Appendix B

Sediment Analyses

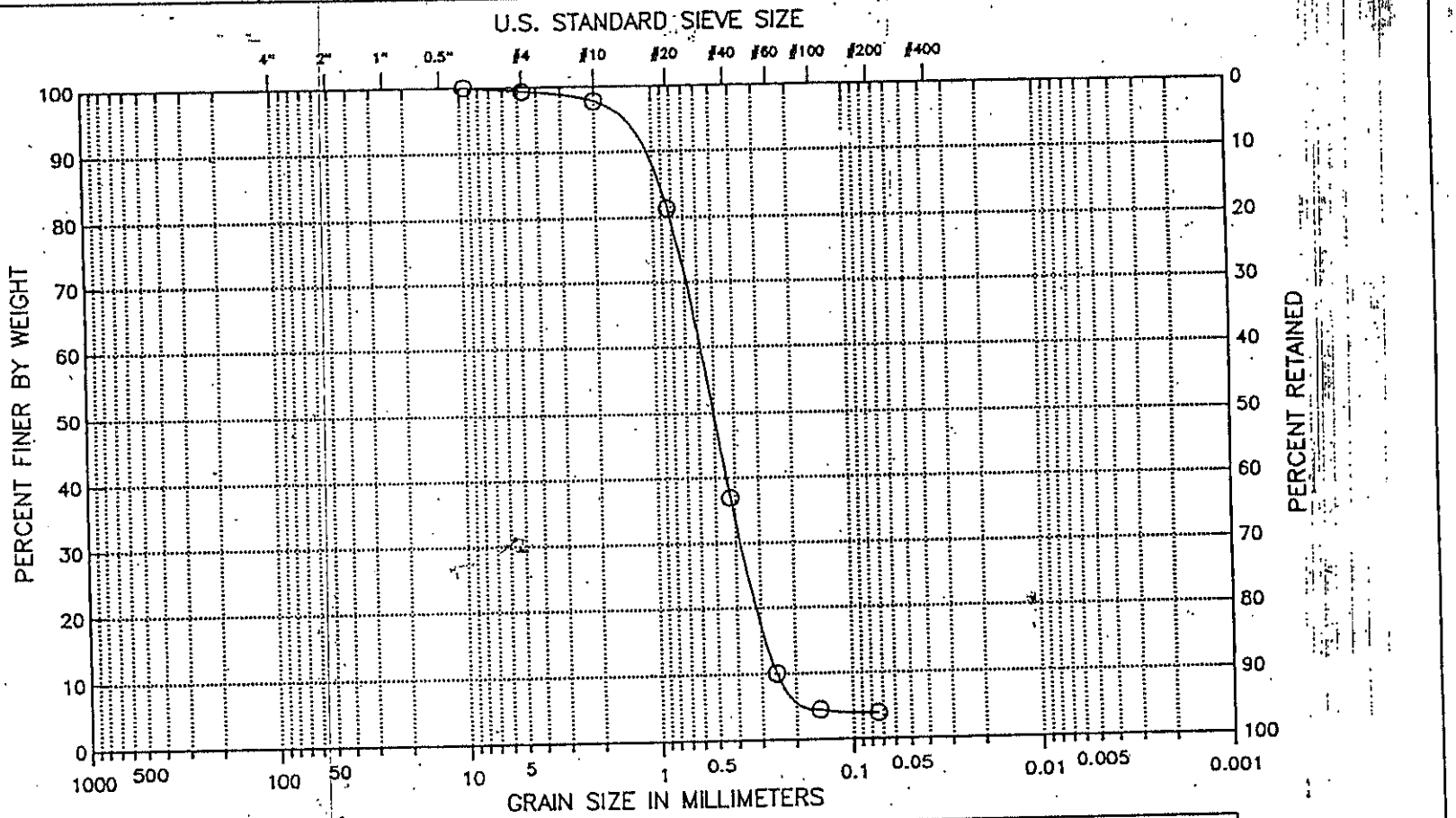
12

Sieve Analysis Dredge Areas

Dredge site
Dyke Bridge

Boring No. : ---
Sample No: Dyke Bridge
Test Method ASTM D422
Filename : DYKEBRIG

Project : Sediment
Project No.: GTX-948
Location: Edgartown
Test Date 12/26/95



Classification :
(SP) Poorly graded sand
Visual Description :
Brown medium sand with silt

Remarks :
Hydrometer not required, fines < 10%

Figure 4

Fri Dec 29 13:06:59 1995

GEOTECHNICAL LABORATORY TEST DATA

Project : Sediment
Project No. : GTX-948
Boring No. : ---
Sample No. : Dyke Bridge
Location : Edgartown
Soil Description : Brown medium sand with silt
Remarks : Hydrometer not required, fines < 10%

Depth : ---
Test Date : 12/26/95
Test Method : ASTM D422

Filename : DYKEBRIG
Elevation : ---
Tested by : ri
Checked by : gtt

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.375"	0.374	9.51	0.00	0.00	100
#4	0.187	4.75	0.36	0.36	99
#10	0.079	2.00	0.88	1.24	98
#20	0.033	0.84	8.84	10.08	81
#40	0.017	0.42	23.95	34.03	37
#60	0.010	0.25	14.50	48.53	10
#100	0.006	0.15	3.00	51.53	5
#200	0.003	0.07	0.33	51.86	4
Pan			2.14	54.00	0

Total Dry Weight of Sample = 56.32

D85 : 1.0211 mm
D60 : 0.6022 mm
D50 : 0.5149 mm
D30 : 0.3670 mm
D15 : 0.2747 mm
D10 : 0.2470 mm

Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

Dyke Bridge Dredge Site

GROUNDWATER ANALYTICAL

INORGANIC CHEMISTRY

Field ID: Edgartown Dyke Bridge
Project: Sediment
Client: Edgartown Shellfish Department
Cont/Prsv: 250mL Plastic/Cool
Matrix: Solid

Lab ID: 12485-04
Sampled: 12-18-95
Received: 12-21-95

PARAMETER	RESULT	UNITS	REPORTING LIMIT	DATE ANALYZED	BATCH ID	METHOD
Moisture, Percent	18	%	N/A	12-27-95	N/A	2540B

BRL = Below Reporting Limit. Method References: Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986) and Methods for Chemical Analysis of Water and Wastes, US EPA EPA-600/4-79-020, Revised (1983) and Standard Methods for the Examination of Water and Wastewater, APHA, Seventeenth Edition (1992).

GROUNDWATER ANALYTICAL

INORGANIC CHEMISTRY

Field ID: Edgartown Dyke Bridge
Project: Sediment
Client: Edgartown Shellfish Department
Cont/Prsv: 250mL Plastic/Cool
Matrix: Solid

Lab ID: 12485-04
Sampled: 12-18-95
Received: 12-21-95

PARAMETER	RESULT	UNITS	REPORTING LIMIT	DATE ANALYZED	BATCH ID	METHOD
Solids, Volatile (Dry Weight)	0.09	%	0.01	12-27-95	IVS-0100-S	2540E

BRL = Below Reporting Limit. Method References: Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986) and Methods for Chemical Analysis of Water and Wastes, US EPA EPA-600/4-79-020, Revised (1983) and Standard Methods for the Examination of Water and Wastewater, APHA, Seventeenth Edition (1992).

GROUNDWATER ANALYTICAL

TRACE METALS (ICP/AA)

Field ID: Edgartown Dyke Bridge
Project: Sediment
Client: Edgartown Shellfish Department
Cont/Prsv: 250ml Plastic/Cool
Matrix: Soil Percent Solids: 80 %

Lab ID: 12485-04
Sampled: 12-18-95
Received: 12-21-95

PARAMETER	CONCENTRATION (mg/Kg)	REPORTING LIMIT (mg/Kg)	DATE ANALYZED	BATCH ID	EPA METHOD
Arsenic, Total	BRL	1.3	12-27-95	MM-0395-S	7060
Cadmium, Total	BRL	0.63	01-03-96	MM-0395-S	6010
Chromium, Total	BRL	1.3	01-03-96	MM-0395-S	6010
Copper, Total	BRL	3.1	01-03-96	MM-0395-S	6010
Lead, Total	BRL	13	01-03-96	MM-0395-S	6010
Mercury, Total	BRL	0.055	12-29-95	MP-0329-S	7471
Nickel, Total	BRL	5.0	01-03-96	MM-0395-S	6010
Zinc, Total	3.7	2.5	01-03-96	MM-0395-S	6010

BRL = Below Reporting Limit. Calculations based on dry sample weight. Method References: Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986). Graphite Furnace analyses performed with Zeeman background correction and Lvov platform technique.

GROUNDWATER ANALYTICAL

EPA METHOD 413.2 (Modified)
Total Oil and Grease (IR)

Field ID: Edgartown Dyke Bridge
Project: Sediment
Client: Edgartown Shellfish Department
Cont/Prsv: 250ml Plastic/Cool
Matrix: Soil Percent Moisture: 19 %

Lab ID: 12485-04
Batch ID: HI-0793-X
Sampled: 12-18-95
Received: 12-21-95
Extracted: 01-02-95
Analyzed: 01-03-95

PARAMETER	CONCENTRATION (mg/Kg)	REPORTING LIMIT (mg/Kg)
Total Oil and Grease	BRL	34

BRL = Below Reporting Limit. Calculations based on dry sample weight. Method Reference: Method 413.2 (Spectrophotometric, Infrared) - Oil and Grease, Total Recoverable, Methods for Chemical Analysis of Water and Wastes, US EPA EPA-600/4-79-020, Revised (1983). Modified for soils by Method 3540 (Modified) - Soxhlet Extraction, Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986).

GROUNDWATER ANALYTICAL

EPA METHOD 8080
Polychlorinated Biphenyls (GC/ECD)

Field ID: Edgartown Dyke Bridge
Project: Sediment
Client: Edgartown Shellfish Department
Cont/Prsv: 250ml Plastic/Cool
Matrix: Soil Percent Moisture: 20 %

Lab ID: 12485-04
Batch ID: PB-0452-N
Sampled: 12-18-95
Received: 12-21-95
Extracted: 12-27-95
Analyzed: 12-29-95

PARAMETER	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Aroclor 1016	BRL	99
Aroclor 1221	BRL	99
Aroclor 1232	BRL	99
Aroclor 1242	BRL	99
Aroclor 1248	BRL	99
Aroclor 1254	BRL	99
Aroclor 1260	BRL	99

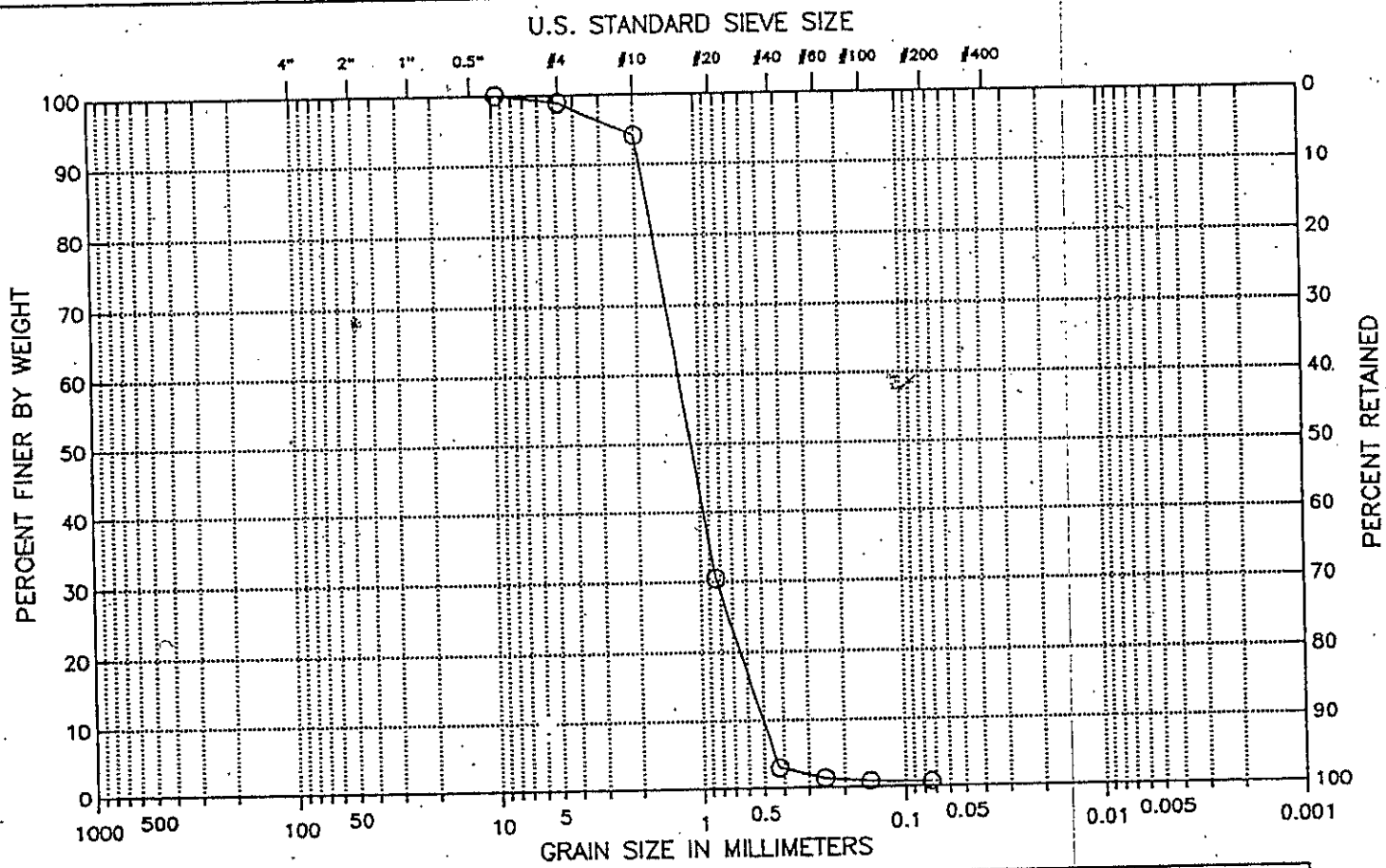
QC SURROGATE COMPOUND	SPIKED	MEASURED	RECOVERY	QC LIMITS
Tetrachloro-m-xylene	8.3	7.6	92 %	25 - 121 %
Decachlorobiphenyl	8.3	7.1	86 %	28 - 138 %

BRL = Below Reporting Limit. Calculations based on dry sample weight. Method Reference: Method 8080 - Organochlorine Pesticides and PCBs and Method 3550 - Sonication Extraction, Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986). Parameter list modified for PCBs only.

Dredge Plan
Gut

Boring No. : ----
Sample No: Cape Pogue Gut
Test Method ASTM D422
Filename : CAPEPOGE

Project : Sediment
Project No.: GTX-948
Location: Edgartown
Test Date 12/26/95



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Classification :
(SP) Poorly graded sand
Visual Description :
Light brown coarse-medium sand

Remarks :
Hydrometer not required, fines < 10%

Figure 1

GeoTesting Express • Acton, Ma. • (508) 635-0424 • Fax (508) 635-0266

Fri Dec 29 13:06:59 1995

GEOTECHNICAL LABORATORY TEST DATA

Project : Sediment
Project No. : GTX-948
Boring No. : ---
Sample No. : Cape Pogue Gut
Location : Edgartown

Depth : ---
Test Date : 12/26/95
Test Method : ASTM D422

Filename : CAPEPOGE
Elevation : ---
Tested by : rl
Checked by : gtt

Soil Description : Light brown coarse-medium sand
Remarks : Hydrometer not required, fines < 10%

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.375"	0.374	9.51	0.00	0.00	100
#4	0.187	4.75	0.63	0.63	99
#10	0.079	2.00	2.89	3.52	94
#20	0.033	0.84	38.94	42.46	31
#40	0.017	0.42	16.77	59.23	3
#60	0.010	0.25	1.00	60.23	1
#100	0.006	0.15	0.33	60.56	1
#200	0.003	0.07	0.10	60.66	1
Pan			0.44	61.10	0

Total Dry Weight of Sample = 63.44

D85 : 1.7640 mm
D60 : 1.2558 mm
D50 : 1.0961 mm
D30 : 0.8303 mm
D15 : 0.5681 mm
D10 : 0.5006 mm

Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly gradad sand
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

GROUNDWATER ANALYTICAL

INORGANIC CHEMISTRY

Field ID: Edgartown Cape Pogue Gut
Project: Sediment
Client: Edgartown Shellfish Department
Cont/Prsv: 250mL Plastic/Cool
Matrix: Solid

Lab ID: 12485-01
Sampled: 12-18-95
Received: 12-21-95

PARAMETER	RESULT	UNITS	REPORTING LIMIT	DATE ANALYZED	BATCH ID	METHOD
Solids, Volatile (Dry Weight)	0.18	%	0.01	12-27-95	IVS-0100-S	2540E

BRL = Below Reporting Limit. Method References: Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986) and Methods for Chemical Analysis of Water and Wastes, US EPA EPA-600/4-79-020, Revised (1983) and Standard Methods for the Examination of Water and Wastewater, APHA, Seventeenth Edition (1992).

GROUNDWATER ANALYTICAL

INORGANIC CHEMISTRY

Field ID: Edgartown Cape Pogue Gut
Project: Sediment
Client: Edgartown Shellfish Department
Cont/Prsv: 250mL Plastic/Cool
Matrix: Solid

Lab ID: 12485-01
Sampled: 12-18-95
Received: 12-21-95

PARAMETER	RESULT	UNITS	REPORTING LIMIT	DATE ANALYZED	BATCH ID	METHOD
Moisture, Percent	16	%	N/A	12-27-95	N/A	2540B

BRL = Below Reporting Limit. Method References: Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986) and Methods for Chemical Analysis of Water and Wastes, US EPA EPA-600/4-79-020, Revised (1983) and Standard Methods for the Examination of Water and Wastewater, APHA, Seventeenth Edition (1992).

GROUNDWATER ANALYTICAL

TRACE METALS (ICP/AA)

Field ID: Edgartown Cape Pogue Gut
Project: Sediment
Client: Edgartown Shellfish Department
Cont/Prsv: 250ml Plastic/Cool
Matrix: Soil Percent Solids: 83 %

Lab ID: 12485-01
Sampled: 12-18-95
Received: 12-21-95

PARAMETER	CONCENTRATION (mg/Kg)	REPORTING LIMIT (mg/Kg)	DATE ANALYZED	BATCH ID	EPA METHOD
Arsenic, Total	BRL	1.2	12-27-95	MM-0395-S	7060
Cadmium, Total	BRL	0.59	01-03-96	MM-0395-S	6010
Chromium, Total	BRL	1.2	01-03-96	MM-0395-S	6010
Copper, Total	BRL	2.9	01-03-96	MM-0395-S	6010
Lead, Total	BRL	12	01-03-96	MM-0395-S	6010
Mercury, Total	BRL	0.055	12-29-95	MP-0329-S	7471
Nickel, Total	BRL	4.7	01-03-96	MM-0395-S	6010
Zinc, Total	4.9	2.4	01-03-96	MM-0395-S	6010

BRL = Below Reporting Limit. Calculations based on dry sample weight. Method References: Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986). Graphite Furnace analyses performed with Zeeman background correction and Lvov platform technique.

GROUNDWATER ANALYTICAL

EPA METHOD 413.2 (Modified)
Total Oil and Grease (IR)

Field ID:	Edgartown Cape Pogue Gut	Lab ID:	12485-01
Project:	Sediment	Batch ID:	HI-0793-X
Client:	Edgartown Shellfish Department	Sampled:	12-18-95
Cont/Prsv:	250ml Plastic/Cool	Received:	12-21-95
Matrix:	Soil Percent Moisture: 15 %	Extracted:	01-02-95
		Analyzed:	01-03-95

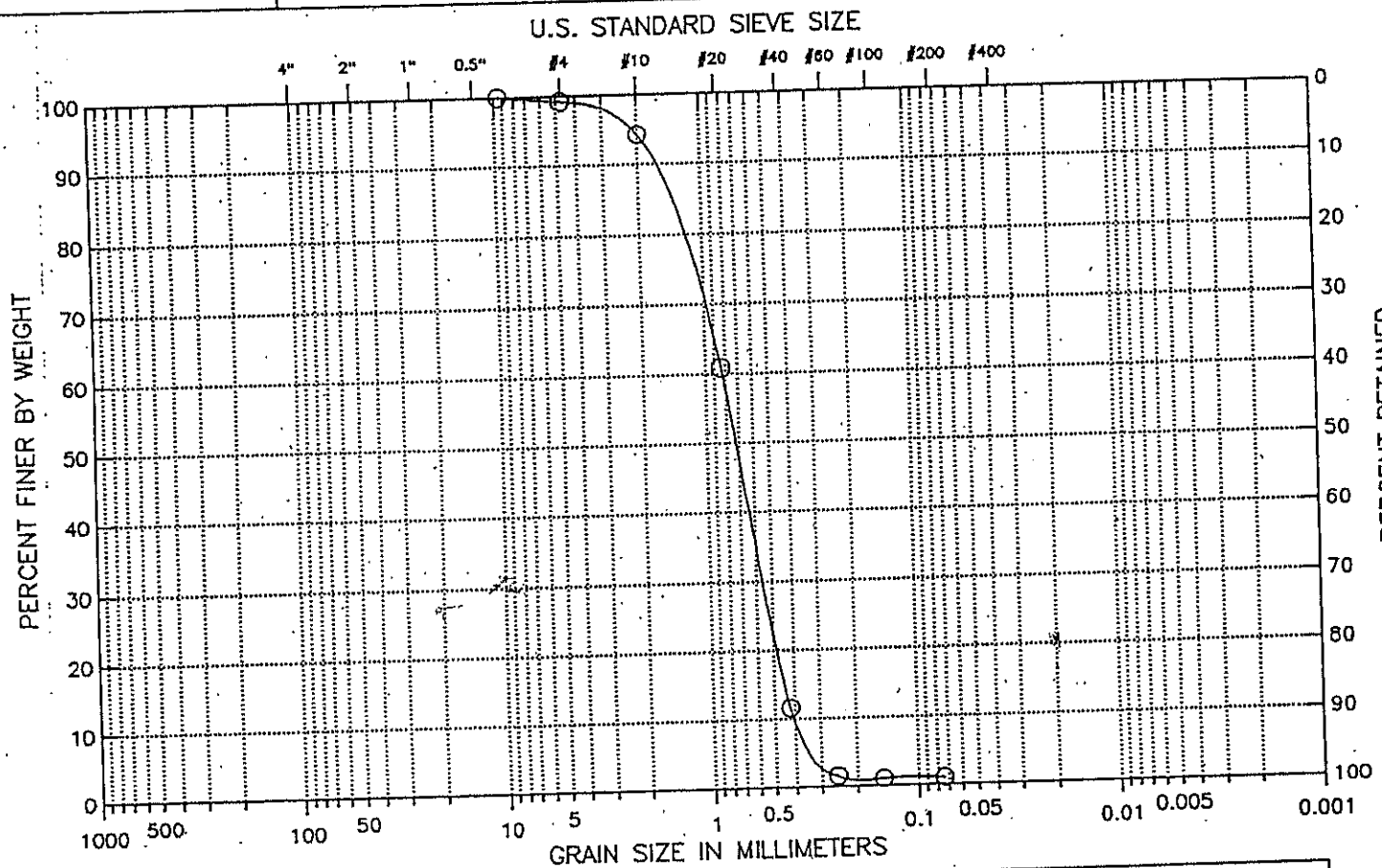
PARAMETER	CONCENTRATION (mg/Kg)	REPORTING LIMIT (mg/Kg)
Total Oil and Grease	BRL	32

BRL = Below Reporting Limit. Calculations based on dry sample weight. Method Reference: Method 413.2 (Spectrophotometric, Infrared) - Oil and Grease, Total Recoverable, Methods for Chemical Analysis of Water and Wastes, US EPA EPA-600/4-79-020, Revised (1983). Modified for soils by Method 3540 (Modified) - Soxhlet Extraction, Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986).

Dredge Plan
Narrows

Boring No. : ---
Sample No: Lagoon - The Narrows
Test Method ASTM D422
Filename : LAGOON

Project : Sediment
Project No.: GTX-948
Location: Edgartown
Test Date 12/26/95



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Classification :
(SP) Poorly graded sand
Visual Description :
Light brown medium sand

Remarks :
Hydrometer not required, fines < 10%

Figure 3

GeoTesting Express • Acton, Ma. • (508) 635-0424 • Fax (508) 635-0266

GEOTECHNICAL LABORATORY TEST DATA

Project : Sediment
Project No. : GTX-948
Boring No. : ---
Sample No. : Lagoon
Location : Edgartown
Depth : ---
Test Date : 12/26/95
Test Method : ASTM D422
Filename : LAGOON
Elevation : ---
Tested by : rl
Checked by : gtt
Soil Description : Light brown medium sand
Remarks : Hydrometer not required, fines < 10%

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.375"	0.374	9.51	0.00	0.00	100
#4	0.187	4.75	0.46	0.46	99
#10	0.079	2.00	3.03	3.49	94
#20	0.033	0.84	20.47	23.96	61
#40	0.017	0.42	30.00	53.96	12
#60	0.010	0.25	6.11	60.07	2
#100	0.006	0.15	0.33	60.40	1
#200	0.003	0.07	0.02	60.42	1
Pan			0.64	61.06	0

Total Dry Weight of Sample = 63.4

D85 : 1.5734 mm
D60 : 0.8320 mm
D50 : 0.7224 mm
D30 : 0.5445 mm
D15 : 0.4405 mm
D10 : 0.3860 mm

Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

GROUNDWATER ANALYTICAL

INORGANIC CHEMISTRY

Field ID: Edgartown Lagoon
Project: Sediment
Client: Edgartown Shellfish Department
Cont/Prsv: 250mL Plastic/Cool
Matrix: Solid

Lab ID: 12485-03
Sampled: 12-18-95
Received: 12-21-95

PARAMETER	RESULT	UNITS	REPORTING LIMIT	DATE ANALYZED	BATCH ID	METHOD
Moisture, Percent	20	%	N/A	12-27-95	N/A	2540B

BRL = Below Reporting Limit. Method References: Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986) and Methods for Chemical Analysis of Water and Wastes, US EPA EPA-600/4-79-020, Revised (1983) and Standard Methods for the Examination of Water and Wastewater, APHA, Seventeenth Edition (1992).

GROUNDWATER ANALYTICAL

INORGANIC CHEMISTRY

Field ID: Edgartown Lagoon
Project: Sediment
Client: Edgartown Shellfish Department
Cont/Prsv: 250mL Plastic/Cool
Matrix: Solid

Lab ID: 12485-03
Sampled: 12-18-95
Received: 12-21-95

PARAMETER	RESULT	UNITS	REPORTING LIMIT	DATE ANALYZED	BATCH ID	METHOD
Solids, Volatile (Dry Weight)	0.10	%	0.01	12-27-95	IVS-0100-S	2540E

BRL = Below Reporting Limit. Method References: Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986) and Methods for Chemical Analysis of Water and Wastes, US EPA EPA-600/4-79-020, Revised (1983) and Standard Methods for the Examination of Water and Wastewater, APHA, Seventeenth Edition (1992).

GROUNDWATER ANALYTICAL

TRACE METALS
(ICP/AA)

Field ID: Edgartown Lagoon
Project: Sediment
Client: Edgartown Shellfish Department
Cont/Prsv: 250ml Plastic/Cool
Matrix: Soil Percent Solids: 80 %

Lab ID: 12485-03
Sampled: 12-18-95
Received: 12-21-95

PARAMETER	CONCENTRATION (mg/Kg)	REPORTING LIMIT (mg/Kg)	DATE ANALYZED	BATCH ID	EPA METHOD
Arsenic, Total	BRL	1.2	12-27-95	MM-0395-S	7060
Cadmium, Total	BRL	0.6	01-03-96	MM-0395-S	6010
Chromium, Total	BRL	1.2	01-03-96	MM-0395-S	6010
Copper, Total	BRL	3.0	01-03-96	MM-0395-S	6010
Lead, Total	BRL	12	01-03-96	MM-0395-S	6010
Mercury, Total	BRL	0.057	12-29-95	MP-0329-S	7471
Nickel, Total	BRL	4.8	01-03-96	MM-0395-S	6010
Zinc, Total	3.5	2.4	01-03-96	MM-0395-S	6010

BRL = Below Reporting Limit. Calculations based on dry sample weight. Method References: Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986). Graphite Furnace analyses performed with Zeeman background correction and Lvov platform technique.

GROUNDWATER ANALYTICAL

EPA METHOD 413.2 (Modified)
Total Oil and Grease (IR)

Field ID:	Edgartown Lagoon	Lab ID:	12485-03
Project:	Sediment	Batch ID:	HI-0793-X
Client:	Edgartown Shellfish Department	Sampled:	12-18-95
Cont/Prsv:	250ml Plastic/Cool	Received:	12-21-95
Matrix:	Soil Percent Moisture: 20 %	Extracted:	01-02-95
		Analyzed:	01-03-95

PARAMETER	CONCENTRATION (mg/Kg)	REPORTING LIMIT (mg/Kg)
Total Oil and Grease	BRL	33

BRL = Below Reporting Limit. Calculations based on dry sample weight. Method Reference: Method 413.2 (Spectrophotometric, Infrared) - Oil and Grease, Total Recoverable, Methods for Chemical Analysis of Water and Wastes, US EPA EPA-600/4-79-020, Revised (1983). Modified for soils by Method 3540 (Modified) - Soxhlet Extraction, Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986).

GROUNDWATER ANALYTICAL

EPA METHOD 8080
Polychlorinated Biphenyls (GC/ECD)

Field ID: Edgartown Lagoon
Project: Sediment
Client: Edgartown Shellfish Department
Cont/Prsv: 250ml Plastic/Cool
Matrix: Soil Percent Moisture: 20 %

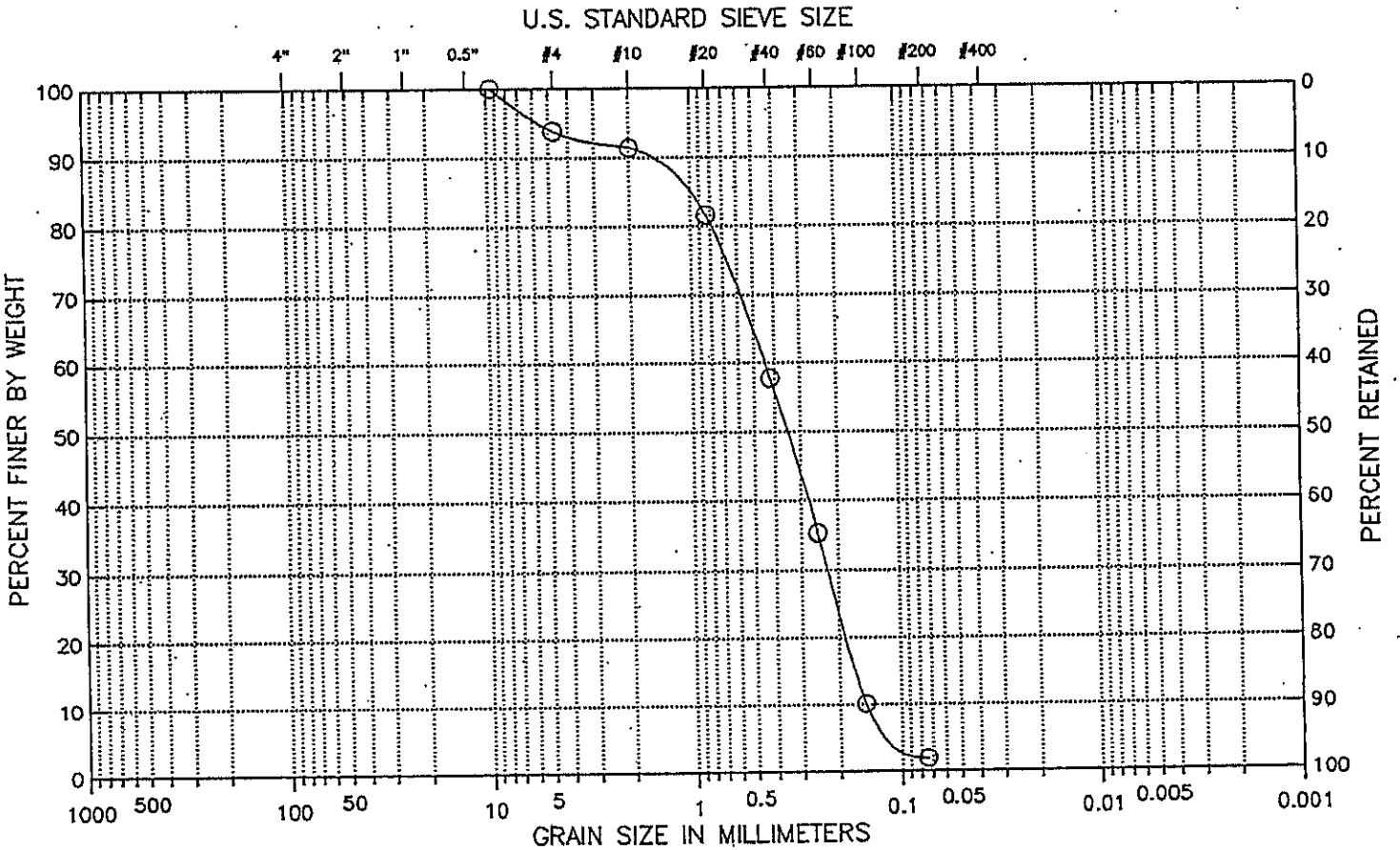
Lab ID: 12485-03
Batch ID: PB-0452-N
Sampled: 12-18-95
Received: 12-21-95
Extracted: 12-27-95
Analyzed: 12-29-95

PARAMETER	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Aroclor 1016	BRL	88
Aroclor 1221	BRL	88
Aroclor 1232	BRL	88
Aroclor 1242	BRL	88
Aroclor 1248	BRL	88
Aroclor 1254	BRL	88
Aroclor 1260		

QC SURROGATE COMPOUND	SPIKED	MEASURED	RECOVERY	QC LIMITS
Tetrachloro-m-xylene	7.3	5.9	80 %	25 - 121 %
Decachlorobiphenyl	7.3	5.7	77 %	28 - 138 %

BRL = Below Reporting Limit. Calculations based on dry sample weight. Method Reference: Method 8080 - Organochlorine Pesticides and PCBs and Method 3550 - Sonication Extraction, Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986). Parameter list modified for PCBs only.

	Boring No. : --- Sample No: Eel Pnd Bt Rmp Test Method ASTM D422 Filename : EELPNDBR	Project : Sediment Project No.: GTX-948 Location: Edgartown Test Date 12/26/95



Classification :
(SP) Poorly graded sand
Visual Description :
Brown medium-fine sand

Remarks :
Hydrometer not required, fines < 10%

Figure 5

Fri Dec 29 13:06:59 1995

GEOTECHNICAL LABORATORY TEST DATA

Project : Sediment
Project No. : GTX-948
Boring No. : ---
Sample No. : Eel Pnd Bt Rmp
Location : Edgartown
Soil Description : Brown medium-fine sand
Remarks : Hydrometer not required, fines < 10%

Depth : ---
Test Date : 12/26/95
Test Method : ASTM D422

Filename : EELPNDBR
Elevation : ---
Tested by : rl
Checked by : gtt

FINE SIEVE SET

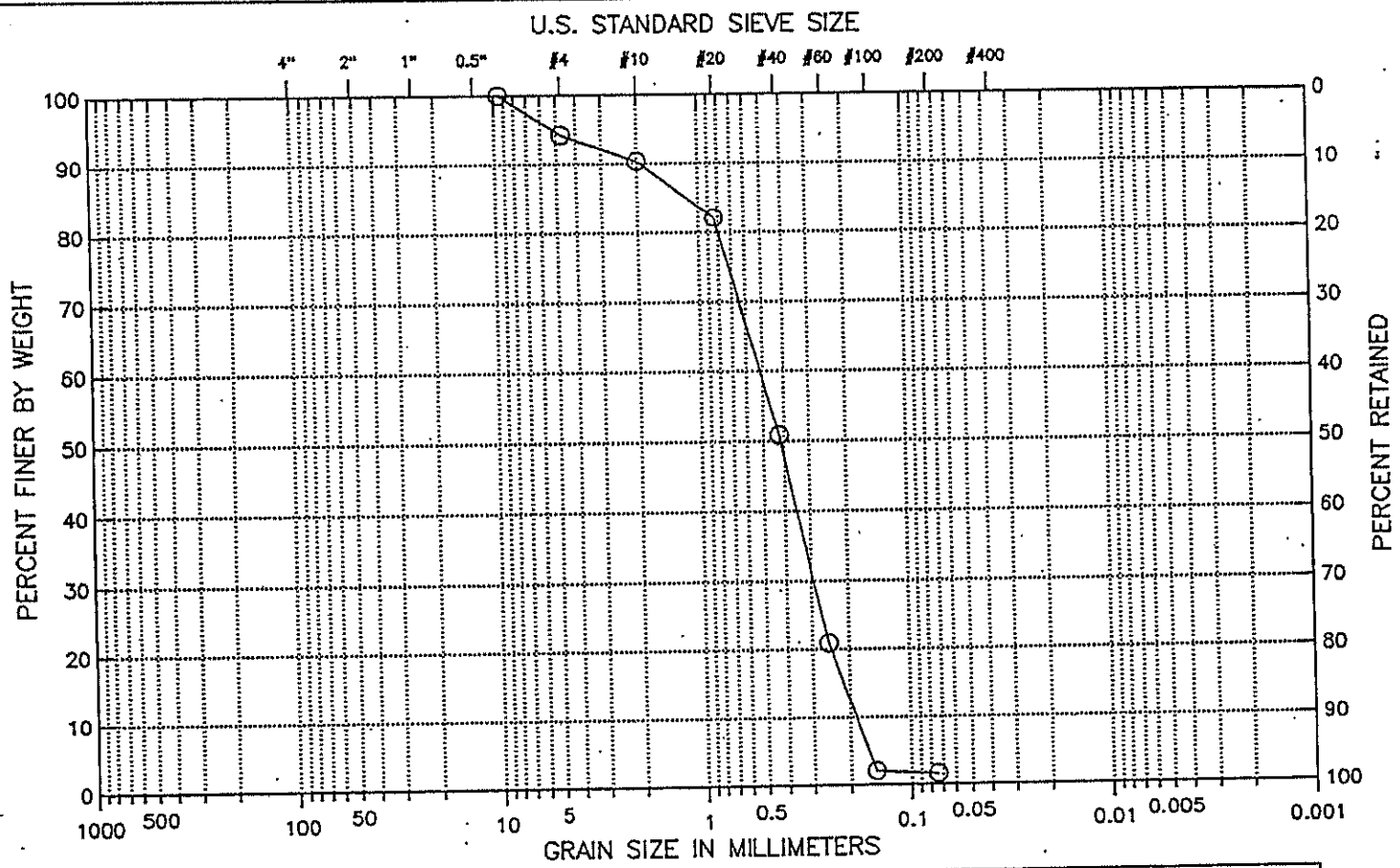
Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.375"	0.374	9.51	0.00	0.00	100
#4	0.187	4.75	2.70	2.70	94
#10	0.079	2.00	1.06	3.76	91
#20	0.033	0.84	4.25	8.01	82
#40	0.017	0.42	10.40	18.41	58
#60	0.010	0.25	9.69	28.10	35
#100	0.006	0.15	11.02	39.12	10
#200	0.003	0.07	3.59	42.71	2
Pan			0.82	43.53	0

Total Dry Weight of Sample = 45.82

D85 : 1.1373 mm
D60 : 0.4489 mm
D50 : 0.3509 mm
D30 : 0.2237 mm
D15 : 0.1646 mm
D10 : 0.1474 mm

Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-3(0)
AASHTO Group Name : Fine Sand

	Boring No. : --- Sample No: Eel Pond Test Method ASTM D422 Filename : EELPOND	Project : Sediment Project No.: GTX-948 Location: Edgartown Test Date 12/26/95



Classification :
(SP) Poorly graded sand
Visual Description :
Light brown medium-fine sand

Remarks :
Hydrometer not required, fines < 10%

Figure 2

Fri Dec 29 13:06:59 1995

GEOTECHNICAL LABORATORY TEST DATA

Project : Sediment
Project No. : GTX-948
Boring No. : ---
Sample No. : Eel Pond
Location : Edgartown
Depth : ---
Test Date : 12/26/95
Test Method : ASTM D422
Filename : EELPOND
Elevation : ---
Tested by : rl
Checked by : gtt
Soil Description : Light brown medium-fine sand
Remarks : Hydrometer not required, fines < 10%

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.375"	0.374	9.51	0.00	0.00	100
#4	0.187	4.75	3.34	3.34	94
#10	0.079	2.00	2.24	5.58	90
#20	0.033	0.84	4.75	10.33	82
#40	0.017	0.42	18.00	28.33	51
#60	0.010	0.25	17.24	45.57	21
#100	0.006	0.15	10.87	56.44	2
#200	0.003	0.07	0.26	56.70	2
Pan			0.92	57.62	0

Total Dry Weight of Sample = 59.96

D85 : 1.1440 mm
D60 : 0.5149 mm
D50 : 0.4140 mm
D30 : 0.2927 mm
D15 : 0.2126 mm
D10 : 0.1853 mm

Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-3(0)
AASHTO Group Name : Fine Sand

GROUNDWATER ANALYTICAL

INORGANIC CHEMISTRY

Field ID: Edgartown Eel Pond
Project: Sediment
Client: Edgartown Shellfish Department
Cont/Prsv: 250mL Plastic/Cool
Matrix: Solid

Lab ID: 12485-02
Sampled: 12-18-95
Received: 12-21-95

PARAMETER	RESULT	UNITS	REPORTING LIMIT	DATE ANALYZED	BATCH ID	METHOD
Moisture, Percent	16	%	N/A	12-27-95	N/A	2540B

BRL = Below Reporting Limit. Method References: Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986) and Methods for Chemical Analysis of Water and Wastes, US EPA EPA-600/4-79-020, Revised (1983) and Standard Methods for the Examination of Water and Wastewater, APHA, Seventeenth Edition (1992).

GROUNDWATER ANALYTICAL

INORGANIC CHEMISTRY

Field ID: Edgartown Eel Pond
Project: Sediment
Client: Edgartown Shellfish Department
Cont/Prsv: 250mL Plastic/Cool
Matrix: Solid

Lab ID: 12485-02
Sampled: 12-18-95
Received: 12-21-95

PARAMETER	RESULT	UNITS	REPORTING LIMIT	DATE ANALYZED	BATCH ID	METHOD
Solids, Volatile (Dry Weight)	0.11	%	0.01	12-27-95	IVS-0100-S	2540E

BRL = Below Reporting Limit. Method References: Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986) and Methods for Chemical Analysis of Water and Wastes, US EPA EPA-600/4-79-020, Revised (1983) and Standard Methods for the Examination of Water and Wastewater, APHA, Seventeenth Edition (1992).

GROUNDWATER ANALYTICAL

TRACE METALS
(ICP/AA)

Field ID: Edgartown Eel Pond
Project: Sediment
Client: Edgartown Shellfish Department
Cont/Prsv: 250ml Plastic/Cool
Matrix: Soil Percent Solids: 84 %

Lab ID: 12485-02
Sampled: 12-18-95
Received: 12-21-95

PARAMETER	CONCENTRATION (mg/Kg)	REPORTING LIMIT (mg/Kg)	DATE ANALYZED	BATCH ID	EPA METHOD
Arsenic, Total	BRL	1.2	12-27-95	MM-0395-S	7060
Cadmium, Total	BRL	0.59	01-03-96	MM-0395-S	6010
Chromium, Total	BRL	1.2	01-03-96	MM-0395-S	6010
Copper, Total	BRL	3.0	01-03-96	MM-0395-S	6010
Lead, Total	BRL	12	01-03-96	MM-0395-S	6010
Mercury, Total	BRL	0.051	12-29-95	MP-0329-S	7471
Nickel, Total	BRL	4.8	01-03-96	MM-0395-S	6010
Zinc, Total	4.5	2.4	01-03-96	MM-0395-S	6010

BRL = Below Reporting Limit. Calculations based on dry sample weight. Method References: Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986). Graphite Furnace analyses performed with Zeeman background correction and Lvov platform technique.

GROUNDWATER ANALYTICAL

EPA METHOD 413.2 (Modified)
Total Oil and Grease (IR)

Field ID:	Edgartown Eel Pond	Lab ID:	12485-02
Project:	Sediment	Batch ID:	HI-0793-X
Client:	Edgartown Shellfish Department	Sampled:	12-18-95
Cont/Prsv:	250ml Plastic/Cool	Received:	12-21-95
Matrix:	Soil Percent Moisture: 16 %	Extracted:	01-02-95
		Analyzed:	01-03-95

PARAMETER	CONCENTRATION (mg/Kg)	REPORTING LIMIT (mg/Kg)
Total Oil and Grease	BRL	35

BRL = Below Reporting Limit. Calculations based on dry sample weight. Method Reference: Method 413.2 (Spectrophotometric, Infrared) - Oil and Grease, Total Recoverable, Methods for Chemical Analysis of Water and Wastes, US EPA EPA-600/4-79-020, Revised (1983). Modified for soils by Method 3540 (Modified) - Soxhlet Extraction, Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986).

GROUNDWATER ANALYTICAL

EPA METHOD 8080
Polychlorinated Biphenyls (GC/ECD)

Field ID: Edgartown Eel Pond
Project: Sediment
Client: Edgartown Shellfish Department
Cont/Prsv: 250ml Plastic/Cool
Matrix: Soil Percent Moisture: 16 %

Lab ID: 12485-02
Batch ID: PB-0452-N
Sampled: 12-18-95
Received: 12-21-95
Extracted: 12-27-95
Analyzed: 12-29-95

PARAMETER	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Aroclor 1016	BRL	87
Aroclor 1221	BRL	87
Aroclor 1232	BRL	87
Aroclor 1242	BRL	87
Aroclor 1248	BRL	87
Aroclor 1254	BRL	87
Aroclor 1260	BRL	87

QC SURROGATE COMPOUND	SPIKED	MEASURED	RECOVERY	QC LIMITS
Tetrachloro-m-xylene	7.2	5.6	77 %	25 - 121 %
Decachlorobiphenyl	7.2	5.4	74 %	28 - 138 %

BRL = Below Reporting Limit. Calculations based on dry sample weight. Method Reference: Method 8080 - Organochlorine Pesticides and PCBs and Method 3550 - Sonication Extraction, Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986). Parameter list modified for PCBs only.

GROUNDWATER ANALYTICAL

EPA METHOD 8080
Polychlorinated Biphenyls (GC/ECD)

Field ID: Edgartown Eel Pond Boat Ramp
Project: Sediment
Client: Edgartown Shellfish Department
Cont/Prsv: 250ml Plastic/Cool
Matrix: Soil Percent Moisture: 17 %

Lab ID: 12485-05
Batch ID: PB-0452-N
Sampled: 12-18-95
Received: 12-21-95
Extracted: 12-27-95
Analyzed: 12-29-95

PARAMETER	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Aroclor 1016	BRL	93
Aroclor 1221	BRL	93
Aroclor 1232	BRL	93
Aroclor 1242	BRL	93
Aroclor 1248	BRL	93
Aroclor 1254	BRL	93
Aroclor 1260	BRL	93

QC SURROGATE COMPOUND	SPIKED	MEASURED	RECOVERY	QC LIMITS
Tetrachloro-m-xylene	7.8	7.1	91 %	25 - 121 %
Decachlorobiphenyl	7.8	7.3	93 %	28 - 138 %

BRL = Below Reporting Limit. Calculations based on dry sample weight. Method Reference: Method 8080 - Organochlorine Pesticides and PCBs and Method 3550 - Sonication Extraction, Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986). Parameter list modified for PCBs only.

GROUNDWATER ANALYTICAL

INORGANIC CHEMISTRY

Field ID: Edgartown Eel Pond Boat Ramp
Project: Sediment
Client: Edgartown Shellfish Department
Cont/Prsv: 250mL Plastic/Cool
Matrix: Solid

Lab ID: 12485-05
Sampled: 12-18-95
Received: 12-21-95

PARAMETER	RESULT	UNITS	REPORTING LIMIT	DATE ANALYZED	BATCH ID	METHOD
Solids, Volatile (Dry Weight)	0.21	%	0.01	12-27-95	IVS-0100-S	2540E

BRL = Below Reporting Limit. Method References: Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986) and Methods for Chemical Analysis of Water and Wastes, US EPA EPA-600/4-79-020, Revised (1983) and Standard Methods for the Examination of Water and Wastewater, APHA, Seventeenth Edition (1992).

GROUNDWATER ANALYTICAL

TRACE METALS
(ICP/AA)

Field ID: Edgartown Eel Pond Boat Ramp
Project: Sediment
Client: Edgartown Shellfish Department
Cont/Prsv: 250ml Plastic/Cool
Matrix: Soil Percent Solids: 83 %

Lab ID: 12485-05
Sampled: 12-18-95
Received: 12-21-95

PARAMETER	CONCENTRATION (mg/Kg)	REPORTING LIMIT (mg/Kg)	DATE ANALYZED	BATCH ID	EPA METHOD
Arsenic, Total	BRL	1.2	12-27-95	MM-0395-S	7060
Cadmium, Total	BRL	0.60	01-03-96	MM-0395-S	6010
Chromium, Total	1.7	1.2	01-03-96	MM-0395-S	6010
Copper, Total		3.0	01-03-96	MM-0395-S	6010
Lead, Total	BRL	12	01-03-96	MM-0395-S	6010
Mercury, Total	BRL	0.052	12-29-95	MP-0329-S	7471
Nickel, Total	BRL	4.8	01-03-96	MM-0395-S	6010
Zinc, Total	5.3	2.4	01-03-96	MM-0395-S	6010

BRL = Below Reporting Limit. Calculations based on dry sample weight. Method References: Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986). Graphite Furnace analyses performed with Zeeman background correction and Lvov platform technique.

GROUNDWATER ANALYTICAL

EPA METHOD 413.2 (Modified)
Total Oil and Grease (IR)

Field ID: Edgartown Eel Pond Boat Ramp
Project: Sediment
Client: Edgartown Shellfish Department
Cont/Prsv: 250ml Plastic/Cool
Matrix: Soil Percent Moisture: 15 %

Lab ID: 12485-05
Batch ID: HI-0793-X
Sampled: 12-18-95
Received: 12-21-95
Extracted: 01-02-95
Analyzed: 01-03-95

PARAMETER	CONCENTRATION (mg/Kg)	REPORTING LIMIT (mg/Kg)
Total Oil and Grease	BRL	32

BRL = Below Reporting Limit. Calculations based on dry sample weight. Method Reference: Method 413.2 (Spectrophotometric, Infrared) - Oil and Grease, Total Recoverable, Methods for Chemical Analysis of Water and Wastes, US EPA EPA-600/4-79-020, Revised (1983). Modified for soils by Method 3540 (Modified) - Soxhlet Extraction, Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986).

GROUNDWATER ANALYTICAL

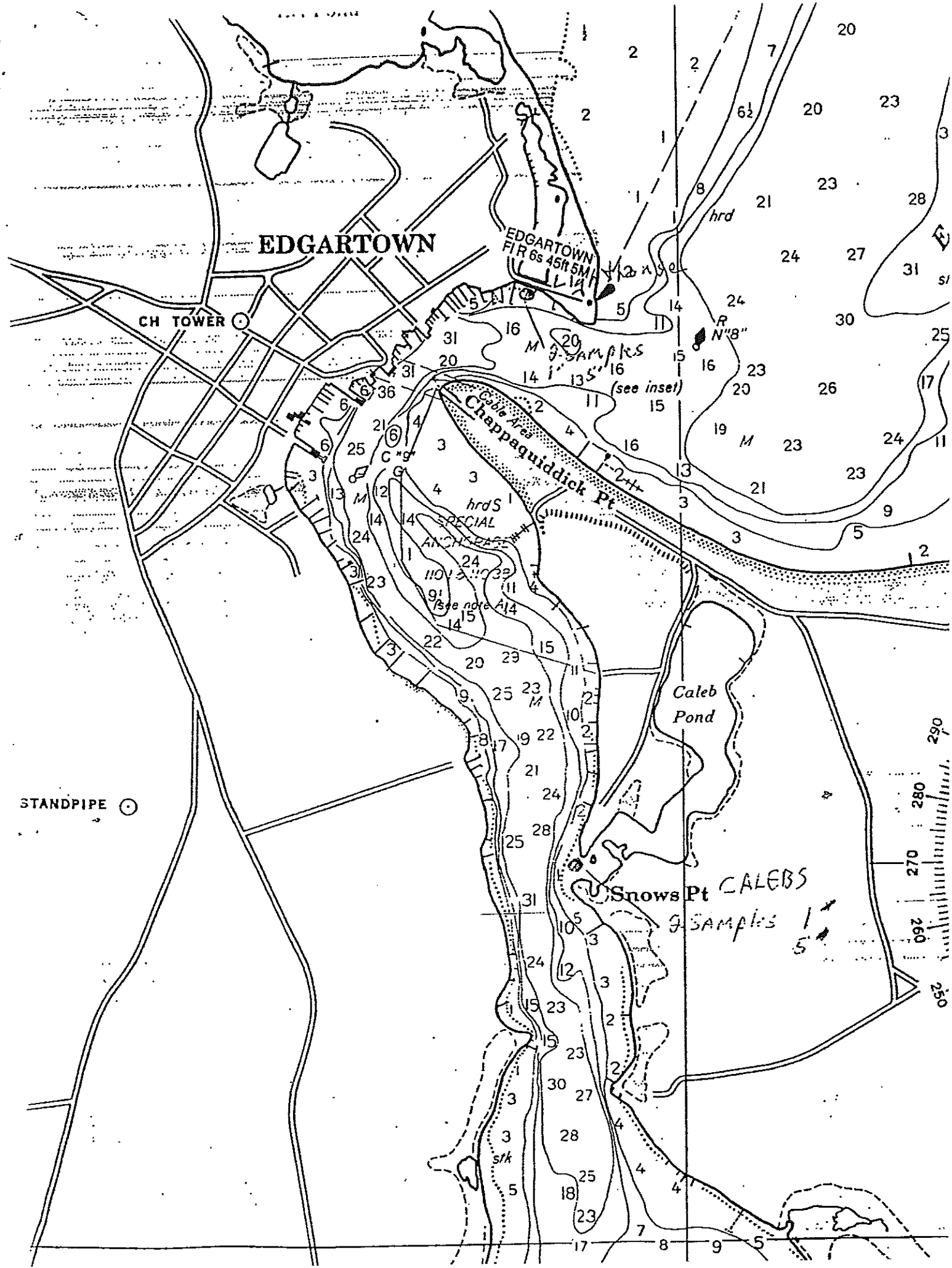
INORGANIC CHEMISTRY

Field ID: Edgartown Eel Pond Boat Ramp
Project: Sediment
Client: Edgartown Shellfish Department
Cont/Prsv: 250mL Plastic/Cool
Matrix: Solid

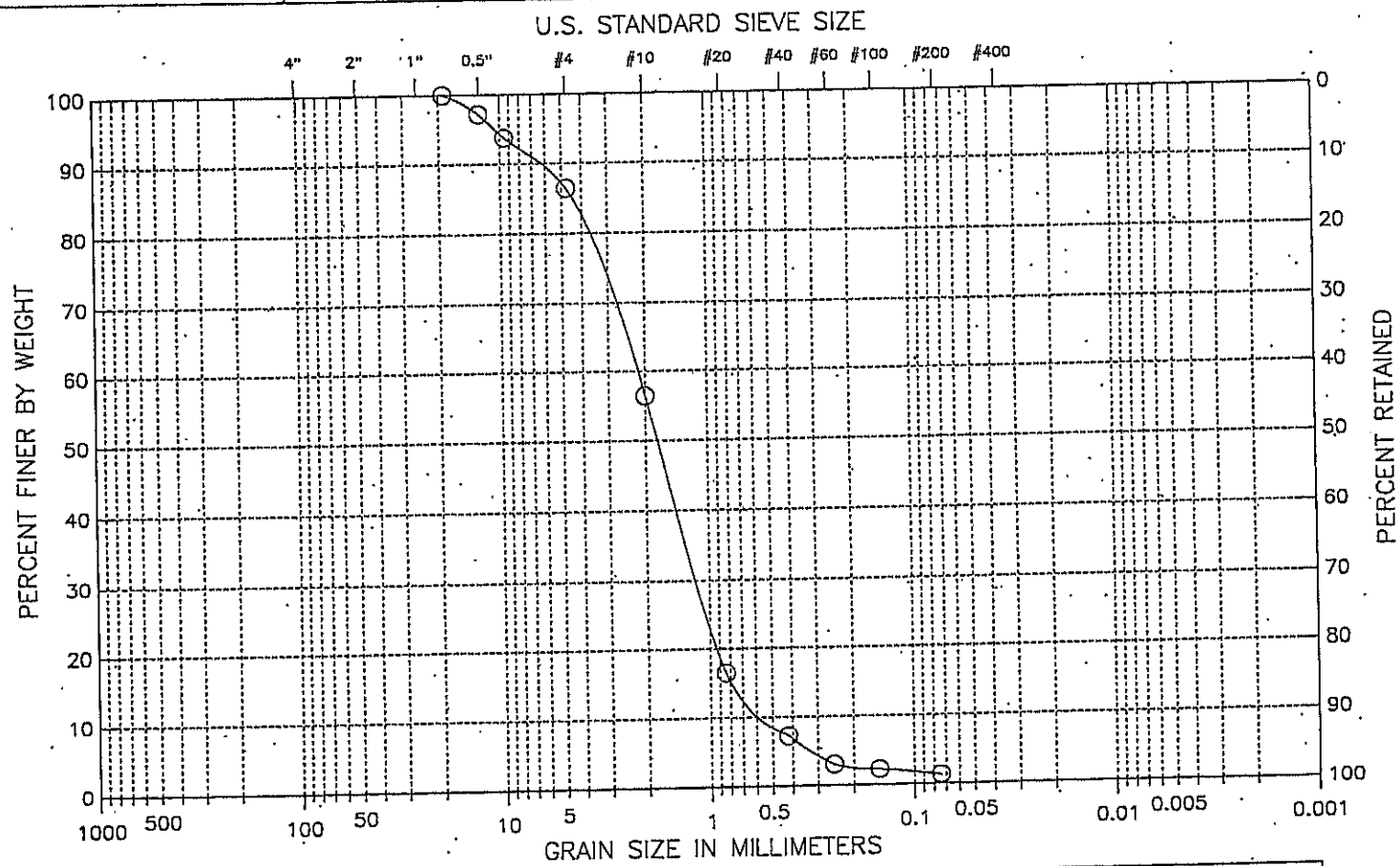
Lab ID: 12485-05
Sampled: 12-18-95
Received: 12-21-95

PARAMETER	RESULT	UNITS	REPORTING LIMIT	DATE ANALYZED	BATCH ID	METHOD
Moisture, Percent	16	%	N/A	12-27-95	N/A	2540B

BRL = Below Reporting Limit. Method References: Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986) and Methods for Chemical Analysis of Water and Wastes, US EPA EPA-600/4-79-020, Revised (1983) and Standard Methods for the Examination of Water and Wastewater, APHA, Seventeenth Edition (1992).


EDGARTOWN
EDGARTOWN
Fl R 6s 45ft 5M
CH TOWER
STANDPIPE
Cable Area
Chappaquiddick Pt
C "9"
hrd
SPECIAL
ANCHORAGE
(see note A14
(see inset)
Caleb
Pond
Snows Pt
CALEBS
J. Samples
N "8"
stk

	Boring No. : --- Sample No: 1S Test Method ASTM D 422 Filename : 1S	Project : Dredge Area Lighthouse Project No.: GTX-1934 Location: Edgartown, MA Date : Wed Aug 05 1998



Classification :
(SP) Poorly graded sand
Visual Description :
Wet, dark bluish gray sand with some gravel

Remarks :

Figure 1

GeoTesting Express • Boxborough, MA • (978) 635-0424 • Fax (978) 635-0266

Lighthouse

Wed Aug 05 09:23:12 1998

GEOTECHNICAL LABORATORY TEST DATA

Project : Dredge Area Lighthouse
Project No. : GTX-1934
Boring No. : ---
Sample No. : 1S
Location : Edgartown, MA
Depth : 1 ft
Test Date : 08/04/98
Test Method : ASTM D 422
Filename : 1S
Elevation : ---
Tested by : gsg
Checked by : gtt
Soil Description : Wet, dark bluish gray sand with some gravel
Remarks : ---

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.75"	0.748	19.00	0.00	0.00	100
0.5"	0.500	12.70	4.11	4.11	97
0.375"	0.374	9.51	5.21	9.32	94
#4	0.187	4.75	11.08	20.40	86
#10	0.079	2.00	45.24	65.64	56
#20	0.033	0.84	60.27	125.91	17
#40	0.017	0.42	14.00	139.91	7
#60	0.010	0.25	6.32	146.23	3
#100	0.006	0.15	1.21	147.44	2
#200	0.003	0.07	1.42	148.86	1
Pan			2.00	150.86	0

Total Dry Weight of Sample = 159.7

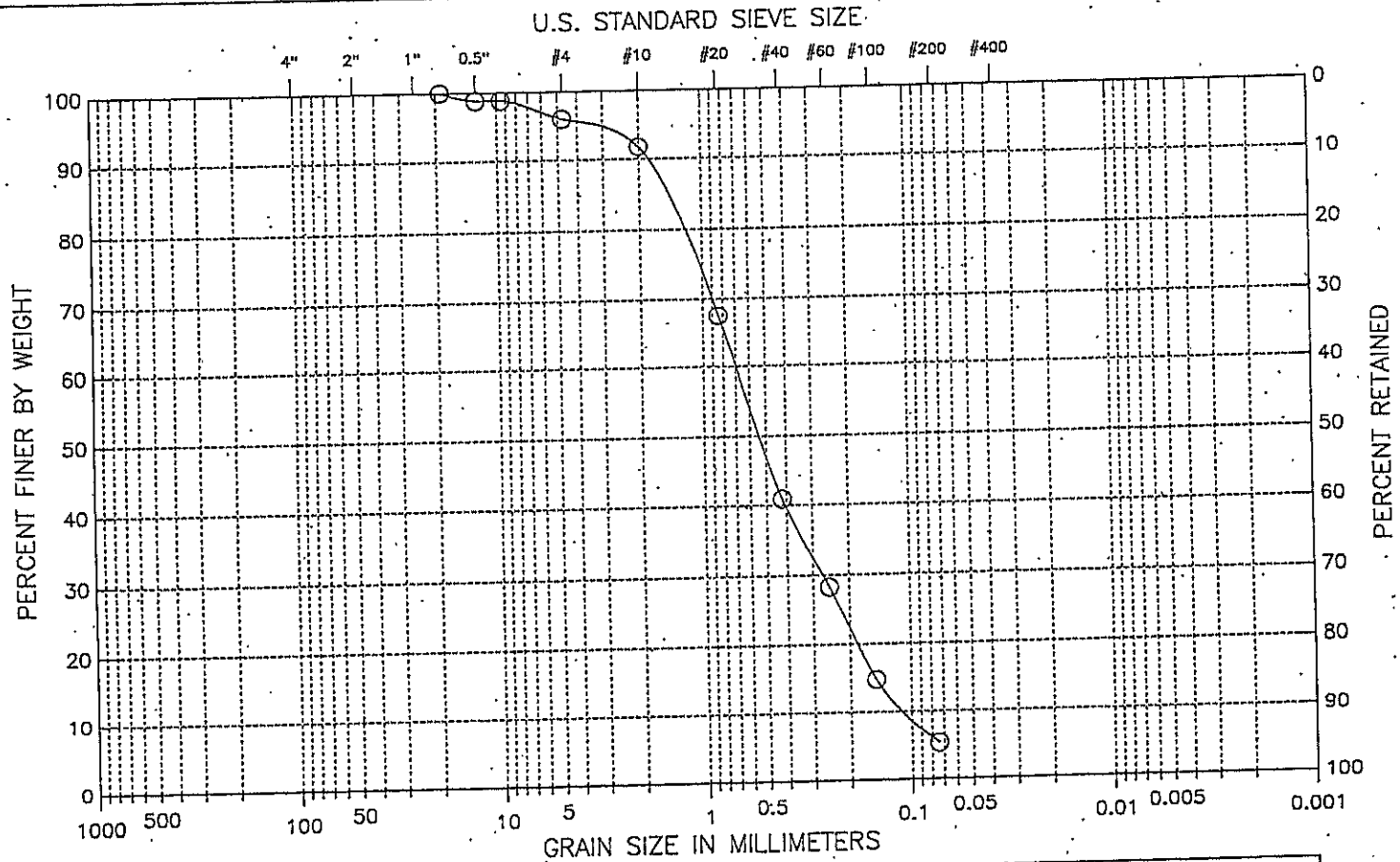
D85 : 4.5518 mm
D60 : 2.2131 mm
D50 : 1.7375 mm
D30 : 1.1261 mm
D15 : 0.7496 mm
D10 : 0.5156 mm

Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

GeoTesting Express • Boxborough, MA • (978) 635-0424 • Fax (978) 635-0266

Boring No. : ---
Sample No: 1D
Test Method ASTM D 422
Filename : 1D

Project : Dredge Area Lighthouse
Project No.: GTX-1934
Location: Edgartown, MA
Date : Wed Aug 05 1998



Classification :

Remarks :

Visual Description :
Saturated gray sand with some gravel, silt, shells

Figure 2

GEOTECHNICAL LABORATORY TEST DATA

Project : Dredge Area Lighthouse
Project No. : GTX-1934
Boring No. : ---
Sample No. : 1D
Location : Edgartown, MA
Depth : 6 ft
Test Date : 08/04/98
Test Method : ASTM D 422
Filename : 1D
Elevation : ---
Tested by : gsg
Checked by : gtt
Soil Description : Saturated gray sand with some gravel, silt, shells
Remarks : ---

FINE SIEVE SET

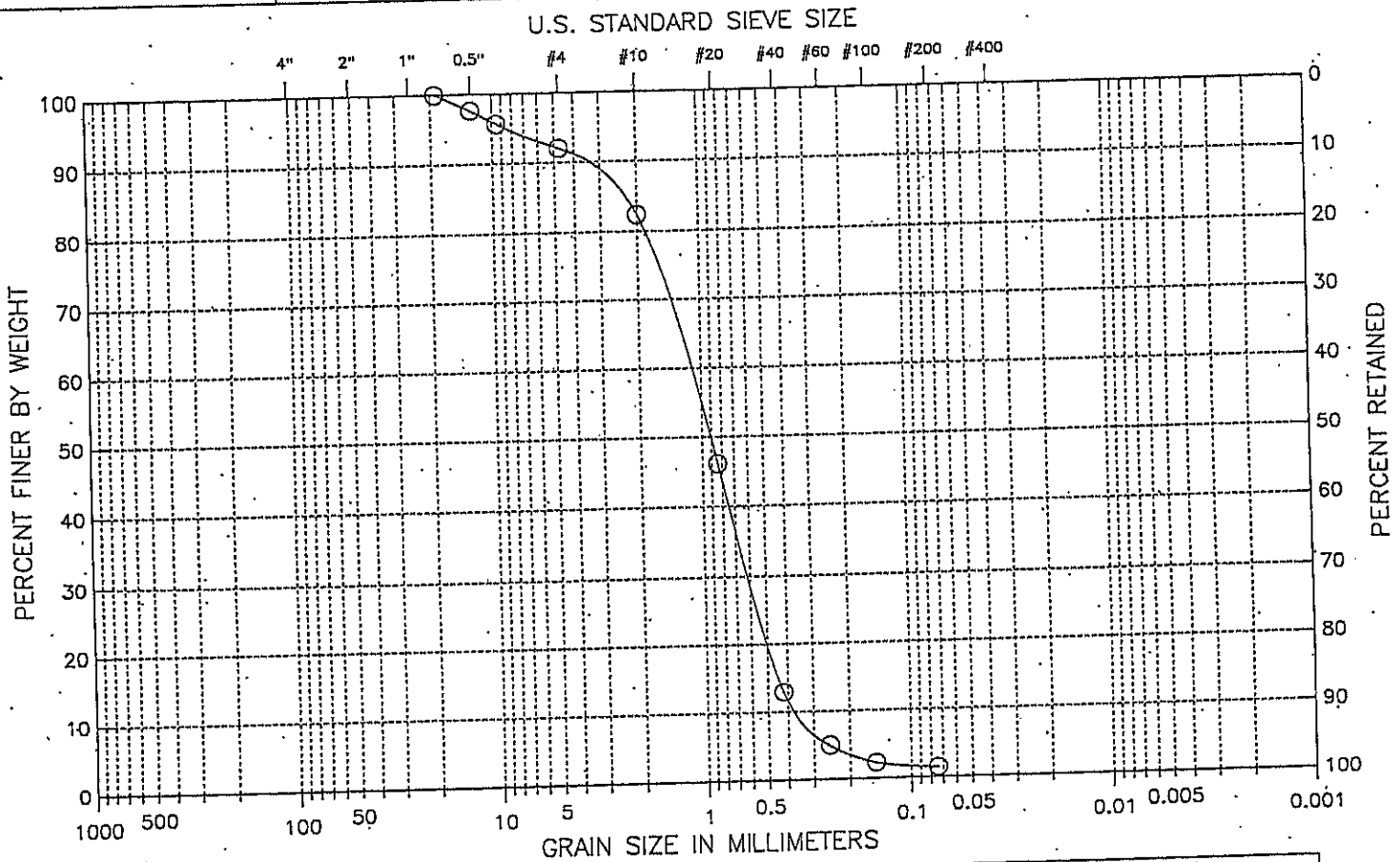
Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.75"	0.748	19.00	0.00	0.00	100
0.5"	0.500	12.70	2.11	2.11	99
0.375"	0.374	9.51	0.00	2.11	99
#4	0.187	4.75	4.98	7.09	96
#10	0.079	2.00	7.76	14.85	92
#20	0.033	0.84	43.89	58.74	68
#40	0.017	0.42	48.17	106.91	41
#60	0.010	0.25	22.77	129.68	28
#100	0.006	0.15	24.28	153.96	15
#200	0.003	0.07	17.31	171.27	5
Pan			9.56	180.83	0

Total Dry Weight of Sample = 190.27

D85 : 1.5697 mm
D60 : 0.6914 mm
D50 : 0.5327 mm
D30 : 0.2683 mm
D15 : 0.1498 mm
D10 : 0.1044 mm

Soil Classification
ASTM Group Symbol : N/A
ASTM Group Name : N/A
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

	Boring No. : --- Sample No: 2S Test Method ASTM D 422 Filename : 2S	Project : Dredge Area Lighthouse Project No.: GTX-1934 Location: Edgartown, MA Date : Wed Aug 05 1998



Remarks :

Classification :
(SP) Poorly graded sand

Visual Description :
Saturated gray sand with some gravel, shells

Figure 3

GEOTECHNICAL LABORATORY TEST DATA

Project : Dredge Area Lighthouse
Project No. : GTX-1934
Boring No. : ---
Sample No. : 2S
Location : Edgartown, MA
Depth : 1 ft
Test Date : 08/04/98
Test Method : ASTM D 422
Filename : 2S
Elevation : ---
Tested by : gsg
Checked by : gtt
Soil Description : Saturated gray sand with some gravel, shells
Remarks : ---

FINE SIEVE SET

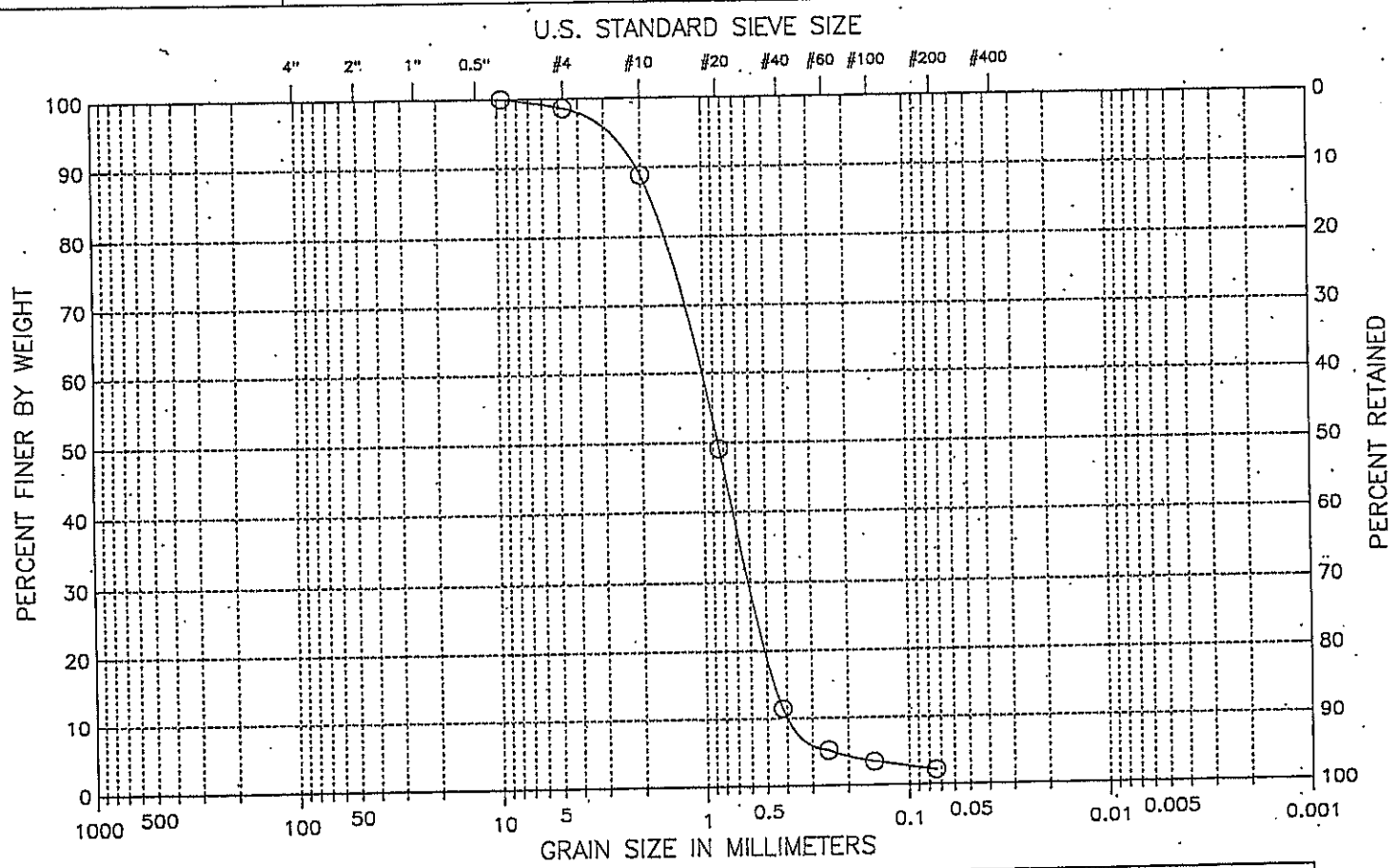
Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.75"	0.748	19.00	0.00	0.00	100
0.5"	0.500	12.70	5.04	5.04	98
0.375"	0.374	9.51	4.40	9.44	96
#4	0.187	4.75	8.01	17.45	92
#10	0.079	2.00	21.22	38.67	82
#20	0.033	0.84	79.26	117.93	46
#40	0.017	0.42	72.61	190.54	13
#60	0.010	0.25	17.40	207.94	5
#100	0.006	0.15	5.87	213.81	2
#200	0.003	0.07	1.88	215.69	1
Pan			3.20	218.89	0

Total Dry Weight of Sample = 228.03

D85 : 2.5372 mm
D60 : 1.1721 mm
D50 : 0.9227 mm
D30 : 0.6001 mm
D15 : 0.4384 mm
D10 : 0.3464 mm

Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

	Boring No.: --- Sample No: 2D Test Method ASTM D 422 Filename : 2D	Project : Dredge Area Lighthouse Project No.: GTX-1934 Location: Edgartown, MA Date : Wed Aug 05 1998



Classification :
(SP) Poorly graded sand
Visual Description :
Saturated gray sand with some shells

Remarks :

Figure 4

GEOTECHNICAL LABORATORY TEST DATA

Project : Dredge Area Lighthouse
Project No. : GTX-1934
Boring No. : ---
Sample No. : 2D
Location : Edgartown, MA
Depth : 6 ft
Test Date : 08/04/98
Test Method : ASTM D 422
Filename : 2D
Elevation : ---
Tested by : gsg
Checked by : gtt
Soil Description : Saturated gray sand with some shells
Remarks : ---

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.375"	0.374	9.51	0.00	0.00	100
#4	0.187	4.75	2.60	2.60	99
#10	0.079	2.00	18.44	21.04	89
#20	0.033	0.84	74.79	95.83	49
#40	0.017	0.42	70.95	166.78	11
#60	0.010	0.25	11.87	178.65	5
#100	0.006	0.15	3.17	181.82	3
#200	0.003	0.07	2.55	184.37	2
Pan			3.96	188.33	0

Total Dry Weight of Sample = 197.59

D85 : 1.8398 mm
D60 : 1.0664 mm
D50 : 0.8574 mm
D30 : 0.5913 mm
D15 : 0.4485 mm
D10 : 0.3730 mm

Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

GROUNDWATER ANALYTICAL

INORGANIC CHEMISTRY

Field ID: Lighthouse 1D
Project: Various Dredging Projects
Client: Edgartown Shellfish Department
Cont/Prsv: 500mL Glass/Cool
Matrix: Soil

Lab ID: 16184-10
Sampled: 03-25-97
Received: 03-26-97

PARAMETER	RESULT	UNITS	REPORTING LIMIT	DATE ANALYZED	BATCH ID	METHOD
Solids, Volatile	BRL	%	0.52	04-02-97	IVS-0110-S	2540G
Moisture, Percent	15	%	0.5	04-02-97	ITS-0110-S	2540

BRL = Below Reporting Limit. Method References: Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986) and Methods for Chemical Analysis of Water and Wastes, US EPA EPA-600/4-79-020, Revised (1983) and Standard Methods for the Examination of Water and Wastewater, APHA, Seventeenth Edition (1992).

Katahdin
ANALYTICAL SERVICES

CLIENT: Eric Jensen
GROUNDWATER ANALYTICAL
228 Main Street
Buzzards Bay, MA 02532

Lab Number : WN-0744-3
Report Date: 04/09/97
PO No. : 03.31.97

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIV
LIGHTHOUSE ID	Solid	CLIENT	03/25/97	03/31/

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NO
Solids-Total Residue (TS)	88.	wt %	1.0	0.10	CLP/CIP SOW	04/01/97	JF	
Total Organic Carbon	3000	µg/g	1.0	100	Lloyd Kahn	04/07/97	BC	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect samp
specific reporting limits. Sample-specific limits are indicated by results annotated with '<' val
(1) Sample Preparation on 03/31/97 by JF

04/09/97

LJO/ejnajc(dw)/bac/pph

340 County Road No. 5
P.O. Box 720, Westbrook, ME 04098
Tel: (207) 874-2400 Fax: (207) 775-4029

210 West Road No. 5, Portsmouth, NH 038
Tel: (603) 431-5777 Fax: (603) 436-3

GROUNDWATER ANALYTICAL

EPA METHOD 418.1 (Modified)
Total Petroleum Hydrocarbons (IR)

Field ID:	Lighthouse 1D	Lab ID:	16184-10
Project:	Various Dredging Projects	Batch ID:	HI-0923-X
Client:	Edgartown Shellfish Department	Sampled:	03-25-97
Cont/Prsv:	500ml Glass/Cool	Received:	03-26-97
Matrix:	Soil Percent Moisture: 14 %	Extracted:	03-28-97
		Analyzed:	03-31-97

PARAMETER	CONCENTRATION (mg/Kg)	REPORTING LIMIT (mg/Kg)
Total Petroleum Hydrocarbons	BRL	34

BRL = Below Reporting Limit. Calculations based on dry sample weight. Method Reference: Method 418.1 (Spectrophotometric, Infrared) - Petroleum Hydrocarbons, Total Recoverable, Methods for Chemical Analysis of Water and Wastes, US EPA EPA-600/4-79-020, Revised (1983). Adapted for solids by Method 3540 (Modified) - Soxhlet Extraction, Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986).

GROUNDWATER ANALYTICAL

EPA METHOD 8080
Polychlorinated Biphenyls (GC/ECD)

Field ID:	Lighthouse ID	Lab ID:	16184-10
Project:	Various Dredging Projects	Batch ID:	PB-0562-X
Client:	Edgartown Shellfish Department	Sampled:	03-25-97
Cont/Prsv:	500ml Glass/Cool	Received:	03-26-97
Matrix:	Soil Percent Moisture: 15 %	Extracted:	04-02-97
		Analyzed:	04-04-97

PARAMETER	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Aroclor 1016	BRL	89
Aroclor 1221	BRL	89
Aroclor 1232	BRL	89
Aroclor 1242	BRL	89
Aroclor 1248	BRL	89
Aroclor 1254	BRL	89
Aroclor 1260	BRL	89

QC SURROGATE COMPOUND	SPIKED	MEASURED	RECOVERY	QC LIMITS
Tetrachloro-m-xylene	7.4	5.6	76 %	25 - 121 %
Decachlorobiphenyl	7.4	8.1	109 %	28 - 138 %

BRL = Below Reporting Limit. Calculations based on dry sample weight. Method Reference: Method 8080 - Organochlorine Pesticides and PCBs, Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986). Parameter list modified for PCBs only.

GROUNDWATER ANALYTICAL

TRACE METALS
(ICP/AA)

Field ID: Lighthouse 1D
Project: Various Dredging Projects
Client: Edgartown Shellfish Department
Cont/Prsv: 500ml Glass/Cool
Matrix: Soil Percent Solids: 86 %

Lab ID: 16184-10
Sampled: 03-25-97
Received: 03-26-97

PARAMETER	CONCENTRATION (mg/Kg)	REPORTING LIMIT (mg/Kg)	DATE ANALYZED	BATCH	EPA METHOD
Arsenic, Total	BRL	1.1	04-03-97	MM-0486-S	7060
Cadmium, Total	BRL	0.57	04-03-97	MM-0486-S	6010
Chromium, Total	BRL	1.1	04-03-97	MM-0486-S	6010
Copper, Total	BRL	2.9	04-03-97	MM-0486-S	6010
Lead, Total	BRL	11	04-03-97	MM-0486-S	6010
Mercury, Total	BRL	0.048	04-03-97	MP-0395-S	7471
Nickel, Total	BRL	4.6	04-03-97	MM-0486-S	6010
Zinc, Total	BRL	2.3	04-03-97	MM-0486-S	6010

BRL = Below Reporting Limit. Calculations based on dry sample weight. Method References: Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986). Graphite Furnace analyses performed with Zeeman background correction and Lvov platform technique.

GROUNDWATER ANALYTICAL

EPA METHOD 8270/PAH
Semivolatile Organics (GC/MS)

Field ID: Lighthouse 1D
Project: Various Dredging Projects
Client: Edgartown Shellfish Department
Cont/Prsv: 500ml Glass/Cool
Matrix: Soil Percent Moisture: 15 %

Lab ID: 16184-10
Batch ID: SB-0341-X
Sampled: 03-25-97
Received: 03-26-97
Extracted: 04-02-97
Analyzed: 04-04-97

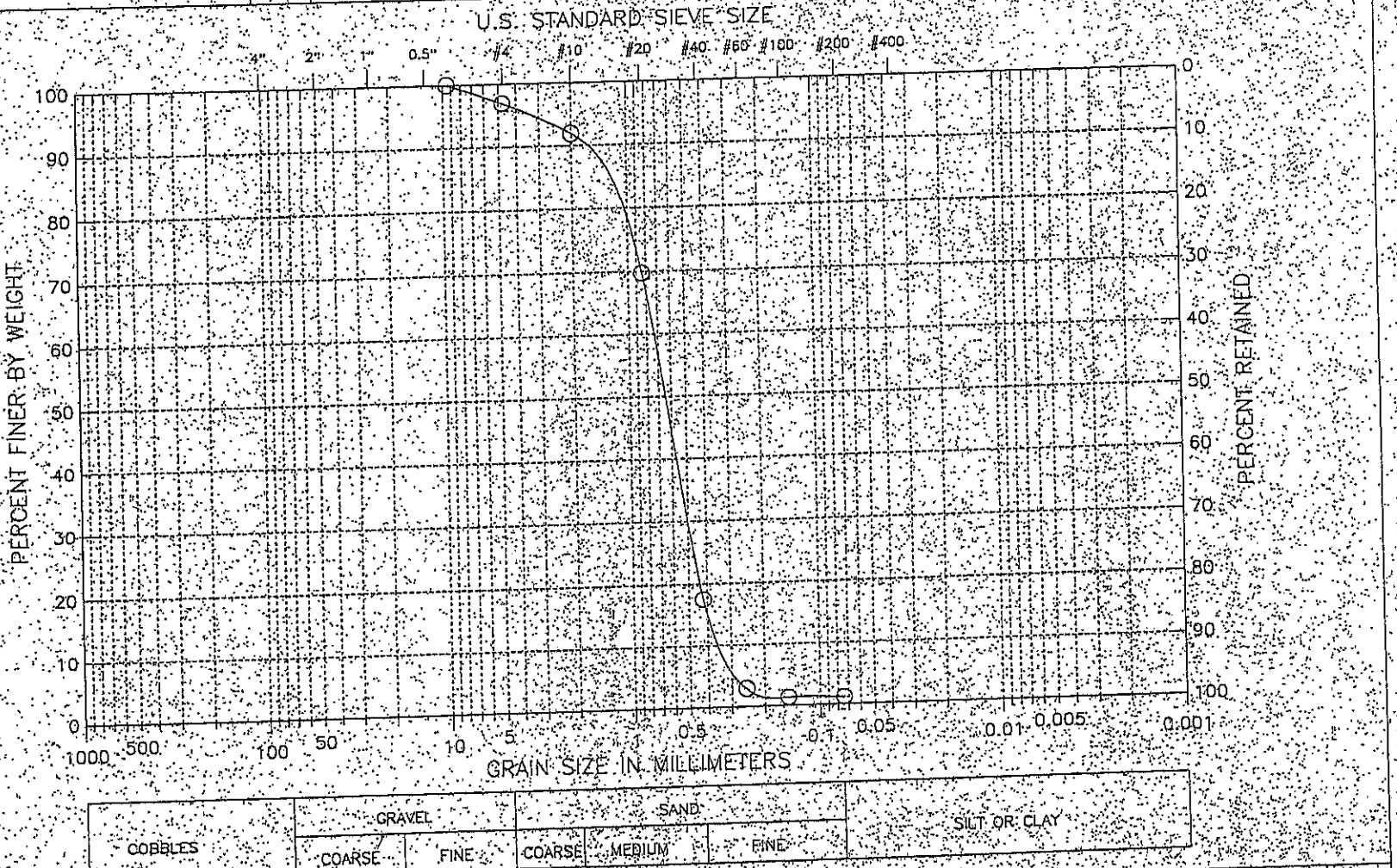
PARAMETER	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Naphthalene	BRL	390
2-Methylnaphthalene	BRL	390
Acenaphthylene	BRL	390
Acenaphthene	BRL	390
Fluorene	BRL	390
Phenanthrene	BRL	390
Anthracene	BRL	390
Fluoranthene	BRL	390
Pyrene	BRL	390
Benzo(a)anthracene	BRL	390
Chrysene	BRL	390
Benzo(b)fluoranthene	BRL	390
Benzo(k)fluoranthene	BRL	390
Benzo(a)pyrene	BRL	390
Indeno(1,2,3-cd)pyrene	BRL	390
Dibenz(a,h)anthracene	BRL	390
Benzo(g,h,i)perylene	BRL	390

QC SURROGATE COMPOUNDS	SPIKED	MEASURED	RECOVERY	QC LIMITS
Nitrobenzene-d5	3,900	2,100	54 %	23 - 120 %
2-Fluorobiphenyl	3,900	1,700	43 %	30 - 115 %
Terphenyl-d14	3,900	950	25 %	18 - 137 %

BRL = Below Reporting Limit. Concentrations reported on dry sample weight basis. Method Reference: Method 8270 - Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry: Capillary Column Technique, Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (Revised 1990). Parameter list appreviated for only Polynuclear Aromatic Hydrocarbon (PAH) analytes.

Boring No. - - -
Sample No. Dredge 3D 6 ft
Test Method ASTM D 422
Filename DRED3D

Project Gardner Property Inner Harbor
Project No. GTX-2133
Location - - -
Date Mon Feb 01 1999



Remarks

Classification
(SP) Poorly graded sand
Visual Description
Wet, light olive brown sand

Figure 9

Inner Harbor

GeoTesting Express • Boxborough, MA • (978) 635-0424 • Fax (978) 635-0266

GEOTECHNICAL LABORATORY TEST DATA

Project : Gardner Property
Project No : GTX-2133
Boring No : ---
Sample No : Dredge 3D 6 ft
Location : ---
Soil Description : Wet, light olive brown sand
Remarks : ---

Depth : 6 ft
Test Date : 01/30/99
Test Method : ASTM D 422

Filename : DRED3P
Elevation : ---
Tested by : tje
Checked by : gtt

FINE SIEVE SET

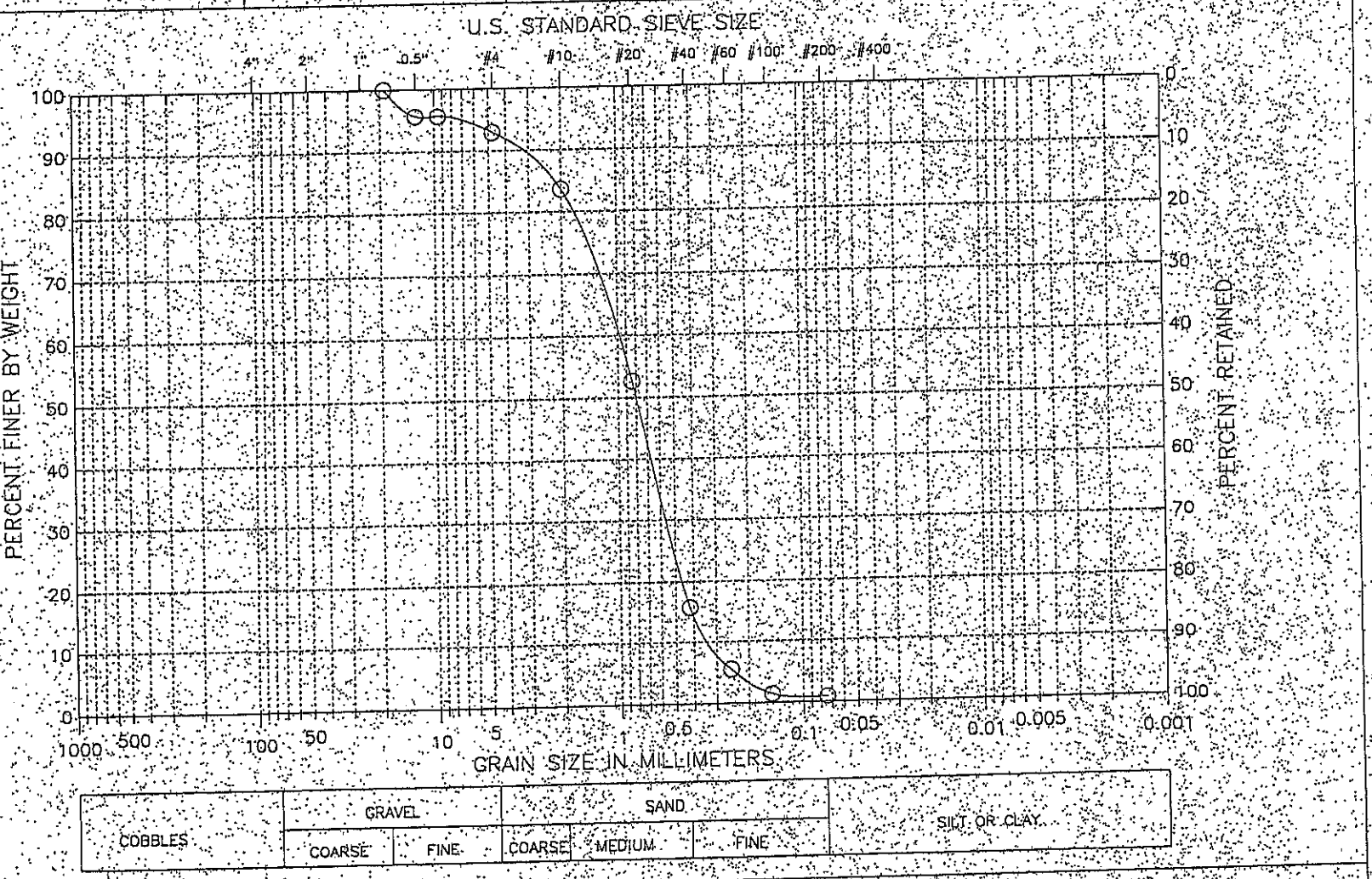
Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.375"	0.374	9.51	0.00	0.00	100
#4	0.187	4.75	5.48	5.48	97
#10	0.079	2.00	9.00	14.48	92
#20	0.033	0.84	39.34	53.82	70
#40	0.017	0.42	92.98	146.80	17
#60	0.010	0.25	25.74	172.54	3
#100	0.006	0.15	2.80	175.34	1
#200	0.003	0.07	0.35	175.69	1
Pan			2.12	177.81	0

Total Dry Weight of Sample = 186.79

D85 = 1.5291 mm
D60 = 0.7391 mm
D50 = 0.6472 mm
D30 = 0.4962 mm
D15 = 0.3848 mm
D10 = 0.3217 mm

Soil Classification
ASTM Group Symbol = SP
ASTM Group Name = Poorly graded sand
AASHTO Group Symbol = A-1-b(0)
AASHTO Group Name = Stone Fragments, Gravel and Sand

Boring No. --- Sample No.: Dredge 2D 6 ft Test Method ASTM D 422 Filename : DRED2D	Project: Gardner Property Inner Harbor Project No.: GTX-2133 Location: --- Date: Mon Feb 01 1999



Remarks:

Classification:
(SP) Poorly graded sand

Visual Description:
Moist, light olive brown sand

Figure 7

GeoTesting Express • Boxborough, MA • (978) 635-0424 • Fax (978) 635-0266

GEOTECHNICAL LABORATORY TEST DATA

Project : Gardner Property
Project No. : GTX-2133
Boring No. : ---
Sample No. : Dredge 2D 6 ft
Location : ---
Soil Description : Moist, light olive brown sand
Remarks : ---

Depth : 6 ft
Test Date : 01/30/99
Test Method : ASTM D 422

Filename : DRED2D
Elevation : ---
Tested by : tlc
Checked by : gtt

FINE SIEVE SET

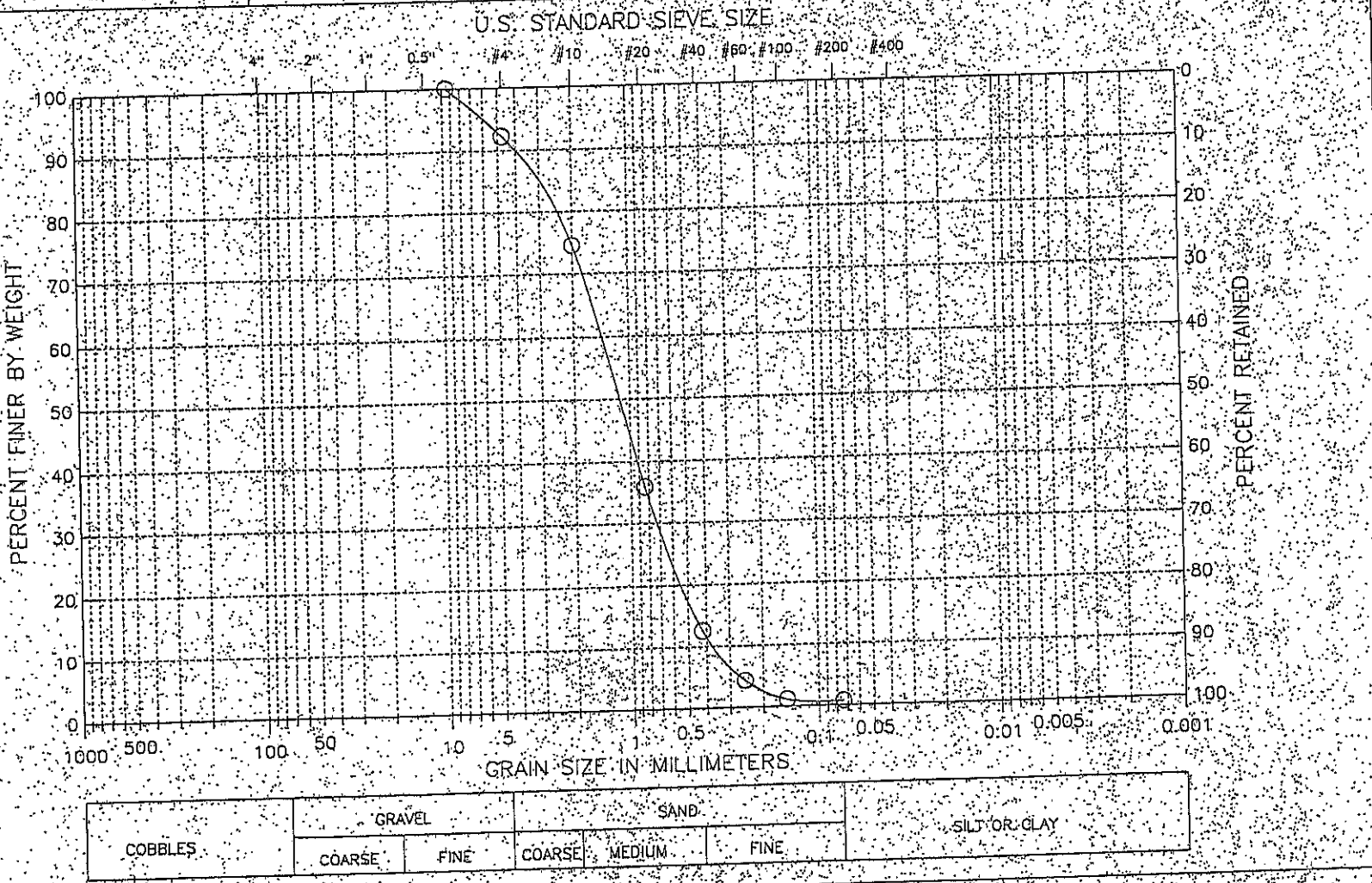
Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.75"	0.748	19.00	0.00	0.00	100
0.5"	0.500	12.70	6.53	6.53	96
0.375"	0.374	9.51	0.00	6.53	96
#4	0.187	4.76	4.10	10.63	93
#10	0.079	2.00	13.71	24.34	84
#20	0.033	0.84	46.23	70.57	53
#40	0.017	0.42	54.89	125.46	16
#60	0.010	0.25	15.27	140.73	5
#100	0.006	0.15	6.00	146.73	1
#200	0.003	0.07	0.88	147.61	1
Pan			1.30	148.91	0

Total Dry Weight of Sample = 158.04

D85 : 2.2695 mm
D60 : 1.0336 mm
D50 : 0.8007 mm
D30 : 0.5493 mm
D15 : 0.4044 mm
D10 : 0.3140 mm

Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

	Boring No. : --- Sample No.: Dredge 1D 6 ft Test Method ASTM D 422 Filename : DRED1D	Project : Gardner Property Inner Harbor Project No. : GTX-2133 Location: --- Date : Mon Feb 01 1999



Remarks

Classification
(SP) Poorly graded sand

Visual Description
Wet, light olive brown sand

Figure 5

GeoTesting Express • Boxborough, MA • (978) 635-0424 • Fax (978) 635-0266

GEOTECHNICAL LABORATORY TEST DATA

Project : Gardner Property
Project No. : GTX-2133
Boring No. : ---
Sample No. : Dredge ID 6 ft
Location : ---
Soil Description : Wet, light olive brown sand
Remarks : ---

Depth : 6 ft
Test Date : 01/30/99
Test Method : ASTM D 422

Filename : DRED1D
Elevation : ---
Tested by : tje
Checked by : gtt

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.375"	0.374	9.51	0.00	0.00	100
#4	0.187	4.75	16.81	16.81	92
#10	0.079	2.00	38.11	54.92	75
#20	0.033	0.84	83.22	138.14	38
#40	0.017	0.42	50.66	188.80	13
#60	0.010	0.25	17.85	206.65	4
#100	0.006	0.15	6.80	213.45	1
#200	0.003	0.07	0.89	214.34	1
Pan			1.51	215.85	0

Total Dry Weight of Sample = 225.13

D85 : 3.3361 mm
D60 : 1.4421 mm
D50 : 1.1519 mm
D30 : 0.7042 mm
D15 : 0.4518 mm
D10 : 0.3583 mm

Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

Wed Jan 06 15:20:25 1999

GEOTECHNICAL LABORATORY TEST DATA

Project : Collins Beach Dredge Areas
Project No. : GTX-2108
Boring No. : ---
Sample No. : 1D
Location : Edgartown, MA
Soil Description : Moist, dark gray sand
Remarks :

Depth : ---
Test Date : 01/05/99
Test Method : ASTM D 422

Filename : 1D
Elevation : ---
Tested by : jaf
Checked by : gtt

FINE SIEVE SET

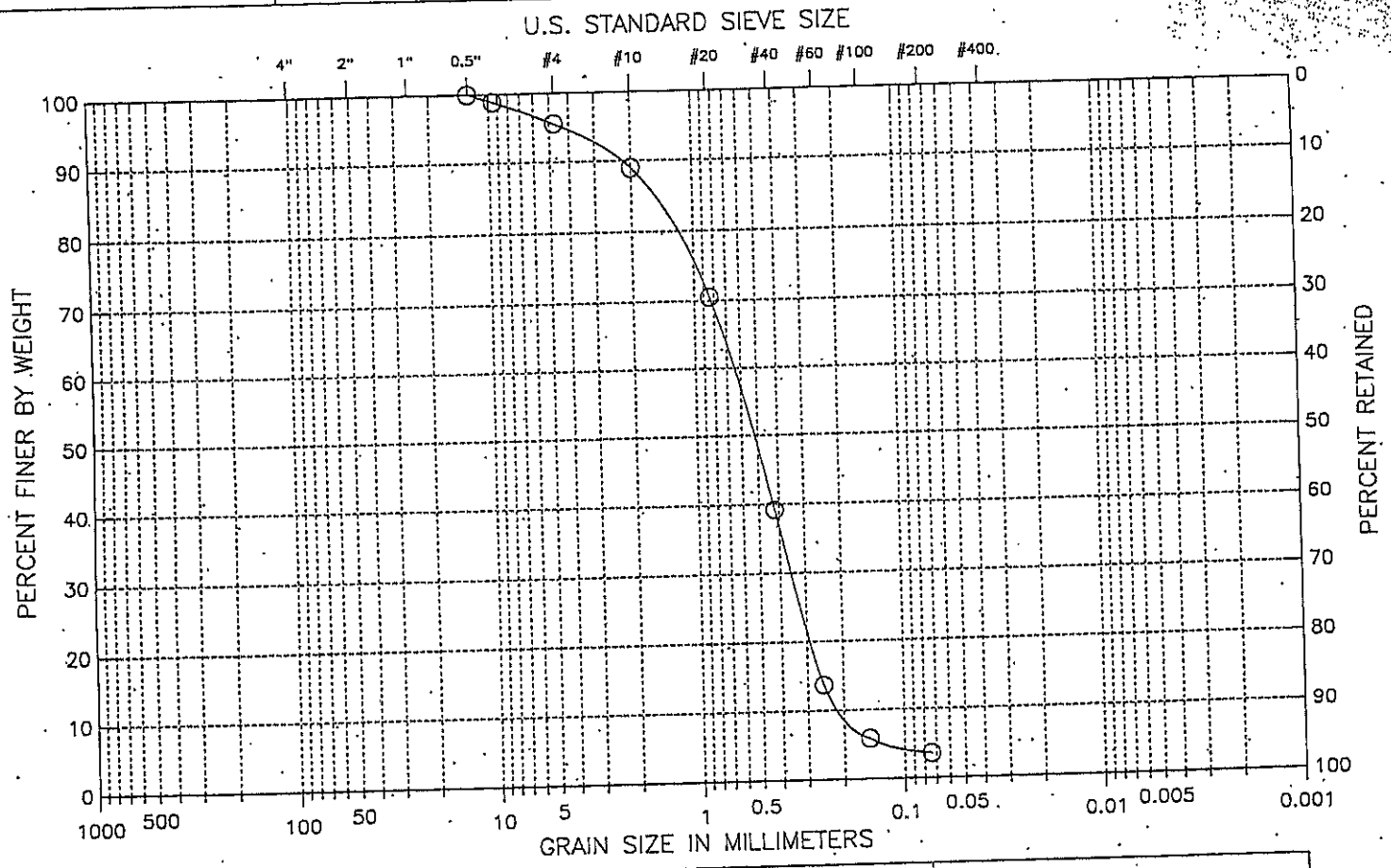
Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.5"	0.500	12.70	0.00	0.00	100
0.375"	0.374	9.51	3.18	3.18	99
#4	0.187	4.75	9.09	12.27	96
#10	0.079	2.00	18.88	31.15	89
#20	0.033	0.84	52.51	83.66	70
#40	0.017	0.42	88.83	172.49	39
#60	0.010	0.25	71.78	244.27	14
#100	0.006	0.15	22.37	266.64	6
#200	0.003	0.07	6.45	273.09	4
Pan			10.11	283.20	0

Total Dry Weight of Sample = 292.41

D85 : 1.6590 mm
D60 : 0.6672 mm
D50 : 0.5347 mm
D30 : 0.3487 mm
D15 : 0.2565 mm
D10 : 0.1956 mm

Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

	Boring No. : --- Sample No: 1D Test Method ASTM D 422 Filename : 1D	Project : Cullins Beach Dredge Areas Project No.: GTX-2108 Location: Edgartown, MA Date : Wed Jan 06 1999



Classification :
(SP) Poorly graded sand
Visual Description :
Moist, dark gray sand

Remarks :

Figure 2

Collins Beach

Wed Jan 06 15:20:26 1999

GEOTECHNICAL LABORATORY TEST DATA

Project : Cullins Beach Dredge Areas
Project No. : GTX-2108
Boring No. : ---
Sample No. : 2D
Location : Edgartown, MA
Soil Description : Moist, dark gray sand with silt
Remarks :

Depth : ---
Test Date : 01/05/99
Test Method : ASTM D 422

Filename : 2D
Elevation : ---
Tested by : jaf
Checked by : gtt

FINE SIEVE SET

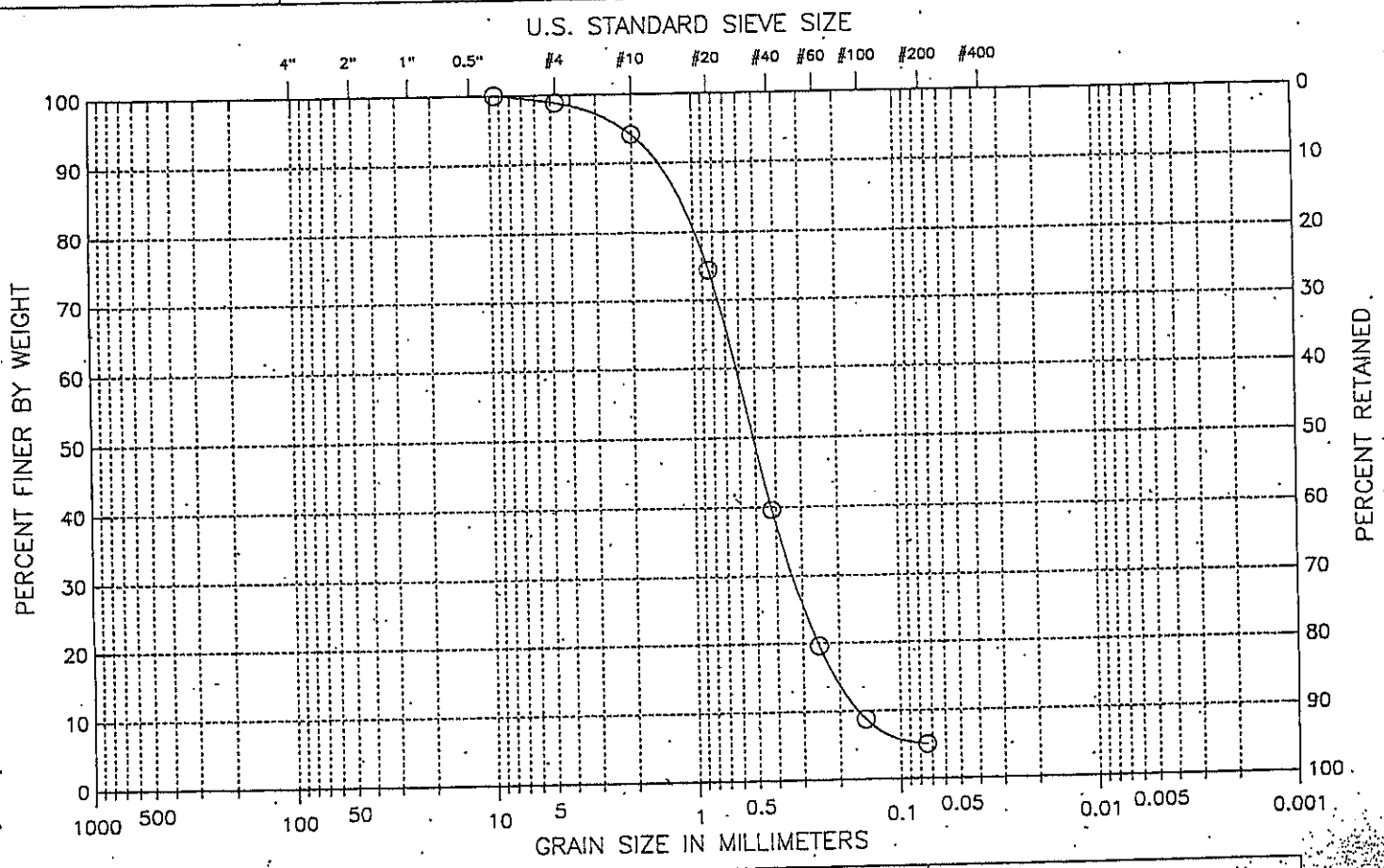
Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.375"	0.374	9.51	0.00	0.00	100
#4	0.187	4.75	2.80	2.80	99
#10	0.079	2.00	11.73	14.53	94
#20	0.033	0.84	49.77	64.30	74
#40	0.017	0.42	86.90	151.20	40
#60	0.010	0.25	50.07	201.27	20
#100	0.006	0.15	27.02	228.29	9
#200	0.003	0.07	9.38	237.67	5
Pan			12.65	250.32	0

Total Dry Weight of Sample = 259.12

D85 : 1.3398 mm
D60 : 0.6316 mm
D50 : 0.5171 mm
D30 : 0.3274 mm
D15 : 0.2006 mm
D10 : 0.1578 mm

Soil Classification
ASTM Group Symbol : N/A
ASTM Group Name : N/A
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

	Boring No. : --- Sample No.: 2D Test Method ASTM D 422 Filename : 2D.	Project : Cullins Beach Dredge Areas Project No.: GTX-2108 Location: Edgartown, MA Date : Wed Jan 06 1999



Classification :

Visual Description :
Moist, dark gray sand with silt

Remarks :

Figure 4

GeoTesting Express • Boxborough, MA • (978) 635-0424 • Fax (978) 635-0266

Collins Beach

GEOTECHNICAL LABORATORY TEST DATA

Project : Scituate Beach Dredge Areas
Depth : ---
Test Date : 01/05/99
Test Method : ASTM D 422

Filename : 1S
Elevation : ---
Tested by : jaf
Checked by : gtt

Description : Moist, dark grayish brown sand with silt

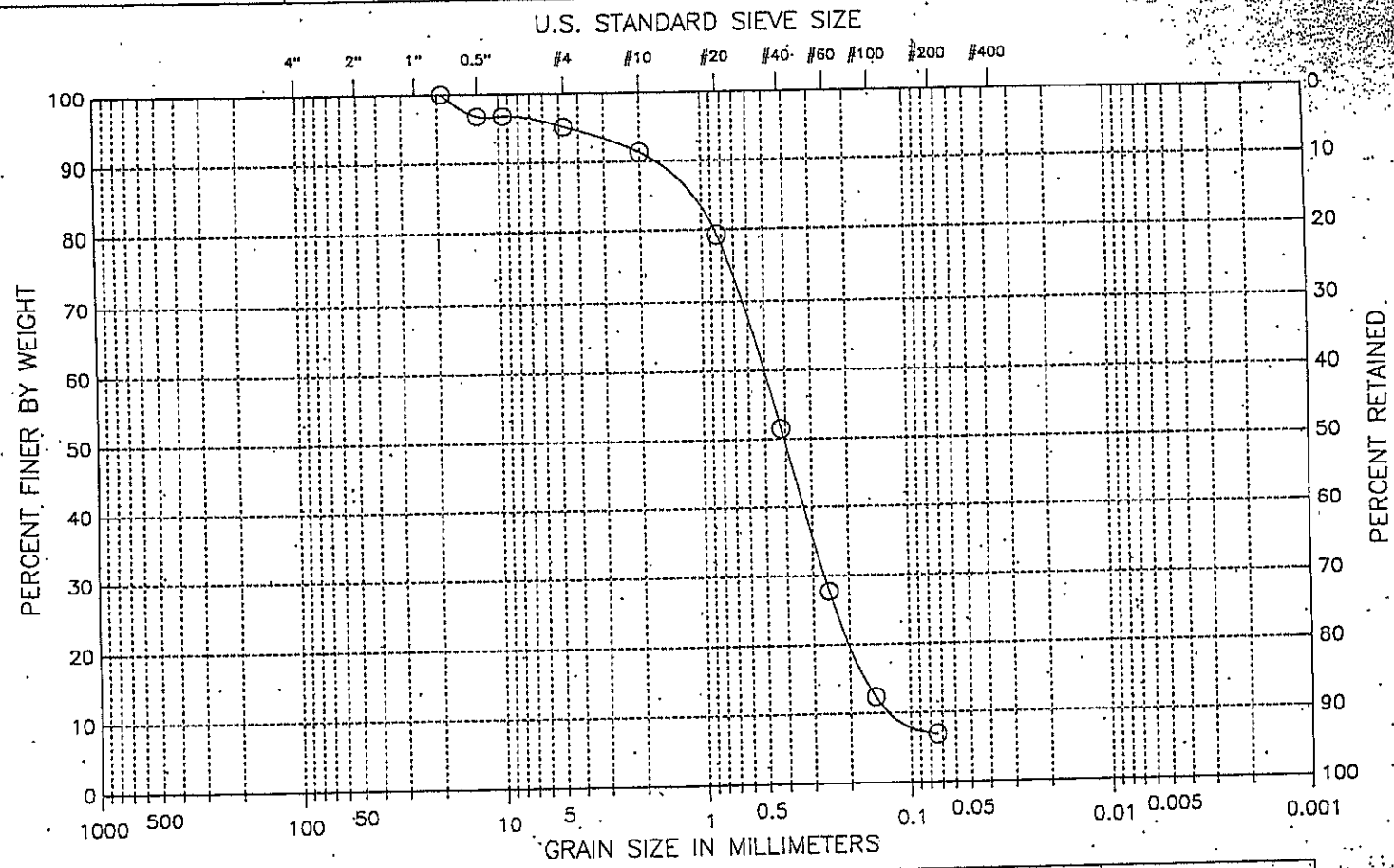
Sieve Openings Inches	Millimeters	FINE SIEVE SET Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
		0.00	0.00	100
0.748	19.00	6.81	6.81	97
0.500	12.70	0.00	6.81	97
0.374	9.51	3.44	10.25	95
0.187	4.75	7.69	17.94	91
0.079	2.00	24.26	42.20	79
0.033	0.84	56.70	98.90	51
0.017	0.42	48.56	147.46	28
0.010	0.25	31.38	178.84	12
0.006	0.15	10.66	189.50	7
0.003	0.07	14.29	203.79	0
Pan				

Total Dry Weight of Sample = 212.86

D85 : 1.2740 mm
D60 : 0.5196 mm
D50 : 0.4068 mm
D30 : 0.2632 mm
D15 : 0.1635 mm
D10 : 0.1104 mm

Soil Classification
ASTM Group Symbol : N/A
ASTM Group Name : N/A
AASHTO Group Symbol : A-3(0)
AASHTO Group Name : Fine Sand

	Boring No. : --- Sample No: 1S Test Method.ASTM D 422 Filename : 1S	Project : Cullins Beach Dredge Areas Project No.: GTX-2108 Location: Edgartown, MA Date : Wed Jan 06 1999



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Classification :

Remarks :

Visual Description :
Moist, dark grayish brown sand with silt

Figure 1

GeoTesting Express • Boxborough, MA • (978) 635-0424 • Fax (978) 635-0266

Wed Jan 06 15:20:26 1999

Collins

GEOTECHNICAL LABORATORY TEST DATA

Project : Cullins Beach Dredge Areas
Project No. : GTX-2108
Boring No. :
Sample No. : 2S
Location : Edgartown, MA
Soil Description : Moist, very dark gray silty sand with shells
Remarks :

Depth : ---
Test Date : 01/05/99
Test Method : ASTM D 422

Filename : 2S
Elevation : ---
Tested by : jaf
Checked by : gtt

FINE SIEVE SET

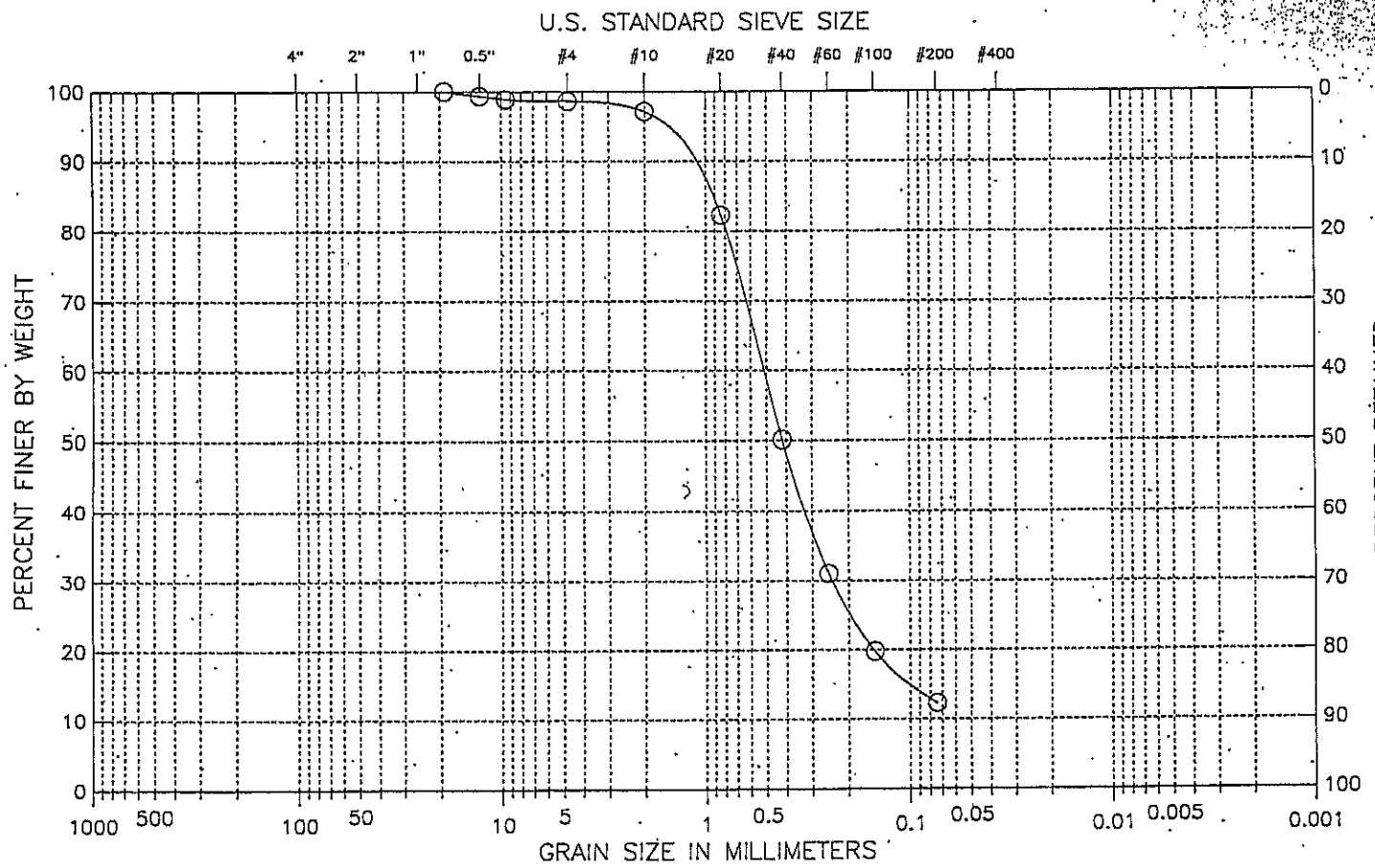
Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.75"	0.748	19.00	0.00	0.00	100
0.5"	0.500	12.70	1.47	1.47	99
0.375"	0.374	9.51	0.99	2.46	99
#4	0.187	4.75	0.62	3.08	99
#10	0.079	2.00	3.33	6.41	97
#20	0.033	0.84	33.16	39.57	82
#40	0.017	0.42	72.35	111.92	50
#60	0.010	0.25	42.80	154.72	31
#100	0.006	0.15	25.41	180.13	20
#200	0.003	0.07	16.86	196.99	12
Pan			27.42	224.41	0

Total Dry Weight of Sample = 233.76

D85 : 0.9814 mm
D60 : 0.5195 mm
D50 : 0.4186 mm
D30 : 0.2382 mm
D15 : 0.0959 mm
D10 : 0.0602 mm

Soil Classification
ASTM Group Symbol : N/A
ASTM Group Name : N/A
AASHTO Group Symbol : A-2-4(0)
AASHTO Group Name : Silty Gravel and Sand

	Boring No. : --- Sample No.: 2S Test Method ASTM D 422 Filename : 2S	Project : Cullins Beach Dredge Areas Project No.: GTX-2108 Location: Edgartown, MA Date : Wed Jan 06 1999



Classification :

Remarks :

Visual Description :
Moist, very dark gray silty sand with shells

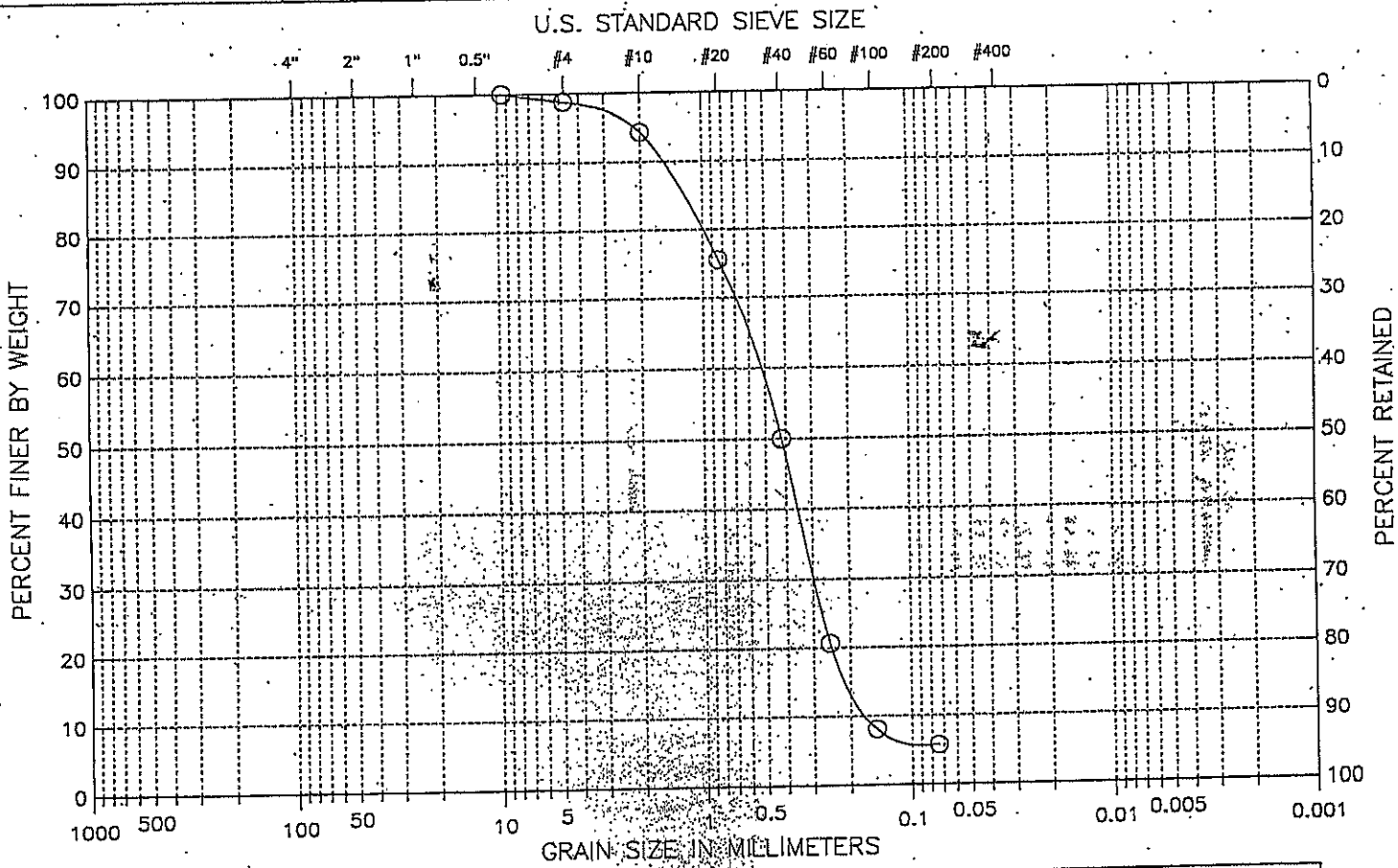
Figure 3

GeoTesting Express • Boxborough, MA • (978) 635-0424 • Fax (978) 635-0266

Calebs

Boring No. : ---
Sample No.: Calebs 1D
Test Method ASTM D 422
Filename : CALEBS1D

Project : Dredge
Project No.: GTX-1386
Location: ---
Date : Wed Apr 02 1997



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Classification :

Remarks :

Visual Description :
Light olive brown sand with silt

Figure 8

GEOTECHNICAL LABORATORY TEST DATA

Project : Dredge
Project No. : GTX-1386
Boring No. : ---
Sample No. : Calebs 1D
Location : ---
Soil Description : Light olive brown sand with silt
Remarks : ---

Depth : ---
Test Date : 03/28/97
Test Method : ASTM D 422

Filename : CALEBS1D
Elevation : ---
Tested by : gph
Checked by : gtt

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.375"	0.374	9.51	0.00	0.00	100
#4	0.187	4.75	1.14	1.14	99
#10	0.079	2.00	4.34	5.48	94
#20	0.033	0.84	17.74	23.22	76
#40	0.017	0.42	24.26	47.48	50
#60	0.010	0.25	27.89	75.37	21
#100	0.006	0.15	11.95	87.32	8
#200	0.003	0.07	2.29	89.61	6
Pan			5.33	94.94	0

Total Dry Weight of Sample = 104.32

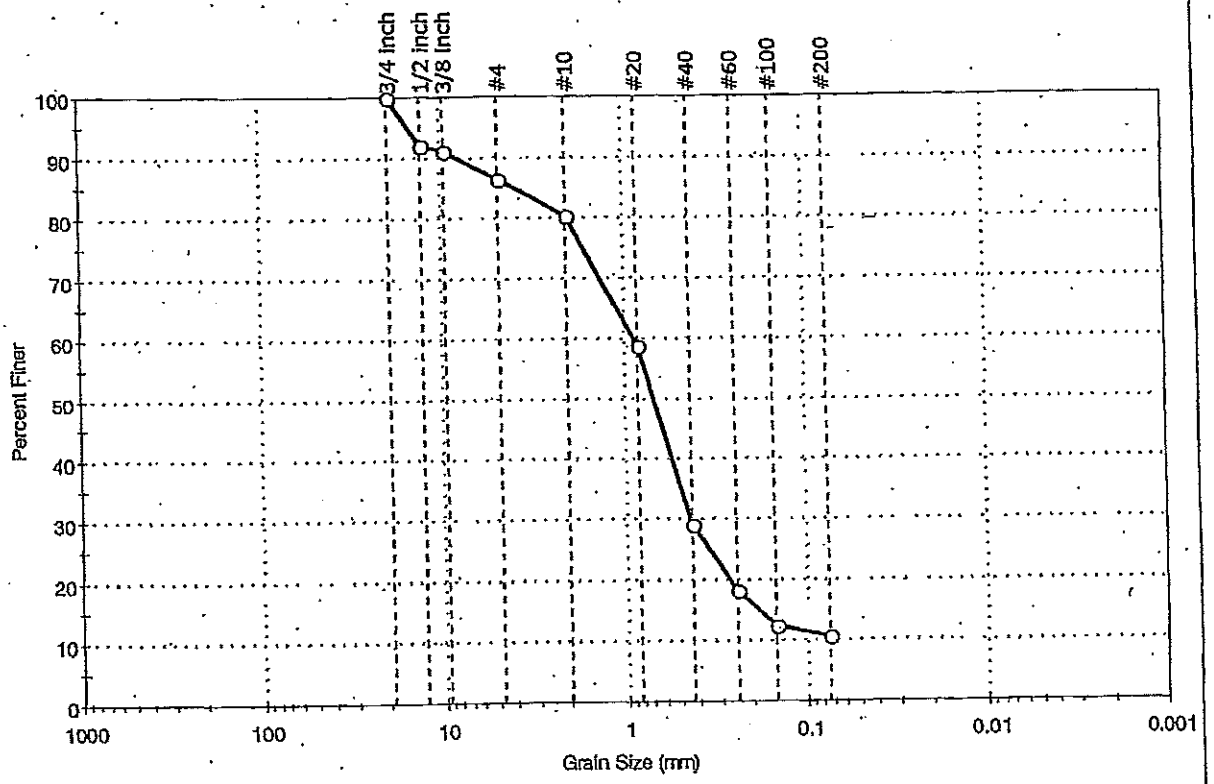
D85 : 1.3038 mm
D60 : 0.5513 mm
D50 : 0.4201 mm
D30 : 0.2951 mm
D15 : 0.1985 mm
D10 : 0.1616 mm

Soil Classification
ASTM Group Symbol : N/A
ASTM Group Name : N/A
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

GeoTesting express

Client: Edgartown Shellfish Dept.			
Project: Caleb's Pond			
Location: Edgartown Harbor		Project No:	GTX-5318
Boring ID: ---	Sample Type: bag	Tested By:	ahp
Sample ID: E-1	Test Date: 06/30/04	Checked By:	jdt
Depth : ---	Test Id: 55254		
Sample Description:	Moist, dark olive brown sand with silt		
Sample Comment:	First two feet dark gray poorly graded sand and shells, turning darker at three feet to		
Test Comment:	to five feet, sand and small rocks.		

Particle Size Analysis - ASTM D 422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	13.6	75.9	10.6

Sieve Name	Sieve Size (mm)	Percent Finer	Spec. Percent	Complies
3/4 inch	19.00	100		
1/2 inch	12.70	92		
3/8 inch	9.51	91		
#4	4.75	86		
#10	2.00	80		
#20	0.84	59		
#40	0.42	29		
#60	0.25	18		
#100	0.15	12		
#200	0.075	11		

Coefficients

D_{85} = 3.8906 mm	D_{30} = 0.4336 mm
D_{60} = 0.8820 mm	D_{15} = 0.1861 mm
D_{50} = 0.6866 mm	D_{10} = 0.0609 mm
C_u = 14.488	C_c = 0.213

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

Sample/Test Description

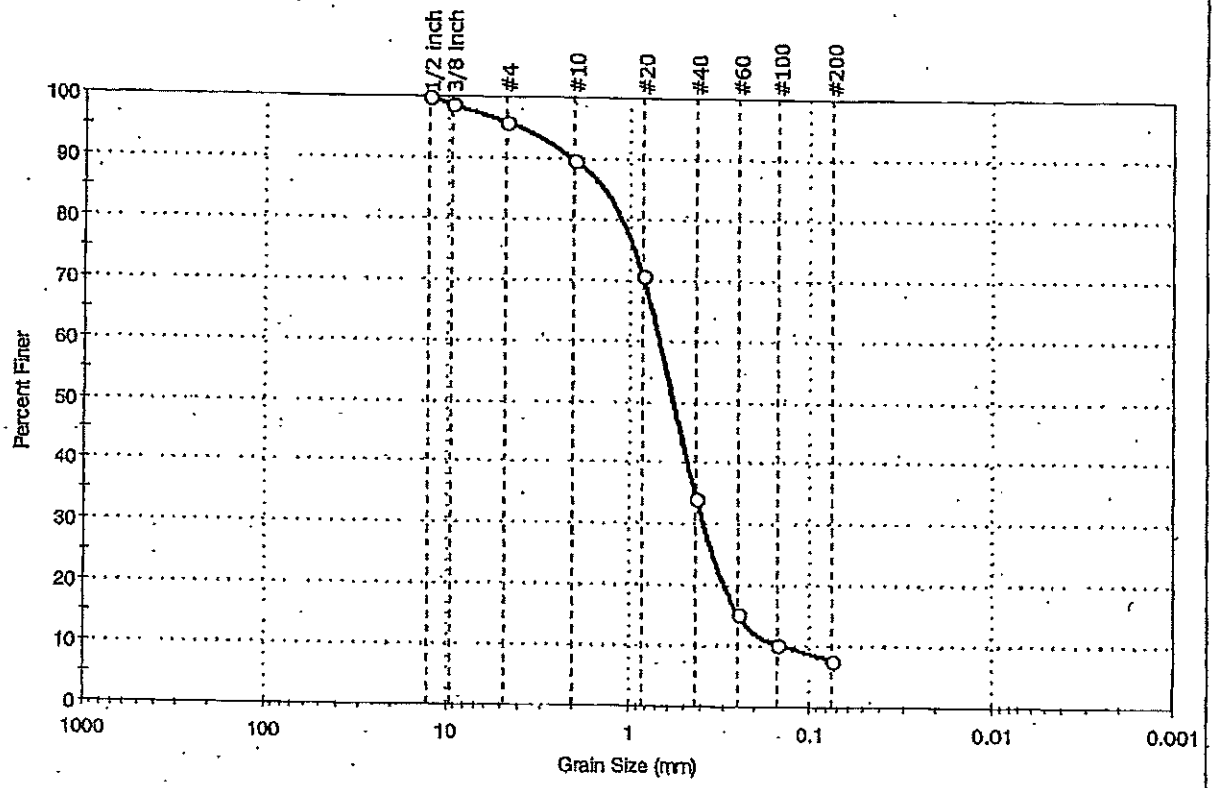
Sand/Gravel Particle Shape : ROUNDED
Sand/Gravel Hardness : HARD
Dispersion Device : N/A
Dispersion Period : N/A
Specific Gravity : 2.65 assumed

printed 7/2/2004 1:26:40 PM

GeoTesting express

Client:	Edgartown Shellfish Dept.		
Project:	Calebs Pond		
Location:	Edgartown Harbor	Project No:	GTX-5318
Boring ID:	---	Sample Type: bag	Tested By: ahp
Sample ID:	E-2	Test Date: 06/30/04	Checked By: jdt
Depth :	---	Test Id: 55255	
Sample Description:	Moist, dark gray sand with silt		
Sample Comment:	Complete length of core dark gray sand with shell fragments		
Test Comment:	---		

Particle Size Analysis - ASTM D 422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	4.1	88.1	7.8

Sieve Name	Sieve Size (mm)	Percent Finer	Spec. Percent	Complies
1/2 inch	12.70	100		
3/8 inch	9.51	99		
#4	4.75	96		
#10	2.00	90		
#20	0.84	71		
#40	0.42	34		
#60	0.25	15		
#100	0.15	10		
#200	0.075	8		

Coefficients

D_{85} = 1.6169 mm	D_{30} = 0.3783 mm
D_{60} = 0.6888 mm	D_{15} = 0.2410 mm
D_{50} = 0.5716 mm	D_{10} = 0.1354 mm
C_u = 5.088	C_c = 0.208

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

Sample/Test Description

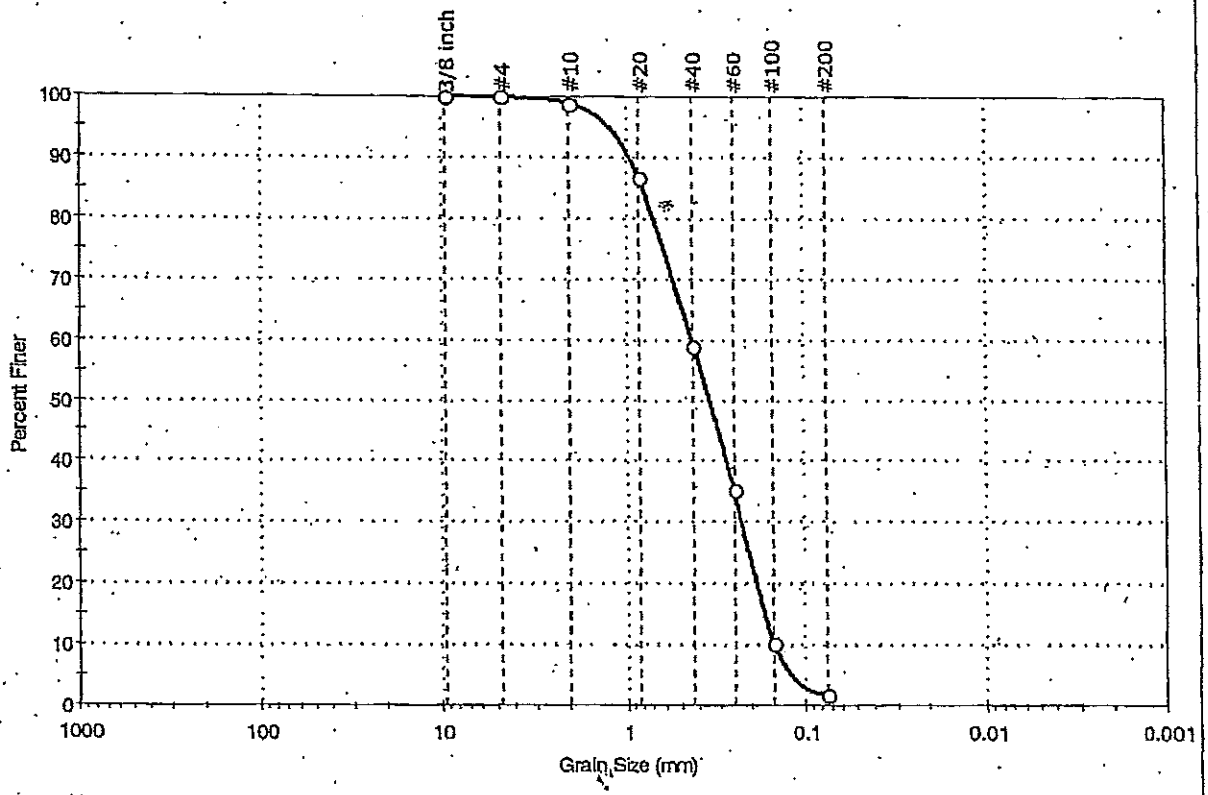
Sand/Gravel Particle Shape : ROUNDED
Sand/Gravel Hardness : HARD
Dispersion Device : N/A
Dispersion Period : N/A
Specific Gravity : 2.65 assumed

printed 7/2/2004 1:27:19 PM

GeoTesting express

Client:	Edgartown Shellfish Dept.				
Project:	Calebs Pond				
Location:	Edgartown Harbor			Project No:	GTX-5318
Boring ID:	---	Sample Type:	bag	Tested By:	ahp
Sample ID:	E-3	Test Date:	06/30/04	Checked By:	jdt
Depth :	---	Test Id:	55256		
Sample Description:	Moist, dark gray sand				
Sample Comment:	One to two feet light gray sand, three to five feet dark gray sand.				
Test Comment:	---				

Particle Size Analysis - ASTM D 422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.1	98.0	1.9

Sieve Name	Sieve Size (mm)	Percent Finer	Spec. Percent	Complies
3/8 inch	9.51	100		
#4	4.75	100		
#10	2.00	99		
#20	0.84	87		
#40	0.42	59		
#60	0.25	35		
#100	0.15	10		
#200	0.075	2		

Coefficients

D_{85} = 0.8064 mm	D_{30} = 0.2241 mm
D_{60} = 0.4346 mm	D_{15} = 0.1648 mm
D_{50} = 0.3469 mm	D_{10} = 0.1451 mm
C_u = 2.995	C_c = 0.116

Classification

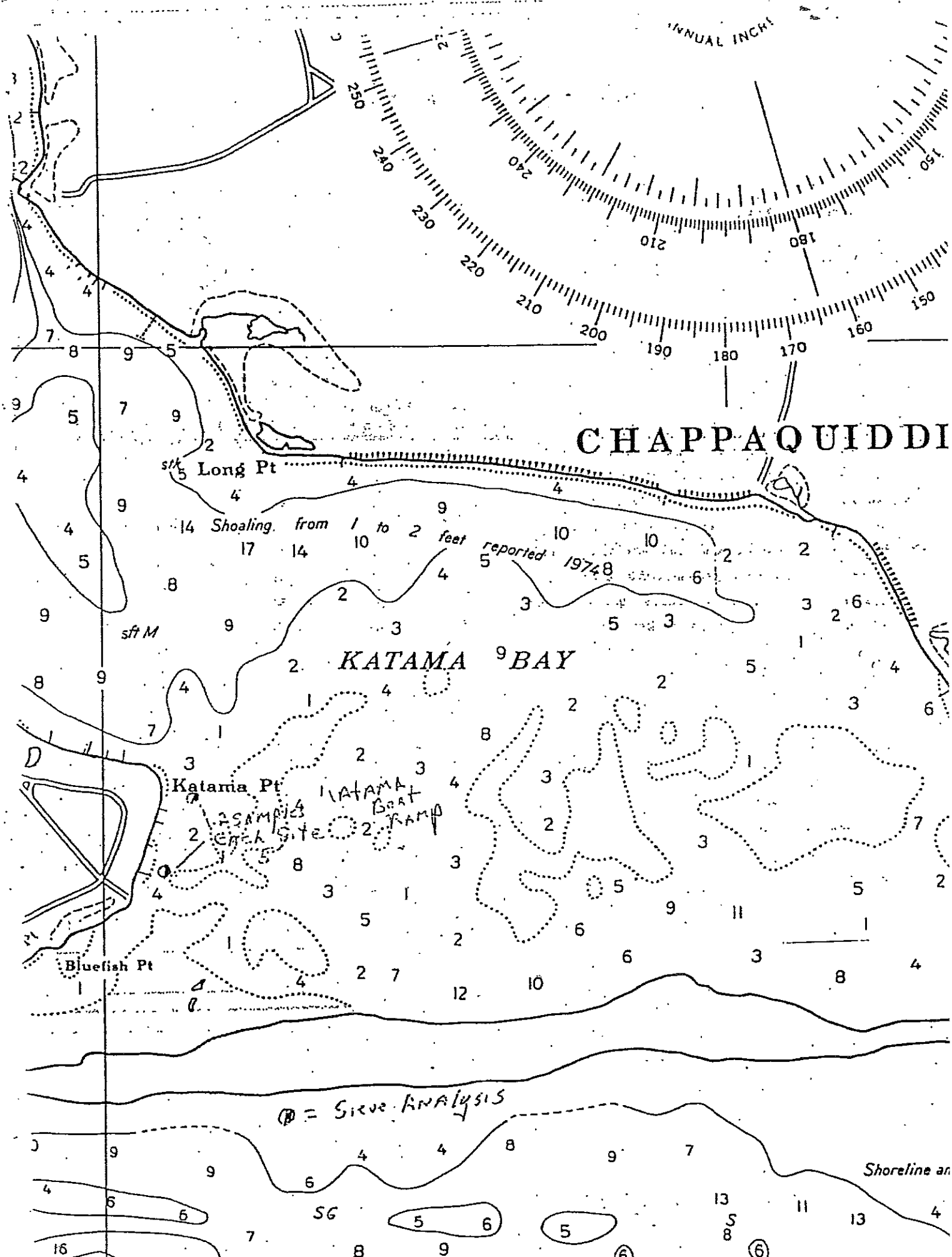
ASTM Poorly graded sand (SP)

AASHTO Fine Sand (A-3 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ROUNDED
Sand/Gravel Hardness : HARD
Dispersion Device : N/A
Dispersion Period : N/A
Specific Gravity : 2.65 assumed

printed 7/2/2004 1:28:21 PM


CHAPPAQUIDDI
Long Pt
Shoaling from 1 to 2 feet reported 1974
KATAMA BAY
Katama Pt
KATAMA Boat Ramp
Bluefish Pt
= Sieve Analysis
Shoreline an

Grain Size Summary (ASTM D 422)

Client: Groundwater Analytical
Project Name: Dredge
Project Location: —

GTX #: 1386
Date: 04/02/97
Tested By: gph
Checked By: gtt

Sample ID	Sample Description	Percent of Sample, %				
		Coarse Gravel (> 64 mm)	Fine Gravel (2-64 mm)	Sand (0.063-2 mm)	Silt (0.004-0.063 mm)	Clay (<0.004 mm)
Katoma 1S	Moist, very dark gray sand with shells	0	1	98	1	0
Katoma 1D	Light olive brown sand with trace silt	0	10	88	2	0
Katoma 2S	Moist, very dark gray sand	0	1	97	2	0
Katoma 2D	Moist, very dark gray sand with trace silt	0	2	95	3	0
Lighthouse 1S	Moist, very dark gray sand with shells, trace silt	0	15	82	3	0
Lgt.House 1D	Olive gray sand with trace silt	0	17	81	2	0
Calebs 1S	oist, black sand with trace silt, gravel and shell	0	39	58	3	0
Calebs 1D	Light olive brown sand with silt	0	6	88	6	0

Katoma Boat Ramp

Wed Apr 02 08:52:50 1997

GEOTECHNICAL LABORATORY TEST DATA

Project : Dredge
Project No. : GTX-1386
Boring No. : ---
Sample No. : Katoma 2D
Location : ---
Depth : ---
Test Date : 03/28/97
Test Method : ASTM D 422
Filename : KATOMA2D
Elevation : ---
Tested by : gph
Checked by : gtt
Soil Description : Moist, very dark gray sand with trace silt.
Remarks : ---

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.375"	0.374	9.51	0.00	0.00	100
#4	0.187	4.75	0.59	0.59	100
#10	0.079	2.00	4.68	5.27	98
#20	0.033	0.84	41.98	47.25	86
#40	0.017	0.42	124.81	172.06	50
#60	0.010	0.25	99.89	271.95	21
#100	0.006	0.15	51.39	323.34	6
#200	0.003	0.07	8.92	332.26	3
Pan			10.41	342.67	0

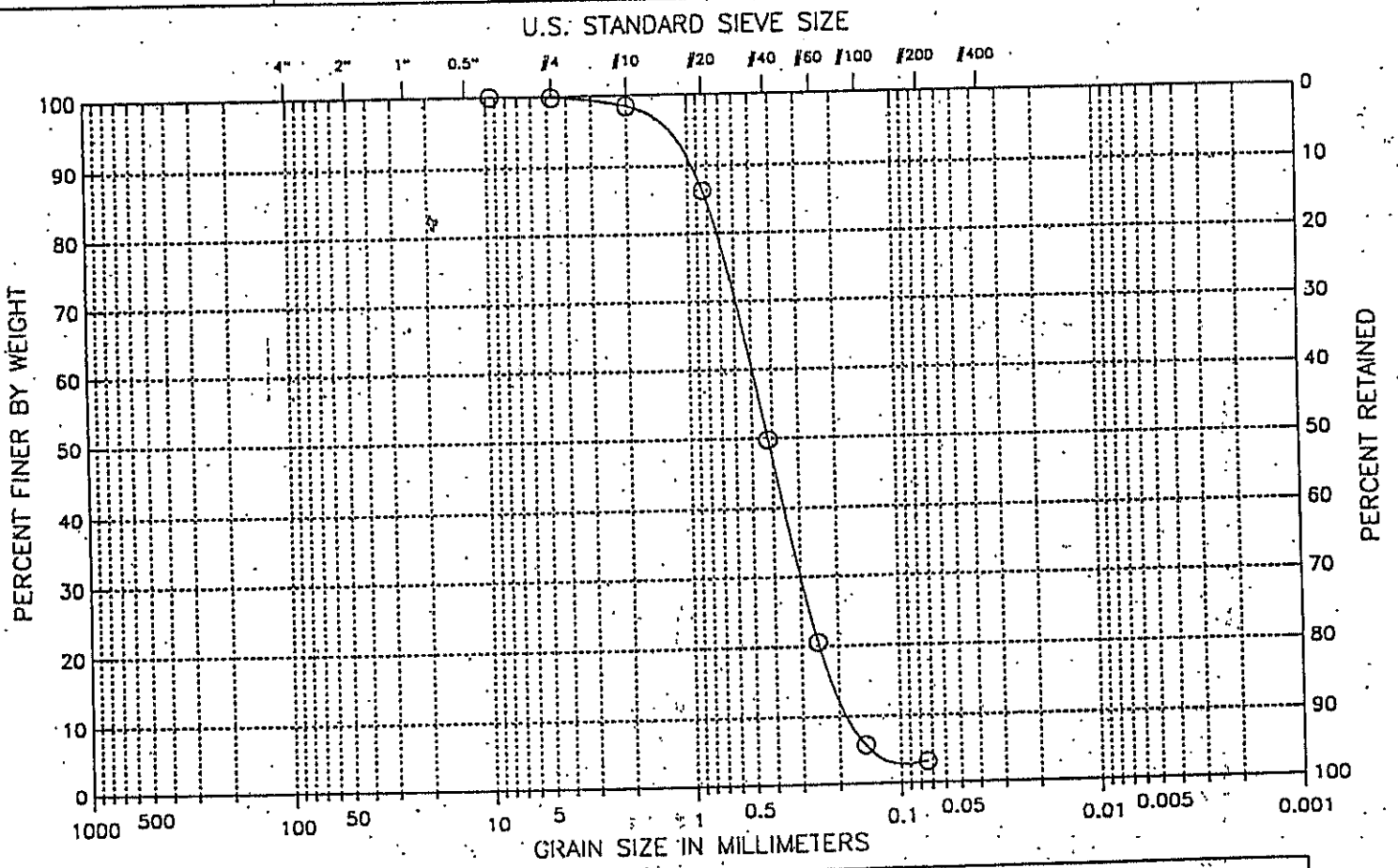
Total Dry Weight of Sample = 352.04

D85 : 0.8218 mm
D60 : 0.5103 mm
D50 : 0.4217 mm
D30 : 0.2953 mm
D15 : 0.2058 mm
D10 : 0.1732 mm

Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

Boring No. : ---
Sample No: Kaloma 2D
Test Method ASTM D 422
Filenome : KATOMA2D

Project : Dredge
Project No.: GTX-1386
Location: ---
Date : Wed Apr 02 1997



Remarks :

Classification :
(SP) Poorly graded sand
Visual Description :
Moist, very dark gray sand with trace silt

Figure 4

Wed Apr 02 08:52:49 1997

Katama Boat Ramp

GEOTECHNICAL LABORATORY TEST DATA

Project : Dredge
Project No. : GTX-1386
Boring No. : ---
Sample No. : Katoma 2S
Location : ---

Depth : ---
Test Date : 03/28/97
Test Method : ASTM D 422

Filename : KATOMA2S
Elevation : ---
Tested by : gph
Checked by : gtt

Soil Description : Moist, very dark gray sand
Remarks : ---

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
#4	0.187	4.75	0.00	0.00	100
#10	0.079	2.00	2.02	2.02	99
#20	0.033	0.84	34.03	36.05	89
#40	0.017	0.42	149.09	185.14	45
#60	0.010	0.25	108.76	293.90	12
#100	0.006	0.15	31.24	325.14	3
#200	0.003	0.07	3.01	328.15	2
Pan			6.33	334.48	0

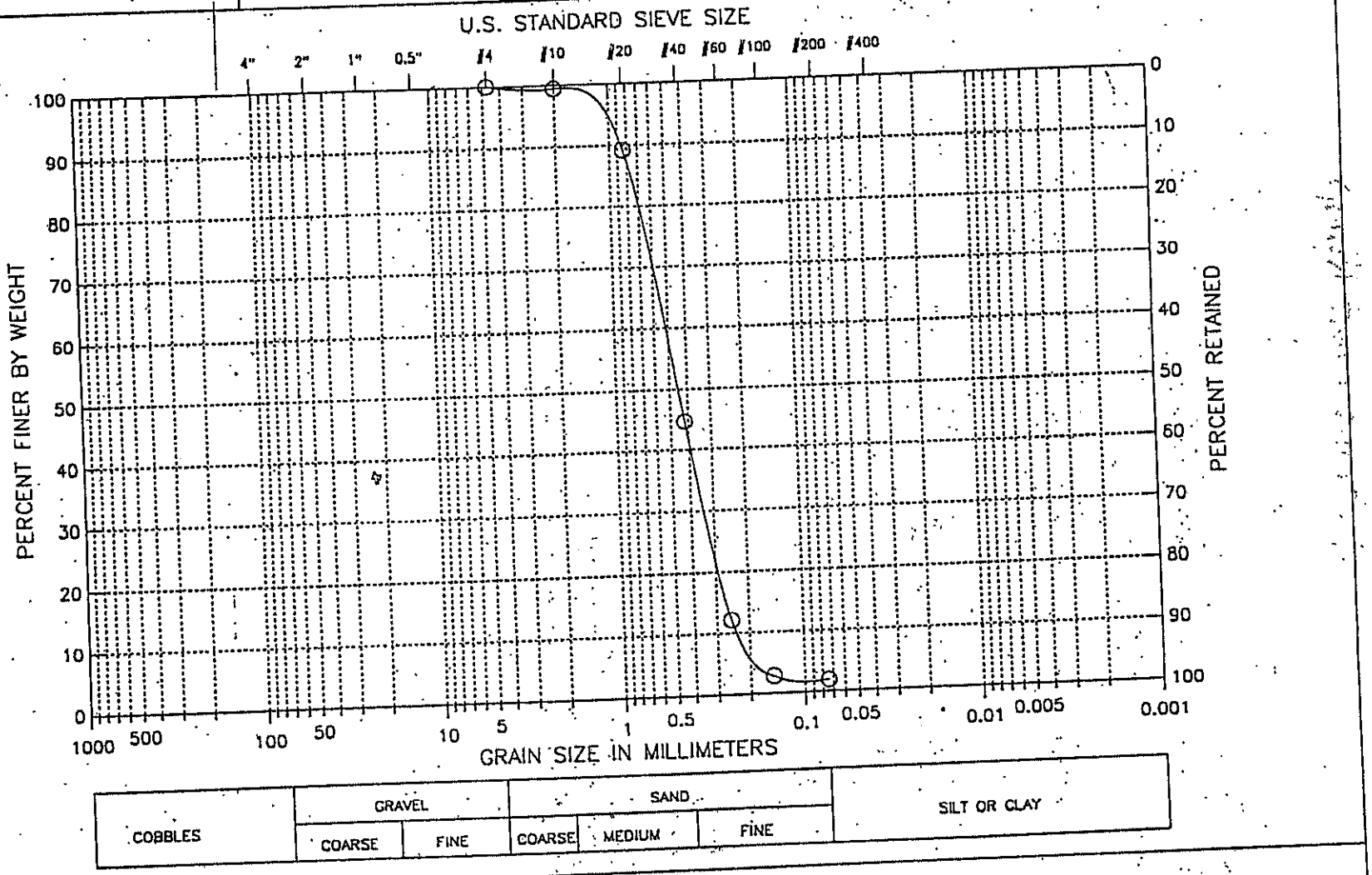
Total Dry Weight of Sample = 343.86

D85 : 0.7875 mm
D60 : 0.5335 mm
D50 : 0.4565 mm
D30 : 0.3325 mm
D15 : 0.2617 mm
D10 : 0.2221 mm

Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

Boring No. : ---
Sample No: Kalama 2S
Test Method ASTM D 422
Filename : KATOMA2S

Project : Dredge
Project No.: GTX-1386
Location: ---
Date : Wed Apr 02 1997



Remarks :

Classification :
(SP) Poorly graded sand
Visual Description :
Moist, very dark gray sand

Figure 3

GeoTesting Express • Acton, Ma. • (508) 635-0424 • Fax (508) 635-0266

Katama Boat Ramp

Wed Apr 02 08:52:49 1997

GEOTECHNICAL LABORATORY TEST DATA

Project : Dredge
Project No. : GTX-1386
Boring No. : ---
Sample No. : Katoma 1D
Location : ---
Depth : ---
Test Date : 03/28/97
Test Method : ASTM D 422
Filename : KATOMA1D
Elevation : ---
Tested by : gph
Checked by : gtt
Soil Description : Light olive brown sand with trace silt
Remarks : ---

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.375"	0.374	9.51	0.00	0.00	100
#4	0.187	4.75	2.25	2.25	97
#10	0.079	2.00	4.18	6.43	90
#20	0.033	0.84	14.02	20.45	70
#40	0.017	0.42	22.90	43.35	35
#60	0.010	0.25	19.89	63.24	6
#100	0.006	0.15	2.00	65.24	3
#200	0.003	0.07	0.22	65.46	2
Pan			1.63	67.09	0

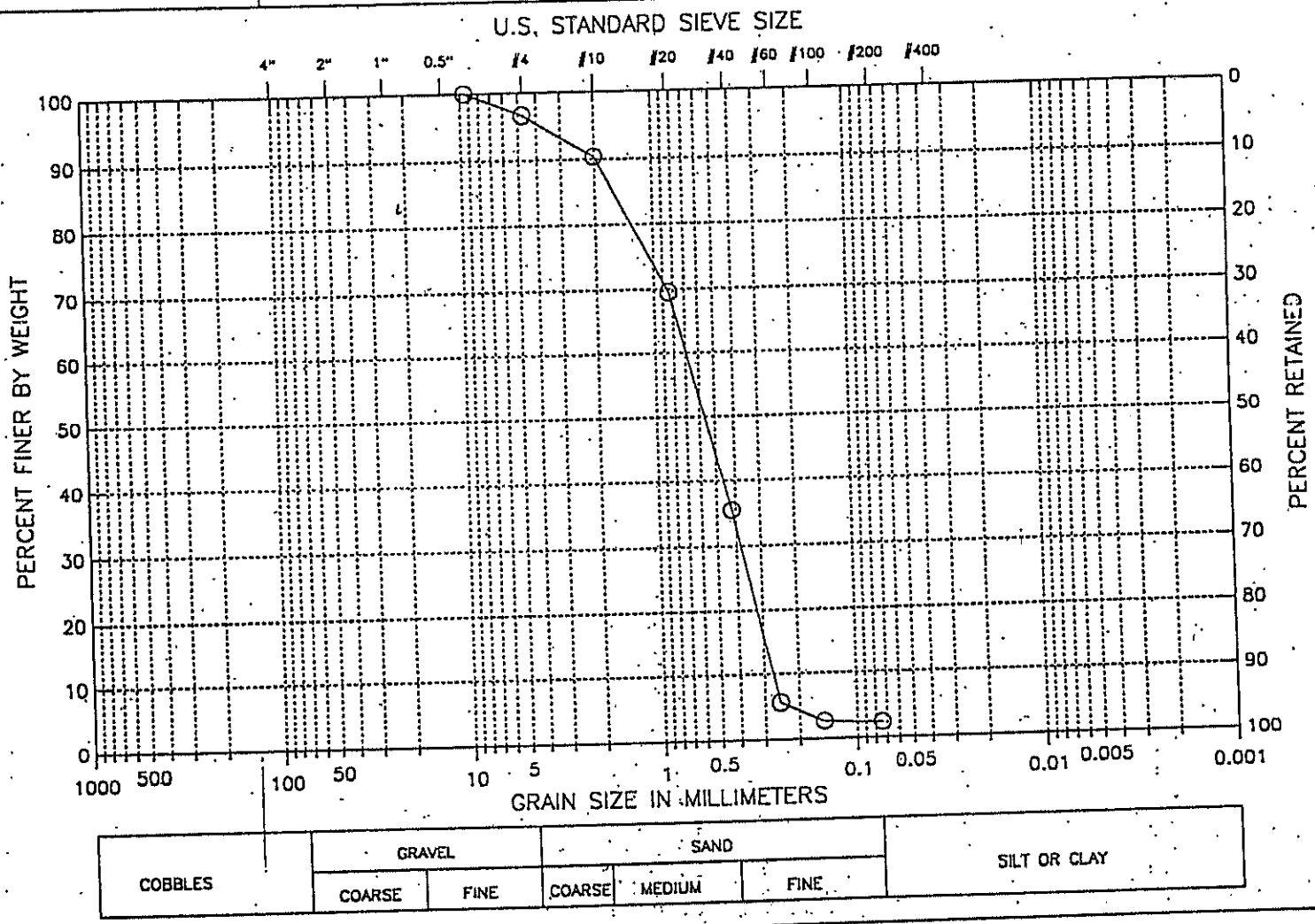
Total Dry Weight of Sample = 76.36

D85 : 1.5978 mm
D60 : 0.6930 mm
D50 : 0.5654 mm
D30 : 0.3822 mm
D15 : 0.2940 mm
D10 : 0.2694 mm

Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

Boring No. : ---
Sample No: Katoma 1D
Test Method ASTM D 422
Filename : KATOMA1D

Project : Dredge
Project No.: GTX-1386
Location: ---
Date : Wed Apr 02 1997



Remarks :

Classification :
(SP) Poorly graded sand
Visual Description :
Light olive brown sand with trace silt

Figure 2

Katama Boat Ramp

Wed Apr 02 08:52:49 1997

GEOTECHNICAL LABORATORY TEST DATA

Project : Dredge
Project No. : GTX-1386
Boring No. : ---
Sample No. : Katoma 1S
Location : ---
Soil Description : Moist, very dark gray sand with shells
Remarks : ---

Depth : ---
Test Date : 03/28/97
Test Method : ASTM D 422

Filename : KATOMA1S
Elevation : ---
Tested by : gph
Checked by : gtt

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.375"	0.374	9.51	0.00	0.00	100
#4	0.187	4.75	0.80	0.80	100
#10	0.079	2.00	4.03	4.83	99
#20	0.033	0.84	44.09	48.92	86
#40	0.017	0.42	138.44	187.36	45
#60	0.010	0.25	138.98	326.34	5
#100	0.006	0.15	11.30	337.64	1
#200	0.003	0.07	0.63	338.27	1
Pan			4.13	342.40	0

Total Dry Weight of Sample = 351.56

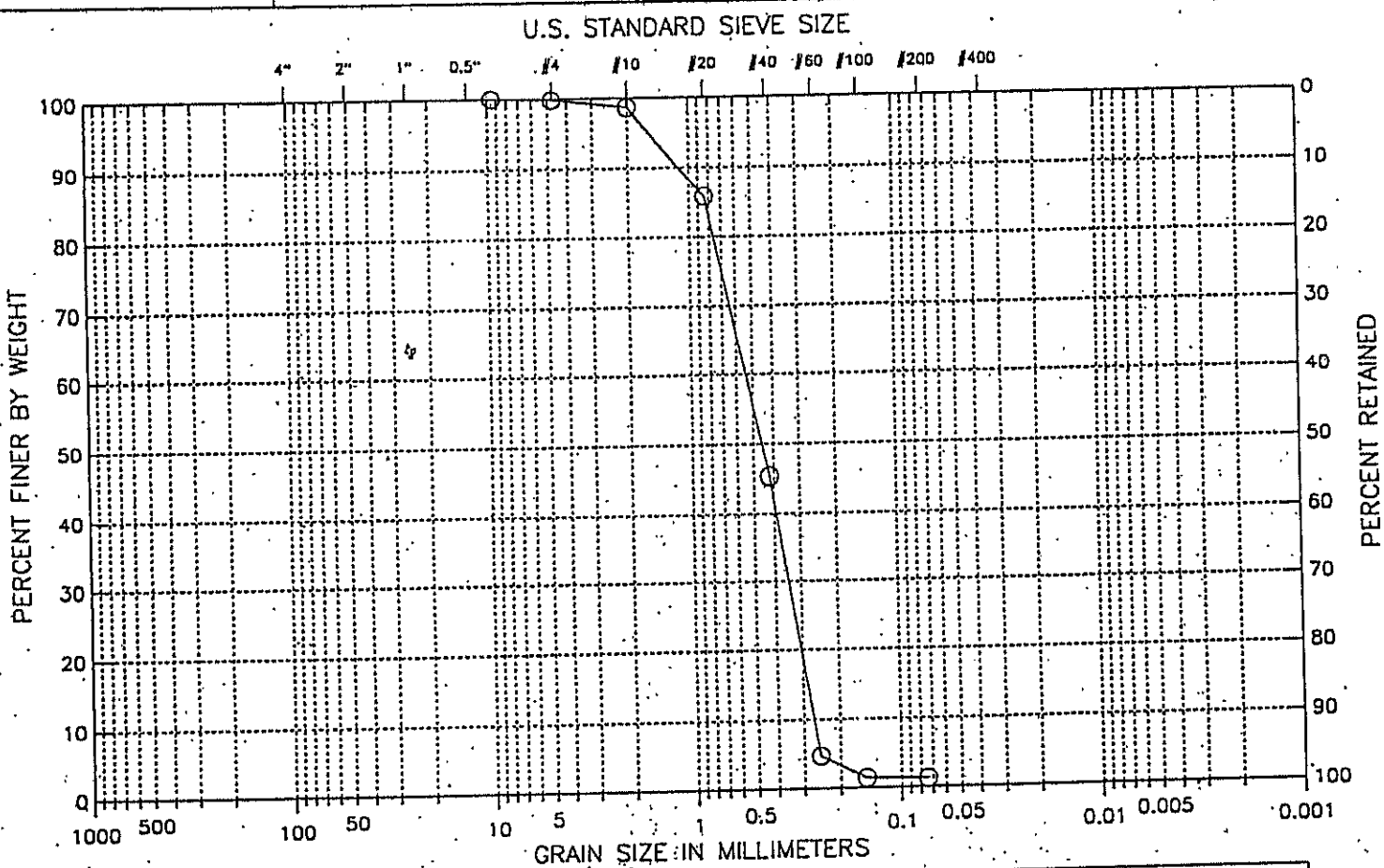
D85 : 0.8308 mm
D60 : 0.5408 mm
D50 : 0.4555 mm
D30 : 0.3455 mm
D15 : 0.2852 mm
D10 : 0.2676 mm

Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

GeoTesting Express • Acton, Ma. • (508) 635-0424 • Fax (508) 635-0266

Boring No. : ---
Sample No: Kalama 1S
Test Method ASTM D 422
Filename : KATOMA1S

Project : Dredge
Project No.: GTX-1386
Location: ---
Date : Wed Apr 02 1997



Remarks :

Classification :
(SP) Poorly graded sand
Visual Description :
Moist, very dark gray sand with shells

Figure 1

Katahdin
ANALYTICAL SERVICES

Lab Number : WN-0744-1
Report Date: 04/09/97
PO No. : 03.31.97

CLIENT: Eric Jensen
GROUNDWATER ANALYTICAL
228 Main Street
Buzzards Bay, MA 02532

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION		MATRIX		SAMPLED BY		SAMPLED DATE	RECE
KATAHA ID		Solid		CLIENT		03/25/97	03/3
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY
Solids-Total Residue (TS)	83.	wt %	1.0	0.10	CLP/CIP SOW	04/01/97	JF
Total Organic Carbon	3700	µg/g	1.0	100	Lloyd Kahn	04/07/97	BC

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect s
specific reporting limits. Sample-specific limits are indicated by results annotated with '<'.
(1) Sample Preparation on 03/31/97 by JF.

04/09/97

LJO/ejnajc(dw)/bac/pph

GROUNDWATER ANALYTICAL

EPA METHOD 418.1 (Modified)
Total Petroleum Hydrocarbons (IR)

Field ID:	Katama 1D	Lab ID:	16184-09
Project:	Various Dredging Projects	Batch ID:	HI-0923-X
Client:	Edgartown Shellfish Department	Sampled:	03-25-97
Cont/Prsv:	500ml Glass/Cool	Received:	03-26-97
Matrix:	Soil Percent Moisture: 14 %	Extracted:	03-28-97
		Analyzed:	03-31-97

PARAMETER	CONCENTRATION (mg/Kg)	REPORTING LIMIT (mg/Kg)
Total Petroleum Hydrocarbons	BRL	34

BRL = Below Reporting Limit. Calculations based on dry sample weight. Method Reference: Method 418.1 (Spectrophotometric, Infrared) - Petroleum Hydrocarbons, Total Recoverable, Methods for Chemical Analysis of Water and Wastes, US EPA EPA-600/4-79-020, Revised (1983). Adapted for solids by Method 3540 (Modified) - Soxhlet Extraction, Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986).

GROUNDWATER ANALYTICAL

EPA METHOD 8270/PAH
Semivolatile Organics (GC/MS)

Field ID: Katama 1D
Project: Various Dredging Projects
Client: Edgartown Shellfish Department
Cont/Prsv: 500ml Glass/Cool
Matrix: Soil Percent Moisture: 14 %

Lab ID: 16184-09
Batch ID: SB-0341-X
Sampled: 03-25-97
Received: 03-26-97
Extracted: 04-02-97
Analyzed: 04-04-97

PARAMETER	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Naphthalene	BRL	390
2-Methylnaphthalene	BRL	390
Acenaphthylene	BRL	390
Acenaphthene	BRL	390
Fluorene	BRL	390
Phenanthrene	BRL	390
Anthracene	BRL	390
Fluoranthene	BRL	390
Pyrene	BRL	390
Benzo(a)anthracene	BRL	390
Chrysene	BRL	390
Benzo(b)fluoranthene	BRL	390
Benzo(k)fluoranthene	BRL	390
Benzo(a)pyrene	BRL	390
Indeno(1,2,3-cd)pyrene	BRL	390
Dibenz(a,h)anthracene	BRL	390
Benzo(g,h,i)perylene	BRL	390

QC SURROGATE COMPOUNDS	SPIKED	MEASURED	RECOVERY	QC LIMITS
Nitrobenzene-d5	3,900	2,300	59 %	23 - 120 %
2-Fluorobiphenyl	3,900	1,700	44 %	30 - 115 %
Terphenyl-d14	3,900	1,300	33 %	18 - 137 %

BRL = Below Reporting Limit. Concentrations reported on dry sample weight basis. Method Reference: Method 8270 - Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry: Capillary Column Technique, Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (Revised 1990). Parameter list appreviated for only Polynuclear Aromatic Hydrocarbon (PAH) analytes.

GROUNDWATER ANALYTICAL

TRACE METALS (ICP/AA)

Field ID: Katama 1D
Project: Various Dredging Projects
Client: Edgartown Shellfish Department
Cont/Prsv: 500ml Glass/Cool
Matrix: Soil Percent Solids: 86 %

Lab ID: 16184-09
Sampled: 03-25-97
Received: 03-26-97

PARAMETER	CONCENTRATION (mg/Kg)	REPORTING LIMIT (mg/Kg)	DATE ANALYZED	BATCH	EPA METHOD
Arsenic, Total	BRL	1.1	04-03-97	MM-0486-S	7060
Cadmium, Total	BRL	0.55	04-03-97	MM-0486-S	6010
Chromium, Total	1.7	1.1	04-03-97	MM-0486-S	6010
Copper, Total	BRL	2.8	04-03-97	MM-0486-S	6010
Lead, Total	BRL	11	04-03-97	MM-0486-S	6010
Mercury, Total	BRL	0.051	04-03-97	MP-0395-S	7471
Nickel, Total	BRL	4.4	04-03-97	MM-0486-S	6010
Zinc, Total	4.8	2.2	04-03-97	MM-0486-S	6010

BRL = Below Reporting Limit. Calculations based on dry sample weight. Method References: Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986). Graphite Furnace analyses performed with Zeeman background correction and Lvov platform technique.

GROUNDWATER ANALYTICAL

EPA METHOD 8080
Polychlorinated Biphenyls (GC/ECD)

Field ID: Katama 1D
Project: Various Dredging Projects
Client: Edgartown Shellfish Department
Cont/Prsv: 500ml Glass/Cool
Matrix: Soil Percent Moisture: 14 %

Lab ID: 16184-09
Batch ID: PB-0562-X
Sampled: 03-25-97
Received: 03-26-97
Extracted: 04-02-97
Analyzed: 04-04-97

PARAMETER	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Aroclor 1016	BRL	91
Aroclor 1221	BRL	91
Aroclor 1232	BRL	91
Aroclor 1242	BRL	91
Aroclor 1248	BRL	91
Aroclor 1254	BRL	91
Aroclor 1260	BRL	91

QC SURROGATE COMPOUND	SPIKED	MEASURED	RECOVERY	QC LIMITS
Tetrachloro-m-xylene	7.6	7.0	92 %	25 - 121 %
Decachlorobiphenyl	7.6	9.4	124 %	28 - 138 %

BRL = Below Reporting Limit. Calculations based on dry sample weight. Method Reference: Method 8080 - Organochlorine Pesticides and PCBs, Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986). Parameter list modified for PCBs only.

GROUNDWATER ANALYTICAL

INORGANIC CHEMISTRY

Field ID: Katama 1D
Project: Various Dredging Projects
Client: Edgartown Shellfish Department
Cont/Prsv: 500mL Glass/Cool
Matrix: Soil

Lab ID: 16184-09
Sampled: 03-25-97
Received: 03-26-97

PARAMETER	RESULT	UNITS	REPORTING LIMIT	DATE ANALYZED	BATCH ID	METHOD
Solids, Volatile	BRL	%	0.59	04-02-97	IVS-0110-S	2540G
Moisture, Percent	14	%	0.5	04-02-97	ITS-0110-S	2540

BRL = Below Reporting Limit. Method References: Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986) and Methods for Chemical Analysis of Water and Wastes, US EPA EPA-600/4-79-020, Revised (1983) and Standard Methods for the Examination of Water and Wastewater, APHA, Seventeenth Edition (1992).

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
Project Narrative

Project: Various Dredging Projects
Client: Edgartown Shellfish Department

Lab ID: 16184
Received: 03-26-97

A. Physical Condition of Sample(s)

This project was received by the laboratory in satisfactory condition. The sample(s) were received undamaged in appropriate containers with the correct preservation.

B. Project Documentation

This project was accompanied by Chain of Custody documentation, with the following amendments or corrections:

1. Samples 16184-01 through -08 were received in one 500mL glass container each.
2. Samples 16184-01 through -08 were analyzed for Grain Size.
3. Samples 16184-09 through -11 were analyzed by EPA Method 8270 PAH, 418.1, 8080 PCB, Volatile Solids, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn, and % Moisture.
4. Samples 16184-12 through -13 were analyzed for TOC.
5. 100 grams of Samples 16184-02, -06, and -08 were aliquoted into one 250mL glass container each. The samples were assigned laboratory numbers 16184-09, -10, and -11.
6. 100 grams of Samples 16184-02, -06, and -08 were aliquoted into one 250mL glass container each. The samples were assigned laboratory numbers 16184-12, -13, and -14.

C. Analysis of Sample(s)

No analytical anomalies or non-conformances were noted by the laboratory during the processing of these samples. All data contained within this report are released without qualification.

Katahdin Analytical Services, Inc
Quality Control Report

Method Blank and Laboratory Control Sample Results

Client: Woodard & Curran
Work Order: WN0744

ameter	Date of Prep	Date of Analysis	Units	Concentration Measured in Blank		Acceptance Range	Practical Quantitation Level**	Units	True Value	Measured Value	Percent Recovered	Acceptance Range (%)	Acceptance Range (mg/kg)
				METHOD BLANK RESULTS					*LABORATORY CONTROL SAMPLE RESULTS*				
C -Total Organic Carbon	07-Apr-97	07-Apr-97	ug/g	<	100 <	100	100	ug/g	20000	22000	110	75-125	
-Total Residue	31-Mar-97	01-Apr-97	wt %	<	0.10 <	0.10	0.10						

Practical quantitation level is the lowest concentration measurable for samples with normal chemical and physical composition uring routine laboratory operations.

.TA QUALITY COMMENTS:
sults of all quality control measurements are within the laboratory and method specified acceptance range except as noted.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Katama Bay Channel

Bourne Consulting Engineering.
Work Order No. 0304-5463
Date Received: 4/25/03

Approved by: _____
R.I. Analytical

Sample #: 01 KD-3 1 GRAB 123/12/02

Sieve Analysis – Method ASTM D422

Sieve Size	% Retained	% Passing
No. 4	0.00	100.00
No. 10	0.83	99.17
No. 20	12.06	87.11
No. 40	41.65	45.46
No. 60	26.51	18.95
No. 140	17.92	1.03
No. 200	0.53	0.50

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Kahana Bay Channel

Bourne Consulting Engineering.
Work Order No. 0304-5463
Date Received: 4/25/03

Approved by: _____
R.I. Analytical

Sample #: 02 KD-3 2 GRAB 12/12/02

Sieve Analysis – Method ASTM D422

Sieve Size	% Retained	% Passing
No. 4	0.07	99.93
No. 10	0.12	99.81
No. 20	6.74	93.07
No. 40	65.42	27.65
No. 60	25.06	2.59
No. 140	2.37	0.22
No. 200	0.07	0.15

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Bourne Consulting Engineering.
Work Order No. 0304-5463
Date Received: 4/25/03

Approved by: _____
R.I. Analytical

Sample #: 03 KD-3 3 GRAB 12/12/02

Sieve Analysis – Method ASTM D422

Sieve Size	% Retained	% Passing
No. 4	0.74	99.26
No. 10	0.86	98.40
No. 20	7.73	90.67
No. 40	39.52	51.15
No. 60	31.11	20.04
No. 140	19.59	0.45
No. 200	0.25	0.20

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Katama Bay Channel

Bourne Consulting Engineering.
Work Order No. 0304-5463
Date Received: 4/25/03

Approved by: _____
R.I. Analytical

Sample #: 04 NP-1 GRAB 12/12/02

Sieve Analysis – Method ASTM D422

Sieve Size	% Retained	% Passing
No. 4	0.00	100.00
No. 10	0.06	99.94
No. 20	6.74	93.20
No. 40	68.36	24.84
No. 60	22.39	2.45
No. 140	2.34	0.11
No. 200	0.04	0.07

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Katama Bay Channel

Bourne Consulting Engineering.
Work Order No. 0304-5463
Date Received: 4/25/03

Approved by: _____
R.I. Analytical

Sample #: 05 NP-2 GRAB 12/12/02

Sieve Analysis – Method ASTM D422

Sieve Size	% Retained	% Passing
No. 4	0.00	100.00
No. 10	0.00	100.00
No. 20	7.21	92.79
No. 40	70.81	21.98
No. 60	19.74	2.24
No. 140	2.11	0.13
No. 200	0.05	0.08

Katama Channel Bay

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Bourne Consulting Engineering.
Work Order No. 0304-5463
Date Received: 4/25/03

Approved by: _____
R.I. Analytical

Sample #: 01 KD-3 1 GRAB 123/12/02

Sieve Analysis – Method ASTM D422

Sieve Size	% Retained	% Passing
No. 4	0.00	100.00
No. 10	0.83	99.17
No. 20	12.06	87.11
No. 40	41.65	45.46
No. 60	26.51	18.95
No. 140	17.92	1.03
No. 200	0.53	0.50

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Bourne Consulting Engineering.
Work Order No. 0304-5463
Date Received: 4/25/03

Approved by: _____
R.I. Analytical

Sample #: 02 KD-3 2 GRAB 12/12/02

Sieve Analysis – Method ASTM D422

Sieve Size	% Retained	% Passing
No. 4	0.07	99.93
No. 10	0.12	99.81
No. 20	6.74	93.07
No. 40	65.42	27.65
No. 60	25.06	2.59
No. 140	2.37	0.22
No. 200	0.07	0.15

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Katama Bay Channel

Bourne Consulting Engineering.
Work Order No. 0304-5463
Date Received: 4/25/03

Approved by: _____
R.I. Analytical

Sample #: 03 KD-3 3 GRAB 12/12/02

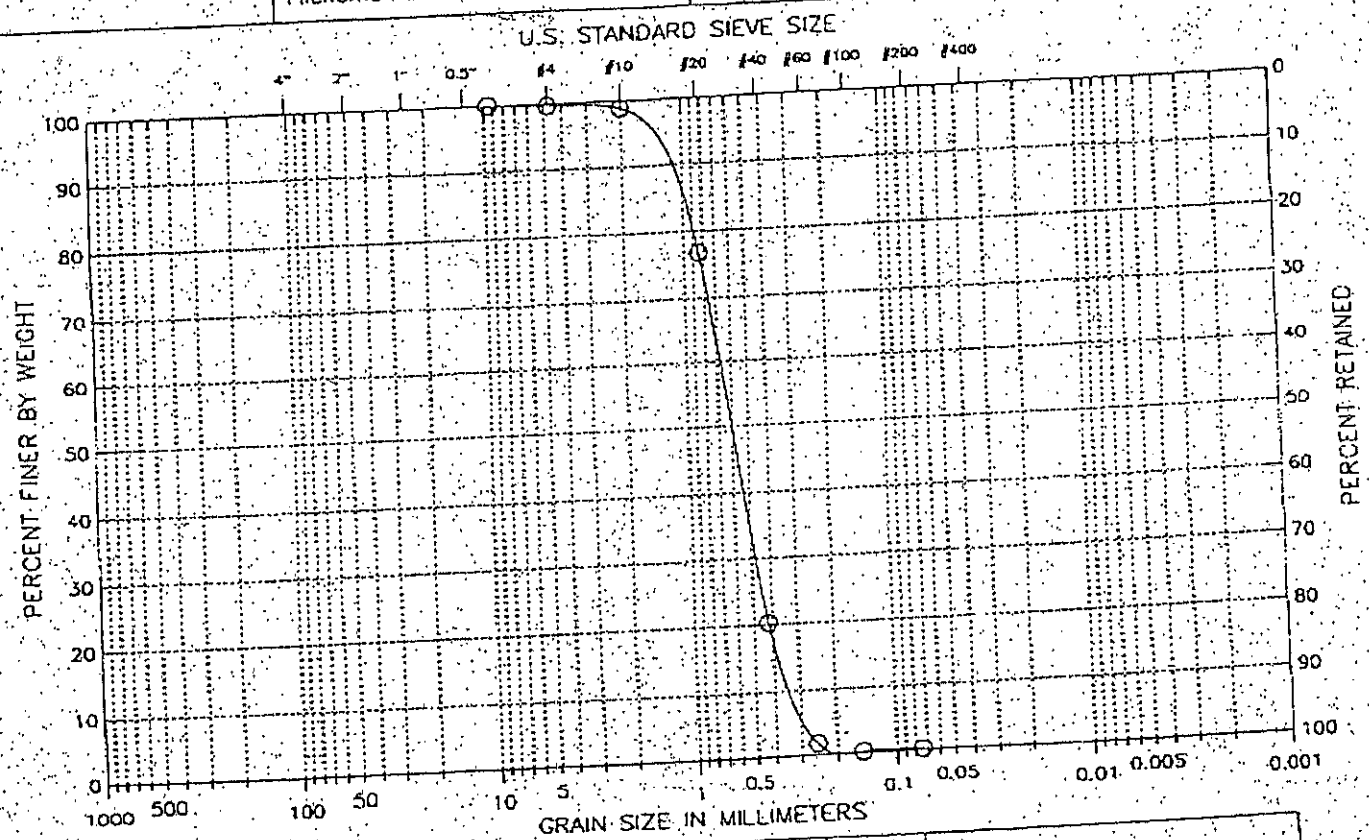
Sieve Analysis – Method ASTM D422

Sieve Size	% Retained	% Passing
No. 4	0.74	99.26
No. 10	0.86	98.40
No. 20	7.73	90.67
No. 40	39.52	51.15
No. 60	31.11	20.04
No. 140	19.59	0.45
No. 200	0.25	0.20

Channel Dredge Great Pond

Boring No. : ---
Sample No.: Dredge 1D 6 ft
Test Method ASTM D 422
Filename : DREDGE1D

Project : Edgartown Great Pond Opening
Project No.: GTX-2132
Location: Edgartown, MA
Date : Wed Jan 27 1999



Remarks :

Classification :
(SP) Poorly graded sand
Visual Description :
Wet, light olive brown sand

Figure 5

Wed Jan 27 09:06:31 1999

GEOTECHNICAL LABORATORY TEST DATA

Project : Edgartown Great Pond Opening
Project No. : GTX-2332
Boring No. : ---
Sample No. : Dredge ID 6 ft
Location : Edgartown, MA
Soil Description : Wet, light olive brown sand
Remarks : ---

Depth : 6 ft
Test Date : 01/26/99
Test Method : ASTM D 422

Filename : DREDGE1D
Elevation : ---
Tested by : tjs
Checked by : gtx

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.375"	0.374	9.51	0.00	0.00	100
#4	0.187	4.75	0.58	0.58	100
#10	0.079	2.00	1.24	1.82	99
#20	0.033	0.84	34.16	35.98	77
#40	0.017	0.42	87.33	123.31	20
#60	0.010	0.25	28.62	151.93	2
#100	0.006	0.15	2.38	154.31	0
#200	0.003	0.07	0.13	154.44	0
Pan			0.29	154.73	0

Total Dry Weight of Sample = 164.08

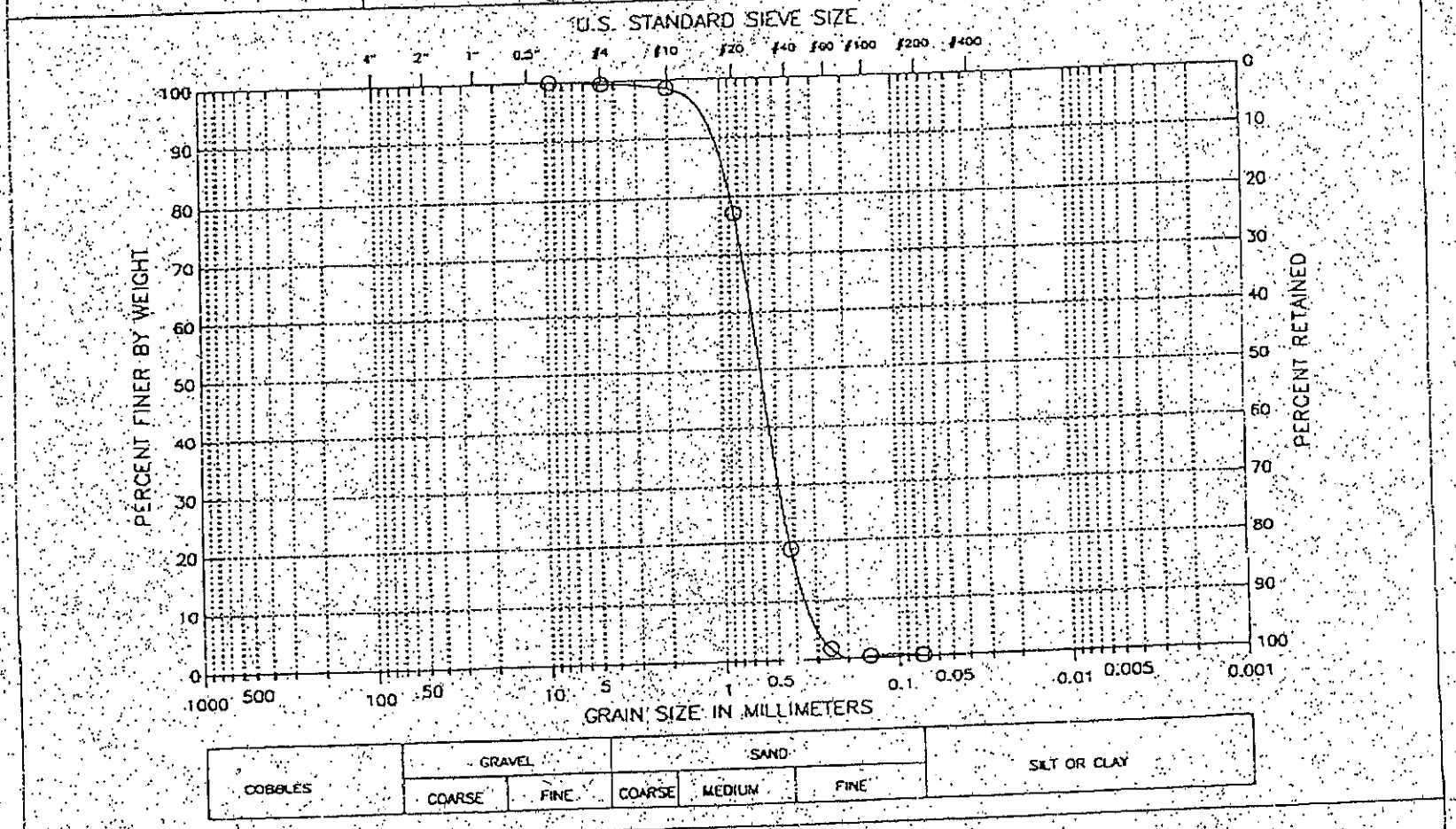
D85 : 1.1626 mm
D60 : 0.6644 mm
D50 : 0.6052 mm
D30 : 0.4733 mm
D15 : 0.3619 mm
D10 : 0.3146 mm

Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

channel Dredge Great Pond

Boring No. : ——
Sample No: Dredge 1S 1 ft
Test Method ASTM D 422
Filename : DREDGE1S

Project : Edgartown Great Pond Opening
Project No.: GTX-2132
Location: Edgartown, MA
Date : Wed Jan 27 1999



Remarks :

Classification :
(SP) Poorly graded sand
Visual Description :
Wet, light olive brown sand

Figure 3

GeoTesting Express • Boxborough, MA • (978) 635-0424 • Fax (978) 635-0266

Wed Jan 27 09:06:30 1999

GEOTECHNICAL LABORATORY TEST DATA

Project : Edgartown Great Pond Opening
Project No. : GTX-2132
Boring No. : ---
Sample No. : Dredge 1S-1 ft
Location : Edgartown, MA
Soil Description : Wet, light olive brown sand
Remarks : ---

Depth : 1 ft
Test Date : 01/26/99
Test Method : ASTM D 422

Filename : DRBDGE1S
Elevation : ---
Tested by : tje
Checked by : gtt

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.375"	0.374	9.51	0.00	0.00	100
#4	0.187	4.75	0.49	0.49	100
#10	0.079	2.00	1.34	1.83	99
#20	0.033	0.84	27.11	28.94	77
#40	0.017	0.42	73.91	102.85	19
#60	0.010	0.25	21.68	124.53	2
#100	0.006	0.15	1.83	126.36	0
#200	0.003	0.07	0.09	126.45	0
Pan			0.14	126.59	0

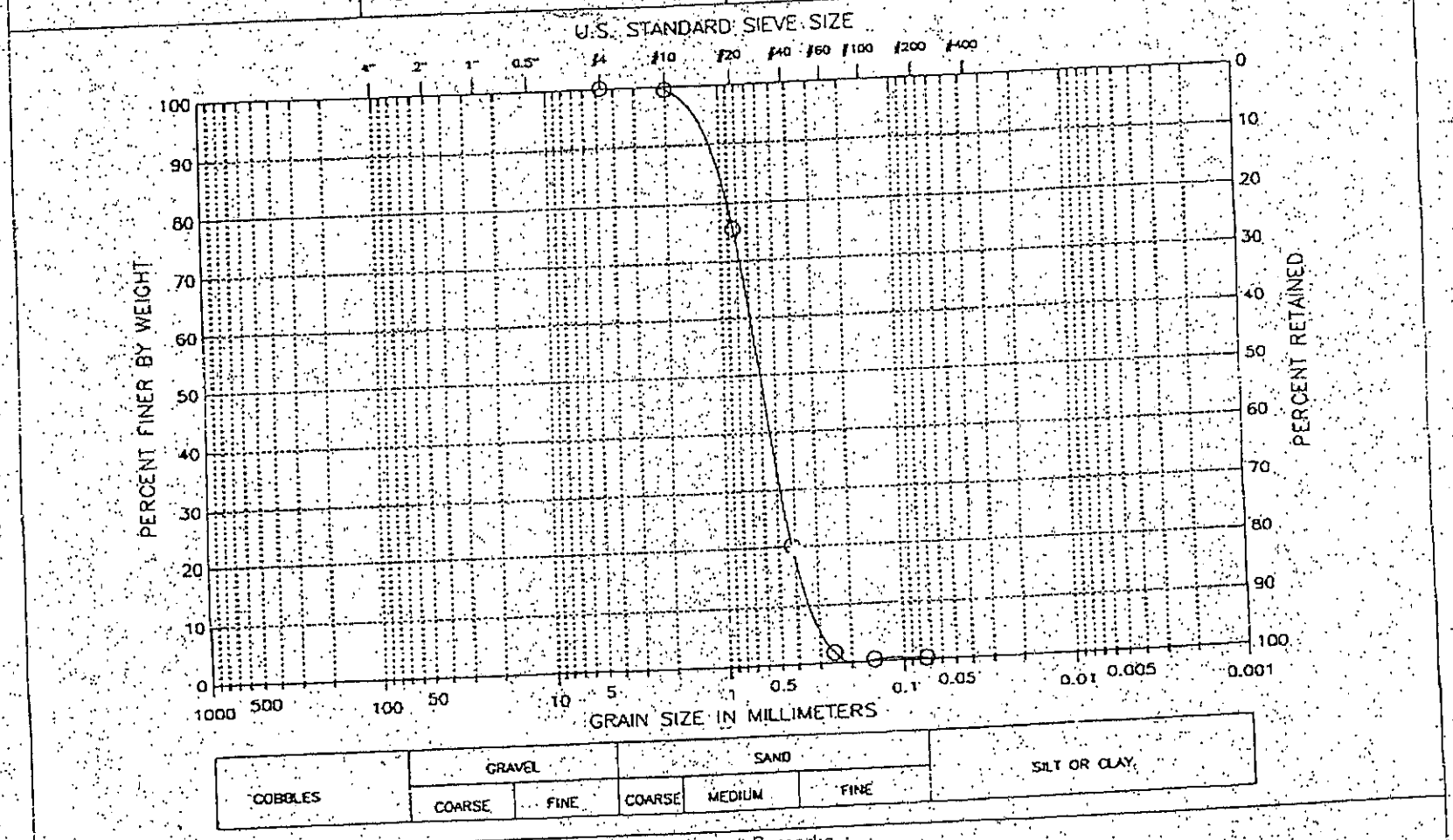
Total Dry Weight of Sample = 135.87

D85 : 1.1559 mm
D60 : 0.6859 mm
D50 : 0.6090 mm
D30 : 0.4801 mm
D15 : 0.3749 mm
D10 : 0.3222 mm

Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

channel Dredge Great Pond

Boring No. : ---	Project : Edgartown Great Pond Opening
Sample No: Dredge 2S 1 ft	Project No.: GTX-2132
Test Method ASTM D 422	Location: Edgartown, MA
Filename : DREDGE2S	Date : Wed Jan 27 1999



Remarks :

Classification :
(SP) Poorly graded sand

Visual Description :
Wet, light olive brown sand

Figure 4

GeoTesting Express • Boxborough, MA • (978) 635-0424 • Fax (978) 635-0266

Wed Jan 27 09:06:30 1999

GEOTECHNICAL LABORATORY TEST DATA

Project : Edgartown Great Pond Opening
Project No. : GTX-2112
Boring No. : ---
Sample No. : Dredge 2S 1 ft
Location : Edgartown, MA
Soil Description : Wet, light olive brown sand
Remarks : ---

Depth : 1 ft
Test Date : 01/26/99
Test Method : ASTM D 422

Filename : DREDGE2S
Elevation : ---
Tested by : tje
Checked by : gtt

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
#4	0.187	4.75	0.00	0.00	100
#10	0.079	2.00	0.84	0.84	99
#20	0.033	0.84	35.11	35.95	75
#40	0.017	0.42	80.82	116.77	20
#60	0.010	0.25	27.00	143.77	2
#100	0.006	0.15	2.14	145.91	0
#200	0.003	0.07	0.11	146.02	0
Pan			0.35	146.37	0

Total Dry Weight of Sample = 155.33

D85 : 1.1678 mm
D60 : 0.6926 mm
D50 : 0.6108 mm
D30 : 0.4749 mm
D15 : 0.3626 mm
D10 : 0.3151 mm

Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

Channel Dredge Great Pond

Project : Edgartown Great Pond Opening
Project No.: GTX-2132
Location: Edgartown, MA
Date : Wed Jan 27 1999

Boring No.: ---
Sample No.: Dredge 2D 6 ft
Test Method ASTM D 422
Filename : DREDGE2D

U.S. STANDARD SIEVE SIZE

PERCENT FINER BY WEIGHT

PERCENT RETAINED

GRAIN SIZE IN MILLIMETERS

COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Remarks :

Classification :
(SP) Poorly graded Sand
Visual Description :
Wet, light olive brown sand

Figure 6

Dredge site
Sluiceway Approach

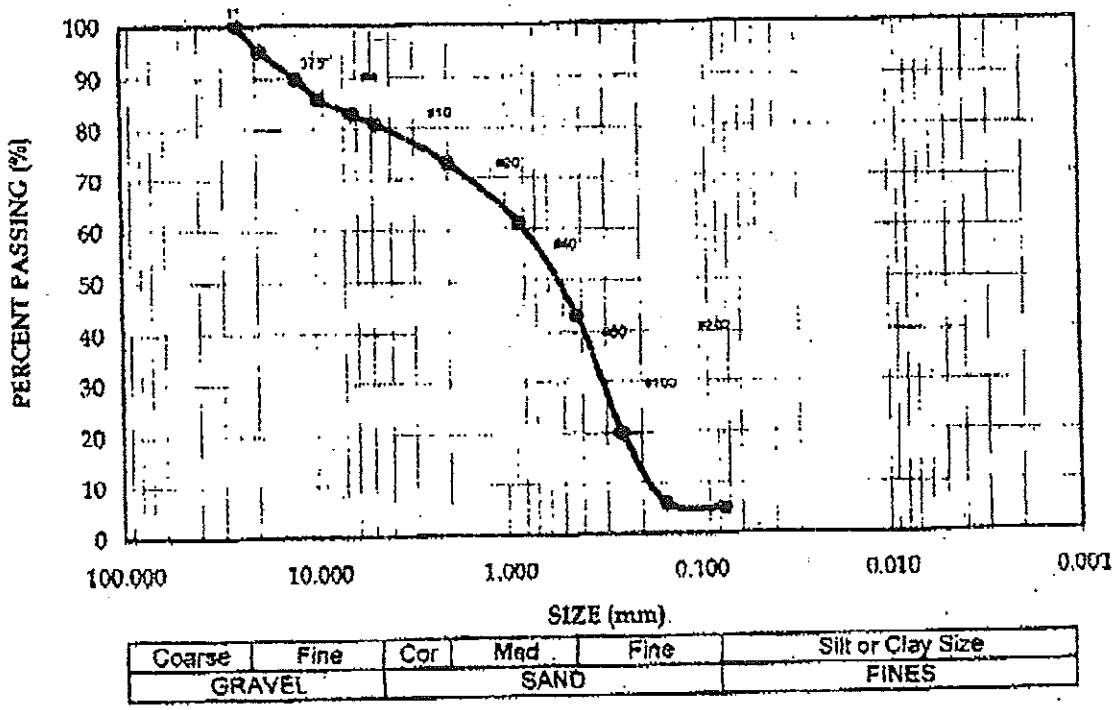
SUMMIT LTD.

Client: Bourne Consulting Engineering Date: 04/18/2001

Project: Martha's Vineyard Project No 12026

Summit Sample #: S-01-081
Client Sample #: Edgartown Great Pond Sluice Way Approach S-2 GP Sluice Entrance Sample 2
Visual Description: Gray sand w/ trace silt

PARTICLE-SIZE DISTRIBUTION (ASTM D422)



REVIEWED BY.

SUMMIT LTD.

SIEVE ANALYSIS REPORT

TESTED FOR: Bourne Consulting Engineering
184 W. Central Street
Franklin, MA 02038
ATTN: Bob Garrity

PROJECT: Laboratory Analysis
Martha's Vineyard

DATE: April 18, 2001

PROJECT NO: 12026 *REPORT NO:* 8

REMARKS: MATERIAL IDENTIFICATION: Edgartown Great Pond Service Way Approach
S-2 GP Service Entrance Sample 2 (S-01-081)

UNIFIED SOIL CLASSIFICATION: SP- Poorly graded gray sand w/ trace silt

METHODS: ASTM D422

RESULTS: PERCENT FINER BY WEIGHT

SIEVE ANALYSIS:

SIEVE SIZE	% PASSING
1"	100
3/4"	95
1/2"	90
3/8"	86
#4	81
#10	73
#20	61
#40	43
#60	20
#100	6
#200	5

Dredgesite sluiceway Approach

SUMMIT LTD.

Client: Bourne Consulting Engineering

Date: 4/18/01

Project: Martha's Vineyard

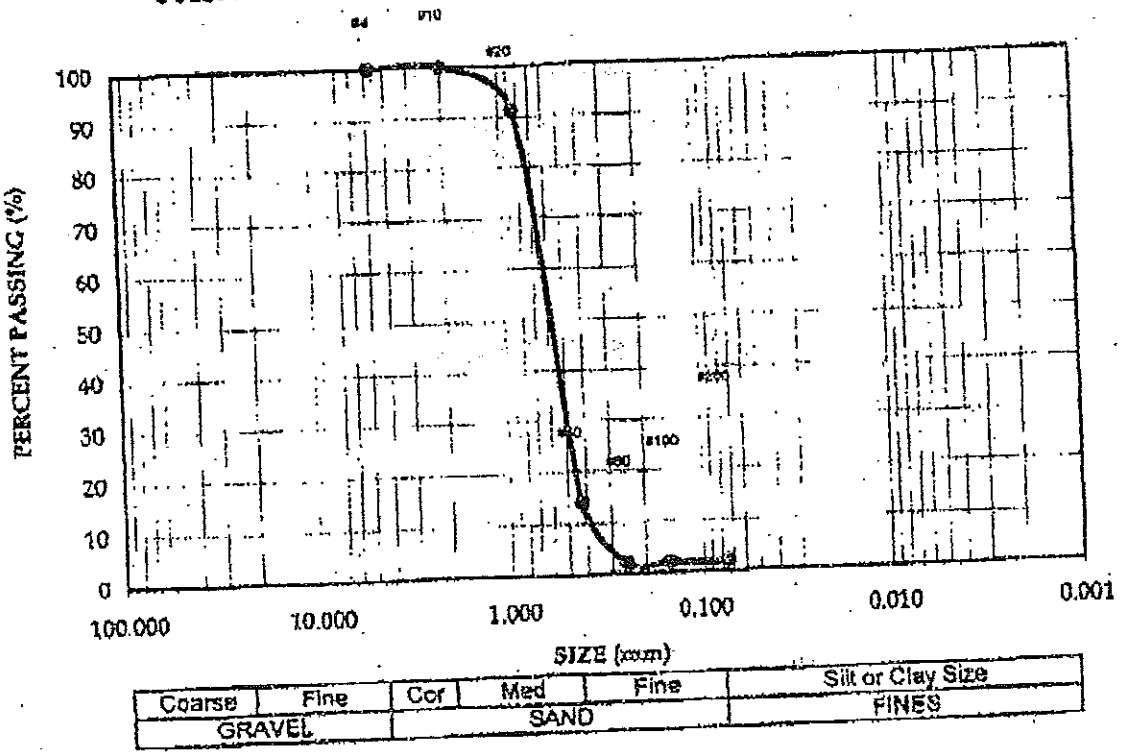
Project No 12026

Summit Sample #: 5-01-080

Client Sample #: Edgartown Great Pond Sluice Way Approach S-1 Great Pond 1

Visual Description: Tan sand w/ trace fines

PARTICLE-SIZE DISTRIBUTION (ASTM D422)



REVIEWED BY:

7 Charlton St.
Everett, MA 02149
(617) 389-5700

CONSTRUCTION MATERIALS TESTING AND GEOTECHNICAL SERVICES

197 US Route 1
Scarborough, ME 04070
(207) 885-0004

SUMMIT LTD.

SIEVE ANALYSIS REPORT

TESTED FOR: Bourne Consulting Engineering
184 W. Central Street
Franklin, MA 02038
ATTN: Bob Garrity

PROJECT: Laboratory Analysis
Martha's Vineyard

DATE: April 18, 2001

PROJECT NO: 12026 REPORT NO: 7

REMARKS: MATERIAL IDENTIFICATION: Edgartown Great Pond Service Way Approach
S-1 Great Pond 1 (S-01-080)

UNIFIED SOIL CLASSIFICATION: SP- Poorly graded tan sand w/ trace fines

METHODS: ASTM D422

RESULTS: PERCENT FINER BY WEIGHT

SIEVE ANALYSIS:

SIEVE SIZE	% PASSING
#4	100
#10	100
#20	91
#40	14
#60	2
#100	2
#200	2

Boat Ramp Dredge Site

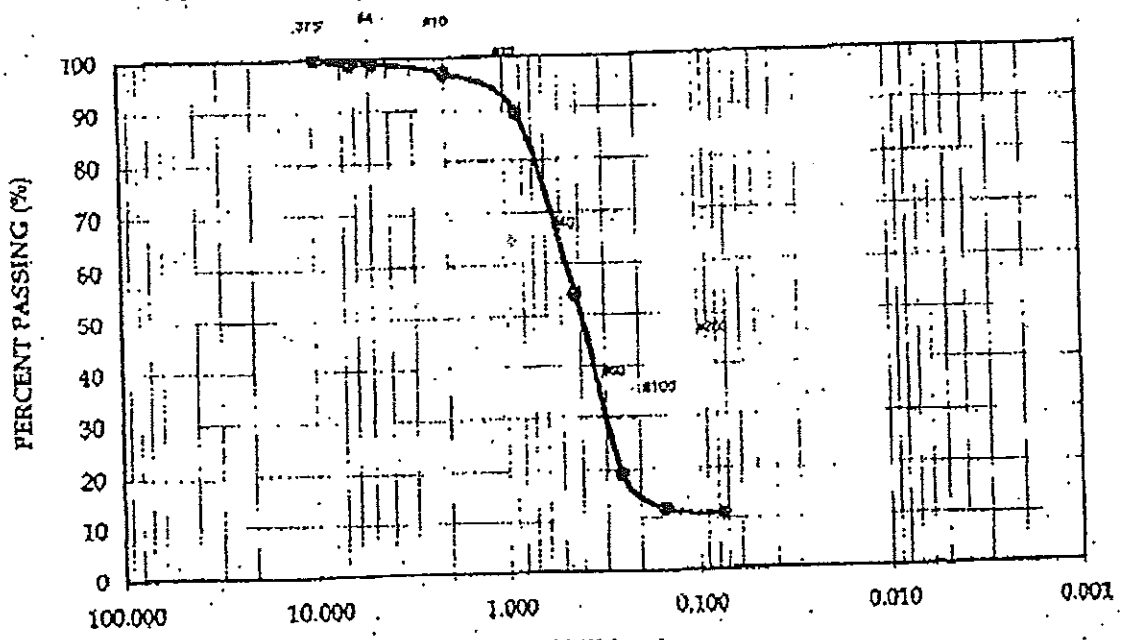
SUMMIT LTD.

Client: Bourne Consulting Engineering Date: 4/18/01

Project: Martha's Vineyard Project No 12026

Summit Sample #: S-01-075
Client Sample #: Edgartown Great Pond Boat Ramp R-1 Inshore Boat Ramp
Visual Description: Tan gravely sand w/ little fines

PARTICLE-SIZE DISTRIBUTION (ASTM D422)



Coarse	Fine	Cor	Med	Fine	Silt or Clay Size
GRAVEL		SAND			FINES

REVIEWED BY.

7 Charlton St.
Everett, MA 02149
(617) 389-3700

CONSTRUCTION MATERIALS TESTING AND GEOTECHNICAL SERVICES

197 US Route 1
Scarborough, ME 04070
(207) 885-0004

Boat Ramp
Dredge site

SUMMIT LTD.

SIEVE ANALYSIS REPORT

TESTED FOR: Bourne Consulting Engineering
184 W. Central Street
Franklin, MA 02038
ATTN: Bob Gaffity

PROJECT: Laboratory Analysis
Martha's Vineyard

DATE: April 18, 2001

PROJECT NO: 12028 REPORT NO: 6

REMARKS:

MATERIAL IDENTIFICATION: Edgartown Great Pond Boat Ramp
R-1 Inshore boat ramp (8-01-075)

UNIFIED SOIL CLASSIFICATION: SP-Poorly graded tan gravelly sand w/ little fines

METHODS: ASTM D422

RESULTS: PERCENT FINER BY WEIGHT

SIEVE ANALYSIS:

SIEVE SIZE	% PASSING
3/8"	100
#4	99
#10	97
#20	89
#40	54
#60	19
#100	12
#200	11

R-1, Boat ramp inshore

7 Clarkin Street, Everett, MA 02149 · 9 New England Way Lincoln, RI 02865 Tel. (401) 333-1611 / Fax (401) 333-6556 · 157 U.S. Rte. 1, Scarborough, ME 04070

3/8"	100
#4	97
#10	89
#20	63
#40	27
#60	12
#100	4
#200	2

R-2, Boat ramp offshore

7 Clarkin Street, Everett, MA 02149 · 9 New England Way Lincoln, RI 02865 Tel. (401) 333-1611 / Fax (401) 333-6556 · 157 U.S. Rte. 1, Scarborough, ME 04070

Boat Ramp Dredge Site

SUMMIT LTD.

Client: Bourne Consulting Engineering

Date: 4/18/01

Project: Martha's Vineyard

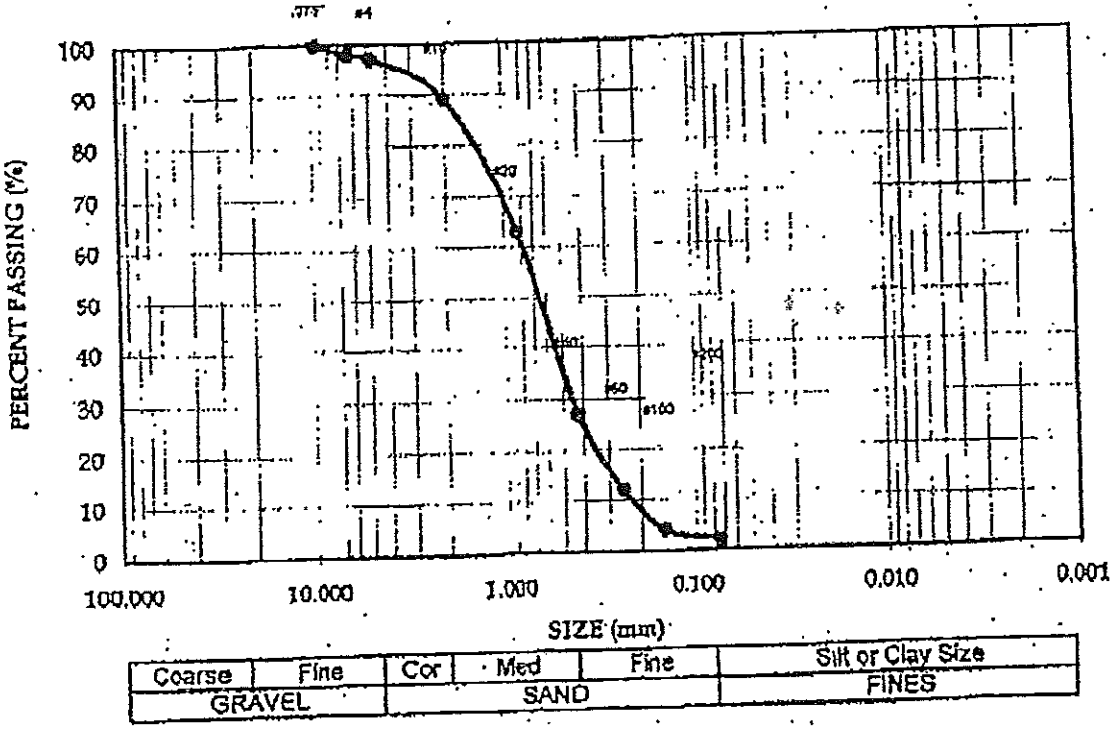
Project No 12026

Summit Sample #: S-01-079

Client Sample #: Edgartown Great Pond Boat Ramp R-2 Boat Ramp Offshore

Visual Description: Tan sand w/ trace fines

PARTICLE-SIZE DISTRIBUTION (ASTM D422)



REVIEWED BY:

7 Charlton St.
Everett, MA 02149
(617) 389-3700

CONSTRUCTION MATERIALS TESTING AND GEOTECHNICAL SERVICES

197 US Route 1
Scarborough, ME 04070
(207) 885-0004

GEOTECHNICAL LABORATORY TEST DATA

Project : Sengehontachet
Project No. : GTX-1003
Boring No. : ---
Sample No. : OB Deep Site 1
Location : ---
Soil Description : Dark gray sand
Remarks : Hydrometer not required. fines < 10%

Depth : ---
Test Date : 05/15/96
Test Method : ASTM D422

Filename : OBDEEP1
Elevation : ---
Tested by : jdt
Checked by : gtt

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
#4	0.187	4.75	0.00	0.00	100
#10	0.079	2.00	1.16	1.16	98
#20	0.033	0.84	7.21	8.37	85
#40	0.017	0.42	17.40	25.77	54
#60	0.010	0.25	14.25	40.02	29
#100	0.006	0.15	11.40	51.42	8
#200	0.003	0.07	3.10	54.52	3
Pan			1.55	56.07	0

Total Dry Weight of Sample = 65.38

D85 : 0.8396 mm
D60 : 0.4799 mm
D50 : 0.3868 mm
D30 : 0.2571 mm
D15 : 0.1767 mm
D10 : 0.1556 mm

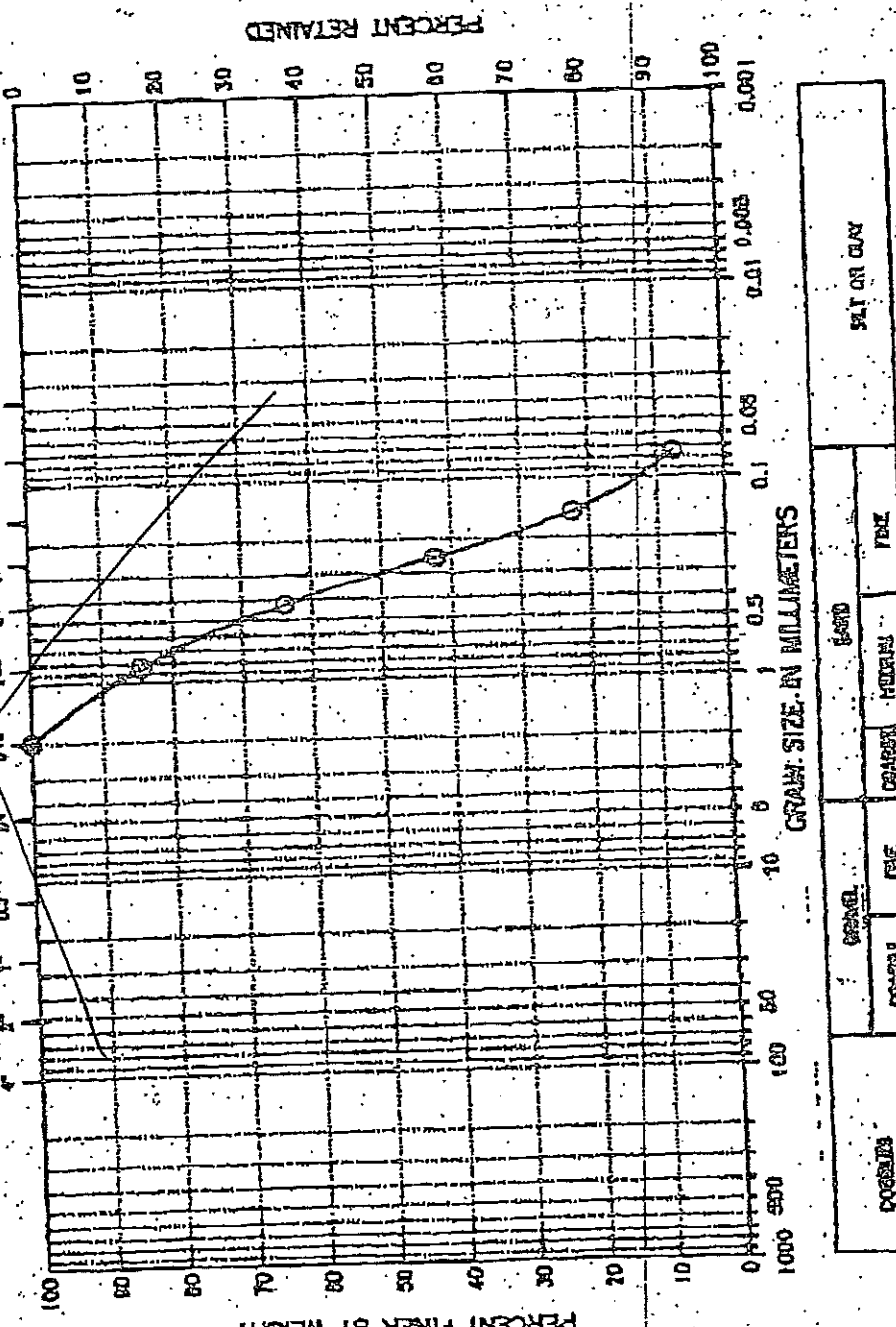
Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-3(0)
AASHTO Group Name : Fine Sand

MAY 17 '96 16:58 GEOTESTING EXPRESS

Boring Area #2

Project : Senqahantachet
Project No.: GTX-1003
Location: ---
Test Date 05/15/96

Boring No. : ---
Sample No: OB-Deep Site-2
Test Method ASTM D422
Remarks : OBDEEP2



Remarks :
Hydrometer not required, fines < 10%

Classification :

Visual Description :
Moist, dark gray sand

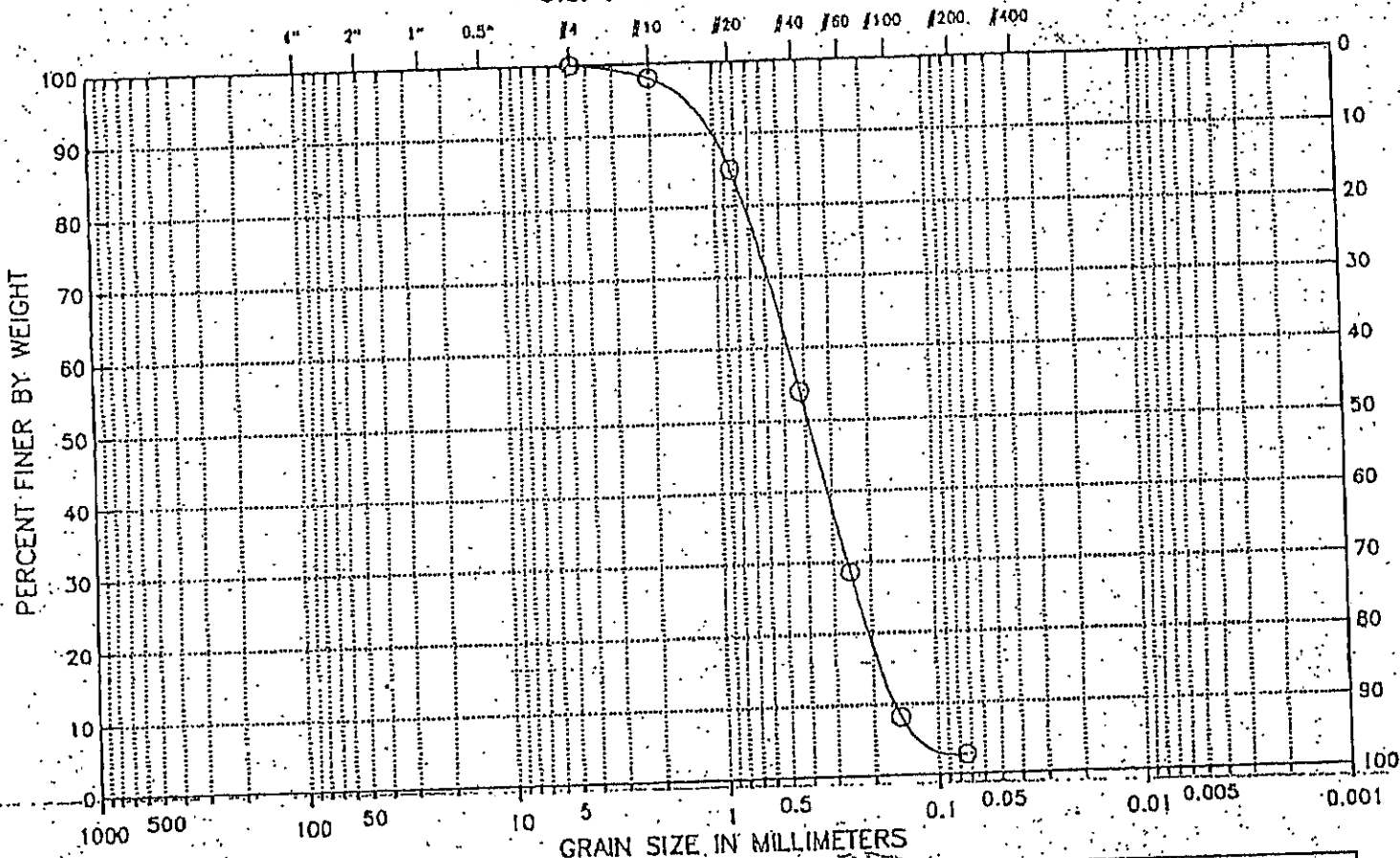
Figure 1

Borrow Area #1

Boring No.: ---
Sample No: OB Deep Site 1
Test Method ASTM D422
Filename : OBDEEP1

Project : Sengehontochel
Project No.: GTX-1003
Location: ---
Test Date 05/15/96

U.S. STANDARD SIEVE SIZE



COBBLES	GRAVEL		SAND			SLT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Classification :
(SP) Poorly graded sand
Visual Description :
Dark gray sand

Remarks :
Hydrometer not required, fines < 10%.

Figure 1

MAY 28 '96 14:46 GEOTESTING EXPRESS

Gradation Summary

GTX-1003/Sengahontacket

Sample ID	Coarse Gravel (> 64 mm), %	Fine Gravel (2-64 mm), %	Sand (0.063-2 mm), %	Silt (0.004-0.063 mm), %	Clay (<0.004 mm), %
OB Deep Site 1	0	2	95	3	0
OB Deep Site 2	0	0	93	7	0
OB Shallow Site 1	0	7	91	2	0
OB Site 2	0	15	78	6	0
OB Outside Inlet	0	32	67	1	0

Borrow Area #1

Boring No. : ---
Sample No.: 03 Shal Sta 1
Test Method ASTM D422
Filename : 05SHAL1

Project : Saingahontaghat
Project No.: 07K-1003
Location: ---
Test Date 05/15/98

PERCENT FINER BY WEIGHT

U.S. STANDARD SIEVE SIZE

GRAIN SIZE IN MILLIMETERS

PERCENT RETAINED

COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Classification :
(SP) Poorly graded sand
Visual Description :
Light brownish gray sand

Remarks :
Shallow Sta 1: Hydro not required. Fines < 10%

Figure #

MAY 17 '96 16:51 GEOTESTING EXPRESS

Borrow Area #2

Fri May 17 16:49:20 1996

GEOTECHNICAL LABORATORY TEST DATA

Project : Boughtonsachat
Project No. : 672-1003
Boring No. : ---
Sample No. : CB Borp nita 2
Location : ---
Soil Description : Medat. dark grey Sand
Remarks : Hydrometer not required. Fines < 10%

Depth : ---
Test Date : 05/15/96
Test Method : ASTM D422

Filename : C0003F2
Elevation : ---
Tested By : JAS
Checked By : SFC

Sieve Mesh	Sieve Openings Inches	Millimeters	FIRST SIEVE SET Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
			0.00	0.00	100
#10	0.079	2.00	7.03	7.03	84
#20	0.033	0.84	9.39	16.42	64
#40	0.017	0.42	9.80	26.23	51
#60	0.010	0.25	8.92	35.05	38
#100	0.006	0.15	5.81	40.86	27
#200	0.003	0.07	3.99	44.25	18
Pan					0

Total Dry Weight of Sample = 84.81

D95 : 0.3665 mm
D60 : 0.3224 mm
D30 : 0.1019 mm
D20 : 0.1514 mm
D15 : 0.1049 mm
D10 : 0.0232 mm

Soil Classification
ASTM Group Symbol : S/A
ASTM Group Name : N/A
AASHTO Group Symbol : A-3(0)
AASHTO Group Name : Fine Sand

Borrow Area #1

Wed May 17 15:49:20 1996

Geotechnical Laboratory Test Data

Project : Bridgewater
Project No. : GTX-1001
Boring No. : ---
Sample No. : CS Shal Alpa 1
Location : ---

Depth : ---
Test Date : 05/15/96
Test Method : ASTM D422

Filename : cssalx1
Elevation : ---
Tested by : jds
Checked by : gtx

Soil Description : Light brownish gray sand
Remarks : Shallow Area 1; Hydro not required. Fines < 15%

Sieve Number	Sieve Opening Inches	Sieve Opening Millimeters	Fine Sieve Set Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
			0.00	0.00	100
#4	0.187	4.75	2.49	2.49	95
#10	0.079	2.00	8.82	11.31	71
#20	0.033	0.84	14.33	25.64	33
#40	0.017	0.42	8.56	33.99	15
#60	0.010	0.25	2.57	36.56	
#100	0.006	0.15	0.37	36.93	
#200	0.003	0.07	0.80	37.73	
Pan					

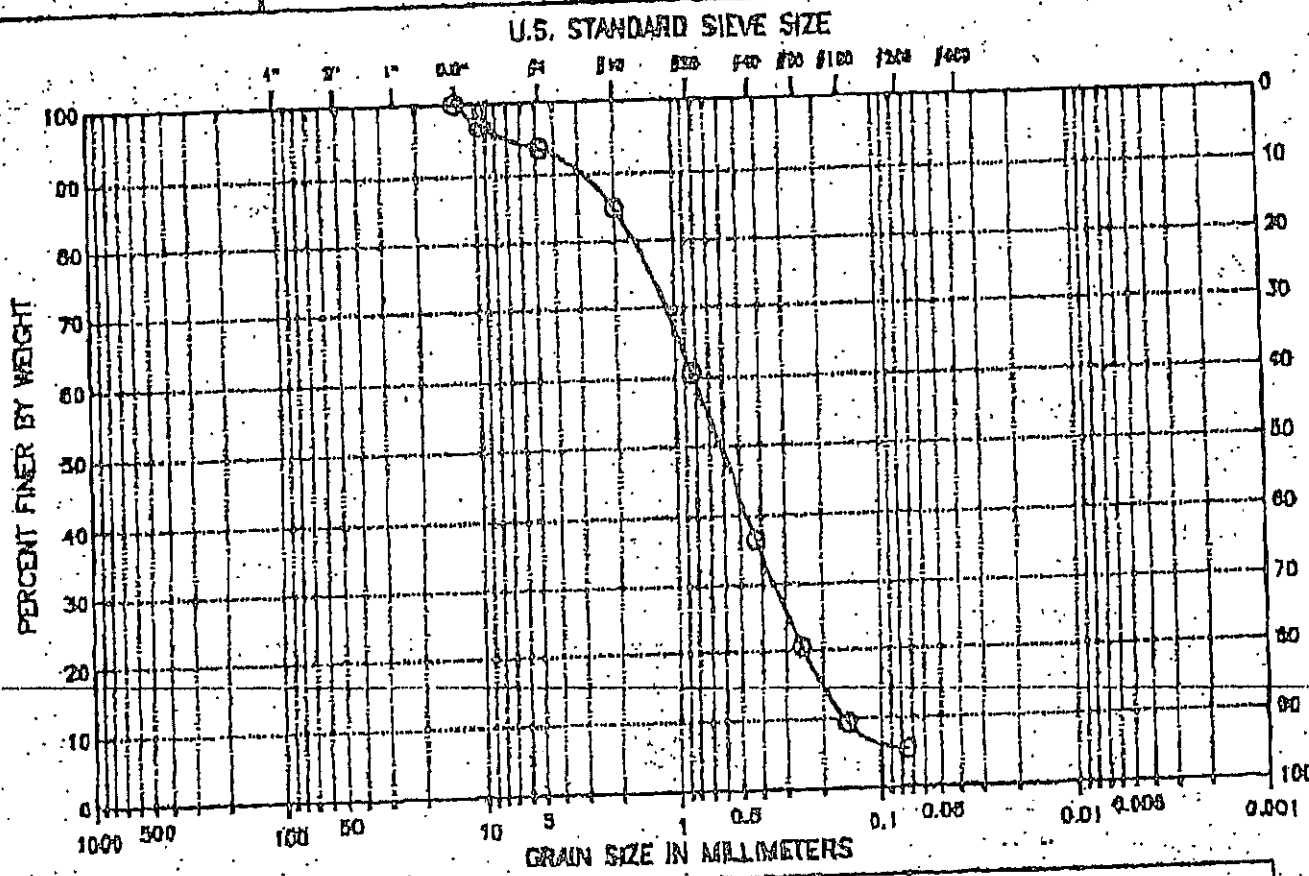
Total Dry Weight of Sample = 46.34

D60 : 1.4692 mm
D50 : 0.6981 mm
D30 : 0.3743 mm
D20 : 0.2729 mm
D15 : 0.2265 mm
D10 : 0.1592 mm

Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

Borrow Area #2

Boring No. : ---	Project : Sangchonbechel
Sample No: GB Site-2	Project No.: 07K-103J
Test Method ASTM D422	Location: ---
Filename : GBSITE2	Test Date 05/15/98



Classification :
(SP-SM) Poorly graded sand with silt

Visual Description :
Saturated, dark gray sand with little silt, shells

Remarks :
Hydrometer not required, fines < 10%

Figure 4

Fri May 17 16:49:20 1996

Little Bridge

GEOTECHNICAL LABORATORY TEST DATA

Project : Sengehontachet
Project No. : GTX-1003
Boring No. : ---
Sample No. : OB Outside Inl
Location : ---

Depth : ---
Test Date : 05/15/96
Test Method : ASTM D422

Filename : OEOUTINL
Elevation : ---
Tested by : jdt
Checked by : gtf

Soil Description : Pale yellow sand with shells
Remarks : Outside Inlet:Hydrometer not required, fines < 10%

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.75"	0.748	19.00	0.00	0.00	100
0.5"	0.500	12.70	9.01	9.01	87
0.375"	0.374	9.51	2.39	11.40	83
#4	0.187	4.75	4.34	15.74	77
#8	0.079	2.00	6.06	21.80	68
#20	0.033	0.84	16.17	37.97	44
#40	0.017	0.42	15.33	53.30	21
#60	0.010	0.25	10.48	63.78	6
#100	0.006	0.15	3.50	67.28	1
#200	0.003	0.07	0.10	67.38	1
Pan			0.44	67.82	0

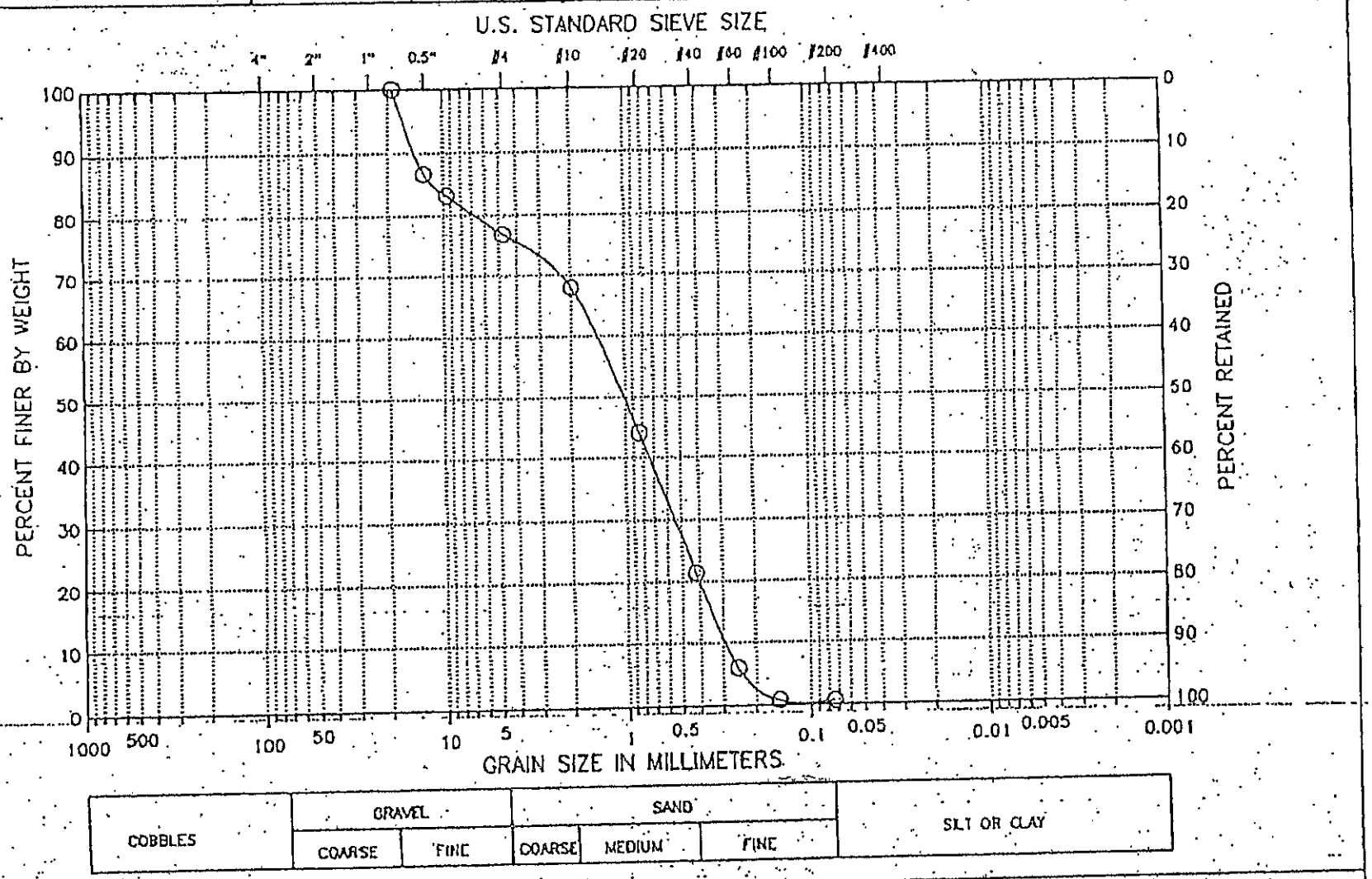
Total Dry Weight of Sample = 76.96

D60 : 11.0325 mm
D50 : 1.5034 mm
D30 : 1.0453 mm
D15 : 0.5468 mm
D10 : 0.3387 mm
D10 : 0.2863 mm

Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand with gravel
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

Little Bridge

Boring No. : ---	Project. : Sengenhuchel
Sample No.: OB Outside Inl	Project No.: GTX-1003
Test Method ASTM D422	Location: ---
Filename : OBOUTINL	Test Date 05/15/96



Classification :
(SP) Poorly graded sand with gravel

Visual Description :
Pale yellow sand with shells

Remarks :
Outside Inlet;Hydrometer not required, fines < 10%

Figure 5

Page : 1

Fri May 17 16:49:30 1996

GEOTECHNICAL LABORATORY TEST DATA

Project : Geogeotechnet
Project No. : 0725-1601
Boring No. : ---
Sample No. : On Site 2
Location : ---
Depth : ---
Test Date : 05/15/96
Test Method : ASTM D422
Filename : cgsieve
Elevation : ---
Tested By : jdt
Checked By : gtx

Soil Description : Interbedded, dark grey sand with little silt. Shells
Remarks : Hydrometer not required. Fines = 10%

Sieve Mesh	Sieve Openings inches	Sieve Openings millimeters	Dry Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.5"	0.500	12.70	0.00	0.00	100
0.375"	0.374	9.51	2.65	2.65	97
#4	0.187	4.75	2.92	5.57	94
#10	0.078	2.00	7.50	13.07	86
#20	0.035	0.84	11.17	24.24	75
#40	0.017	0.42	20.97	45.21	53
#60	0.010	0.25	13.81	59.02	39
#100	0.006	0.15	9.74	68.76	29
#200	0.003	0.07	5.36	74.12	23
Pan			4.80	78.92	18

Total Dry Weight of Sample = 96.3

D85 : 2.0070 mm
D60 : 0.5002 mm
D50 : 0.3194 mm
D30 : 0.1998 mm
D15 : 0.1511 mm
D10 : 0.1264 mm

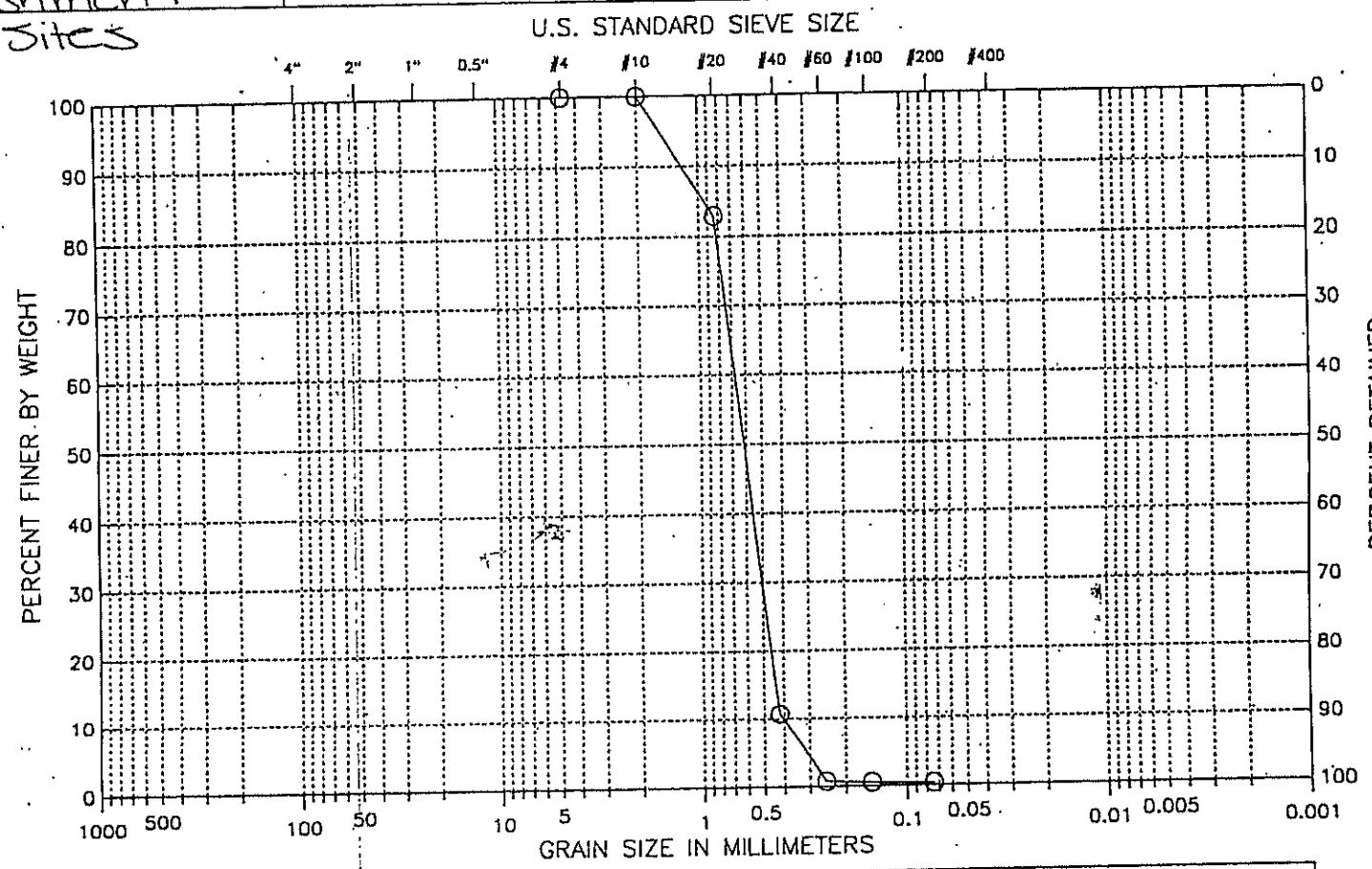
Soil Classification
- Unified Group Symbol : SP-SM
- Unified Group Name : Poorly graded sand with silt
- AASHTO Group Symbol : A-1-b(0)
- AASHTO Group Name : Stone Fragments, Gravel and Sand

Sieve Analysis Nourishment Areas

(NSN)
Nourishment Sites

Boring No. : --- Cape Rogue
Sample No.: The Narrows
Test Method ASTM D422
Filename : NARROWS

Project : Various Dredging Sites
Project No.: GTX-1266
Location: ---
Date : Tue Nov 05 1996



Classification :
(SP) Poorly graded sand
Visual Description :
Yellowish brown sand

Remarks :

Figure 5

Northernmost site NSN

Tue Nov 05 12:10:42 1996

GEOTECHNICAL LABORATORY TEST DATA

Project : Various Dredging Sites — Filename : NARROWS
Project No. : GTX-1266 — Depth : ---
Boring No. : --- — Test Date : 10/31/96 — Elevation : ---
Sample No. : The Narrows — Test Method : ASTM D422 — Tested by : kjs
Location : --- — Checked by : gtt
Soil Description : Yellowish brown sand
Remarks : ---

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
#4	0.187	4.75	0.00	0.00	100
#10	0.079	2.00	0.02	0.02	100
#20	0.033	0.84	30.27	30.29	83
#40	0.017	0.42	127.10	157.39	11
#60	0.010	0.25	17.65	175.04	1
#100	0.006	0.15	0.33	175.37	0
#200	0.003	0.07	0.29	175.66	0
Pan			0.58	176.24	0

Total Dry Weight of Sample = 185.55

D85 : 0.9391 mm
D60 : 0.6752 mm
D50 : 0.6132 mm
D30 : 0.5058 mm
D15 : 0.4378 mm
D10 : 0.4051 mm

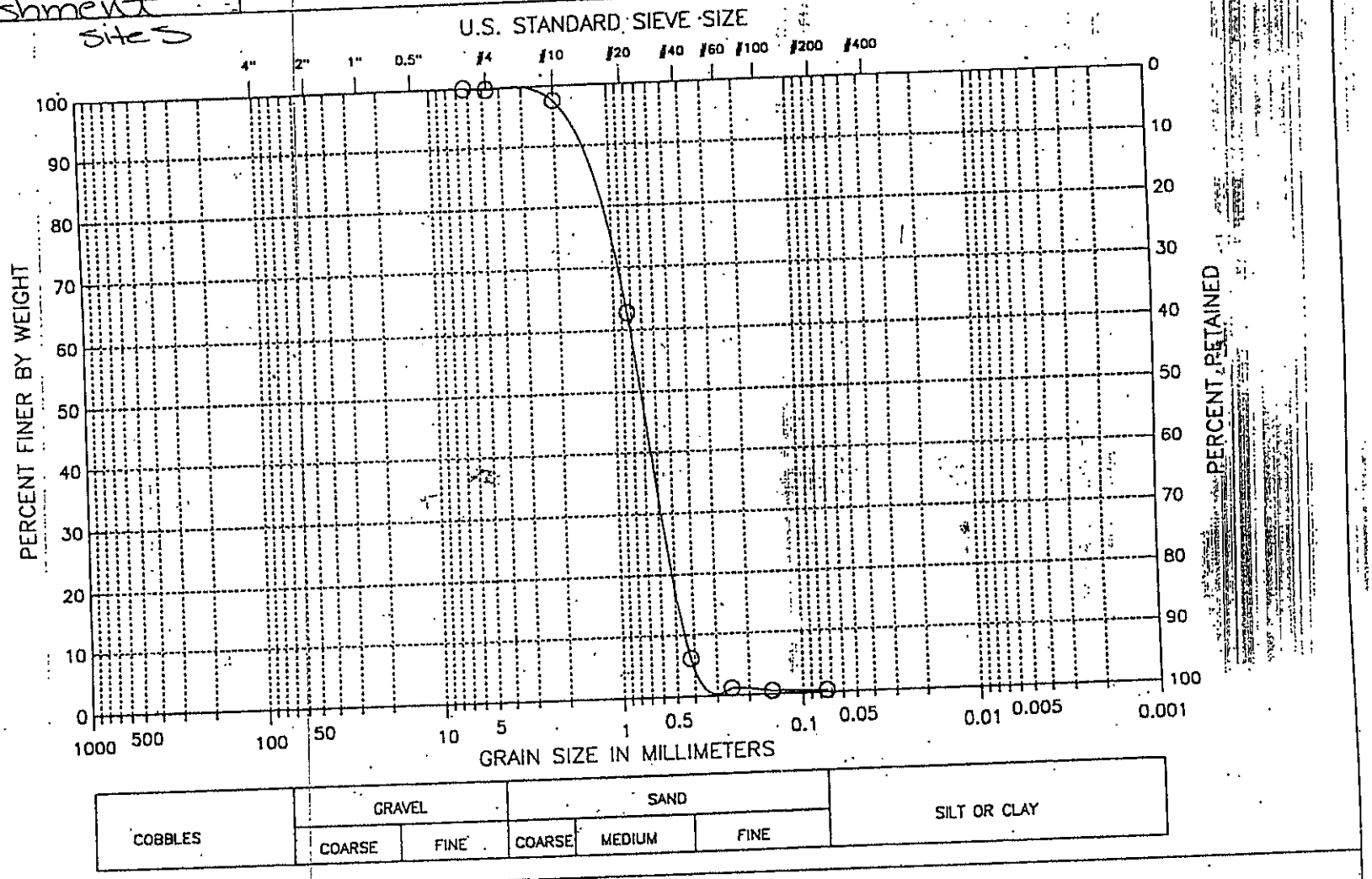
Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

(NSDB)

Nourishment Sites

Boring No. : --- Cape Pogue
Sample No: Dyme Bridge
Test Method ASTM D422
Filename : DYMEBRDG

Project : Various Dredging Sites
Project No.: GTX-1266
Location: ---
Date : Tue Nov 05 1996



Classification :
(SP) Poorly graded sand
Visual Description :
Yellowish brown sand

Remarks :
Dyme Bridge Appr Nourishment

Figure 1

WSDB

Tue Nov 05 12:10:40 1996

GEOTECHNICAL LABORATORY TEST DATA

Project : Various Dredging Sites — Filename : DYMEBRDG
Project No. : GTX-1266 — Depth : --- — Elevation : ---
Boring No. : --- — Test Date : 10/31/96 — Tested by : kjs
Sample No. : Dyme Bridge — Test Method : ASTM D422 — Checked by : gtt
Location : ---
Soil Description : Yellowish brown sand
Remarks : Dyme Bridge Appr Nourishment

PINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.25*	0.250	6.35	0.00	0.00	100
#4	0.187	4.75	0.41	0.41	100
#10	0.079	2.00	3.73	4.14	98
#20	0.033	0.84	63.37	67.51	63
#40	0.017	0.42	102.60	170.11	6
#60	0.010	0.25	9.13	179.24	1
#100	0.006	0.15	1.20	180.44	1
#200	0.003	0.07	0.33	180.77	0
Pan			0.60	181.37	0

Total Dry Weight of Sample = 190.65

D85 : 1.4591 mm
D60 : 0.8128 mm
D50 : 0.7189 mm
D30 : 0.5624 mm
D15 : 0.4679 mm
D10 : 0.4400 mm

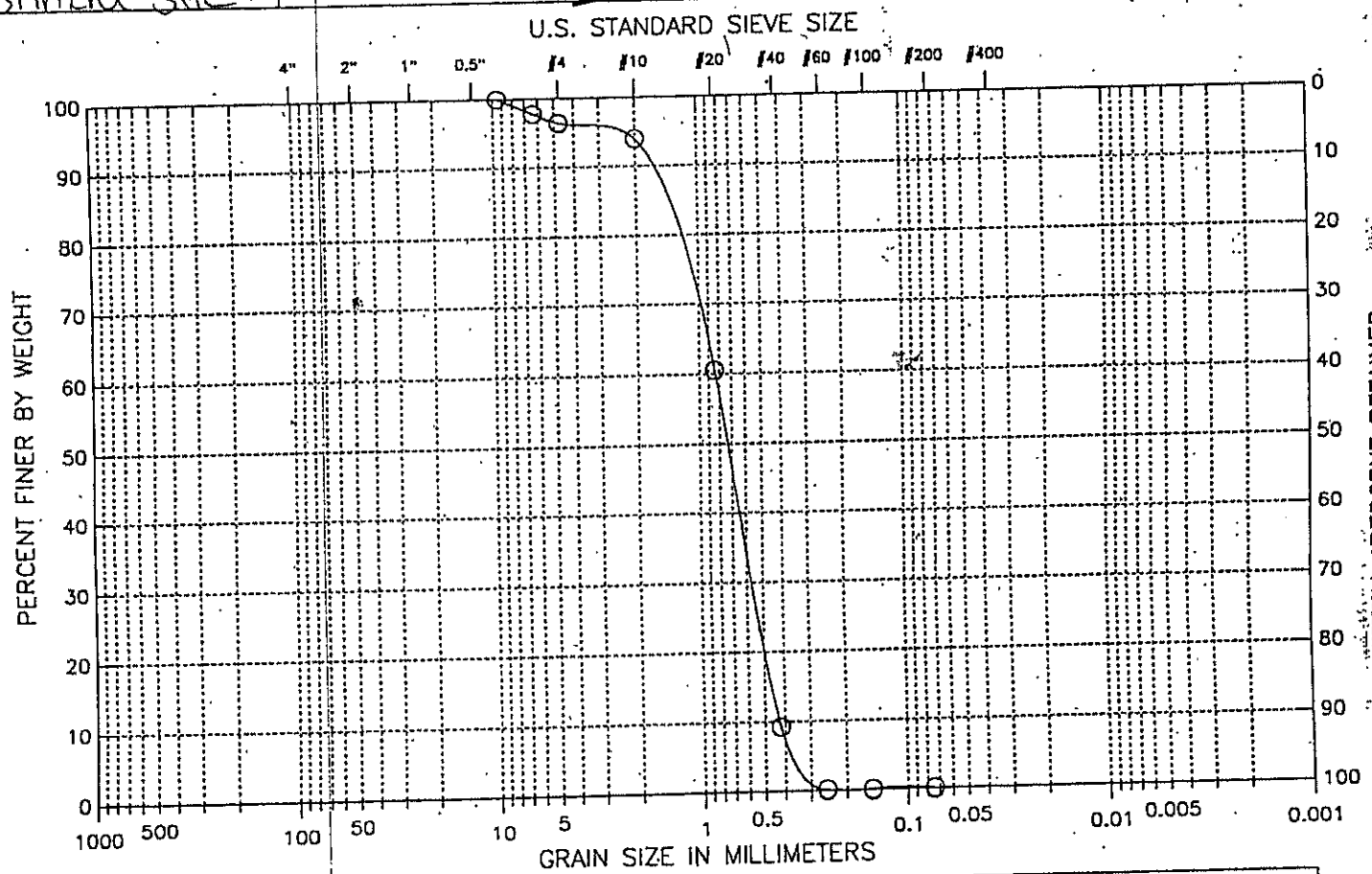
Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

(NSELB)

Boring No. : ---
Sample No: Cape Pogue S
Test Method ASTM D422
Filename : CPSOUTH Got

Project : Various Dredging Sites
Project No.: GTX-1266
Location: ---
Date : Tue Nov 05 1996

Boarishment site -



Classification :
(SP) Poorly graded sand
Visual Description :
Yellowish brown sand with gravel, organics

Remarks :
Cape Pogue Gut South

Figure 2

GeoTesting Express • Acton, Ma. • (508) 635-0424 • Fax (508) 635-0266

NSELB

Tue Nov 05 12:10:40 1996

GEOTECHNICAL LABORATORY TEST DATA

Project : Various Dredging Sites — Filename : CPSOUTH
Project No. : GTX-1266 — Depth : --- — Elevation : ---
Boring No. : --- — Test Date : 10/31/96 — Tested by : kjs
Sample No. : Cape Pogue S — Test Method : ASTM D422 — Checked by : gtt
Location : ---
Soil Description : Yellowish brown sand with gravel, organics
Remarks : Cape Pogue Gut South - nourishment site

PINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.375"	0.374	9.51	0.00	0.00	100
0.25"	0.250	6.35	4.17	4.17	98
#4	0.187	4.75	2.63	6.80	96
#10	0.079	2.00	4.56	11.36	94
#20	0.033	0.84	62.20	73.56	61
#40	0.017	0.42	95.60	169.16	9
#60	0.010	0.25	17.00	186.16	0
#100	0.006	0.15	0.17	186.33	0
#200	0.003	0.07	0.01	186.34	0
Pan			0.09	186.43	0

Total Dry Weight of Sample = 195.61

D85 : 1.5871 mm
D60 : 0.8348 mm
D50 : 0.7291 mm
D30 : 0.5561 mm
D15 : 0.4539 mm
D10 : 0.4242 mm

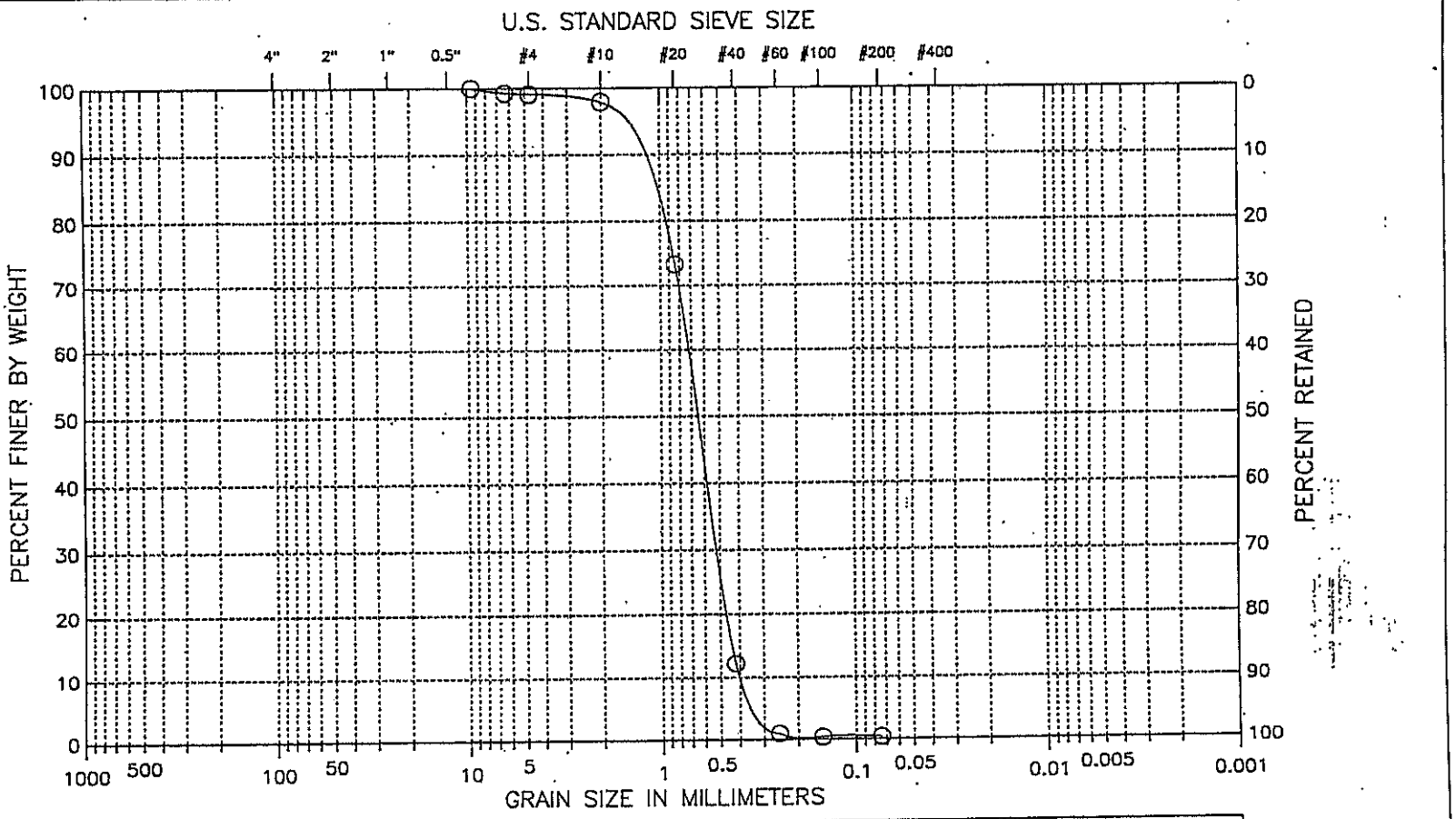
Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

GeoTesting Express • Acton, Ma. • (508) 635-0424 • Fax (508) 635-0266

Boring No. : ---
Sample No.: Eel Pond
Test Method ASTM D422
Filename : EELPOND

Project : Various Dredging Sites
Project No.: GTX-1266
Location: ---
Date : Tue Nov 05 1996

Nourishment sites



Classification :
(SP) Poorly graded sand
Visual Description :
Light gray sand

Remarks :
Eel Pond Nourishment Site 1

Figure 4

Tue Nov 05 12:10:41 1996

GEOTECHNICAL LABORATORY TEST DATA

Project : Various Dredging Sites
Project No. : GTX-1266
Boring No. : ---
Sample No. : Eel Pond
Location : ---
Soil Description : Light gray sand
Remarks : Eel Pond Nourishment Site 1

Depth : ---
Test Date : 10/31/96
Test Method : ASTM D422

Filename : EELPOND
Elevation : ---
Tested by : kjs
Checked by : gtt

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.375"	0.374	9.51	0.00	0.00	100
0.25"	0.250	6.35	1.30	1.30	99
#4	0.187	4.75	0.27	1.57	99
#10	0.079	2.00	2.18	3.75	98
#20	0.033	0.84	44.33	48.08	73
#40	0.017	0.42	110.11	158.19	12
#60	0.010	0.25	20.34	178.53	1
#100	0.006	0.15	1.02	179.55	0
#200	0.003	0.07	0.02	179.57	0
Pan			0.63	180.20	0

Total Dry Weight of Sample = 189.54

D85 : 1.2690 mm
D60 : 0.7229 mm
D50 : 0.6452 mm
D30 : 0.5141 mm
D15 : 0.4335 mm
D10 : 0.3794 mm

Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

Fuller Beach

Fri May 08 17:06:04 1998

GEOTECHNICAL LABORATORY TEST DATA

Project : Edgartown Shellfish Dept.
Project No. : GTX-1837
Boring No. : ---
Sample No. : LHP-FSB-2
Location : Edgartown, MA
Depth : ---
Test Date : 5-7-98
Test Method : ASTM D 422
Filename : LHPFSB2
Elevation : ---
Tested by : GSG
Checked by : GTT
Soil Description : Moist, light brownish gray coarse sand
Remarks : ---

FINE SIEVE SET

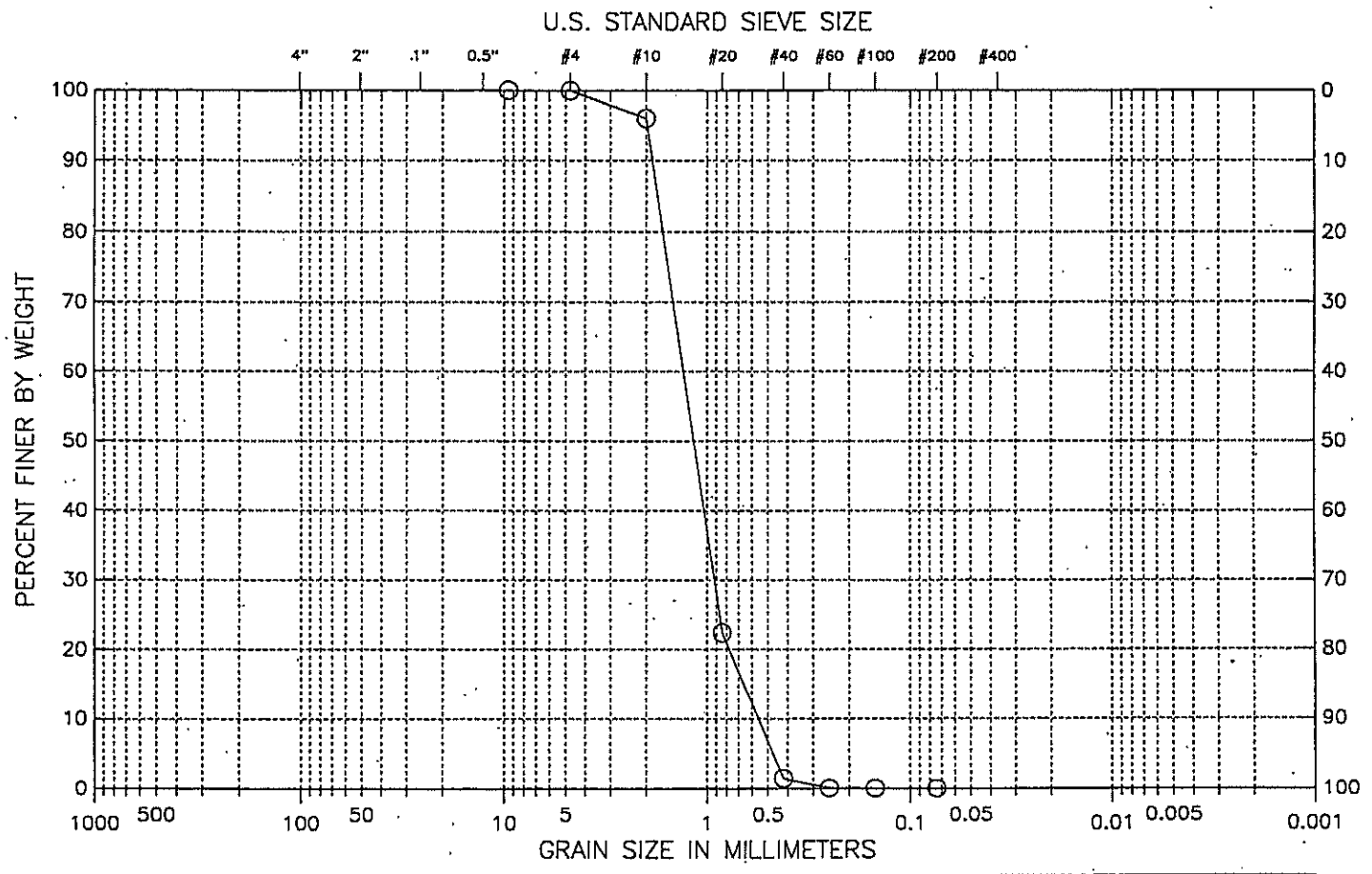
Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.375"	0.374	9.51	0.00	0.00	100
#4	0.187	4.75	0.09	0.09	100
#10	0.079	2.00	6.44	6.53	96
#20	0.033	0.84	122.03	128.56	22
#40	0.017	0.42	34.46	163.02	2
#60	0.010	0.25	2.34	165.36	0
#100	0.006	0.15	0.07	165.43	0
#200	0.003	0.07	0.03	165.46	0
Pan			0.05	165.51	0

Total Dry Weight of Sample = 174.67

D85 : 1.7564 mm
D60 : 1.3093 mm
D50 : 1.1642 mm
D30 : 0.9204 mm
D15 : 0.6587 mm
D10 : 0.5576 mm

Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

	Boring No. : --- Sample No: LHP-FSB-2 Test Method ASTM D 422 Filename : LHPFSB2	Project : Edgartown Shellfish Dept. Project No.: GTX-1837 Location: Edgartown, MA Date : Fri May 08 1998



Classification :
(SP) Poorly graded sand
Visual Description :
Moist, light brownish gray coarse sand

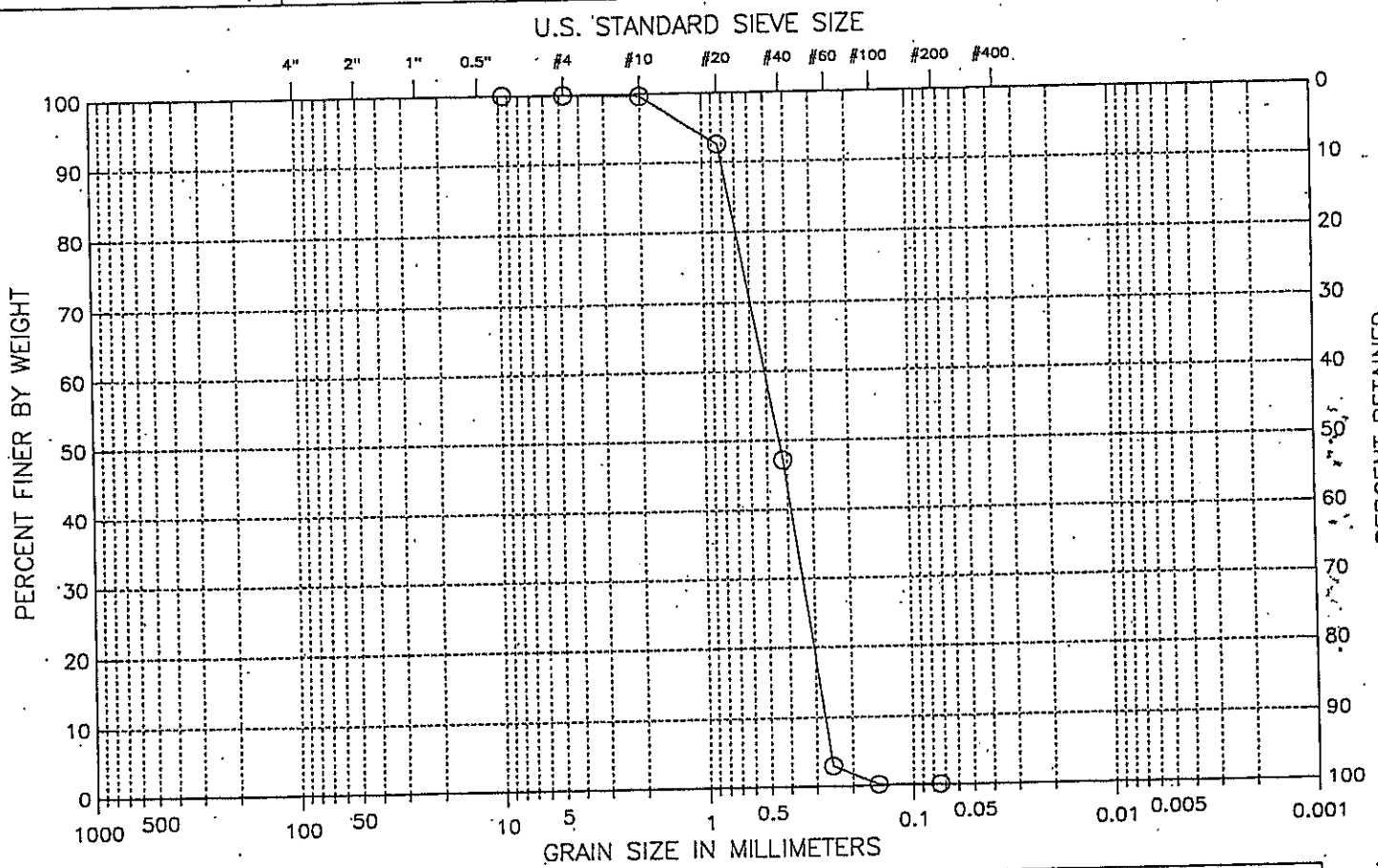
Remarks :

Figure 4

GeoTesting Express • Boxborough, MA • (978) 635-0424 • Fax (978) 635-0266

Fuller Beach

	Boring No. : --- Sample No.: LHP-FSB-1 Test Method ASTM D 422 Filename : LHPFSB1	Project : Edgartown Shellfish Dept. Project No.: GTX-1837 Location: Edgartown, MA Date : Fri May 08 1998



Remarks :

Classification :
(SP) Poorly graded sand

Visual Description :
Moist, light brownish gray coarse sand

Figure 3

GeoTesting Express • Boxborough, MA • (978) 635-0424 • Fax (978) 635-0266

Fuller Beach

Fuller Beach

Fri May 08 17:06:05 1998

GEOTECHNICAL LABORATORY TEST DATA

Project : Edgartown Shellfish Dept.
Project No. : GTX-1837
Boring No. : ---
Sample No. : LHP-FSB-1
Location : Edgartown, MA
Depth : ---
Test Date : 5-7-98
Test Method : ASTM D 422
Filename : LHPFSB1
Elevation : ---
Tested by : GSG
Checked by : GTT
Soil Description : Moist, light brownish gray coarse sand
Remarks : ---

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.375"	0.374	9.51	0.00	0.00	100
#4	0.187	4.75	0.09	0.09	100
#10	0.079	2.00	0.41	0.50	100
#20	0.033	0.84	10.22	10.72	93
#40	0.017	0.42	65.72	76.44	47
#60	0.010	0.25	63.73	140.17	3
#100	0.006	0.15	4.14	144.31	0
#200	0.003	0.07	0.12	144.43	0
Pan			0.15	144.58	0

Total Dry Weight of Sample = 153.79

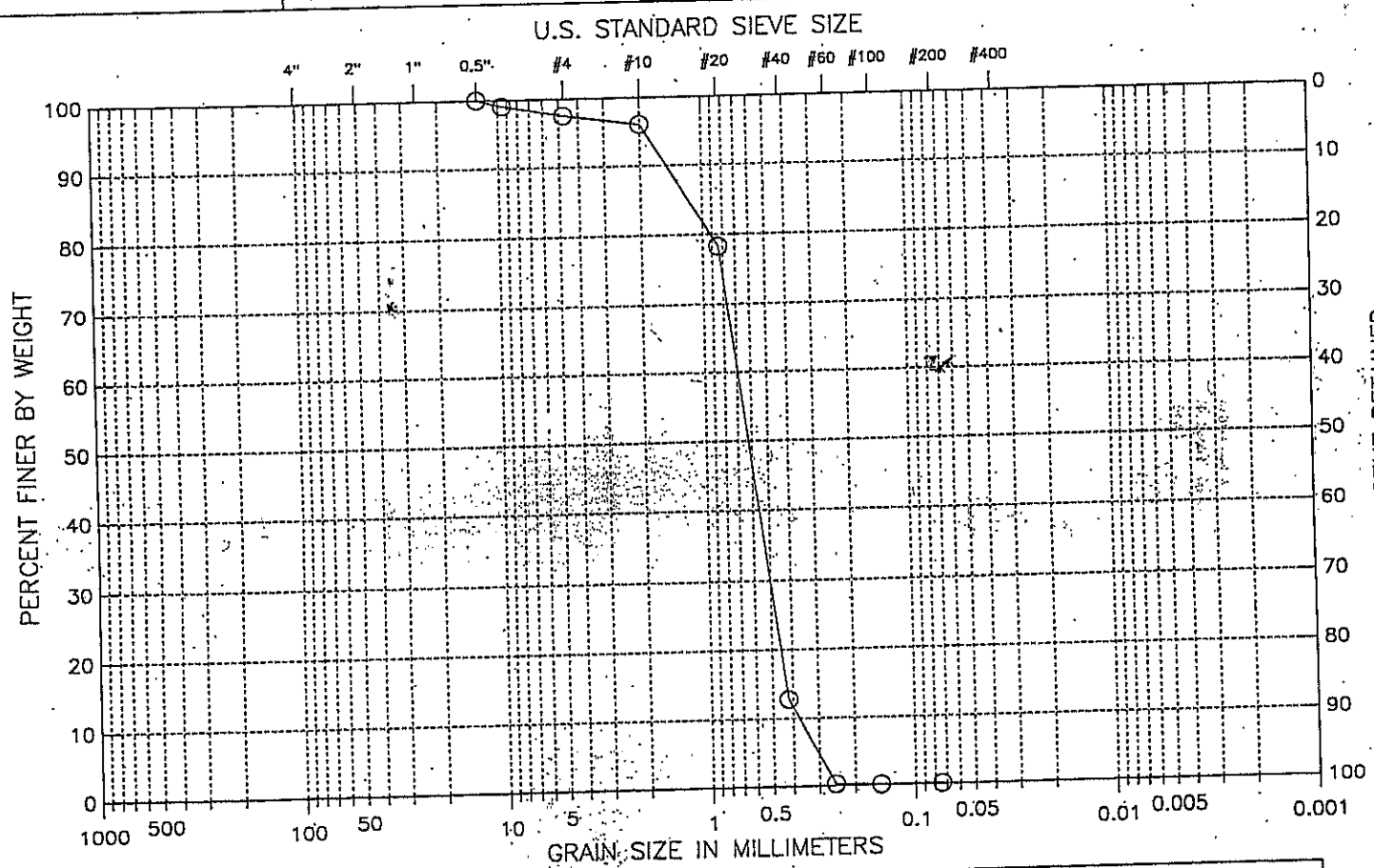
D85 : 0.7490 mm
D60 : 0.5112 mm
D50 : 0.4388 mm
D30 : 0.3433 mm
D15 : 0.2878 mm
D10 : 0.2713 mm

Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

Disposal Area F

Boring No. : ---
Sample No: Chappy Shore 1
Test Method ASTM D 422
Filename : CS1

Project : CALEBS
Project No.: GTX-1841
Location: Edgartown, MA
Date : Thu May 14 1998



Remarks :

Classification :
(SP) Poorly graded sand
Visual Description :
Wet, dark yellowish brown sand with some gravel

Figure 3

GeoTesting Express • Boxborough, MA • (978) 635-0424 • Fax (978) 635-0266

Disposal Area F

GEOTECHNICAL LABORATORY TEST DATA

Project : CALEBS
Project No. : GTX-1841
Boring No. : ---
Sample No. : Chappy Shore 1
Location : Edgartown, MA
Soil Description : Wet, dark yellowish brown sand with some gravel
Remarks : ---

Depth : ---
Test Date : 05/11/98
Test Method : ASTM D 422

Filename : CS1
Elevation : ---
Tested by : tje
Checked by : gtt

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.5"	0.500	12.70	0.00	0.00	100
0.375"	0.374	9.51	2.00	2.00	99
#4	0.187	4.75	3.26	5.26	98
#10	0.079	2.00	3.16	8.42	96
#20	0.033	0.84	37.69	46.11	78
#40	0.017	0.42	138.96	185.07	13
#60	0.010	0.25	26.56	211.63	0
#100	0.006	0.15	0.40	212.03	0
#200	0.003	0.07	0.05	212.08	0
Pan			0.12	212.20	0

Total Dry Weight of Sample = 221.54

D85 : 1.1677 mm
D60 : 0.6929 mm
D50 : 0.6232 mm
D30 : 0.5041 mm
D15 : 0.4300 mm
D10 : 0.3742 mm

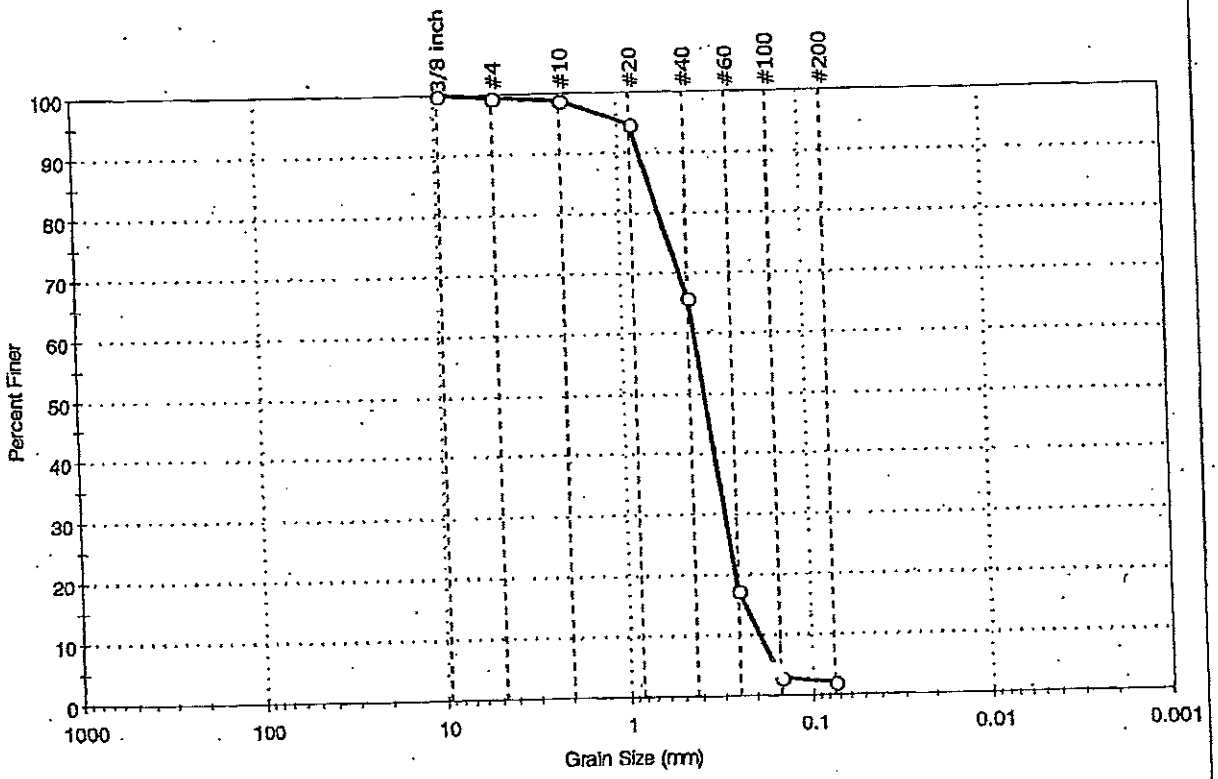
Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

Disposal Area "E"

GeoTesting express

Client:	Edgartown Shellfish Dept.		
Project:	Calebs Pond	Project No:	GTX-5318
Location:	Edgartown Harbor		
Boring ID:	---	Sample Type: bag	Tested By: ahp
Sample ID:	EB-7	Test Date: 06/30/04	Checked By: jdt
Depth :	---	Test Id: 55263	
Sample Description:	Dry, white sand		
Sample Comment:	---		
Test Comment:	---		

Particle Size Analysis - ASTM D 422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
--	0.6	97.2	2.2

Sieve Name	Sieve Size (mm)	Percent Finer	Spec. Percent	Complies
3/8 inch	9.51	100		
#4	4.75	99		
#10	2.00	99		
#20	0.84	95		
#40	0.42	66		
#60	0.25	17		
#100	0.15	3		
#200	0.075	2		

Coefficients

D_{85} = 0.6680 mm	D_{30} = 0.2873 mm
D_{60} = 0.3991 mm	D_{15} = 0.2303 mm
D_{50} = 0.3577 mm	D_{10} = 0.1926 mm
C_u = 2.072	C_c = 0.207

Classification

ASTM Poorly graded sand (SP)

AASHTO Fine Sand (A-3 (0))

Sample/Test Description

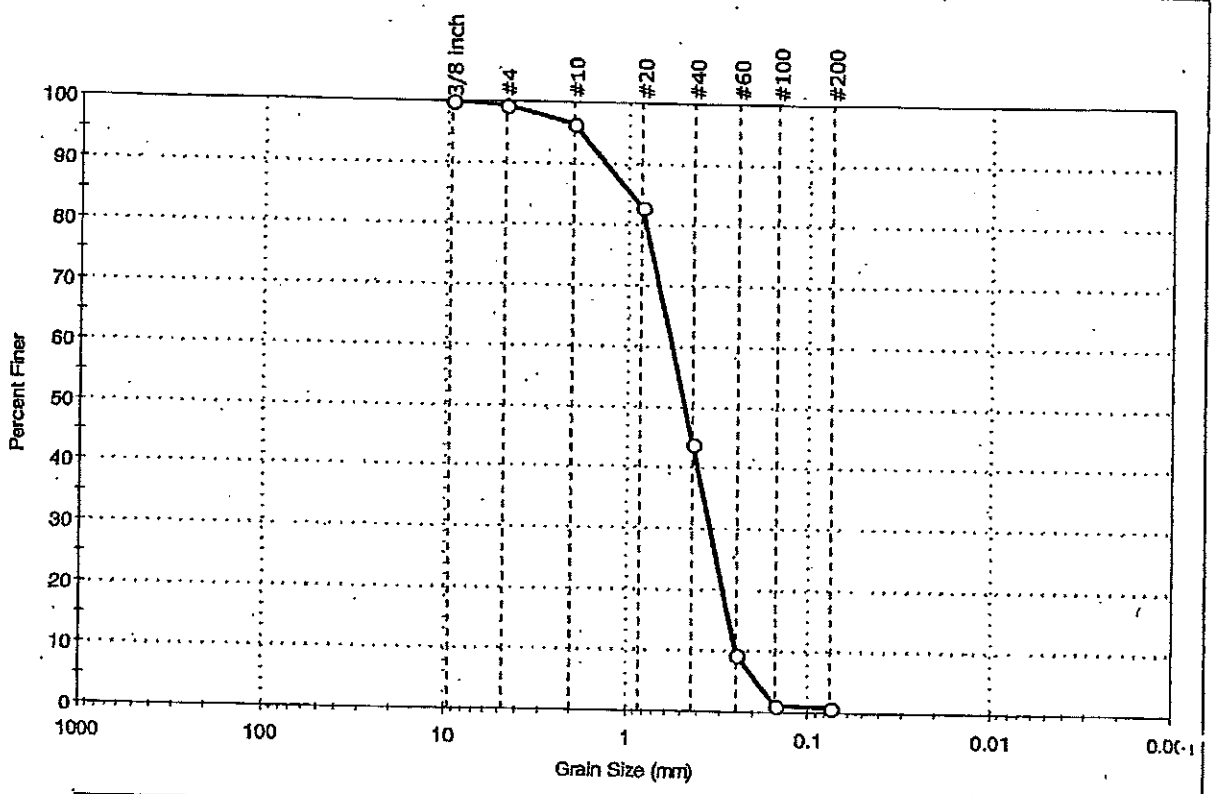
Sand/Gravel Particle Shape : ROUNDED
Sand/Gravel Hardness : HARD
Dispersion Device : N/A
Dispersion Period : N/A.
Specific Gravity : 2.65 assumed

Disposal Area "E"

GeoTesting express

Client:	Edgartown Shellfish Dept.				
Project:	Calebs Pond				
Location:	Edgartown Harbor			Project No:	GTX-5318
Boring ID:	---	Sample Type:	bag	Tested By:	ahp
Sample ID:	EB-6	Test Date:	06/30/04	Checked By:	jdt
Depth :	---	Test Id:	55262		
Sample Description:	Dry, pale yellow sand				
Sample Comment:	---				
Test Comment:	---				

Particle Size Analysis - ASTM D 422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.5	98.7	0.8

Sieve Name	Sieve Size (mm)	Percent Finer	Spec. Percent	Complies
3/8 inch	9.51	100		
#4	4.75	99		
#10	2.00	97		
#20	0.84	83		
#40	0.42	44		
#60	0.25	10		
#100	0.15	1		
#200	0.075	1		

Coefficients

D_{85} = 0.9644 mm	D_{30} = 0.3432 mm
D_{60} = 0.5641 mm	D_{15} = 0.2722 mm
D_{50} = 0.4735 mm	D_{10} = 0.2519 mm
C_u = 2.239	C_c = 0.209

Classification

ASTM Poorly graded sand (SP)

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

Sample/Test Description

Sand/Gravel Particle Shape : ROUNDED
Sand/Gravel Hardness : HARD
Dispersion Device : N/A
Dispersion Period : N/A
Specific Gravity : 2.65 assumed

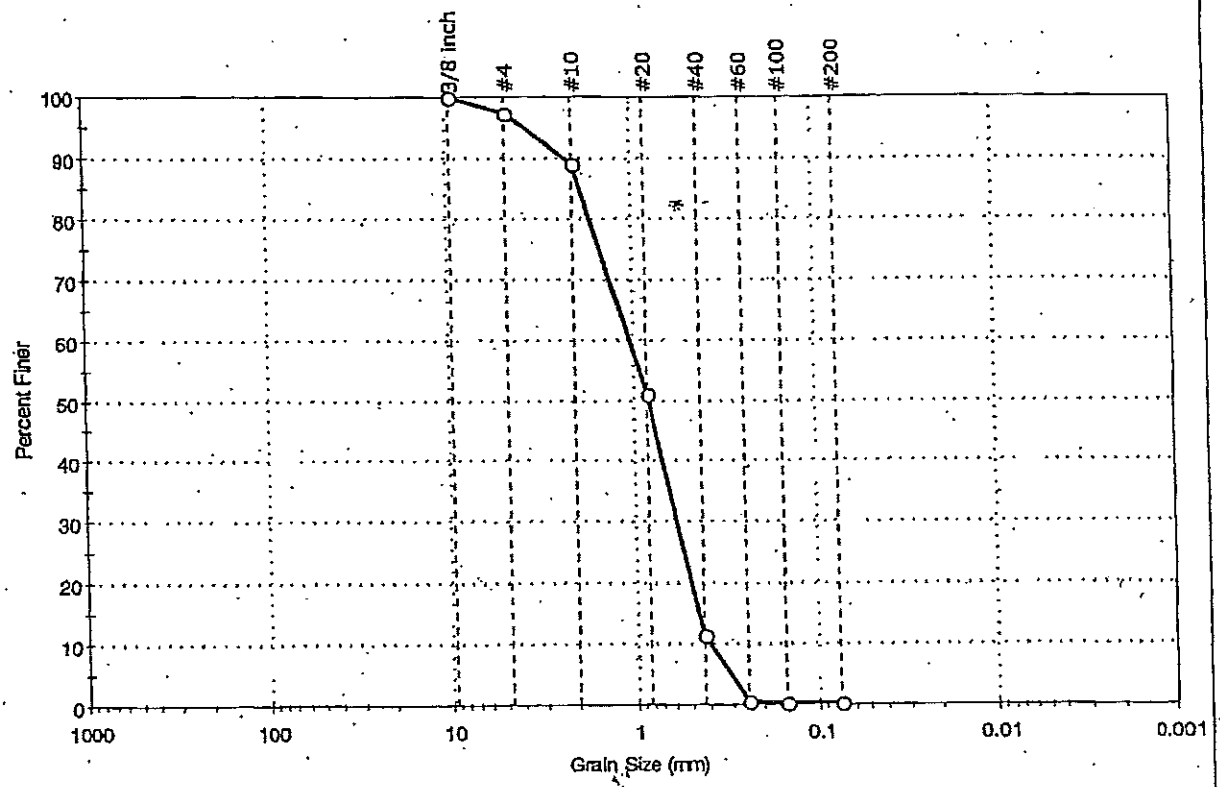
printed 7/2/2004 1:29:42 PM

Disposal area "C"

GeoTesting express

Client:	Edgartown Shellfish Dept.				
Project:	Calebs Pond				
Location:	Edgartown Harbor			Project No:	GTX-5318
Boring ID:	---	Sample Type:	bag	Tested By:	ahp
Sample ID:	EB-4	Test Date:	06/30/04	Checked By:	jdt
Depth :	---	Test Id:	55260		
Sample Description:	Moist, yellowish brown sand				
Sample Comment:	---				
Test Comment:	---				

Particle Size Analysis - ASTM D 422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
—	2.5	97.1	0.3

Sieve Name	Sieve Size (mm)	Percent Finer	Spec. Percent	Complies
3/8 inch	9.51	100		
#4	4.75	97		
#10	2.00	89		
#20	0.84	51		
#40	0.42	11		
#60	0.25	0		
#100	0.15	0		
#200	0.075	0		

Coefficients

D_{85} = 1.8182 mm	D_{30} = 0.5861 mm
D_{60} = 1.0333 mm	D_{15} = 0.4522 mm
D_{50} = 0.8281 mm	D_{10} = 0.3969 mm
C_u = 2.603	C_c = 0.332

Classification

ASTM Poorly graded sand (SP)

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

Sample/Test Description

Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

Dispersion Device : N/A

Dispersion Period : N/A

Specific Gravity : 2.65 assumed

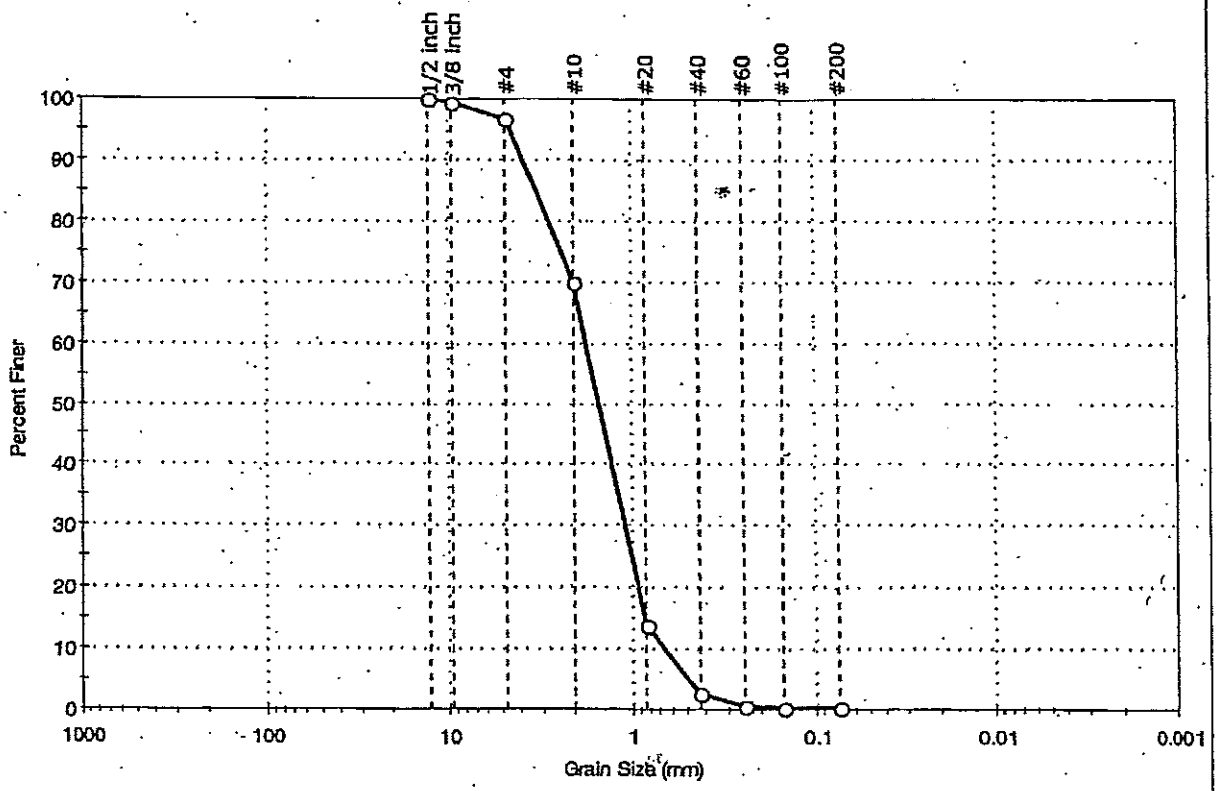
printed 7/2/2004 1:29:16 PM

Disposal Area "B"

GeoTesting express

Client:	Edgartown Shellfish Dept.				
Project:	Calebs Pond				
Location:	Edgartown Harbor			Project No:	GTX-5318
Boring ID:	---	Sample Type:	bag	Tested By:	ahp
Sample ID:	EB-3	Test Date:	06/30/04	Checked By:	jdt
Depth :	---	Test Id:	55259		
Sample Description:	Dry, olive yellow sand				
Sample Comment:	---				
Test Comment:	---				

Particle Size Analysis - ASTM D 422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
—	3.4	96.2	0.4

Sieve Name	Sieve Size (mm)	Percent Finer	Spec. Percent	Complies
1/2 inch	12.70	100		
3/8 inch	9.51	100		
#4	4.75	97		
#10	2.00	70		
#20	0.84	14		
#40	0.42	3		
#60	0.25	0		
#100	0.15	0		
#200	0.075	0		

Coefficients

D_{85} =3.2641 mm	D_{30} =1.0814 mm
D_{60} =1.7189 mm	D_{15} =0.8577 mm
D_{50} =1.4728 mm	D_{10} =0.6697 mm
C_u =2.567	C_c =0.680

Classification

ASTM Poorly graded sand (SP)

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

Sample/Test Description

Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

Dispersion Device : N/A

Dispersion Period : N/A

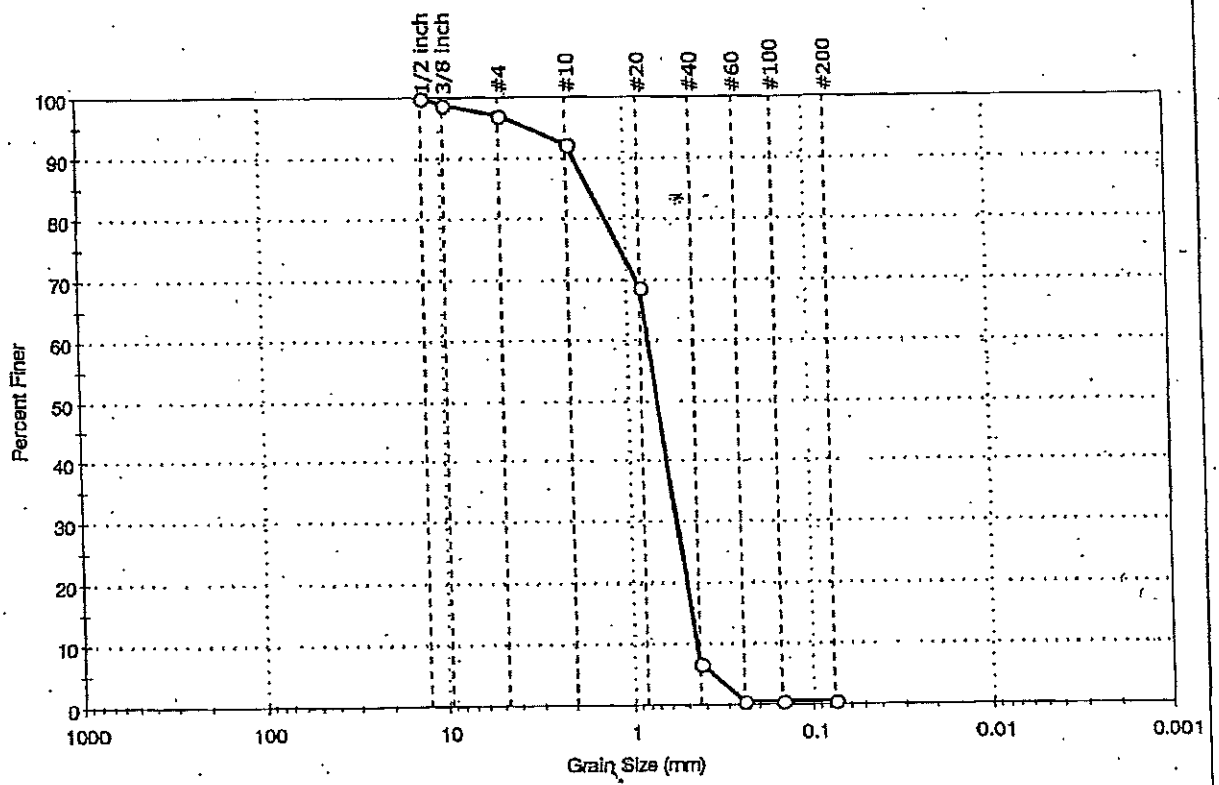
Specific Gravity : 2.65 assumed

Disposal Area "A"

GeoTesting express

Client:	Edgartown Shellfish Dept.				
Project:	Calebs Pond				
Location:	Edgartown Harbor			Project No:	GTX-5318
Boring ID:	---	Sample Type:	bag	Tested By:	ahp
Sample ID:	EB-2	Test Date:	06/30/04	Checked By:	jdt
Depth :	---	Test Id:	55258		
Sample Description:	Dry, brownish yellow sand				
Sample Comment:	---				
Test Comment:	---				

Particle Size Analysis - ASTM D 422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
—	3.1	96.5	0.5

Sieve Name	Sieve Size (mm)	Percent Finer	Spec. Percent	Complies
1/2 inch	12.70	100		
3/8 inch.	9.51	99		
#4	4.75	97		
#10	2.00	92		
#20	0.84	69		
#40	0.42	7		
#60	0.25	1		
#100	0.15	0		
#200	0.075	0		

Coefficients

D_{85} =1.5255 mm	D_{30} =0.5489 mm
D_{60} =0.7648 mm	D_{15} =0.4651 mm
D_{50} =0.6848 mm	D_{10} =0.4401 mm
C_u =1.738	C_c =0.394

Classification

ASTM Poorly graded sand (SP)

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

Sample/Test Description

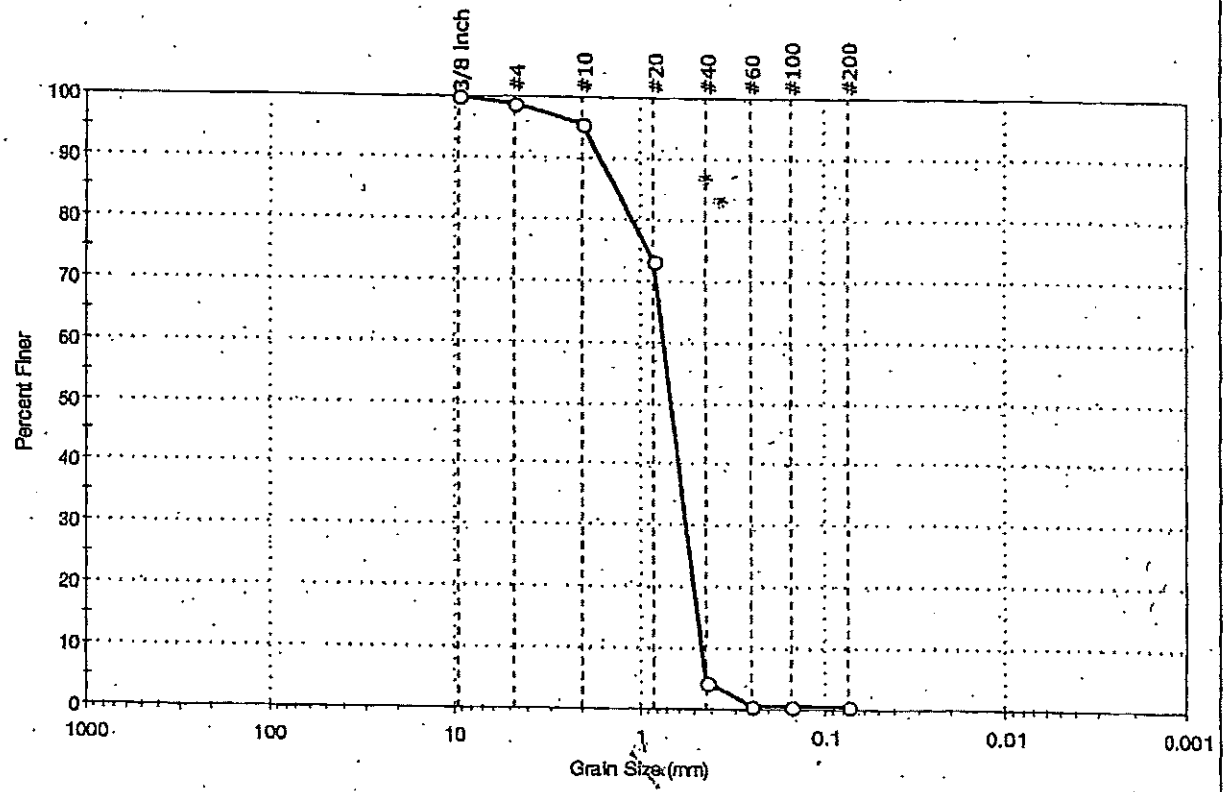
Sand/Gravel Particle Shape : ROUNDED
Sand/Gravel Hardness : HARD
Dispersion Device : N/A
Dispersion Period : N/A
Specific Gravity : 2.65 assumed

Disposal Area "A"

GeoTesting express

Client:	Edgartown Shellfish Dept.		
Project:	Calebs Pond		
Location:	Edgartown Harbor	Project No:	GTX-5318
Boring ID:	---	Sample Type: bag	Tested By: ahp
Sample ID:	EB-1	Test Date: 06/30/04	Checked By: jdt
Depth :	---	Test Id: 55257	
Sample Description:	Dry, brownish yellow sand		
Sample Comment:	---		
Test Comment:	---		

Particle Size Analysis - ASTM D 422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	1.1	98.4	0.5

Sieve Name	Sieve Size (mm)	Percent Finer	Spec. Percent	Complies
3/8 inch	9.51	100		
#4	4.75	99		
#10	2.00	95		
#20	0.84	73		
#40	0.42	4		
#60	0.25	1		
#100	0.15	0		
#200	0.075	0		

Coefficients

D_{85} = 1.3311 mm	D_{30} = 0.5482 mm
D_{60} = 0.7383 mm	D_{15} = 0.4724 mm
D_{50} = 0.6686 mm	D_{10} = 0.4496 mm
C_u = 1.642	C_c = 0.407

Classification

ASTM Poorly graded sand (SP)

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

Sample/Test Description

Sand/Gravel Particle Shape : ROUNDED

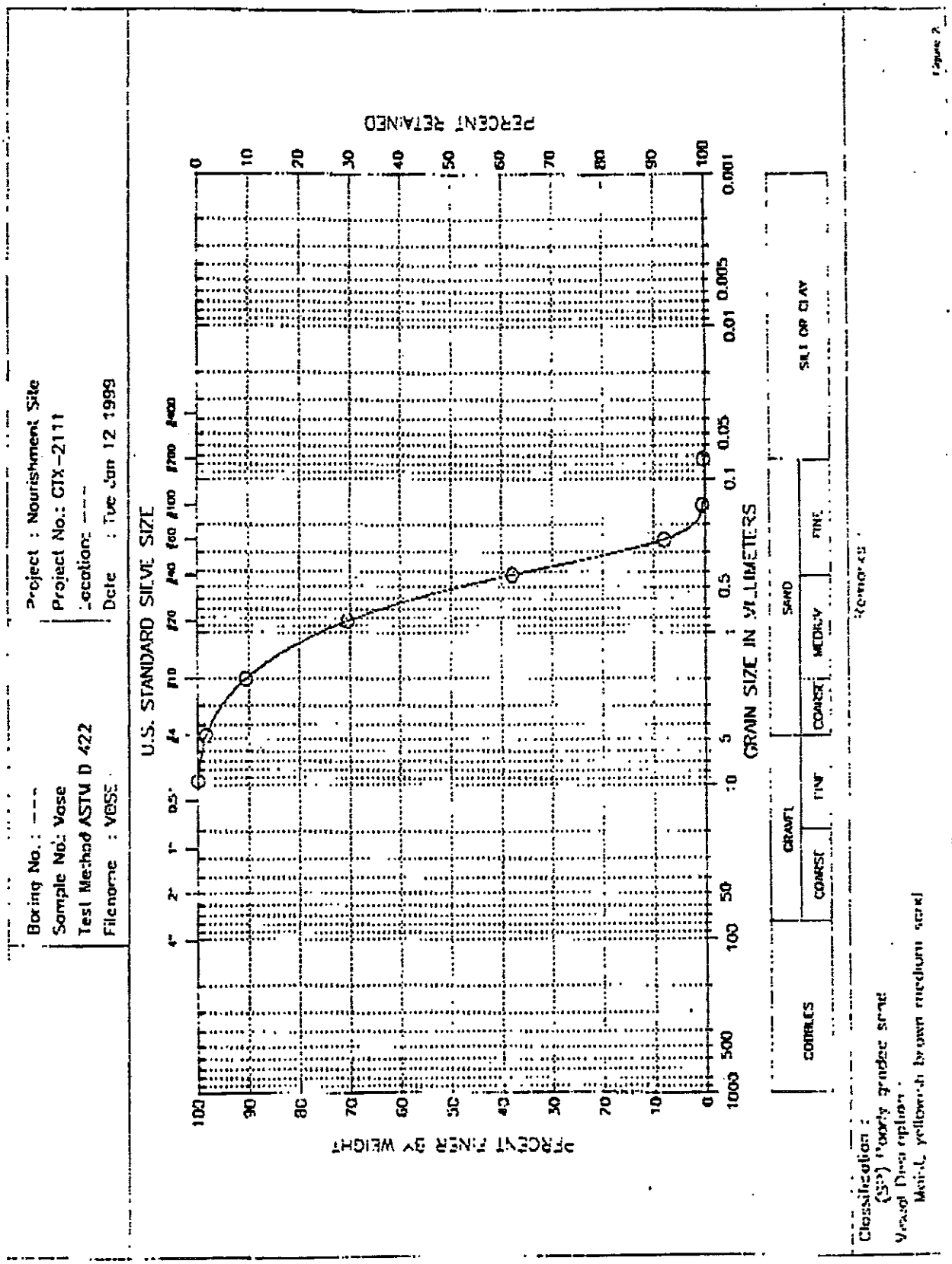
Sand/Gravel Hardness : HARD

Dispersion Device : N/A

Dispersion Period : N/A

Specific Gravity : 2.65 assumed

printed 7/2/2004 1:28:36 PM


Project : Nourishment Site
Project No.: CTX-2111
Location: ---
Date : Tue Jan 12 1999
Boring No.: ---
Sample No.: Vase
Test Method ASTM D 422
Filename : VASE
U.S. STANDARD SIEVE SIZE
PERCENT RETAINED
PERCENT FINER BY WEIGHT
GRAIN SIZE IN MILLIMETERS
COBBLES
GRAVEL
COARSE
FINE
SAND
COARSE
MEDIUM
FINE
SILT OR CLAY
Remarks
Classification :
(SP) Poorly graded sand
Visual Description :
Medium yellowish brown medium sand

Tue Jan 12 08:29:02 1999 Page : 1

GEOTECHNICAL LABORATORY TEST DATA

Project : Nourishment Site
Project No. : GTX-2111
Boring No. : ---
Sample No. : Vose
Location : ---
Soil Description : Moist, yellowish brown medium sand
Remarks : ---

Filename : VOSE
Elevation : ---
Depth : 4 in
Test Date : 01/08/99
Tested by : swj
Test Method : ASTM D 422
Checked by : gtx

FINE SIEVE SET

Sieve No.	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained gm	Percent Finer %
0.375"	0.375	9.52	0.00	0.00	100
#4	0.187	4.76	3.04	3.04	98
#10	0.079	2.00	14.93	17.97	91
#20	0.033	0.84	37.93	55.90	70
#40	0.017	0.42	61.54	117.44	38
#60	0.010	0.25	56.58	174.02	8
#100	0.006	0.15	14.00	188.02	0
#200	0.003	0.07	0.39	188.41	0
Pan			0.53	188.94	0

Total Dry Weight of Sample = 188.1

D85 : 1.5782 mm
D60 : 0.6736 mm
D50 : 0.5643 mm
D30 : 0.3666 mm
D15 : 0.2827 mm
D10 : 0.2593 mm

Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

GeoTesting Express
1145 MASSACHUSETTS AVE.
BOXBOROUGH, MA 01719
978-635-0424 (FAX) 978-635-0266

Katama
Boat Ramp Disposal
Norton Point

May 8, 1998

Mr. Paul Bagnall
Edgartown Shellfish Department
Town of Edgartown
PO Box 481
Edgartown, MA 02539

RE: Edgartown Shellfish Department (GTX-1837)

Dear Mr. Bagnall:

Enclosed are the test results you requested for the above referenced project. We received the following four samples from you on May 5, 1998:

KBR-NP-1
KBR-NP-2
LHP-FSB-1
LHP-FSB-2

GeoTesting Express performed the following test on each of the above listed samples:

sieve analysis (ASTM D 422)

The results presented in this report apply only to the items tested. This report shall not be reproduced except in full, without written approval from GeoTesting Express. The remainder of these samples will be retained for a period of sixty days and will then be discarded unless otherwise notified by you. Please call me directly if you have any questions or require additional information. Thank you for allowing GeoTesting Express the opportunity to provide your firm with physical properties testing of soils. We look forward to working with you again on future projects.

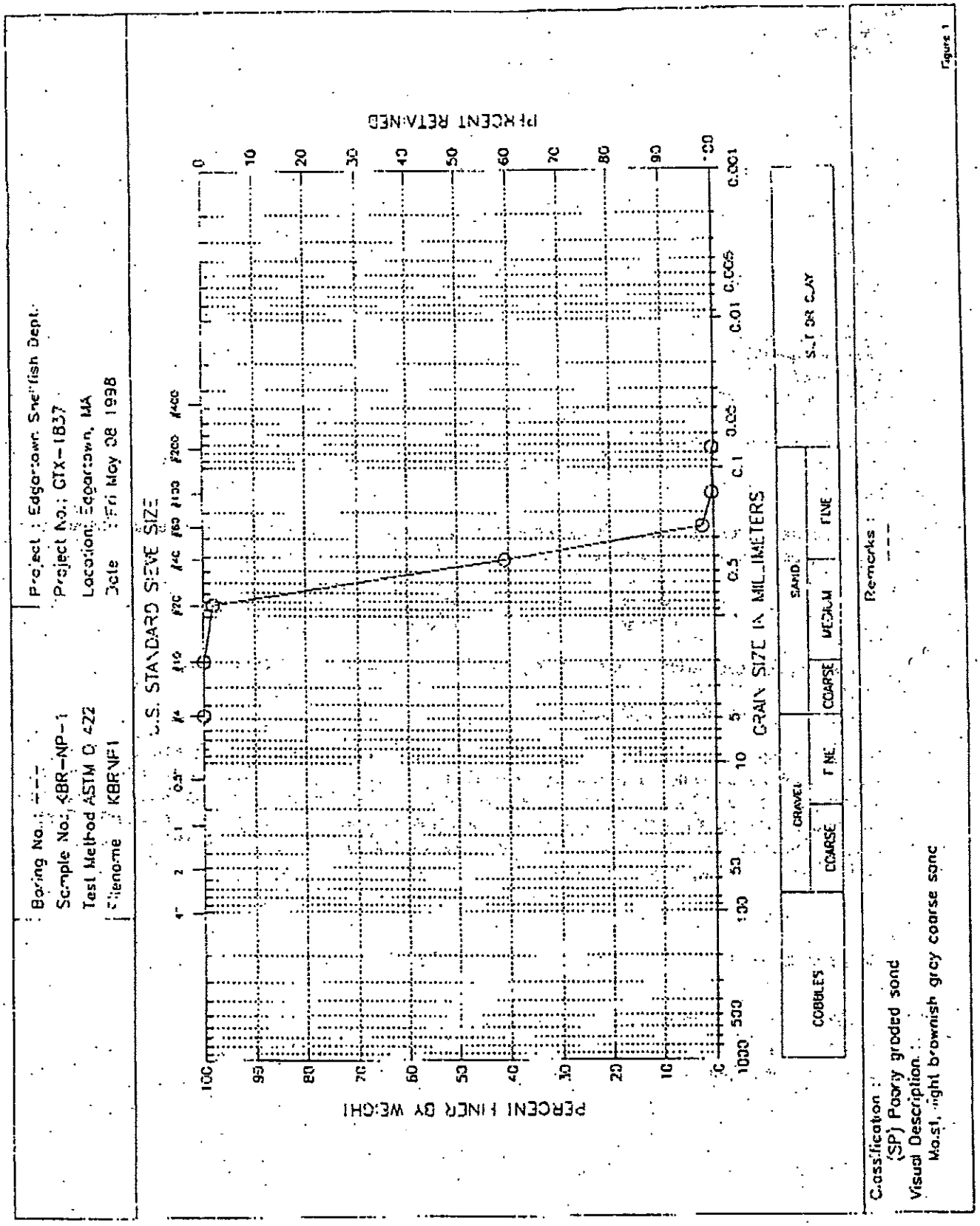
Respectfully yours,

Gary T. Torosian
Laboratory Manager

Totally Automated
Geotechnical Testing

Attachment L
Grain Size Anal for
Disposal Site

Norton Point Disposal



Norton Point Disposal

Fri May 08 17:06:03 1998

GEOTECHNICAL LABORATORY TEST DATA

Project : Edgartown Shellfish Dept
Project No. : GTX-1837
Boring No. : ---
Sample No. : KBR-NP 1
Location : Edgartown, MA
Soil Description : Moist, light brownish gray coarse sand
Remarks : ---

Depth : ---
Test Date : 5-7-98
Test Method : ASTM D 422

Filename : KBRNP1
Elevation : ---
Tested by : DSG
Checked by : GTT

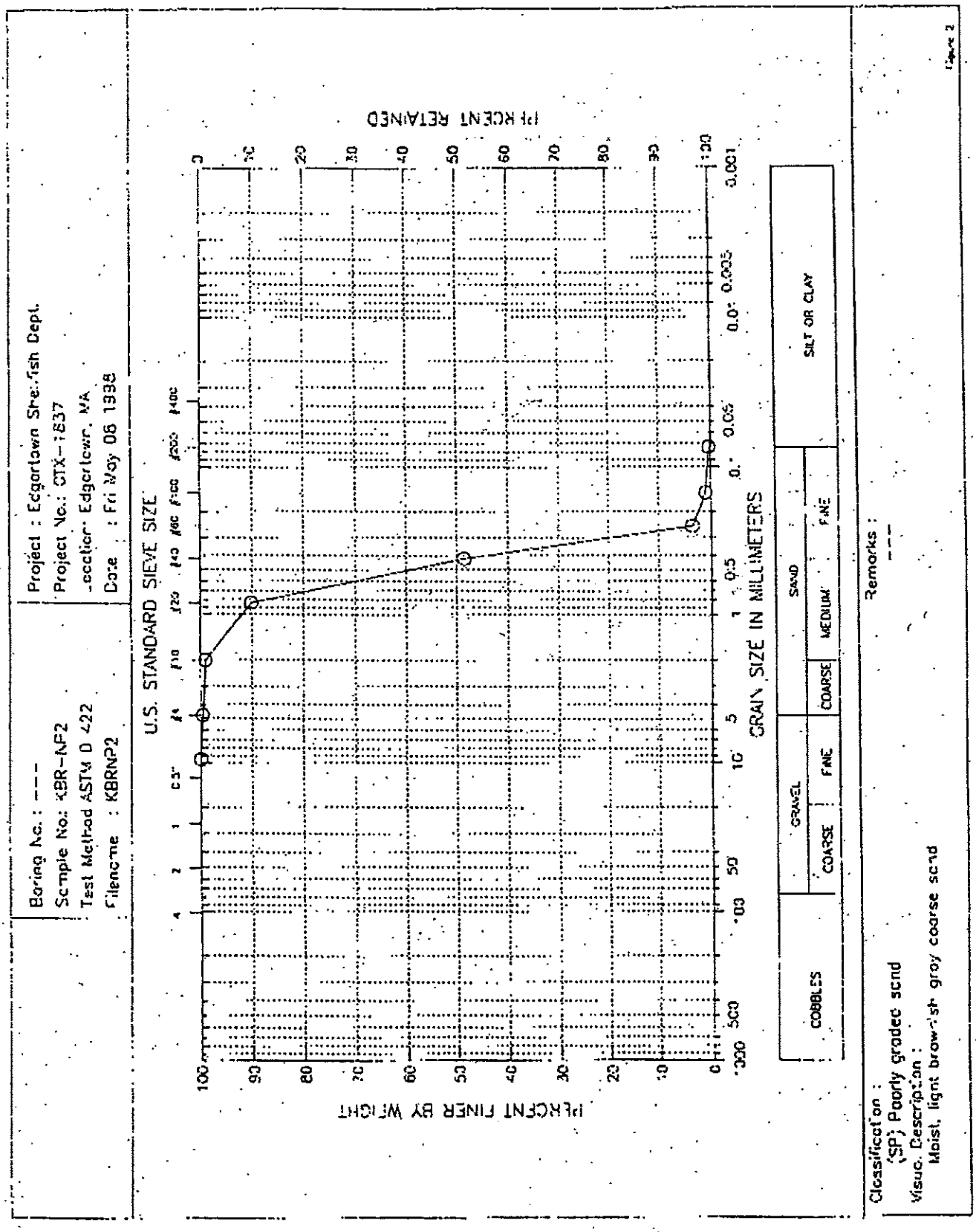
FINE SIEVE SET

Sieve Mesh	Sieve Opening Inches	Sieve Opening Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
#4	0.187	4.75	0.00	0.00	100
#10	0.079	2.00	0.10	0.10	100
#20	0.033	0.84	2.69	2.79	98
#40	0.017	0.42	86.92	89.71	41
#60	0.010	0.25	58.66	148.37	3
#100	0.006	0.15	2.86	151.23	0
#200	0.003	0.07	0.06	151.29	0
Pan			0.52	151.81	0

Total Dry Weight of Sample = 160.64

D85 : 0.7169 mm
D60 : 0.5294 mm
D50 : 0.4690 mm
D30 : 0.3648 mm
D15 : 0.2566 mm
D10 : 0.2374 mm

Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand


Project : Edgartown Shellfish Dept.
Project No.: GTX-1837
Location: Edgartown, MA
Date : Fri May 08 1998
Boring No. : ---
Sample No: KBR-NP2
Test Method ASTM D 422
Filename : KBRNP2
U.S. STANDARD SIEVE SIZE
PERCENT RETAINED
PERCENT FINER BY WEIGHT
GRAIN SIZE IN MILLIMETERS
COBBLES
GRAVEL
COARSE
FINE
SAND
COARSE
MEDIUM
FINE
SILT OR CLAY
Remarks :

Classification :
(SP) Poorly graded sand
Visual Description :
Moist, light brownish gray coarse sand

Norton Point Disposal

Fri May 08 17:06:04 1998 Page : 1

GEOTECHNICAL LABORATORY TEST DATA

Project : Edgartown Shellfish Dept. Filename : KBRNP2
Project No. : GTX-1837 Depth : --- Elevation : ---
Boring No. : --- Test Date : 5-7-98 Tested by : GSO
Sample No : KBR-NP2 Test Method : ASTM D 422 Checked by : GTT
Location : Edgartown, MA
Soil Description : Moist, light brownish gray coarse sand
Remarks : ---

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.375"	0.374	9.51	0.00	0.00	100
#4	0.187	4.75	0.59	0.59	100
#10	0.079	2.00	0.80	1.39	99
#20	0.033	0.84	13.84	15.23	90
#40	0.017	0.42	65.13	80.36	49
#60	0.010	0.25	70.40	150.76	9
#100	0.006	0.15	4.00	154.76	1
#200	0.003	0.07	1.08	155.84	0
Pan			0.46	156.30	0

Total Dry Weight of Sample = 165.64

D85 : 0.7705 mm
D60 : 0.5080 mm
D50 : 0.4300 mm
D30 : 0.3391 mm
D15 : 0.2863 mm
D10 : 0.2693 mm

Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

Intentionally Left Blank

South Beach Disposal

Wed Jan 27 09:06:29 1999

GEOTECHNICAL LABORATORY TEST DATA

Project : Edgartown Great Pond Opening
Project No. : GTX-2132
Boring No. : ---
Sample No. : Site #1 (0 in)
Location : Edgartown, MA
Soil Description : Wet, brownish gray sand
Remarks : ---

Depth : 0 in
Test Date : 01/26/99
Test Method : ASTM D 422

Filename : SITE1
Elevation : ---
Tested by : tje
Checked by : gtt

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
#4	0.187	4.75	3.00	0.00	100
#10	0.079	2.00	9.50	9.50	100
#20	0.033	0.84	55.61	51.11	64
#40	0.017	0.42	69.48	120.59	15
#60	0.010	0.25	19.39	139.98	1
#100	0.006	0.15	1.34	141.32	0
#200	0.003	0.07	0.08	141.40	0
Pan			0.24	141.64	0

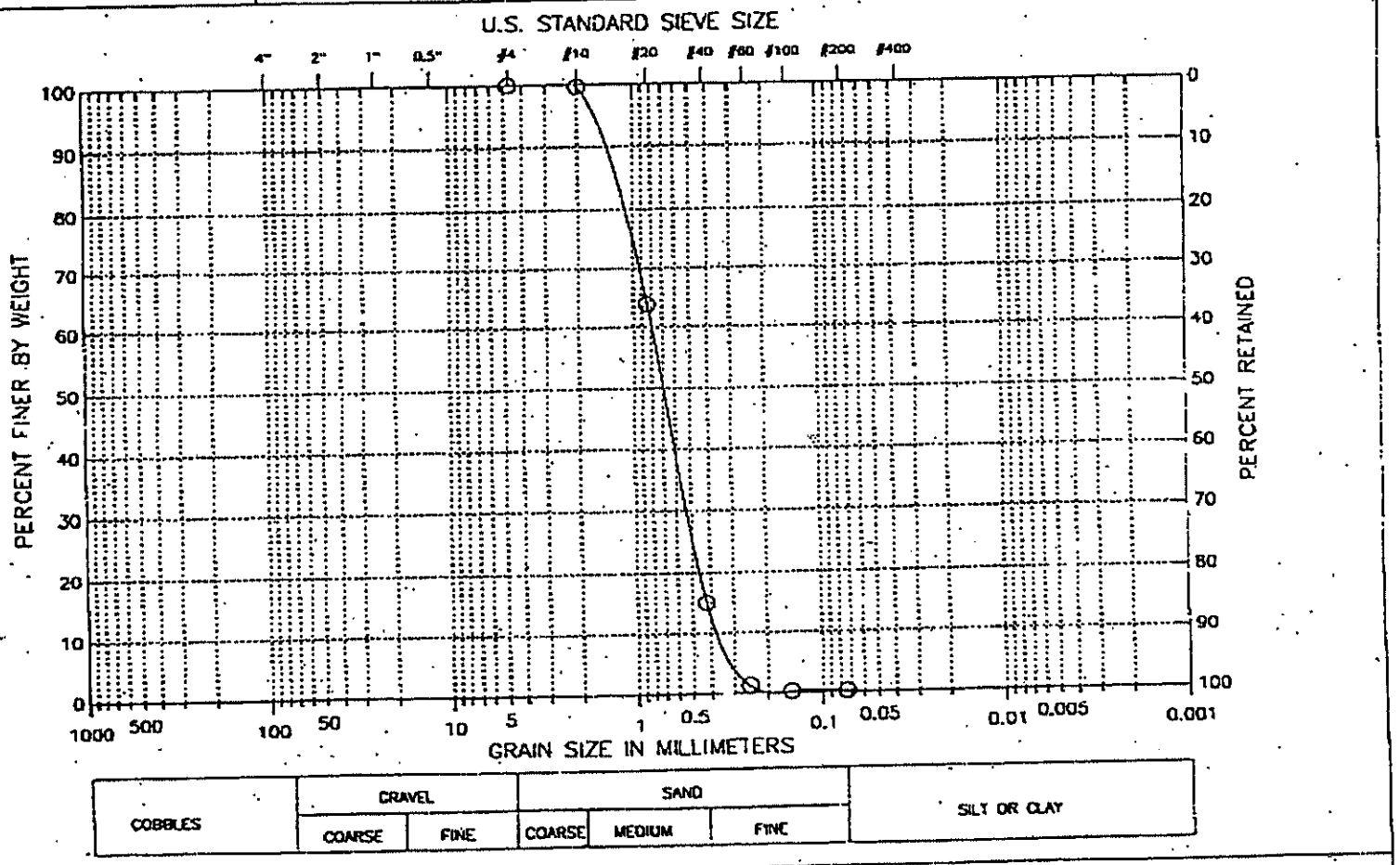
Total Dry Weight of Sample = 150.46

D85 : 1.4622 mm
D60 : 0.7957 mm
D50 : 0.6906 mm
D30 : 0.5204 mm
D15 : 0.4208 mm
D10 : 0.3493 mm

Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

Disposal South Beach

Boring No. : ---	Project : Edgartown Great Pond Opening
Sample No: Site #1 (8 in)	Project No.: GTX-2132
Test Method ASTM D 422	Location: Edgartown, MA
Filename : SITE1	Date : Wed Jan 27 1999



Remarks

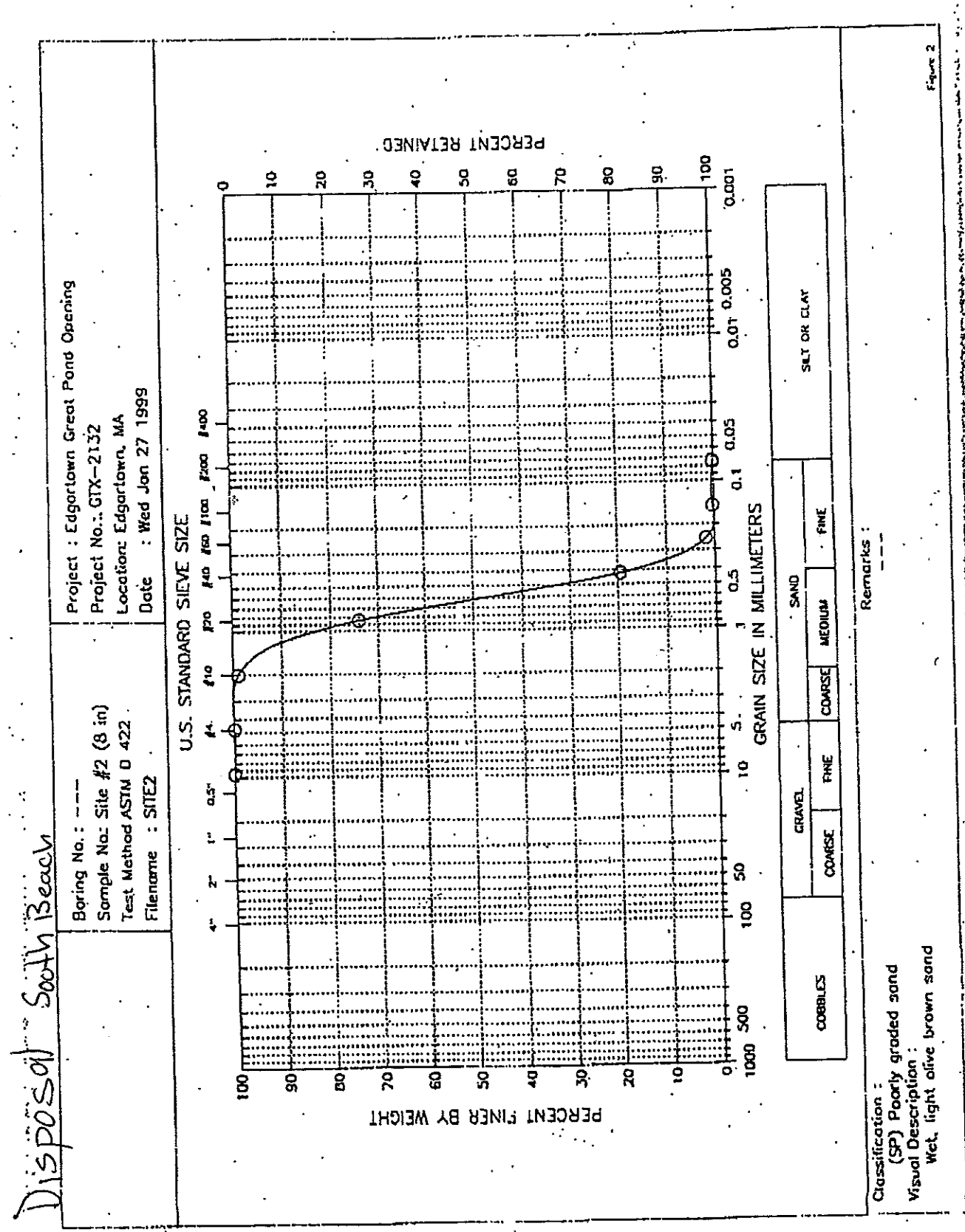
Classification :
(SP) Poorly graded sand

Visual Description :
Wet, brownish gray sand

Figure 1

GeoTesting Express • Boxborough, MA • (978) 635-0424 • Fax (978) 635-0266

Disposal - South Beach



South Beach Disposal

Wed Jan 27 09:06:29 1999 Page : 1

GEOTECHNICAL LABORATORY TEST DATA

Project : Edgartown Great Pond Opening
Project No. : GTX-2132
Boring No. : ---
Sample No. : Site #2 (8 in)
Location : Edgartown, MA
Soil Description : Wet, light olive brown sand
Remarks : ---

Depth : 8 in
Test Date : 01/26/99
Test Method : ASTM D 422

Filename : SITE2
Elevation : ---
Tested by : tje
Checked by : gtt

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.375"	0.374	9.51	0.00	0.00	100
#4	0.187	4.75	0.12	0.12	100
#10	0.079	2.00	0.94	1.06	99
#20	0.033	0.84	27.25	28.31	74
#40	0.017	0.42	59.03	87.34	19
#60	0.010	0.25	19.07	106.41	2
#100	0.006	0.15	1.59	108.00	0
#200	0.003	0.07	0.11	108.11	0
Pan			0.21	108.32	0

Total Dry Weight of Sample = 117.87

D85 : 1.2141 mm
D60 : 0.7048 mm
D50 : 0.6205 mm
D30 : 0.4809 mm
D15 : 0.3693 mm
D10 : 0.3187 mm

Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

Boat Ramp Disposal

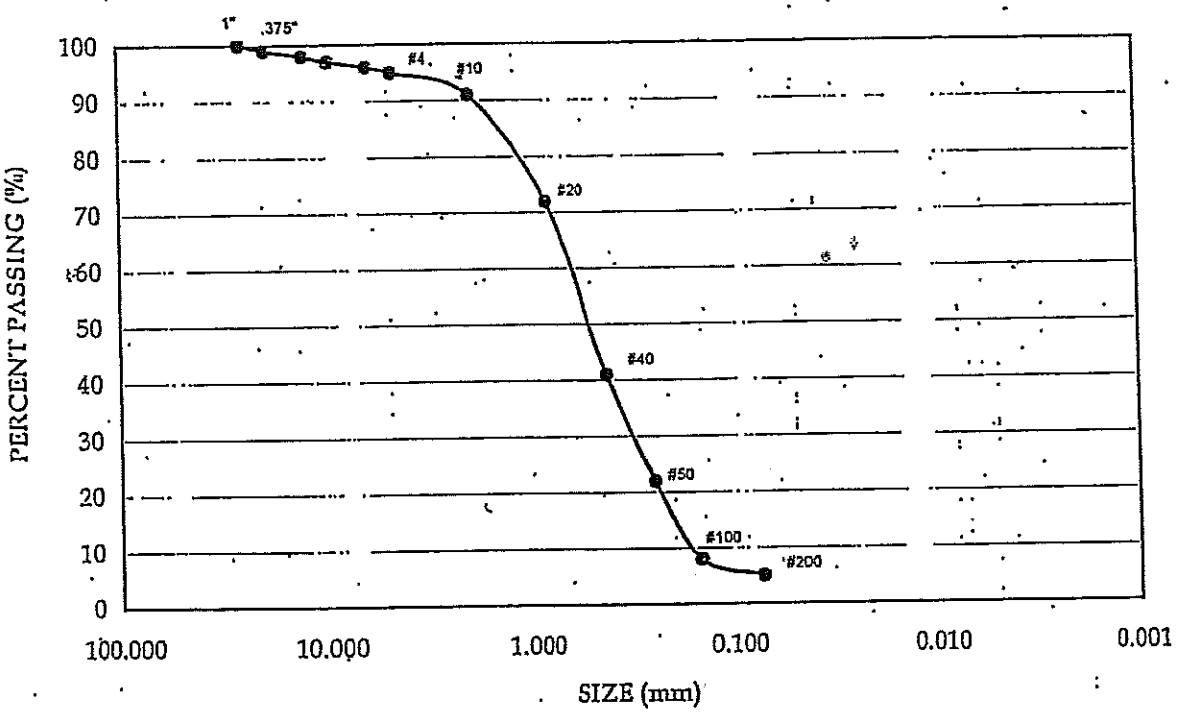
SUMMIT LTD.

Client: Bourne Consulting Engineering Date: 6/26/01

Project: Martha's Vineyard Project No 12026 - 19

Summit Sample #: S-01-165
Client Sample #: Great Pond Boat Ramp - GPBR 2
Visual Description: Small stone w/ dark brown fine sand w/ organics

PARTICLE-SIZE DISTRIBUTION (ASTM D422)



Coarse	Fine	Cor	Med	Fine	Silt or Clay Size
GRAVEL		SAND			FINES

7 Charlton St.
Everett, MA 02149
(617) 389-3700

9 New England Way
Lincoln, RI 02865
(401) 333-1011

197 US Route 1
Scarborough, ME 04070
(207) 885-0004

SUMMIT LTD.

Boat Ramp Disposal -

Client: Bourne Consulting Engineering
184 W. Central Street
Franklin, MA 02038
Attn: Bob Garrity

Project: Martha's Vineyard

Date: 6/26/01 Project No: 12026 Report No.: 19

Summit Sample #: S-01-165
Client Identification: Great Pond Boat Ramp - GPBR 2
Visual Description: Small stone w/ dark brown fine sand w/ organics
Date Sampled: 6/18/01 Date Received: 6/25/01

SIEVE GRADATION REPORT

Gradation Method: ASTM D422: X ASTM C136: ____

SIEVE #	% PASSING	SPECIFICATION
6"		
4"		
3"		
2"		
1.5"		
1"	100	
3/4"	99	
1/2"	98	
3/8"	97	
#4	95	
#10	91	
#20	72	
#40	41	
#50	22	
#100	8	
#200	5	

COMMENTS:

7 Charlton St.
Everett, MA 02149
(617) 389-3700

9 New England Way
Lincoln, RI 02865
(401) 333-1011

195 US Route 1
Scarborough, ME 04070
(207) 885-0004

SUMMIT LTD.

Boat Ramp Disposal

Client: Bourne Consulting Engineering
184 W. Central Street
Franklin, MA 02038
Attn: Bob Garrity

Project: Martha's Vineyard

Date: 6/26/01 Project No: 12026 Report No.: 18

Summit Sample #: S-01-164
Client Identification: Great Pond Boat Ramp - GPBR 1
Visual Description: Small round stone w/ ~~poorly~~ graded clean sand and organics
Date Sampled: 6/18/01 Date Received: 6/25/01

SIEVE GRADATION REPORT

Gradation Method: ASTM D422: X ASTM C136: _____

SIEVE #	% PASSING	SPECIFICATION
6"		
4"		
3"		
2"		
1.5"		
1"	100	
3/4"	93	
1/2"	86	
3/8"	82	
#4	75	
#10	69	
#20	53	
#40	33	
#50	23	
#100	4	
#200	1	

COMMENTS: _____

7 Charlton St.
Everett, MA 02149
(617) 389-3700

9 New England Way
Lincoln, RI 02865
(401) 333-1011

195 US Route 1
Scarborough, ME 04070
(207) 885-0004

Boat Ramp Disposal

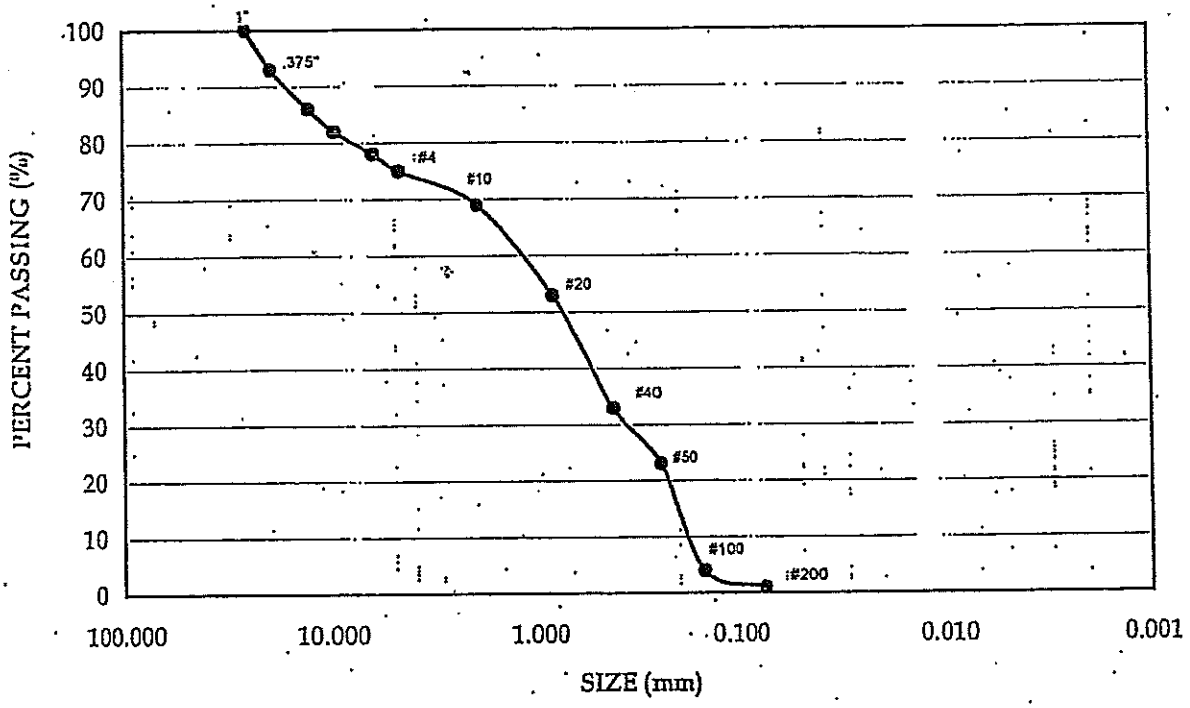
SUMMIT LTD.

Client: Bourne Consulting Engineering Date: 6/26/01

Project: Martha's Vineyard Project No 12026 - 18

Summit Sample #: S-01-164
Client Sample #: Great Pond Boat Ramp - GPBR 1
Visual Description: Small round stone w/ ~~poorly~~ graded clean sand and organics

PARTICLE-SIZE DISTRIBUTION (ASTM D422)



Coarse	Fine	Cor	Med	Fine	Silt or Clay Size
GRAVEL		SAND			FINES

7 Charlton St.
Everett, MA 02149
(617) 389-3700

9 New England Way
Lincoln, RI 02865
(401) 333-1011

197 US Route 1
Scarborough, ME 04070
(207) 885-0004

SAUNDERS ASSOCIATES
P. O. Box 959 West Tisbury, MA 02575 saunders@capecod.net
(508) 693-1578

November 25, 2005

Ms. Lynn Fraker
Edgartown Dredging Coordinator
P.O. Box 739
Edgartown, MA 02539

Re: Sampling of Pond and Beach Sediments – Sengekontacket Pond

Dear Lynn,

As you requested, I have completed sampling and testing of sediments collected from locations identified in the letter dated May 24, 2005, from Kevin Kotelly of the U.S. Army Corps of Engineers. Samples were collected on July 29, 2005, with the assistance of shellfish warden Paul Bagnol. Sampling protocol and a description of the sieve testing methods utilized follows.

Sampling Protocol

Each sampling pond was pinpointed with a hand-held GPS unit to determine longitude and latitude. Sampling of sediments in the pond was conducted with a 2.5-inch hand auger advanced through a 3-inch solid casing that was pushed into the sediment past the auger head. The auger was advanced to a depth of 2.0 feet below the pond bottom. Samples were described and are summarized in Table 1. Only thin stratification was observed in each sample (primarily a thin organic layer at the surface), and therefore samples were composited. Approximately 2,000 grams of composited sediments was placed in a zip lock plastic bag, labeled as specified in the RIM[1] and stored for sieve analyses.

Samples from the eight beach boring locations were similarly located, described, and composited from the first foot of beach sediment

[1] April 2004, REGIONAL IMPLEMENTATION MANUAL for the EVALUATION OF DREDGED MATERIAL PROPOSED FOR DISPOSALIN NEW ENGLAND WATERS, Prepared by U.S. EPA NEW ENGLAND and the U.S. ARMY CORPS OF ENGINEERS, NEW ENGLAND DISTRICT

Grain Size Analyses – Sengekontacket Pond

Sieve Testing

The testing of the gradation of grain size was conducted in the laboratory by the wet sieve method as described by Plumb.[2] The following table summarizes the sieves used for grain size analyses, as stipulated by the May 25, 2004 letter, including their size ranges and sediment size equivalent.

Table 1

Sediment Size	Sieve Passing Through	Sieve Retained Within	Size Range (mm.)
Gravel		No. 4	>4.75
Coarse Sand	No. 4	No. 10	2.0 - 4.75
Medium Sand	No. 10	No. 40	0.425 – 2.0
Fine Sand	No. 40	No. 200	0.075 – 0.425
Silt (Clay)	No. 200		<0.075

As a Quality Control measure, one sample duplicate was prepared for analyses.

Once the dry weight of each size weight was determined these data were recorded and cumulative percentages of each fraction was determined. The cumulative percentages were then plotted on the U.S. Army Engineering (ENG) Form 2087. These forms that include sediment descriptions are attached to this letter summary.

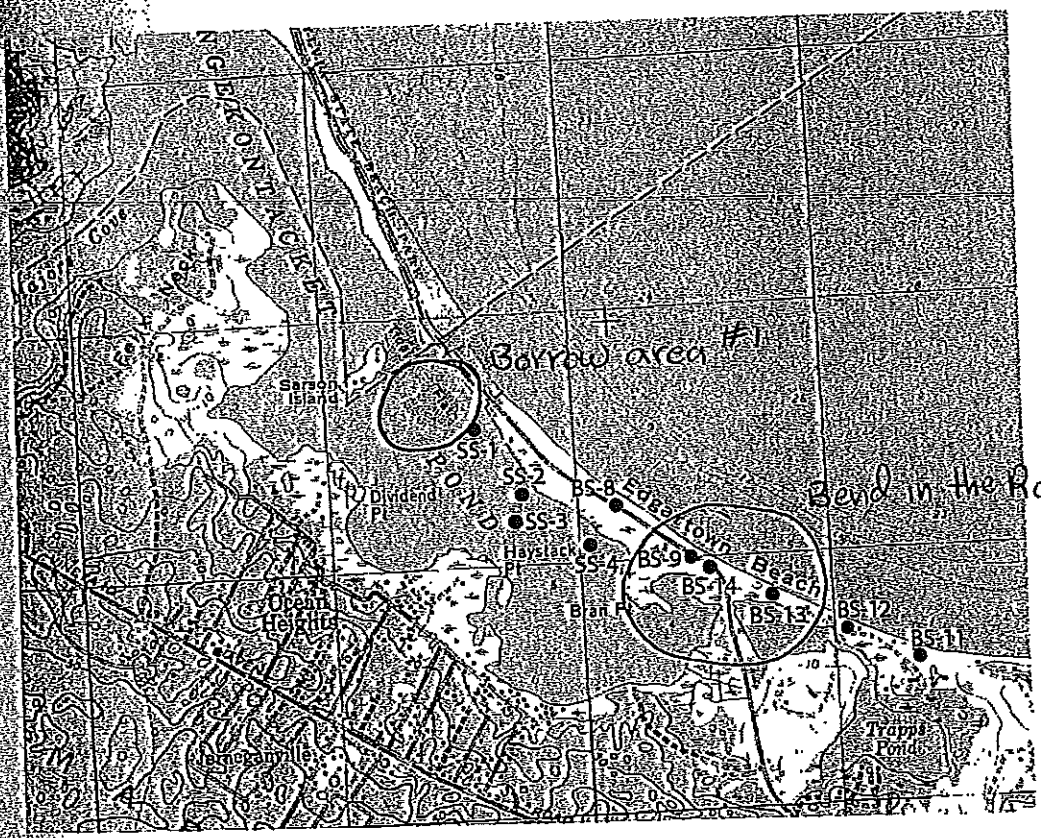
Sediment samples and beach sand samples both showed a predominance of coarse sand fraction as retained by the number 10 sieve. Samples from the pond sediments (SS-1 through SS-4) contained more fines that represented mostly fines found in the upper 3 to 6 inches of sediment observed in each sediment sample.

Please let me know if you have any questions regarding the sediment-beach sampling and grain size analyses. Paul Bagnol will have the coordinates of the sample locations, as he recorded each location with his GPS unit.

Yours sincerely,

Craig E. Saunders
Hydrogeologist

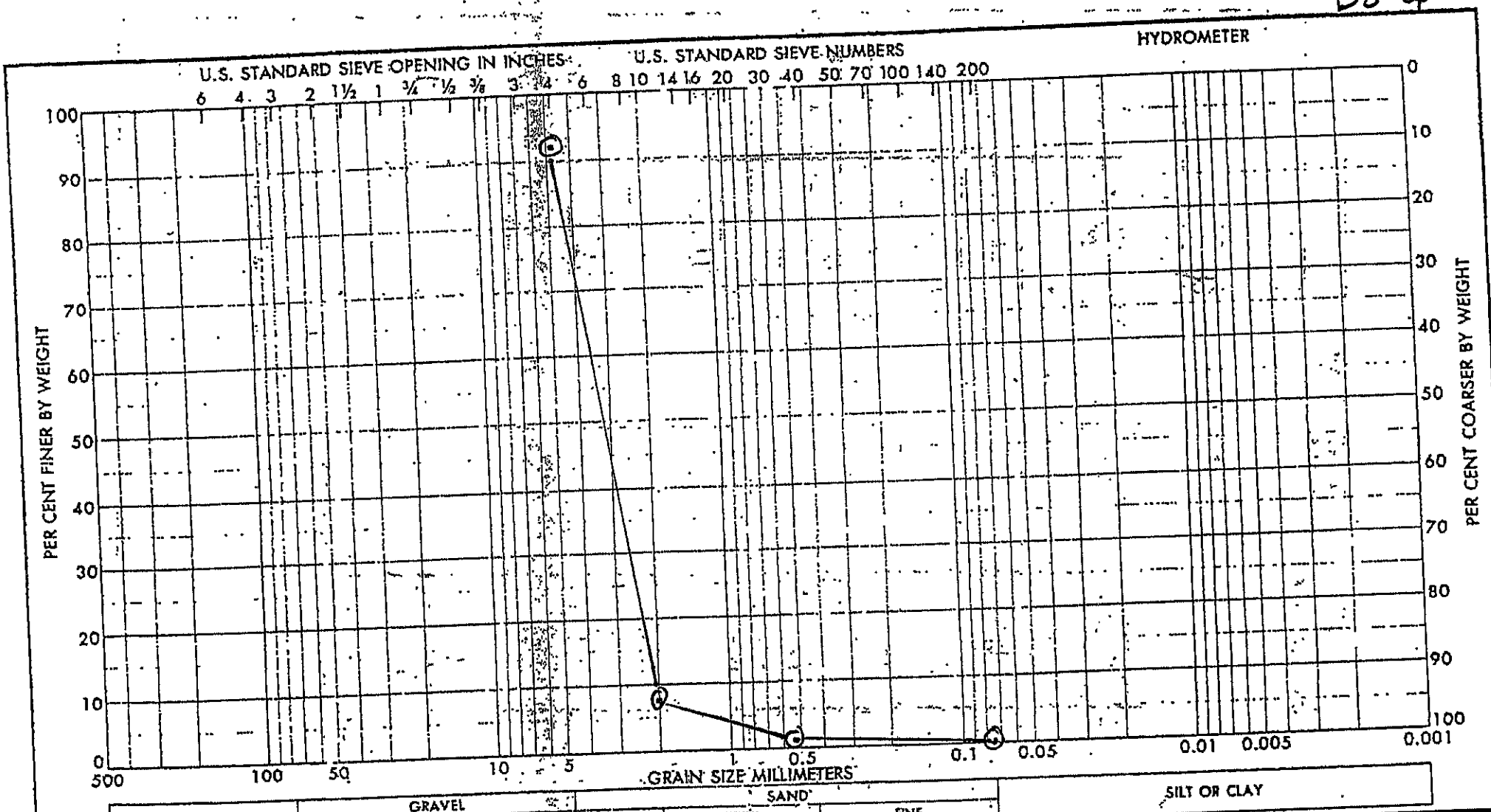
[2] *Plumb, R.A.H.* 1981. Procedures for handling and chemical analysis of sediment and water samples. Tech. Rep. EPA/CE-81-1. US Army Corps of Engineers. Vicksburg, Va.



SAMPLING PLAN

FOR
EDGARTOWN
SENGEKONTACKET POND
AND
ADJACENT BARRIER BEACH

BS-8



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
BS-8	0-1.5'	SW; SAND; med-very coarse grain tan				

PROJECT Sengekontaket Pond

AREA Beach forecast

BORING NO. BS-8

DATE 7/29/05

GRADATION CURVES

U S GOVERNMENT PRINTING OFFICE 1963 OF—709-12

ENG FORM 2087 REPLACES WES FORM NO. 1241, SEP 1962, WHICH IS OBSOLETE. (TRANSLUCENT)

1 MA

SIEVE AND HYDROMETER ANALYSIS

(EM 1110-2-1906)

PART I – SIEVE ANALYSIS

DATE 10/30/2003

PROJECT Seigle Control Levee

BORING NO.

SAMPLING NO. BS. 9

TOTAL WEIGHT IN GRAMS OF SAMPLE, W_S = _____

WEIGHT IN GRAMS OF MATERIAL >NO. 4 SIEVE = _____

STEVE OPENINGS		U.S. STANDARD SIEVE SIZE OR NUMBER	WEIGHT RETAINED IN GRAMS	PERCENT RETAINED		PERCENT FINER BY WEIGHT
INCHES	MILLIMETERS			PARTIAL	TOTAL	
3.00		3-in.				
2.00		2-in.				
1.50		1-1/2-in.				
1.00	25.4	1-in.				
0.750	19.1	3/4-in.				
0.500	12.7	1/2-in.				
0.375	9.52	3/8-in.				
0.250	6.35	No. 3				
0.187	4.76	No. 4	6.74	8.3	8.3	91.7
		Pan				
0.132	3.36	No. 6				
0.094	2.38	No. 8				
0.079	2.00	No. 10	69.92	83.3	91.6	8.4
0.047	1.19	No. 16				
0.033	0.84	No. 20				
0.023	0.59	No. 30				
0.0166	0.42	No. 40	5.66	6.8	98.4	1.6
0.0117	0.297	No. 50				
0.0083	0.210	No. 70				
0.0059	0.149	No. 100				
0.0041	0.105	No. 140				
0.0029	0.074	No. 200	0.58	.7	99.1	0.9
		Pan	0.02			
		TOTAL WEIGHT IN GRAMS	83.50			

Partial percent retained = $\frac{\text{wt in grams retained on a sieve}}{\text{wt in grams of sample used for a given series of sieves}} \times 100$

Total percent retained = $\frac{\text{wt in grams retained on a sieve}}{\text{total wt in grams of oven-dry sample}} \times 100$

For an individual sieve, the percent finer by weight = percent finer than next larger sieve – percent retained on individual sieve

REMARKS

TECHNICIAN _____ COMPUTED BY _____ CHECKED BY _____

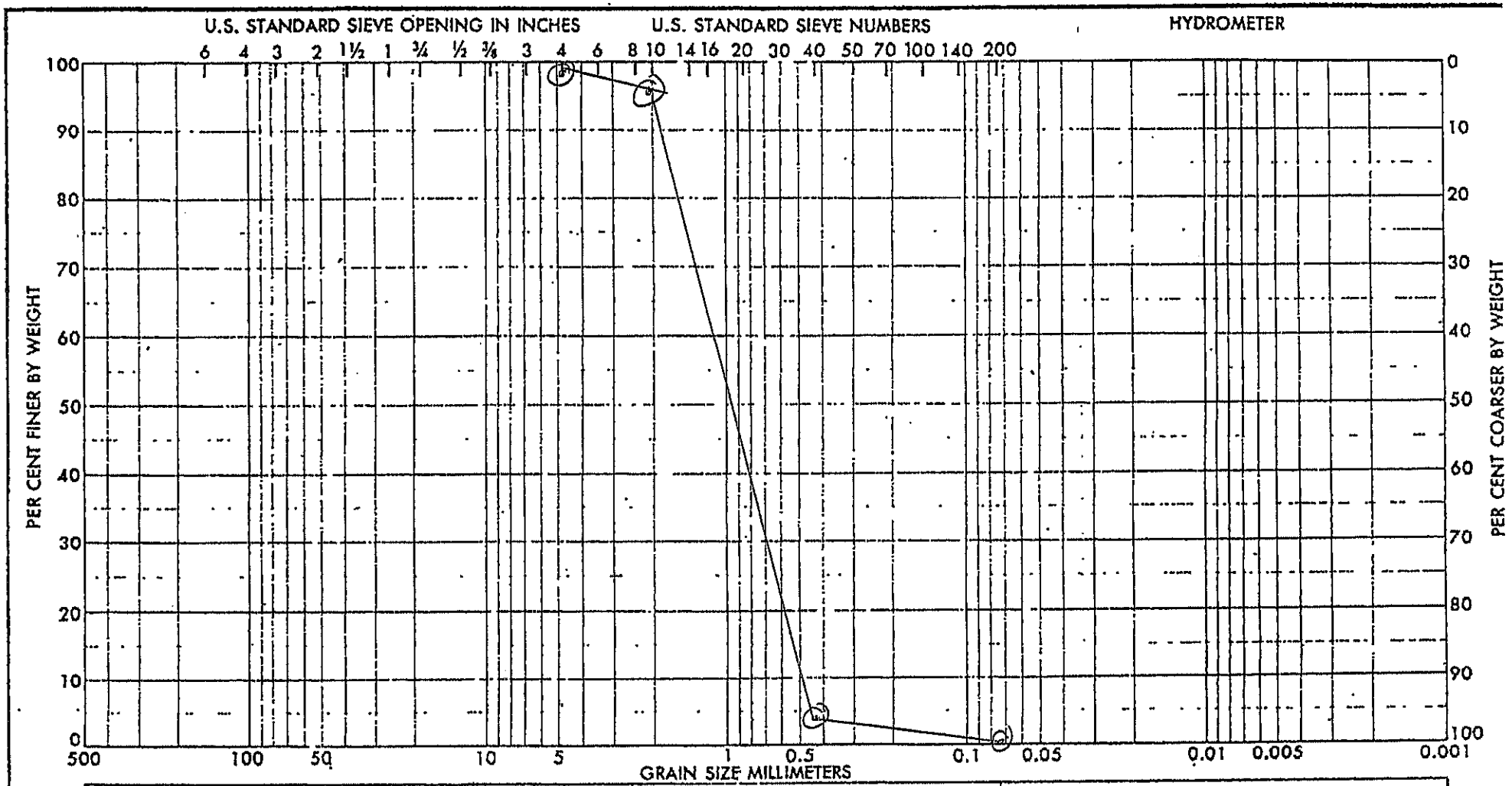
TECHNICIAN	COMPUTED BY	CHECKED BY
		CAS

ENG FORM 3841, AUG 85

REPLACES EDITION OF JUN 65 AND ENG FORM 3842, JUN 65, WHICH MAY BE USED UNTIL EXHAUSTED.

(Proponent: DAEN-ECE-S)

PLATE V-1



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI

GRADATION CURVES

PROJECT Sengelmontacht

AREA beach east

BORING NO BS-13

DATE 10/12

SIEVE AND HYDROMETER ANALYSIS
(EM 1110-2-1906)

PART I – SIEVE ANALYSIS | DATE 10-10

PROJECT Sengekontacket Beach

BORING NO. 0 | SAMPLING NO. BS-13

TOTAL WEIGHT IN GRAMS OF SAMPLE, W_S = _____ | WEIGHT IN GRAMS OF MATERIAL >NO. 4 SIEVE = _____

STEVE OPENINGS		U.S. STANDARD SIEVE SIZE OR NUMBER	WEIGHT RETAINED IN GRAMS	PERCENT RETAINED		PERCENT FINER BY WEIGHT
INCHES	MILLIMETERS			PARTIAL	TOTAL	
3.00		3-in.				
2.00		2-in.				
1.50		1-1/2-in.				
1.00	25.4	1-in.				
0.750	19.1	3/4-in.				
0.500	12.7	1/2-in.				
0.375	9.52	3/8-in.				
0.250	6.35	No. 3				
0.187	4.76	No. 4	3.5	3.5	3.5	96.5
		Pan				
0.132	3.36	No. 6				
0.094	2.38	No. 8				
0.079	2.00	No. 10	16.1	1.1	4.6	95.4
0.047	1.19	No. 16				
0.033	0.84	No. 20				
0.023	0.59	No. 30				
0.0165	0.42	No. 40	91.1	91.3	95.9	4.1
0.0117	0.297	No. 50				
0.0083	0.210	No. 70				
0.0059	0.149	No. 100				
0.0041	0.105	No. 140				
0.0029	0.074	No. 200	4.1	4.1	100	0
		Pan	0			
		TOTAL WEIGHT IN GRAMS	99.8			

Partial percent retained = $\frac{\text{wt in grams retained on a sieve}}{\text{wt in grams of sample used for a given series of sieves}} \times 100$

Total percent retained = $\frac{\text{wt in grams retained on a sieve}}{\text{total wt in grams of oven-dry sample}} \times 100$

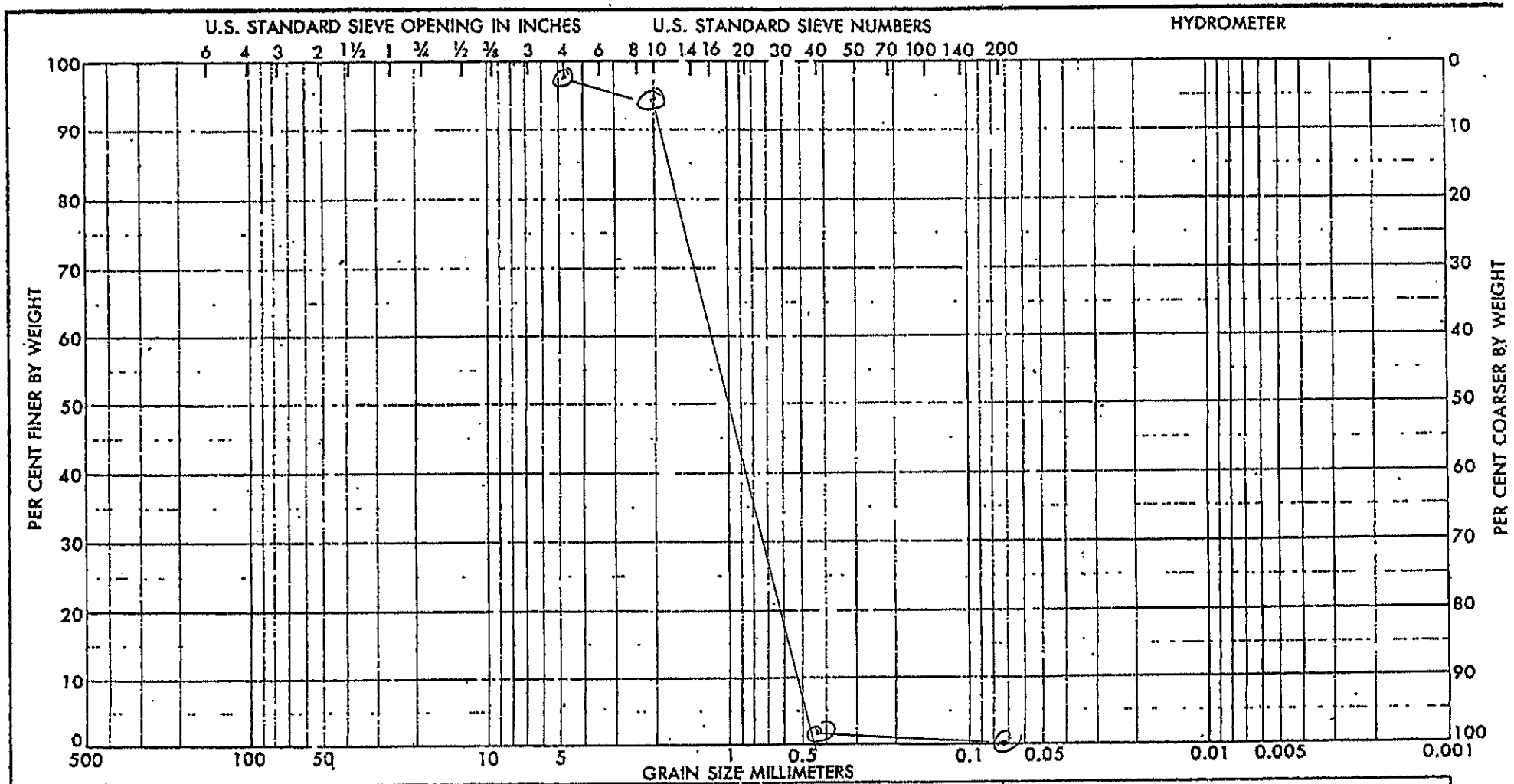
For an individual sieve, the percent finer by weight = percent finer than next larger sieve – percent retained on individual sieve

REMARKS

TECHNICIAN _____ COMPUTED BY _____ CHECKED BY _____

TECHNICIAN	COMPUTED BY	CHECKED BY

ENG FORM 3841, AUG 85 | REPLACES EDITION OF JUN 65 AND ENG FORM 3842, JUN 65, WHICH MAY BE USED UNTIL EXHAUSTED. | V-26 | (Proponent: DAEN-ECE-S) | PLATE V-1



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
BS-14	0-1.0'	Sand; tan f-med. gr. well sorted				

GRADATION CURVES

PROJECT Sengekontacket

AREA Beach east

BORING NO BS-14

DATE 10-1

SIEVE AND HYDROMETER ANALYSIS
(EM 1110-2-1906)

PART I – SIEVE ANALYSIS | DATE 10-10 –

PROJECT Sengkang Jetty Beach

BORING NO. | SAMPLING NO. BS-14

TOTAL WEIGHT IN GRAMS OF SAMPLE, W_S = _____ | WEIGHT IN GRAMS OF MATERIAL >NO. 4 SIEVE = _____

SIEVE OPENINGS		U.S. STANDARD SIEVE SIZE OR NUMBER	WEIGHT RETAINED IN GRAMS	PERCENT RETAINED		PERCENT FINER BY WEIGHT
INCHES	MILLIMETERS			PARTIAL	TOTAL	
3.00		3-in.				
2.00		2-in.				
1.50		1-1/2-in.				
1.00	25.4	1-in.				
0.750	19.1	3/4-in.				
0.500	12.7	1/2-in.				
0.375	9.52	3/8-in.				
0.250	6.35	No. 3				
0.187	4.76	No. 4	3.2	3.2	3.2	96.8
		Pan				
0.132	3.36	No. 6				
0.094	2.38	No. 8				
0.079	2.00	No. 10	1.9	1.9	5.1	94.9
0.047	1.19	No. 16				
0.033	0.84	No. 20				
0.023	0.59	No. 30				
0.0165	0.42	No. 40	93.7	93.7	98.8	1.2
0.0117	0.297	No. 50				
0.0083	0.210	No. 70				
0.0059	0.149	No. 100				
0.0041	0.105	No. 140				
0.0029	0.074	No. 200	1.1	1.1	100	0
		Pan	0			
TOTAL WEIGHT IN GRAMS			99.9			

Partial percent retained = $\frac{\text{wt in grams retained on a sieve}}{\text{wt in grams of sample used for a given series of sieves}} \times 100$

Total percent retained = $\frac{\text{wt in grams retained on a sieve}}{\text{total wt in grams of oven-dry sample}} \times 100$

For an individual sieve, the percent finer by weight = percent finer than next larger sieve – percent retained on individual sieve

REMARKS

TECHNICIAN _____ COMPUTED BY _____ CHECKED BY _____

TECHNICIAN	COMPUTED BY	CHECKED BY

534 NEW STATE HWY./ROUTE 44
RAYNHAM, MA 02767

SHORE PROTECTION PROJECT
BEACH ROAD AT SYLVIA BEACH
OAK BLUFFS, MARTHA'S VINEYARD, MA

GROUND WATER OBSERVATIONS			
DATE	TIME	DEPTH	STABILIZATION TIME
6/26	0800	4'6	TIDAL AREA

	CASING		SAMPLER	CORE BAR.
TYPE:	NW	HW	S/S	NV-2
SIZE, I.D.:	3"	4"	1-3/8"	2"
HAMMER WT.	300	300	140	
HAMMER FALL	24"	24"	30"	

GROUND ELEVATION: 4.6'
START: 6/26/96 AT:0630 HRS
FINISH:6/2696 AT:1200 HRS
TOTAL HOURS: 5HRS 30 MIN
BORING FOREMAN: E. WORDELL
INSPECTOR: P. BURNS
STA:174+58.94 OFFSET:105.5RT
CONTRACT #:95579 FILE#: 1,174

DEPTH	CASING	BLOWS	SAMPLE INFORMATION No.		DEPTH (Ft.)	BLOWS/6"	SAMPLE DESCRIPTION	DEPTH	REMARKS
0			1		0-1'6	2-1-1	Dry, very loose, white FINE SAND, trace Inorganic Silt, trace Shells	0'	
5			2		5-6'6	19-15-12	Wet, medium dense, gray/brown, COARSE SAND, trace fine Sand, trace Inorganic Silt, trace Shells	5'	SEE NOTE # 1
10			3		10-11'6	13-12-13	Wet, medium dense, gray/brown, FINE SAND, some medium Sand, trace Inorganic Silt, trace Shells	10'	
15			4		15-16'6	11-9-10	Wet, medium dense, gray, FINE SAND, some Inorganic Silt, trace fine Gravel	15'	
20			5		20-21'6	17-12-13	Wet, medium dense, gray, FINE SAND & INORGANIC SILT	20'	
25			6		25-26'6	30-17-19	Wet, dense, gray, FINE SAND & INORGANIC SILT		
30			7		30-31'6	14-17-12	Wet, medium dense, gray, FINE SAND & INORGANIC SILT		
							BOTTOM OF BORING	32'	
35									

NOTES: 1. Encountered "Nested Cobbles" at 5' to 8'6 Depth.

SCALE: 1"=5'

GEOTECHNICAL & ENVIRONMENTAL DRILLING SERVICES
534 NEW STATE HWY./ROUTE 44
RAYNHAM, MA 02767

PROJECT TITLE & LOCATION
SHORE PROTECTION ~~PROJECT~~
BEACH ROAD AT SYLVIA BEACH
OAK BLUFFS, MARTHA'S VINEYARD, MA

BORING NUMBER: B-1A
GROUND ELEVATION: 3.0'
START: 6/18/96 AT:1200 HRS
FINISH:6/18/96 AT:2030 HRS
TOTAL HOURS: 8 HRS 30 M
BORING FOREMAN: E. WORDELL
INSPECTOR: P. BURNS/E.MAHONE
STA:174+83.94 OFFSET:105.5
CONTRACT #:95579 FILE#: 1174

GROUND WATER OBSERVATIONS

DATE	TIME	DEPTH	STABILIZATION TIME
6/18	1330	5'5	TIDAL AREA

	CASING		SAMPLER	CORE BAR.
TYPE:	NW	HW	S/S	NV-2
SIZE, I.D.:	3"	4"	1-3/8"	2"
HAMMER WT.	300	300	140	
HAMMER FALL	24"	24"	30"	

DEPTH	CASING BLOWS	SAMPLE INFORMATION No.		DEPTH (Ft.)	BLOWS/6"	SAMPLE DESCRIPTION	DEPTH
0		1		0-1'6	6-5-6	Moist, medium dense, light brown FINE SAND, trace Inorganic Silt	0'
5		2		5-6'6	3-6-11	Wet, medium dense, light brown FINE SAND, trace coarse Sand, trace Inorganic Silt	
10		3		10-11'6	1-3-3	Wet, loose, gray/brown, FINE SAND, some coarse Sand, trace Inorganic Silt, trace fine Gravel	
15		4		15-16'6	13-10-27	Wet, dense, black/dark brown, ORGANIC SILT, some fine Sand	15'
20		5		20-21'6	42-31-33	Wet, very dense, dark gray FINE SAND, some coarse Sand, trace Inorganic Silt	20'
25		6		25-26'6	25-27-47	Wet, very dense, brown/gray, FINE SAND, some coarse Sand, trace fine Gravel, trace Inorganic Silt	25'
30		7		30-31'6	31-15-17	Moist, dense, gray, FINE SAND & INORGANIC SILT	30'
35						BOTTOM OF BORING	32'

REMARKS

SEE NOTE # 1

NOTES: 1. Encountered "Nested Cobbles" from [illegible]

[illegible] DRILLING SERVICES
534 NEW STATE HWY./ROUTE 44
RAYNHAM, MA 02767

SHORE PROTECTION ~~PROJECT~~
BEACH ROAD AT SYLVIA BEACH
OAK BLUFFS, MARTHA'S VINEYARD, MA

BORING NUMBER: B-2
GROUND ELEVATION: 1.0'
START: 6/23/96 AT:1500 HRS
FINISH:6/23/96 AT:2030 HRS
TOTAL HOURS: 8 HRS
BORING FOREMAN: E. WORDELL
INSPECTOR: P. BURNS
STA:174+58.94 OFFSET:140.5'RT
CONTRACT #:95579 FILE#: 1174

GROUND WATER OBSERVATIONS			
DATE	TIME	DEPTH	STABILIZATION TIME
6/23	1520	1'6	TIDAL AREA

	CASING		SAMPLER	CORE BAR.
TYPE:	HW	HW	S/S	NV-2
SIZE, I.D.:	3"	4"	1-3/8"	2"
HAMMER WT.	300	300	140	
HAMMER FALL	24"	24"	30"	

DEPTH	CASING BLOWS	SAMPLE INFORMATION No.		DEPTH (Ft.)	BLOWS/6"	SAMPLE DESCRIPTION	DEPTH	REMARKS
0		1		0-1'6	2-2-2	Dry, loose, white, FINE SAND, trace Inorganic Silt	0'	
5		2		5-6'6	12-15-10	Wet, medium dense, gray/brown, COARSE SAND, trace fine Sand, trace fine Gravel, trace Inorganic Silt, trace Shells	5'	SEE NOTE # 1
10		3		10-11'6	13-12-17	Wet, medium dense, gray/brown, COARSE SAND, trace fine Sand, trace Inorganic Silt	10'	
15		4		15-16'6	9-12-13	Wet, medium dense, light gray, FINE SAND, some Inorganic Silt	15'	
20		5		20-21'6	9-15-17	Wet, dense, light gray, FINE SAND, some Inorganic Silt		
25		6		25-26'6	17-13-24	Wet, dense, gray, FINE SAND, trace Inorganic Silt		
30		7		30-31'6	12-15-11	Wet, medium dense, gray, FINE SAND, trace Inorganic Silt		
35						BOTTOM OF BORING	32'	

NOTES: Encounted "Nested Cobbles" at 5' TO 8'6 Depth.

GEOTECHNICAL & ENVIRONMENTAL DRILLING SERVICES
534 NEW STATE HWY./ROUTE 44
RAYNHAM, MA 02767

PROJECT TITLE & LOCATION
SHORE PROTECTION PROJECT
BEACH ROAD AT SYLVIA BEACH
OAK BLUFFS, MARTHA'S VINEYARD, MA

BORING NUMBER: B-2A
GROUND ELEVATION: ± 11.7'
START: 6/19/96 AT:0630 HRS
FINISH:6/19/96 AT:1130 HRS
TOTAL HOURS: 5 HRS
BORING FOREMAN: E. WORDELL
INSPECTOR: P. BURNS/E.MAHONE
STA:174+83.94 OFFSET:140.5'
CONTRACT #:95579 FILE#: 1174

GROUND WATER OBSERVATIONS			
DATE	TIME	DEPTH	STABILIZATION TIME
6/19	0830	1'	TIDAL AREA

	CASING		SAMPLER	CORE BAR.
TYPE:	NW	NW	S/S	NV-2
SIZE, I.D.:	3"	4"	1-3/8"	2"
HAMMER WT.	300	300	140	
HAMMER FALL	24"	24"	30"	

DEPTH	CASING BLOWS	SAMPLE INFORMATION No.	DEPTH (Ft.)	BLOWS/6"	SAMPLE DESCRIPTION	DEPTH
0		1	0-1'6	7-3-4	Wet, loose, white, FINE SAND, some coarse Sand, trace fine Gravel, trace Inorganic Silt	0'
5		2	5-6'6	9-15-25	Wet, dense, light brown, COARSE SAND, trace fine Sand, trace fine Gravel, trace Inorganic Silt, Shells	5'
10		3	10-11'6	7-11-19	Wet, dense, dark brown, FINE SAND & ORGANIC SILT, trace fine Gravel	10'
15		4	15-16'6	9-15-41	Wet, very dense, dark brown, FINE SAND, trace coarse Sand, trace Inorganic Silt (Slightly Organic)	15'
20		5	20-21'6	21-29-31	Wet, very dense, dark brown, FINE SAND, trace coarse Sand, trace Inorganic Silt (Slightly Organic)	
25		6	25-26'6	17-21-31	Wet, dense, gray, FINE SAND & INORGANIC SILT, trace fine Gravel	25'
30		7	30-31'6	13-22-17	Wet, dense, gray, FINE SAND, some Inorganic Silt	
35					BOTTOM OF BORING	32'

REMARKS

SEE NOTE # 1

NOTES: 1. Encountered "Nested Cobbles" at 3' TO 8' Depth.

534 NEW STATE HWY./ROUTE 44
RAYNHAM, MA 02767

SHORE PROTECTION PROJECT
BEACH ROAD AT SYLVIA BEACH
CAR BLUFFS, MARTHA'S VINEYARD, MA

GROUND WATER OBSERVATIONS

DATE	TIME	DEPTH	STABILIZATION TIME
6/19	1300	-4'6	TIDAL AREA

	CASING		SAMPLER	CORE BAR.
TYPE:	HW	HW	S/S	NV-2
SIZE, I.D.s	3"	4"	1-3/8"	2"
HAMMER WT.	300	300	140	
HAMMER FALL	24"	24"	30"	

GROUND ELEVATION: 5.2'
START: 6/19/96 AT:1200 HRS
FINISH:6/19/96 AT:1930 HRS
TOTAL HOURS: 7 HRS 30 M
BORING FOREMAN: E. WORDELL
INSPECTOR: P. BURNS/E.MAHONI
STA:170+50 OFFSET: 88.5
CONTRACT #:95579 FILE#: 117

DEPTH	CASING BLOWS	SAMPLE INFORMATION No.		DEPTH (Ft.)	BLOWS/6"	SAMPLE DESCRIPTION	DEPTH	REMARKS
0		1		0-1'6	1-2-1	Moist, very loose, light yellow/ brown, FINE SAND, trace Inorganic Silt	0'	
5		2		5-6'6	21-15-61	Wet, very dense, gray/brown, FINE SAND, trace coarse Sand, trace Inorganic Silt	5'	SEE NOTE # 1
10		3		10-11'6	11-8-15	Wet, medium dense, dark, gray/ brown, FINE SAND, some Organic Silt, trace coarse Sand	10'	
15		4		15-16'6	10-17-31	Wet, dense, dark gray/brown FINE SAND, some Organic Silt		
20		5		20-21'6	30-23-33	Wet, very dene, dark gray/brown, FINE SAND, some Inorganic Silt	20'	
25		6		25-26'6	5-6-13	Wet, medium dense, gray, FINE SAND, some Inorganic Silt, trace coarse Sand		
30		7		30-31'6	8-22-21	Wet, dense, gray, FINE SAND, trace coarse Sand, some fine Gravelk, trace Inorganic Silt	30'	
						BOTTOM OF BORING	32'	
35								

NOTES: 1. Encountered "Nested Cobbles" at 5'6 to 8' Depth.

SCALE: 1"=5'

ZOINO-HEBERT, INC.
GEOTECHNICAL & ENVIRONMENTAL DRILLING SERVICES
534 NEW STATE HWY./ROUTE 44
RAYNHAM, MA 02767

PROJECT TITLE & LOCATION
SHORE PROTECTION PROJECT
BEACH ROAD AT SYLVIA BEACH
CAR BLUFFS, MARTHA'S VINEYARD, MA

BORING NUMBER: B-4
GROUND ELEVATION: 1.0'
START: 6/25/96 AT:1000 HRS
FINISH:6/25/96 AT:1500 HRS
TOTAL HOURS: 5 HRS
BORING FOREMAN: E. WORDELL
INSPECTOR: P. BURNS
STA:170+50 OFFSET:134'R
CONTRACT #:95579 FILE#: 1174

GROUND WATER OBSERVATIONS

DATE	TIME	DEPTH	STABILIZATION TIME
6/25	1100	1'	TIDAL AREA

	CASING		SAMPLER	CORE BAR.
TYPE:	NW	HW	S/S	NV-2
SIZE, I.D.:	3"	4"	1-3/8"	2"
HAMMER WT.	300	300	140	
HAMMER FALL	24"	24"	30"	

DEPTH	CASING BLOWS	SAMPLE INFORMATION No.		DEPTH (Ft.)	BLOWS/6"	SAMPLE DESCRIPTION	DEPTH	REMARKS
0		1		0-1'6	1-2-1	Wet, very loose, light brown COARSE SAND, trace fine Sand, trace fine Gravel, trace Inorganic Silt	0'	
5		2		5-6'6	14-13-12	Wet, medium dense, light brown, FINE SAND, trace fine Gravel, trace Inorganic Silt		
10		3		10-11'6	19-14-11	Wet, medium dense, light brown, FINE SAND, trace fine Gravel, trace Inorganic Silt, trace Shells		
15		4		15-16'6	7-12-12	Wet, medium dense, dark gray, FINE SAND & INORGANIC SILT (Slightly Organic)	15'	
20		5		20-21'6	7-14-18	Moist, dense, gray, FINE SAND, some Inorganic Silt (Slightly Organic)		
25		6		25-26'6	23-19-21	Wet, dense, gray, FINE SAND, some Inorganic Silt	25'	
30		7		30-31'6	13-11-7	Wet, medium dense, gray, FINE SAND, some Inorganic Silt		
35						BOTTOM OF BORING	32'	

[illegible] DRILLING SERVICES
534 NEW STATE HWY./ROUTE 44
RAYNHAM, MA 02767

SHORE PROTECTION PROJECT
BEACH ROAD AT SYLVIA BEACH
OAK BLUFFS, MARTHA'S VINEYARD, MA

BORING NUMBER: B-2
GROUND ELEVATION: 1.0'
START: 6/23/96 AT:1500 HRS
FINISH:6/23/96 AT:2030 HRS
TOTAL HOURS: 8 HRS
BORING FOREMAN: E. WORDELL
INSPECTOR: P. BURNS
STA:174+58.94 OFFSET:140.5'RT
CONTRACT #:95579 FILE#: 1174

GROUND WATER OBSERVATIONS			
DATE	TIME	DEPTH	STABILIZATION TIME
6/23	1520	1'6	TIDAL AREA

	CASING		SAMPLER	CORE BAR.
TYPE:	HW	NW	S/S	NV-2
SIZE, I.D.:	3"	4"	1-3/8"	2"
HAMMER WT.	300	300	140	
HAMMER FALL	24"	24"	30"	

DEPTH	CASING BLOWS	SAMPLE INFORMATION No.		DEPTH (Ft.)	BLOWS/6"	SAMPLE DESCRIPTION	DPTH	REMARKS
0		1		0-1'6	2-2-2	Dry, loose, white, FINE SAND, trace Inorganic Silt	0'	
5		2		5-6'6	12-15-10	Wet, medium dense, gray/brown, COARSE SAND, trace fine Sand, trace fine Gravel, trace Inorganic Silt, trace Shells	5'	SEE NOTE # 1
10		3		10-11'6	13-12-17	Wet, medium dense, gray/brown, COARSE SAND, trace fine Sand, trace Inorganic Silt	10'	
15		4		15-16'6	9-12-13	Wet, medium dense, light gray, FINE SAND, some Inorganic Silt	15'	
20		5		20-21'6	9-15-17	Wet, dense, light gray, FINE SAND, some Inorganic Silt		
25		6		25-26'6	17-13-24	Wet, dense, gray, FINE SAND, trace Inorganic Silt		
30		7		30-31'6	12-15-11	Wet, medium dense, gray, FINE SAND, trace Inorganic Silt		
35						BOTTOM OF BORING	32'	

NOTES: Encounted "Nested Cobbles" at 5' TO 8'6 Depth.

GEOTECHNICAL & ENVIRONMENTAL DRILLING SERVICES
534 NEW STATE HWY./ROUTE 44
RAYNHAM, MA 02767

PROJECT TITLE & LOCATION
SHORE PROTECTION PROJECT
BEACH ROAD AT SYLVIA BEACH
OAK BLUFFS, MARTHA'S VINEYARD, MA

BORING NUMBER: B-2A
GROUND ELEVATION: ± 1.7'
START: 6/19/96 AT:0630 HRS
FINISH:6/19/96 AT:1130 HRS
TOTAL HOURS: 5 HRS
BORING FOREMAN: E. WORDELL
INSPECTOR: P. BURNS/E.MAHONEY
STA:174+83.94 OFFSET:140.5'R
CONTRACT #:95579 FILE#: 1174

GROUND WATER OBSERVATIONS			
DATE	TIME	DEPTH	STABILIZATION TIME
6/19	0830	1'	TIDAL AREA

	CASING		SAMPLER	CORE BAR.
TYPE:	HW	HW	S/S	NV-2
SIZE, I.D.:	3"	4"	1-3/8"	2"
HAMMER WT.	300	300	140	
HAMMER FALL	24"	24"	30"	

DEPTH	CASING	BLOWS	SAMPLE INFORMATION No.		DEPTH (Ft.)	BLOWS/6"	SAMPLE DESCRIPTION	DEPTH
0			1		0-1'6	7-3-4	Wet, loose, white, FINE SAND, some coarse Sand, trace fine Gravel, trace Inorganic Silt	0'
5			2		5-6'6	9-15-25	Wet, dense, light brown, COARSE SAND, trace fine Sand, trace fine Gravel, trace Inorganic Silt, Shells	5'
10			3		10-11'6	7-11-19	Wet, dense, dark brown, FINE SAND & ORGANIC SILT, trace fine Gravel	10'
15			4		15-16'6	9-15-41	Wet, very dense, dark brown, FINE SAND, trace coarse Sand, trace Inorganic Silt (Slightly Organic)	15'
20			5		20-21'6	21-29-31	Wet, very dense, dark brown, FINE SAND, trace coarse Sand, trace Inorganic Silt (Slightly Organic)	
25			6		25-26'6	17-21-31	Wet, dense, gray, FINE SAND & INORGANIC SILT, trace fine Gravel	25'
30			7		30-31'6	13-22-17	Wet, dense, gray, FINE SAND, some Inorganic Silt	
35							BOTTOM OF BORING	32'

REMARKS

SEE NOTE # 1

NOTES: 1. Encountered "Nested Cobbles" at 3' TO 8' Depth.

534 NEW STATE HWY./ROUTE 44
RAYNHAM, MA 02767

SHORE PROTECTION PROJECT
BEACH ROAD AT SYLVIA BEACH
OAK BLUFFS, MARTHA'S VINEYARD, MA

GROUND WATER OBSERVATIONS

DATE	TIME	DEPTH	STABILIZATION TIME
6/19	1300	4'6	TIDAL AREA

	CASING		SAMPLER	CORE BAR.
TYPE:	HW	HW	S/S	NV-2
SIZE, I.D.»	3"	4"	1-3/8"	2"
HAMMER WT.	300	300	140	
HAMMER FALL	24"	24"	30"	

GROUND ELEVATION: 5.2'
START: 6/19/96 AT:1200 HRS
FINISH:6/19/96 AT:1930 HRS
TOTAL HOURS: 7 HRS 30 M
BORING FOREMAN: E. WORDELL
INSPECTOR: P. BURNS/E.MAHONI
STA:170+50 OFFSET: 88.5
CONTRACT #:95579 FILE#: 117

DEPTH	CASING	BLOWS	SAMPLE INFORMATION No.		DEPTH (Ft.)	BLOWS/6"	SAMPLE DESCRIPTION	DEPTH	REMARKS
0			1		0-1'6	1-2-1	Moist, very loose, light yellow/ brown, FINE SAND, trace Inorganic Silt	0'	
5			2		5-6'6	21-15-61	Wet, very dense, gray/brown, FINE SAND, trace coarse Sand, trace Inorganic Silt	5'	SEE NOTE # 1
10			3		10-11'6	11-8-15	Wet, medium dense, dark, gray/ brown, FINE SAND, some Organic Silt, trace coarse Sand	10'	
15			4		15-16'6	10-17-31	Wet, dense, dark gray/brown FINE SAND, some Organic Silt		
20			5		20-21'6	30-23-33	Wet, very dene, dark gray/brown, FINE SAND, some Inorganic Silt	20'	
25			6		25-26'6	5-6-13	Wet, medium dense, gray, FINE SAND, some Inorganic Silt, trace coarse Sand		
30			7		30-31'6	8-22-21	Wet, dense, gray, FINE SAND, trace coarse Sand, some fine Gravelk, trace Inorganic Silt	30'	
35							BOTTON OF BORING	32'	

NOTES: 1. Encountered "Nested Cobbles" at 5'6 to 8' Depth.

SCALE: 1"=5'

ZOINO-HEBERT, INC.
GEOTECHNICAL & ENVIRONMENTAL DRILLING SERVICES
534 NEW STATE HWY./ROUTE 44
RAYNHAM, MA 02767

PROJECT TITLE & LOCATION
SHORE PROTECTION PROJECT
BEACH ROAD AT SYLVIA BEACH
OAK BLUFFS, MARTHA'S VINEYARD, MA

BORING NUMBER: B-4
GROUND ELEVATION: 1.0'
START: 6/25/96 AT: 1000 HRS
FINISH: 6/25/96 AT: 1500 HRS
TOTAL HOURS: 5 HRS
BORING FOREMAN: E. WORDELL
INSPECTOR: P. BURNS
STA: 170+50 OFFSET: 134'R
CONTRACT #: 95579 FILE#: 1174

GROUND WATER OBSERVATIONS

DATE	TIME	DEPTH	STABILIZATION TIME
6/25	1100	1'	TIDAL AREA

	CASING		SAMPLER	CORE BAR.
TYPE:	NW	HW	S/S	NV-2
SIZE, I.D.:	3"	4"	1-3/8"	2"
HAMMER WT.	300	300	140	
HAMMER FALL	24"	24"	30"	

DEPTH	CASING BLOWS	SAMPLE INFORMATION No.		DEPTH (Ft.)	BLOWS/6"	SAMPLE DESCRIPTION	DEPTH
0		1		0-1'6	1-2-1	Wet, very loose, light brown COARSE SAND, trace fine Sand, trace fine Gravel, trace Inorganic Silt	0'
5		2		5-6'6	14-13-12	Wet, medium dense, light brown, FINE SAND, trace fine Gravel, trace Inorganic Silt	
10		3		10-11'6	19-14-11	Wet, medium dense, light brown, FINE SAND, trace fine Gravel, trace Inorganic Silt, trace Shells	
15		4		15-16'6	7-12-12	Wet, medium dense, dark gray, FINE SAND & INORGANIC SILT (Slightly Organic)	15'
20		5		20-21'6	7-14-18	Moist, dense, gray, FINE SAND, some Inorganic Silt (Slightly Organic)	
25		6		25-26'6	23-19-21	Wet, dense, gray, FINE SAND, some Inorganic Silt	25'
30		7		30-31'6	13-11-7	Wet, medium dense, gray, FINE SAND, some Inorganic Silt	
35						BOTTOM OF BORING	32'

REMARKS

ZOINO-HEBERT, INC.
GEOTECHNICAL & ENVIRONMENTAL DRILLING SERVICES
534 NEW STATE HWY./ROUTE 44
RAYNHAM, MA 02767

PROJECT TITLE & LOCATION
SHORE PROTECTION PROJECT
BEACH ROAD AT SILVIA BEACH
OAK BLUFFS, MARTHA'S VINEYARD, MA

BORING NUMBER: B-5
GROUND ELEVATION: 5.8'
START: 6/20/96 AT:1100 HRS
FINISH: 6/20/96 AT:1930 HRS
TOTAL HOURS: 8 HRS 30 MIN
BORING FOREMAN: E. WORDELL
INSPECTOR: P. BURNS/E.MAHONEY
STA: 166+50 OFFSET: 97' RT
CONTRACT #:95579 FILE#: 1174

GROUND WATER OBSERVATIONS

DATE	TIME	DEPTH	STABILIZATION TIME
6/20	1300	5'6	TIDAL AREA

	CASING		SAMPLER	CORE BAR.
TYPE:	HW	HW	S/S	NV-2
SIZE, I.D.:	3"	4"	1-3/8"	2"
HAMMER WT.	300	300	140	
HAMMER FALL	24"	24"	30"	

DEPTH	CASING	BLOWS	SAMPLE INFORMATION No.		DEPTH (Ft.)	BLOWS/6"	SAMPLE DESCRIPTION	DEPTH
0			1		0-1'6	2-1-3	Moist, very loose, light brown COARSE SAND, trace Silt	0'
5			2		5-6'6	13-15-7	Wet, medium dense, light brown, FINE SAND, some fine to medium Gravel, trace Inorganic Silt	
10			3		10-11'6	12-13-12	Wet, medium dense, light gray, FINE SAND, trace coarse Sand, trace fine Gravel, trace Inorganic Silt, Shells	
15			4		15-16'6	14-10-9	Wet, medium dense, dark gray, FINE SAND & INORGANIC SILT (Slightly Organic)	15'
20			5		20-21'6	4-11-14	Wet, medium dense, dark gray, FINE SAND & INORGANIC SILT	20'
25			6		25-26'6	45-20-24	Wet, dense, dark gray, FINE SAND, some Inorganic Silt	25'
30			7		30-31'6	14-9-11	Wet, medium dense, dark gray, FINE SAND, Some Inorganic Silt	
35							BOTTOM OF BORING	32'

REMARKS

SCALE: 1"=5'

ZOINO-HEBERT, INC.
GEOTECHNICAL & ENVIRONMENTAL DRILLING SERVICES
534 NEW STATE HWY./ROUTE 44
RAYNHAM, MA 02767

PROJECT TITLE & LOCATION
SHORE PROTECTION PROJECT
BEACH ROAD AT SYLVIA BEACH
OAK BLUFFS, MARTHA'S VINEYARD, MA

BORING NUMBER: B-6
GROUND ELEVATION: 2.0'
START: 6/21/96 AT: 0630 HRS
FINISH: 6/21/96 AT: 1430 HRS
TOTAL HOURS: 8 HRS
BORING FOREMAN: E. WORDELL
INSPECTOR: P. BURNS/E. MAHONEY
STA: 166+50 OFFSET: 160'RT
CONTRACT #: 95579 FILE#: 1174

GROUND WATER OBSERVATIONS

DATE	TIME	DEPTH	STABILIZATION TIME
6/21	0800	1'	TIDAL AREA

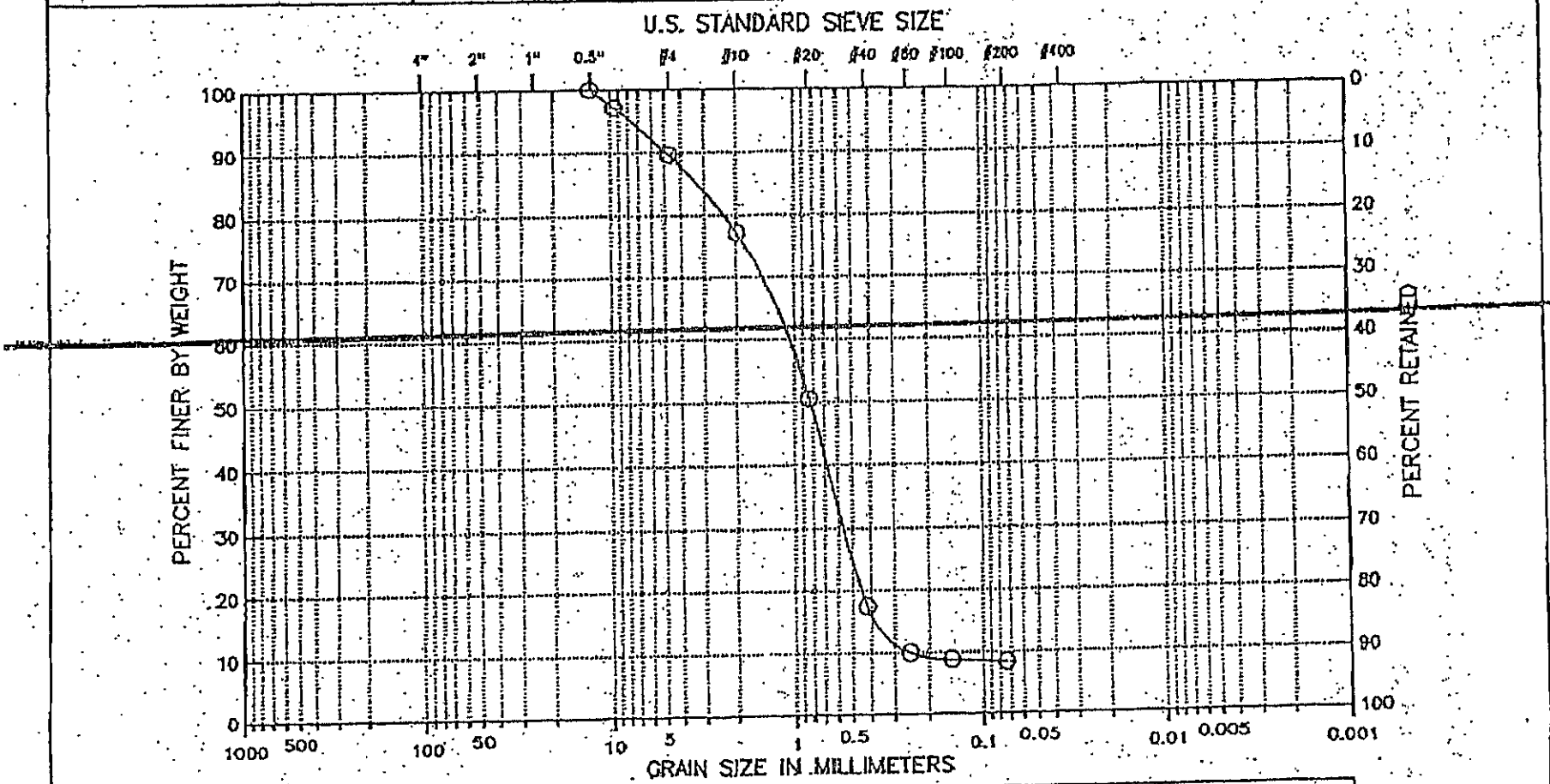
	CASING		SAMPLER	CORE BAR.
TYPE:	NW	HW	S/S	NV-2
SIZE, I.D.:	3"	4"	1-3/8"	2"
HAMMER WT.	300	300	140	
HAMMER FALL	24"	24"	30"	

DEPTH	CASING BLOWS	SAMPLE No.		DEPTH (Ft.)	BLOWS/6"	SAMPLE DESCRIPTION	DEPTH
0		1		0-1'6	1-2-2	Wet, very loose, light brown COARSE SAND, trace fine Gravel, trace Inorganic Silt	0'
5		2		5-6'6	12-16-24	Wet, dense, light brown, FINE SAND, trace coarse Sand, trace fine Gravel, trace Inorganic Silt	
10		3		10-11'6	13-15-19	Wet, dense, light gray/brown, FINE SAND, trace coarse Sand, trace Silt	
15		4		15-16'6	6-2-2	Moist, soft, dark gray, ORGANIC SILT, trace fine Sand	15'
20		5		20-21'6	9-11-17	Moist, medium dense, dark gray, FINE SAND & INORGANIC SILT (Slightly Organic)	
25		6		25-26'6	31-17-21	Wet, dense, light gray, FINE SAND, trace Inorganic Silt	25'
30		7		30-31'6	9-8-12	Wet, dense, light gray, FINE SAND, trace Inorganic Silt, trace fine Gravel	
35						BOTTOM OF BORING	32'

REMARKS

Sylvia State Beach

Boring No. : ----	Project : Sengahontochet
Sample No: Senge #1	Project No.: GIX-1003
Test Method ASTM D422	Location: ----
Filename : SENGE1	Test Date 03/27/96



Classification :

Visual Description :
Very pale brown coarse sand with silt

Remarks :
Hydrometer not required. fines < 10%

Figure 1

GeoTesting Express
10 Craig Road - Acton, MA 01720
(508) 635-0424 Fax: (508) 635-0266

LETTER OF TRANSMITTAL

DATE 3/28/96 JOB NO. 1003

ATTENTION

RE: SENGEKONTACHET POND
EDGARTOWN

TO DR. ERIC JENSEN
GROUNDWATER ANALYTICAL

WE ARE SENDING YOU ☒ Attached ☐ Under separate cover via _____ the following items:

☒ Test results ☐ Proposal ☐ Report ☐ Samples ☐ Specifications ☐ Invoice

☐ Copy of letter ☐ Change order _____

☐ Other _____

COPIES	DATE	DESCRIPTION
1		4 GRAIN SIZE ANALYSES

THESE ARE TRANSMITTED as checked below:

☐ For approval
☒ For your use
☒ As requested
☐ For review and comment
☐ FOR BIDS DUE _____ 19 ____

☐ Approved as submitted
☐ Approved as noted
☐ Returned for corrections
☐ _____

☐ Resubmit ____ copies for approval
☐ Submit ____ copies for distributio
☐ Return

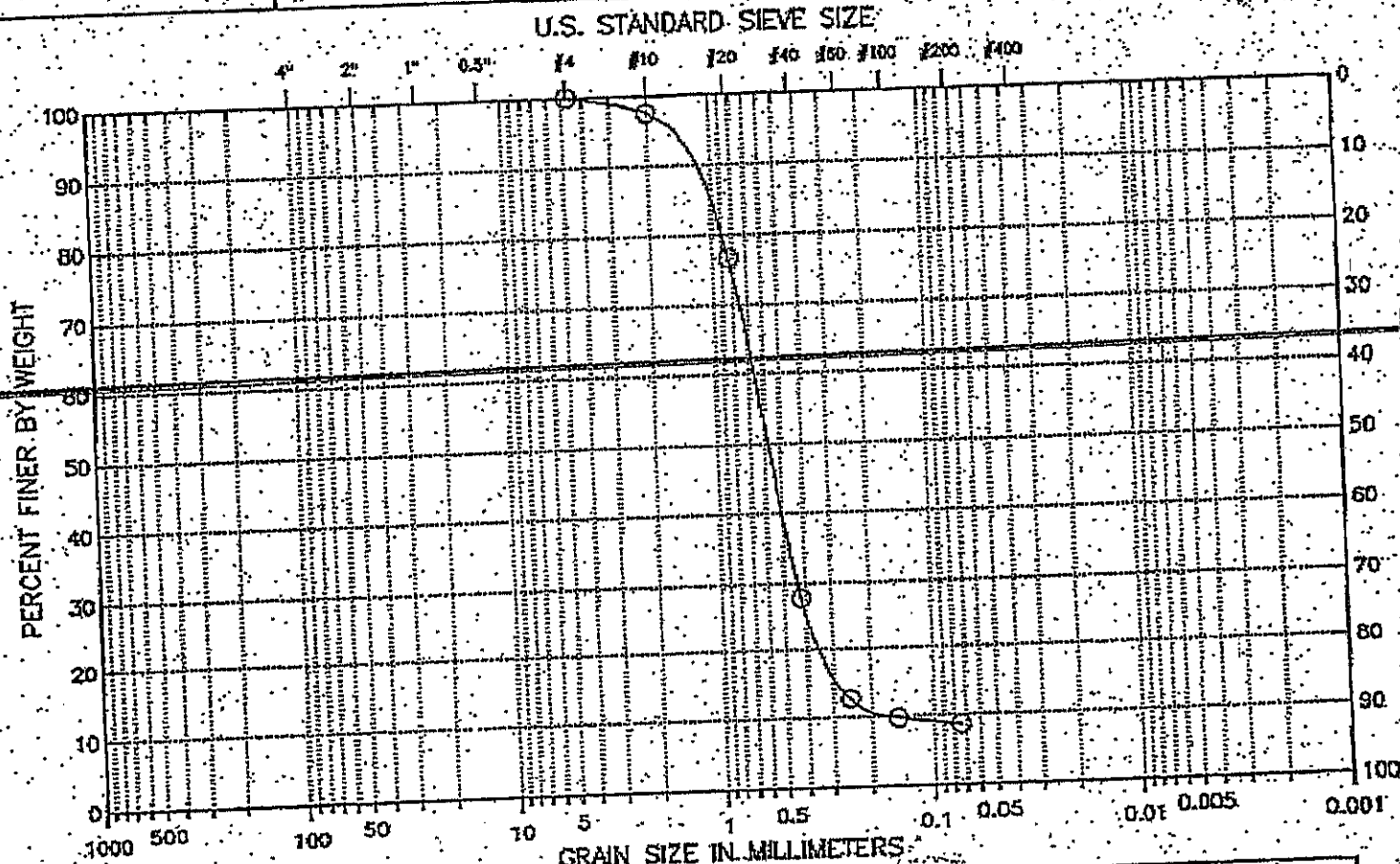
REMARKS _____

COPY TO _____

State Beach

Boring No. : ——
Sample No: Senge #3
Test Method ASTM D422
Filename : SENGE3

Project : Sengehontachet
Project No.: GTX-1003
Location: ——
Test Date 03/27/96



Classification :

Visual Description :
Very pale brown coarse sand with silt

Remarks :
Hydrometer not required, fines < 10%

Figure 3

Thu Mar 28 15:51:24 1996 Page : 1

GEOTECHNICAL LABORATORY TEST DATA

Project : Sengahontachet
Project No. : GTX-1003
Boring No. : ---
Sample No. : Senge #3
Location : ---
Soil Description : Very pale brown coarse sand with silt
Remarks : Hydrometer not required, fines < 10%

Filename : SENGE3
Elevation : ---
Depth : ---
Test Date : 03/27/96
Tested by : gph
Test Method : ASTM D422
Checked by : gtt

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
#4	0.187	4.75	0.00	0.00	100
#10	0.079	2.00	1.95	1.95	98
#20	0.033	0.84	16.53	18.48	77
#40	0.017	0.42	38.66	57.14	28
#60	0.010	0.25	11.93	69.07	13
#100	0.006	0.15	2.33	71.40	10
#200	0.003	0.07	0.86	72.26	8
Pan			6.90	79.16	0

Total Dry Weight of Sample = 85.34

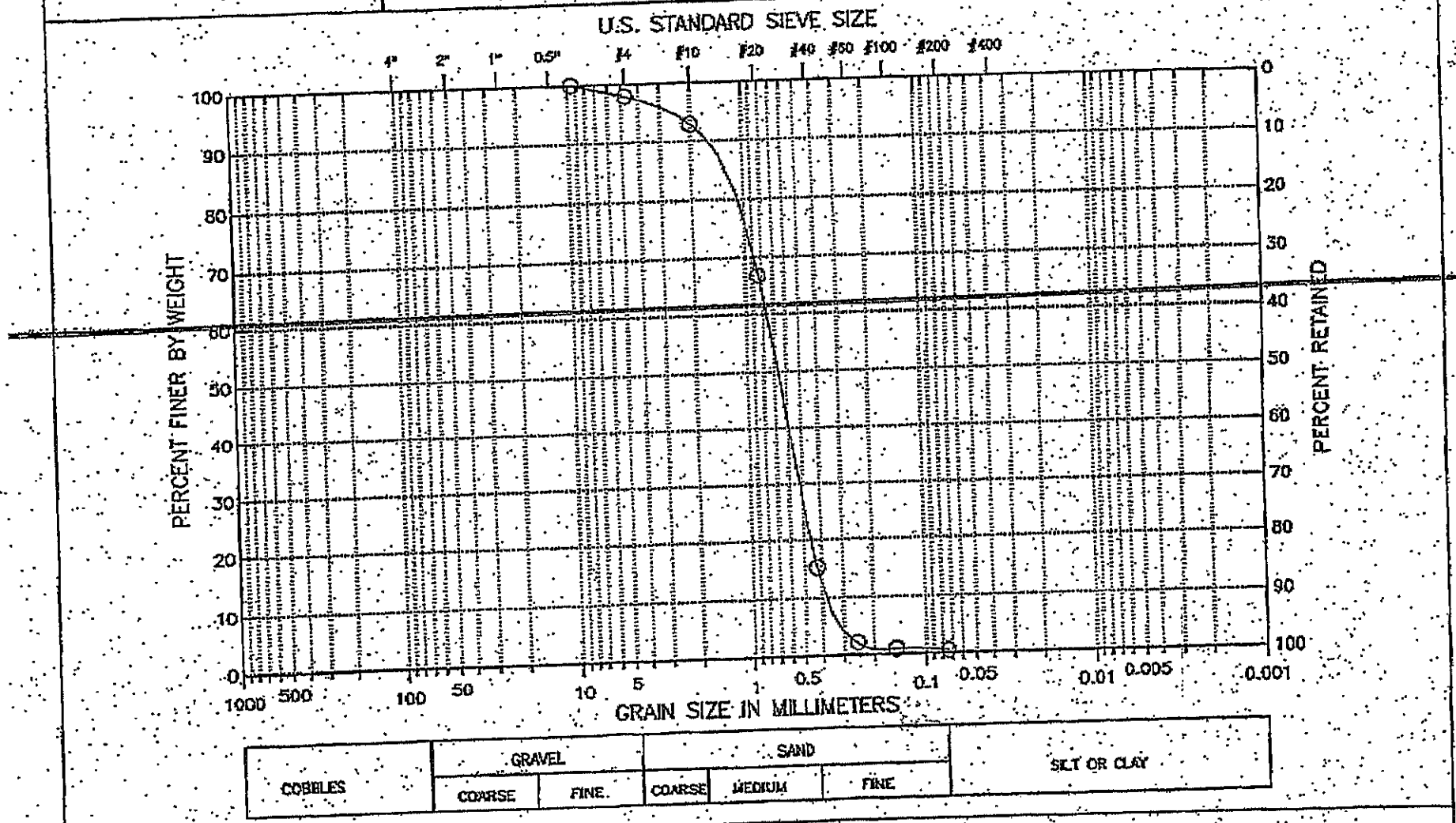
D85 : 1.1889 mm
D60 : 0.6637 mm
D50 : 0.5767 mm
D30 : 0.4332 mm
D15 : 0.2702 mm
D10 : 0.1943 mm

Soil Classification
ASTM Group Symbol : N/A
ASTM Group Name : N/A
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

State Beach

Boring No.: ---
Sample No: Senge #2
Test Method ASTM D422
Filename : SENGE2

Project : Sengehontachet
Project No.: GTX-1003
Location: ---
Test Date:03/27/96



Remarks :
Hydrometer not required, fines < 10%

Classification :
(SP) Poorly graded sand
Visual Description :
Very pale brown coarse sand

Figure 2

Thu Mar 28 15:51:24 1996

GEOTECHNICAL LABORATORY TEST DATA

Project : Sengchantachet
Project No. : GTX-1003
Boring No. : ---
Sample No. : Senge #2
Location : ---
Soil Description : Very pale Brown coarse sand
Remarks : Hydrometer not required, fines < 10%

Depth : ---
Test Date : 03/27/96
Test Method : ASTM D422

Filename : SENGS2
Elevation : ---
Tested by : gph
Checked by : gtx

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Sieve Openings Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.375"	0.374	9.51	0.00	0.00	100
#4	0.187	4.75	1.52	1.52	98
#10	0.079	2.00	3.58	5.10	93
#20	0.033	0.84	18.59	23.69	67
#40	0.017	0.42	36.85	60.54	25
#60	0.010	0.25	9.45	69.99	2
#100	0.006	0.15	0.87	70.86	1
#200	0.003	0.07	0.32	71.18	1
Pan			0.37	71.55	0

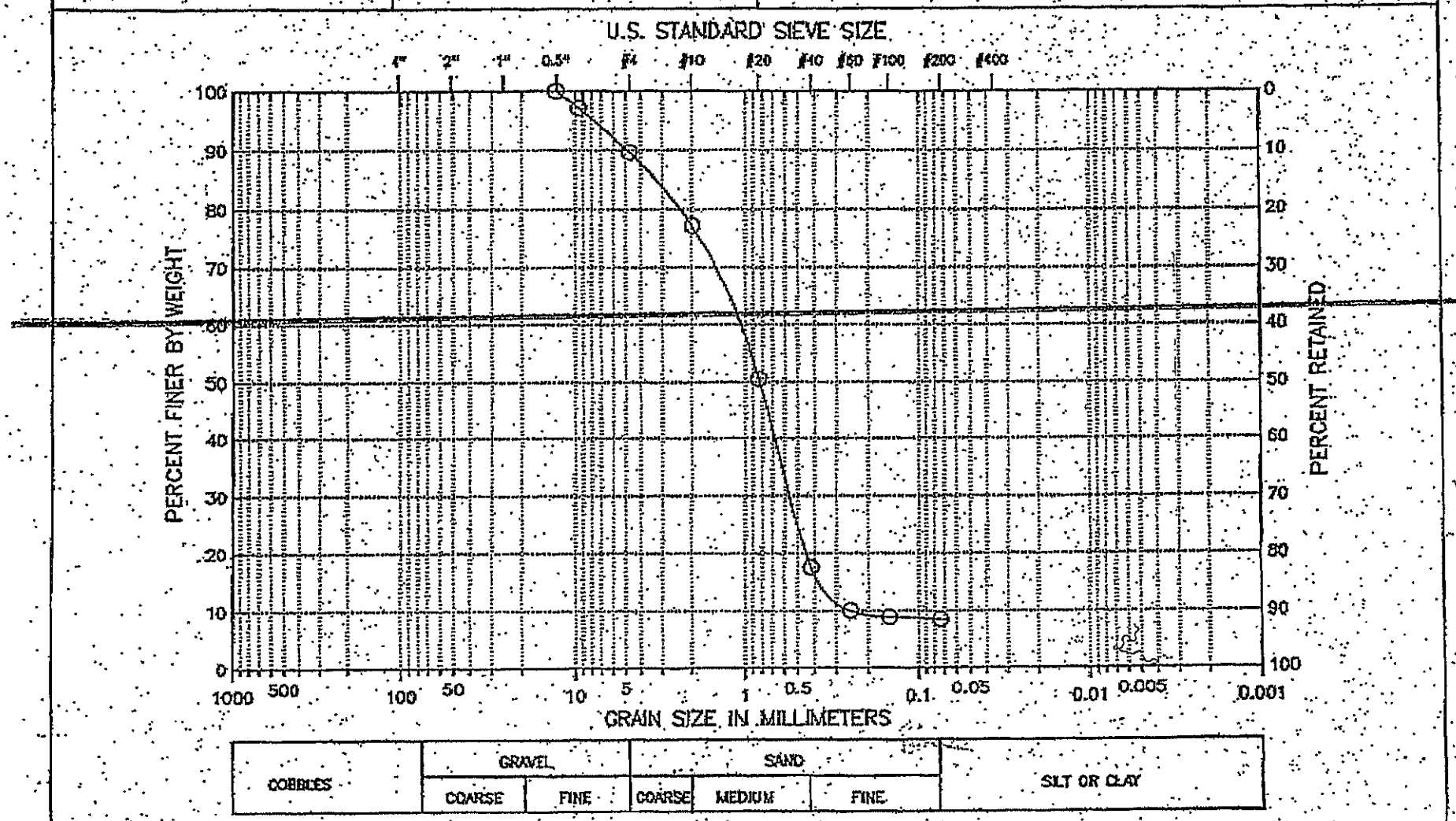
Total Dry Weight of Sample = 80.99

D85 : 1.5383 mm
D60 : 0.7664 mm
D50 : 0.6697 mm
D30 : 0.5115 mm
D15 : 0.4137 mm
D10 : 0.3399 mm

Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

Slate Beach

	Boring No.: --- Sample No.: Senge #1 Test Method ASTM D422 Filename : SENGE1	Project : Sengehontachet Project No.: GIX-1003 Location: --- Test Date 03/27/96



Classification :

Visual Description :
Very pale brown coarse sand with silt

Remarks :
Hydrometer not required, fines < 10%

Figure 1

Thu Mar 28 15:51:24 1996 Page : 1

GEOTECHNICAL LABORATORY TEST DATA

Project : Sengehontaenet
Project No. : GTX-1003
Boring No. : ---
Sample No. : Senge #1
Location : ---
Soil Description : Very pale brown coarse sand with silt
Remarks : Hydrometer not required, fines < 10%

Depth : ---
Test Date : 03/27/96
Test Method : ASTM D422

Filename : SENGE1
Elevation : ---
Tested by : gph
Checked by : gtt

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.5"	0.500	12.70	0.00	0.00	100
0.375"	0.374	9.51	2.20	2.20	97
#4	0.187	4.75	5.59	7.79	90
#10	0.079	2.00	9.41	17.20	77
#20	0.033	0.84	20.14	37.34	51
#40	0.017	0.42	24.89	62.23	18
#60	0.010	0.25	5.65	67.88	10
#100	0.006	0.15	0.83	68.71	9
#200	0.003	0.07	0.35	69.06	9
Pan			6.42	76.48	0

Total Dry Weight of Sample = 84.84

D85 : 5.4331 mm
D60 : 1.1437 mm
D50 : 0.8317 mm
D30 : 0.5458 mm
D15 : 0.3519 mm
D10 : 0.2420 mm

Soil Classification
ASTM Group Symbol : N/A
ASTM Group Name : N/A
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

Senge Kontacket State Beach

Thu Mar 28 15:51:24 1996

GEOTECHNICAL LABORATORY TEST DATA

Project : Sengekontacket
Project No. : GTX-1003
Boring No. : ---
Sample No. : Senge #2
Location : ---
Soil Description : Very pale brown coarse sand
Remarks : Hydrometer not required, fines < 10%

Depth : ---
Test Date : 03/27/96
Test Method : ASTM D422

Filename : SENGE2
Elevation : ---
Tested by : gpb
Checked by : gtc

FINE SIEVE SET

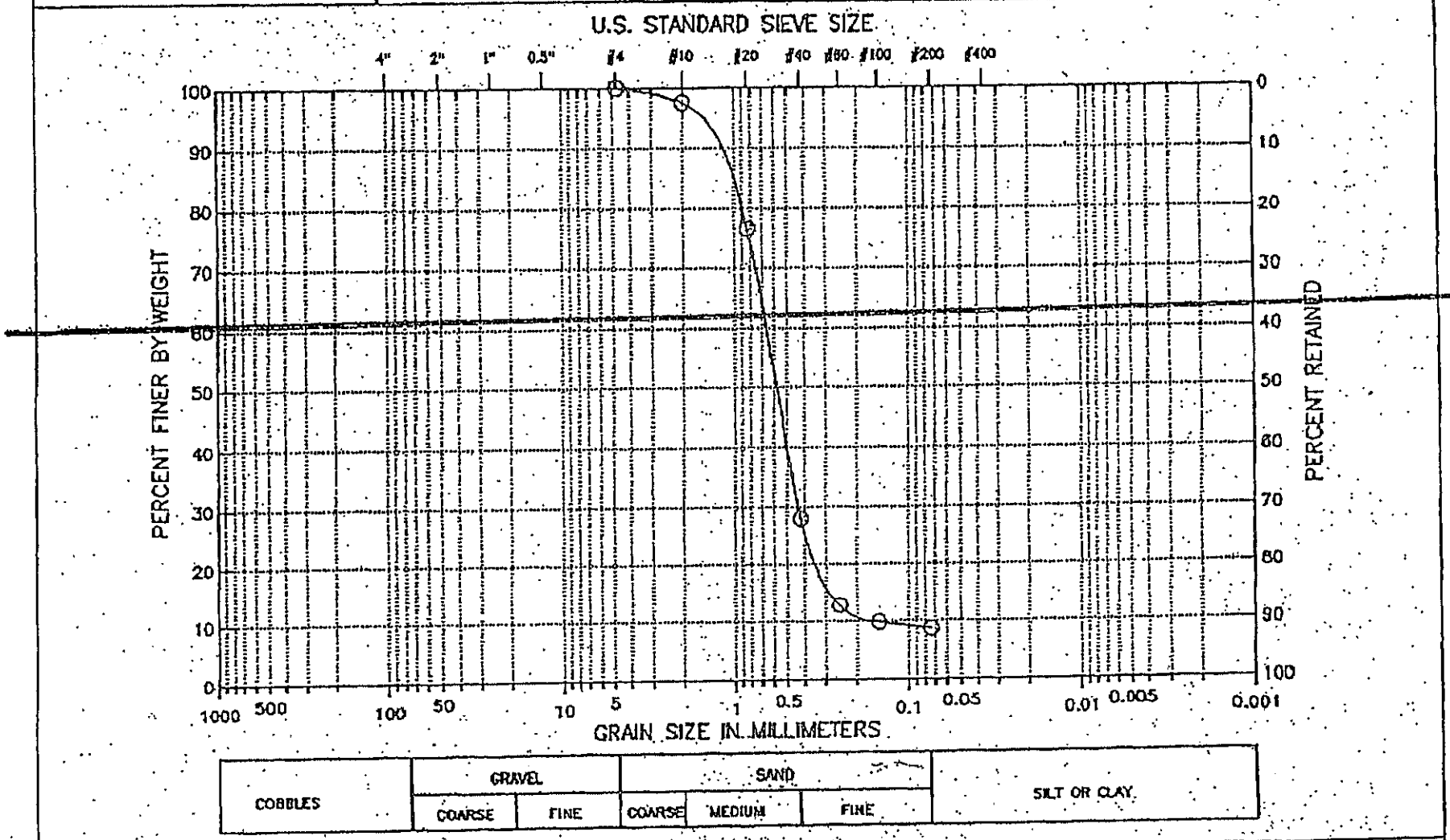
Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.375"	0.374	9.51	0.00	0.00	100
#4	0.187	4.75	1.52	1.52	98
#10	0.079	2.00	3.58	5.10	93
#20	0.033	0.84	18.59	23.69	67
#40	0.017	0.42	36.85	60.54	15
#60	0.010	0.25	9.46	69.99	2
#100	0.006	0.15	0.87	70.86	1
#200	0.003	0.07	0.32	71.18	1
Pan			0.37	71.55	0

Total Dry Weight of Sample = 80.99

D85 : 1.5383 mm
D60 : 0.7664 mm
D50 : 0.6697 mm
D30 : 0.5115 mm
D15 : 0.4137 mm
D10 : 0.3399 mm

Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name. : Stone Fragments, Gravel and Sand

	Boring No. : ----	Project : Sengahontachet
	Sample No: Senge #3	Project No.: GTX-1003
	Test Method ASTM D422	Location: ----
	Filename : SENGE3	Test Date 03/27/96



Classification :

Visual Description :
Very pale brown coarse sand with silt

Remarks :
Hydrometer not required, fines < 10%

Figure 3

Sengekontacket
& State Beach

Thu Mar 28 15:51:24 1996

GEOTECHNICAL LABORATORY TEST DATA

Project : Sengekontacket
Project No. : GTX-1003
Boring No. : ---
Sample No. : Sange #1
Location : ---
Depth : ---
Test Date : 03/27/96
Test Method : ASTM D422
Filename : SEN021
Elevation : ---
Tested by : gph
Checked by : gtt
Soil Description : Very pale brown coarse sand with silt
Remarks : Hydrometer not required. fines < 10%

FINE SIEVE SET

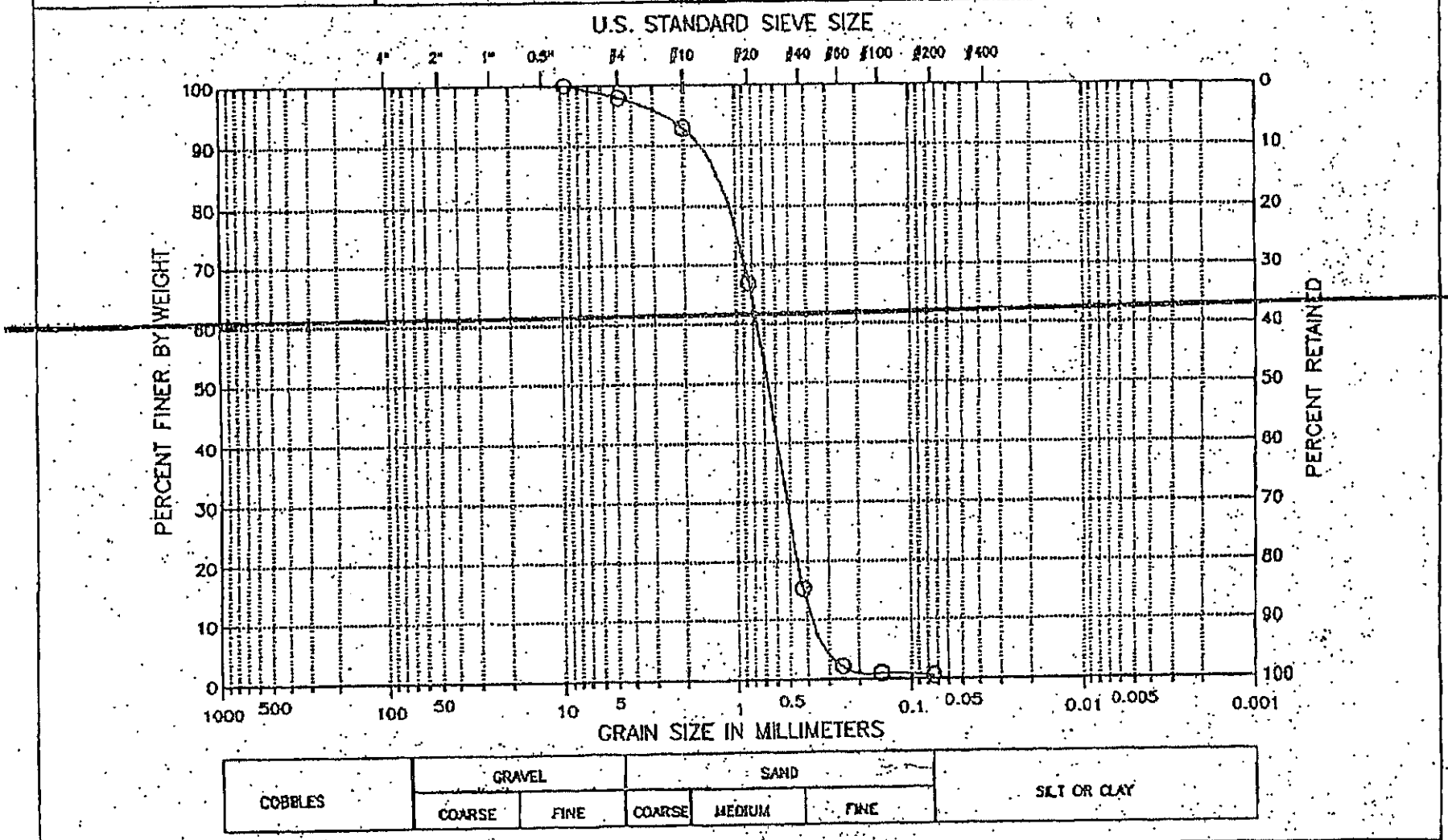
Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.5"	0.500	12.70	0.00	0.00	100
0.375"	0.374	9.51	2.20	2.20	97
#4	0.187	4.75	5.59	7.79	90
#10	0.079	2.00	9.41	17.20	77
#20	0.033	0.84	20.14	37.34	51
#40	0.017	0.42	24.89	62.23	18
#60	0.010	0.25	5.65	67.88	10
#100	0.006	0.15	0.83	68.71	9
#200	0.003	0.07	0.35	69.06	9
Pan			6.42	75.48	0

Total Dry Weight of Sample = 84.84

D85 : 5.4331 mm
D60 : 1.1437 mm
D50 : 0.8317 mm
D30 : 0.5458 mm
D15 : 0.3519 mm
D10 : 0.2420 mm

Soil Classification
ASTM Group Symbol : N/A
ASTM Group Name : N/A
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

	Boring No.: --- Sample No: Senge #2 Test Method ASTM D422 Filename : SENGE2	Project : Sangehontachet Project No.: GTX-1003 Location: --- Test Date 03/27/96



Classification :
(SP) Poorly graded sand
Visual Description :
Very pale brown coarse sand

Remarks :
Hydrometer not required, fines < 10%

Figure 2

Sengekontacket

State Beach

Thu Mar 28 15:51:24 1996

GEOTECHNICAL LABORATORY TEST DATA

Project : Sengekontachet
Project No. : GTX-1003
Boring No. : ---
Sample No. : Senge #3
Location : ---
Soil Description : Very pale brown coarse sand with silt
Remarks : Hydrometer not required, fines < 10%

Filename : SENGE3
Depth : ---
Test Date : 03/27/96
Test Method : ASTM D422
Elevation : ---
Tested by : gmh
Checked by : gtt

FINE SIEVE SET

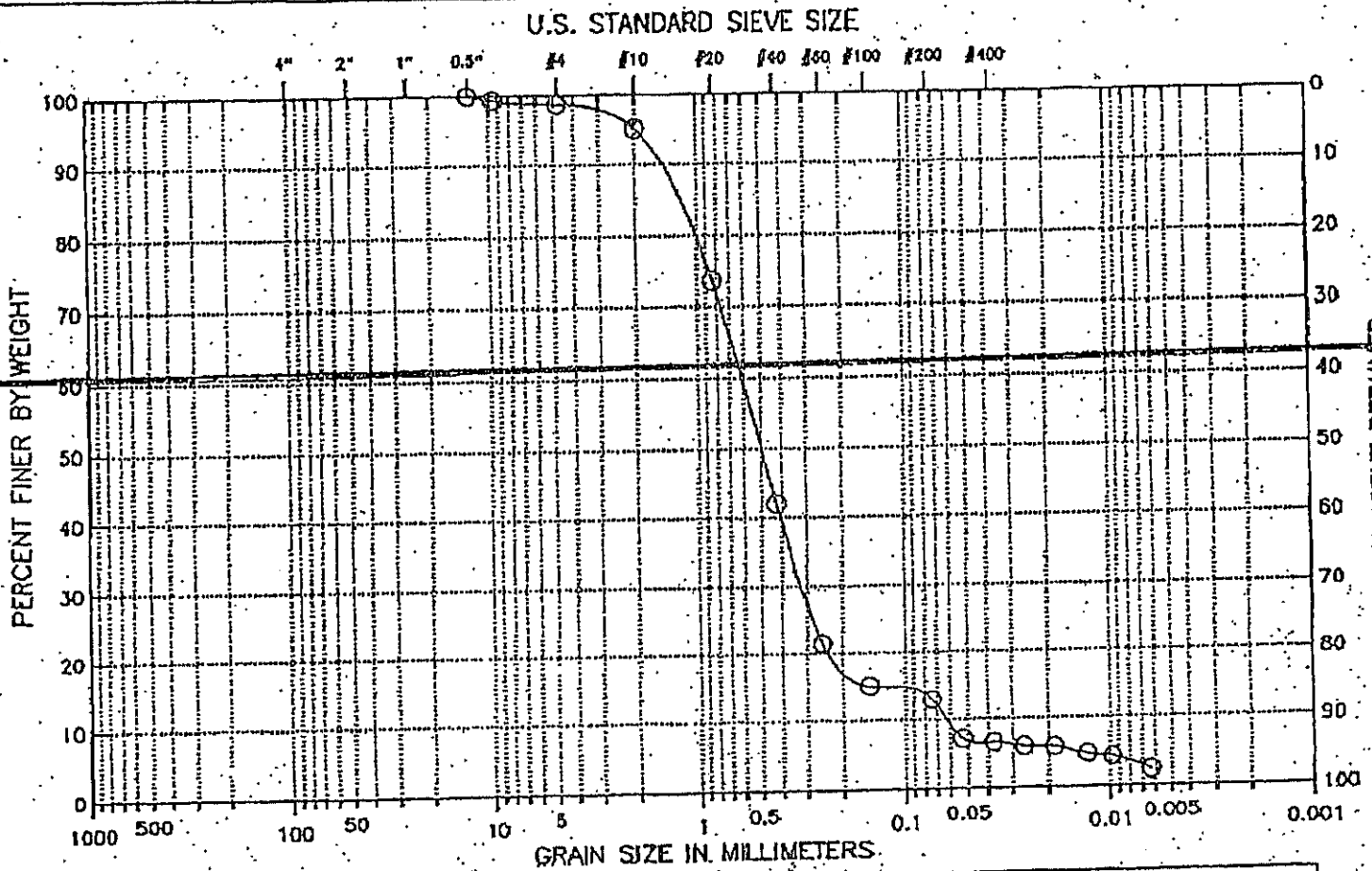
Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
#4	0.187	4.75	0.00	0.00	100
#10	0.079	2.00	1.91	1.91	98
#20	0.033	0.84	16.53	18.48	77
#40	0.017	0.42	38.66	57.14	28
#60	0.010	0.25	11.93	69.07	13
#100	0.006	0.15	2.33	71.40	10
#200	0.003	0.07	0.86	72.26	9
Pan			6.90	79.16	0

Total Dry Weight of Sample = 88.34

D85 : 1.1889 mm
D60 : 0.6637 mm
D50 : 0.5757 mm
D30 : 0.4332 mm
D15 : 0.2702 mm
D10 : 0.1543 mm

Soil Classification
ASTM Group Symbol : N/A
ASTM Group Name : N/A
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

	Boring No. : --- Sample No: Senge #4 Test Method ASTM D422 Filename : SENGE4	Project : Sengehontachet Project No.: GTX-1003 Location: --- Test Date 03/27/96



Classification :

Visual Description :
Very pale brown silty coarse sand

Remarks :

Figure 4

Senge Kontacket

State Beach

Thu Mar 28 15:51:24 1996 Page : 1

GEOTECHNICAL LABORATORY TEST DATA

Project : Sangabontachet
Project No. : GTX-1003
Boring No. : ---
Sample No. : Senge #4
Location : ---
Soil Description : Very pale brown silty coarse sand
Remarks : ---

Depth : ---
Test Date : 03/27/96
Test Method : ASTM D422

Filename : SENGE4
Elevation : ---
Tested by : gph
Checked by : gtt

HYDROMETER

Hydrometer ID : hi25diet
Weight of air-dried soil = 70.94 gm
Specific Gravity = 2.65

Hydroscopic Moisture Content :
Weight of Wet Soil = 0 gm
Weight of Dry Soil = 0 gm
Moisture Content = 0

Elapsed Time (min)	Reading	Temperature (deg. C)	Corrected Reading	Particle Size (mm)	Percent Finer (%)	Adjusted Particle Size
1.00	10.00	19.50	5.40	0.053	7	0.053
2.00	9.60	19.50	5.00	0.037	7	0.037
4.00	9.10	19.50	4.50	0.026	6	0.026
8.00	9.00	19.50	4.40	0.019	6	0.019
17.00	8.20	19.50	3.60	0.013	5	0.013
30.00	7.90	19.50	3.27	0.010	4	0.010
73.00	6.40	19.50	1.80	0.006	2	0.006

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.5"	0.500	12.70	0.00	0.00	100
0.375"	0.374	9.51	0.49	0.49	99
#4	0.187	4.75	0.49	0.98	99
#10	0.079	2.00	2.70	3.68	95
#20	0.033	0.84	16.20	19.88	74
#40	0.017	0.42	23.64	43.52	42
#60	0.010	0.25	15.39	58.91	21
#100	0.006	0.15	4.72	63.63	15
#200	0.003	0.07	1.62	65.25	13
Pan			9.77	75.02	0

Total Dry Weight of Sample = 84.1

D85 : 1.3340 mm
D60 : 0.6246 mm
D50 : 0.5011 mm
D30 : 0.3102 mm
D15 : 0.1404 mm
D10 : 0.0619 mm

Soil Classification
ASTM Group Symbol : N/A
ASTM Group Name : N/A
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
Project Narrative

Project: Sengekontacket Pond
Client: Town of Edgartown Shellfish Department

Lab ID: 13330
Received: 05-14-96

A. Physical Condition of Sample(s)

This project was received by the laboratory in satisfactory condition. The sample(s) were received undamaged in appropriate containers with the correct preservation.

B. Project Documentation

This project was not accompanied by Chain of Custody documentation. The following information was compiled from information received with samples:

1. Project 13330 was processed for Rush turnaround. The project was given a due date of 05-20-96, per Paul Bagnall, 05-15-96.
2. Samples 13330-01 through -07 were sampled on 05-13-96 and received in the laboratory on 05-14-96.
3. Samples 13330-01 through -05 were received in one 250ml glass container each.
4. Sample 13330-06 and -07 were received in one 500ml glass container each.
5. Samples 13330-01 and -02 were analyzed by EPA Method 8270 PAH, 418.1, and for TOC, per Paul Bagnall, 05-15-96.
6. Samples 13330-03 through -07 were analyzed by EPA Method 8270 PAH, 418.1, 8080 PCB, and for TOC, Grain Size, Volatile Solids, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn, and Percent Moisture, per Paul Bagnall, 05-15-96.
7. Sample 13330-01 was reported as "OB Deep Site 1" per Paul Bagnall.
8. Sample 13330-02 was reported as "OB Deep Site 2" per Paul Bagnall.
9. Sample 13330-03 was reported as "OB Shallow Site 1" per Paul Bagnall.
10. Sample 13330-04 was reported as "OB Shallow Site 2" per Paul Bagnall.
11. Sample 13330-05 was reported as "OB Outside Inlet" per Paul Bagnall.
12. Sample 13330-06 was reported as "EDG Deep" per Paul Bagnall.
13. Sample 13330-07 was reported as "EDG Shallow" per Paul Bagnall.

(Continued Page 1 of 2)