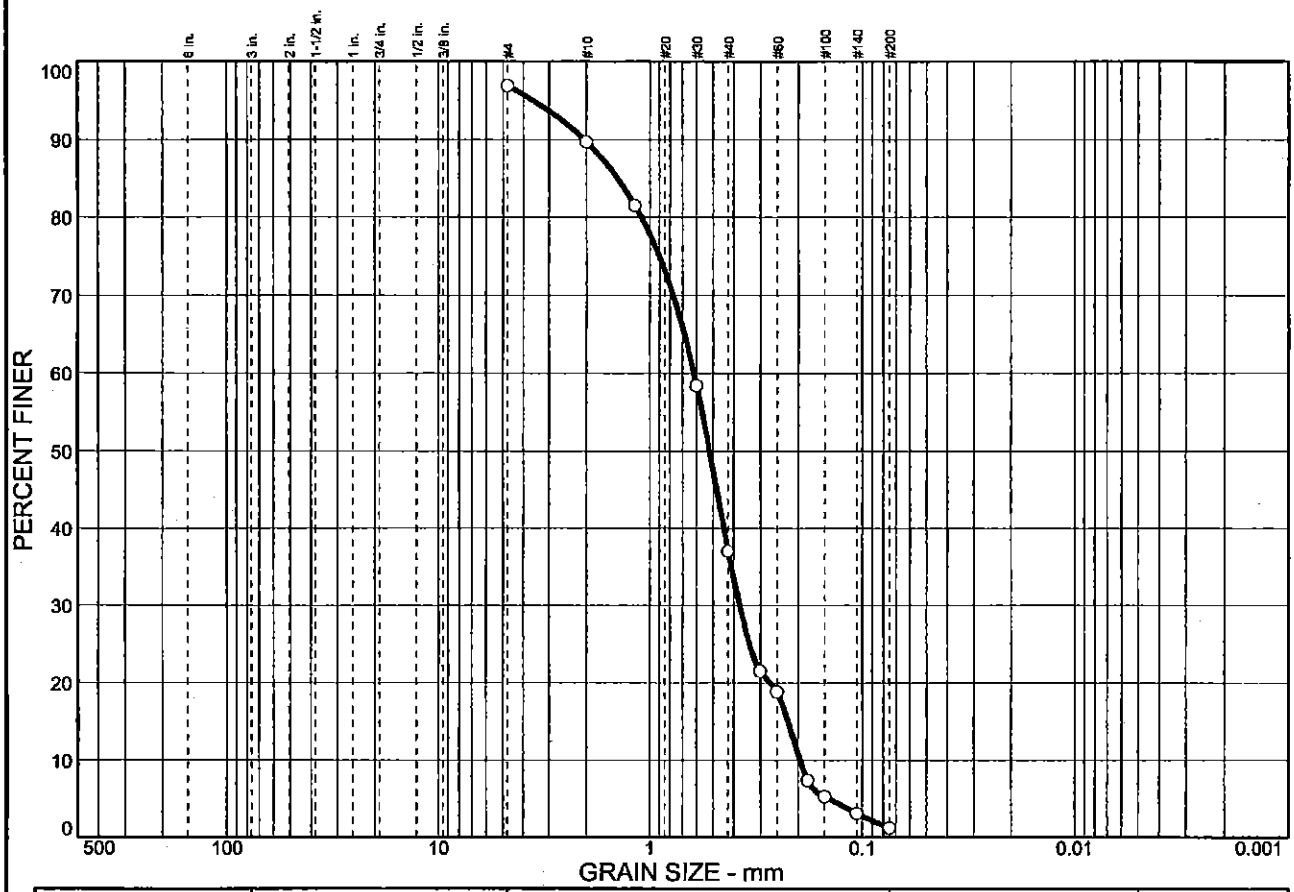
OV-39
Sample A

Sample No.: A **Source of Sample:** **Date:** 4/23/04
Location: OV-39 **Elev./Depth:** NA

GET SOLUTIONS, INC.

Client: Waterway Surveys and Engineering
Project: Ocean View Sediment Analyysis
Project No: VB04-131G **Figure** 39A

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
		95.7	1.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	96.9		
#10	89.7		
#16	81.5		
#30	58.4		
#40	37.0		
#50	21.5		
#60	18.8		
#80	7.4		
#100	5.3		
#140	3.1		
#200	1.2		

* (no specification provided)

Soil Description

Tan, Poorly Graded SAND

Atterberg Limits

PL= NP LL= NP PI= NP

Coefficients

D_{85}= 1.43 D_{60}= 0.618 D_{50}= 0.521
D_{30}= 0.376 D_{15}= 0.222 D_{10}= 0.196
C_u= 3.16 C_c= 1.17

Classification

USCS= SP AASHTO= A-1-b

Remarks

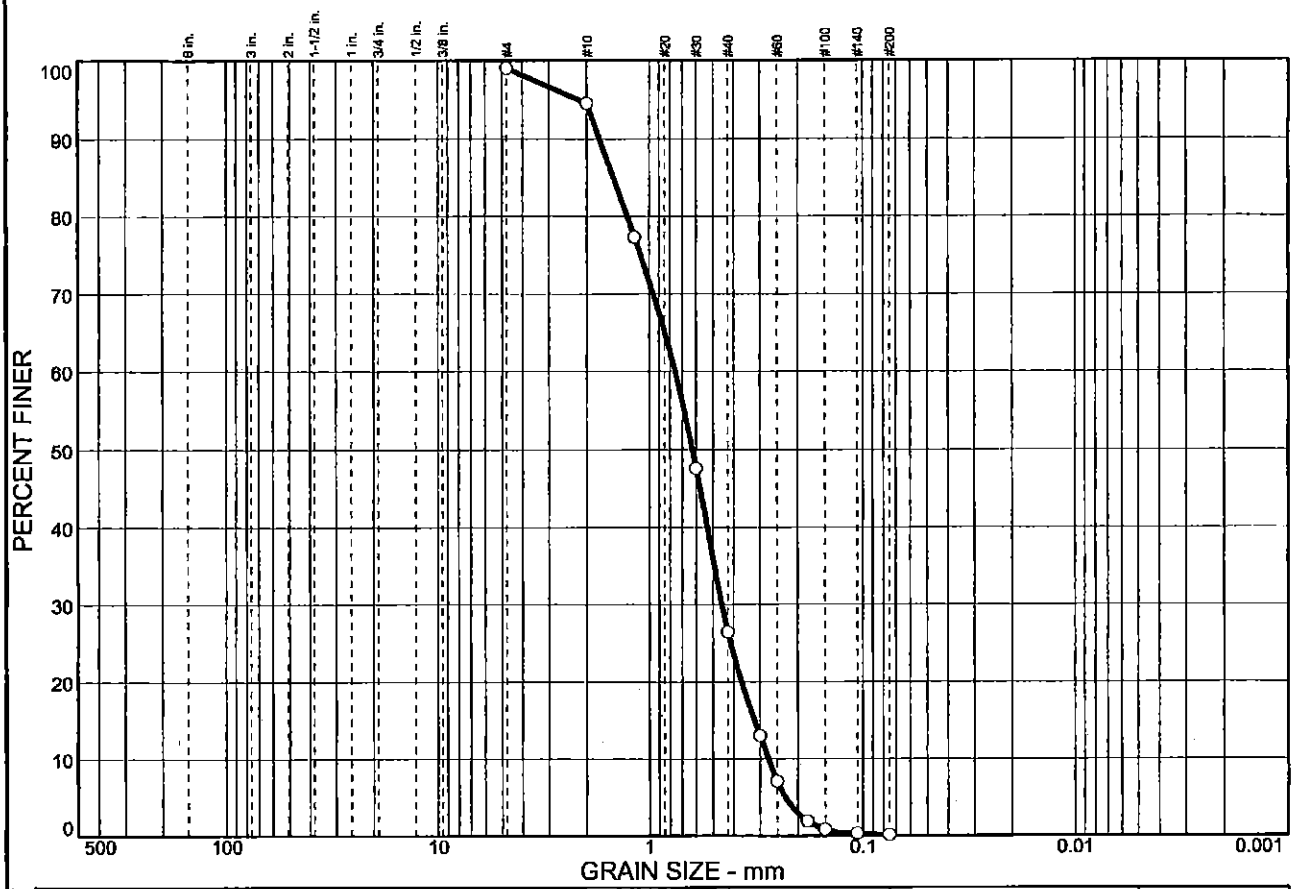
OV-39
Sample B

Sample No.: B **Source of Sample:** **Date:** 4/23/04
Location: OV-39 **Elev./Depth:** NA

GET SOLUTIONS, INC.

Client: Waterway Surveys and Engineering
Project: Ocean View Sediment Analyysis
Project No: VB04-131G **Figure** 39B

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
		98.9	0.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	99.0		
#10	94.5		
#16	77.3		
#30	47.6		
#40	26.4		
#50	13.0		
#60	7.1		
#80	1.9		
#100	0.8		
#140	0.3		
#200	0.1		

* (no specification provided)

Soil Description

Tan, Poorly Graded SAND

Atterberg Limits

PL= NP LL= NP PI= NP

Coefficients

D_{85}= 1.49 D_{60}= 0.757 D_{50}= 0.625
D_{30}= 0.454 D_{15}= 0.318 D_{10}= 0.275
C_u= 2.76 C_c= 0.99

Classification

USCS= SP AASHTO= A-1-b

Remarks

OV-39
Sample C

Sample No.: C **Source of Sample:** **Date:** 4/23/04
Location: OV-39 **Elev./Depth:** NA

GET SOLUTIONS, INC.

Client: Waterway Surveys and Engineering
Project: Ocean View Sediment Analyysis
Project No: VB04-131G **Figure** 39C