Woods Hole Group 81 Technology Park Drive E. Falmouth, MA 02536 USA
TELEPHONE: 508.540.8080 FAX: 508.540.1001 www.woodsholegroup.com

July 11, 2012 Job No.2010-142

US ACOE – New England District
Attn: Charles N. Farris
696 Virginia Road
Concord, MA 01742-2751

RE: **Town of Edgartown – Sampling Analysis Plan Data for Review & Approval**
Proposed 10 Year Comprehensive Permit for Maintenance Dredging & Beach Nourishment
Town of Edgartown
Edgartown & Oak Bluffs, MA

Dear Norm:

Per your direction, we are submitting the following information on the enclosed CD for your review and approval regarding the above referenced project:

- 16 sets of revised plans dated July 2012 which now show the core and beach nourishment sample locations.
- Spreadsheet of core locations and their coordinates
- Spreadsheet of beach nourishment locations and their coordinates
- Grain Size Data for beach nourishment locations
- Grain Size Data for coring locations
- Chemical Analyses for coring locations EH-3, EH-5 & Katama 7 (formerly ST07)

You will see on the spreadsheet for the beach nourishment locations that some locations list a name that the location was formerly called. Those samples were sent to the lab for testing under their former sample name so we had to cross reference them with their current sample name. The names were changed only to better identify the sample location.

Three coring samples came back with greater than 15% fines so chemical analyses were performed. The three coring samples were EH-3, EH-5 and Katama 7 (formerly ST07).

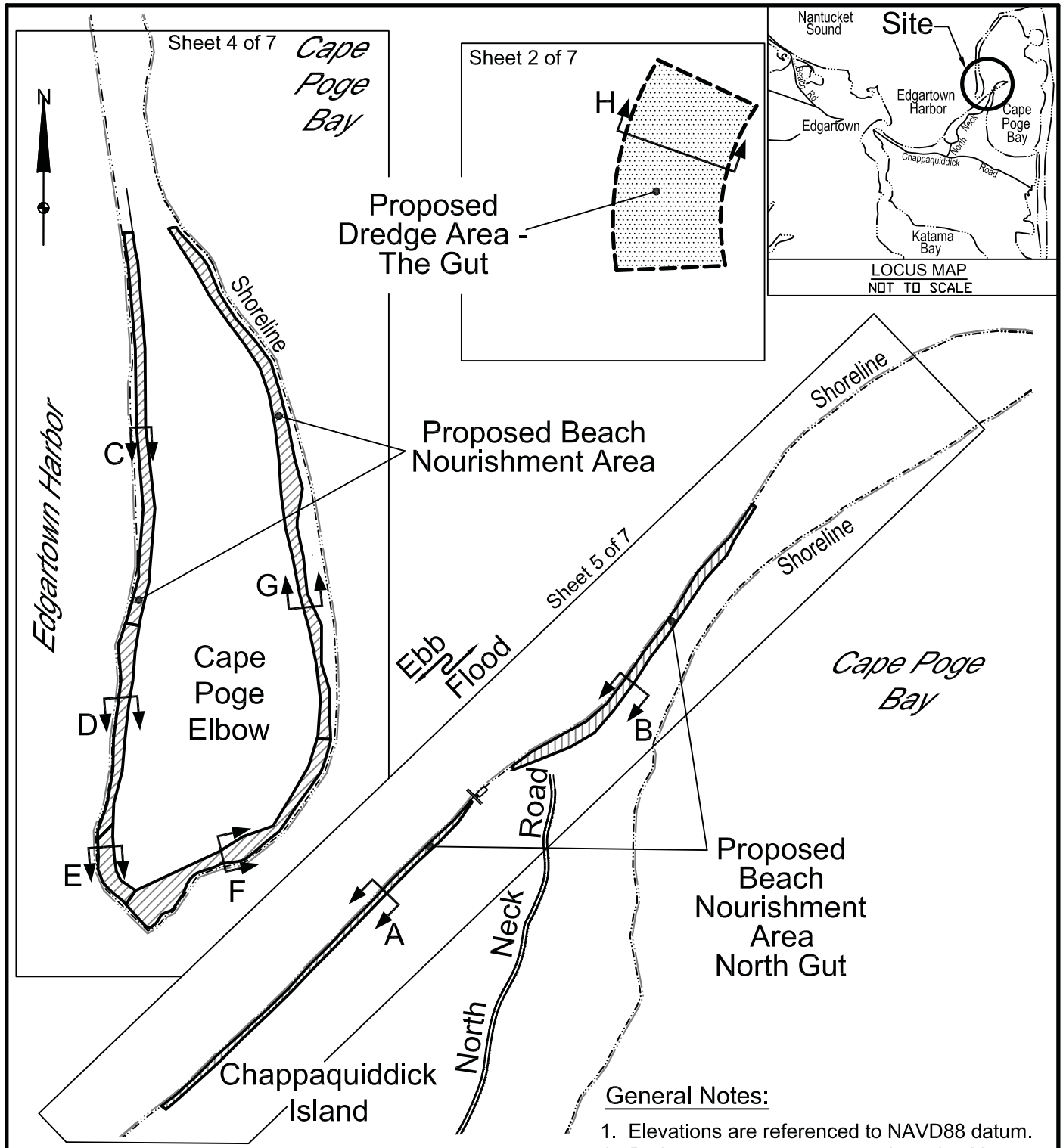
If you have any questions, or require any additional information, please give our office a call.

Sincerely,

Beth Hays
Environmental Permitting Specialist

Enclosures: as stated

cc: Kevin Kotelly, ACOE
Tara Marden, Woods Hole Group, Inc.



PLAN ACCOMPANYING PETITION OF:
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Cape Poge The Gut, Dukes County,
Edgartown, MA

PLAN BY: WOODS HOLE GROUP

81 TECHNOLOGY PARK DRIVE EAST FALMOUTH, MA 02536
TELEPHONE: (508) 540-8080 FAX: (508) 540-1001

General Notes:

1. Elevations are referenced to NAVD88 datum.
2. Bathymetric survey was conducted in May, 2011 by Woods Hole Group.
3. Topographic survey was conducted in August, 2011 by Woods Hole Group.
4. Previously permitted under ACOE Permit No. NAE-2004-3801

Graphic Scale

600 0 600 1200

1" = 600'

DATE: July, 2012

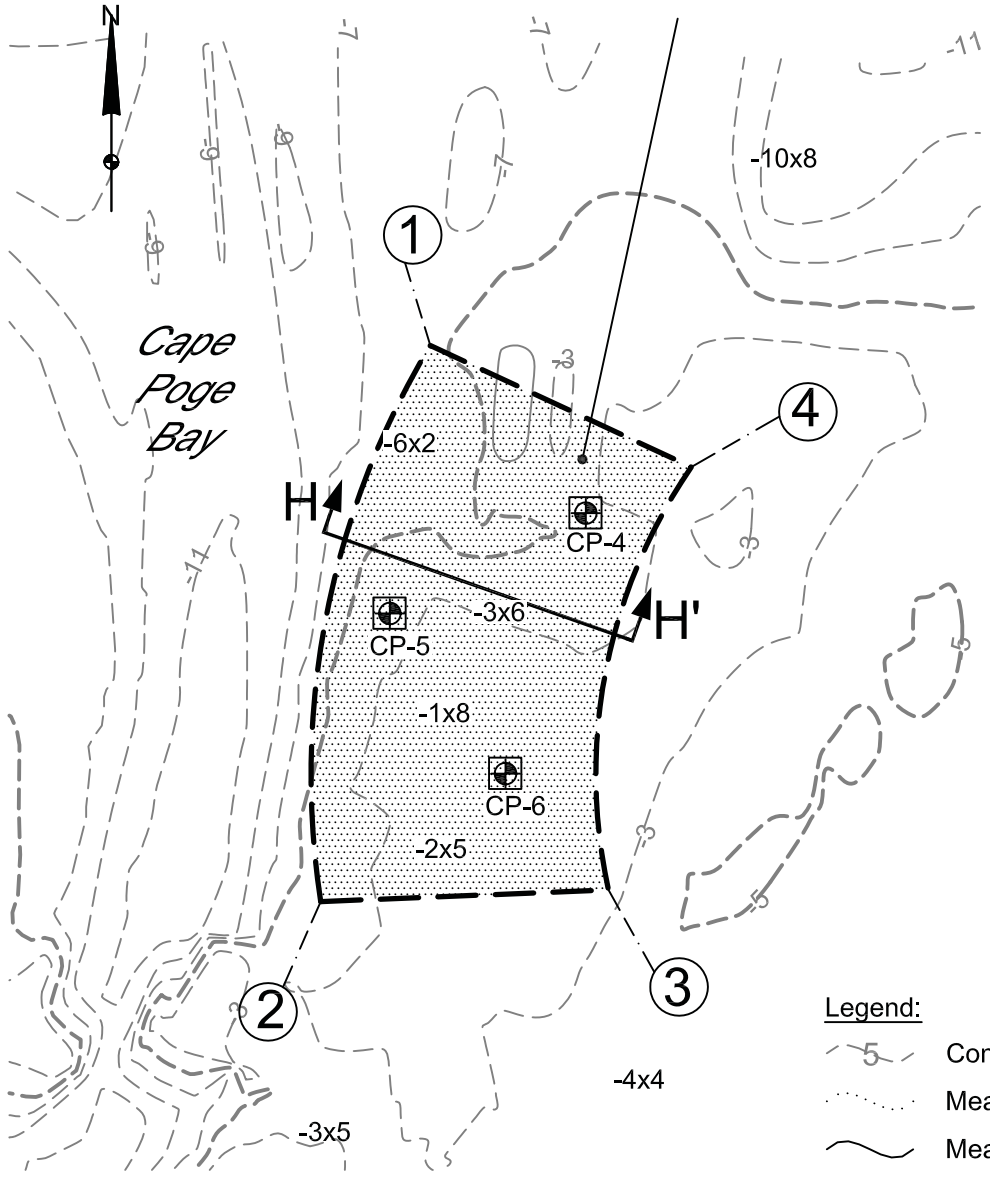
SHEET: 1 OF 7

2010-142_Site A ACOE.dwg

Dredge Coordinates	Northing	Easting
1	2,609,265	939,471
2	2,608,686	939,356
3	2,608,698	939,656
4	2,609,138	939,472

Proposed Dredge Area
Dredge to -4' NAVD88
157,900± s.f.
Dredge Volume: 10,900± c.y.

Datum	NAVD88 ft
HTL	1.21
MHW	0.65
NAVD88	0
MTL	-0.49
MLW	-1.55



Proposed Dredge Area Entirely Within NHESP Priority Habitat & DEP Delineated Eel Grass Habitat

Legend:
- Contour Line
- Mean Low Water
- Mean High Water
- High Tide Line
- Proposed Dredge Channel
- Dredge Coordinates
- Core Sample

Graphic Scale
200 0 200 400
1" = 200'

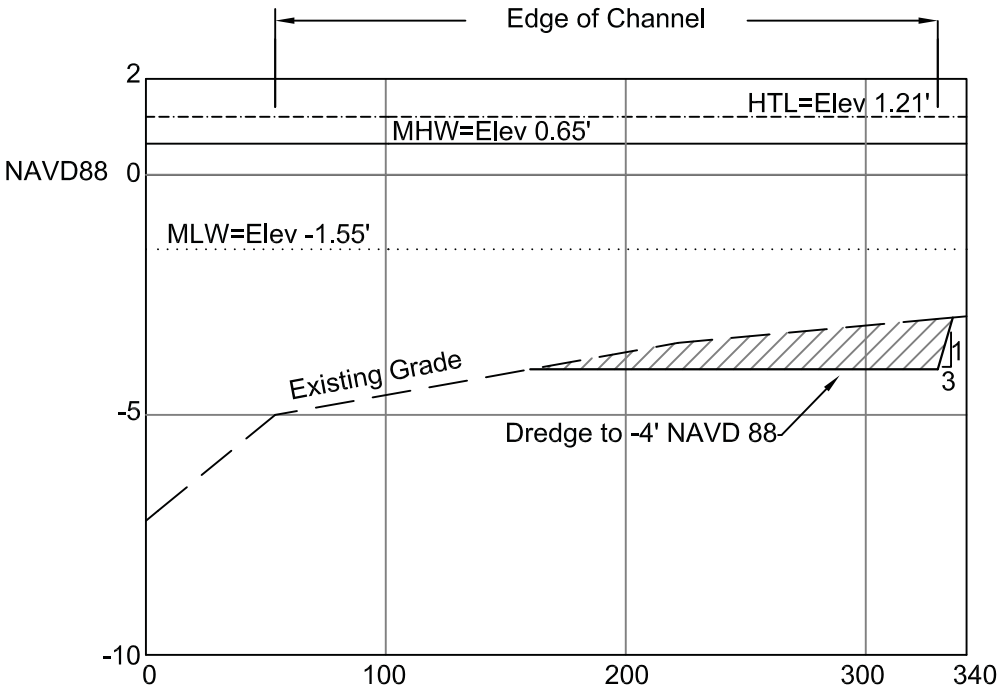
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Cape Poge The Gut

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

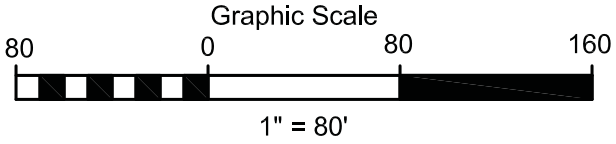
SHEET: 2 OF 7

2010-142_Site A ACOE.dwg



Typical Dredge Cross-Section H-H

Scale: 1" = 80'
Dredge to Elev -4' NAVD 88



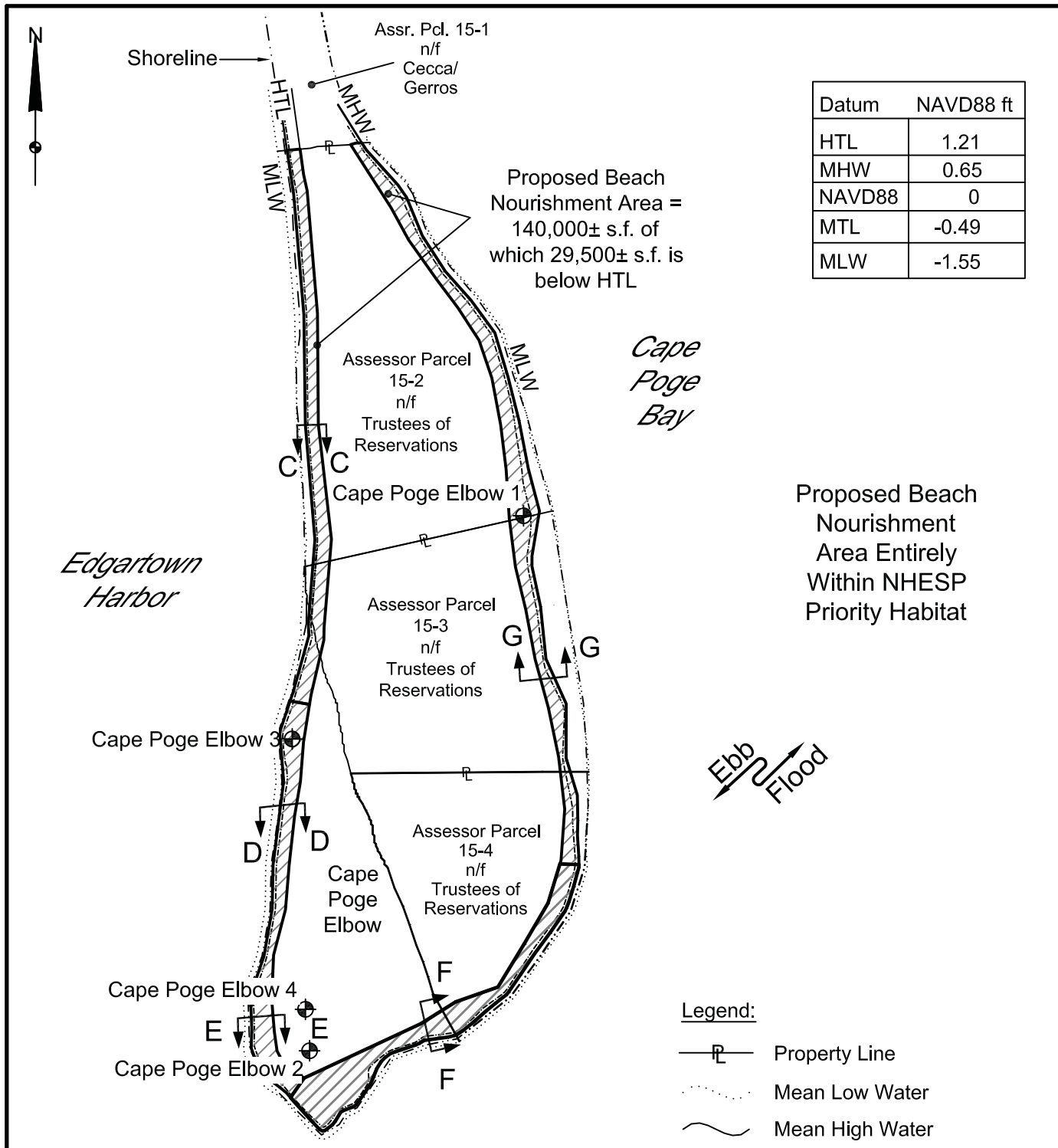
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Cape Poge The Gut

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 3 OF 7

2010-142_Site A ACOE.dwg



Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Cape Poge The Gut

PLAN BY: WOODS HOLE GROUP

Graphic Scale

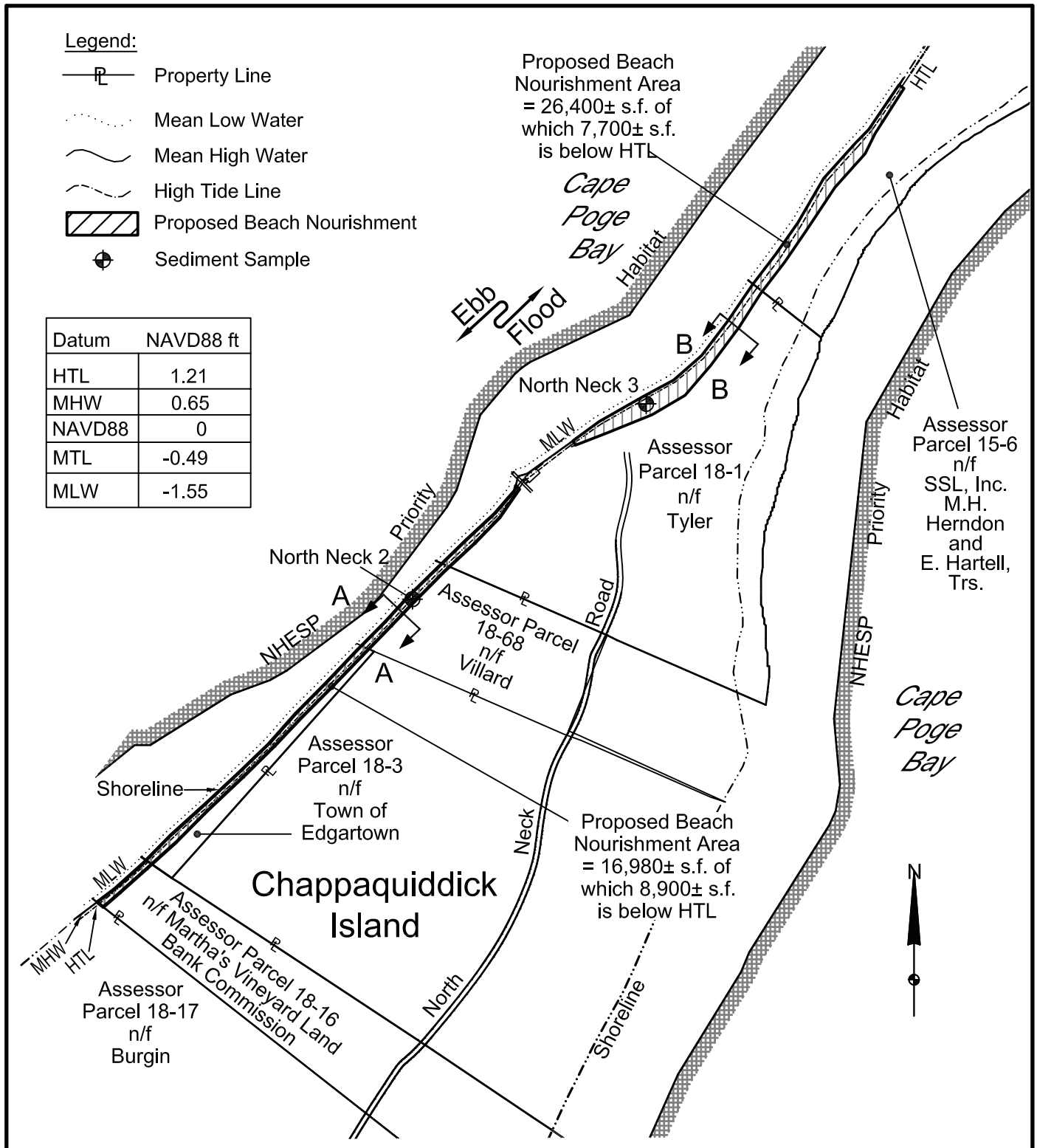
300 0 300 600

1" = 300'

DATE: July, 2012

SHEET: 4 OF 7

2010-142_Site A ACOE.dwg



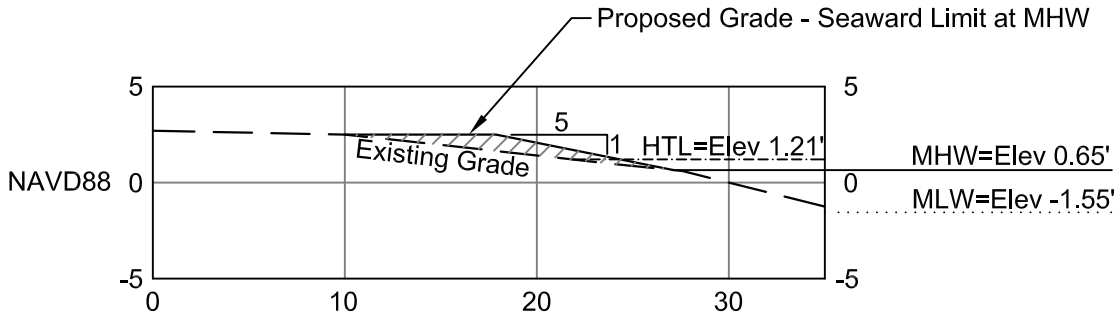
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Cape Poge The Gut

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

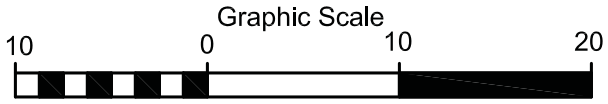
SHEET: 5 OF 7

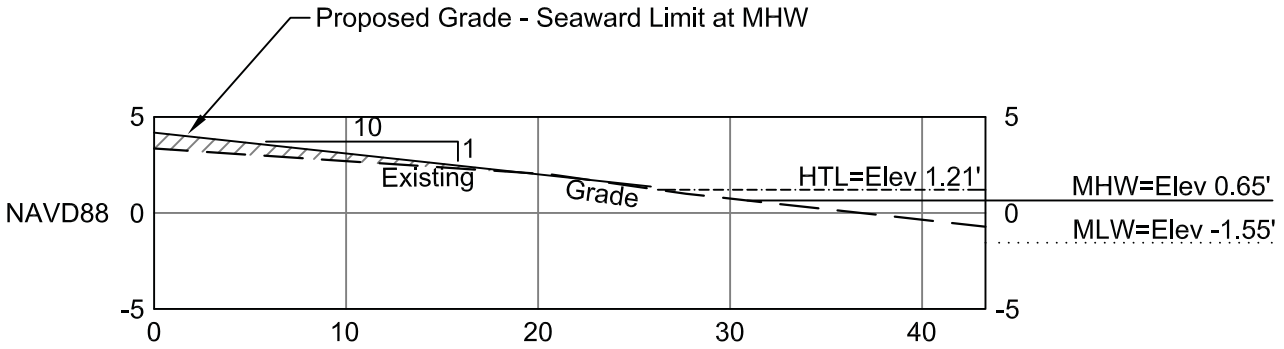
2010-142_Site A ACOE.dwg



Typical Beach Nourishment Cross Sections for A and B

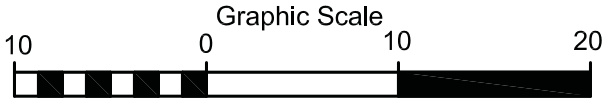
Scale: 1" = 10'





Beach Nourishment Cross-Section C-C

Scale: 1" = 10'



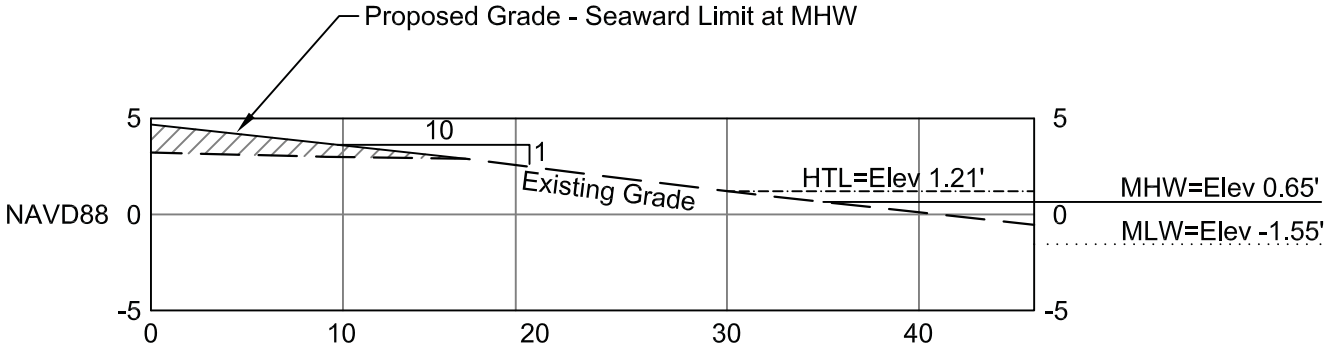
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Cape Poge The Gut

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

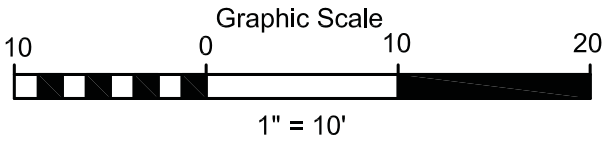
SHEET: 6 OF 7

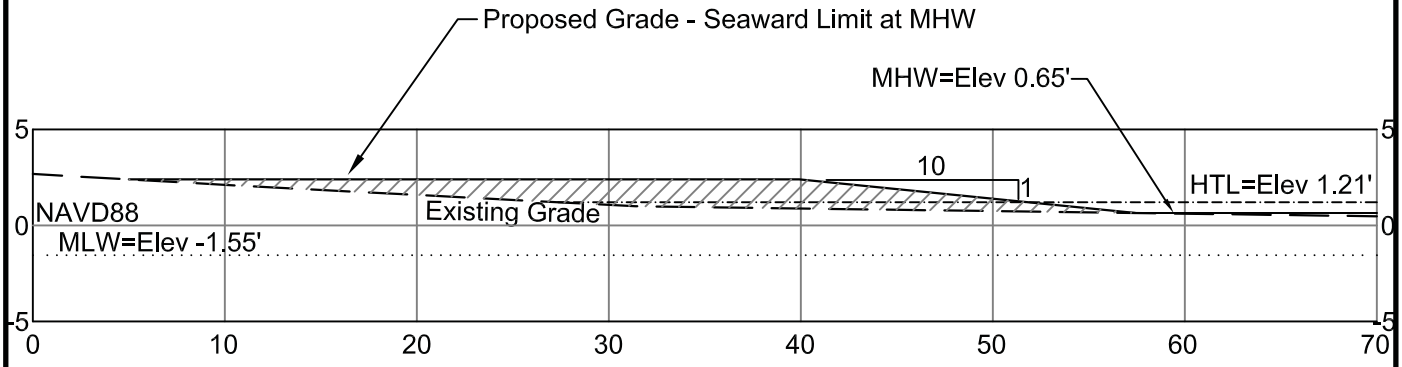
2010-142_Site A ACOE.dwg



Beach Nourishment Cross-Section D-D

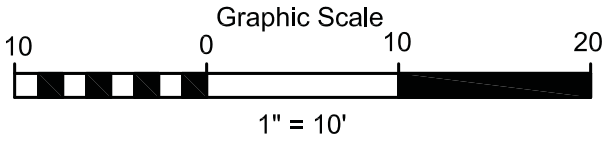
Scale: 1" = 10'





Beach Nourishment Cross Sections for Segments E-G

Scale: 1" = 10'



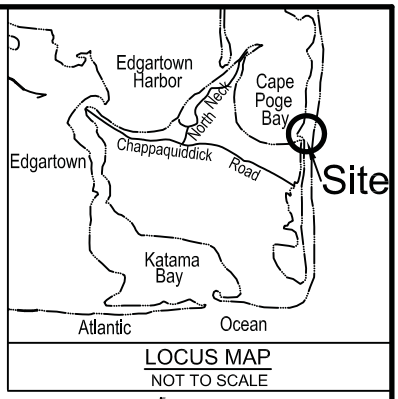
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Cape Poge The Gut

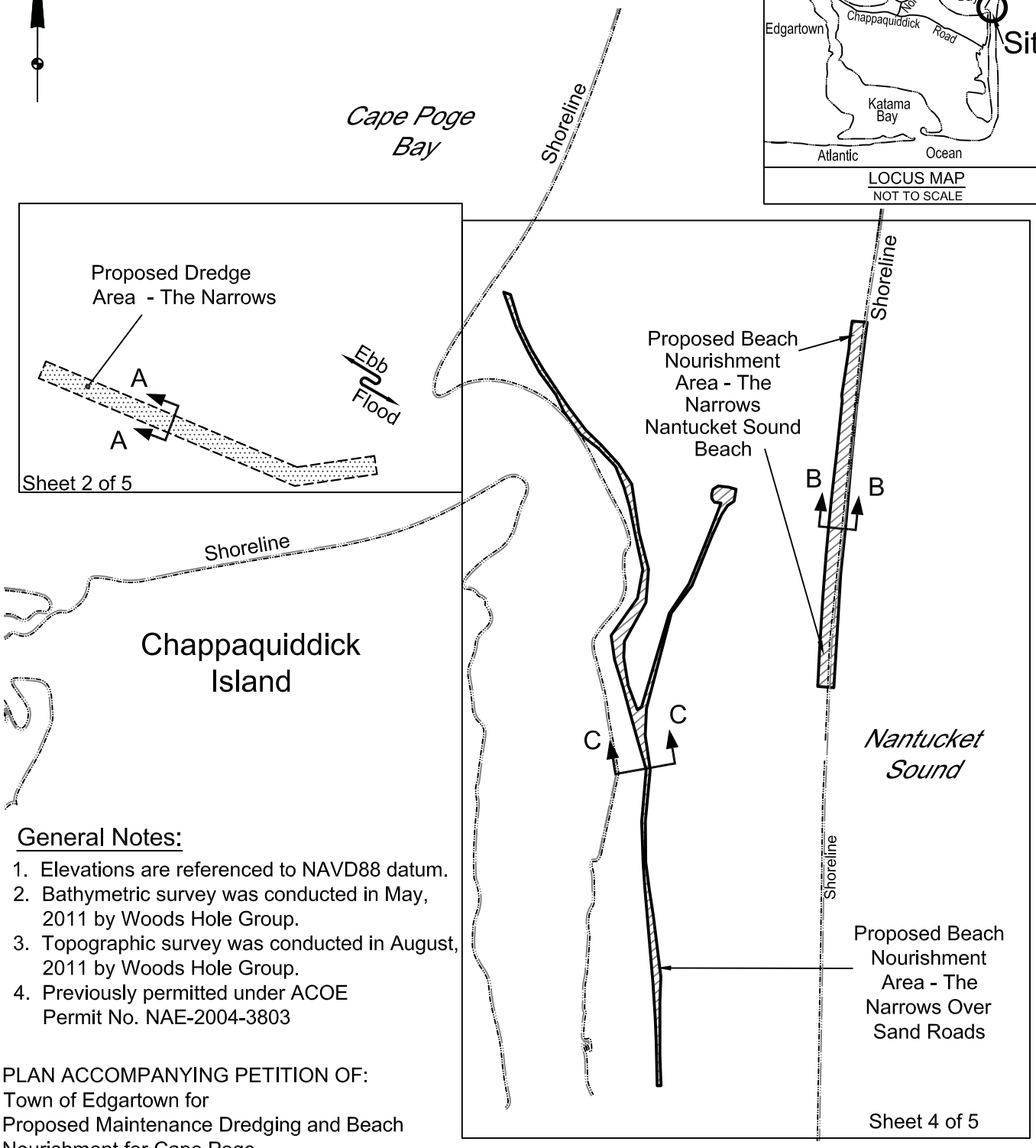
PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 7 OF 7

2010-142_Site A ACOE.dwg





General Notes:

1. Elevations are referenced to NAVD88 datum.
2. Bathymetric survey was conducted in May, 2011 by Woods Hole Group.
3. Topographic survey was conducted in August, 2011 by Woods Hole Group.
4. Previously permitted under ACOE Permit No. NAE-2004-3803

PLAN ACCOMPANYING PETITION OF:
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for Cape Poge,
The Narrows, Dukes County,
Edgartown, MA

Graphic Scale
400 0 400 800
1" = 400'

PLAN BY: WOODS HOLE GROUP

81 TECHNOLOGY PARK DRIVE EAST FALMOUTH, MA 02536
TELEPHONE: (508) 540-8080 FAX: (508) 540-1001

Date: July, 2012

SHEET: 1 OF 5

2010-142_Site B ACOEdwg

Dredge Coordinates

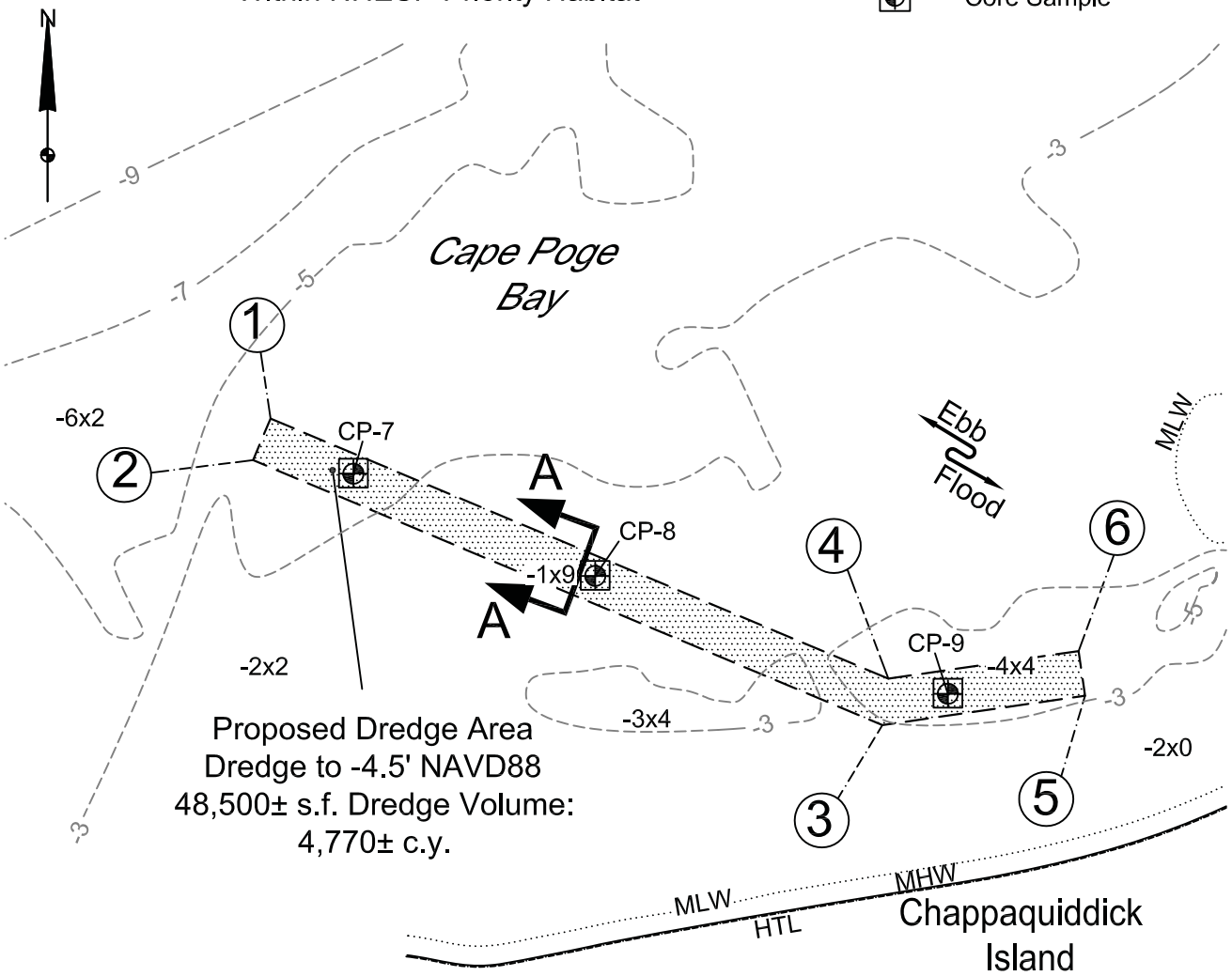
	Northing	Easting
1	2,602,149	942,370
2	2,602,104	942,350
3	2,601,810	943,048
4	2,601,861	943,055
5	2,601,842	943,273
6	2,601,892	943,266

Datum	NAVD88 ft
HTL	1.21
MHW	0.65
NAVD88	0
MTL	-0.49
MLW	-1.55

Legend:

- Property Line
- Contour Line
- Mean Low Water
- Mean High Water
- High Tide Line
- Proposed Dredge Channel
- (1) Dredge Coordinates
- Core Sample

Proposed Dredge Area Entirely Within NHESP Priority Habitat



Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for Cape Poge, The Narrows

PLAN BY: WOODS HOLE GROUP

Graphic Scale

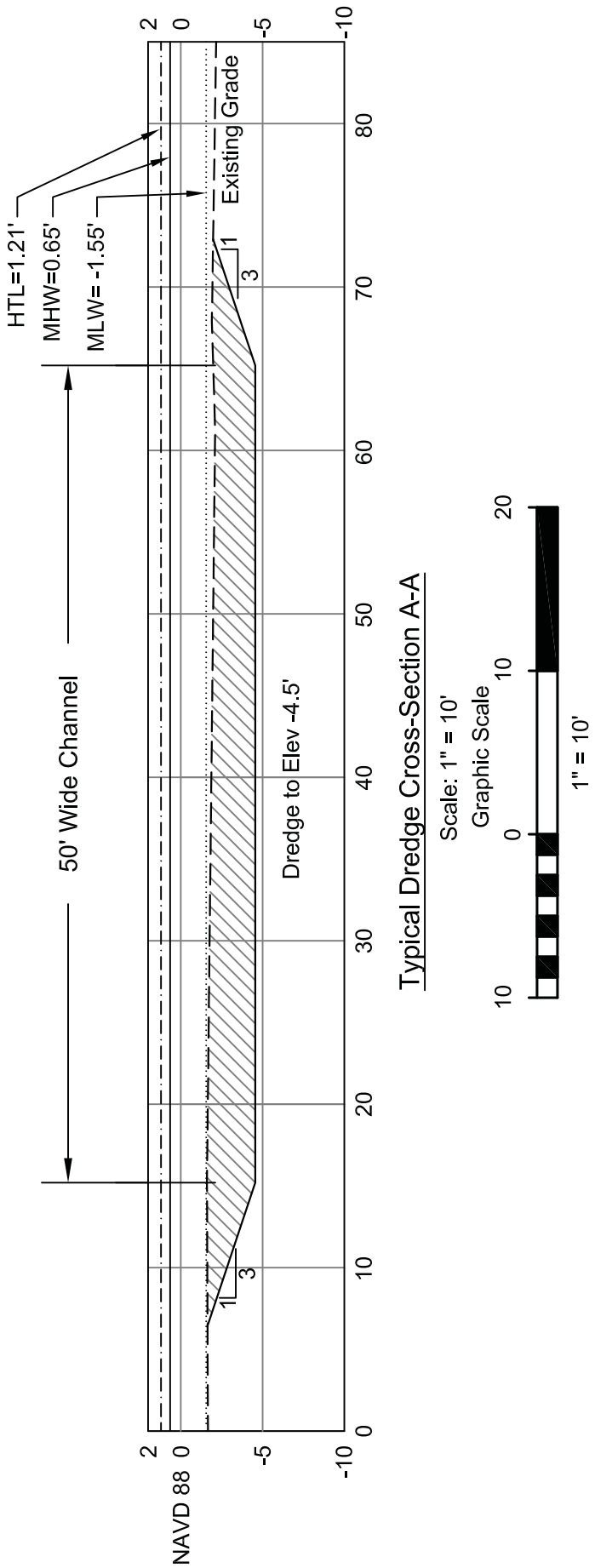
200 0 200 400

1" = 200'

Date: July, 2012

SHEET: 2 OF 5

2010-142_Site B ACOEdwg



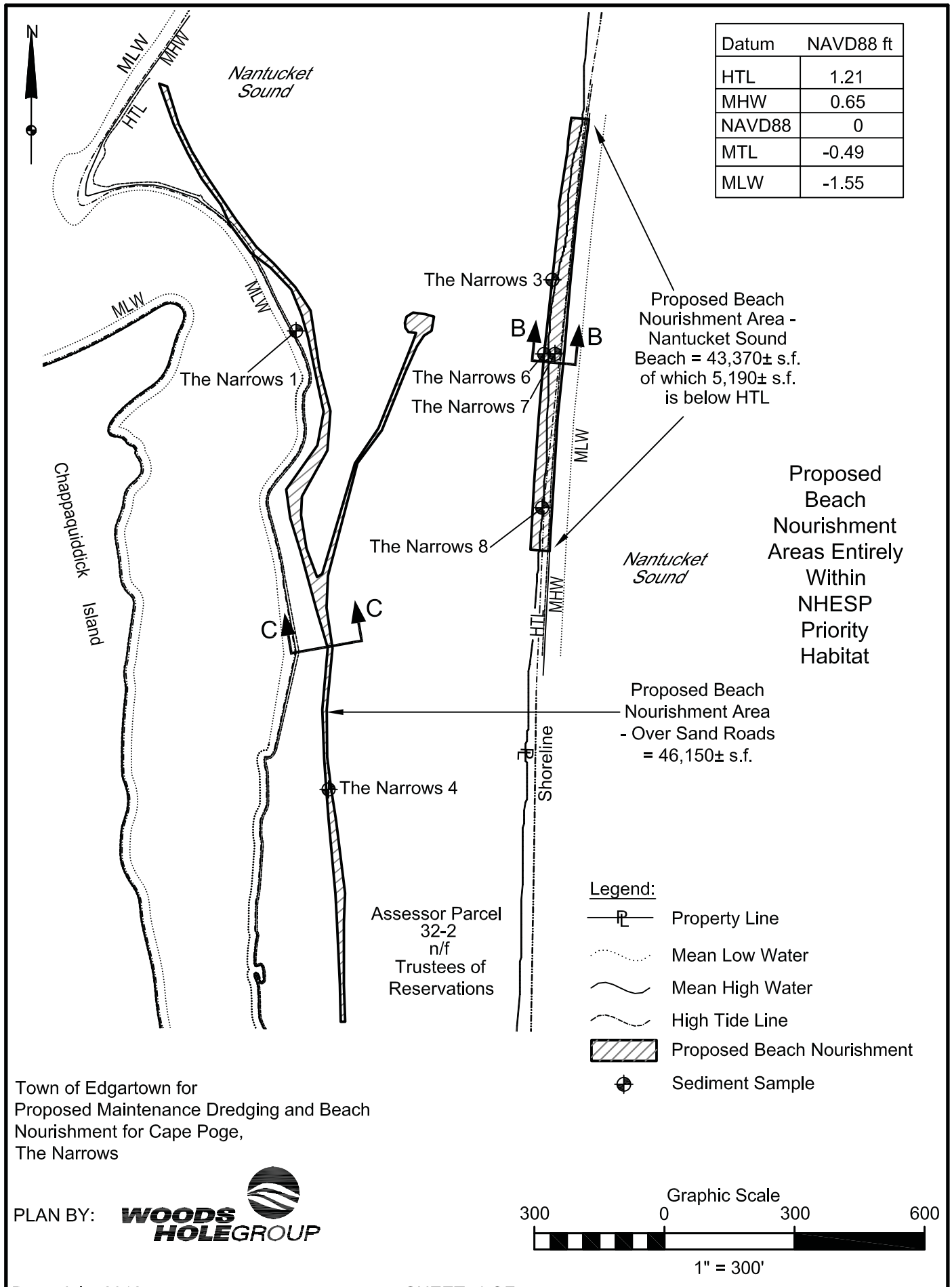
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for Cape Poge, The Narrows

PLAN BY: WOODS HOLE GROUP

Date: July, 2012

SHEET: 3 OF 5

2010-142_Site B ACOEdwg



Datum	NAVD88 ft
HTL	1.21
MHW	0.65
NAVD88	0
MTL	-0.49
MLW	-1.55

Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for Cape Poge, The Narrows

PLAN BY: WOODS HOLE GROUP

Graphic Scale
300 0 300 600
1" = 300'

Date: July, 2012

SHEET: 4 OF 5

2010-142_Site B ACOEdwg

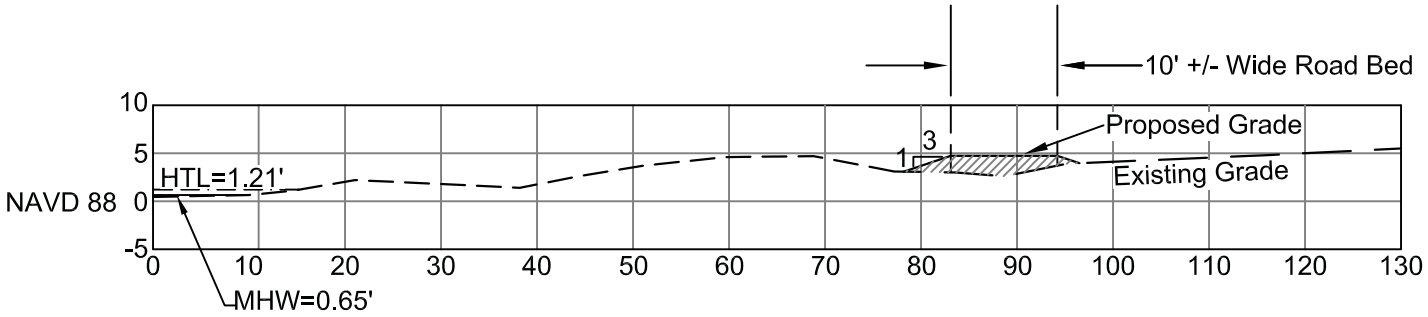
Town of Edgartown for
Proposed Maintenance Dredging and Beach
Nourishment for Cape Poge,
The Narrows

PLAN BY: WOODS HOLE GROUP

Date: July, 2012

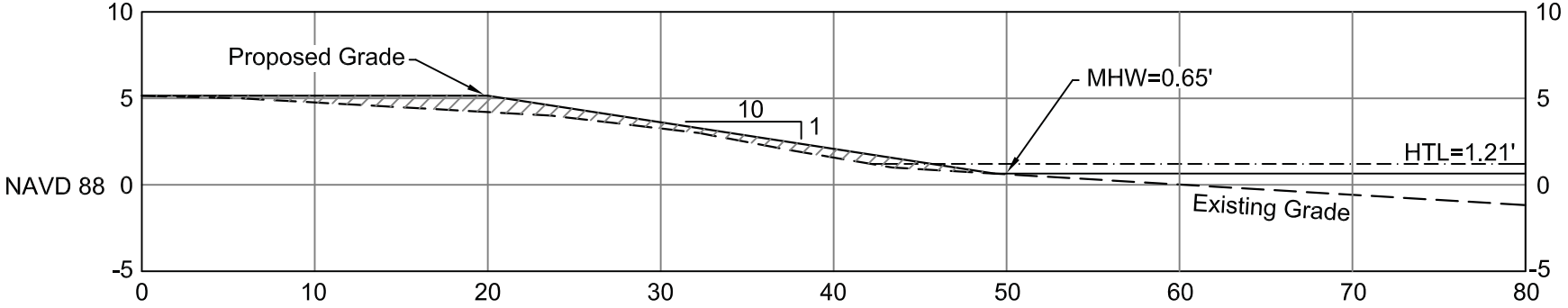
SHEET: 5 OF 5

2010-142_Site B ACOEdwg



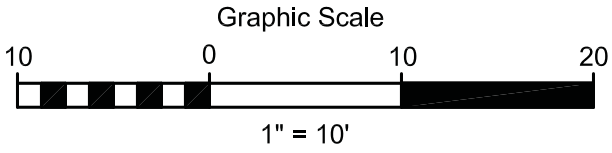
Typical Beach Nourishment Cross Section for Over Sand Roads C-C

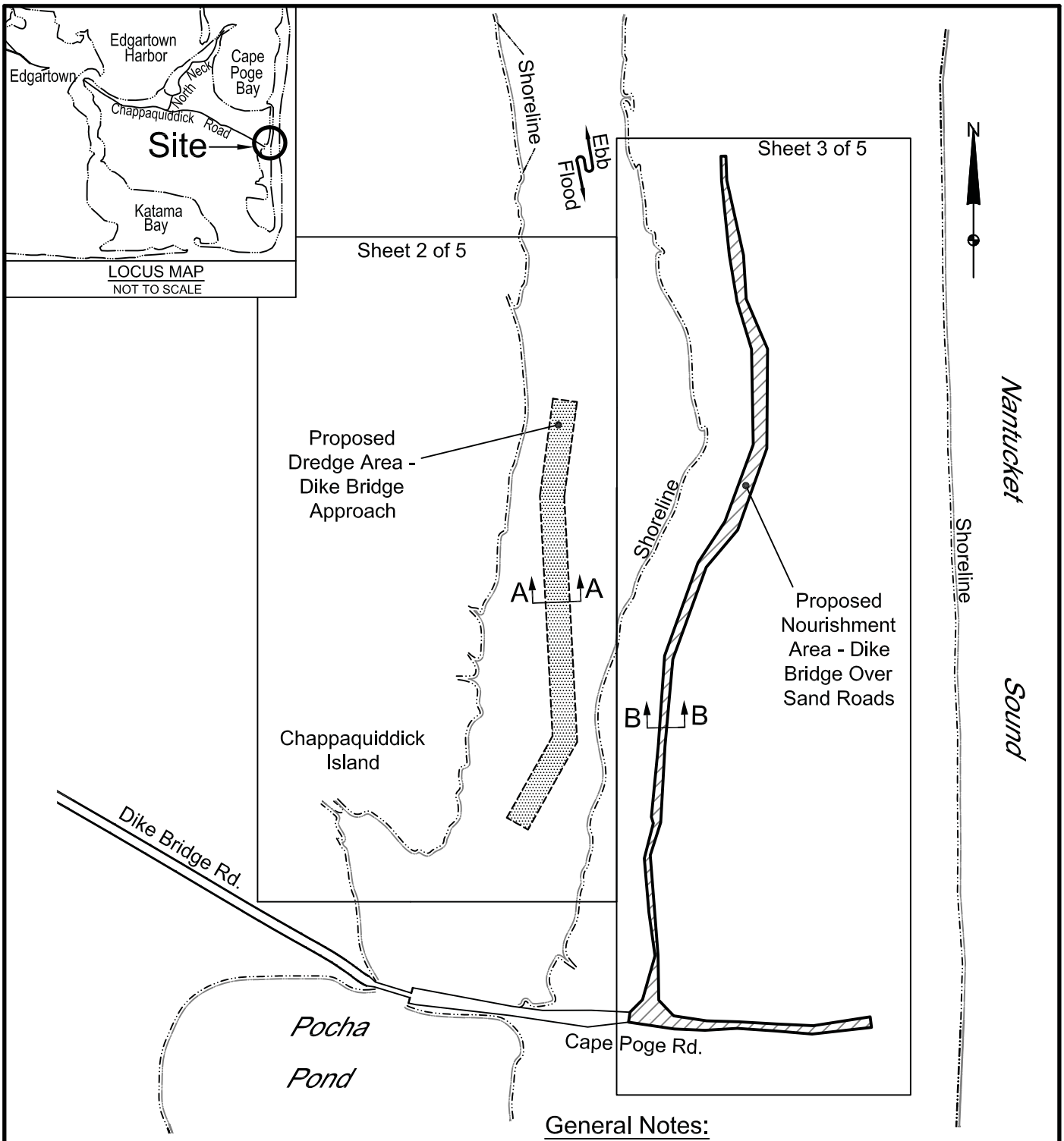
Scale: 1" = 20'



Typical Beach Nourishment Cross Section for Nantucket Sound Beach B-B

Scale: 1" = 10'





General Notes:

1. Elevations are referenced to NAVD88 datum.
2. Bathymetric survey was conducted in May, 2011 by Woods Hole Group.
3. Topographic survey was conducted in August, 2011 by Woods Hole Group.
4. Previously permitted under ACOE Permit No. NAE-2004-3802

PLAN ACCOMPANYING PETITION OF:
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for Cape Poge,
Dike Bridge Approach, Dukes County,
Edgartown, MA

Graphic Scale

300 0 300 600

1" = 300'

PLAN BY: WOODS HOLE GROUP

81 TECHNOLOGY PARK DRIVE EAST FALMOUTH, MA 02536
TELEPHONE: (508) 540-8080 FAX: (508) 540-1001

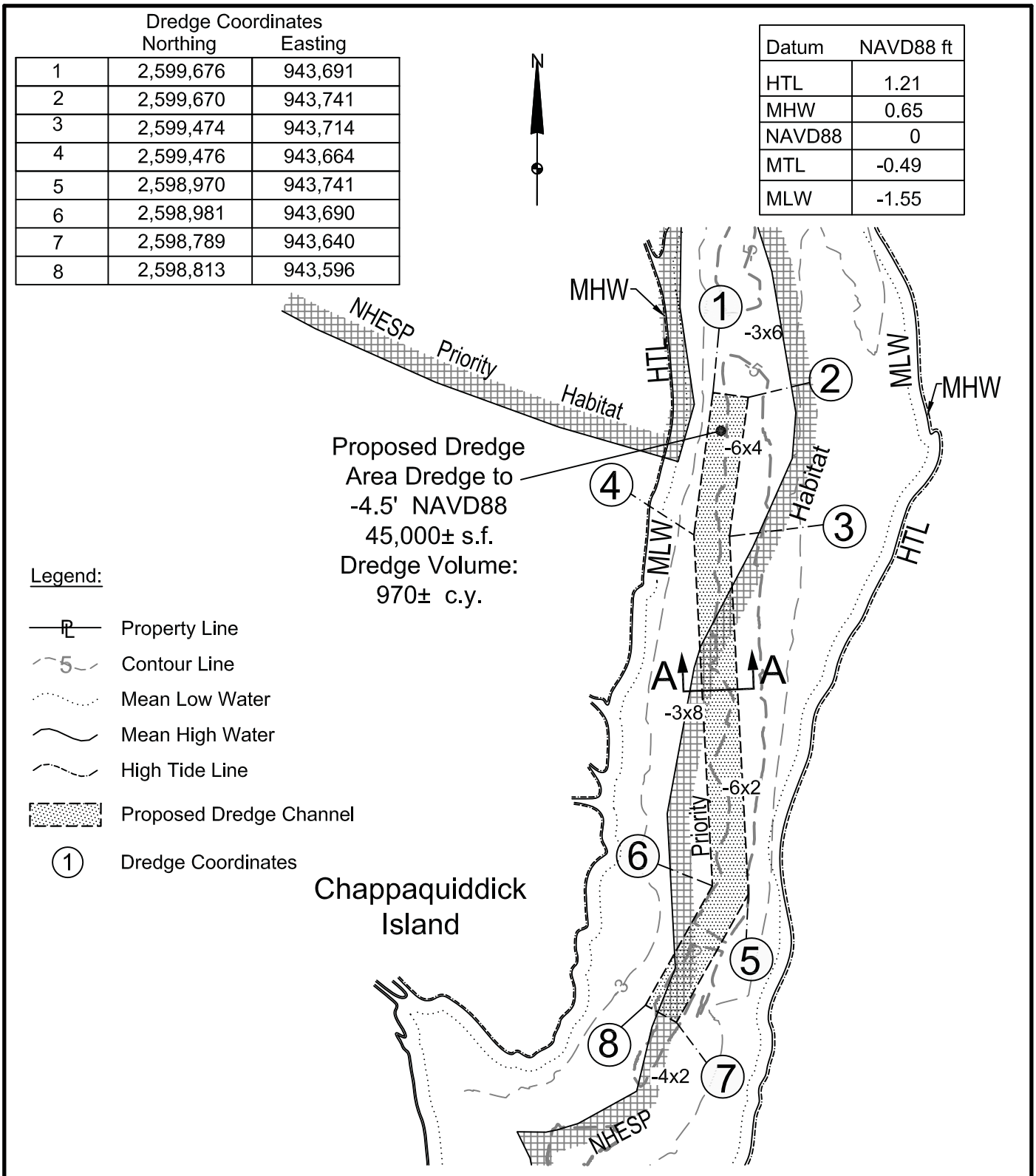
DATE: July, 2012

SHEET: 1 OF 5

2010-142_Site C ACOE.dwg

	Dredge Coordinates Northing	Easting
1	2,599,676	943,691
2	2,599,670	943,741
3	2,599,474	943,714
4	2,599,476	943,664
5	2,598,970	943,741
6	2,598,981	943,690
7	2,598,789	943,640
8	2,598,813	943,596

Datum	NAVD88 ft
HTL	1.21
MHW	0.65
NAVD88	0
MTL	-0.49
MLW	-1.55



Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for Cape Poge, Dike Bridge Approach

PLAN BY: WOODS HOLE GROUP

Graphic Scale

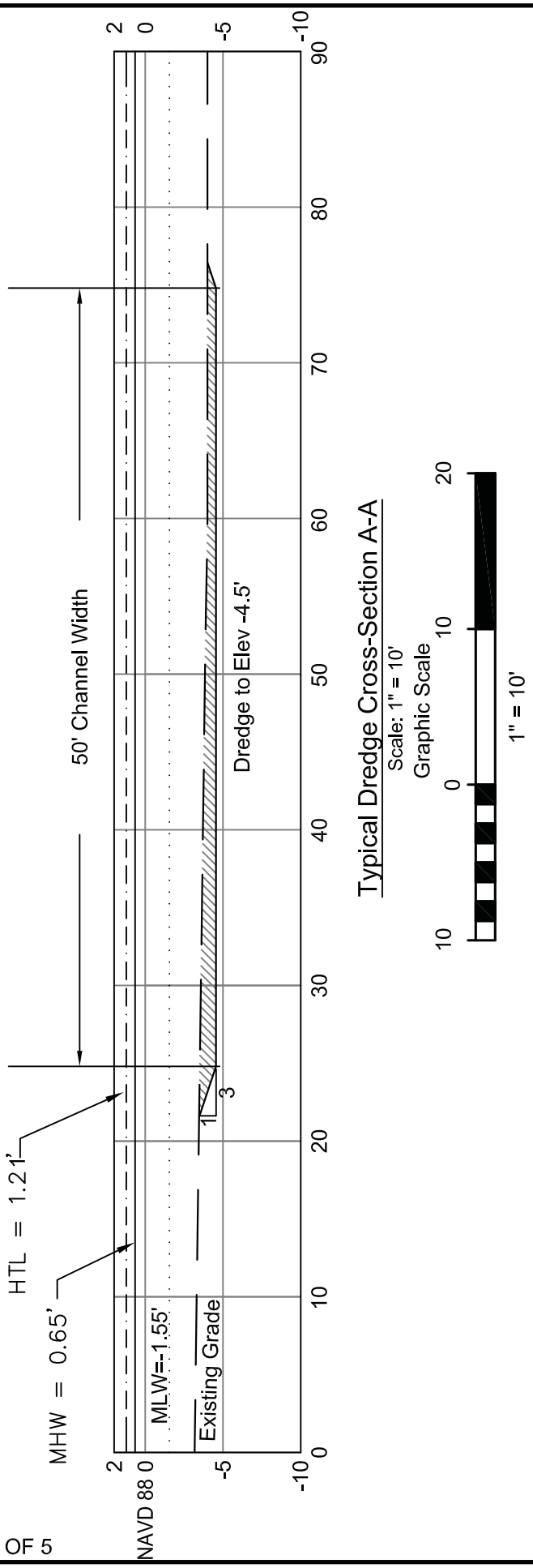
200 0 200 400

1" = 200'

DATE: July, 2012

SHEET: 2 OF 5

2010-142_Site C ACOE.dwg



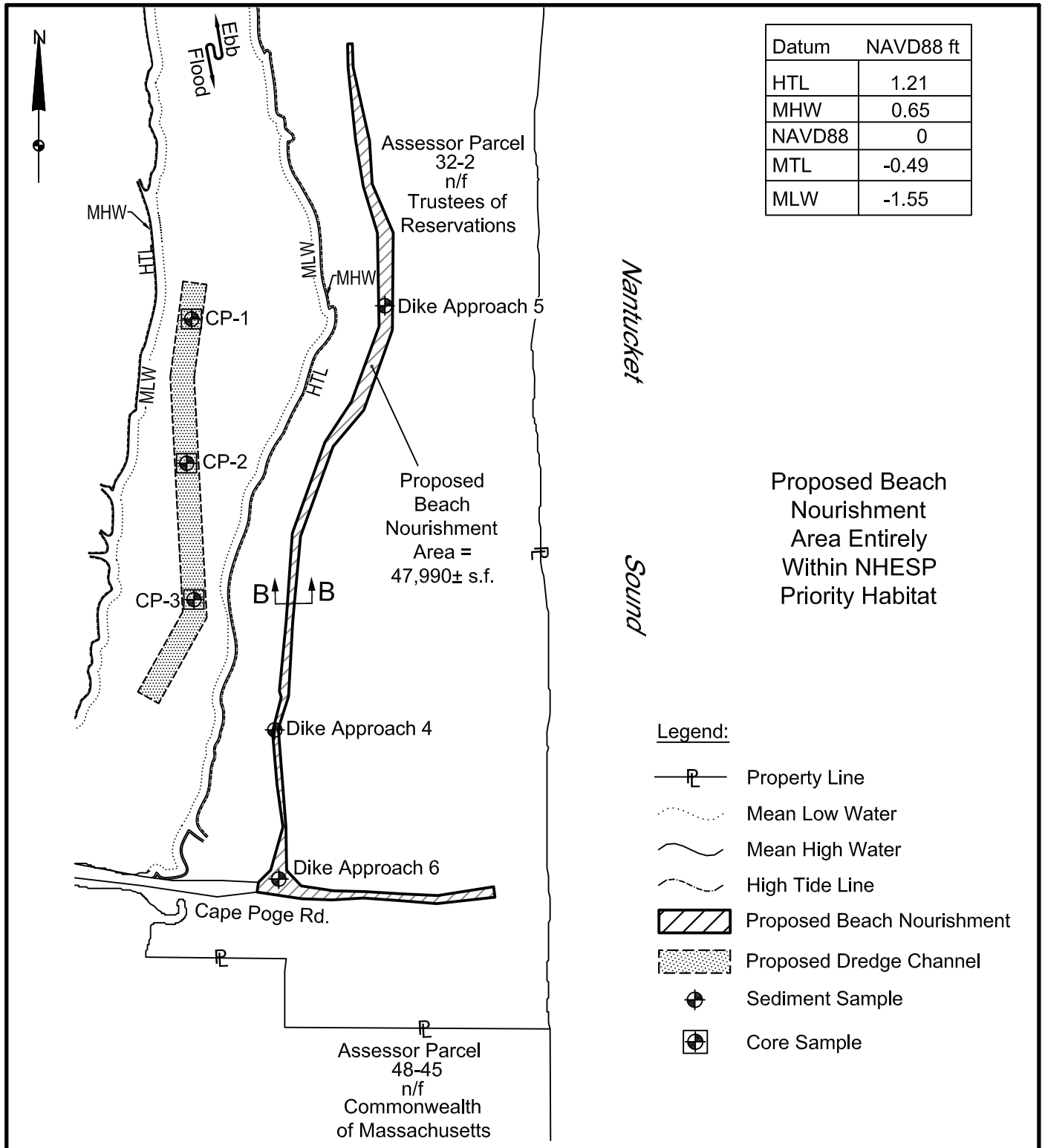
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for Cape Poge,
Dike Bridge Approach

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 3 OF 5

2010-142_Site C ACOE.dwg



Datum	NAVD88 ft
HTL	1.21
MHW	0.65
NAVD88	0
MTL	-0.49
MLW	-1.55

Town of Edgartown for
Proposed Maintenance Dredging and Beach
Nourishment for Cape Poge,
Dike Bridge Approach

PLAN BY: WOODS HOLE GROUP

Graphic Scale
300 0 300 600
1" = 300'

DATE: July, 2012

SHEET: 4 OF 5

2010-142_Site C ACOE.dwg

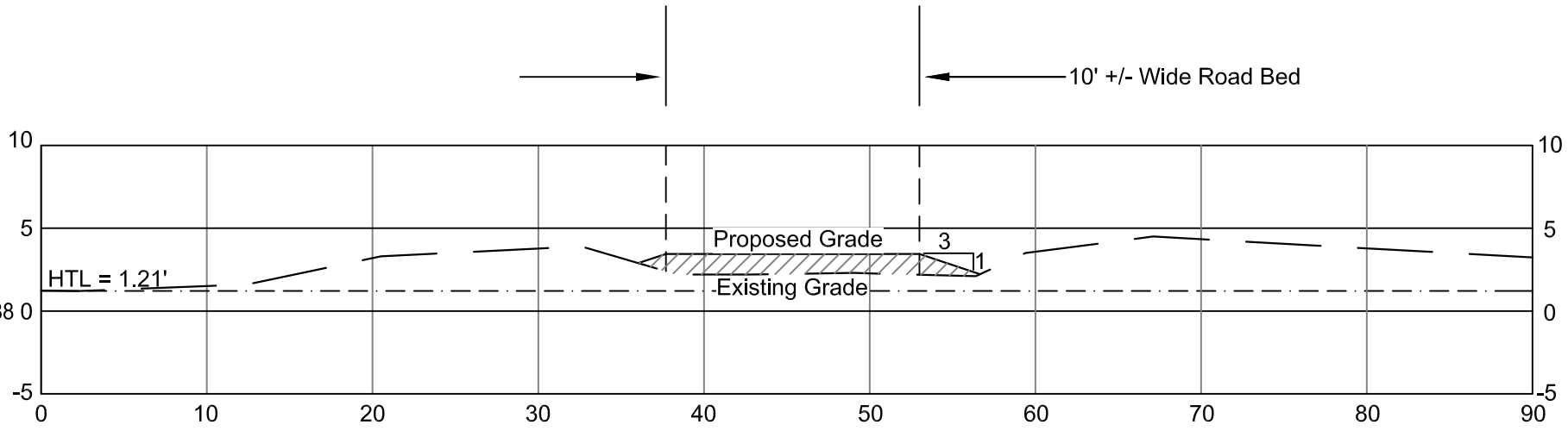
Town of Edgartown for
Proposed Maintenance Dredging and Beach
Nourishment for Cape Poge,
Dike Bridge Approach

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

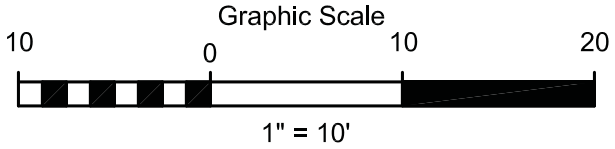
SHEET: 5 OF 5

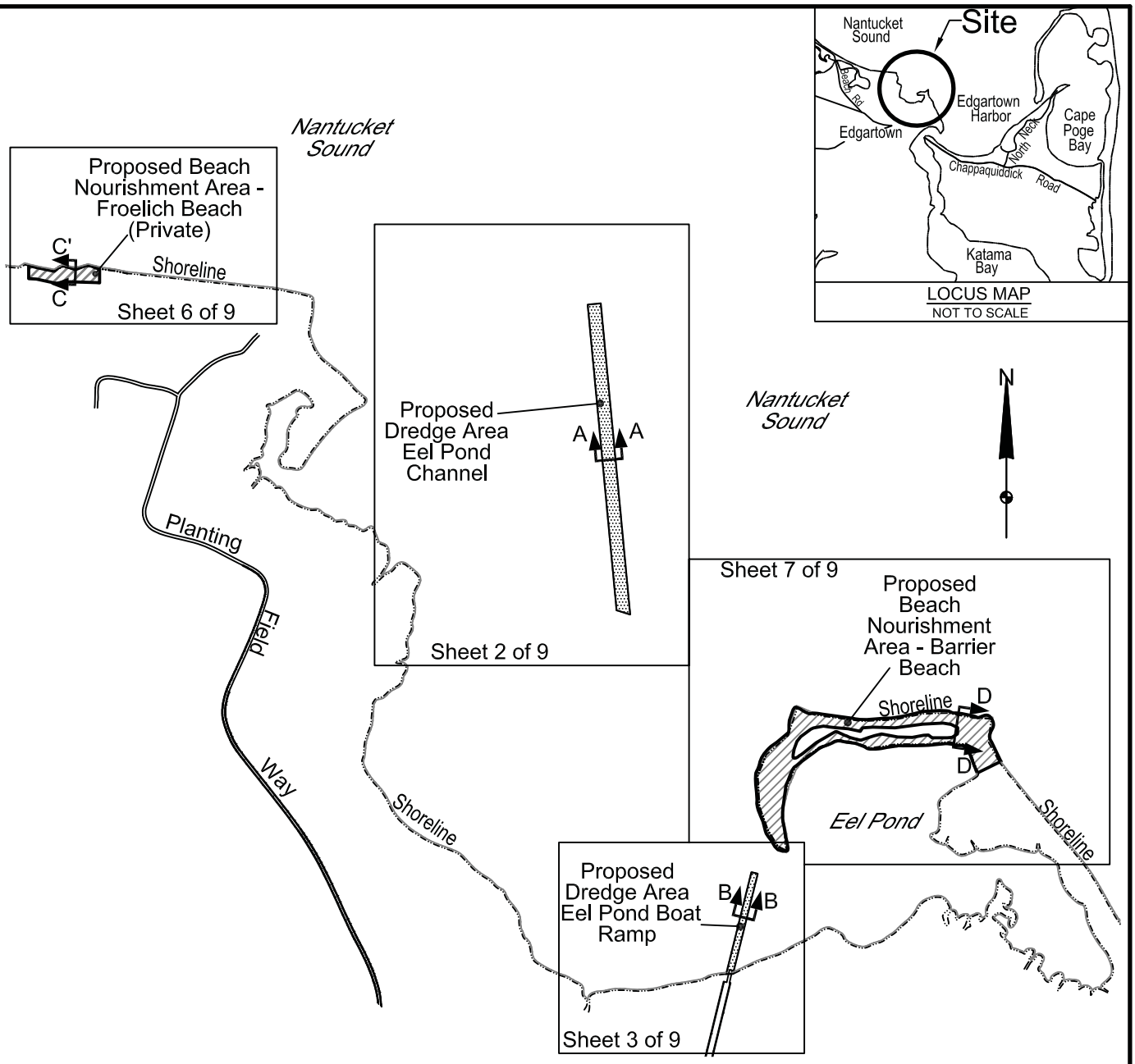
2010-142_Site C ACOE.dwg



Typical Beach Nourishment Cross-Section B-B

Scale: 1" = 10'





General Notes:

1. Elevations are referenced to NAVD88 datum.
2. Bathymetric survey was conducted in February, 2009 by Woods Hole Group.
3. Topographic survey was conducted in May and September, 2011 by Woods Hole Group.
4. Previously permitted under ACOE Permit No. NAE-2006-3245

PLAN ACCOMPANYING PETITION OF:
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Eel Pond, Dukes County,
Edgartown, MA

Graphic Scale

600 0 600 1200

1" = 600'

PLAN BY: WOODS HOLE GROUP

81 TECHNOLOGY PARK DRIVE EAST FALMOUTH, MA 02536
TELEPHONE: (508) 540-8080 FAX: (508) 540-1001

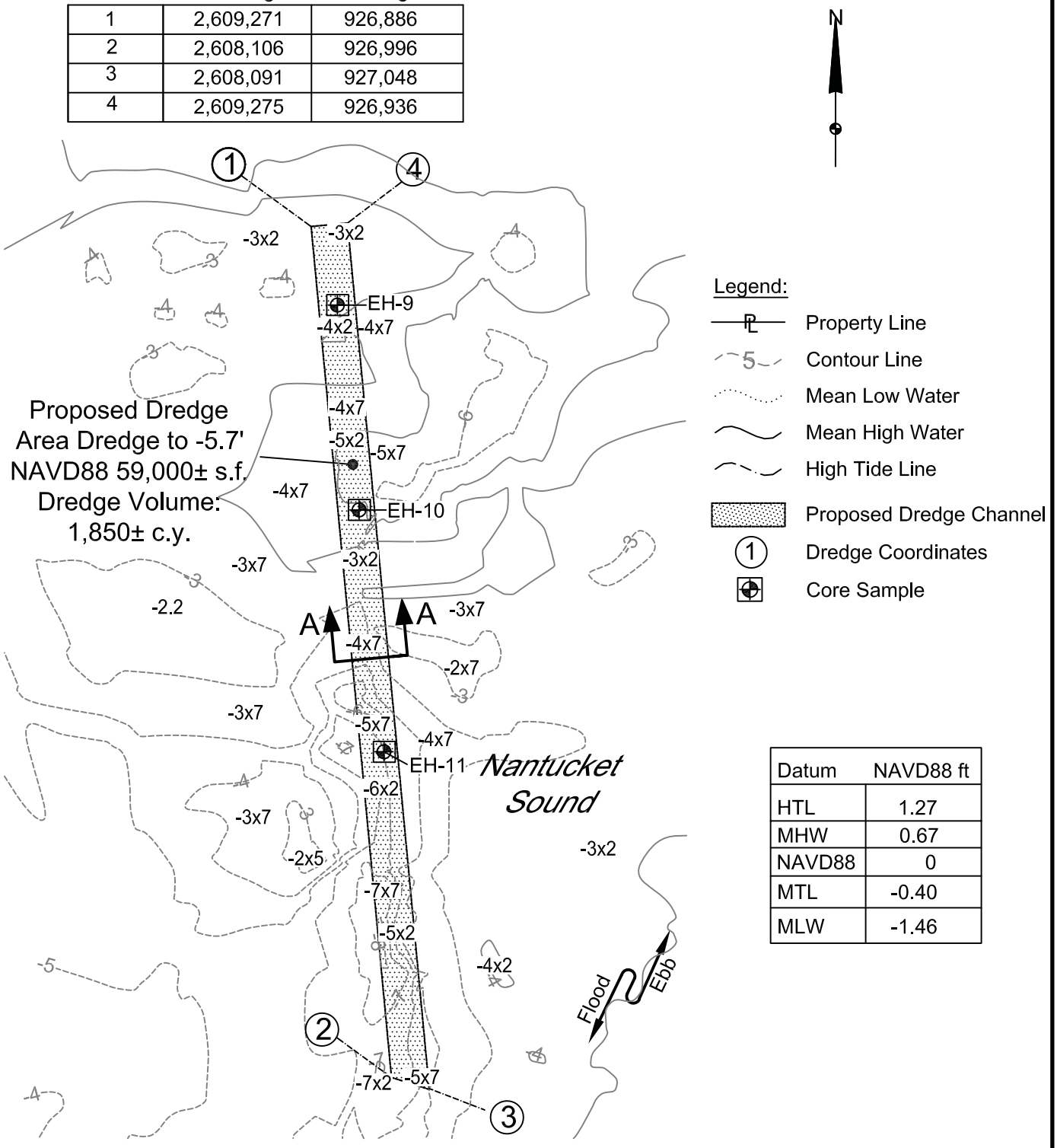
DATE: July, 2012

SHEET: 1 OF 9

2010-142_Site H ACOE.dwg

Dredge Coordinates

	Northing	Easting
1	2,609,271	926,886
2	2,608,106	926,996
3	2,608,091	927,048
4	2,609,275	926,936



Datum	NAVD88 ft
HTL	1.27
MHW	0.67
NAVD88	0
MTL	-0.40
MLW	-1.46

Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Eel Pond

PLAN BY: WOODS HOLE GROUP

Graphic Scale
200 0 200 400
1" = 200'

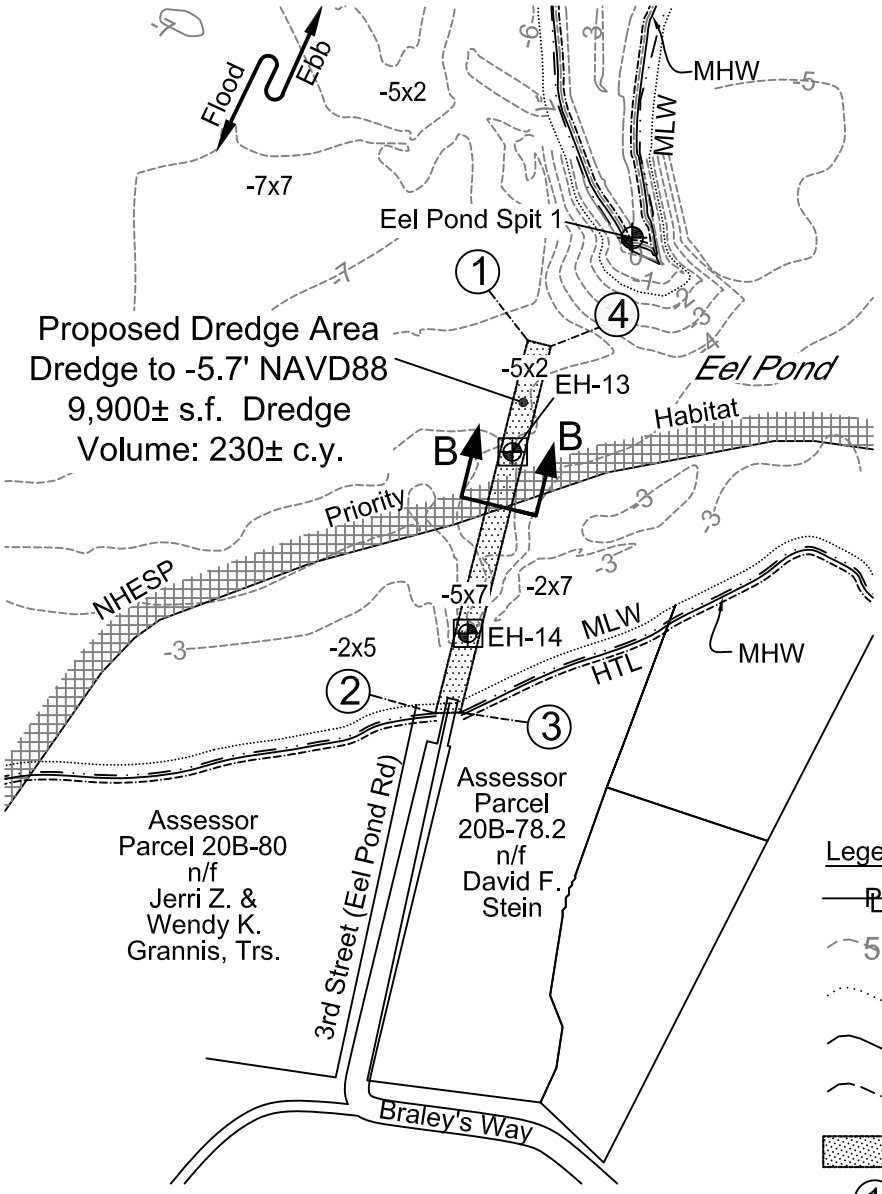
DATE: July, 2012

SHEET: 2 OF 9

2010-142_Site H ACOE.dwg

Dredge Coordinates

	Northing	Easting
1	2,607,109	927,509
2	2,606,721	927,413
3	2,606,721	927,439
4	2,607,103	927,533



Datum	NAVD88 ft
HTL	1.27
MHW	0.67
NAVD88	0
MTL	-0.40
MLW	-1.46

N

Legend:

- Property Line
- Contour Line
- Mean Low Water
- Mean High Water
- High Tide Line
- Proposed Dredge Channel
- Dredge Coordinates
- Sediment Sample
- Core Sample

Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Eel Pond

PLAN BY: WOODS HOLE GROUP

Graphic Scale

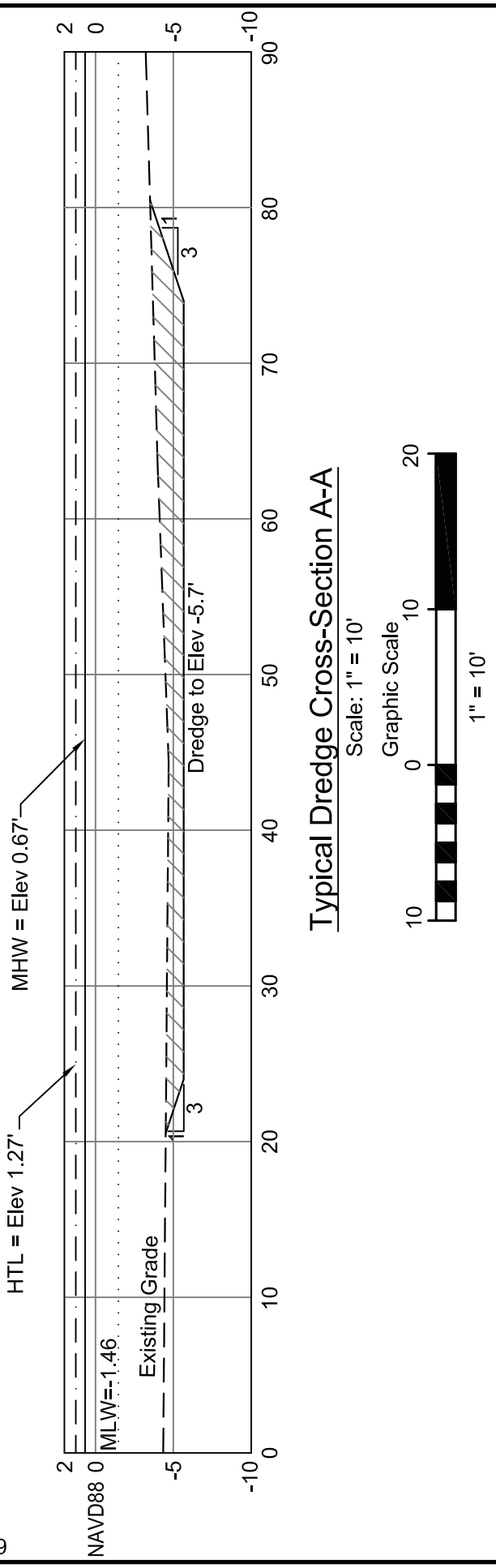
200 0 200 400

1" = 200'

DATE: July, 2012

SHEET: 3 OF 9

2010-142_Site H ACOE.dwg



Typical Dredge Cross-Section A-A

Scale: 1" = 10'

Graphic Scale

10 0 10 20

1" = 10'

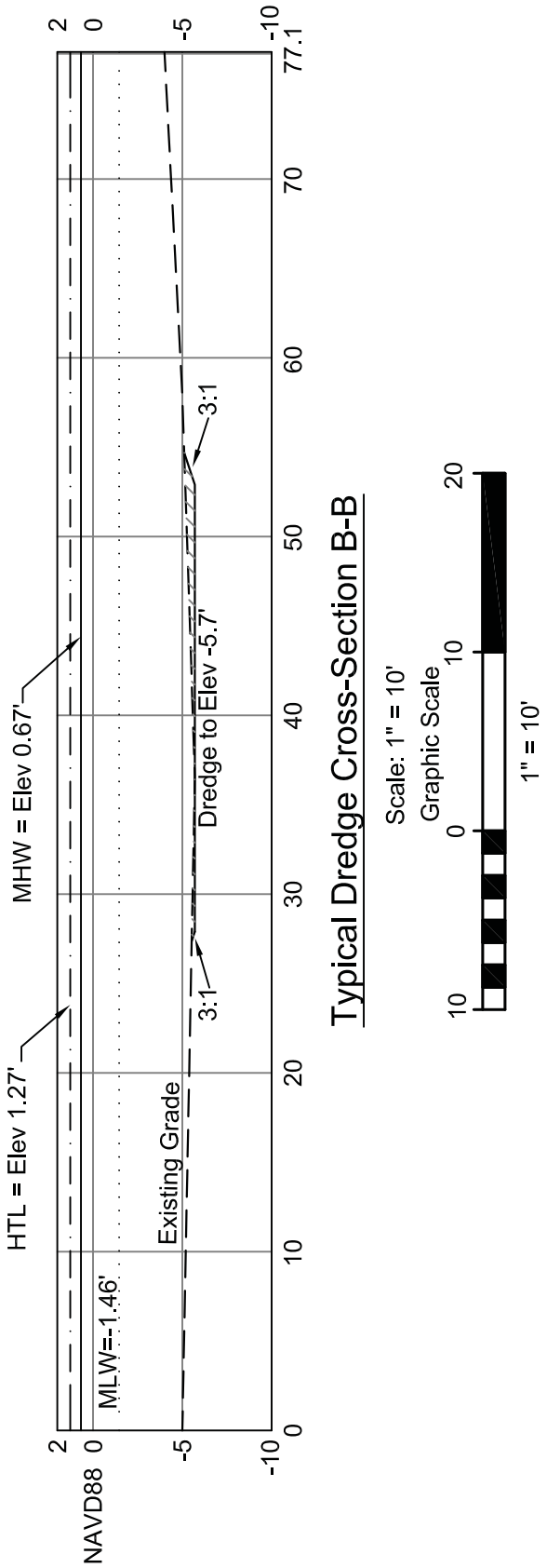
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Eel Pond

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 4 OF 9

2010-142_Site H ACOE.dwg



Typical Dredge Cross-Section B-B

Scale: 1" = 10'

Graphic Scale

10 0 10 20

1" = 10'

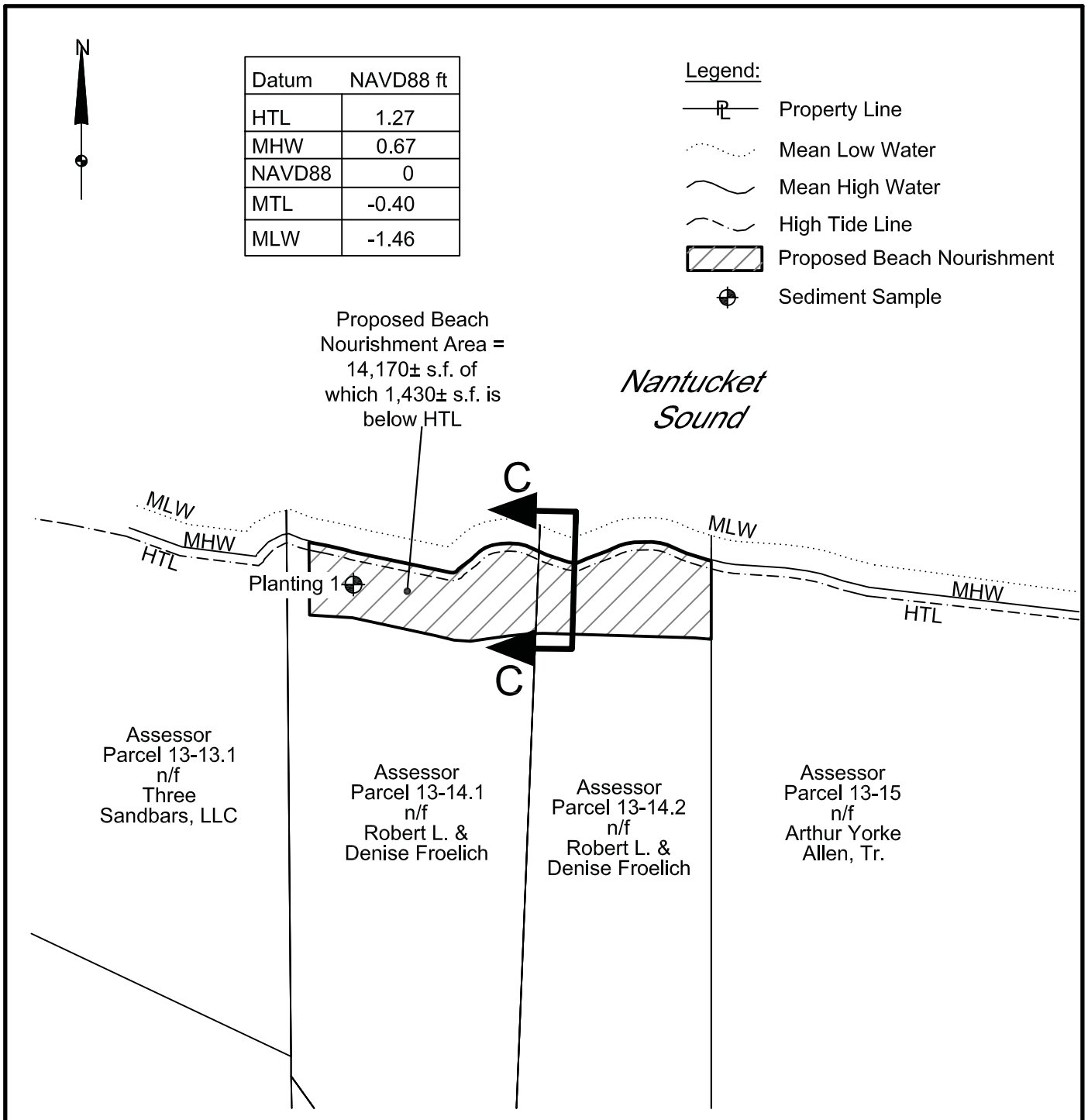
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Eel Pond

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 5 OF 9

2010-142_Site H ACOE.dwg



Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Eel Pond

PLAN BY: WOODS HOLE GROUP

Graphic Scale
100 0 100 200
1" = 100'

DATE: July, 2012

SHEET: 6 OF 9

2010-142_Site H ACOE.dwg

Typical Beach Nourishment Cross-Section C-C

Scale: 1" = 10'

Graphic Scale

10 0 10 20

1" = 10'

Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Eel Pond

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

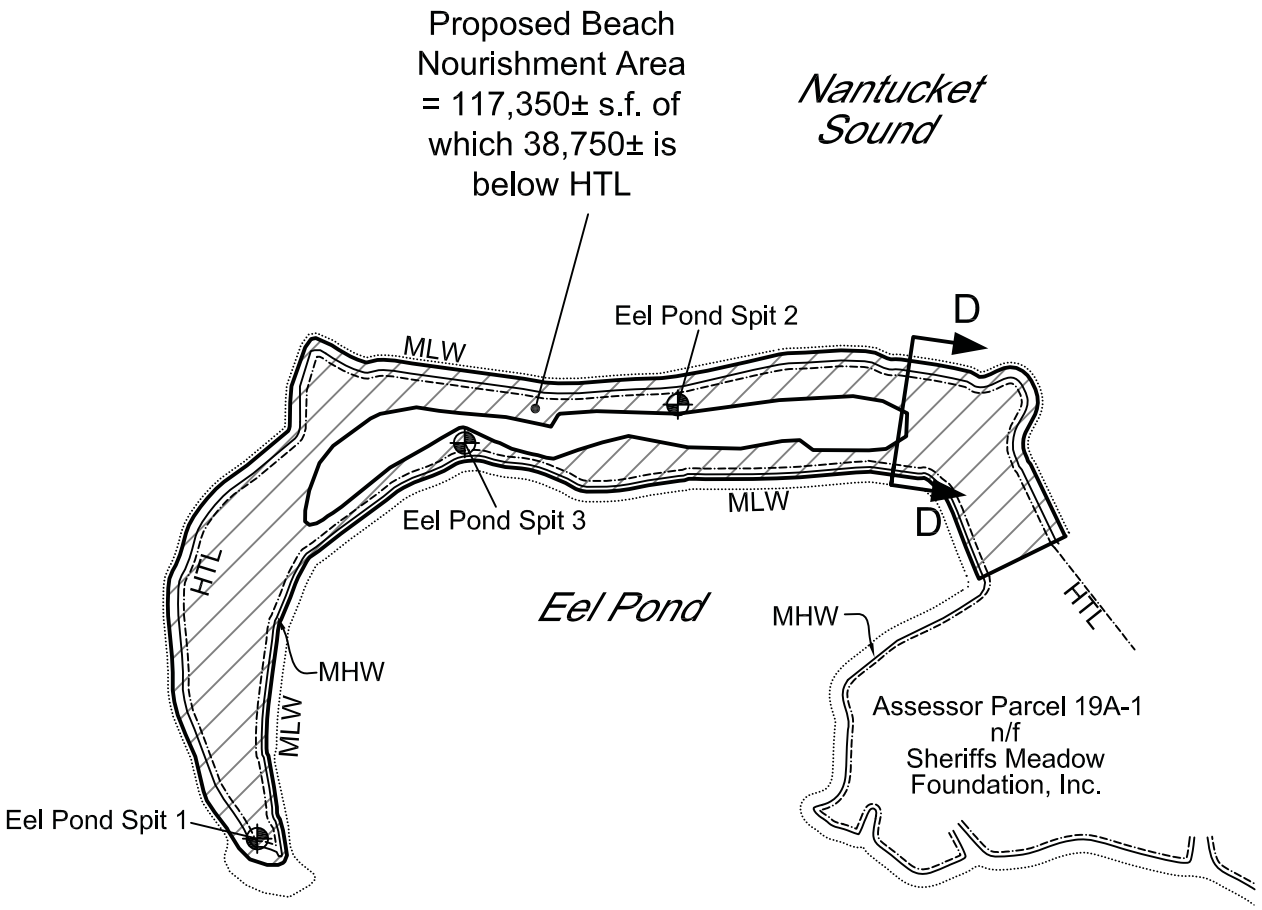
SHEET: 7 OF 9

2010-142_Site H ACOE.dwg

Datum	NAVD88 ft
HTL	1.27
MHW	0.67
NAVD88	0
MTL	-0.40
MLW	-1.46

Legend:

- Property Line
- Mean Low Water
- Mean High Water
- High Tide Line
- Proposed Beach Nourishment
- Sediment Sample



Proposed Beach Nourishment Area Entirely Within NHESP Priority Habitat

Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Eel Pond

PLAN BY: WOODS HOLE GROUP

Graphic Scale
200 0 200 400
1" = 200'

DATE: July, 2012

SHEET: 8 OF 9

2010-142_Site H ACOE.dwg

Town of Edgartown for
Proposed Maintenance Dredging and Beach
Nourishment for
Eel Pond

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 9 OF 9

2010-142_Site H ACOE.dwg

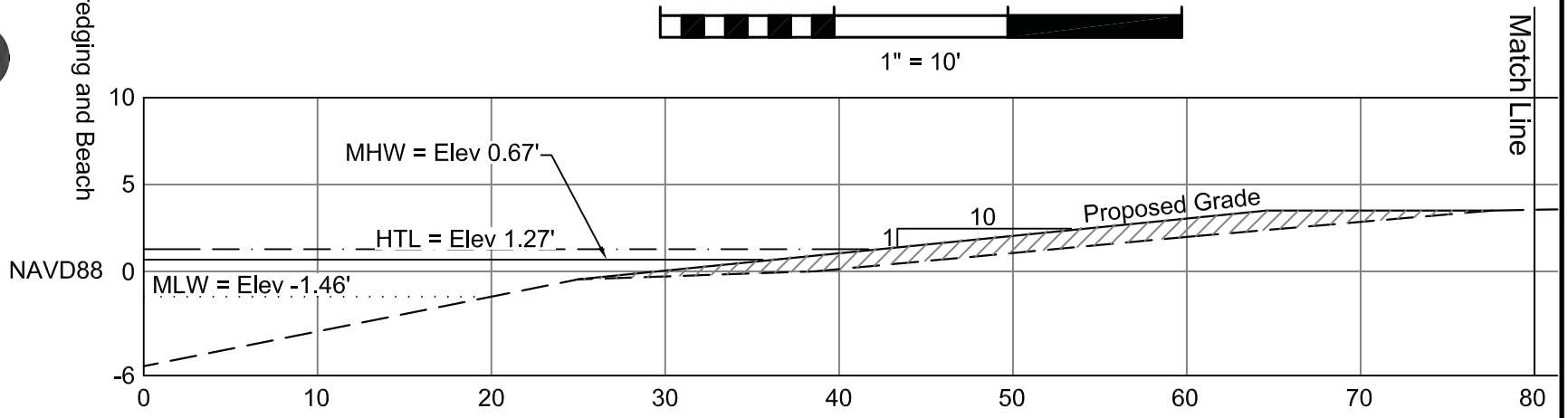
Typical Beach Nourishment Cross-Section D-D

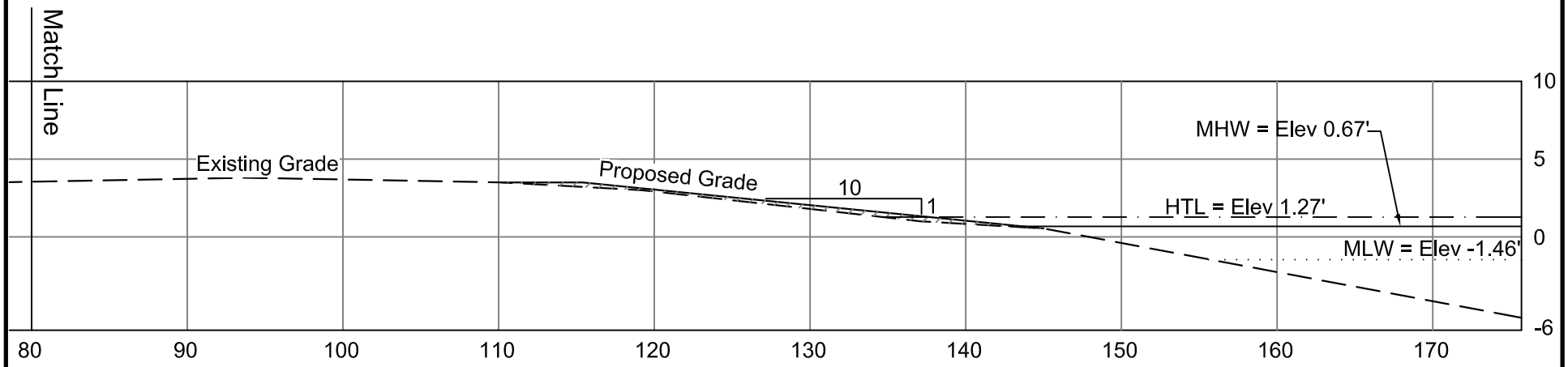
Scale: 1" = 10'

Graphic Scale

10 0 10 20

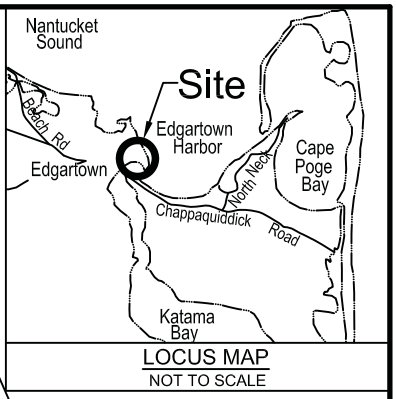
1" = 10'





General Notes:

1. Elevations are referenced to NAVD88 datum.
2. Bathymetric survey was conducted in May, 2011 by Woods Hole Group.
3. Topographic survey was conducted in August, 2011 by Woods Hole Group.
4. Previously permitted under ACOE Permit No. NAE-2004-3805



LOCUS MAP
NOT TO SCALE

Sheet 4 of 6

Edgartown Harbor

Lighthouse Point Pond

Proposed Beach Nourishment Area - Lighthouse (Fuller) Beach

Proposed Dredge Area - Lighthouse Point

Shoreline

Sheet 2 of 6

Edgartown Harbor

PLAN ACCOMPANYING PETITION OF:
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Lighthouse Point, Dukes County,
Edgartown, MA

PLAN BY: WOODS HOLE GROUP

81 TECHNOLOGY PARK DRIVE EAST FALMOUTH, MA 02536
TELEPHONE: (508) 540-8080 FAX: (508) 540-1001

Graphic Scale
200 0 200 400
1" = 200'

DATE: July, 2012

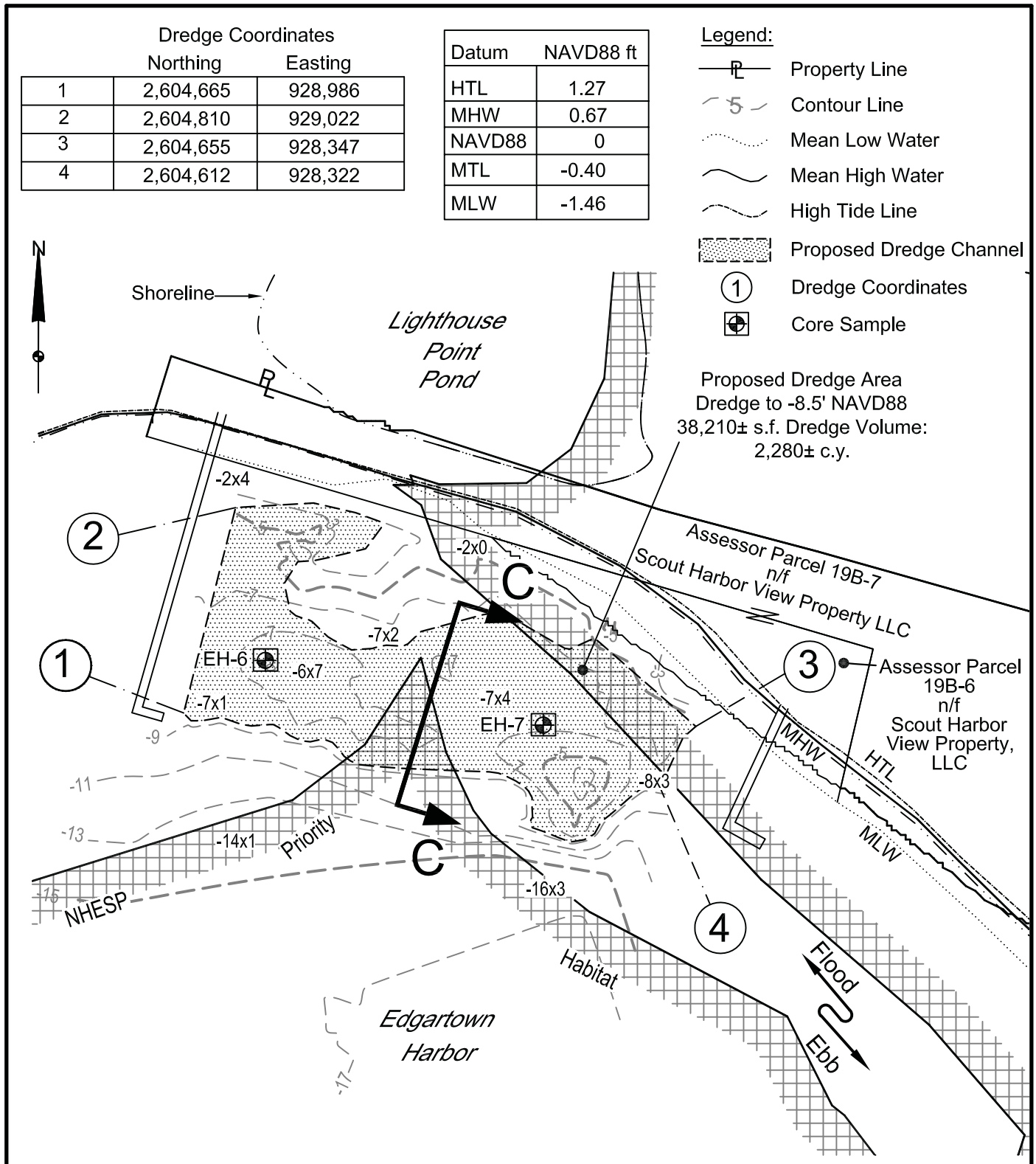
SHEET: 1 OF 6

2010-142_Site G ACOE.dwg

Dredge Coordinates

	Northing	Easting
1	2,604,665	928,986
2	2,604,810	929,022
3	2,604,655	928,347
4	2,604,612	928,322

Datum	NAVD88 ft
HTL	1.27
MHW	0.67
NAVD88	0
MTL	-0.40
MLW	-1.46



Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Lighthouse Point

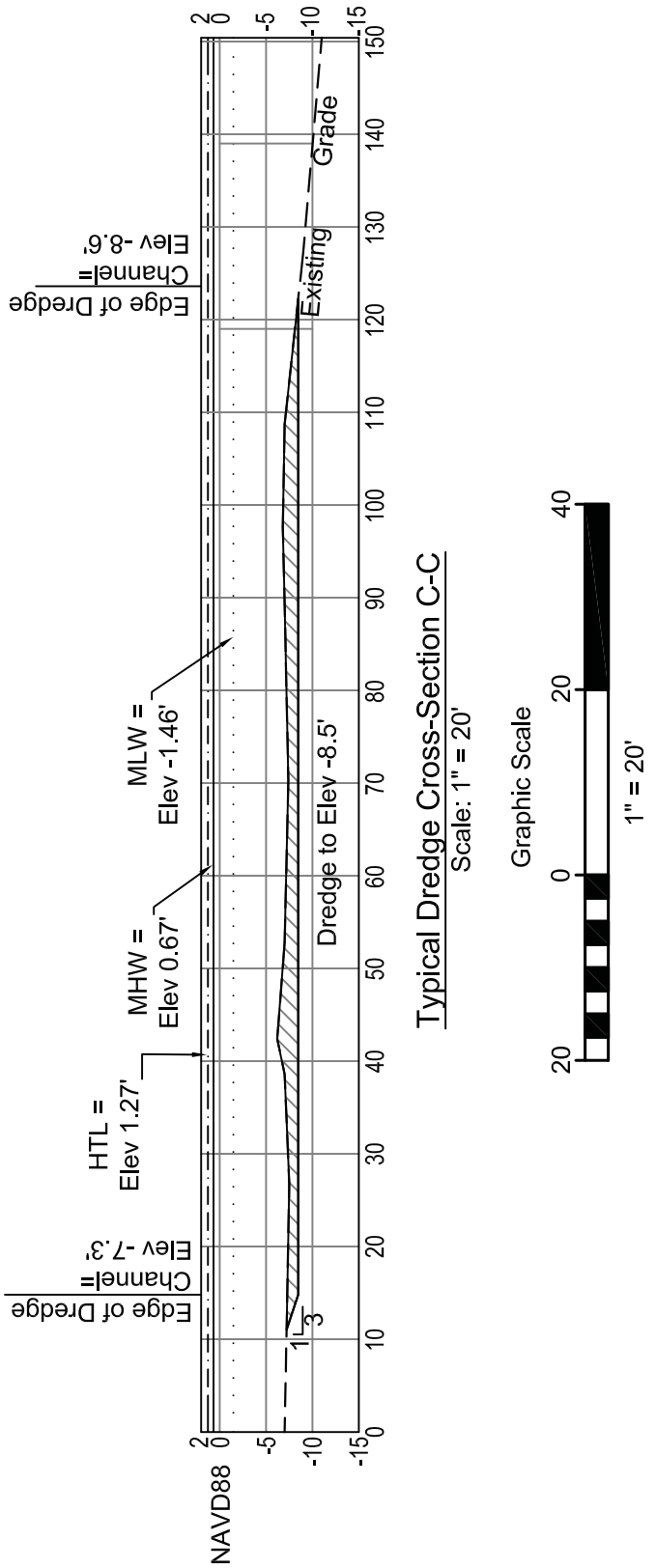
PLAN BY: WOODS HOLE GROUP

Graphic Scale
100 0 100 200
1" = 100'

DATE: July, 2012

SHEET: 2 OF 6

2010-142_Site G ACOE.dwg



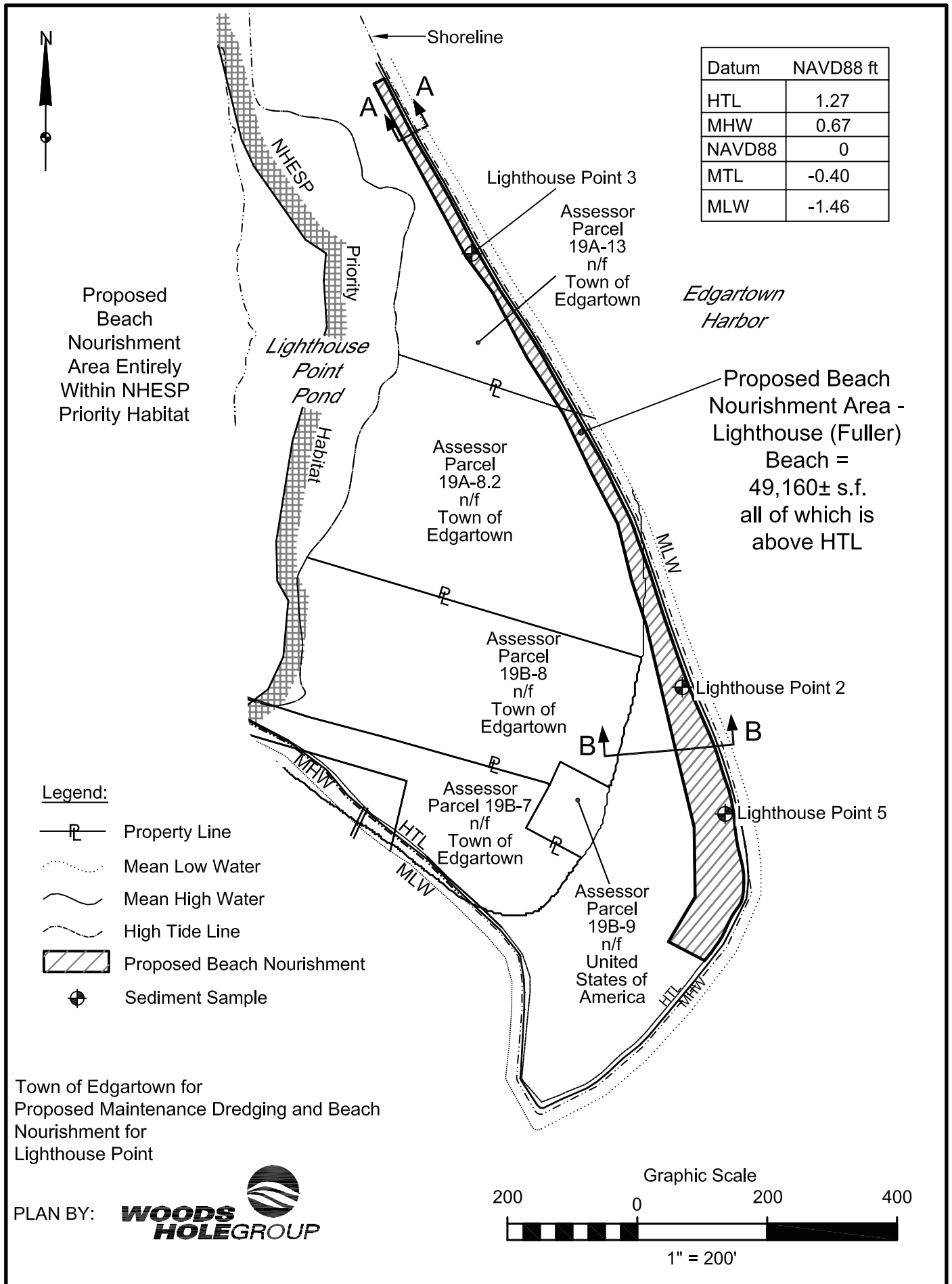
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Lighthouse Point

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 3 OF 6

2010-142_Site G ACOE.dwg



Datum	NAVD88 ft
HTL	1.27
MHW	0.67
NAVD88	0
MTL	-0.40
MLW	-1.46

Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Lighthouse Point

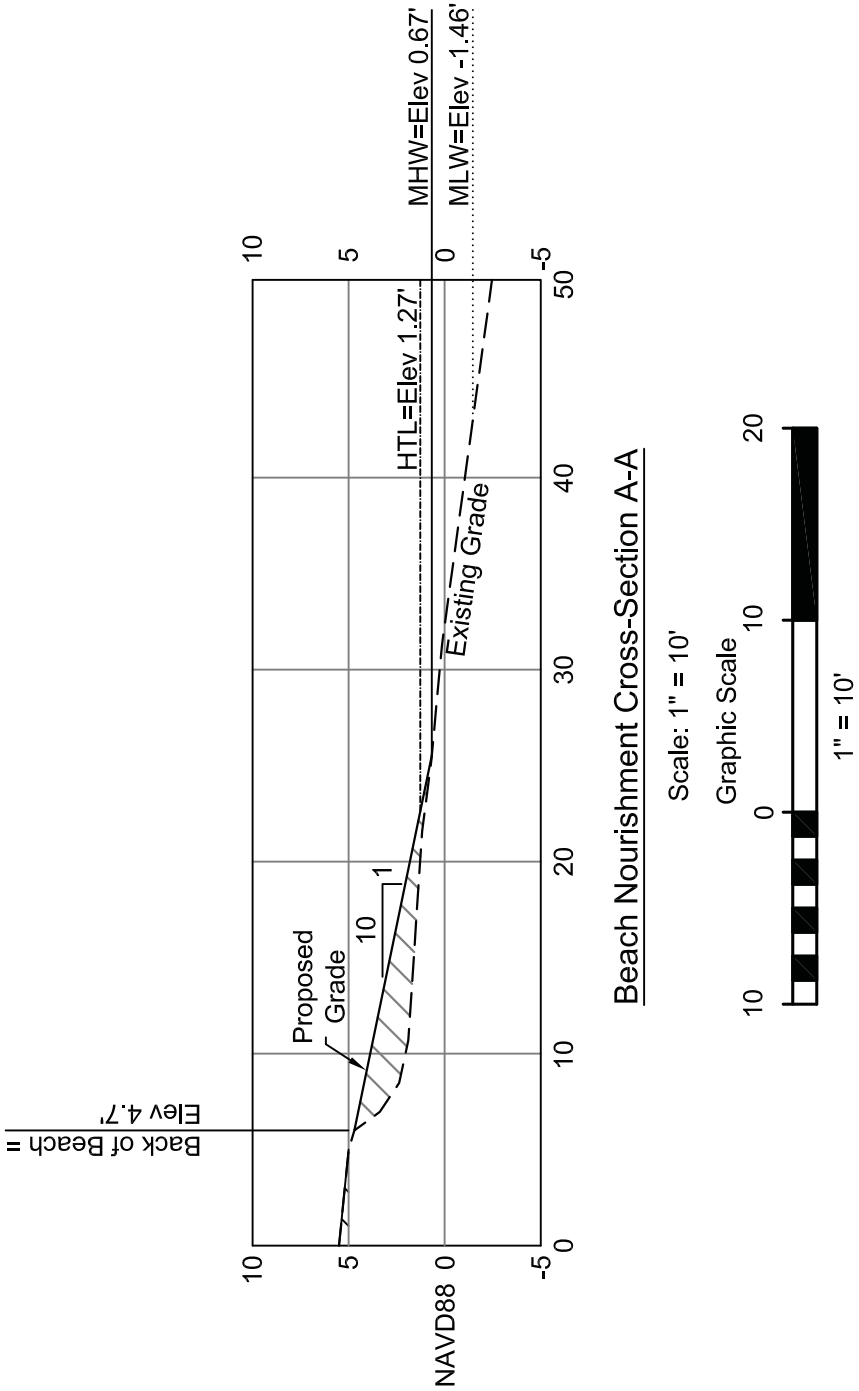
PLAN BY: WOODS HOLE GROUP

Graphic Scale
200 0 200 400
1" = 200'

DATE: July, 2012

SHEET: 4 OF 6

2010-142_Site G ACOE.dwg



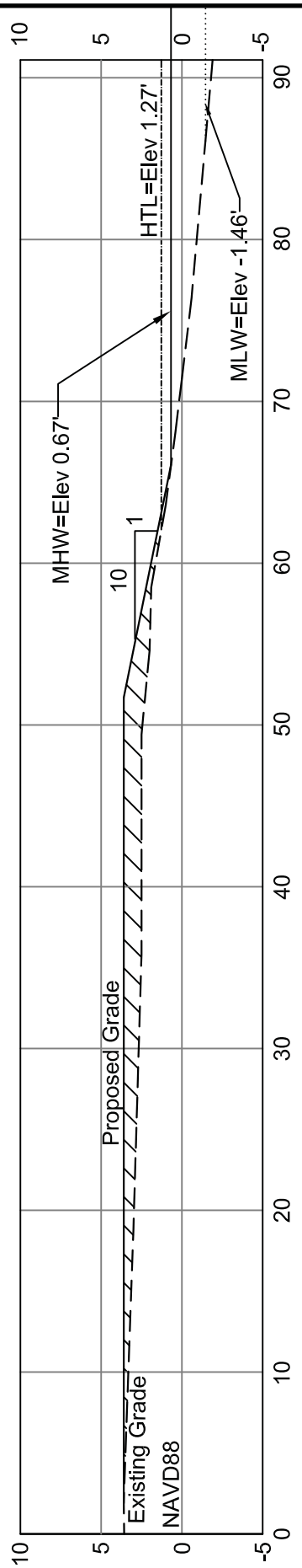
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Lighthouse Point

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 5 OF 6

2010-142_Site G ACOE.dwg



Beach Nourishment Cross-Section B-B

Scale: 1" = 10'

Graphic Scale

10 0 10 20

1" = 10'

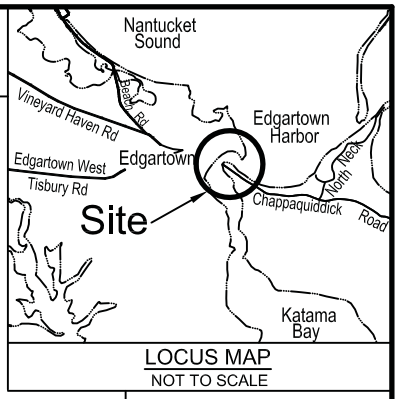
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Lighthouse Point

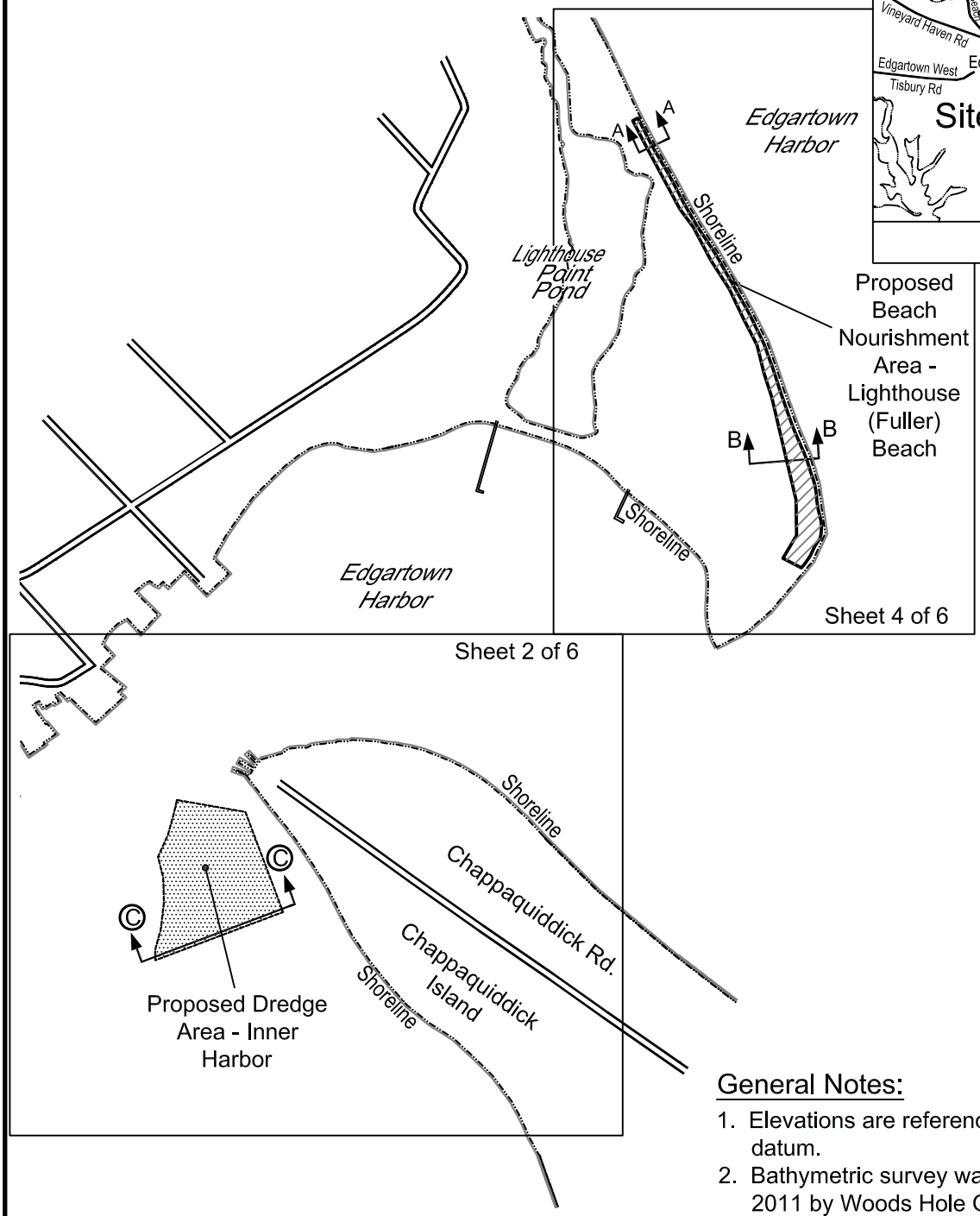
PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 6 OF 6

2010-142_Site G ACOE.dwg





General Notes:

1. Elevations are referenced to NAVD88 datum.
2. Bathymetric survey was conducted in May, 2011 by Woods Hole Group.
3. Topographic survey was conducted in August, 2011 by Woods Hole Group.
4. Previously permitted under ACOE Permit No. NAE-2004-3804

PLAN ACCOMPANYING PETITION OF:
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Inner Harbor, Dukes County,
Edgartown, MA

PLAN BY: WOODS HOLE GROUP

81 TECHNOLOGY PARK DRIVE EAST FALMOUTH, MA 02536
TELEPHONE: (508) 540-8080 FAX: (508) 540-1001

Graphic Scale

500 0 500 1000

1" = 500'

DATE: July, 2012

SHEET: 1 OF 6

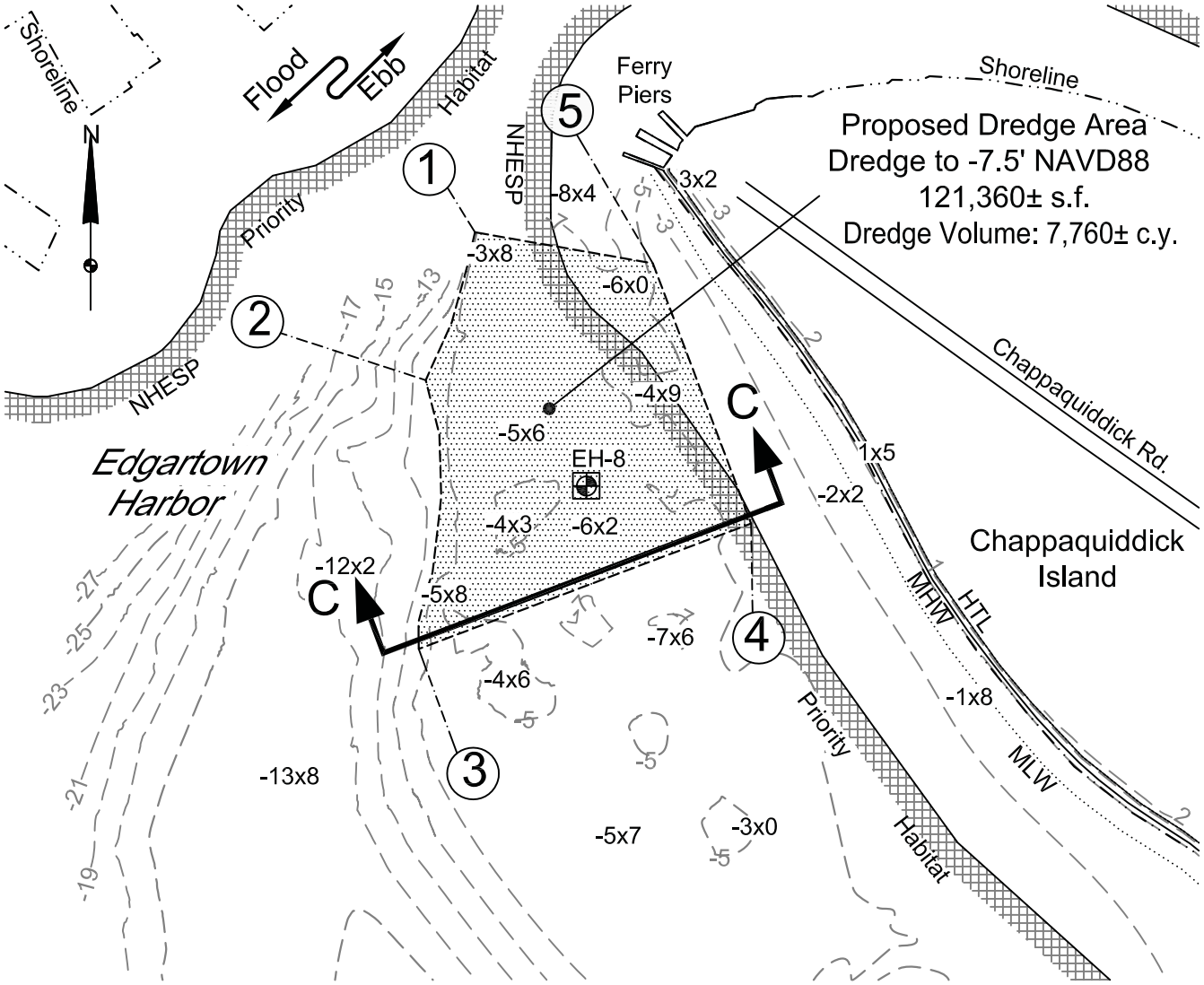
2010-142_Site J ACOE.dwg

Dredge Coordinates	Northing	Easting
1	2,603,733	928,046
2	2,603,561	927,989
3	2,603,249	927,981
4	2,603,395	928,367
5	2,603,697	928,253

Legend:

- Property Line
- Contour Line
- Mean Low Water
- Mean High Water
- High Tide Line
- Proposed Dredge Channel
- Dredge Coordinates
- Core Sample

Datum	NAVD88 ft
HTL	1.27
MHW	0.67
NAVD88	0
MTL	-0.40
MLW	-1.46



Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Inner Harbor

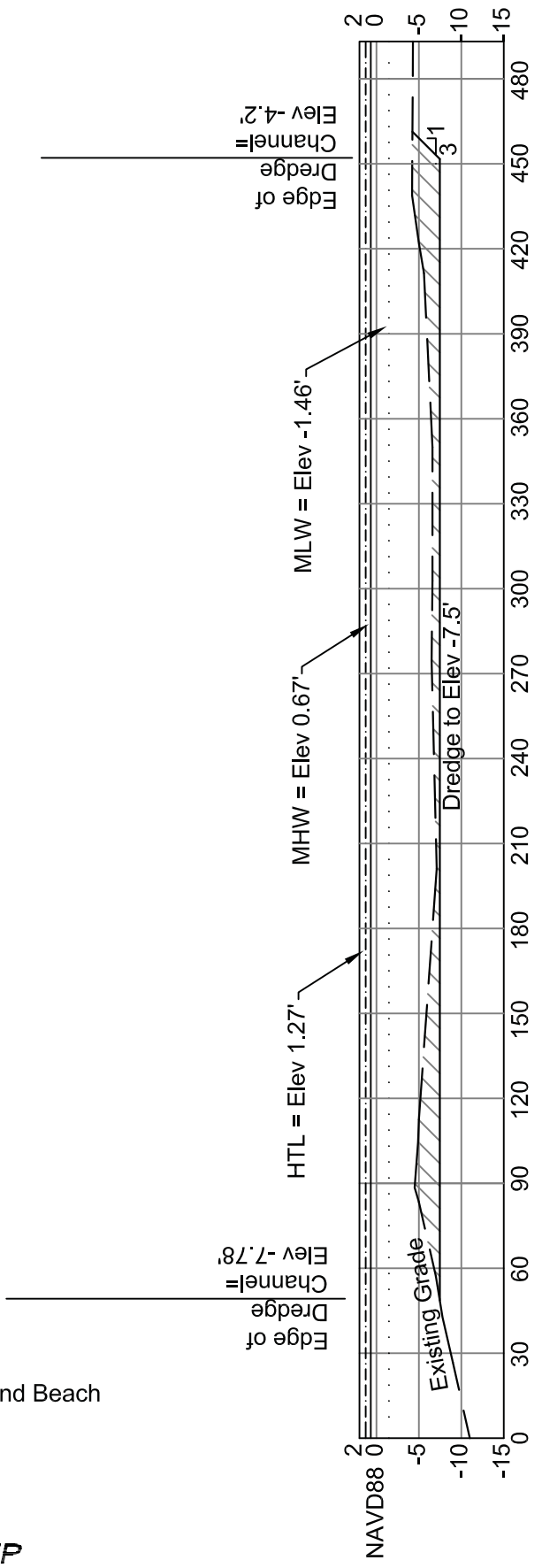
Graphic Scale
200 0 200 400
1" = 200'

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

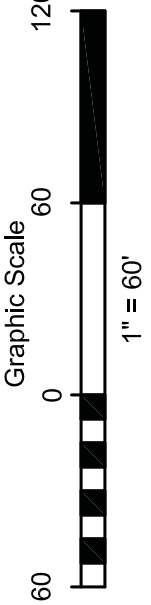
SHEET: 2 OF 6

2010-142_Site J ACOE.dwg



Typical Dredge Cross-Section C-C

Scale: 1" = 60'



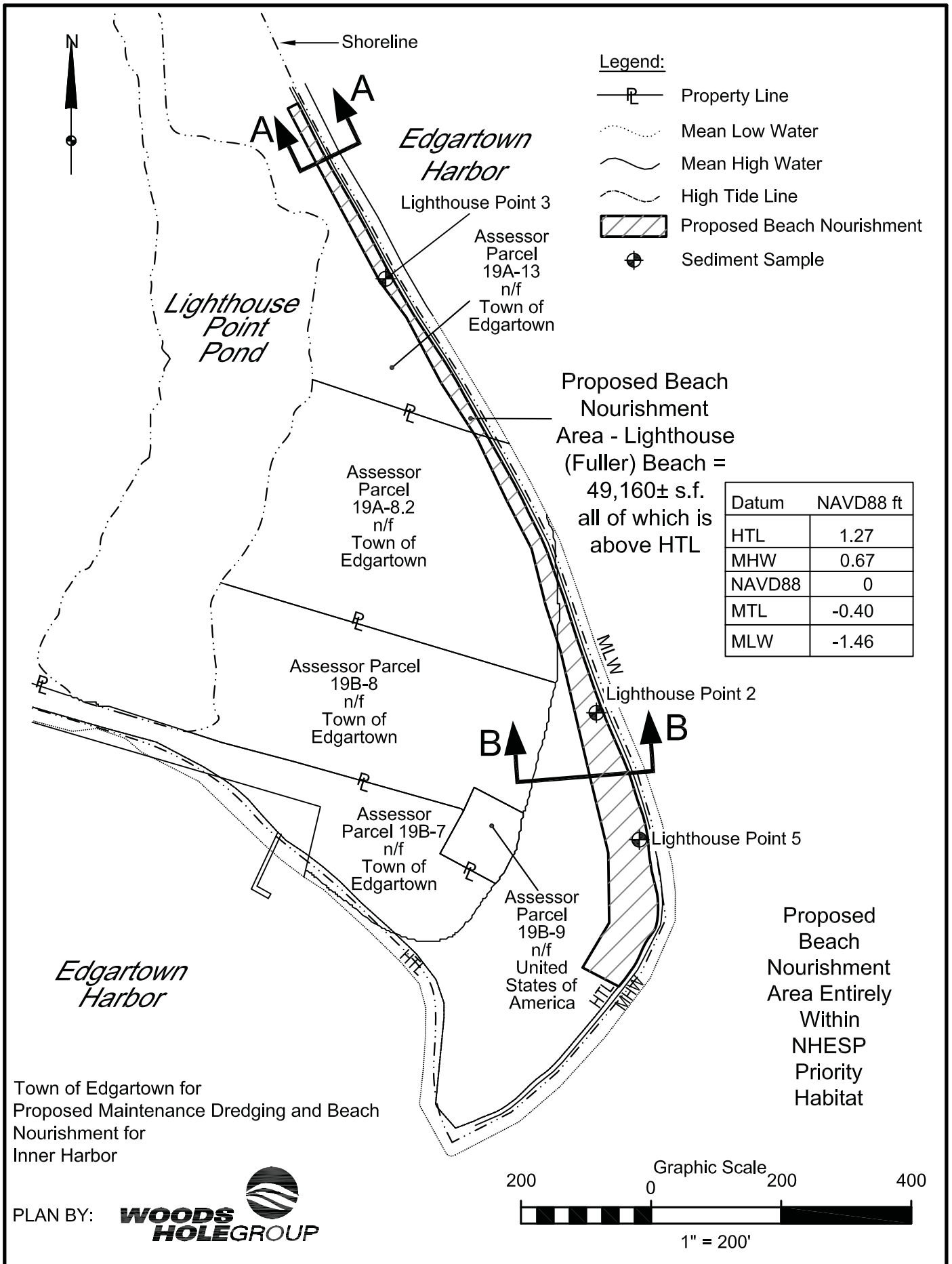
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Inner Harbor

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 3 OF 6

2010-142_Site J ACOE.dwg



Datum	NAVD88 ft
HTL	1.27
MHW	0.67
NAVD88	0
MTL	-0.40
MLW	-1.46

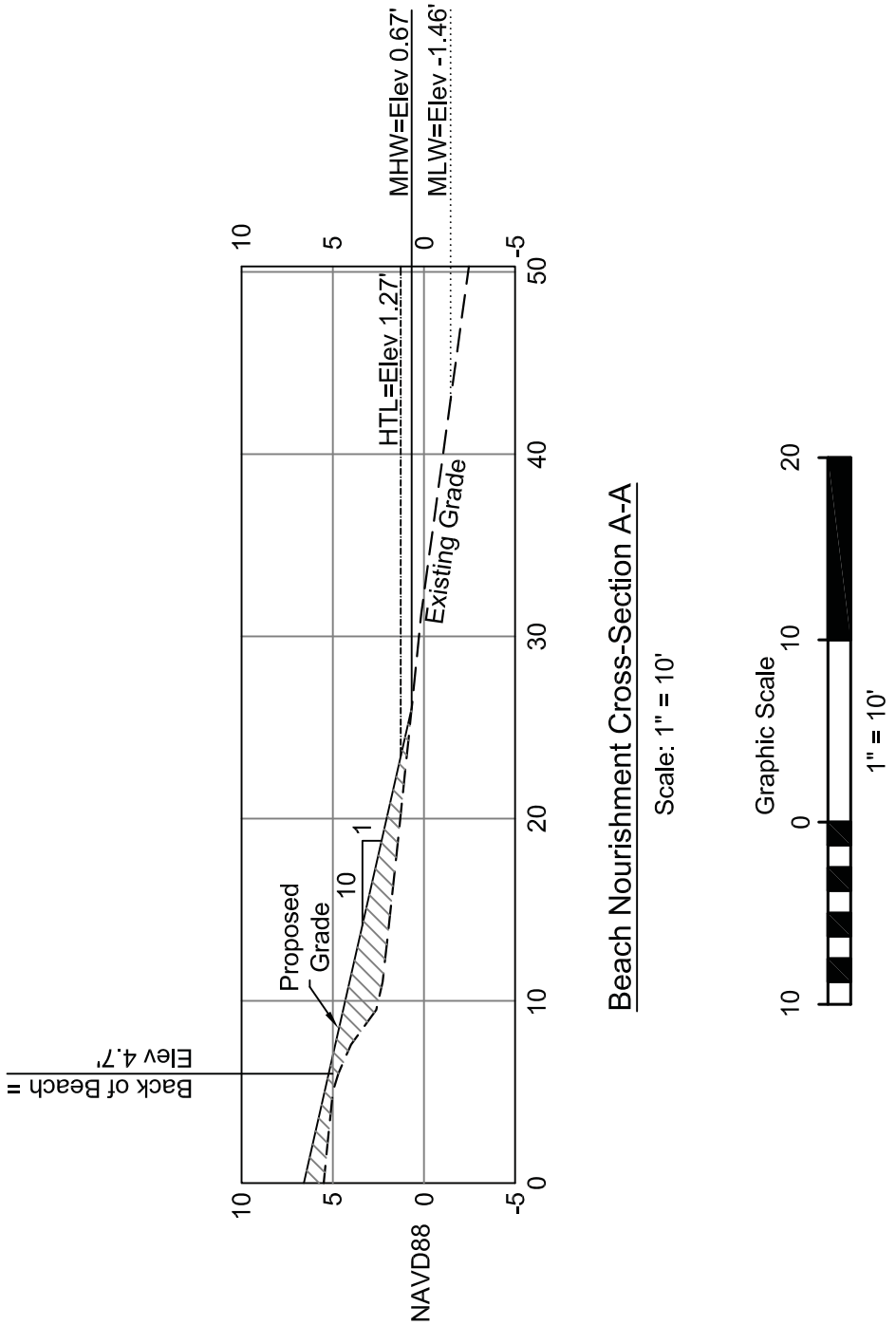
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Inner Harbor

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 4 OF 6

2010-142_Site J ACOE.dwg



Beach Nourishment Cross-Section A-A

Scale: 1" = 10'

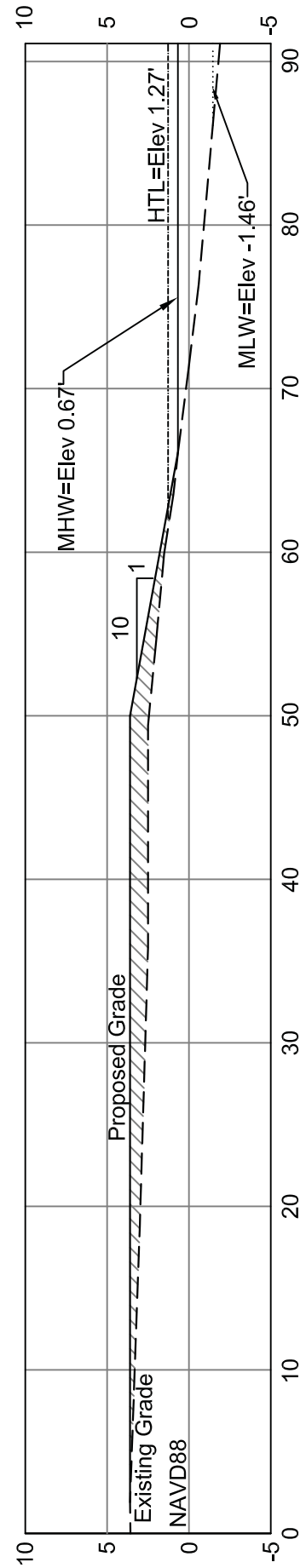
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Inner Harbor

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

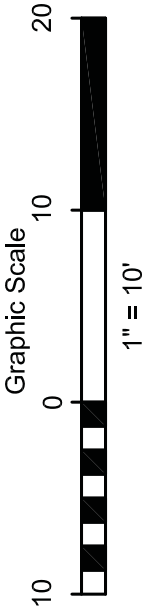
SHEET: 5 OF 6

2010-142_Site J ACOE.dwg



Beach Nourishment Cross-Section B-B

Scale: 1" = 10'



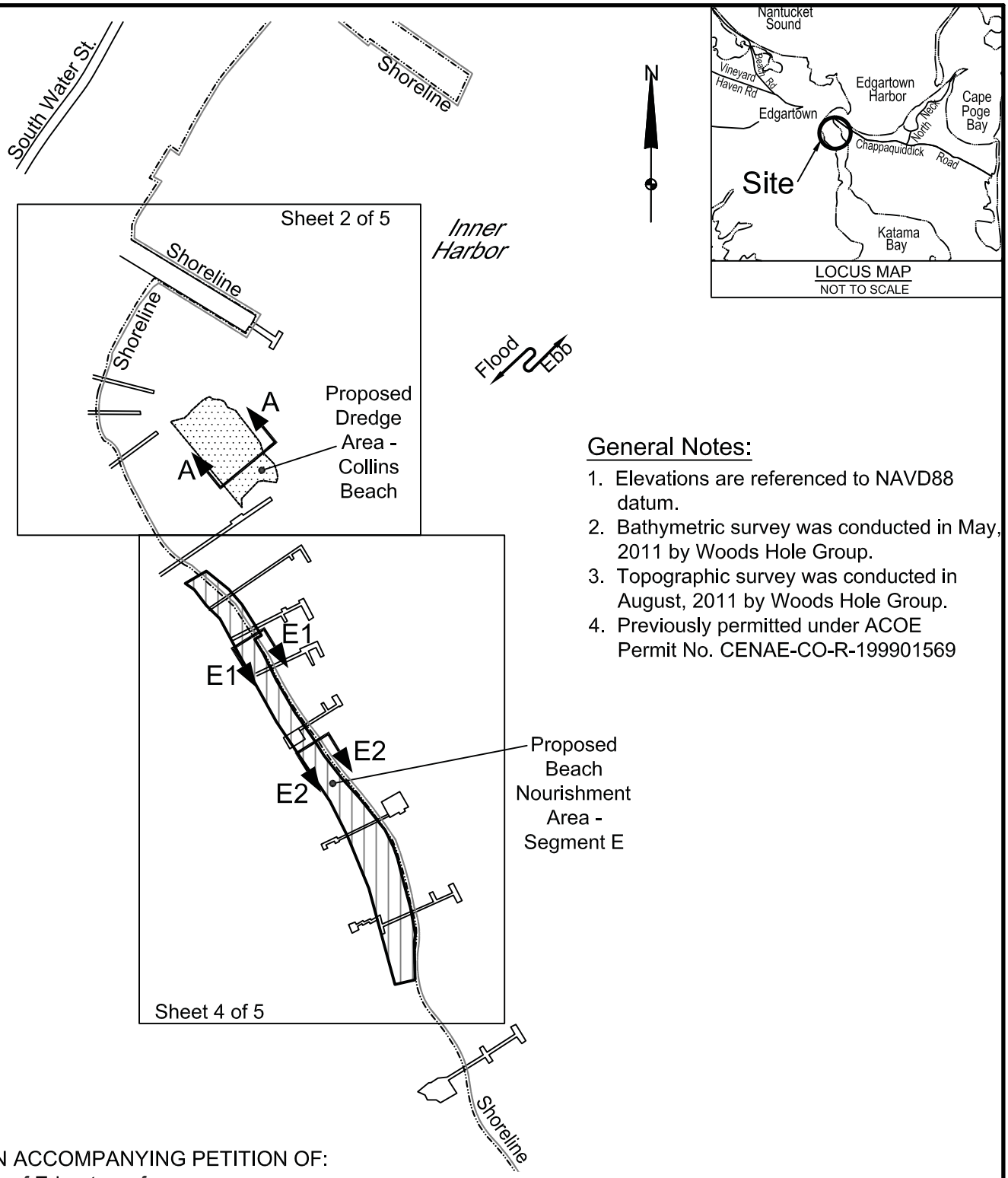
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Inner Harbor

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 6 OF 6

2010-142_Site J ACOE.dwg



PLAN ACCOMPANYING PETITION OF:
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Collins Beach, Dukes County,
Edgartown, MA

PLAN BY: WOODS HOLE GROUP

81 TECHNOLOGY PARK DRIVE EAST FALMOUTH, MA 02536
TELEPHONE: (508) 540-8080 FAX: (508) 540-1001

Graphic Scale
300 0 300 600
1" = 300'

DATE: July, 2012

SHEET: 1 OF 5

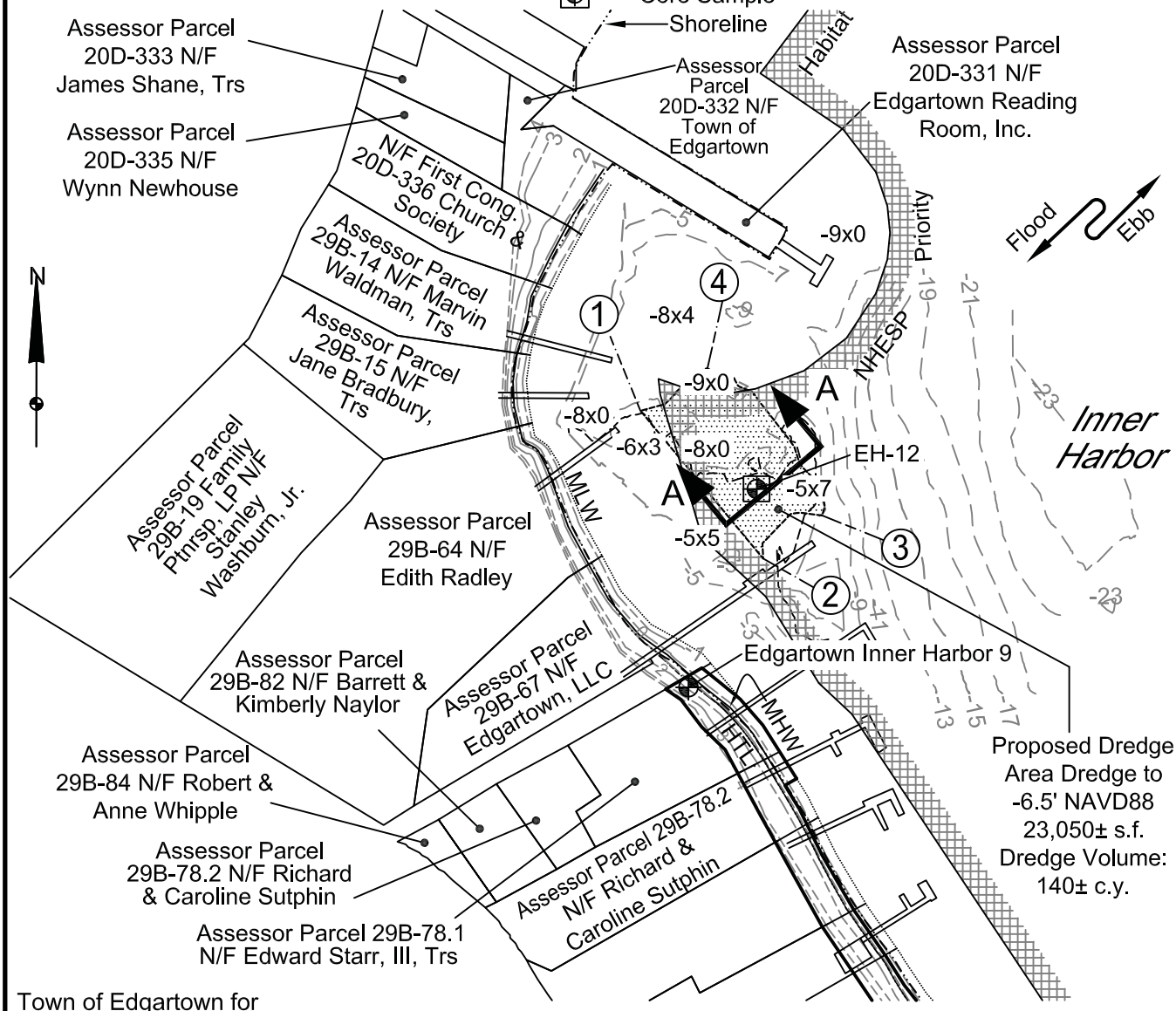
2010-142_Site K ACOE.dwg

Dredge Coordinates	Northing	Easting
1	2,603,031	926,953
2	2,602,855	927,099
3	2,602,906	927,170
4	2,603,082	927,033

Legend:

- Property Line
- Contour Line
- Mean Low Water
- Mean High Water
- High Tide Line
- Proposed Dredge Channel
- (1) Dredge Coordinates
- Sediment Sample
- Core Sample
- Shoreline

Datum	NAVD88 ft
HTL	1.27
MHW	0.67
NAVD88	0
MTL	-0.40
MLW	-1.46



Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Collins Beach

PLAN BY: WOODS HOLE GROUP

Graphic Scale

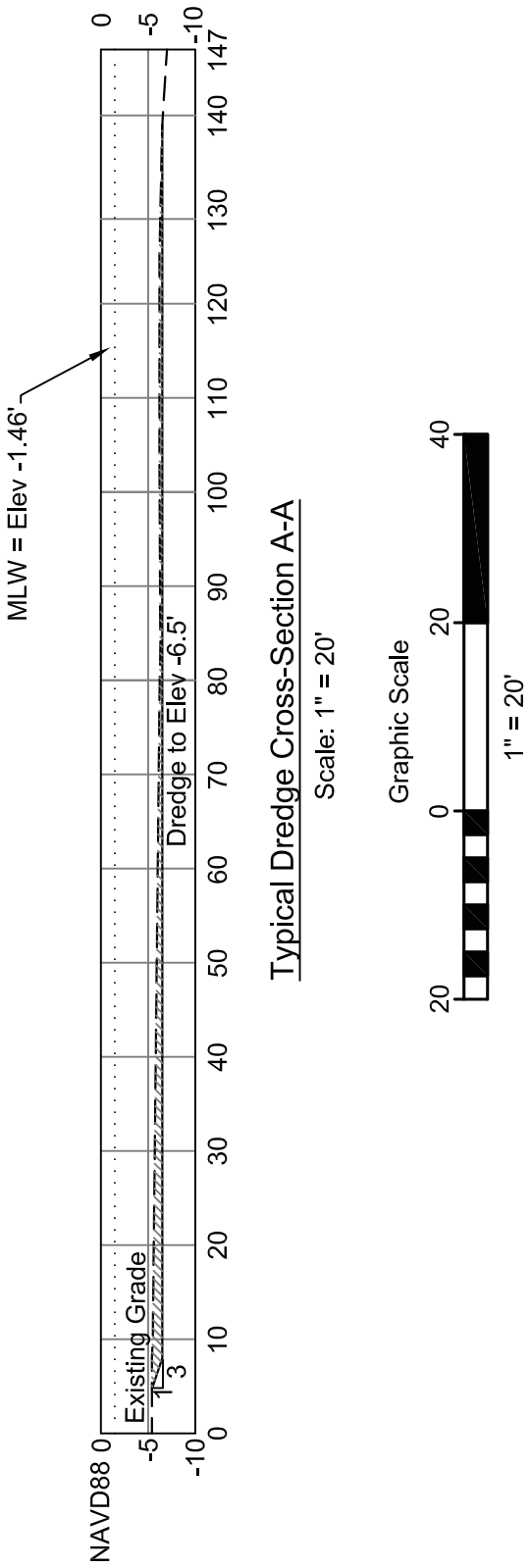
200 0 200 400

1" = 200'

DATE: July, 2012

SHEET: 2 OF 5

2010-142_Site K ACOE.dwg



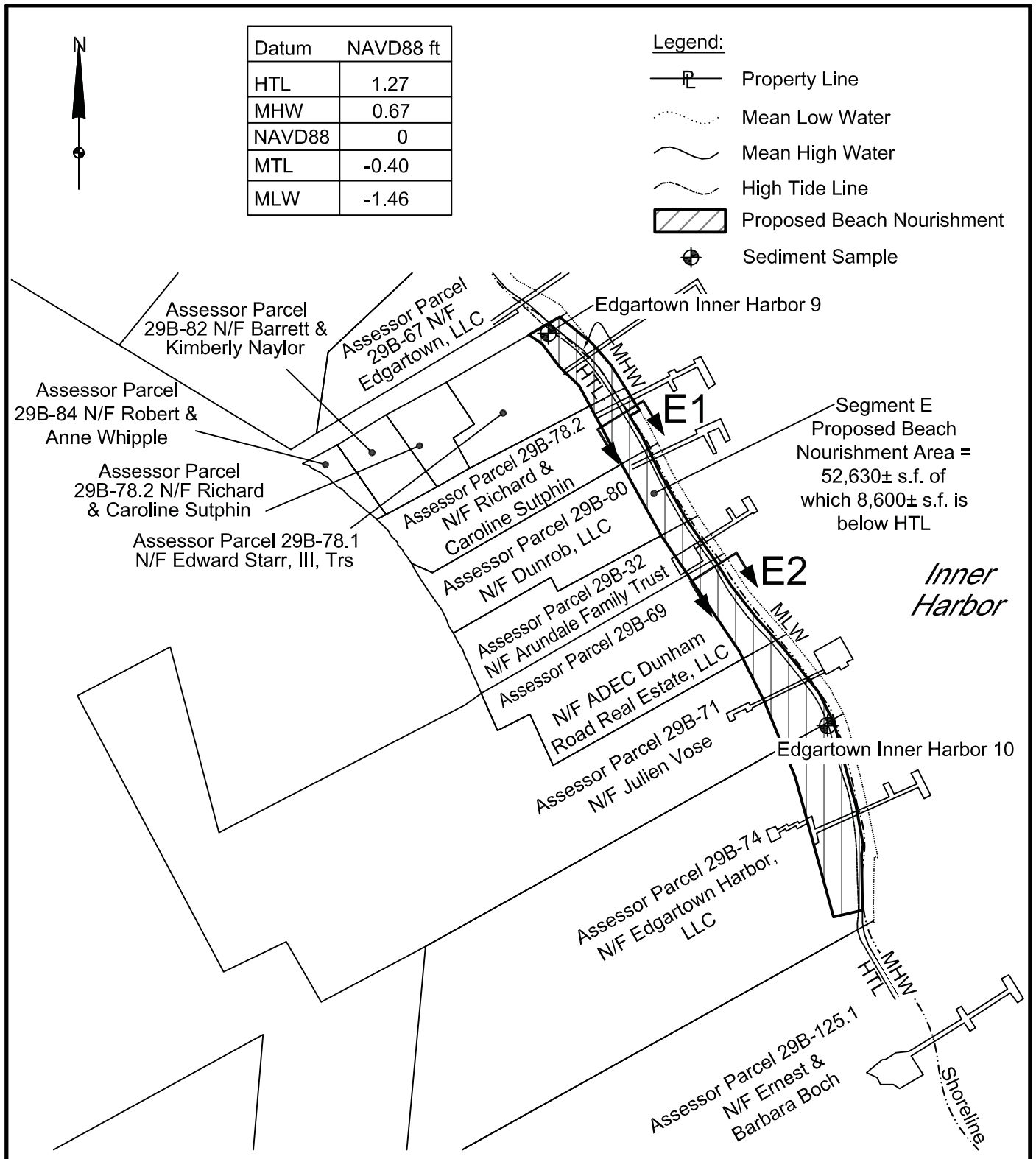
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Collins Beach

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 3 OF 5

2010-142_Site K ACOE.dwg



Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Collins Beach

PLAN BY: WOODS HOLE GROUP

Graphic Scale
200 0 200 400
1" = 200'

DATE: July, 2012

SHEET: 4 OF 5

2010-142_Site K ACOE.dwg

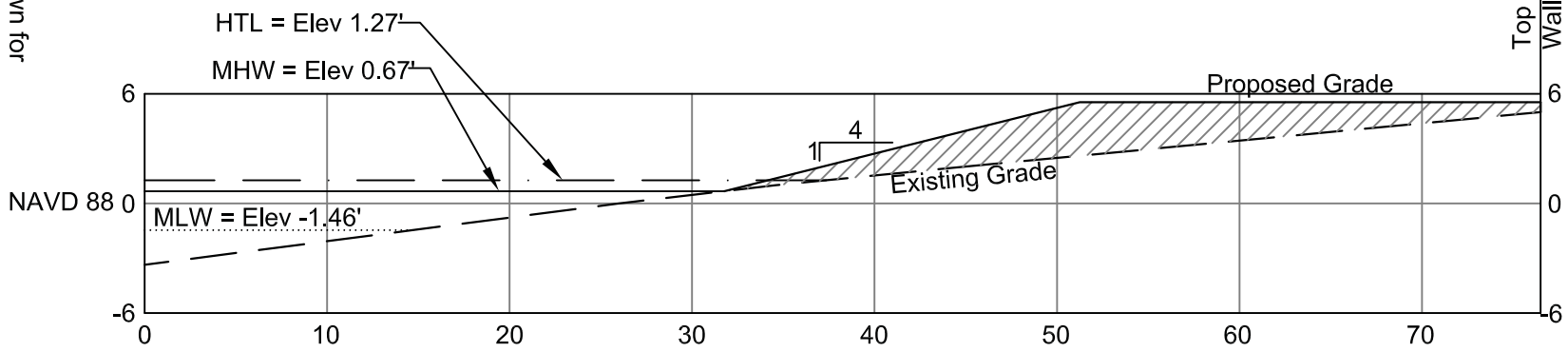
Town of Edgartown for
Proposed Maintenance Dredging
and Beach Nourishment for
Collins Beach

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

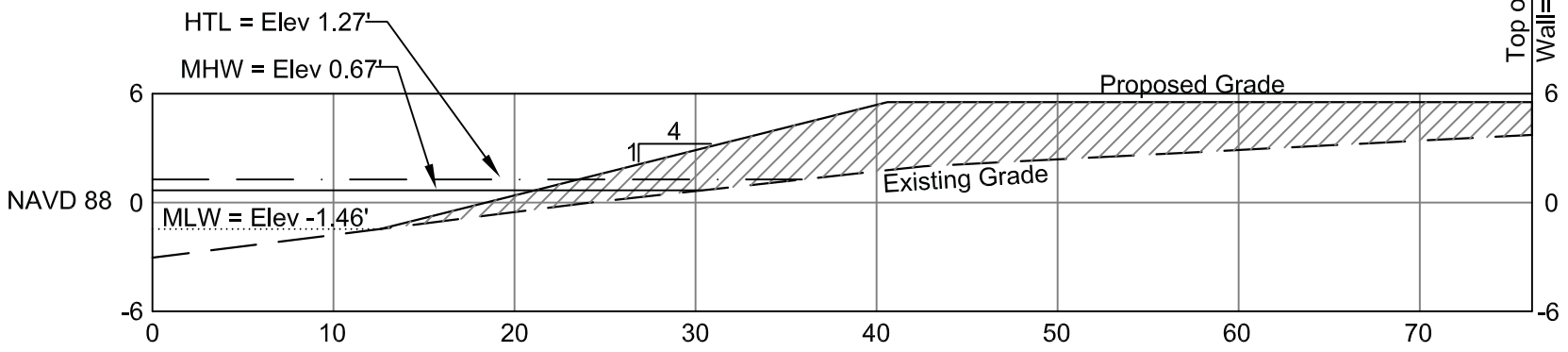
SHEET: 5 OF 5

2010-142_Site K ACOE.dwg



Beach Nourishment Cross-Section E2

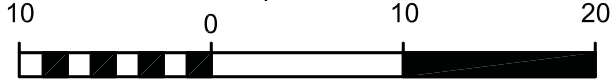
Scale: 1" = 10'

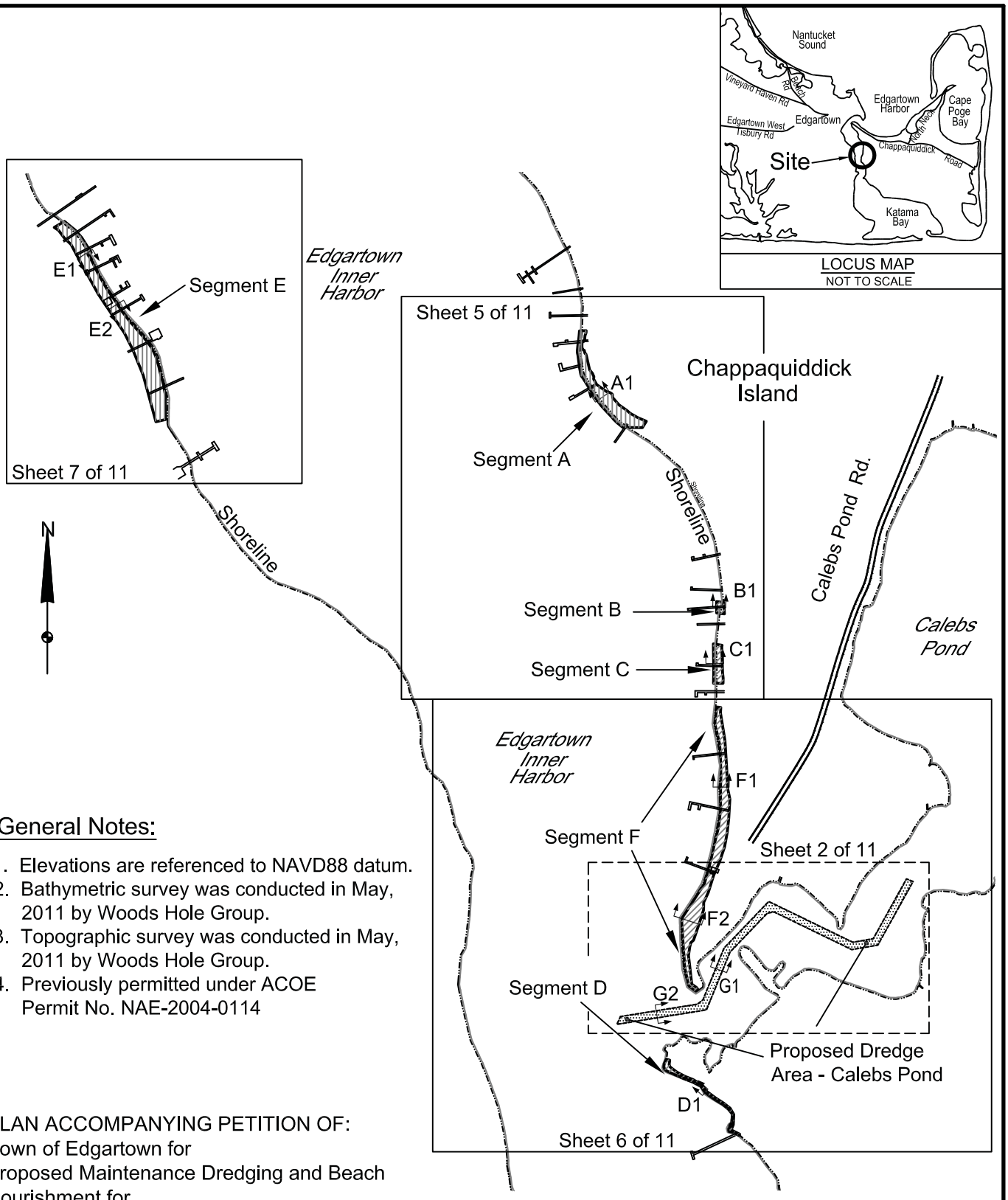


Beach Nourishment Cross-Section E1

Scale: 1" = 10'

Graphic Scale





General Notes:

1. Elevations are referenced to NAVD88 datum.
2. Bathymetric survey was conducted in May, 2011 by Woods Hole Group.
3. Topographic survey was conducted in May, 2011 by Woods Hole Group.
4. Previously permitted under ACOE Permit No. NAE-2004-0114

PLAN ACCOMPANYING PETITION OF:
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Calebs Pond, Dukes County,
Edgartown, MA

Graphic Scale

600 0 600 1200

1" = 600'

PLAN BY: WOODS HOLE GROUP

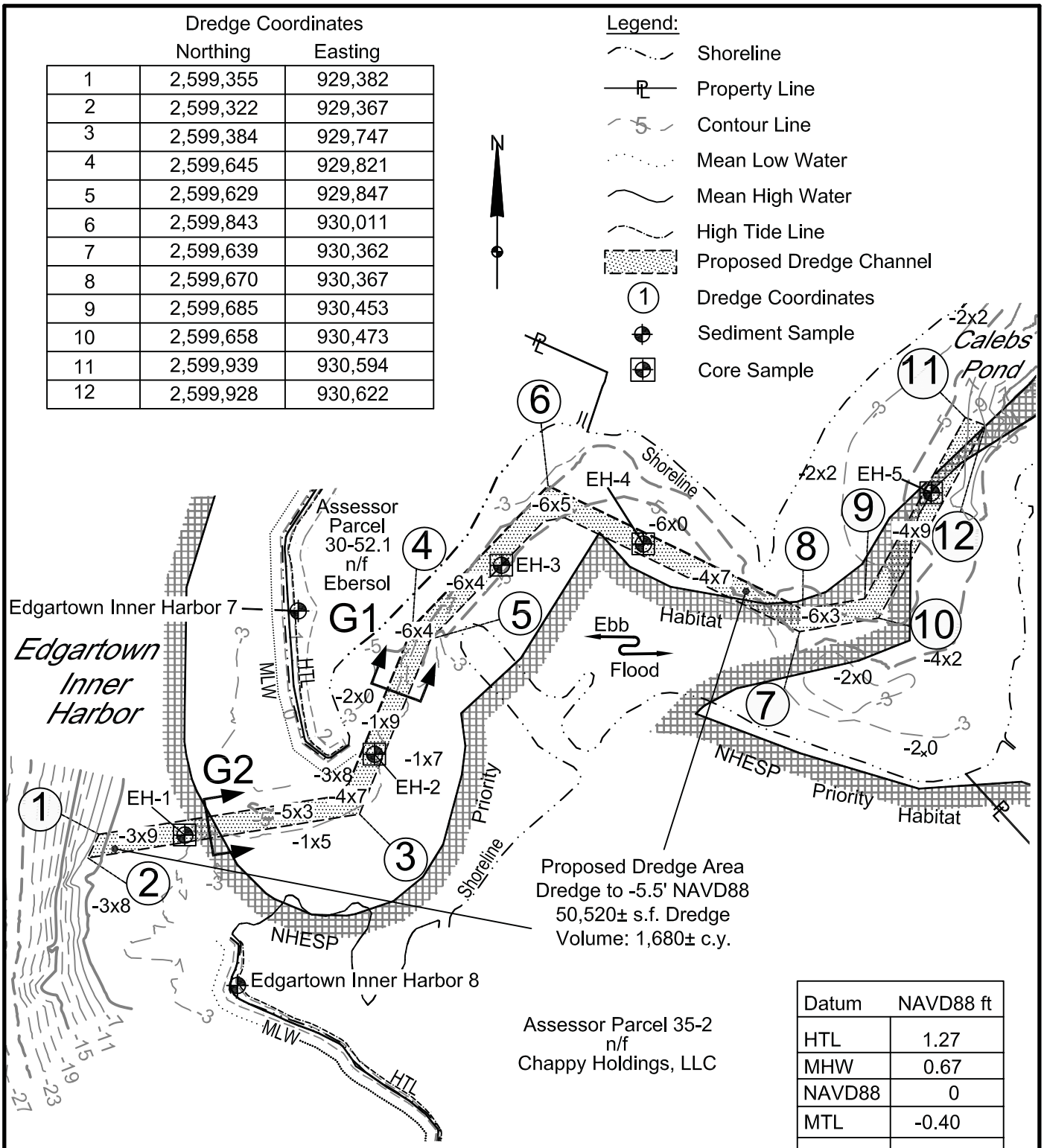
81 TECHNOLOGY PARK DRIVE EAST FALMOUTH, MA 02536
TELEPHONE: (508) 540-8080 FAX: (508) 540-1001

DATE: July, 2012

SHEET: 1 OF 11

2010-142_Site F ACOE.dwg

Dredge Coordinates		
	Northing	Easting
1	2,599,355	929,382
2	2,599,322	929,367
3	2,599,384	929,747
4	2,599,645	929,821
5	2,599,629	929,847
6	2,599,843	930,011
7	2,599,639	930,362
8	2,599,670	930,367
9	2,599,685	930,453
10	2,599,658	930,473
11	2,599,939	930,594
12	2,599,928	930,622



Datum	NAVD88 ft
HTL	1.27
MHW	0.67
NAVD88	0
MTL	-0.40
MLW	-1.46

Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Calebs Pond

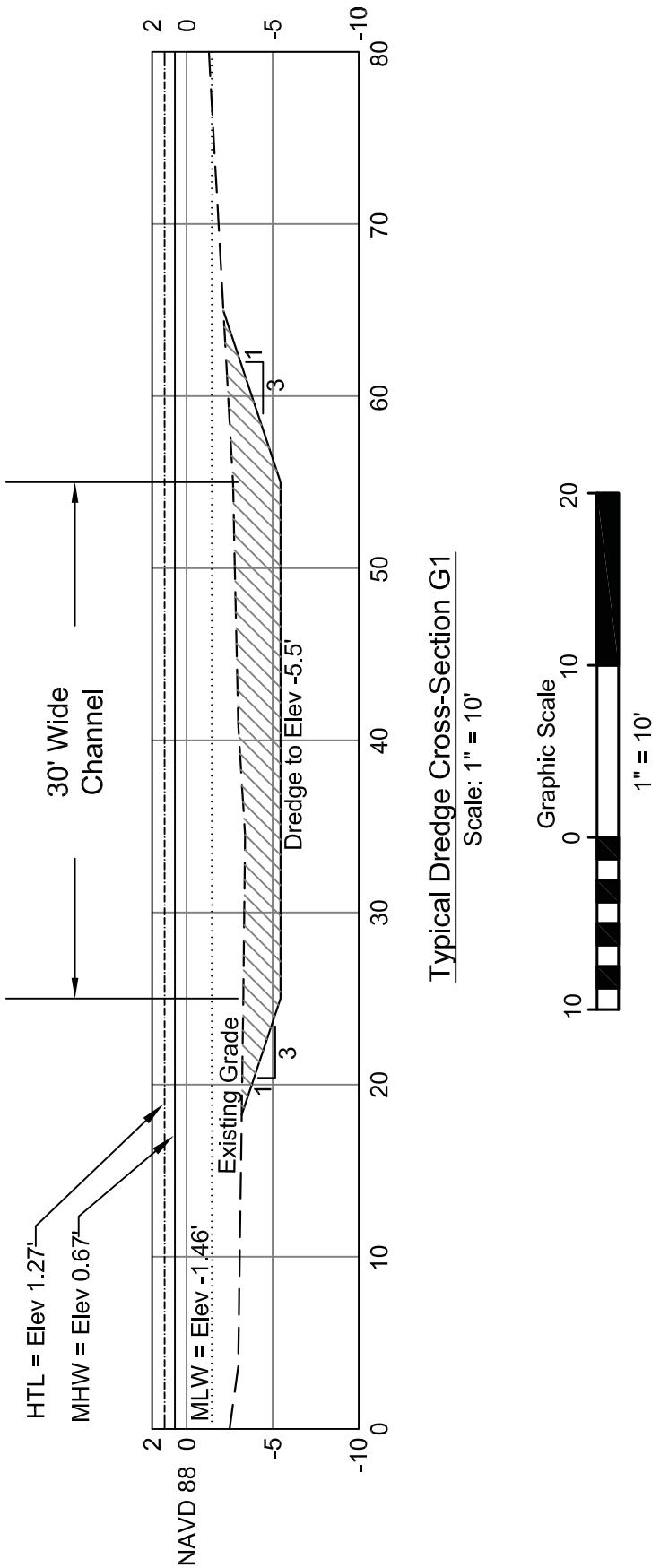
PLAN BY: WOODS HOLE GROUP

Graphic Scale
200 0 200 400
1" = 200'

DATE: July, 2012

SHEET: 2 OF 11

2010-142_Site F ACOE.dwg



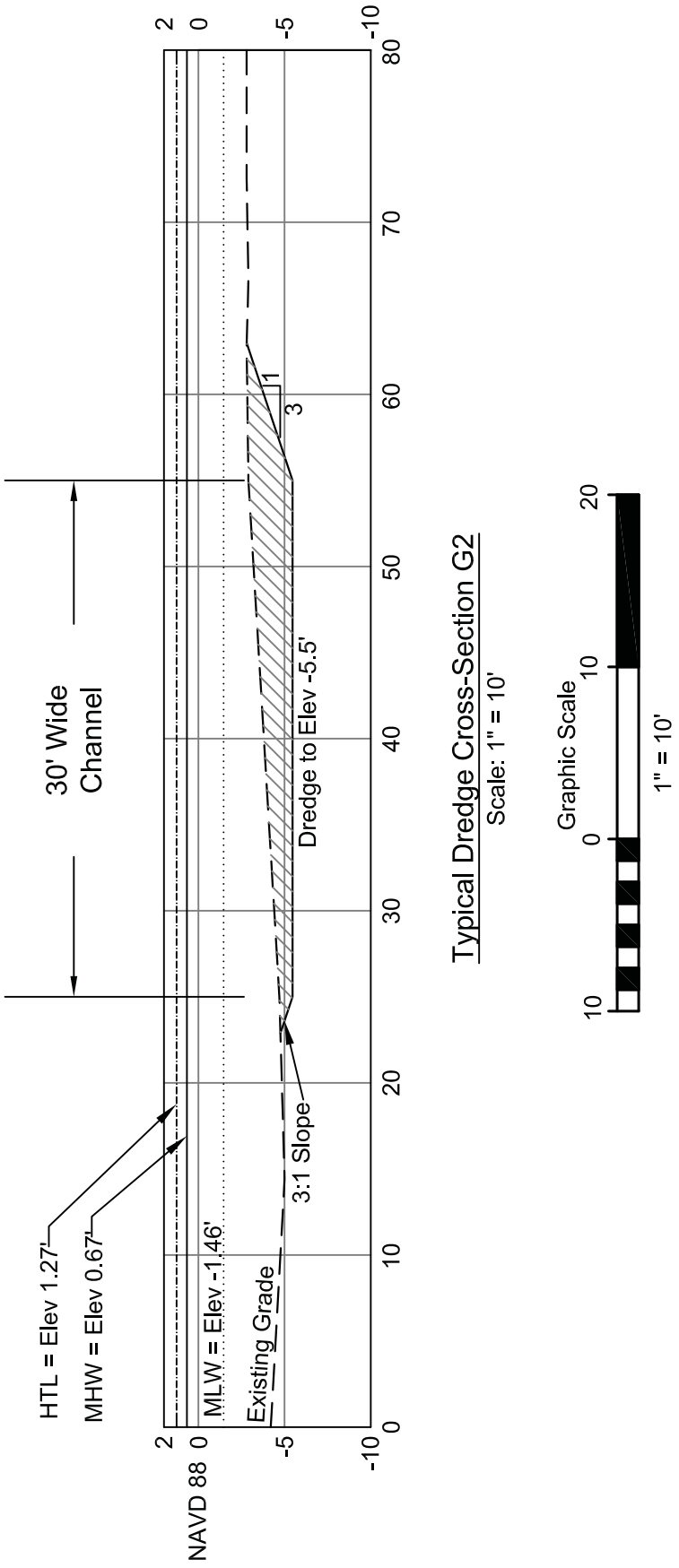
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Calebs Pond

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 3 OF 11

2010-142_Site F ACOE.dwg



Typical Dredge Cross-Section G2

Scale: 1" = 10'

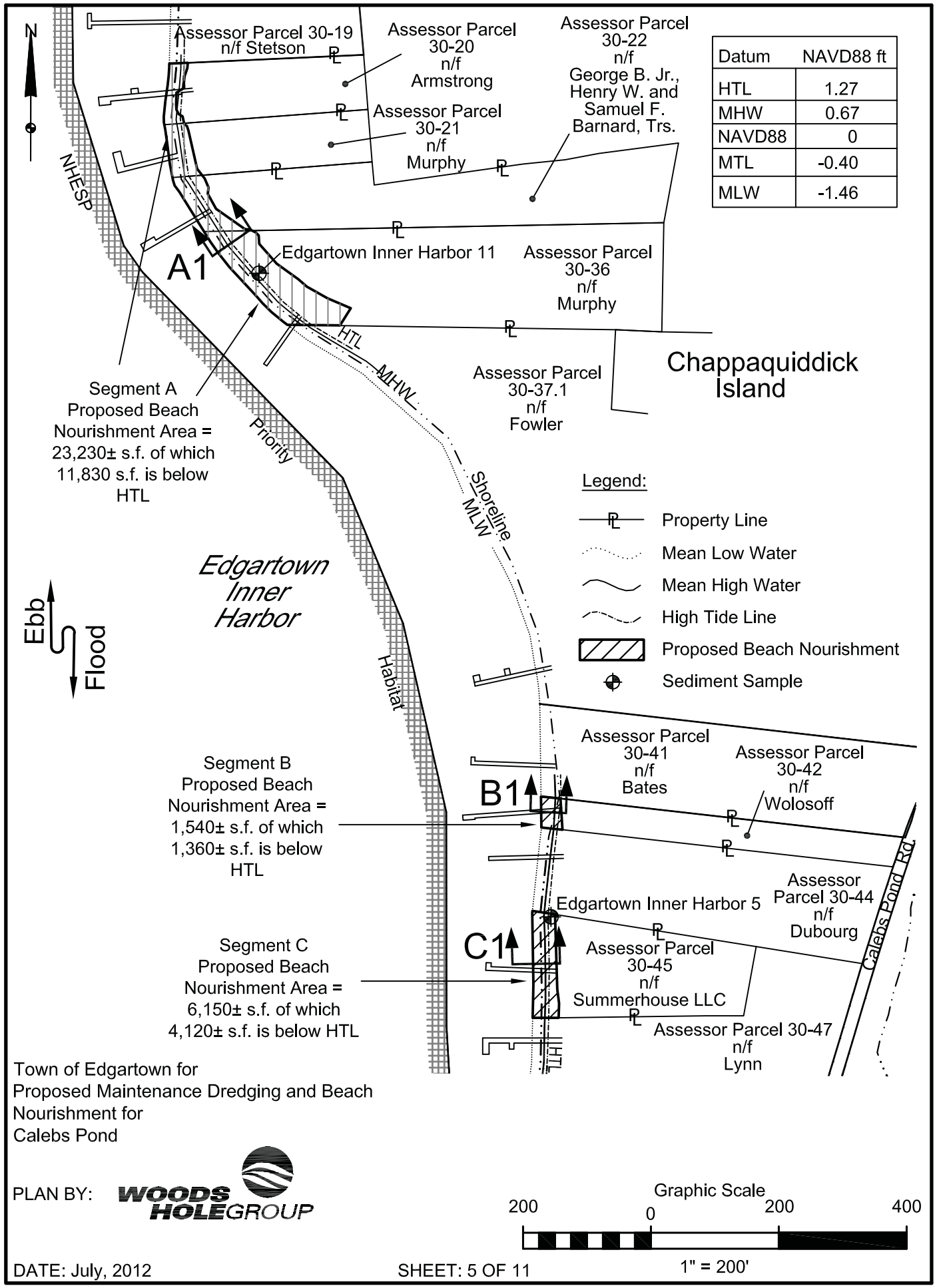
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Calebs Pond

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 4 OF 11

2010-142_Site F ACOE.dwg



Datum	NAVD88 ft
HTL	1.27
MHW	0.67
NAVD88	0
MTL	-0.40
MLW	-1.46

Town of Edgartown for
Proposed Maintenance Dredging and Beach
Nourishment for
Calebs Pond

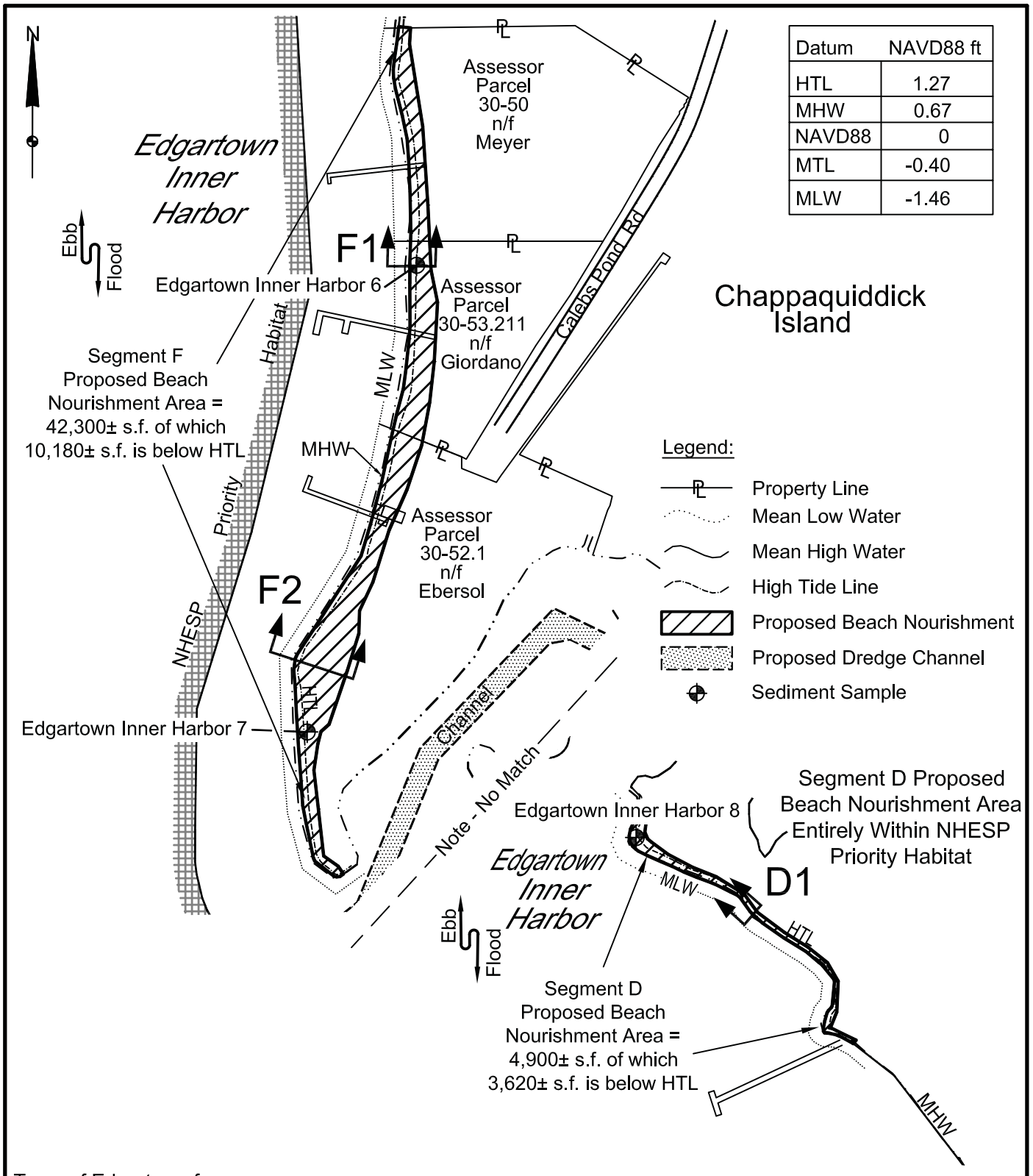
PLAN BY: WOODS HOLE GROUP

Graphic Scale
200 0 200 400
1" = 200'

DATE: July, 2012

SHEET: 5 OF 11

2010-142_Site F ACOE.dwg



Datum	NAVD88 ft
HTL	1.27
MHW	0.67
NAVD88	0
MTL	-0.40
MLW	-1.46

Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Calebs Pond

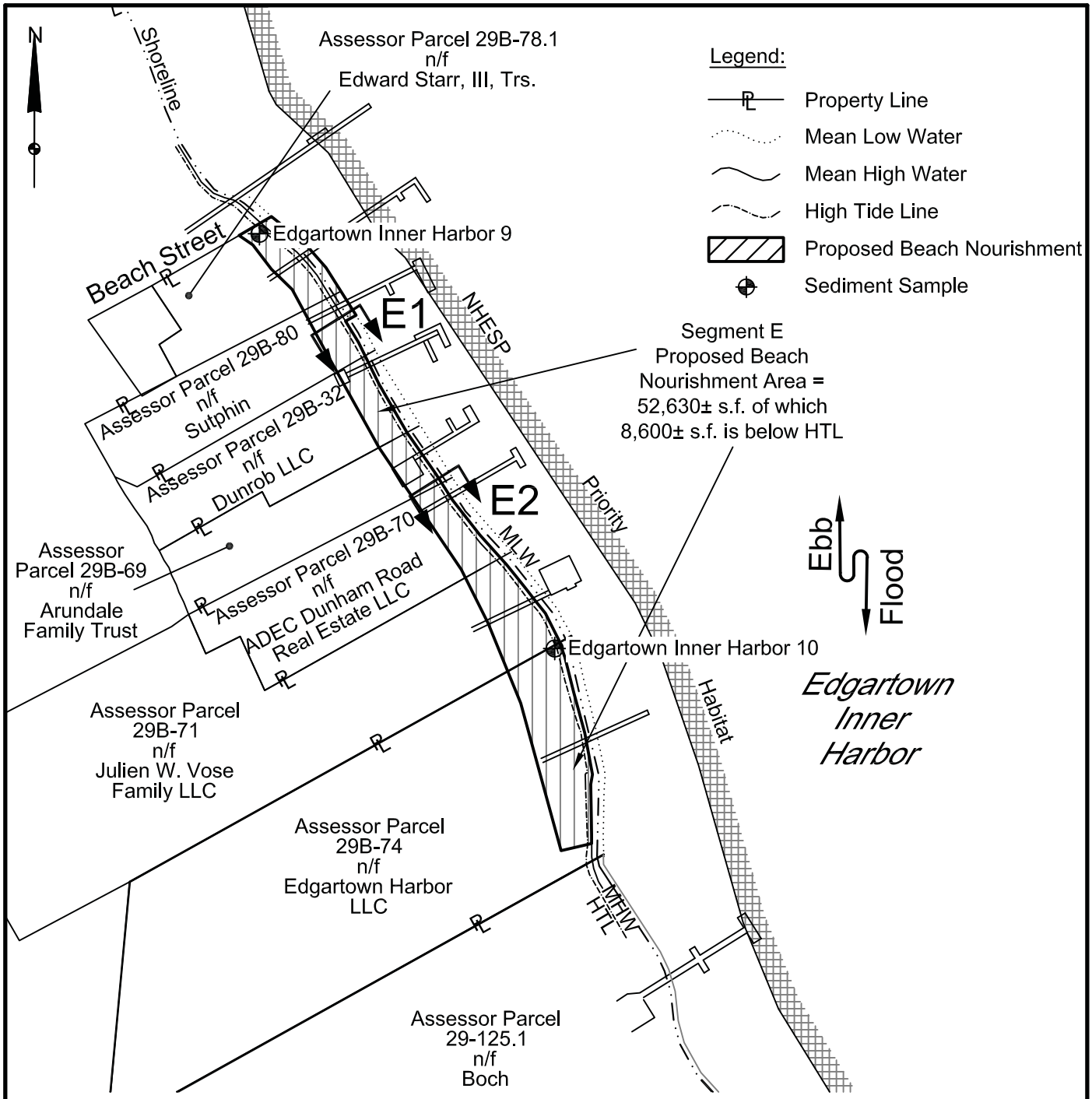
PLAN BY: WOODS HOLE GROUP

Graphic Scale
200 0 200 400
1" = 200'

DATE: July, 2012

SHEET: 6 OF 11

2010-142_Site F ACOE.dwg



Datum	NAVD88 ft
HTL	1.27
MHW	0.67
NAVD88	0
MTL	-0.40
MLW	-1.46

Town of Edgartown for
Proposed Maintenance Dredging and Beach
Nourishment for
Calebs Pond

PLAN BY: WOODS HOLE GROUP

Graphic Scale

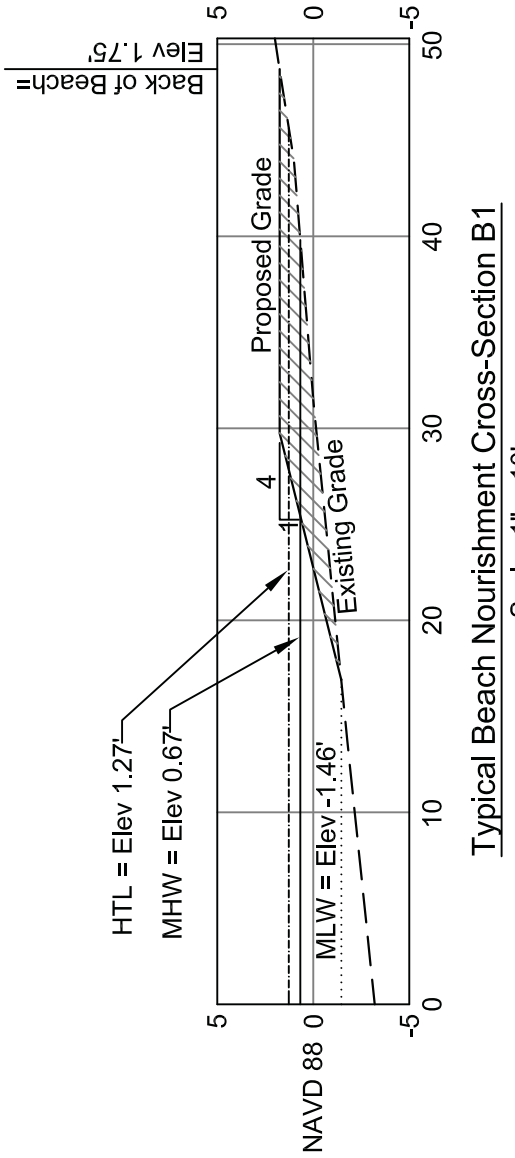
200 0 200 400

1" = 200'

DATE: July, 2012

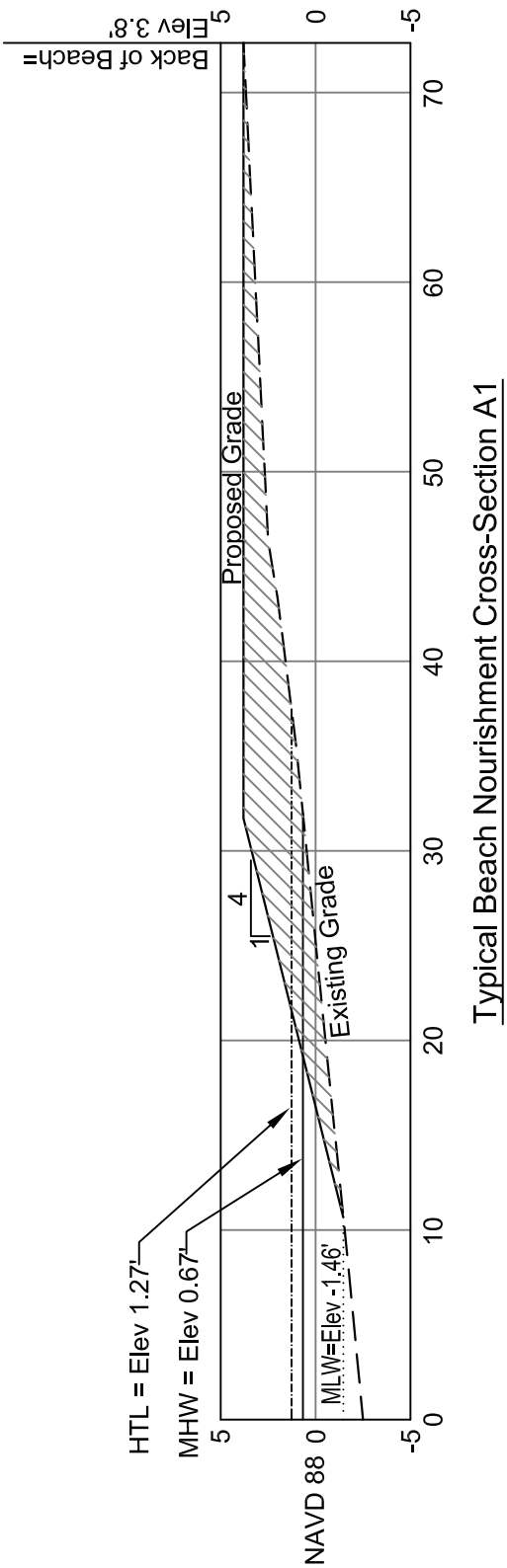
SHEET: 7 OF 11

2010-142_Site F ACOE.dwg



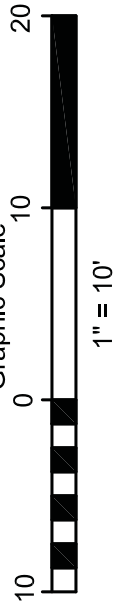
Typical Beach Nourishment Cross-Section B1

Scale: 1" = 10'



Typical Beach Nourishment Cross-Section A1

Scale: 1" = 10'



Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Calebs Pond

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 8 OF 11

2010-142_Site F ACOE.dwg

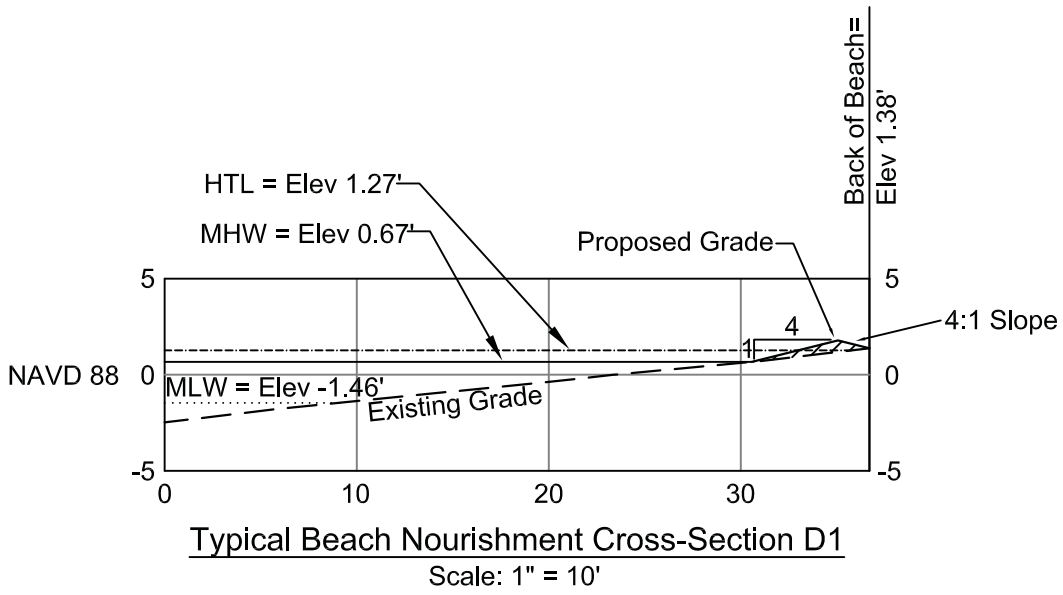
Town of Edgartown for
Proposed Maintenance Dredging and Beach
Nourishment for
Calebs Pond

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

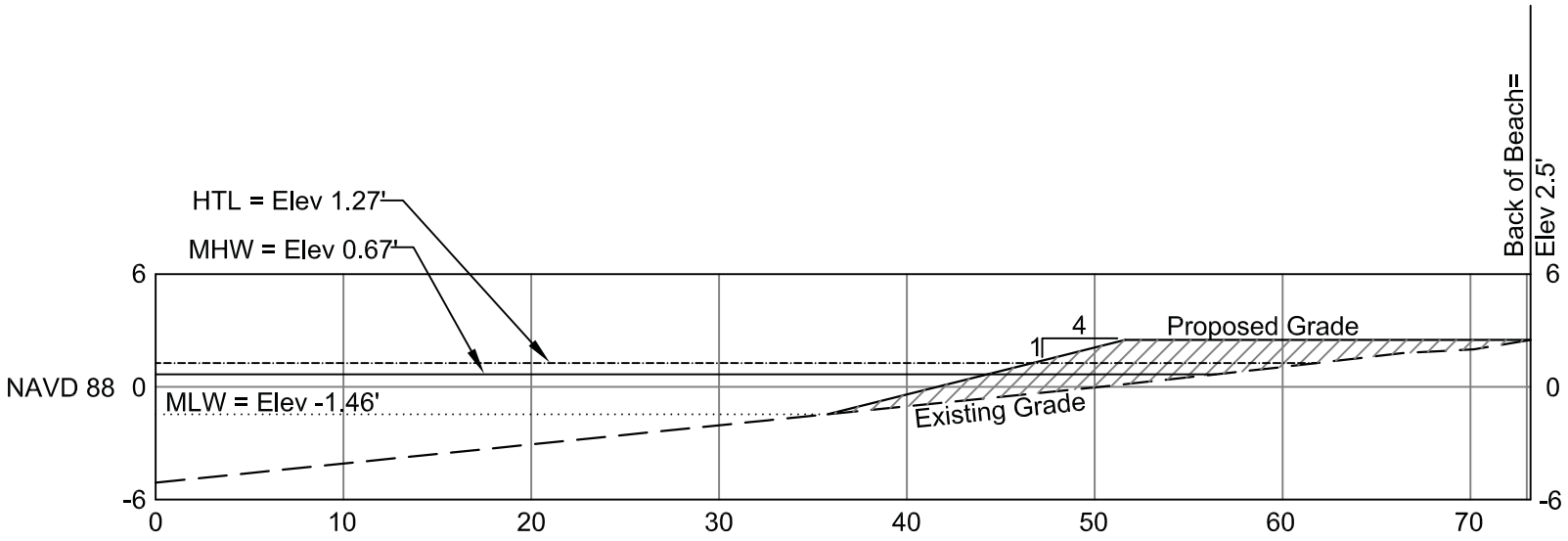
SHEET: 9 OF 11

2010-142_Site F ACOE.dwg



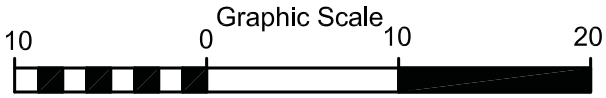
Typical Beach Nourishment Cross-Section D1

Scale: 1" = 10'



Typical Beach Nourishment Cross-Section C1

Scale: 1" = 10'



Town of Edgartown for
Proposed Maintenance Dredging and Beach
Nourishment for
Calebs Pond

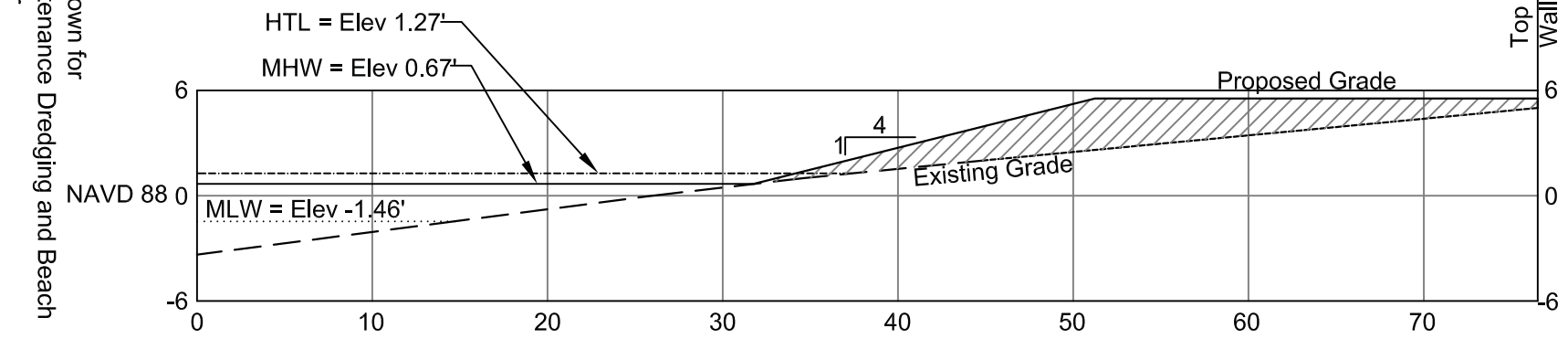
PLAN BY:

WOODS HOLE GROUP

DATE: July, 2012

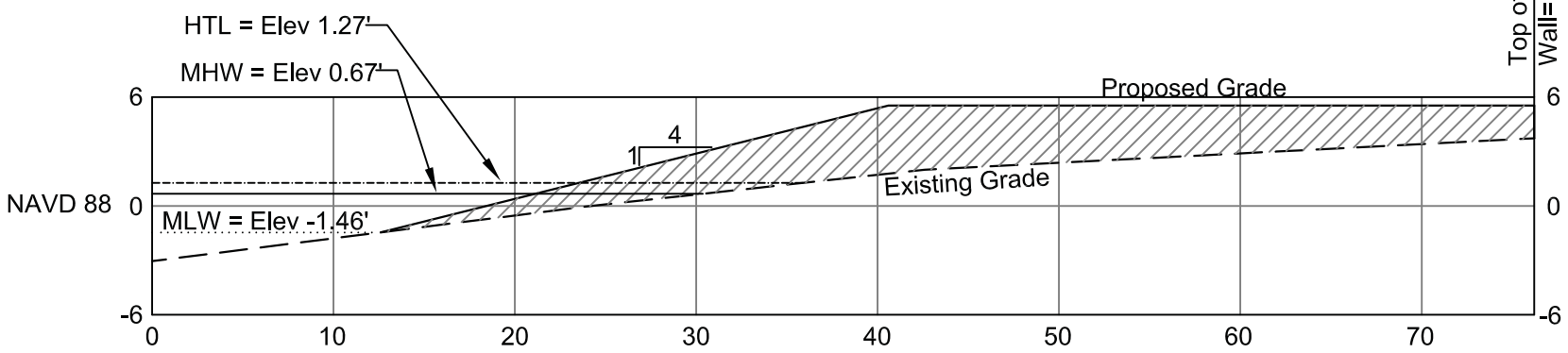
SHEET: 10 OF 11

2010-142_Site F ACOE.dwg



Beach Nourishment Cross-Section E2

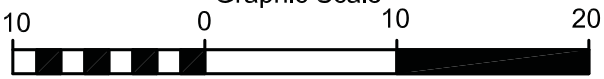
Scale: 1" = 10'



Beach Nourishment Cross-Section E1

Scale: 1" = 10'

Graphic Scale



1" = 10'

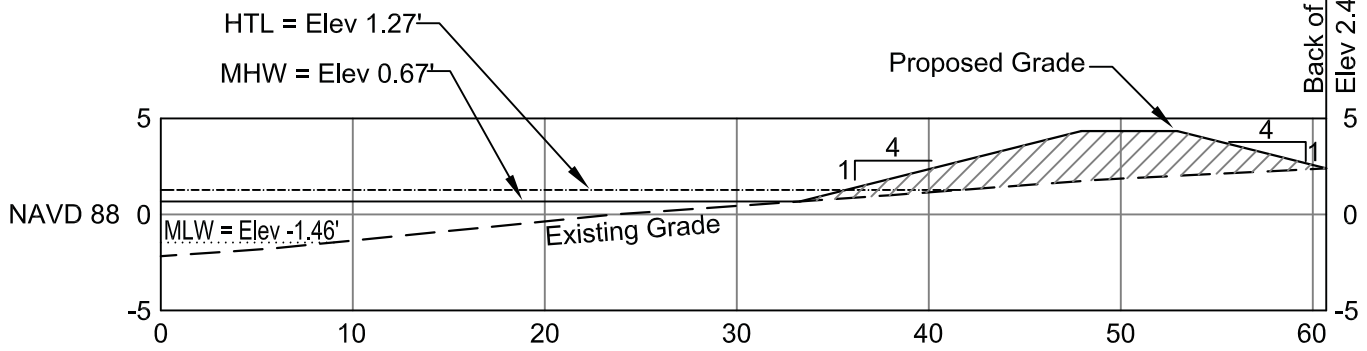
Town of Edgartown for
Proposed Maintenance Dredging and Beach
Nourishment for
Calebs Pond

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

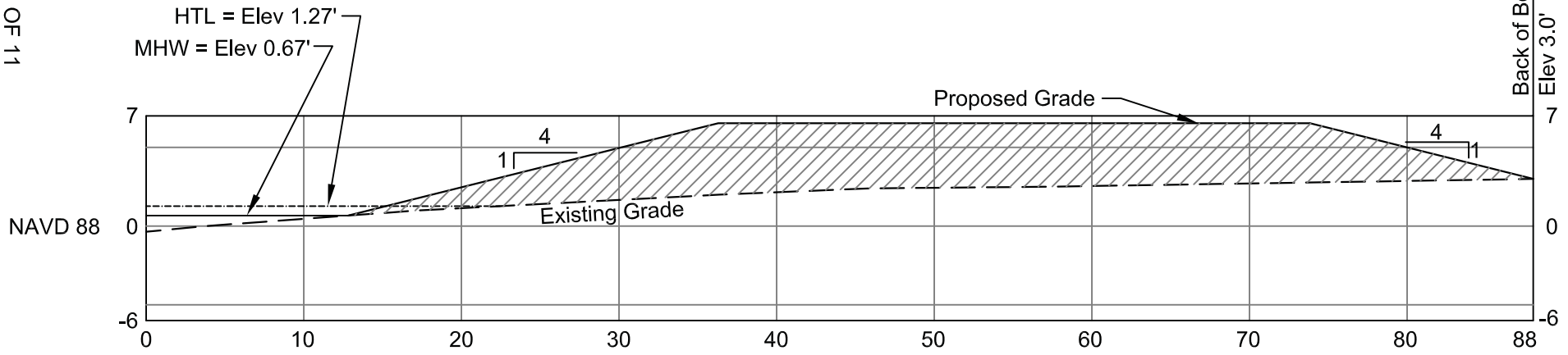
SHEET: 11 OF 11

2010-142_Site F ACOE.dwg



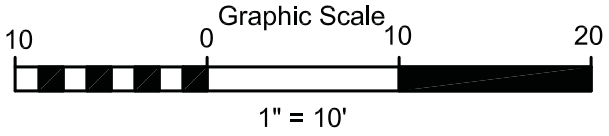
Beach Nourishment Cross-Section F1

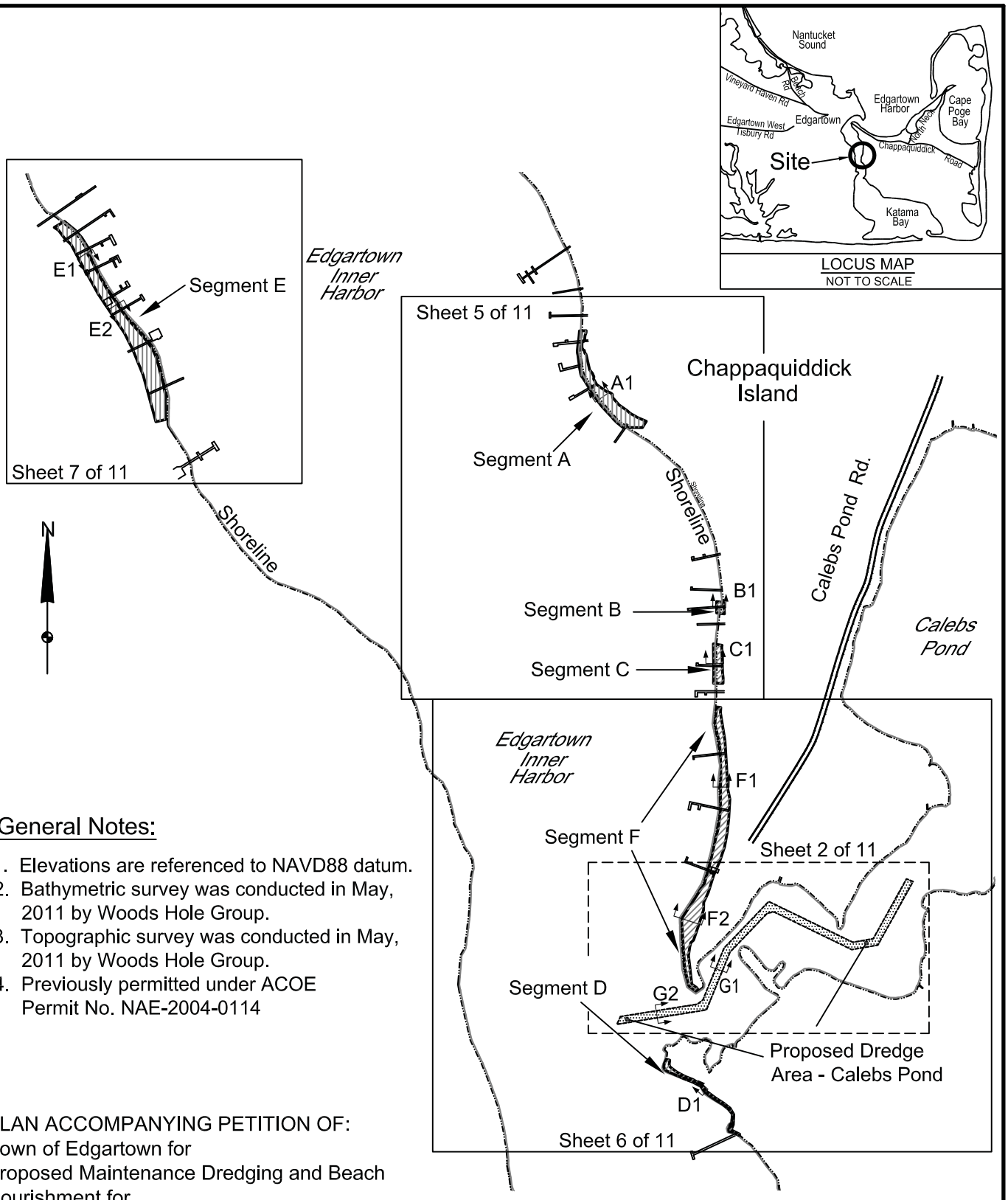
Scale: 1" = 10'



Beach Nourishment Cross-Section F2

Scale: 1" = 10'





General Notes:

1. Elevations are referenced to NAVD88 datum.
2. Bathymetric survey was conducted in May, 2011 by Woods Hole Group.
3. Topographic survey was conducted in May, 2011 by Woods Hole Group.
4. Previously permitted under ACOE Permit No. NAE-2004-0114

PLAN ACCOMPANYING PETITION OF:
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Calebs Pond, Dukes County,
Edgartown, MA

Graphic Scale

600 0 600 1200

1" = 600'

PLAN BY: WOODS HOLE GROUP

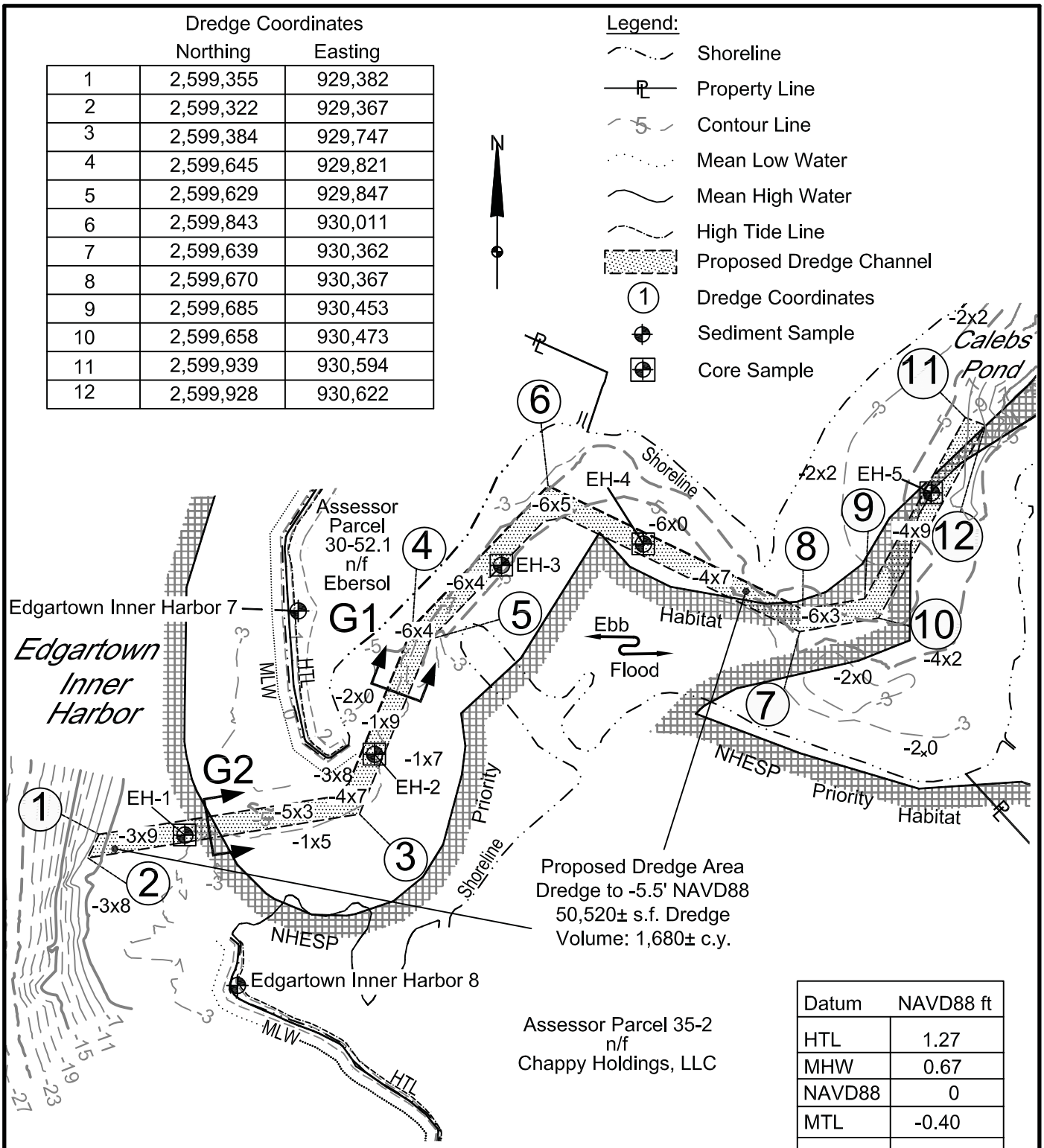
81 TECHNOLOGY PARK DRIVE EAST FALMOUTH, MA 02536
TELEPHONE: (508) 540-8080 FAX: (508) 540-1001

DATE: July, 2012

SHEET: 1 OF 11

2010-142_Site F ACOE.dwg

Dredge Coordinates		
	Northing	Easting
1	2,599,355	929,382
2	2,599,322	929,367
3	2,599,384	929,747
4	2,599,645	929,821
5	2,599,629	929,847
6	2,599,843	930,011
7	2,599,639	930,362
8	2,599,670	930,367
9	2,599,685	930,453
10	2,599,658	930,473
11	2,599,939	930,594
12	2,599,928	930,622



Datum	NAVD88 ft
HTL	1.27
MHW	0.67
NAVD88	0
MTL	-0.40
MLW	-1.46

Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Calebs Pond

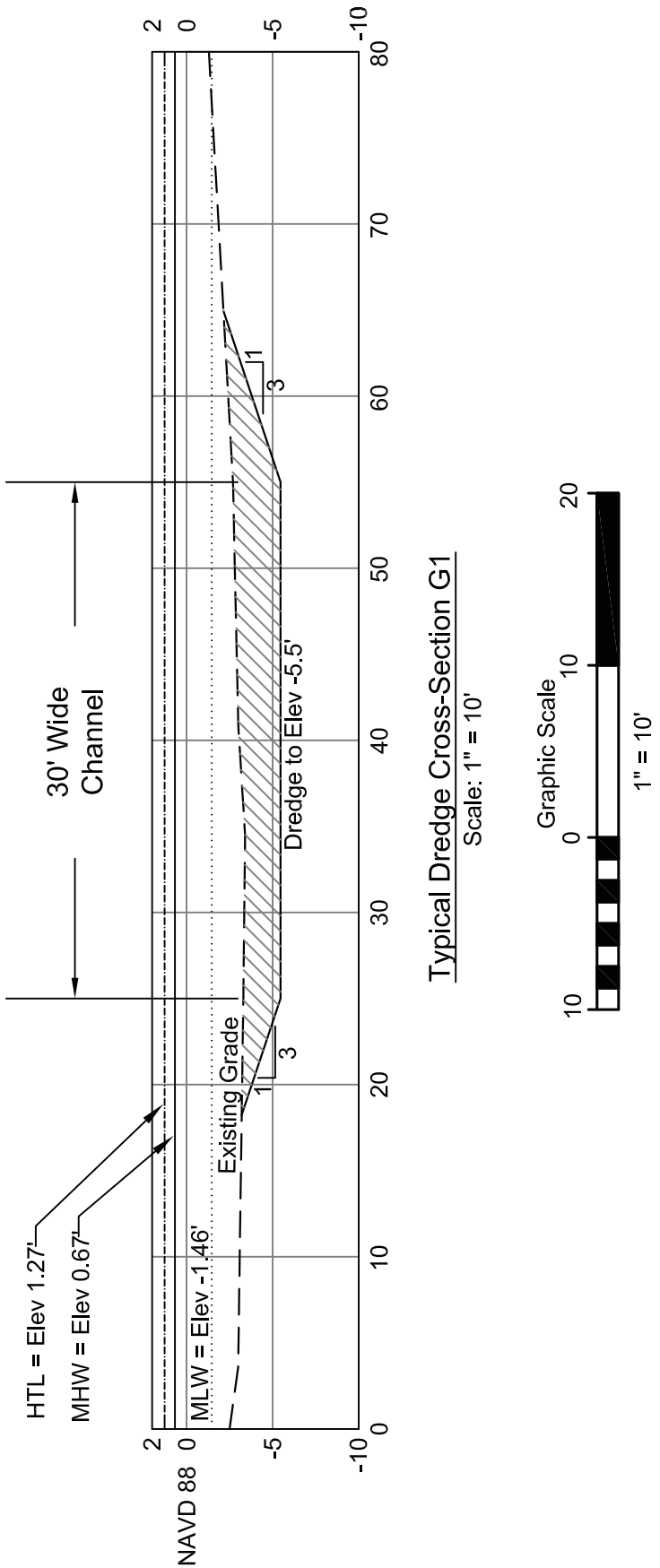
PLAN BY: WOODS HOLE GROUP

Graphic Scale
200 0 200 400
1" = 200'

DATE: July, 2012

SHEET: 2 OF 11

2010-142_Site F ACOE.dwg



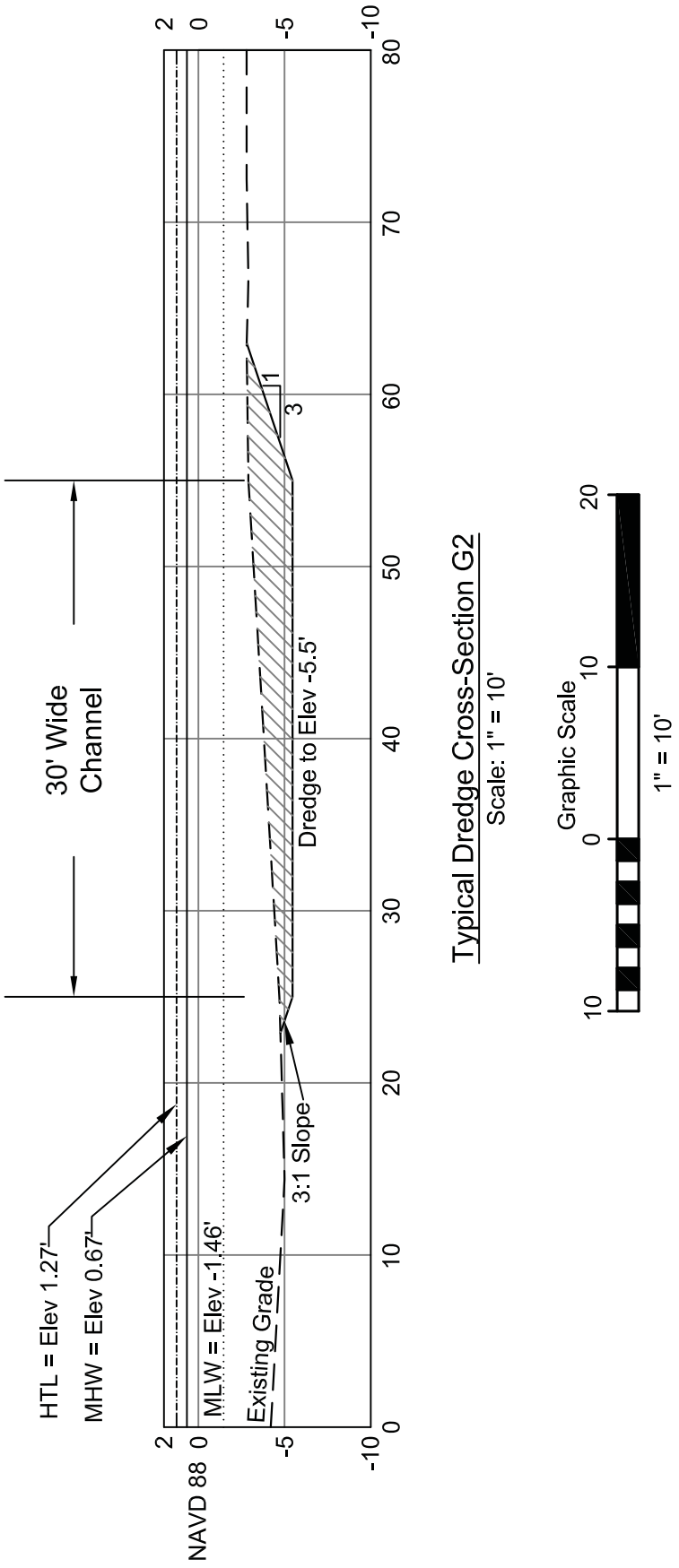
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Calebs Pond

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 3 OF 11

2010-142_Site F ACOE.dwg



Typical Dredge Cross-Section G2

Scale: 1" = 10'

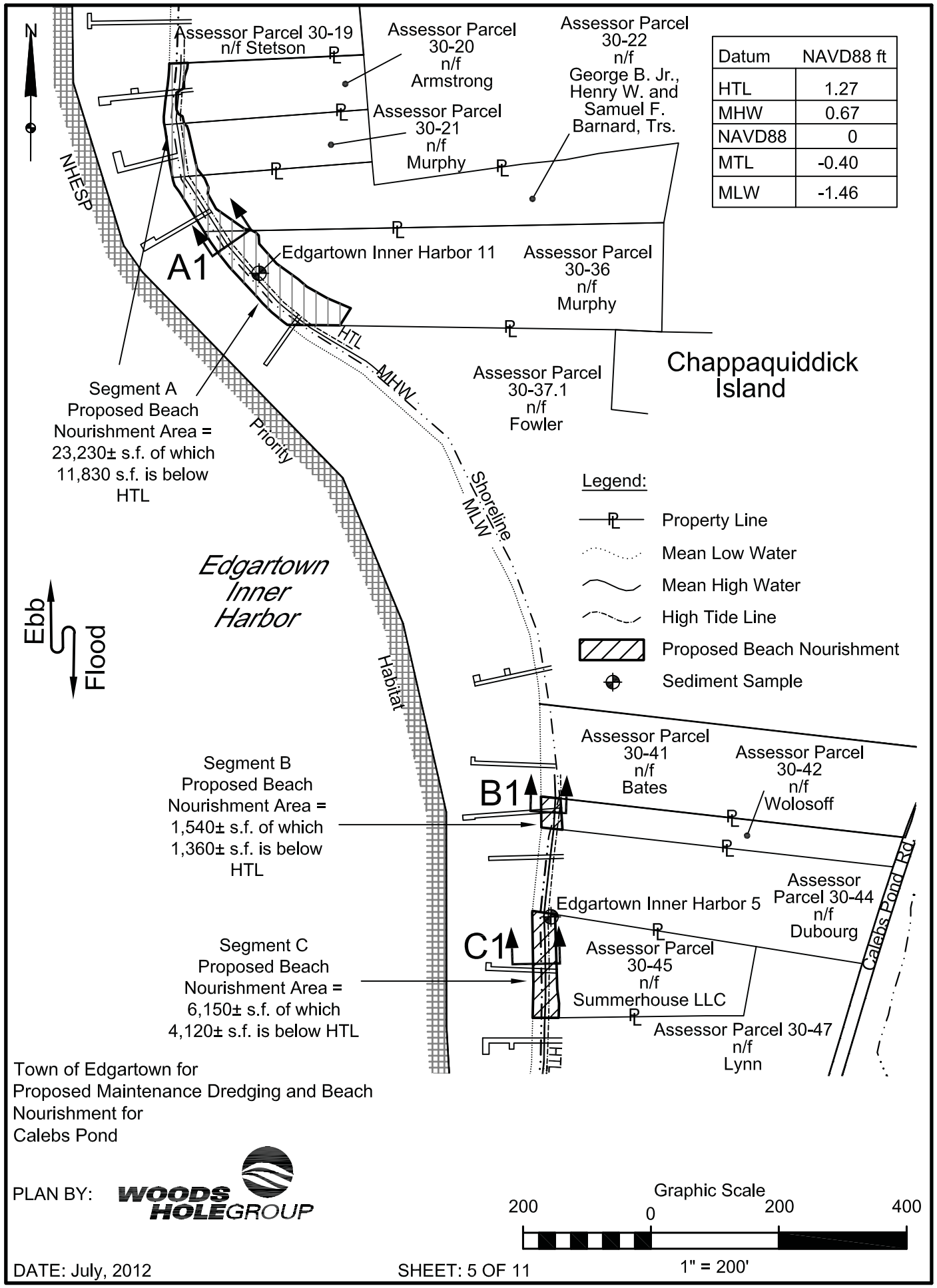
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Calebs Pond

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 4 OF 11

2010-142_Site F ACOE.dwg



Datum	NAVD88 ft
HTL	1.27
MHW	0.67
NAVD88	0
MTL	-0.40
MLW	-1.46

Town of Edgartown for
Proposed Maintenance Dredging and Beach
Nourishment for
Calebs Pond

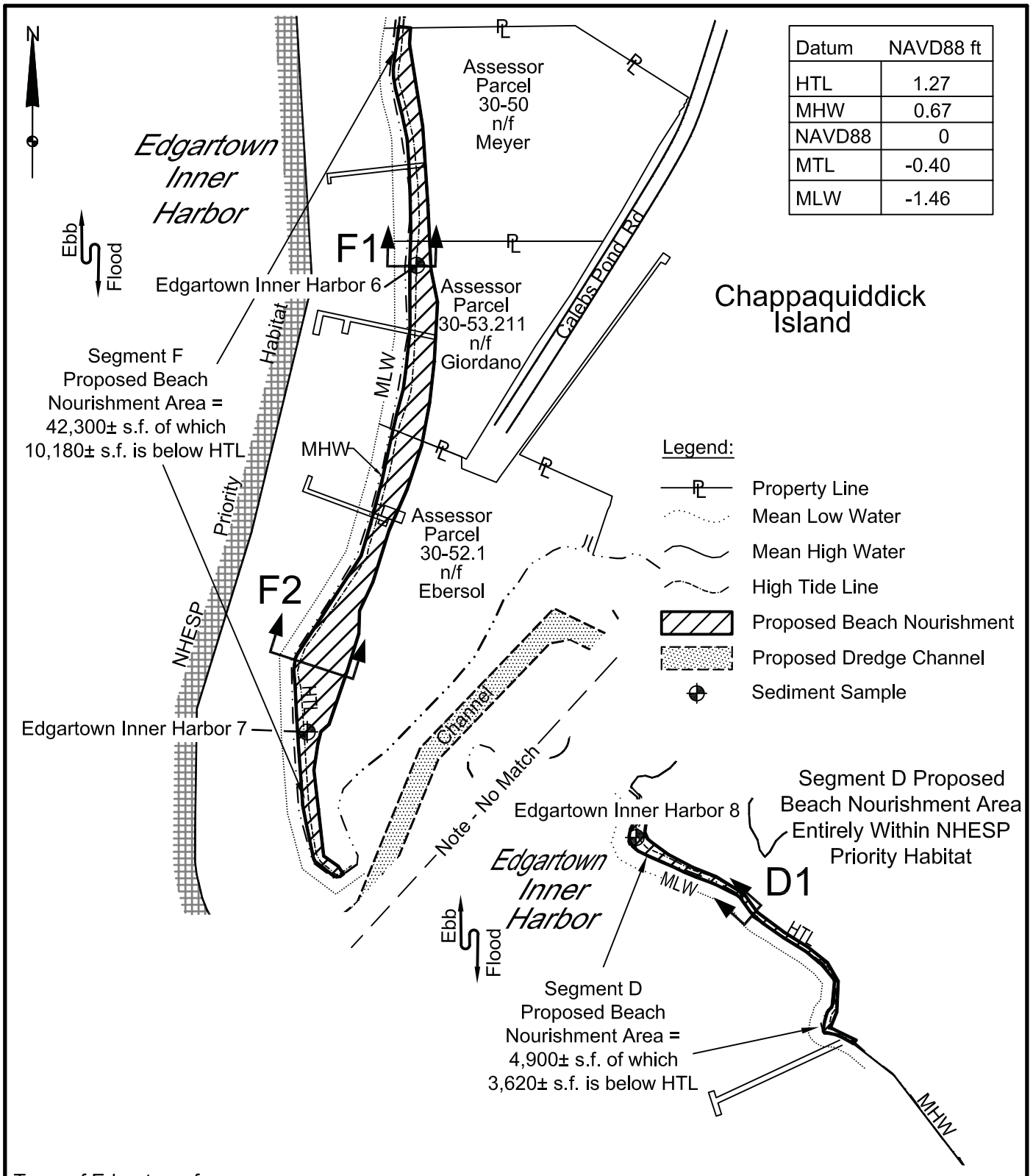
PLAN BY: WOODS HOLE GROUP

Graphic Scale
200 0 200 400
1" = 200'

DATE: July, 2012

SHEET: 5 OF 11

2010-142_Site F ACOE.dwg



Datum	NAVD88 ft
HTL	1.27
MHW	0.67
NAVD88	0
MTL	-0.40
MLW	-1.46

Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Calebs Pond

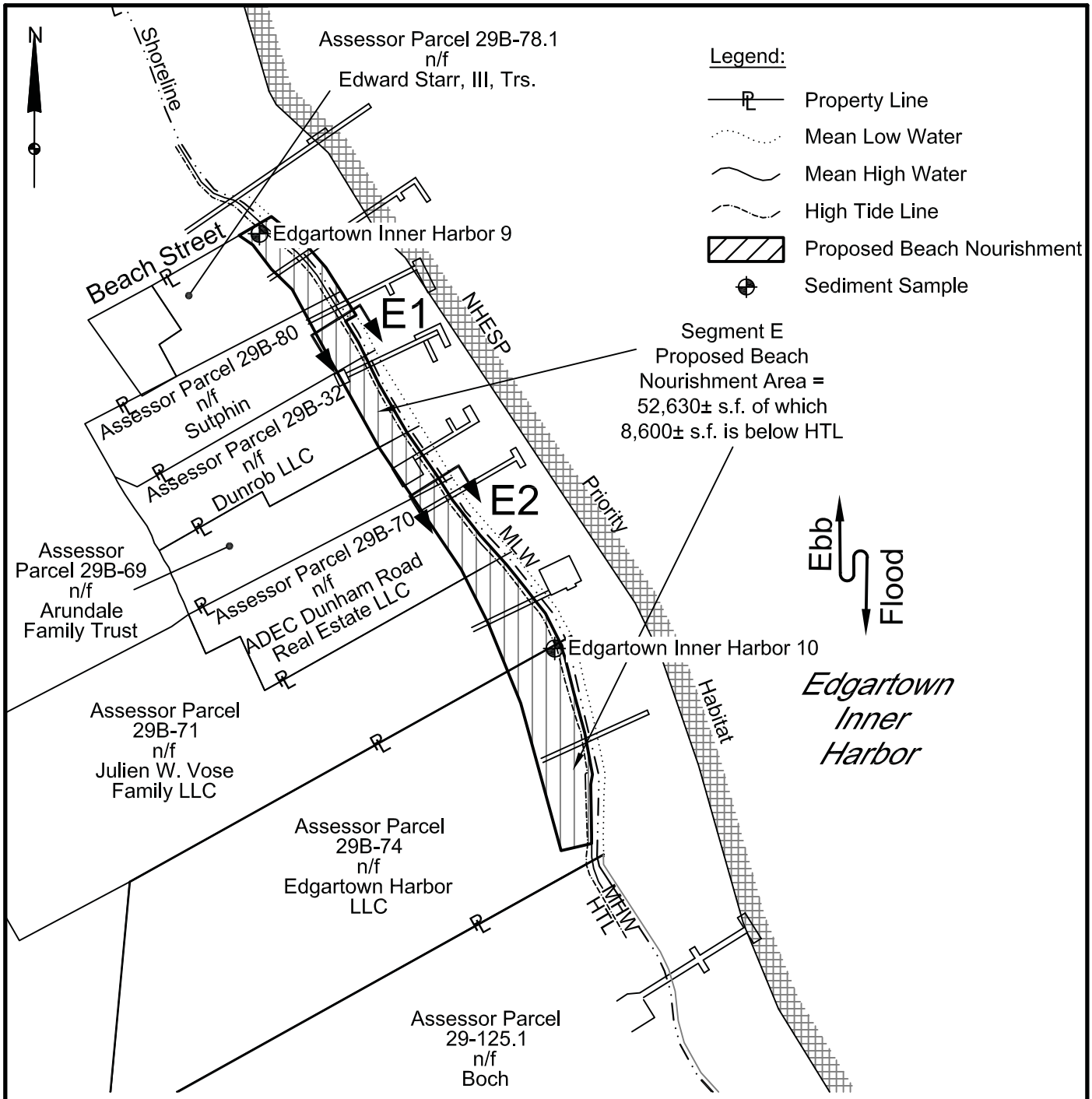
PLAN BY: WOODS HOLE GROUP

Graphic Scale
200 0 200 400
1" = 200'

DATE: July, 2012

SHEET: 6 OF 11

2010-142_Site F ACOE.dwg



Datum	NAVD88 ft
HTL	1.27
MHW	0.67
NAVD88	0
MTL	-0.40
MLW	-1.46

Town of Edgartown for
Proposed Maintenance Dredging and Beach
Nourishment for
Calebs Pond

PLAN BY: WOODS HOLE GROUP

Graphic Scale

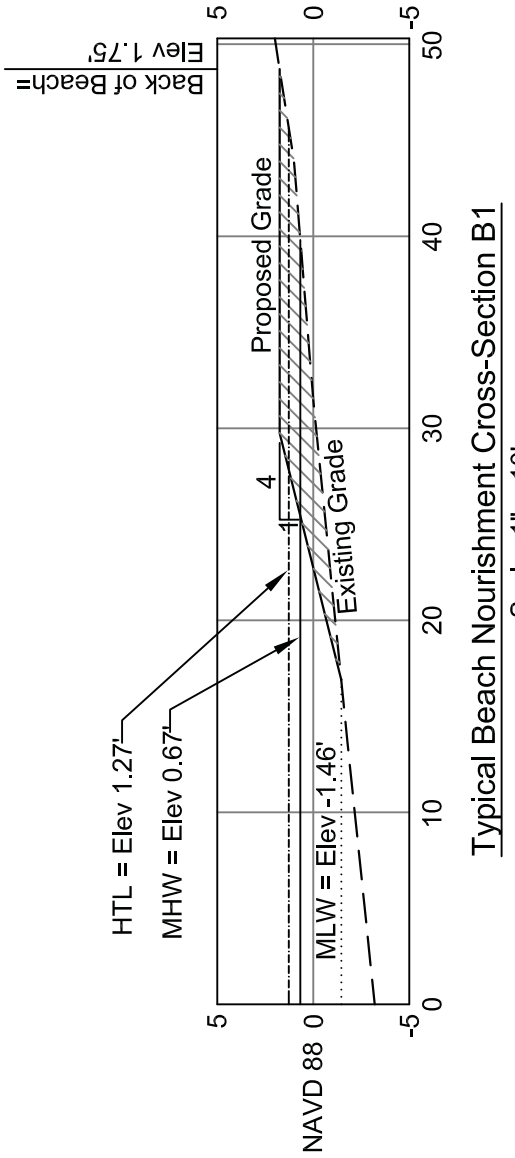
200 0 200 400

1" = 200'

DATE: July, 2012

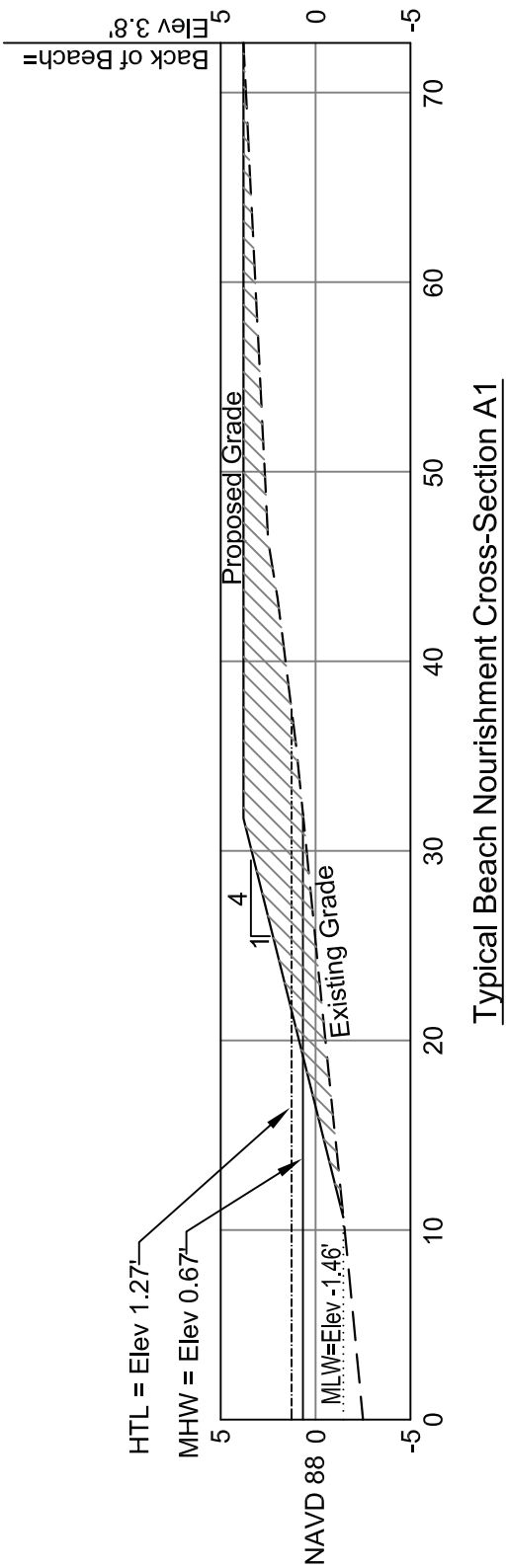
SHEET: 7 OF 11

2010-142_Site F ACOE.dwg



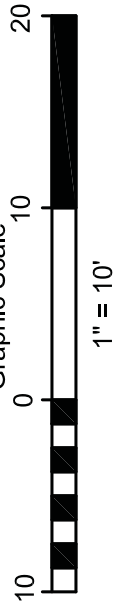
Typical Beach Nourishment Cross-Section B1

Scale: 1" = 10'



Typical Beach Nourishment Cross-Section A1

Scale: 1" = 10'



Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Calebs Pond

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 8 OF 11

2010-142_Site F ACOE.dwg

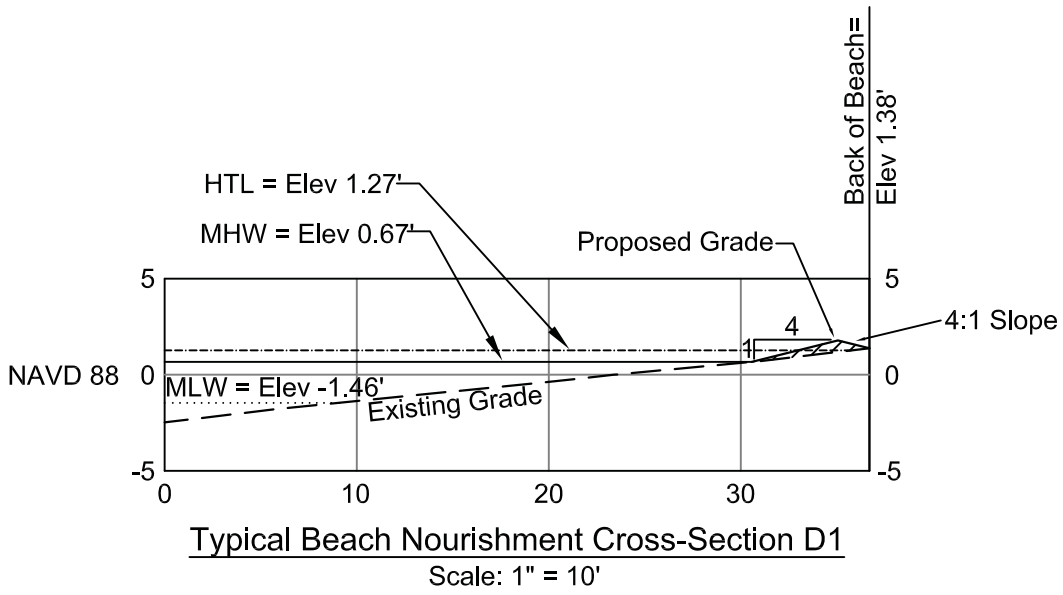
Town of Edgartown for
Proposed Maintenance Dredging and Beach
Nourishment for
Calebs Pond

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

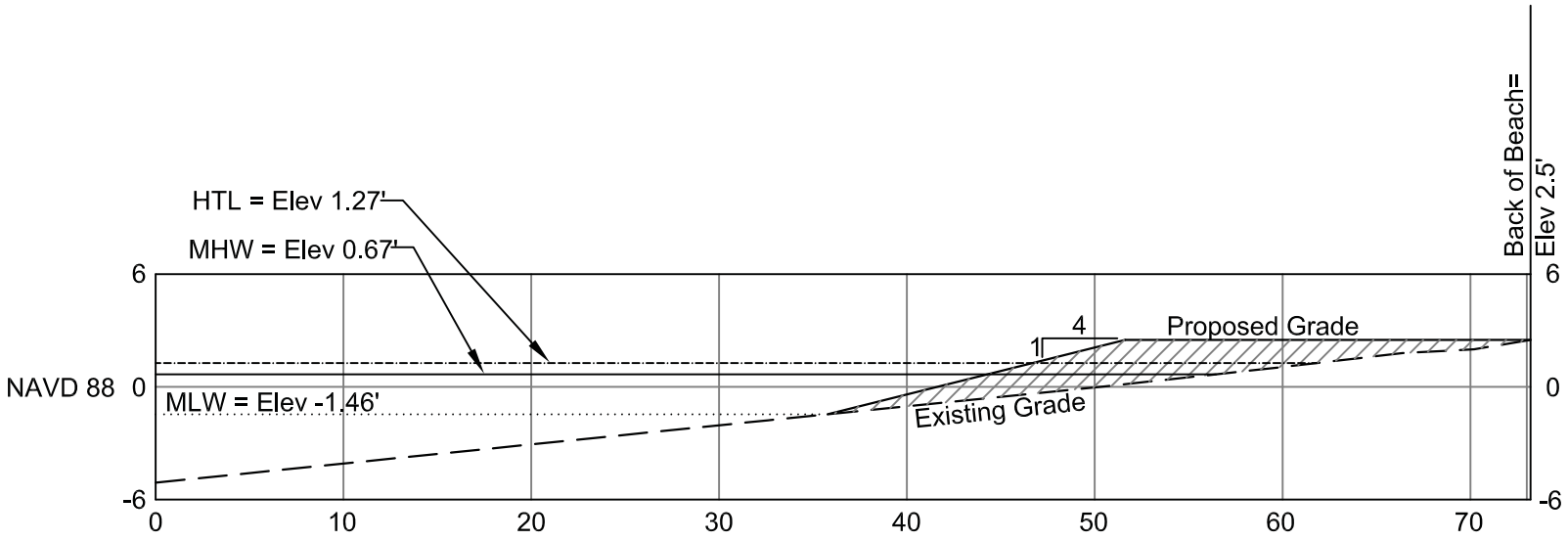
SHEET: 9 OF 11

2010-142_Site F ACOE.dwg



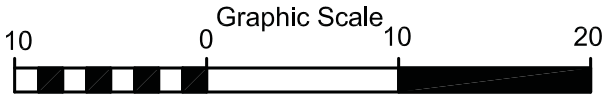
Typical Beach Nourishment Cross-Section D1

Scale: 1" = 10'



Typical Beach Nourishment Cross-Section C1

Scale: 1" = 10'



Town of Edgartown for
Proposed Maintenance Dredging and Beach
Nourishment for
Calebs Pond

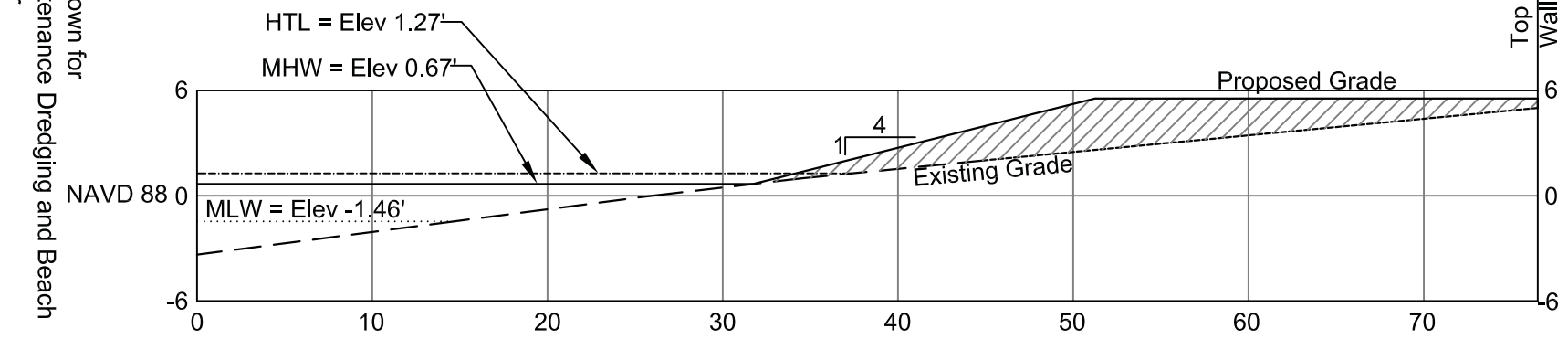
PLAN BY:

WOODS HOLE GROUP

DATE: July, 2012

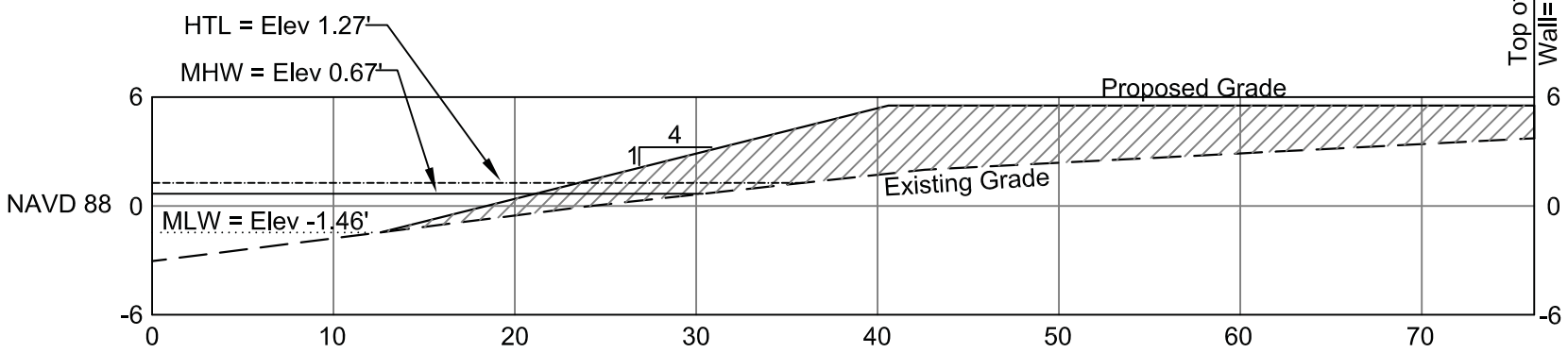
SHEET: 10 OF 11

2010-142_Site F ACOE.dwg



Beach Nourishment Cross-Section E2

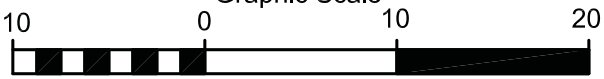
Scale: 1" = 10'



Beach Nourishment Cross-Section E1

Scale: 1" = 10'

Graphic Scale



1" = 10'

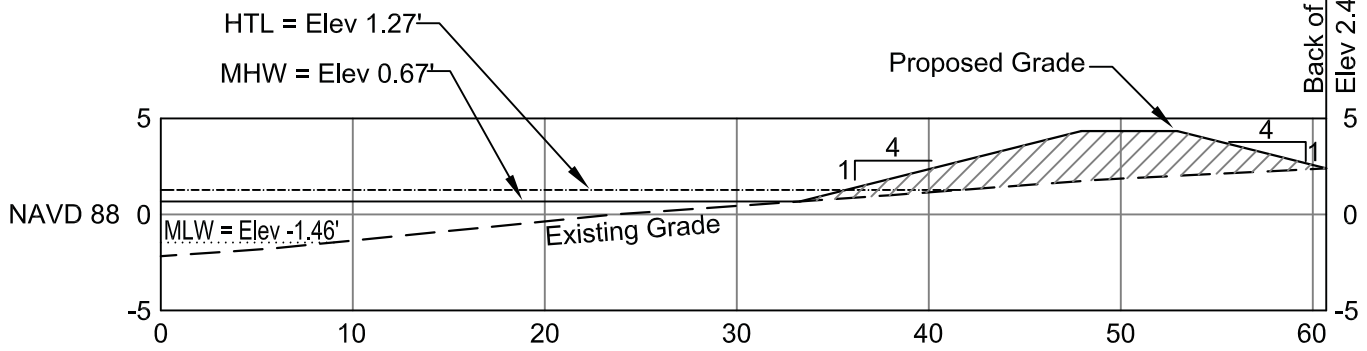
Town of Edgartown for
Proposed Maintenance Dredging and Beach
Nourishment for
Calebs Pond

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

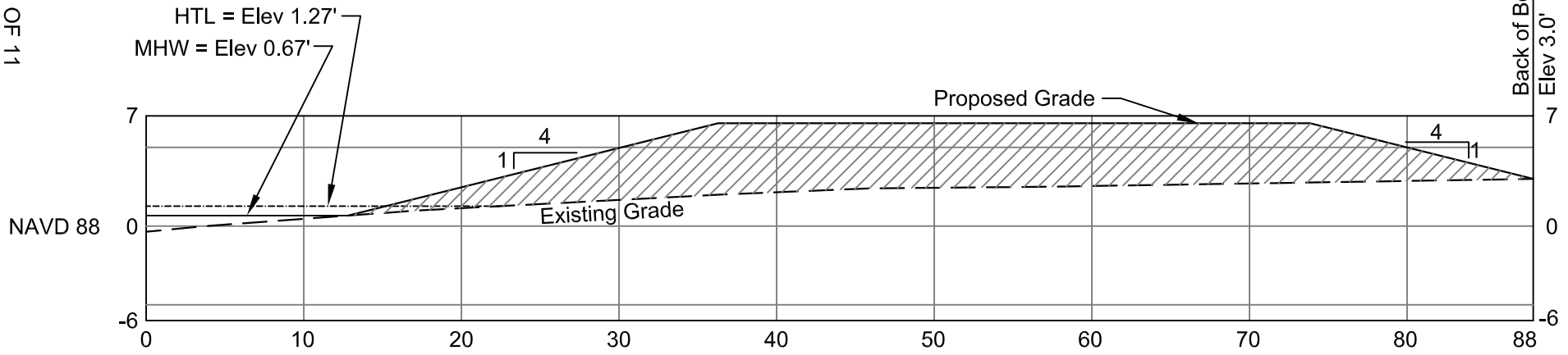
SHEET: 11 OF 11

2010-142_Site F ACOE.dwg



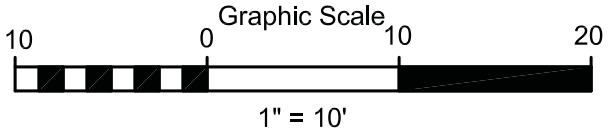
Beach Nourishment Cross-Section F1

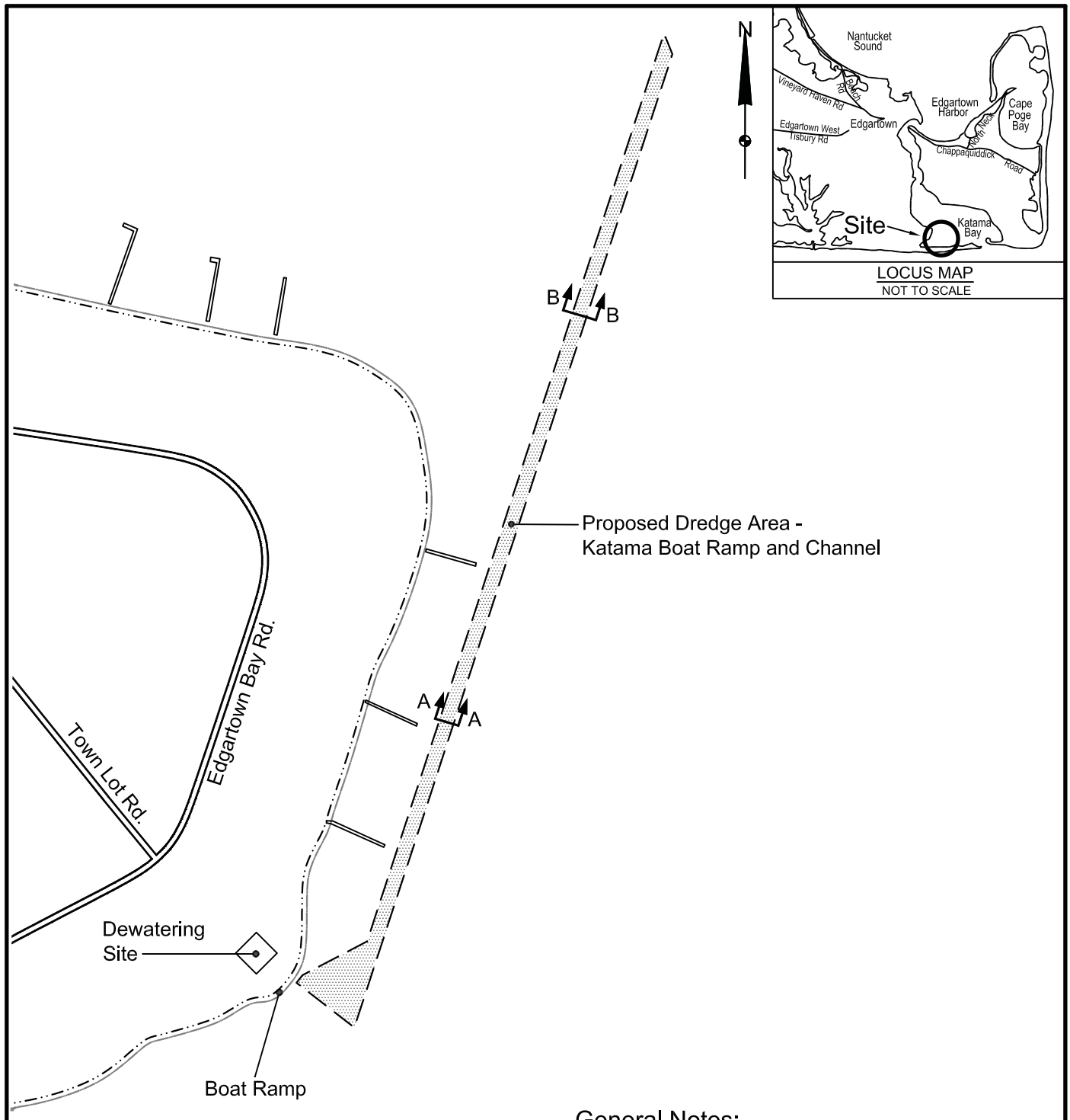
Scale: 1" = 10'



Beach Nourishment Cross-Section F2

Scale: 1" = 10'





PLAN ACCOMPANYING PETITION OF:
Town of Edgartown for
Proposed Maintenance Dredging for
Katama Bay Boat Ramp and Channel,
Dukes County, Edgartown, MA

General Notes:

1. Elevations are referenced to NAVD88 datum.
2. Bathymetric survey was conducted in November, 2009 and September, 2010 by Woods Hole Group.
3. Previously permitted under ACOE Permit No. NAE-2000-00373.

Graphic Scale

300 0 300 600

1" = 300'

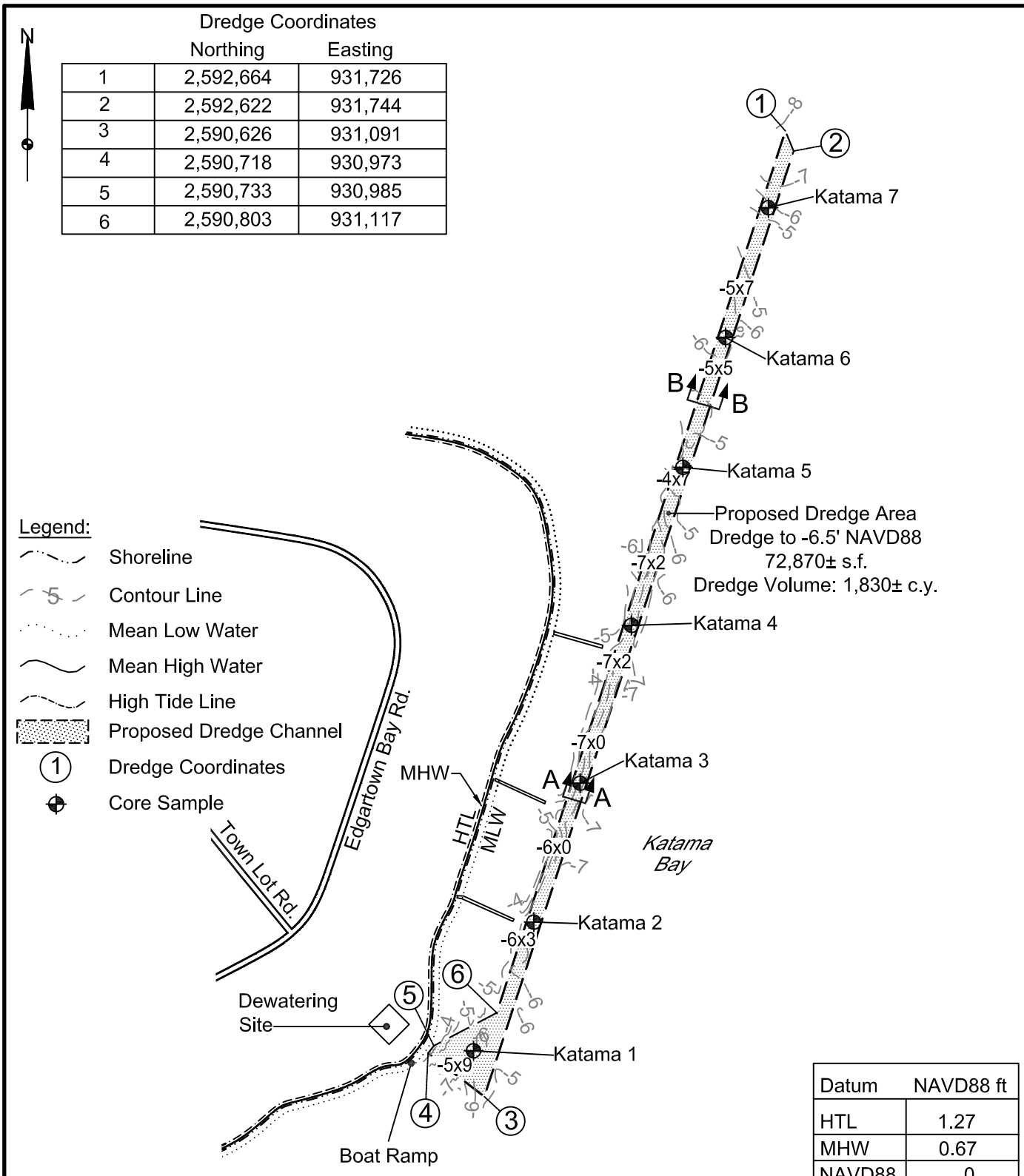
PLAN BY: WOODS HOLE GROUP

81 TECHNOLOGY PARK DRIVE EAST FALMOUTH, MA 02536
TELEPHONE: (508) 540-8080 FAX: (508) 540-1001

DATE: July, 2012

SHEET: 1 OF 3

2010-142_Katama ACOE.dwg



Town of Edgartown for
Proposed Maintenance Dredging for
Katama Bay Boat Ramp and Channel

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 2 OF 3

2010-142_Katama ACOE.dwg

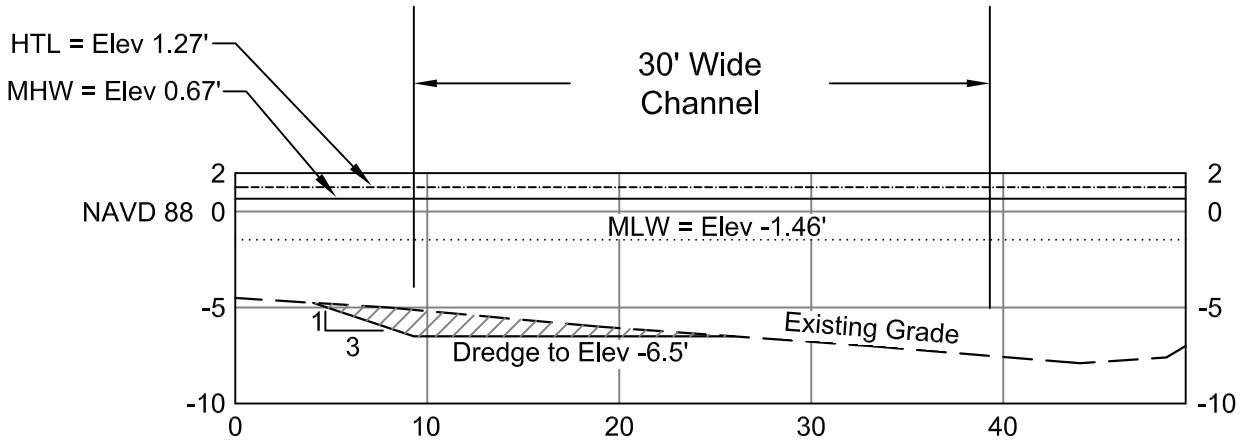
Town of Edgartown for
Proposed Maintenance Dredging for
Katama Bay Boat Ramp and Channel

PLAN BY: WOODS HOLE GROUP

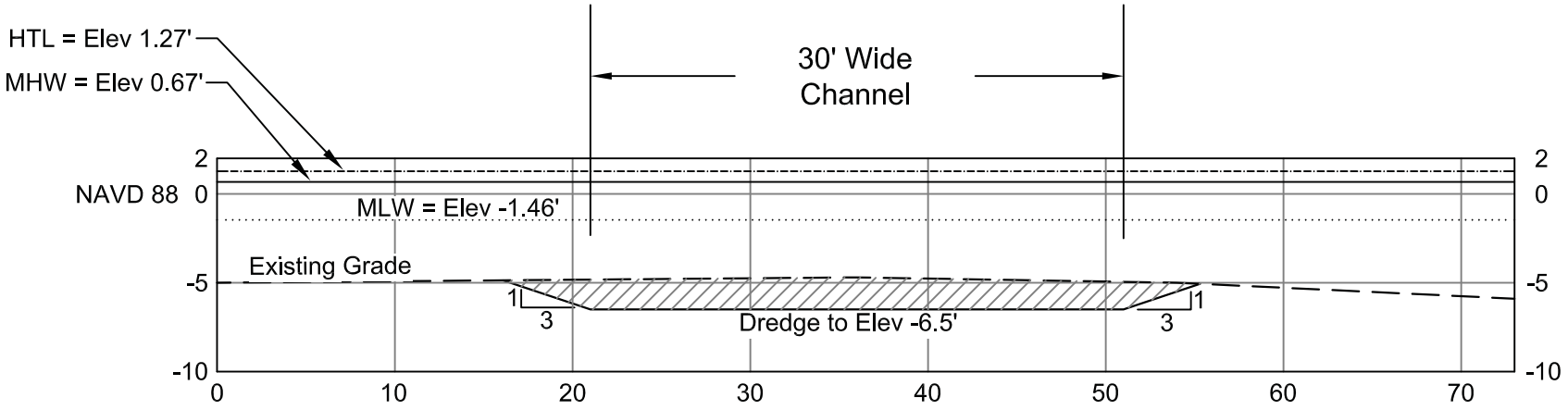
DATE: July, 2012

SHEET: 3 OF 3

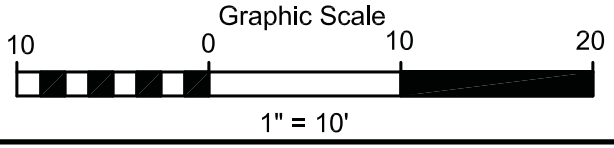
2010-142_Katama ACOE.dwg

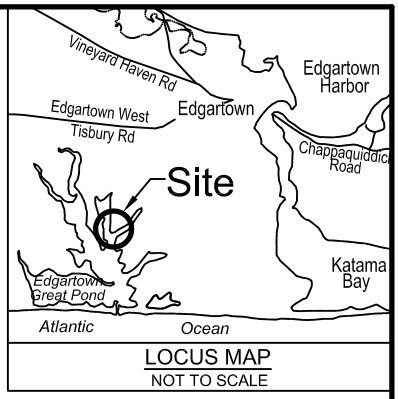


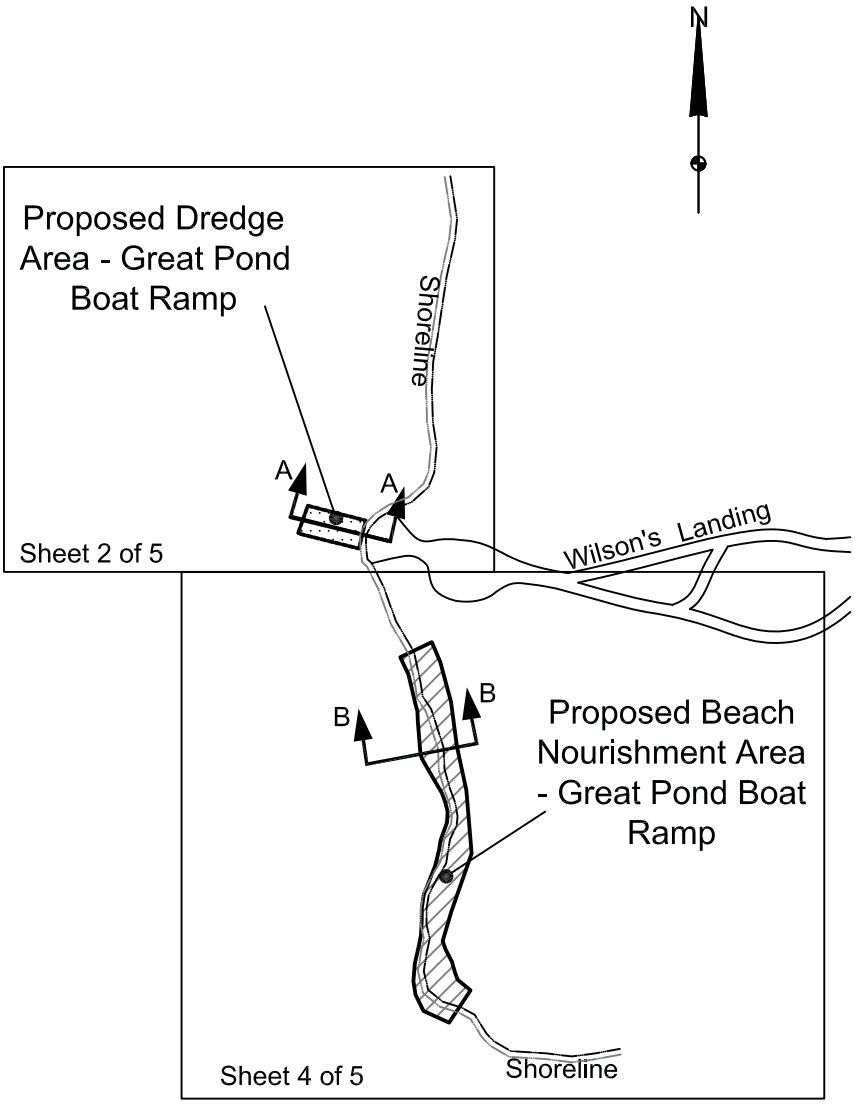
Typical Dredge Cross-Section A-A
Scale: 1" = 10'



Typical Dredge Cross-Section B-B
Scale: 1" = 10'







PLAN ACCOMPANYING PETITION OF:
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishement for
Edgartown Great Pond Boat Ramp/Wilson's Landing, Dukes County,
Edgartown, MA

General Notes:

1. Elevations are referenced to NAVD88 datum.
2. Bathymetric survey was conducted in May, 2011 by Woods Hole Group.
3. Topographic survey was conducted in September, 2011 by Woods Hole Group.
4. Previously permitted under ACOE Permit No. NAE-2005-4047

PLAN BY: WOODS HOLE GROUP
81 TECHNOLOGY PARK DRIVE EAST FALMOUTH, MA 02536
TELEPHONE: (508) 540-8080 FAX: (508) 540-1001

Graphic Scale
200 0 200 400
1" = 200'

Date: July, 2012

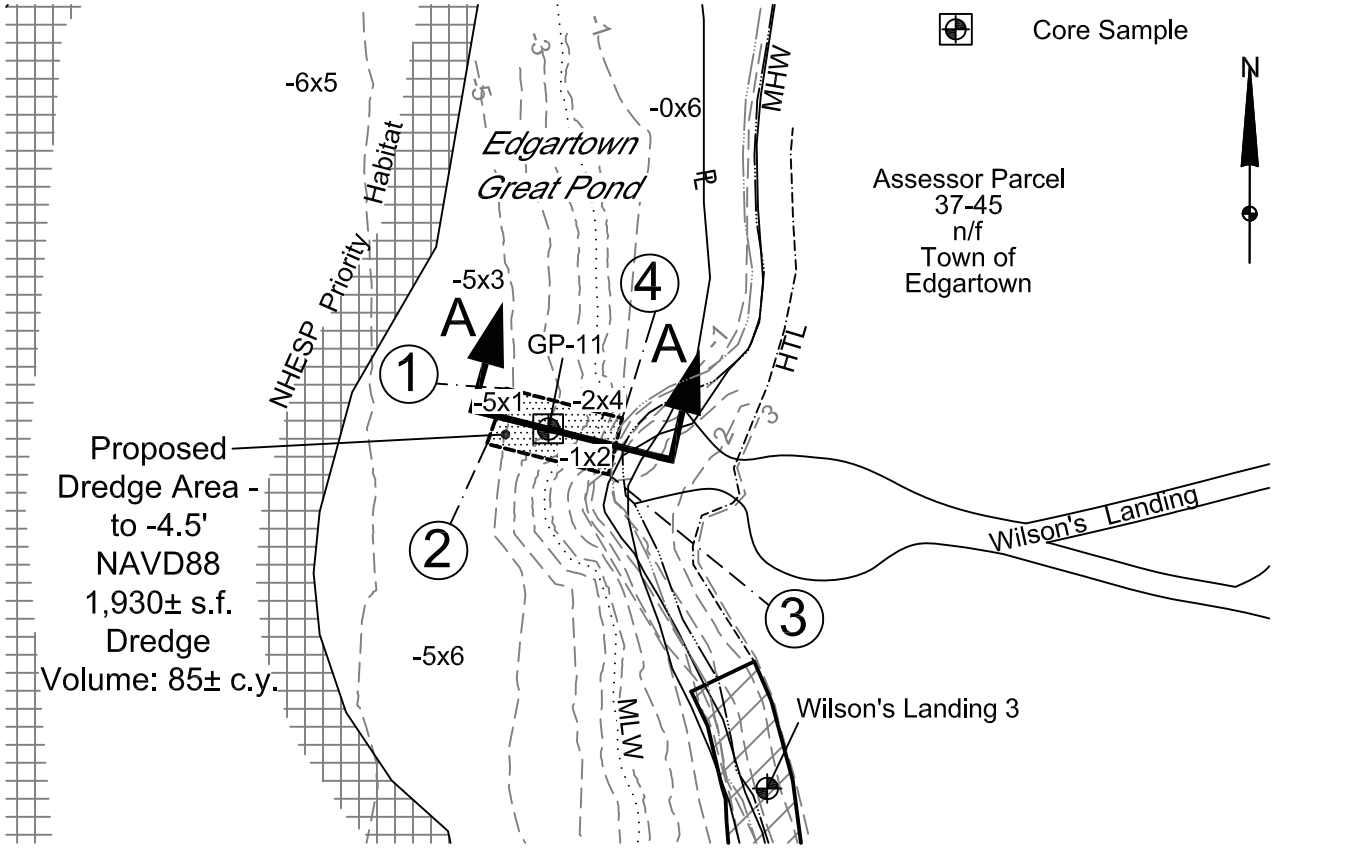
SHEET: 1 OF 5

2010-142_Site L ACOE.dwg

Dredge Coordinates	Northing	Easting
1	2,595,804	916,661
2	2,595,775	916,651
3	2,595,760	916,714
4	2,595,789	916,721

Legend:

- Property Line
- Contour Line
- Mean Low Water
- Mean High Water
- High Tide Line
- Proposed Dredge Channel
- Dredge Coordinates
- Sediment Sample
- Core Sample



Datum	NAVD88 ft
HTL	2.61
MHW	0.61
NAVD88	0
MLW	-2.39

Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Edgartown Great Pond Boat Ramp/Wilson's Landing

PLAN BY: WOODS HOLE GROUP

Graphic Scale

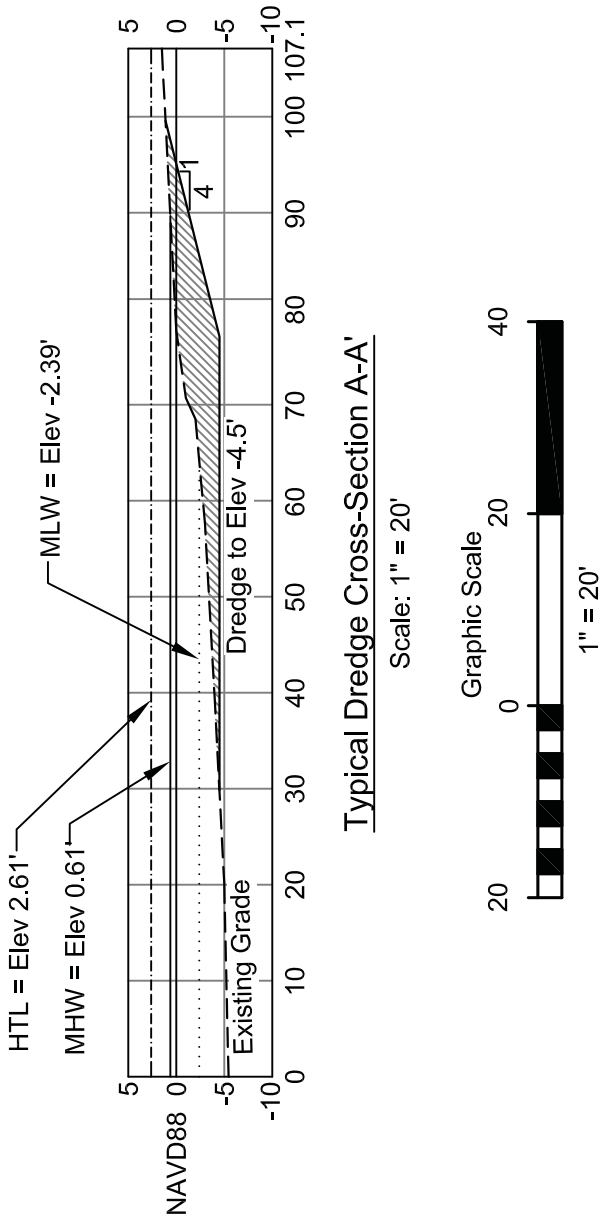
100 0 100 200

1" = 100'

Date: July, 2012

SHEET: 2 OF 5

2010-142_Site L ACOE.dwg



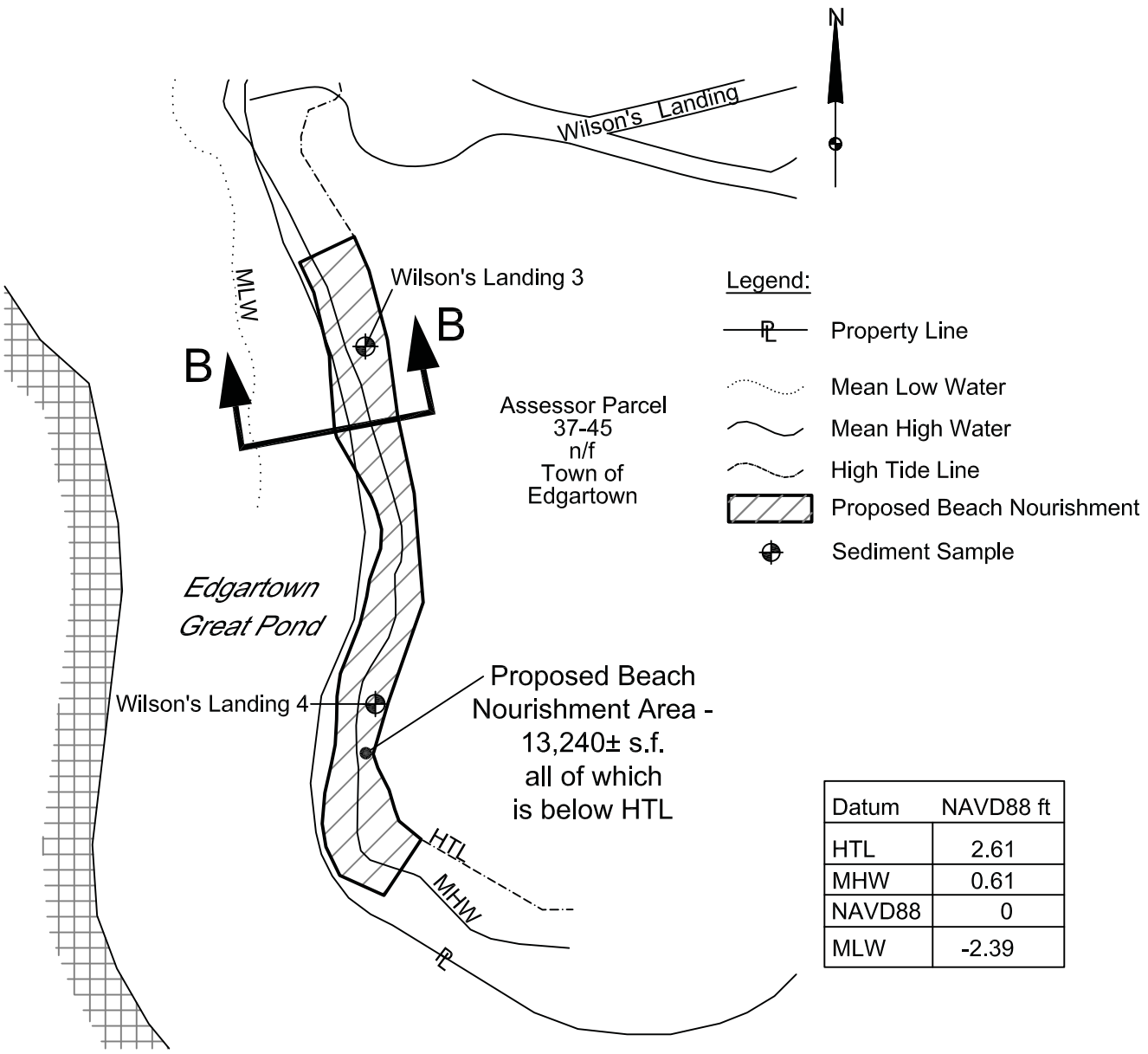
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishement for
Edgartown Great Pond Boat Ramp/Wilson's Landing

PLAN BY: WOODS HOLE GROUP

Date: July, 2012

SHEET: 3 OF 5

2010-142_Site L ACOE.dwg



Datum	NAVD88 ft
HTL	2.61
MHW	0.61
NAVD88	0
MLW	-2.39

Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Edgartown Great Pond Boat Ramp/Wilson's Landing

PLAN BY: WOODS HOLE GROUP

Graphic Scale

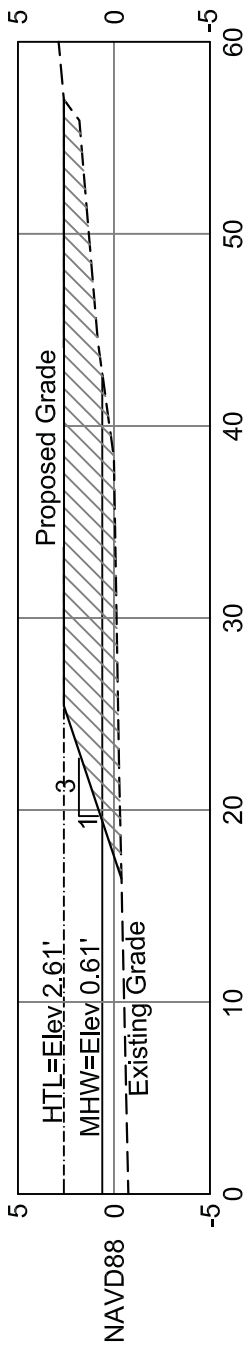
100 0 100 200

1" = 100'

Date: July, 2012

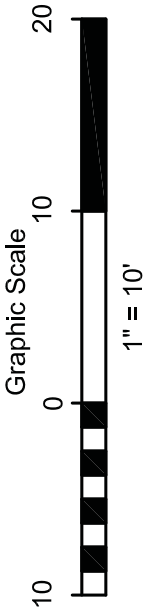
SHEET: 4 OF 5

2010-142_Site L ACOE.dwg



Typical Beach Nourishment Cross-Section B-B'

Scale: 1" = 10'



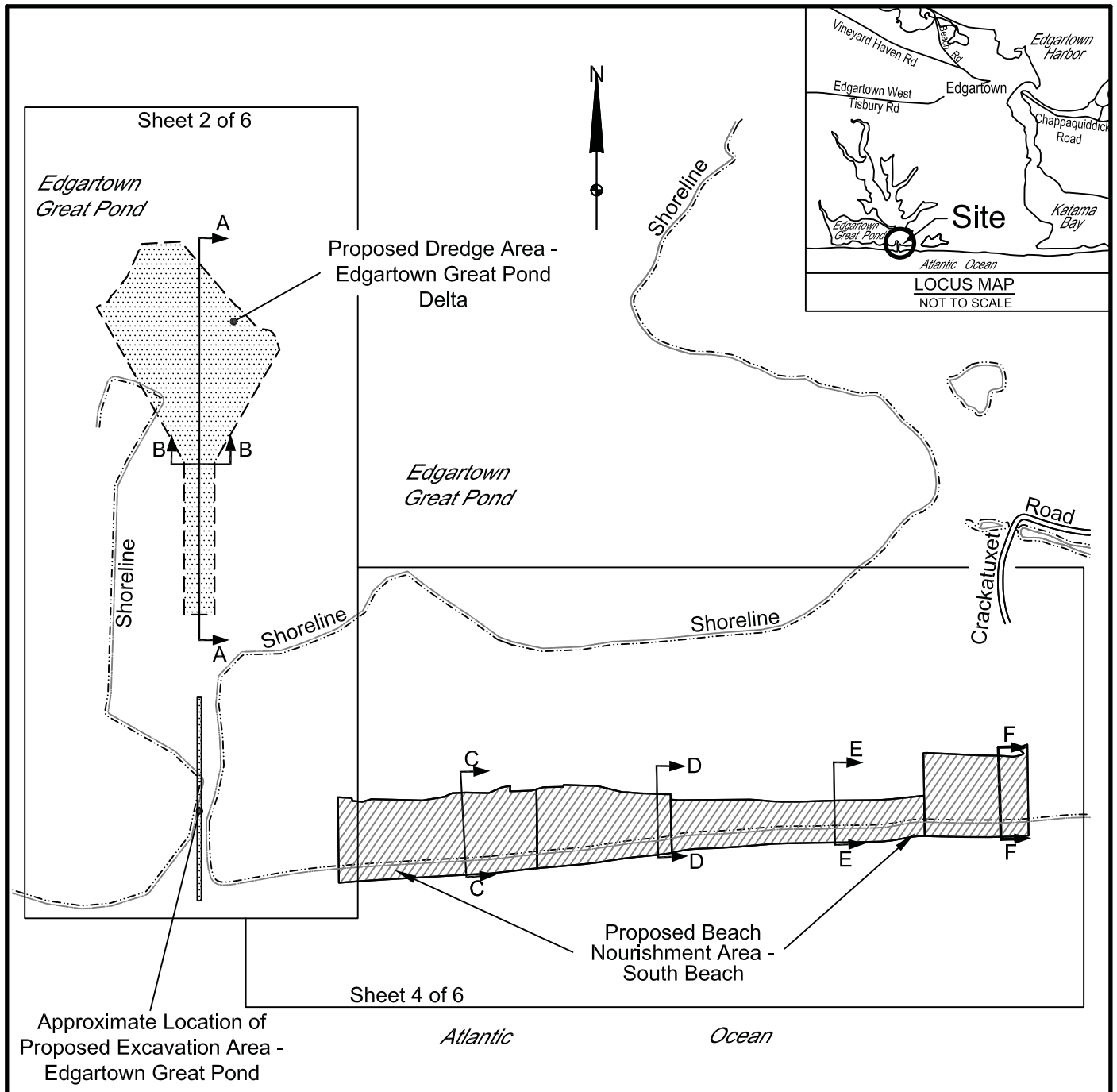
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishement for
Edgartown Great Pond Boat Ramp/Wilson's Landing

PLAN BY: WOODS HOLE GROUP

Date: July, 2012

SHEET: 5 OF 5

2010-142_Site L ACOE.dwg



PLAN ACCOMPANYING PETITION OF:
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Edgartown Great Pond Channel and Delta,
Dukes County, Edgartown, MA

General Notes:

1. Elevations are referenced to NAVD88 datum.
2. Bathymetric survey was conducted in May, 2011 by Woods Hole Group.
3. Topographic survey was conducted in August, 2011 by Woods Hole Group.
4. Previously permitted under ACOE Permit No. 200001739 & NAE-2005-4050

PLAN BY: WOODS HOLE GROUP

81 TECHNOLOGY PARK DRIVE EAST FALMOUTH, MA 02536
TELEPHONE: (508) 540-8080 FAX: (508) 540-1001

Graphic Scale

300 0 300 600

1" = 300'

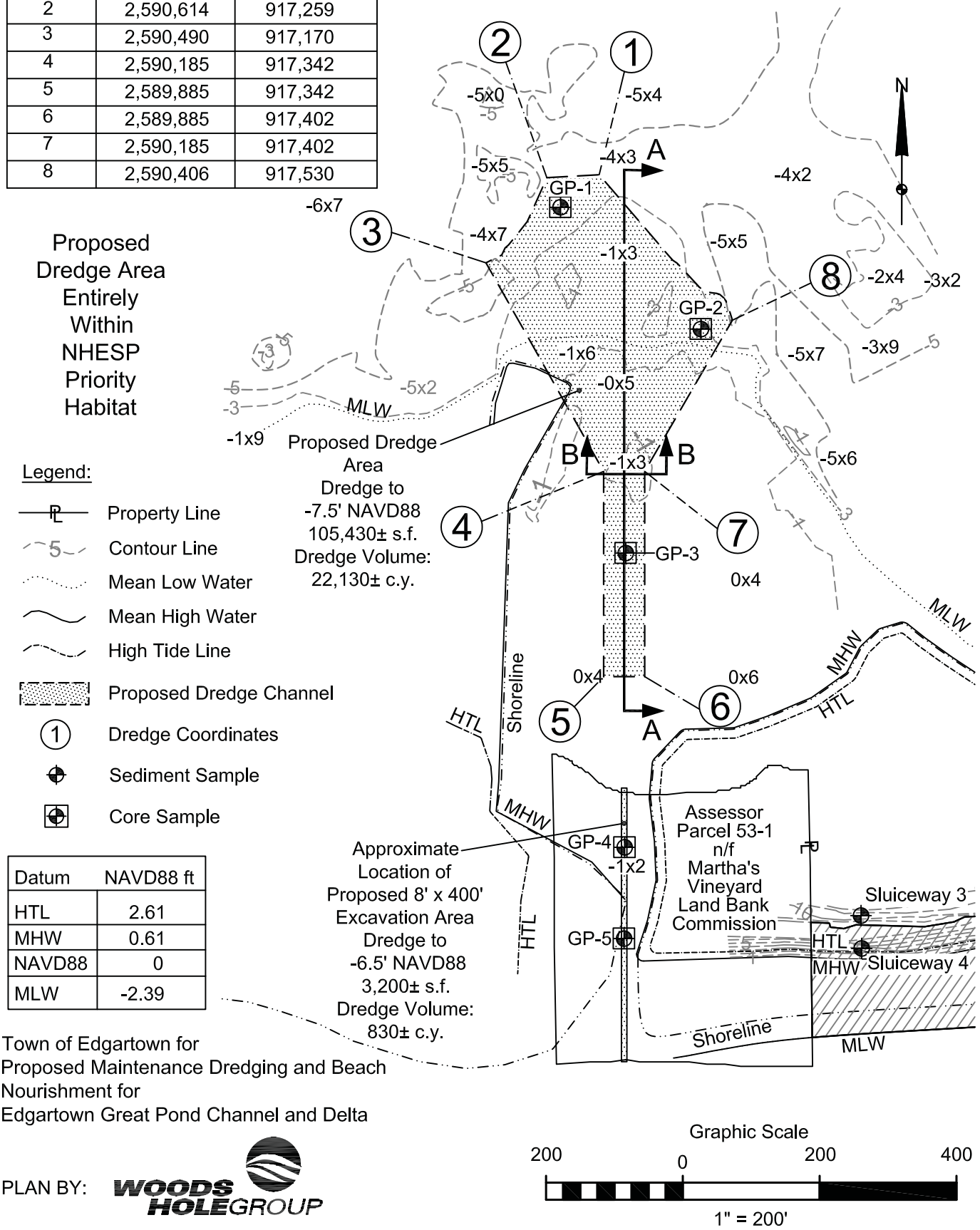
DATE: July, 2012

SHEET: 1 OF 6

2010-142_Site D ACOE.dwg

Dredge Coordinates	Northing	Easting
1	2,590,618	917,335
2	2,590,614	917,259
3	2,590,490	917,170
4	2,590,185	917,342
5	2,589,885	917,342
6	2,589,885	917,402
7	2,590,185	917,402
8	2,590,406	917,530

Proposed Dredge Area Entirely Within NHESP Priority Habitat



Legend:

- Property Line
- Contour Line
- Mean Low Water
- Mean High Water
- High Tide Line
- Proposed Dredge Channel
- (1) Dredge Coordinates
- Sediment Sample
- Core Sample

Datum	NAVD88 ft
HTL	2.61
MHW	0.61
NAVD88	0
MLW	-2.39

Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Edgartown Great Pond Channel and Delta

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 2 OF 6

2010-142_Site D ACOE.dwg

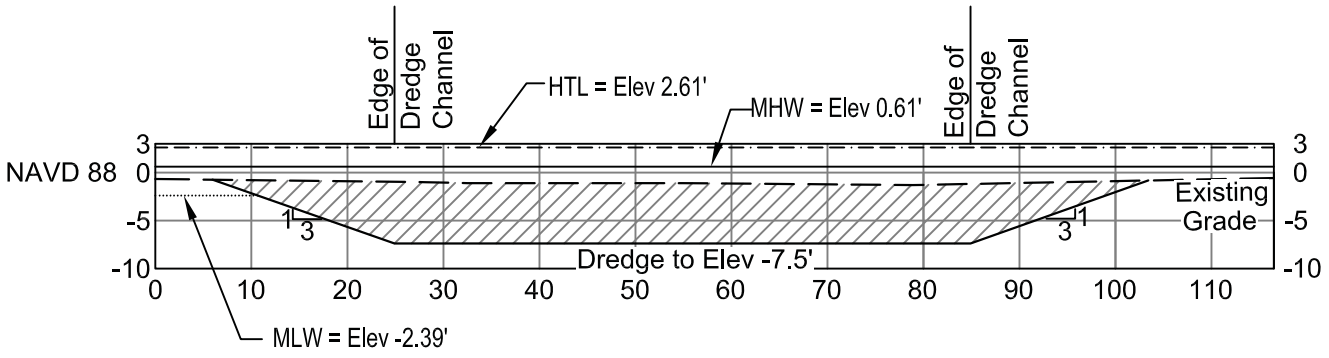
Town of Edgartown for
Proposed Maintenance Dredging and Beach
Nourishment for
Edgartown Great Pond Channel and Delta

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

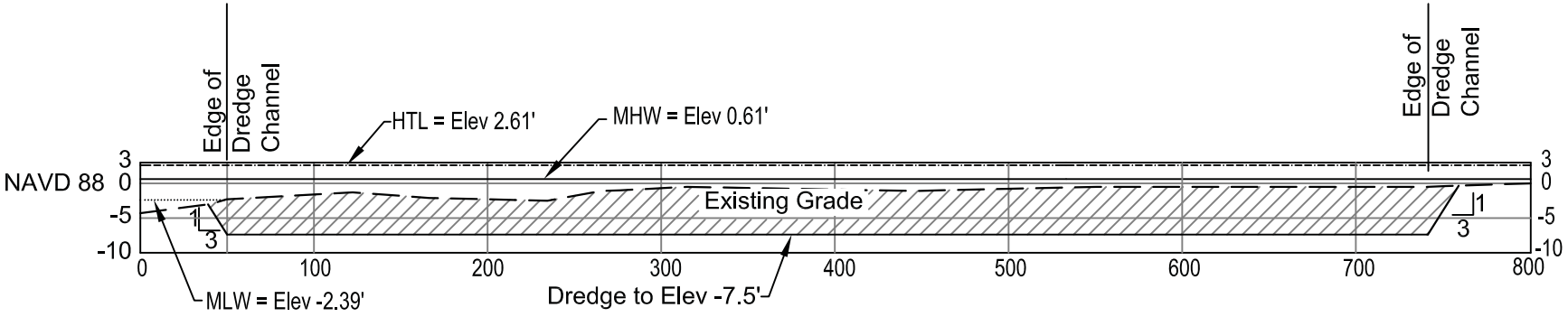
SHEET: 3 OF 6

2010-142_Site D ACOE.dwg



Typical Dredge Cross-Section B-B

Scale: 1" = 20'



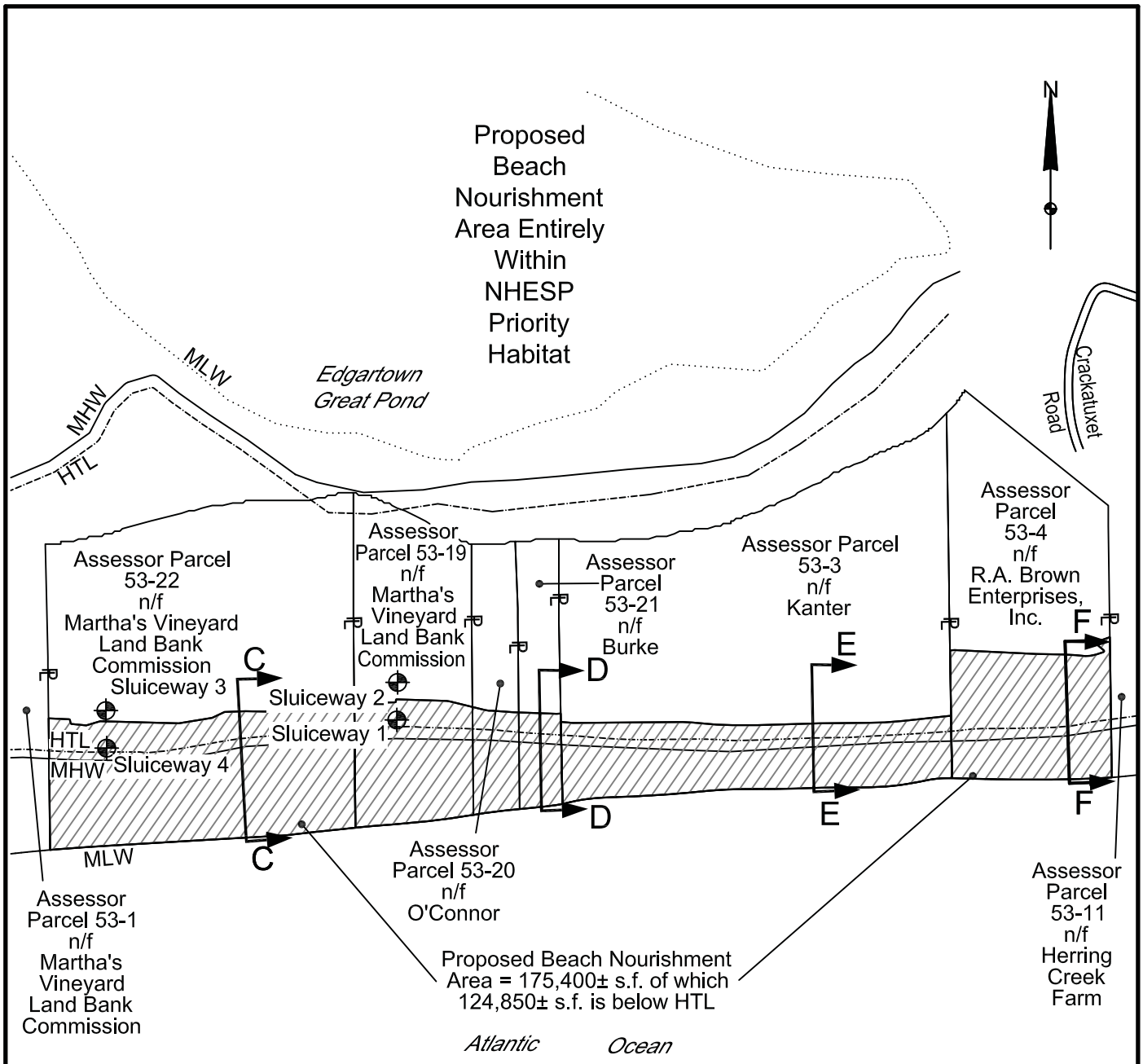
Typical Dredge Cross-Section A-A

Scale: 1" = 100'

Graphic Scale

100 0 100 200

1" = 100'



Legend:

- Property Line
- Mean Low Water
- Mean High Water
- High Tide Line
- Proposed Beach Nourishment
- Sediment Sample

Graphic Scale

200 0 200 400

1" = 200'

Town of Edgartown for
Proposed Maintenance Dredging and
Beach Nourishment for
Edgartown Great Pond Channel and Delta

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 4 OF 6

2010-142_Site D ACOE.dwg

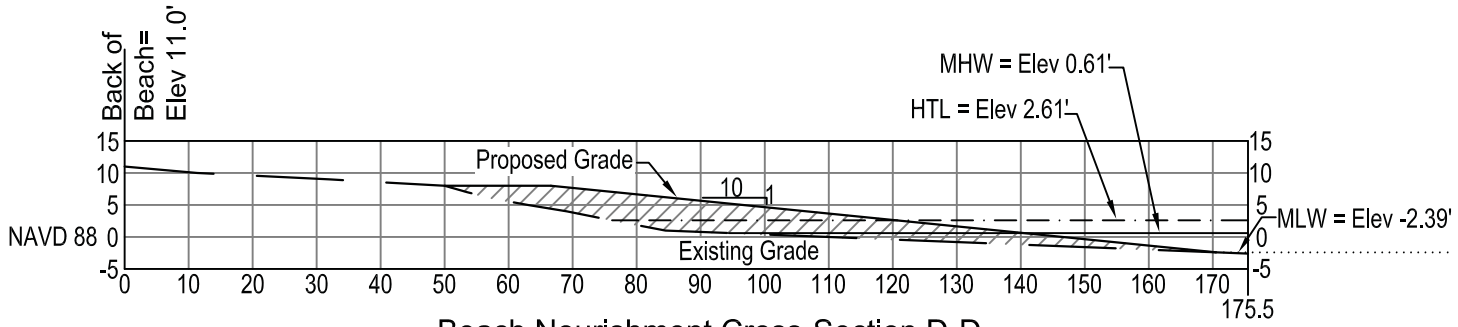
Town of Edgartown for
Proposed Maintenance Dredging and Beach
Nourishment for
Edgartown Great Pond Channel and Delta

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

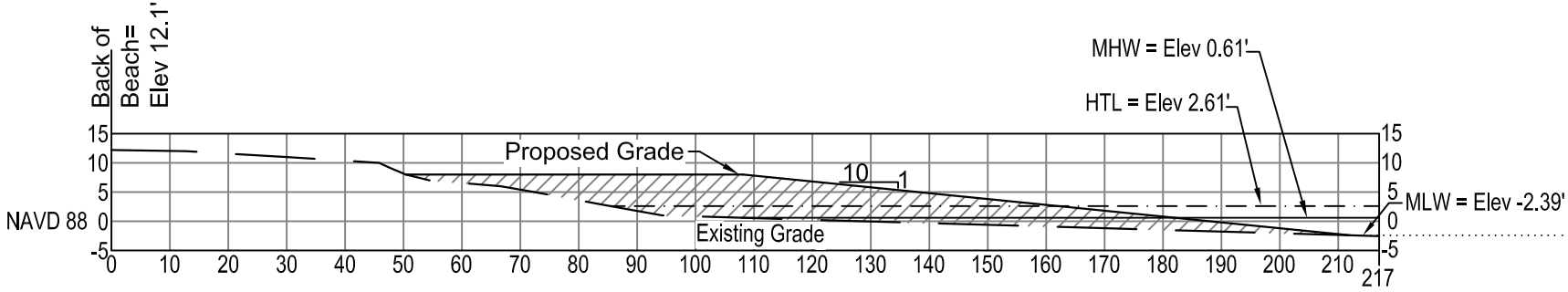
SHEET: 5 OF 6

2010-142_Site D ACOE.dwg



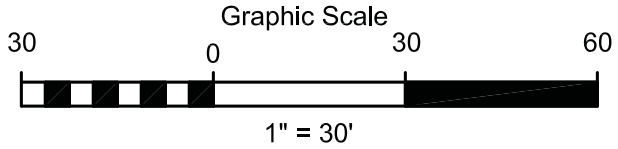
Beach Nourishment Cross-Section D-D

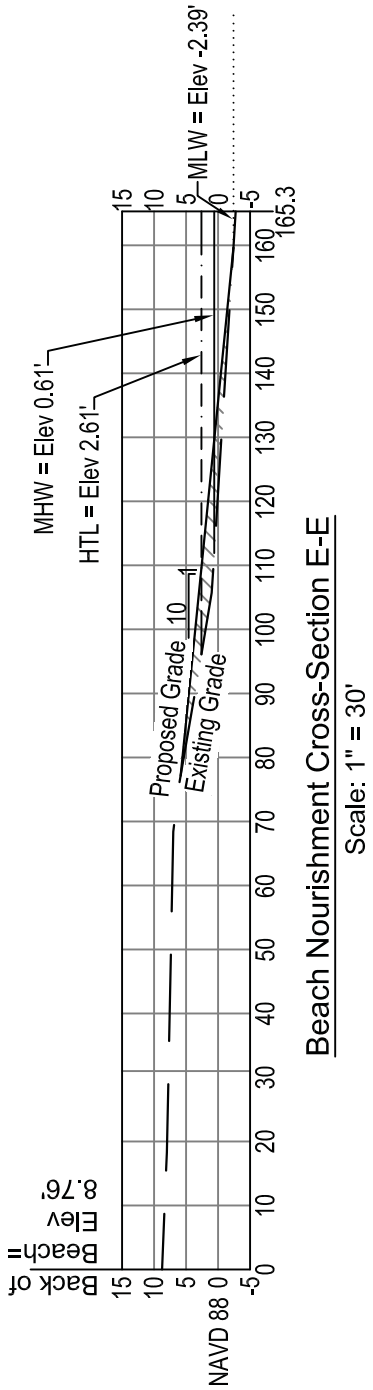
Scale: 1" = 30'



Beach Nourishment Cross-Section C-C

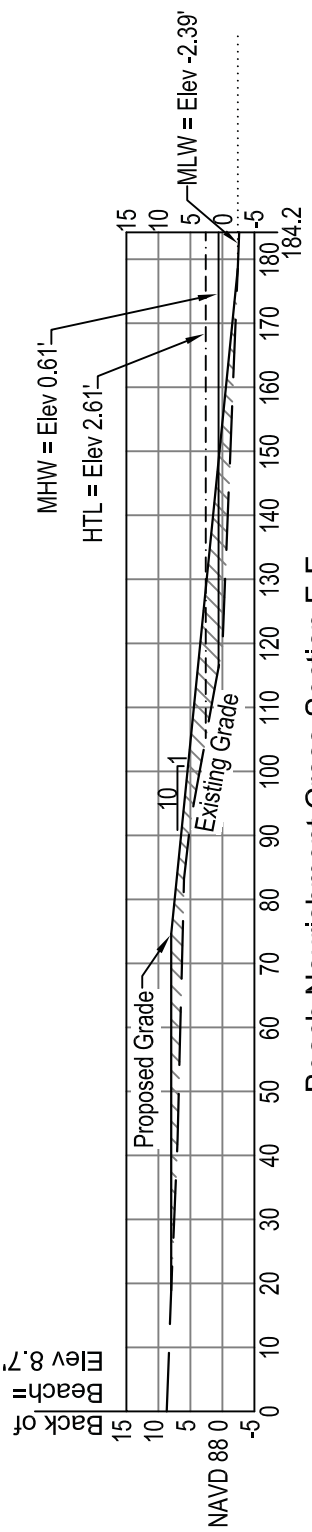
Scale: 1" = 30'





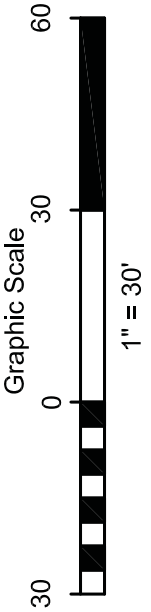
Beach Nourishment Cross-Section E-E

Scale: 1" = 30'



Beach Nourishment Cross-Section F-F

Scale: 1" = 30'



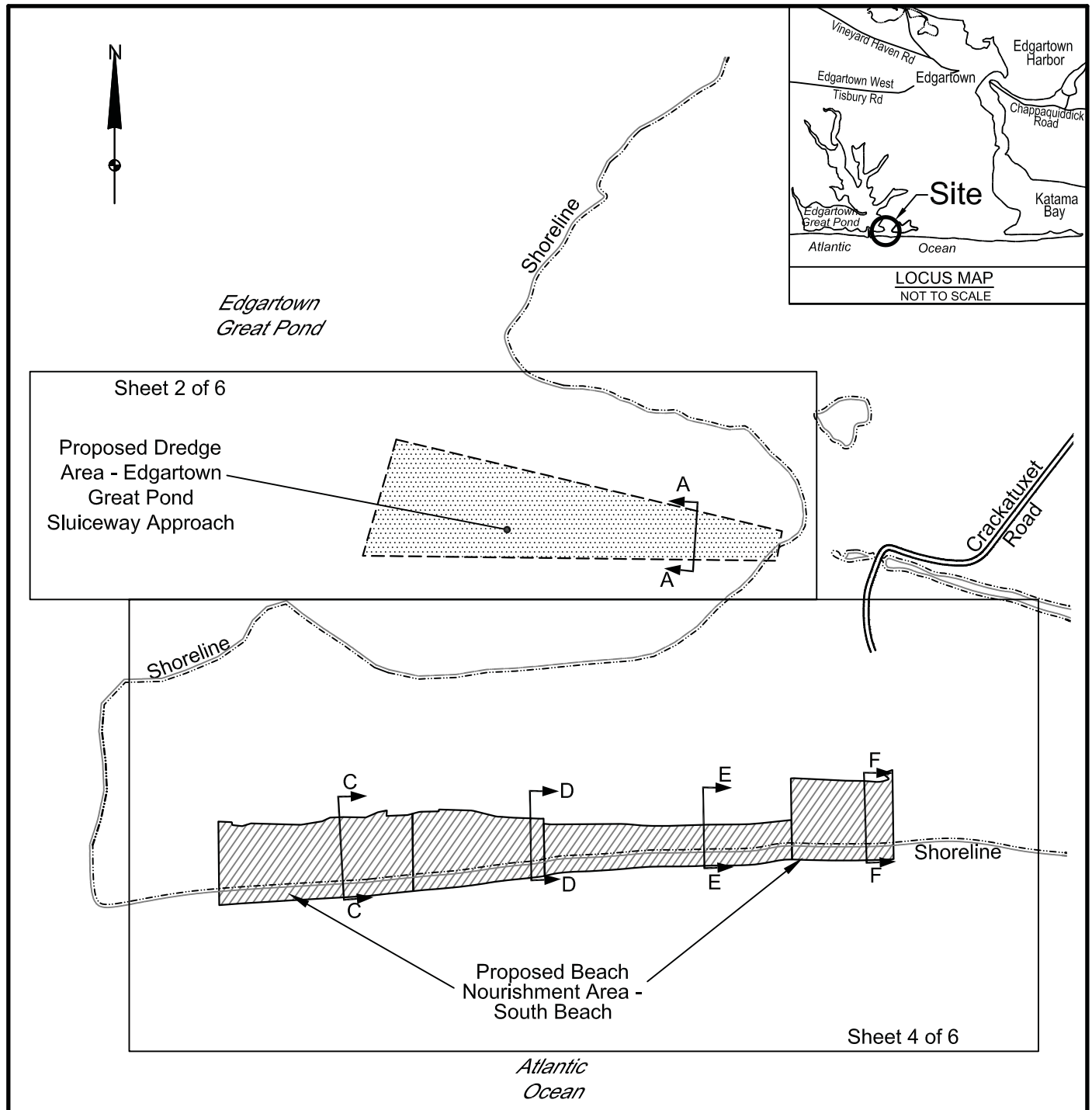
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Edgartown Great Pond Channel and Delta

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 6 OF 6

2010-142_Site D ACOE.dwg



PLAN ACCOMPANYING PETITION OF:
Town of Edgartown for
Proposed Maintenance Dredging and
Beach Nourishment for
Edgartown Great Pond Sluiceway Approach, Dukes County,
Edgartown, MA

General Notes:

1. Elevations are referenced to NAVD88 datum.
2. Bathymetric survey was conducted in May, 2011 by Woods Hole Group.
3. Topographic survey was conducted in September, 2011 by Woods Hole Group.
4. Previously permitted under ACOE Permit No. NAE-2005-4048

PLAN BY: WOODS HOLE GROUP

81 TECHNOLOGY PARK DRIVE EAST FALMOUTH, MA 02536
TELEPHONE: (508) 540-8080 FAX: (508) 540-1001

Graphic Scale

300 0 300 600

1" = 300'

DATE: July, 2012

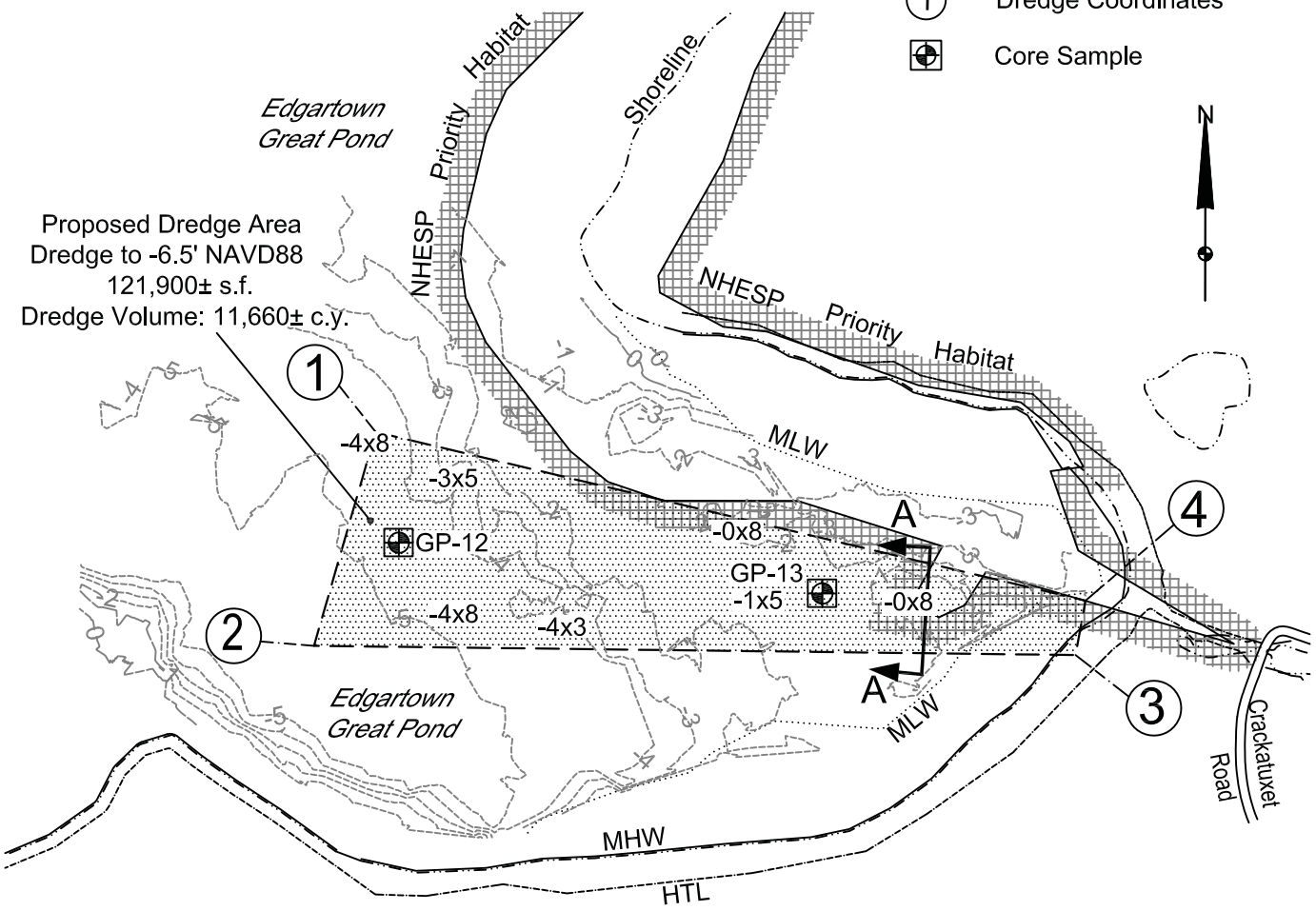
SHEET: 1 OF 6

2010-142_Site E ACOE.dwg

Dredge Coordinates	Northing	Easting
1	2,590,295	918,003
2	2,590,061	917,936
3	2,590,051	918,769
4	2,590,111	918,780

Legend:

- Property Line
- Contour Line
- Mean Low Water
- Mean High Water
- High Tide Line
- Proposed Dredge Channel
- Dredge Coordinates
- Core Sample



Datum	NAVD88 ft
HTL	2.61
MHW	0.61
NAVD88	0
MLW	-2.39

Town of Edgartown for
Proposed Maintenance Dredging and
Beach Nourishment for
Edgartown Great Pond Sluiceway Approach

PLAN BY: WOODS HOLE GROUP

Graphic Scale

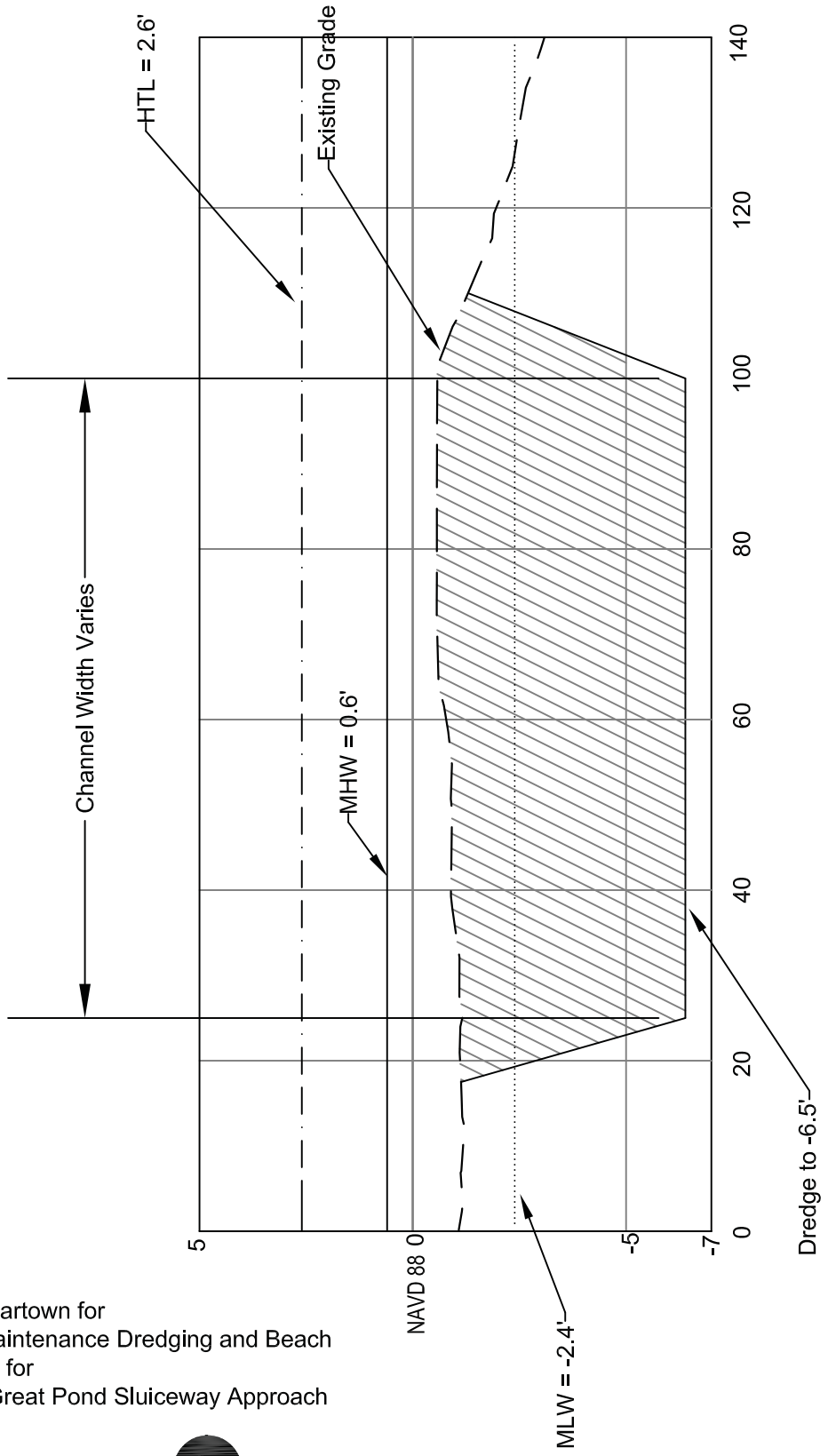
200 0 200 400

1" = 200'

DATE: July, 2012

SHEET: 2 OF 6

2010-142_Site E ACOE.dwg



Typical Dredge Cross-Section A-A

Scale: 1" = 20'

Graphic Scale

20 0 20 40

1" = 20'

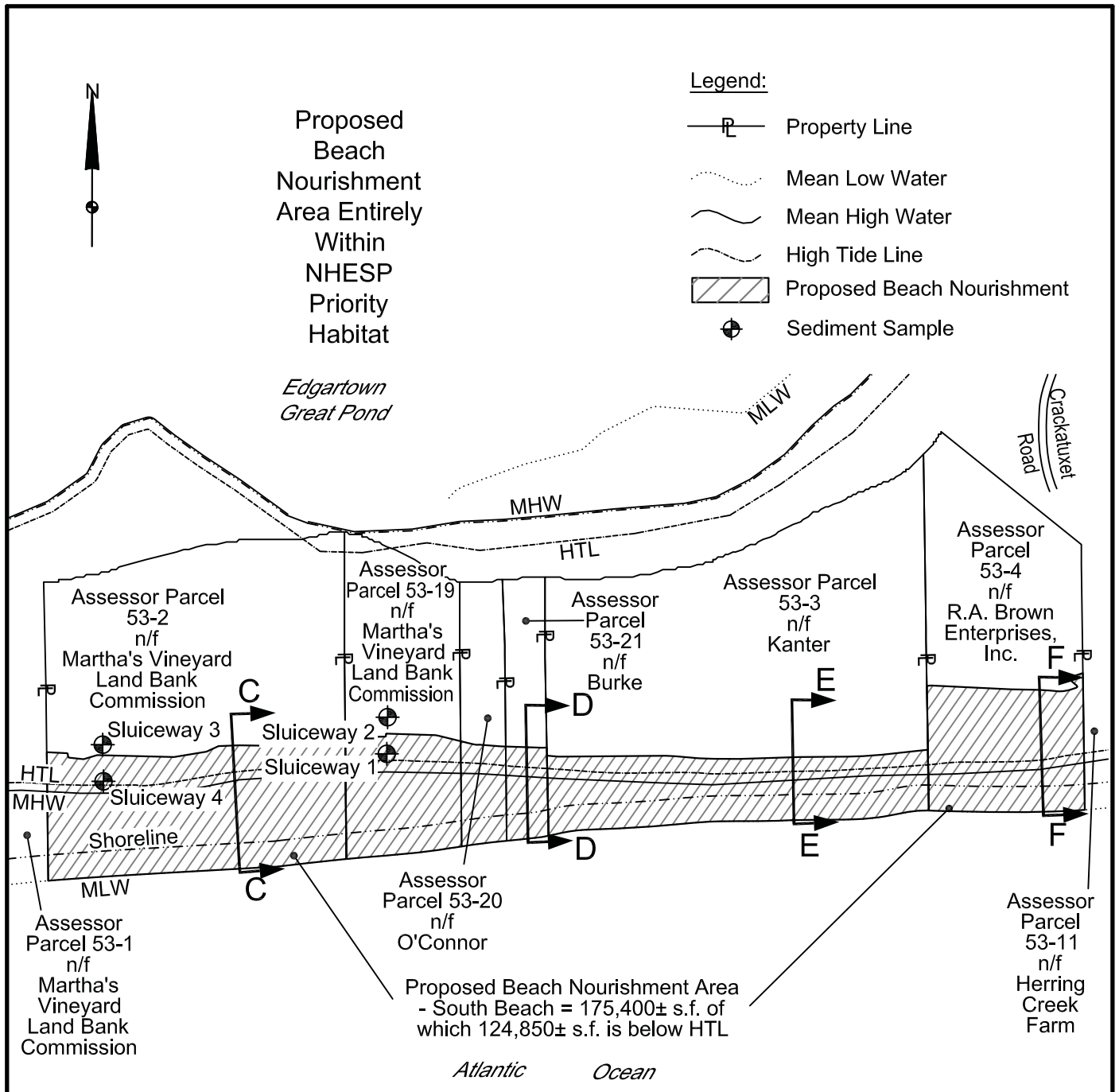
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Edgartown Great Pond Sluiceway Approach

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 3 OF 6

2010-142_Site E ACOE.dwg



Datum	NAVD88 ft
HTL	2.61
MHW	0.61
NAVD88	0
MLW	-2.39

Town of Edgartown for
Proposed Maintenance Dredging and
Beach Nourishment for
Edgartown Great Pond Sluiceway Approach

PLAN BY: WOODS HOLE GROUP

Graphic Scale

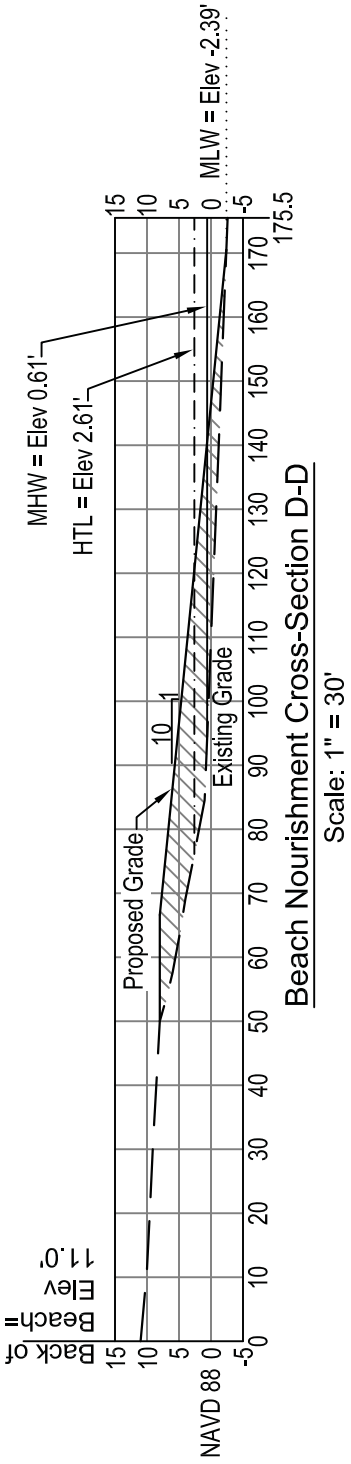
200 0 200 400

1" = 200'

DATE: July, 2012

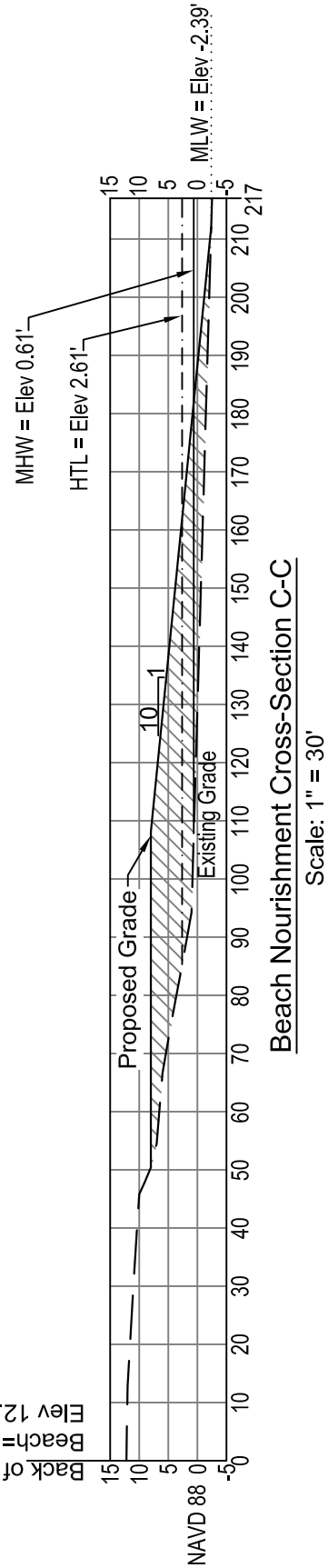
SHEET: 4 OF 6

2010-142_Site E ACOE.dwg



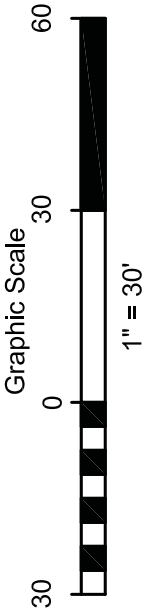
Beach Nourishment Cross-Section D-D

Scale: 1" = 30'



Beach Nourishment Cross-Section C-C

Scale: 1" = 30'



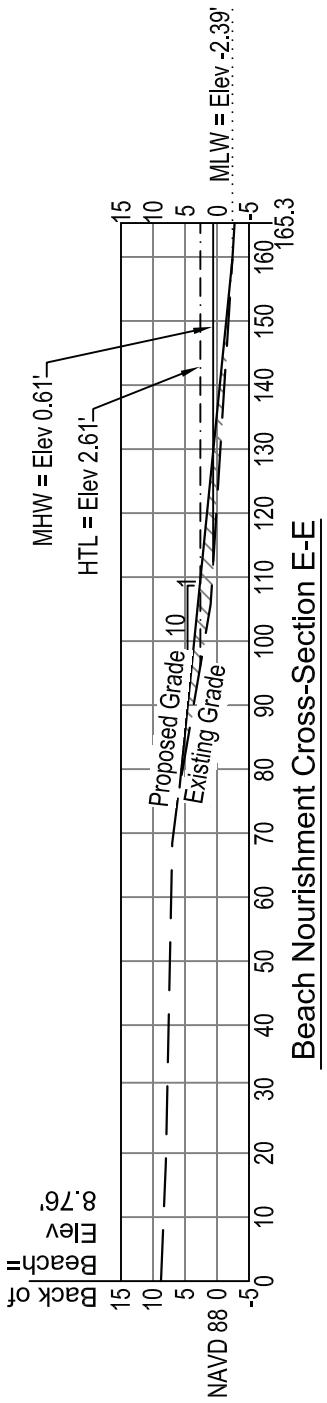
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Edgartown Great Pond Sluiceway Approach

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

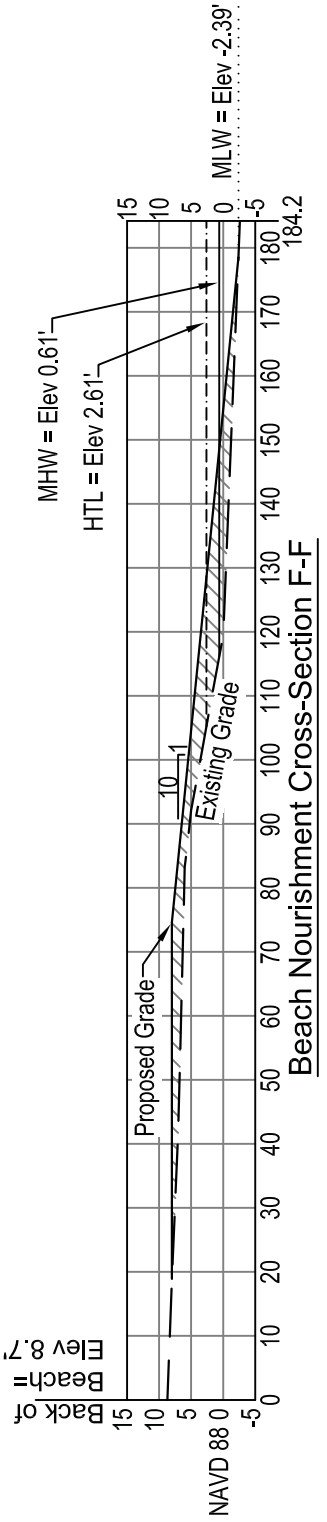
SHEET: 5 OF 6

2010-142_Site E ACOE.dwg



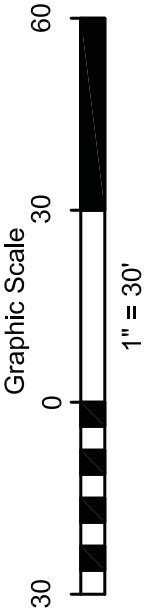
Beach Nourishment Cross-Section E-E

Scale: 1" = 30'



Beach Nourishment Cross-Section F-F

Scale: 1" = 30'



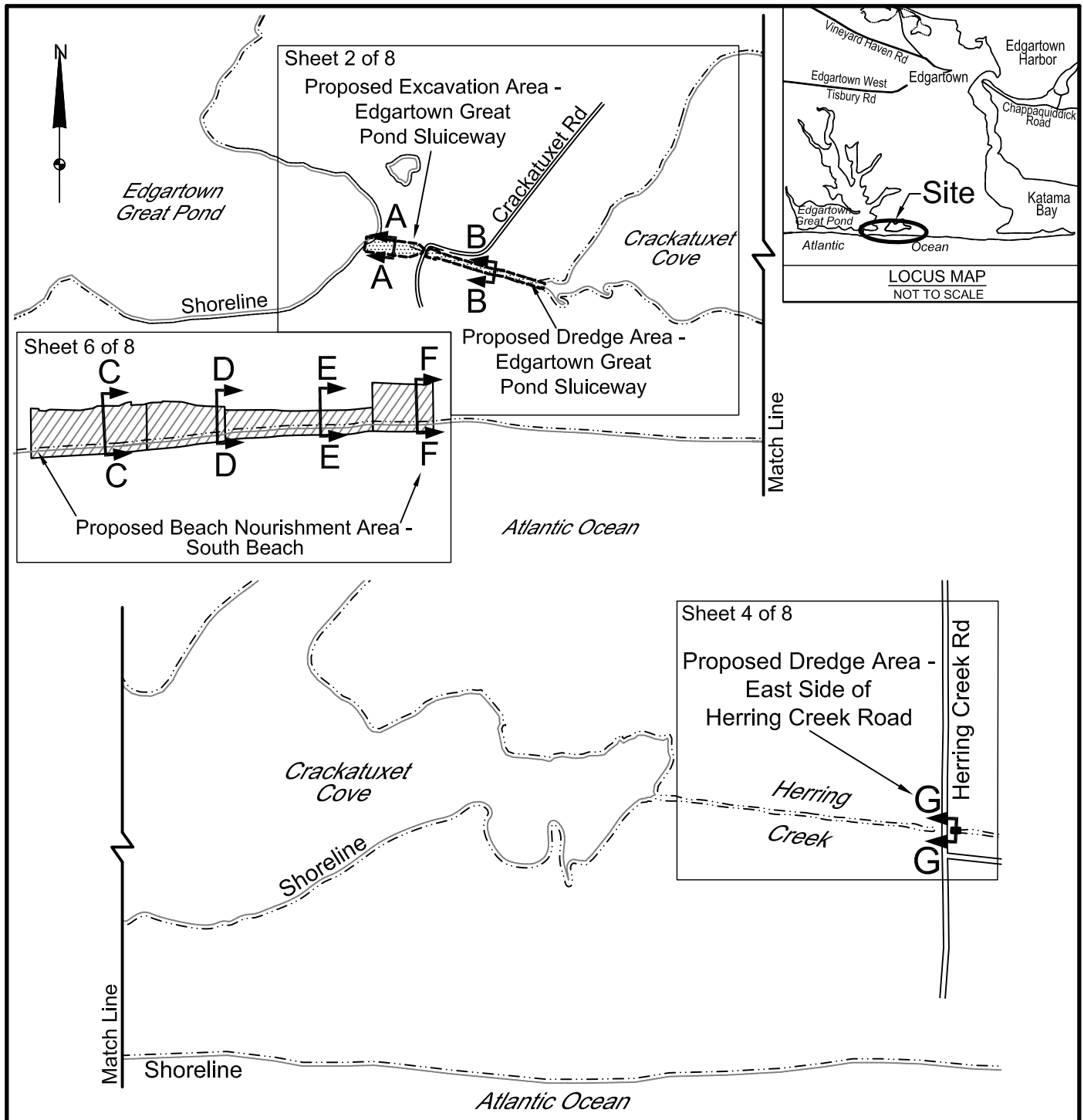
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Edgartown Great Pond Sluiceway Approach

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 6 OF 6

2010-142_Site E ACOE.dwg



PLAN ACCOMPANYING PETITION OF:
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Herring Creek Restoration,
Dukes County,
Edgartown, MA

General Notes:

1. Elevations are referenced to NAVD88 datum.
2. Bathymetric survey was conducted in May, 2011 by Woods Hole Group.
3. Topographic survey was conducted in September, 2011 by Woods Hole Group.
4. Previously permitted under ACOE Permit No. NAE-2005-4049

PLAN BY: WOODS HOLE GROUP

81 TECHNOLOGY PARK DRIVE EAST FALMOUTH, MA 02536
TELEPHONE: (508) 540-8080 FAX: (508) 540-1001

Graphic Scale

500 0 500 1000

1" = 500'

DATE: July, 2012

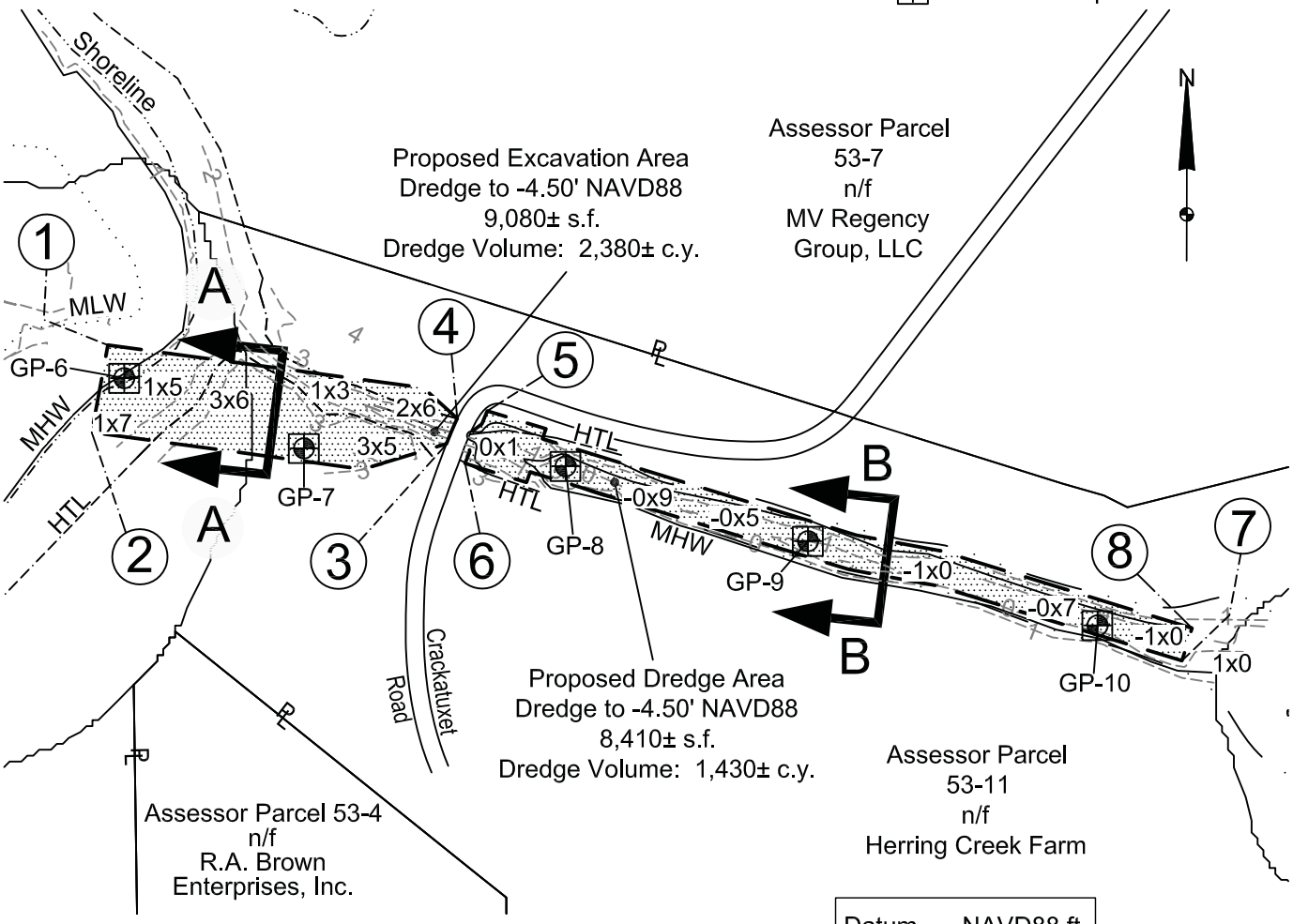
SHEET: 1 OF 8

2010-142_Site M ACOE.dwg

Dredge Coordinates	Northing	Easting
1	2,590,105	918,779
2	2,590,056	918,770
3	2,590,050	918,966
4	2,590,064	918,972
5	2,590,068	918,989
6	2,590,039	918,976
7	2,589,930	919,375
8	2,589,948	919,380

Proposed Dredge Areas Entirely Within NHESP Priority Habitat

Legend:
- Property Line
- Contour Line
- Mean Low Water
- Mean High Water
- High Tide Line
- Proposed Dredge Channel
- Dredge Coordinates
- Core Sample



Datum	NAVD88 ft
HTL	2.61
MHW	0.61
NAVD88	0
MLW	-2.39

Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Herring Creek Restoration

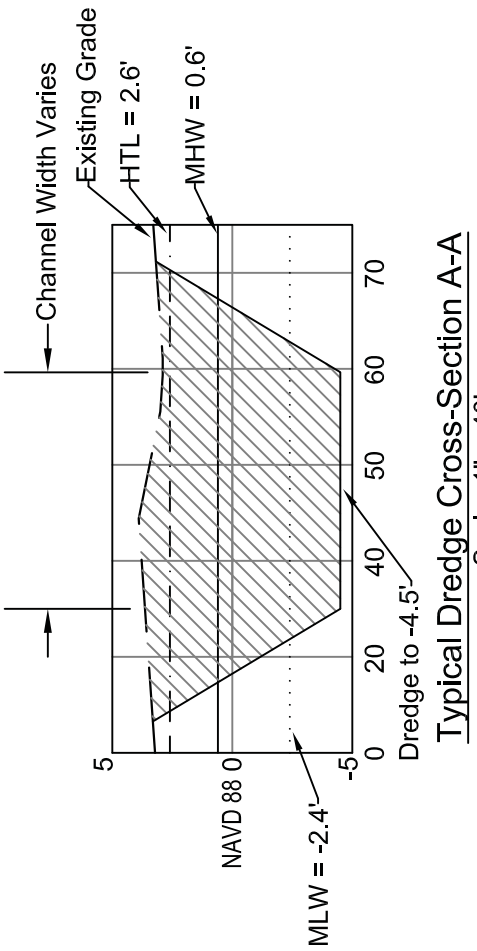
PLAN BY: WOODS HOLE GROUP

Graphic Scale
100 0 100 200
1" = 100'

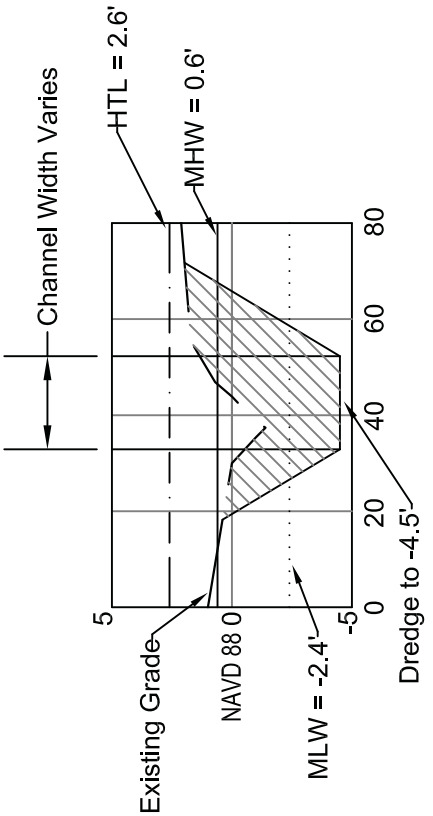
DATE: July, 2012

SHEET: 2 OF 8

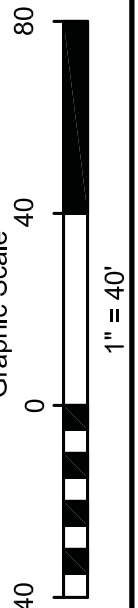
2010-142_Site M ACOE.dwg



Typical Dredge Cross-Section A-A
Scale: 1" = 40'



Typical Dredge Cross-Section B-B
Scale: 1" = 40'



Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Herring Creek Restoration

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

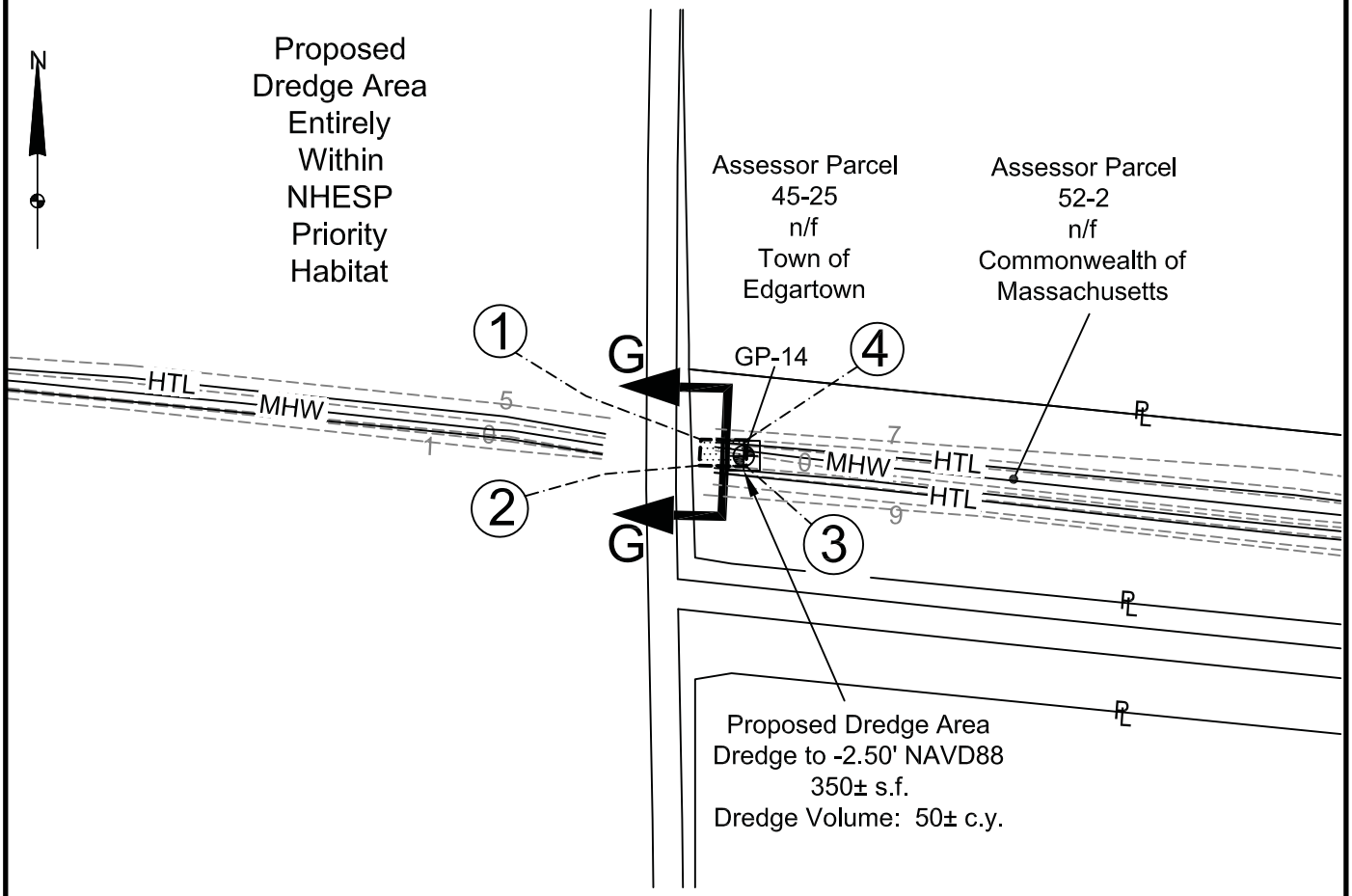
SHEET: 3 OF 8

2010-142_Site M ACOE.dwg

Dredge Coordinates		
	Northing	Easting
1	2,590,102	922,864
2	2,590,088	922,863
3	2,590,087	922,888
4	2,590,101	922,888

Legend:

- Property Line
- Mean Low Water
- Mean High Water
- High Tide Line
- Proposed Dredge Channel
- (1) Dredge Coordinates
- Core Sample



Datum	NAVD88 ft
HTL	2.61
MHW	0.61
NAVD88	0
MLW	-2.39

Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Herring Creek Restoration

PLAN BY: WOODS HOLE GROUP

Graphic Scale

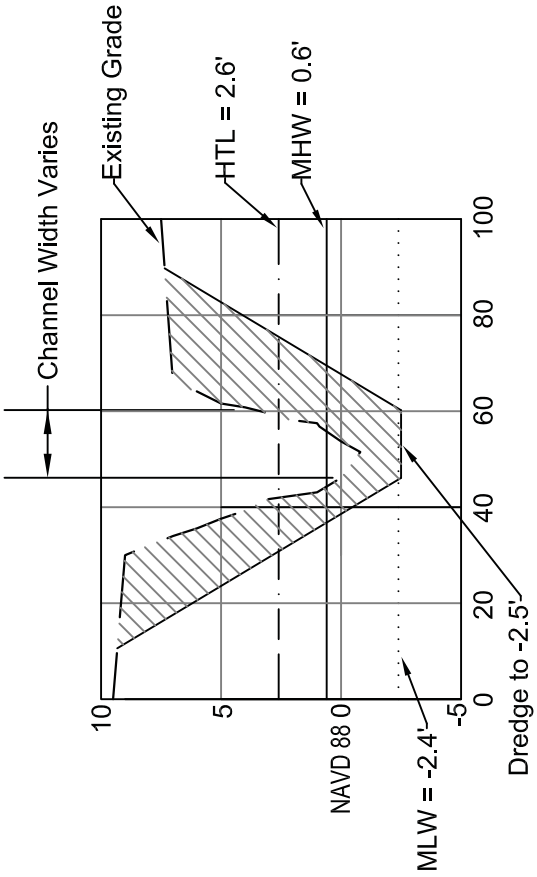
100 0 100 200

1" = 100'

DATE: July, 2012

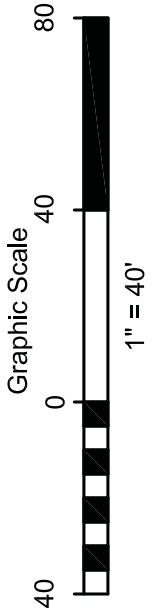
SHEET: 4 OF 8

2010-142_Site M ACOE.dwg



Typical Dredge Cross-Section G-G

Scale: 1" = 40'



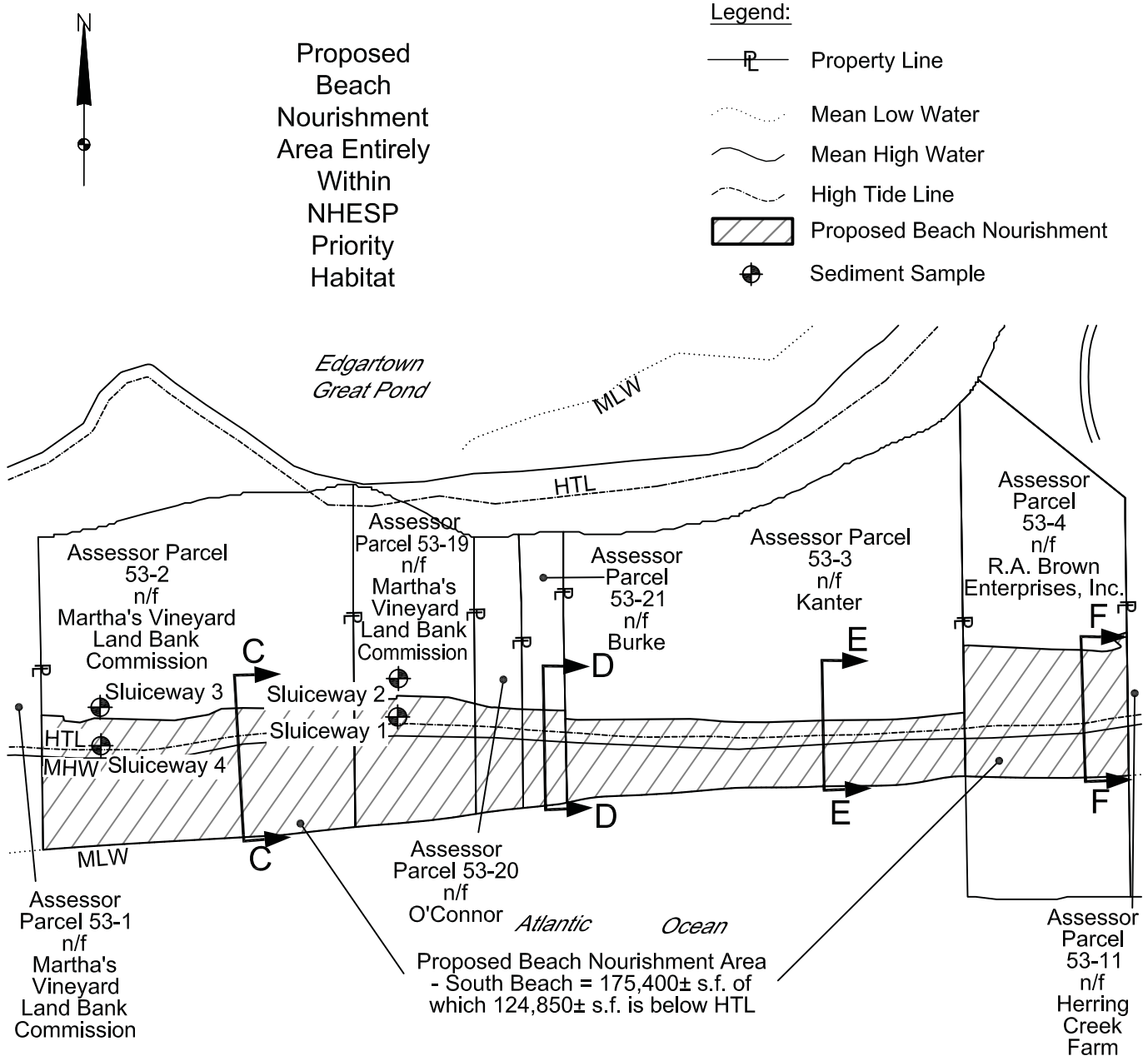
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Herring Creek Restoration

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 5 OF 8

2010-142_Site M ACOE.dwg



Datum	NAVD88 ft
HTL	2.61
MHW	0.61
NAVD88	0
MLW	-2.39

Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Herring Creek Restoration

PLAN BY: WOODS HOLE GROUP

Graphic Scale
200 0 200 400
1" = 200'

DATE: July, 2012

SHEET: 6 OF 8

2010-142_Site M ACOE.dwg

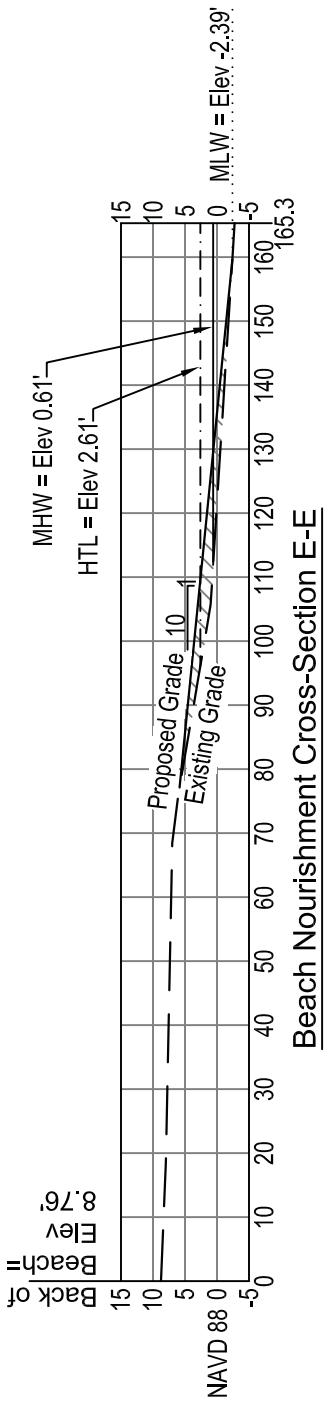
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Herring Creek Restoration

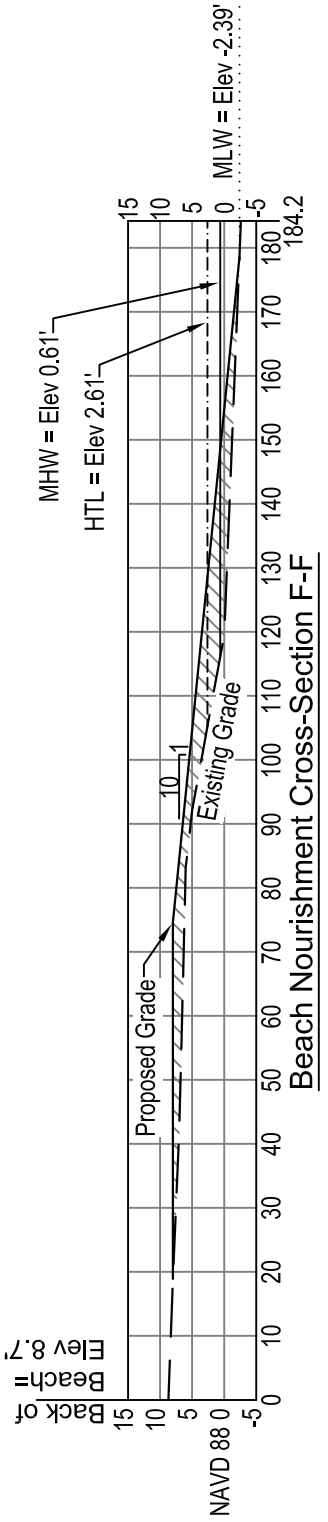
PLAN BY: WOODS HOLE GROUP

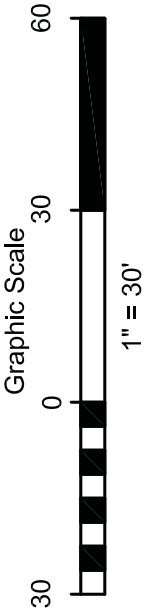
DATE: July, 2012

SHEET: 7 OF 8

2010-142_Site M ACOE.dwg







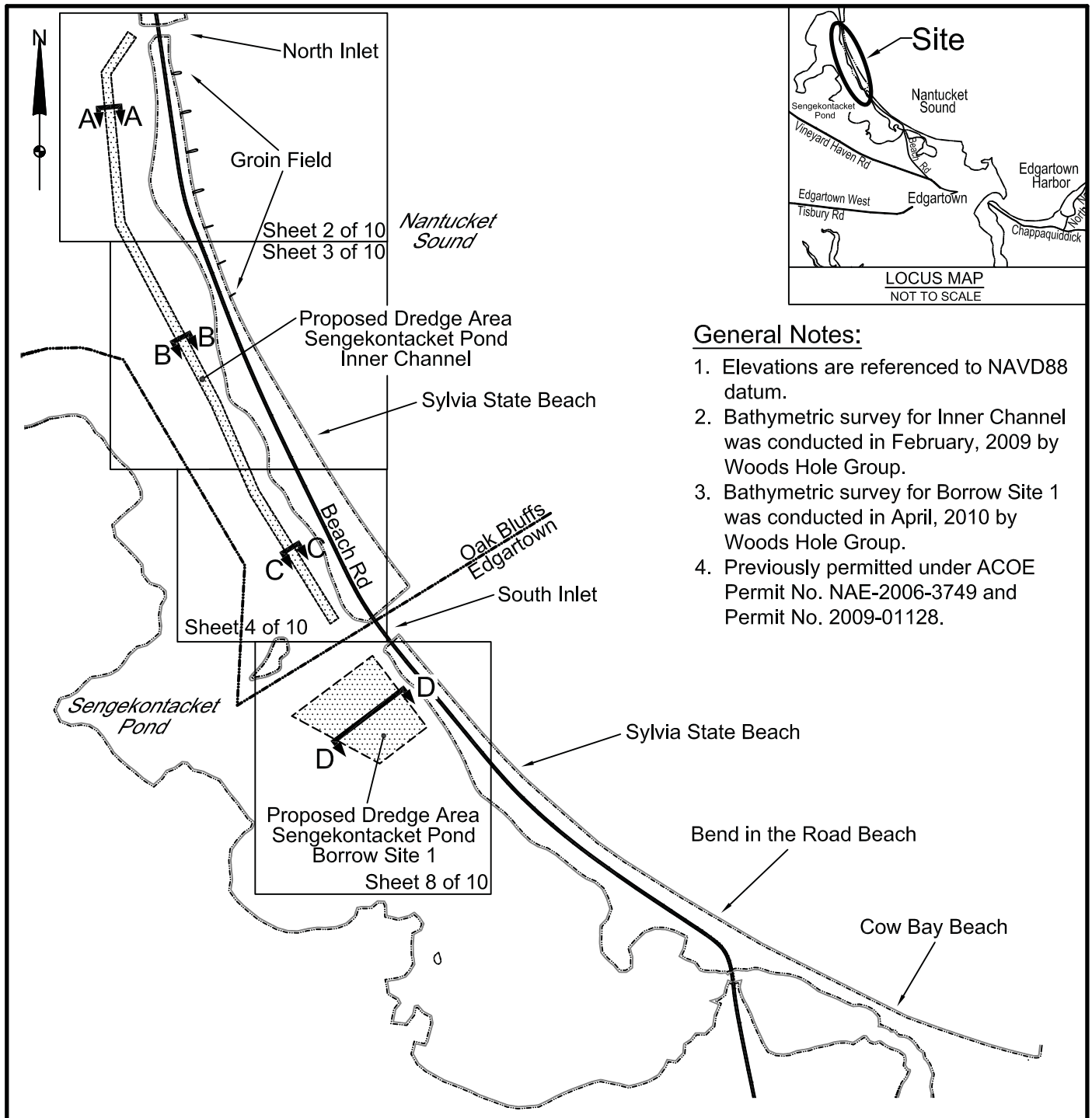
Town of Edgartown for
Proposed Maintenance Dredging and Beach Nourishment for
Herring Creek Restoration

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 8 OF 8

2010-142_Site M ACOE.dwg



General Notes:

1. Elevations are referenced to NAVD88 datum.
2. Bathymetric survey for Inner Channel was conducted in February, 2009 by Woods Hole Group.
3. Bathymetric survey for Borrow Site 1 was conducted in April, 2010 by Woods Hole Group.
4. Previously permitted under ACOE Permit No. NAE-2006-3749 and Permit No. 2009-01128.

PLAN ACCOMPANYING PETITION OF:
Town of Edgartown for
Proposed Maintenance Dredging for
Sengekontacket Pond Inner Channel,
Oak Bluffs and Borrow Site 1, Edgartown,
Dukes County, MA

PLAN BY: WOODS HOLE GROUP

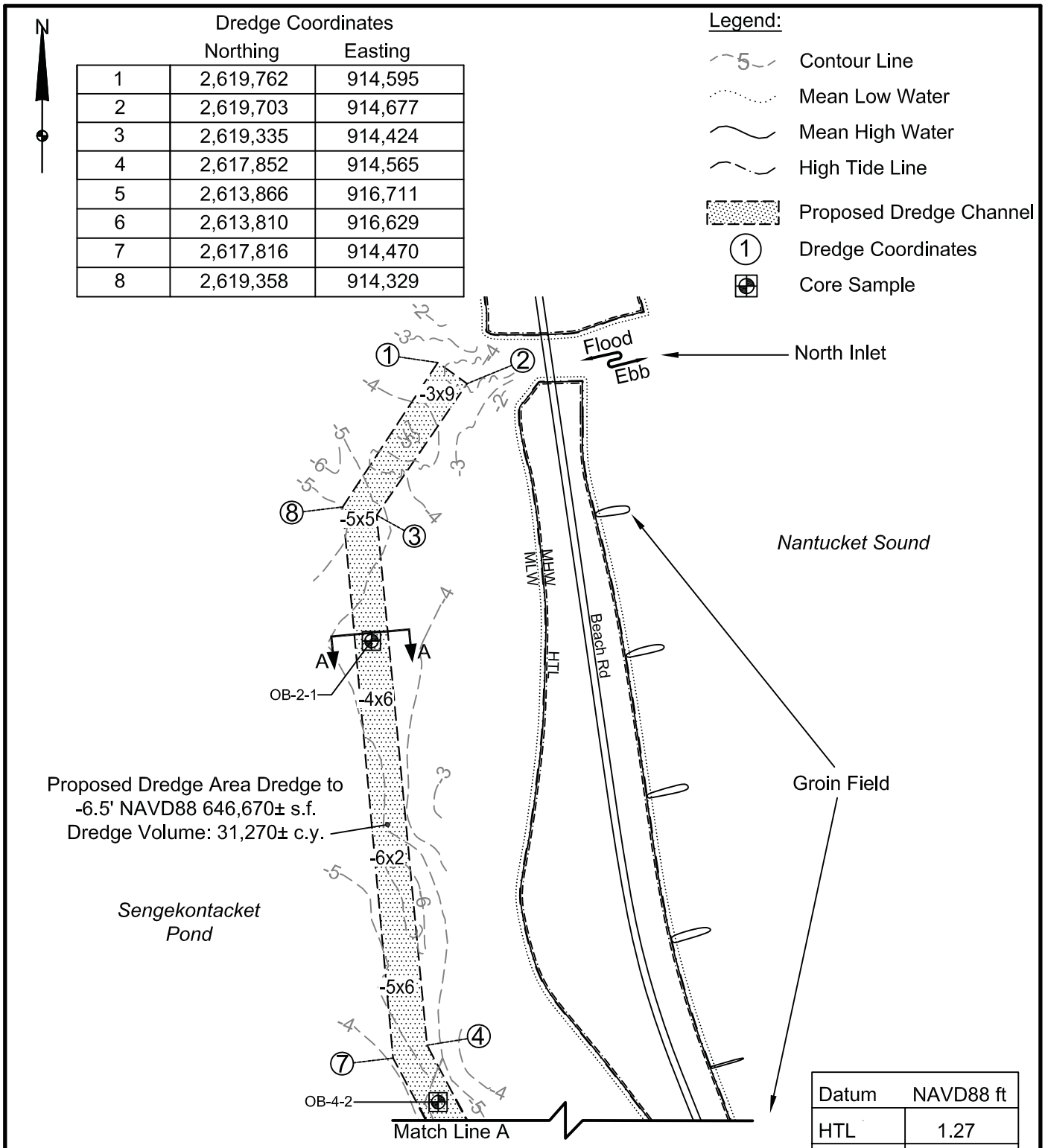
81 TECHNOLOGY PARK DRIVE EAST FALMOUTH, MA 02536
TELEPHONE: (508) 540-8080 FAX: (508) 540-1001

Graphic Scale
1500 0 1500 3000
1" = 1500'

DATE: July, 2012

SHEET: 1 OF 10

2010-142_Senge Pond Combined ACOE.dwg



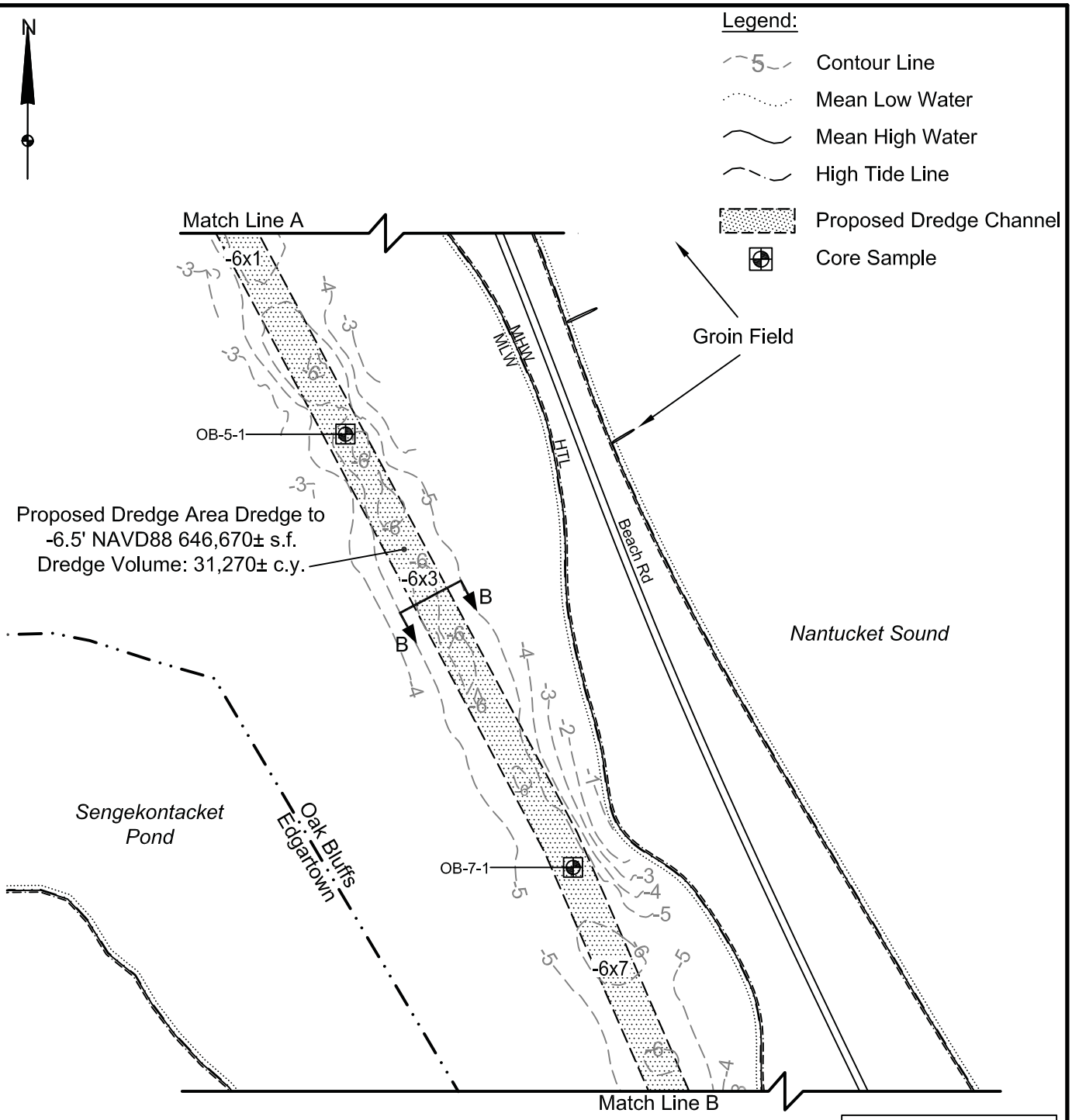
Town of Edgartown
Proposed Maintenance Dredging for
Sengekontacket Pond Inner Channel
and Borrow Site 1

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 2 OF 10

2010-142_Senge Pond Combined ACOE.dwg



Datum	NAVD88 ft
HTL	1.27
MHW	0.67
NAVD88	0
MTL	-0.40
MLW	-1.46

Town of Edgartown
Proposed Maintenance Dredging for
Sengekontacket Pond Inner Channel
and Borrow Site 1

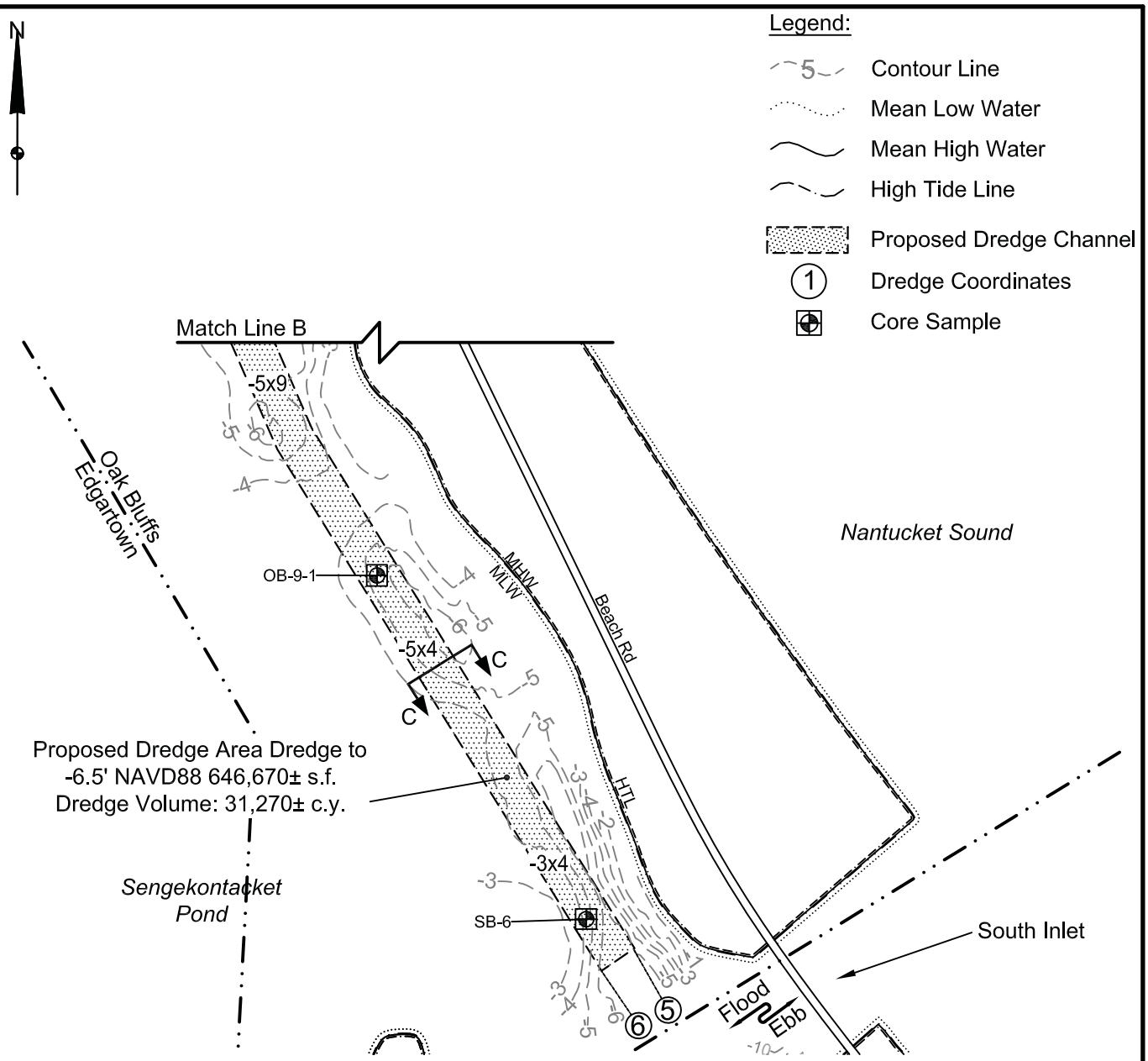
PLAN BY: WOODS HOLE GROUP

Graphic Scale
400 0 400 800
1" = 400'

DATE: July, 2012

SHEET: 3 OF 10

2010-142_Senge Pond Combined ACOE.dwg



Datum	NAVD88 ft
HTL	1.27
MHW	0.67
NAVD88	0
MTL	-0.40
MLW	-1.46

Town of Edgartown
Proposed Maintenance Dredging for
Sengekontacket Pond Inner Channel
and Borrow Site 1

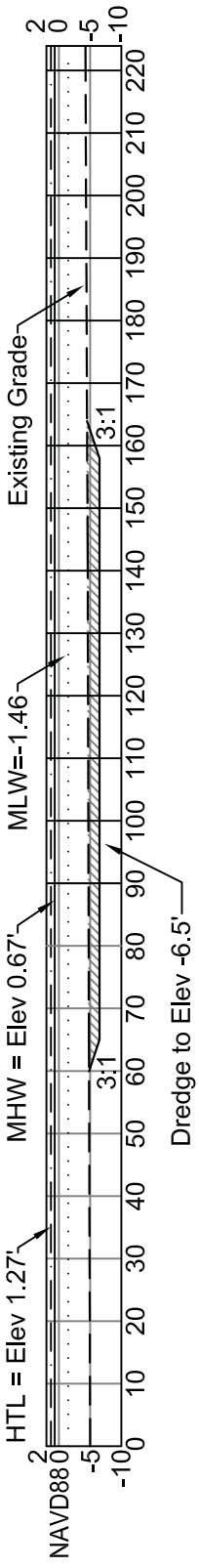
PLAN BY: WOODS HOLE GROUP

Graphic Scale
400 0 400 800
1" = 400'

DATE: July, 2012

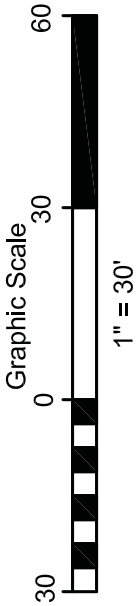
SHEET: 4 OF 10

2010-142_Senge Pond Combined ACOE.dwg



Typical Dredge Cross-Section A-A

Scale: 1" = 30'



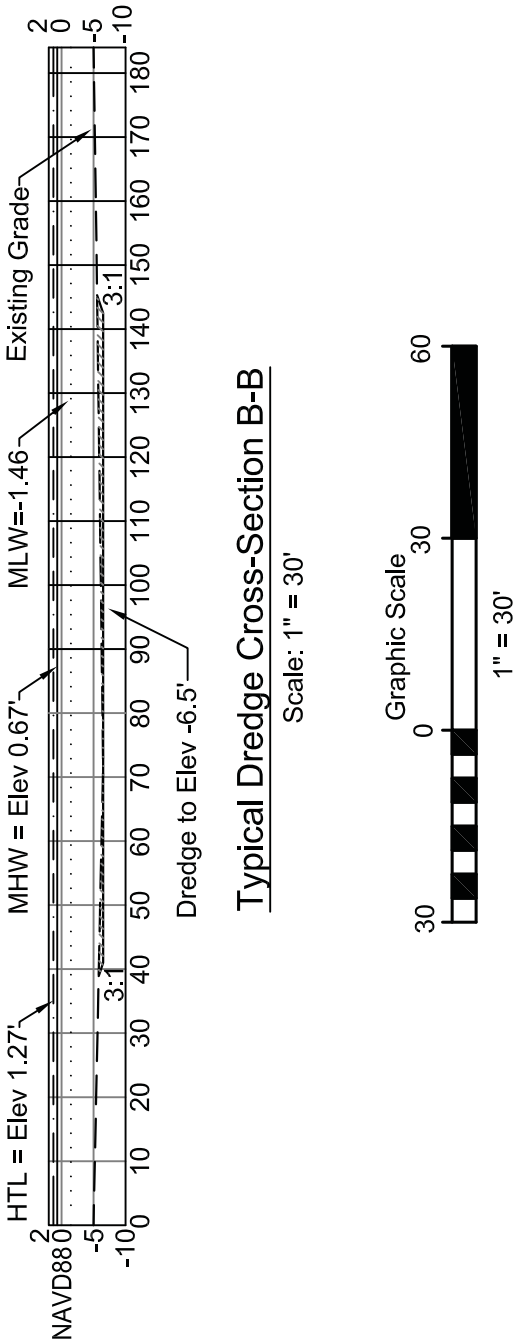
Town of Edgartown
Proposed Maintenance Dredging for
Sengekontacket Pond Inner Channel
and Borrow Site 1

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 5 OF 10

2010-142_Senge Pond Combined ACOE.dwg



Typical Dredge Cross-Section B-B

Scale: 1" = 30'

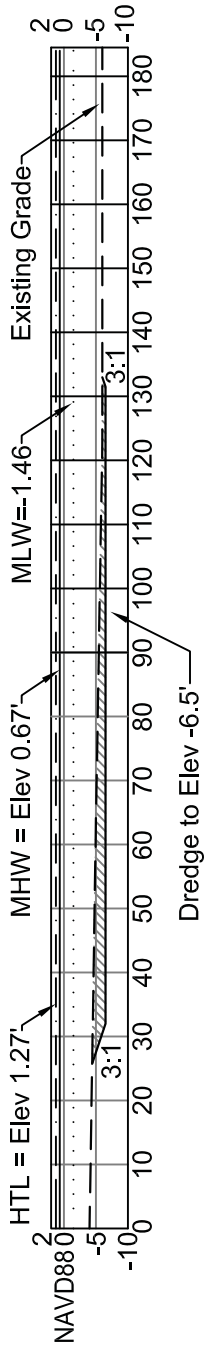
Town of Edgartown
Proposed Maintenance Dredging for
Sengekontacket Pond Inner Channel
and Borrow Site 1

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

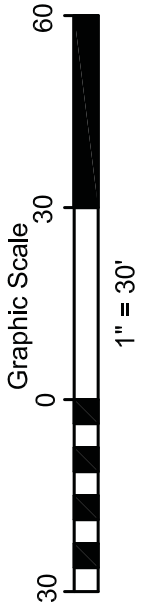
SHEET: 6 OF 10

2010-142_Senge Pond Combined ACOE.dwg



Typical Dredge Cross-Section C-C

Scale: 1" = 30'



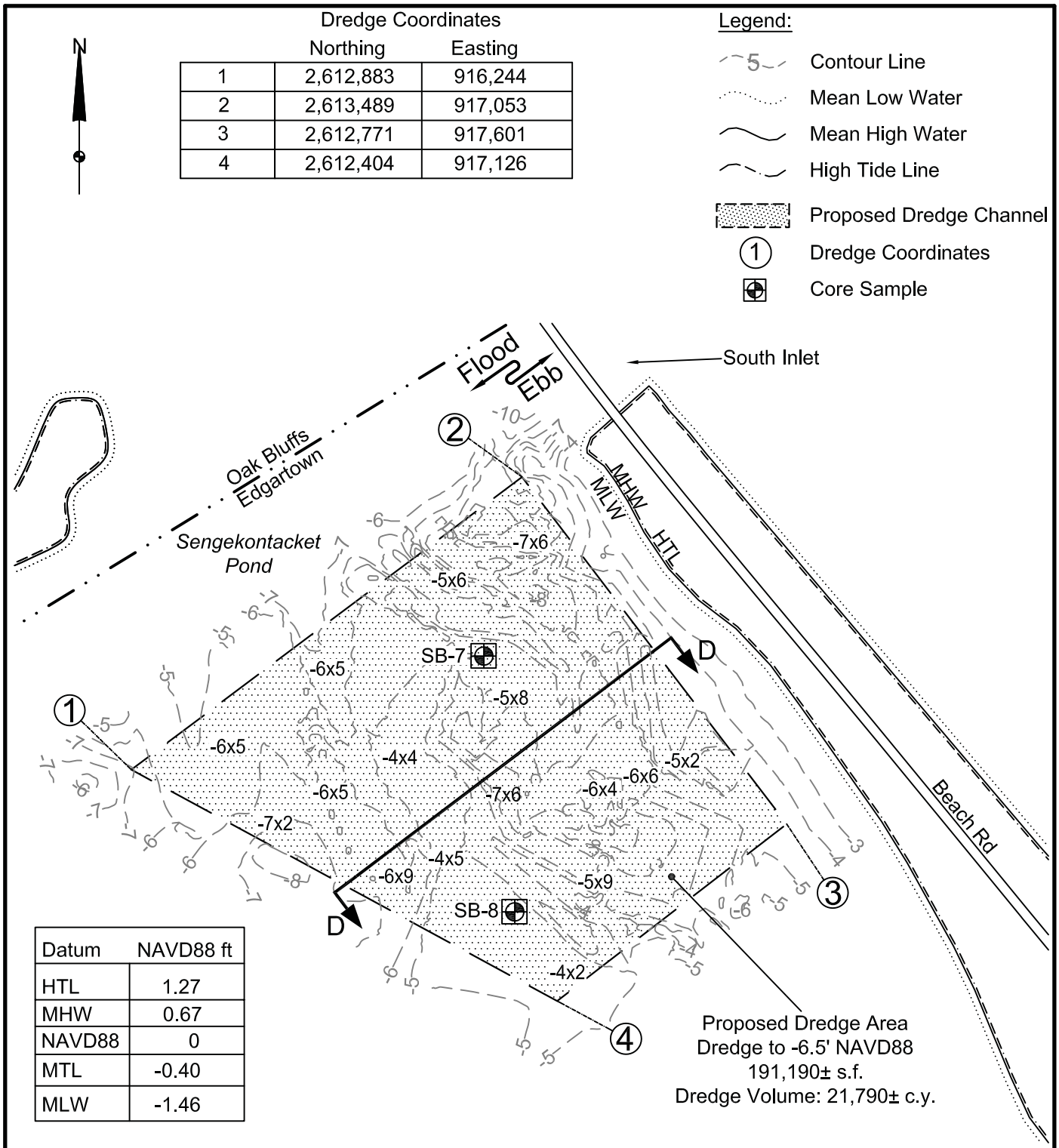
Town of Edgartown
Proposed Maintenance Dredging for
Sengekontacket Pond Inner Channel
and Borrow Site 1

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 7 OF 10

2010-142_Senge Pond Combined ACOE.dwg



Town of Edgartown
Proposed Maintenance Dredging for
Sengekontacket Pond Inner Channel
and Borrow Site 1

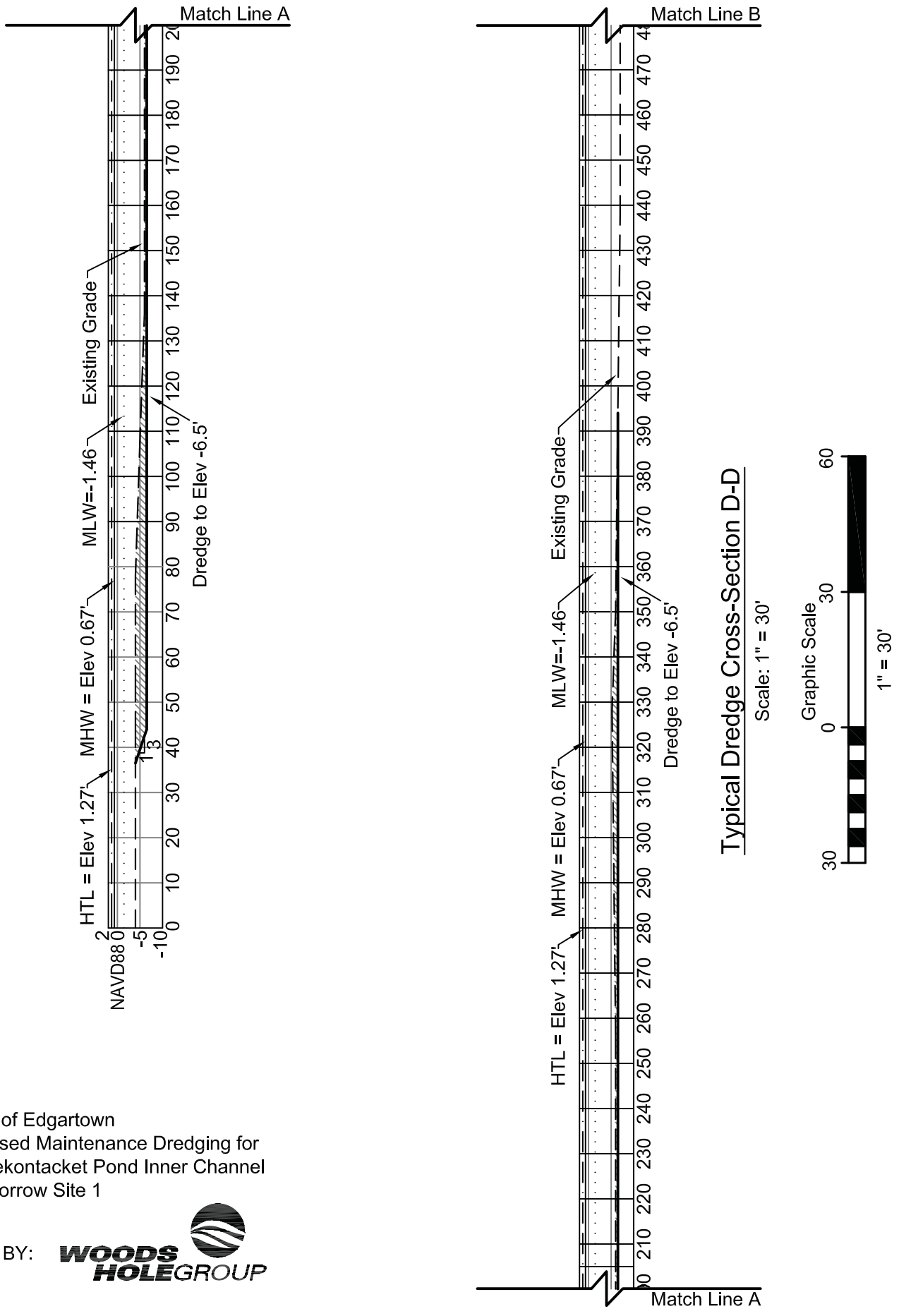
PLAN BY: WOODS HOLE GROUP

Graphic Scale
300 0 300 600
1" = 300'

DATE: July, 2012

SHEET: 8 OF 10

2010-142_Senge Pond Combined ACOE.dwg



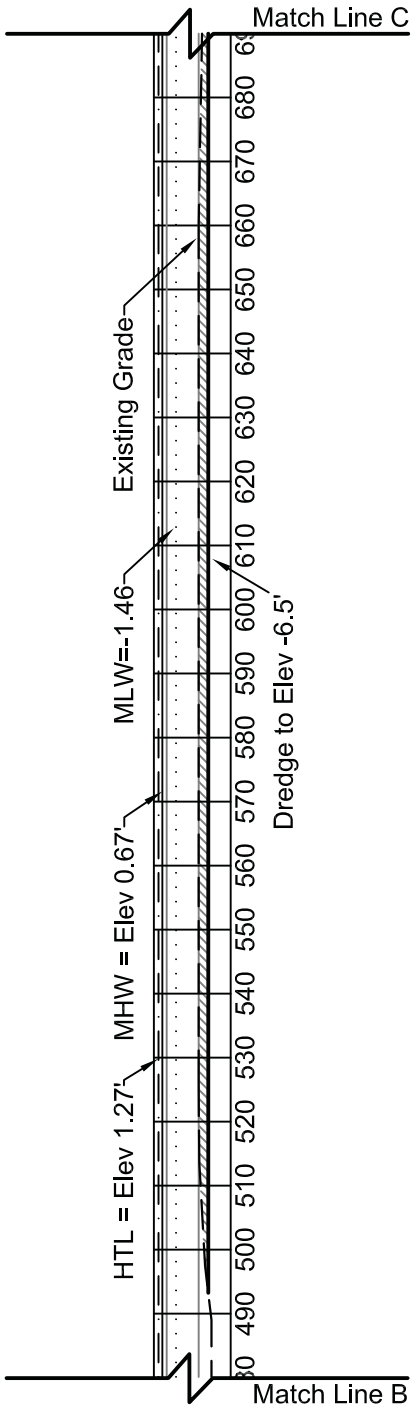
Town of Edgartown
Proposed Maintenance Dredging for
Sengekontacket Pond Inner Channel
and Borrow Site 1

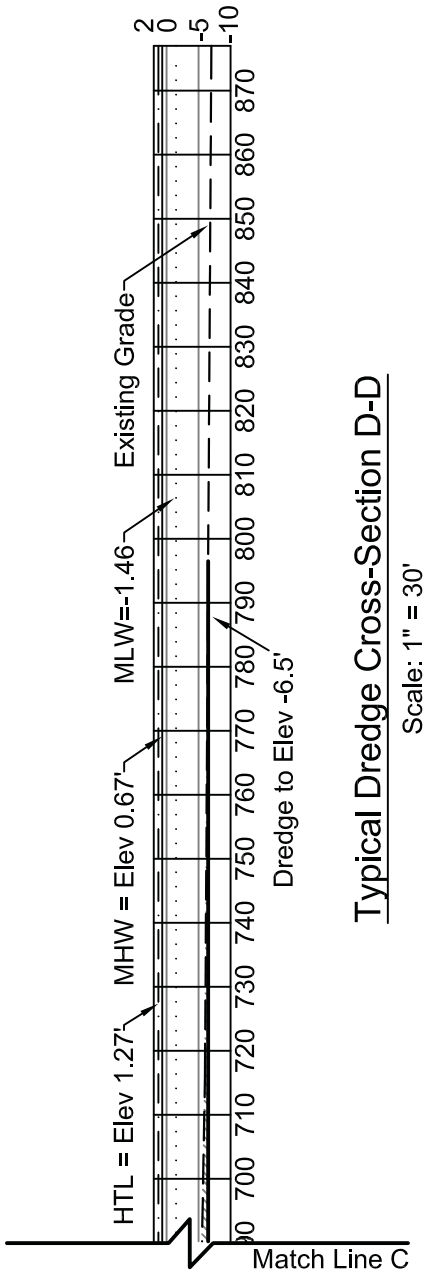
PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 9 OF 10

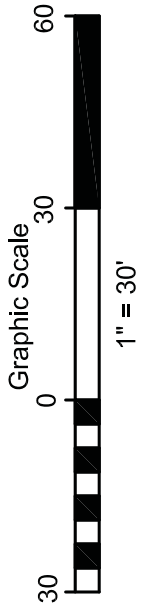
2010-142_Senge Pond Combined ACOE.dwg





Typical Dredge Cross-Section D-D

Scale: 1" = 30'



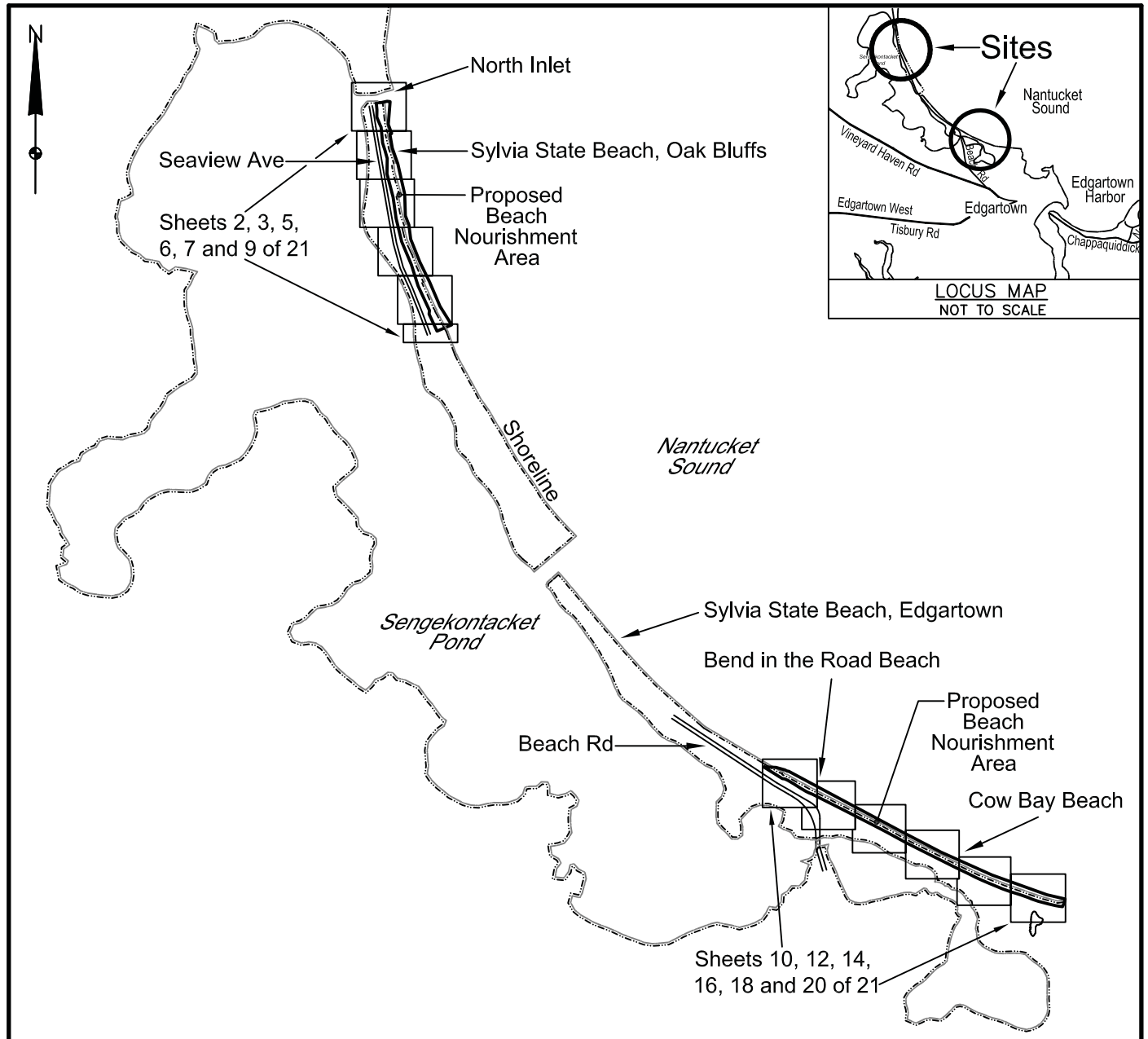
Town of Edgartown
Proposed Maintenance Dredging for
Sengekontacket Pond Inner Channel
and Borrow Site 1

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 10 OF 10

2010-142_Senge Pond Combined ACOE.dwg



General Notes:

1. Elevations are referenced to NAVD88 datum.
2. Surveys for Cow Bay Beach and Bend in the Road Beach conducted in September, 2011 and survey for Sylvia State Beach conducted February 16, 2012 by Schofield, Barbini and Hoen, Inc.
3. Previously permitted under ACOE Permit No. NAE-2010-1627, NAE-2008-1616 and NAE-2006-3749.

PLAN ACCOMPANYING PETITION OF:
Town of Edgartown for
Proposed Beach Nourishment for
Cow Bay Beach, Bend in the Road Beach and
Sylvia State Beach,
Dukes County, Edgartown and Oak Bluffs, MA

Graphic Scale
2000 0 2000 4000
1" = 2000'

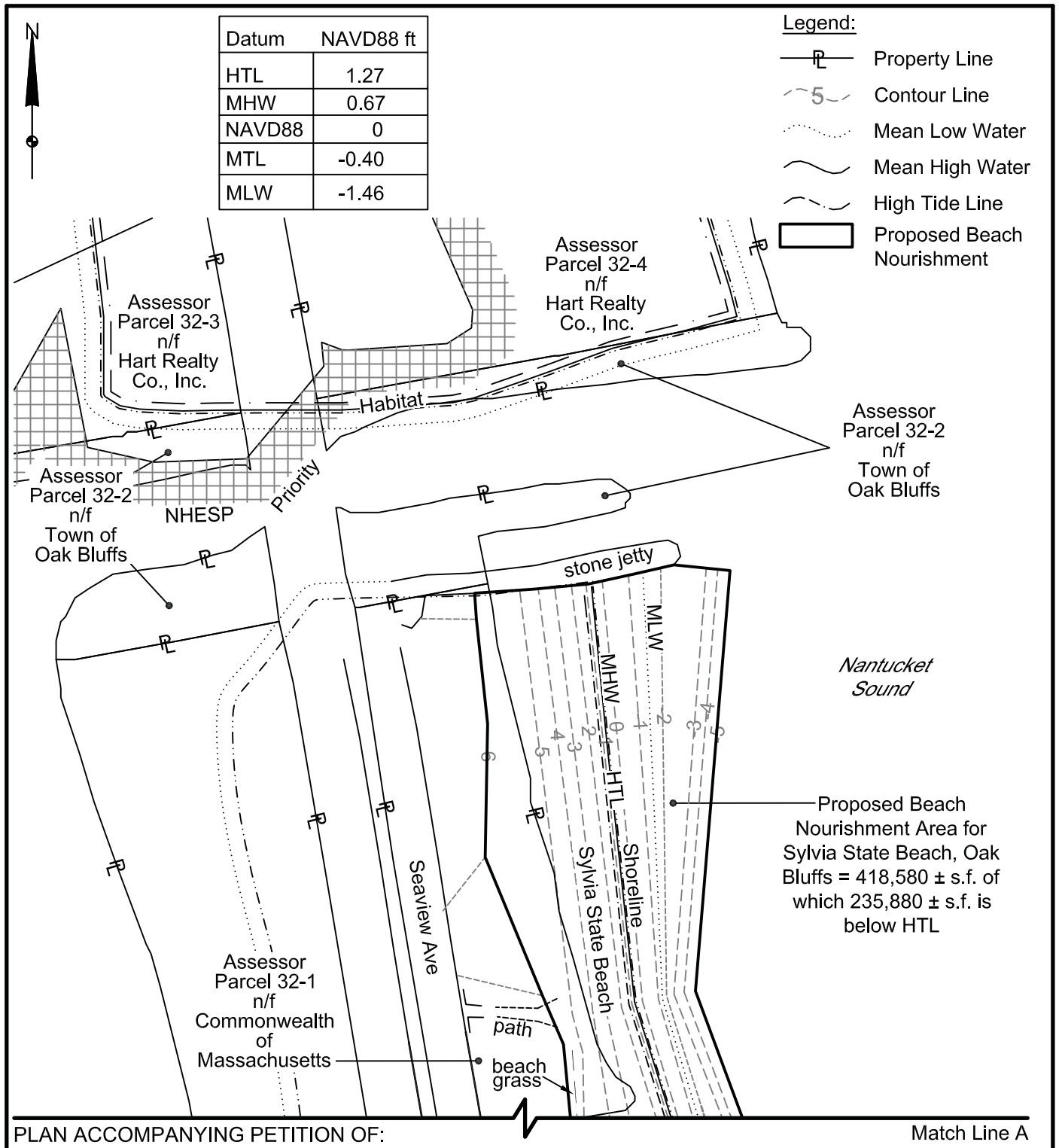
PLAN BY: WOODS HOLE GROUP

81 TECHNOLOGY PARK DRIVE EAST FALMOUTH, MA 02536
TELEPHONE: (508) 540-8080 FAX: (508) 540-1001

DATE: July, 2012

SHEET: 1 OF 21

2010-142_CB BITR SSB ACOE.dwg



PLAN ACCOMPANYING PETITION OF:
Town of Edgartown for
Proposed Beach Nourishment for
Cow Bay Beach, Bend in the Road Beach and
Sylvia State Beach,
Dukes County, Edgartown and Oak Bluffs, MA

Proposed Beach Nourishment Area Entirely Within NHESP Priority Habitat

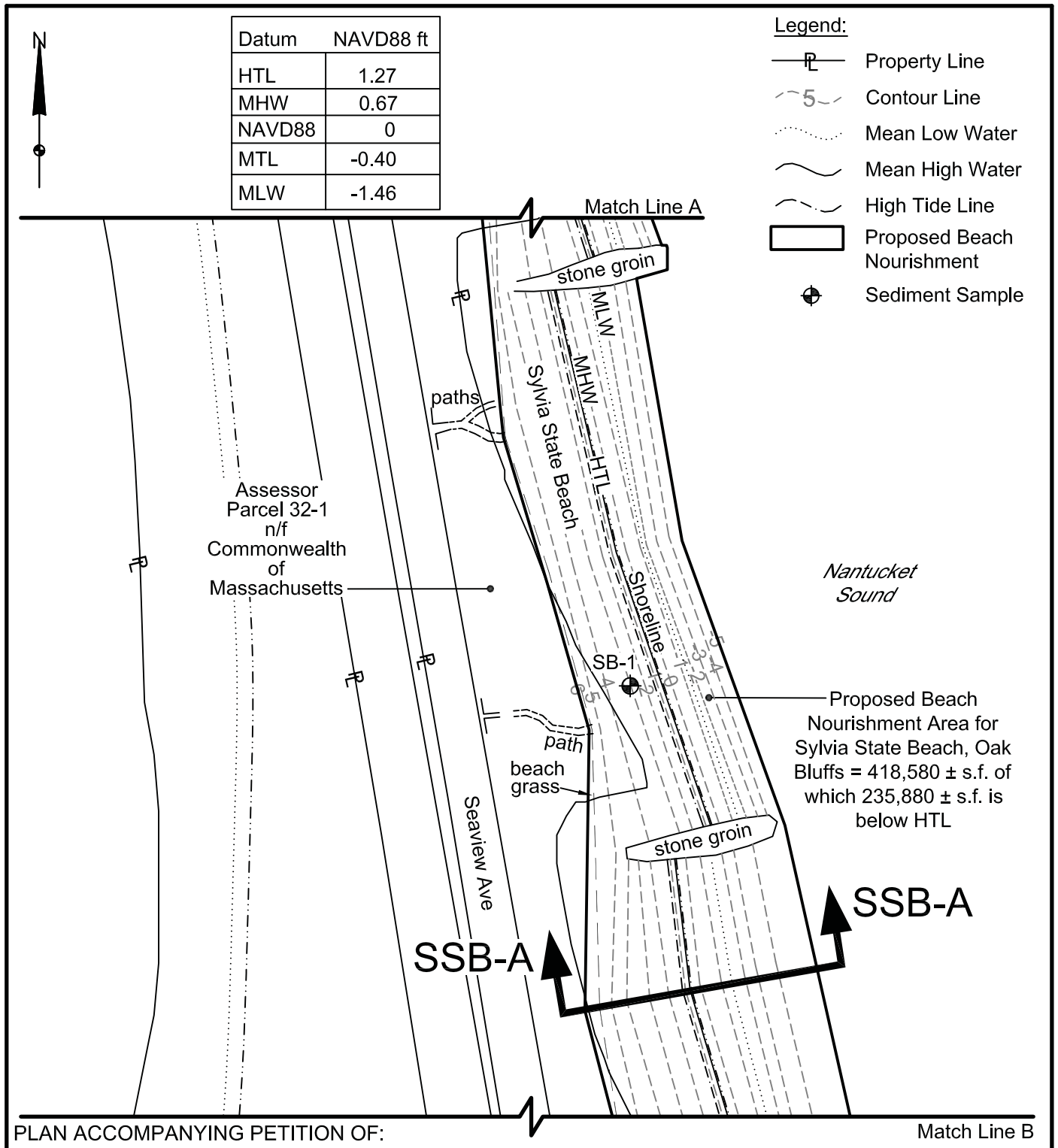
PLAN BY: WOODS HOLE GROUP

Graphic Scale
100 0 100 200
1" = 100'

DATE: July, 2012

SHEET: 2 OF 21

2010-142_CB BITR SSB ACOE.dwg



PLAN ACCOMPANYING PETITION OF:
Town of Edgartown for
Proposed Beach Nourishment for
Cow Bay Beach, Bend in the Road Beach and
Sylvia State Beach,
Dukes County, Edgartown and Oak Bluffs, MA

Proposed Beach Nourishment Area Entirely Within NHESP Priority Habitat

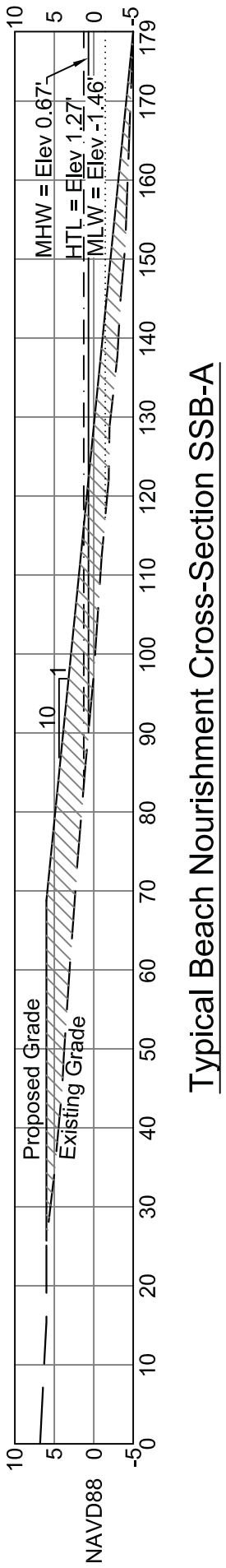
PLAN BY: WOODS HOLE GROUP

Graphic Scale
100 0 100 200
1" = 100'

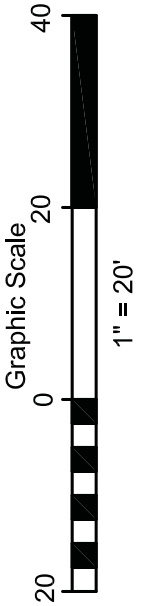
DATE: July, 2012

SHEET: 3 OF 21

2010-142_CB BITR SSB ACOE.dwg



Typical Beach Nourishment Cross-Section SSB-A



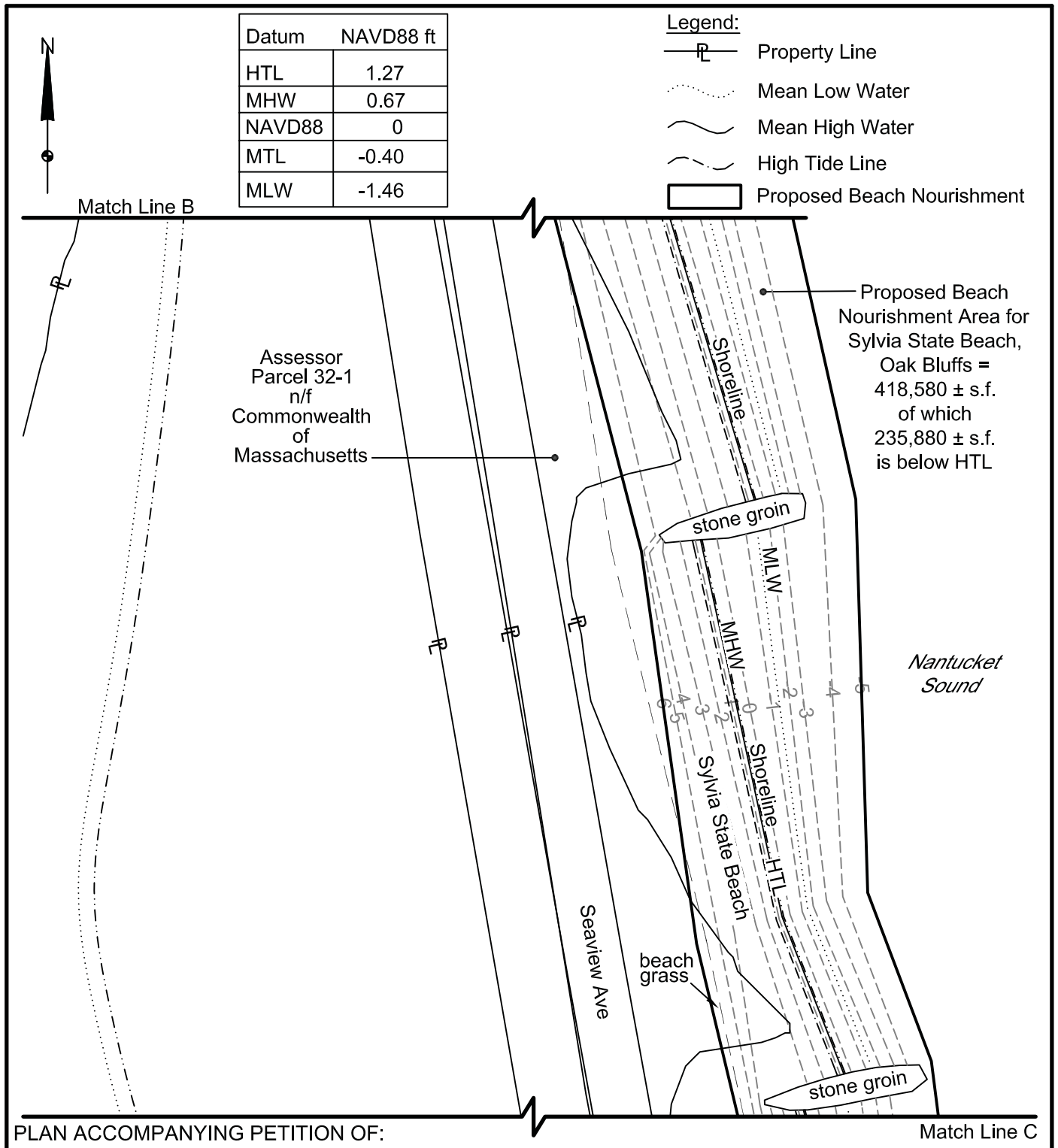
PLAN ACCOMPANYING PETITION OF:
Town of Edgartown for
Proposed Beach Nourishment for
Cow Bay Beach, Bend in the Road Beach and
Sylvia State Beach,
Dukes County, Edgartown and Oak Bluffs, MA

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 4 OF 21

2010-142_CB BITR SSB ACOE.dwg



PLAN ACCOMPANYING PETITION OF:
Town of Edgartown for
Proposed Beach Nourishment for
Cow Bay Beach, Bend in the Road Beach and
Sylvia State Beach,
Dukes County, Edgartown and Oak Bluffs, MA

Proposed Beach Nourishment Area Entirely Within NHESP Priority Habitat

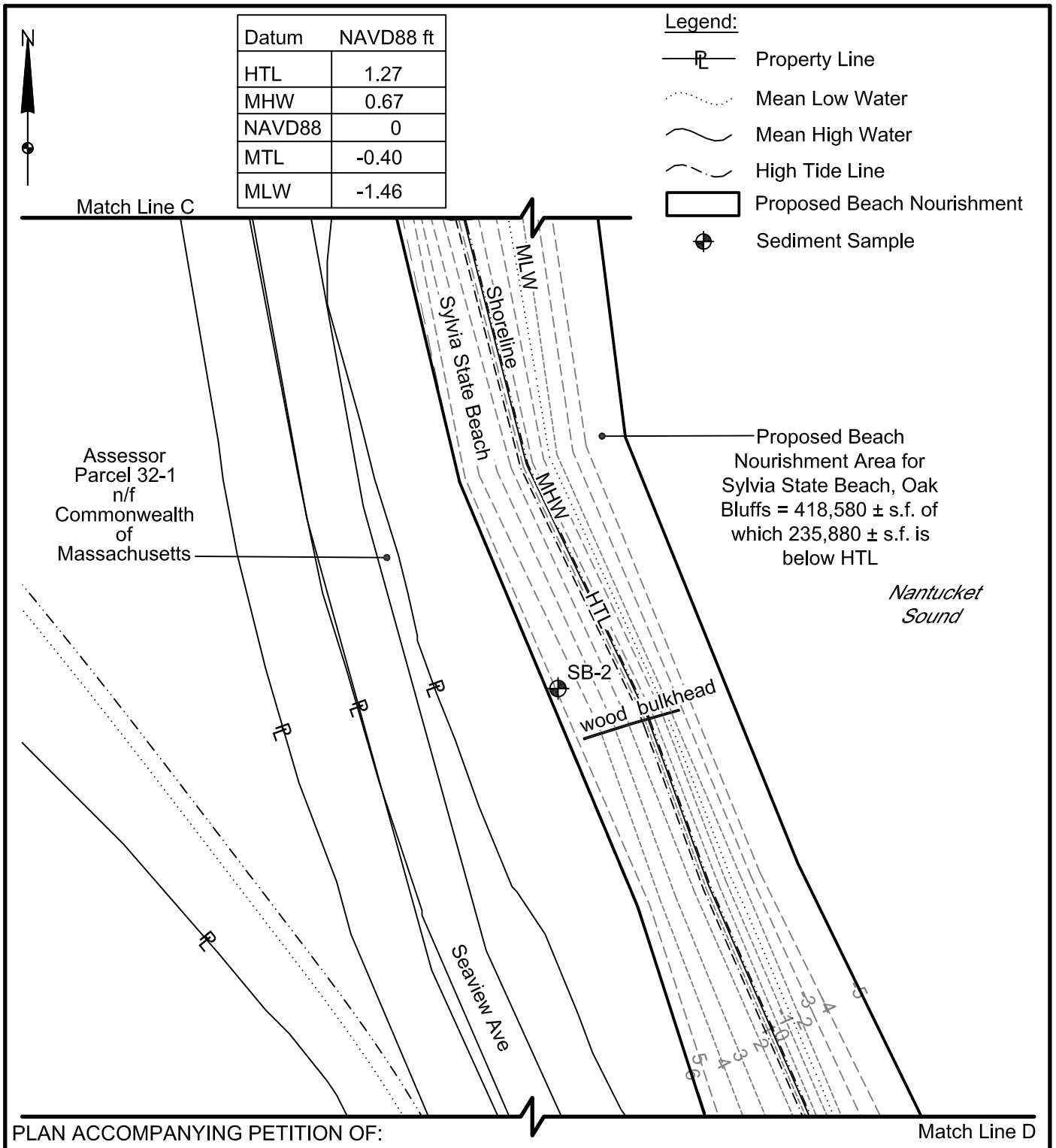
PLAN BY: WOODS HOLE GROUP

Graphic Scale
100 0 100 200
1" = 100'

DATE: July, 2012

SHEET: 5 OF 21

2010-142_CB BITR SSB ACOE.dwg



PLAN ACCOMPANYING PETITION OF:
Town of Edgartown for
Proposed Beach Nourishment for
Cow Bay Beach, Bend in the Road Beach and
Sylvia State Beach,
Dukes County, Edgartown and Oak Bluffs, MA

Proposed Beach Nourishment Area Entirely Within NHESP Priority Habitat

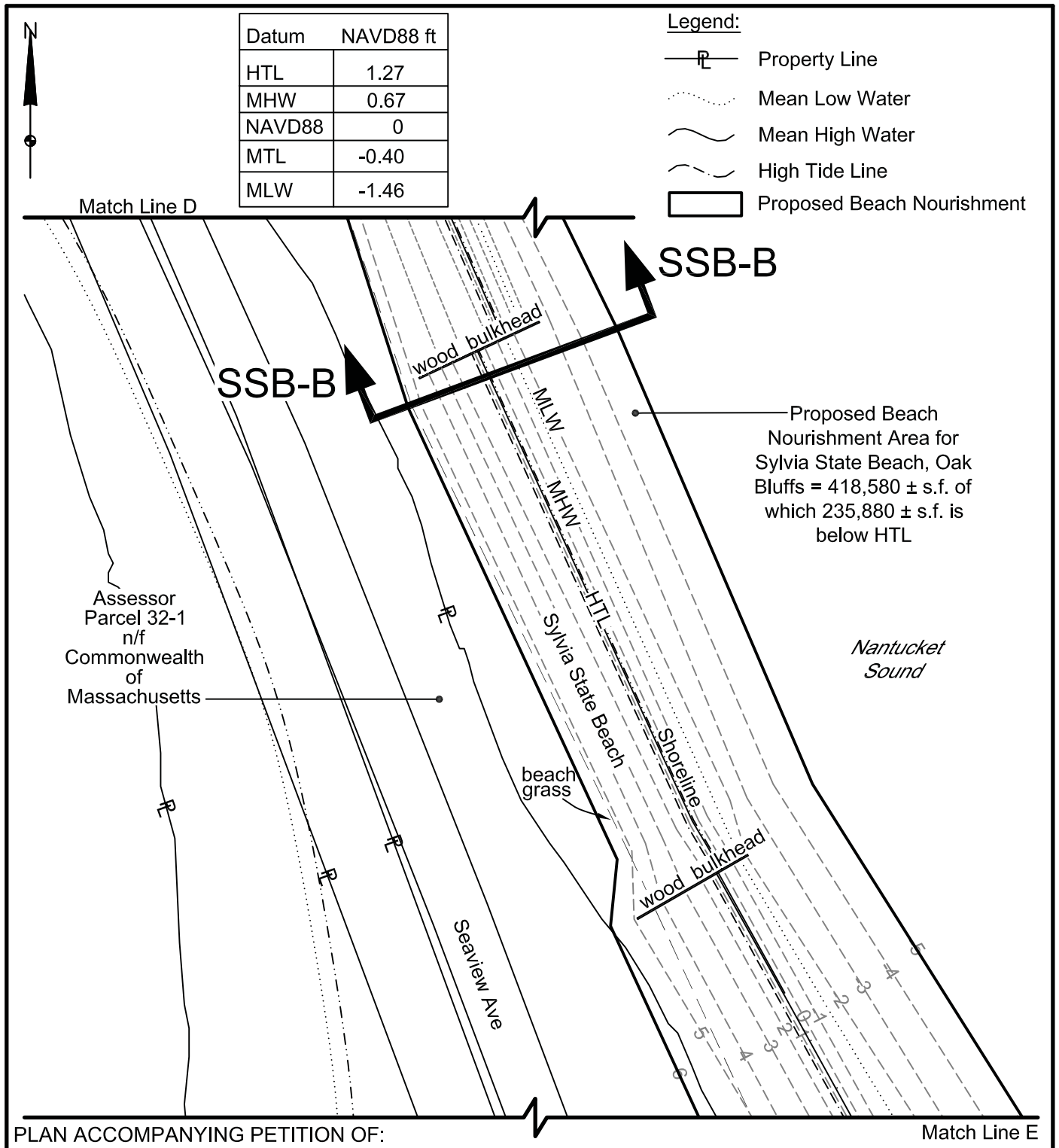
PLAN BY: WOODS HOLE GROUP

Graphic Scale
100 0 100 200
1" = 100'

DATE: July, 2012

SHEET: 6 OF 21

2010-142_CB BITR SSB ACOE.dwg



PLAN ACCOMPANYING PETITION OF:
Town of Edgartown for
Proposed Beach Nourishment for
Cow Bay Beach, Bend in the Road Beach and
Sylvia State Beach,
Dukes County, Edgartown and Oak Bluffs, MA

Proposed Beach Nourishment Area Entirely Within NHESP Priority Habitat

PLAN BY: WOODS HOLE GROUP

Graphic Scale
100 0 100 200
1" = 100'

DATE: July, 2012

SHEET: 7 OF 21

2010-142_CB BITR SSB ACOE.dwg

PLAN ACCOMPANYING PETITION OF:
Town of Edgartown for
Proposed Beach Nourishment for
Cow Bay Beach, Bend in the Road Beach and
Sylvia State Beach,
Dukes County, Edgartown and Oak Bluffs, MA

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

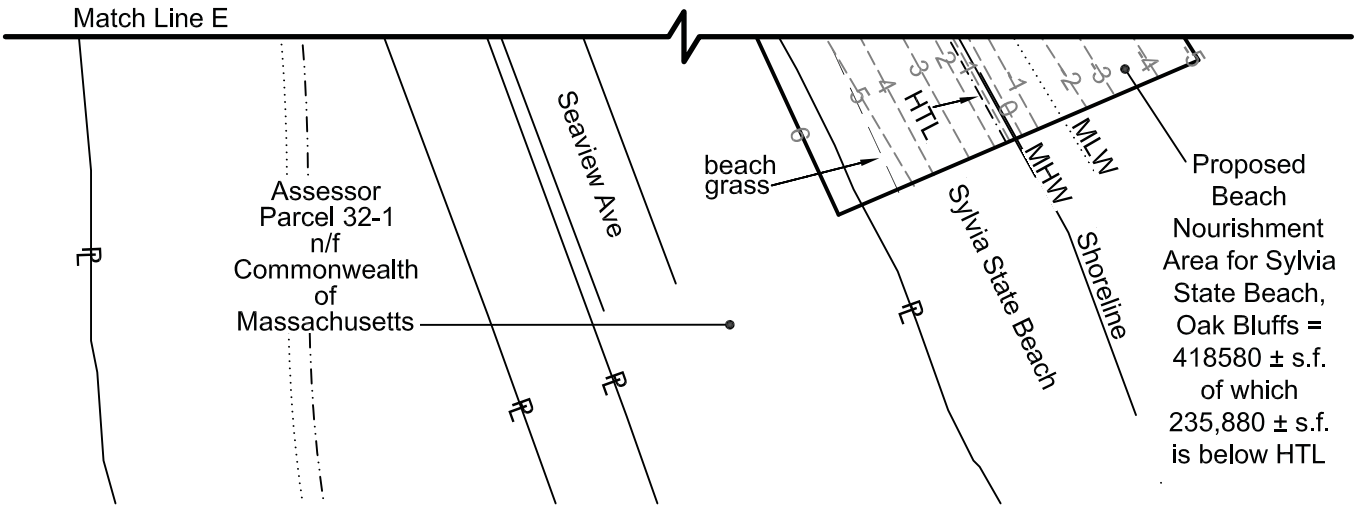
SHEET: 8 of 21

2010-142_CB BITR SSB ACOE.dwg

Datum	NAVD88 ft
HTL	1.27
MHW	0.67
NAVD88	0
MTL	-0.40
MLW	-1.46

Legend:

- Property Line
- Mean Low Water
- Mean High Water
- High Tide Line
- Proposed Beach Nourishment



PLAN ACCOMPANYING PETITION OF:
Town of Edgartown for
Proposed Beach Nourishment for
Cow Bay Beach, Bend in the Road Beach and
Sylvia State Beach,
Dukes County, Edgartown and Oak Bluffs, MA

Proposed Beach Nourishment Area Entirely Within NHESP Priority Habitat

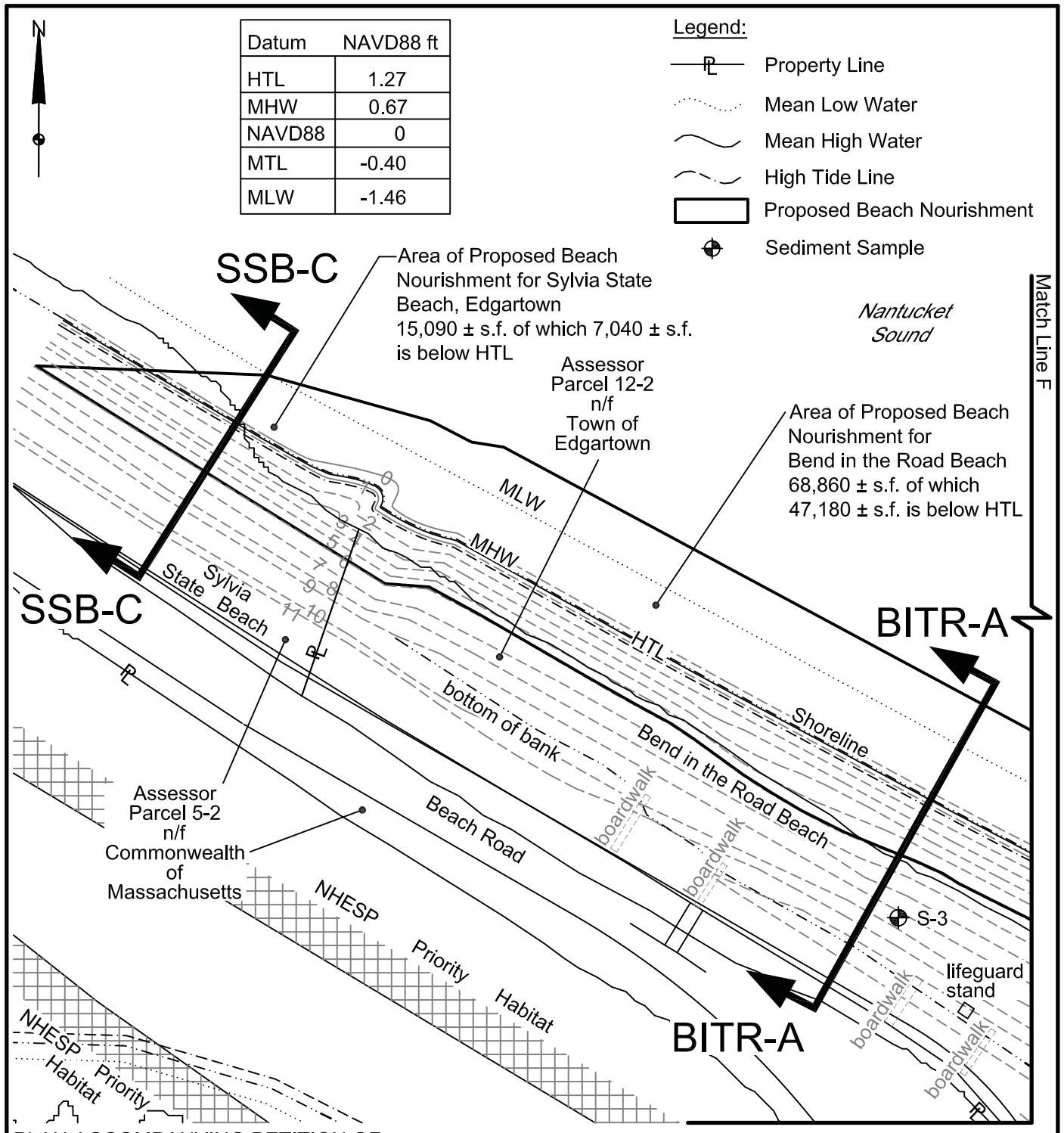
PLAN BY: WOODS HOLE GROUP

Graphic Scale
100 0 100 200
1" = 100'

DATE: July, 2012

SHEET: 9 OF 21

2010-142_CB BITR SSB ACOE.dwg



PLAN ACCOMPANYING PETITION OF:
Town of Edgartown for
Proposed Beach Nourishment for
Cow Bay Beach, Bend in the Road Beach and
Sylvia State Beach,
Dukes County, Edgartown and Oak Bluffs, MA

Proposed Beach Nourishment Area Entirely Within NHESP Priority Habitat

PLAN BY: WOODS HOLE GROUP

Graphic Scale
100 0 100 200
1" = 100'

DATE: July, 2012

SHEET: 10 OF 21

2010-142_CB BITR SSB ACOE.dwg

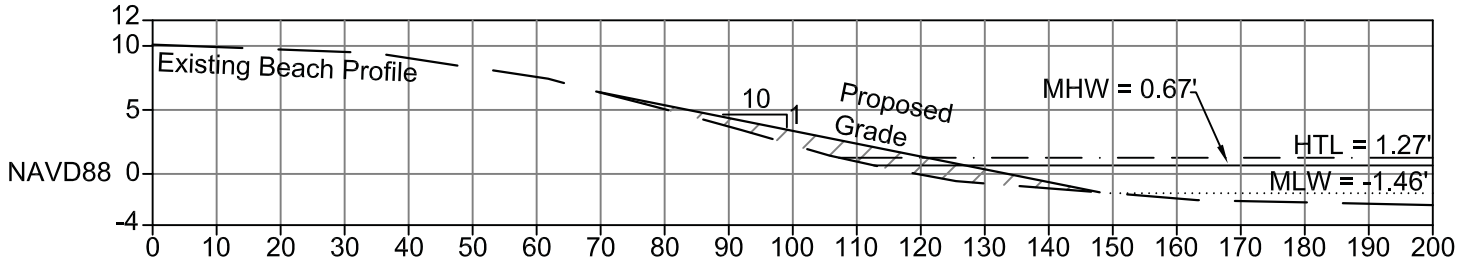
PLAN ACCOMPANYING PETITION OF:
Town of Edgartown for
Proposed Beach Nourishment for
Cow Bay Beach, Bend in the Road Beach and
Sylvia State Beach,
Dukes County, Edgartown and Oak Bluffs, MA

PLAN BY: WOODS HOLE GROUP

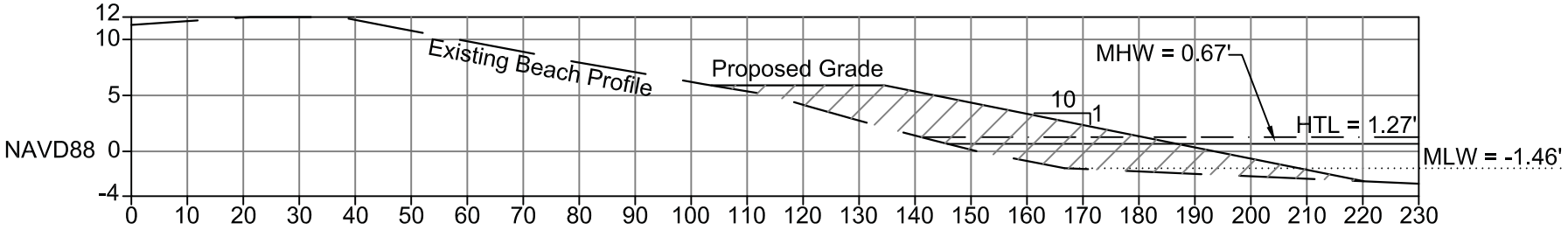
DATE: July, 2012

SHEET: 11 of 21

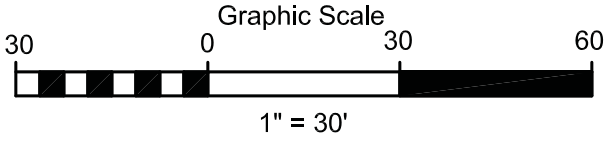
2010-142_CB BITR SSB ACOE.dwg

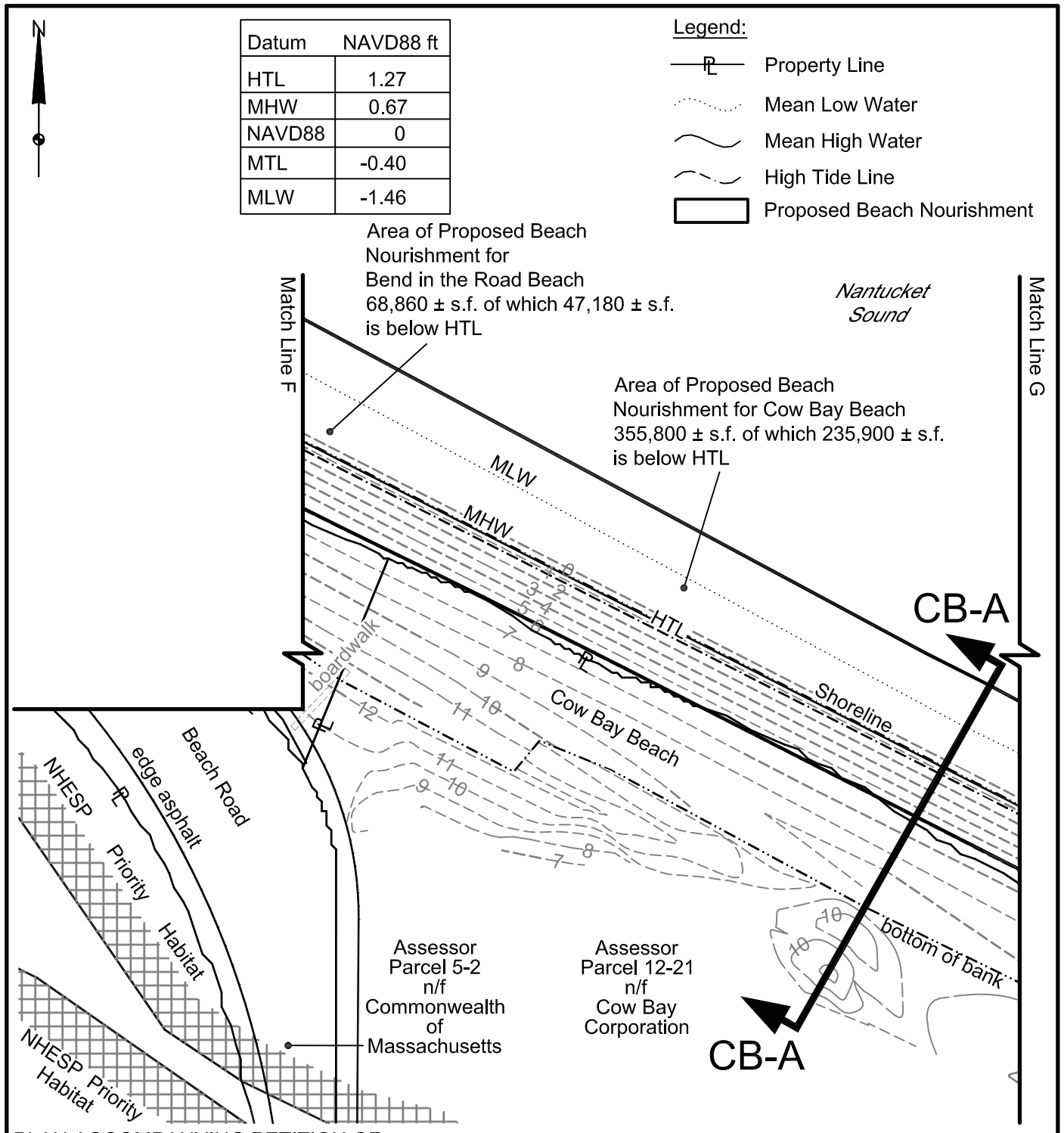


Typical Beach Nourishment Cross-Section SSB-C



Typical Beach Nourishment Cross-Section BITR-A





PLAN ACCOMPANYING PETITION OF:
Town of Edgartown for
Proposed Beach Nourishment for
Cow Bay Beach, Bend in the Road Beach and
Sylvia State Beach,
Dukes County, Edgartown and Oak Bluffs, MA

Proposed Beach Nourishment Area Entirely Within NHESP Priority Habitat

PLAN BY: WOODS HOLE GROUP

Graphic Scale
100 0 100 200
1" = 100'

DATE: July, 2012

SHEET: 12 OF 21

2010-142_CB BITR SSB ACOE.dwg

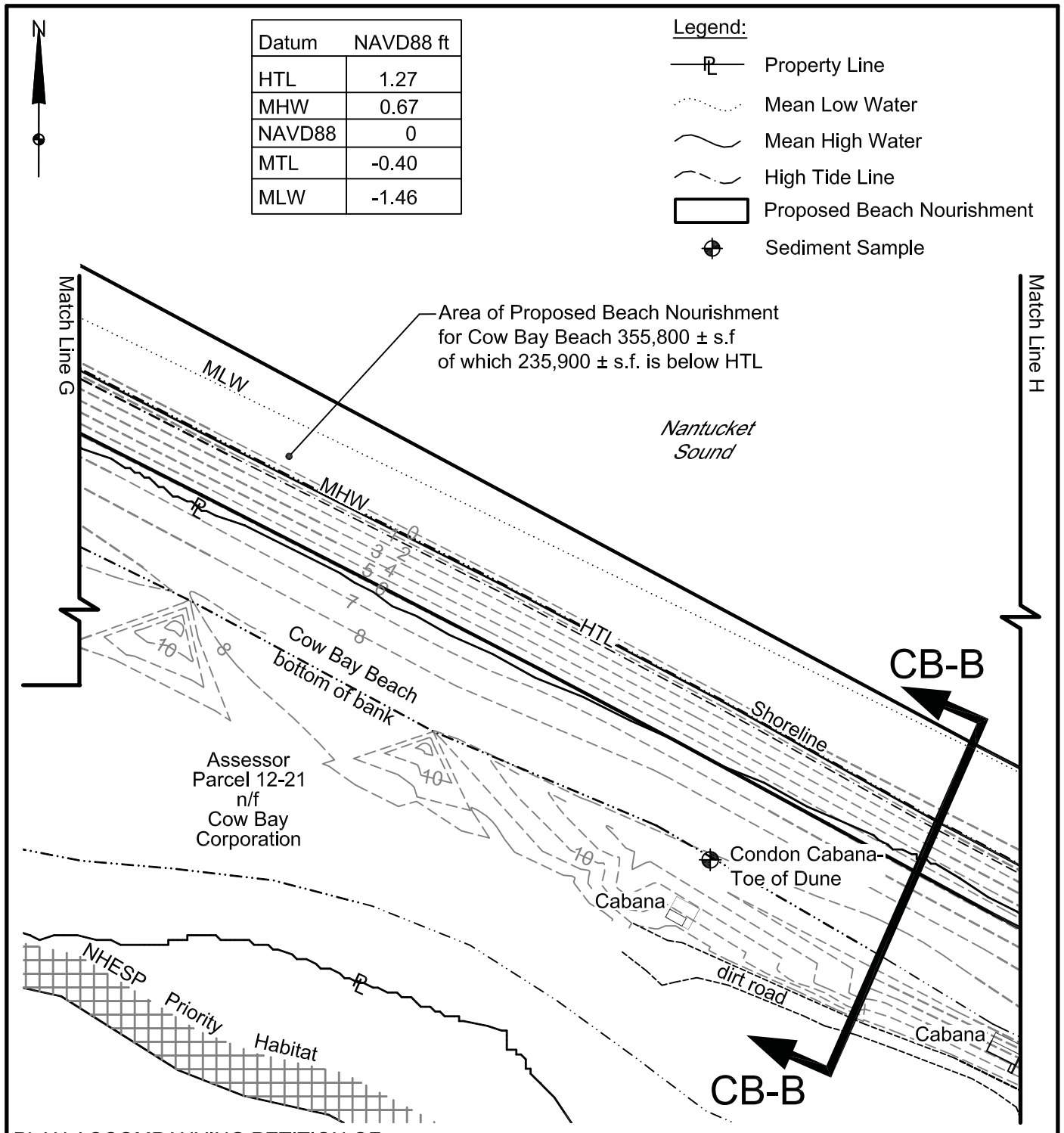
PLAN ACCOMPANYING PETITION OF:
Town of Edgartown for
Proposed Beach Nourishment for
Cow Bay Beach, Bend in the Road Beach and
Sylvia State Beach,
Dukes County, Edgartown and Oak Bluffs, MA

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 13 of 21

2010-142_CB BITR SSB ACOE.dwg



PLAN ACCOMPANYING PETITION OF:
Town of Edgartown for
Proposed Beach Nourishment for
Cow Bay Beach, Bend in the Road Beach and
Sylvia State Beach,
Dukes County, Edgartown and Oak Bluffs, MA

Proposed Beach
Nourishment Area Entirely
Within NHESP Priority
Habitat

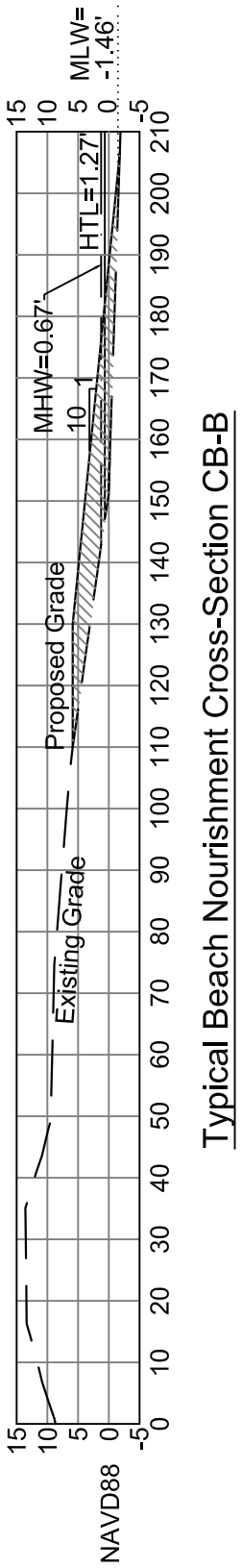
PLAN BY: WOODS HOLE GROUP

Graphic Scale
100 0 100 200
1" = 100'

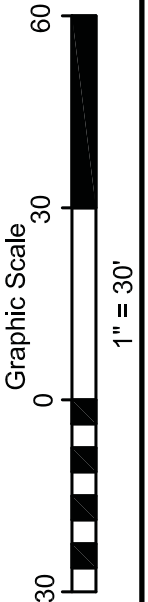
DATE: July, 2012

SHEET: 14 OF 21

2010-142_CB BITR SSB ACOE.dwg



Typical Beach Nourishment Cross-Section CB-B



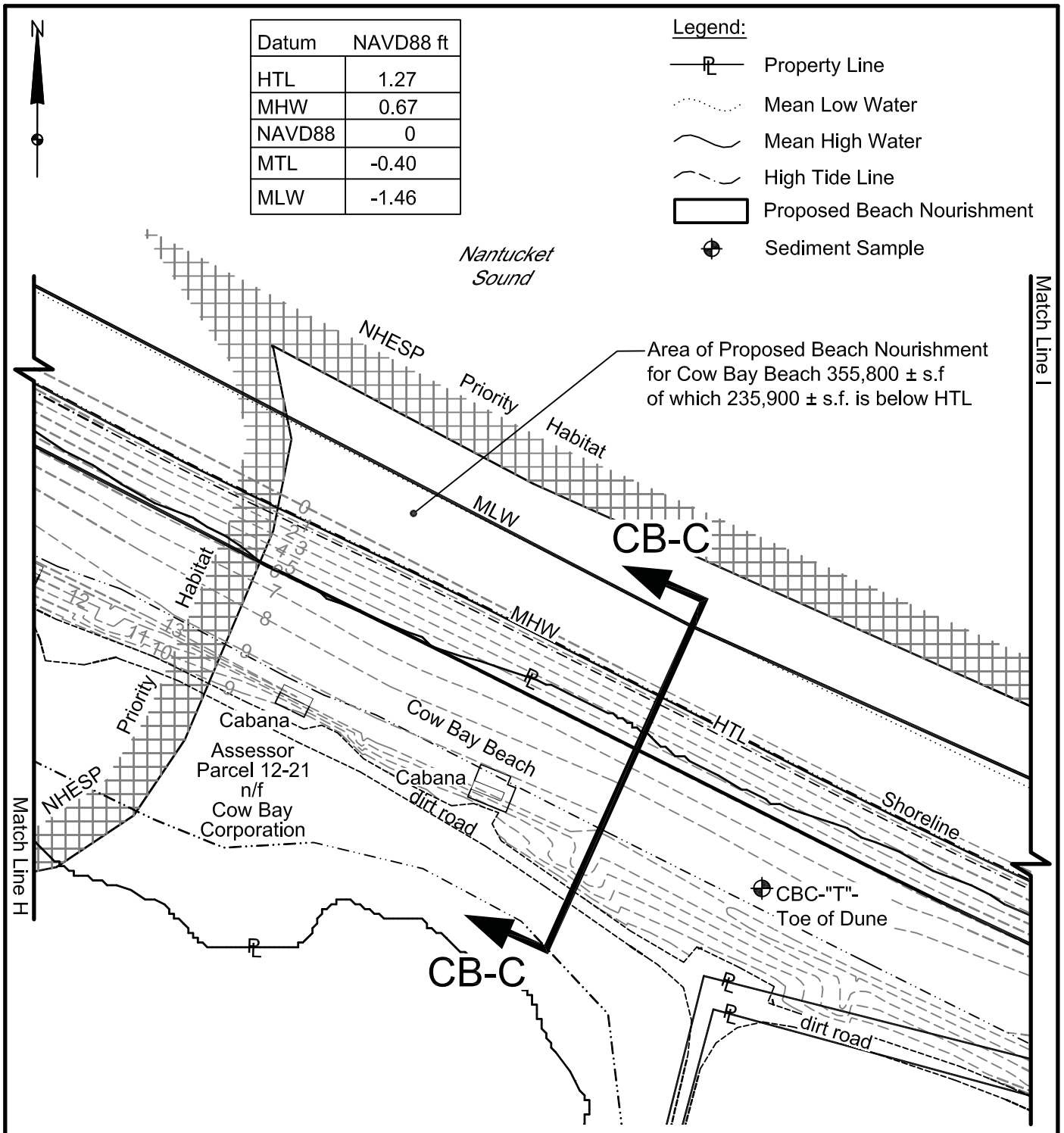
PLAN ACCOMPANYING PETITION OF:
Town of Edgartown for
Proposed Beach Nourishment for
Cow Bay Beach, Bend in the Road Beach and
Sylvia State Beach,
Dukes County, Edgartown and Oak Bluffs, MA

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 15 of 21

2010-142_CB BITR SSB ACOE.dwg



PLAN ACCOMPANYING PETITION OF:
Town of Edgartown for
Proposed Beach Nourishment for
Cow Bay Beach, Bend in the Road Beach and
Sylvia State Beach,
Dukes County, Edgartown and Oak Bluffs, MA

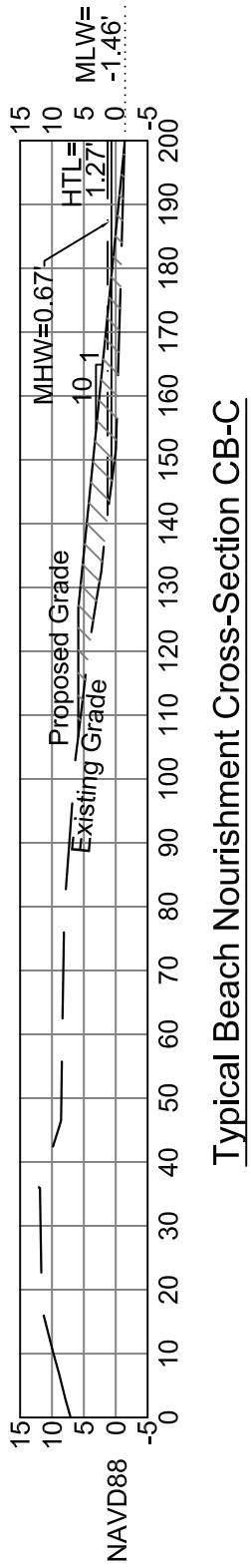
PLAN BY: WOODS HOLE GROUP

Graphic Scale
100 0 100 200
1" = 100'

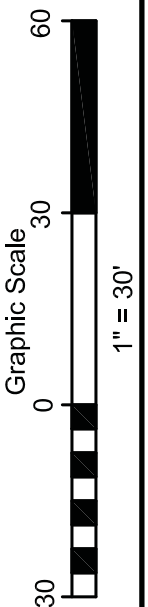
DATE: July, 2012

SHEET: 16 OF 21

2010-142_CB BITR SSB ACOE.dwg



Typical Beach Nourishment Cross-Section CB-C



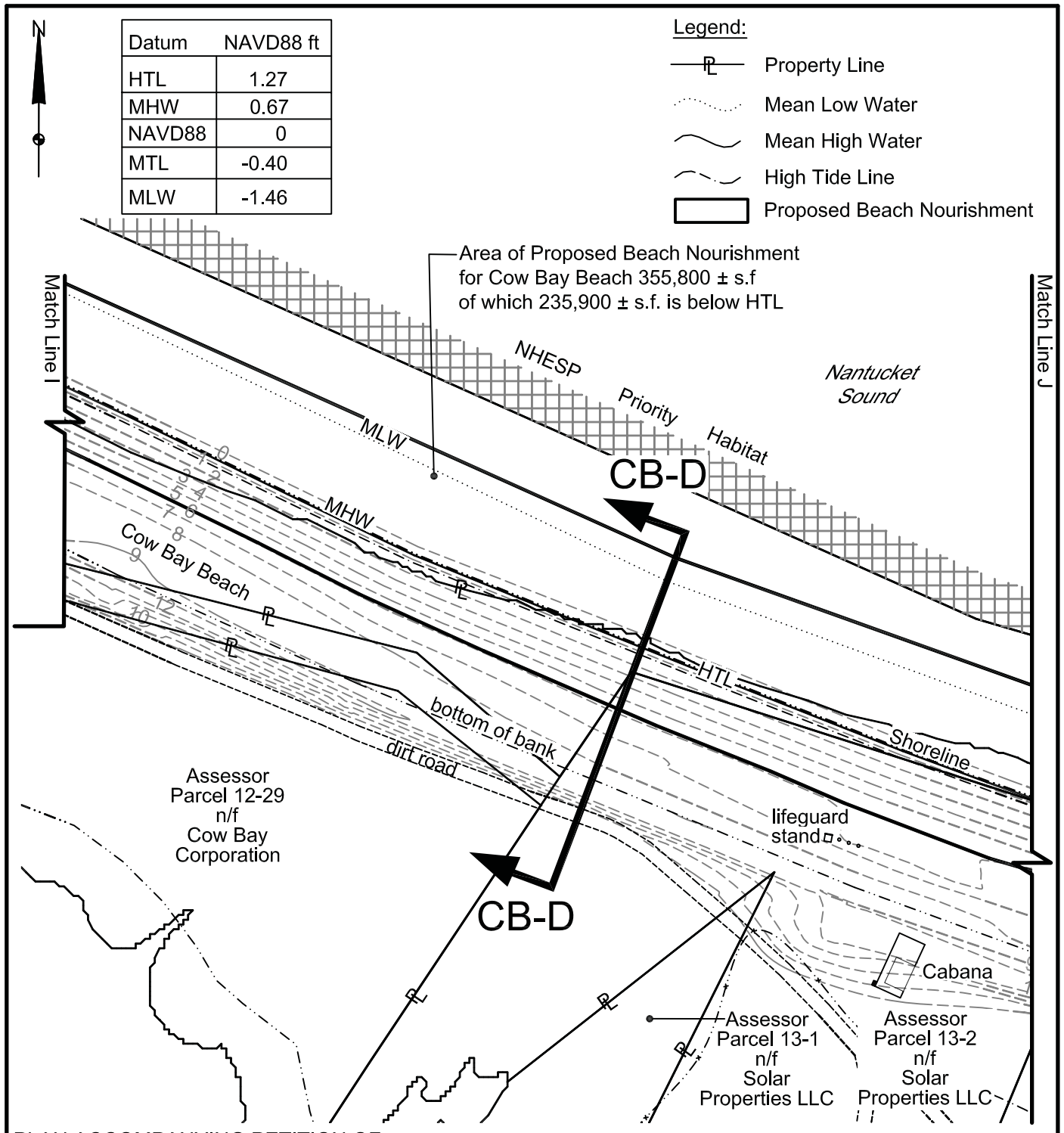
PLAN ACCOMPANYING PETITION OF:
Town of Edgartown for
Proposed Beach Nourishment for
Cow Bay Beach, Bend in the Road Beach and
Sylvia State Beach,
Dukes County, Edgartown and Oak Bluffs, MA

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 17 of 21

2010-142_CB BITR SSB ACOE.dwg



PLAN ACCOMPANYING PETITION OF:
Town of Edgartown for
Proposed Beach Nourishment for
Cow Bay Beach, Bend in the Road Beach and
Sylvia State Beach,
Dukes County, Edgartown and Oak Bluffs, MA

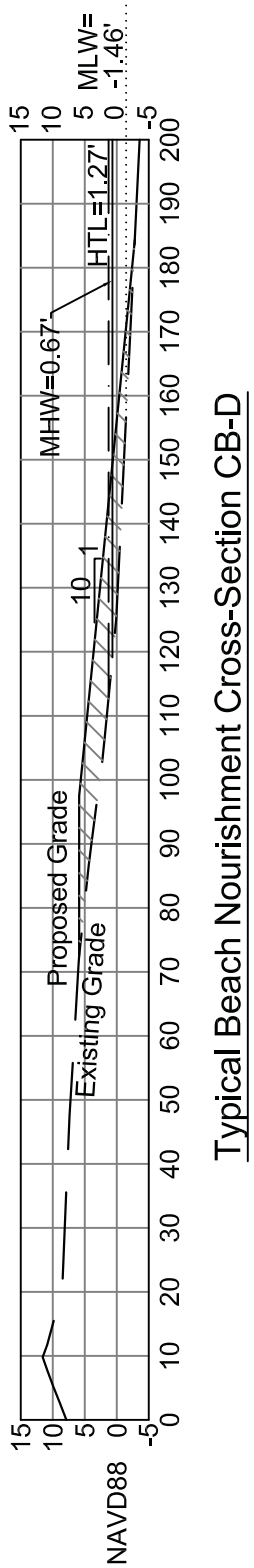
PLAN BY: WOODS HOLE GROUP

Graphic Scale
100 0 100 200
1" = 100'

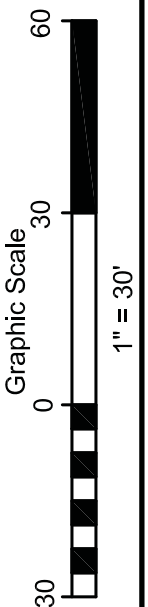
DATE: July, 2012

SHEET: 18 OF 21

2010-142_CB BITR SSB ACOE.dwg



Typical Beach Nourishment Cross-Section CB-D



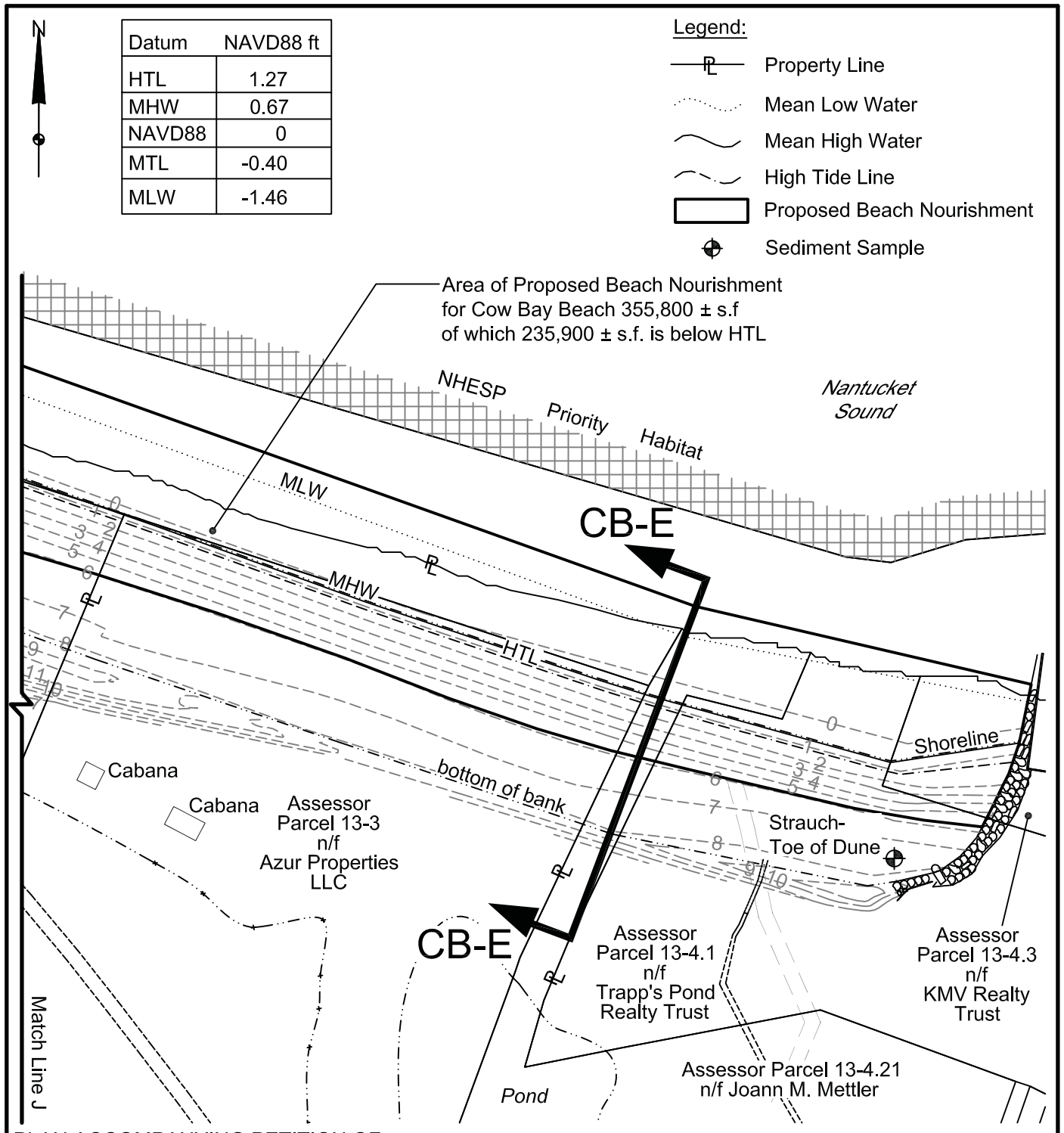
PLAN ACCOMPANYING PETITION OF:
Town of Edgartown for
Proposed Beach Nourishment for
Cow Bay Beach, Bend in the Road Beach and
Sylvia State Beach,
Dukes County, Edgartown and Oak Bluffs, MA

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 19 of 21

2010-142_CB BITR SSB ACOE.dwg



PLAN ACCOMPANYING PETITION OF:
Town of Edgartown for
Proposed Beach Nourishment for
Cow Bay Beach, Bend in the Road Beach and
Sylvia State Beach,
Dukes County, Edgartown and Oak Bluffs, MA

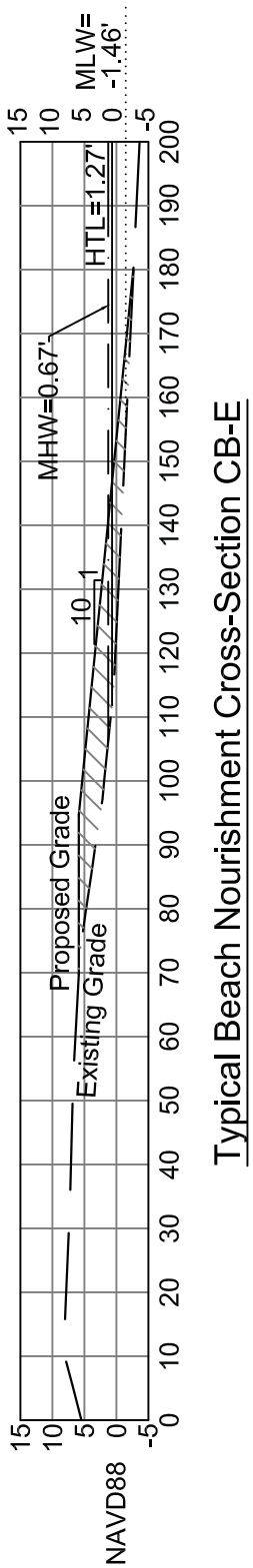
PLAN BY: WOODS HOLE GROUP

Graphic Scale
100 0 100 200
1" = 100'

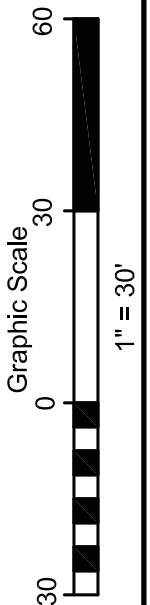
DATE: July, 2012

SHEET: 20 OF 21

2010-142_CB BITR SSB ACOE.dwg



Typical Beach Nourishment Cross-Section CB-E



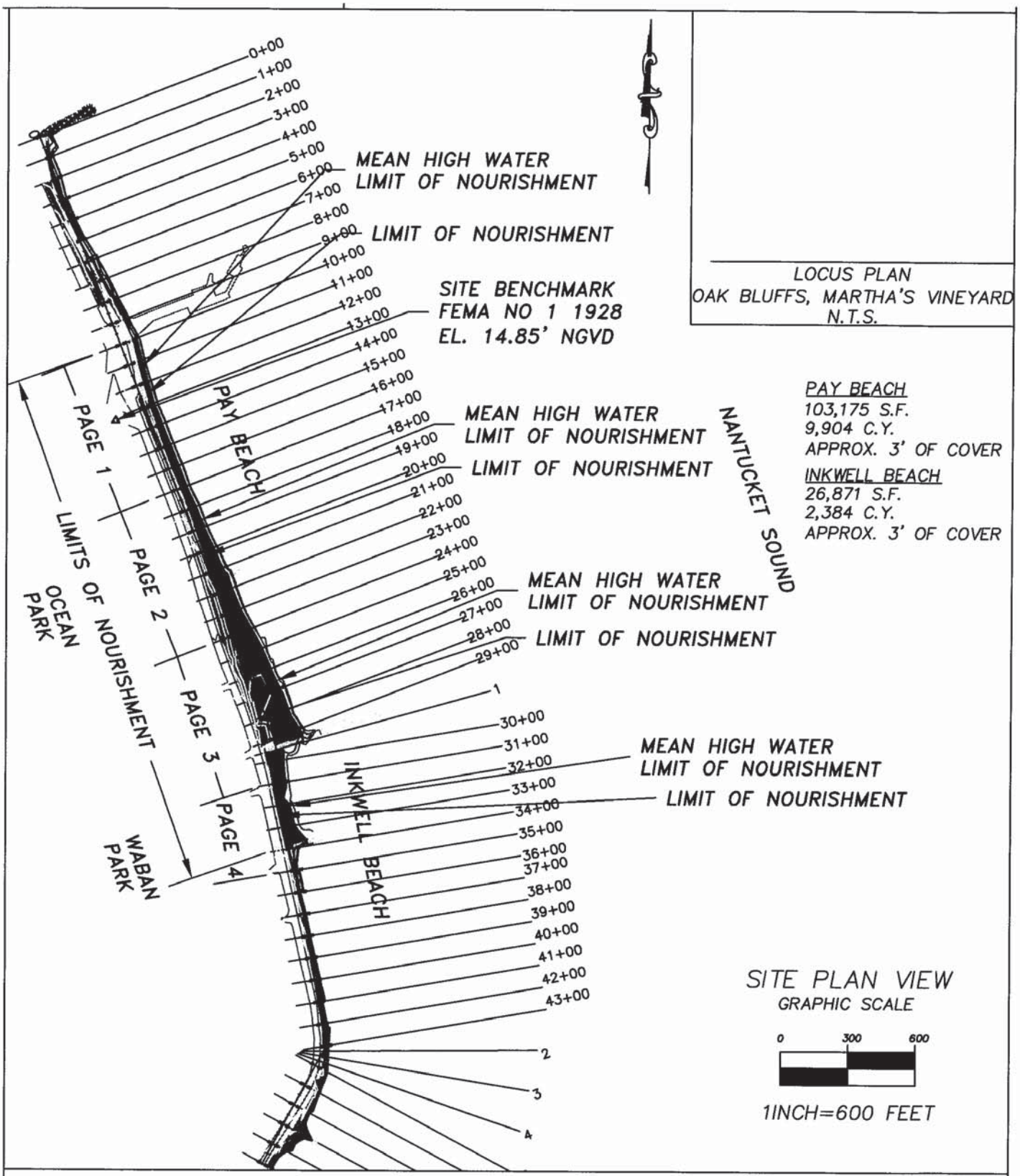
PLAN ACCOMPANYING PETITION OF:
Town of Edgartown for
Proposed Beach Nourishment for
Cow Bay Beach, Bend in the Road Beach and
Sylvia State Beach,
Dukes County, Edgartown and Oak Bluffs, MA

PLAN BY: WOODS HOLE GROUP

DATE: July, 2012

SHEET: 21 of 21

2010-142_CB BITR SSB ACOE.dwg



LOCUS PLAN
OAK BLUFFS, MARTHA'S VINEYARD
N.T.S.

PAY BEACH
103,175 S.F.
9,904 C.Y.
APPROX. 3' OF COVER

INKWELL BEACH
26,871 S.F.
2,384 C.Y.
APPROX. 3' OF COVER

SITE PLAN VIEW
GRAPHIC SCALE

0 300 600

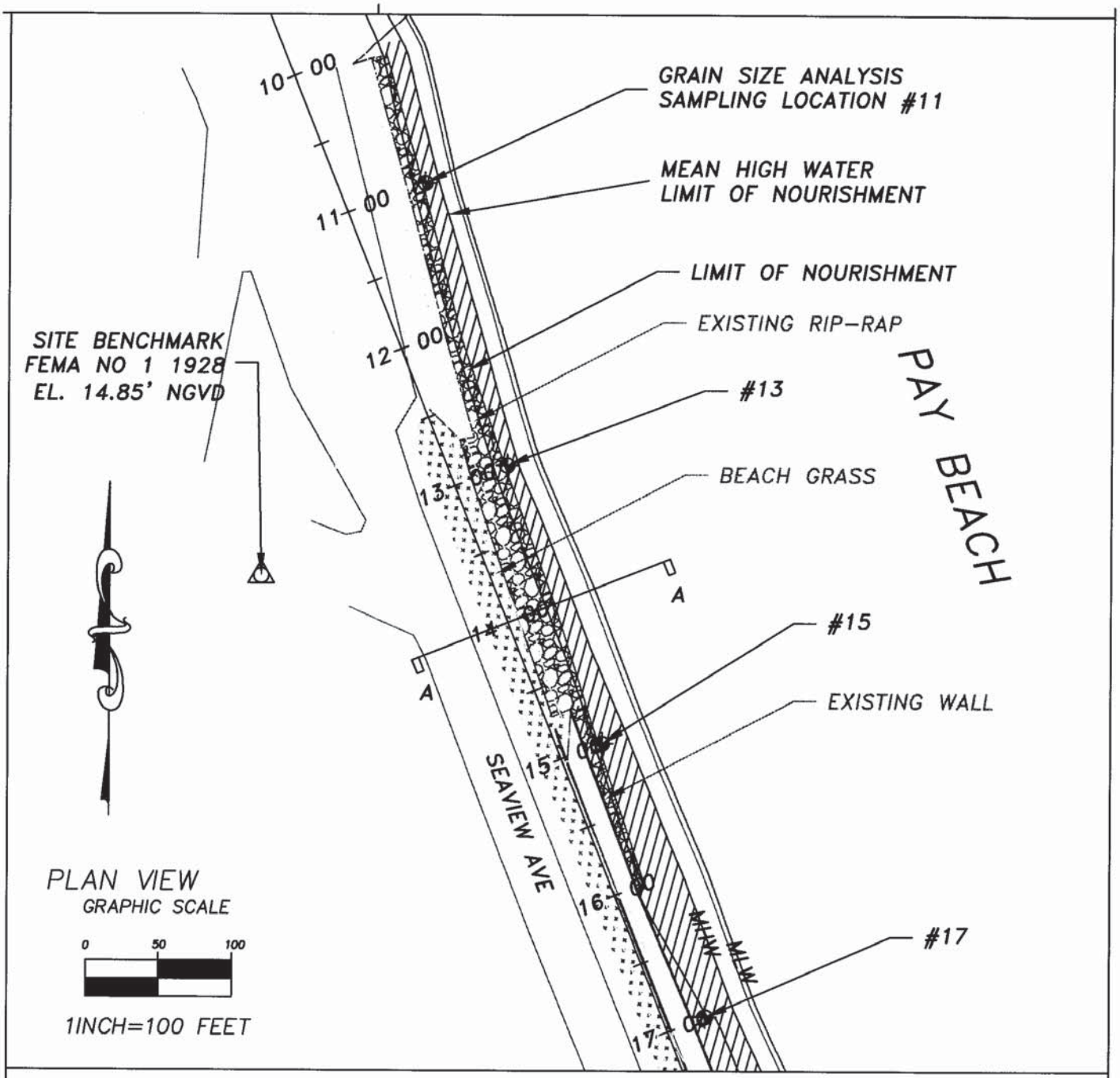
1INCH=600 FEET

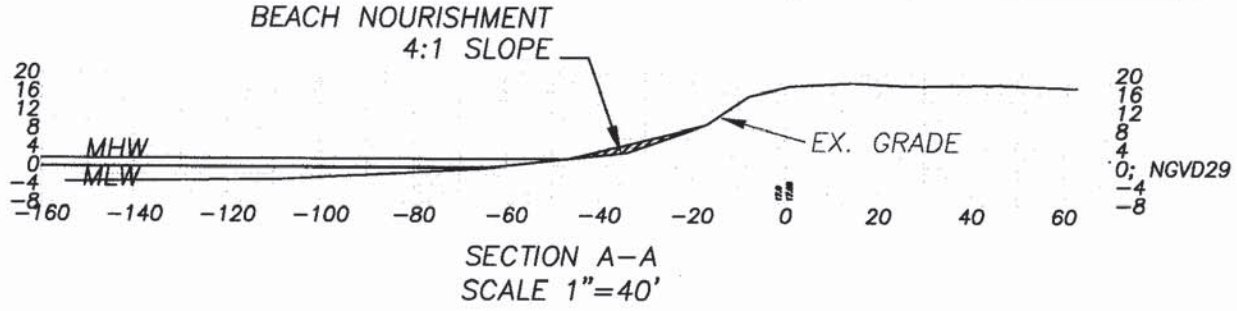
PLAN ACCOMPANYING PETITION OF:
TOWN OF OAK BLUFFS
P.O. BOX 1327
OAK BLUFFS, MA 02557

TO PERMIT BEACH NOURISHMENT

IN NANTUCKET SOUND, OAK BLUFFS, MA
DUKES COUNTY, MA

PAGE 1 OF 5 DATE 07/21/09





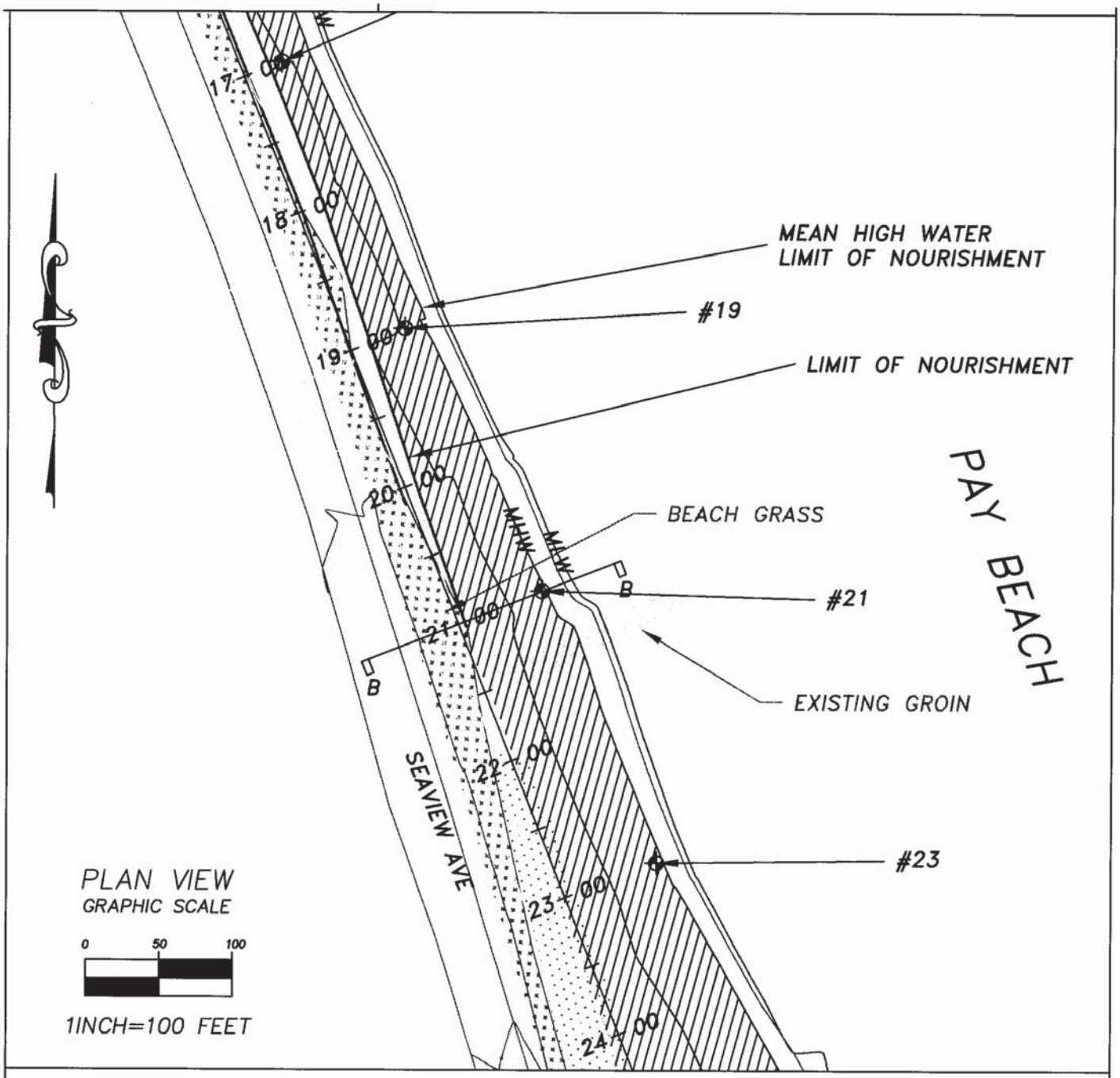
SECTION A-A
SCALE 1"=40'

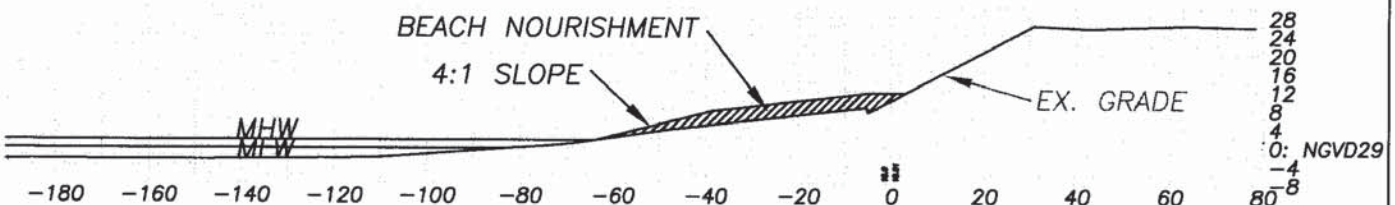
PAGE 2 OF 5 DATE 07/21/09

PLAN ACCOMPANYING PETITION OF:
TOWN OF OAK BLUFFS
P.O. BOX 1327
OAK BLUFFS, MA 02557

TO PERMIT BEACH NOURISHMENT

IN NANTUCKET SOUND, OAK BLUFFS, MA
DUKES COUNTY, MA



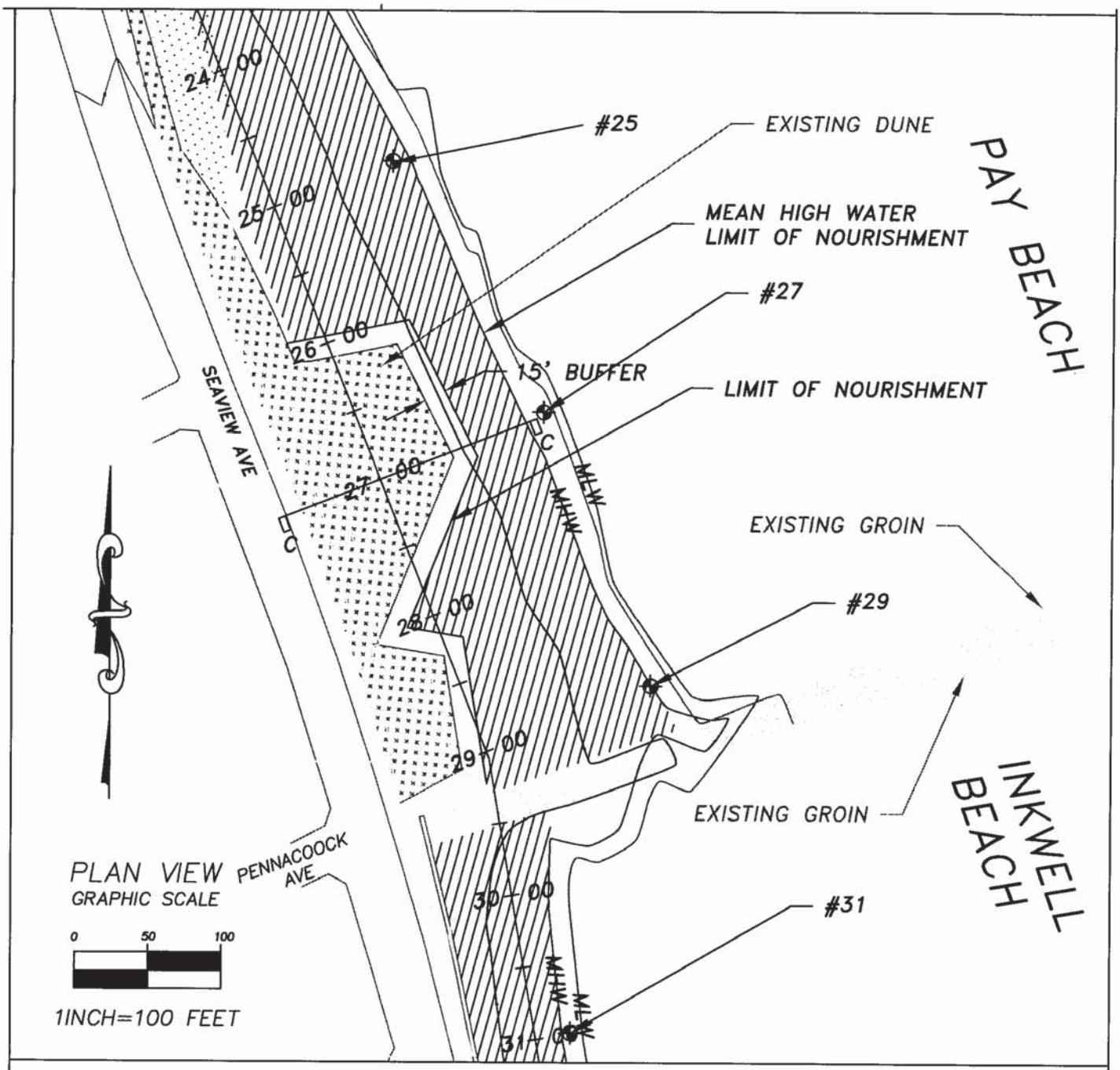


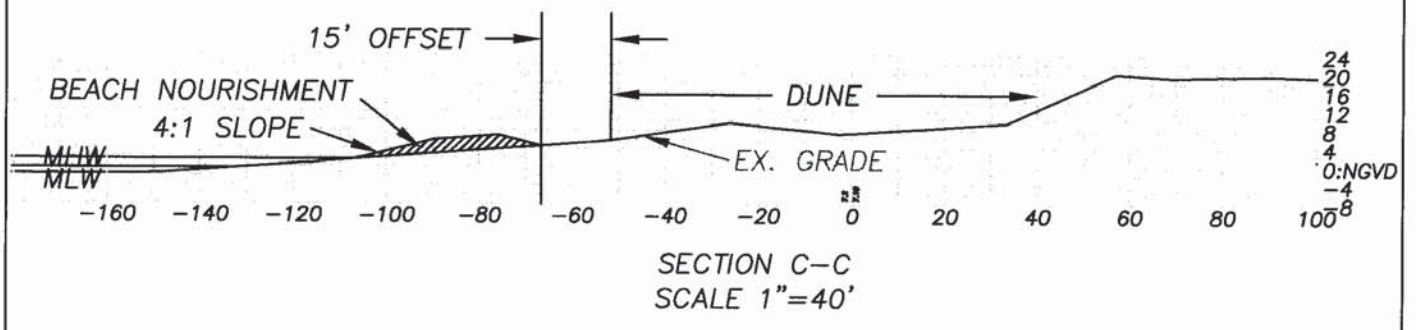
SECTION B–B
SCALE 1"=40'

PLAN ACCOMPANYING PETITION OF:
TOWN OF OAK BLUFFS
P.O. BOX 1327
OAK BLUFFS, MA 02557

TO PERMIT BEACH NOURISHMENT

IN NANTUCKET SOUND, OAK BLUFFS, MA
DUKES COUNTY, MA





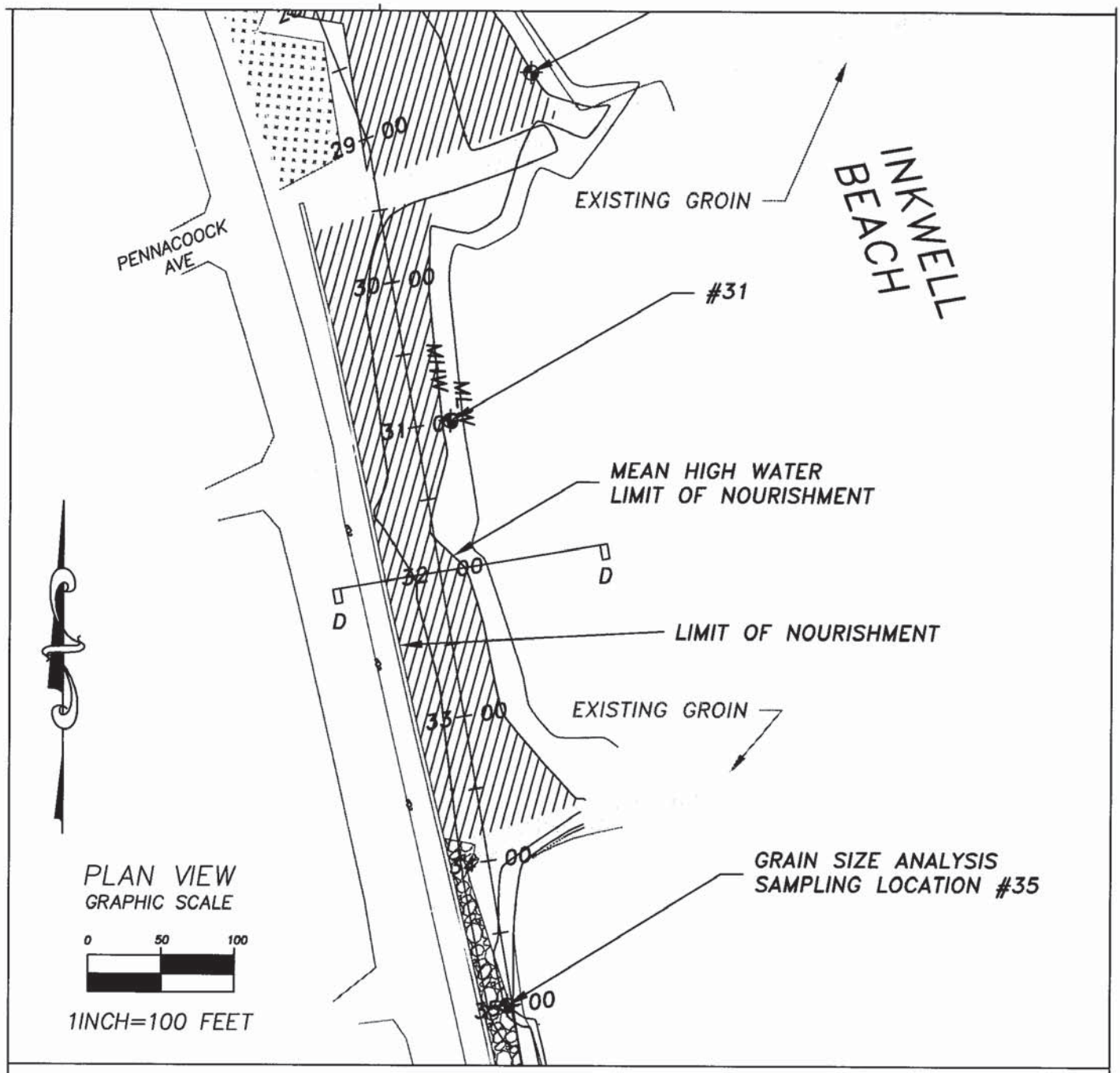
SECTION C–C
SCALE 1"=40'

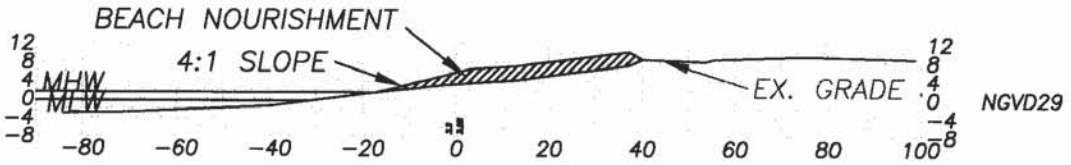
PAGE 4 OF 5 DATE 07/21/09

PLAN ACCOMPANYING PETITION OF:
TOWN OF OAK BLUFFS
P.O. BOX 1327
OAK BLUFFS, MA 02557

TO PERMIT BEACH NOURISHMENT

IN NANTUCKET SOUND, OAK BLUFFS, MA
DUKES COUNTY, MA





SECTION D–D
SCALE 1"=40'

PAGE 5 OF 5 DATE 07/21/09

PLAN ACCOMPANYING PETITION OF:
TOWN OF OAK BLUFFS
P.O. BOX 1327
OAK BLUFFS, MA 02557

TO PERMIT BEACH NOURISHMENT

IN NANTUCKET SOUND, OAK BLUFFS, MA
DUKES COUNTY, MA

Core Sample Locations 2012 for Edgartown

Sample Number	Northing	Easting	Location
CP-4	2609090.738	939632.785	**Cape Poge The Gut - A**
CP-5	2608986.228	939428.72	**Cape Poge The Gut - A**
CP-6	2608819.444	939549.182	**Cape Poge The Gut - A**
CP-7	2602088.748	942461.807	**Cape Poge The Narrows - B**
CP-8	2601975.412	942729.884	**Cape Poge The Narrows - B**
CP-9	2601844.756	943120.773	**Cape Poge The Narrows - B**
CP-1	2599596.793	943709.217	**Cape Poge Dike Approach - C**
CP-2	2599293.584	943698.759	**Cape Poge Dike Approach - C**
CP-3	2599007.093	943714.173	**Cape Poge Dike Approach - C**
GP-1	2590571.343	917278.808	**Great Pond Delta - D**
GP-2	2590393.243	917483.995	**Great Pond Delta - D**
GP-3	2590065.861	917374.147	**Great Pond Delta - D**
GP-4	2589635.826	917372.536	**Great Pond Channel - D**
GP-5	2589502.374	917371.682	**Great Pond Channel - D**
GP-12	2590173.989	918028.317	**Sluiceway Approach - E**
GP-13	2590118.438	918491.639	**Sluiceway Approach - E**
EH-1	2599354.326	929502.416	**Calebs Pond - F**
EH-2	2599467.36	929767.813	**Calebs Pond - F**
EH-3	2599731.821	929945.428	**Calebs Pond - F**
EH-4	2599761.55	930143.9	**Calebs Pond - F**
EH-5	2599833.004	930546.749	**Calebs Pond - F**
EH-6	2604701.728	929043.426	**Lighthouse Beach - G**
EH-7	2604656.035	929239.721	**Lighthouse Beach - G**
EH-9	2609163.116	926921.676	**Eel Pond - H**
EH-10	2608882.856	926951.443	**Eel Pond - H**
EH-11	2608551.626	926985.458	**Eel Pond - H**
EH-13	2606992.83	927493.1	**Eel Pond - H**
EH-14	2606803.88	927446.65	**Eel Pond - H**
EH-8	2603438.624	928175.807	**Inner Harbor - J**
EH-12	2602937.724	927091.595	**Collins Beach - K**
GP-11	2595783.213	916683.07	**Wilsons Landing - L**
GP-6	2590086.528	918787.65	**Herring Creek - M**
GP-7	2590047.56	918887.401	**Herring Creek - M**
GP-8	2590037.615	919032.611	**Herring Creek - M**
GP-9	2589996.037	919167.157	**Herring Creek - M**
GP-10	2589949.253	919327.867	**Herring Creek - M**
GP-14	2590092.769	922886.914	**Herring Creek - M**
SP-6	2613938.199	916591.251	**Senge Pond Inner Channel**
SP-7	2613118.267	916973.924	**Senge Pond Borrow Site #1**
SP-8	2612588.749	917037.894	**Senge Pond Borrow Site #1**
OB-2-1	2618982.93	914409.65	**Senge Pond Inner Channel**
OB-4-2	2617692.75	914596.25	**Senge Pond Inner Channel**
OB-5-1	2617122.64	914899.9	**Senge Pond Inner Channel**
OB-7-1	2615959.07	915511.24	**Senge Pond Inner Channel**
OB-9-1	2614790.41	916072.45	**Senge Pond Inner Channel**
Katama 1 (formerly ST01)	2590722.66	931068.41	**Katama Bay Boat Ramp & Channel**
Katama 2 (formerly ST02)	2590994.25	931195.61	**Katama Bay Boat Ramp & Channel**
Katama 3 (formerly ST03)	2591287.5	931293.52	**Katama Bay Boat Ramp & Channel**
Katama 4 (formerly ST04)	2591620.9	931401.84	**Katama Bay Boat Ramp & Channel**
Katama 5 (formerly ST05)	2591954.3	931510.15	**Katama Bay Boat Ramp & Channel**
Katama 6 (formerly ST06)	2592228.36	931600.42	**Katama Bay Boat Ramp & Channel**
Katama 7 (formerly ST07)	2592502.43	931690.69	**Katama Bay Boat Ramp & Channel**

Sediment Sample Locations 2012 for Edgartown

Sample Name/Number	Northing	Easting	Location
Cape Poge Elbow 1 (formerly Cape Poge Neck 1)	2608076.000	938460.500	**Cape Poge The Gut - A**
Cape Poge Elbow 2 (formerly Cape Poge Neck 2)	2607031.000	938043.000	**Cape Poge The Gut - A**
Cape Poge Elbow 3 (formerly Cape Poge Neck 3)	2607640.000	938008.600	**Cape Poge The Gut - A**
Cape Poge Elbow 4 (formerly R-73 Cape Poge Gut)	2607111.634	938034.688	**Cape Poge The Gut - A**
North Neck 2	2606999.000	938742.900	**Cape Poge The Gut - A**
North Neck 3	2607395.000	939216.600	**Cape Poge The Gut - A**
The Narrows 1	2601768.000	943934.400	**Cape Poge The Narrows - B**
The Narrows 3	2601886.000	944524.800	**Cape Poge The Narrows - B**
The Narrows 4	2600710.766	944008.967	**Cape Poge The Narrows - B**
The Narrows 6 (formerly BCH-15 Cape Poge Lagoon)	2601715.424	944505.992	**Cape Poge The Narrows - B**
The Narrows 7 (formerly BCH-14 Cape Poge Lagoon)	2601714.820	944530.924	**Cape Poge The Narrows - B**
The Narrows 8	2601360.637	944501.371	**Cape Poge The Narrows - B**
Dike Approach 4 (formerly R-97 Cape Poge Lagoon)	2598733.435	943883.592	**Cape Poge Dike Approach - C**
Dike Approach 5 (formerly DA-5)	2599624.868	944115.583	**Cape Poge Dike Approach - C**
Dike Approach 6 (formerly DA-6)	2598419.522	943892.501	**Cape Poge Dike Approach - C**
Sluiceway 1 (formerly R-66 Sluiceway)	2589523.506	918089.855	**Great Pond Delta - D / Sluiceway - E / Herring Creek - M**
Sluiceway 2 (formerly R-62 Sluiceway)	2589571.989	918090.808	**Great Pond Delta - D / Sluiceway - E / Herring Creek - M**
Sluiceway 3 (formerly Sluiceway 1)	2589536.438	917718.180	**Great Pond Delta - D / Sluiceway - E / Herring Creek - M**
Sluiceway 4 (formerly Sluiceway 2)	2589487.984	917718.721	**Great Pond Delta - D / Sluiceway - E / Herring Creek - M**
Edgartown Inner Harbor 5	2600925.000	929804.800	**Calebs Pond - F**
Edgartown Inner Harbor 6	2600329.000	929815.900	**Calebs Pond - F**
Edgartown Inner Harbor 7	2599668.000	929661.400	**Calebs Pond - F**
Edgartown Inner Harbor 8	2599144.000	929575.700	**Calebs Pond - F**
Edgartown Inner Harbor 9	2602701.000	927010.300	**Calebs Pond - F & Collins Beach - K**
Edgartown Inner Harbor 10	2602146.000	927405.200	**Calebs Pond - F & Collins Beach - K**
Edgartown Inner Harbor 11 (formerly EH-11)	2601932.031	929348.353	**Calebs Pond - F**
Lighthouse Point 2	2604854.000	929897.100	**Lighthouse Beach - G & Inner Harbor - J**
Lighthouse Point 3	2605521.000	929573.400	**Lighthouse Beach - G & Inner Harbor - J**
Lighthouse Point 5 (formerly R-33 Cape Poge Lighthouse)	2604659.307	929963.366	**Lighthouse Beach - G & Inner Harbor - J**
Eel Pond Spit 1	2607216.000	927618.100	**Eel Pond - H**
Eel Pond Spit 2	2607668.000	928056.100	**Eel Pond - H**
Eel Pond Spit 3 (formerly R-39 Eel Pond)	2607627.536	927833.595	**Eel Pond - H**
Planting 1	2609390.000	924787.000	**Eel Pond - H**
Wilsons Landing 3 (formerly Wilsons Landing 25)	2595595.876	916796.766	**Wilsons Landing - L**
Wilsons Landing 4 (formerly Wilsons Landing 42)	2595381.494	916803.471	**Wilsons Landing - L**
SB-1	2619032.037	915156.848	**Sylvia State Beach - Groin Field**
SB-2	2617795.493	915380.817	**Sylvia State Beach - Groin Field**
S-3	2610844.149	920533.451	**Bend in the Road Beach**
Condon Cabana-Toe of Dune	2610303.540	921546.400	**Cow Bay Beach**
CBC-"T"-Toe of Dune	2609953.950	922257.100	**Cow Bay Beach**
Strauch-Toe of Dune	2609416.930	923699.500	**Strauch**
#11	2628743.940	915026.180	**Pay Beach**
#13	2628550.520	915077.910	**Pay Beach**
#15	2628365.420	915153.890	**Pay Beach**
#17	2628182.750	915235.170	**Pay Beach**
#19	2627998.940	915313.890	**Pay Beach**
#21	2627816.270	915395.180	**Pay Beach**
#23	2627633.170	915475.270	**Pay Beach**
#25	2627451.180	915558.570	**Pay Beach**
#27	2627273.420	915649.420	**Pay Beach**
#29	2627097.470	915744.140	**Pay Beach**
#31	2626906.280	915687.120	**Inkwell Beach**
#35	2626510.560	915744.750	**Inkwell Beach**

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: Edgartown Harbor
Project Location: Edgartown, MA
Project No.
Date: June 2011

Sample: **Cape Poge Neck 1** (Cape Poge Elbow 1)

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only % Wt	Sand Only Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	0.00	0.00	0.00	0.00	0.00	0.00
-1	0.32	0.32	0.32	0.32	0.32	0.32
0	22.76	22.44	22.37	22.69	22.37	22.69
1	74.38	51.62	51.45	74.14	51.45	74.14
2	100.21	25.83	25.75	99.89	25.75	99.89
3	100.32	0.11	0.11	100.00	0.11	100.00
4	100.32	0.00	0.00	100.00	0.00	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

Wt. Coarse	100.3150
Wt Fine	0.0000
Total Wt	100.3150

Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-6.03	36.36	0.00
-4	0.00	-4.50	0.00	-5.03	25.30	0.00
-3	0.00	-3.50	0.00	-4.03	16.24	0.00
-2	0.00	-2.50	0.00	-3.03	9.18	0.00
-1	0.32	-1.50	-0.48	-2.03	4.12	1.31
0	22.37	-0.50	-11.18	-1.03	1.06	23.71
1	51.45	0.50	25.73	-0.03	0.00	0.05
2	25.75	1.50	38.62	0.97	0.94	24.25
3	0.11	2.50	0.27	1.97	3.88	0.43
4	0.00	3.50	0.00	2.97	8.82	0.00
Silt	0.00	6.00	0.00	5.47	29.93	0.00
Clay	0.00	9.00	0.00	8.47	71.75	0.00
TOTAL	100.00		52.96			49.75

Total Sample

Mean =	0.53

Variance =	0.50
Sample SD =	0.71

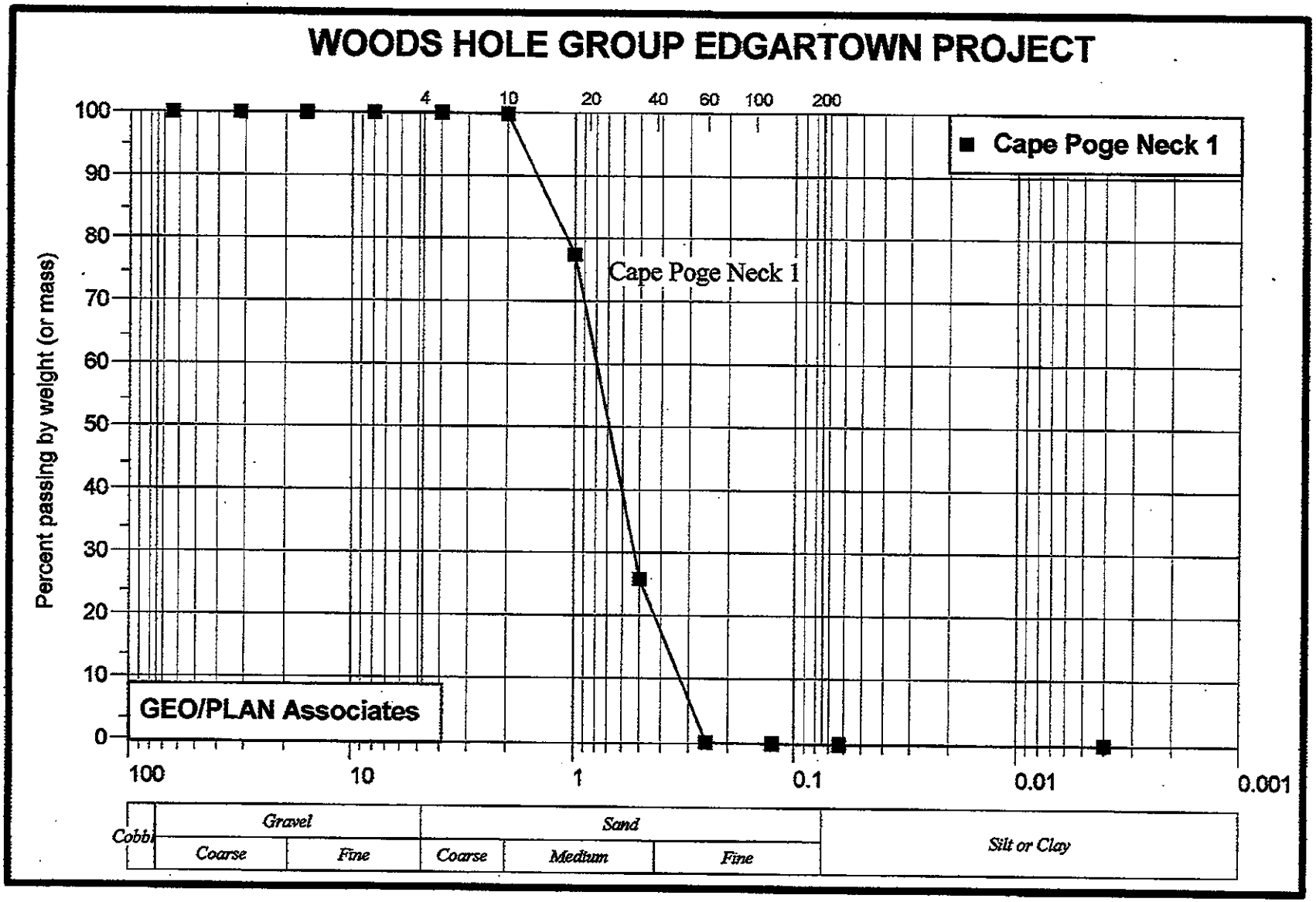
Coarse Only 100.00 52.96 49.75

Mean =	0.53

Variance =	0.50
Sample SD =	0.71

Gravel	Sand	Silt	Clay	Total
0.3	99.7	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0


WOODS HOLE GROUP EDGARTOWN PROJECT
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
Cape Poge Neck 1
Cape Poge Neck 1
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: Edgartown Harbor
Project Location: Edgartown, MA
Project No.
Date: June 2011

Sample: **Cape Poge Neck 2** (Cape Poge Elbow 2)

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only % Wt	Sand Only Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	1.49	1.49	1.59	1.59	1.59	1.59
-2	1.80	0.32	0.34	1.93	0.34	1.93
-1	2.26	0.46	0.49	2.42	0.49	2.42
0	46.83	44.57	47.74	50.16	47.74	50.16
1	71.53	24.70	26.46	76.61	26.46	76.61
2	92.86	21.33	22.84	99.45	22.84	99.45
3	93.37	0.51	0.55	100.00	0.55	100.00
4	93.37	0.00	0.00	100.00	0.00	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

Wt. Coarse	93.3650
Wt Fine	0.0000
Total Wt	93.3650

Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-5.68	32.24	0.00
-4	0.00	-4.50	0.00	-4.68	21.89	0.00
-3	1.59	-3.50	-5.57	-3.68	13.53	21.52
-2	0.34	-2.50	-0.84	-2.68	7.17	2.42
-1	0.49	-1.50	-0.74	-1.68	2.82	1.39
0	47.74	-0.50	-23.87	-0.68	0.46	21.97
1	26.46	0.50	13.23	0.32	0.10	2.74
2	22.84	1.50	34.26	1.32	1.75	39.90
3	0.55	2.50	1.37	2.32	5.39	2.94
4	0.00	3.50	0.00	3.32	11.03	0.00
Silt	0.00	6.00	0.00	5.82	33.89	0.00
Clay	0.00	9.00	0.00	8.82	77.82	0.00
TOTAL	100.00		17.84			92.87

Total Sample

Mean =	0.18

Variance =	0.93
Sample SD =	0.96

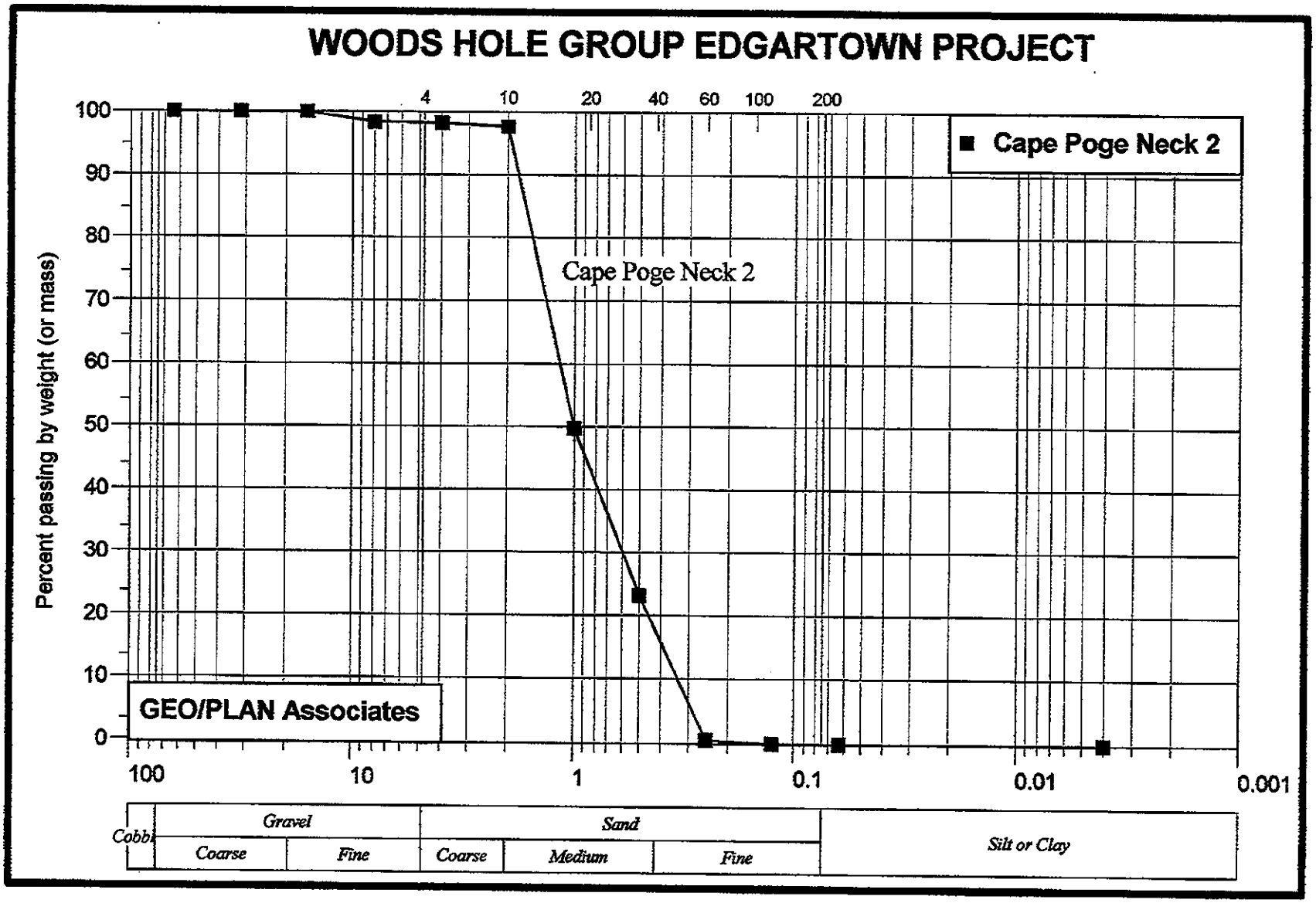
Coarse Only 100.00 17.84 92.87

Mean =	0.18

Variance =	0.93
Sample SD =	0.96

Gravel	Sand	Silt	Clay	Total
2.4	97.6	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0


WOODS HOLE GROUP EDGARTOWN PROJECT
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
Cape Poge Neck 2
Cape Poge Neck 2
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: Edgartown Harbor
Project Location: Edgartown, MA
Project No.
Date: June 2011

Sample: **Cape Poge Neck 3** (Cape Poge Elbow 3)

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only % Wt	Sand Only Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	2.42	2.42	2.29	2.29	2.29	2.29
-1	2.42	0.00	0.00	2.29	0.00	2.29
0	41.84	39.42	37.27	39.56	37.27	39.56
1	105.08	63.24	59.79	99.35	59.79	99.35
2	105.76	0.68	0.64	99.99	0.64	99.99
3	105.77	0.01	0.01	100.00	0.01	100.00
4	105.77	0.00	0.00	100.00	0.00	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

Wt. Coarse	105.7650
Wt Fine	0.0000
Total Wt	105.7650

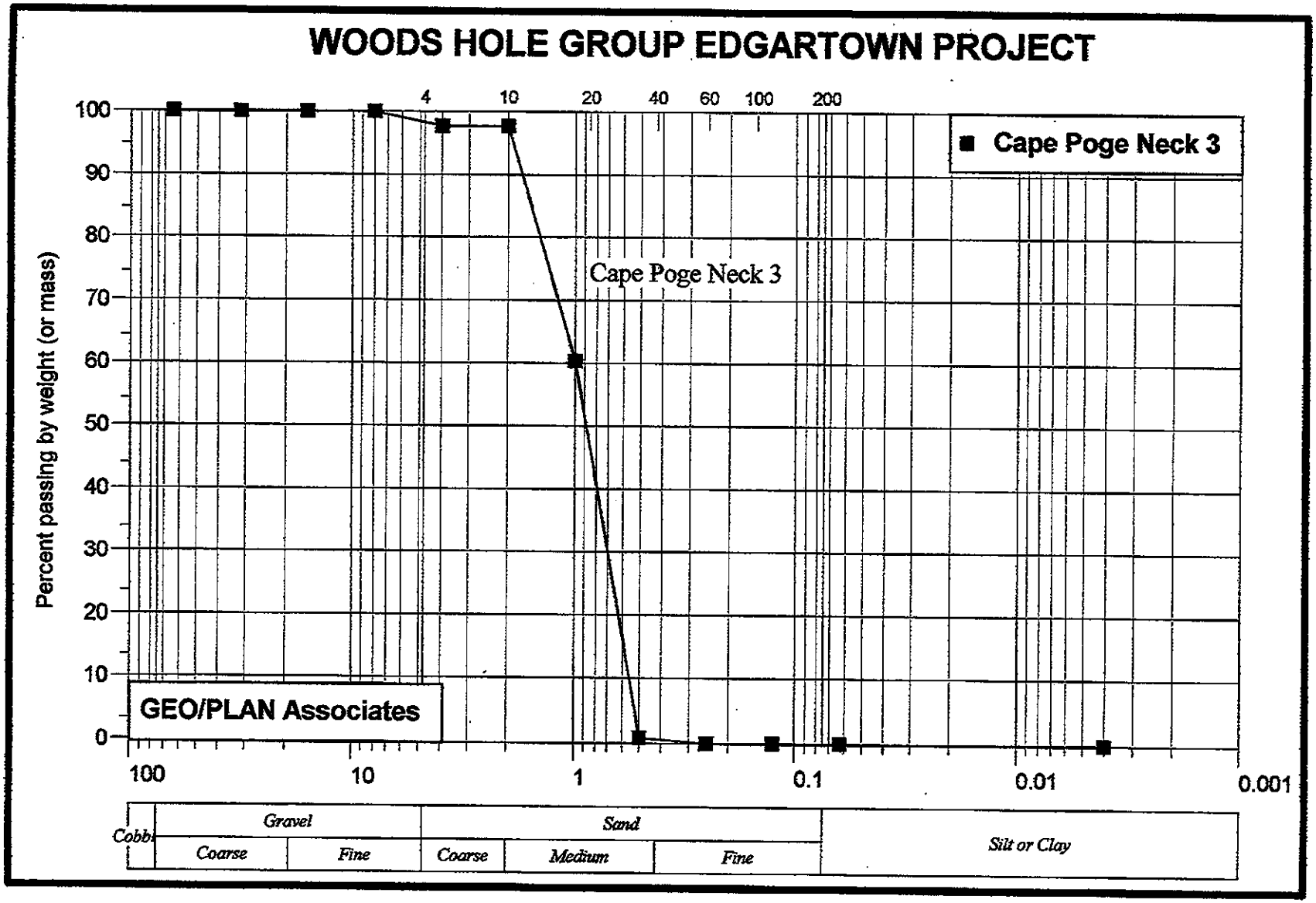
Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-5.57	30.97	0.00
-4	0.00	-4.50	0.00	-4.57	20.84	0.00
-3	0.00	-3.50	0.00	-3.57	12.71	0.00
-2	2.29	-2.50	-5.72	-2.57	6.58	15.06
-1	0.00	-1.50	0.00	-1.57	2.45	0.00
0	37.27	-0.50	-18.64	-0.57	0.32	11.91
1	59.79	0.50	29.89	0.43	0.19	11.30
2	0.64	1.50	0.96	1.43	2.06	1.32
3	0.01	2.50	0.02	2.43	5.93	0.06
4	0.00	3.50	0.00	3.43	11.80	0.00
Silt	0.00	6.00	0.00	5.93	35.22	0.00
Clay	0.00	9.00	0.00	8.93	79.63	0.00
TOTAL	100.00		6.53			39.65

Total Sample — Mean = 0.07 — Variance = 0.40 — Sample SD = 0.63

Coarse Only 100.00 — 6.53 — 39.65 — Mean = 0.07 — Variance = 0.40 — Sample SD = 0.63

Gravel	Sand	Silt	Clay	Total
2.3	97.7	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0


WOODS HOLE GROUP EDGARTOWN PROJECT
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
Cape Poge Neck 3
Cape Poge Neck 3
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: Cape Pogue
Project Location: Martha's Vineyard, MA
Project No.
Date: August 2011

Sample: **R-73 Cape Pogue Gut** (Cape Poge Elbow 4)

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only % Wt	Sand Only Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	15.24	15.24	12.28	12.28	12.28	12.28
-2	19.32	4.08	3.29	15.56	3.29	15.56
-1	21.46	2.14	1.72	17.28	1.72	17.28
0	67.10	45.64	36.76	54.05	36.76	54.05
1	101.67	34.58	27.85	81.90	27.85	81.90
2	123.10	21.43	17.26	99.15	17.26	99.15
3	123.98	0.89	0.71	99.87	0.71	99.87
4	124.15	0.16	0.13	100.00	0.13	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

Wt. Coarse	124.1450
Wt Fine	0.0000
Total Wt	124.1450

Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-5.20	27.03	0.00
-4	0.00	-4.50	0.00	-4.20	17.63	0.00
-3	12.28	-3.50	-42.97	-3.20	10.23	125.64
-2	3.29	-2.50	-8.22	-2.20	4.84	15.89
-1	1.72	-1.50	-2.58	-1.20	1.44	2.47
0	36.76	-0.50	-18.38	-0.20	0.04	1.46
1	27.85	0.50	13.93	0.80	0.64	17.86
2	17.26	1.50	25.89	1.80	3.24	55.97
3	0.71	2.50	1.78	2.80	7.84	5.59
4	0.13	3.50	0.47	3.80	14.45	1.92
Silt	0.00	6.00	0.00	6.30	39.70	0.00
Clay	0.00	9.00	0.00	9.30	86.51	0.00
TOTAL	100.00		-30.08			226.81

Total Sample

Mean =	-0.30

Variance =	2.27
Sample SD =	1.51

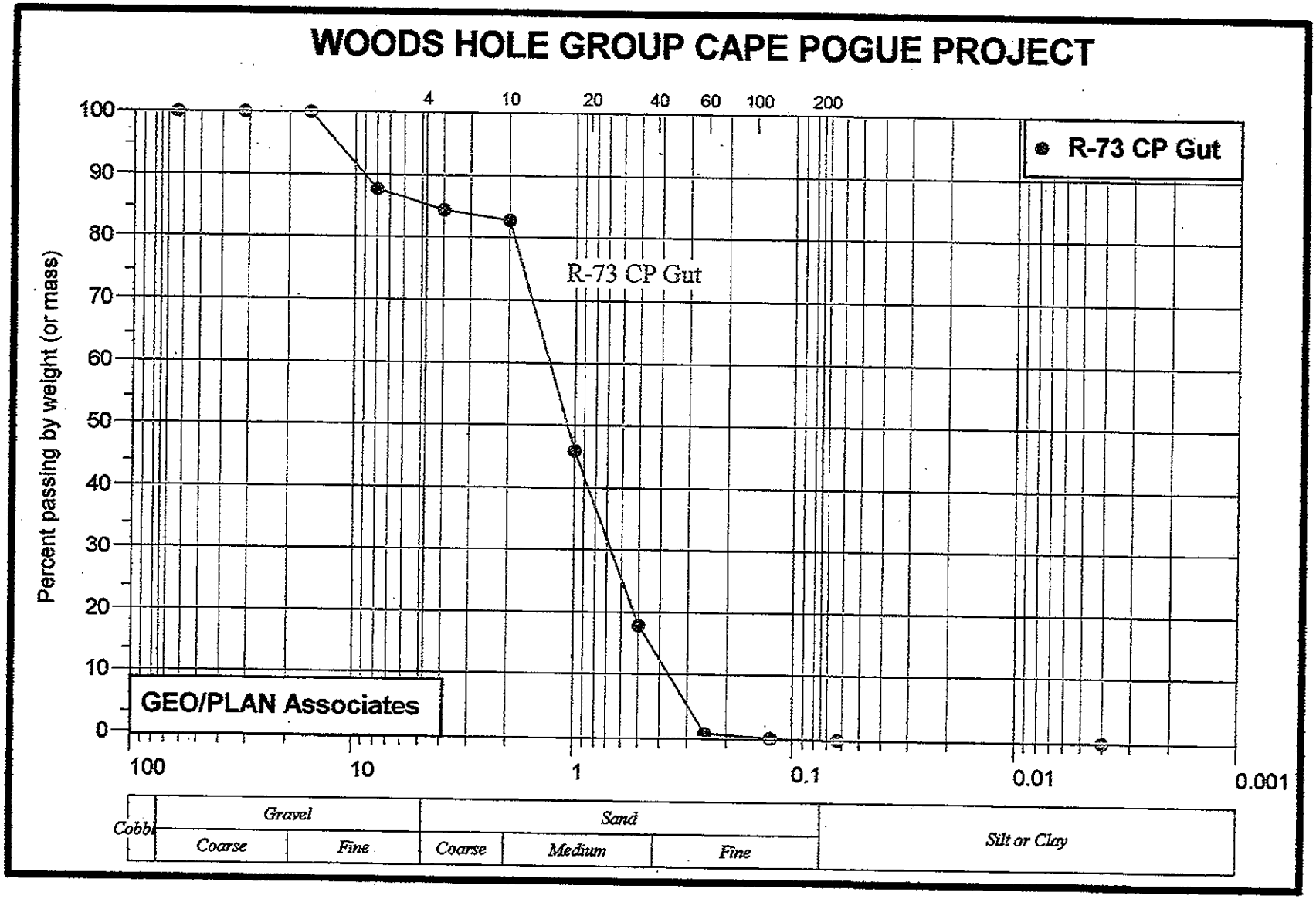
Coarse Only 100.00 -30.08 226.81

Mean =	-0.30

Variance =	2.27
Sample SD =	1.51

Gravel	Sand	Silt	Clay	Total
17.3	82.7	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0


WOODS HOLE GROUP CAPE POGUE PROJECT
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
R-73 CP Gut
R-73 CP Gut
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: Edgartown Harbor
Project Location: Edgartown, MA
Project No.
Date: June 2011

Sample: **North Neck 2**

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only	
					% Wt	Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	1.03	1.03	1.13	1.13	1.13	1.13
-1	1.87	0.84	0.92	2.04	0.92	2.04
0	40.50	38.63	42.36	44.40	42.36	44.40
1	87.87	47.37	51.94	96.34	51.94	96.34
2	90.98	3.11	3.41	99.75	3.41	99.75
3	91.20	0.23	0.25	100.00	0.25	100.00
4	91.20	0.00	0.00	100.00	0.00	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

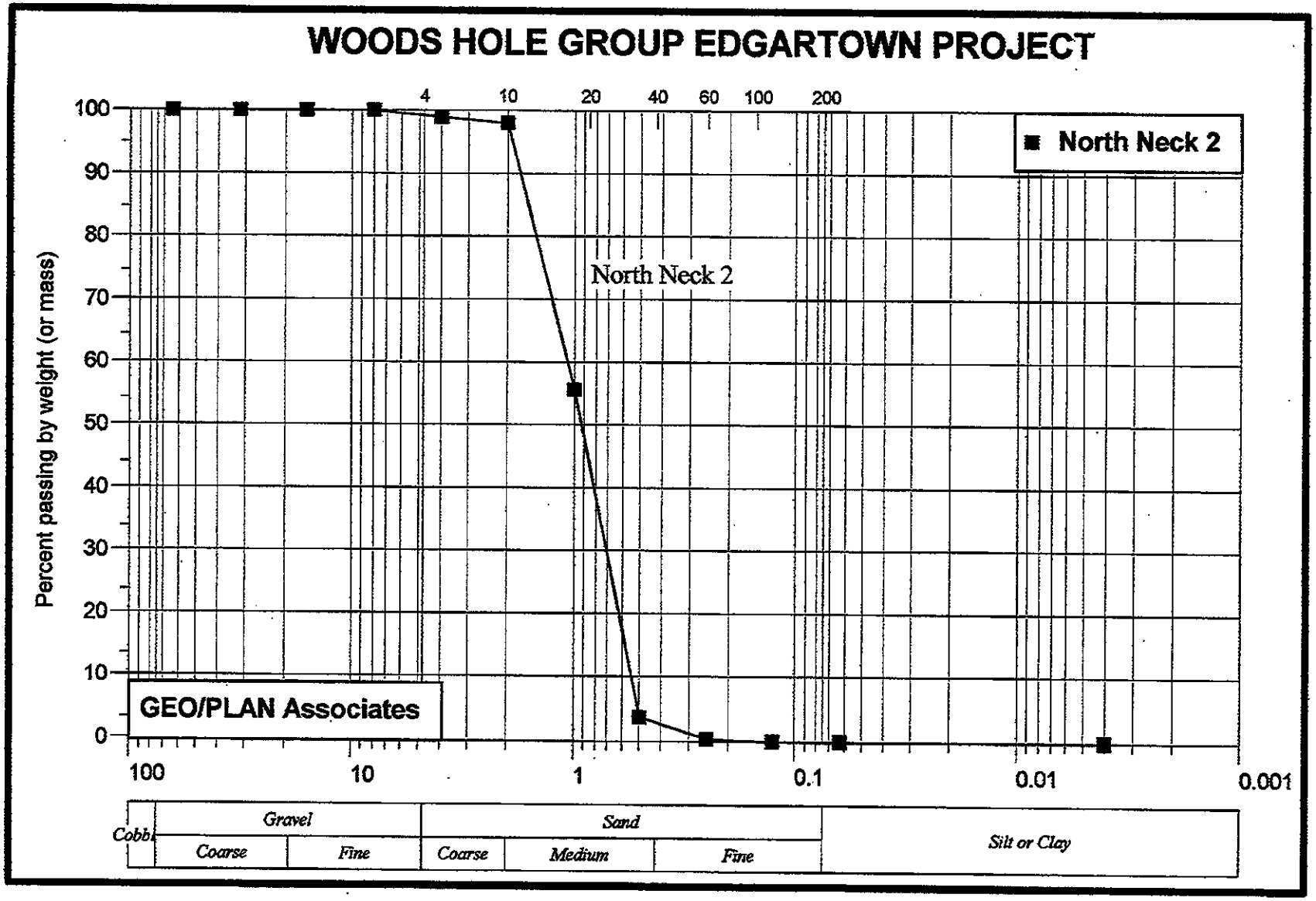
Wt. Coarse	91.2000
Wt Fine	0.0000
Total Wt	91.2000

Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-5.56	30.95	0.00
-4	0.00	-4.50	0.00	-4.56	20.82	0.00
-3	0.00	-3.50	0.00	-3.56	12.70	0.00
-2	1.13	-2.50	-2.82	-2.56	6.57	7.42
-1	0.92	-1.50	-1.37	-1.56	2.44	2.24
0	42.36	-0.50	-21.18	-0.56	0.32	13.44
1	51.94	0.50	25.97	0.44	0.19	9.91
2	3.41	1.50	5.12	1.44	2.06	7.04
3	0.25	2.50	0.62	2.44	5.94	1.46
4	0.00	3.50	0.00	3.44	11.81	0.00
Silt	0.00	6.00	0.00	5.94	35.24	0.00
Clay	0.00	9.00	0.00	8.94	79.87	0.00
TOTAL	100.00		6.33			41.51

Total Sample		Mean =	0.06	Variance =	0.42
				Sample SD =	0.64
Coarse Only	100.00		6.33		41.51
		Mean =	0.06	Variance =	0.42
				Sample SD =	0.64

Gravel	Sand	Silt	Clay	Total
2.0	98.0	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0


WOODS HOLE GROUP EDGARTOWN PROJECT
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
North Neck 2
North Neck 2
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: Edgartown Harbor
Project Location: Edgartown, MA
Project No.
Date: June 2011

Sample: **North Neck 3**

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only % Wt	Sand Only Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	0.36	0.36	0.33	0.33	0.33	0.33
-1	0.61	0.26	0.24	0.57	0.24	0.57
0	12.40	11.79	11.05	11.63	11.05	11.63
1	74.34	61.94	58.07	69.70	58.07	69.70
2	104.36	30.02	28.15	97.84	28.15	97.84
3	106.66	2.30	2.16	100.00	2.16	100.00
4	106.66	0.00	0.00	100.00	0.00	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

Wt. Coarse	106.6600
Wt Fine	0.0000
Total Wt	106.6600

Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-6.20	38.43	0.00
-4	0.00	-4.50	0.00	-5.20	27.03	0.00
-3	0.00	-3.50	0.00	-4.20	17.63	0.00
-2	0.33	-2.50	-0.83	-3.20	10.24	3.41
-1	0.24	-1.50	-0.36	-2.20	4.84	1.16
0	11.05	-0.50	-5.53	-1.20	1.44	15.90
1	58.07	0.50	29.04	-0.20	0.04	2.31
2	28.15	1.50	42.22	0.80	0.64	18.05
3	2.16	2.50	5.39	1.80	3.24	6.99
4	0.00	3.50	0.00	2.80	7.84	0.00
Silt	0.00	6.00	0.00	5.30	28.10	0.00
Clay	0.00	9.00	0.00	8.30	68.90	0.00
TOTAL	100.00		69.93			47.81

Total Sample

Mean =	0.70

Variance =	0.48
Sample SD =	0.69

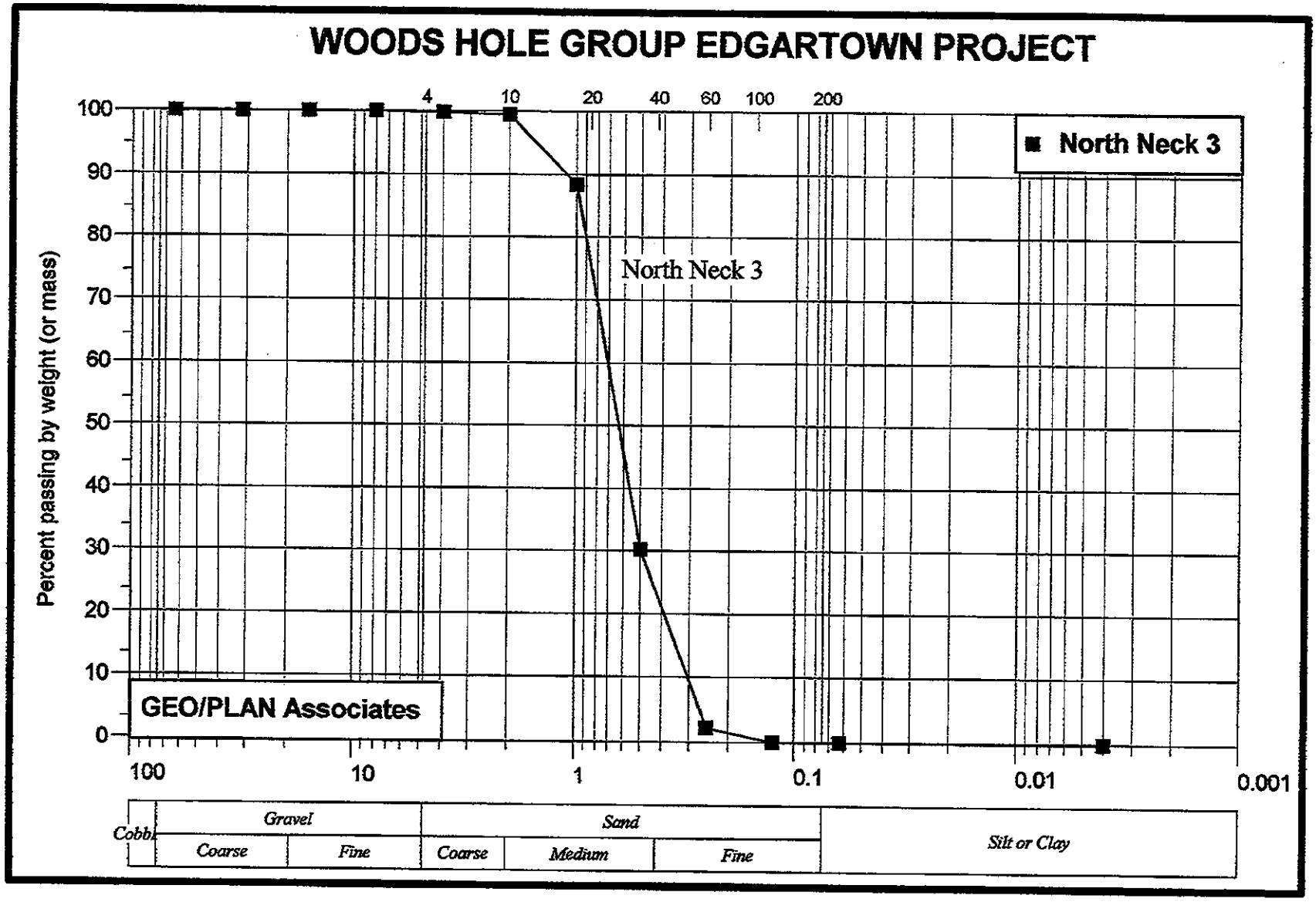
Coarse Only 100.00 69.93 47.81

Mean =	0.70

Variance =	0.48
Sample SD =	0.69

Gravel	Sand	Silt	Clay	Total
0.6	99.4	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0


WOODS HOLE GROUP EDGARTOWN PROJECT
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
North Neck 3
North Neck 3
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: Edgartown Harbor
Project Location: Edgartown, MA
Project No.
Date: June 2011

Sample: **The Narrows 1**

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only % Wt	Sand Only Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	0.00	0.00	0.00	0.00	0.00	0.00
-1	0.00	0.00	0.00	0.00	0.00	0.00
0	0.40	0.40	0.51	0.51	0.51	0.51
1	30.85	30.45	38.81	39.32	38.81	39.32
2	76.30	47.45	60.48	99.80	60.48	99.80
3	78.45	0.16	0.20	100.00	0.20	100.00
4	78.45	0.00	0.00	100.00	0.00	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

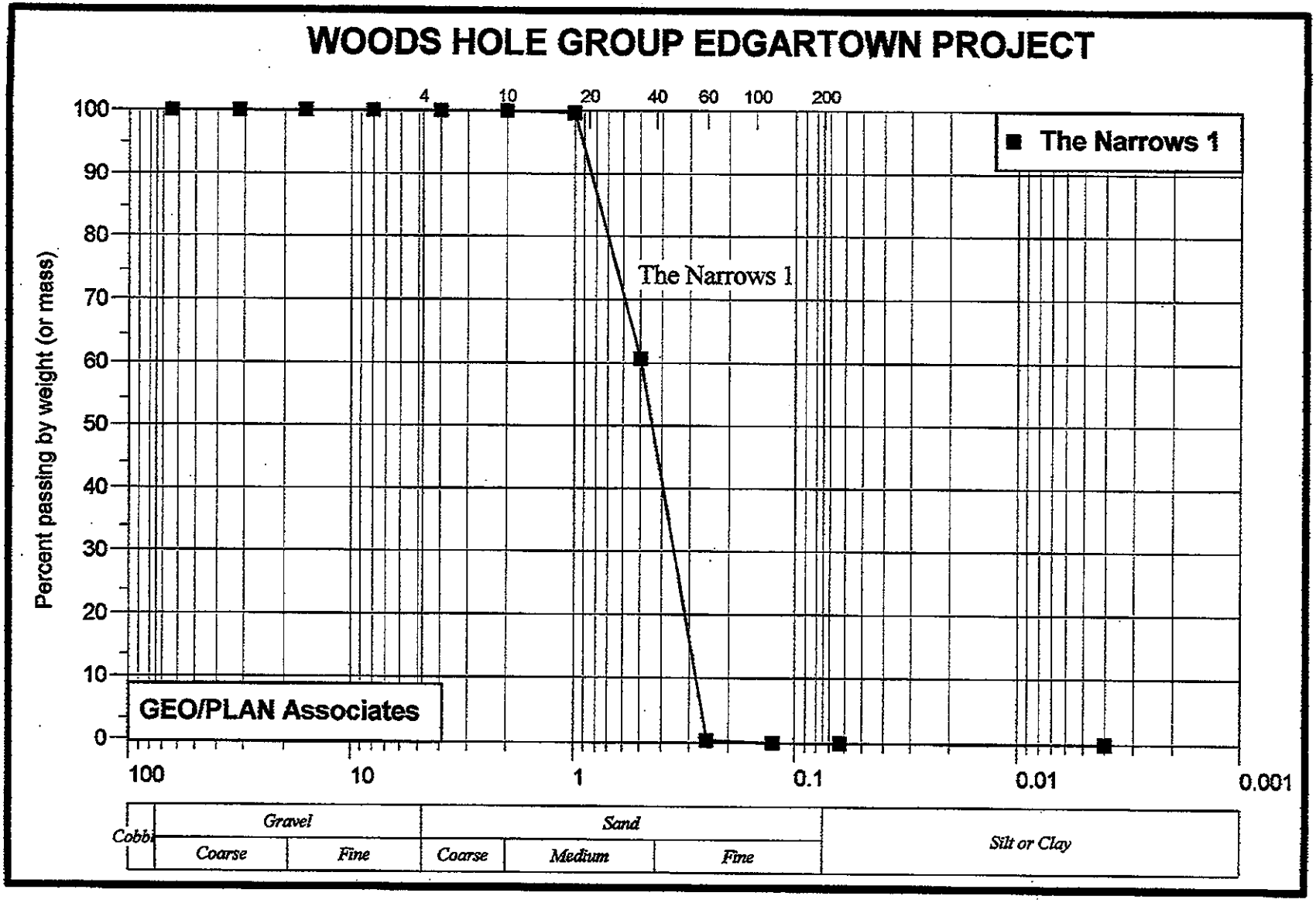
Wt. Coarse	78.4500
Wt Fine	0.0000
Total Wt	78.4500

Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-6.60	43.61	0.00
-4	0.00	-4.50	0.00	-5.60	31.40	0.00
-3	0.00	-3.50	0.00	-4.60	21.19	0.00
-2	0.00	-2.50	0.00	-3.60	12.99	0.00
-1	0.00	-1.50	0.00	-2.60	6.78	0.00
0	0.51	-0.50	-0.25	-1.60	2.57	1.31
1	38.81	0.50	19.40	-0.60	0.36	14.14
2	60.48	1.50	90.73	0.40	0.16	9.50
3	0.20	2.50	0.49	1.40	1.95	0.39
4	0.00	3.50	0.00	2.40	5.74	0.00
Silt	0.00	6.00	0.00	4.90	23.97	0.00
Clay	0.00	9.00	0.00	7.90	62.35	0.00
TOTAL	100.00		110.37			25.34

Total Sample		Mean =	1.10	Variance =	0.25
				Sample SD =	0.50
Coarse Only	100.00		110.37		25.34
		Mean =	1.10	Variance =	0.25
				Sample SD =	0.50

Gravel	Sand	Silt	Clay	Total
0.0	100.0	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0


WOODS HOLE GROUP EDGARTOWN PROJECT
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
The Narrows 1
The Narrows 1
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: Edgartown Harbor
Project Location: Edgartown, MA
Project No.
Date: June 2011

Sample: **The Narrows 3**

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only	
					% Wt	Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	0.00	0.00	0.00	0.00	0.00	0.00
-1	1.50	1.50	2.05	2.05	2.05	2.05
0	44.26	42.77	58.51	60.56	58.51	60.56
1	72.83	28.57	39.09	99.64	39.09	99.64
2	73.06	0.23	0.31	99.95	0.31	99.95
3	73.09	0.03	0.05	100.00	0.05	100.00
4	73.09	0.00	0.00	100.00	0.00	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

Wt. Coarse	73.0900
Wt Fine	0.0000
Total Wt	73.0900

Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-5.36	28.92	0.00
-4	0.00	-4.50	0.00	-4.36	19.17	0.00
-3	0.00	-3.50	0.00	-3.36	11.41	0.00
-2	0.00	-2.50	0.00	-2.36	5.66	0.00
-1	2.05	-1.50	-3.07	-1.36	1.90	3.88
0	58.51	-0.50	-29.26	-0.36	0.14	8.36
1	39.09	0.50	19.54	0.62	0.39	15.12
2	0.31	1.50	0.46	1.62	2.63	0.81
3	0.05	2.50	0.12	2.62	6.87	0.33
4	0.00	3.50	0.00	3.62	13.12	0.00
Silt	0.00	6.00	0.00	6.12	37.48	0.00
Clay	0.00	9.00	0.00	9.12	83.21	0.00
TOTAL	100.00		-12.20			28.51

Total Sample

Mean =	-0.12

Variance =	0.29
Sample SD =	0.53

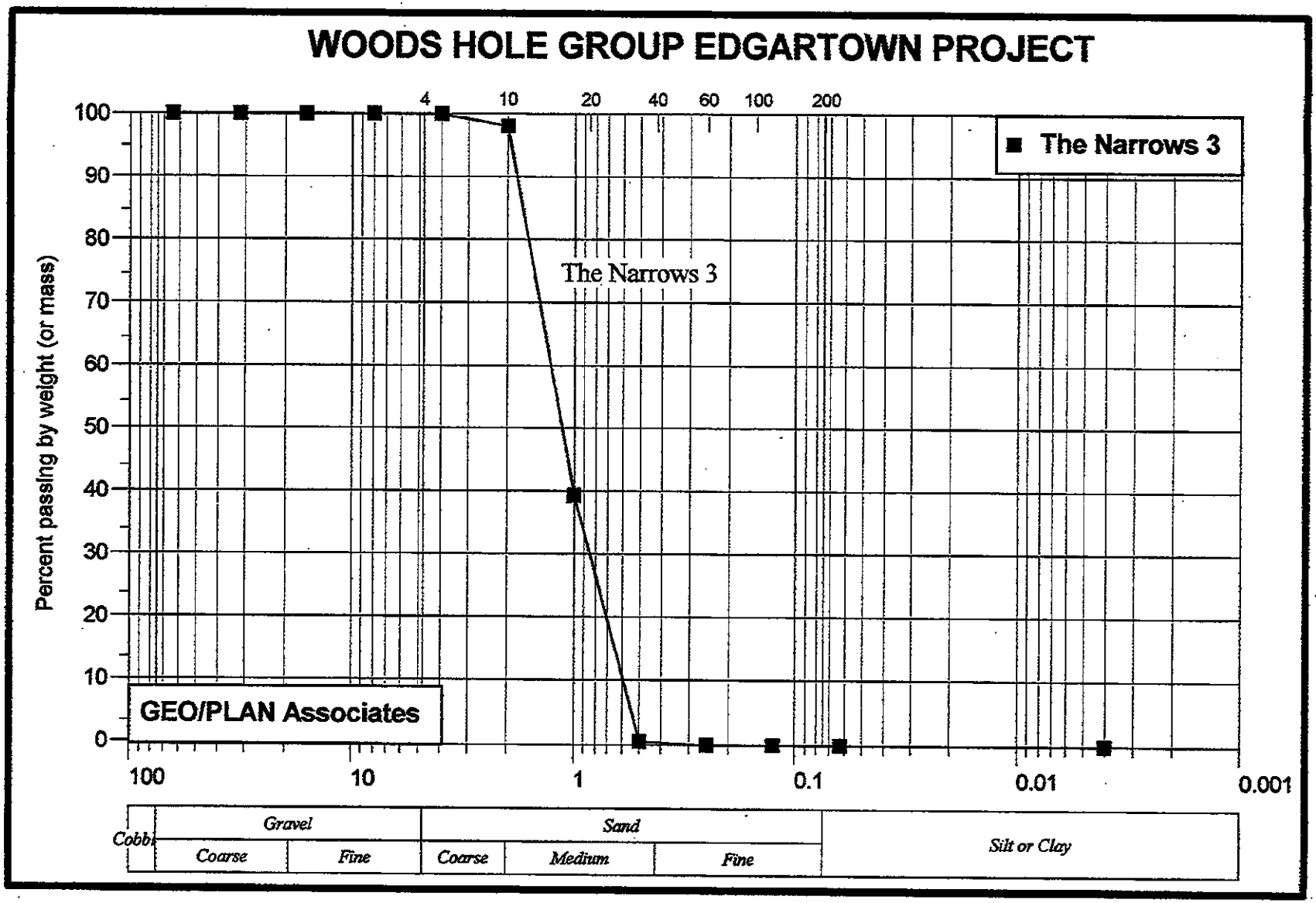
Coarse Only 100.00

	-12.20
Mean =	-0.12

	28.51
Variance =	0.29
Sample SD =	0.53

Gravel	Sand	Silt	Clay	Total
2.0	98.0	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0


WOODS HOLE GROUP EDGARTOWN PROJECT
4
10
20
40
60
100
200
The Narrows 3
The Narrows 3
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: Edgartown Harbor
Project Location: Edgartown, MA
Project No.
Date: June 2011

Sample: The Narrows 4

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only	
					% Wt	Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	0.00	0.00	0.00	0.00	0.00	0.00
-1	1.07	1.07	1.27	1.27	1.27	1.27
0	44.63	43.57	51.85	53.12	51.85	53.12
1	83.85	39.22	46.68	99.79	46.68	99.79
2	84.00	0.15	0.18	99.97	0.18	99.97
3	84.03	0.03	0.03	100.00	0.03	100.00
4	84.03	0.00	0.00	100.00	0.00	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

Wt. Coarse	84.0250
Wt Fine	0.0000
Total Wt	84.0250

Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-5.46	29.80	0.00
-4	0.00	-4.50	0.00	-4.46	19.88	0.00
-3	0.00	-3.50	0.00	-3.46	11.96	0.00
-2	0.00	-2.50	0.00	-2.46	6.04	0.00
-1	1.27	-1.50	-1.90	-1.46	2.13	2.70
0	51.85	-0.50	-25.92	-0.46	0.21	10.90
1	46.68	0.50	23.34	0.54	0.29	13.68
2	0.18	1.50	0.27	1.54	2.38	0.42
3	0.03	2.50	0.07	2.54	6.46	0.19
4	0.00	3.50	0.00	3.54	12.54	0.00
Silt	0.00	6.00	0.00	6.04	36.50	0.00
Clay	0.00	9.00	0.00	9.04	81.75	0.00
TOTAL	100.00		-4.14			27.90

Total Sample

Mean =	-0.04

Variance =	0.28
Sample SD =	0.53

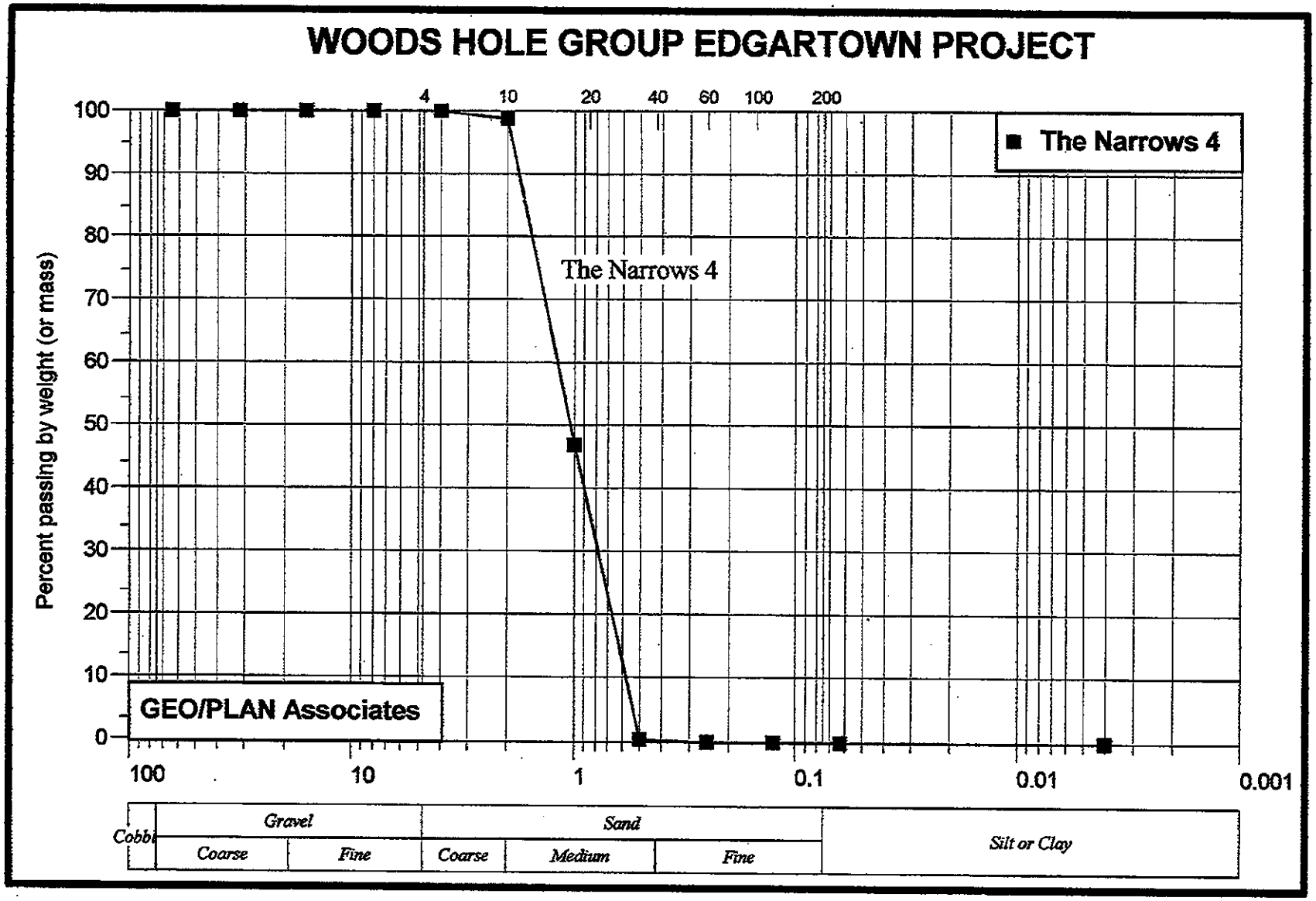
Coarse Only 100.00 -4.14 27.90

Mean =	-0.04

Variance =	0.28
Sample SD =	0.53

Gravel	Sand	Silt	Clay	Total
1.3	98.7	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0


WOODS HOLE GROUP EDGARTOWN PROJECT
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
The Narrows 4
The Narrows 4
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: Cape Pogue
Project Location: Martha's Vineyard, MA
Project No.
Date: August 2011

Sample: **BCH-15 Cape Pogue Beach Lagoon** (The Narrows 6)

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only % Wt	Sand Only Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	0.00	0.00	0.00	0.00	0.00	0.00
-1	0.87	0.87	1.12	1.12	1.12	1.12
0	43.13	42.26	54.26	55.38	54.26	55.38
1	77.08	33.96	43.60	98.99	43.60	98.99
2	77.64	0.56	0.72	99.70	0.72	99.70
3	77.84	0.19	0.25	99.96	0.25	99.96
4	77.87	0.04	0.04	100.00	0.04	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

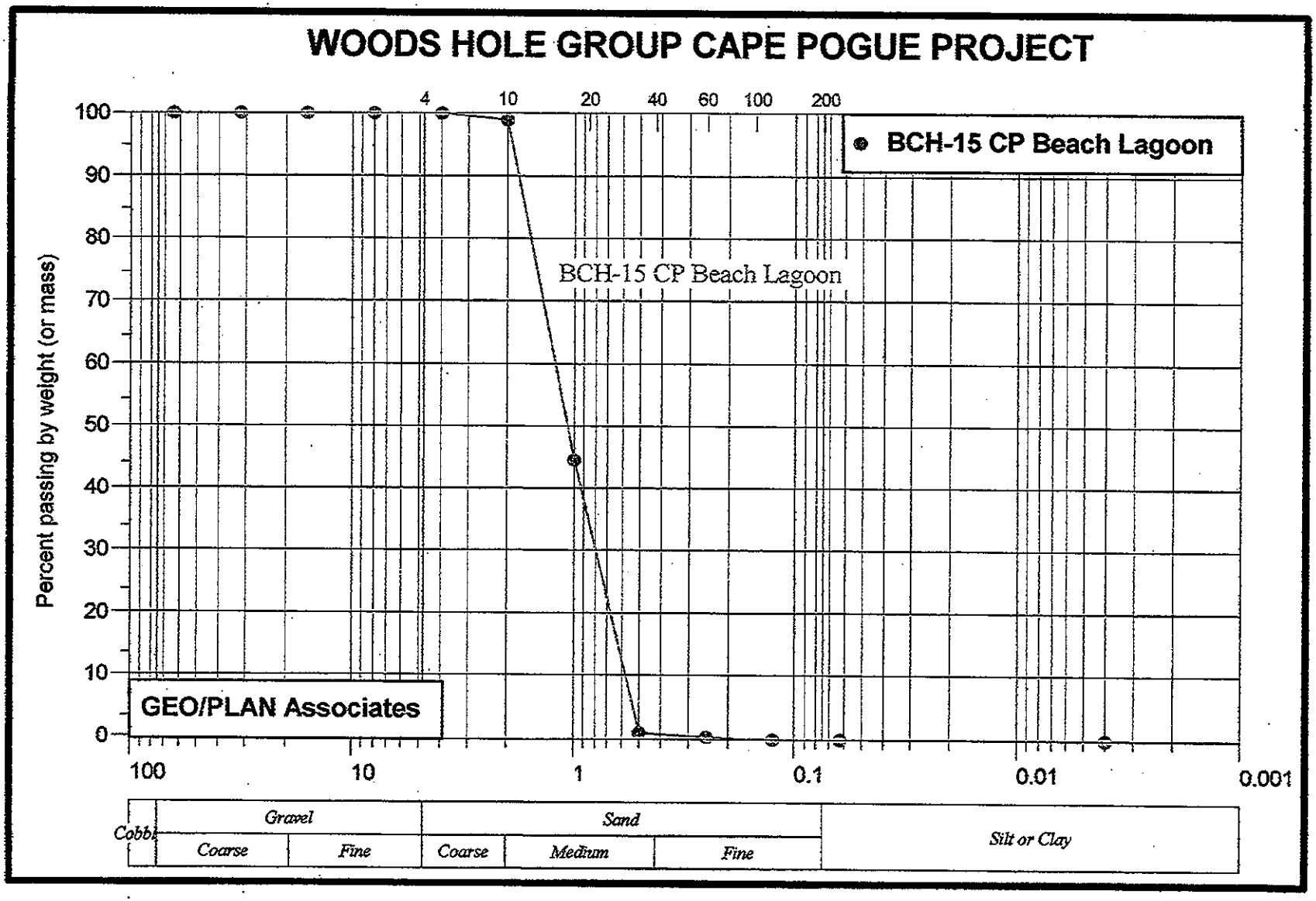
Wt. Coarse	77.8700
Wt Fine	0.0000
Total Wt	77.8700

Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-5.45	29.69	0.00
-4	0.00	-4.50	0.00	-4.45	19.79	0.00
-3	0.00	-3.50	0.00	-3.45	11.89	0.00
-2	0.00	-2.50	0.00	-2.45	6.00	0.00
-1	1.12	-1.50	-1.68	-1.45	2.10	2.34
0	54.26	-0.50	-27.13	-0.45	0.20	10.92
1	43.60	0.50	21.80	0.55	0.30	13.26
2	0.72	1.50	1.08	1.55	2.41	1.73
3	0.25	2.50	0.63	2.55	6.51	1.63
4	0.04	3.50	0.16	3.55	12.61	0.57
Silt	0.00	6.00	0.00	6.05	36.62	0.00
Clay	0.00	9.00	0.00	9.05	81.93	0.00
TOTAL	100.00		-5.14			30.45

Total Sample		Mean =	-0.05
		Variance =	0.30
		Sample SD =	0.55
Coarse Only	100.00		-5.14
			30.45
		Mean =	-0.05
		Variance =	0.30
		Sample SD =	0.55

Gravel	Sand	Silt	Clay	Total
1.1	98.9	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0


WOODS HOLE GROUP CAPE POGUE PROJECT
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
BCH-15 CP Beach Lagoon
BCH-15 CP Beach Lagoon
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: Cape Pogue
Project Location: Martha's Vineyard, MA
Project No.
Date: August 2011

Sample: **BCH-14 Cape Pogue Beach Lagoon** (The Narrows ?)

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only % Wt	Sand Only Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	0.34	0.34	0.32	0.32	0.32	0.32
-1	3.45	3.11	2.98	3.30	2.98	3.30
0	79.16	75.71	72.46	75.76	72.46	75.76
1	104.16	25.01	23.93	99.69	23.93	99.69
2	104.46	0.30	0.28	99.97	0.28	99.97
3	104.48	0.03	0.02	100.00	0.02	100.00
4	104.49	0.00	0.00	100.00	0.00	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	---
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	---
		Disp. Wt	0.0000			

Wt. Coarse	104.4850
Wt Fine	0.0000
Total Wt	104.4850

Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-5.21	27.14	0.00
-4	0.00	-4.50	0.00	-4.21	17.72	0.00
-3	0.00	-3.50	0.00	-3.21	10.30	0.00
-2	0.32	-2.50	-0.80	-2.21	4.88	1.57
-1	2.98	-1.50	-4.46	-1.21	1.46	4.36
0	72.46	-0.50	-36.23	-0.21	0.04	3.19
1	23.93	0.50	11.97	0.79	0.62	14.95
2	0.28	1.50	0.42	1.79	3.21	0.90
3	0.02	2.50	0.06	2.79	7.79	0.19
4	0.00	3.50	0.02	3.79	14.37	0.07
Silt	0.00	6.00	0.00	6.29	39.67	0.00
Clay	0.00	9.00	0.00	9.29	86.31	0.00
TOTAL	100.00		-29.03			25.21

Total Sample

Mean =	-0.29

Variance =	0.25
Sample SD =	0.50

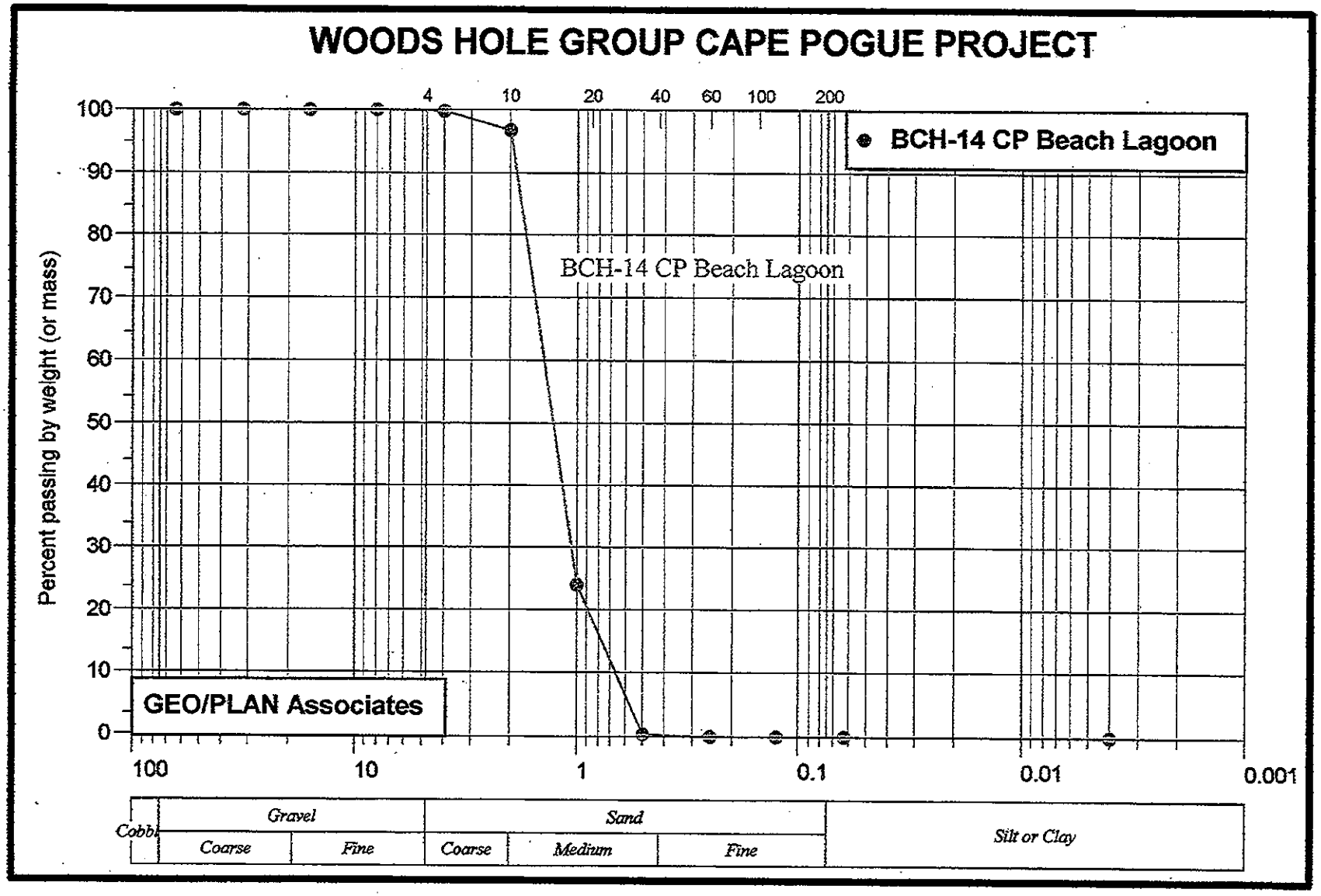
Coarse Only 100.00 -29.03 25.21

Mean =	-0.29

Variance =	0.25
Sample SD =	0.50

Gravel	Sand	Silt	Clay	Total
3.3	96.7	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0


WOODS HOLE GROUP CAPE POGUE PROJECT
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
BCH-14 CP Beach Lagoon
BCH-14 CP Beach Lagoon
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: ACOE Permits
Project Location: Edgartown, MV
Project No. 2010-142
Date: March 2012

Sample: **Narrows-8**

					Sand Only	
Phi	Cum Wt	Total Wt	% Wt	Cum %	% Wt	Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	0.00	0.00	0.00	0.00	0.00	0.00
-1	0.09	0.09	0.11	0.11	0.11	0.11
0	9.25	9.16	11.37	11.48	11.37	11.48
1	79.30	70.05	86.97	98.45	86.97	98.45
2	80.00	0.70	0.86	99.32	0.86	99.32
3	80.55	0.55	0.68	100.00	0.68	100.00
4	80.55	0.00	0.00	100.00	0.00	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

Wt. Coarse	80.5450
Wt Fine	0.0000
Total Wt	80.5450

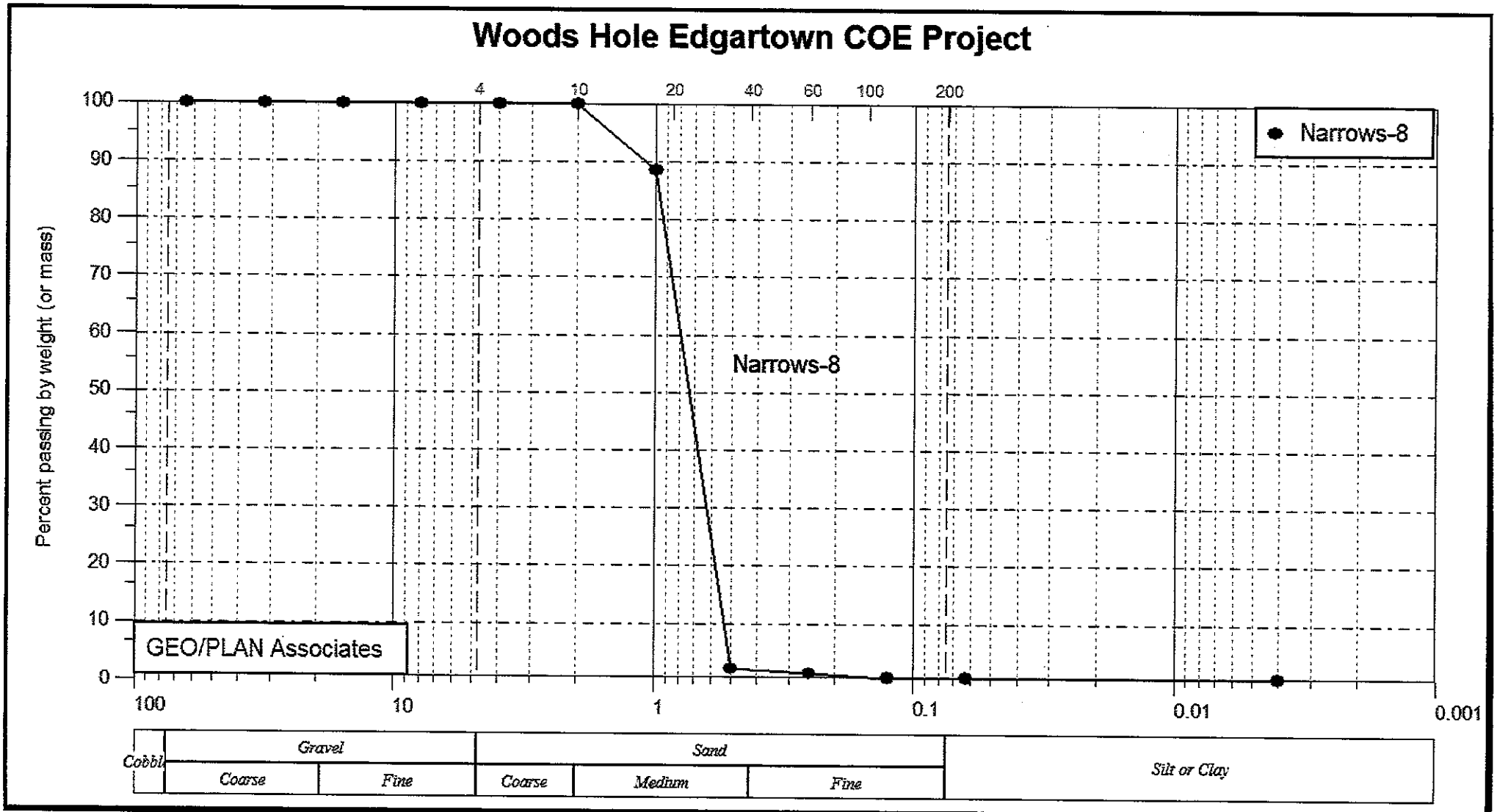
Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-5.91	34.88	0.00
-4	0.00	-4.50	0.00	-4.91	24.07	0.00
-3	0.00	-3.50	0.00	-3.91	15.26	0.00
-2	0.00	-2.50	0.00	-2.91	8.45	0.00
-1	0.11	-1.50	-0.17	-1.91	3.63	0.41
0	11.37	-0.50	-5.69	-0.91	0.82	9.34
1	86.97	0.50	43.49	0.09	0.01	0.76
2	0.86	1.50	1.29	1.09	1.20	1.03
3	0.68	2.50	1.71	2.09	4.38	2.99
4	0.00	3.50	0.00	3.09	9.57	0.00
Silt	0.00	6.00	0.00	5.59	31.29	0.00
Clay	0.00	9.00	0.00	8.59	73.85	0.00
TOTAL	100.00		40.63			14.54

Total Sample		Mean =	0.41	Variance =	0.15
				Sample SD =	0.38
Coarse Only	100.00		40.63		14.54
		Mean =	0.41	Variance =	0.15
				Sample SD =	0.38

Gravel	Sand	Silt	Clay	Total
0.1	99.9	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0

Woods Hole Edgartown COE Project



GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: Cape Pogue
Project Location: Martha's Vineyard, MA
Project No.
Date: August 2011

Sample: **R-97 Cape Pogue Lagoon Back Road** (Dike Approach 4)

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only % Wt	Sand Only Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	0.00	0.00	0.00	0.00	0.00	0.00
-1	1.82	1.82	2.23	2.23	2.23	2.23
0	9.60	7.79	9.59	11.82	9.59	11.82
1	69.59	59.99	73.87	85.69	73.87	85.69
2	80.85	11.26	13.86	99.54	13.86	99.54
3	81.20	0.35	0.43	99.98	0.43	99.98
4	81.22	0.02	0.02	100.00	0.02	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

Wt. Coarse	81.2150
Wt Fine	0.0000
Total Wt	81.2150

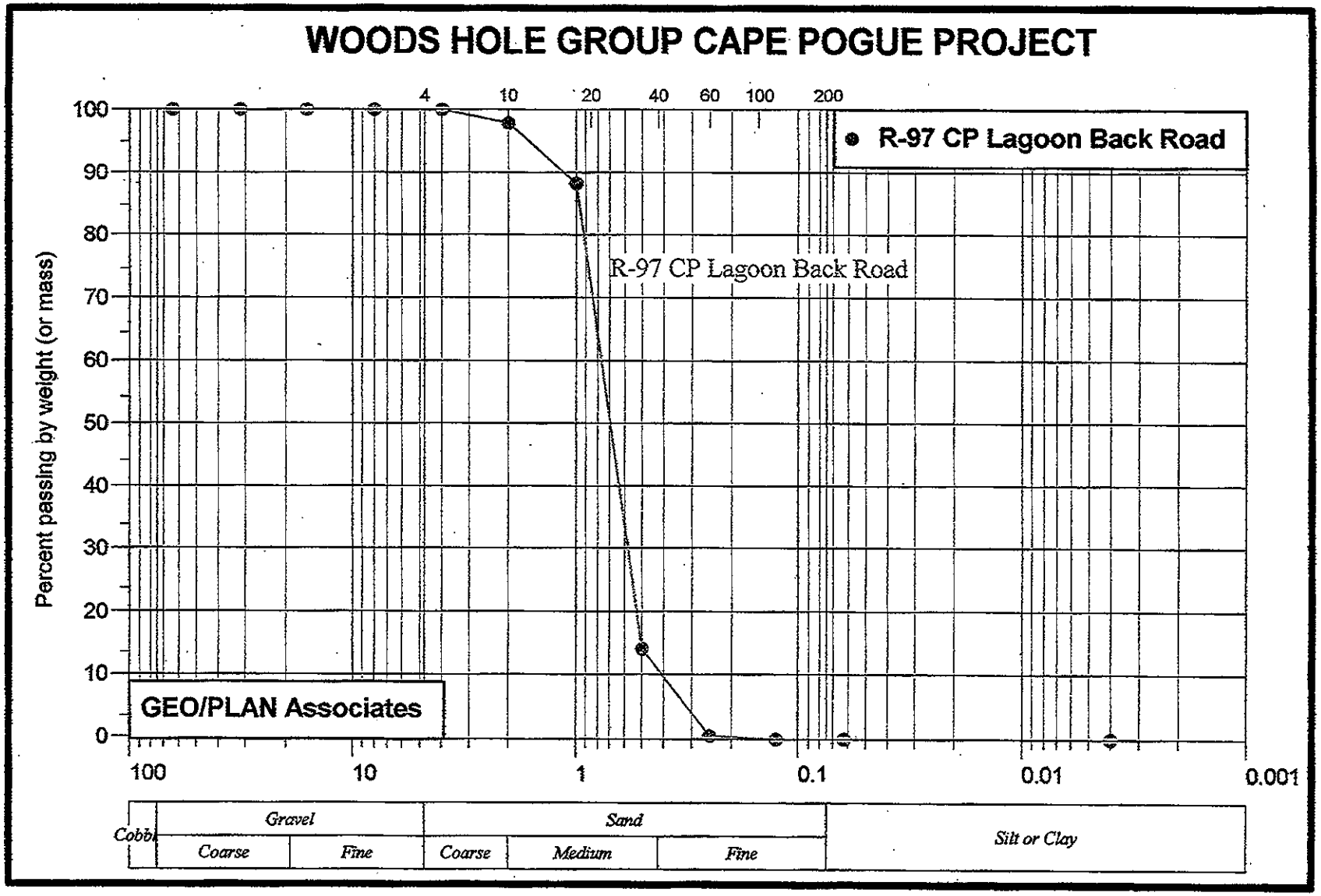
Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-6.01	36.09	0.00
-4	0.00	-4.50	0.00	-5.01	25.07	0.00
-3	0.00	-3.50	0.00	-4.01	16.06	0.00
-2	0.00	-2.50	0.00	-3.01	9.04	0.00
-1	2.23	-1.50	-3.35	-2.01	4.03	9.01
0	9.59	-0.50	-4.79	-1.01	1.01	9.73
1	73.87	0.50	36.93	-0.01	0.00	0.00
2	13.86	1.50	20.79	0.99	0.99	13.65
3	0.43	2.50	1.08	1.99	3.97	1.71
4	0.02	3.50	0.09	2.99	8.96	0.22
Silt	0.00	6.00	0.00	5.49	30.17	0.00
Clay	0.00	9.00	0.00	8.49	72.12	0.00
TOTAL	100.00		50.74			34.32

Total Sample — Mean = 0.51 — Variance = 0.34 — Sample SD = 0.59

Coarse Only 100.00 — 50.74 — 34.32 — Mean = 0.51 — Variance = 0.34 — Sample SD = 0.59

Gravel	Sand	Silt	Clay	Total
2.2	97.8	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0


WOODS HOLE GROUP CAPE POGUE PROJECT
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
R-97 CP Lagoon Back Road
R-97 CP Lagoon Back Road
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: ACOE Permits
Project Location: Edgartown, MV
Project No. 2010-142
Date: March 2012

Sample: DA-5

Sample: **DA-5** (Dike Approach 5)

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only	
					% Wt	Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	2.61	2.61	3.60	3.60	3.60	3.60
-2	2.61	0.00	0.00	3.60	0.00	3.60
-1	4.05	1.44	1.99	5.60	1.99	5.60
0	12.49	8.44	11.68	17.28	11.68	17.28
1	62.11	49.62	68.66	85.93	68.66	85.93
2	70.45	8.35	11.55	97.48	11.55	97.48
3	71.90	1.44	2.00	99.48	2.00	99.48
4	72.27	0.38	0.52	100.00	0.52	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

Wt. Coarse	72.2700
Wt Fine	0.0000
Total Wt	72.2700

Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-5.87	34.46	0.00
-4	0.00	-4.50	0.00	-4.87	23.72	0.00
-3	3.60	-3.50	-12.62	-3.87	14.98	53.99
-2	0.00	-2.50	0.00	-2.87	8.24	0.00
-1	1.99	-1.50	-2.99	-1.87	3.50	6.97
0	11.68	-0.50	-5.84	-0.87	0.76	8.84
1	68.66	0.50	34.33	0.13	0.02	1.16
2	11.55	1.50	17.32	1.13	1.28	14.74
3	2.00	2.50	5.00	2.13	4.54	9.07
4	0.52	3.50	1.82	3.13	9.80	5.08
Silt	0.00	6.00	0.00	5.63	31.69	0.00
Clay	0.00	9.00	0.00	8.63	74.47	0.00
TOTAL	100.00		37.02			99.85

Total Sample

Mean =	0.37

Variance =	1.00
Sample SD =	1.00

Coarse Only 100.00 37.02 99.85

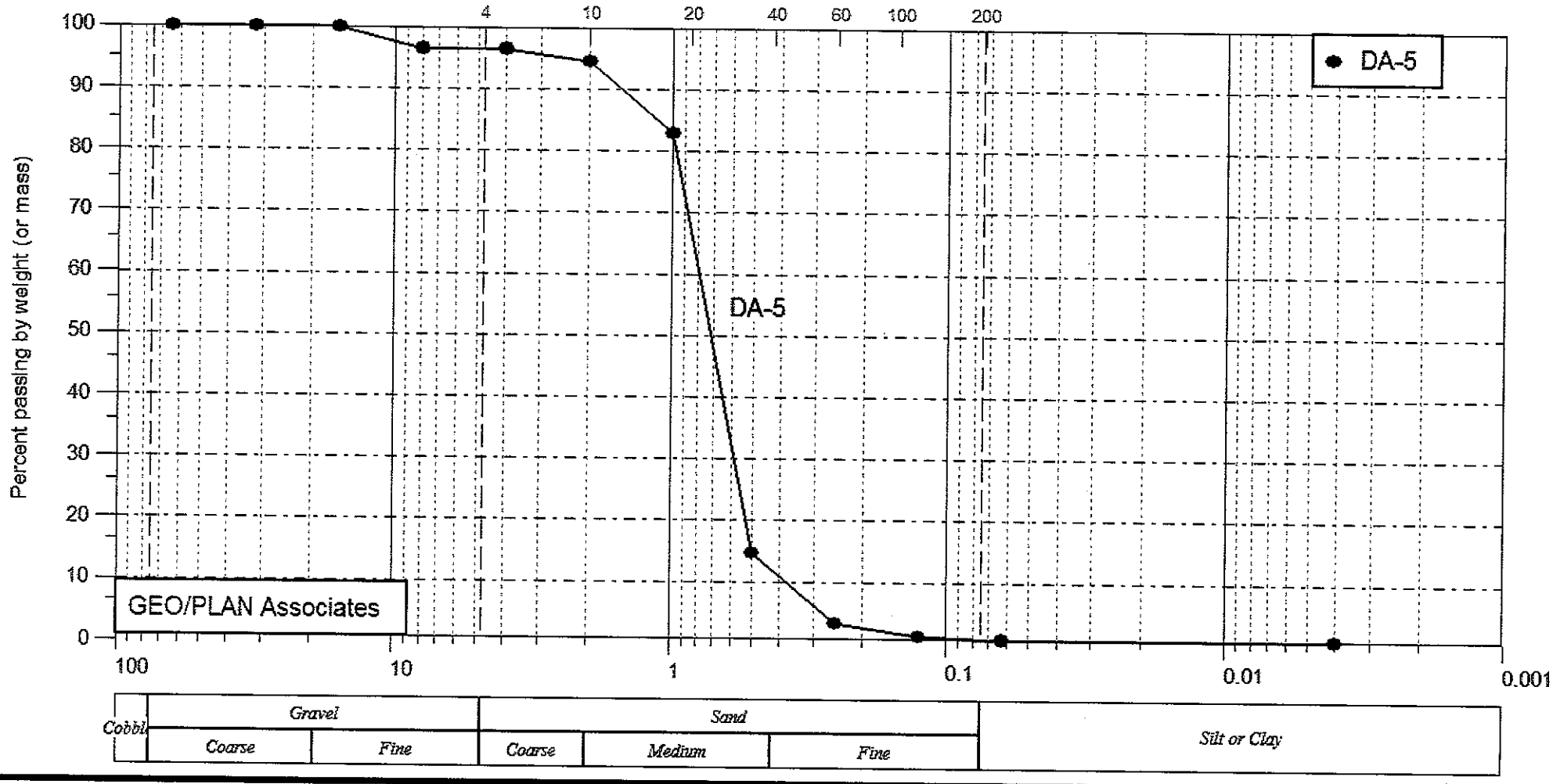
Mean =	0.37

Variance =	1.00
Sample SD =	1.00

Gravel	Sand	Silt	Clay	Total
5.6	94.4	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0

Woods Hole Edgartown COE Project



GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: ACOE Permits
Project Location: Edgartown, MV
Project No. 2010-142
Date: March 2012

Sample: DA-6 (Dike Approach 6)

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only % Wt	Sand Only Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	0.00	0.00	0.00	0.00	0.00	0.00
-1	1.43	1.43	1.59	1.59	1.59	1.59
0	19.16	17.73	19.81	21.40	19.81	21.40
1	78.25	59.09	66.01	87.41	66.01	87.41
2	87.27	9.02	10.08	97.49	10.08	97.49
3	89.28	2.01	2.25	99.73	2.25	99.73
4	89.52	0.24	0.27	100.00	0.27	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

Wt. Coarse	89.5150
Wt Fine	0.0000
Total Wt	89.5150

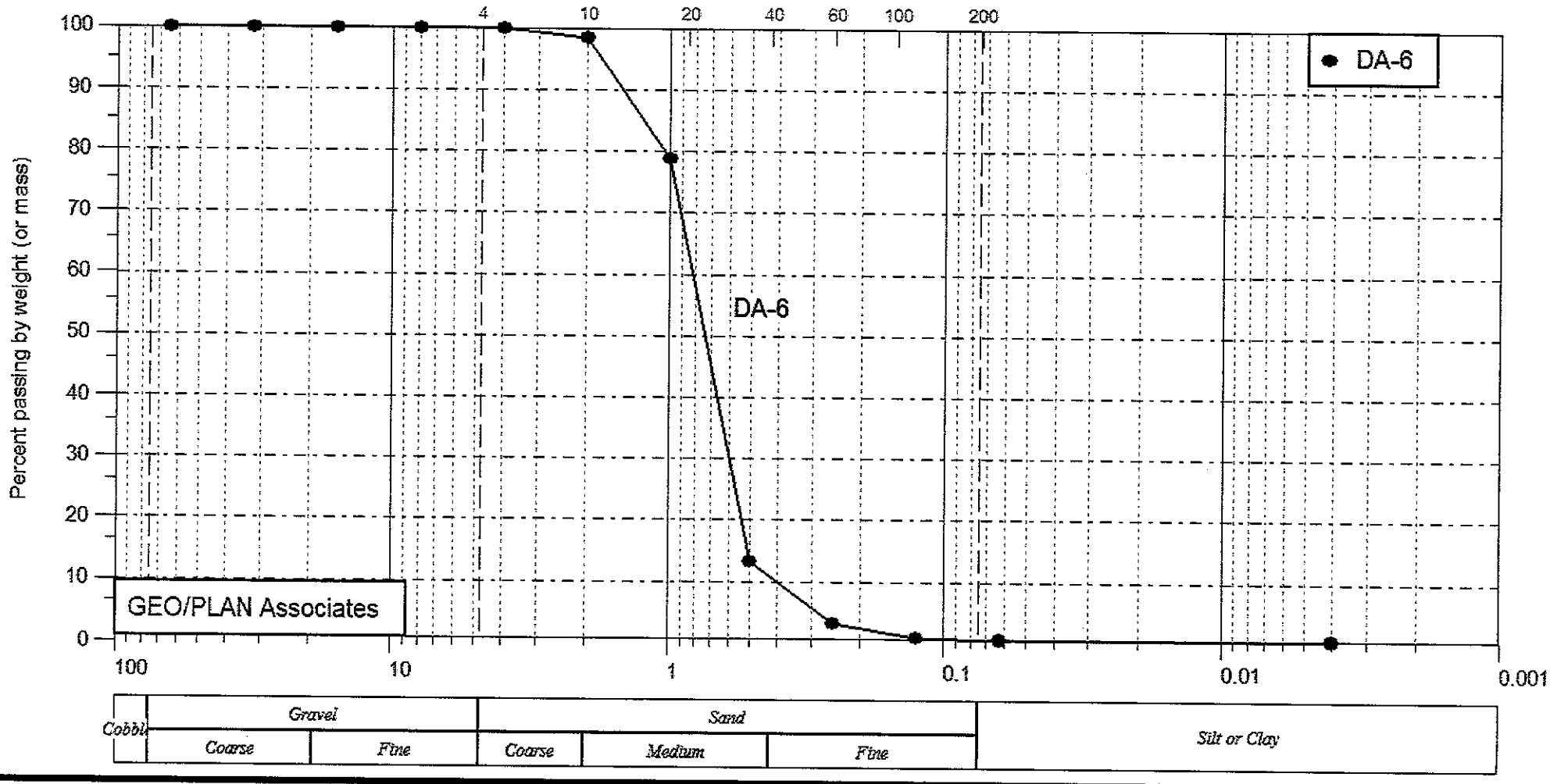
Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-5.92	35.09	0.00
-4	0.00	-4.50	0.00	-4.92	24.24	0.00
-3	0.00	-3.50	0.00	-3.92	15.40	0.00
-2	0.00	-2.50	0.00	-2.92	8.55	0.00
-1	1.59	-1.50	-2.39	-1.92	3.70	5.89
0	19.81	-0.50	-9.90	-0.92	0.85	16.90
1	66.01	0.50	33.01	0.08	0.01	0.38
2	10.08	1.50	15.11	1.08	1.16	11.67
3	2.25	2.50	5.61	2.08	4.31	9.68
4	0.27	3.50	0.94	3.08	9.46	2.54
Silt	0.00	6.00	0.00	5.58	31.09	0.00
Clay	0.00	9.00	0.00	8.58	73.55	0.00
TOTAL	100.00		42.38			47.07

Total Sample		Mean =	0.42	Variance =	0.47
				Sample SD =	0.69
Coarse Only	100.00		42.38		47.07
		Mean =	0.42	Variance =	0.47
				Sample SD =	0.69

Gravel	Sand	Silt	Clay	Total
1.6	98.4	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0

Woods Hole Edgartown COE Project



GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: Edgartown Harbor
Project Location: Edgartown, MA
Project No.
Date: June 2011

Sample: **Edgartown Inner Harbor 6**

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only	
					% Wt	Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	0.96	0.96	1.14	1.14	1.14	1.14
-1	1.97	1.02	1.21	2.36	1.21	2.36
0	7.96	5.99	7.16	9.52	7.16	9.52
1	47.80	39.84	47.65	57.17	47.65	57.17
2	82.35	34.55	41.33	98.50	41.33	98.50
3	83.50	1.15	1.37	99.87	1.37	99.87
4	83.61	0.11	0.13	100.00	0.13	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

Wt. Coarse	83.6050
Wt Fine	0.0000
Total Wt	83.6050

Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-6.31	39.87	0.00
-4	0.00	-4.50	0.00	-5.31	28.24	0.00
-3	0.00	-3.50	0.00	-4.31	18.61	0.00
-2	1.14	-2.50	-2.86	-3.31	10.99	12.55
-1	1.21	-1.50	-1.82	-2.31	5.36	6.50
0	7.16	-0.50	-3.58	-1.31	1.73	12.38
1	47.65	0.50	23.83	-0.31	0.10	4.71
2	41.33	1.50	61.99	0.69	0.47	19.43
3	1.37	2.50	3.42	1.69	2.84	3.89
4	0.13	3.50	0.46	2.69	7.21	0.95
Silt	0.00	6.00	0.00	5.19	26.89	0.00
Clay	0.00	9.00	0.00	8.19	67.00	0.00
TOTAL	100.00		81.44			60.40

Total Sample

Mean =	0.81

Variance =	0.60
Sample SD =	0.78

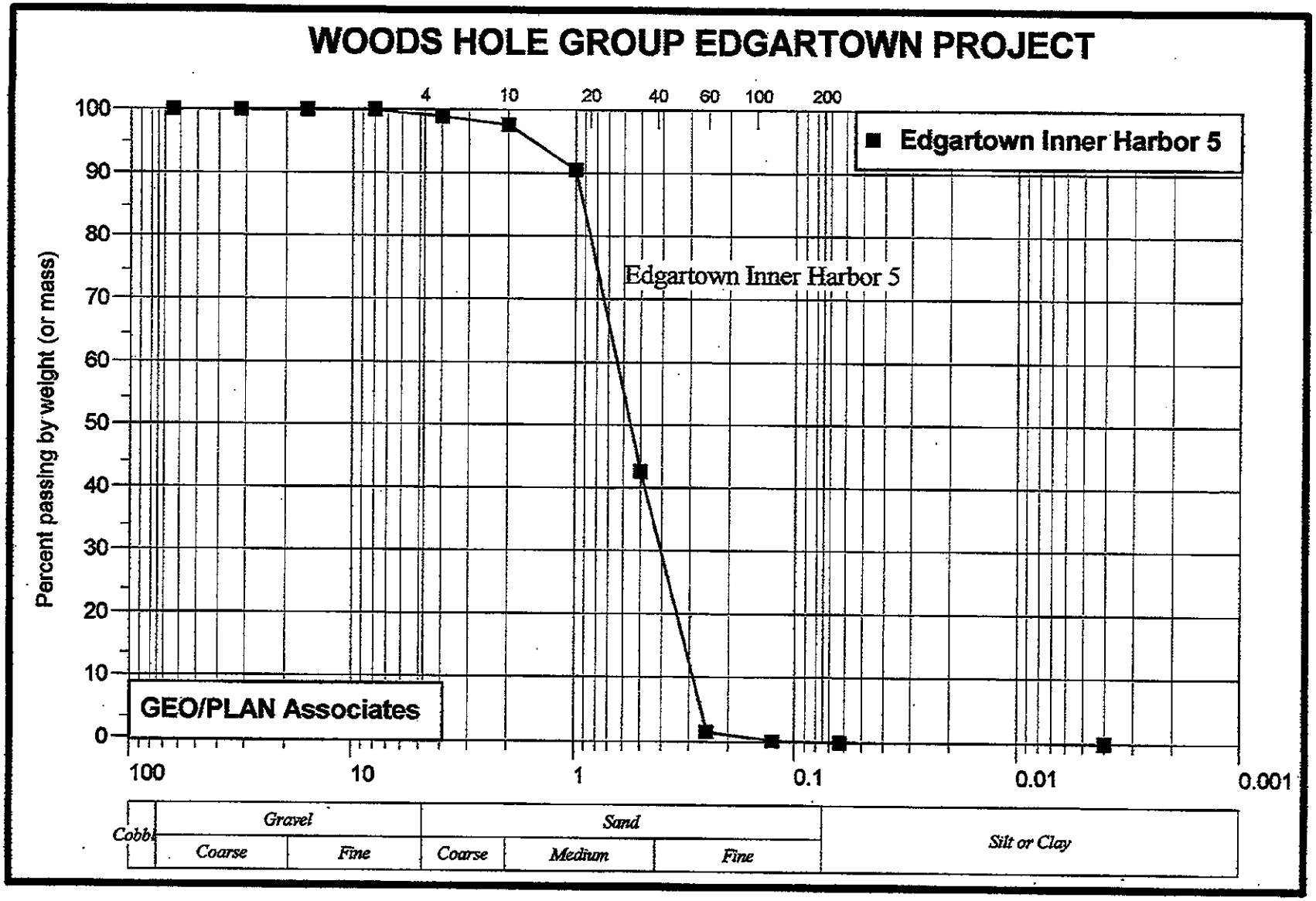
Coarse Only 100.00 81.44 60.40

Mean =	0.81

Variance =	0.60
Sample SD =	0.78

Gravel	Sand	Silt	Clay	Total
2.4	97.6	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0


WOODS HOLE GROUP EDGARTOWN PROJECT
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
Edgartown Inner Harbor 5
Edgartown Inner Harbor 5
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: Edgartown Harbor
Project Location: Edgartown, MA
Project No.
Date: June 2011

Sample: Edgartown Inner Harbor 6

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only	
					% Wt	Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	6.73	6.73	6.20	6.20	6.20	6.20
-1	14.59	7.86	7.23	13.43	7.23	13.43
0	33.90	19.32	17.79	31.22	17.79	31.22
1	82.65	48.75	44.89	76.11	44.89	76.11
2	106.70	24.05	22.15	98.25	22.15	98.25
3	108.53	1.83	1.69	99.94	1.69	99.94
4	108.59	0.06	0.06	100.00	0.06	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

Wt. Coarse	108.5900
Wt Fine	0.0000
Total Wt	108.5900

Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-5.75	33.05	0.00
-4	0.00	-4.50	0.00	-4.75	22.55	0.00
-3	0.00	-3.50	0.00	-3.75	14.05	0.00
-2	6.20	-2.50	-15.49	-2.75	7.55	46.82
-1	7.23	-1.50	-10.85	-1.75	3.06	22.12
0	17.79	-0.50	-8.89	-0.75	0.56	9.97
1	44.89	0.50	22.44	0.25	0.06	2.84
2	22.15	1.50	33.22	1.25	1.57	34.69
3	1.69	2.50	4.21	2.25	5.07	8.54
4	0.06	3.50	0.21	3.25	10.57	0.63
Silt	0.00	6.00	0.00	5.75	33.08	0.00
Clay	0.00	9.00	0.00	8.75	76.59	0.00
TOTAL	100.00		24.85			125.60

Total Sample

Mean =	0.25

Variance =	1.26
Sample SD =	1.12

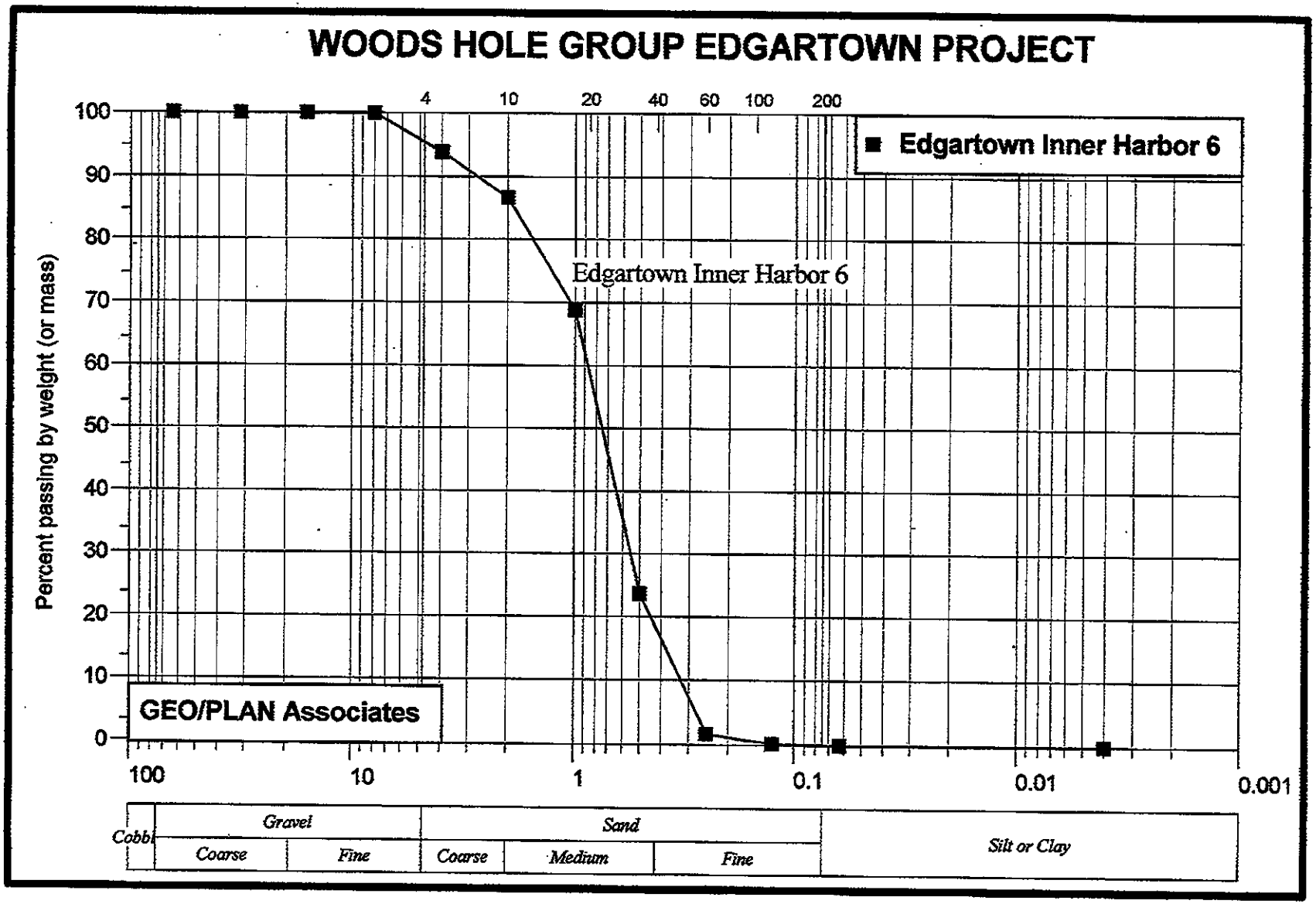
Coarse Only 100.00 24.85 125.60

Mean =	0.25

Variance =	1.26
Sample SD =	1.12

Gravel	Sand	Silt	Clay	Total
13.4	86.6	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0


WOODS HOLE GROUP EDGARTOWN PROJECT
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
Edgartown Inner Harbor 6
Edgartown Inner Harbor 6
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: Edgartown Harbor
Project Location: Edgartown, MA
Project No.
Date: June 2011

Sample: **Edgartown Inner Harbor 7**

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only	
					% Wt	Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	13.67	13.67	15.35	15.35	15.35	15.35
-1	17.82	4.15	4.66	20.01	4.66	20.01
0	31.71	13.89	15.59	35.61	15.59	35.61
1	60.63	28.83	32.37	67.98	32.37	67.98
2	83.59	23.06	25.90	93.88	25.90	93.88
3	88.98	5.39	6.05	99.94	6.05	99.94
4	89.04	0.05	0.06	100.00	0.06	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	---
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	---
		Disp. Wt	0.0000			

Wt. Coarse	89.0350
Wt Fine	0.0000
Total Wt	89.0350

Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-5.67	32.17	0.00
-4	0.00	-4.50	0.00	-4.67	21.83	0.00
-3	0.00	-3.50	0.00	-3.67	13.48	0.00
-2	15.35	-2.50	-38.38	-2.67	7.14	109.63
-1	4.66	-1.50	-6.99	-1.67	2.80	13.03
0	15.59	-0.50	-7.80	-0.67	0.45	7.05
1	32.37	0.50	16.19	0.33	0.11	3.48
2	25.90	1.50	38.85	1.33	1.76	45.67
3	6.05	2.50	15.13	2.33	5.42	32.80
4	0.06	3.50	0.22	3.33	11.07	0.68
Silt	0.00	6.00	0.00	5.83	33.96	0.00
Clay	0.00	9.00	0.00	8.83	77.93	0.00
TOTAL	100.00		17.22			212.34

Total Sample

Mean =	0.17

Variance =	2.12
Sample SD =	1.46

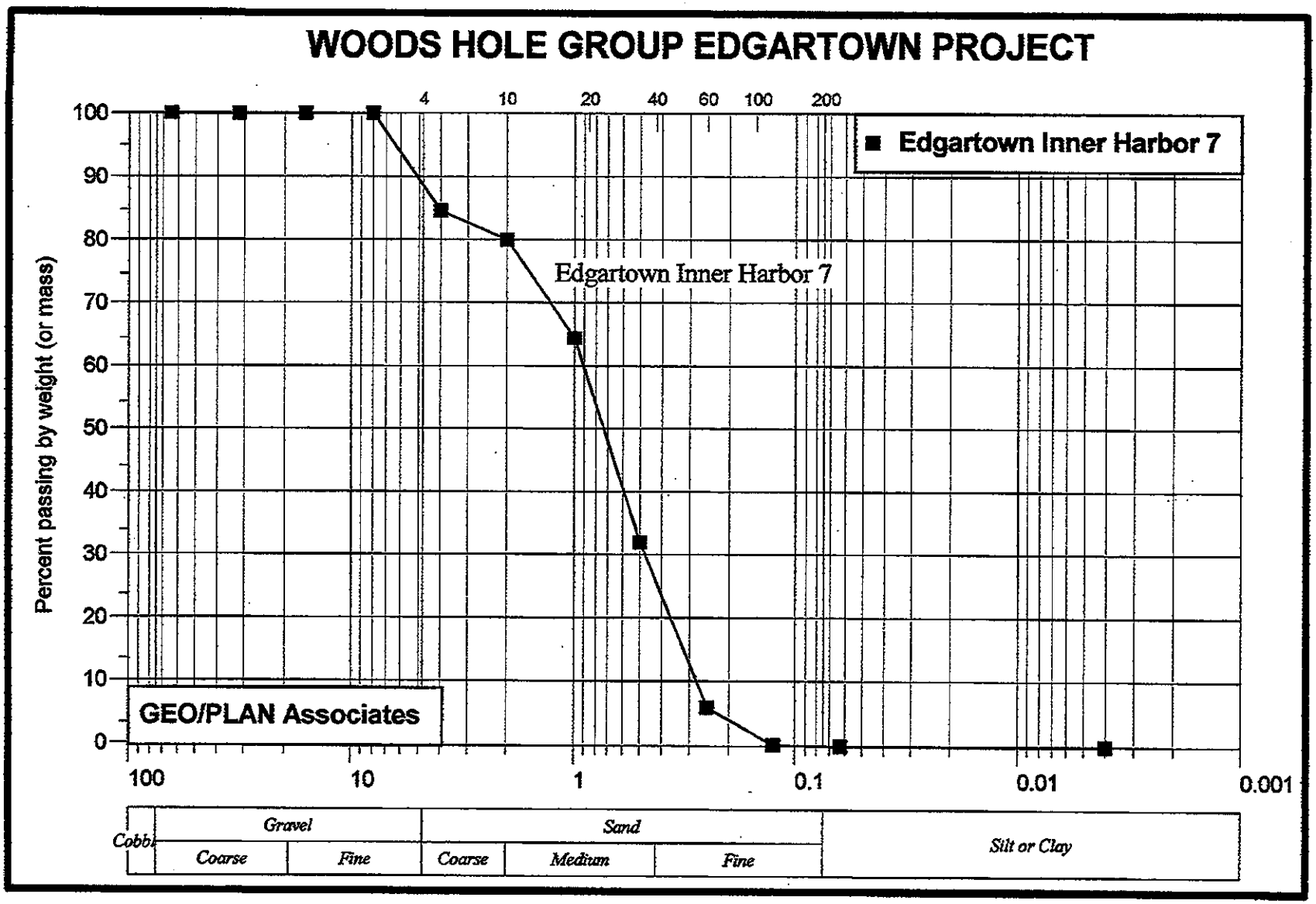
Coarse Only 100.00 17.22 212.34

Mean =	0.17

Variance =	2.12
Sample SD =	1.46

Gravel	Sand	Silt	Clay	Total
20.0	80.0	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0


WOODS HOLE GROUP EDGARTOWN PROJECT
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
Edgartown Inner Harbor 7
Edgartown Inner Harbor 7
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: Edgartown Harbor
Project Location: Edgartown, MA
Project No.
Date: June 2011

Sample: **Edgartown Inner Harbor 8**

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only	
					% Wt	Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	5.08	5.08	5.35	5.35	5.35	5.35
-3	8.15	3.07	3.23	8.58	3.23	8.58
-2	9.70	1.55	1.63	10.22	1.63	10.22
-1	10.98	1.29	1.35	11.57	1.35	11.57
0	19.31	8.33	8.77	20.34	8.77	20.34
1	68.85	49.55	52.21	72.55	52.21	72.55
2	93.43	24.58	25.90	98.45	25.90	98.45
3	94.87	1.45	1.52	99.97	1.52	99.97
4	94.90	0.02	0.03	100.00	0.03	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

Wt. Coarse	94.8950
Wt Fine	0.0000
Total Wt	94.8950

Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-5.73	32.83	0.00
-4	5.35	-4.50	-24.09	-4.73	22.37	119.75
-3	3.23	-3.50	-11.30	-3.73	13.91	44.93
-2	1.63	-2.50	-4.08	-2.73	7.45	12.17
-1	1.35	-1.50	-2.03	-1.73	2.99	4.05
0	8.77	-0.50	-4.39	-0.73	0.53	4.67
1	52.21	0.50	26.11	0.27	0.07	3.82
2	25.90	1.50	38.85	1.27	1.61	41.80
3	1.52	2.50	3.81	2.27	5.15	7.85
4	0.03	3.50	0.09	3.27	10.70	0.28
Silt	0.00	6.00	0.00	5.77	33.30	0.00
Clay	0.00	9.00	0.00	8.77	76.92	0.00
TOTAL	100.00		22.95			239.31

Total Sample

Mean =	0.23

Variance =	2.39
Sample SD =	1.55

Coarse Only 100.00 22.95

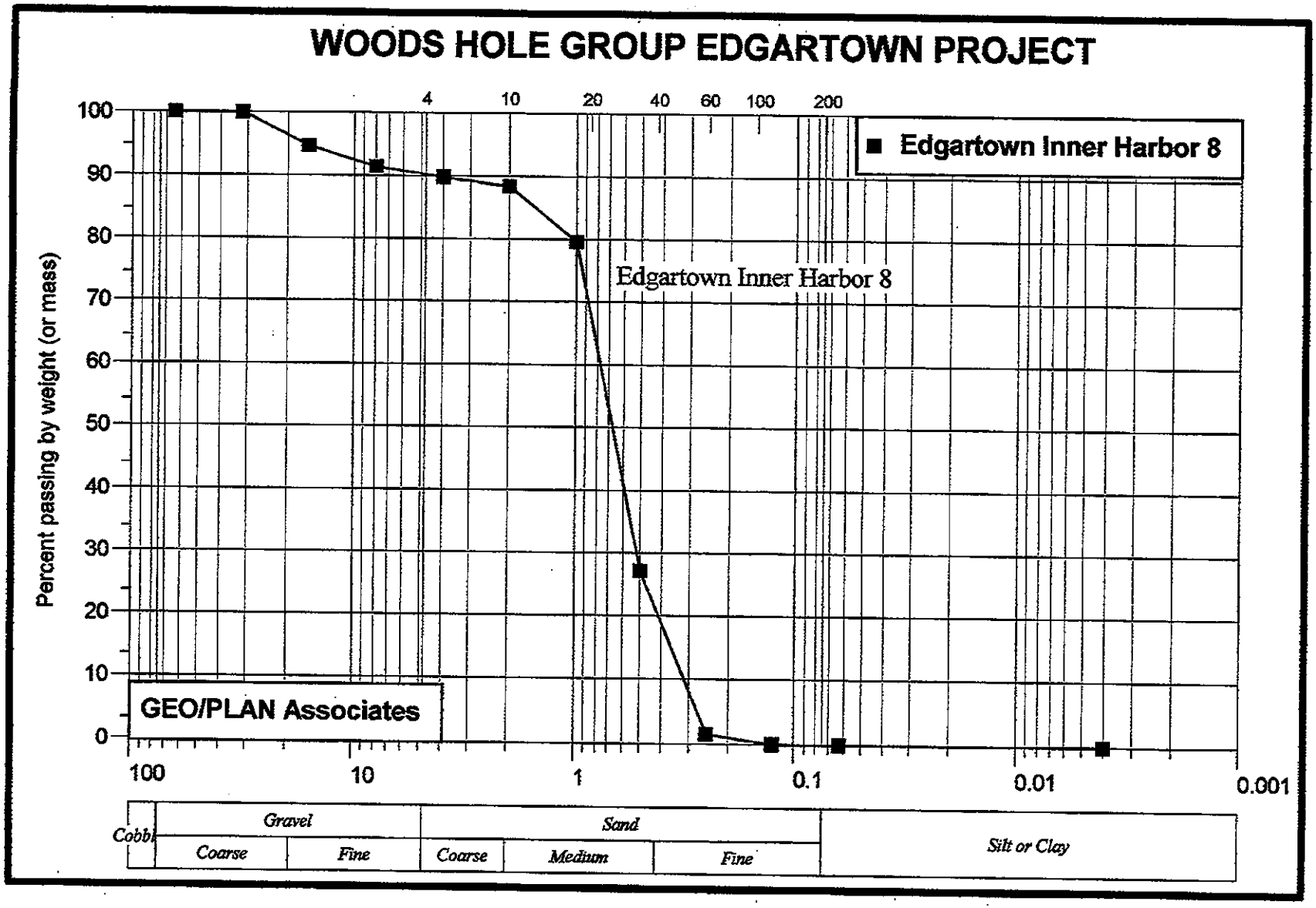
Mean =	0.23

239.31

Variance =	2.39
Sample SD =	1.55

Gravel	Sand	Silt	Clay	Total
11.6	88.4	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0


WOODS HOLE GROUP EDGARTOWN PROJECT
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
Edgartown Inner Harbor 8
Edgartown Inner Harbor 8
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: Edgartown Harbor
Project Location: Edgartown, MA
Project No.
Date: June 2011

Sample: **Edgartown Inner Harbor 9**

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only % Wt	Sand Only Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	0.89	0.89	0.99	0.99	0.99	0.99
-1	1.24	0.35	0.39	1.38	0.39	1.38
0	5.03	3.79	4.20	5.58	4.20	5.58
1	26.19	21.16	23.49	29.06	23.49	29.06
2	81.57	55.38	61.47	90.53	61.47	90.53
3	90.10	8.54	9.47	100.00	9.47	100.00
4	90.10	0.00	0.00	100.00	0.00	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

Wt. Coarse	90.1000
Wt Fine	0.0000
Total Wt	90.1000

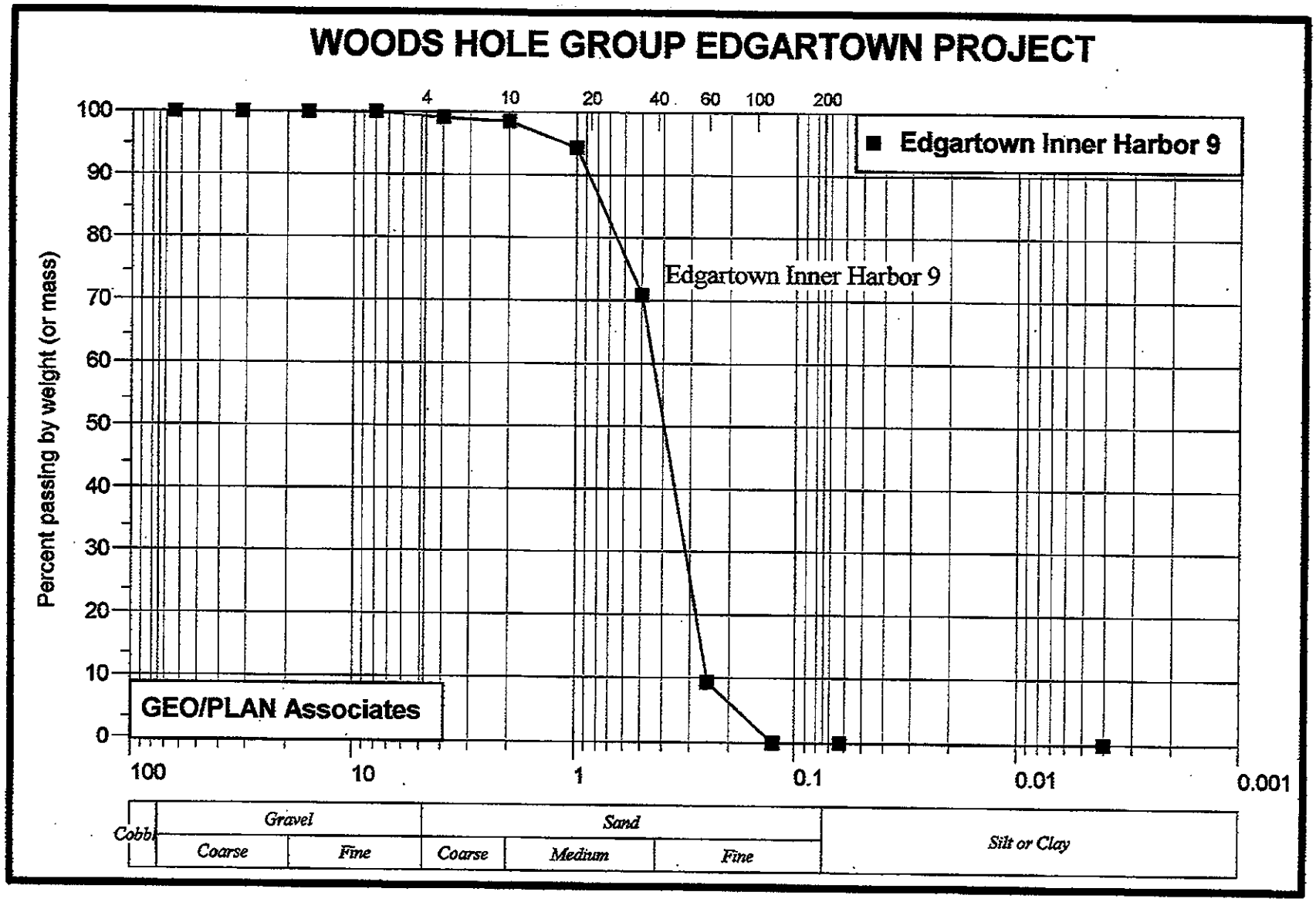
Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-6.72	45.22	0.00
-4	0.00	-4.50	0.00	-5.72	32.77	0.00
-3	0.00	-3.50	0.00	-4.72	22.32	0.00
-2	0.99	-2.50	-2.47	-3.72	13.87	13.70
-1	0.39	-1.50	-0.58	-2.72	7.42	2.88
0	4.20	-0.50	-2.10	-1.72	2.97	12.50
1	23.49	0.50	11.74	-0.72	0.53	12.33
2	61.47	1.50	92.20	0.28	0.08	4.66
3	9.47	2.50	23.68	1.28	1.63	15.41
4	0.00	3.50	0.00	2.28	5.18	0.00
Silt	0.00	6.00	0.00	4.78	22.80	0.00
Clay	0.00	9.00	0.00	7.78	60.46	0.00
TOTAL	100.00		122.47			61.48

Total Sample — Mean = 1.22 — Variance = 0.61 — Sample SD = 0.78

Coarse Only 100.00 — 122.47 — 61.48 — Mean = 1.22 — Variance = 0.61 — Sample SD = 0.78

Gravel	Sand	Silt	Clay	Total
1.4	98.6	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0


WOODS HOLE GROUP EDGARTOWN PROJECT
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
Edgartown Inner Harbor 9
Edgartown Inner Harbor 9
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: Edgartown Harbor
Project Location: Edgartown, MA
Project No.
Date: June 2011

Sample: **Edgartown Inner Harbor 10**

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only % Wt	Sand Only Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	0.83	0.83	0.71	0.71	0.71	0.71
-1	1.15	0.32	0.27	0.98	0.27	0.98
0	7.25	6.10	5.22	6.20	5.22	6.20
1	66.48	59.23	50.72	56.93	50.72	56.93
2	112.68	46.20	39.56	96.49	39.56	96.49
3	116.77	4.10	3.51	100.00	3.51	100.00
4	116.77	0.00	0.00	100.00	0.00	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

Wt. Coarse	116.7700
Wt Fine	0.0000
Total Wt	116.7700

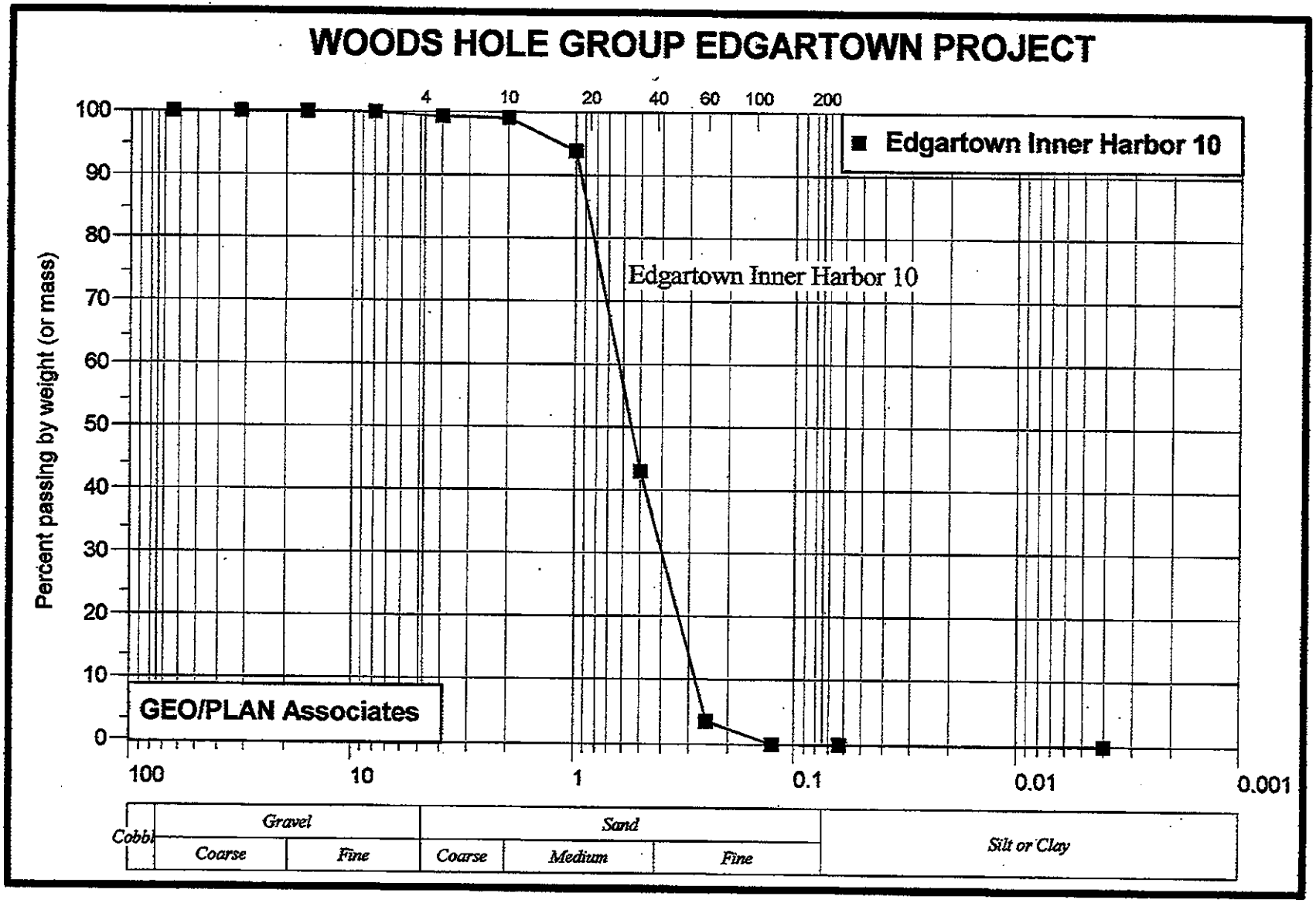
Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-6.39	40.79	0.00
-4	0.00	-4.50	0.00	-5.39	29.02	0.00
-3	0.00	-3.50	0.00	-4.39	19.24	0.00
-2	0.71	-2.50	-1.78	-3.39	11.47	8.15
-1	0.27	-1.50	-0.41	-2.39	5.70	1.56
0	5.22	-0.50	-2.61	-1.39	1.92	10.04
1	50.72	0.50	25.36	-0.39	0.15	7.59
2	39.56	1.50	59.35	0.61	0.38	14.88
3	3.51	2.50	8.77	1.61	2.60	9.13
4	0.00	3.50	0.00	2.61	6.83	0.00
Silt	0.00	6.00	0.00	5.11	26.14	0.00
Clay	0.00	9.00	0.00	8.11	65.82	0.00
TOTAL	100.00		88.68			51.35

Total Sample — Mean = 0.89 — Variance = 0.51 — Sample SD = 0.72

Coarse Only — 100.00 — 88.68 — 51.35 — Mean = 0.89 — Variance = 0.51 — Sample SD = 0.72

Gravel	Sand	Silt	Clay	Total
1.0	99.0	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0


WOODS HOLE GROUP EDGARTOWN PROJECT
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
Edgartown Inner Harbor 10
Edgartown Inner Harbor 10
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: ACOE Permits
Project Location: Edgartown, MV
Project No. 2010-142
Date: March 2012

Sample: EH-11 (Edgartown Inner Harbor 11)

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only % Wt	Sand Only Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	0.47	0.47	0.64	0.64	0.64	0.64
-1	2.60	2.13	2.90	3.55	2.90	3.55
0	10.86	8.26	11.29	14.83	11.29	14.83
1	41.35	30.49	41.66	56.49	41.66	56.49
2	63.16	21.82	29.81	86.30	29.81	86.30
3	72.28	9.12	12.46	98.76	12.46	98.76
4	73.19	0.91	1.24	100.00	1.24	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

Wt. Coarse	73.1900
Wt Fine	0.0000
Total Wt	73.1900

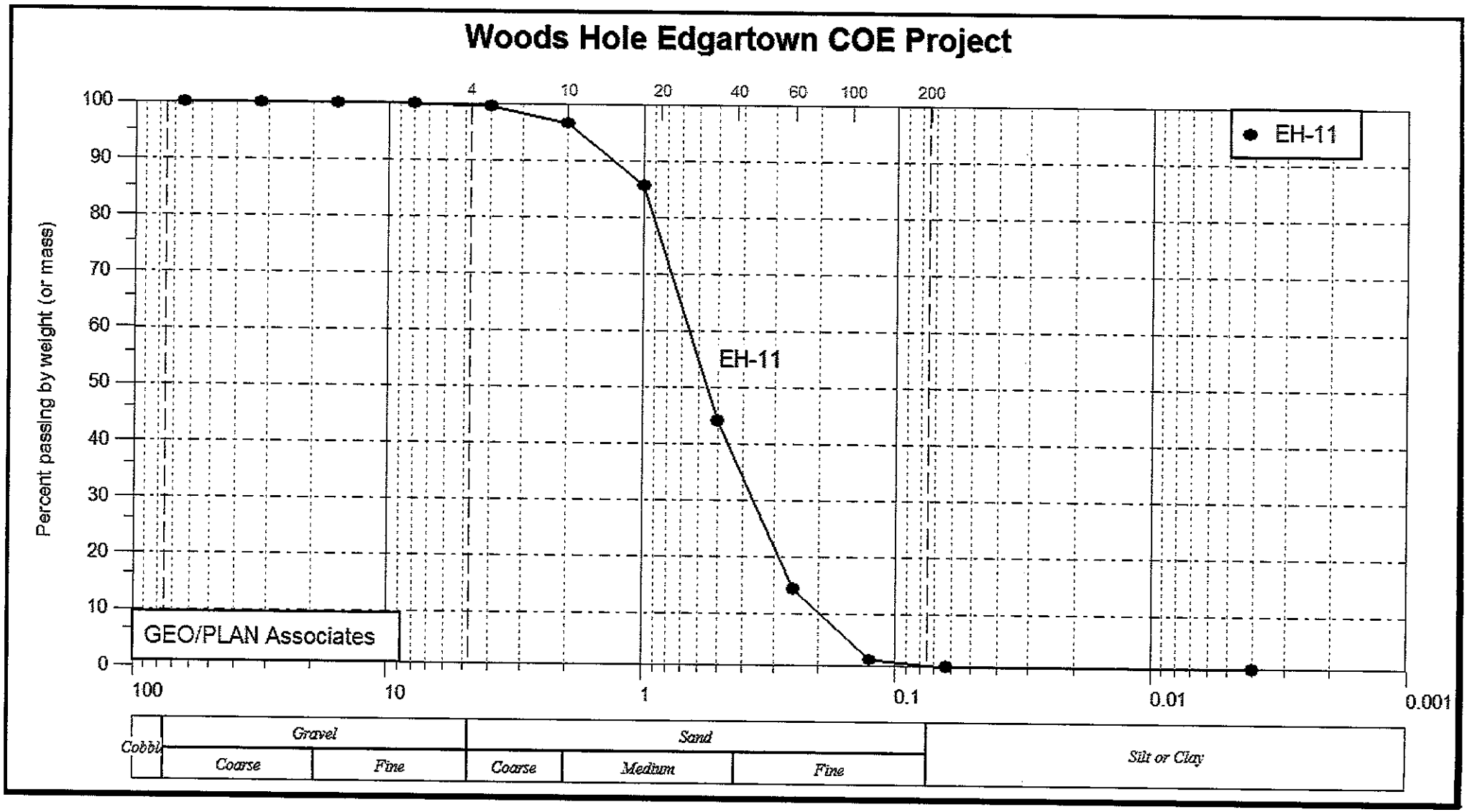
Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-6.39	40.89	0.00
-4	0.00	-4.50	0.00	-5.39	29.10	0.00
-3	0.00	-3.50	0.00	-4.39	19.31	0.00
-2	0.64	-2.50	-1.61	-3.39	11.52	7.40
-1	2.90	-1.50	-4.36	-2.39	5.73	16.65
0	11.29	-0.50	-5.64	-1.39	1.94	21.94
1	41.66	0.50	20.83	-0.39	0.16	6.48
2	29.81	1.50	44.71	0.61	0.37	10.93
3	12.46	2.50	31.15	1.61	2.58	32.12
4	1.24	3.50	4.35	2.61	6.79	8.44
Silt	0.00	6.00	0.00	5.11	26.07	0.00
Clay	0.00	9.00	0.00	8.11	65.70	0.00
TOTAL	100.00		89.44			103.96

Total Sample		Mean =	0.89	Variance =	1.04
				Sample SD =	1.02
Coarse Only	100.00		89.44		103.96
		Mean =	0.89	Variance =	1.04
				Sample SD =	1.02

Gravel	Sand	Silt	Clay	Total
3.5	96.5	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0

Woods Hole Edgartown COE Project



GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: Edgartown Harbor
Project Location: Edgartown, MA
Project No.
Date: June 2011

Sample: Planting 1

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only % Wt	Sand Only Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	0.00	0.00	0.00	0.00	0.00	0.00
-1	0.13	0.13	0.14	0.14	0.14	0.14
0	14.44	14.31	15.44	15.58	15.44	15.58
1	53.35	38.91	41.99	57.57	41.99	57.57
2	90.29	36.95	39.87	97.44	39.87	97.44
3	92.67	2.38	2.56	100.00	2.56	100.00
4	92.67	0.00	0.00	100.00	0.00	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

Wt. Coarse	92.6650
Wt Fine	0.0000
Total Wt	92.6650

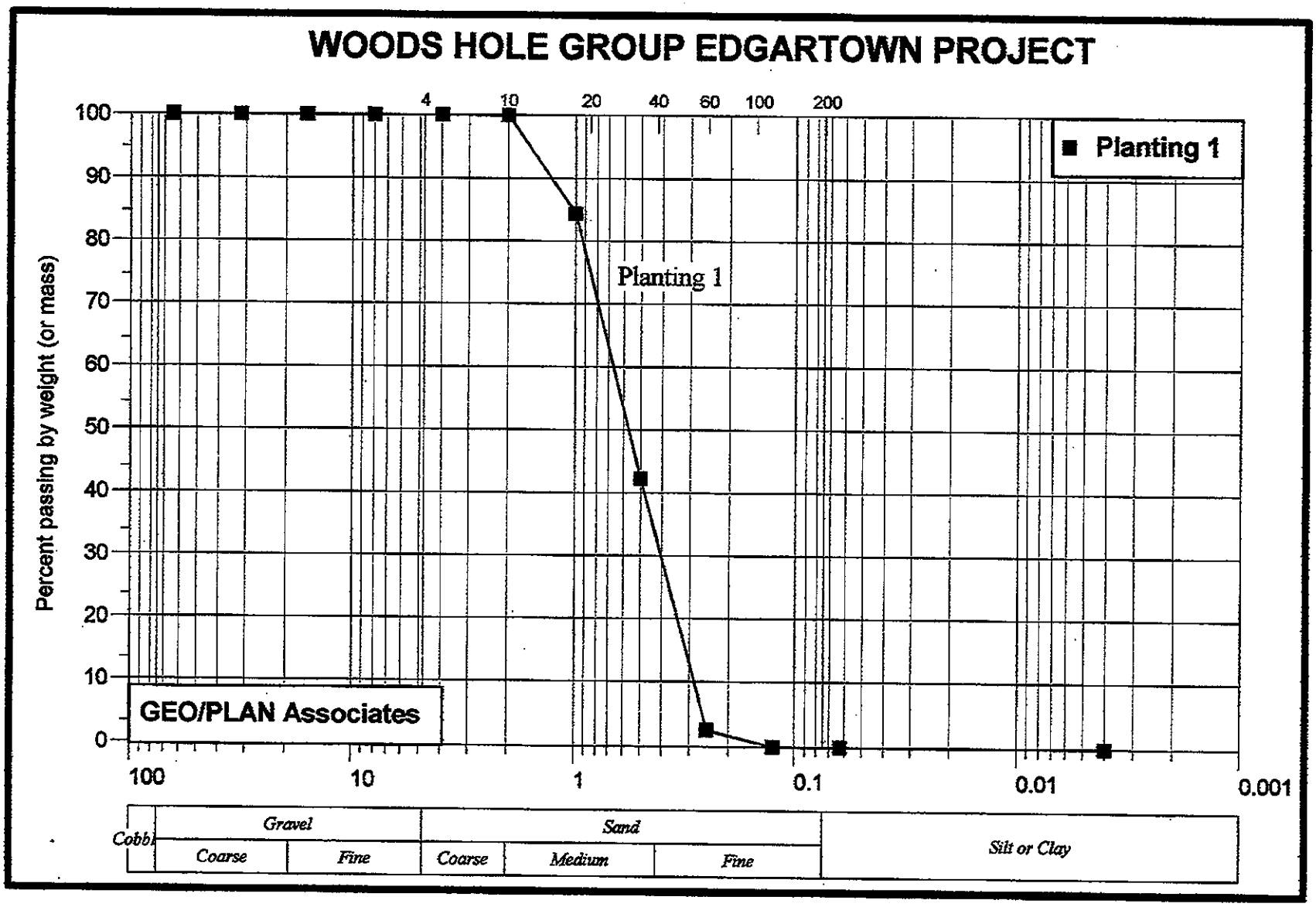
Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-6.29	39.60	0.00
-4	0.00	-4.50	0.00	-5.29	28.01	0.00
-3	0.00	-3.50	0.00	-4.29	18.43	0.00
-2	0.00	-2.50	0.00	-3.29	10.84	0.00
-1	0.14	-1.50	-0.21	-2.29	5.26	0.74
0	15.44	-0.50	-7.72	-1.29	1.67	25.80
1	41.99	0.50	20.99	-0.29	0.09	3.60
2	39.87	1.50	59.80	0.71	0.50	19.94
3	2.56	2.50	6.41	1.71	2.91	7.47
4	0.00	3.50	0.00	2.71	7.33	0.00
Silt	0.00	6.00	0.00	5.21	27.12	0.00
Clay	0.00	9.00	0.00	8.21	67.36	0.00
TOTAL	100.00		79.28			57.55

Total Sample — Mean = 0.79 — Variance = 0.58 — Sample SD = 0.76

Coarse Only 100.00 — 79.28 — 57.55 — Mean = 0.79 — Variance = 0.58 — Sample SD = 0.76

Gravel	Sand	Silt	Clay	Total
0.1	99.9	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0


WOODS HOLE GROUP EDGARTOWN PROJECT
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
Planting 1
Planting 1
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: Edgartown Harbor
Project Location: Edgartown, MA
Project No.
Date: June 2011

Sample: Lighthouse Point 1

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only % Wt	Sand Only Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	0.00	0.00	0.00	0.00	0.00	0.00
-1	0.62	0.62	0.68	0.68	0.68	0.68
0	5.14	4.52	4.94	5.62	4.94	5.62
1	51.07	45.93	50.22	55.84	50.22	55.84
2	89.55	38.48	42.08	97.92	42.08	97.92
3	91.45	1.91	2.08	100.00	2.08	100.00
4	91.45	0.00	0.00	100.00	0.00	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	---
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	---
		Disp. Wt	0.0000			

Wt. Coarse	91.4500
Wt Fine	0.0000
Total Wt	91.4500

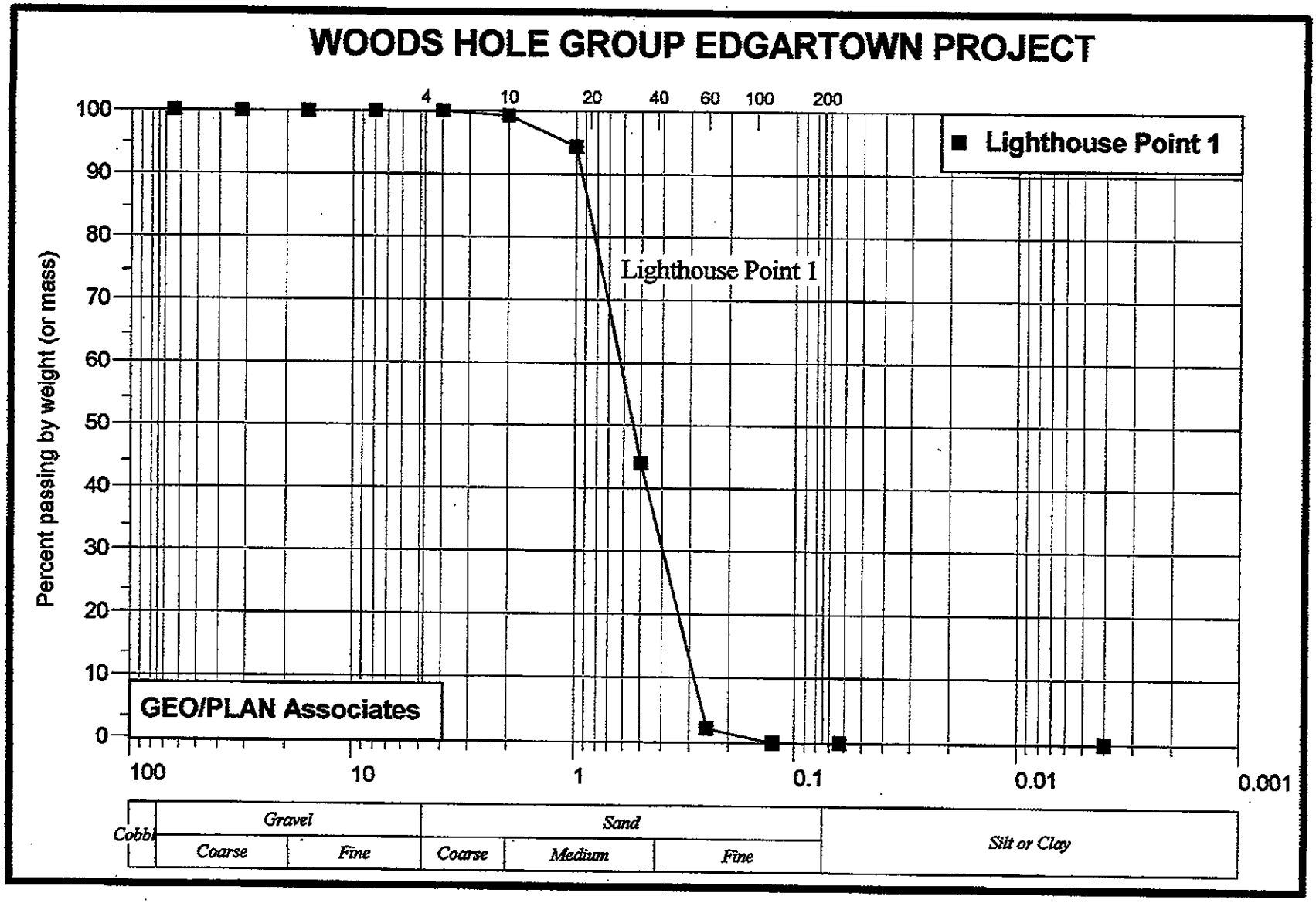
Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-6.40	40.95	0.00
-4	0.00	-4.50	0.00	-5.40	29.15	0.00
-3	0.00	-3.50	0.00	-4.40	19.36	0.00
-2	0.00	-2.50	0.00	-3.40	11.56	0.00
-1	0.68	-1.50	-1.02	-2.40	5.76	3.90
0	4.94	-0.50	-2.47	-1.40	1.96	9.66
1	50.22	0.50	25.11	-0.40	0.16	8.01
2	42.08	1.50	63.12	0.60	0.36	15.18
3	2.08	2.50	5.21	1.60	2.56	5.34
4	0.00	3.50	0.00	2.60	6.76	0.00
Silt	0.00	6.00	0.00	5.10	26.02	0.00
Clay	0.00	9.00	0.00	8.10	65.62	0.00
TOTAL	100.00		89.95			42.11

Total Sample	Mean =	0.90	Variance = 0.42
			Sample SD = 0.65

Coarse Only	100.00	89.95	42.11
	Mean =	0.90	Variance = 0.42
			Sample SD = 0.65

Gravel	Sand	Silt	Clay	Total
0.7	99.3	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0


WOODS HOLE GROUP EDGARTOWN PROJECT
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
Lighthouse Point 1
Lighthouse Point 1
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: Edgartown Harbor
Project Location: Edgartown, MA
Project No.
Date: June 2011

Sample: Lighthouse Point 2

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only % Wt	Sand Only Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	0.00	0.00	0.00	0.00	0.00	0.00
-1	0.00	0.00	0.00	0.00	0.00	0.00
0	0.66	0.66	0.62	0.62	0.62	0.62
1	20.93	20.27	19.26	19.88	19.26	19.88
2	97.30	76.38	72.57	92.45	72.57	92.45
3	105.25	7.95	7.55	100.00	7.55	100.00
4	105.25	0.00	0.00	100.00	0.00	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

Wt. Coarse	105.2500
Wt Fine	0.0000
Total Wt	105.2500

Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-6.87	47.20	0.00
-4	0.00	-4.50	0.00	-5.87	34.46	0.00
-3	0.00	-3.50	0.00	-4.87	23.72	0.00
-2	0.00	-2.50	0.00	-3.87	14.98	0.00
-1	0.00	-1.50	0.00	-2.87	8.24	0.00
0	0.62	-0.50	-0.31	-1.87	3.50	2.18
1	19.26	0.50	9.63	-0.87	0.76	14.59
2	72.57	1.50	108.85	0.13	0.02	1.22
3	7.55	2.50	18.88	1.13	1.28	9.64
4	0.00	3.50	0.00	2.13	4.53	0.00
Silt	0.00	6.00	0.00	4.63	21.43	0.00
Clay	0.00	9.00	0.00	7.63	58.21	0.00
TOTAL	100.00		137.05			27.62

Total Sample

Mean =	1.37

Variance =	0.28
Sample SD =	0.53

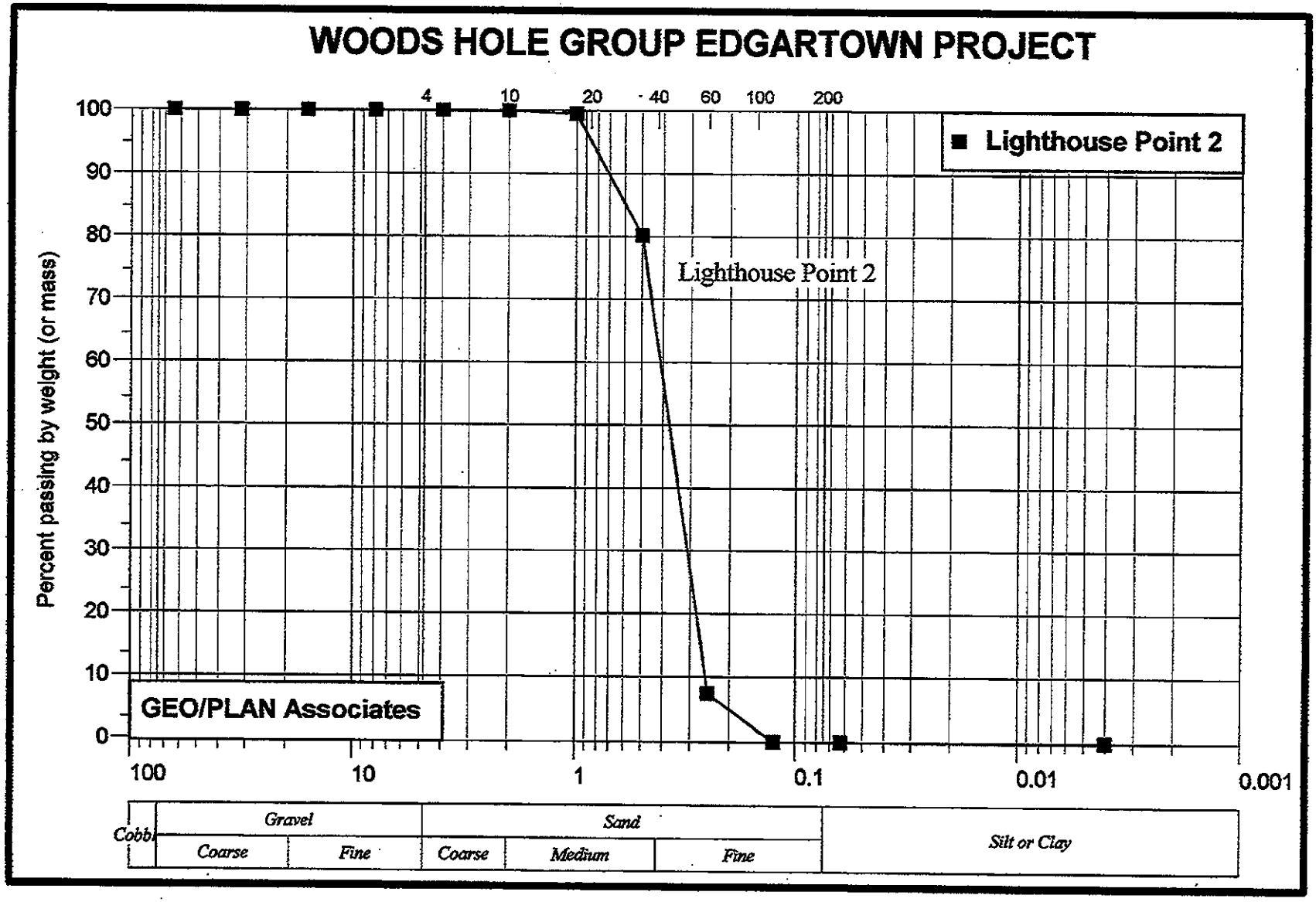
Coarse Only 100.00 137.05 27.62

Mean =	1.37

Variance =	0.28
Sample SD =	0.53

Gravel	Sand	Silt	Clay	Total
0.0	100.0	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0


WOODS HOLE GROUP EDGARTOWN PROJECT
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
Lighthouse Point 2
Lighthouse Point 2
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: Edgartown Harbor
Project Location: Edgartown, MA
Project No.
Date: June 2011

Sample: Lighthouse Point 3

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only % Wt	Sand Only Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	0.20	0.20	0.16	0.16	0.16	0.16
-1	0.56	0.36	0.29	0.45	0.29	0.45
0	19.99	19.44	15.64	16.09	15.64	16.09
1	58.91	38.92	31.33	47.42	31.33	47.42
2	116.86	57.95	46.65	94.07	46.65	94.07
3	124.23	7.37	5.93	100.00	5.93	100.00
4	124.23	0.00	0.00	100.00	0.00	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

Wt. Coarse	124.2300
Wt Fine	0.0000
Total Wt	124.2300

Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-6.42	41.19	0.00
-4	0.00	-4.50	0.00	-5.42	29.36	0.00
-3	0.00	-3.50	0.00	-4.42	19.52	0.00
-2	0.16	-2.50	-0.39	-3.42	11.68	1.83
-1	0.29	-1.50	-0.43	-2.42	5.85	1.69
0	15.64	-0.50	-7.82	-1.42	2.01	31.46
1	31.33	0.50	15.66	-0.42	0.17	5.48
2	46.65	1.50	69.97	0.58	0.34	15.79
3	5.93	2.50	14.83	1.58	2.50	14.84
4	0.00	3.50	0.00	2.58	6.67	0.00
Silt	0.00	6.00	0.00	5.08	25.82	0.00
Clay	0.00	9.00	0.00	8.08	65.32	0.00
TOTAL	100.00		91.82			71.11

Total Sample

Mean =	0.92

Variance =	0.71
Sample SD =	0.84

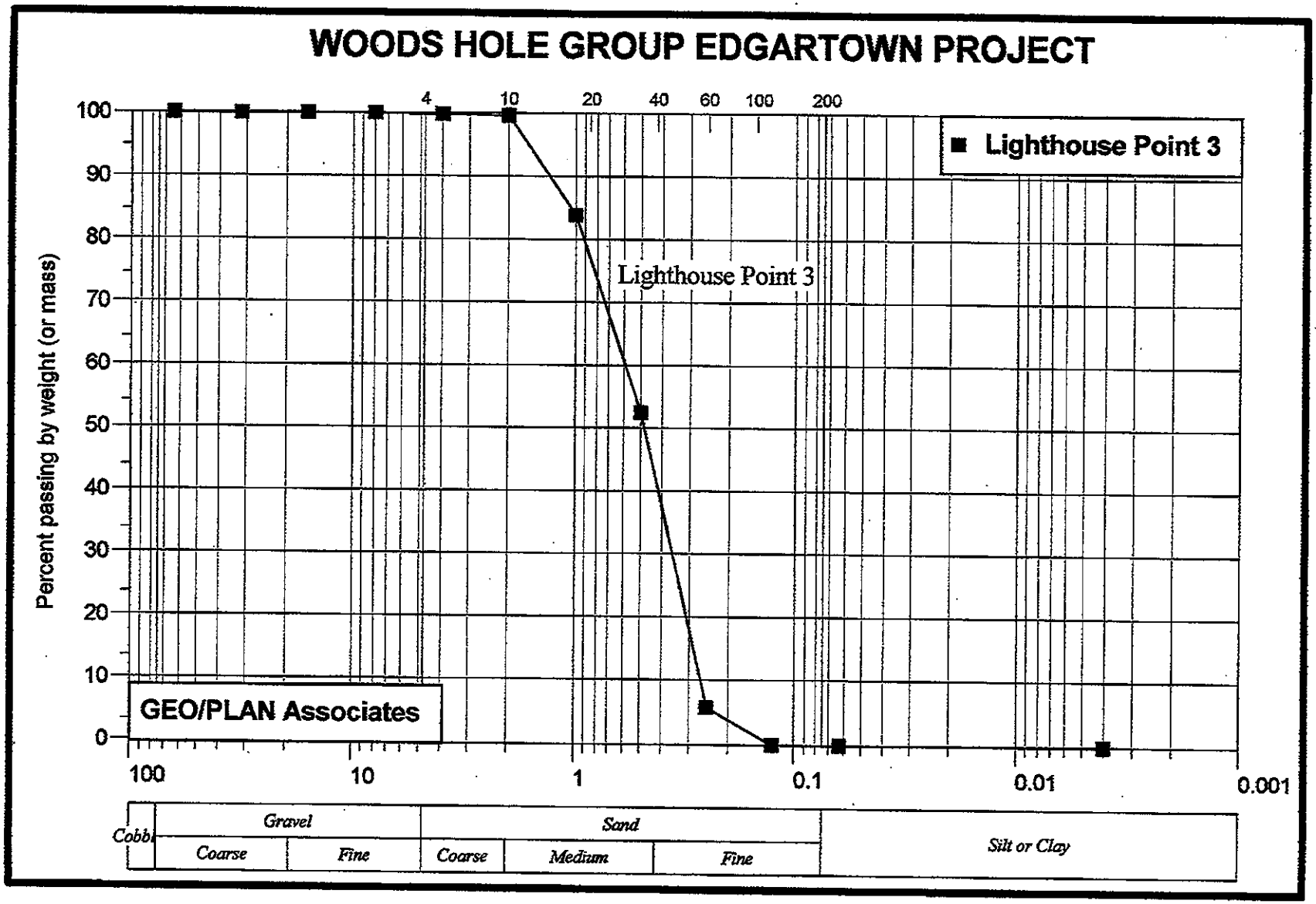
Coarse Only 100.00 91.82 71.11

Mean =	0.92

Variance =	0.71
Sample SD =	0.84

Gravel	Sand	Silt	Clay	Total
0.4	99.6	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0


WOODS HOLE GROUP EDGARTOWN PROJECT
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
Lighthouse Point 3
Lighthouse Point 3
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: Cape Pogue
Project Location: Martha's Vineyard, MA
Project No.
Date: August 2011

Sample: **R-33 Cape Pogue Lighthouse** (Lighthouse Point 5)

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only	
					% Wt	Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	0.00	0.00	0.00	0.00	0.00	0.00
-1	0.05	0.05	0.05	0.05	0.05	0.05
0	0.24	0.20	0.23	0.28	0.23	0.28
1	24.16	23.92	27.71	27.99	27.71	27.99
2	80.97	56.81	65.81	93.79	65.81	93.79
3	86.26	5.29	6.12	99.91	6.12	99.91
4	86.33	0.08	0.09	100.00	0.09	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

Wt. Coarse	86.3300
Wt Fine	0.0000
Total Wt	86.3300

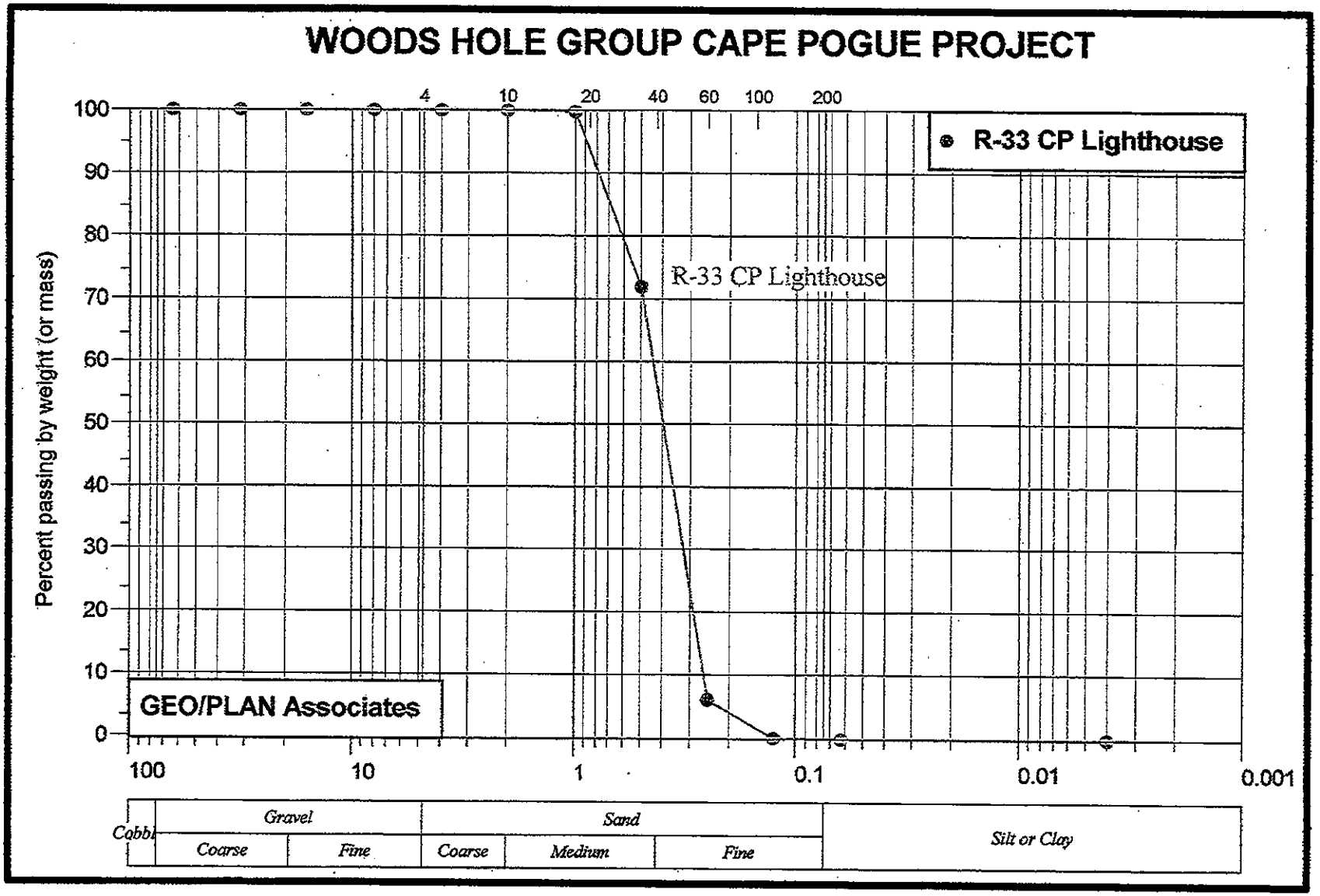
Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-6.78	45.97	0.00
-4	0.00	-4.50	0.00	-5.78	33.41	0.00
-3	0.00	-3.50	0.00	-4.78	22.85	0.00
-2	0.00	-2.50	0.00	-3.78	14.29	0.00
-1	0.05	-1.50	-0.08	-2.78	7.73	0.40
0	0.23	-0.50	-0.11	-1.78	3.17	0.72
1	27.71	0.50	13.85	-0.78	0.61	16.85
2	65.81	1.50	98.71	0.22	0.05	3.19
3	6.12	2.50	15.30	1.22	1.49	9.11
4	0.09	3.50	0.30	2.22	4.93	0.43
Silt	0.00	6.00	0.00	4.72	22.28	0.00
Clay	0.00	9.00	0.00	7.72	59.60	0.00
TOTAL	100.00		127.98			30.70

Total Sample — Mean = 1.28 — Variance = 0.31 — Sample SD = 0.55

Coarse Only 100.00 127.98 30.70 — Mean = 1.28 — Variance = 0.31 — Sample SD = 0.55

Gravel	Sand	Silt	Clay	Total
0.1	99.9	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0


WOODS HOLE GROUP CAPE POGUE PROJECT
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
R-33 CP Lighthouse
R-33 CP Lighthouse
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: Edgartown Harbor
Project Location: Edgartown, MA
Project No.
Date: June 2011

Sample: Eel Pond Spit 1

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only	
					% Wt	Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	1.36	1.36	1.46	1.46	1.46	1.46
-1	2.87	1.52	1.63	3.10	1.63	3.10
0	26.91	24.04	25.94	29.03	25.94	29.03
1	80.62	53.72	57.97	87.00	57.97	87.00
2	91.84	11.22	12.11	99.11	12.11	99.11
3	92.67	0.83	0.89	100.00	0.89	100.00
4	92.67	0.00	0.00	100.00	0.00	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

Wt. Coarse	92.6650
Wt Fine	0.0000
Total Wt	92.6650

Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-5.80	33.67	0.00
-4	0.00	-4.50	0.00	-4.80	23.07	0.00
-3	0.00	-3.50	0.00	-3.80	14.46	0.00
-2	1.46	-2.50	-3.66	-2.80	7.86	11.49
-1	1.63	-1.50	-2.45	-1.80	3.25	5.31
0	25.94	-0.50	-12.97	-0.80	0.64	16.72
1	57.97	0.50	28.98	0.20	0.04	2.25
2	12.11	1.50	18.16	1.20	1.43	17.35
3	0.89	2.50	2.23	2.20	4.83	4.30
4	0.00	3.50	0.00	3.20	10.22	0.00
Silt	0.00	6.00	0.00	5.70	32.46	0.00
Clay	0.00	9.00	0.00	8.70	75.64	0.00
TOTAL	100.00		30.29			57.42

Total Sample

Mean =	0.30

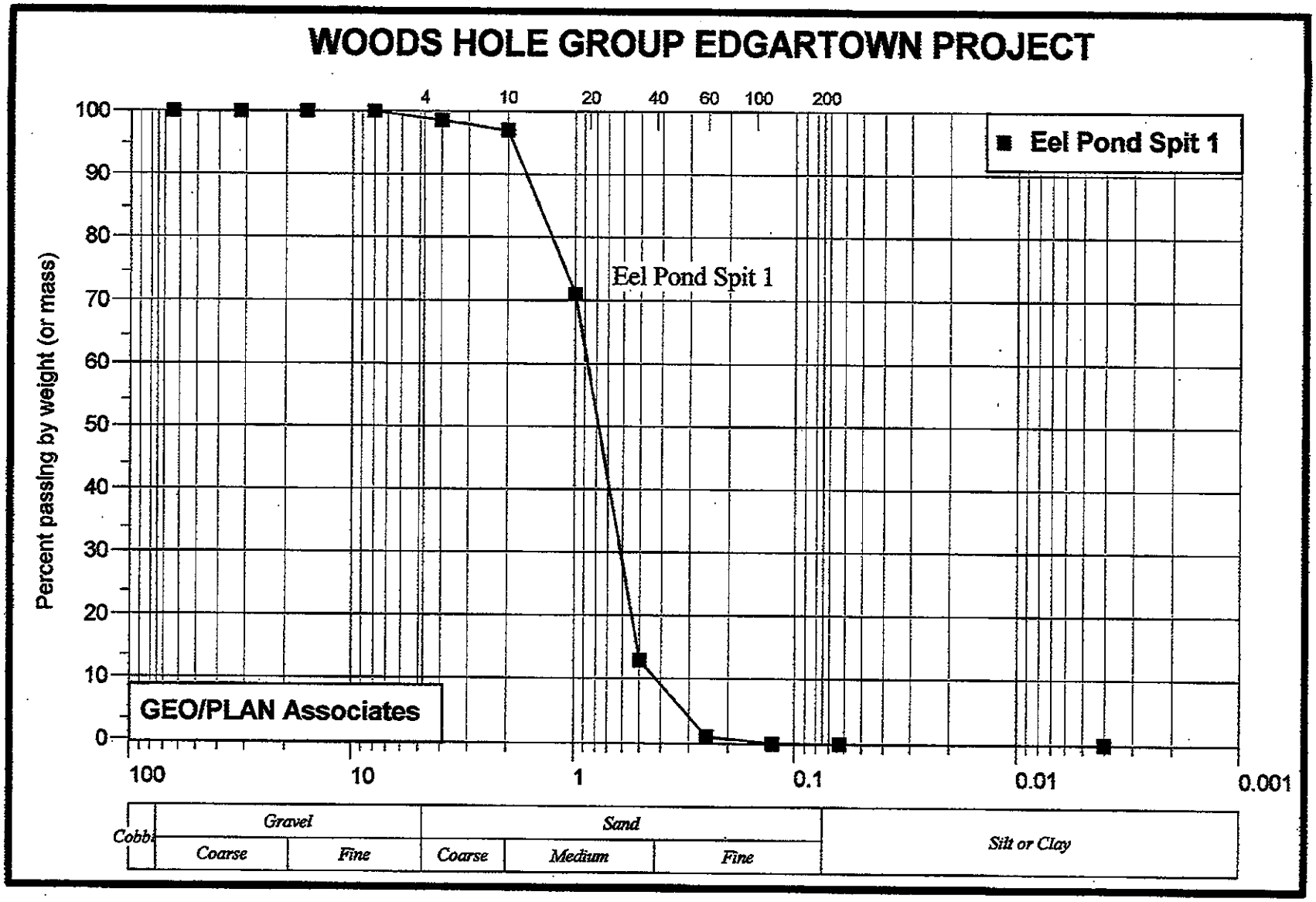
Variance =	0.57
Sample SD =	0.76

Coarse Only 100.00

	30.29	57.42
Mean =	0.30	
Variance =		0.57
Sample SD =		0.76

Gravel	Sand	Silt	Clay	Total
3.1	96.9	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0


WOODS HOLE GROUP EDGARTOWN PROJECT
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
Eel Pond Spit 1
Eel Pond Spit 1
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: Edgartown Harbor
Project Location: Edgartown, MA
Project No.
Date: June 2011

Sample: Eel Pond Spit 2

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only % Wt	Sand Only Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	0.00	0.00	0.00	0.00	0.00	0.00
-1	0.02	0.02	0.01	0.01	0.01	0.01
0	0.37	0.36	0.35	0.36	0.35	0.36
1	15.75	15.38	15.16	15.52	15.16	15.52
2	95.53	79.78	78.66	94.18	78.66	94.18
3	101.43	5.90	5.82	100.00	5.82	100.00
4	101.43	0.00	0.00	100.00	0.00	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

Wt. Coarse	101.4250
Wt Fine	0.0000
Total Wt	101.4250

Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-6.90	47.60	0.00
-4	0.00	-4.50	0.00	-5.90	34.80	0.00
-3	0.00	-3.50	0.00	-4.90	24.00	0.00
-2	0.00	-2.50	0.00	-3.90	15.20	0.00
-1	0.01	-1.50	-0.02	-2.90	8.40	0.12
0	0.35	-0.50	-0.18	-1.90	3.61	1.26
1	15.16	0.50	7.58	-0.90	0.81	12.26
2	78.66	1.50	117.99	0.10	0.01	0.80
3	5.82	2.50	14.54	1.10	1.21	7.05
4	0.00	3.50	0.00	2.10	4.41	0.00
Silt	0.00	6.00	0.00	4.60	21.17	0.00
Clay	0.00	9.00	0.00	7.60	57.77	0.00
TOTAL	100.00		139.91			21.49

Total Sample

Mean =	1.40

Variance =	0.21
Sample SD =	0.46

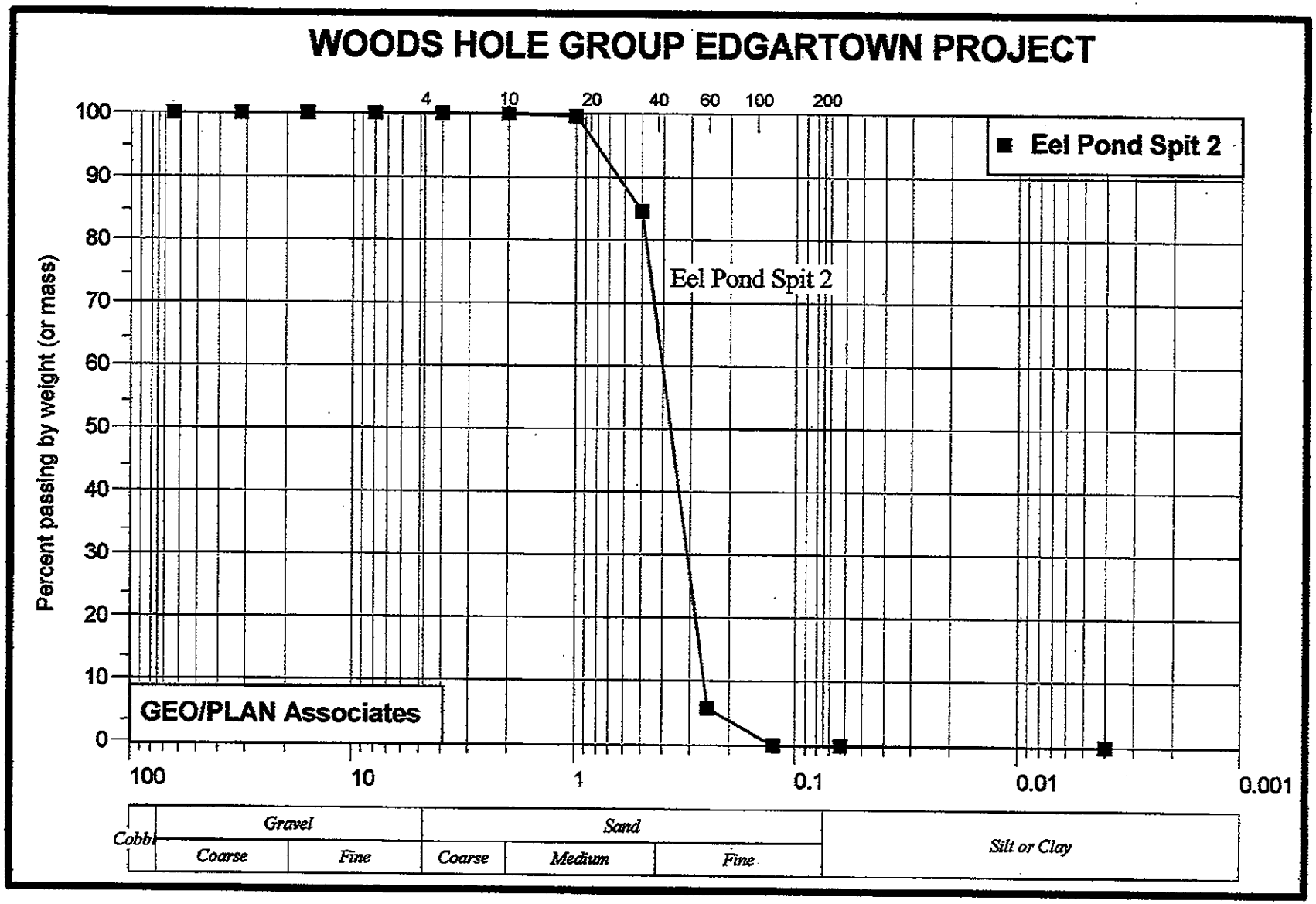
Coarse Only 100.00 139.91 21.49

Mean =	1.40

Variance =	0.21
Sample SD =	0.46

Gravel	Sand	Silt	Clay	Total
0.0	100.0	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0


WOODS HOLE GROUP EDGARTOWN PROJECT
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
Eel Pond Spit 2
Eel Pond Spit 2
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: Cape Pogue
Project Location: Martha's Vineyard, MA
Project No.
Date: August 2011

Sample: **R-39 Eel Pond** (Eel Pond Spit 3)

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only % Wt	Sand Only Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	0.41	0.41	0.49	0.49	0.49	0.49
-1	2.57	2.17	2.61	3.10	2.61	3.10
0	19.35	16.78	20.23	23.33	20.23	23.33
1	58.88	39.54	47.69	71.02	47.69	71.02
2	81.96	23.08	27.84	98.86	27.84	98.86
3	82.80	0.84	1.01	99.87	1.01	99.87
4	82.91	0.11	0.13	100.00	0.13	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

Wt. Coarse	82.9050
Wt Fine	0.0000
Total Wt	82.9050

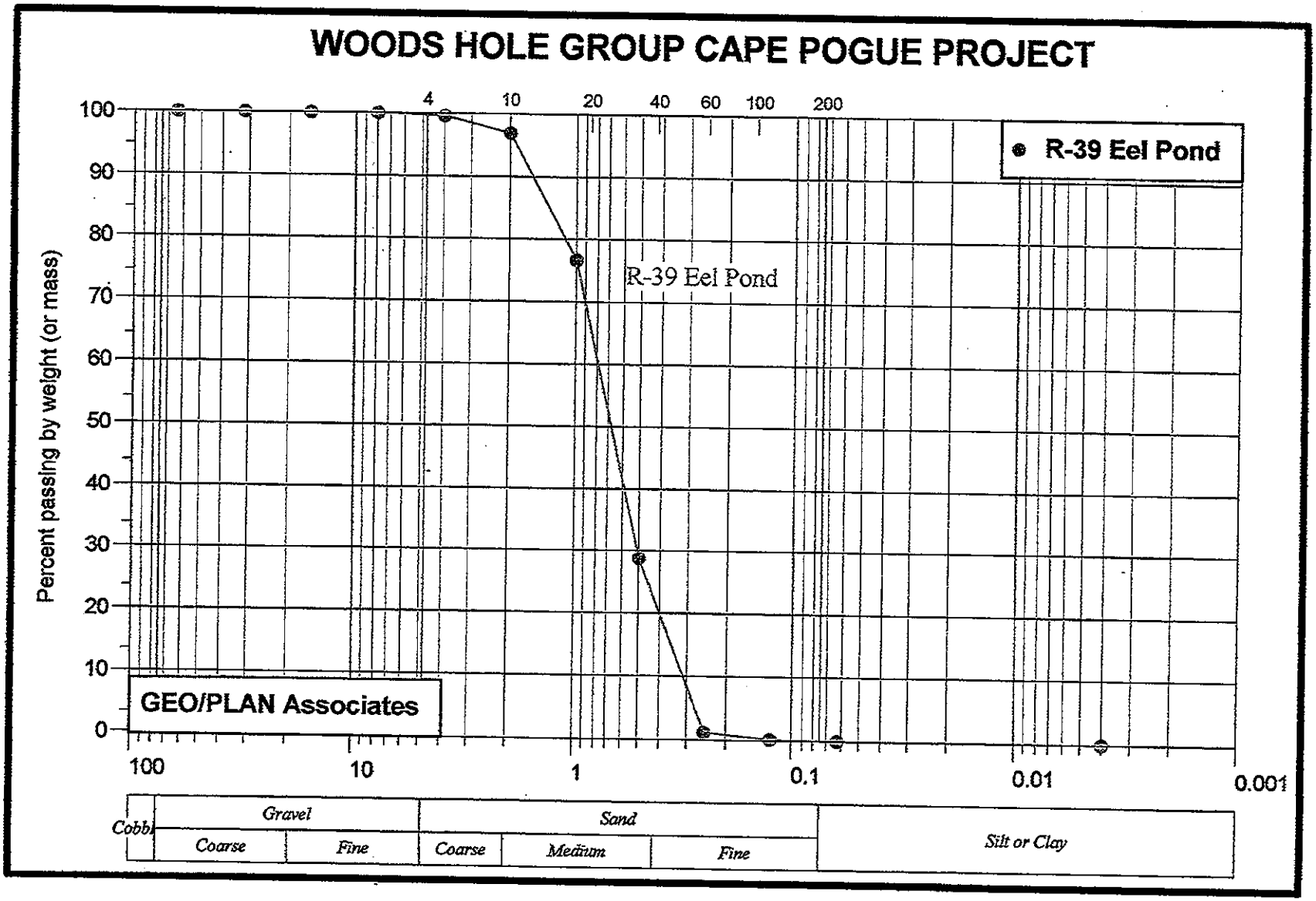
Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-6.03	36.40	0.00
-4	0.00	-4.50	0.00	-5.03	25.33	0.00
-3	0.00	-3.50	0.00	-4.03	16.27	0.00
-2	0.49	-2.50	-1.22	-3.03	9.20	4.49
-1	2.61	-1.50	-3.92	-2.03	4.13	10.80
0	20.23	-0.50	-10.12	-1.03	1.07	21.60
1	47.69	0.50	23.84	-0.03	0.00	0.05
2	27.84	1.50	41.76	0.97	0.93	26.02
3	1.01	2.50	2.53	1.97	3.87	3.92
4	0.13	3.50	0.44	2.97	8.80	1.11
Silt	0.00	6.00	0.00	5.47	29.89	0.00
Clay	0.00	9.00	0.00	8.47	71.69	0.00
TOTAL	100.00		53.32			68.00

Total Sample — Mean = 0.53 — Variance = 0.68 — Sample SD = 0.82

Coarse Only — 100.00 — 53.32 — 68.00 — Mean = 0.53 — Variance = 0.68 — Sample SD = 0.82

Gravel	Sand	Silt	Clay	Total
3.1	96.9	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0


WOODS HOLE GROUP CAPE POGUE PROJECT
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
R-39 Eel Pond
R-39 Eel Pond
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: Cape Pogue
Project Location: Martha's Vineyard, MA
Project No.
Date: August 2011

Sample: **R-66 Sluice Way** (Sluiceway 1)

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only	
					% Wt	Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	0.00	0.00	0.00	0.00	0.00	0.00
-1	2.13	2.13	2.00	2.00	2.00	2.00
0	2.46	0.33	0.31	2.31	0.31	2.31
1	43.44	40.99	38.54	40.85	38.54	40.85
2	105.77	62.33	58.61	99.46	58.61	99.46
3	106.32	0.55	0.52	99.99	0.52	99.99
4	106.34	0.02	0.01	100.00	0.01	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

Wt. Coarse	106.3350
Wt Fine	0.0000
Total Wt	106.3350

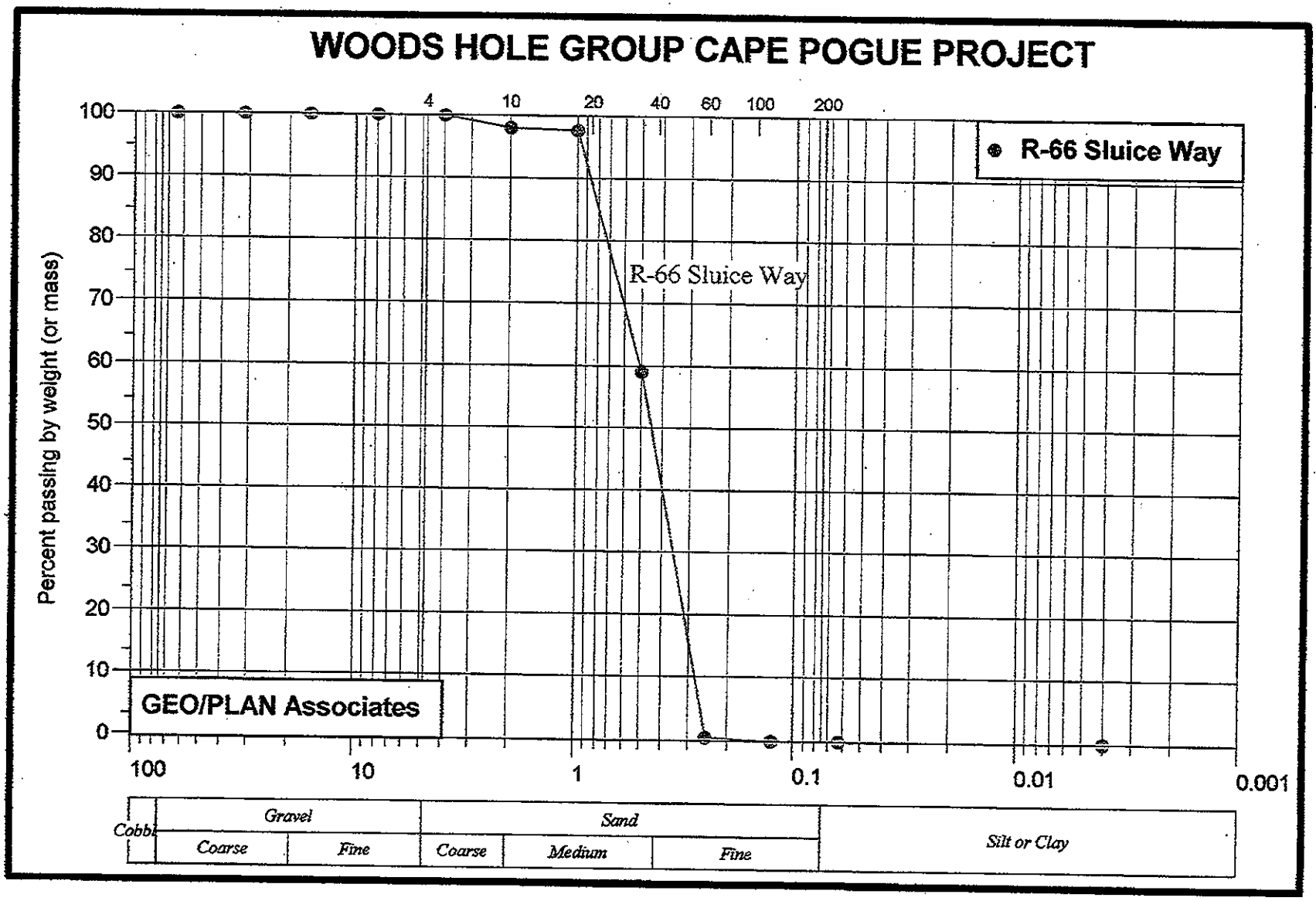
Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-6.55	42.95	0.00
-4	0.00	-4.50	0.00	-5.55	30.85	0.00
-3	0.00	-3.50	0.00	-4.55	20.74	0.00
-2	0.00	-2.50	0.00	-3.55	12.63	0.00
-1	2.00	-1.50	-3.00	-2.55	6.52	13.06
0	0.31	-0.50	-0.15	-1.55	2.41	0.74
1	38.54	0.50	19.27	-0.55	0.31	11.82
2	58.61	1.50	87.92	0.45	0.20	11.67
3	0.52	2.50	1.30	1.45	2.09	1.09
4	0.01	3.50	0.05	2.45	5.98	0.08
Silt	0.00	6.00	0.00	4.95	24.46	0.00
Clay	0.00	9.00	0.00	7.95	63.14	0.00
TOTAL	100.00		105.39			38.47

Total Sample — Mean = 1.05 — Variance = 0.38 — Sample SD = 0.62

Coarse Only 100.00 — 105.39 — 38.47 — Mean = 1.05 — Variance = 0.38 — Sample SD = 0.62

Gravel	Sand	Silt	Clay	Total
2.0	98.0	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0


WOODS HOLE GROUP CAPE POGUE PROJECT
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
R-66 Sluice Way
R-66 Sluice Way
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: Cape Pogue
Project Location: Martha's Vineyard, MA
Project No.
Date: August 2011

Sample: **R-62 Sluice Way** (Sluiceway 2)

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only	
					% Wt	Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	0.00	0.00	0.00	0.00	0.00	0.00
-1	0.49	0.49	0.60	0.60	0.60	0.60
0	5.93	5.44	6.63	7.23	6.63	7.23
1	43.56	37.63	45.87	53.10	45.87	53.10
2	80.31	36.75	44.79	97.90	44.79	97.90
3	81.95	1.64	2.00	99.90	2.00	99.90
4	82.03	0.09	0.10	100.00	0.10	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

Wt. Coarse	82.0300
Wt Fine	0.0000
Total Wt	82.0300

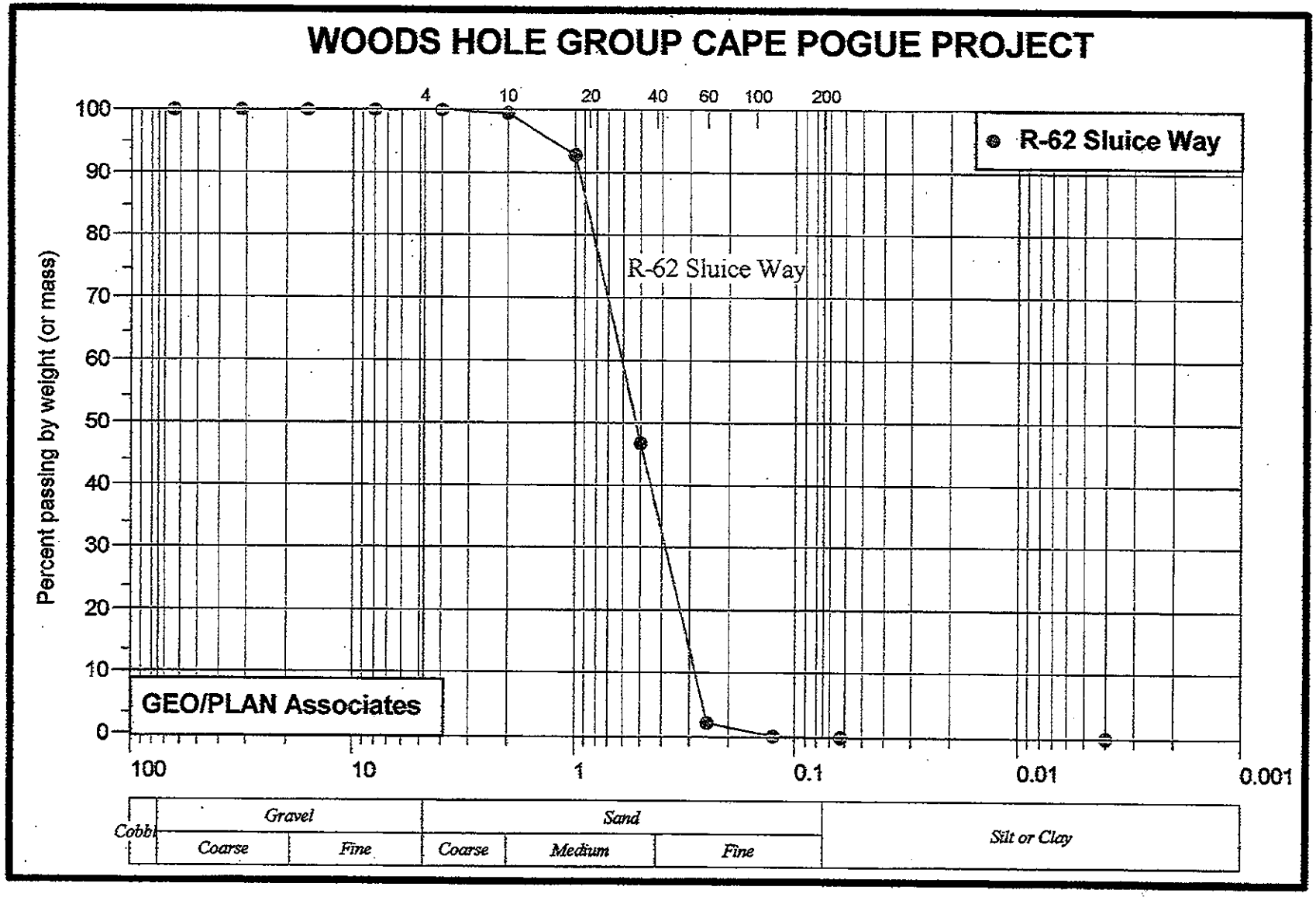
Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-6.41	41.12	0.00
-4	0.00	-4.50	0.00	-5.41	29.30	0.00
-3	0.00	-3.50	0.00	-4.41	19.47	0.00
-2	0.00	-2.50	0.00	-3.41	11.66	0.00
-1	0.60	-1.50	-0.90	-2.41	5.82	3.48
0	6.63	-0.50	-3.32	-1.41	2.00	13.24
1	45.87	0.50	22.94	-0.41	0.17	7.82
2	44.79	1.50	67.19	0.59	0.34	15.45
3	2.00	2.50	5.00	1.59	2.52	5.04
4	0.10	3.50	0.36	2.59	6.69	0.69
Silt	0.00	6.00	0.00	5.09	26.68	0.00
Clay	0.00	9.00	0.00	8.09	65.40	0.00
TOTAL	100.00		91.28			45.71

Total Sample — Mean = 0.91 — Variance = 0.46 — Sample SD = 0.68

Coarse Only 100.00 — 91.28 — 45.71 — Mean = 0.91 — Variance = 0.46 — Sample SD = 0.68

Gravel	Sand	Silt	Clay	Total
0.6	99.4	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0


WOODS HOLE GROUP CAPE POGUE PROJECT
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
R-62 Sluice Way
R-62 Sluice Way
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: Edgartown Project
Project Location: Collin's Beach & Wilson's Landing
Project No.
Date: October 2011

Sample: **Sluiceway 1** (formerly) Currently Sluiceway 3

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only % Wt	Sand Only Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	0.00	0.00	0.00	0.00	0.00	0.00
-1	0.07	0.07	0.07	0.07	0.07	0.07
0	0.17	0.10	0.11	0.18	0.11	0.18
1	19.09	18.92	20.24	20.41	20.24	20.41
2	89.97	70.89	75.82	96.23	75.82	96.23
3	93.48	3.51	3.75	99.98	3.75	99.98
4	93.50	0.02	0.02	100.00	0.02	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

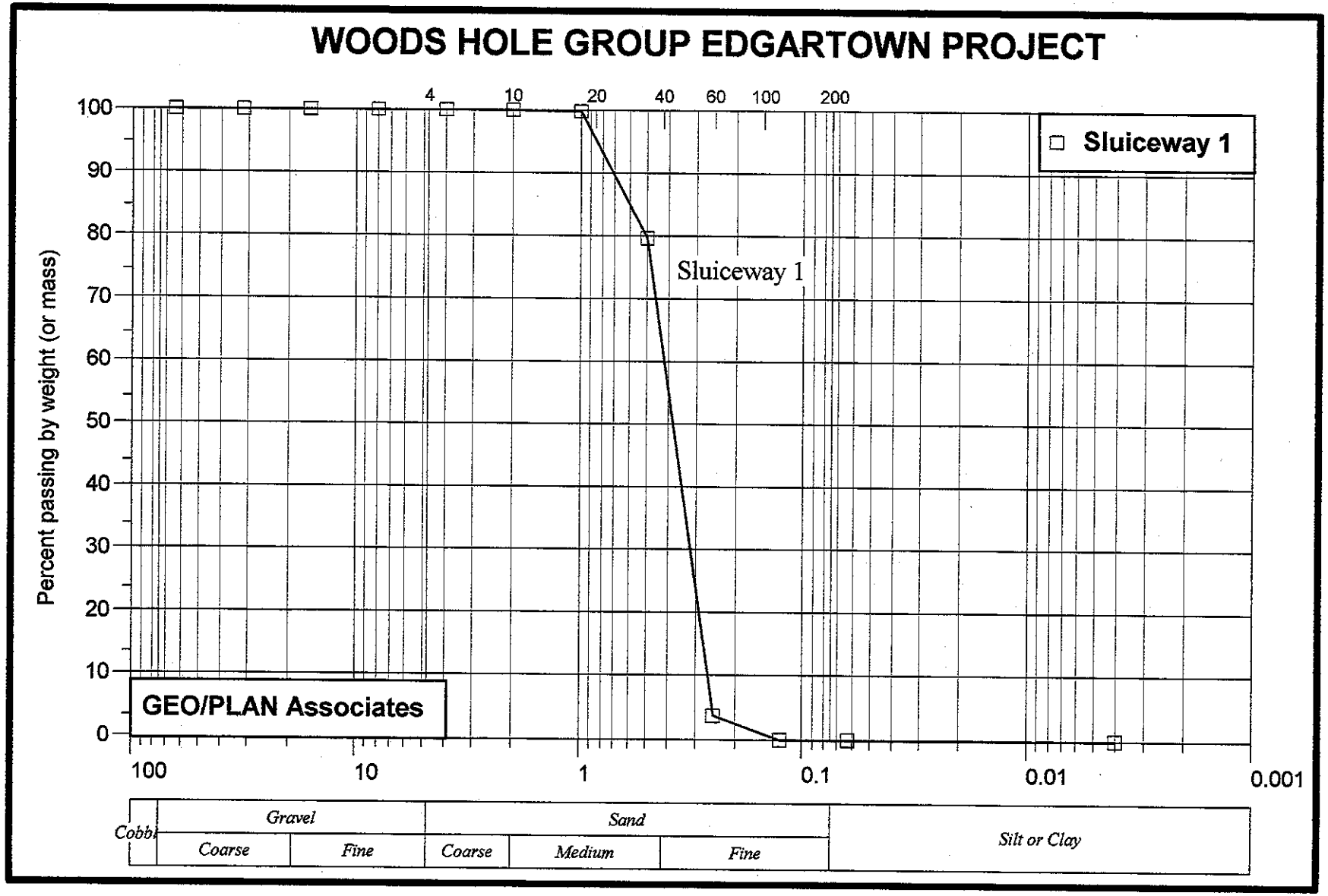
Wt. Coarse	93.4950
Wt Fine	0.0000
Total Wt	93.4950

Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-6.83	46.67	0.00
-4	0.00	-4.50	0.00	-5.83	34.00	0.00
-3	0.00	-3.50	0.00	-4.83	23.34	0.00
-2	0.00	-2.50	0.00	-3.83	14.68	0.00
-1	0.07	-1.50	-0.10	-2.83	8.02	0.56
0	0.11	-0.50	-0.05	-1.83	3.35	0.36
1	20.24	0.50	10.12	-0.83	0.69	13.99
2	75.82	1.50	113.73	0.17	0.03	2.16
3	3.75	2.50	9.37	1.17	1.37	5.12
4	0.02	3.50	0.07	2.17	4.70	0.10
Silt	0.00	6.00	0.00	4.67	21.80	0.00
Clay	0.00	9.00	0.00	7.67	58.81	0.00
TOTAL	100.00		133.13			22.28

Total Sample		Mean =	1.33	Variance =	0.22
				Sample SD =	0.47
Coarse Only	100.00		133.13		22.28
		Mean =	1.33	Variance =	0.22
				Sample SD =	0.47

Gravel	Sand	Silt	Clay	Total
0.1	99.9	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0


WOODS HOLE GROUP EDGARTOWN PROJECT
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
Sluiceway 1
Sluiceway 1
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: Edgartown Project
Project Location: Collin's Beach & Wilson's Landing
Project No.
Date: October 2011

Sample: **Sluiceway 2** (formerly) Currently Sluiceway 4

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only % Wt	Sand Only Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	0.00	0.00	0.00	0.00	0.00	0.00
-1	0.81	0.81	0.82	0.82	0.82	0.82
0	6.41	5.60	5.63	6.44	5.63	6.44
1	49.33	42.93	43.19	49.64	43.19	49.64
2	98.62	49.29	49.59	99.23	49.59	99.23
3	99.37	0.76	0.76	99.98	0.76	99.98
4	99.39	0.02	0.02	100.00	0.02	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

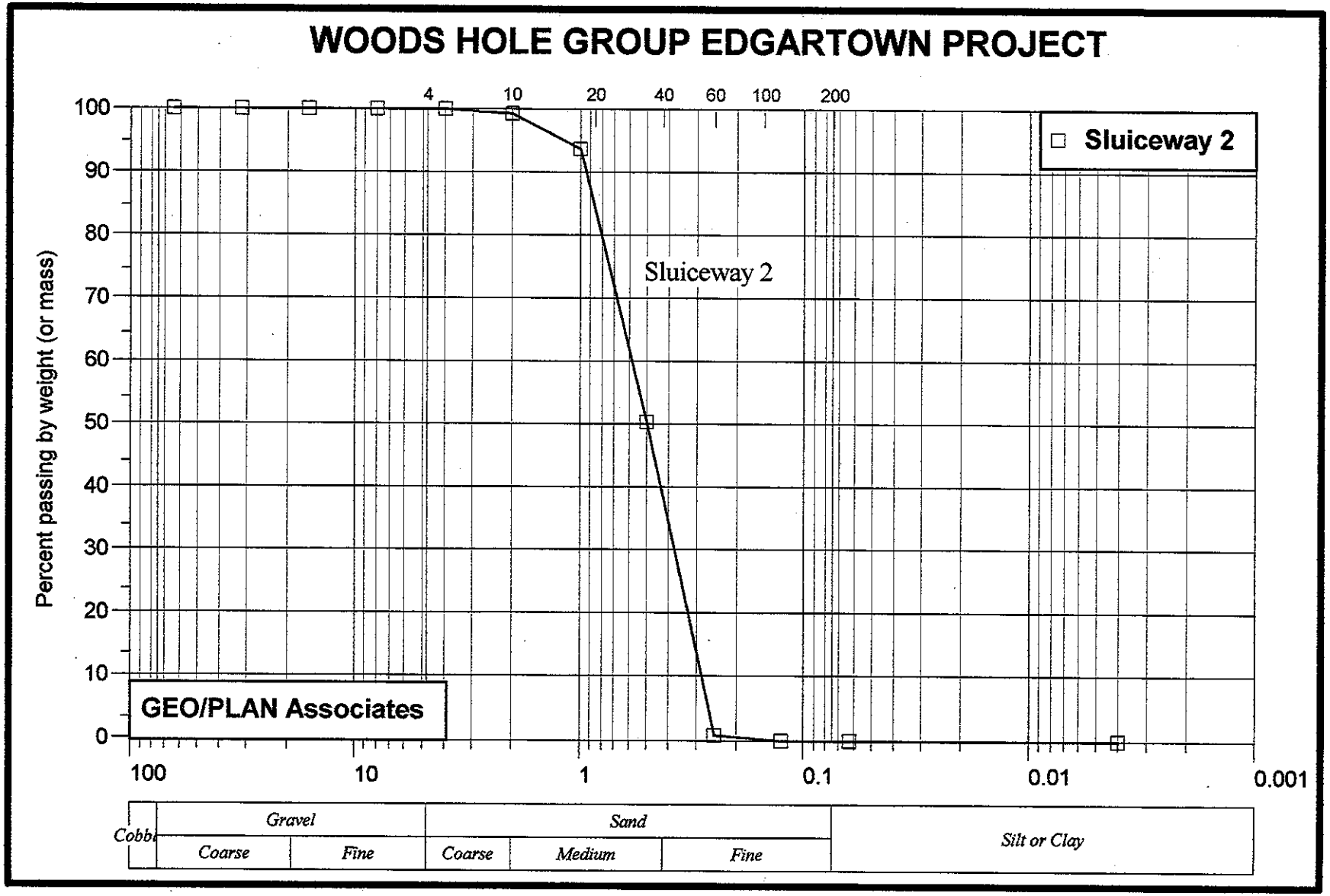
Wt. Coarse	99.3850
Wt Fine	0.0000
Total Wt	99.3850

Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-6.44	41.46	0.00
-4	0.00	-4.50	0.00	-5.44	29.58	0.00
-3	0.00	-3.50	0.00	-4.44	19.70	0.00
-2	0.00	-2.50	0.00	-3.44	11.83	0.00
-1	0.82	-1.50	-1.22	-2.44	5.95	4.85
0	5.63	-0.50	-2.81	-1.44	2.07	11.66
1	43.19	0.50	21.60	-0.44	0.19	8.32
2	49.59	1.50	74.38	0.56	0.31	15.61
3	0.76	2.50	1.90	1.56	2.44	1.85
4	0.02	3.50	0.05	2.56	6.56	0.10
Silt	0.00	6.00	0.00	5.06	25.61	0.00
Clay	0.00	9.00	0.00	8.06	64.98	0.00
TOTAL	100.00		93.89			42.39

Total Sample		Mean =	0.94	Variance =	0.42
				Sample SD =	0.65
Coarse Only	100.00		93.89		42.39
		Mean =	0.94	Variance =	0.42
				Sample SD =	0.65

Gravel	Sand	Silt	Clay	Total
0.8	99.2	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0


WOODS HOLE GROUP EDGARTOWN PROJECT
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
Sluiceway 2
Sluiceway 2
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: Edgartown Project
Project Location: Collin's Beach & Wilson's Landing
Project No.
Date: October 2011

Sample: **Wilson's Laning 25** (Wilsons Landing 3)

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only	
					% Wt	Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	5.90	5.90	4.40	4.40	4.40	4.40
-3	24.74	18.84	14.05	18.45	14.05	18.45
-2	36.57	11.84	8.83	27.27	8.83	27.27
-1	44.91	8.34	6.22	33.49	6.22	33.49
0	62.59	17.68	13.19	46.68	13.19	46.68
1	97.64	35.05	26.14	72.81	26.14	72.81
2	129.60	31.97	23.84	96.65	23.84	96.65
3	134.07	4.47	3.33	99.98	3.33	99.98
4	134.09	0.03	0.02	100.00	0.02	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

Wt. Coarse	134.0900
Wt Fine	0.0000
Total Wt	134.0900

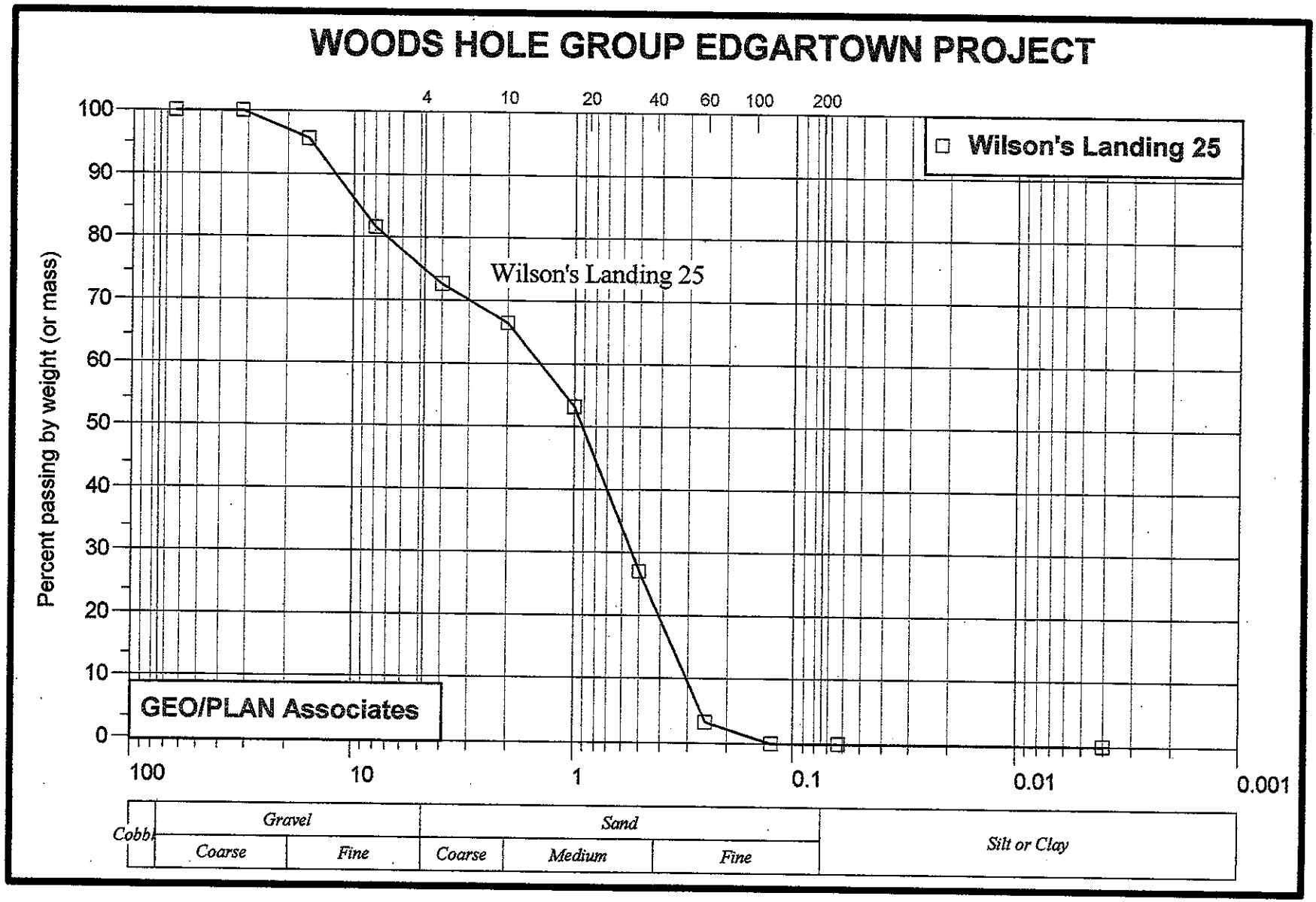
Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-5.00	25.03	0.00
-4	4.40	-4.50	-19.80	-4.00	16.02	70.49
-3	14.05	-3.50	-49.16	-3.00	9.02	126.64
-2	8.83	-2.50	-22.07	-2.00	4.01	35.40
-1	6.22	-1.50	-9.33	-1.00	1.01	6.25
0	13.19	-0.50	-6.59	0.00	0.00	0.00
1	26.14	0.50	13.07	1.00	0.99	26.00
2	23.84	1.50	35.76	2.00	3.99	95.10
3	3.33	2.50	8.32	3.00	8.98	29.92
4	0.02	3.50	0.07	4.00	15.98	0.30
Silt	0.00	6.00	0.00	6.50	42.22	0.00
Clay	0.00	9.00	0.00	9.50	90.20	0.00
TOTAL	100.00		-49.74			390.10

Total Sample — Mean = -0.50 — Variance = 3.90 — Sample SD = 1.98

Coarse Only 100.00 -49.74 390.10 — Mean = -0.50 — Variance = 3.90 — Sample SD = 1.98

Gravel	Sand	Silt	Clay	Total
33.5	66.5	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0


WOODS HOLE GROUP EDGARTOWN PROJECT
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
Wilson's Landing 25
Wilson's Landing 25
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: Edgartown Project
Project Location: Collin's Beach & Wilson's Landing
Project No.
Date: October 2011

Sample: **Wilson's Laning 42** (Wilsons Landing 4)

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only % Wt	Sand Only Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	1.22	1.22	0.90	0.90	0.90	0.90
-1	2.60	1.39	1.02	1.92	1.02	1.92
0	5.68	3.08	2.28	4.20	2.28	4.20
1	59.05	53.37	39.49	43.69	39.49	43.69
2	115.55	56.51	41.81	85.50	41.81	85.50
3	133.89	18.34	13.57	99.06	13.57	99.06
4	135.15	1.27	0.94	100.00	0.94	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

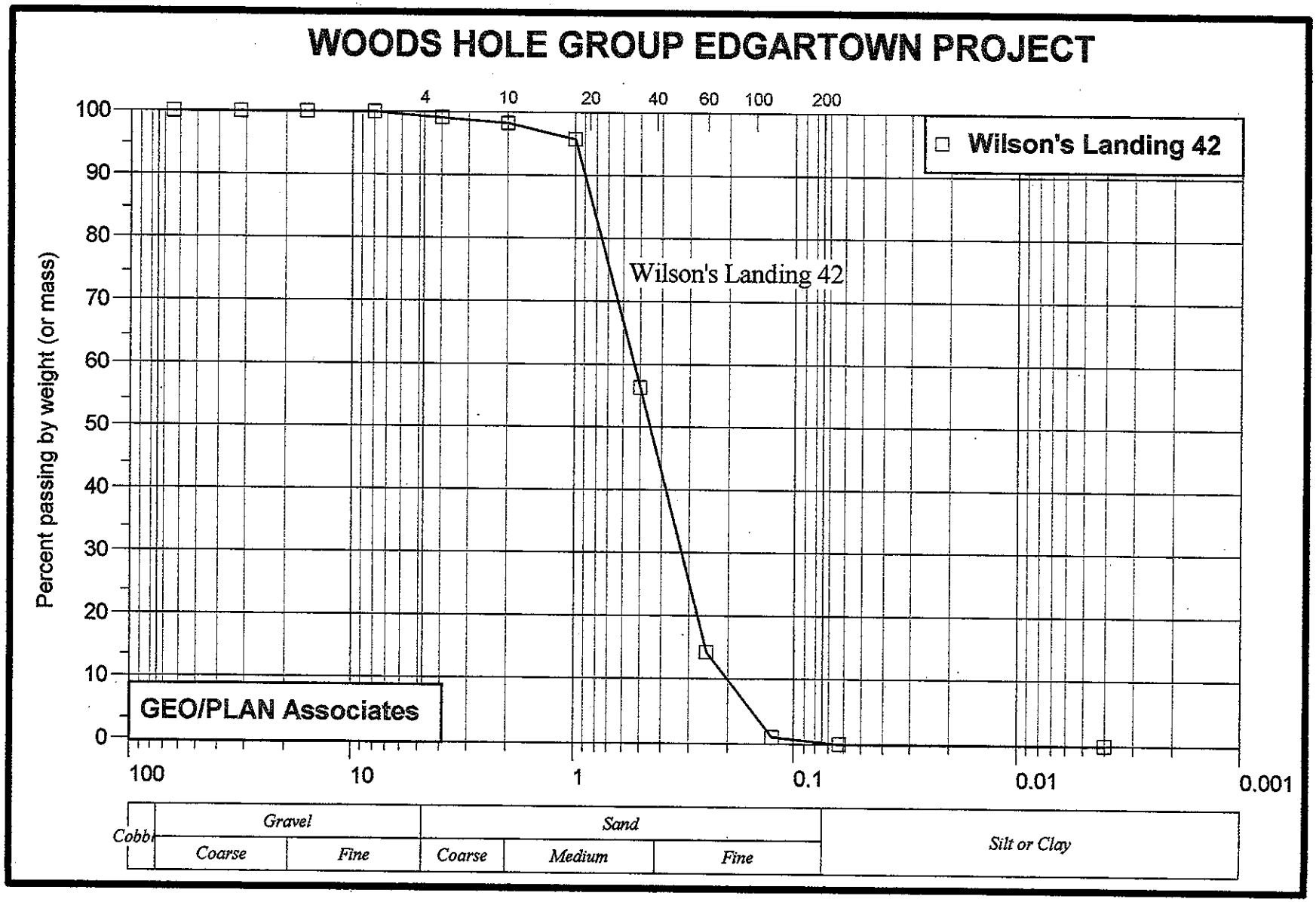
Wt. Coarse	135.1500
Wt Fine	0.0000
Total Wt	135.1500

Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-6.65	44.19	0.00
-4	0.00	-4.50	0.00	-5.65	31.89	0.00
-3	0.00	-3.50	0.00	-4.65	21.60	0.00
-2	0.90	-2.50	-2.25	-3.65	13.30	11.96
-1	1.02	-1.50	-1.54	-2.65	7.01	7.18
0	2.28	-0.50	-1.14	-1.65	2.71	6.18
1	39.49	0.50	19.74	-0.65	0.42	16.54
2	41.81	1.50	62.71	0.35	0.12	5.20
3	13.57	2.50	33.92	1.35	1.83	24.83
4	0.94	3.50	3.28	2.35	5.54	5.18
Silt	0.00	6.00	0.00	4.85	23.55	0.00
Clay	0.00	9.00	0.00	7.85	61.67	0.00
TOTAL	100.00		114.72			77.08

Total Sample		Mean =	1.15	Variance =	0.77
				Sample SD =	0.88
Coarse Only	100.00		114.72		77.08
		Mean =	1.15	Variance =	0.77
				Sample SD =	0.88

Gravel	Sand	Silt	Clay	Total
1.9	98.1	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0


WOODS HOLE GROUP EDGARTOWN PROJECT
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
Wilson's Landing 42
Wilson's Landing 42
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: ACOE Permits
Project Location: Edgartown, MV
Project No. 2010-142
Date: March 2012

Sample: SB-1

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only % Wt	Sand Only Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	0.00	0.00	0.00	0.00	0.00	0.00
-1	1.11	1.11	1.09	1.09	1.09	1.09
0	12.66	11.56	11.39	12.48	11.39	12.48
1	86.46	73.80	72.76	85.24	72.76	85.24
2	99.54	13.08	12.90	98.14	12.90	98.14
3	101.40	1.86	1.83	99.98	1.83	99.98
4	101.42	0.03	0.02	100.00	0.02	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

Wt. Coarse	101.4200
Wt Fine	0.0000
Total Wt	101.4200

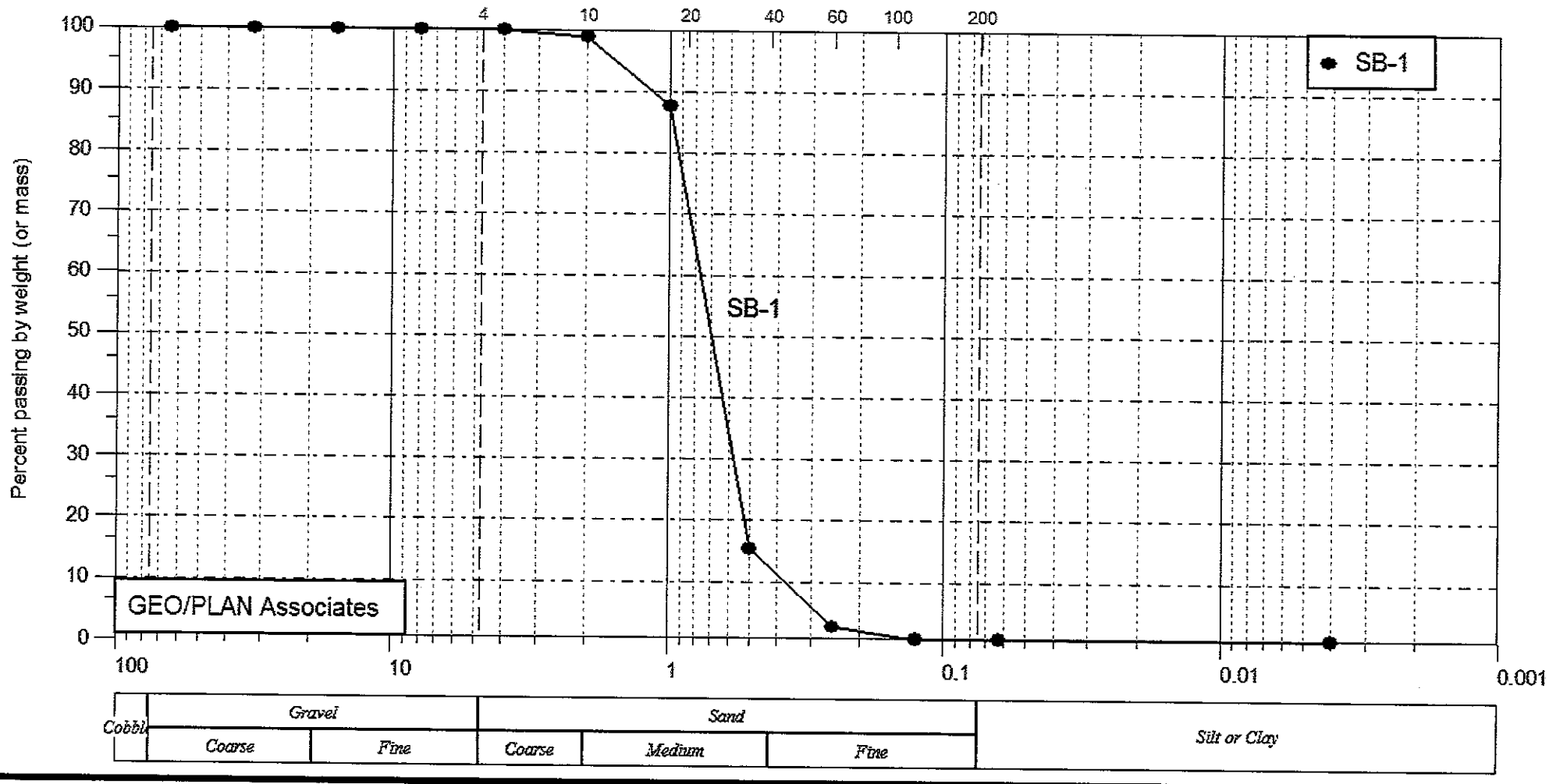
Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-6.03	36.37	0.00
-4	0.00	-4.50	0.00	-5.03	25.31	0.00
-3	0.00	-3.50	0.00	-4.03	16.25	0.00
-2	0.00	-2.50	0.00	-3.03	9.18	0.00
-1	1.09	-1.50	-1.63	-2.03	4.12	4.49
0	11.39	-0.50	-5.70	-1.03	1.06	12.10
1	72.76	0.50	36.38	-0.03	0.00	0.07
2	12.90	1.50	19.35	0.97	0.94	12.12
3	1.83	2.50	4.58	1.97	3.88	7.11
4	0.02	3.50	0.09	2.97	8.82	0.22
Silt	0.00	6.00	0.00	5.47	29.91	0.00
Clay	0.00	9.00	0.00	8.47	71.73	0.00
TOTAL	100.00		53.07			36.11

Total Sample		Mean =	0.53	Variance =	0.36
				Sample SD =	0.60
Coarse Only	100.00		53.07		36.11
		Mean =	0.53	Variance =	0.36
				Sample SD =	0.60

Gravel	Sand	Silt	Clay	Total
1.1	98.9	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0

Woods Hole Edgartown COE Project



GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: ACOE Permits
Project Location: Edgartown, MV
Project No. 2010-142
Date: March 2012

Sample: SB-2

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only % Wt	Sand Only Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	0.00	0.00	0.00	0.00	0.00	0.00
-1	0.10	0.10	0.12	0.12	0.12	0.12
0	1.03	0.93	1.13	1.26	1.13	1.26
1	43.21	42.18	51.40	52.65	51.40	52.65
2	80.11	36.91	44.98	97.63	44.98	97.63
3	82.05	1.94	2.36	99.99	2.36	99.99
4	82.06	0.01	0.01	100.00	0.01	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

Wt. Coarse	82.0550
Wt Fine	0.0000
Total Wt	82.0550

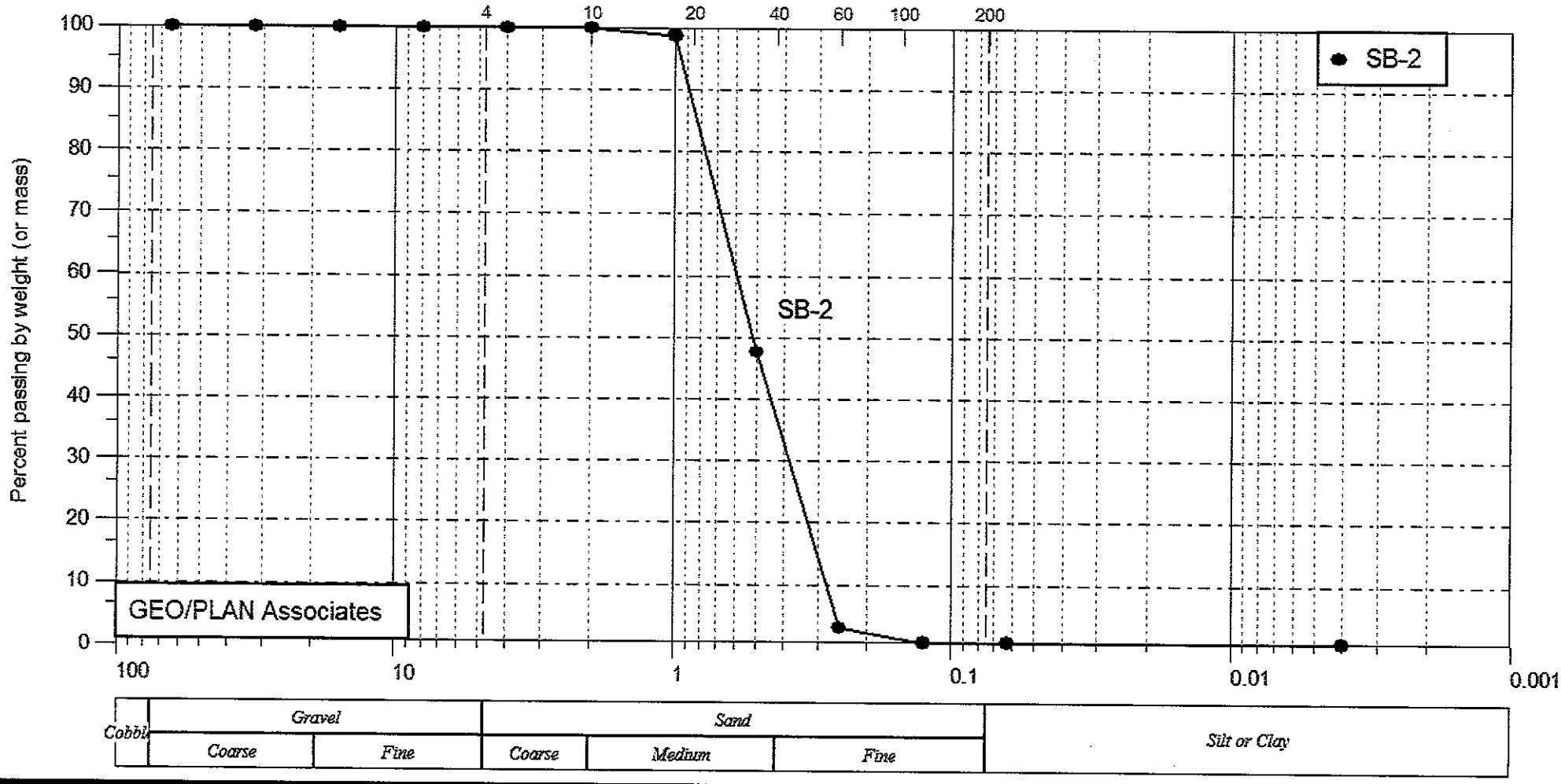
Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-6.48	42.04	0.00
-4	0.00	-4.50	0.00	-5.48	30.07	0.00
-3	0.00	-3.50	0.00	-4.48	20.10	0.00
-2	0.00	-2.50	0.00	-3.48	12.13	0.00
-1	0.12	-1.50	-0.18	-2.48	6.17	0.75
0	1.13	-0.50	-0.57	-1.48	2.20	2.49
1	51.40	0.50	25.70	-0.48	0.23	12.01
2	44.98	1.50	67.46	0.52	0.27	12.00
3	2.36	2.50	5.91	1.52	2.30	5.44
4	0.01	3.50	0.02	2.52	6.33	0.04
Silt	0.00	6.00	0.00	5.02	25.17	0.00
Clay	0.00	9.00	0.00	8.02	64.26	0.00
TOTAL	100.00		98.35			32.74

Total Sample		Mean =	0.98	Variance =	0.33
				Sample SD =	0.57
Coarse Only	100.00		98.35		32.74
		Mean =	0.98	Variance =	0.33
				Sample SD =	0.57

Gravel	Sand	Silt	Clay	Total
0.1	99.9	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0

Woods Hole Edgartown COE Project



GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: ACOE Permits
Project Location: Edgartown, MV
Project No. 2010-142
Date: March 2012

Sample: **S-3**

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only	
					% Wt	Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	3.36	3.36	3.75	3.75	3.75	3.75
-2	7.73	4.37	4.88	8.63	4.88	8.63
-1	13.22	5.49	6.13	14.76	6.13	14.76
0	30.23	17.02	19.01	33.77	19.01	33.77
1	66.07	35.84	40.04	73.81	40.04	73.81
2	85.48	19.41	21.69	95.50	21.69	95.50
3	89.11	3.63	4.06	99.55	4.06	99.55
4	89.51	0.40	0.45	100.00	0.45	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

Wt. Coarse	89.5050
Wt Fine	0.0000
Total Wt	89.5050

Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-5.70	32.52	0.00
-4	0.00	-4.50	0.00	-4.70	22.11	0.00
-3	3.75	-3.50	-13.12	-3.70	13.71	51.38
-2	4.88	-2.50	-12.21	-2.70	7.30	35.65
-1	6.13	-1.50	-9.20	-1.70	2.90	17.77
0	19.01	-0.50	-9.51	-0.70	0.49	9.37
1	40.04	0.50	20.02	0.30	0.09	3.55
2	21.69	1.50	32.53	1.30	1.68	36.53
3	4.06	2.50	10.14	2.30	5.28	21.41
4	0.45	3.50	1.56	3.30	10.88	4.86
Silt	0.00	6.00	0.00	5.80	33.61	0.00
Clay	0.00	9.00	0.00	8.80	77.40	0.00
TOTAL	100.00		20.22			180.52

Total Sample

Mean =	0.20

Variance =	1.81
Sample SD =	1.34

Coarse Only 100.00 20.22 180.52

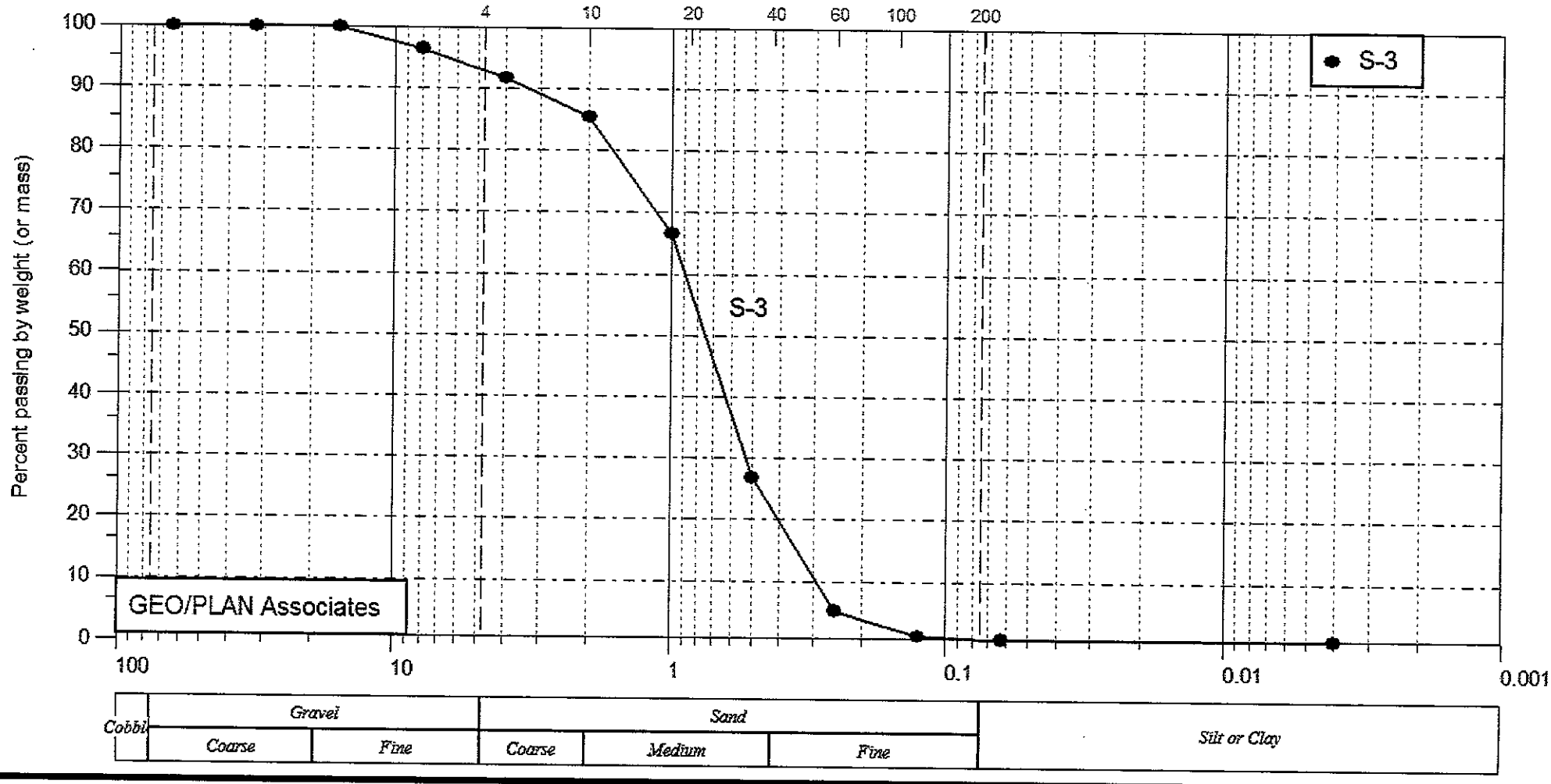
Mean =	0.20

Variance =	1.81
Sample SD =	1.34

Gravel	Sand	Silt	Clay	Total
14.8	85.2	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0

Woods Hole Edgartown COE Project



GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: Edgartown Project
Project Location: Cow Bay Beach and Strauch Property
Project No.
Date: November 2011

Sample: **Condon Cabana-Toe of Dune**

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only	
					% Wt	Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	2.60	2.60	4.95	4.95	4.95	4.95
-1	6.56	3.96	7.54	12.49	7.54	12.49
0	16.45	9.89	18.83	31.32	18.83	31.32
1	33.53	17.08	32.52	63.84	32.52	63.84
2	47.49	13.96	26.58	90.42	26.58	90.42
3	51.89	4.40	8.38	98.80	8.38	98.80
4	52.52	0.63	1.20	100.00	1.20	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

Wt. Coarse	52.5200
Wt Fine	0.0000
Total Wt	52.5200

Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-5.98	35.78	0.00
-4	0.00	-4.50	0.00	-4.98	24.82	0.00
-3	0.00	-3.50	0.00	-3.98	15.85	0.00
-2	4.95	-2.50	-12.38	-2.98	8.89	44.01
-1	7.54	-1.50	-11.31	-1.98	3.93	29.61
0	18.83	-0.50	-9.42	-0.98	0.96	18.15
1	32.52	0.50	16.26	0.02	0.00	0.01
2	26.58	1.50	39.87	1.02	1.04	27.56
3	8.38	2.50	20.94	2.02	4.07	34.13
4	1.20	3.50	4.20	3.02	9.11	10.93
Silt	0.00	6.00	0.00	5.52	30.45	0.00
Clay	0.00	9.00	0.00	8.52	72.56	0.00
TOTAL	100.00		48.17			164.40

Total Sample

Mean =	0.48

Variance =	1.64
Sample SD =	1.28

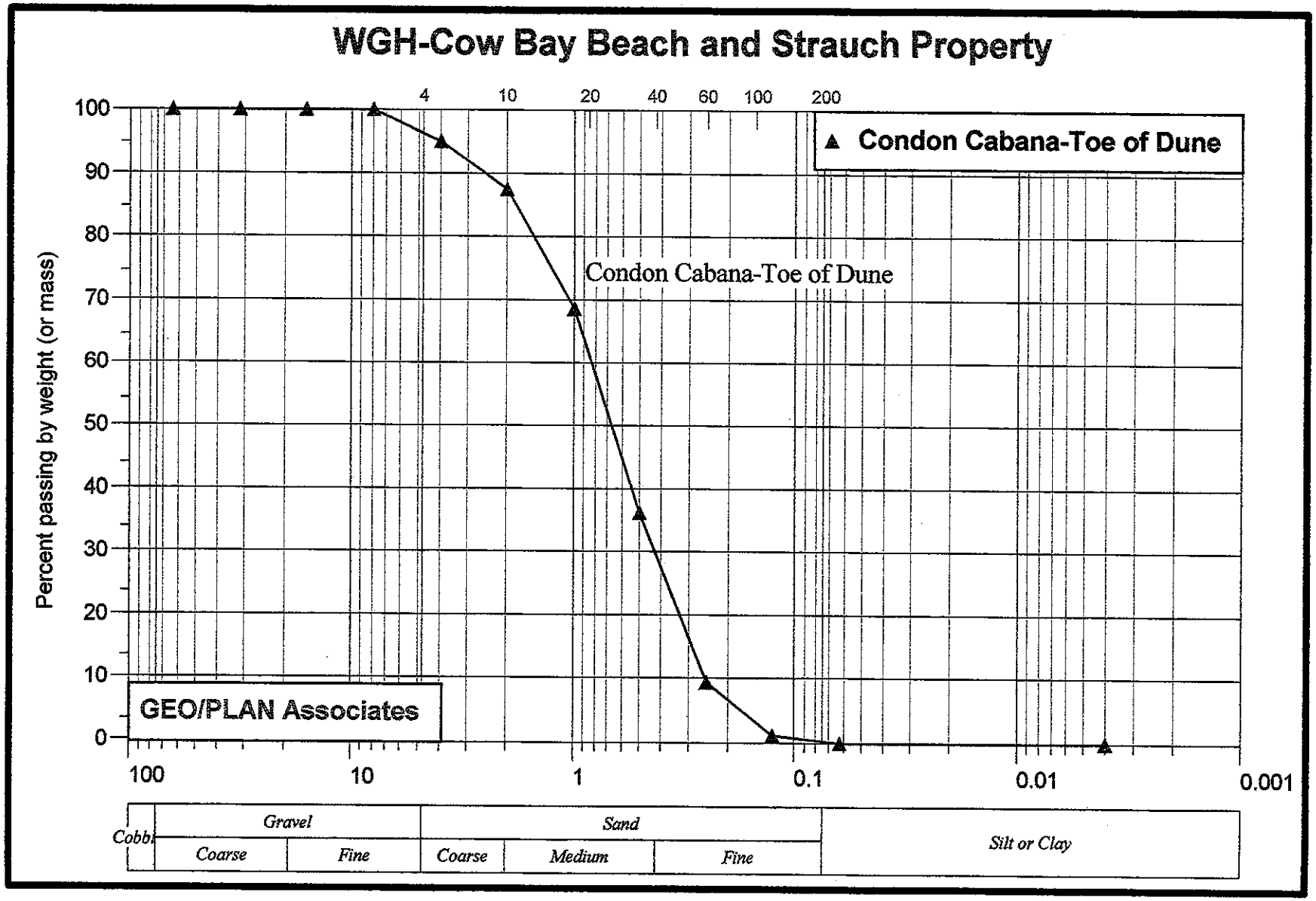
Coarse Only 100.00 48.17 164.40

Mean =	0.48

Variance =	1.64
Sample SD =	1.28

Gravel	Sand	Silt	Clay	Total
12.5	87.5	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0


WGH-Cow Bay Beach and Strauch Property
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
Condon Cabana-Toe of Dune
Condon Cabana-Toe of Dune
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: Edgartown Project
Project Location: Cow Bay Beach and Strauch Property
Project No.
Date: November 2011

Sample: **The "T"-Toe of Dune**

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only	
					% Wt	Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	3.73	3.73	5.03	5.03	5.03	5.03
-1	9.79	6.06	8.19	13.22	8.19	13.22
0	22.96	13.18	17.81	31.03	17.81	31.03
1	47.45	24.49	33.10	64.13	33.10	64.13
2	67.48	20.03	27.07	91.20	27.07	91.20
3	73.11	5.63	7.60	98.80	7.60	98.80
4	73.99	0.88	1.20	100.00	1.20	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

Wt. Coarse	73.9900
Wt Fine	0.0000
Total Wt	73.9900

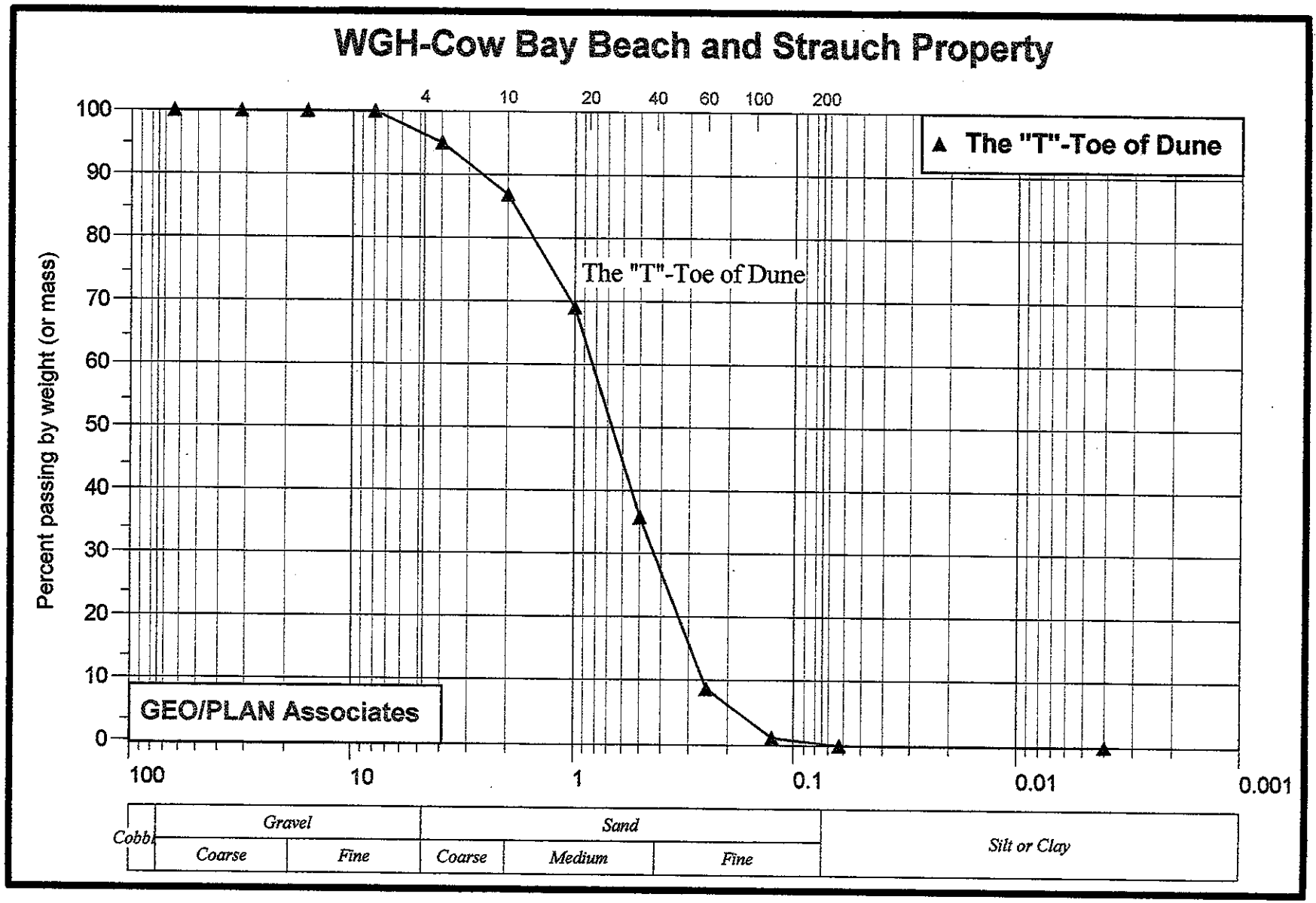
Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-5.97	35.59	0.00
-4	0.00	-4.50	0.00	-4.97	24.66	0.00
-3	0.00	-3.50	0.00	-3.97	15.73	0.00
-2	5.03	-2.50	-12.59	-2.97	8.80	44.28
-1	8.19	-1.50	-12.29	-1.97	3.86	31.65
0	17.81	-0.50	-8.90	-0.97	0.93	16.61
1	33.10	0.50	16.55	0.03	0.00	0.04
2	27.07	1.50	40.61	1.03	1.07	28.96
3	7.60	2.50	19.01	2.03	4.14	31.46
4	1.20	3.50	4.19	3.03	9.21	11.01
Silt	0.00	6.00	0.00	5.53	30.63	0.00
Clay	0.00	9.00	0.00	8.53	72.83	0.00
TOTAL	100.00		46.57			164.01

Total Sample — Mean = 0.47 — Variance = 1.64 — Sample SD = 1.28

Coarse Only 100.00 — 46.57 — 164.01 — Mean = 0.47 — Variance = 1.64 — Sample SD = 1.28

Gravel	Sand	Silt	Clay	Total
13.2	86.8	0.0	0.0	100.0

Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0


WGH-Cow Bay Beach and Strauch Property
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
The "T"-Toe of Dune
The "T"-Toe of Dune
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project Name: Edgartown Project
Project Location: Cow Bay Beach and Strauch Property
Project No.
Date: November 2011

Sample: **Strauch-Toe of Dune**

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only	
					% Wt	Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	4.23	4.23	4.87	4.87	4.87	4.87
-1	11.47	7.24	8.33	13.20	8.33	13.20
0	26.56	15.09	17.37	30.57	17.37	30.57
1	55.26	28.71	33.05	63.62	33.05	63.62
2	78.58	23.32	26.85	90.47	26.85	90.47
3	85.78	7.20	8.29	98.76	8.29	98.76
4	86.86	1.08	1.24	100.00	1.24	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	0.0000	0.0000	0.0000	0.0000	0.0000	--
Clay	0.0000	0.0000	0.0000	0.0000	0.0000	--
		Disp. Wt	0.0000			

Wt. Coarse	86.8550
Wt Fine	0.0000
Total Wt	86.8550

Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-5.98	35.82	0.00
-4	0.00	-4.50	0.00	-4.98	24.85	0.00
-3	0.00	-3.50	0.00	-3.98	15.88	0.00
-2	4.87	-2.50	-12.18	-2.98	8.91	43.39
-1	8.33	-1.50	-12.49	-1.98	3.94	32.82
0	17.37	-0.50	-8.69	-0.98	0.97	16.86
1	33.05	0.50	16.52	0.02	0.00	0.01
2	26.85	1.50	40.27	1.02	1.03	27.66
3	8.29	2.50	20.72	2.02	4.06	33.66
4	1.24	3.50	4.33	3.02	9.09	11.25
Silt	0.00	6.00	0.00	5.52	30.42	0.00
Clay	0.00	9.00	0.00	8.52	72.51	0.00
TOTAL	100.00		48.50			165.65

Total Sample

Mean =	0.48

Variance =	1.66
Sample SD =	1.29

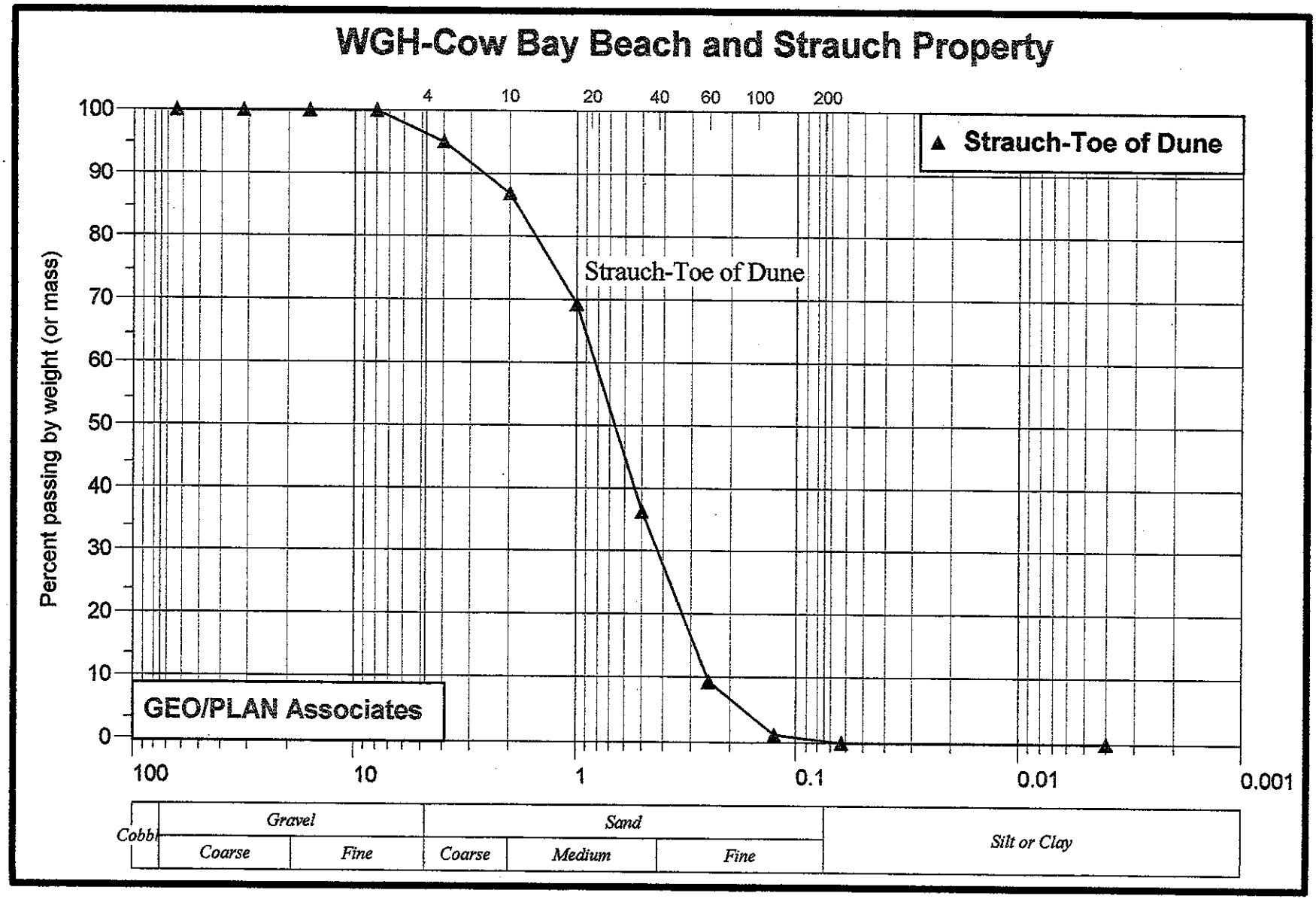
Coarse Only 100.00 48.50 165.65

Mean =	0.48

Variance =	1.66
Sample SD =	1.29

Gravel	Sand	Silt	Clay	Total
13.2	86.8	0.0	0.0	100.0

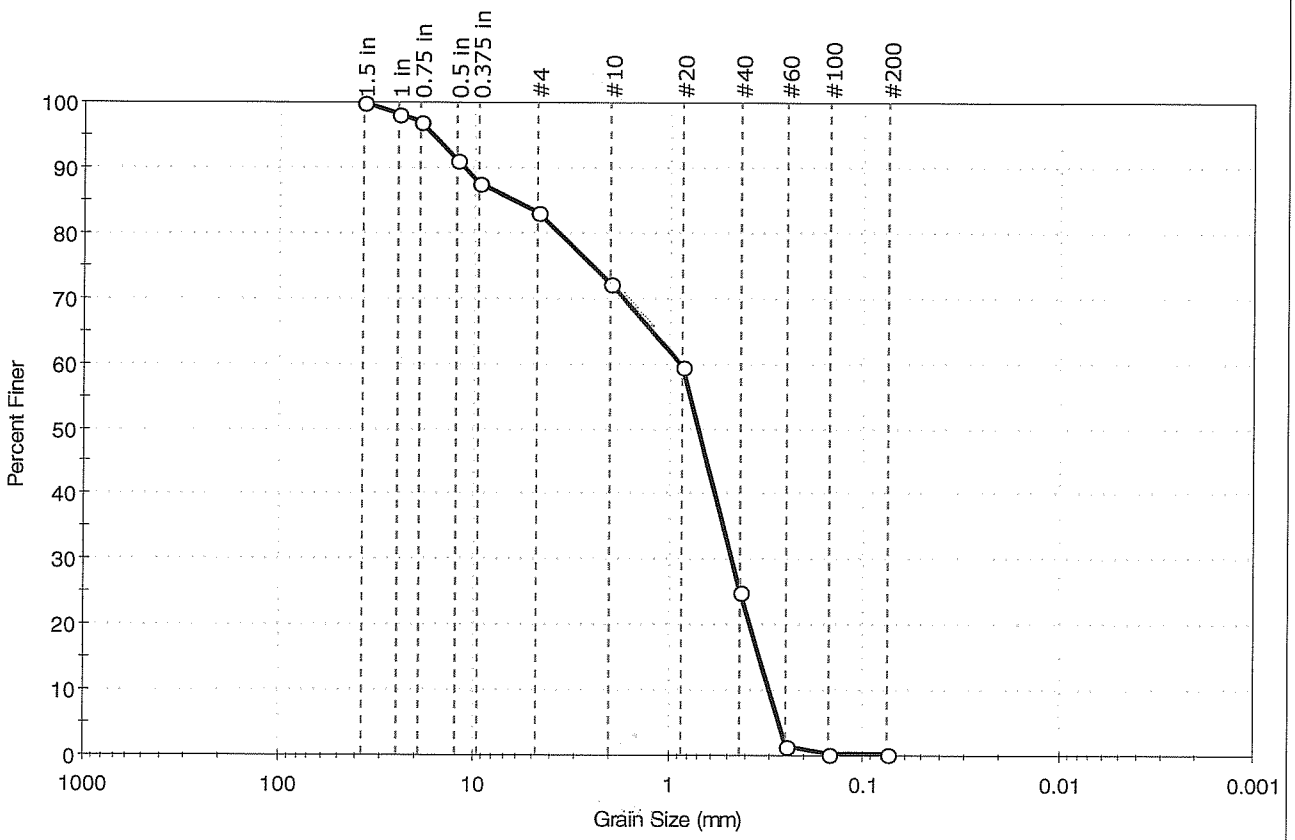
Sand	Silt	Clay	Total
100.0	0.0	0.0	100.0


WGH-Cow Bay Beach and Strauch Property
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
Strauch-Toe of Dune
Strauch-Toe of Dune
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	CLE Engineering				
Project:	Oak Bluffs				
Location:	Oak Bluffs, MA			Project No:	GTX-8510
Boring ID:	9/11/08	Sample Type:	bag	Tested By:	ap
Sample ID:	Sample #11	Test Date:	09/18/08	Checked By:	jdt
Depth :	---	Test Id:	138239		
Test Comment:	---				
Sample Description:	Moist, light yellowish brown sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	16.9	82.8	0.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.5 in	37.50	100		
1 in	25.00	98		
0.75 in	19.00	97		
0.5 in	12.50	91		
0.375 in	9.50	88		
#4	4.75	83		
#10	2.00	72		
#20	0.85	60		
#40	0.42	25		
#60	0.25	1		
#100	0.15	0		
#200	0.075	0		

Coefficients

D_{85} =6.3440 mm	D_{30} =0.4681 mm
D_{60} =0.8761 mm	D_{15} =0.3386 mm
D_{50} =0.7009 mm	D_{10} =0.3029 mm
C_u =2.892	C_c =0.826

Classification

ASTM Poorly graded sand with gravel (SP)

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

Sample/Test Description

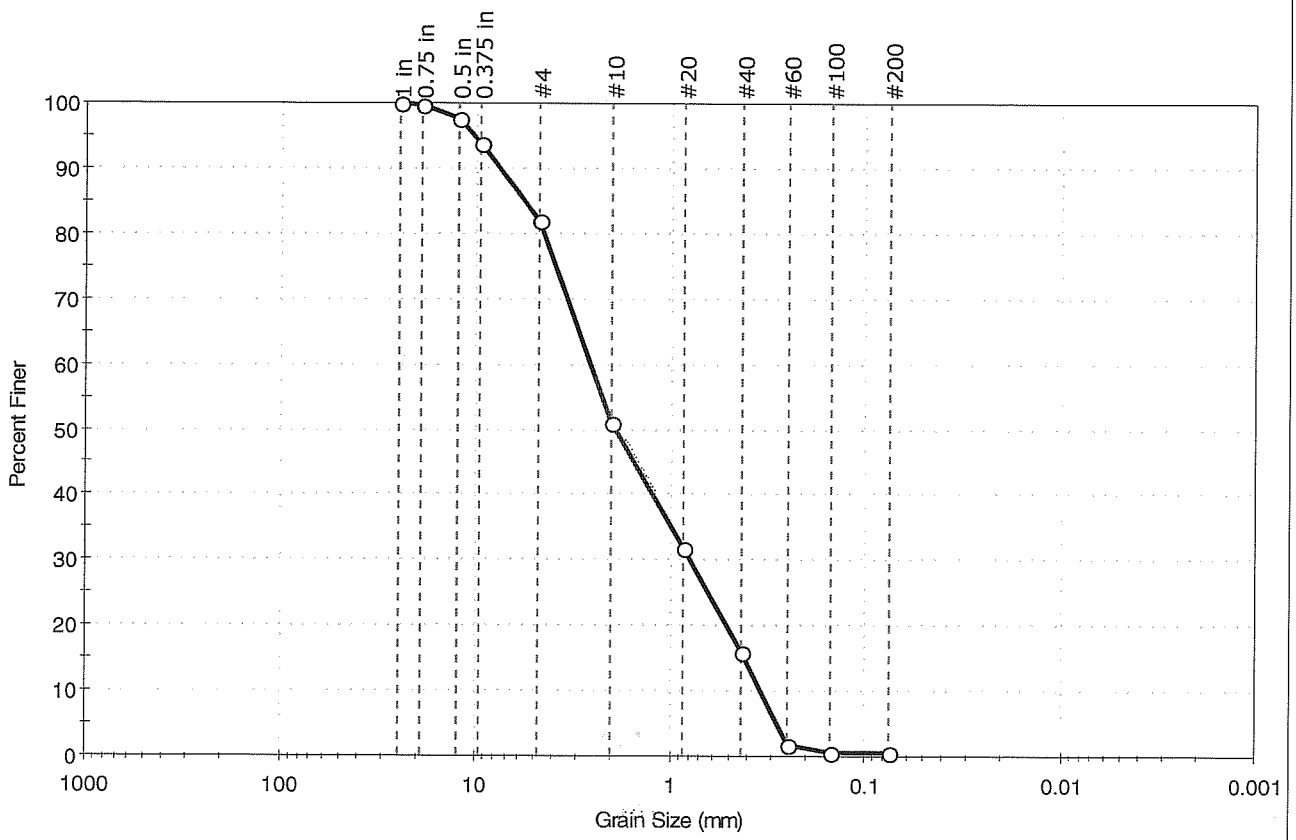
Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	CLE Engineering				
Project:	Oak Bluffs				
Location:	Oak Bluffs, MA			Project No:	GTX-8510
Boring ID:	9/11/08	Sample Type:	bag	Tested By:	ap
Sample ID:	Sample #13	Test Date:	09/17/08	Checked By:	jdt
Depth :	---	Test Id:	138240		
Test Comment:	---				
Sample Description:	Moist, olive yellow sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



%Cobble	%Gravel	%Sand	%Silt & Clay Size
—	17.9	81.6	0.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	100		
0.5 in	12.50	98		
0.375 in	9.50	94		
#4	4.75	82		
#10	2.00	51		
#20	0.85	32		
#40	0.42	16		
#60	0.25	2		
#100	0.15	1		
#200	0.075	1		

Coefficients

D_{85} =5.6254 mm	D_{30} =0.7859 mm
D_{60} =2.5700 mm	D_{15} =0.4102 mm
D_{50} =1.9161 mm	D_{10} =0.3399 mm
C_u =7.561	C_c =0.707

Classification

ASTM — Poorly graded sand with gravel (SP)

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

Sample/Test Description

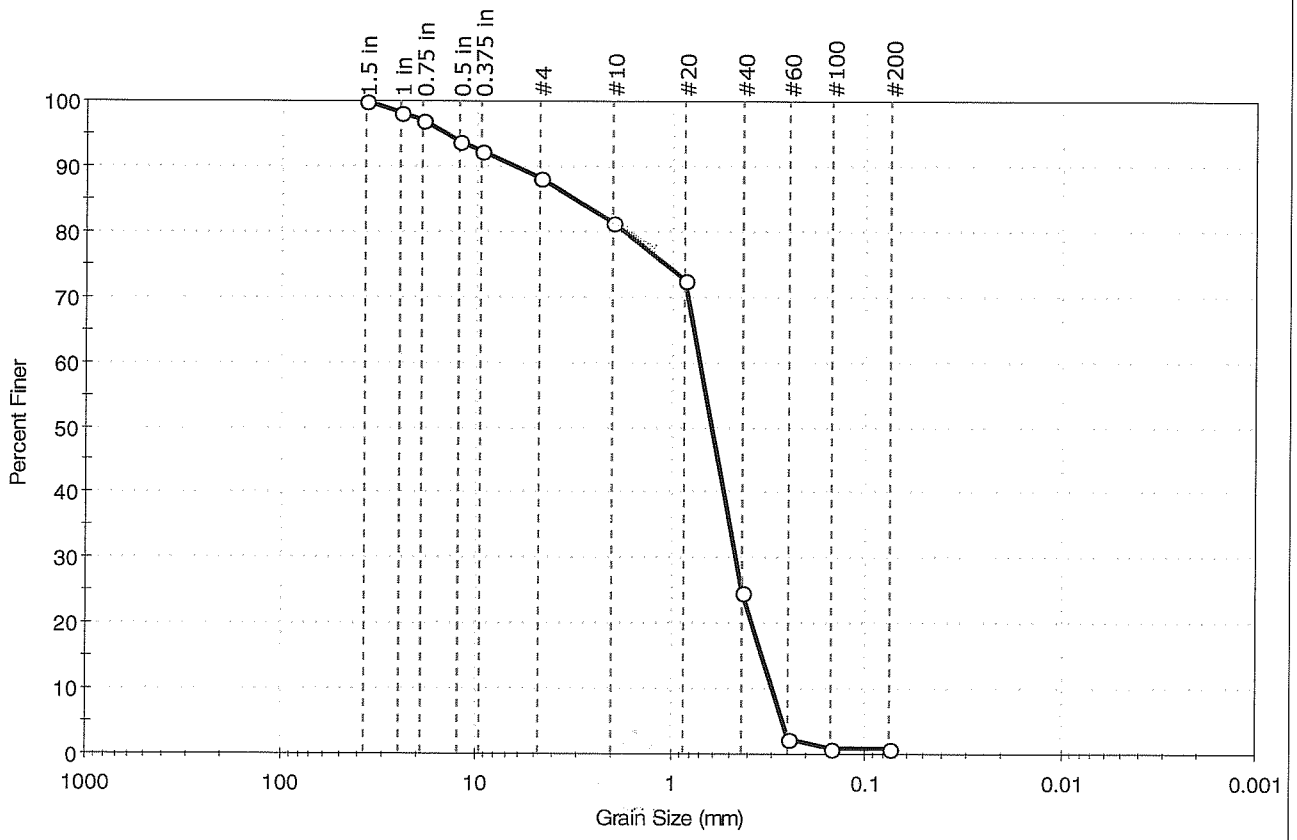
Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	CLE Engineering				
Project:	Oak Bluffs				
Location:	Oak Bluffs, MA			Project No:	GTX-8510
Boring ID:	9/11/08	Sample Type:	bag	Tested By:	ap
Sample ID:	Sample #15	Test Date:	09/18/08	Checked By:	jdt
Depth :	---	Test Id:	138241		
Test Comment:	---				
Sample Description:	Moist, yellowish brown sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	11.8	87.5	0.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.5 in	37.50	100		
1 in	25.00	98		
0.75 in	19.00	97		
0.5 in	12.50	94		
0.375 in	9.50	92		
#4	4.75	88		
#10	2.00	81		
#20	0.85	73		
#40	0.42	25		
#60	0.25	2		
#100	0.15	1		
#200	0.075	1		

Coefficients

D_{85} =3.1518 mm	D_{30} =0.4586 mm
D_{60} =0.7083 mm	D_{15} =0.3376 mm
D_{50} =0.6128 mm	D_{10} =0.3000 mm
C_u =2.361	C_c =0.990

Classification

ASTM Poorly graded sand (SP)

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

Sample/Test Description

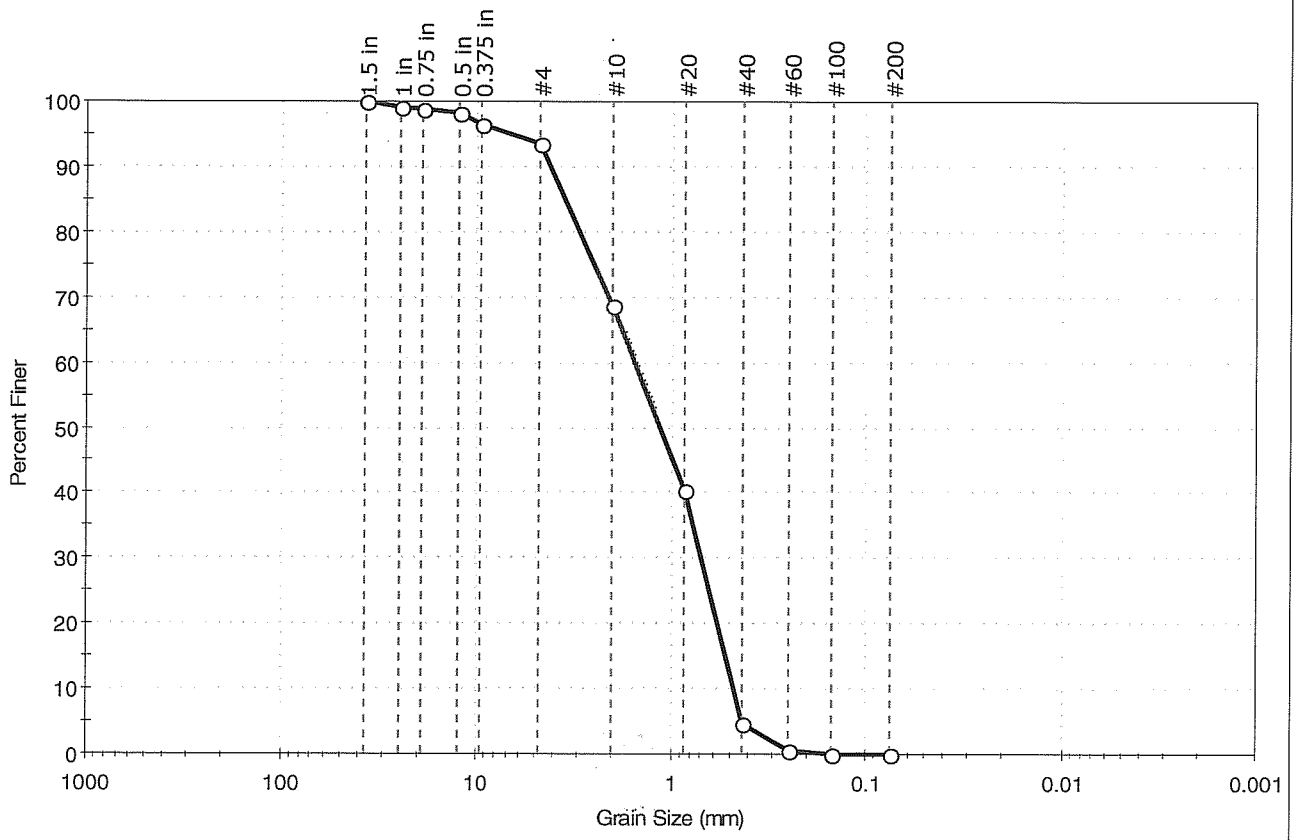
Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	CLE Engineering				
Project:	Oak Bluffs				
Location:	Oak Bluffs, MA			Project No:	GTX-8510
Boring ID:	9/11/08	Sample Type:	bag	Tested By:	ap
Sample ID:	Sample #17	Test Date:	09/18/08	Checked By:	jdt
Depth :	---	Test Id:	138242		
Test Comment:	---				
Sample Description:	Moist, light yellowish brown sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	6.4	93.5	0.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.5 in	37.50	100		
1 in	25.00	99		
0.75 in	19.00	99		
0.5 in	12.50	98		
0.375 in	9.50	97		
#4	4.75	94		
#10	2.00	69		
#20	0.85	40		
#40	0.42	5		
#60	0.25	1		
#100	0.15	0		
#200	0.075	0		

Coefficients

D_{85} = 3.5225 mm	D_{30} = 0.6943 mm
D_{60} = 1.5347 mm	D_{15} = 0.5189 mm
D_{50} = 1.1348 mm	D_{10} = 0.4710 mm
C_u = 3.258	C_c = 0.667

Classification

ASTM Poorly graded sand (SP)

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

Sample/Test Description

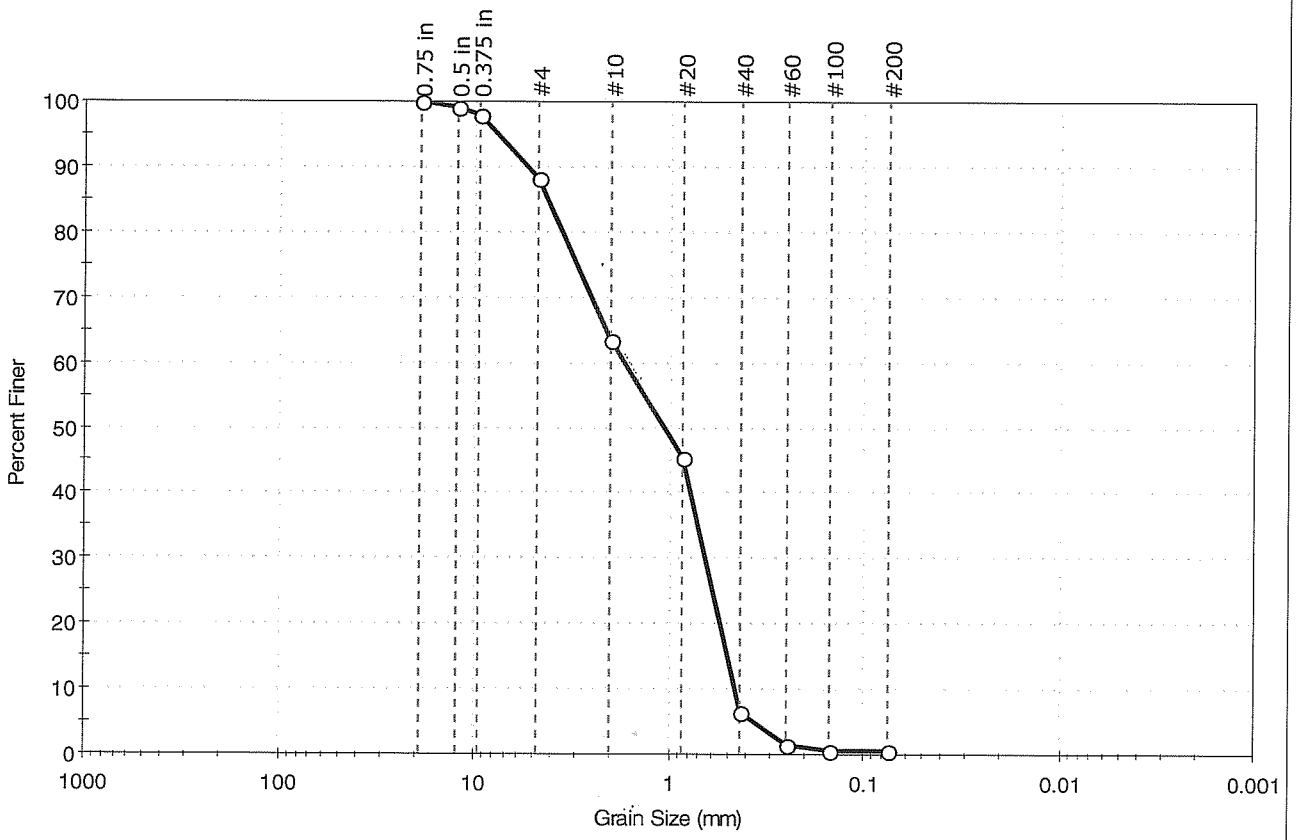
Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	CLE Engineering				
Project:	Oak Bluffs				
Location:	Oak Bluffs, MA			Project No:	GTX-8510
Boring ID:	9/11/08	Sample Type:	bag	Tested By:	ap
Sample ID:	Sample #19	Test Date:	09/19/08	Checked By:	jdt
Depth :	---	Test Id:	138243		
Test Comment:	---				
Sample Description:	Moist, light yellowish brown sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	11.9	87.6	0.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	99		
0.375 in	9.50	98		
#4	4.75	88		
#10	2.00	63		
#20	0.85	46		
#40	0.42	7		
#60	0.25	2		
#100	0.15	1		
#200	0.075	1		

Coefficients

D_{85} =4.2588 mm	D_{30} =0.6446 mm
D_{60} =1.6964 mm	D_{15} =0.4934 mm
D_{50} =1.0529 mm	D_{10} =0.4513 mm
C_u =3.759	C_c =0.543

Classification

ASTM Poorly graded sand (SP)

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

Sample/Test Description

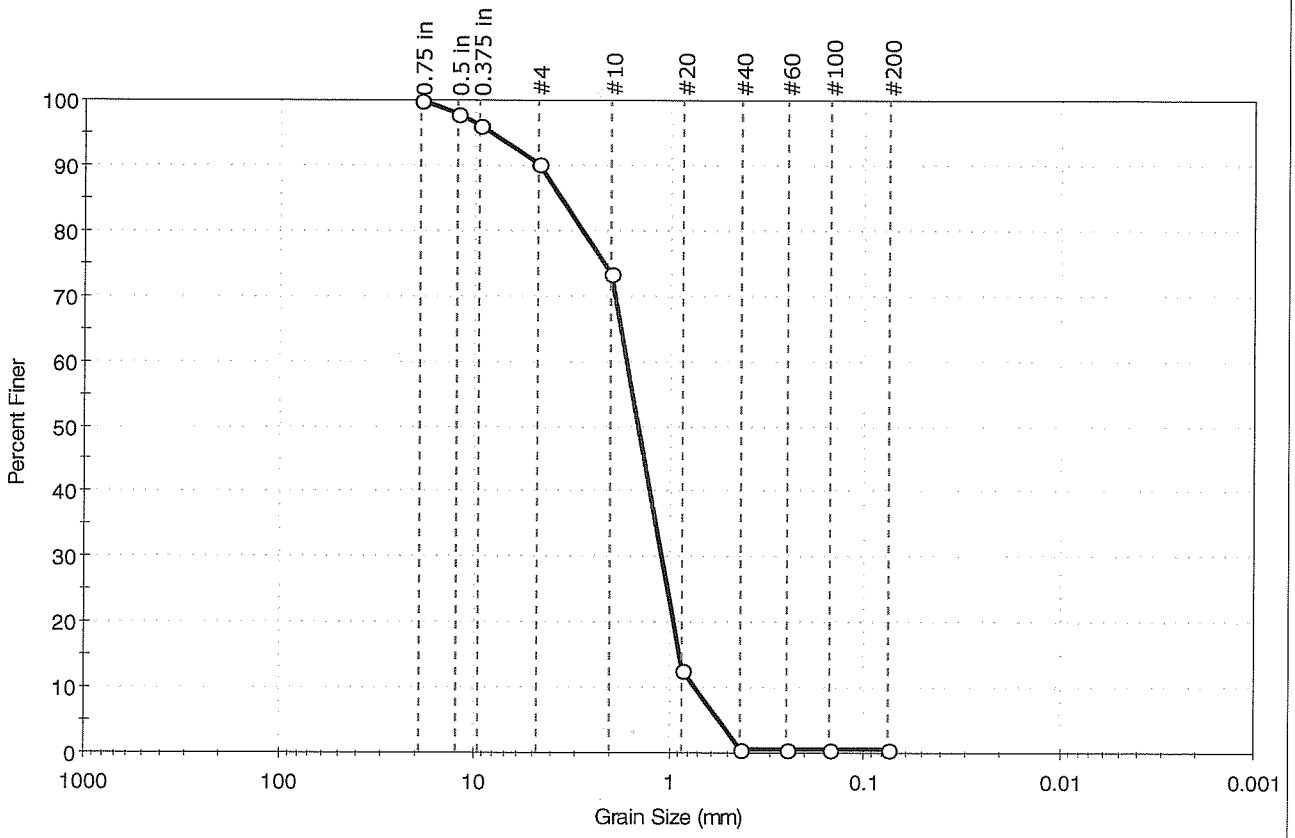
Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	CLE Engineering				
Project:	Oak Bluffs				
Location:	Oak Bluffs, MA			Project No:	GTX-8510
Boring ID:	9/11/08	Sample Type:	bag	Tested By:	ap
Sample ID:	Sample #21	Test Date:	09/17/08	Checked By:	jdt
Depth :	---	Test Id:	138244		
Test Comment:	---				
Sample Description:	Moist, olive yellow sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	9.7	89.7	0.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	98		
0.375 in	9.50	96		
#4	4.75	90		
#10	2.00	73		
#20	0.85	13		
#40	0.42	1		
#60	0.25	1		
#100	0.15	1		
#200	0.075	1		

Coefficients

D_{85} = 3.6281 mm	D_{30} = 1.0836 mm
D_{60} = 1.6544 mm	D_{15} = 0.8769 mm
D_{50} = 1.4367 mm	D_{10} = 0.7244 mm
C_u = 2.284	C_c = 0.980

Classification

ASTM Poorly graded sand (SP)

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

Sample/Test Description

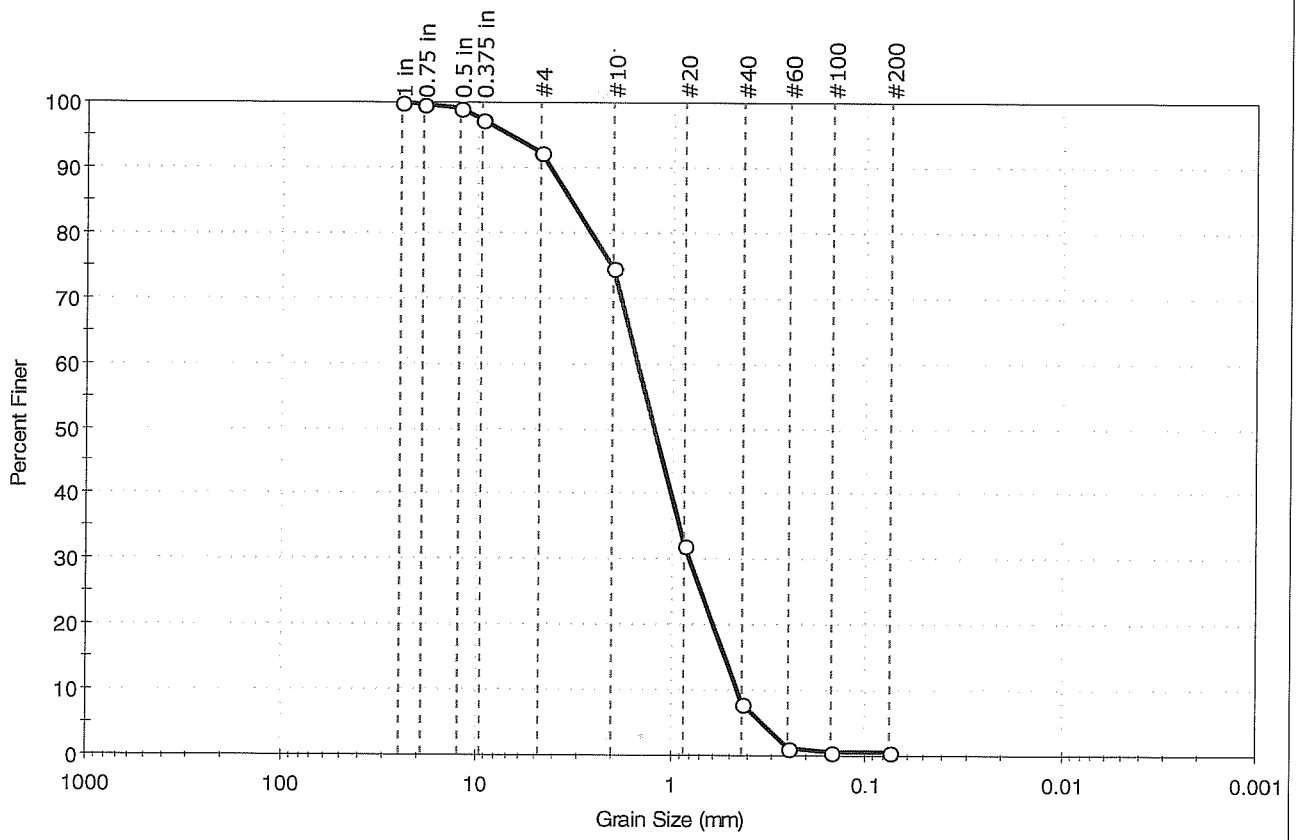
Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	CLE Engineering				
Project:	Oak Bluffs				
Location:	Oak Bluffs, MA			Project No:	GTX-8510
Boring ID:	9/11/08	Sample Type:	bag	Tested By:	ap
Sample ID:	Sample #23	Test Date:	09/17/08	Checked By:	jdt
Depth :	---	Test Id:	138246		
Test Comment:	---				
Sample Description:	Moist, olive yellow sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



%Cobble	%Gravel	%Sand	%Silt & Clay Size
--	7.7	91.7	0.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	100		
0.5 in	12.50	99		
0.375 in	9.50	97		
#4	4.75	92		
#10	2.00	75		
#20	0.85	32		
#40	0.42	8		
#60	0.25	1		
#100	0.15	1		
#200	0.075	1		

Coefficients

D_{85} = 3.3268 mm	D_{30} = 0.7982 mm
D_{60} = 1.4913 mm	D_{15} = 0.5207 mm
D_{50} = 1.2182 mm	D_{10} = 0.4515 mm
C_u = 3.303	C_c = 0.946

Classification

ASTM: Poorly graded sand (SP)

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

Sample/Test Description

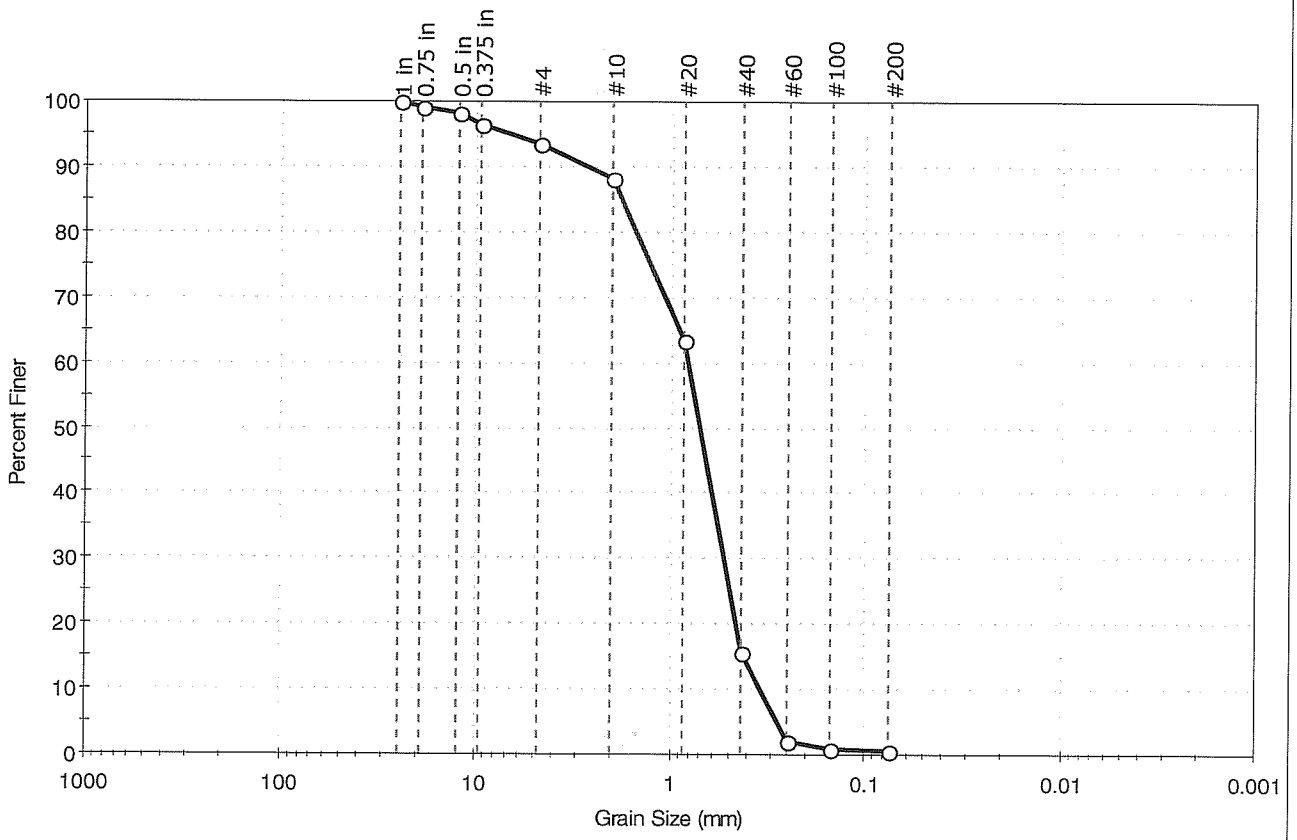
Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	CLE Engineering				
Project:	Oak Bluffs				
Location:	Oak Bluffs, MA			Project No:	GTX-8510
Boring ID:	9/11/08	Sample Type:	bag	Tested By:	ap
Sample ID:	Sample #25	Test Date:	09/18/08	Checked By:	jdt
Depth :	---	Test Id:	138248		
Test Comment:	---				
Sample Description:	Moist, light yellowish brown sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



%Cobble	%Gravel	%Sand	%Silt & Clay Size
—	6.3	93.0	0.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	99		
0.5 in	12.50	98		
0.375 in	9.50	96		
#4	4.75	94		
#10	2.00	88		
#20	0.85	63		
#40	0.42	16		
#60	0.25	2		
#100	0.15	1		
#200	0.075	1		

Coefficients

D_{85} =1.7843 mm	D_{30} =0.5241 mm
D_{60} =0.8090 mm	D_{15} =0.4165 mm
D_{50} =0.7000 mm	D_{10} =0.3423 mm
C_u =2.363	C_c =0.992

Classification

ASTM Poorly graded sand (SP)

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

Sample/Test Description

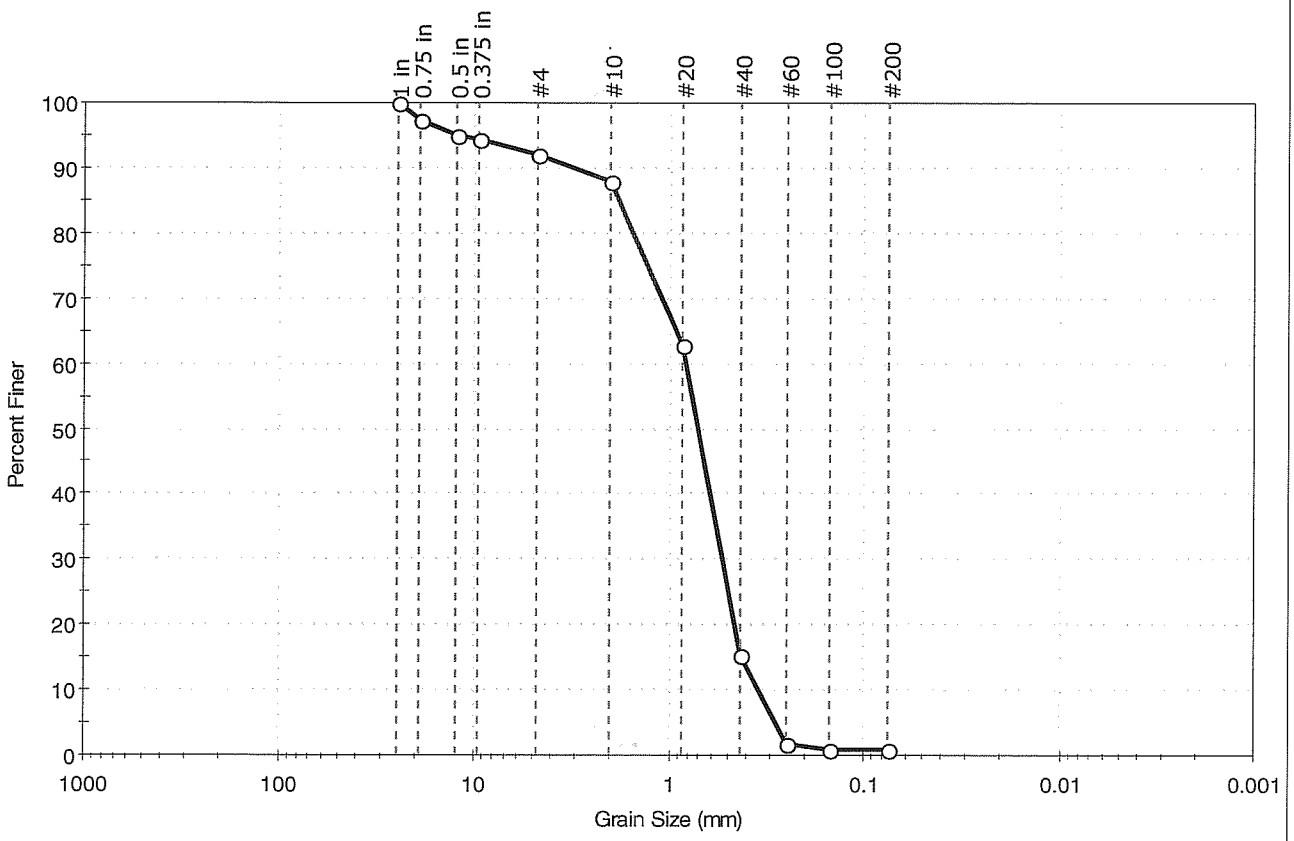
Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	CLE Engineering				
Project:	Oak Bluffs				
Location:	Oak Bluffs, MA			Project No:	GTX-8510
Boring ID:	9/11/08	Sample Type:	bag	Tested By:	ap
Sample ID:	Sample #27	Test Date:	09/17/08	Checked By:	jdt
Depth :	---	Test Id:	138249		
Test Comment:	---				
Sample Description:	Moist, light brownish gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	8.0	91.2	0.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	97		
0.5 in	12.50	95		
0.375 in	9.50	94		
#4	4.75	92		
#10	2.00	88		
#20	0.85	63		
#40	0.42	15		
#60	0.25	2		
#100	0.15	1		
#200	0.075	1		

Coefficients

D_{85} = 1.8150 mm	D_{30} = 0.5262 mm
D_{60} = 0.8159 mm	D_{15} = 0.4186 mm
D_{50} = 0.7050 mm	D_{10} = 0.3447 mm
C_u = 2.367	C_c = 0.985

Classification

ASTM Poorly graded sand (SP)

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

Sample/Test Description

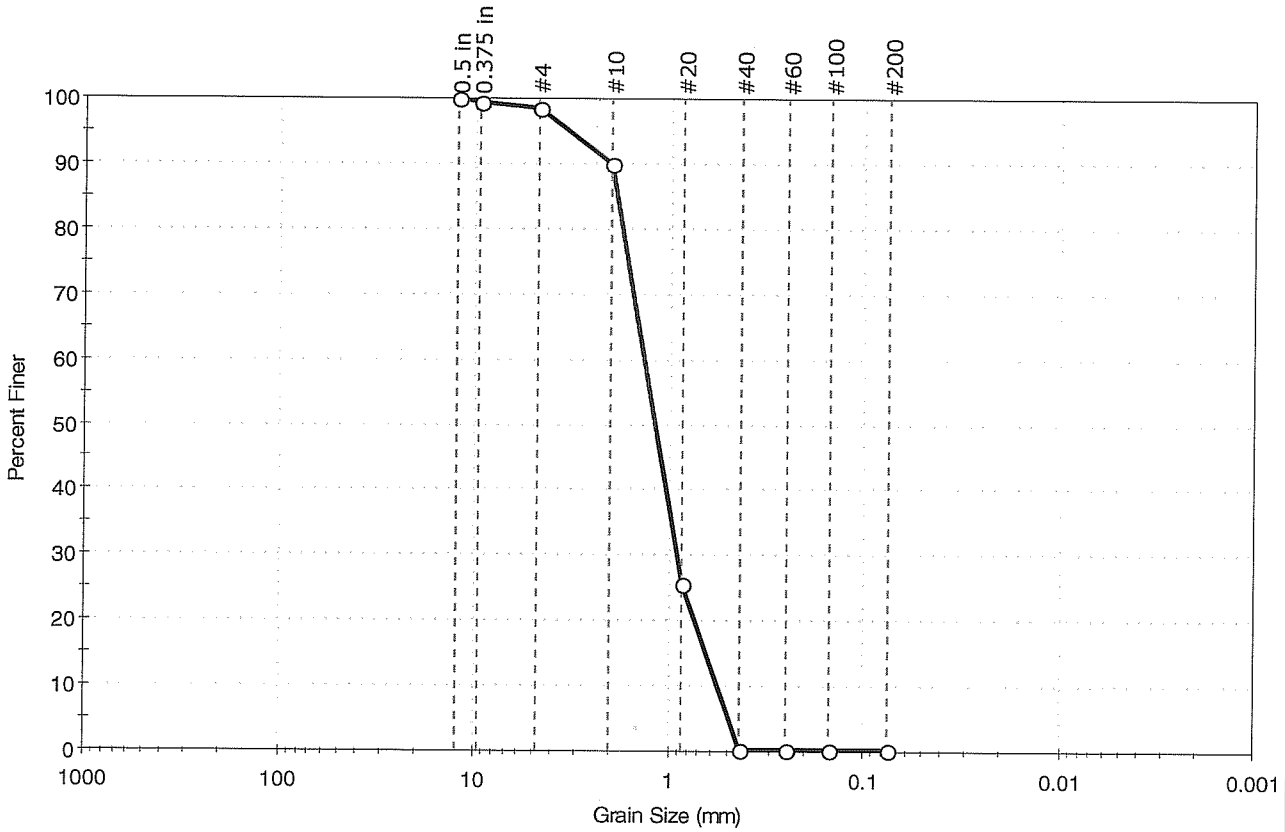
Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	CLE Engineering				
Project:	Oak Bluffs				
Location:	Oak Bluffs, MA			Project No:	GTX-8510
Boring ID:	9/11/08	Sample Type:	bag	Tested By:	ap
Sample ID:	Sample #29	Test Date:	09/22/08	Checked By:	jdt
Depth :	---	Test Id:	138250		
Test Comment:	---				
Sample Description:	Moist, very pale brown sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	1.4	98.4	0.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.5 in	12.50	100		
0.375 in	9.50	99		
#4	4.75	99		
#10	2.00	90		
#20	0.85	26		
#40	0.42	0		
#60	0.25	0		
#100	0.15	0		
#200	0.075	0		

Coefficients

D_{85} = 1.8695 mm	D_{30} = 0.9012 mm
D_{60} = 1.3418 mm	D_{15} = 0.6358 mm
D_{50} = 1.1751 mm	D_{10} = 0.5544 mm
C_u = 2.420	C_c = 1.092

Classification

ASTM — Poorly graded sand (SP)

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

Sample/Test Description

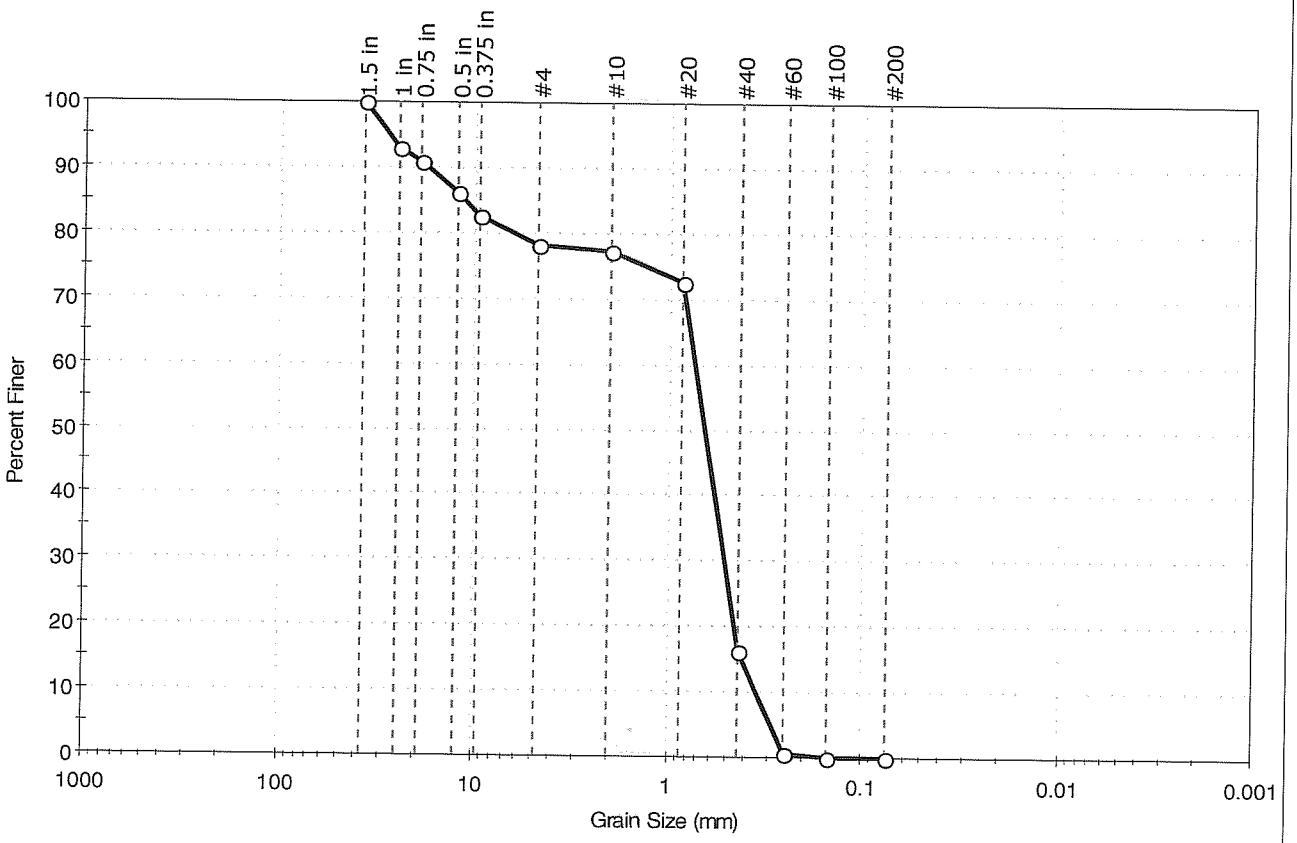
Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	CLE Engineering		
Project:	Oak Bluffs		
Location:	Oak Bluffs, MA	Project No:	GTX-8510
Boring ID:	9/11/08	Sample Type: bag	Tested By: ap
Sample ID:	Sample #31	Test Date: 09/22/08	Checked By: njh
Depth :	---	Test Id: 138251	
Test Comment:	---		
Sample Description:	Moist, light yellowish brown sand with gravel		
Sample Comment:	---		

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	21.9	78.0	0.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.5 in	37.50	100		
1 in	25.00	93		
0.75 in	19.00	91		
0.5 in	12.50	86		
0.375 in	9.50	83		
#4	4.75	78		
#10	2.00	77		
#20	0.85	73		
#40	0.42	16		
#60	0.25	1		
#100	0.15	0		
#200	0.075	0		

Coefficients

D_{85} = 11.3305 mm	D_{30} = 0.5039 mm
D_{60} = 0.7284 mm	D_{15} = 0.4087 mm
D_{50} = 0.6442 mm	D_{10} = 0.3441 mm
C_u = 2.117	C_c = 1.013

Classification

ASTM: Poorly graded sand with gravel (SP)

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

Sample/Test Description

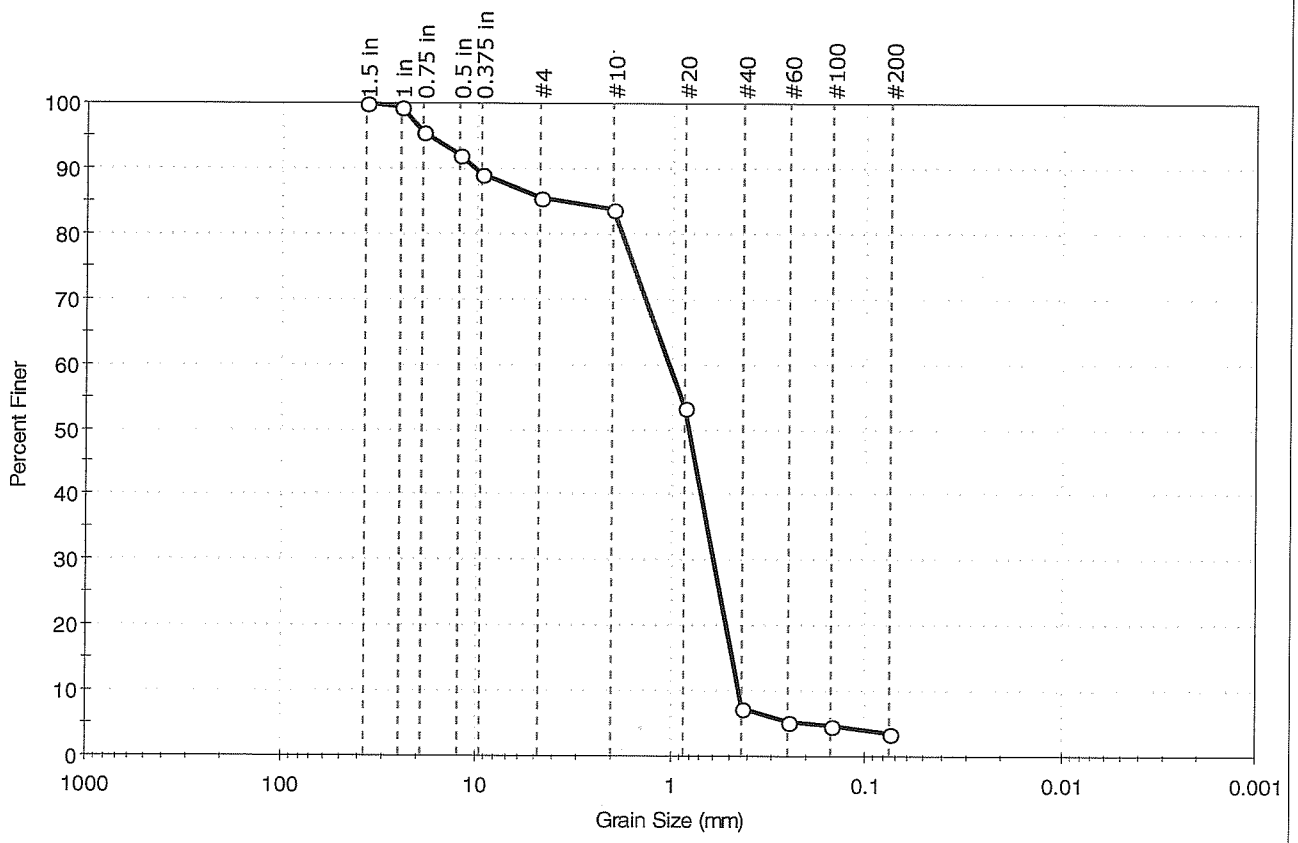
Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	CLE Engineering				
Project:	Oak Bluffs				
Location:	Oak Bluffs, MA			Project No:	GTX-8510
Boring ID:	9/11/08	Sample Type:	bag	Tested By:	ap
Sample ID:	Sample #33	Test Date:	09/22/08	Checked By:	jdt
Depth :	---	Test Id:	138675		
Test Comment:	---				
Sample Description:	Moist, light yellowish brown sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	14.3	82.1	3.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.5 in	37.50	100		
1 in	25.00	99		
0.75 in	19.00	96		
0.5 in	12.50	92		
0.375 in	9.50	89		
#4	4.75	86		
#10	2.00	84		
#20	0.85	53		
#40	0.42	7		
#60	0.25	5		
#100	0.15	5		
#200	0.075	4		

Coefficients

D_{85} = 3.4928 mm	D_{30} = 0.5976 mm
D_{60} = 1.0257 mm	D_{15} = 0.4764 mm
D_{50} = 0.8085 mm	D_{10} = 0.4417 mm
C_u = 2.322	C_c = 0.788

Classification

ASTM — Poorly graded sand (SP)

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

Sample/Test Description

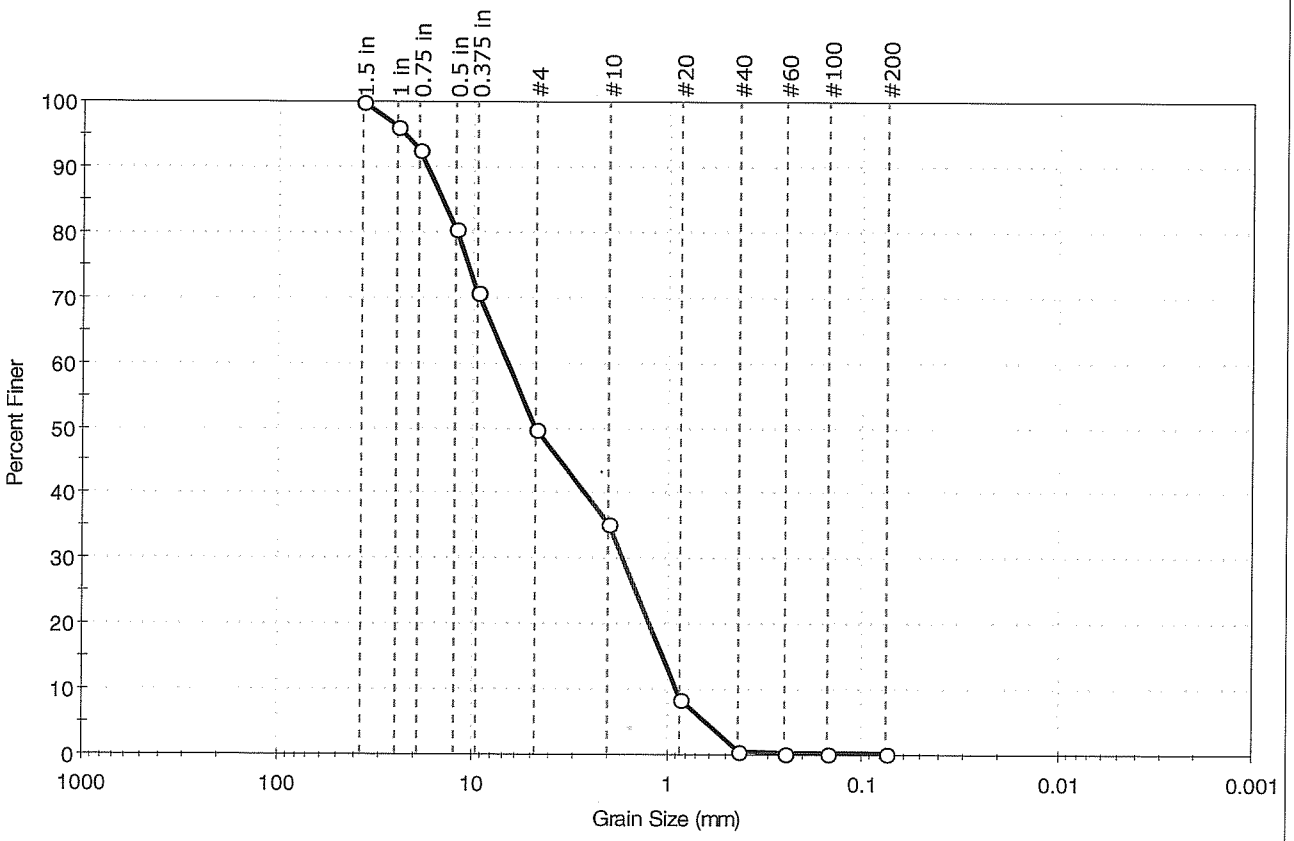
Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	CLE Engineering				
Project:	Oak Bluffs				
Location:	Oak Bluffs, MA			Project No:	GTX-8510
Boring ID:	9/11/08	Sample Type:	bag	Tested By:	ap
Sample ID:	Sample #35	Test Date:	09/22/08	Checked By:	jdt
Depth :	---	Test Id:	138254		
Test Comment:	---				
Sample Description:	Moist, light yellowish brown gravel with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	50.3	49.5	0.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.5 in	37.50	100		
1 in	25.00	96		
0.75 in	19.00	92		
0.5 in	12.50	81		
0.375 in	9.50	71		
#4	4.75	50		
#10	2.00	35		
#20	0.85	9		
#40	0.42	1		
#60	0.25	0		
#100	0.15	0		
#200	0.075	0		

Coefficients

D_{85} = 14.5846 mm	D_{30} = 1.6837 mm
D_{60} = 6.6518 mm	D_{15} = 1.0435 mm
D_{50} = 4.7948 mm	D_{10} = 0.8897 mm
C_u = 7.476	C_c = 0.479

Classification

ASTM — Poorly graded gravel with sand (GP)

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

Sample/Test Description

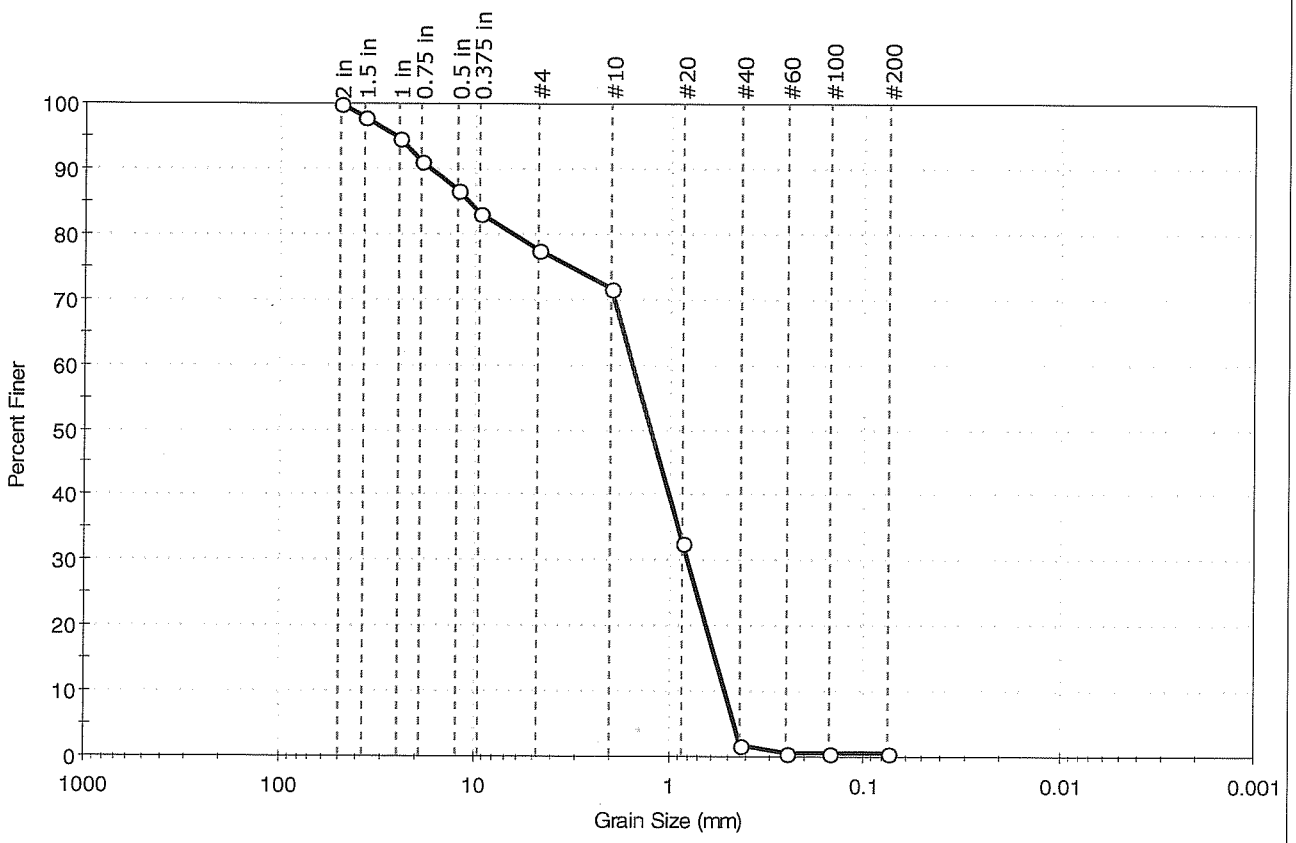
Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	CLE Engineering				
Project:	Oak Bluffs				
Location:	Oak Bluffs, MA			Project No:	GTX-8510
Boring ID:	9/11/08	Sample Type:	bag	Tested By:	ap
Sample ID:	Sample #37	Test Date:	09/19/08	Checked By:	jdt
Depth :	---	Test Id:	138255		
Test Comment:	---				
Sample Description:	Moist, yellowish brown sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	22.3	77.2	0.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
2 in	50.00	100		
1.5 in	37.50	98		
1 in	25.00	95		
0.75 in	19.00	91		
0.5 in	12.50	87		
0.375 in	9.50	83		
#4	4.75	78		
#10	2.00	72		
#20	0.85	33		
#40	0.42	2		
#60	0.25	1		
#100	0.15	0		
#200	0.075	0		

Coefficients

D_{85} = 10.9643 mm	D_{30} = 0.8007 mm
D_{60} = 1.5467 mm	D_{15} = 0.5717 mm
D_{50} = 1.2426 mm	D_{10} = 0.5110 mm
C_u = 3.027	C_c = 0.811

Classification

ASTM — Poorly graded sand with gravel (SP)

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

Sample/Test Description

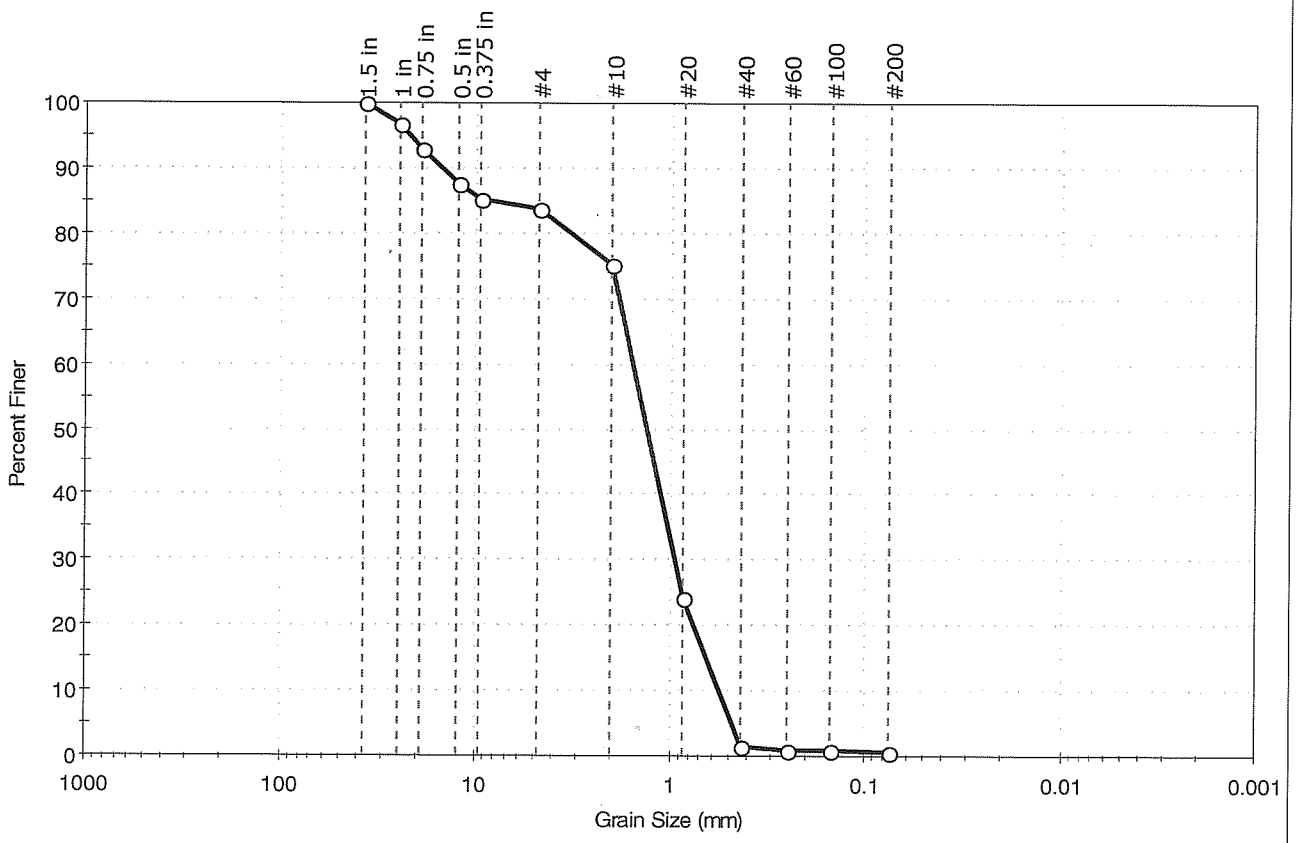
Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	CLE Engineering				
Project:	Oak Bluffs				
Location:	Oak Bluffs, MA			Project No:	GTX-8510
Boring ID:	9/11/08	Sample Type:	bag	Tested By:	ap
Sample ID:	Sample #39	Test Date:	09/18/08	Checked By:	jdt
Depth :	---	Test Id:	138256		
Test Comment:	---				
Sample Description:	Moist, light yellowish brown sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	16.4	82.9	0.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.5 in	37.50	100		
1 in	25.00	97		
0.75 in	19.00	93		
0.5 in	12.50	88		
0.375 in	9.50	85		
#4	4.75	84		
#10	2.00	75		
#20	0.85	24		
#40	0.42	1		
#60	0.25	1		
#100	0.15	1		
#200	0.075	1		

Coefficients

D_{85} = 8.4218 mm	D_{30} = 0.9350 mm
D_{60} = 1.5481 mm	D_{15} = 0.6404 mm
D_{50} = 1.3085 mm	D_{10} = 0.5503 mm
C_u = 2.813	C_c = 1.026

Classification

ASTM — Poorly graded sand with gravel (SP)

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

Sample/Test Description

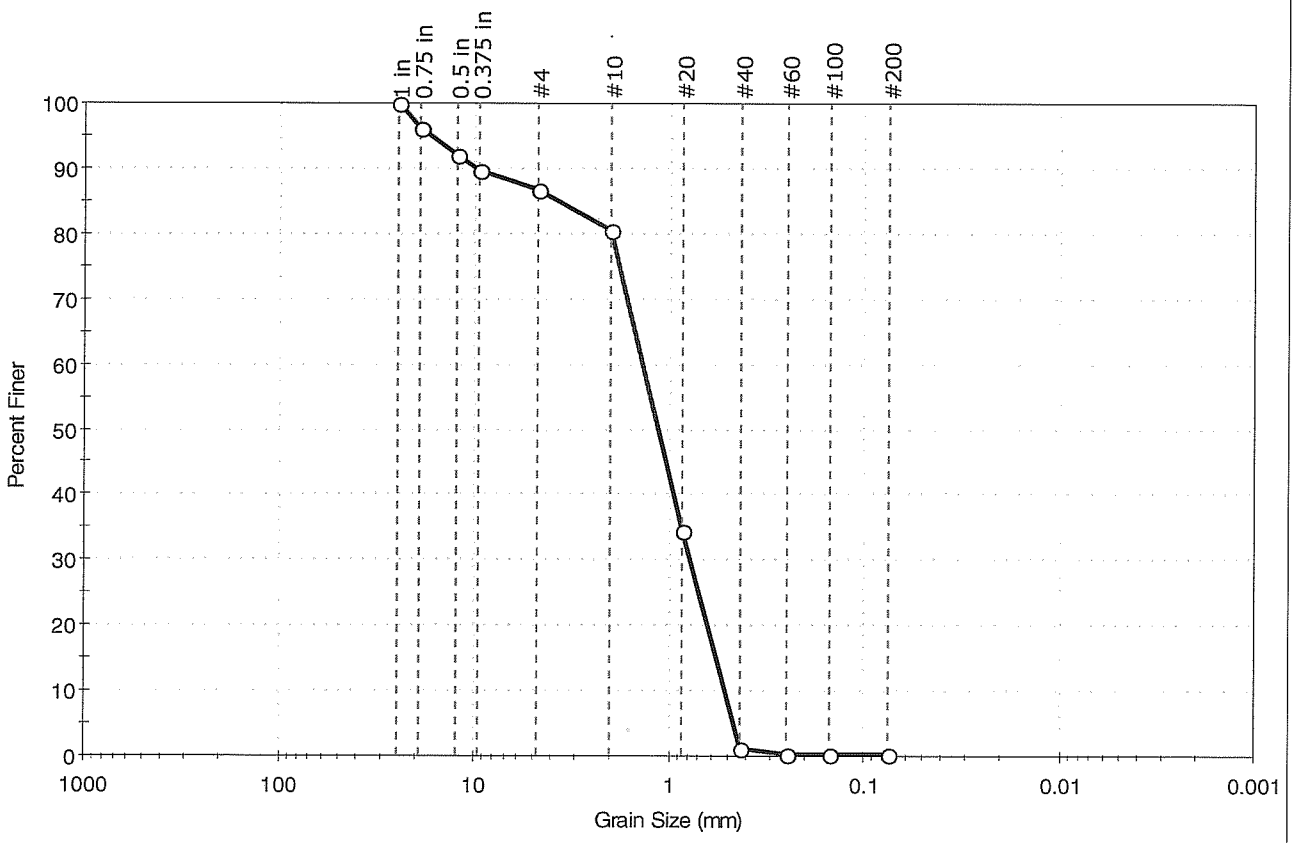
Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	CLE Engineering				
Project:	Oak Bluffs				
Location:	Oak Bluffs, MA			Project No:	GTX-8510
Boring ID:	9/11/08	Sample Type:	bag	Tested By:	ap
Sample ID:	Sample #41	Test Date:	09/19/08	Checked By:	jdt
Depth :	---	Test Id:	138257		
Test Comment:	---				
Sample Description:	Moist, light yellowish brown sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	13.4	86.3	0.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	96		
0.5 in	12.50	92		
0.375 in	9.50	90		
#4	4.75	87		
#10	2.00	80		
#20	0.85	34		
#40	0.42	1		
#60	0.25	0		
#100	0.15	0		
#200	0.075	0		

Coefficients

D_{85} = 3.7742 mm	D_{30} = 0.7746 mm
D_{60} = 1.3676 mm	D_{15} = 0.5667 mm
D_{50} = 1.1353 mm	D_{10} = 0.5106 mm
C_u = 2.678	C_c = 0.859

Classification

ASTM — Poorly graded sand (SP)

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

Sample/Test Description

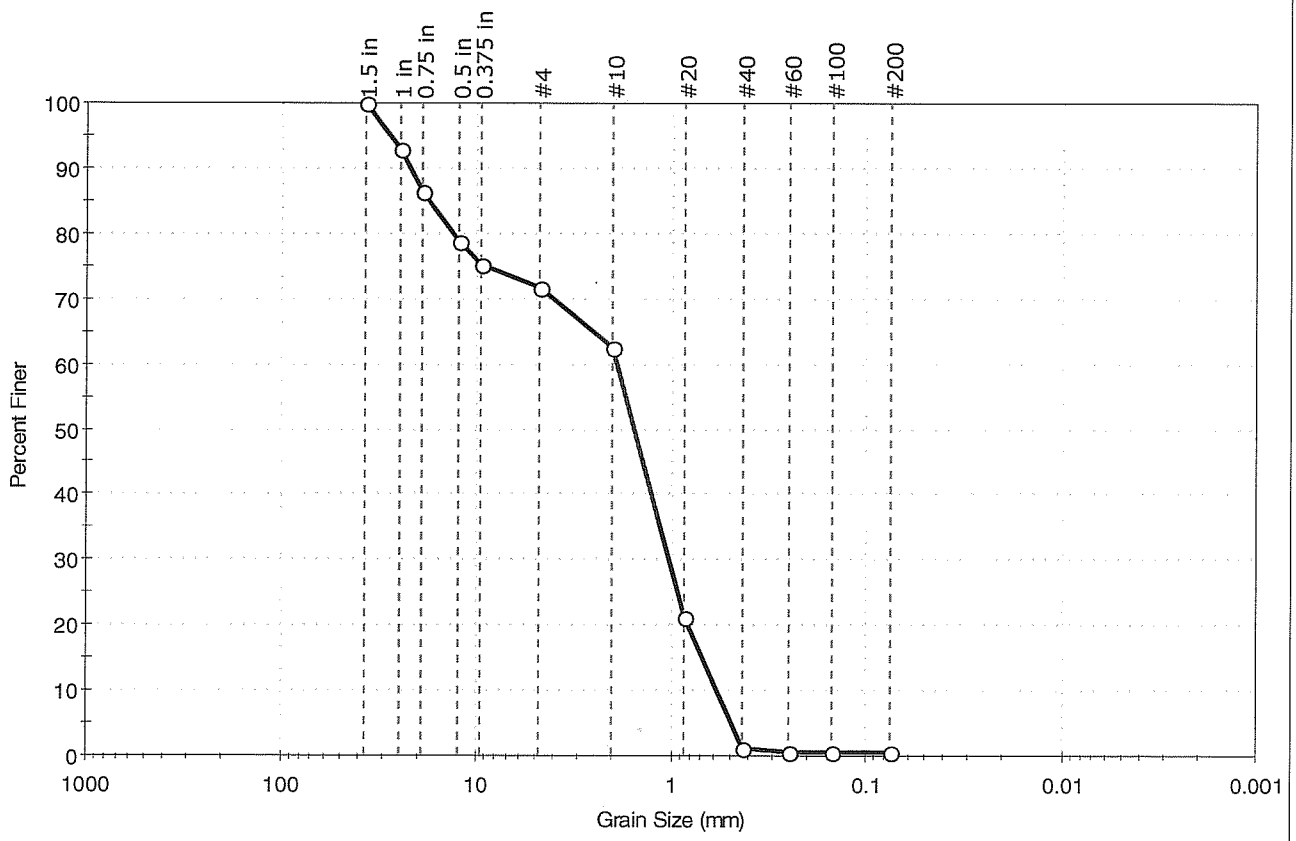
Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	CLE Engineering				
Project:	Oak Bluffs				
Location:	Oak Bluffs, MA			Project No:	GTX-8510
Boring ID:	9/11/08	Sample Type:	bag	Tested By:	ap
Sample ID:	Sample #43	Test Date:	09/18/08	Checked By:	jdt
Depth :	---	Test Id:	138258		
Test Comment:	---				
Sample Description:	Moist, light yellowish brown sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	28.2	71.2	0.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.5 in	37.50	100		
1 in	25.00	93		
0.75 in	19.00	86		
0.5 in	12.50	79		
0.375 in	9.50	75		
#4	4.75	72		
#10	2.00	63		
#20	0.85	21		
#40	0.42	1		
#60	0.25	1		
#100	0.15	1		
#200	0.075	1		

Coefficients

D_{85} = 17.5640 mm	D_{30} = 1.0204 mm
D_{60} = 1.8948 mm	D_{15} = 0.6858 mm
D_{50} = 1.5416 mm	D_{10} = 0.5759 mm
C_u = 3.290	C_c = 0.954

Classification

ASTM: Poorly graded sand with gravel (SP)

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

Sample/Test Description

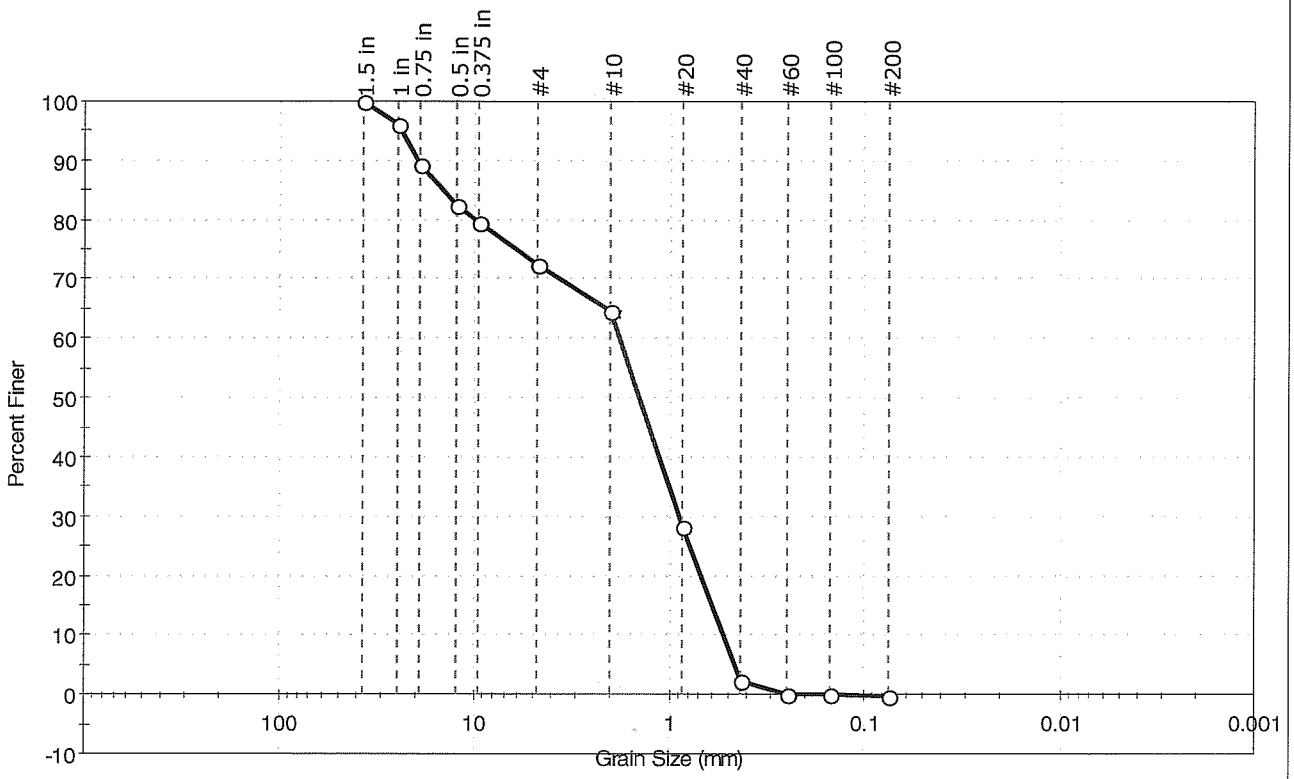
Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	CLE Engineering				
Project:	Oak Bluffs				
Location:	Oak Bluffs, MA			Project No:	GTX-8510
Boring ID:	9/11/08	Sample Type:	bag	Tested By:	ap
Sample ID:	Sample #45	Test Date:	09/19/08	Checked By:	jdt
Depth :	---	Test Id:	138259		
Test Comment:	---				
Sample Description:	Moist, light yellowish brown sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	27.4	72.7	--

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.5 in	37.50	100		
1 in	25.00	96		
0.75 in	19.00	89		
0.5 in	12.50	83		
0.375 in	9.50	80		
#4	4.75	73		
#10	2.00	65		
#20	0.85	28		
#40	0.42	2		
#60	0.25	0		
#100	0.15	0		
#200	0.075	0		

Coefficients

D_{85} = 14.5490 mm	D_{30} = 0.8851 mm
D_{60} = 1.7980 mm	D_{15} = 0.5966 mm
D_{50} = 1.4197 mm	D_{10} = 0.5222 mm
C_u = 3.443	C_c = 0.834

Classification

ASTM — Poorly graded sand with gravel (SP)

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

Sample/Test Description

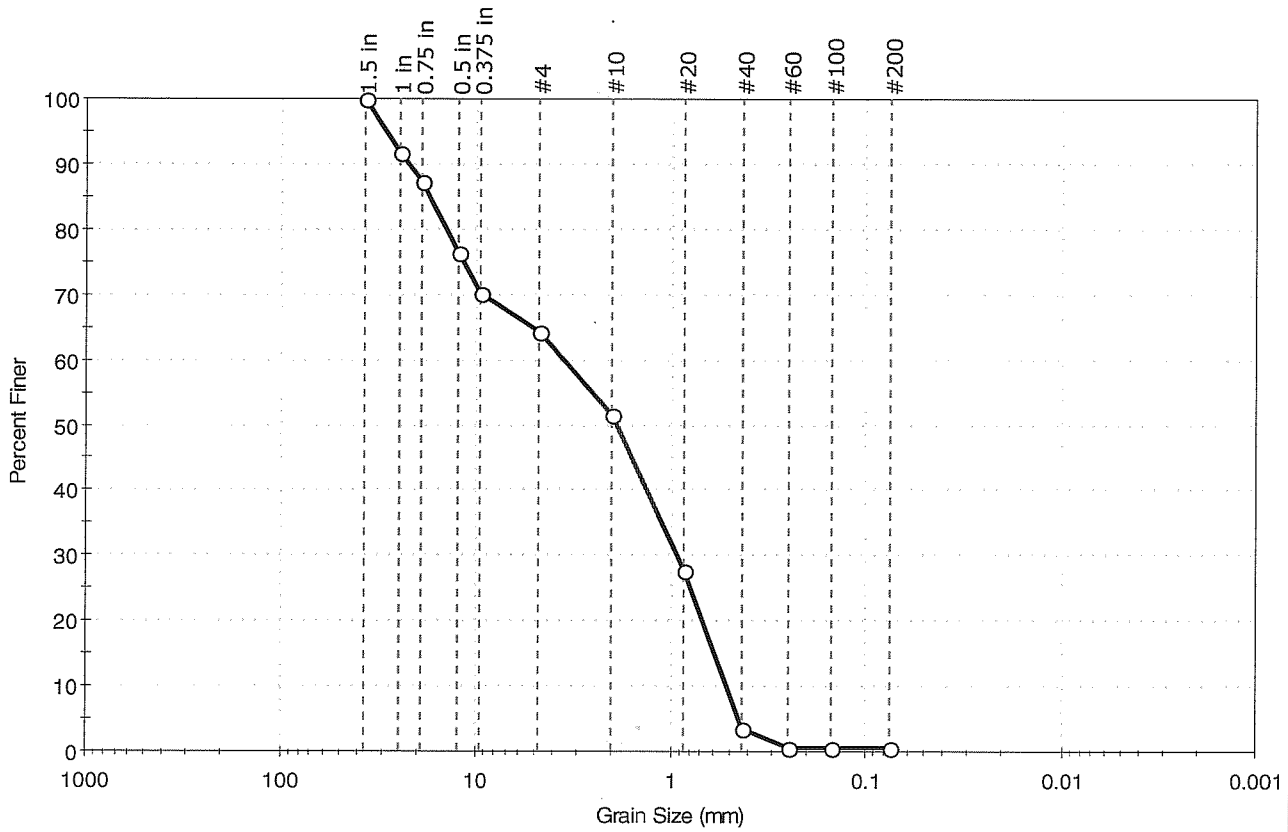
Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	CLE Engineering				
Project:	Oak Bluffs				
Location:	Oak Bluffs, MA			Project No:	GTX-8510
Boring ID:	9/11/08	Sample Type:	bag	Tested By:	ap
Sample ID:	Sample #47	Test Date:	09/19/08	Checked By:	jdt
Depth :	---	Test Id:	138260		
Test Comment:	---				
Sample Description:	Moist, light yellowish brown sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	35.6	63.9	0.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.5 in	37.50	100		
1 in	25.00	92		
0.75 in	19.00	87		
0.5 in	12.50	76		
0.375 in	9.50	70		
#4	4.75	64		
#10	2.00	52		
#20	0.85	28		
#40	0.42	4		
#60	0.25	1		
#100	0.15	0		
#200	0.075	0		

Coefficients

D_{85} = 17.3685 mm	D_{30} = 0.9217 mm
D_{60} = 3.5307 mm	D_{15} = 0.5889 mm
D_{50} = 1.8875 mm	D_{10} = 0.5100 mm
C_u = 6.923	C_c = 0.472

Classification

ASTM — Poorly graded sand with gravel (SP)

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

Sample/Test Description

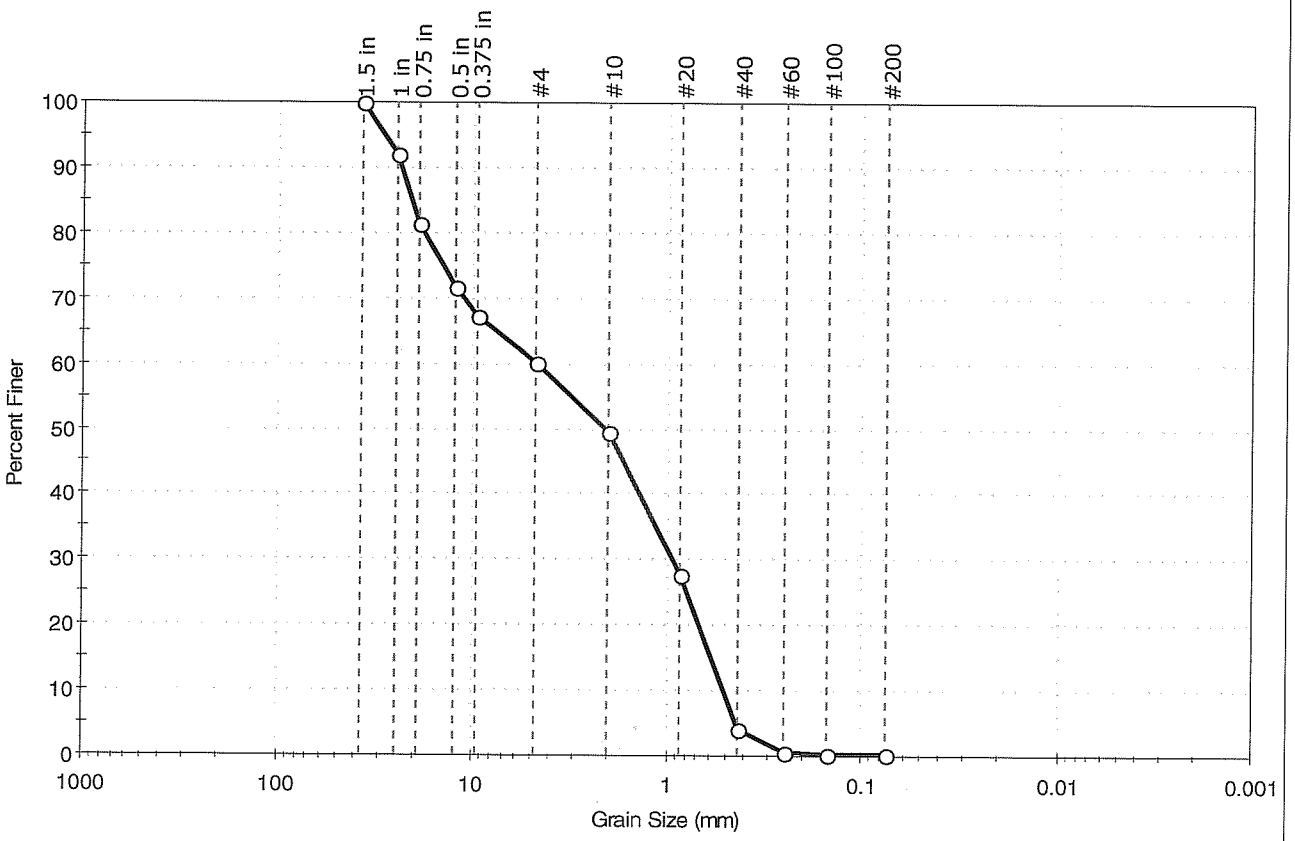
Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	CLE Engineering				
Project:	Oak Bluffs				
Location:	Oak Bluffs, MA			Project No:	GTX-8510
Boring ID:	9/11/08	Sample Type:	bag	Tested By:	ap
Sample ID:	Sample #49	Test Date:	09/19/08	Checked By:	jdt
Depth :	---	Test Id:	138261		
Test Comment:	---				
Sample Description:	Moist, light yellowish brown sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	39.7	60.1	0.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.5 in	37.50	100		
1 in	25.00	92		
0.75 in	19.00	81		
0.5 in	12.50	72		
0.375 in	9.50	67		
#4	4.75	60		
#10	2.00	50		
#20	0.85	28		
#40	0.42	4		
#60	0.25	1		
#100	0.15	0		
#200	0.075	0		

Coefficients

D_{85} =20.8394 mm	D_{30} =0.9258 mm
D_{60} =4.6503 mm	D_{15} =0.5830 mm
D_{50} =2.0603 mm	D_{10} =0.5033 mm
C_u =9.240	C_c =0.366

Classification

ASTM — Poorly graded sand with gravel (SP)

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

Sample/Test Description

Sand/Gravel Particle Shape :

Sand/Gravel Hardness :

GRAIN SIZE DISTRIBUTION TEST DATA

3/14/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: CP-4-0-3.2-022812 (CP-4)
Sample Number: L1203740-26
USCS Classification: SP

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
481.46	7.75	0.375	525.00	525.00	100.0
		#4	537.66	525.85	97.5
		#10	535.20	492.21	88.4
		#40	735.94	373.76	12.0
		#200	377.05	337.53	3.6

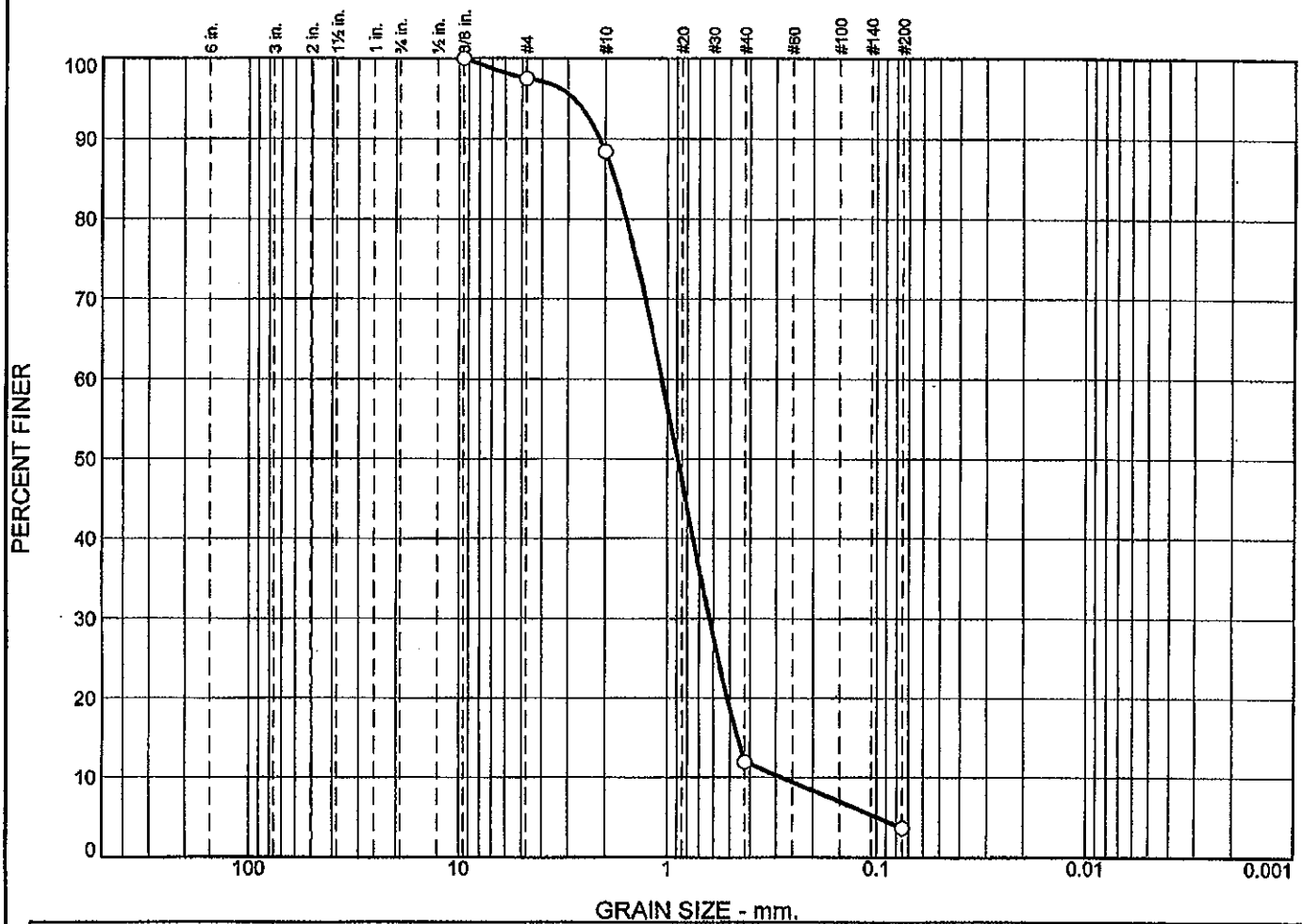
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	2.5	2.5	9.1	76.4	8.4	93.9			3.6

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.2818	0.4587	0.5135	0.6262	0.8931	1.0649	1.5852	1.8000	2.1184	2.8102

Fineness Modulus	C_u	C_c
2.99	3.78	1.31

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	2.5	9.1	76.4	8.4	3.6	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.8000	1.0649	0.8931	0.6262	0.4587	0.2818	1.31	3.78

	Material Description	USCS	AASHTO
○		SP	

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** CP-4-0-3.2-022812 **Sample Number:** L1203740-26

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/14/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: CP-5-0-2.8-022812 (CP-5)
Sample Number: L1203740-30
USCS Classification: SP

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
449.88	7.40	0.375	525.00	525.00	100.0
		#4	539.34	525.85	97.0
		#10	530.62	492.21	88.3
		#40	709.03	373.76	12.5
		#200	379.91	337.53	2.9

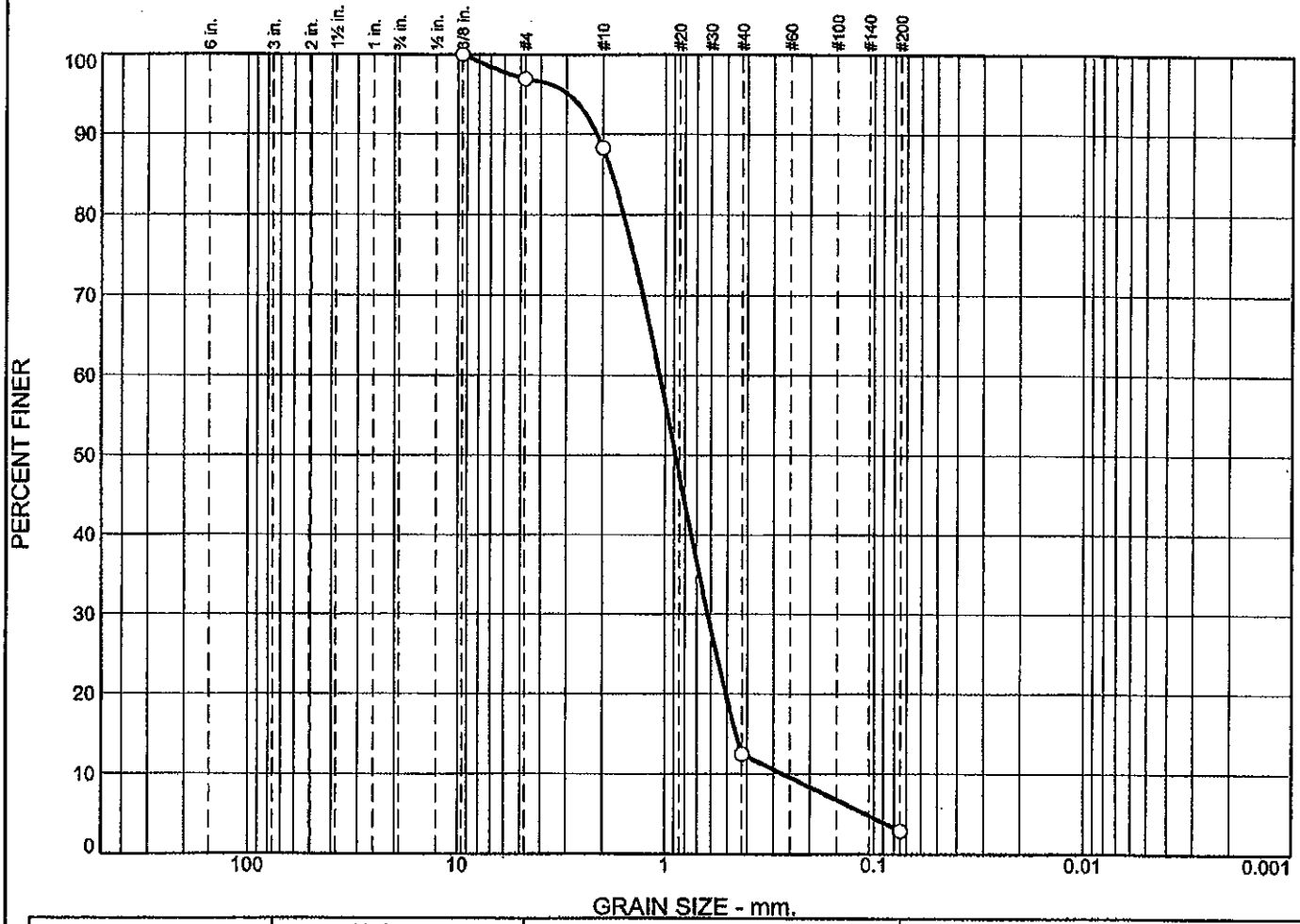
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	3.0	3.0	8.7	75.8	9.6	94.1			2.9

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.2702	0.4529	0.5077	0.6203	0.8873	1.0596	1.5847	1.8041	2.1364	2.9324

Fineness Modulus	C_u	C_c
3.00	3.92	1.34

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	3.0	8.7	75.8	9.6	2.9	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.8041	1.0596	0.8873	0.6203	0.4529	0.2702	1.34	3.92

	Material Description	USCS	AASHTO
○		SP	

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** CP-5-0-2.8-022812 **Sample Number:** L1203740-30

Remarks:

Alpha Analytical

Mansfield, MA

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/14/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: CP-6-0-2.7-022812 (CP-6)
Sample Number: L1203740-35
USCS Classification: SP

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
412.55	7.35	0.375	553.50	553.50	100.0
		#4	563.59	525.80	90.7
		#10	541.52	491.60	78.4
		#40	667.56	375.32	6.2
		#200	338.28	314.39	0.3

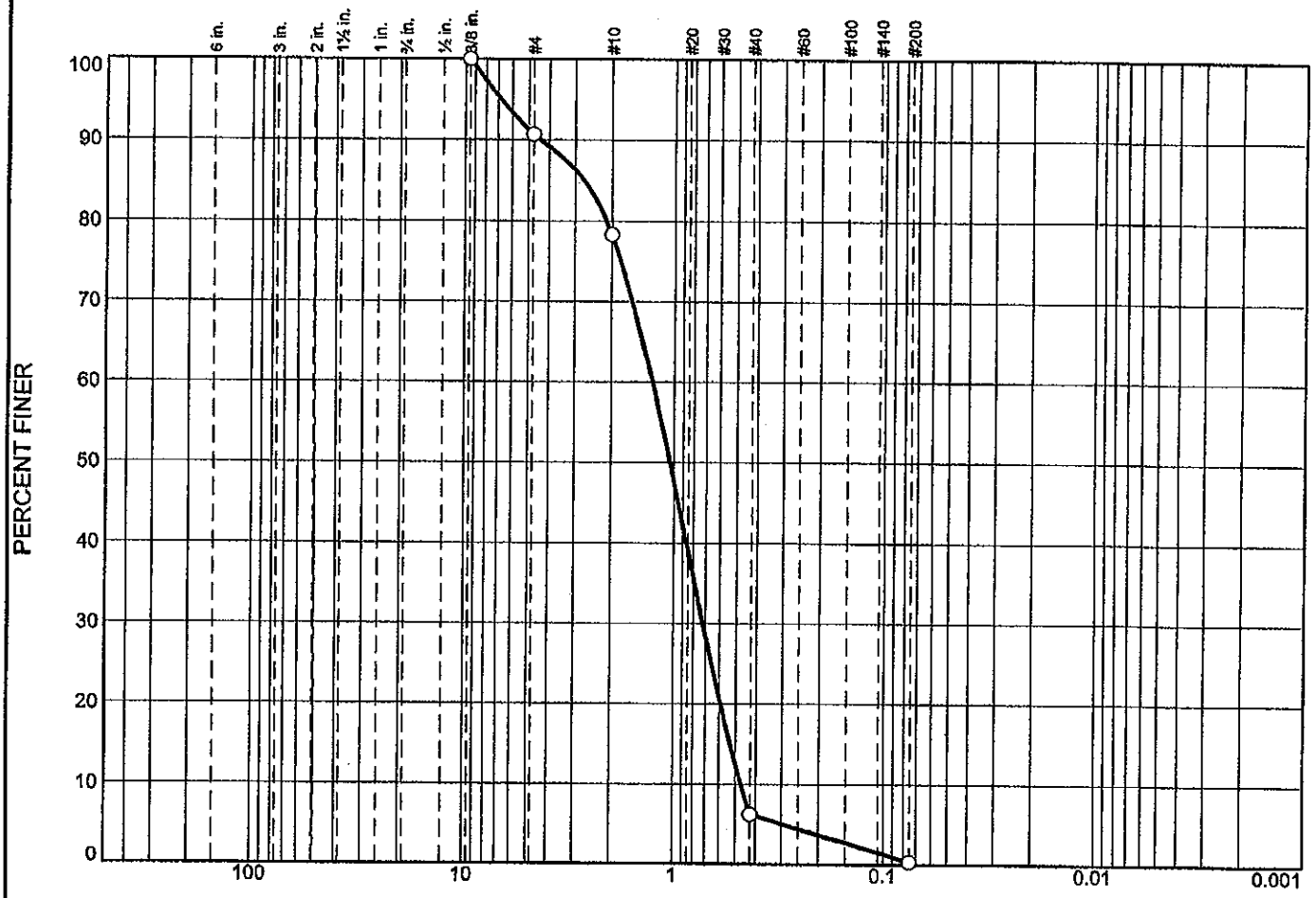
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	9.3	9.3	12.3	72.2	5.9	90.4			0.3

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.4706	0.5300	0.5904	0.7197	1.0457	1.2711	2.1226	2.7248	4.4233	6.7838

Fineness Modulus	C_u	C_c
3.42	2.70	0.87

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	9.3	12.3	72.2	5.9	0.3	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			2.7248	1.2711	1.0457	0.7197	0.5300	0.4706	0.87	2.70

	Material Description	USCS	AASHTO
○		SP	

Project No. L1203740 **Client:** Woods Hole Group
Project: Edgartown Corp.

○ **Source of Sample:** CP-6-0-2.7-022812 **Sample Number:** L1203740-35

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/14/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: CP-7-0-2.2-022812 (CP-7)
Sample Number: L1203740-25
USCS Classification: SP

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
384.42	7.24	0.375	553.50	553.50	100.0
		#4	527.80	525.81	99.5
		#10	500.42	491.60	97.1
		#40	649.66	375.32	24.4
		#200	405.79	315.53	0.5

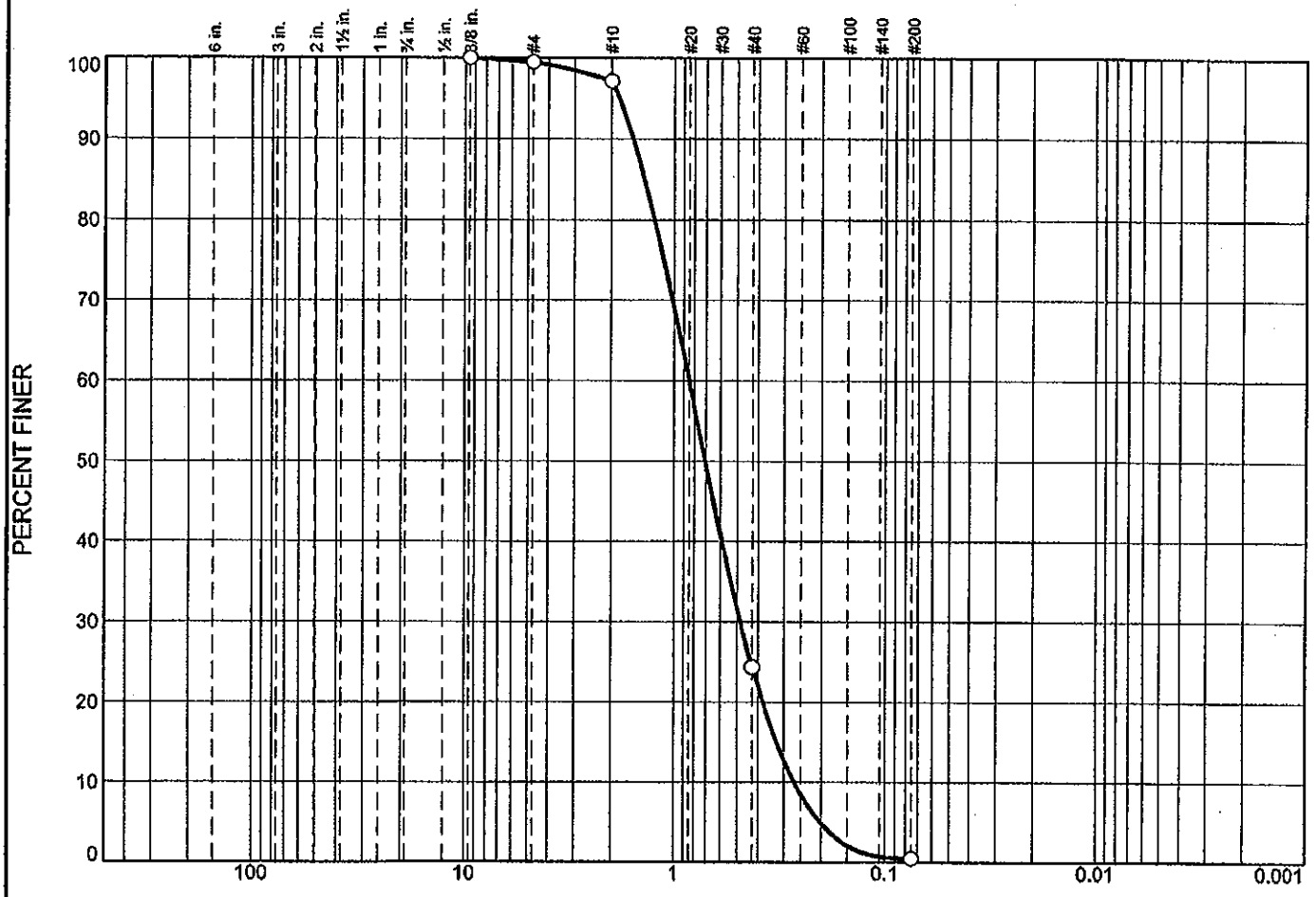
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.5	0.5	2.4	72.7	23.9	99.0			0.5

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.2684	0.3256	0.3793	0.4825	0.7087	0.8480	1.2416	1.3863	1.5707	1.8333

Fineness Modulus	C_u	C_c
2.70	3.16	1.02

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.5	2.4	72.7	23.9	0.5	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.3863	0.8480	0.7087	0.4825	0.3256	0.2684	1.02	3.16

	Material Description	USCS	AASHTO
○		SP	

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** CP-7-0-2.2-022812 **Sample Number:** L1203740-25

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/14/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: CP-8-0-2.9-022812 (CP-8)
Sample Number: L1203740-27
USCS Classification: SP

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
441.47	7.30	0.375	553.50	553.50	100.0
		#4	535.10	525.81	97.9
		#10	513.97	491.60	92.7
		#40	740.71	375.32	8.5
		#200	351.17	315.53	0.3

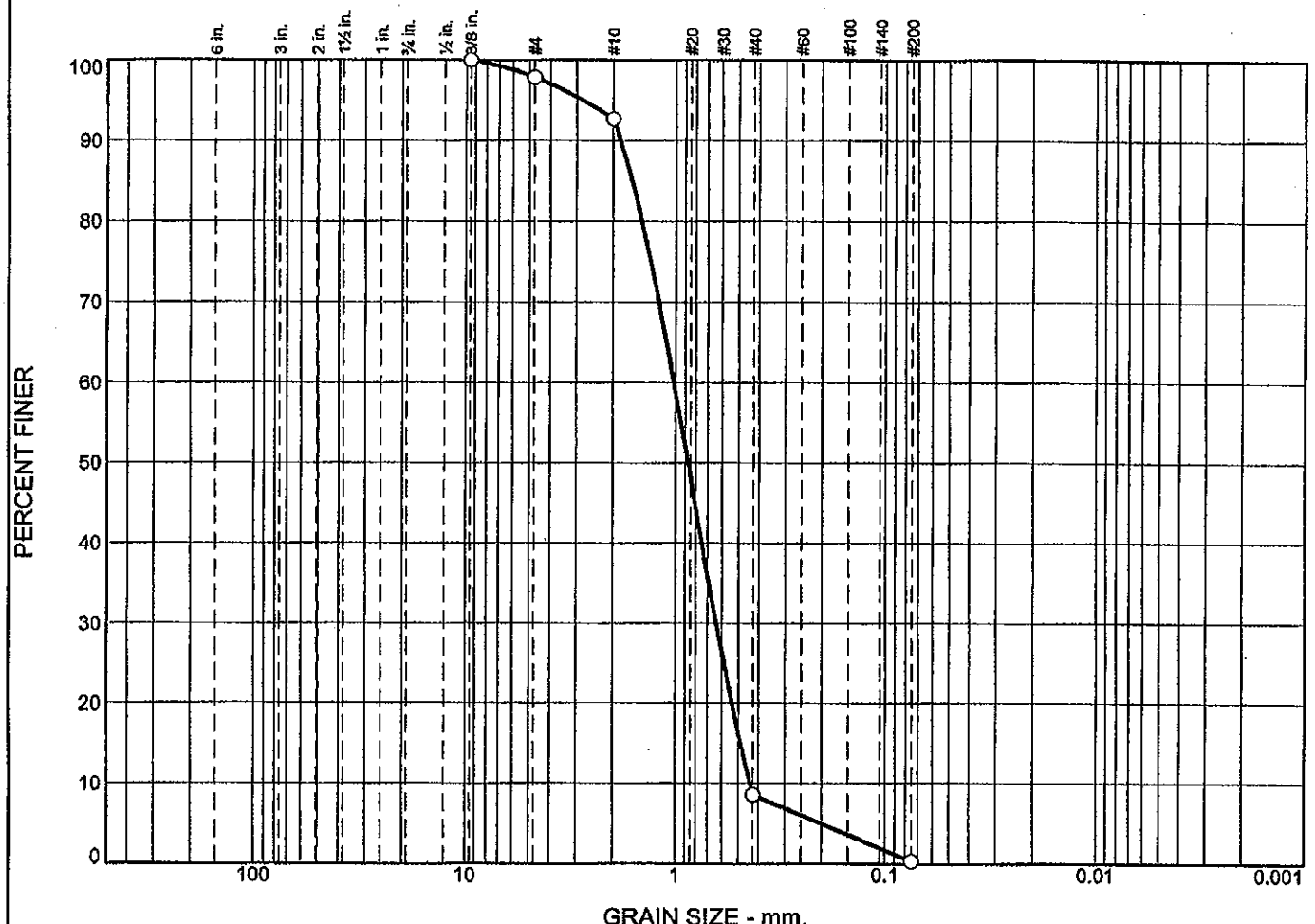
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	2.1	2.1	5.2	84.2	8.2	97.6			0.3

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.4394	0.4881	0.5365	0.6371	0.8732	1.0219	1.4504	1.6142	1.8338	2.7822

Fineness Modulus	C_u	C_c
3.03	2.33	0.90

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	2.1	5.2	84.2	8.2	0.3	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.6142	1.0219	0.8732	0.6371	0.4881	0.4394	0.90	2.33

	Material Description	USCS	AASHTO
○		SP	

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** CP-8-0-2.9-022812 **Sample Number:** L1203740-27

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/13/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: CP-9-0-3.3-022812 (CP-9)
Sample Number: L1203740-23

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
425.82	9.11	.375	553.50	553.50	100.0
		#4	536.11	525.81	97.5
		#10	506.43	491.60	94.0
		#40	579.19	375.32	45.0
		#200	454.00	315.53	11.8

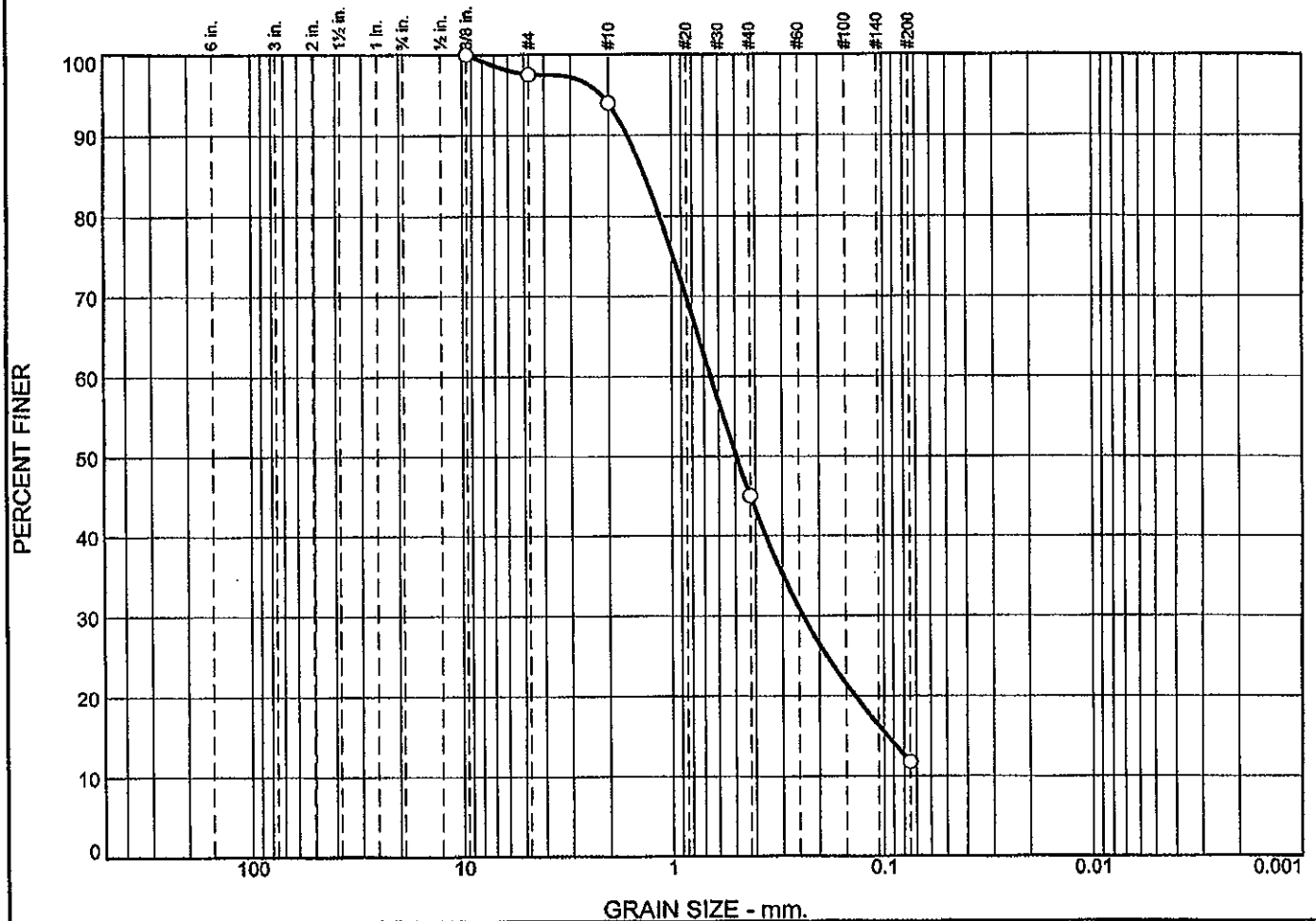
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	2.5	2.5	3.5	49.0	33.2	85.7			11.8

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
	0.0957	0.1364	0.2386	0.4938	0.6522	1.1397	1.3408	1.6249	2.1605

Fineness Modulus
2.12

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	2.5	3.5	49.0	33.2	11.8	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.3408	0.6522	0.4938	0.2386	0.0957			

	Material Description	USCS	AASHTO
○			

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** CP-9-0-3.3-022812 **Sample Number:** L1203740-23

Remarks:

Alpha Analytical

Mansfield, MA

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/14/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: CP-1-0-2.6-022812 (CP-1)
Sample Number: L1203740-44
USCS Classification: SP

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
318.36	7.31	0.375	553.50	553.50	100.0
		#4	528.64	525.80	99.1
		#10	499.04	491.60	96.7
		#40	544.26	375.32	42.4
		#200	445.21	314.39	0.3

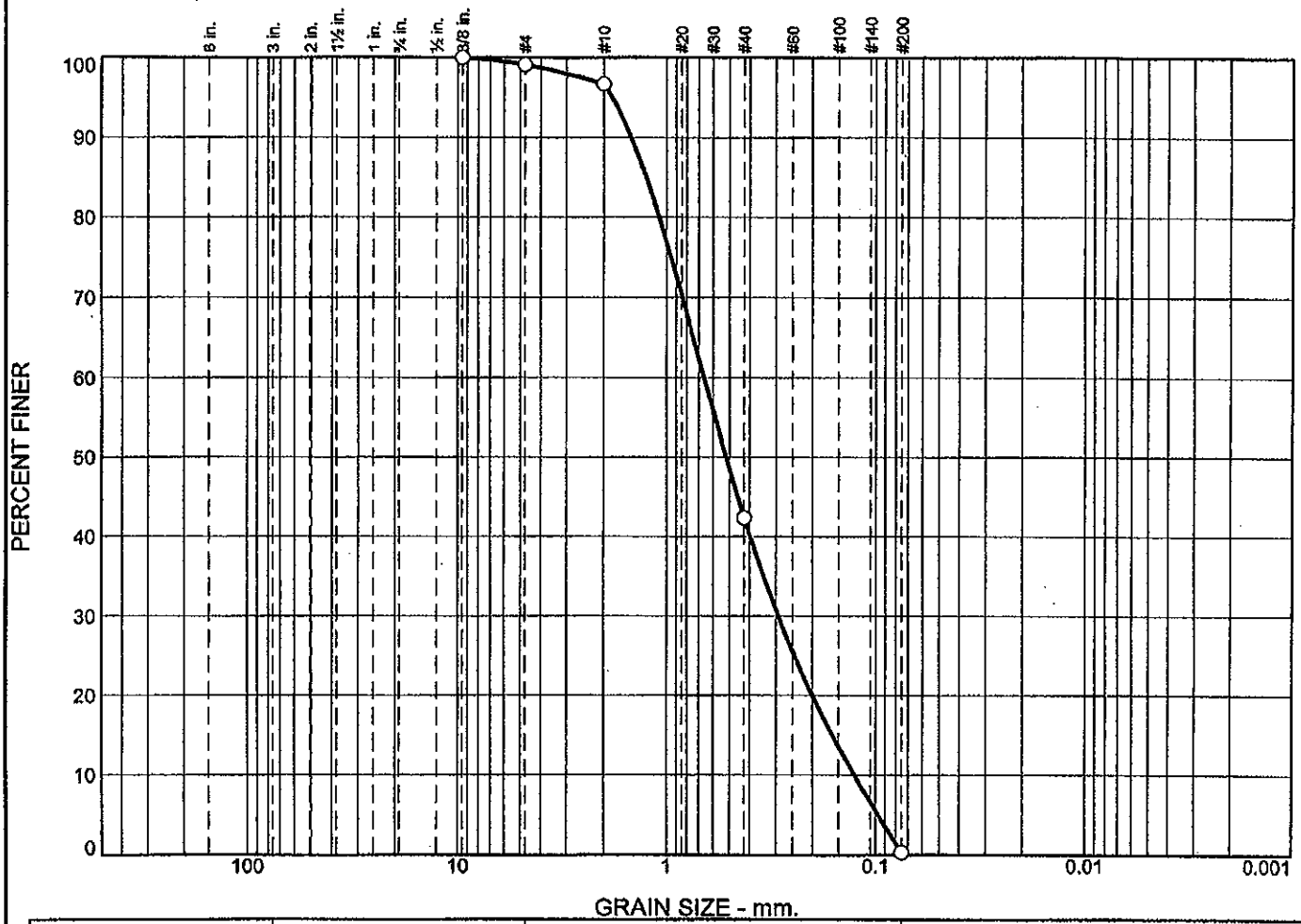
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.9	0.9	2.4	54.3	42.1	98.8			0.3

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.1262	0.1608	0.2002	0.2917	0.5181	0.6610	1.0880	1.2549	1.4764	1.8165

Fineness Modulus	C_u	C_c
2.20	5.24	1.02

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.9	2.4	54.3	42.1	0.3	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_C	C_U
○			1.2549	0.6610	0.5181	0.2917	0.1608	0.1262	1.02	5.24

	Material Description	USCS	AASHTO
○		SP	

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** CP-1-0-2.6-022812 **Sample Number:** L1203740-44

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/14/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: CP-2-0-2.5-022812 (CP-2)
Sample Number: L1203740-43
USCS Classification: SP

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
379.75	7.46	0.375	525.00	525.00	100.0
		#4	530.90	525.85	98.6
		#10	498.81	492.21	96.9
		#40	589.45	373.76	38.9
		#200	482.27	338.34	0.3

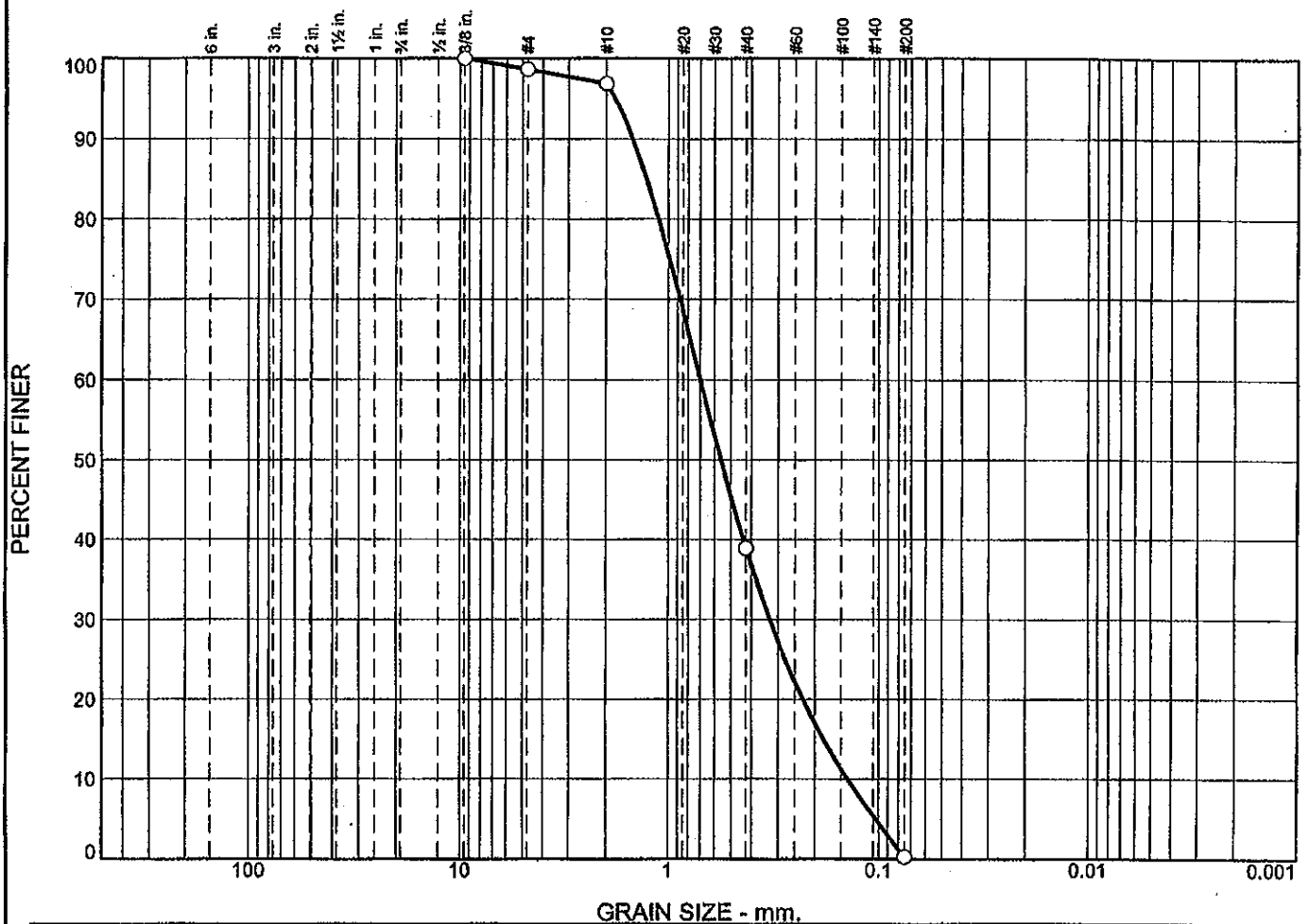
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	1.4	1.4	1.7	58.0	38.6	98.3			0.3

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.1403	0.1825	0.2283	0.3281	0.5574	0.6993	1.1160	1.2764	1.4875	1.8077

Fineness Modulus	C_u	C_c
2.30	4.99	1.10

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	1.4	1.7	58.0	38.6	0.3	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.2764	0.6993	0.5574	0.3281	0.1825	0.1403	1.10	4.99

	Material Description	USCS	AASHTO
○		SP	

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** CP-2-0-2.5-022812 **Sample Number:** L1203740-43

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/13/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: CP-3-0-3.3-022812 (CP-3)
Sample Number: L1203740-21

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
398.44	7.29	.375	525.00	525.00	100.0
		#4	535.23	525.85	97.6
		#10	502.01	492.21	95.1
		#40	589.98	373.76	39.8
		#200	467.66	337.53	6.5

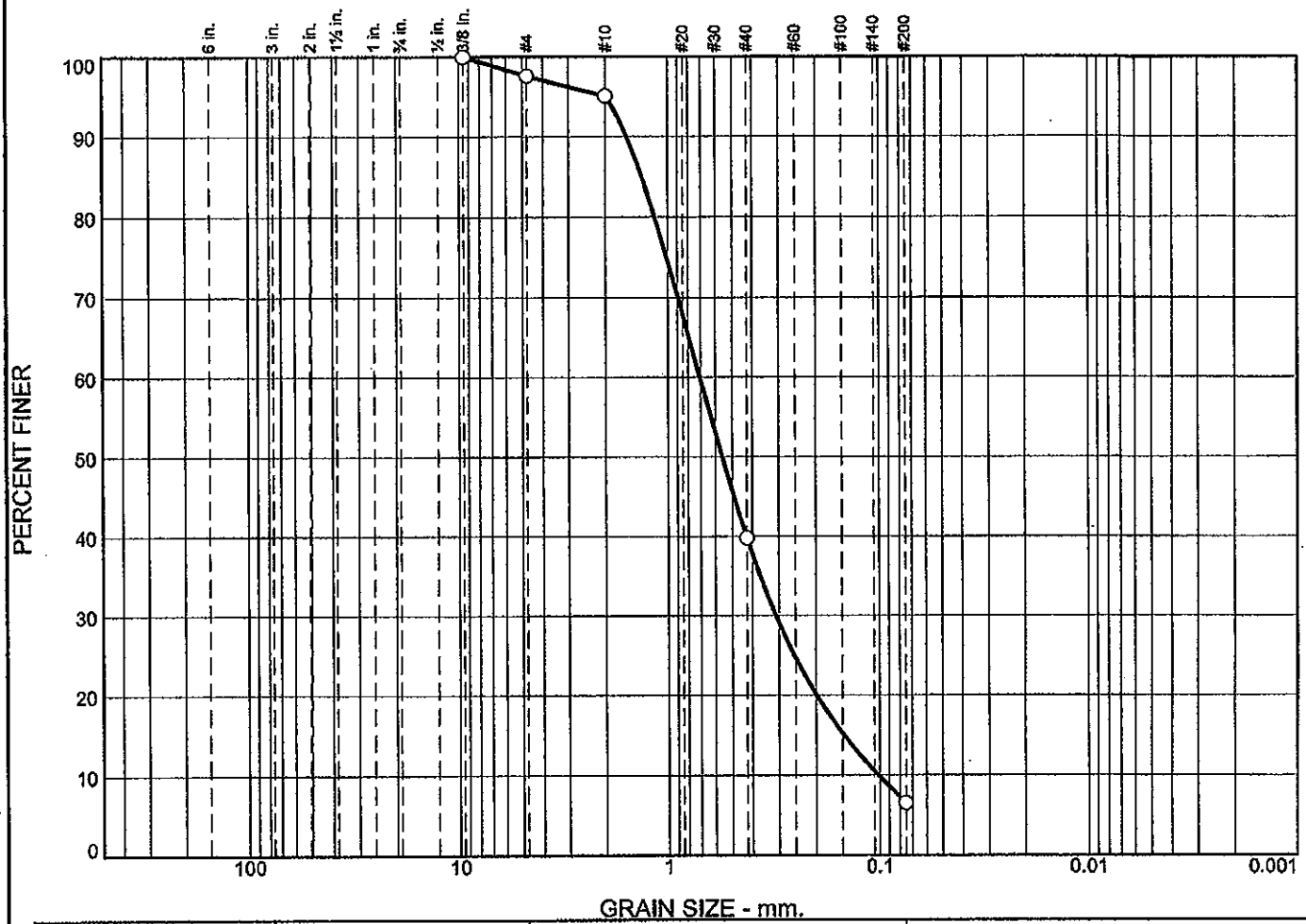
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	2.4	2.4	2.5	55.3	33.3	91.1			6.5

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.1013	0.1478	0.1993	0.3095	0.5552	0.7058	1.1556	1.3341	1.5775	1.9879

Fineness Modulus	C_u	C_c
2.29	6.97	1.34

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	2.4	2.5	55.3	33.3	6.5	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.3341	0.7058	0.5552	0.3095	0.1478	0.1013	1.34	6.97

	Material Description	USCS	AASHTO
○			

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** CP-3-0-3.3-022812 **Sample Number:** L1203740-21

Remarks:

Alpha Analytical

Mansfield, MA

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/14/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: EH-1-1-2.8-022812 (EH-1)
Sample Number: L1203740-28

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
434.50	7.33	0.375	525.00	525.00	100.0
		#4	534.99	525.85	97.9
		#10	516.57	492.21	92.2
		#40	575.47	373.76	44.9
		#200	501.46	337.53	6.6

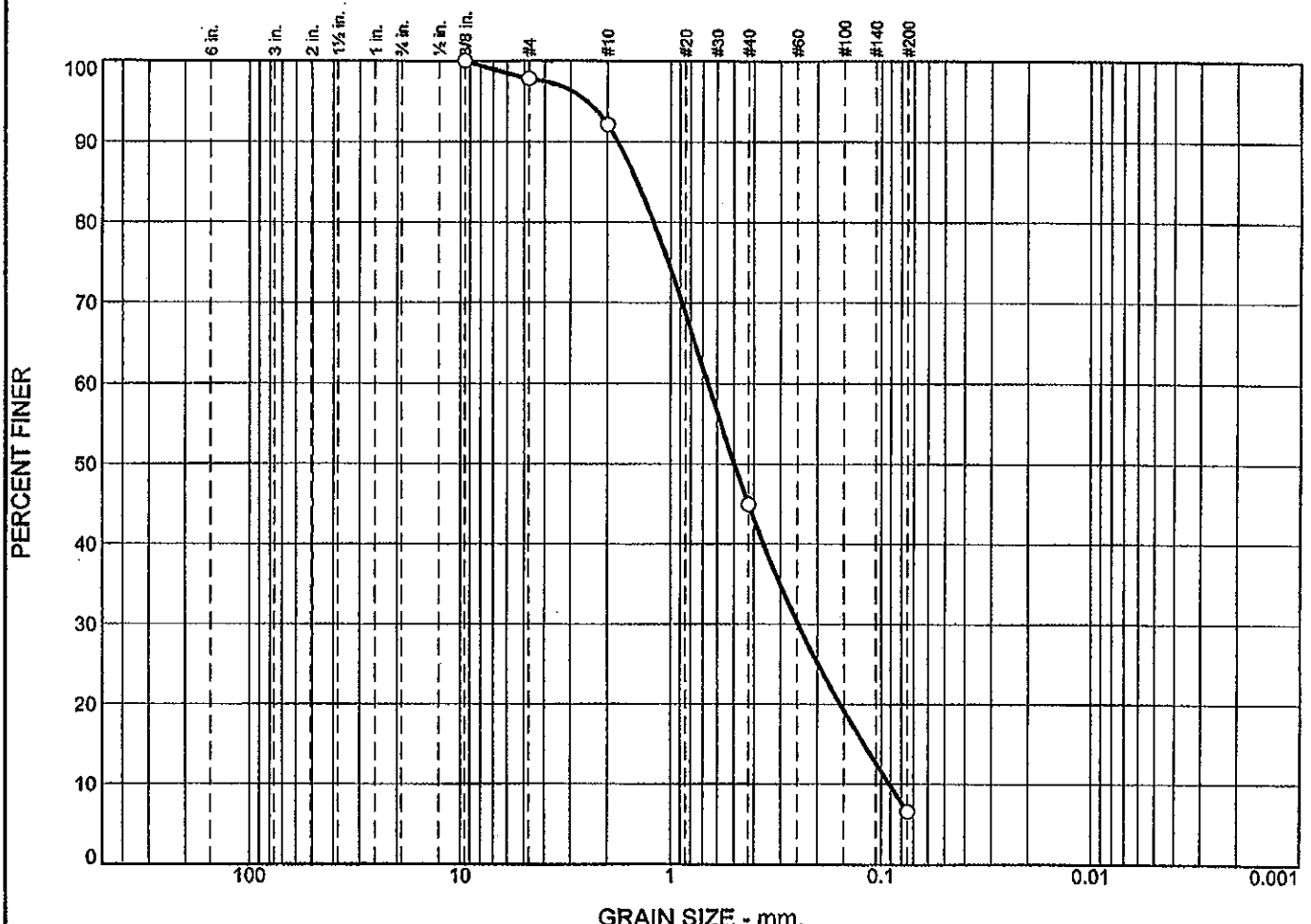
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	2.1	2.1	5.7	47.3	38.3	91.3			6.6

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0912	0.1203	0.1561	0.2468	0.4967	0.6634	1.2030	1.4360	1.7782	2.4978

Fineness Modulus	C_u	C_c
2.18	7.27	1.01

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	2.1	5.7	47.3	38.3	6.6	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.4360	0.6634	0.4967	0.2468	0.1203	0.0912	1.01	7.27

	Material Description	USCS	AASHTO
○			

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** EH-1-1-2.8-022812 **Sample Number:** L1203740-28

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/14/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: EH-2-0-2.9-022812 (EH-2)
Sample Number: L1203740-41

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
298.63	7.40	0.375	553.50	553.50	100.0
		#4	569.37	525.80	85.0
		#10	509.64	491.60	78.8
		#40	426.58	375.32	61.2
		#200	468.82	314.69	8.3

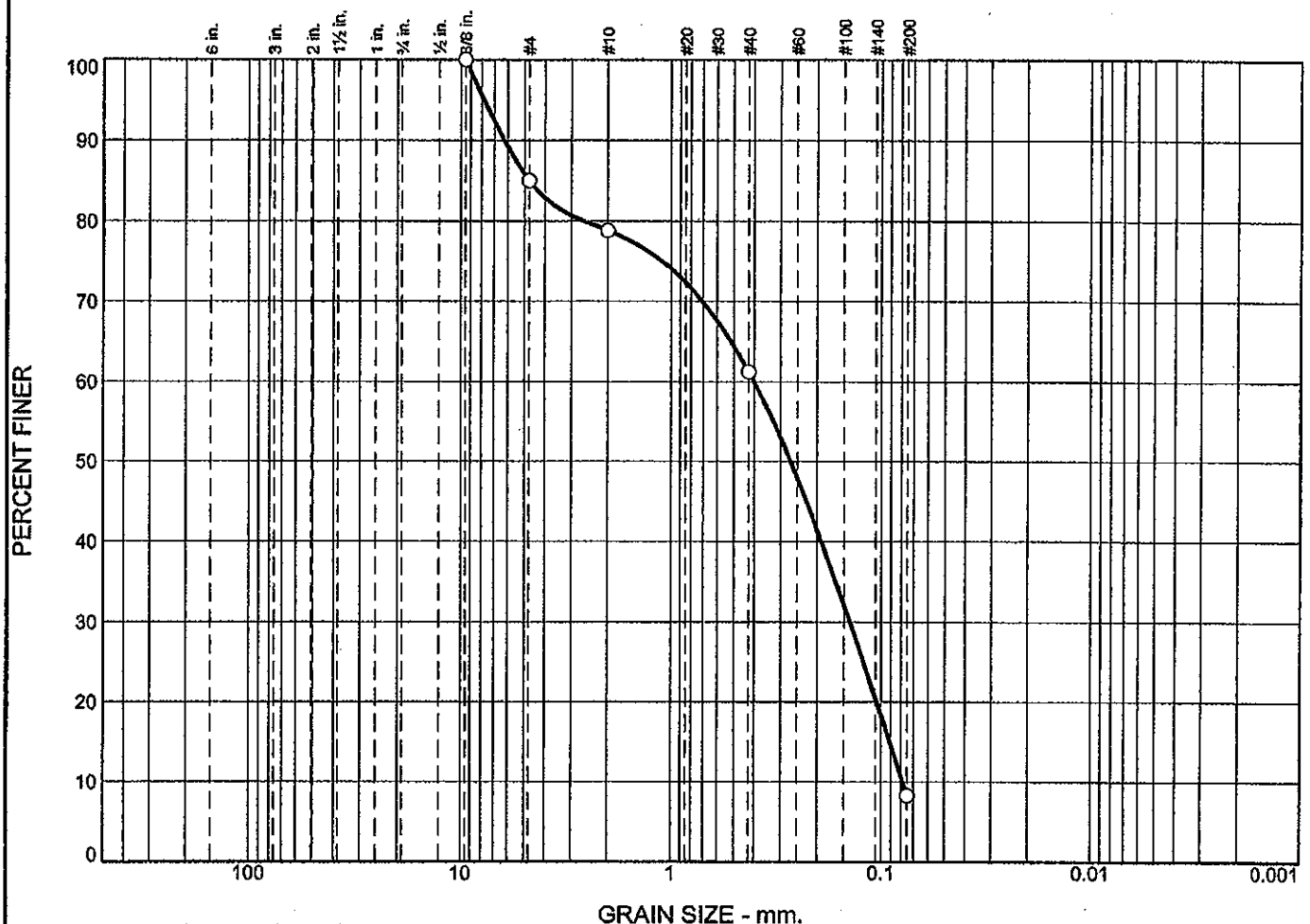
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	15.0	15.0	6.2	17.6	52.9	76.7			8.3

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0787	0.0907	0.1047	0.1403	0.2686	0.4012	2.6231	4.7373	6.2374	7.7717

Fineness Modulus	C_u	C_c
2.07	5.10	0.62

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	15.0	6.2	17.6	52.9	8.3	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			4.7373	0.4012	0.2686	0.1403	0.0907	0.0787	0.62	5.10

Material Description	USCS	AASHTO
○		

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** EH-2-0-2.9-022812 **Sample Number:** L1203740-41

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/14/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: EH-3-0-3.0-022812 (EH-3)
Sample Number: L1203740-24

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
340.25	7.40	0.375	525.00	525.00	100.0
		#4	530.16	525.85	98.7
		#10	501.22	492.21	96.0
		#40	445.75	373.76	74.4
		#200	497.28	337.53	26.4

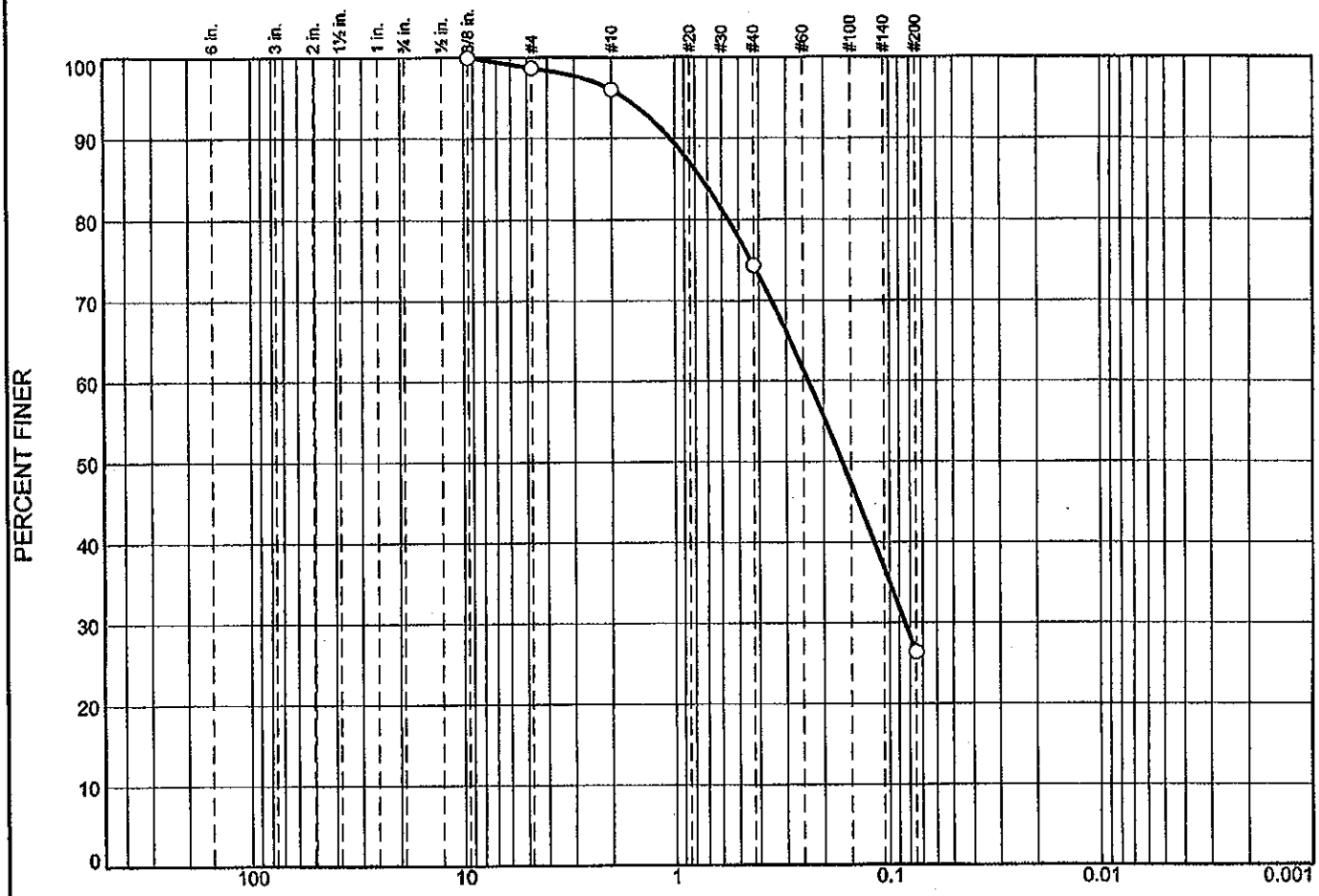
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	1.3	1.3	2.7	21.6	48.0	72.3			26.4

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
			0.0844	0.1649	0.2362	0.5598	0.7435	1.0522	1.7268

Fineness Modulus
1.18

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	1.3	2.7	21.6	48.0	26.4	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.7435	0.2362	0.1649	0.0844				

	Material Description	USCS	AASHTO
○			

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** EH-3-0-3.0-022812 **Sample Number:** L1203740-24

Remarks:

Alpha Analytical

Mansfield, MA

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/13/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: EH-4-0-4.7-022812 (EH-4)
Sample Number: L1203740-10
USCS Classification: SP

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
519.46	7.27	.375	525.00	525.00	100.0
		#4	531.77	525.85	98.8
		#10	506.33	492.21	96.1
		#40	587.00	373.76	54.5
		#200	593.64	337.53	4.5

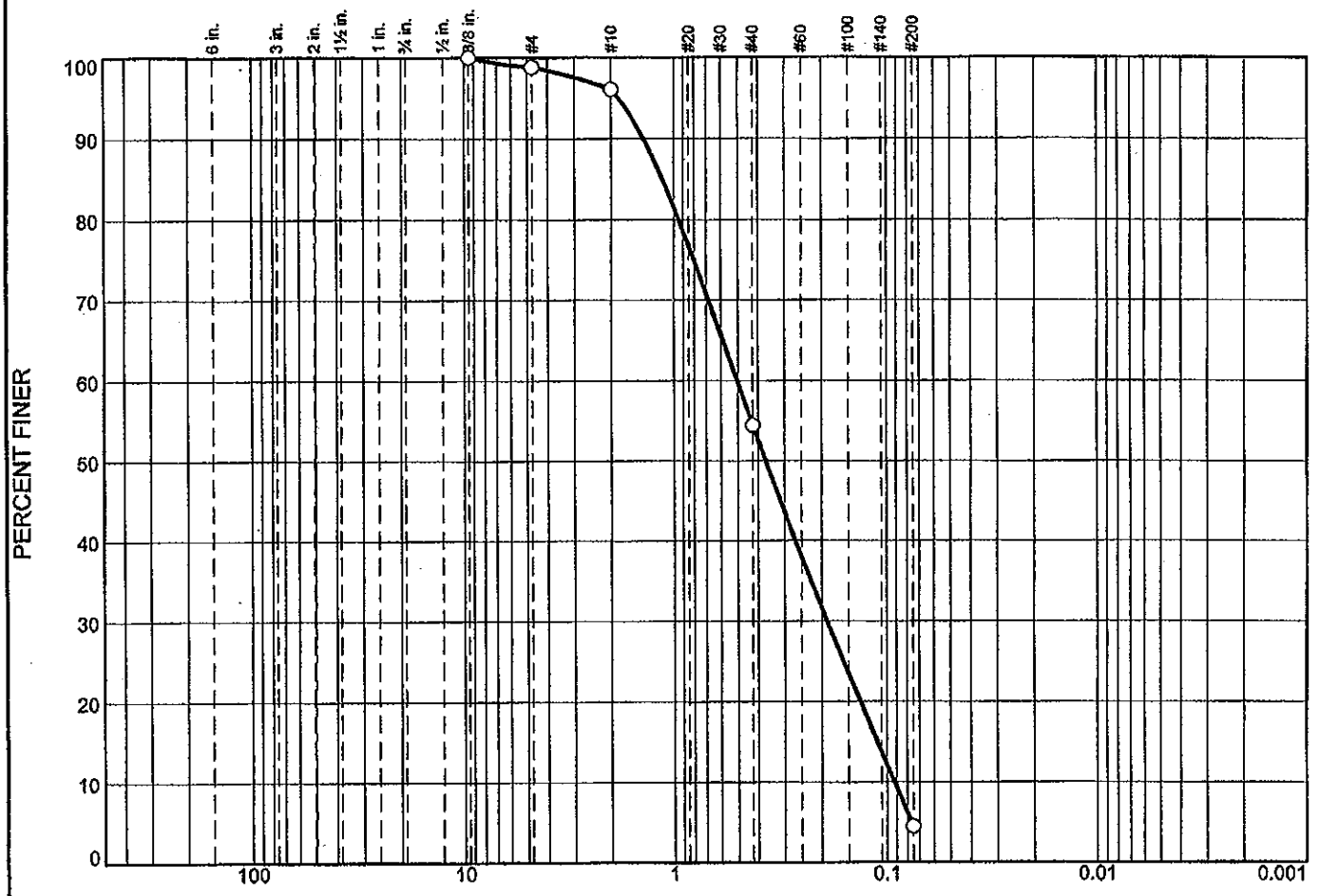
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	1.2	1.2	2.7	41.6	50.0	94.3			4.5

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0920	0.1105	0.1325	0.1892	0.3695	0.5038	0.9459	1.1337	1.3966	1.8394

Fineness Modulus	C_u	C_c
1.86	5.48	0.77

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	1.2	2.7	41.6	50.0	4.5	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.1337	0.5038	0.3695	0.1892	0.1105	0.0920	0.77	5.48

	Material Description	USCS	AASHTO
○		SP	

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** EH-4-0-4.7-022812 **Sample Number:** L1203740-10

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/13/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: EH-5-0-3.5-022812 (EH-5)
Sample Number: L1203740-22

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
196.37	7.35	.375	525.00	525.00	100.0
		#4	531.14	525.85	97.2
		#10	512.50	492.21	86.5
		#40	421.89	373.76	61.0
		#200	392.13	337.53	32.1

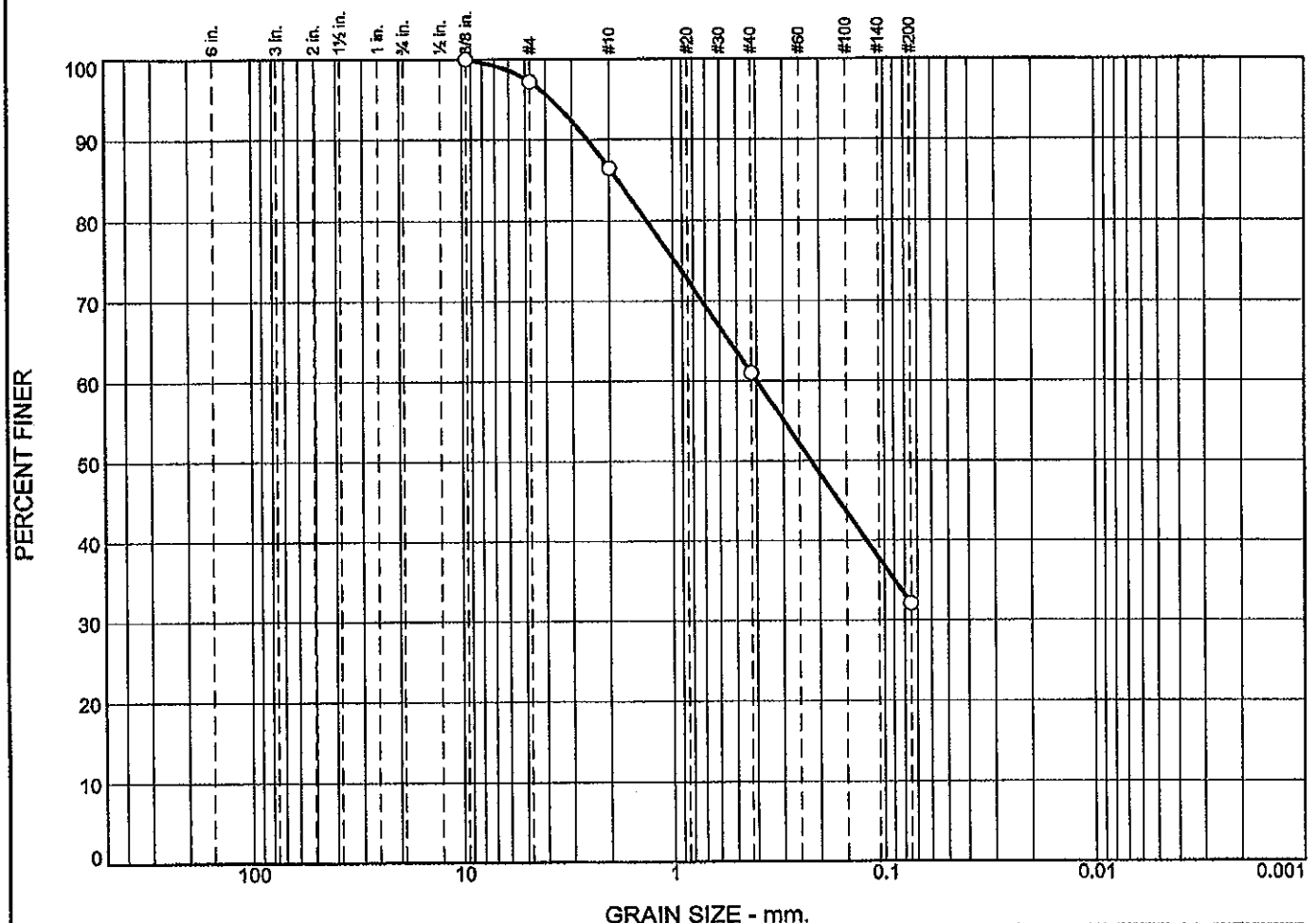
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	2.8	2.8	10.7	25.5	28.9	65.1			32.1

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
				0.2204	0.4004	1.3266	1.8186	2.5353	3.7488

Fineness Modulus
1.70

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	2.8	10.7	25.5	28.9	32.1	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.8186	0.4004	0.2204					

	Material Description	USCS	AASHTO
○			

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** EH-5-0-3.5-022812 **Sample Number:** L1203740-22

Remarks:

Alpha Analytical

Mansfield, MA

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/13/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: EH-12-0-2.5-022712 (EH-12)
Sample Number: L1203740-04
USCS Classification: SW

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
358.98	7.33	.375	525.00	525.00	100.0
		#4	543.70	525.85	94.9
		#10	502.42	492.21	92.0
		#40	545.42	373.76	43.2
		#200	473.93	337.53	4.4

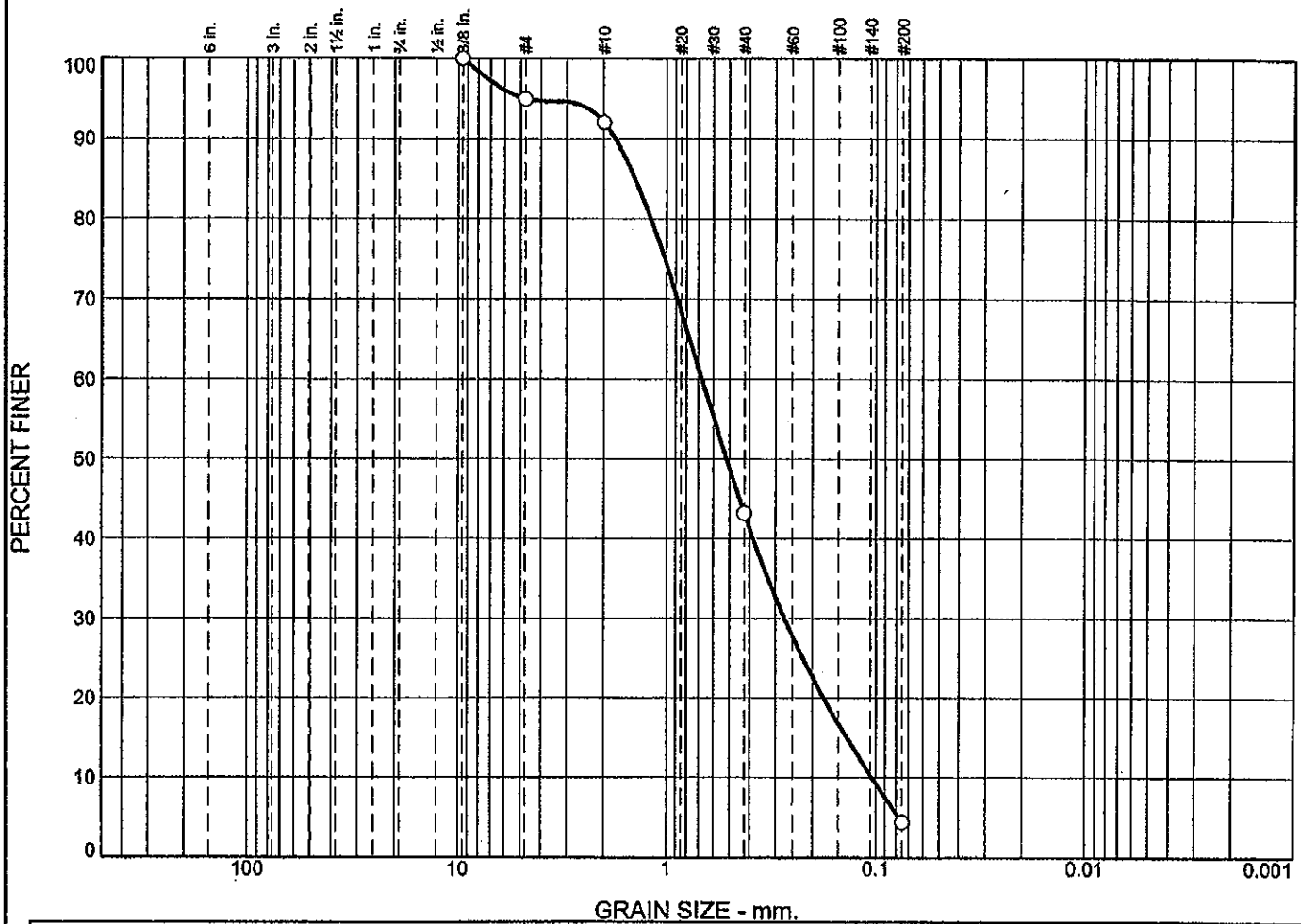
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	5.1	5.1	2.9	48.8	38.8	90.5			4.4

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.1040	0.1370	0.1764	0.2713	0.5164	0.6759	1.1889	1.4144	1.7635	4.8751

Fineness Modulus	C_u	C_c
2.27	6.50	1.05

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	5.1	2.9	48.8	38.8	4.4	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.4144	0.6759	0.5164	0.2713	0.1370	0.1040	1.05	6.50

	Material Description	USCS	AASHTO
○		SW	

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** EH-12-0-2.5-022712 **Sample Number:** L1203740-04

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/13/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: EH-8-0-2.4-022712 (EH-8)
Sample Number: L1203740-03
USCS Classification: SP

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
434.53	7.34	.375	553.50	553.50	100.0
		#4	530.80	525.81	98.8
		#10	505.92	491.60	95.5
		#40	685.11	375.32	23.0
		#200	410.81	315.53	0.7

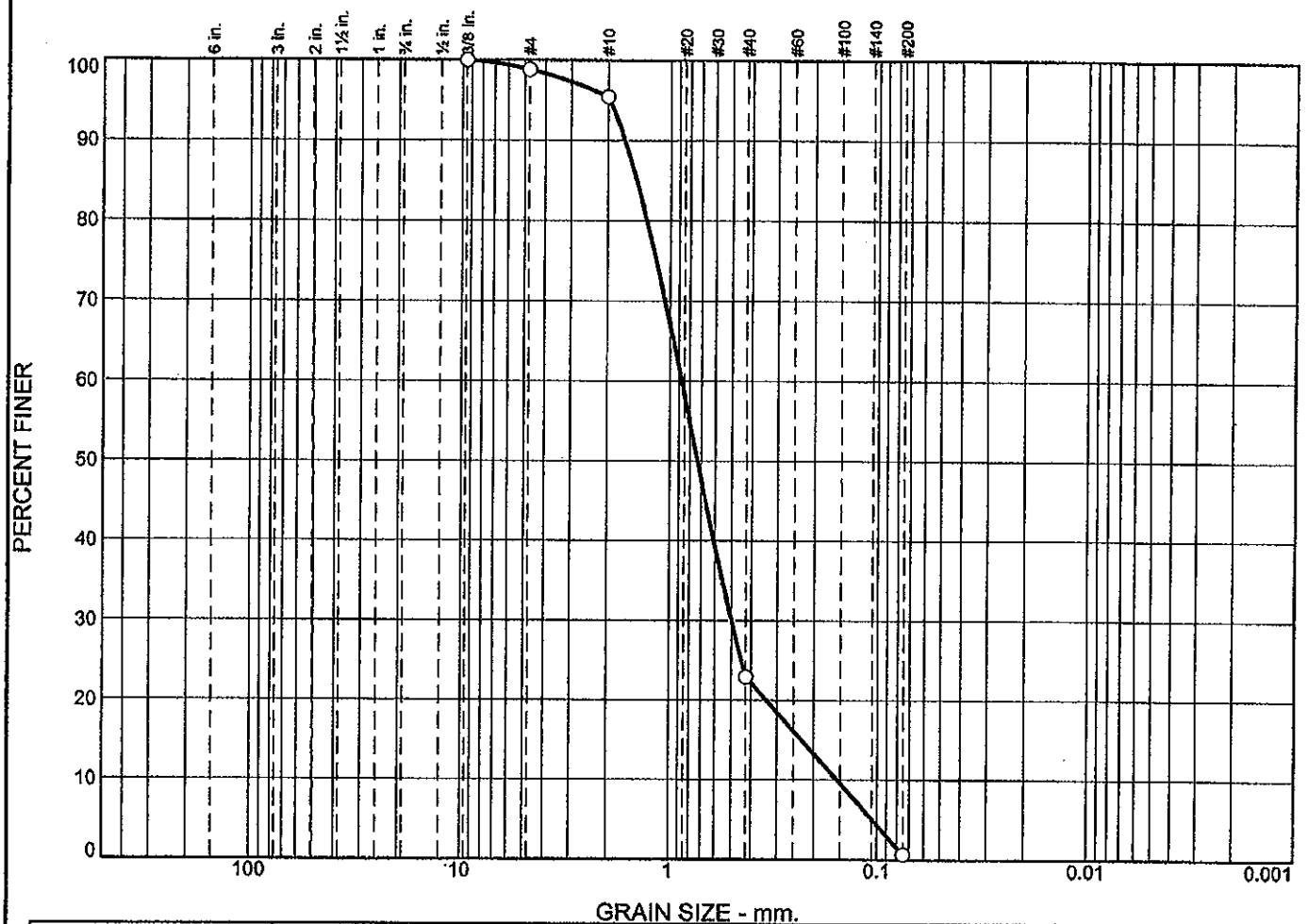
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	1.2	1.2	3.3	72.5	22.3	98.1			0.7

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.1551	0.2288	0.3376	0.4986	0.7316	0.8766	1.2920	1.4482	1.6516	1.9587

Fineness Modulus	C_u	C_c
2.62	5.65	1.83

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	1.2	3.3	72.5	22.3	0.7	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.4482	0.8766	0.7316	0.4986	0.2288	0.1551	1.83	5.65

	Material Description	USCS	AASHTO
○		SP	

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** EH-8-0-2.4-022712 **Sample Number:** L1203740-03

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/13/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: EH-6-0-2.0-022712 (EH-6)
Sample Number: L1203740-05

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
442.02	7.45	.375	553.50	553.50	100.0
		#4	551.74	525.81	94.0
		#10	532.89	491.60	84.5
		#40	608.20	375.32	30.9
		#200	424.81	315.53	5.8

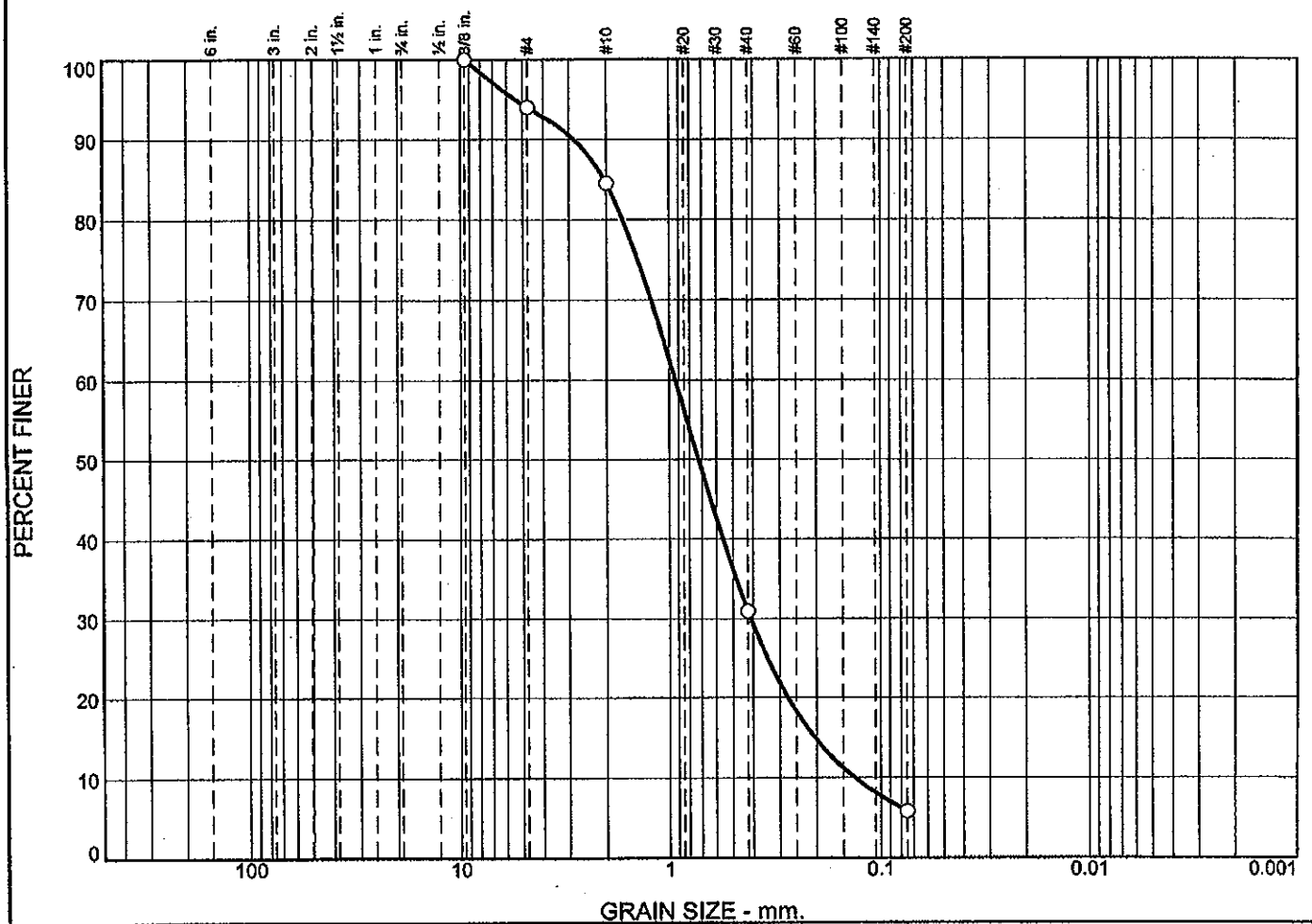
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	6.0	6.0	9.5	53.6	25.1	88.2			5.8

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.1327	0.2045	0.2740	0.4119	0.7237	0.9341	1.6657	2.0451	2.8388	5.4035

Fineness Modulus	C_u	C_c
2.74	7.04	1.37

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	6.0	9.5	53.6	25.1	5.8	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			2.0451	0.9341	0.7237	0.4119	0.2045	0.1327	1.37	7.04

	Material Description	USCS	AASHTO
○			

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** EH-6-0-2.0-022712 **Sample Number:** L1203740-05

Remarks:

Alpha Analytical

Mansfield, MA

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/13/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: EH-7-0-3.3-022712 (EH-7)
Sample Number: L1203740-09
USCS Classification: SP

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
365.73	7.31	.375	553.50	553.50	100.0
		#4	529.31	525.81	99.0
		#10	512.27	491.60	93.3
		#40	606.40	375.32	28.8
		#200	404.42	315.53	4.0

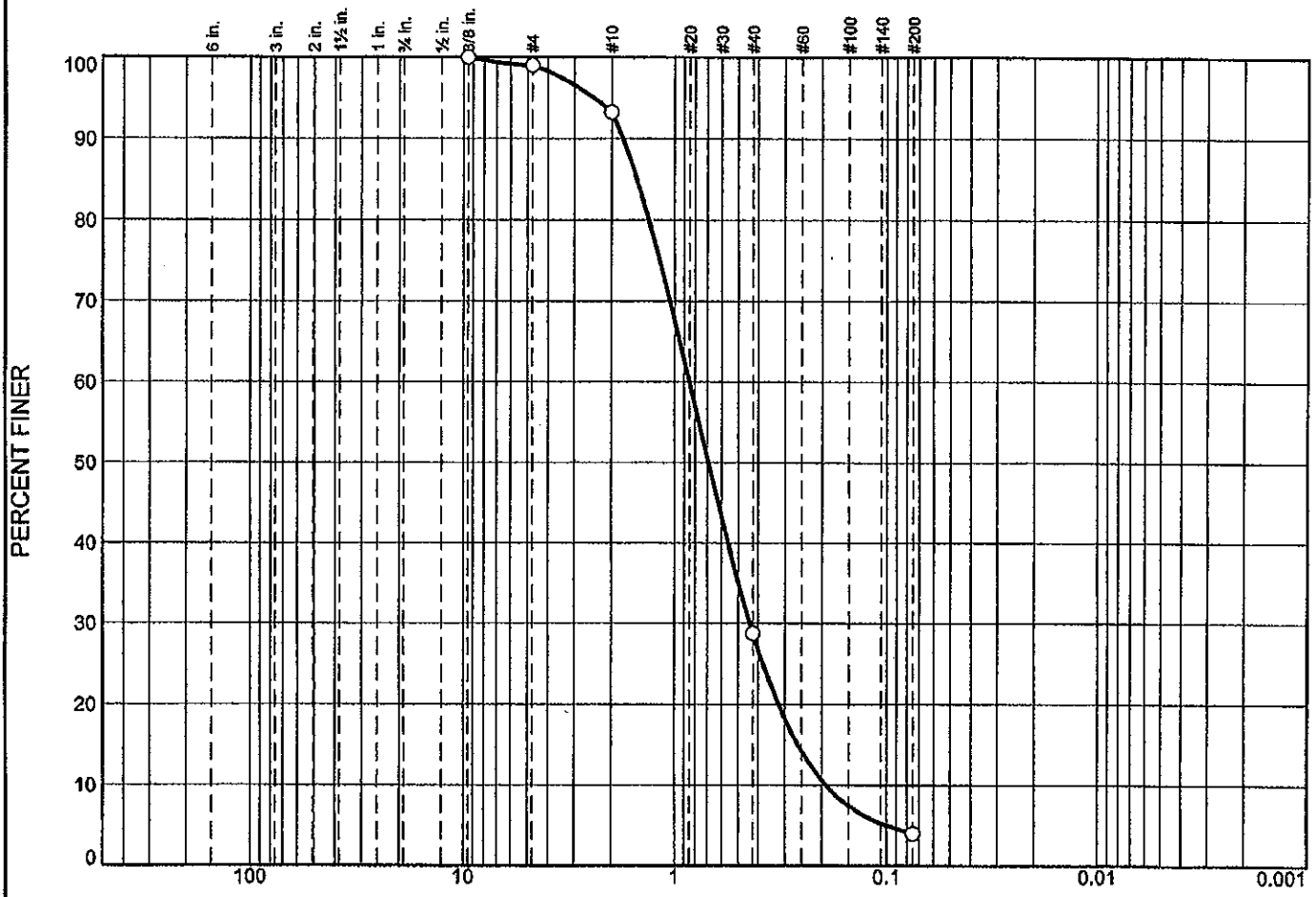
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	1.0	1.0	5.7	64.5	24.8	95.0			4.0

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.1911	0.2593	0.3213	0.4392	0.6929	0.8522	1.3247	1.5102	1.7616	2.4314

Fineness Modulus	C_u	C_c
2.62	4.46	1.18

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	1.0	5.7	64.5	24.8	4.0	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.5102	0.8522	0.6929	0.4392	0.2593	0.1911	1.18	4.46

	Material Description	USCS	AASHTO
○		SP	

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** EH-7-0-3.3-022712 **Sample Number:** L1203740-09

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/13/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: EH-9-0-2.7-022712 (EH-9)
Sample Number: L1203740-06
USCS Classification: SP

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
331.21	7.31	.375	525.00	525.00	100.0
		#4	535.39	525.85	97.1
		#10	512.57	492.21	90.8
		#40	561.67	373.86	32.8
		#200	438.15	337.53	1.7

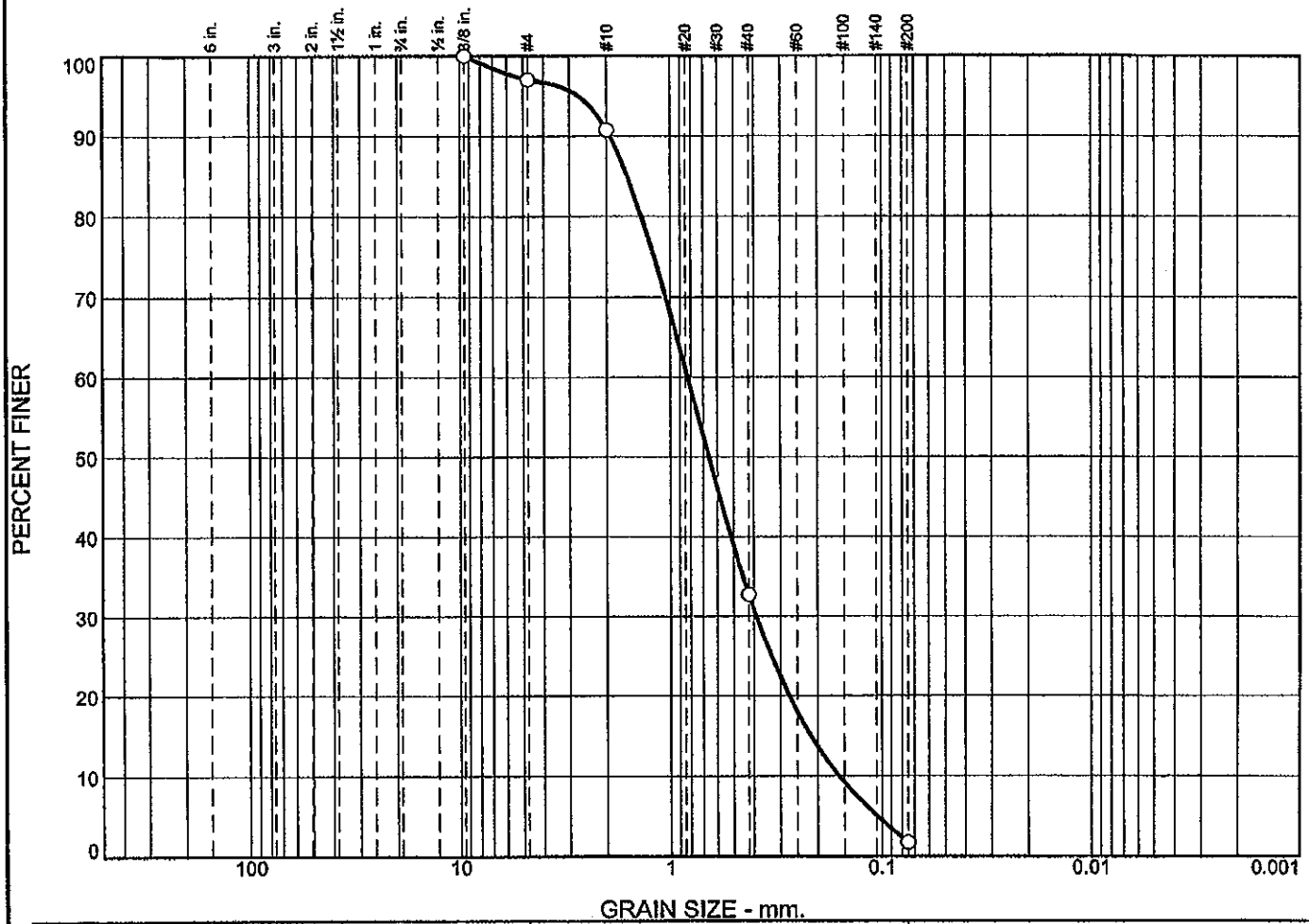
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	2.9	2.9	6.3	58.0	31.1	95.4			1.7

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.1588	0.2154	0.2730	0.3912	0.6566	0.8276	1.3633	1.5904	1.9280	2.7275

Fineness Modulus	C_u	C_c
2.57	5.21	1.16

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	2.9	6.3	58.0	31.1	1.7	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.5904	0.8276	0.6566	0.3912	0.2154	0.1588	1.16	5.21

	Material Description	USCS	AASHTO
○		SP	

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** EH-9-0-2.7-022712 **Sample Number:** L1203740-06

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/13/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: EH-10-0-2.7-022712 (EH-10)
Sample Number: L1203740-01
USCS Classification: SP

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
421.39	7.31	.375	525.00	525.00	100.0
		#4	526.99	525.85	99.7
		#10	506.98	492.21	96.2
		#40	534.35	373.76	57.4
		#200	572.48	337.53	0.6

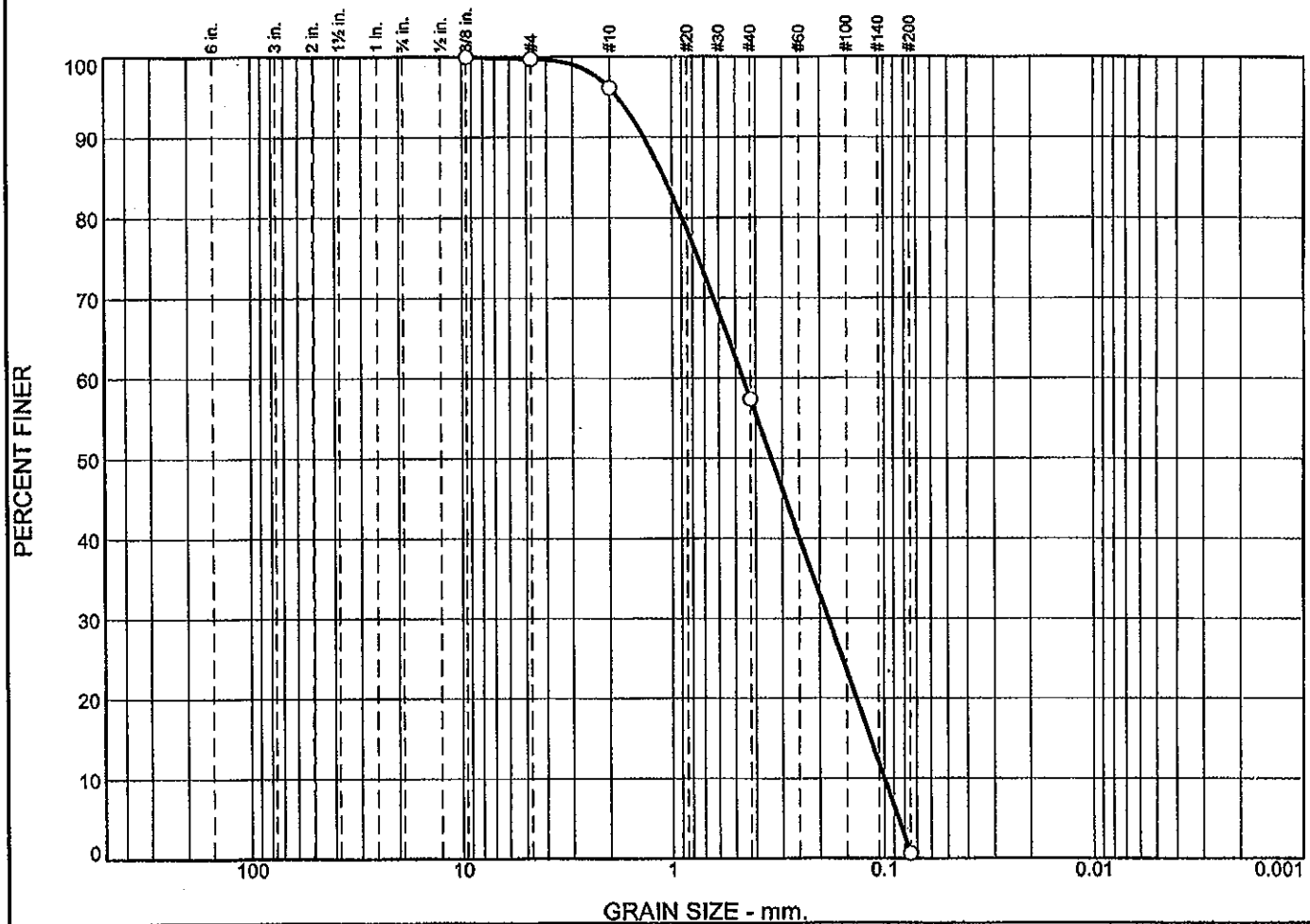
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.3	0.3	3.5	38.8	56.8	99.1			0.6

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0996	0.1160	0.1350	0.1830	0.3382	0.4612	0.8962	1.0891	1.3633	1.8255

Fineness Modulus	C_u	C_c
1.78	4.63	0.73

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.3	3.5	38.8	56.8	0.6	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.0891	0.4612	0.3382	0.1830	0.1160	0.0996	0.73	4.63

	Material Description	USCS	AASHTO
○		SP	

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** EH-10-0-2.7-022712 **Sample Number:** L1203740-01

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/13/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: EH-11-0-3.1-022712 (EH-11)
Sample Number: L1203740-02
USCS Classification: SP

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
330.42	7.36	.375	525.00	525.00	100.0
		#4	532.47	525.85	98.0
		#10	508.12	492.21	93.0
		#40	592.44	373.76	25.3
		#200	412.90	337.33	1.9

Fractional Components

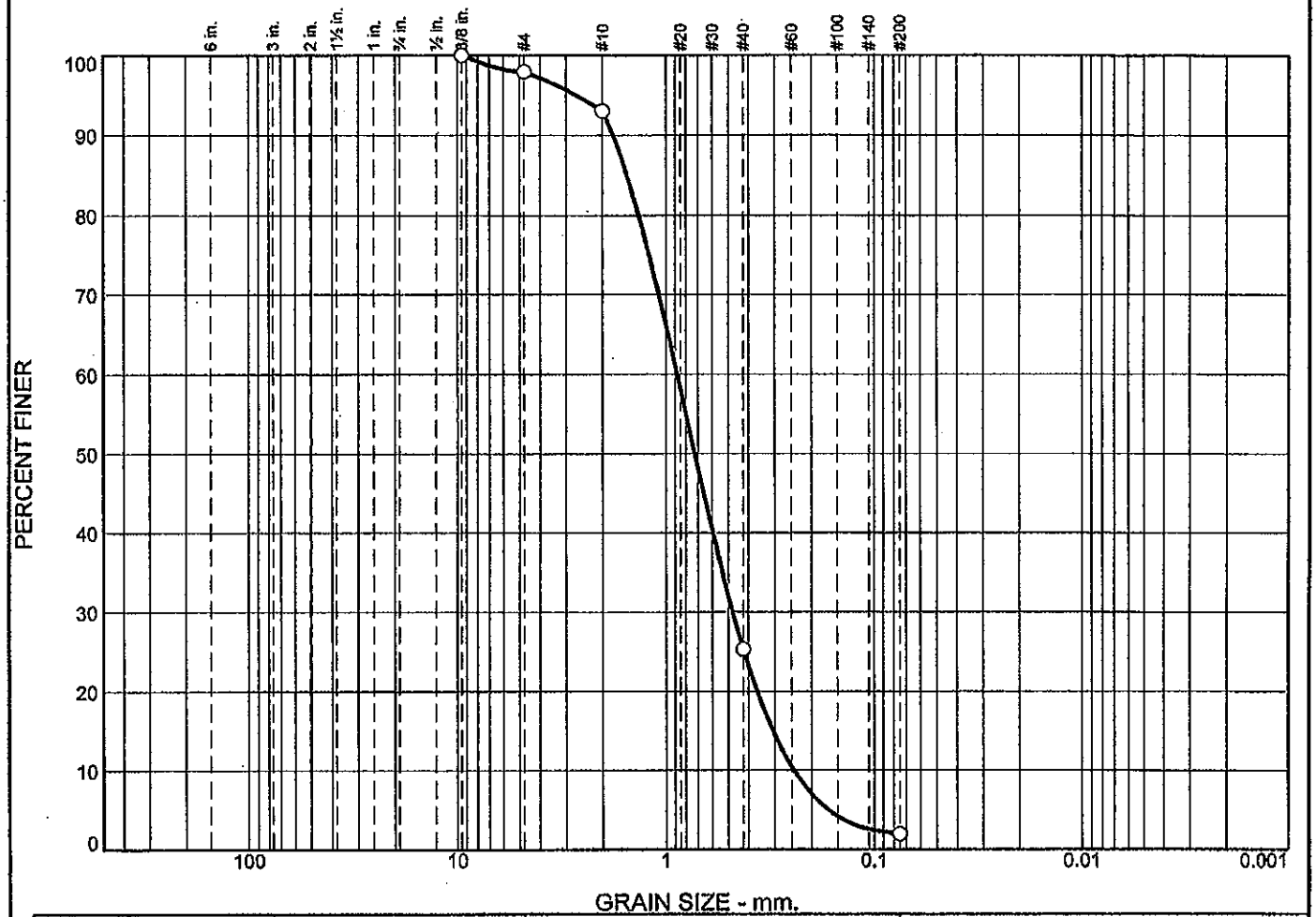
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	2.0	2.0	5.0	67.7	23.4	96.1			1.9

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.2431	0.3062	0.3647	0.4771	0.7252	0.8817	1.3451	1.5276	1.7776	2.6855

Fineness Modulus	C_u	C_c
2.74	3.63	1.06

Alpha Analytical

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	2.0	5.0	67.7	23.4	1.9	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.5276	0.8817	0.7252	0.4771	0.3062	0.2431	1.06	3.63

	Material Description	USCS	AASHTO
○		SP	

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** EH-11-0-3.1-022712 **Sample Number:** L1203740-02

Remarks:

Alpha Analytical

Mansfield, MA

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/13/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: EH-13-0-2.1-022712 (EH-13)
Sample Number: L1203740-08

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
242.79	7.28	.375	525.00	525.00	100.0
		#4	537.52	525.85	95.0
		#10	497.40	492.21	92.8
		#40	451.36	373.76	59.9
		#200	458.54	337.53	8.5

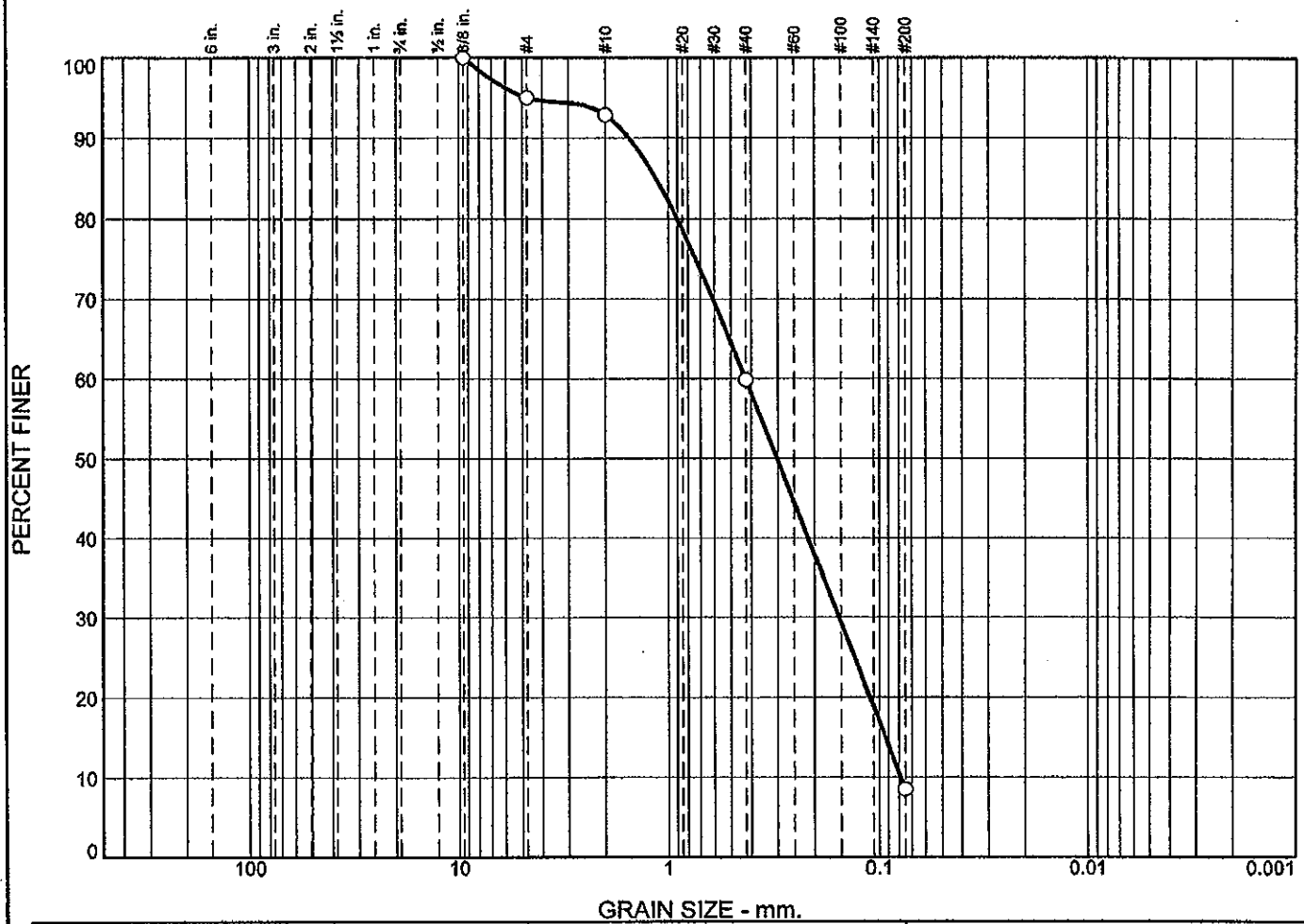
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	5.0	5.0	2.2	32.9	51.4	86.5			8.5

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0788	0.0931	0.1099	0.1535	0.3020	0.4266	0.9043	1.1424	1.5383	4.6866

Fineness Modulus	C_u	C_c
1.77	5.41	0.70

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	5.0	2.2	32.9	51.4	8.5	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.1424	0.4266	0.3020	0.1535	0.0931	0.0788	0.70	5.41

	Material Description	USCS	AASHTO
○			

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** EH-13-0-2.1-022712 **Sample Number:** L1203740-08

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/13/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: EH-14-0-1.7-022712 (EH-14)
Sample Number: L1203740-07

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
300.84	7.31	.375	553.50	553.50	100.0
		#4	527.73	525.81	99.3
		#10	496.89	491.60	97.5
		#40	464.33	375.32	67.2
		#200	475.89	315.53	12.6

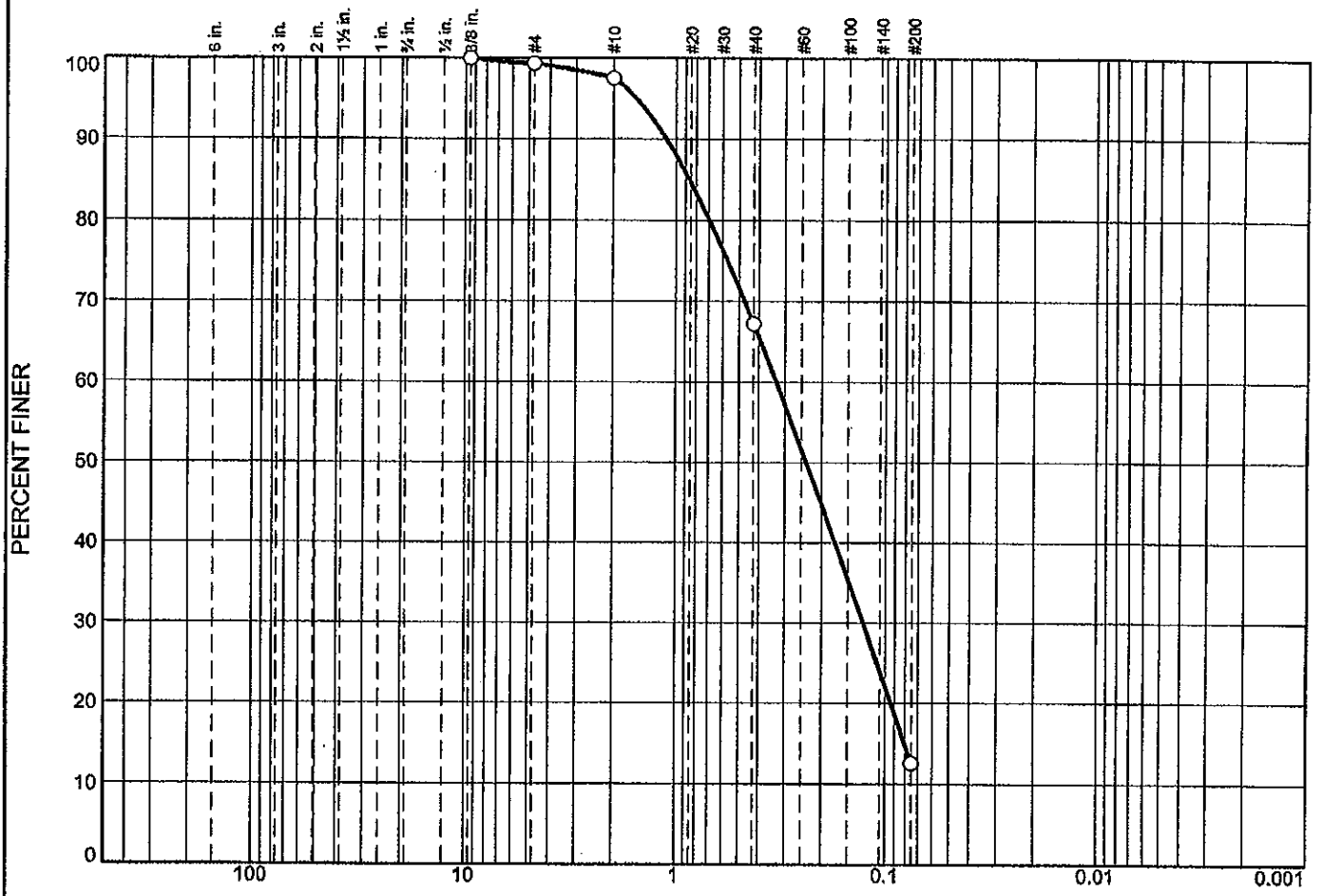
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.7	0.7	1.8	30.3	54.6	86.7			12.6

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
	0.0806	0.0937	0.1269	0.2373	0.3305	0.6931	0.8642	1.1149	1.5498

Fineness Modulus
1.43

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.7	1.8	30.3	54.6	12.6	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.8642	0.3305	0.2373	0.1269	0.0806			

	Material Description	USCS	AASHTO
○			

Project No. L1203740 **Client:** Woods Hole Group
Project: Edgartown Corp.

○ **Source of Sample:** EH-14-0-1.7-022712 **Sample Number:** L1203740-07

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/14/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: GP-1-0-2.0-022912 (GP-1)
Sample Number: L1203740-31
USCS Classification: SP

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
402.86	7.46	0.375	553.50	553.50	100.0
		#4	526.11	525.81	99.9
		#10	494.49	491.60	99.2
		#40	511.48	375.32	64.8
		#200	555.44	315.53	4.1

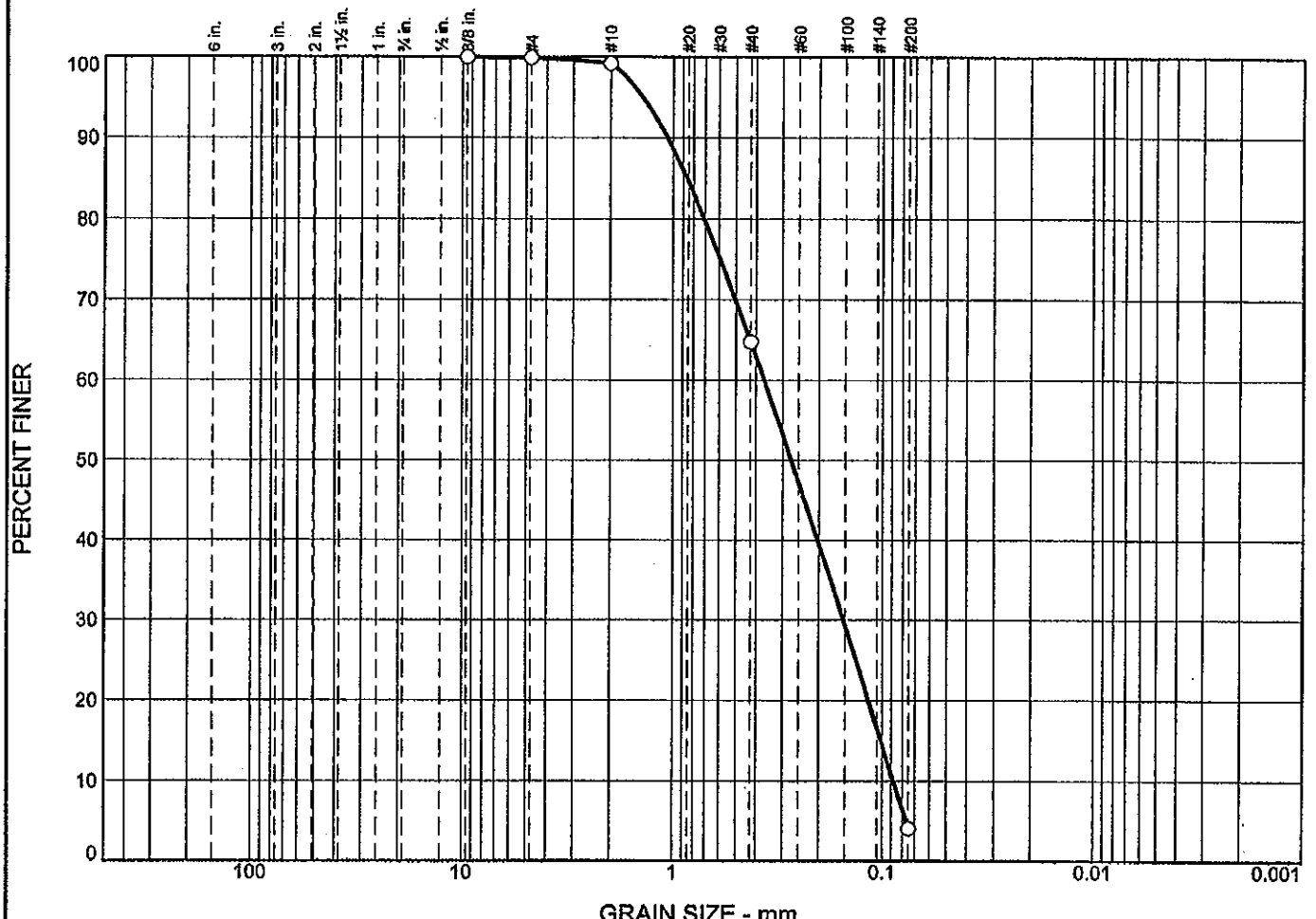
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.1	0.1	0.7	34.4	60.7	95.8			4.1

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0882	0.1011	0.1160	0.1531	0.2714	0.3666	0.7091	0.8598	1.0697	1.4012

Fineness Modulus	C_u	C_c
1.51	4.16	0.73

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.1	0.7	34.4	60.7	4.1	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.8598	0.3666	0.2714	0.1531	0.1011	0.0882	0.73	4.16

Material Description	USCS	AASHTO
○	SP	

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** GP-1-0-2.0-022912 **Sample Number:** L1203740-31

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/14/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: GP-1-2.0-4.3-022912 (GP-1)
Sample Number: L1203740-42
USCS Classification: SW

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
470.91	7.94	0.375	553.50	553.50	100.0
		#4	608.19	525.80	82.2
		#10	561.88	491.60	67.0
		#40	579.02	375.32	23.0
		#200	412.58	314.39	1.8

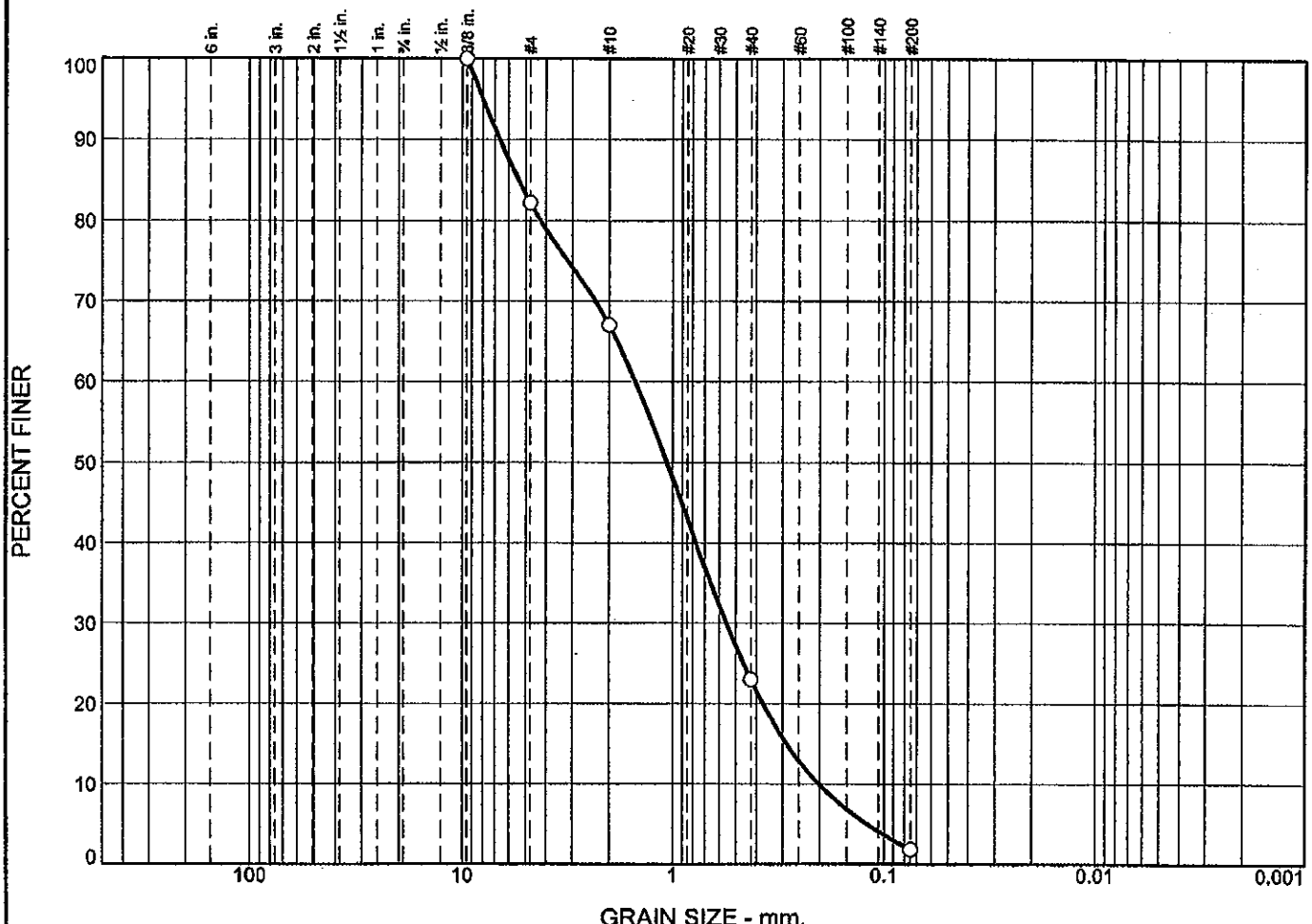
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	17.8	17.8	15.2	44.0	21.2	80.4			1.8

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.2023	0.2863	0.3720	0.5534	1.0637	1.4989	4.2377	5.4005	6.6156	7.9657

Fineness Modulus	C_U	C_C
3.39	7.41	1.01

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	17.8	15.2	44.0	21.2	1.8	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			5.4005	1.4989	1.0637	0.5534	0.2863	0.2023	1.01	7.41

	Material Description	USCS	AASHTO
○		SW	

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** GP-1-2.0-4.3-022912 **Sample Number:** L1203740-42

Remarks:

Alpha Analytical

Mansfield, MA

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/14/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: GP-1-4.3-6.0-022912 (GP-1)
Sample Number: L1203740-29
USCS Classification: SP

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
429.39	7.36	0.375	553.50	553.50	100.0
		#4	555.27	525.81	93.0
		#10	532.99	491.60	83.2
		#40	628.24	375.32	23.3
		#200	404.79	315.53	2.1

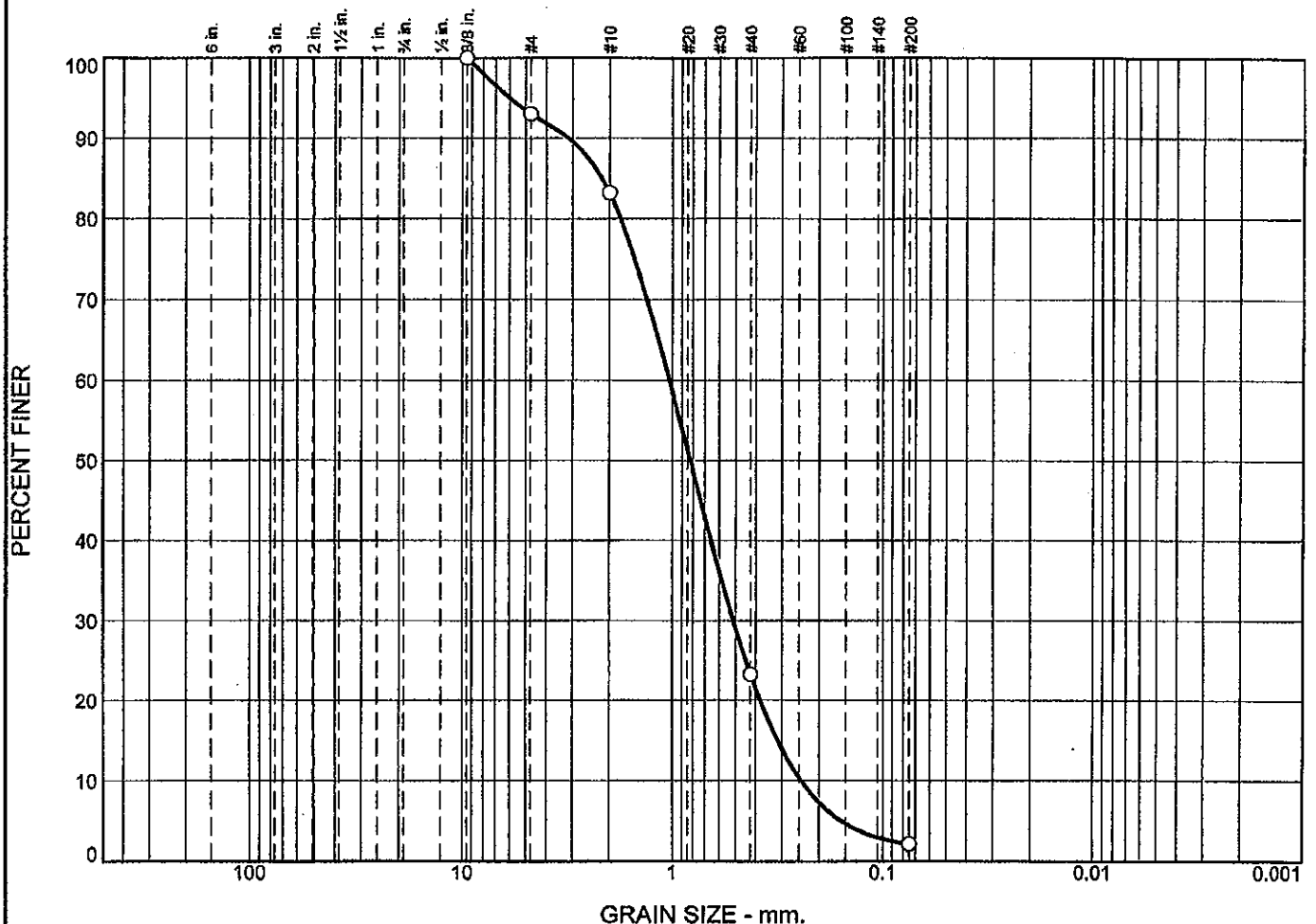
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	7.0	7.0	9.8	59.9	21.2	90.9			2.1

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.2435	0.3150	0.3820	0.5131	0.8229	1.0334	1.7692	2.1730	3.1404	5.9711

Fineness Modulus	C_u	C_c
3.00	4.24	1.05

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	7.0	9.8	59.9	21.2	2.1	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_C	C_U
○			2.1730	1.0334	0.8229	0.5131	0.3150	0.2435	1.05	4.24

	Material Description	USCS	AASHTO
○		SP	

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** GP-1-4.3-6.0-022912 **Sample Number:** L1203740-29

Remarks:

Alpha Analytical

Mansfield, MA

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/21/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: GP-2-0-2-022912
Sample Number: L1203740-34
USCS Classification: SP

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained
282.15	7.46	0.375	525.00	525.00	100.00	0.00
		#4	529.50	525.85	98.67	1.33
		#10	500.43	492.21	95.68	4.32
		#40	597.53	373.76	14.22	85.78
		#200	372.24	337.53	1.58	98.42

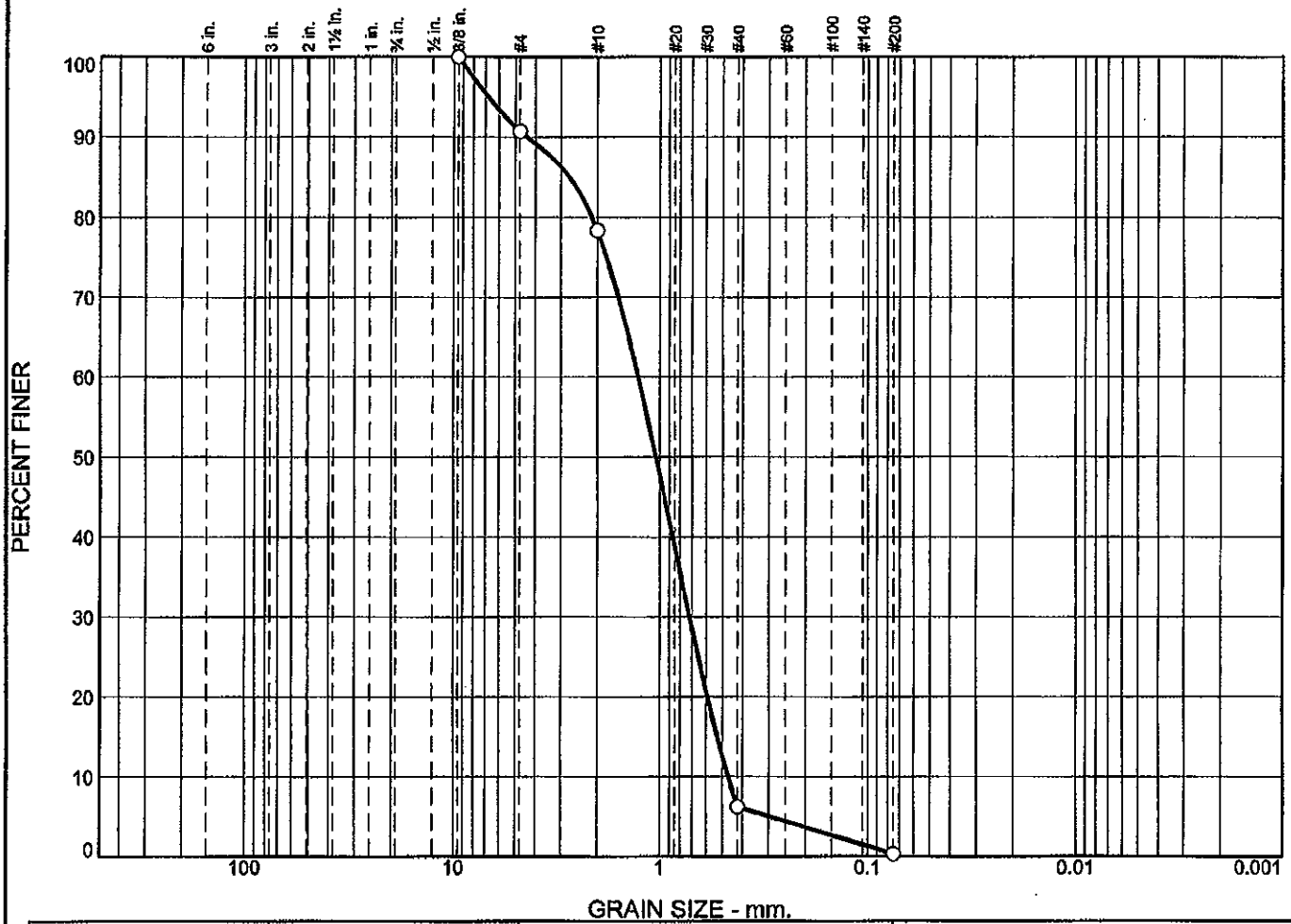
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.00	0.00	1.33	1.33	2.99	81.46	12.64	97.09			1.58

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.2383	0.4314	0.4744	0.5737	0.8392	1.0149	1.4845	1.6325	1.7953	1.9744

Fineness Modulus	C_u	C_c
2.86	4.26	1.36

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	9.3	12.3	72.2	5.9	0.3	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			2.7248	1.2711	1.0457	0.7197	0.5300	0.4706	0.87	2.70

	Material Description	USCS	AASHTO
○		SP	

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** CP-6-0-2.7-022812 **Sample Number:** L1203740-35

Remarks:

Alpha Analytical

Mansfield, MA

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/14/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: GP-2-2-5.6-022912
Sample Number: L1203740-33
USCS Classification: SP

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
403.81	7.39	0.375	553.50	553.50	100.0
		#4	557.91	525.80	91.9
		#10	504.37	491.60	88.7
		#40	589.82	375.32	34.6
		#200	439.84	314.39	2.9

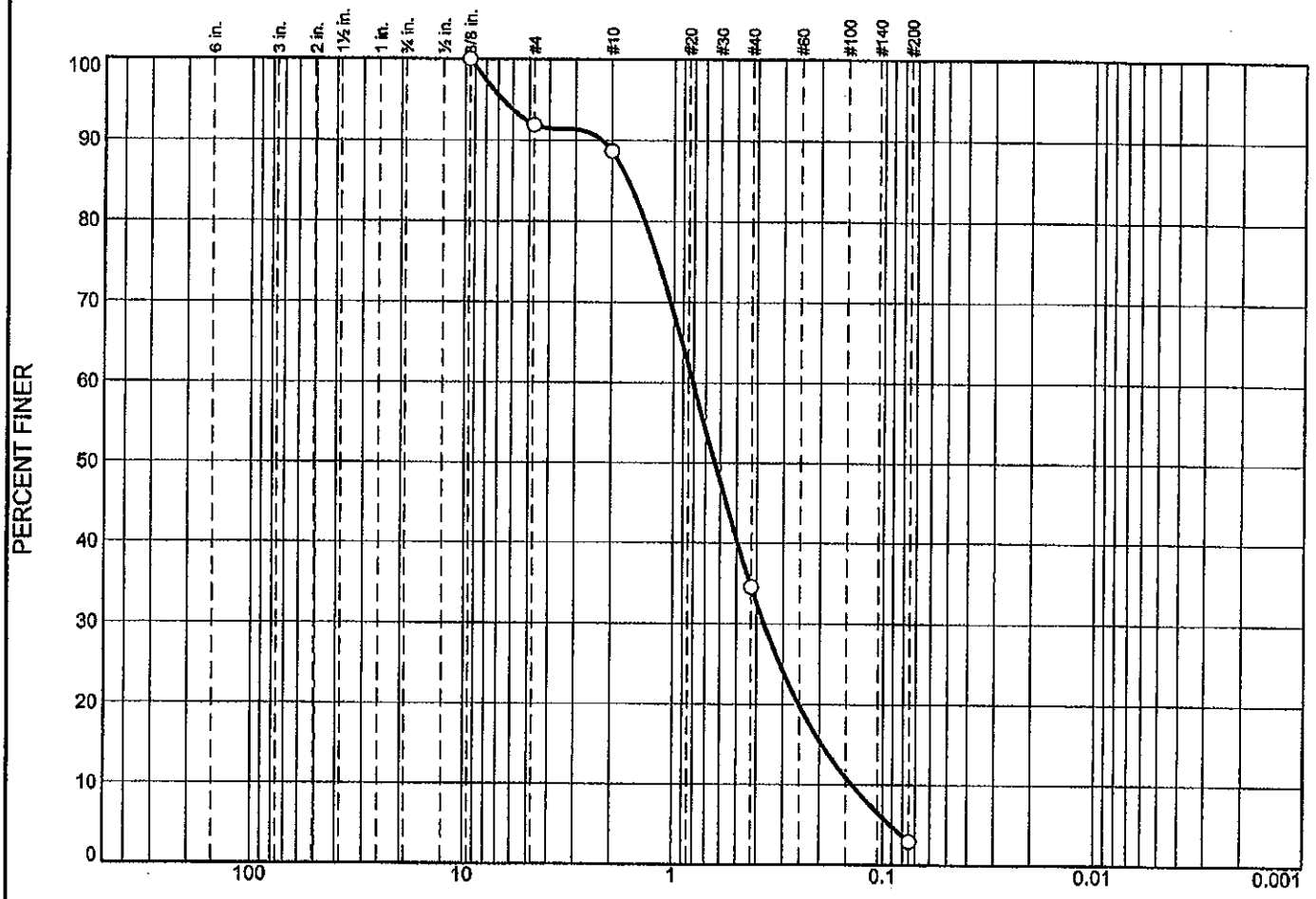
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	8.1	8.1	3.2	54.1	31.7	89.0			2.9

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.1405	0.1949	0.2514	0.3691	0.6347	0.8074	1.3795	1.6549	2.2333	6.7023

Fineness Modulus	C_u	C_c
2.60	5.75	1.20

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	8.1	3.2	54.1	31.7	2.9	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.6549	0.8074	0.6347	0.3691	0.1949	0.1405	1.20	5.75

	Material Description	USCS	AASHTO
○		SP	

Project No. L1203740 **Client:** Woods Hole Group
Project: Edgartown Corp.

○ **Source of Sample:** GP-2-2-5.6-022912 **Sample Number:** L1203740-33

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/14/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: GP-3-0-4.8-022912 (GP-3)
Sample Number: L1203740-39
USCS Classification: SP

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
504.60	7.44	0.375	553.50	553.50	100.0
		#4	525.80	525.80	100.0
		#10	492.78	491.60	99.8
		#40	739.26	375.32	26.6
		#200	446.36	314.39	0.0

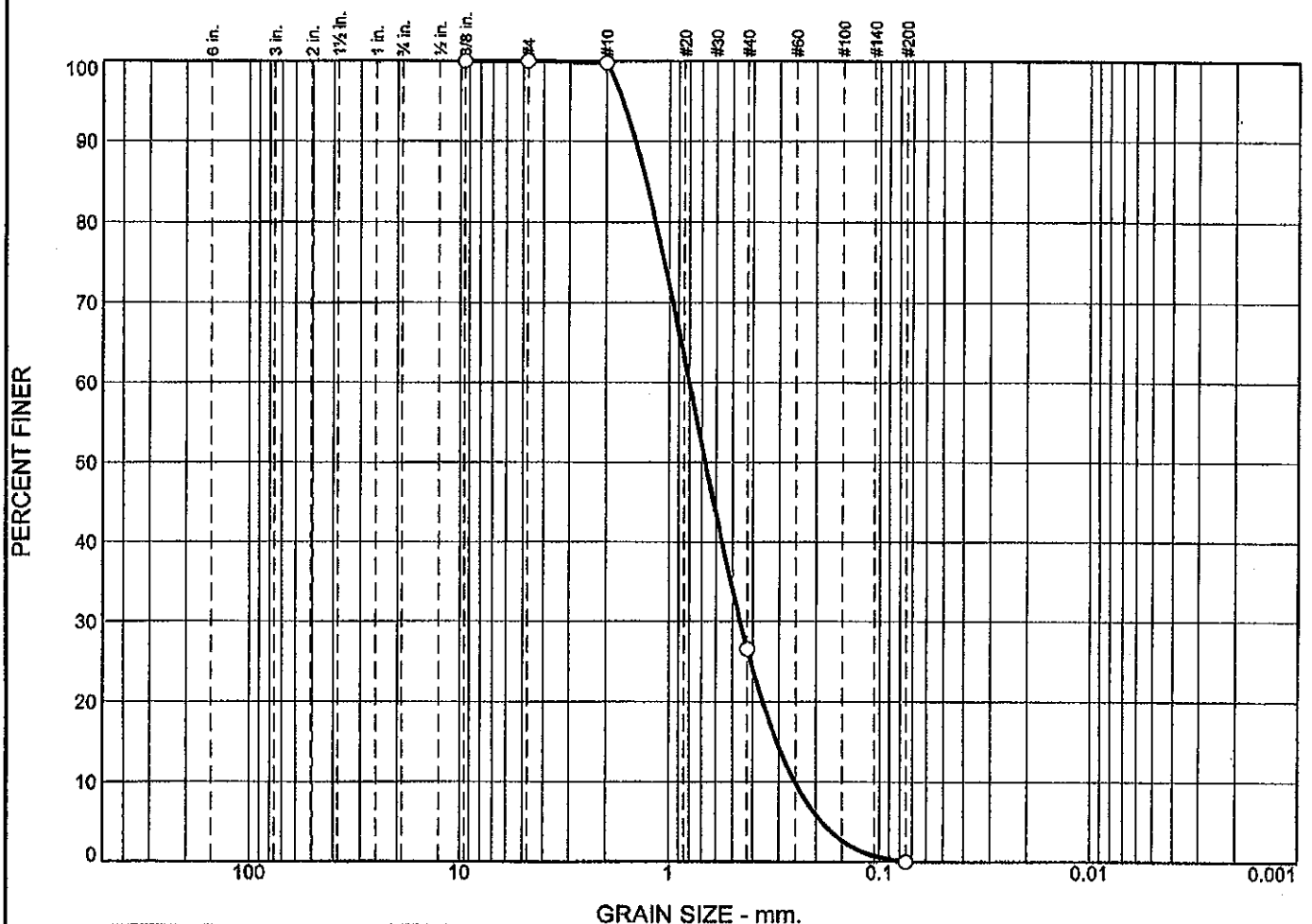
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.2	73.2	26.6	100.0			0.0

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.2514	0.3069	0.3590	0.4592	0.6741	0.8045	1.1648	1.2935	1.4530	1.6672

Fineness Modulus	C_u	C_c
2.59	3.20	1.04

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.2	73.2	26.6	0.0	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.2935	0.8045	0.6741	0.4592	0.3069	0.2514	1.04	3.20

	Material Description	USCS	AASHTO
○		SP	

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** GP-3-0-4.8-022912 **Sample Number:** L1203740-39

Remarks:

Alpha Analytical

Mansfield, MA

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/14/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: GP-4-0-6.6-030112 (GP-4)
Sample Number: L1203740-15
USCS Classification: SP

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
361.38	7.33	.375	553.50	553.50	100.0
		#4	538.00	525.81	96.6
		#10	517.52	491.60	89.2
		#40	677.16	375.32	4.0
		#200	329.57	315.53	0.0

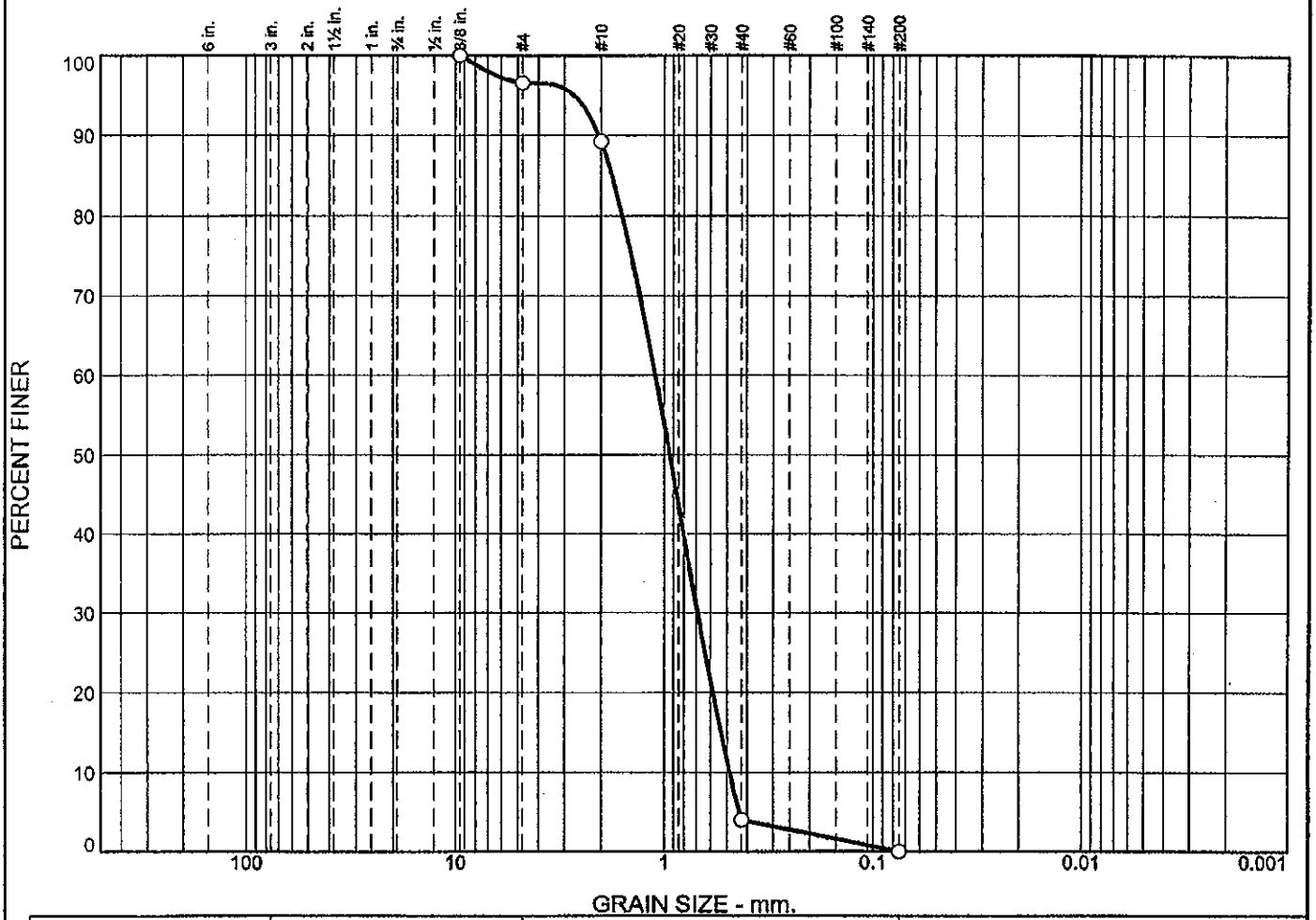
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	3.4	3.4	7.4	85.2	4.0	96.6			0.0

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.4850	0.5339	0.5836	0.6883	0.9388	1.0990	1.5766	1.7703	2.0537	2.6959

Fineness Modulus	C_u	C_c
3.20	2.27	0.89

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	3.4	7.4	85.2	4.0	0.0	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.7703	1.0990	0.9388	0.6883	0.5339	0.4850	0.89	2.27

	Material Description	USCS	AASHTO
○		SP	

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** GP-4-0-6.6-030112 **Sample Number:** L1203740-15

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/13/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: GP-5-0-7.0-030112 (GP-5)
Sample Number: L1203740-18
USCS Classification: SP

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
472.93	7.24	.375	525.00	525.00	100.0
		#4	526.73	525.84	99.8
		#10	498.30	492.21	98.5
		#40	767.55	373.76	13.9
		#200	399.71	337.53	0.6

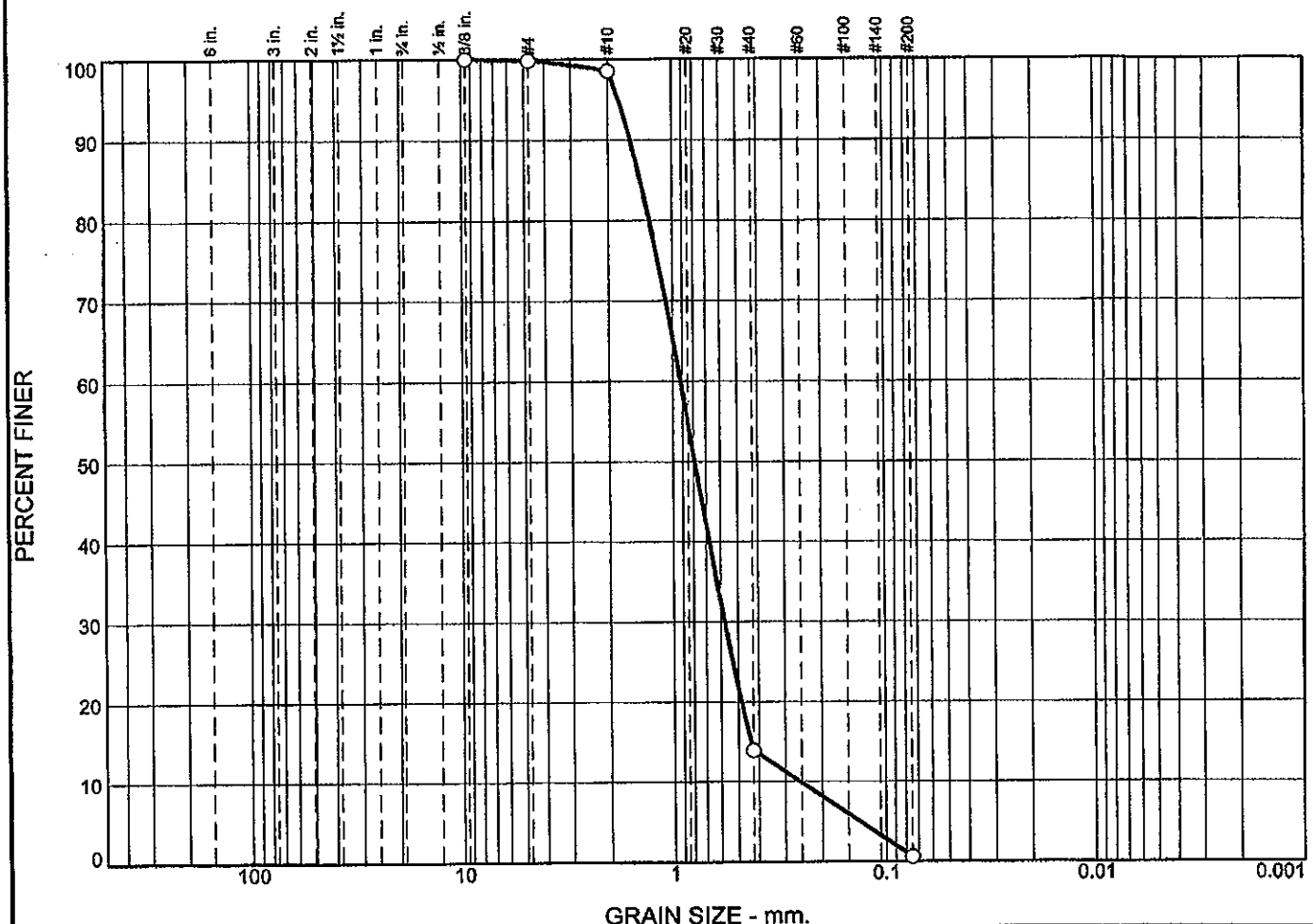
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.2	0.2	1.3	84.6	13.3	99.2			0.6

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.2547	0.4350	0.4815	0.5753	0.7887	0.9193	1.2782	1.4057	1.5635	1.7763

Fineness Modulus	C_u	C_c
2.76	3.61	1.41

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.2	1.3	84.6	13.3	0.6	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.4057	0.9193	0.7887	0.5753	0.4350	0.2547	1.41	3.61

	Material Description	USCS	AASHTO
○		SP	

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** GP-5-0-7.0-030112 **Sample Number:** L1203740-18

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/14/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: GP-12-0-2.5-022912 (GP-12)
Sample Number: L1203740-40
USCS Classification: SP

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
353.48	7.43	0.375	525.00	525.00	100.0
		#4	539.99	525.85	95.9
		#10	517.18	492.21	88.7
		#40	579.52	373.76	29.2
		#200	429.11	338.34	3.0

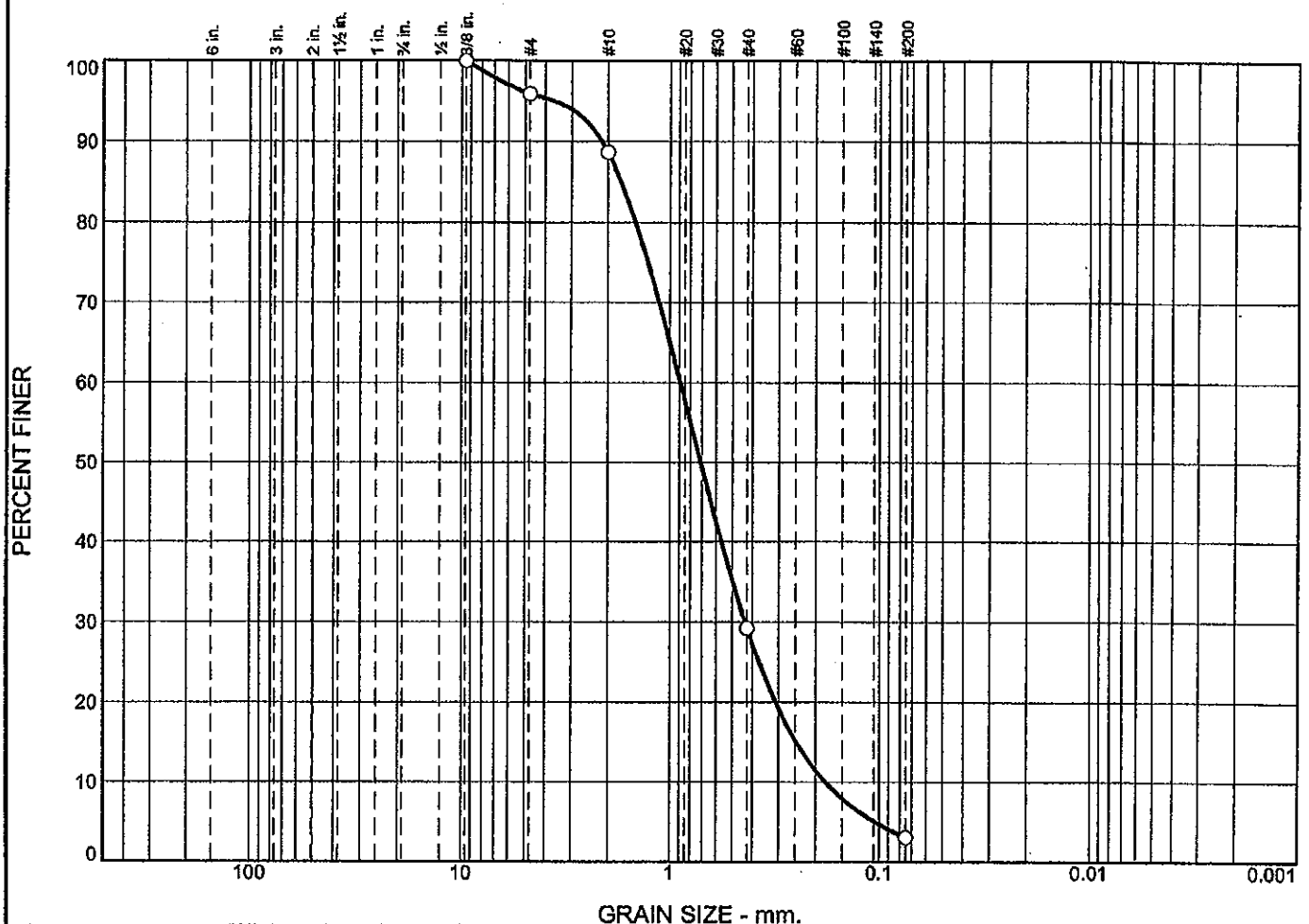
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	4.1	4.1	7.2	59.5	26.2	92.9			3.0

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.1795	0.2465	0.3100	0.4345	0.7114	0.8919	1.4681	1.7231	2.1363	3.6301

Fineness Modulus	C_u	C_c
2.71	4.97	1.18

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	4.1	7.2	59.5	26.2	3.0	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.7231	0.8919	0.7114	0.4345	0.2465	0.1795	1.18	4.97

	Material Description	USCS	AASHTO
○		SP	

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** GP-12-0-2.5-022912 **Sample Number:** L1203740-40

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/14/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: GP-13-0-1.9-022912 (GP-13)
Sample Number: L1203740-38
USCS Classification: SP

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
292.24	7.47	0.375	525.00	525.00	100.0
		#4	565.81	525.85	86.0
		#10	513.80	492.21	78.4
		#40	520.45	373.76	26.9
		#200	409.01	338.34	2.1

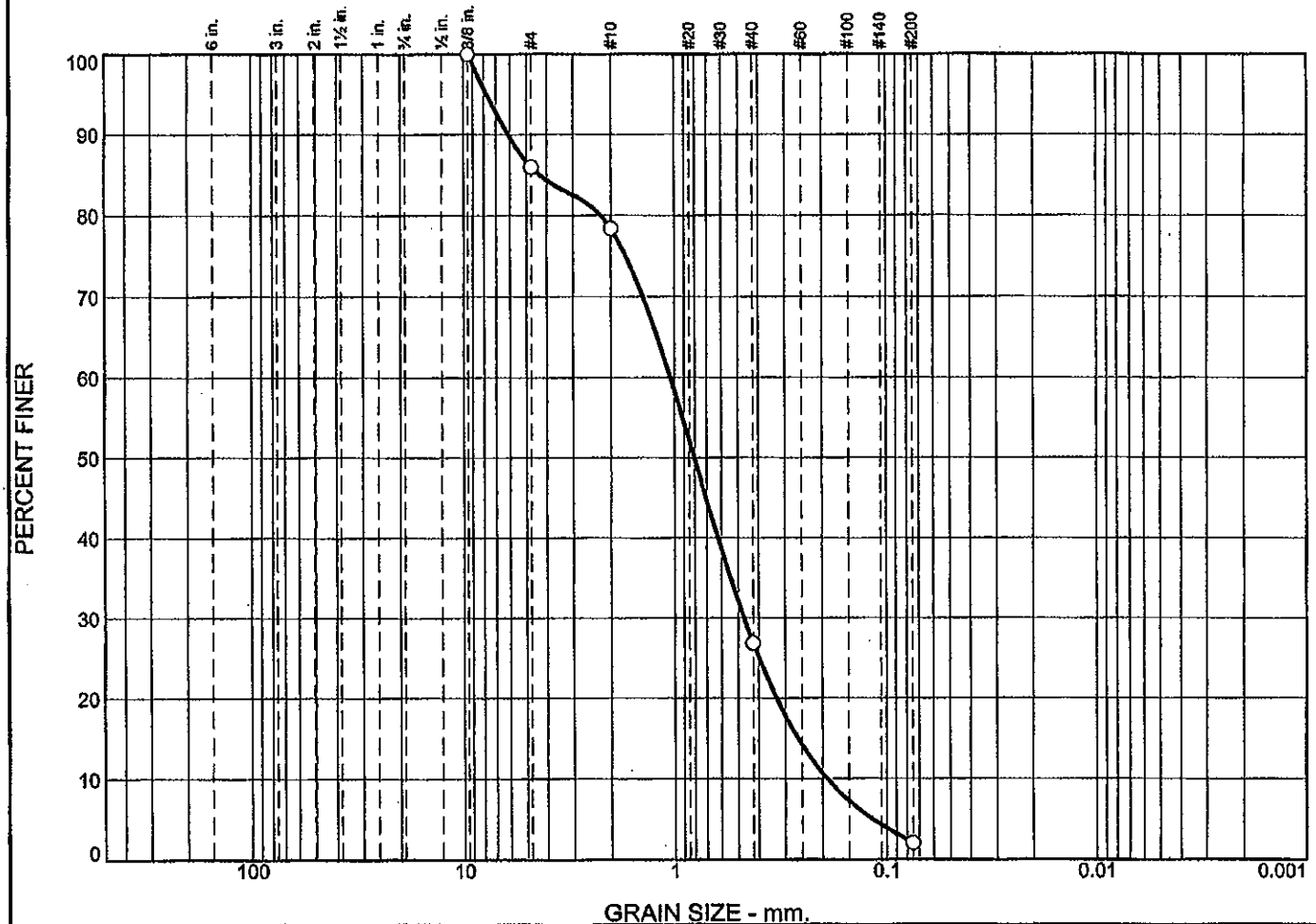
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	14.0	14.0	7.6	51.5	24.8	83.9			2.1

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.1903	0.2609	0.3300	0.4688	0.8041	1.0467	2.2336	4.3399	6.1130	7.7209

Fineness Modulus	C_u	C_c
3.05	5.50	1.10

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	14.0	7.6	51.5	24.8	2.1	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			4.3399	1.0467	0.8041	0.4688	0.2609	0.1903	1.10	5.50

	Material Description	USCS	AASHTO
○		SP	

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** GP-13-0-1.9-022912 **Sample Number:** L1203740-38

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/14/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: GP-6-0-2.6-022912 (GP-6)
Sample Number: L1203740-37
USCS Classification: SP

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
451.35	7.42	0.375	553.50	553.50	100.0
		#4	526.73	525.80	99.8
		#10	499.10	491.60	98.1
		#40	738.68	375.32	16.3
		#200	382.04	314.39	1.0

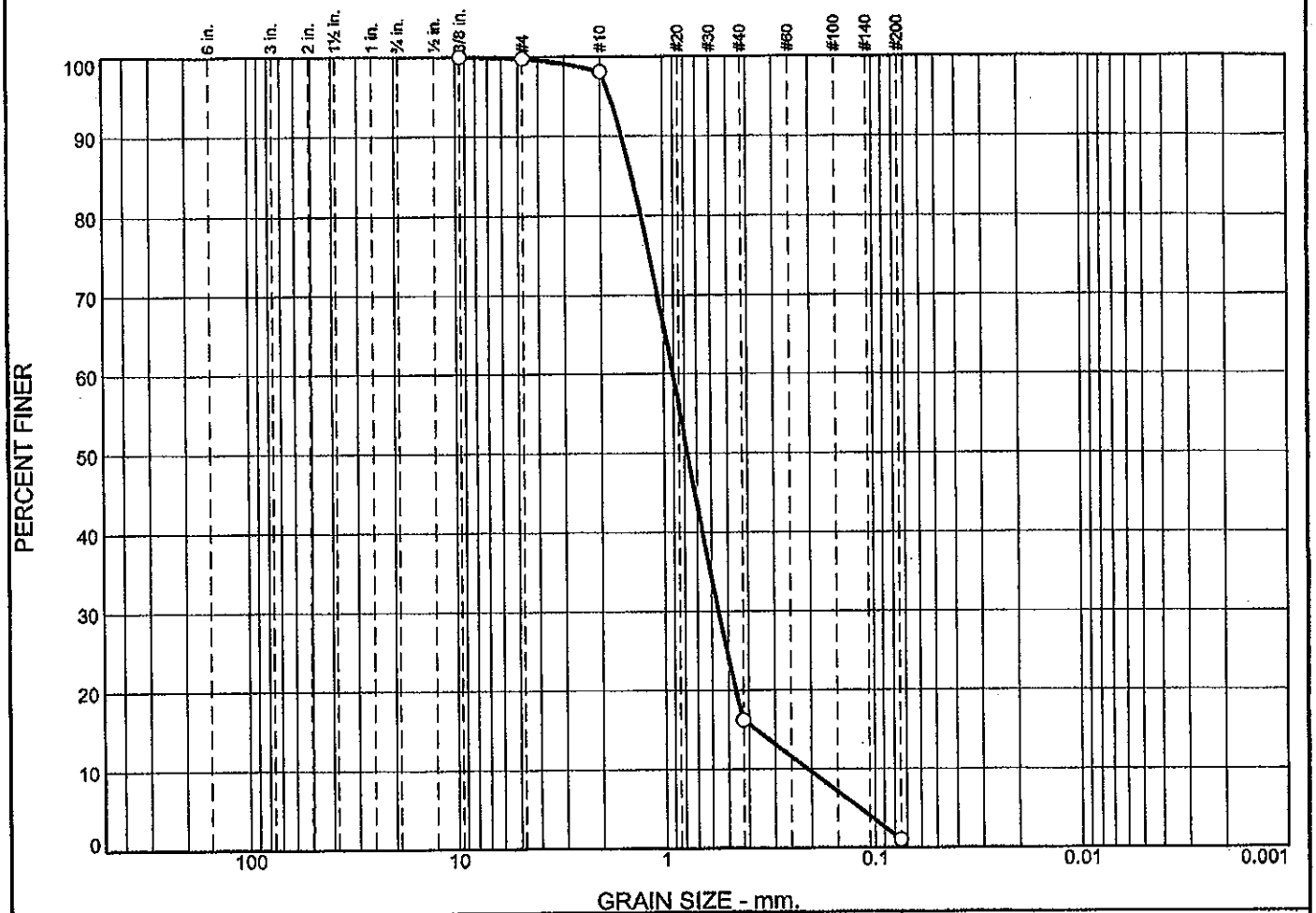
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.2	0.2	1.7	81.8	15.3	98.8			1.0

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.2086	0.3686	0.4609	0.5568	0.7737	0.9067	1.2741	1.4057	1.5695	1.7932

Fineness Modulus	C_u	C_c
2.71	4.35	1.64

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.2	1.7	81.8	15.3	1.0	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.4057	0.9067	0.7737	0.5568	0.3686	0.2086	1.64	4.35

	Material Description	USCS	AASHTO
○		SP	

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** GP-6-0-2.6-022912 **Sample Number:** L1203740-37

Remarks:

Alpha Analytical

Mansfield, MA

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/14/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: GP-6-2.6-5.2-022912 (GP-6)
Sample Number: L1203740-36

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
537.39	7.41	0.375	525.00	525.00	100.0
		#4	588.74	525.85	88.1
		#10	535.34	492.21	80.0
		#40	651.34	373.76	27.6
		#200	453.09	337.53	5.8

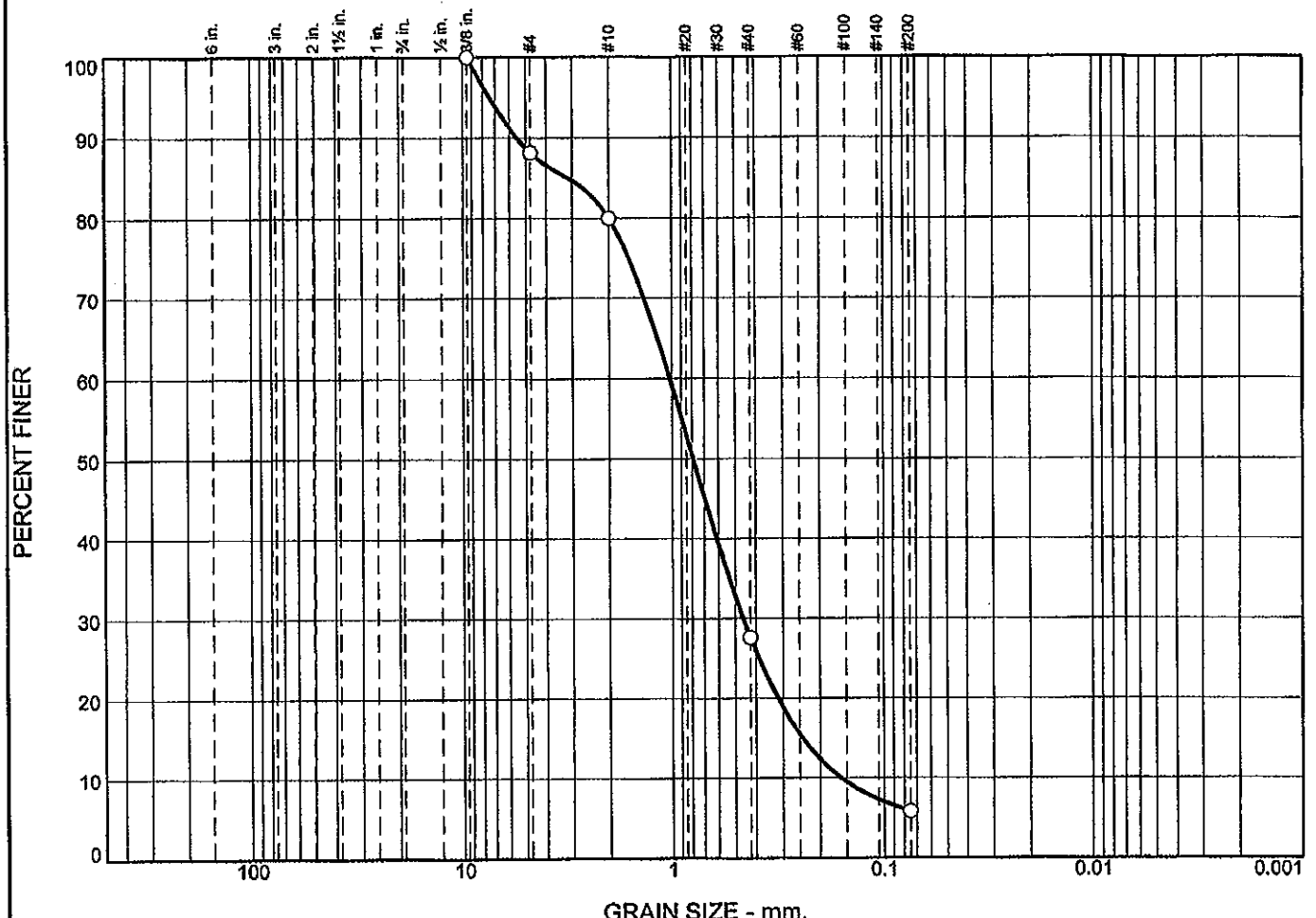
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	11.9	11.9	8.1	52.4	21.8	82.3			5.8

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.1595	0.2417	0.3160	0.4589	0.7899	1.0230	2.0005	3.1319	5.5066	7.3979

Fineness Modulus	C_u	C_c
2.96	6.41	1.29

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	11.9	8.1	52.4	21.8	5.8	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			3.1319	1.0230	0.7899	0.4589	0.2417	0.1595	1.29	6.41

	Material Description	USCS	AASHTO
○			

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** GP-6-2.6-5.2-022912 **Sample Number:** L1203740-36

Remarks:

Alpha Analytical

Mansfield, MA

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/14/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: GP-7-0-2.2-030112 (GP-7)
Sample Number: L1203740-14
USCS Classification: SP

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
323.96	7.30	.375	525.00	525.00	100.0
		#4	527.37	525.85	99.5
		#10	494.81	492.21	98.7
		#40	625.83	373.76	19.1
		#200	396.55	337.53	0.5

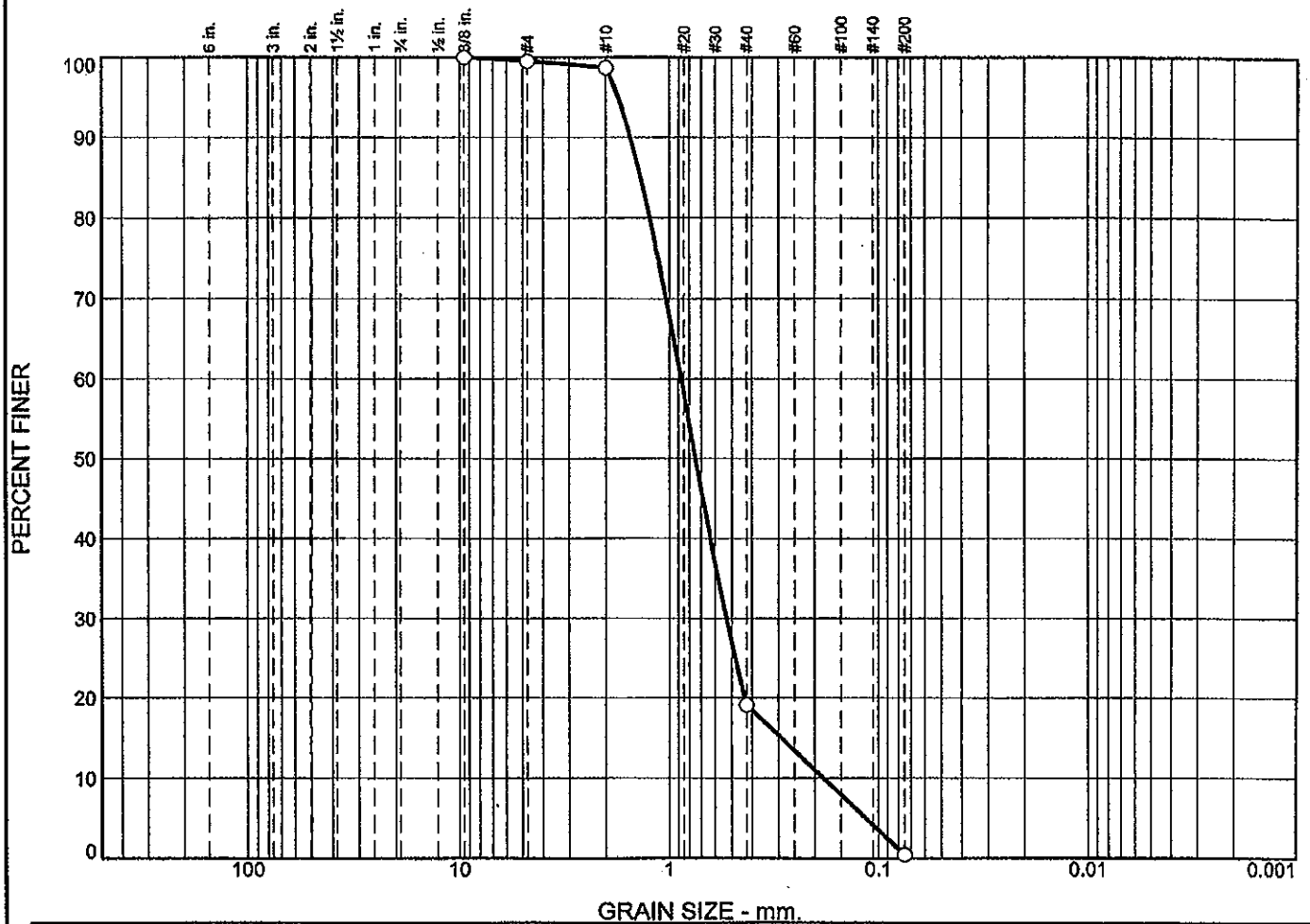
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.5	0.5	0.8	79.6	18.6	99.0			0.5

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.1823	0.2903	0.4337	0.5299	0.7449	0.8763	1.2392	1.3689	1.5302	1.7493

Fineness Modulus	C_u	C_c
2.64	4.81	1.76

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.5	0.8	79.6	18.6	0.5	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.3689	0.8763	0.7449	0.5299	0.2903	0.1823	1.76	4.81

	Material Description	USCS	AASHTO
○		SP	

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** GP-7-0-2.2-030112 **Sample Number:** L1203740-14

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/13/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: GP-8-0-3.3-030112 (GP-8)
Sample Number: L1203740-16
USCS Classification: SP

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
293.80	7.30	.375	525.00	525.00	100.0
		#4	546.81	525.85	92.7
		#10	509.03	492.21	86.8
		#40	572.33	373.76	17.5
		#200	379.97	337.53	2.7

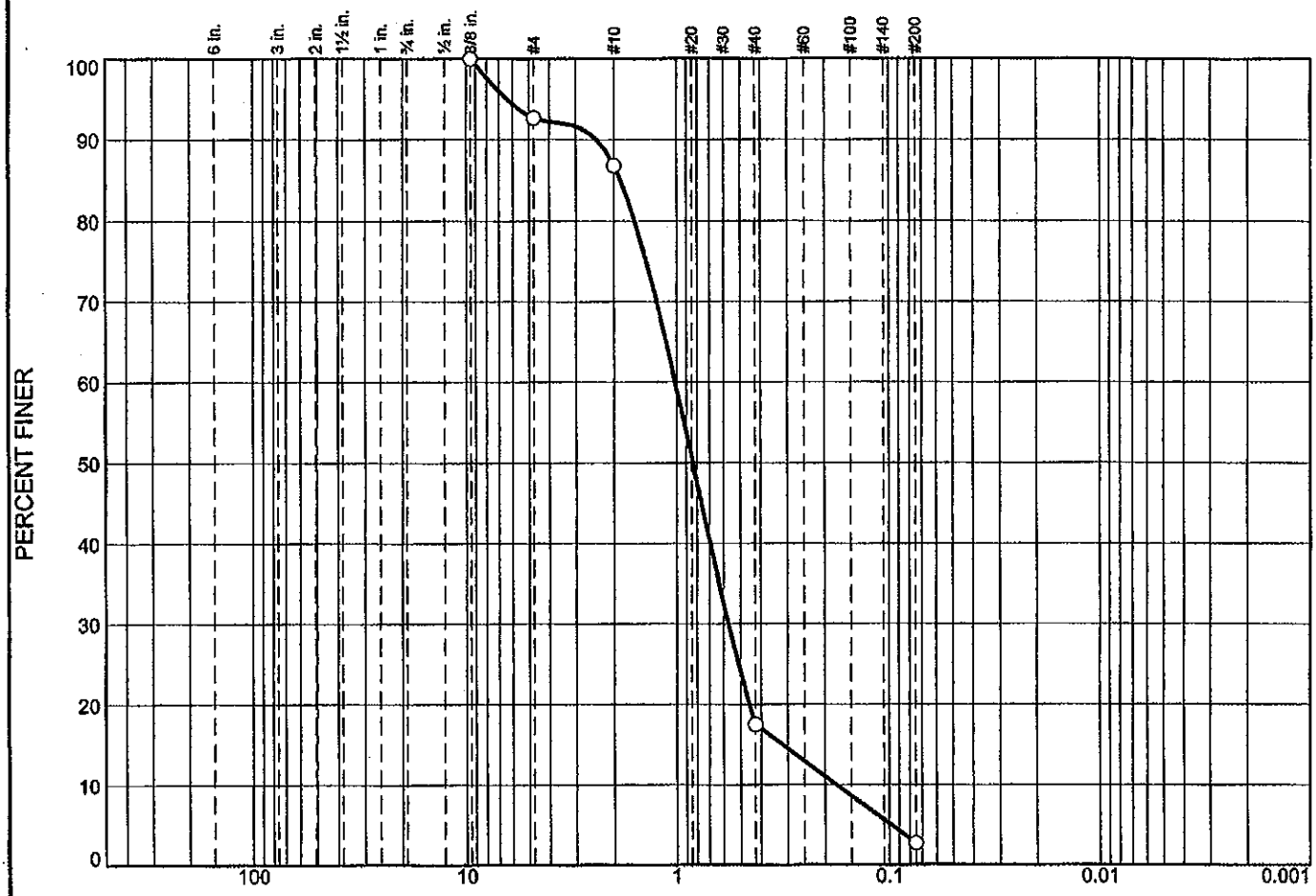
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	7.3	7.3	5.9	69.3	14.8	90.0			2.7

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.1765	0.3170	0.4535	0.5685	0.8394	1.0168	1.5892	1.8597	2.4188	6.3906

Fineness Modulus	C_u	C_c
2.94	5.76	1.80

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	7.3	5.9	69.3	14.8	2.7	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.8597	1.0168	0.8394	0.5685	0.3170	0.1765	1.80	5.76

	Material Description	USCS	AASHTO
○		SP	

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** GP-8-0-3.3-030112 **Sample Number:** L1203740-16

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/13/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: GP-9-0-2.1-030112 (GP-9)
Sample Number: L1203740-17
USCS Classification: SW

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
386.98	7.31	.375	553.50	553.50	100.0
		#4	621.19	525.81	74.9
		#10	529.74	491.60	64.8
		#40	557.87	375.32	16.8
		#200	371.96	315.53	1.9

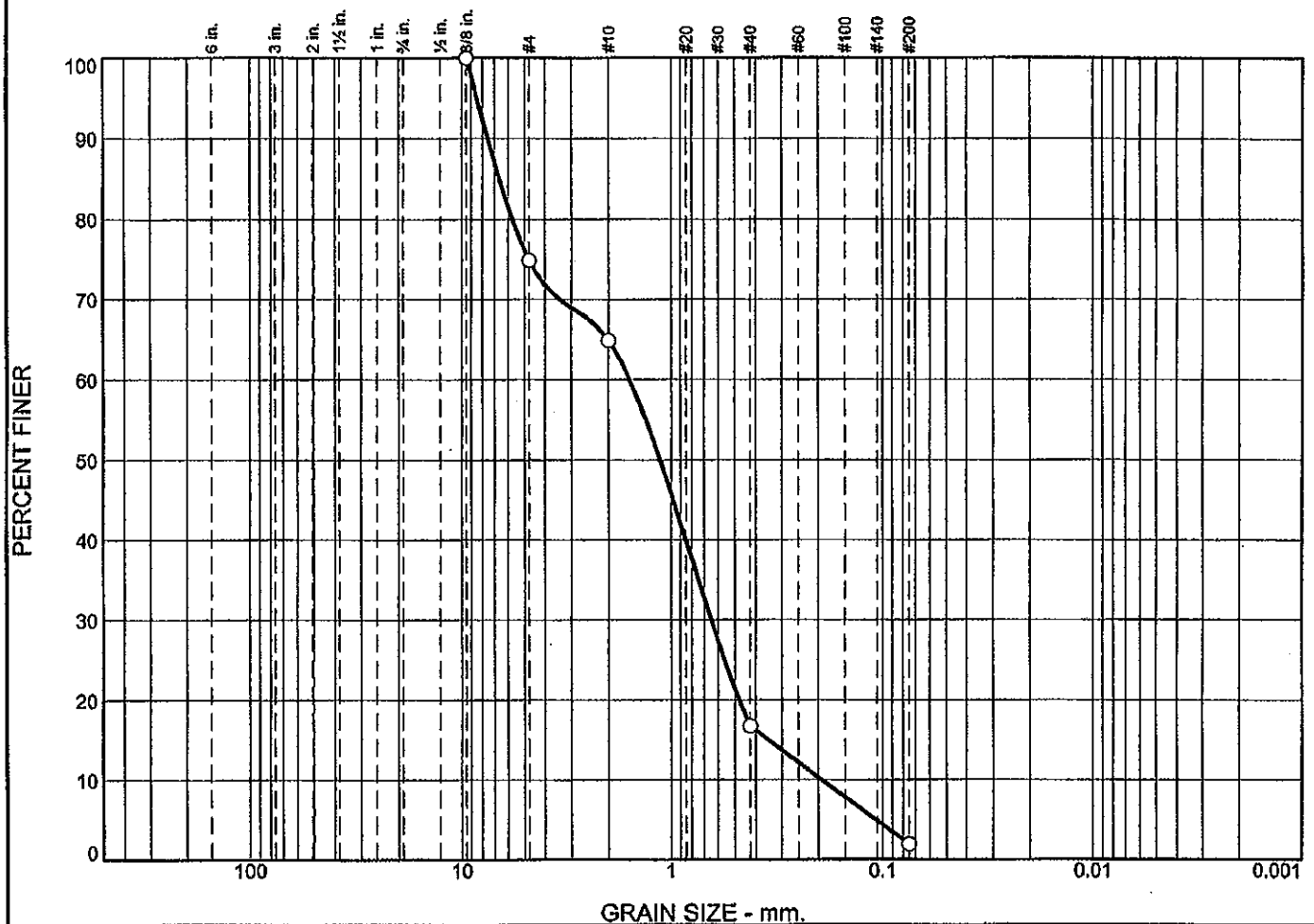
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	25.1	25.1	10.1	48.0	14.9	73.0			1.9

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.1933	0.3464	0.4768	0.6461	1.1318	1.5841	5.7273	6.6129	7.5156	8.4750

Fineness Modulus	C_u	C_c
3.58	8.20	1.36

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	25.1	10.1	48.0	14.9	1.9	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			6.6129	1.5841	1.1318	0.6461	0.3464	0.1933	1.36	8.20

	Material Description	USCS	AASHTO
○		SW	

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** GP-9-0-2.1-030112 **Sample Number:** L1203740-17

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/14/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: GP-10-0-1.8-030112 (GP-10)
Sample Number: L1203740-32
USCS Classification: SP

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
376.70	7.35	0.375	525.00	525.00	100.0
		#4	529.03	525.85	99.1
		#10	510.04	492.21	94.3
		#40	647.50	373.76	20.2
		#200	402.02	337.53	2.7

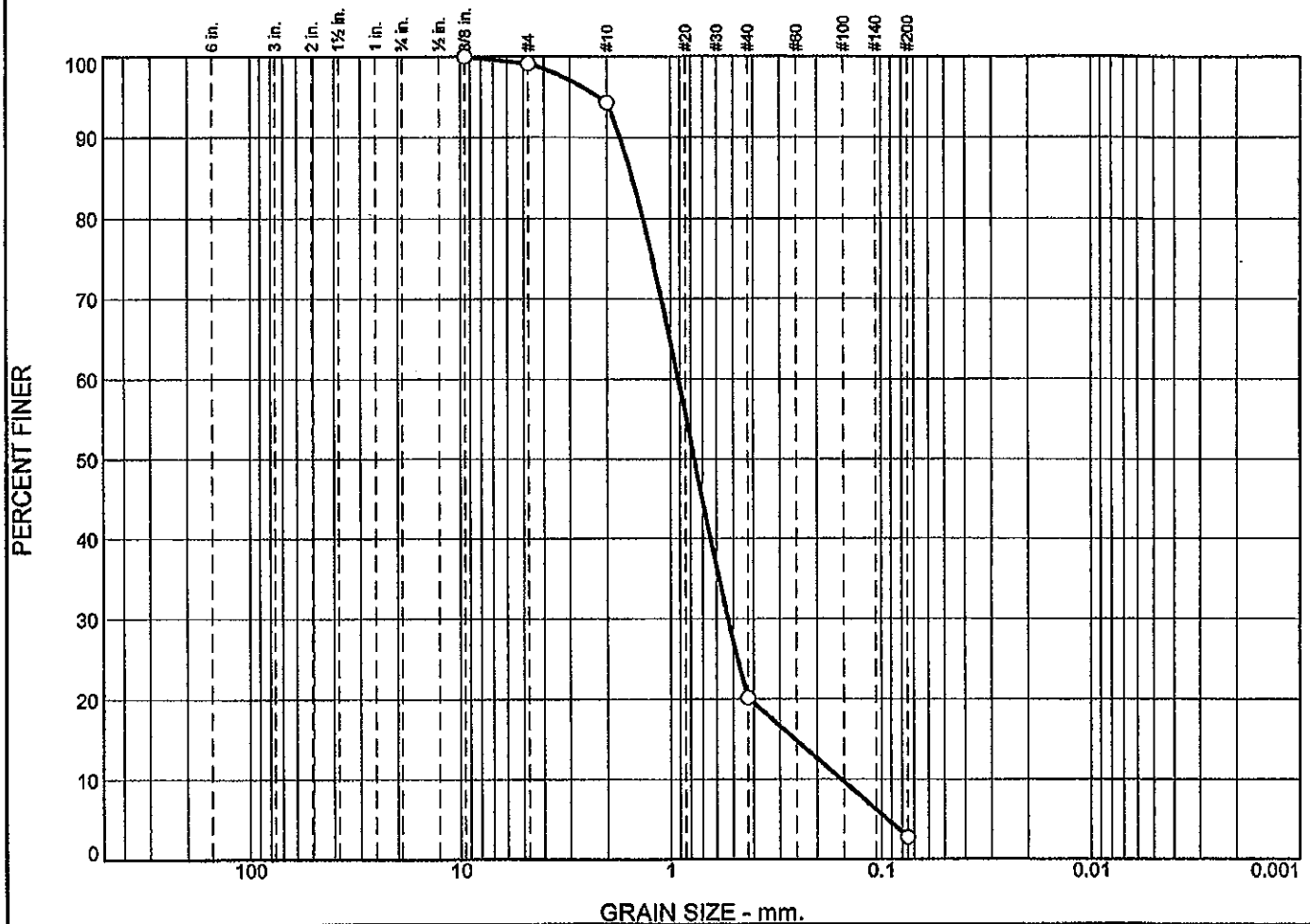
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.9	0.9	4.8	74.1	17.5	96.4			2.7

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.1543	0.2536	0.4167	0.5292	0.7687	0.9184	1.3493	1.5124	1.7268	2.1860

Fineness Modulus	C_u	C_c
2.69	5.95	1.98

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.9	4.8	74.1	17.5	2.7	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.5124	0.9184	0.7687	0.5292	0.2536	0.1543	1.98	5.95

	Material Description	USCS	AASHTO
○		SP	

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** GP-10-0-1.8-030112 **Sample Number:** L1203740-32

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/13/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: GP-14-0-1.5-030212 (GP-14)
Sample Number: L1203740-13
USCS Classification: SW

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
446.80	7.32	.375	553.50	553.50	100.0
		#4	570.71	525.81	89.8
		#10	544.59	491.60	77.7
		#40	598.56	375.32	26.9
		#200	426.04	315.53	1.8

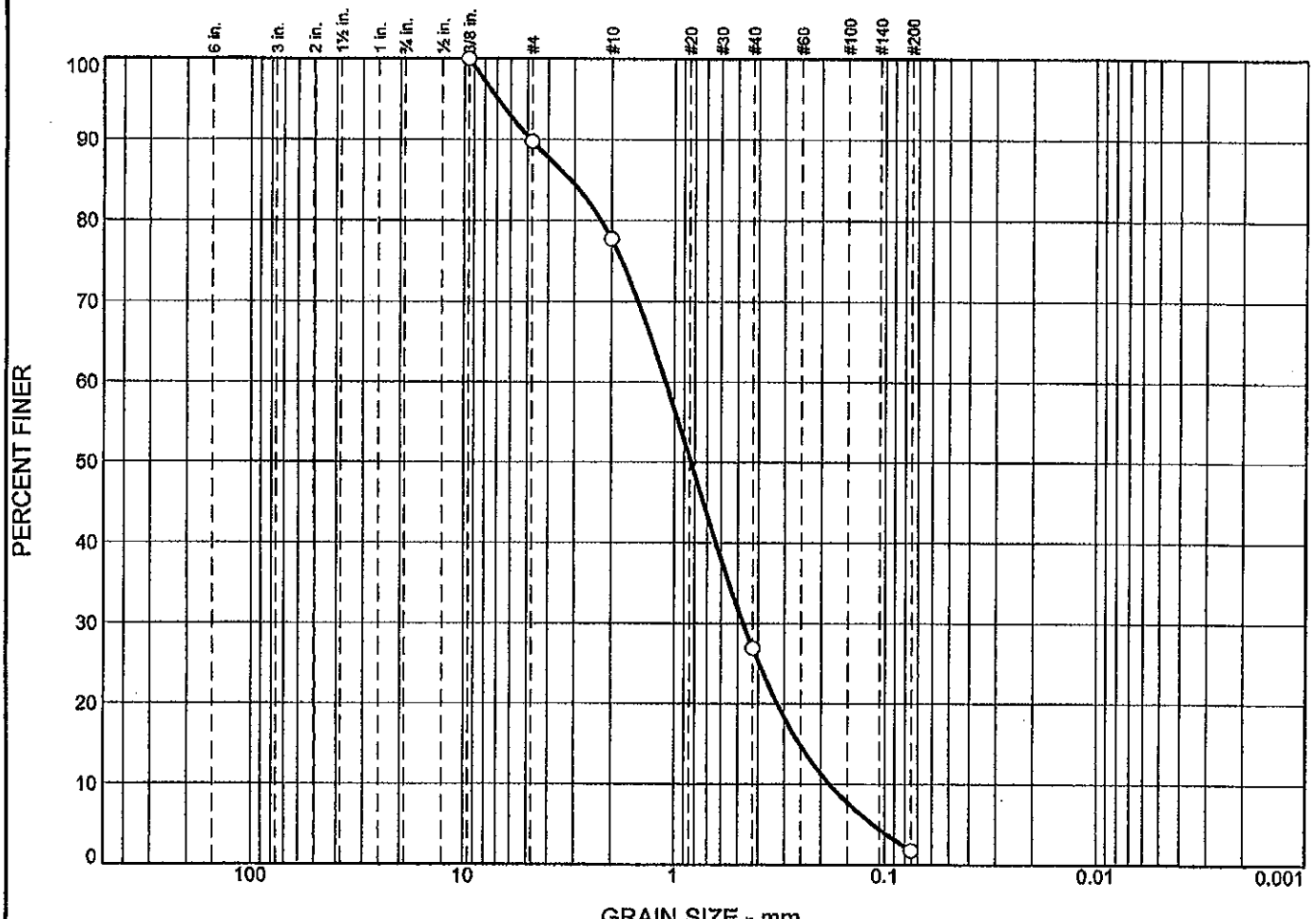
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	10.2	10.2	12.1	50.8	25.1	88.0			1.8

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.1822	0.2527	0.3240	0.4710	0.8352	1.1008	2.2380	3.1301	4.8343	6.9212

Fineness Modulus	C_u	C_c
3.03	6.04	1.11

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	10.2	12.1	50.8	25.1	1.8	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			3.1301	1.1008	0.8352	0.4710	0.2527	0.1822	1.11	6.04

	Material Description	USCS	AASHTO
○		SW	

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** GP-14-0-1.5-030212 **Sample Number:** L1203740-13

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/13/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: GP-11-0-2.6-022912 (GP-11)
Sample Number: L1203740-19
USCS Classification: SW

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
359.03	7.44	.375	553.50	553.50	100.0
		#4	574.03	525.81	86.3
		#10	527.97	491.60	75.9
		#40	531.40	375.32	31.5
		#200	417.64	315.53	2.5

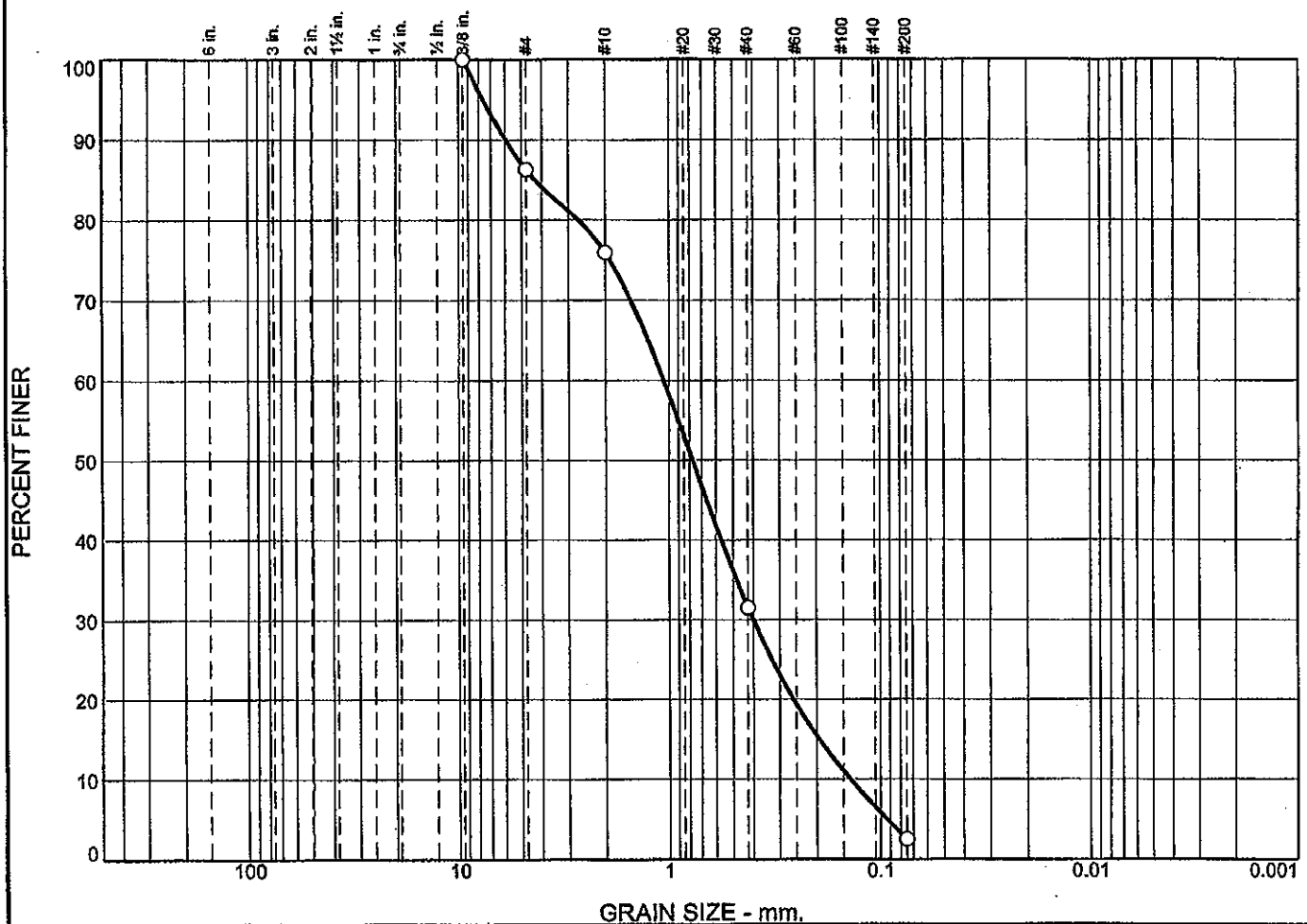
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	13.7	13.7	10.4	44.4	29.0	83.8			2.5

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.1389	0.1949	0.2580	0.4011	0.7739	1.0599	2.6816	4.3106	5.9400	7.5997

Fineness Modulus	C_u	C_c
2.96	7.63	1.09

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	13.7	10.4	44.4	29.0	2.5	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			4.3106	1.0599	0.7739	0.4011	0.1949	0.1389	1.09	7.63

	Material Description	USCS	AASHTO
○		SW	

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** GP-11-0-2.6-022912 **Sample Number:** L1203740-19

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

6/24/2010

Client: Woods Hole Group
Project: Katama Coring
Project Number: L1009137
Location: ST01 (Katama 1)
Sample Number: L1009137-01
USCS Classification: SP

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained
305.95	4.50	0.350	575.00	575.00	100.0	0.0
		#4	534.73	527.80	97.7	2.3
		#10	508.10	493.51	92.9	7.1
		#40	539.30	374.82	38.3	61.7
		#60	439.13	360.84	12.3	87.7
		#200	366.20	339.94	3.6	96.4

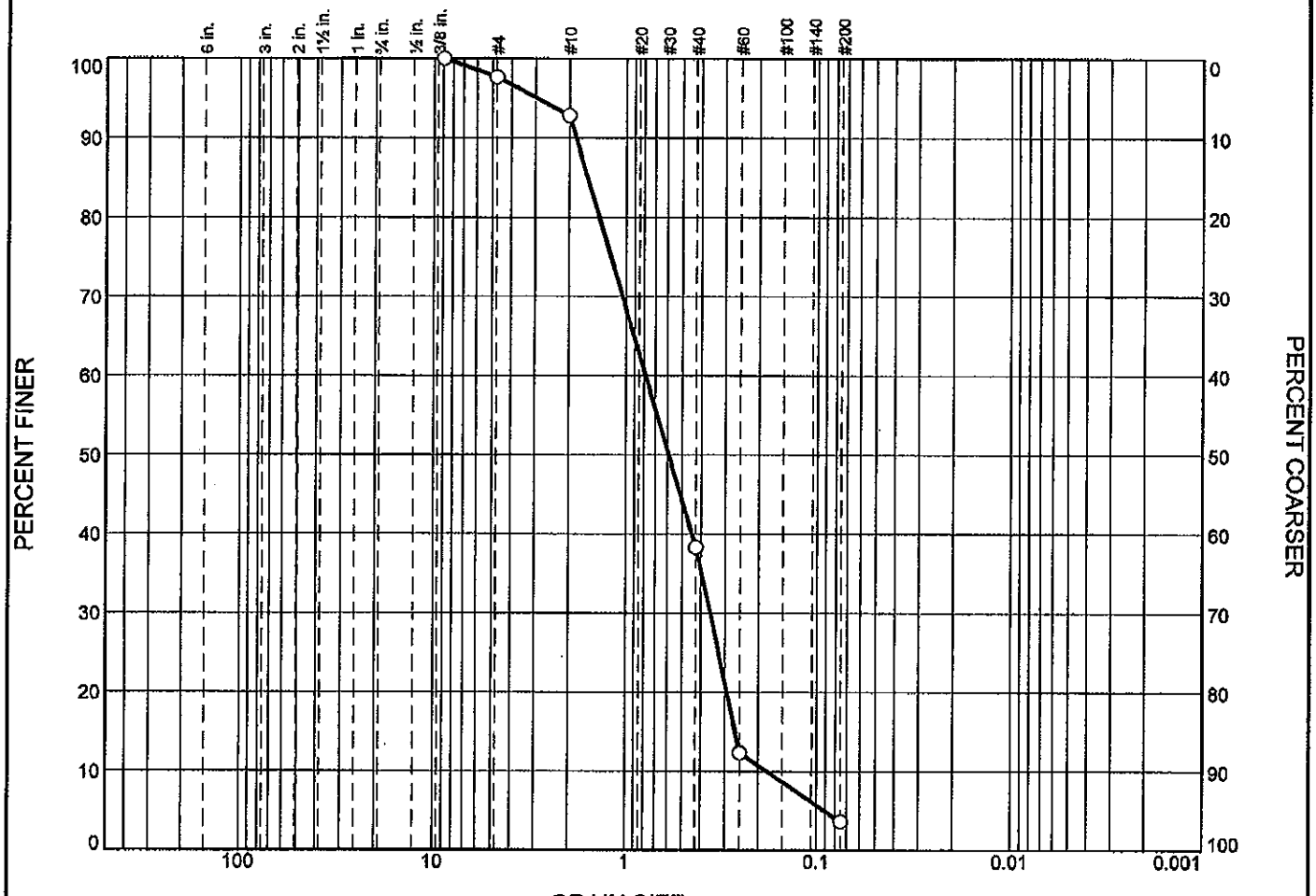
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	2.3	2.3	4.8	54.6	34.7	94.1			3.6

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.1812	0.2640	0.2924	0.3587	0.5924	0.7869	1.3883	1.6000	1.8440	2.9312

Fineness Modulus	C_u	C_c
2.54	4.34	0.90

Particle Size Distribution Report



	% Cobbles	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	2.3	4.8	54.6	34.7	3.6	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.6000	0.7869	0.5924	0.3587	0.2640	0.1812	0.90	4.34

	Material Description	USCS	AASHTO
○		SP	

Project No. L1009137 **Client:** Woods Hole Group

Project: Katama Coring

○ **Source of Sample:** ST01 **Sample Number:** L1009137-01

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

6/24/2010

Client: Woods Hole Group
Project: Katama Coring
Project Number: L1009137
Location: ST02 (Katama-2)
Sample Number: L1009137-02
USCS Classification: SP

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained
316.67	3.98	0.350	575.00	575.00	100.0	0.0
		#4	353.02	327.80	91.9	8.1
		#10	505.77	493.76	88.1	11.9
		#40	484.16	374.82	53.1	46.9
		#60	459.22	360.84	21.7	78.3
		#200	399.07	339.94	2.8	97.2

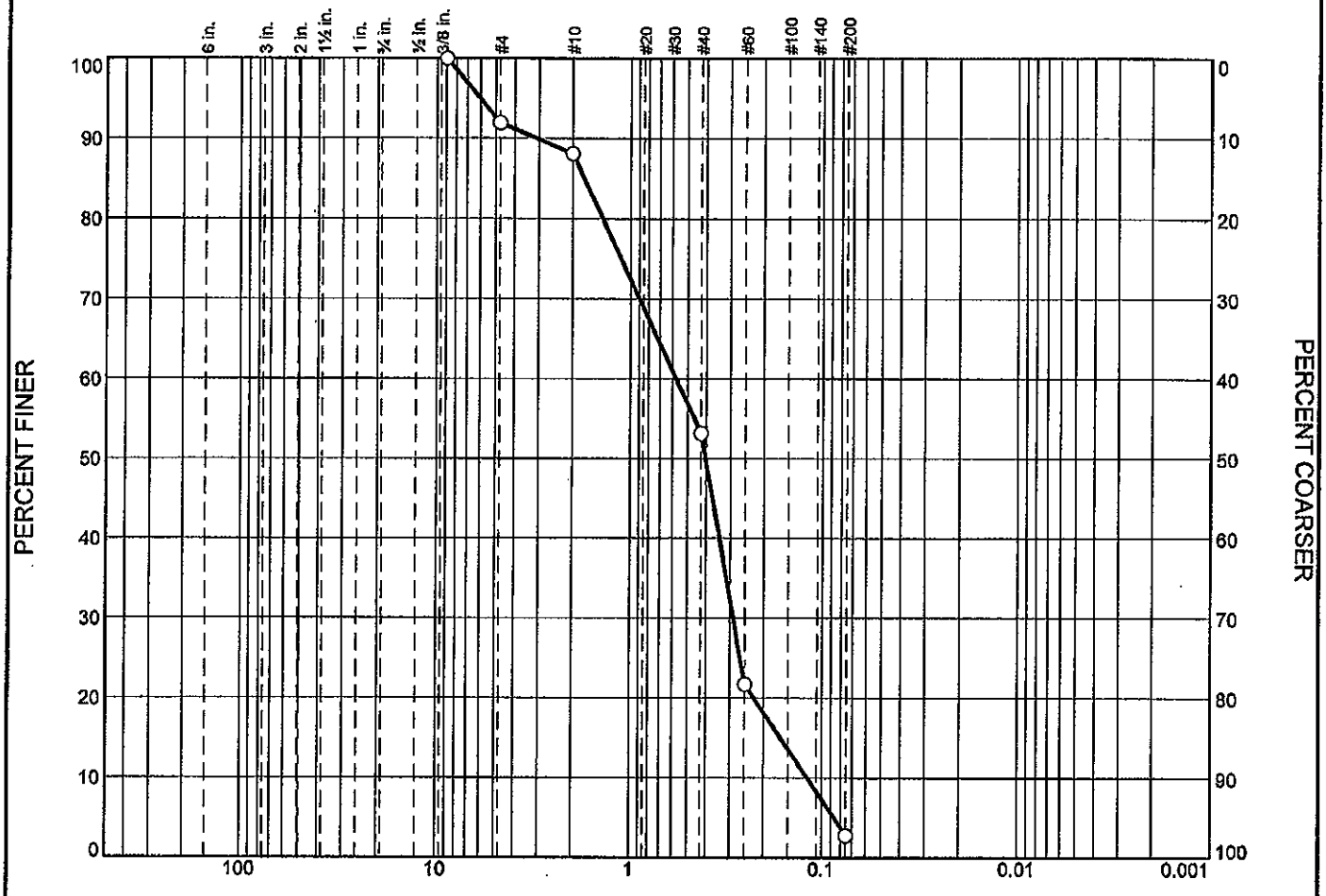
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	8.1	8.1	3.8	35.0	50.3	89.1			2.8

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.1190	0.1636	0.2249	0.2877	0.4032	0.5763	1.3975	1.7439	3.0725	6.0277

Fineness Modulus	C_u	C_c
2.36	4.84	1.21

Particle Size Distribution Report



	% Cobbles	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	8.1	3.8	35.0	50.3	2.8	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.7439	0.5763	0.4032	0.2877	0.1636	0.1190	1.21	4.84

	Material Description	USCS	AASHTO
○		SP	

Project No. L1009137 **Client:** Woods Hole Group

Project: Katama Coring

○ **Source of Sample:** ST02 **Sample Number:** L1009137-02

Remarks:

Alpha Analytical

Mansfield, MA

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

6/24/2010

Client: Woods Hole Group
Project: Katama Coring
Project Number: L1009137
Location: ST03 (Katama-3)
Sample Number: L1009137-03
USCS Classification: SP

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained
378.61	4.08	0.350	575.00	575.00	100.0	0.0
		#4	543.78	528.33	95.9	4.1
		#10	525.70	493.49	87.3	12.7
		#40	585.23	376.54	31.6	68.4
		#60	451.81	366.01	8.6	91.4
		#200	368.81	337.66	0.3	99.7

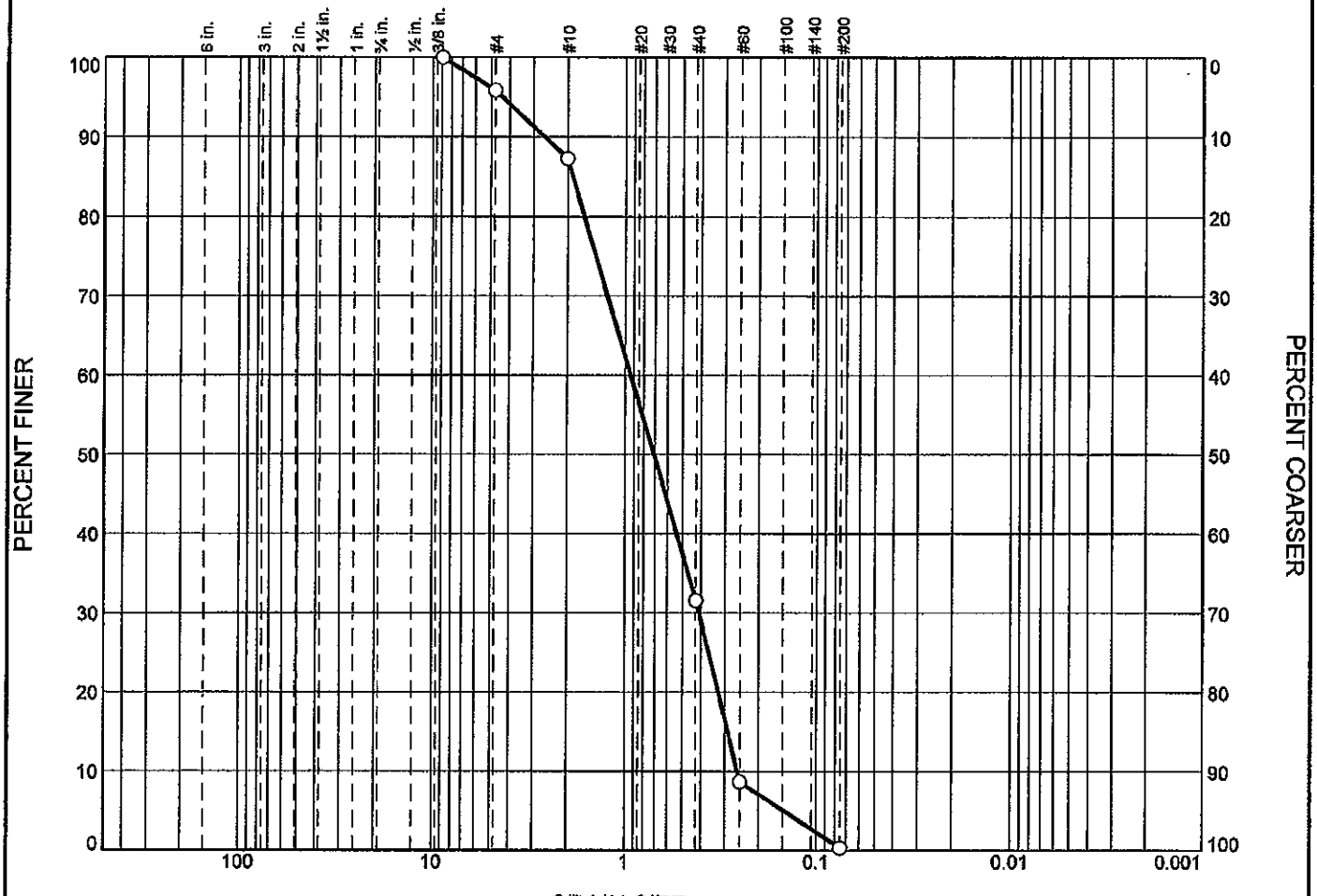
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	4.1	4.1	8.6	55.7	31.3	95.6			0.3

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.2580	0.2896	0.3252	0.4100	0.7097	0.9371	1.6338	1.8775	2.6307	4.3499

Fineness Modulus	C_u	C_c
2.81	3.63	0.70

Particle Size Distribution Report



	% Cobbles	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	4.1	8.6	55.7	31.3	0.3	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_C	C_U
○			1.8775	0.9371	0.7097	0.4100	0.2896	0.2580	0.70	3.63

	Material Description	USCS	AASHTO
○		SP	

Project No. L1009137 **Client:** Woods Hole Group
Project: Katama Coring

○ **Source of Sample:** ST03 **Sample Number:** L1009137-03

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

6/24/2010

Client: Woods Hole Group
Project: Katama Coring
Project Number: L1009137
Location: ST04 (Katama 4)
Sample Number: L1009137-04

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained
356.48	3.93	0.350	575.00	575.00	100.0	0.0
		#4	536.71	527.80	97.5	2.5
		#10	529.09	483.76	84.6	15.4
		#40	541.82	374.82	37.2	62.8
		#60	430.68	360.84	17.4	82.6
		#200	359.20	339.94	12.0	88.0

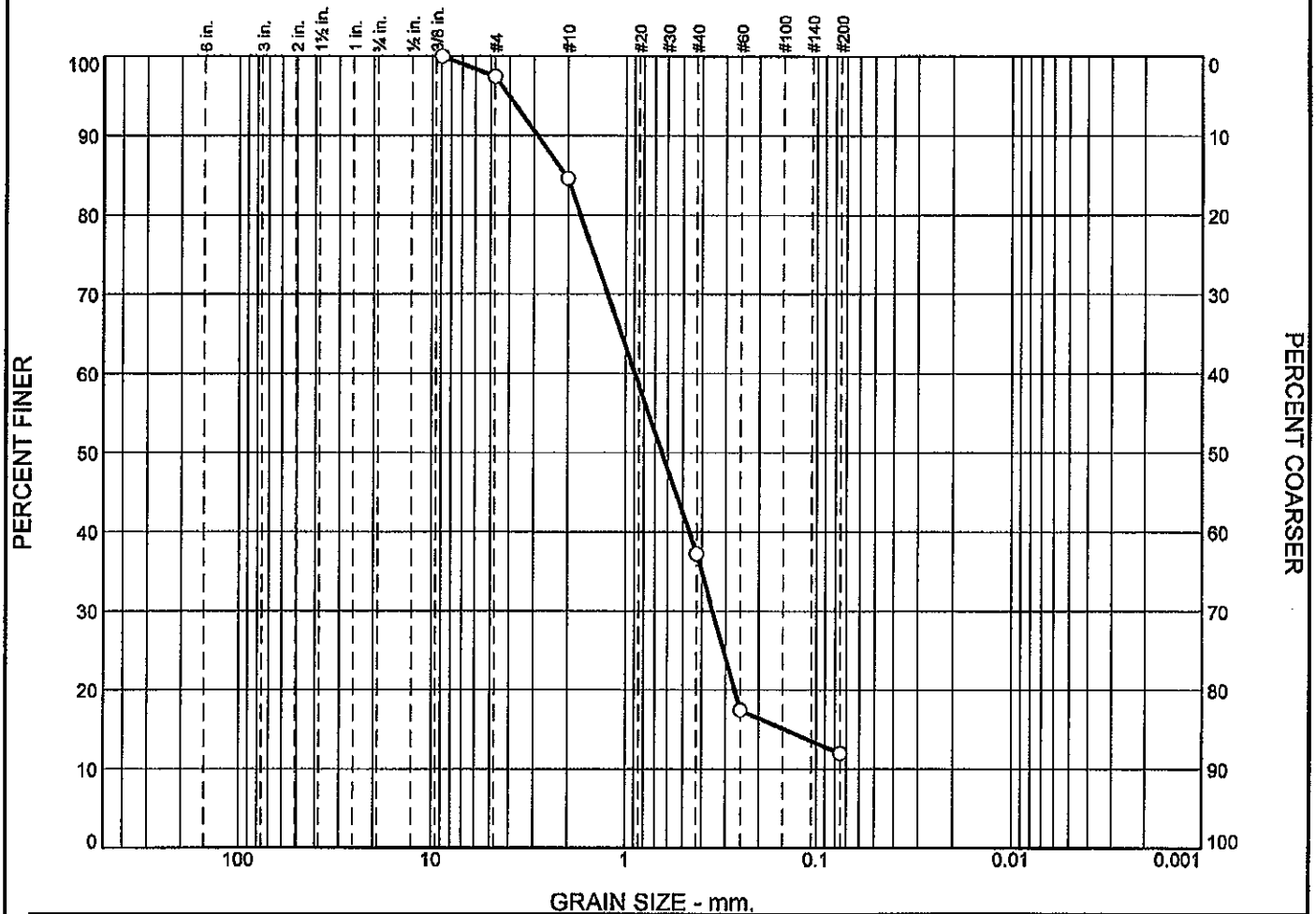
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	2.5	2.5	12.9	47.4	25.2	85.5			12.0

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{86}	D_{90}	D_{95}
	0.1462	0.2678	0.3500	0.6449	0.8943	1.7199	2.0525	2.8732	4.0221

Fineness Modulus
2.60

Particle Size Distribution Report



	% Cobbles	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	2.5	12.9	47.4	25.2	12.0	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_C	C_U
○			2.0525	0.8943	0.6449	0.3500	0.1462			

Material Description	USCS	AASHTO
○		

Project No. L1009137 **Client:** Woods Hole Group

Project: Katama Coring

○ **Source of Sample:** ST04 **Sample Number:** L1009137-04

Remarks:

Alpha Analytical

Mansfield, MA

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

6/24/2010

Client: Woods Hole Group
Project: Katama Coring
Project Number: L1009137
Location: ST05 (Katama 5)
Sample Number: L1009137-05
USCS Classification: SP

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained
443.86	3.96	0.350	575.00	575.00	100.0	0.0
		#4	542.93	528.33	96.7	3.3
		#10	512.76	493.49	92.3	7.7
		#40	648.94	376.54	30.4	69.6
		#60	468.61	366.01	7.1	92.9
		#200	363.00	337.66	1.3	98.7

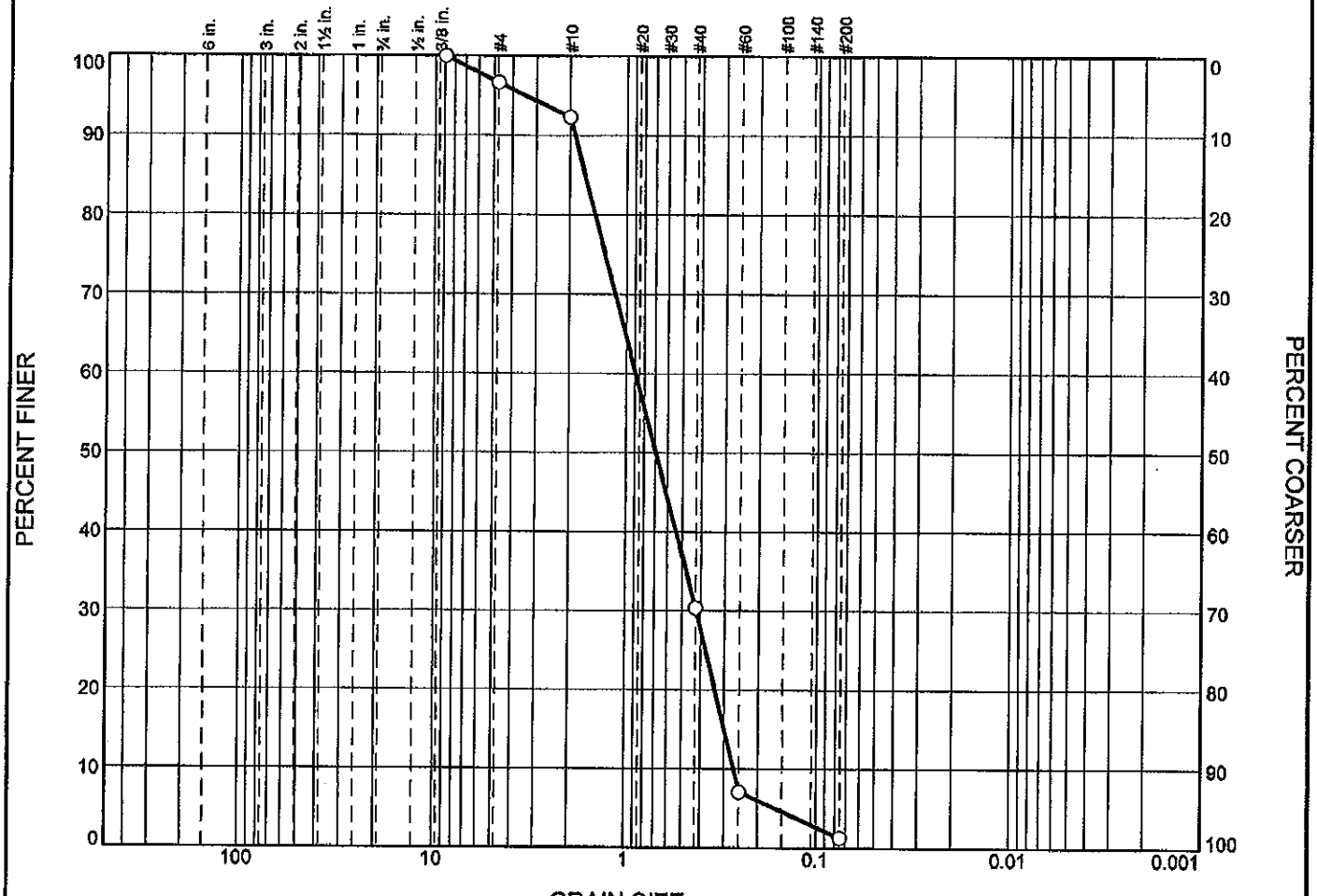
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	3.3	3.3	4.4	61.9	29.1	95.4			1.3

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.2673	0.2995	0.3356	0.4214	0.6943	0.8916	1.4703	1.6662	1.8882	3.4082

Fineness Modulus	C_u	C_c
2.75	3.34	0.74

Particle Size Distribution Report



	% Cobbles	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	3.3	4.4	61.9	29.1	1.3	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.6662	0.8916	0.6943	0.4214	0.2995	0.2673	0.74	3.34

	Material Description	USCS	AASHTO
○		SP	

Project No. L1009137 **Client:** Woods Hole Group

Project: Katama Coring

○ **Source of Sample:** ST05 **Sample Number:** L1009137-05

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

6/24/2010

Client: Woods Hole Group
Project: Katama Coring
Project Number: L1009137
Location: ST06 (Katama-6)
Sample Number: L1009137-06

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained
282.50	4.00	0.350	575.00	575.00	100.0	0.0
		#4	543.92	527.80	94.2	5.8
		#10	510.38	493.76	88.2	11.8
		#40	486.60	374.82	48.1	51.9
		#60	421.66	360.84	26.3	73.7
		#200	394.17	334.94	5.0	95.0

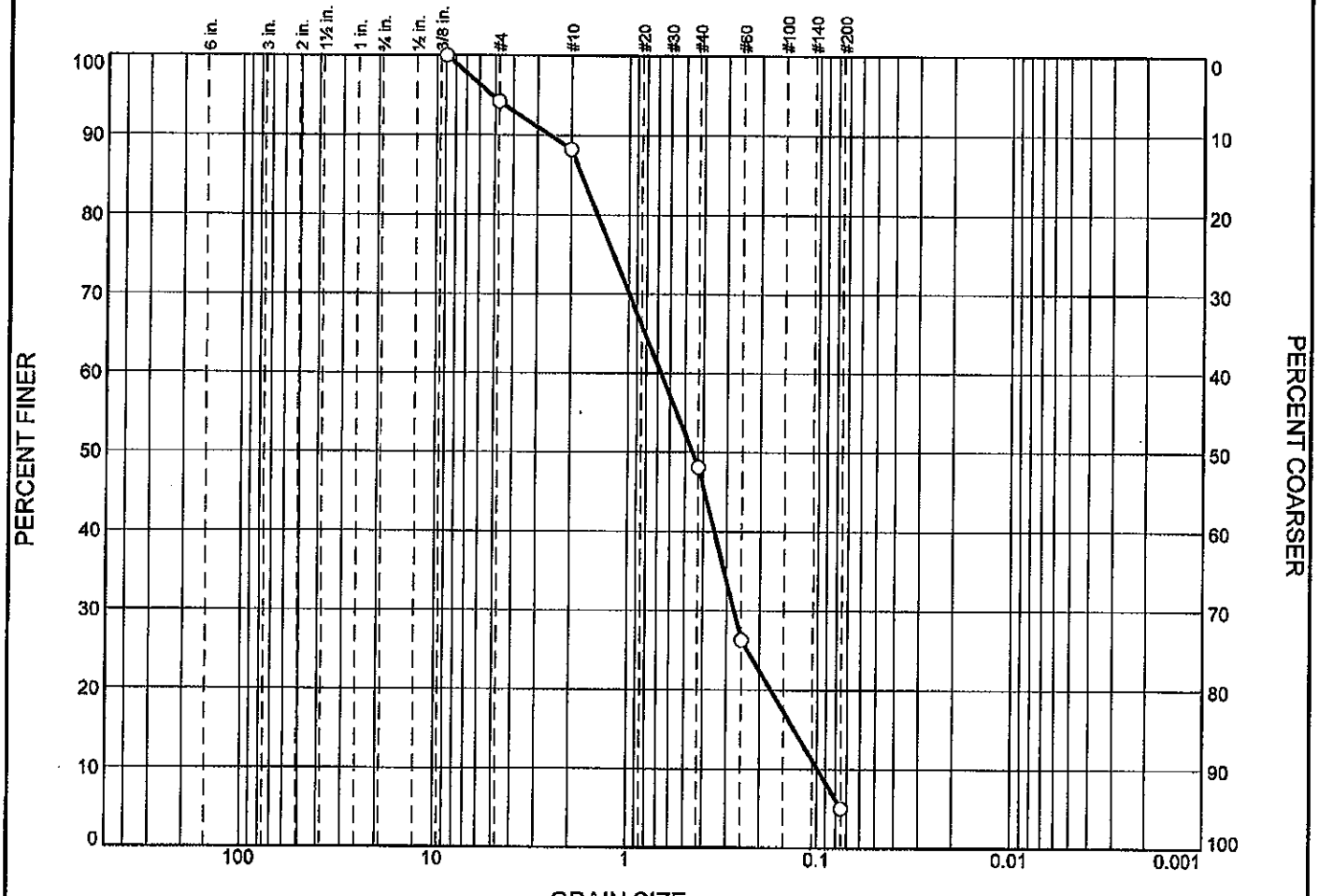
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	5.8	5.8	6.0	40.1	43.1	89.2			5.0

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0995	0.1321	0.1753	0.2737	0.4572	0.6725	1.4550	1.7647	2.5796	5.1732

Fineness Modulus	C_u	C_c
2.34	6.76	1.12

Particle Size Distribution Report



	% Cobbles	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	5.8	6.0	40.1	43.1	5.0	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_C	C_U
○			1.7647	0.6725	0.4572	0.2737	0.1321	0.0995	1.12	6.76

	Material Description	USCS	AASHTO
○			

Project No. L1009137 **Client:** Woods Hole Group

Project: Katama Coring

○ **Source of Sample:** ST06 **Sample Number:** L1009137-06

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

6/24/2010

Client: Woods Hole Group
Project: Katama Coring
Project Number: L1009137 (Katama 7)
Location: ST07
Sample Number: L1009137-07

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained
194.08	4.23	0.350	575.00	575.00	100.0	0.0
		#4	570.79	528.33	77.6	22.4
		#10	513.42	493.49	67.1	32.9
		#40	402.18	376.54	53.6	46.4
		#60	378.50	366.01	47.1	52.9
		#200	383.57	337.66	22.9	77.1

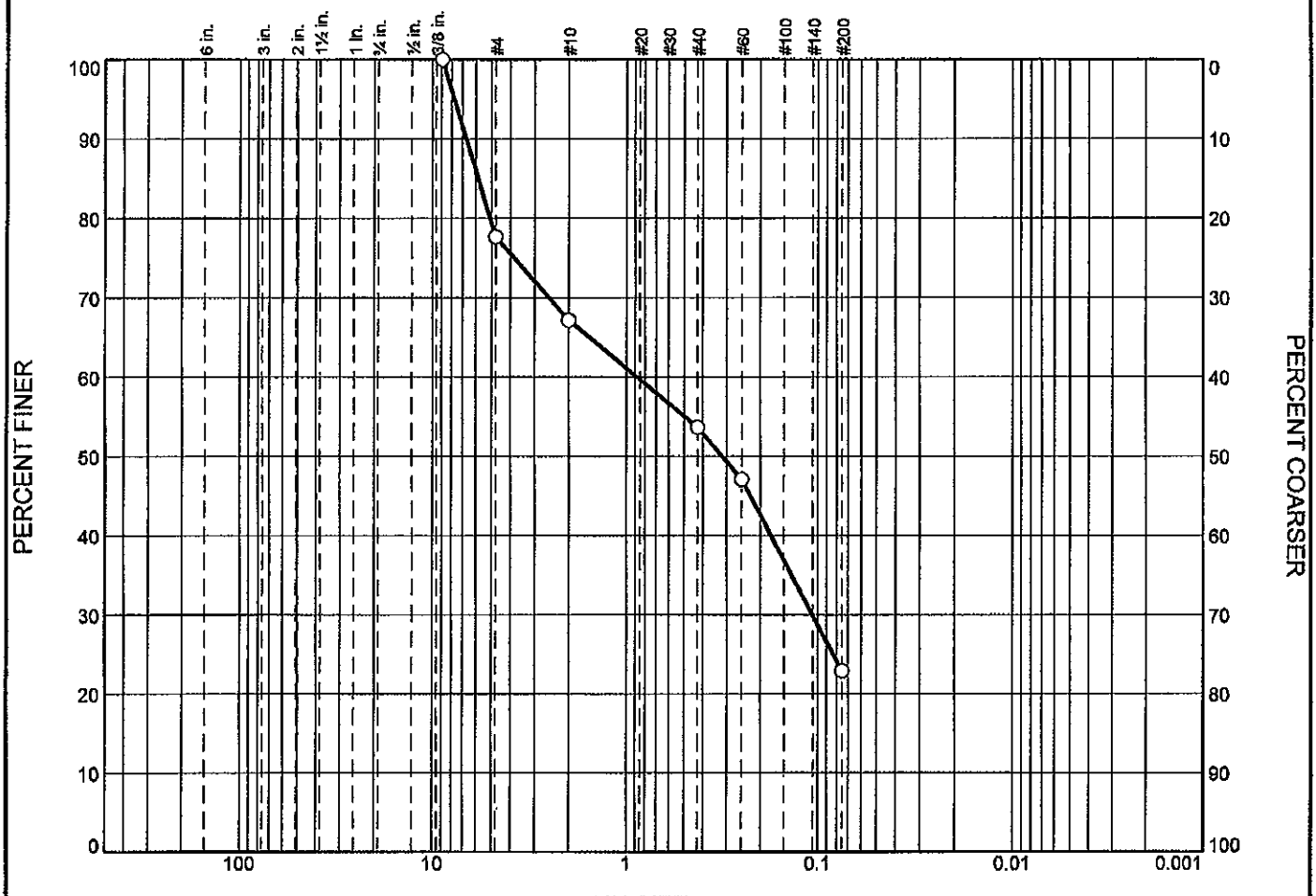
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	22.4	22.4	10.5	13.5	30.7	54.7			22.9

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
			0.1070	0.3171	0.8822	5.0755	5.8389	6.7172	7.7276

Fineness Modulus
2.48

Particle Size Distribution Report



	% Cobbles	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	22.4	10.5	13.5	30.7	22.9	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			5.8389	0.8822	0.3171	0.1070				

	Material Description	USCS	AASHTO
○			

Project No. L1009137 **Client:** Woods Hole Group
Project: Katama Coring

○ **Source of Sample:** ST07 **Sample Number:** L1009137-07

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/13/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: SP-7-0-1.8-030212 (SP-7)
Sample Number: L1203740-12
USCS Classification: SP

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
533.14	7.36	.375	525.00	525.00	100.0
		#4	553.10	525.85	94.8
		#10	523.06	492.21	88.9
		#40	777.49	373.76	12.2
		#200	389.36	337.53	2.3

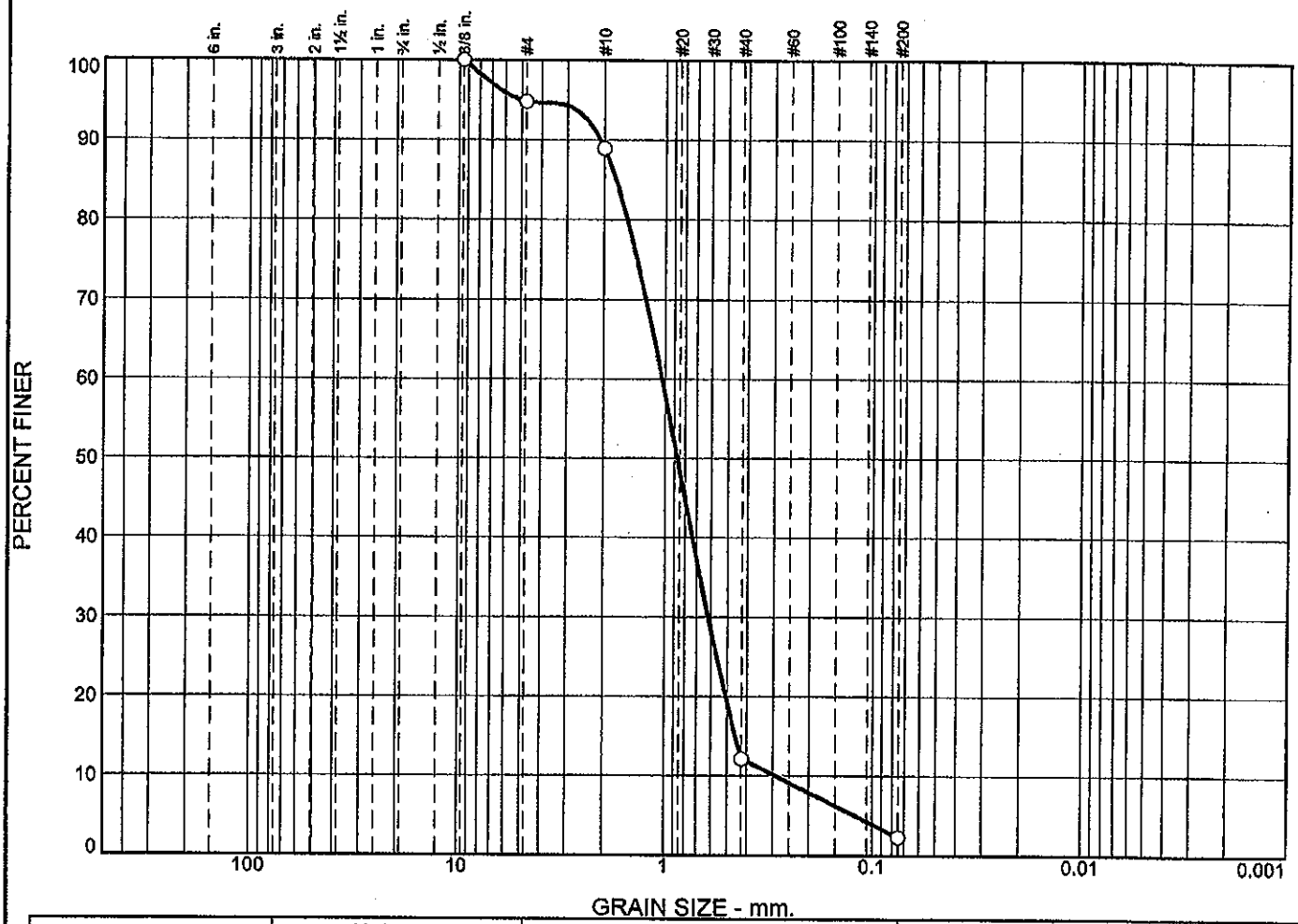
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	5.2	5.2	5.9	76.7	9.9	92.5			2.3

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.2905	0.4553	0.5080	0.6163	0.8724	1.0373	1.5409	1.7543	2.0903	5.0535

Fineness Modulus	C_u	C_c
3.01	3.57	1.26

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	5.2	5.9	76.7	9.9	2.3	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.7543	1.0373	0.8724	0.6163	0.4553	0.2905	1.26	3.57

	Material Description	USCS	AASHTO
○		SP	

Project No. L1203740 **Client:** Woods Hole Group
Project: Edgartown Corp.

○ **Source of Sample:** SP-7-0-1.8-030212 **Sample Number:** L1203740-12

Alpha Analytical

Mansfield, MA

Remarks:

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/14/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: SP-8-0-3.3-030212 (SP-8)
Sample Number: L1203740-20
USCS Classification: SW

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
403.12	7.30	.375	525.00	525.00	100.0
		#4	529.66	525.85	99.0
		#10	505.55	492.21	95.7
		#40	664.49	373.76	22.2
		#200	406.65	337.53	4.8

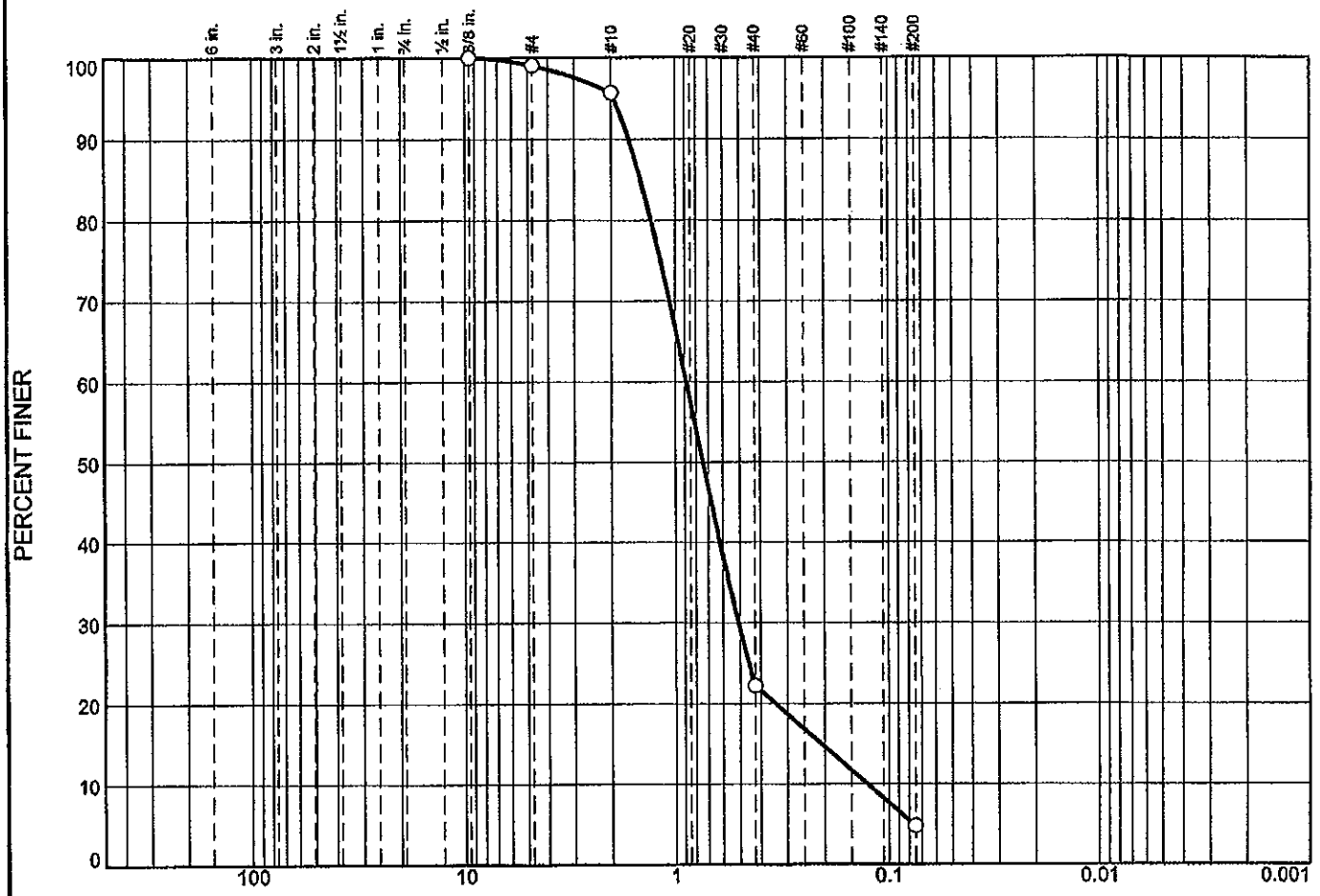
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	1.0	1.0	3.3	73.5	17.4	94.2			4.8

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.1263	0.2075	0.3410	0.5074	0.7412	0.8857	1.2972	1.4506	1.6493	1.9448

Fineness Modulus	C_u	C_c
2.60	7.01	2.30

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	1.0	3.3	73.5	17.4	4.8	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.4506	0.8857	0.7412	0.5074	0.2075	0.1263	2.30	7.01

	Material Description	USCS	AASHTO
○		SW	

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** SP-8-0-3.3-030212 **Sample Number:** L1203740-20

Remarks:

Alpha Analytical

Mansfield, MA

Figure

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project: Martha's Vineyard
Project Location: Oak Bluffs and Eel Pond
Project No.
Date: April 2009

Sample: OB-2-1

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only % Wt	Sand Only Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	0.00	0.00	0.00	0.00	0.00	0.00
-1	2.48	2.48	2.85	2.85	3.19	3.19
0	8.81	6.33	7.27	10.11	8.13	11.31
1	25.14	16.33	18.76	28.87	20.98	32.29
2	44.05	18.91	21.72	50.59	24.29	56.58
3	69.44	25.40	29.17	79.77	32.62	89.20
4	77.85	8.41	9.65	89.42	10.80	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	28.3984	28.0947	12.1480	7.2400	8.3166	243
Clay	27.7522	27.6295	4.9080	1.9700	2.2629	54
		Disp. Wt	2.9380			

Wt. Coarse	77.8450
Wt Fine	9.2100
Total Wt	87.0550

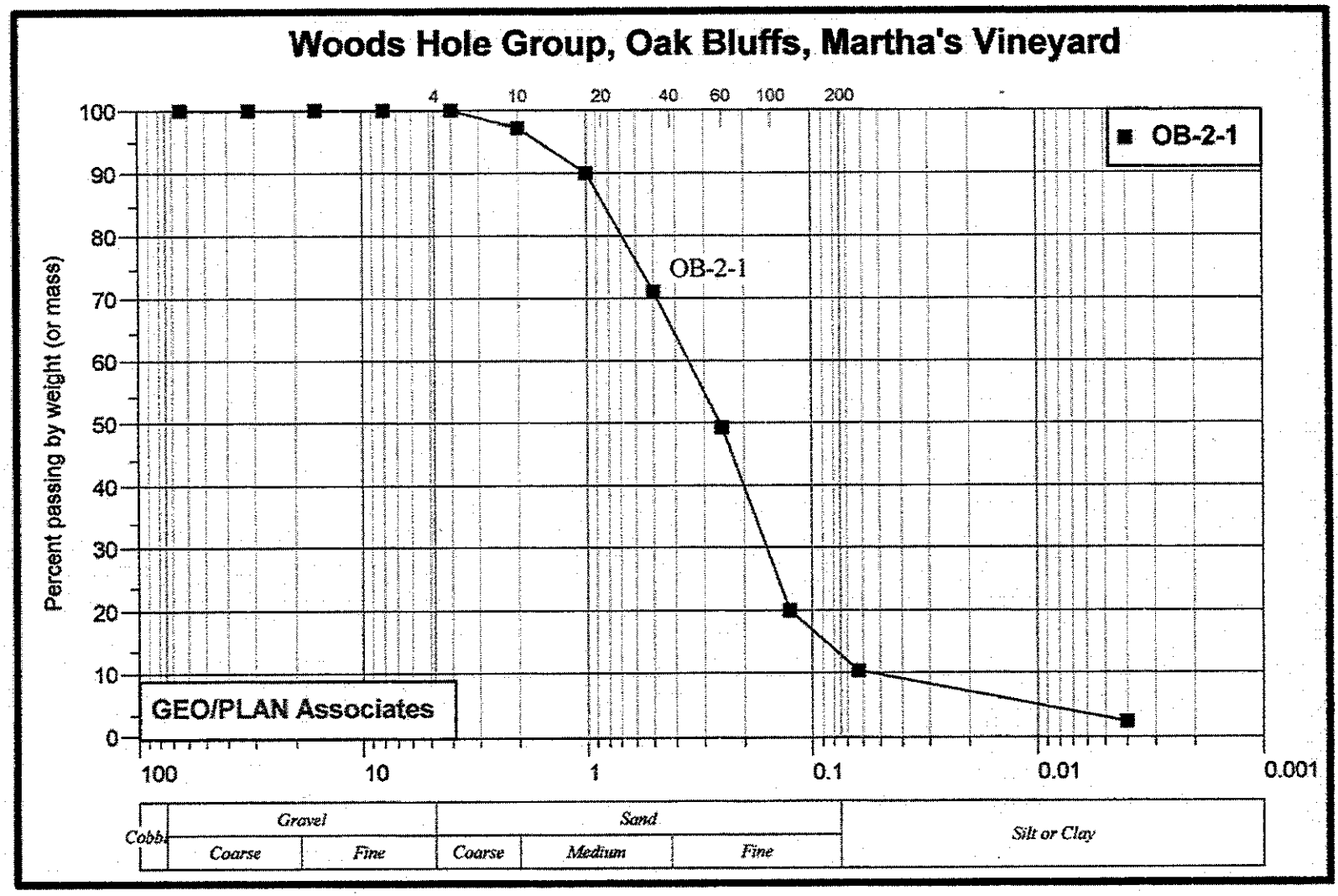
Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-7.61	57.92	0.00
-4	0.00	-4.50	0.00	-6.61	43.70	0.00
-3	0.00	-3.50	0.00	-5.61	31.48	0.00
-2	0.00	-2.50	0.00	-4.61	21.26	0.00
-1	2.85	-1.50	-4.27	-3.61	13.04	37.13
0	7.27	-0.50	-3.63	-2.61	6.81	49.51
1	18.76	0.50	9.38	-1.61	2.59	48.65
2	21.72	1.50	32.58	-0.61	0.37	8.09
3	29.17	2.50	72.93	0.39	0.15	4.43
4	9.65	3.50	33.79	1.39	1.93	18.64
Silt	8.32	6.00	49.90	3.89	15.13	125.82
Clay	2.26	9.00	20.37	6.89	47.47	107.41
TOTAL	100.00		211.04			399.69

Total Sample — Mean = 2.11 — Variance = 4.00 — Sample SD = 2.00

Coarse Only — 89.42 — 140.78 — 166.46 — Mean = 1.57 — Variance = 1.86 — Sample SD = 1.36

Gravel	Sand	Silt	Clay	Total
2.8	86.6	8.3	2.3	100.0

Sand	Silt	Clay	Total
89.1	8.6	2.3	100.0


Woods Hole Group, Oak Bluffs, Martha's Vineyard
4
10
20
40
60
100
200
OB-2-1
OB-2-1
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobble
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project: Martha's Vineyard
Project Location: Oak Bluffs and Eel Pond
Project No.
Date: April 2009

Sample: OB-4-2

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only % Wt	Sand Only Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	0.00	0.00	0.00	0.00	0.00	0.00
-3	0.00	0.00	0.00	0.00	0.00	0.00
-2	0.00	0.00	0.00	0.00	0.00	0.00
-1	30.51	30.51	24.41	24.41	24.49	24.49
0	71.29	40.78	32.62	57.03	32.71	57.23
1	113.01	41.72	33.37	90.40	33.49	90.72
2	122.50	9.50	7.60	97.99	7.62	98.34
3	124.36	1.86	1.49	99.48	1.49	99.84
4	124.57	0.20	0.16	99.65	0.16	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	28.1213	28.0368	3.3800	0.2080	0.1664	72
Clay	29.4458	29.3685	3.1720	0.2340	0.1872	55
		Disp. Wt	2.9380			

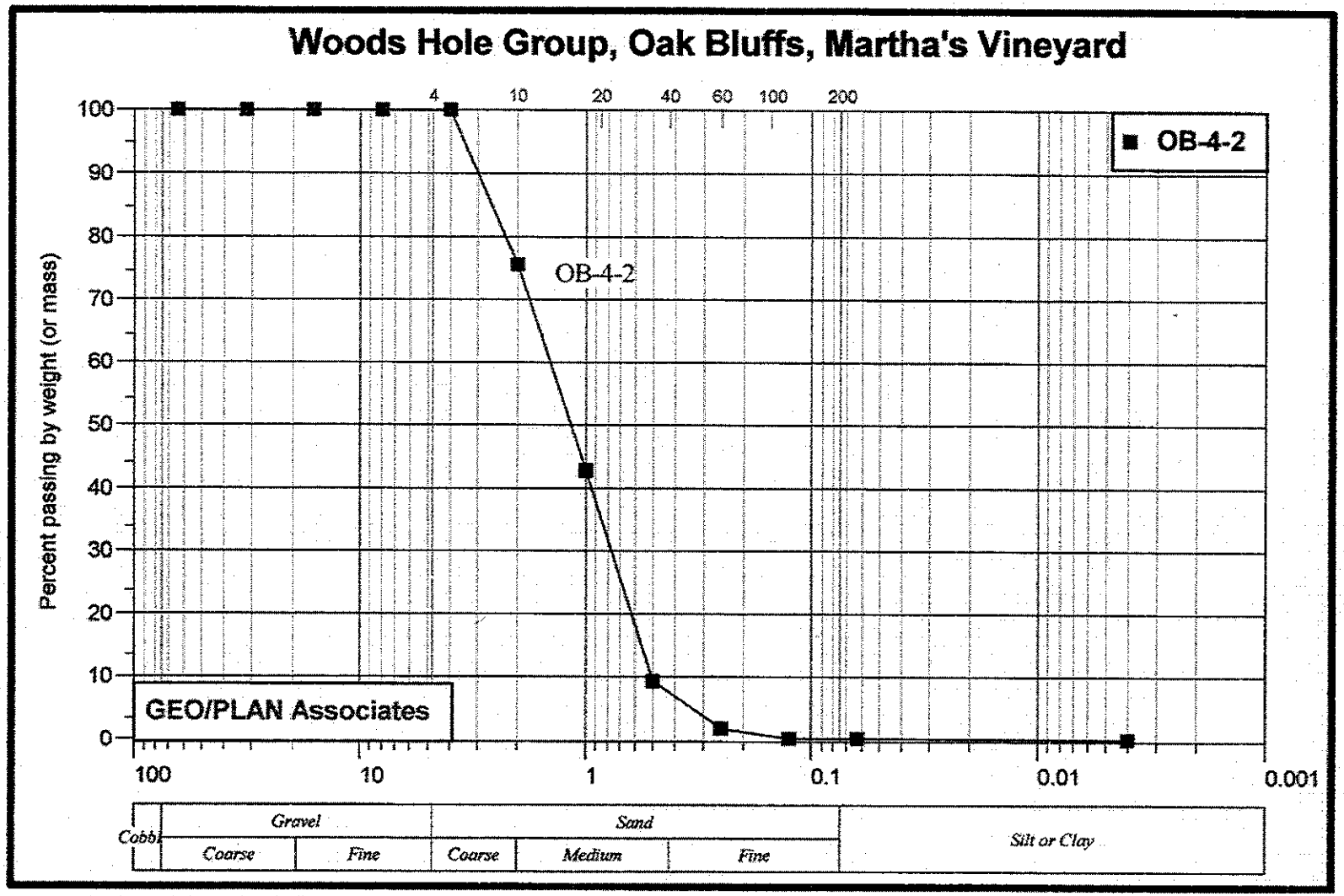
Wt. Coarse	124.5650
Wt Fine	0.4420
Total Wt	125.0070

Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-5.32	28.32	0.00
-4	0.00	-4.50	0.00	-4.32	18.67	0.00
-3	0.00	-3.50	0.00	-3.32	11.03	0.00
-2	0.00	-2.50	0.00	-2.32	5.39	0.00
-1	24.41	-1.50	-36.61	-1.32	1.75	42.61
0	32.62	-0.50	-16.31	-0.32	0.10	3.37
1	33.37	0.50	16.69	0.68	0.46	15.37
2	7.60	1.50	11.39	1.68	2.82	21.40
3	1.49	2.50	3.72	2.68	7.18	10.68
4	0.16	3.50	0.57	3.68	13.53	2.22
Silt	0.17	6.00	1.00	6.18	38.18	6.35
Clay	0.19	9.00	1.68	9.18	84.26	15.77
TOTAL	100.00		-17.67			117.77

Total Sample		Mean =	-0.18	Variance =	1.18
				Sample SD =	1.09
Coarse Only	99.65		-20.55		95.65
		Mean =	-0.21	Variance =	0.96
				Sample SD =	0.98

Gravel	Sand	Silt	Clay	Total
24.4	75.2	0.2	0.2	100.0

Sand	Silt	Clay	Total
99.5	0.2	0.2	100.0


Woods Hole Group, Oak Bluffs, Martha's Vineyard
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
OB-4-2
OB-4-2
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project: Martha's Vineyard
Project Location: Oak Bluffs and Eel Pond
Project No.
Date: April 2009

Sample: OB-5-1

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only % Wt	Sand Only Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	3.72	3.72	2.75	2.75	2.89	2.89
-3	5.51	1.79	1.32	4.07	1.39	4.27
-2	9.06	3.55	2.62	6.69	2.75	7.03
-1	19.36	10.30	7.60	14.29	7.99	15.02
0	47.09	37.73	20.46	34.75	31.59	36.62
1	85.91	38.83	28.67	63.42	30.12	66.64
2	110.04	24.13	17.81	81.24	18.72	85.36
3	126.27	16.23	11.98	93.22	12.59	97.95
4	128.91	2.65	1.95	95.17	2.05	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	28.6729	28.4359	9.4800	4.9400	3.6470	211
Clay	29.3938	29.2803	4.5400	1.6020	1.1827	146
		Disp. Wt	2.9380			

Wt. Coarse	128.9100
Wt Fine	6.5420
Total Wt	135.4520

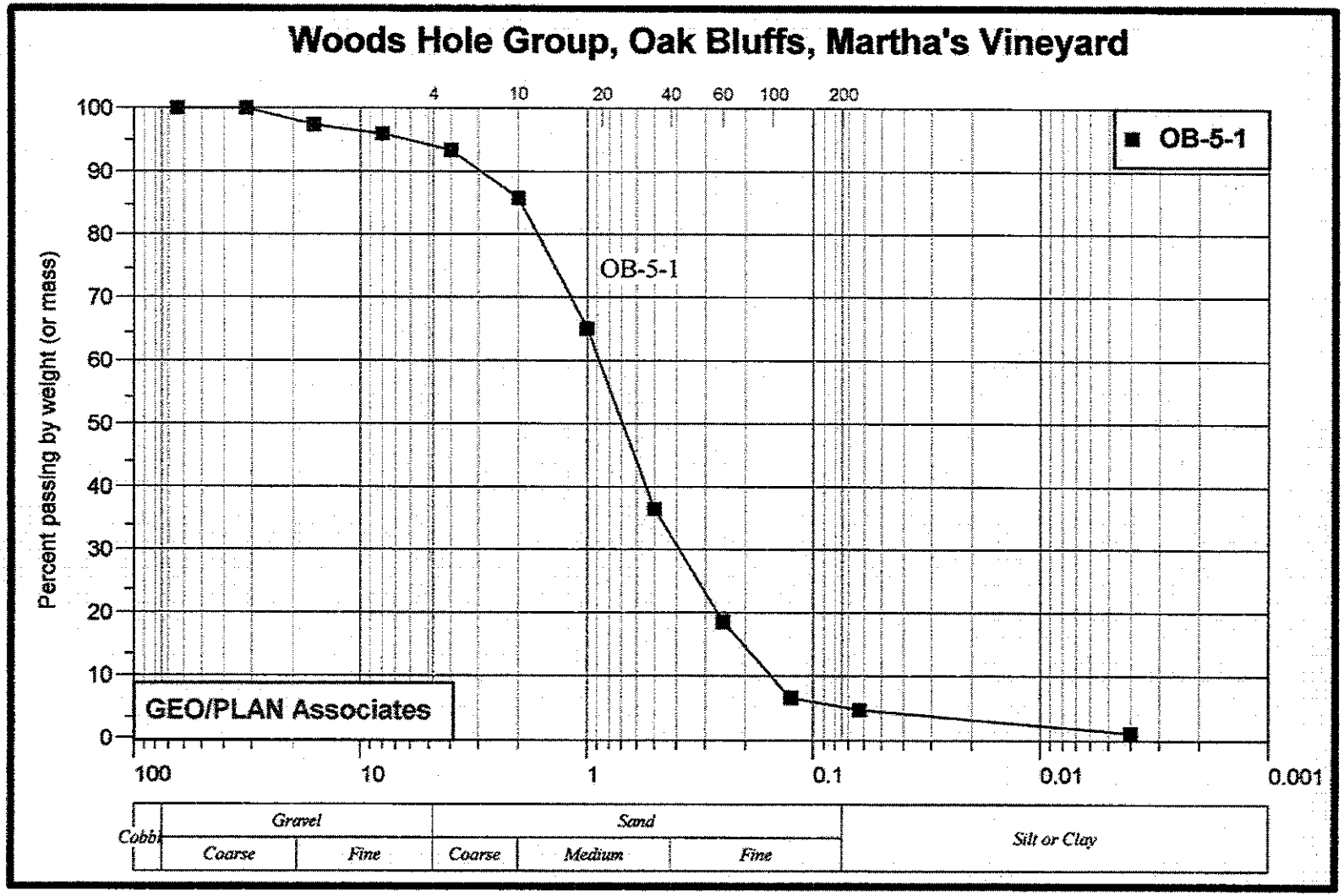
Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-6.15	37.85	0.00
-4	2.75	-4.50	-12.36	-5.15	26.54	72.89
-3	1.32	-3.50	-4.63	-4.15	17.24	22.78
-2	2.62	-2.50	-6.55	-3.15	9.93	26.04
-1	7.60	-1.50	-11.41	-2.15	4.63	35.21
0	20.46	-0.50	-10.23	-1.15	1.33	27.15
1	28.67	0.50	14.33	-0.15	0.02	0.66
2	17.81	1.50	26.72	0.85	0.72	12.81
3	11.98	2.50	29.95	1.85	3.42	40.91
4	1.95	3.50	6.83	2.85	8.11	15.84
Silt	3.65	6.00	21.88	5.35	28.60	104.31
Clay	1.19	9.00	10.84	8.35	69.60	82.42
TOTAL	100.00		65.19			441.04

Total Sample — Mean = 0.65 — Variance = 4.41 — Sample SD = 2.10

Coarse Only — 95.17 — 32.66 — Mean = 0.34 — 254.30 — Variance = 2.67 — Sample SD = 1.63

Gravel	Sand	Silt	Clay	Total
14.3	80.9	3.6	1.2	100.0

Sand	Silt	Clay	Total
94.4	4.3	1.4	100.0


Woods Hole Group, Oak Bluffs, Martha's Vineyard
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
OB-5-1
OB-5-1
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project: Martha's Vineyard
Project Location: Oak Bluffs and Eel Pond
Project No.
Date: April 2009

Sample: OB-7-1

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only % Wt	Sand Only Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	21.33	21.33	13.24	13.24	13.33	13.33
-3	24.87	3.54	2.20	15.43	2.21	15.54
-2	29.46	4.59	2.85	18.28	2.87	18.41
-1	39.22	9.76	6.05	24.34	6.10	24.51
0	77.11	37.90	23.52	47.85	23.68	48.19
1	141.39	64.28	39.89	87.74	40.17	88.36
2	158.09	16.71	10.37	98.11	10.44	98.80
3	159.75	1.66	1.03	99.14	1.04	99.84
4	160.01	0.26	0.16	99.30	0.16	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	29.1179	29.0163	4.0640	0.8480	0.5263	175
Clay	28.2553	28.1749	3.2160	0.2780	0.1725	246
		Disp. Wt	2.9380			

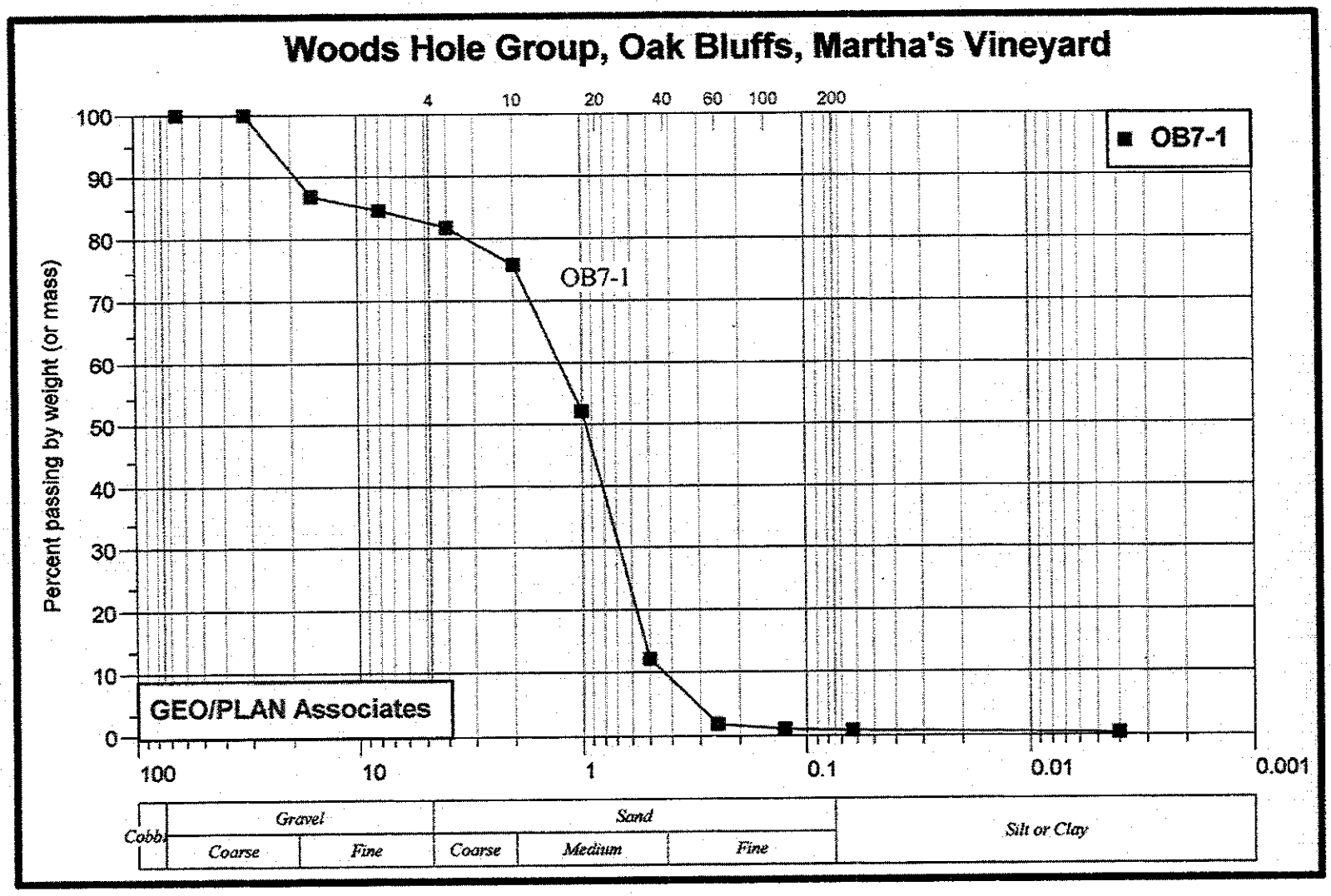
Wt. Coarse	160.0100
Wt Fine	1.1260
Total Wt	161.1360

Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-4.98	24.81	0.00
-4	13.24	-4.50	-59.57	-3.98	15.85	209.82
-3	2.20	-3.50	-7.69	-2.98	8.89	19.53
-2	2.85	-2.50	-7.12	-1.98	3.93	11.18
-1	6.05	-1.50	-9.08	-0.98	0.96	5.83
0	23.52	-0.50	-11.76	0.02	0.00	0.01
1	39.89	0.50	19.94	1.02	1.04	41.40
2	10.37	1.50	15.55	2.02	4.08	42.25
3	1.03	2.50	2.58	3.02	9.11	9.39
4	0.16	3.50	0.56	4.02	16.15	2.61
Silt	0.53	6.00	3.16	6.52	42.49	22.36
Clay	0.17	9.00	1.55	9.52	90.61	15.63
TOTAL	100.00		-51.87			380.00

Total Sample		Mean =	-0.52	Variance =	3.80
				Sample SD =	1.95
Coarse Only	99.30		-56.58		342.00
		Mean =	-0.57	Variance =	3.44
				Sample SD =	1.86

Gravel	Sand	Silt	Clay	Total
24.3	75.0	0.5	0.2	100.0

Sand	Silt	Clay	Total
99.1	0.7	0.2	100.0


Woods Hole Group, Oak Bluffs, Martha's Vineyard
4
10
20
40
60
100
200
OB7-1
OB7-1
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GEO/PLAN Associates
Sediment Grain Size Analysis
Client: Woods Hole Group
Project: Martha's Vineyard
Project Location: Oak Bluffs and Eel Pond
Project No.
Date: April 2009

Sample: OB-9-1

Phi	Cum Wt	Total Wt	% Wt	Cum %	Sand Only % Wt	Sand Only Cum %
>-5	0.00	0.00	0.00	0.00	0.00	0.00
-4	8.09	8.09	5.91	5.91	6.16	6.16
-3	18.34	10.25	7.48	13.38	7.80	13.96
-2	34.11	15.78	11.52	24.90	12.01	25.97
-1	50.16	16.05	11.72	36.62	12.22	38.19
0	76.28	26.12	19.07	55.68	19.89	58.08
1	109.85	33.57	24.51	80.19	25.56	83.64
2	124.26	14.41	10.52	90.71	10.97	94.61
3	129.82	5.56	4.06	94.77	4.23	98.84
4	131.34	1.52	1.11	95.88	1.16	100.00

Phi	Total Wt	Bkr Wt	Corr. Wt	Wt Frac	% Wt	Bk No.
Silt	29.7135	29.4988	8.5880	4.2480	3.1011	166
Clay	29.7398	29.6313	4.3400	1.4020	1.0235	205
		Disp. Wt	2.9380			

Wt. Coarse	131.3350
Wt Fine	5.6500
Total Wt	136.9850

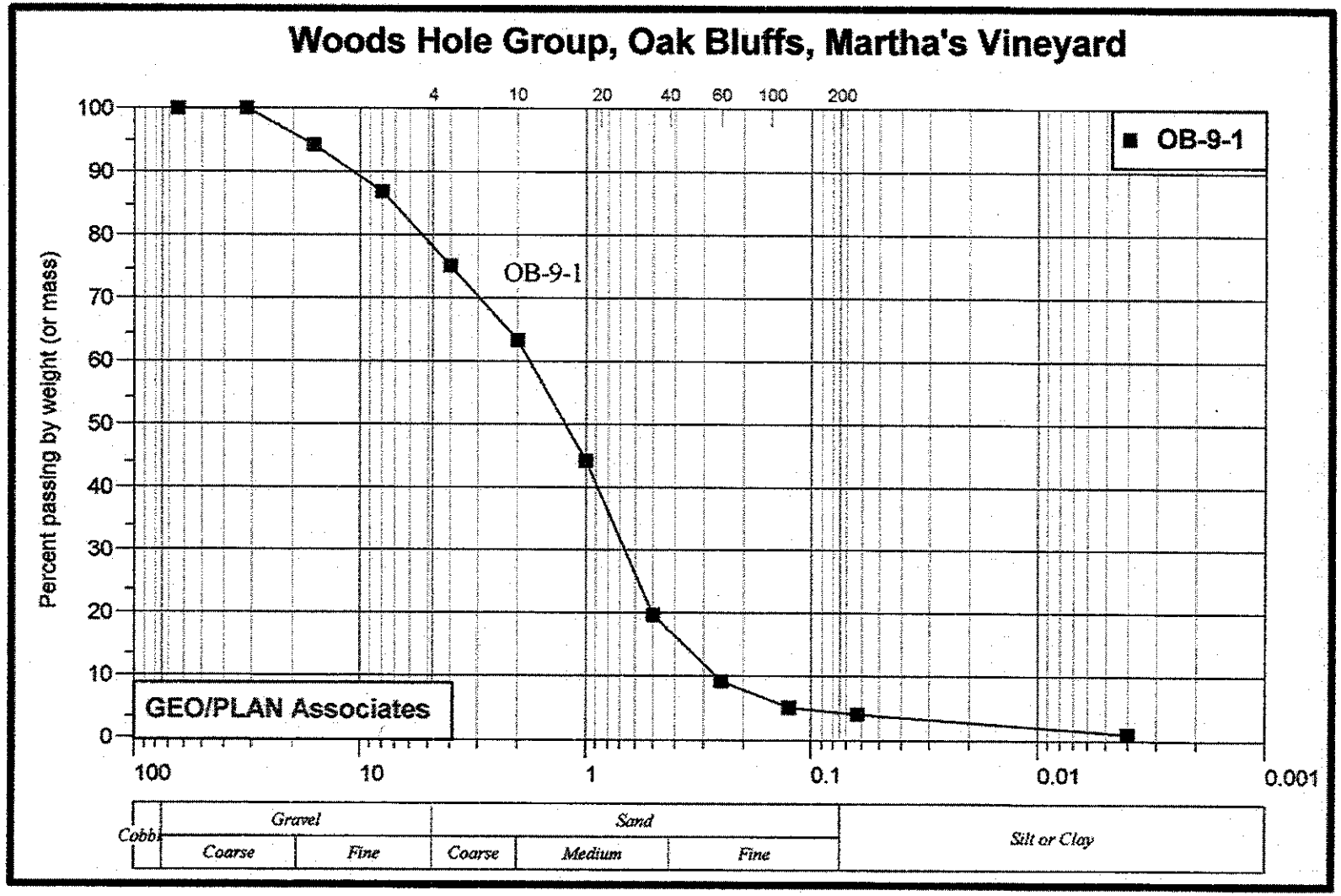
Phi	Wt %	Phi Mid Pt	Wt % Mid Pt	Mid pt - Mean (=X)	X sq	X sq Wt %
>-5	0.00	-5.50	0.00	-5.11	26.14	0.00
-4	5.91	-4.50	-26.58	-4.11	16.91	99.87
-3	7.48	-3.50	-26.18	-3.11	9.69	72.44
-2	11.52	-2.50	-28.79	-2.11	4.46	51.38
-1	11.72	-1.50	-17.57	-1.11	1.24	14.49
0	19.07	-0.50	-9.53	-0.11	0.01	0.24
1	24.51	0.50	12.25	0.89	0.79	19.31
2	10.52	1.50	15.77	1.89	3.56	37.47
3	4.06	2.50	10.15	2.89	8.34	33.85
4	1.11	3.50	3.88	3.89	15.11	16.77
Silt	3.10	6.00	18.61	6.39	40.80	126.53
Clay	1.02	9.00	9.21	9.39	88.13	90.20
TOTAL	100.00		-38.78			562.56

Total Sample — Mean = -0.39 — Variance = 5.63 — Sample SD = 2.37

Coarse Only — 95.88 — -66.59 — 345.83 — Mean = -0.69 — Variance = 3.61 — Sample SD = 1.90

Gravel	Sand	Silt	Clay	Total
36.6	59.3	3.1	1.0	100.0

Sand	Silt	Clay	Total
93.5	4.9	1.6	100.0


Woods Hole Group, Oak Bluffs, Martha's Vineyard
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
4
10
20
40
60
100
200
OB-9-1
OB-9-1
GEO/PLAN Associates
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GRAIN SIZE DISTRIBUTION TEST DATA

3/13/2012

Client: Woods Hole Group
Project: Edgartown Corp.
Project Number: L1203740
Location: SP-6-0-1.6-030212 (SP-6)
Sample Number: L1203740-11
USCS Classification: SW

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
274.14	7.36	.375	553.50	553.50	100.0
		#4	542.65	525.81	93.7
		#10	511.27	491.60	86.3
		#40	551.63	375.32	20.2
		#200	364.67	315.53	1.8

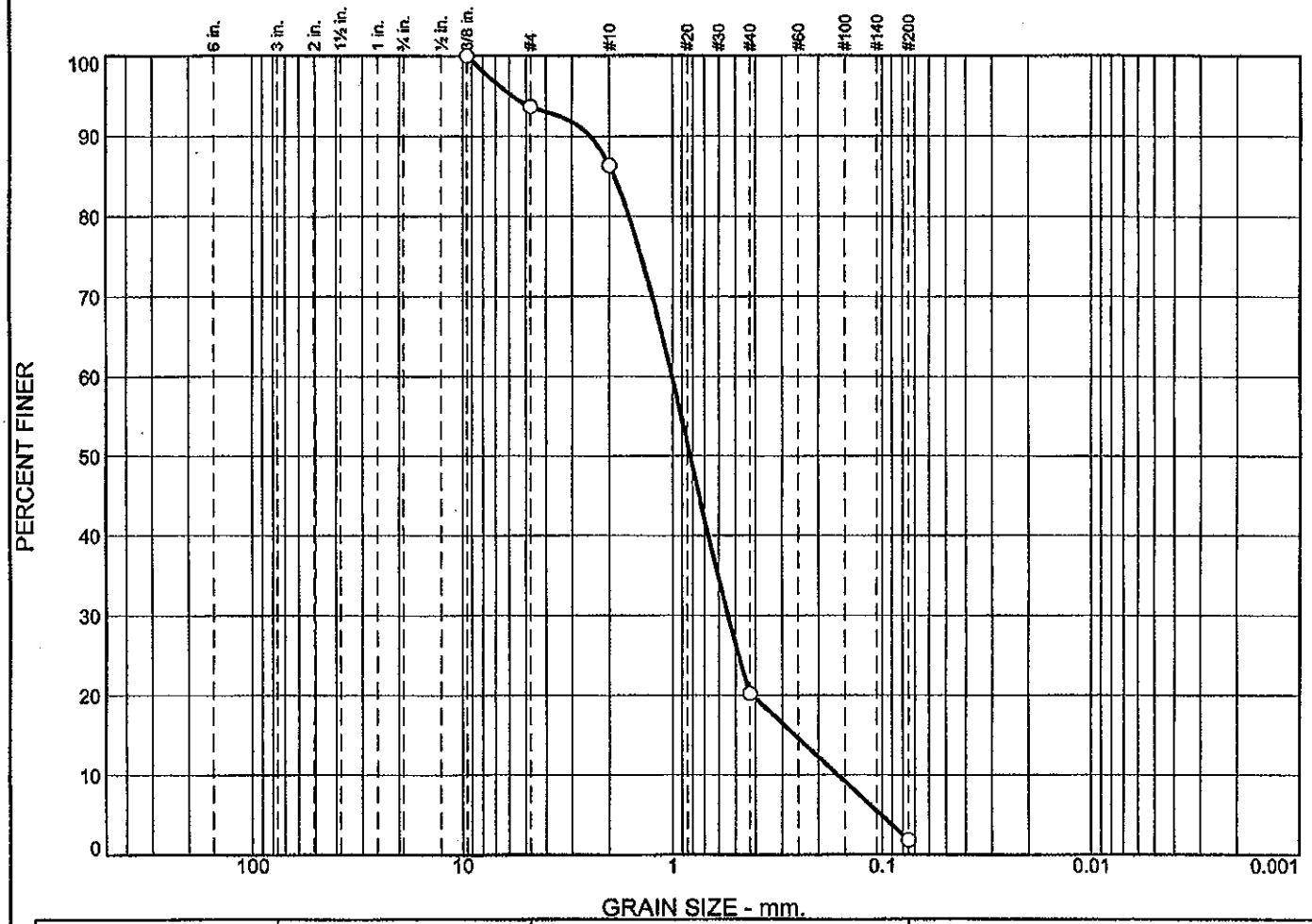
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	6.3	6.3	7.4	66.1	18.4	91.9			1.8

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.1622	0.2598	0.4160	0.5418	0.8220	1.0069	1.6096	1.8963	2.4672	5.7974

Fineness Modulus	C_u	C_c
2.89	6.21	1.80

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	6.3	7.4	66.1	18.4	1.8	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.8963	1.0069	0.8220	0.5418	0.2598	0.1622	1.80	6.21

	Material Description	USCS	AASHTO
○		SW	

Project No. L1203740 **Client:** Woods Hole Group

Project: Edgartown Corp.

○ **Source of Sample:** SP-6-0-1.6-030212 **Sample Number:** L1203740-11

Alpha Analytical

Mansfield, MA

Remarks:

Figure

ANALYTICAL REPORT

Lab Number:	L1206924
Client:	Woods Hole Group 81 Technology Park Drive East Falmouth, MA 02536
ATTN:	Beth Hays
Phone:	(508) 540-8080
Project Name:	EDGARTOWN CORP
Project Number:	2010-142
Report Date:	05/09/12

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), PA (68-02089), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), DOD (L2217.01), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: EDGARTOWN CORP
Project Number: 2010-142

Lab Number: L1206924
Report Date: 05/09/12

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1206924-01	EH-3-0-3.0-022812	EDGARTOWN	02/29/12 13:50
L1206924-02	EH-5-0-3.5-022812	EDGARTOWN	02/29/12 11:00

Project Name: EDGARTOWN CORP
Project Number: 2010-142
Lab Number: L1206924
Report Date: 05/09/12

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples free of charge for 30 days from the date the project is completed. After 30 days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: EDGARTOWN CORP **Lab Number:** L1206924
Project Number: 2010-142 **Report Date:** 05/09/12

Case Narrative (continued)

PAH/PCB Congeners

The WG533083-2/-3 LCS/LCSD recoveries, associated with L1206924-01 and -02, are above the individual acceptance criteria for Benzo(b)fluoranthene (130%)/(130%), but within the overall method allowances. The results of the associated samples are reported; however, all positive detects are considered to have a potentially high bias for these compounds.

The WG533083-5/-6 MS/MSD recoveries, performed on L1206924-01, were above the acceptance criteria for Benzo(b)fluoranthene (MS 129%) and Cl4-BZ#49 (MSD 44%). The results of the sample utilized for the MS/MSD are considered to have a potentially high bias for these compounds. The WG533083-6 MS/MSD RPDs, performed on L1206924-01, are above the acceptance criteria for Cl6-BZ#138 (33%).

The WG533083-7 Standard Reference Material is outside the QC limits for Cl3-BZ#28(29%).

Pesticides

The WG533083-7 Standard Reference Material is outside the QC limits for Trans-nonachlor @ 182% and Heaxachlorbenzene @ 191%.

Total Metals

L1206924-02 has an elevated detection limit for lead due to the dilution required by matrix interferences encountered during analysis.

The WG531274-3 Laboratory Duplicate RPD, performed on L1206924-01, is outside the acceptance criteria for Arsenic (21%), Copper (87%) and Lead (24%). The elevated RPD has been attributed to the non-homogeneous nature of the sample utilized for the laboratory duplicate.

The WG531274-6 SRM recovery, performed is above the acceptance criteria for Zinc(124%); however, the associated LCS recovery was within criteria. No further action was taken.

Project Name: EDGARTOWN CORP
Project Number: 2010-142
Lab Number: L1206924
Report Date: 05/09/12

Case Narrative (continued)

The WG531275-3 Laboratory Duplicate RPD, performed on L1206924-01, is above the acceptance criteria for Mercury (43%); however, the sample and duplicate results are less than five times the reporting limit. Therefore, the RPD is valid.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Cynthia McQueen

Title: Technical Director/Representative Date: 05/09/12

ORGANICS

SEMIVOLATILES

Project Name: EDGARTOWN CORP **Lab Number:** L1206924

Project Number: 2010-142 **Report Date:** 05/09/12

SAMPLE RESULTS

Lab ID:	L1206924-01	Date Collected:	02/29/12 13:50
Client ID:	EH-3-0-3.0-022812	Date Received:	03/05/12
Sample Location:	EDGARTOWN	Field Prep:	Not Specified
Matrix:	Sediment	Extraction Method:	EPA 3570
Analytical Method:	105,680/8270C-SIM(M)	Extraction Date:	05/02/12 09:21
Analytical Date:	05/03/12 18:19	Cleanup Method1:	EPA 3630
Analyst:	CM	Cleanup Date1:	05/03/12
Percent Solids:	86%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab						
Naphthalene	ND		ug/kg	10.2	--	1
Acenaphthylene	ND		ug/kg	10.2	--	1
Acenaphthene	ND		ug/kg	10.2	--	1
Fluorene	ND		ug/kg	10.2	--	1
Phenanthrene	ND		ug/kg	10.2	--	1
Anthracene	ND		ug/kg	10.2	--	1
Fluoranthene	ND		ug/kg	10.2	--	1
Pyrene	ND		ug/kg	10.2	--	1
Benz(a)anthracene	ND		ug/kg	10.2	--	1
Chrysene	ND		ug/kg	10.2	--	1
Benzo(b)fluoranthene	ND		ug/kg	10.2	--	1
Benzo(k)fluoranthene	ND		ug/kg	10.2	--	1
Benzo(a)pyrene	ND		ug/kg	10.2	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/kg	10.2	--	1
Dibenz(a,h)anthracene	ND		ug/kg	10.2	--	1
Benzo(ghi)perylene	ND		ug/kg	10.2	--	1
Cl2-BZ#8	ND		ug/kg	1.02	--	1
Cl3-BZ#18	ND		ug/kg	1.02	--	1
Cl3-BZ#28	ND		ug/kg	1.02	--	1
Cl4-BZ#44	ND		ug/kg	1.02	--	1
Cl4-BZ#49	ND		ug/kg	1.02	--	1
Cl4-BZ#52	ND		ug/kg	1.02	--	1
Cl4-BZ#66	ND		ug/kg	1.02	--	1
Cl5-BZ#87	ND		ug/kg	1.02	--	1
Cl5-BZ#101	1.68		ug/kg	1.02	--	1
Cl5-BZ#105	ND		ug/kg	1.02	--	1
Cl5-BZ#118	2.30		ug/kg	1.02	--	1
Cl6-BZ#128	ND		ug/kg	1.02	--	1
Cl6-BZ#138	3.45		ug/kg	1.02	--	1
Cl6-BZ#153	1.77		ug/kg	1.02	--	1
Cl7-BZ#170	ND		ug/kg	1.02	--	1

Project Name: EDGARTOWN CORP **Lab Number:** L1206924

Project Number: 2010-142 **Report Date:** 05/09/12

SAMPLE RESULTS

Lab ID: L1206924-01 Date Collected: 02/29/12 13:50

Client ID: EH-3-0-3.0-022812 Date Received: 03/05/12

Sample Location: EDGARTOWN Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab						
Cl7-BZ#180	ND		ug/kg	1.02	--	1
Cl7-BZ#183	ND		ug/kg	1.02	--	1
Cl7-BZ#184	ND		ug/kg	1.02	--	1
Cl7-BZ#187	ND		ug/kg	1.02	--	1
Cl8-BZ#195	ND		ug/kg	1.02	--	1
Cl9-BZ#206	ND		ug/kg	1.02	--	1
Cl10-BZ#209	ND		ug/kg	1.02	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Methylnaphthalene-d10	96		30-150
Pyrene-d10	88		30-150
Benzo(b)fluoranthene-d12	102		30-150
DBOB	117		30-150
BZ 198	100		30-150

Project Name: EDGARTOWN CORP **Lab Number:** L1206924

Project Number: 2010-142 **Report Date:** 05/09/12

SAMPLE RESULTS

Lab ID:	L1206924-02	Date Collected:	02/29/12 11:00
Client ID:	EH-5-0-3.5-022812	Date Received:	03/05/12
Sample Location:	EDGARTOWN	Field Prep:	Not Specified
Matrix:	Sediment	Extraction Method:	EPA 3570
Analytical Method:	105,680/8270C-SIM(M)	Extraction Date:	05/02/12 09:21
Analytical Date:	05/03/12 20:31	Cleanup Method1:	EPA 3630
Analyst:	CM	Cleanup Date1:	05/03/12
Percent Solids:	51%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab						
Naphthalene	ND		ug/kg	18.2	--	1
Acenaphthylene	ND		ug/kg	18.2	--	1
Acenaphthene	ND		ug/kg	18.2	--	1
Fluorene	ND		ug/kg	18.2	--	1
Phenanthrene	ND		ug/kg	18.2	--	1
Anthracene	ND		ug/kg	18.2	--	1
Fluoranthene	27.4		ug/kg	18.2	--	1
Pyrene	20.8		ug/kg	18.2	--	1
Benz(a)anthracene	ND		ug/kg	18.2	--	1
Chrysene	ND		ug/kg	18.2	--	1
Benzo(b)fluoranthene	ND		ug/kg	18.2	--	1
Benzo(k)fluoranthene	ND		ug/kg	18.2	--	1
Benzo(a)pyrene	ND		ug/kg	18.2	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/kg	18.2	--	1
Dibenz(a,h)anthracene	ND		ug/kg	18.2	--	1
Benzo(ghi)perylene	ND		ug/kg	18.2	--	1
Cl2-BZ#8	ND		ug/kg	1.82	--	1
Cl3-BZ#18	ND		ug/kg	1.82	--	1
Cl3-BZ#28	ND		ug/kg	1.82	--	1
Cl4-BZ#44	ND		ug/kg	1.82	--	1
Cl4-BZ#49	ND		ug/kg	1.82	--	1
Cl4-BZ#52	ND		ug/kg	1.82	--	1
Cl4-BZ#66	ND		ug/kg	1.82	--	1
Cl5-BZ#87	ND		ug/kg	1.82	--	1
Cl5-BZ#101	ND		ug/kg	1.82	--	1
Cl5-BZ#105	ND		ug/kg	1.82	--	1
Cl5-BZ#118	ND		ug/kg	1.82	--	1
Cl6-BZ#128	ND		ug/kg	1.82	--	1
Cl6-BZ#138	ND		ug/kg	1.82	--	1
Cl6-BZ#153	ND		ug/kg	1.82	--	1
Cl7-BZ#170	ND		ug/kg	1.82	--	1

Project Name: EDGARTOWN CORP **Lab Number:** L1206924

Project Number: 2010-142 **Report Date:** 05/09/12

SAMPLE RESULTS

Lab ID: L1206924-02 Date Collected: 02/29/12 11:00

Client ID: EH-5-0-3.5-022812 Date Received: 03/05/12

Sample Location: EDGARTOWN Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab						
Cl7-BZ#180	ND		ug/kg	1.82	--	1
Cl7-BZ#183	ND		ug/kg	1.82	--	1
Cl7-BZ#184	ND		ug/kg	1.82	--	1
Cl7-BZ#187	ND		ug/kg	1.82	--	1
Cl8-BZ#195	ND		ug/kg	1.82	--	1
Cl9-BZ#206	ND		ug/kg	1.82	--	1
Cl10-BZ#209	ND		ug/kg	1.82	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Methylnaphthalene-d10	90		30-150
Pyrene-d10	87		30-150
Benzo(b)fluoranthene-d12	96		30-150
DBOB	112		30-150
BZ 198	94		30-150

Project Name: EDGARTOWN CORP
Project Number: 2010-142
Lab Number: L1206924
Report Date: 05/09/12

Method Blank Analysis
Batch Quality Control

Analytical Method: 105,680/8270C-SIM(M)
Analytical Date: 05/03/12 16:39
Analyst: CM

Extraction Method: EPA 3570
Extraction Date: 05/02/12 09:21
Cleanup Method1: EPA 3630
Cleanup Date1: 05/03/12

Parameter	Result	Qualifier	Units	RL	MDL
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab for sample(s): 01-02 Batch: WG533083-1					
Naphthalene	ND		ug/kg	10.0	--
Acenaphthylene	ND		ug/kg	10.0	--
Acenaphthene	ND		ug/kg	10.0	--
Fluorene	ND		ug/kg	10.0	--
Phenanthrene	ND		ug/kg	10.0	--
Anthracene	ND		ug/kg	10.0	--
Fluoranthene	ND		ug/kg	10.0	--
Pyrene	ND		ug/kg	10.0	--
Benz(a)anthracene	ND		ug/kg	10.0	--
Chrysene	ND		ug/kg	10.0	--
Benzo(b)fluoranthene	ND		ug/kg	10.0	--
Benzo(k)fluoranthene	ND		ug/kg	10.0	--
Benzo(a)pyrene	ND		ug/kg	10.0	--
Indeno(1,2,3-cd)Pyrene	ND		ug/kg	10.0	--
Dibenz(a,h)anthracene	ND		ug/kg	10.0	--
Benzo(ghi)perylene	ND		ug/kg	10.0	--
Cl2-BZ#8	ND		ug/kg	1.00	--
Cl3-BZ#18	ND		ug/kg	1.00	--
Cl3-BZ#28	ND		ug/kg	1.00	--
Cl4-BZ#44	ND		ug/kg	1.00	--
Cl4-BZ#49	ND		ug/kg	1.00	--
Cl4-BZ#52	ND		ug/kg	1.00	--
Cl4-BZ#66	ND		ug/kg	1.00	--
Cl5-BZ#87	ND		ug/kg	1.00	--
Cl5-BZ#101	ND		ug/kg	1.00	--
Cl5-BZ#105	ND		ug/kg	1.00	--
Cl5-BZ#118	ND		ug/kg	1.00	--
Cl6-BZ#128	ND		ug/kg	1.00	--
Cl6-BZ#138	ND		ug/kg	1.00	--
Cl6-BZ#153	ND		ug/kg	1.00	--
Cl7-BZ#170	ND		ug/kg	1.00	--

Project Name: EDGARTOWN CORP
Project Number: 2010-142

Lab Number: L1206924
Report Date: 05/09/12

Method Blank Analysis
Batch Quality Control

Analytical Method: 105,680/8270C-SIM(M)
Analytical Date: 05/03/12 16:39
Analyst: CM

Extraction Method: EPA 3570
Extraction Date: 05/02/12 09:21
Cleanup Method1: EPA 3630
Cleanup Date1: 05/03/12

Parameter	Result	Qualifier	Units	RL	MDL
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab for sample(s): 01-02 Batch: WG533083-1					
Cl7-BZ#180	ND		ug/kg	1.00	--
Cl7-BZ#183	ND		ug/kg	1.00	--
Cl7-BZ#184	ND		ug/kg	1.00	--
Cl7-BZ#187	ND		ug/kg	1.00	--
Cl8-BZ#195	ND		ug/kg	1.00	--
Cl9-BZ#206	ND		ug/kg	1.00	--
Cl10-BZ#209	ND		ug/kg	1.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Methylnaphthalene-d10	89		30-150
Pyrene-d10	87		30-150
Benzo(b)fluoranthene-d12	104		30-150
DBOB	100		30-150
BZ 198	89		30-150

Lab Control Sample Analysis
Batch Quality Control

Project Name: EDGARTOWN CORP
Project Number: 2010-142

Lab Number: L1206924
Report Date: 05/09/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab Associated sample(s): 01-02 Batch: WG533083-2 WG533083-3								
Naphthalene	90		88		50-120	2		30
Acenaphthylene	86		81		50-120	6		30
Acenaphthene	91		87		50-120	4		30
Fluorene	96		91		50-120	5		30
Phenanthrene	101		98		50-120	3		30
Anthracene	78		74		50-120	5		30
Fluoranthene	105		101		50-120	4		30
Pyrene	88		85		50-120	3		30
Benz(a)anthracene	106		104		50-120	2		30
Chrysene	91		88		50-120	3		30
Benzo(b)fluoranthene	**130**	Q	**130**	Q	50-120	0		30
Benzo(k)fluoranthene	81		76		50-120	6		30
Benzo(a)pyrene	104		101		50-120	3		30
Indeno(1,2,3-cd)Pyrene	118		114		50-120	3		30
Dibenz(a,h)anthracene	113		109		50-120	4		30
Benzo(ghi)perylene	112		109		50-120	3		30
Cl2-BZ#8	65		63		50-120	3		30
Cl3-BZ#18	69		66		50-120	4		30
Cl3-BZ#28	70		67		50-120	4		30
Cl4-BZ#44	78		75		50-120	4		30
Cl4-BZ#49	58		56		50-120	4		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: EDGARTOWN CORP

Project Number: 2010-142

Lab Number: L1206924

Report Date: 05/09/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab Associated sample(s): 01-02 Batch: WG533083-2 WG533083-3								
Cl4-BZ#52	83		81		50-120	2		30
Cl4-BZ#66	77		75		50-120	3		30
Cl5-BZ#87	80		78		50-120	3		30
Cl5-BZ#101	80		78		50-120	3		30
Cl5-BZ#105	75		72		50-120	4		30
Cl5-BZ#118	77		75		50-120	3		30
Cl6-BZ#128	88		86		50-120	2		30
Cl6-BZ#138	90		85		50-120	6		30
Cl6-BZ#153	86		84		50-120	2		30
Cl7-BZ#170	92		90		50-120	2		30
Cl7-BZ#180	88		85		50-120	3		30
Cl7-BZ#183	74		72		50-120	3		30
Cl7-BZ#184	86		84		50-120	2		30
Cl7-BZ#187	98		97		50-120	1		30
Cl8-BZ#195	98		95		50-120	3		30
Cl9-BZ#206	101		100		50-120	1		30
Cl10-BZ#209	95		93		50-120	2		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: EDGARTOWN CORP

Project Number: 2010-142

Lab Number: L1206924

Report Date: 05/09/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab Associated sample(s): 01-02 Batch: WG533083-2 WG533083-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Methylnaphthalene-d10	94		91		30-150
Pyrene-d10	89		85		30-150
Benzo(b)fluoranthene-d12	103		99		30-150
DBOB	118		111		30-150
BZ 198	97		97		30-150

Matrix Spike Analysis
Batch Quality Control

Project Name: EDGARTOWN CORP
Project Number: 2010-142

Lab Number: L1206924
Report Date: 05/09/12

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG533083-5 WG533083-6 QC Sample: L1206924-01 Client ID: EH-3-0-3.0-022812												
Naphthalene	ND	1050	915	87		843	75		50-120	8		30
Acenaphthylene	ND	1050	868	83		805	72		50-120	8		30
Acenaphthene	ND	1050	925	88		854	76		50-120	8		30
Fluorene	ND	1050	958	92		885	79		50-120	8		30
Phenanthrene	ND	1050	1040	99		881	79		50-120	17		30
Anthracene	ND	1050	774	74		776	69		50-120	0		30
Fluoranthene	ND	1050	1070	102		955	85		50-120	11		30
Pyrene	ND	1050	901	86		806	72		50-120	11		30
Benz(a)anthracene	ND	1050	1100	105		994	89		50-120	10		30
Chrysene	ND	1050	900	86		800	72		50-120	12		30
Benzo(b)fluoranthene	ND	1050	1350	**129**	Q	1120	100		50-120	19		30
Benzo(k)fluoranthene	ND	1050	795	76		795	71		50-120	0		30
Benzo(a)pyrene	ND	1050	1050	100		955	85		50-120	9		30
Indeno(1,2,3-cd)Pyrene	ND	1050	1200	115		1100	98		50-120	9		30
Dibenz(a,h)anthracene	ND	1050	1140	109		1020	91		50-120	11		30
Benzo(ghi)perylene	ND	1050	1130	108		1020	91		50-120	10		30
Cl2-BZ#8	ND	20.9	12.8	61		11.7	52		50-120	9		30
Cl3-BZ#18	ND	20.9	13.9	66		12.3	55		50-120	12		30
Cl3-BZ#28	ND	20.9	14.0	67		12.3	55		50-120	13		30
Cl4-BZ#44	ND	20.9	15.8	76		13.9	62		50-120	13		30
Cl4-BZ#49	ND	20.9	11.6	55		9.86	**44**	Q	50-120	16		30

Matrix Spike Analysis
Batch Quality Control

Project Name: EDGARTOWN CORP
Project Number: 2010-142
Lab Number: L1206924
Report Date: 05/09/12

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG533083-5 WG533083-6 QC Sample: L1206924-01 Client ID: EH-3-0-3.0-022812												
Cl4-BZ#52	ND	20.9	17.1	82		15.2	68		50-120	12		30
Cl4-BZ#66	ND	20.9	15.7	75		13.5	60		50-120	15		30
Cl5-BZ#87	ND	20.9	16.3	78		14.2	64		50-120	14		30
Cl5-BZ#101	1.68	20.9	17.1	74		14.4	57		50-120	17		30
Cl5-BZ#105	ND	20.9	14.7	70		12.7	57		50-120	15		30
Cl5-BZ#118	2.30	20.9	15.4	63		13.7	51		50-120	12		30
Cl6-BZ#128	ND	20.9	19.0	91		16.5	74		50-120	14		30
Cl6-BZ#138	3.45	20.9	22.0	89		15.8	55		50-120	**33**	Q	30
Cl6-BZ#153	1.77	20.9	17.5	75		15.2	60		50-120	14		30
Cl7-BZ#170	ND	20.9	19.2	92		16.7	75		50-120	14		30
Cl7-BZ#180	ND	20.9	17.7	85		15.4	69		50-120	14		30
Cl7-BZ#183	ND	20.9	15.1	72		12.9	58		50-120	16		30
Cl7-BZ#184	ND	20.9	17.7	85		15.4	69		50-120	14		30
Cl7-BZ#187	ND	20.9	20.7	99		18.1	81		50-120	13		30
Cl8-BZ#195	ND	20.9	20.1	96		17.7	79		50-120	13		30
Cl9-BZ#206	ND	20.9	20.6	98		18.0	80		50-120	13		30
Cl10-BZ#209	ND	20.9	19.2	92		16.8	75		50-120	13		30

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
2-Methylnaphthalene-d10	92		79		30-150

Matrix Spike Analysis
Batch Quality Control

Project Name: EDGARTOWN CORP
Project Number: 2010-142

Lab Number: L1206924
Report Date: 05/09/12

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG533083-5 WG533083-6 QC Sample: L1206924-01 Client ID: EH-3-0-3.0-022812												

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
BZ 198	97		79		30-150
Benzo(b)fluoranthene-d12	100		83		30-150
DBOB	117		95		30-150
Pyrene-d10	87		72		30-150

Lab Duplicate Analysis
Batch Quality Control

Project Name: EDGARTOWN CORP
Project Number: 2010-142

Lab Number: L1206924
Report Date: 05/09/12

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG533083-4 QC Sample: L1206924-01 Client ID: EH-3-0-3.0-022812						
Naphthalene	ND	ND	ug/kg	NC		30
Acenaphthylene	ND	ND	ug/kg	NC		30
Acenaphthene	ND	ND	ug/kg	NC		30
Fluorene	ND	ND	ug/kg	NC		30
Phenanthrene	ND	ND	ug/kg	NC		30
Anthracene	ND	ND	ug/kg	NC		30
Fluoranthene	ND	ND	ug/kg	NC		30
Pyrene	ND	ND	ug/kg	NC		30
Benz(a)anthracene	ND	ND	ug/kg	NC		30
Chrysene	ND	ND	ug/kg	NC		30
Benzo(b)fluoranthene	ND	ND	ug/kg	NC		30
Benzo(k)fluoranthene	ND	ND	ug/kg	NC		30
Benzo(a)pyrene	ND	ND	ug/kg	NC		30
Indeno(1,2,3-cd)Pyrene	ND	ND	ug/kg	NC		30
Dibenz(a,h)anthracene	ND	ND	ug/kg	NC		30
Benzo(ghi)perylene	ND	ND	ug/kg	NC		30
Cl2-BZ#8	ND	ND	ug/kg	NC		30
Cl3-BZ#18	ND	ND	ug/kg	NC		30
Cl3-BZ#28	ND	ND	ug/kg	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: EDGARTOWN CORP
Project Number: 2010-142

Lab Number: L1206924
Report Date: 05/09/12

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG533083-4 QC Sample: L1206924-01 Client ID: EH-3-0-3.0-022812					
Cl4-BZ#44	ND	ND	ug/kg	NC	30
Cl4-BZ#49	ND	ND	ug/kg	NC	30
Cl4-BZ#52	ND	ND	ug/kg	NC	30
Cl4-BZ#66	ND	ND	ug/kg	NC	30
Cl5-BZ#87	ND	ND	ug/kg	NC	30
Cl5-BZ#101	1.68	ND	ug/kg	NC	30
Cl5-BZ#105	ND	ND	ug/kg	NC	30
Cl5-BZ#118	2.30	ND	ug/kg	NC	30
Cl6-BZ#128	ND	ND	ug/kg	NC	30
Cl6-BZ#138	3.45	ND	ug/kg	NC	30
Cl6-BZ#153	1.77	ND	ug/kg	NC	30
Cl7-BZ#170	ND	1.18	ug/kg	NC	30
Cl7-BZ#180	ND	ND	ug/kg	NC	30
Cl7-BZ#183	ND	ND	ug/kg	NC	30
Cl7-BZ#184	ND	ND	ug/kg	NC	30
Cl7-BZ#187	ND	ND	ug/kg	NC	30
Cl8-BZ#195	ND	ND	ug/kg	NC	30
Cl9-BZ#206	ND	ND	ug/kg	NC	30
Cl10-BZ#209	ND	ND	ug/kg	NC	30

Lab Duplicate Analysis
Batch Quality Control

Project Name: EDGARTOWN CORP
Project Number: 2010-142

Lab Number: L1206924
Report Date: 05/09/12

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits

RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG533083-4 QC Sample: L1206924-01 Client ID: EH-3-0-3.0-022812

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
2-Methylnaphthalene-d10	96		97		30-150
Pyrene-d10	88		92		30-150
Benzo(b)fluoranthene-d12	102		103		30-150
DBOB	117		119		30-150
BZ 198	100		101		30-150

Project Name: EDGARTOWN CORP
Project Number: 2010-142
Lab Number: L1206924
Report Date: 05/09/12

S.R.M. Standard Quality Control

Standard Reference Material (SRM): WG533083-7

Parameter	% Recovery	Qual	QC Criteria
Phenanthrene	64		40-140
Fluoranthene	72		40-140
Pyrene	50		40-140
Benz(a)anthracene	66		40-140
Chrysene	72		40-140
Benzo(b)fluoranthene	75		40-140
Benzo(k)fluoranthene	97		40-140
Benzo(a)pyrene	55		40-140
Indeno(1,2,3-cd)Pyrene	72		40-140
Dibenz(a,h)anthracene	125		40-140
Benzo(ghi)perylene	66		40-140
Cl2-BZ#8	52		40-140
Cl3-BZ#18	62		40-140
Cl3-BZ#28	29	Q	40-140
Cl4-BZ#44	63		40-140
Cl4-BZ#49	60		40-140
Cl4-BZ#52	85		40-140
Cl4-BZ#66	50		40-140
Cl5-BZ#87	72		40-140
Cl5-BZ#101	69		40-140
Cl5-BZ#105	68		40-140
Cl5-BZ#118	62		40-140
Cl6-BZ#128	115		40-140
Cl6-BZ#138	88		40-140
Cl6-BZ#153	57		40-140
Cl7-BZ#170	74		40-140
Cl7-BZ#180	74		40-140
Cl7-BZ#183	59		40-140
Cl7-BZ#187	82		40-140
Cl9-BZ#206	86		40-140
Cl10-BZ#209	87		40-140
2-Methylnaphthalene-d10 (Surrogate)	79		30-150
Pyrene-d10 (Surrogate)	74		30-150
Benzo(b)fluoranthene-d12 (Surrogate)	80		30-150
DBOB (Surrogate)	109		30-150
BZ 198 (Surrogate)	105		30-150

PESTICIDES

Project Name: EDGARTOWN CORP
Lab Number: L1206924
Project Number: 2010-142
Report Date: 05/09/12

SAMPLE RESULTS

Lab ID:	L1206924-01	Date Collected:	02/29/12 13:50
Client ID:	EH-3-0-3.0-022812	Date Received:	03/05/12
Sample Location:	EDGARTOWN	Field Prep:	Not Specified
Matrix:	Sediment	Extraction Method:	EPA 3570
Analytical Method:	1,8081B	Extraction Date:	05/02/12 09:21
Analytical Date:	05/04/12 10:18	Cleanup Method1:	EPA 3630
Analyst:	RR	Cleanup Date1:	05/03/12
Percent Solids:	86%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
RIM Organochlorine Pesticides - Mansfield Lab						
Hexachlorobenzene	ND		ug/kg	0.508	--	1
gamma-BHC	ND		ug/kg	0.508	--	1
Heptachlor	ND		ug/kg	0.508	--	1
trans-Chlordane	ND		ug/kg	0.508	--	1
Endosulfan I	ND		ug/kg	0.508	--	1
cis-Chlordane	ND		ug/kg	0.508	--	1
trans-Nonachlor	ND		ug/kg	0.508	--	1
4,4'-DDE	ND		ug/kg	0.508	--	1
Dieldrin	ND		ug/kg	0.508	--	1
Endrin	ND		ug/kg	0.508	--	1
Endosulfan II	ND		ug/kg	0.508	--	1
4,4'-DDD	ND		ug/kg	0.508	--	1
cis-Nonachlor	ND		ug/kg	0.508	--	1
4,4'-DDT	ND		ug/kg	0.508	--	1
Methoxychlor	ND		ug/kg	0.508	--	1
Toxaphene	ND		ug/kg	25.4	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	77		30-150
BZ 198	90		30-150
DBOB	70		30-150
BZ 198	87		30-150

Project Name: EDGARTOWN CORP
Lab Number: L1206924
Project Number: 2010-142
Report Date: 05/09/12

SAMPLE RESULTS

Lab ID:	L1206924-01	Date Collected:	02/29/12 13:50
Client ID:	EH-3-0-3.0-022812	Date Received:	03/05/12
Sample Location:	EDGARTOWN	Field Prep:	Not Specified
Matrix:	Sediment	Extraction Method:	EPA 3570
Analytical Method:	1,8081B	Extraction Date:	05/02/12 09:21
Analytical Date:	05/04/12 10:18	Cleanup Method1:	EPA 3630
Analyst:	RR	Cleanup Date1:	05/03/12
Percent Solids:	86%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
RIM Organochlorine Pesticides - Mansfield Lab						
Aldrin	ND		ug/kg	0.508	--	1
Heptachlor epoxide	ND		ug/kg	0.508	--	1
Oxychlordane	ND		ug/kg	0.508	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	77		30-150
BZ 198	90		30-150
DBOB	70		30-150
BZ 198	87		30-150

Project Name: EDGARTOWN CORP
Lab Number: L1206924
Project Number: 2010-142
Report Date: 05/09/12

SAMPLE RESULTS

Lab ID:	L1206924-02	Date Collected:	02/29/12 11:00
Client ID:	EH-5-0-3.5-022812	Date Received:	03/05/12
Sample Location:	EDGARTOWN	Field Prep:	Not Specified
Matrix:	Sediment	Extraction Method:	EPA 3570
Analytical Method:	1,8081B	Extraction Date:	05/02/12 09:21
Analytical Date:	05/04/12 13:14	Cleanup Method1:	EPA 3630
Analyst:	RR	Cleanup Date1:	05/03/12
Percent Solids:	51%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
RIM Organochlorine Pesticides - Mansfield Lab						
Hexachlorobenzene	ND		ug/kg	0.908	--	1
gamma-BHC	ND		ug/kg	0.908	--	1
Heptachlor	ND		ug/kg	0.908	--	1
trans-Chlordane	ND		ug/kg	0.908	--	1
Endosulfan I	ND		ug/kg	0.908	--	1
cis-Chlordane	ND		ug/kg	0.908	--	1
trans-Nonachlor	ND		ug/kg	0.908	--	1
4,4'-DDE	ND		ug/kg	0.908	--	1
Dieldrin	ND		ug/kg	0.908	--	1
Endrin	ND		ug/kg	0.908	--	1
Endosulfan II	ND		ug/kg	0.908	--	1
4,4'-DDD	ND		ug/kg	0.908	--	1
cis-Nonachlor	ND		ug/kg	0.908	--	1
4,4'-DDT	ND		ug/kg	0.908	--	1
Methoxychlor	ND		ug/kg	0.908	--	1
Toxaphene	ND		ug/kg	45.4	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	63		30-150
BZ 198	71		30-150
DBOB	57		30-150
BZ 198	80		30-150

Project Name: EDGARTOWN CORP
Lab Number: L1206924
Project Number: 2010-142
Report Date: 05/09/12

SAMPLE RESULTS

Lab ID:	L1206924-02	Date Collected:	02/29/12 11:00
Client ID:	EH-5-0-3.5-022812	Date Received:	03/05/12
Sample Location:	EDGARTOWN	Field Prep:	Not Specified
Matrix:	Sediment	Extraction Method:	EPA 3570
Analytical Method:	1,8081B	Extraction Date:	05/02/12 09:21
Analytical Date:	05/04/12 13:14	Cleanup Method1:	EPA 3630
Analyst:	RR	Cleanup Date1:	05/03/12
Percent Solids:	51%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
RIM Organochlorine Pesticides - Mansfield Lab						
Aldrin	ND		ug/kg	0.908	--	1
Heptachlor epoxide	ND		ug/kg	0.908	--	1
Oxychlordane	ND		ug/kg	0.908	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	63		30-150
BZ 198	71		30-150
DBOB	57		30-150
BZ 198	80		30-150

Project Name: EDGARTOWN CORP
Project Number: 2010-142
Lab Number: L1206924
Report Date: 05/09/12

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8081B
Analytical Date: 05/04/12 08:05
Analyst: RR

Extraction Method: EPA 3570
Extraction Date: 05/02/12 09:21
Cleanup Method1: EPA 3630
Cleanup Date1: 05/03/12

Parameter	Result	Qualifier	Units	RL	MDL
RIM Organochlorine Pesticides - Mansfield Lab for sample(s): 01-02 Batch: WG533083-1					
Hexachlorobenzene	ND		ug/kg	0.500	--
gamma-BHC	ND		ug/kg	0.500	--
Heptachlor	ND		ug/kg	0.500	--
trans-Chlordane	ND		ug/kg	0.500	--
Endosulfan I	ND		ug/kg	0.500	--
cis-Chlordane	ND		ug/kg	0.500	--
trans-Nonachlor	ND		ug/kg	0.500	--
4,4'-DDE	ND		ug/kg	0.500	--
Dieldrin	ND		ug/kg	0.500	--
Endrin	ND		ug/kg	0.500	--
Endosulfan II	ND		ug/kg	0.500	--
4,4'-DDD	ND		ug/kg	0.500	--
cis-Nonachlor	ND		ug/kg	0.500	--
4,4'-DDT	ND		ug/kg	0.500	--
Methoxychlor	ND		ug/kg	0.500	--
Toxaphene	ND		ug/kg	25.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	47		30-150
BZ 198	68		30-150
DBOB	44		30-150
BZ 198	65		30-150

Project Name: EDGARTOWN CORP
Project Number: 2010-142

Lab Number: L1206924
Report Date: 05/09/12

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8081B
Analytical Date: 05/04/12 08:05
Analyst: RR

Extraction Method: EPA 3570
Extraction Date: 05/02/12 09:21
Cleanup Method1: EPA 3630
Cleanup Date1: 05/03/12

Parameter	Result	Qualifier	Units	RL	MDL
RIM Organochlorine Pesticides - Mansfield Lab for sample(s): 01-02 Batch: WG533083-1					
Aldrin	ND		ug/kg	0.500	--
Heptachlor epoxide	ND		ug/kg	0.500	--
Oxychlordane	ND		ug/kg	0.500	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	47		30-150
BZ 198	68		30-150
DBOB	44		30-150
BZ 198	65		30-150

Lab Control Sample Analysis

Batch Quality Control

Project Name: EDGARTOWN CORP

Project Number: 2010-142

Lab Number: L1206924

Report Date: 05/09/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
RIM Organochlorine Pesticides - Mansfield Lab Associated sample(s): 01-02 Batch: WG533083-2 WG533083-3								
Hexachlorobenzene	63		52		50-120	19		30
gamma-BHC	70		54		50-120	26		30
Heptachlor	68		58		50-120	16		30
trans-Chlordane	72		62		50-120	15		30
Endosulfan I	74		62		50-120	18		30
cis-Chlordane	70		60		50-120	15		30
trans-Nonachlor	74		62		50-120	18		30
4,4'-DDE	76		66		50-120	14		30
Dieldrin	73		61		50-120	18		30
Endrin	79		67		50-120	16		30
4,4'-DDD	74		62		50-120	18		30
cis-Nonachlor	82		66		50-120	22		30
4,4'-DDT	96		80		50-120	18		30
Methoxychlor	99		79		50-120	22		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	60		47		30-150
BZ 198	84		69		30-150
DBOB	58		47		30-150
BZ 198	82		69		30-150

Lab Control Sample Analysis

Batch Quality Control

Project Name: EDGARTOWN CORP

Project Number: 2010-142

Lab Number: L1206924

Report Date: 05/09/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
RIM Organochlorine Pesticides - Mansfield Lab Associated sample(s): 01-02 Batch: WG533083-2 WG533083-3								
Aldrin	61		52		50-120	16		30
Heptachlor epoxide	66		56		50-120	16		30
Oxychlordane	69		60		50-120	14		30
Endosulfan II	72		62		50-120	15		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	60		47		30-150
BZ 198	84		69		30-150
DBOB	58		47		30-150
BZ 198	82		69		30-150

Matrix Spike Analysis
Batch Quality Control

Project Name: EDGARTOWN CORP
Project Number: 2010-142

Lab Number: L1206924
Report Date: 05/09/12

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
RIM Organochlorine Pesticides - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG533083-5 WG533083-6 QC Sample: L1206924-01 Client ID: EH-3-0-3.0-022812												
Hexachlorobenzene	ND	20.9	13.6	65		15.6	70		50-120	14		30
gamma-BHC	ND	20.9	15.1	72		16.7	75		50-120	10		30
Heptachlor	ND	20.9	15.7	75		18.0	80		50-120	14		30
trans-Chlordane	ND	20.9	14.9	71		18.6	83		50-120	22		30
Endosulfan I	ND	20.9	14.9	71		19.1	85		50-120	25		30
cis-Chlordane	ND	20.9	15.0	72		18.2	81		50-120	19		30
trans-Nonachlor	ND	20.9	15.5	74		19.0	85		50-120	20		30
4,4'-DDE	ND	20.9	14.7	70		18.4	82		50-120	22		30
Dieldrin	ND	20.9	15.2	73		18.6	83		50-120	20		30
Endrin	ND	20.9	15.5	74		19.7	88		50-120	24		30
4,4'-DDD	ND	20.9	13.5	65		18.1	81		50-120	29		30
cis-Nonachlor	ND	20.9	15.6	75		20.2	90		50-120	26		30
4,4'-DDT	ND	20.9	17.0	81		22.3	100		50-120	27		30
Methoxychlor	ND	20.9	18.6	89		23.9	107		50-120	25		30
Aldrin	ND	20.9	14.4	69		16.4	73		50-120	13		30
Heptachlor epoxide	ND	20.9	13.6	65		17.2	77		50-120	23		30
Oxychlordane	ND	20.9	15.5	74		18.6	83		50-120	18		30
Endosulfan II	ND	20.9	14.6	70		18.9	85		50-120	26		30

Matrix Spike Analysis
Batch Quality Control

Project Name: EDGARTOWN CORP
Project Number: 2010-142

Lab Number: L1206924
Report Date: 05/09/12

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
RIM Organochlorine Pesticides - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG533083-5 WG533083-6 QC Sample: L1206924-01 Client ID: EH-3-0-3.0-022812												

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
BZ 198	76		94		30-150
DBOB	59		67		30-150
BZ 198	80		92		30-150
DBOB	61		64		30-150

Lab Duplicate Analysis
Batch Quality Control

Project Name: EDGARTOWN CORP
Project Number: 2010-142

Lab Number: L1206924
Report Date: 05/09/12

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
RIM Organochlorine Pesticides - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG533083-4 QC Sample: L1206924-01 Client ID: EH-3-0-3.0-022812						
Hexachlorobenzene	ND	ND	ug/kg	NC		30
gamma-BHC	ND	ND	ug/kg	NC		30
Heptachlor	ND	ND	ug/kg	NC		30
trans-Chlordane	ND	ND	ug/kg	NC		30
Endosulfan I	ND	ND	ug/kg	NC		30
cis-Chlordane	ND	ND	ug/kg	NC		30
trans-Nonachlor	ND	ND	ug/kg	NC		30
4,4'-DDE	ND	ND	ug/kg	NC		30
Dieldrin	ND	ND	ug/kg	NC		30
Endrin	ND	ND	ug/kg	NC		30
Endosulfan II	ND	ND	ug/kg	NC		30
4,4'-DDD	ND	ND	ug/kg	NC		30
cis-Nonachlor	ND	ND	ug/kg	NC		30
4,4'-DDT	ND	ND	ug/kg	NC		30
Methoxychlor	ND	ND	ug/kg	NC		30
Toxaphene	ND	ND	ug/kg	NC		30

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria

Lab Duplicate Analysis
Batch Quality Control

Project Name: EDGARTOWN CORP
Project Number: 2010-142

Lab Number: L1206924
Report Date: 05/09/12

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits

RIM Organochlorine Pesticides - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG533083-4 QC Sample: L1206924-01 Client ID: EH-3-0-3.0-022812

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
DBOB	77		53		30-150
BZ 198	90		72		30-150
DBOB	70		52		30-150
BZ 198	87		71		30-150

Lab Duplicate Analysis
Batch Quality Control

Project Name: EDGARTOWN CORP
Project Number: 2010-142

Lab Number: L1206924
Report Date: 05/09/12

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
RIM Organochlorine Pesticides - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG533083-4 QC Sample: L1206924-01 Client ID: EH-3-0-3.0-022812					
Aldrin	ND	ND	ug/kg	NC	30
Heptachlor epoxide	ND	ND	ug/kg	NC	30
Oxychlordane	ND	ND	ug/kg	NC	30

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
DBOB	77		53		30-150
BZ 198	90		72		30-150
DBOB	70		52		30-150
BZ 198	87		71		30-150

Project Name: EDGARTOWN CORP
Project Number: 2010-142
Lab Number: L1206924
Report Date: 05/09/12

S.R.M. Standard Quality Control

Standard Reference Material (SRM): WG533083-7

Parameter	% Recovery	Qual	QC Criteria
cis-Chlordane	98		40-140
Hexachlorobenzene	191	Q	40-140
trans-Nonachlor	182	Q	40-140
DBOB (Surrogate)	94		30-150
BZ 198 (Surrogate)	83		30-150
DBOB (Surrogate)	69		30-150
BZ 198 (Surrogate)	77		30-150

METALS

Project Name: EDGARTOWN CORP
Lab Number: L1206924
Project Number: 2010-142
Report Date: 05/09/12

SAMPLE RESULTS

Lab ID: L1206924-01
Client ID: EH-3-0-3.0-022812
Sample Location: EDGARTOWN
Matrix: Sediment
Percent Solids: 86%

Date Collected: 02/29/12 13:50
Date Received: 03/05/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	2.56		mg/kg	0.036	--	2	04/25/12 08:30	05/07/12 18:15	EPA 3050B	1,6020A	PD
Cadmium, Total	0.035		mg/kg	0.014	--	2	04/25/12 08:30	04/30/12 20:38	EPA 3050B	1,6020A	PD
Chromium, Total	4.10		mg/kg	0.142	--	2	04/25/12 08:30	04/30/12 20:38	EPA 3050B	1,6020A	PD
Copper, Total	2.58		mg/kg	0.071	--	2	04/25/12 08:30	04/30/12 20:38	EPA 3050B	1,6020A	PD
Lead, Total	2.46		mg/kg	0.043	--	2	04/25/12 08:30	04/30/12 20:38	EPA 3050B	1,6020A	PD
Mercury, Total	0.017		mg/kg	0.009	--	5	04/25/12 08:30	04/26/12 16:33	EPA 7474	1,7474	PS
Nickel, Total	2.90		mg/kg	0.071	--	2	04/25/12 08:30	04/30/12 20:38	EPA 3050B	1,6020A	PD
Zinc, Total	10.2		mg/kg	0.712	--	2	04/25/12 08:30	04/30/12 20:38	EPA 3050B	1,6020A	PD

Project Name: EDGARTOWN CORP
Lab Number: L1206924
Project Number: 2010-142
Report Date: 05/09/12

SAMPLE RESULTS

Lab ID: L1206924-02
Client ID: EH-5-0-3.5-022812
Sample Location: EDGARTOWN
Matrix: Sediment
Percent Solids: 51%

Date Collected: 02/29/12 11:00
Date Received: 03/05/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	5.96		mg/kg	0.062	--	2	04/25/12 08:30	05/07/12 18:20	EPA 3050B	1,6020A	PD
Cadmium, Total	0.548		mg/kg	0.025	--	2	04/25/12 08:30	04/30/12 20:43	EPA 3050B	1,6020A	PD
Chromium, Total	21.4		mg/kg	0.248	--	2	04/25/12 08:30	04/30/12 20:43	EPA 3050B	1,6020A	PD
Copper, Total	10.9		mg/kg	0.124	--	2	04/25/12 08:30	04/30/12 20:43	EPA 3050B	1,6020A	PD
Lead, Total	14.2		mg/kg	0.186	--	5	04/25/12 08:30	04/30/12 20:46	EPA 3050B	1,6020A	PD
Mercury, Total	0.087		mg/kg	0.014	--	5	04/25/12 08:30	04/26/12 16:50	EPA 7474	1,7474	PS
Nickel, Total	12.3		mg/kg	0.124	--	2	04/25/12 08:30	04/30/12 20:43	EPA 3050B	1,6020A	PD
Zinc, Total	45.0		mg/kg	1.24	--	2	04/25/12 08:30	04/30/12 20:43	EPA 3050B	1,6020A	PD

Project Name: EDGARTOWN CORP
Project Number: 2010-142
Lab Number: L1206924
Report Date: 05/09/12

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-02 Batch: WG531274-1										
Arsenic, Total	ND		mg/kg	0.050	--	2	04/25/12 08:30	05/07/12 18:13	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.020	--	2	04/25/12 08:30	04/30/12 20:33	1,6020A	PD
Chromium, Total	ND		mg/kg	0.200	--	2	04/25/12 08:30	04/30/12 20:33	1,6020A	PD
Copper, Total	ND		mg/kg	0.100	--	2	04/25/12 08:30	04/30/12 20:33	1,6020A	PD
Lead, Total	ND		mg/kg	0.060	--	2	04/25/12 08:30	04/30/12 20:33	1,6020A	PD
Nickel, Total	ND		mg/kg	0.100	--	2	04/25/12 08:30	04/30/12 20:33	1,6020A	PD
Zinc, Total	ND		mg/kg	1.00	--	2	04/25/12 08:30	04/30/12 20:33	1,6020A	PD

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-02 Batch: WG531275-1										
Mercury, Total	ND		mg/kg	0.013	--	5	04/25/12 08:30	04/26/12 16:27	1,7474	PS

Prep Information

Digestion Method: EPA 7474

Lab Control Sample Analysis

Batch Quality Control

Project Name: EDGARTOWN CORP

Project Number: 2010-142

Lab Number: L1206924

Report Date: 05/09/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG531274-2 SRM Lot Number: S1SPIKE								
Arsenic, Total	103		-		75-125	-		20
Cadmium, Total	104		-		75-125	-		20
Chromium, Total	102		-		75-125	-		20
Copper, Total	104		-		75-125	-		20
Lead, Total	102		-		75-125	-		20
Nickel, Total	102		-		75-125	-		20
Zinc, Total	108		-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG531275-2 SRM Lot Number: HPHGAF								
Mercury, Total	105		-		80-120	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: EDGARTOWN CORP
Project Number: 2010-142

Lab Number: L1206924
Report Date: 05/09/12

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG531274-4 QC Sample: L1206924-01 Client ID: EH-3-0-3.0-022812												
Arsenic, Total	2.56	140	143	100		-	-		75-125	-		20
Cadmium, Total	0.035	70	70.9	101		-	-		75-125	-		20
Chromium, Total	4.10	140	147	102		-	-		75-125	-		20
Copper, Total	2.58	140	147	103		-	-		75-125	-		20
Lead, Total	2.46	140	123	86		-	-		75-125	-		20
Nickel, Total	2.90	140	142	99		-	-		75-125	-		20
Zinc, Total	10.2	140	163	109		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG531275-4 QC Sample: L1206924-01 Client ID: EH-3-0-3.0-022812												
Mercury, Total	0.017	0.417	0.498	115		-	-		80-120	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: EDGARTOWN CORP
Project Number: 2010-142

Lab Number: L1206924
Report Date: 05/09/12

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG531274-3 QC Sample: L1206924-01 Client ID: EH-3-0-3.0-022812						
Cadmium, Total	0.035	0.039	mg/kg	10		20
Chromium, Total	4.10	4.02	mg/kg	2		20
Copper, Total	2.58	6.59	mg/kg	**87**	Q	20
Lead, Total	2.46	3.14	mg/kg	**24**	Q	20
Nickel, Total	2.90	2.43	mg/kg	18		20
Zinc, Total	10.2	10.5	mg/kg	3		20
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG531274-3 QC Sample: L1206924-01 Client ID: EH-3-0-3.0-022812						
Arsenic, Total	2.56	2.08	mg/kg	**21**	Q	20
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG531275-3 QC Sample: L1206924-01 Client ID: EH-3-0-3.0-022812						
Mercury, Total	0.017	0.011	mg/kg	**43**	Q	20

Project Name: EDGARTOWN CORP
Project Number: 2010-142
Lab Number: L1206924
Report Date: 05/09/12

S.R.M. Standard Quality Control

Standard Reference Material (SRM): WG531274-6

Parameter	% Recovery	Qual	QC Criteria
Arsenic, Total	109		82-117
Arsenic, Total	114		82-117
Cadmium, Total	109		83-117
Chromium, Total	95		82-118
Copper, Total	100		84-116
Lead, Total	92		82-118
Nickel, Total	99		83-117
Zinc, Total	124	Q	82-118

Project Name: EDGARTOWN CORP
Project Number: 2010-142
Lab Number: L1206924
Report Date: 05/09/12

S.R.M. Standard Quality Control

Standard Reference Material (SRM): WG531275-6

Parameter	% Recovery	Qual	QC Criteria
Mercury, Total	99		72-128

INORGANICS
&
MISCELLANEOUS

Project Name: EDGARTOWN CORP
Project Number: 2010-142
Lab Number: L1206924
Report Date: 05/09/12

SAMPLE RESULTS

Lab ID: L1206924-01
Client ID: EH-3-0-3.0-022812
Sample Location: EDGARTOWN
Matrix: Sediment

Date Collected: 02/29/12 13:50
Date Received: 03/05/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	1.44		%	0.010	--	1	-	04/27/12 14:18	1,9060	SP
Total Organic Carbon (Rep2)	1.46		%	0.010	--	1	-	04/27/12 14:18	1,9060	SP
General Chemistry - Mansfield Lab										
Solids, Total	86.1		%	0.100	--	1	-	04/24/12 06:00	30,2540G	NR
Moisture	13.9		%	0.100	NA	1	-	04/24/12 06:00	30,2540G	KB

Project Name: EDGARTOWN CORP
Project Number: 2010-142
Lab Number: L1206924
Report Date: 05/09/12

SAMPLE RESULTS

Lab ID: L1206924-02
Client ID: EH-5-0-3.5-022812
Sample Location: EDGARTOWN
Matrix: Sediment

Date Collected: 02/29/12 11:00
Date Received: 03/05/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	0.179		%	0.010	--	1	-	04/27/12 14:18	1,9060	SP
Total Organic Carbon (Rep2)	0.154		%	0.010	--	1	-	04/27/12 14:18	1,9060	SP
General Chemistry - Mansfield Lab										
Solids, Total	51.1		%	0.100	--	1	-	04/24/12 06:00	30,2540G	NR
Moisture	48.9		%	0.100	NA	1	-	04/24/12 06:00	30,2540G	KB

Project Name: EDGARTOWN CORP
Project Number: 2010-142
Lab Number: L1206924
Report Date: 05/09/12

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab for sample(s): 01-02 Batch: WG531848-1										
Total Organic Carbon (Rep1)	ND		%	0.010	--	1	-	04/27/12 14:18	1,9060	SP
Total Organic Carbon (Rep2)	ND		%	0.010	--	1	-	04/27/12 14:18	1,9060	SP

Lab Duplicate Analysis
Batch Quality Control

Project Name: EDGARTOWN CORP
Project Number: 2010-142

Lab Number: L1206924
Report Date: 05/09/12

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG531081-1 QC Sample: L1206609-26 Client ID: DUP Sample						
Solids, Total	31.8	31.6	%	1		10

Project Name: EDGARTOWN CORP
Project Number: 2010-142
Lab Number: L1206924
Report Date: 05/09/12

S.R.M. Standard Quality Control

Standard Reference Material (SRM): WG531848-2

Parameter	% Recovery	Qual	QC Criteria
Total Organic Carbon (Rep1)	102		75-125
Total Organic Carbon (Rep2)	110		75-125

Project Name: EDGARTOWN CORP
Project Number: 2010-142

Lab Number: L1206924
Report Date: 05/09/12

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1206924-01A	Amber 250ml unpreserved	A	N/A	2.5	Y	Absent	A2-PB-6020T(180),A2-RIM-PAH/PCBCONG(14),A2-MOISTURE-2540(7),A2-NI-6020T(180),A2-ZN-6020T(180),A2-HG-7474T(28),A2-CR-6020T(180),A2-TS(7),A2-AS-6020T(180),A2-CD-6020T(180),A2-HGPREP-AF(28),A2-RIM FORMS(),A2-PREP-3050:2T(180),A2-TOC-9060-2REPS(28),A2-CU-6020T(180),A2-RIM-PEST-8081(14)
L1206924-02A	Amber 250ml unpreserved	A	N/A	2.5	Y	Absent	A2-PB-6020T(180),A2-RIM-PAH/PCBCONG(14),A2-MOISTURE-2540(7),A2-NI-6020T(180),A2-ZN-6020T(180),A2-HG-7474T(28),A2-CR-6020T(180),A2-TS(7),A2-AS-6020T(180),A2-CD-6020T(180),A2-HGPREP-AF(28),A2-PREP-3050:2T(180),A2-TOC-9060-2REPS(28),A2-CU-6020T(180),A2-RIM-PEST-8081(14)

*Values in parentheses indicate holding time in days

Project Name:	EDGARTOWN CORP	**Lab Number:**	L1206924
Project Number:	2010-142	**Report Date:**	05/09/12

GLOSSARY

Acronyms

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

Report Format: Data Usability Report

Project Name:	EDGARTOWN CORP	**Lab Number:**	L1206924
Project Number:	2010-142	**Report Date:**	05/09/12

Data Qualifiers

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name:	EDGARTOWN CORP	**Lab Number:**	L1206924
Project Number:	2010-142	**Report Date:**	05/09/12

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

105 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997 in conjunction with Determination of Pesticides and PCBs in Water and Oil/Sediment by GC/MS: Method 680. EPA 01A0005295, November 1985.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Table II-1: Completeness Checklist

Quality Assurance/Quality Control Questions	Yes/No? Comments?
1. Was the report signed by the responsible applicant approved representative?	Yes
2. Were the methods for sampling, chemical and biological testing described in the Sampling and Analysis Plan (SAP) and the Laboratory QA Plan (LQAP) followed?	
3. If not, were deviations documented?	
4. Was the SAP approved by the New England District?	
5. Did the applicant use a laboratory with a LQAP on file at the New England District?	Yes
6. Did the samples adequately represent the physical/chemical variability in the dredging area?	
7. Were the correct stations sampled (include the precision of the navigation method used)?	
8. Were the preservation and storage requirements in Chapter 8 of the EPA/Corps QA/QC Manual (EPA/USACE 1995) and EPA (2001d) followed?	Yes
9. Were the samples properly labeled?	Yes
10. Were all the requested data included?	Yes
11. Were the reporting limits met?	Yes
12. Were the chain-of-custody forms properly processed?	Yes
13. Were the method blanks run and were the concentration below the acceptance criteria?	Yes
14. Was the MDL study performed on each matrix (with this data submission) or within the last 12 months?	Yes
15. Were the SRM/CRM analyses within acceptance criteria?	No – see narrative
16. Were the matrix spike/matrix spike duplicates run at the required frequency and was the percent recovery/RPD within the acceptance criteria?	No – see narrative
17. Were the duplicate samples analyzed and were the RPDs within the required acceptance criteria?	No – See narrative
18. For each analytical fraction of organic compounds, were recoveries for the internal standard within the acceptance criteria?	Yes
19. Were surrogate recoveries within the required acceptance criteria?	Yes

Table II-1 (*Continued*): Completeness Checklist

Quality Assurance/Quality Control Questions	Yes/No? Comments?
20. Were corrective action forms provided for all non-conforming data?	**Yes**
21. Were all the species-specific test conditions in Appendix V met?	
22. Were the test-specific age requirements met for each test species?	
23. Was the bulk physical/chemical testing performed on the sediments/composites that were biologically tested?	
24. Were the mortality acceptance criteria met for the water column and sediment toxicity tests?	
25. Were the test performance requirements in Table 11.3 of EPA (1994a) met?	

Table II-2: Quality Control Summary for Analyses of Polyaromatic Hydrocarbons (PAHs) and other base-neutrals in Sediment and Tissue Matrices

Method Reference Number: 8270C

Quality Control (QC) Element	Acceptance Criteria*	Criteria Met? Yes/No	List results outside criteria (Cross-reference results table in data report)	Location of Results (Retained at Lab or in Data Package)
Initial Calibration	Must be performed prior to the analysis of any QC sample or field sample (<20 % RSD for each compound)	Yes		Retained at Lab
Calculation of Method Detection Limits (MDLs)	For each matrix, analyzed once per 12 month period (see Section 5.2 for MDL procedure)	Yes		Retained at Lab and On file at USACoE-NED
Calibration Verification (Second Source)	Once, after initial calibration (80 to 120% recovery of each compound)	Yes		Retained at Lab
Continuing Calibration	At the beginning of every 12 hour shift (± 15 % D)	Yes		Retained at Lab
Standard Reference Materials	Within the limits provided by vendor	Yes		In Data Package
Method Blank	No target analytes > RL	Yes		In Data Package
Matrix Spike/Matrix Spike Duplicate (MS/MSD)	One set (MS/MSD) per group of field samples. Must contain all target analytes. (Recovery Limits 50 to 120%; RPD <30%)	No	MS: benzo(b)fluoranthene(129%).	In Data Package
Analytical Replicates	Analyze one sample in duplicate for each group of field samples (RPD < 30%)	Yes		In Data Package
Surrogate Recoveries	Calculate % recovery (30 to 150% recovery)	Yes		In Data Package
Internal Standard Areas	Within 50 to 200% of internal standards in continuing calibration check	Yes		Retained at Lab

* The Quality Control Acceptance Criteria are general guidelines. If alternate criteria are used, they must be documented in this table.

Table II-3: Quality Control Summary for the Analyses of Pesticides in Sediment, Tissue, and Water Matrices

Method Reference Number: 8081B

Quality Control (QC) Element	Acceptance Criteria*	Criteria Met? Yes/No	List results outside criteria (Cross-reference results table in data report)	Location of Results (Retained at Lab or in Data Package)
Initial Calibration	Must be performed prior to the analysis of any QC sample or field sample (<20 % RSD for each compound)	Yes		Retained at Lab
Calculation of Method Detection Limits (MDLs)	For each matrix, analyzed once per 12 month period (see Section 5.2 for MDL procedure)	Yes		Retained at Lab and On file at USACoE-NED
Calibration Verification (Second Source)	Once, after initial calibration (80 to 120% recovery of each compound)	Yes		Retained at Lab
Continuing Calibration	Every 20 injections (± 15 % D)	No	CCV-1:Opening for blank, LCS, LCSD, MS, MSD, DUP, samples -01 and -02 Column I: Cis-nonachlor @ 16.1%. Column II: Hexachlorobenzene @ 17.9%, Heptachlor Epoxide @ 16.9%, Oxychlordane @ 16.7%, 4,4'-DDD @ 17.6%. CCV-2:Closing for blank, LCS, LCSD, MS, MSD, DUP, samples -01 and -02 Column I: 4,4'-DDD @ 17.3%, Cis-nonachlor @ 21.4%. Column II: 4,4'-DDD @ 15.8%, Cis-nonachlor @ 17.9%.	Retained at Lab
Standard Reference Materials	Within the limits provided by vendor	No	Hexachlorobenzene @ 191%, Trans-nonachlor @ 182%	In Data Package
Method Blank	No target analytes > RL	Yes		In Data Package
Matrix Spike/Matrix Spike Duplicate (MS/MSD)	One set (MS/MSD) per group of field samples. Must contain all target analytes. (Recovery Limits 50 to 120%; RPD <30%)	Yes		In Data Package

Analytical Replicates	Analyze one sample in duplicate for each group of field samples (RPD < 30%)	Yes		In Data Package
Surrogate Recoveries	Calculate % recovery (30 to 150% recovery)	Yes		In Data Package

* The Quality Control Acceptance Criteria are general guidelines. If alternate criteria are used, they must be documented in this table.

Table II-4: Quality Control Summary for Analyses of Polychlorinated Biphenyls (PCB Congeners) in Sediment, Tissue, and Water Matrices

Method Reference Number: 8270C

Quality Control (QC) Element	Acceptance Criteria*	Criteria Met? Yes/No	List results outside criteria (Cross-reference results table in data report)	Location of Results (Retained at Lab or in Data Package)
Initial Calibration	Must be performed prior to the analysis of any QC sample or field sample (<20 % RSD for each compound)	Yes		Retained at Lab
Calculation of Method Detection Limits (MDLs)	For each matrix, analyzed once per 12 month period (see Section 5.2 for MDL procedure)	Yes		Retained at Lab and On file at USACoE-NED
Calibration Verification (Second Source)	Once, after initial calibration (80 to 120% recovery of each compound)	Yes		Retained at Lab
Continuing Calibration	Every 20 injections (± 15 % D)	No	CCV: Cl2-BZ#8 at 24.6%; Cl3-BZ#18 at 18.3%; Cl3-BZ#28 at 17.1. Affected samples: Blank, LCS, LCSD, MS MSD and SRM along with L1206924-01 and 02. .	Retained at Lab
Standard Reference Materials	Within the limits provided by vendor	No	Cl3-BZ#28(29%).	In Data Package
Method Blank	No target analytes > RL	Yes		In Data Package
Matrix Spike/Matrix Spike Duplicate (MS/MSD)	One set (MS/MSD) per group of field samples. Must contain all target analytes. (Recovery Limits 50 to 120%; RPD <30%)	No	MSD: Cl4-BZ#49(44%). RPDs: Cl6-BZ#138(33%).	In Data Package
Analytical Replicates	Analyze one sample in duplicate for each group of field samples (RPD < 30%)	Yes		In Data Package
Surrogate Recoveries	Calculate % recovery (30 to	Yes		In Data Package

	150% recovery)			

* The Quality Control Acceptance Criteria are general guidelines. If alternate criteria are used, they must be documented in this table.

Table II-5: Quality Control Summary for Analyses of Metals in Sediments, Tissue, and Water Matrices

Method Reference Numbers: Various Reference Numbers

Quality Control (QC) Element	Acceptance Criteria*	Criteria Met? Yes/No	List results outside criteria (Cross-reference results table in data report)	Location of Results (Retained at Lab or in Data Package)
Linear Range Determination for ICP	Performed Quarterly	Yes		Retained at Lab
Initial Calibration for AA, Hg	Performed Daily (Correlation Coefficient ≥0.995)	Yes		Retained at Lab
Calculation of Method Detection Limits (MDLs)	For each matrix, analyzed once per 12 month period (see Section 5.2 for MDL procedure)	Yes		Retained at Lab and On file at USACoE-NED
Initial Calibration Verification/ Continuing Calibration Verification	Hg: 80 to 120% recovery Other metals: 90 to 110% recovery	Yes		Retained at Lab
Initial Calibration Blank/ Continuing Calibration Blank	No target analytes > Instrument Detection Limit (IDL)	No	Results >3x IDL noted, on file at lab	Retained at Lab
Standard Reference Materials	Within the limits provided by vendor	No	Zn = 124%	In Data Package
Method Blank	No target analytes > RL	Yes		In Data Package
Sample Spike/ Sample Duplicate	One set per group of field samples. Must contain all target analytes. Recovery Limits (75 to 125%; RPD < 20% or < 35%)	Yes		In Data Package
Analytical Replicates	Analyze one sample in duplicate for each group of field samples (RPD < 30%)	No	Cu=87%, Hg=43%	In Data Package

* The Quality Control Acceptance Criteria are general guidelines. If alternate criteria are used, they must be documented in this table.

Table II-6: Quality Control Summary for Analyses of other Organic Chemicals not listed in Sediment, Tissue, and Water Matrices

Method Reference Numbers:

Quality Control (QC) Element	Acceptance Criteria*	Criteria Met? Yes/No	List results outside criteria (Cross-reference results table in data report)	Location of Results (Retained at Lab or in Data Package)
Initial Calibration	Must be performed prior to the analysis of any QC sample or field sample (<20 % RSD for each compound)			Retained at Lab
Calculation of Method Detection Limits (MDLs)	For each matrix, analyzed once per 12 month period (see Section 5.2 for MDL procedure)			In Data Package
Calibration Verification (Second Source)	Once, after initial calibration (80 to 120% recovery of each compound)			Retained at Lab
Continuing Calibration	At the beginning of every 12 hour shift (± 15 % D)			Retained at Lab
Standard Reference Materials	Within the limits provided by vendor			In Data Package
Method Blank	No target analytes > RL			In Data Package
Matrix Spike/Matrix Spike Duplicate (MS/MSD)	One set (MS/MSD) per group of field samples. Must contain all target analytes. (Recovery Limits 50 to 120%; RPD <30%)			In Data Package
Analytical Replicates	Analyze one sample in duplicate for each group of field samples (RPD < 30%)			In Data Package
Surrogate Recoveries	Calculate % recovery (30 to 150% recovery)			In Data Package
Internal Standard Areas (if applicable)	Within 50 to 200% of internal standards in continuing calibration check			In Data Package

* The Quality Control Acceptance Criteria are general guidelines. If alternate criteria are used, they must be documented in this table.

Table II-7: Quality Control Summary for Analyses of Sediment Grain Size and Total Organic Carbon

Method Reference Numbers:

Quality Control (QC) Element	Acceptance Criteria*	Criteria Met? Yes/No	List results outside criteria (Cross-reference results table in data report)	Location of Results (Retained at Lab or in Data Package)
Grain Size: Analytical Replicates	Analyze one sample in duplicate for each group of field samples (RPD < 25%)			In Data Package
Total Organic Carbon: Standard Reference Materials	Within the limits provided by vendor	Yes		In Data Package
Total Organic Carbon: Analytical Replicates	Analyze one sample in duplicate for each group of field samples (RPD <30%)	Yes		In Data Package

* The Quality Control Acceptance Criteria are general guidelines. If alternate criteria are used, they must be documented in this table.

Table II-8: Quality Control Summary for Biological Toxicity Testing only

Method Reference Numbers:

Quality Control (QC) Element	Acceptance Criteria*	Criteria Met? Yes/No	List results outside criteria (Cross-reference results table in data report)	Location of Results (Retained at Lab or in Data Package)
Test condition requirements for each species: Temperature, Salinity, pH, D.O., Ammonia (Total, Un-ionized)	Test conditions within the requirements specified for each species			In Data Package
Test species age	Age/health within guidelines for each species (Appendix V)			In Data Package
Bulk physical/chemical analyses (If required by the Sampling plan)	Required? If so, performed? Yes or No			In Data Package
Water column toxicity test: Control mortality Control abnormality	 < 10% mean < 30% mussel/oyster; < 40% clam larvae, < 30% sea urchin larvae			In Data Package
Sediment toxicity test: Control mortality Compliance with applicable test acceptability requirements in Table 11.3 (EPA 1994a)	 < 10% mean (no chamber >20%) See EPA (1994a) Section 9; Table 11.3			In Data Package

* The Quality Control Acceptance Criteria are general guidelines. If alternate criteria are used, they must be documented in this table.

Reference:

Regional Implementation Manual for the Evaluation of Dredged Material Proposed for Disposal in New England Waters, U.S. EPA and U.S. Army Corps of Engineers, New England District, April 2004.

Certificate/Approval Program Summary

Last revised January 30, 2012 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0141.

Wastewater/Non-Potable Water (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

Solid Waste/Soil (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Florida Department of Health Certificate/Lab ID: E87814. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SM2320B, SM2540D, SM2540G.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

Air & Emissions (EPA TO-15.)

Louisiana Department of Environmental Quality Certificate/Lab ID: 03090. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: EPA 180.1, 245.7, 1631E, 3020, 6020A, 7470A, 9040, 9050A, SM2320B, 2540D, 2540G, 4500H-B, Organic Parameters: EPA 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 5030B, 8015D, 3570, 8081B, 8082A, 8260B, 8270C, 8270D.)

Solid & Chemical Materials (Inorganic Parameters: EPA 1311, 3050, 3051A, 3060A, 6020A, 7196A, 7470A, 7471B, 7474, 9040B, 9045C, 9060. Organic Parameters: EPA 3540C, 3570B, 3580A, 3630C, 3640A, 3660, 3665A, 5035, 8015D, 8081B, 8082A, 8260B, 8270C, 8270D.)

Biological Tissue (Inorganic Parameters: EPA 6020A. Organic Parameters: EPA 3570, 3510C, 3610B, 3630C, 3640A, 8270C, 8270D.)

Air & Emissions (EPA TO-15.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: EPA 245.7, 1631E, 6020A, 7470A, 9040B, 9050A, SM2540D, 2540G, 4500H+B, 2320B. Organic Parameters: EPA 8081B, 8082A, 8260B, 8270C, 8015D.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 1311, 1312, 3050B, 3051A, 3060A, 6020A, 7471A, 9040B, 9045C, 7196A. Organic Parameters: SW-846 3540C, 3580A, 3630C, 3640A, 3660B, 3665A, 5035, 8260B, 8270C, 8015D, 8082A, 8081B.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3010, 3020A, SM2320B, SM2540D, 2540G, EPA 180.1, 1631E, SW-846 7470A, 9040B, 6020, 9050A. Organic Parameters: SW-846 3510C, 3580A, 5030B, 5035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8015B 8081A, 8082, 8260B, 8270C)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6020, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 7474, 9040B, 9045C, 9060. Organic Parameters: SW-846 3540C, 3570, 3580A, 5030B, 5035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 8015B.)

Atmospheric Organic Parameters (EPA TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610C, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SM2320B, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 245.7, 7470A, 9014, 9040B, 9050, 120.1, 4500CN-E, 4500H-B, EPA 376.2, 180.1, 3020A. Organic Parameters: EPA 8260B, 8270C, 8081A, 8082, 3510C, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 6020, 7196A, 3060A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 1312, 3050B, 3580, 3570, 3051, 5035, 5030B.)

Air & Emissions (EPA TO-15.)

Pennsylvania Certificate/Lab ID: 68-02089 ***NELAP Accredited***

Solid & Hazardous Waste (Inorganic Parameters: EPA 6020A,7471B, 7474. Organic Parameters: EPA3050B, 3540C, 3630C, 8270C, 8081B, 8082A.)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. ***NELAP Accredited via LA-DEQ.***

Refer to LA-DEQ Certificate for Non-Potable Water.

Texas Commission of Environmental Quality Certificate/Lab ID: T104704419-08-TX. ***NELAP Accredited.***

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

Air (Organic Parameters: EPA TO-15)

Washington State Department of Ecology Certificate/Lab ID: C954. *Non-Potable Water* (Inorganic Parameters: SM2540D, 180.1, 1631E.)

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 7474, 9045C, 9050A, 9060. Organic Parameters: EPA 8081, 8082, 8015 Mod, 8270.)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID:460194. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters:EPA 3020A,6020A,245.7,9040B,SM4500H-B. Organic Parameters: EPA 3510C,3640A,3660B,3665A,8270C,8270D,8082A,8081B.)

Solid & Chemical Materials (Inorganic Parameters: EPA 6020A,7470A,7471B,9040B,9045C,3050B,3051. Organic Parameters: EPA 3540C, 3580A, 3630C, 3640A, 3660B, 3665A, 3570, 8270C, 8270D, 8081B, 8082A, 8015D.)

U.S. Army Corps of Engineers

Department of Defense, L-A-B Certificate/Lab ID: L2217.01.

Non-Potable Water (Inorganic Parameters: EPA 6020A, SM4500H-B. Organic Parameters: 3020A, 3510C, 5030B, 8260B, 8270C, 8270C-ALK-PAH, 8082, 8081A, 8015D-SHC, 8015D.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 3050B, 6020A, 7471A, 9045C, 9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580A, 3570, 3540C, 5035A, 8260B, 8270C, 8270-ALK-PAH, 8082, 8081A, 8015D-SHC, 8015D.

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP

Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl. **TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 2-Methylnaphthalene, 1-Methylnaphthalene.

CHAIN OF CUSTODY

PAGE 2 OF 5

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #: L1206924

Client Information
Client: Woods Hole Group
Address: 81 Technology Park Drive, East Falmouth, MA 02536
Phone: 508-540-8080
Fax:
Email: mcintosh@whgrp
☐ These samples have been previously analyzed by Alpha

Project Information
Project Name: Edgartown, Comp.
Project Location: Edgartown, MA
Project #: 2010-12
Project Manager: Tara Marden
ALPHA Quote #: 2012024M

Turn-Around Time
☒ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: Time:

Report Information - Data Deliverables
☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information
☐ Same as Client info PO #:

Regulatory Requirements/Report Limits
State/Fed Program Criteria REM

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:
If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)
Homogenize sample before processing / samples to be processed at Direction of Woods Hole Group

ANALYSIS: TCL MCP/CT RCP PAH, MA EPH w/ 22 Follow Form Standards

SAMPLE HANDLING
Filtration
☐ Done ☐ Not needed ☐ Lab to do
Preservation
☐ Lab to do (Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TCL MCP/CT RCP PAH, MA EPH w/ 22 Follow Form Standards	Sample Specific Comments	TOTAL # BOTTLES
-11	CP-5-0-2.8-022812	3/1/12	10:00	SED	EGH	1	anything samples to be processed at Direction of Woods Hole Group	1
-12	CP-9-0-3.3-022812	2/29/12	11:40		DS			
-13	EH-3-0-3.0-022812	2/29/12	1350		DS			
-14	CP-7-0-2.2-022812	2/29/12	1450		EGH			
-15	CP-4-0-3.2-022812	2/29/12	1450		DS			
-16	CP-1-0-2.6-022812	3/1/12	9:00		DS			
-17	GP-12-0-2.5-022912	3/1/12	14:30		DS			
-18	EH-2-0-2.9-022812	3/1/12	10:00		DS			
-19	CP-8-0-2.9-022812	2/29/12	15:50		DS			
-20	EH-14-0-1.7-022712	2/29/12	9:30		DS			
	Container Type					A		
	Preservative					A		

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
Dave Stanton	3/5/12 1340	P. Gillett	3/5/12 1340
P. Gillett	3/5/12 1445		3/6/12 1945

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

MANSFIELD CHAIN OF CUSTODY

PAGE 4 OF 5

ALPHA Job #: L1206924

Date Rec'd in Lab:

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Wood Hole Group
Address: 81 Technology Park Dr. East Falmouth, MA 02536
Phone: 508-540-8060
Fax:
Email: mwalsh@whgrp.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: EDGARTOWN Comp.
Project Location: EDGARTOWN, MA
Project #: 2010-142
Project Manager: Tara Marchan
ALPHA Quote #: 2012024M

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State / Fed Program Criteria RIM

Other Project Specific Requirements/Comments/Detection Limits: Archive Homogenize Sample before Processing / Process at Direction of Woods Hole Group

PLEASE NOTE
MS/MSD (at unit cost) will be omitted unless you check here: ☐

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	ANALYSIS: TCL METALS, PAH, MCP 12 Petro RCP STANDARDS	SAMPLE HANDLING	TOTAL # BOTTLES
03762-30	GP-2-0-2-022912	3/1/12	17:10	SED	EGH	1	Archive samples to be HOLD and processed at Direction of Wood Hole Group	1
-31 -32	GP-4-0-6.6-030112	3/2/12	10:30	SED	DS			1
-32 -33	GP-10-0-1.8-030112	3/2/12	11:45	SED	DS			1
-33 -34	EH-9-0-2.7-022712	2/28/12	13:30	SED	DS			1
-34 -35	EH-12-0 2.5-022712	2/28/12	1400	SED	DS			1
-2 35 -36	EH-5-0-3.5-022812	2/29/12	11:00		DS			1
-36 -37	CP-3-0-3.3-022812	2/29/12	10:00		DS			1
-37 -38	CP-6-0-2.7-022812	3/1/12	11:40		EGH			1
36 -39	GP-8-0-3.3-030112	3/2/12	12:20		EGH			1
-39 -40	GP-11-0-2.6-022912	3/1/12	1500		EGH			1

KL 3/6/12

Container Type	A														
Preservative	A														

SAMPLE HANDLING
Filtration
☐ Done ☐ Not needed ☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)
Sample Specific Comments

Relinquished By:	Date/Time	Received By:	Date/Time
Dyck Stuart	3/5/12 1340	P. Gillespie	3/5/12 1340
P. Gilbert	3/5/12 1445		3/6/12 1415

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 101-09 (rev. 27-SEP-10)

ANALYTICAL REPORT

Lab Number:	L1009775
Client:	Woods Hole Group 81 Technology Park Drive East Falmouth, MA 02536
ATTN:	Mitch Buck
Phone:	(508) 540-8080
Project Name:	KATAMA BAY, MA
Project Number:	2009-120
Report Date:	07/02/10

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: KATAMA BAY, MA
Project Number: 2009-120

Lab Number: L1009775
Report Date: 07/02/10

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1009775-01	ST07	KATAMA BAY, MA	06/16/10 19:27

Project Name: KATAMA BAY, MA **Lab Number:** L1009775

Project Number: 2009-120 **Report Date:** 07/02/10

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name: KATAMA BAY, MA
Project Number: 2009-120
Lab Number: L1009775
Report Date: 07/02/10

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

MCP Related Narratives

Volatile Organics

In reference to question G:

One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The WG420777-1 LCS recovery, associated with L1009775-01, is above the acceptance criteria for Bromomethane (133%); however, it has been identified as a "difficult" analyte and is within the 40-160% acceptance limits. The results of the associated sample are reported; however, all positive detects are considered to have a potentially high bias for this compound.

The WG420777-1/-2 LCS/LCSD RPDs, associated with L1009775-01, are above the acceptance criteria for 1,1-Dichloroethene (23%) and Acetone (21%); however, the individual LCS/LCSD recoveries are within

Project Name:	KATAMA BAY, MA	**Lab Number:**	L1009775
Project Number:	2009-120	**Report Date:**	07/02/10

Case Narrative (continued)

method limits.

The initial calibration, associated with L1009775-01, did not meet the method required minimum response factor for 1,4-Dioxane and Bromomethane.

The continuing calibration standard, associated with L1009775-01, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Elizabeth Simmons

Title: Technical Director/Representative Date: 07/02/10

ORGANICS

VOLATILES

Project Name: KATAMA BAY, MA
Project Number: 2009-120
Lab Number: L1009775
Report Date: 07/02/10

SAMPLE RESULTS

Lab ID:	L1009775-01	Date Collected:	06/16/10 19:27
Client ID:	ST07	Date Received:	06/17/10
Sample Location:	KATAMA BAY, MA	Field Prep:	Not Specified
Matrix:	Sediment		
Analytical Method:	97,8260B		
Analytical Date:	06/30/10 17:02		
Analyst:	BN		
Percent Solids:	57%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 8260B/5035 - Westborough Lab						
Methylene chloride	ND		ug/kg	12	--	1
1,1-Dichloroethane	ND		ug/kg	1.8	--	1
Chloroform	ND		ug/kg	1.8	--	1
Carbon tetrachloride	ND		ug/kg	1.2	--	1
1,2-Dichloropropane	ND		ug/kg	4.3	--	1
Dibromochloromethane	ND		ug/kg	1.2	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.8	--	1
Tetrachloroethene	ND		ug/kg	1.2	--	1
Chlorobenzene	ND		ug/kg	1.2	--	1
Trichlorofluoromethane	ND		ug/kg	4.9	--	1
1,2-Dichloroethane	ND		ug/kg	1.2	--	1
1,1,1-Trichloroethane	ND		ug/kg	1.2	--	1
Bromodichloromethane	ND		ug/kg	1.2	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.2	--	1
cis-1,3-Dichloropropene	ND		ug/kg	1.2	--	1
1,1-Dichloropropene	ND		ug/kg	4.9	--	1
Bromoform	ND		ug/kg	4.9	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	1.2	--	1
Benzene	ND		ug/kg	1.2	--	1
Toluene	ND		ug/kg	1.8	--	1
Ethylbenzene	ND		ug/kg	1.2	--	1
Chloromethane	ND		ug/kg	4.9	--	1
Bromomethane	ND		ug/kg	2.4	--	1
Vinyl chloride	ND		ug/kg	2.4	--	1
Chloroethane	ND		ug/kg	2.4	--	1
1,1-Dichloroethene	ND		ug/kg	1.2	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.8	--	1
Trichloroethene	ND		ug/kg	1.2	--	1
1,2-Dichlorobenzene	ND		ug/kg	4.9	--	1
1,3-Dichlorobenzene	ND		ug/kg	4.9	--	1

Project Name: KATAMA BAY, MA
Project Number: 2009-120
Lab Number: L1009775
Report Date: 07/02/10

SAMPLE RESULTS

Lab ID: L1009775-01
Client ID: ST07
Sample Location: KATAMA BAY, MA
Date Collected: 06/16/10 19:27
Date Received: 06/17/10
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 8260B/5035 - Westborough Lab						
1,4-Dichlorobenzene	ND		ug/kg	4.9	--	1
Methyl tert butyl ether	ND		ug/kg	2.4	--	1
p/m-Xylene	ND		ug/kg	2.4	--	1
o-Xylene	ND		ug/kg	2.4	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.2	--	1
Dibromomethane	ND		ug/kg	4.9	--	1
1,2,3-Trichloropropane	ND		ug/kg	4.9	--	1
Styrene	ND		ug/kg	2.4	--	1
Dichlorodifluoromethane	ND		ug/kg	12	--	1
Acetone	120		ug/kg	44	--	1
Carbon disulfide	19		ug/kg	4.9	--	1
2-Butanone	29		ug/kg	12	--	1
4-Methyl-2-pentanone	ND		ug/kg	12	--	1
2-Hexanone	ND		ug/kg	12	--	1
Bromochloromethane	ND		ug/kg	4.9	--	1
Tetrahydrofuran	ND		ug/kg	4.9	--	1
2,2-Dichloropropane	ND		ug/kg	6.1	--	1
1,2-Dibromoethane	ND		ug/kg	4.9	--	1
1,3-Dichloropropane	ND		ug/kg	4.9	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	1.2	--	1
Bromobenzene	ND		ug/kg	6.1	--	1
n-Butylbenzene	ND		ug/kg	1.2	--	1
sec-Butylbenzene	ND		ug/kg	1.2	--	1
tert-Butylbenzene	ND		ug/kg	4.9	--	1
o-Chlorotoluene	ND		ug/kg	4.9	--	1
p-Chlorotoluene	ND		ug/kg	4.9	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	4.9	--	1
Hexachlorobutadiene	ND		ug/kg	4.9	--	1
Isopropylbenzene	ND		ug/kg	1.2	--	1
p-Isopropyltoluene	ND		ug/kg	1.2	--	1
Naphthalene	ND		ug/kg	4.9	--	1
n-Propylbenzene	ND		ug/kg	1.2	--	1
1,2,3-Trichlorobenzene	ND		ug/kg	4.9	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	4.9	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	4.9	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	4.9	--	1
Ethyl ether	ND		ug/kg	6.1	--	1

Project Name: KATAMA BAY, MA
Project Number: 2009-120
Lab Number: L1009775
Report Date: 07/02/10

SAMPLE RESULTS

Lab ID: L1009775-01
Client ID: ST07
Sample Location: KATAMA BAY, MA
Date Collected: 06/16/10 19:27
Date Received: 06/17/10
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 8260B/5035 - Westborough Lab						
Isopropyl Ether	ND		ug/kg	4.9	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	4.9	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	4.9	--	1
1,4-Dioxane	ND		ug/kg	610	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	101		70-130

Project Name: KATAMA BAY, MA
Project Number: 2009-120
Lab Number: L1009775
Report Date: 07/02/10

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 06/30/10 07:21
Analyst: BN

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by 8260B/5035 - Westborough Lab for sample(s): 01 Batch: WG420777-3					
Methylene chloride	ND		ug/kg	10	--
1,1-Dichloroethane	ND		ug/kg	1.5	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	3.5	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.5	--
Tetrachloroethene	ND		ug/kg	1.0	--
Chlorobenzene	ND		ug/kg	1.0	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	1.0	--
Bromodichloromethane	ND		ug/kg	1.0	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	1.0	--
1,1-Dichloropropene	ND		ug/kg	4.0	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	1.0	--
Benzene	ND		ug/kg	1.0	--
Toluene	ND		ug/kg	1.5	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	2.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	1.0	--
1,2-Dichlorobenzene	ND		ug/kg	4.0	--
1,3-Dichlorobenzene	ND		ug/kg	4.0	--
1,4-Dichlorobenzene	ND		ug/kg	4.0	--

Project Name: KATAMA BAY, MA
Project Number: 2009-120
Lab Number: L1009775
Report Date: 07/02/10

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 06/30/10 07:21
Analyst: BN

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by 8260B/5035 - Westborough Lab for sample(s): 01 Batch: WG420777-3					
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	2.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	4.0	--
1,2,3-Trichloropropane	ND		ug/kg	4.0	--
Styrene	ND		ug/kg	2.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	36	--
Carbon disulfide	ND		ug/kg	4.0	--
2-Butanone	ND		ug/kg	10	--
4-Methyl-2-pentanone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	4.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	5.0	--
1,2-Dibromoethane	ND		ug/kg	4.0	--
1,3-Dichloropropane	ND		ug/kg	4.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	1.0	--
Bromobenzene	ND		ug/kg	5.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	4.0	--
o-Chlorotoluene	ND		ug/kg	4.0	--
p-Chlorotoluene	ND		ug/kg	4.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	4.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--

Project Name: KATAMA BAY, MA
Project Number: 2009-120
Lab Number: L1009775
Report Date: 07/02/10

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 06/30/10 07:21
Analyst: BN

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by 8260B/5035 - Westborough Lab for sample(s): 01 Batch: WG420777-3					
1,2,3-Trichlorobenzene	ND		ug/kg	4.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	4.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	4.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	4.0	--
Ethyl ether	ND		ug/kg	5.0	--
Isopropyl Ether	ND		ug/kg	4.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	4.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	4.0	--
1,4-Dioxane	ND		ug/kg	200	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	103		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: KATAMA BAY, MA

Project Number: 2009-120

Lab Number: L1009775

Report Date: 07/02/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260B/5035 - Westborough Lab Associated sample(s): 01 Batch: WG420777-1 WG420777-2								
Methylene chloride	100		95		70-130	5		20
1,1-Dichloroethane	98		92		70-130	6		20
Chloroform	99		93		70-130	6		20
Carbon tetrachloride	94		89		70-130	5		20
1,2-Dichloropropane	96		92		70-130	4		20
Dibromochloromethane	93		92		70-130	1		20
1,1,2-Trichloroethane	90		85		70-130	6		20
Tetrachloroethene	93		88		70-130	6		20
Chlorobenzene	91		87		70-130	4		20
Trichlorofluoromethane	109		100		70-130	9		20
1,2-Dichloroethane	100		96		70-130	4		20
1,1,1-Trichloroethane	96		92		70-130	4		20
Bromodichloromethane	102		98		70-130	4		20
trans-1,3-Dichloropropene	97		94		70-130	3		20
cis-1,3-Dichloropropene	92		87		70-130	6		20
1,1-Dichloropropene	90		85		70-130	6		20
Bromoform	92		91		70-130	1		20
1,1,2,2-Tetrachloroethane	92		91		70-130	1		20
Benzene	96		92		70-130	4		20
Toluene	90		85		70-130	6		20
Ethylbenzene	94		88		70-130	7		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: KATAMA BAY, MA

Project Number: 2009-120

Lab Number: L1009775

Report Date: 07/02/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260B/5035 - Westborough Lab Associated sample(s): 01 Batch: WG420777-1 WG420777-2								
Chloromethane	95		87		70-130	9		20
Bromomethane	**133**	Q	122		70-130	9		20
Vinyl chloride	104		97		70-130	7		20
Chloroethane	125		119		70-130	5		20
1,1-Dichloroethene	89		71		70-130	**23**	Q	20
trans-1,2-Dichloroethene	100		94		70-130	6		20
Trichloroethene	92		87		70-130	6		20
1,2-Dichlorobenzene	94		93		70-130	1		20
1,3-Dichlorobenzene	94		91		70-130	3		20
1,4-Dichlorobenzene	95		90		70-130	5		20
Methyl tert butyl ether	104		101		70-130	3		20
p/m-Xylene	97		91		70-130	6		20
o-Xylene	100		94		70-130	6		20
cis-1,2-Dichloroethene	97		92		70-130	5		20
Dibromomethane	95		91		70-130	4		20
1,2,3-Trichloropropane	94		92		70-130	2		20
Styrene	102		97		70-130	5		20
Dichlorodifluoromethane	116		103		70-130	12		20
Acetone	95		77		70-130	**21**	Q	20
Carbon disulfide	94		87		70-130	8		20
2-Butanone	97		95		70-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: KATAMA BAY, MA

Project Number: 2009-120

Lab Number: L1009775

Report Date: 07/02/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260B/5035 - Westborough Lab Associated sample(s): 01 Batch: WG420777-1 WG420777-2								
4-Methyl-2-pentanone	101		100		70-130	1		20
2-Hexanone	98		97		70-130	1		20
Bromochloromethane	98		96		70-130	2		20
Tetrahydrofuran	94		86		70-130	9		20
2,2-Dichloropropane	104		97		70-130	7		20
1,2-Dibromoethane	92		89		70-130	3		20
1,3-Dichloropropane	92		90		70-130	2		20
1,1,1,2-Tetrachloroethane	94		92		70-130	2		20
Bromobenzene	96		92		70-130	4		20
n-Butylbenzene	89		85		70-130	5		20
sec-Butylbenzene	86		82		70-130	5		20
tert-Butylbenzene	88		85		70-130	3		20
o-Chlorotoluene	91		87		70-130	4		20
p-Chlorotoluene	95		92		70-130	3		20
1,2-Dibromo-3-chloropropane	85		84		70-130	1		20
Hexachlorobutadiene	80		79		70-130	1		20
Isopropylbenzene	90		85		70-130	6		20
p-Isopropyltoluene	90		87		70-130	3		20
Naphthalene	87		87		70-130	0		20
n-Propylbenzene	90		85		70-130	6		20
1,2,3-Trichlorobenzene	92		90		70-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: KATAMA BAY, MA

Project Number: 2009-120

Lab Number: L1009775

Report Date: 07/02/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260B/5035 - Westborough Lab Associated sample(s): 01 Batch: WG420777-1 WG420777-2								
1,2,4-Trichlorobenzene	97		95		70-130	2		20
1,3,5-Trimethylbenzene	92		88		70-130	4		20
1,2,4-Trimethylbenzene	93		88		70-130	6		20
Ethyl ether	118		112		70-130	5		20
Isopropyl Ether	96		91		70-130	5		20
Ethyl-Tert-Butyl-Ether	104		101		70-130	3		20
Tertiary-Amyl Methyl Ether	101		96		70-130	5		20
1,4-Dioxane	78		76		70-130	3		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	104		105		70-130
Toluene-d8	97		99		70-130
4-Bromofluorobenzene	97		97		70-130
Dibromofluoromethane	105		104		70-130

INORGANICS
&
MISCELLANEOUS

Project Name: KATAMA BAY, MA
Project Number: 2009-120

Lab Number: L1009775
Report Date: 07/02/10

SAMPLE RESULTS

Lab ID: L1009775-01
Client ID: ST07
Sample Location: KATAMA BAY, MA
Matrix: Sediment

Date Collected: 06/16/10 19:27
Date Received: 06/17/10
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	57.3		%	0.100	--	1	-	07/01/10 16:44	30,2540G	KB

Lab Duplicate Analysis
Batch Quality Control

Project Name: KATAMA BAY, MA
Project Number: 2009-120

Lab Number: L1009775
Report Date: 07/02/10

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG420909-1 QC Sample: L1009775-01 Client ID: ST07						
Solids, Total	57.3	57.0	%	1		20

Project Name: KATAMA BAY, MA
Project Number: 2009-120

Lab Number: L1009775
Report Date: 07/02/10

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: 06/17/2010 17:05

Cooler Information	Custody Seal
Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1009775-01A	Bag	A	N/A	3	Y	Absent	A2-TS(7)
L1009775-01B	Vial MeOH preserved	A	N/A	3	Y	Absent	MCP-8260HLW-10(14)
L1009775-01C	Vial water preserved	A	N/A	3	Y	Absent	MCP-8260HLW-10(14)
L1009775-01D	Vial water preserved	A	N/A	3	Y	Absent	MCP-8260HLW-10(14)

Container Comments

L1009775-01B

*Values in parentheses indicate holding time in days

Project Name:	KATAMA BAY, MA	**Lab Number:**	L1009775
Project Number:	2009-120	**Report Date:**	07/02/10

GLOSSARY

Acronyms

EPA · Environmental Protection Agency.

LCS · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD · Laboratory Control Sample Duplicate: Refer to LCS.

MDL · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD · Matrix Spike Sample Duplicate: Refer to MS.

NA · Not Applicable.

NC · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI · Not Ignitable.

RL · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

Report Format: Data Usability Report

Project Name:	KATAMA BAY, MA	**Lab Number:**	L1009775
Project Number:	2009-120	**Report Date:**	07/02/10

Data Qualifiers

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name:	KATAMA BAY, MA	**Lab Number:**	L1009775
Project Number:	2009-120	**Report Date:**	07/02/10

REFERENCES

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certificate/Approval Program Summary

Last revised June 1, 2010 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0141.

Wastewater/Non-Potable Water (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

Solid Waste/Soil (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Florida Department of Health Certificate/Lab ID: E87814. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SM2320B, EPA 120.1, SM2510B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

Air & Emissions (EPA TO-15.)

Louisiana Department of Environmental Quality Certificate/Lab ID: 03090. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270,)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

Biological Tissue (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA030.

Non-Potable Water (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

Atmospheric Organic Parameters (EPA TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

Air & Emissions (EPA TO-15.)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. ***NELAP Accredited via LA-DEQ.***

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

Texas Commission of Environmental Quality Certificate/Lab ID: T104704419-08-TX. ***NELAP Accredited.***

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

Air (Organic Parameters: EPA TO-15)

U.S. Army Corps of Engineers

Department of Defense Certificate/Lab ID: L2217.01.

Non-Potable Water (Inorganic Parameters: EPA 3005A,3020, 6020, 245.1, 245.7, 1631E, 7470A, 7474, 9014, 120.1, 9050A, 180.1, SM4500H-B, 2320B, 2510B, 2540D,9040. Organic Parameters: EPA 3510C, 5030B, 9010B, 624, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312,3051, 6020, 747A, 7474, 9045C,9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580, 3570, 3540C, 5035, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP
Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl.

Certificate/Approval Program Summary

Last revised June 17, 2010 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

Drinking Water (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Haloacetic Acids, Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB).)
Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Calcium Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH.)
Solid Waste/Soil (Inorganic Parameters: Lead in Paint, pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), Reactivity. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Maine Department of Human Services Certificate/Lab ID: 2009024.
Drinking Water (Inorganic Parameters: SM9215B, 9221E, 9222B, 9222D, 9223B, EPA 180.1, 300.0, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B,4500NO3-F, EPA 200.7, EPA 200.8, 245.1. Organic Parameters: 504.1, 524.2, SM 6251B.)
Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, Lachat 10-107-06-1-B, SM2320B, 2340B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B.5, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.
Drinking Water
Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl)
(EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate)
353.2 for: Nitrate-N, Nitrite-N; SM4500NO3-F, 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B.
Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics)
(504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), 314.0, 332.
Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; MF-SM9222D
Non-Potable Water
Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn)
(EPA 200.7 for: Al,Sb,As,Be,Cd,Cr,Co,Cu,Fe,Pb,Mn,Mo,Ni,Se,Ag,Sr,Ti,Tl, V,Zn,Ca,Mg,Na,K)
245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2540B, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-B,C-Titr, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics)
(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables, 600/4-81-045-PCB-Oil

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM6215B, 9222B, 9223B Colilert, EPA 200.7, 200.8, 245.2, 120.1, 300.0, 314.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 331.0. Organic Parameters: 504.1, 524.2, SM6251B.)
Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 420.1, 1664A, SW-846 9010, 9030, 9040B, SM426C, SM2310B, 2540B, 2540D, 4500H+B, 4500NH3-H, 4500NH3-E, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 2320B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-117-07-1-B, LACHAT 10-107-06-1-B, LACHAT 10-107-04-1-C, LACHAT 10-107-04-1-J, LACHAT 10-117-07-1-A, SM4500CL-E, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3005A, 3015A, 3510C, 5030B, 8021B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A.)
Solid & Chemical Materials (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 7.3.3.2, 7.3.4.2, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040, 9045C, 9050C, 1311, 3005A, 3050B, 3051A. Organic Parameters: SW-846 3540C, 3545, 3580A, 5030B, 5035, 8021B, 8260B, 8270C, 8330, 8151A, 8082, 8081A.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 2540C, 2320B, 314.0, SM2120B, 2510B, 5310C, SM4500H-B, EPA 200.8, 245.2. Organic Parameters: 504.1, SM6251B, 524.2.)
Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-D, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, SM9221CE, 9222D, 9221B, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, SM5210B, SW-846 3015, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 3510C, EPA 608, 624, 625, SW-846 5030B, 8021B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7.)
Solid & Chemical Materials (Inorganic Parameters: SW-846 9040B, 3005A, 6010B, 7196A, 5030B, 9010B, 9030B, 1030, 1311, 3050B, 3051, 7471A, 9014, 9012A, 9045C, 9050A, 9065. Organic Parameters: SW-846 8021B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 1311, 1312, 3540C, 3545, 3550B, 3580A, 5035L, 5035H, NJ OQA-QAM-025 Rev.7.)

New York Department of Health Certificate/Lab ID: 11148. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 314.0, 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, EPA 120.1, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)
Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, LACHAT 10-117-07-1A or B, SM4500Cl-E, 4500F-C, SM15 426C, EPA 350.1, LACHAT 10-107-06-1-B, SM4500NH3-H, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-041-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, S\M3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, SM4500-CN-E LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, SM5310C, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B, 9010B, 9030B.)
Solid & Hazardous Waste (Inorganic Parameters: 1010, 1030, SW-846 Ch 7 Sec 7.3, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
Non-Potable Water (Organic Parameters: EPA 3510C, 5030B, 625, 624. 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)
Solid & Hazardous Waste (Inorganic Parameters: EPA 1010, 1030, 1311, 3050B, 3051, 6010B, EPA 7.3.3.2, EPA 7.3.4.2, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065. Organic Parameters: 3540C, 3545, 3580A, 5035, 8021B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NY-DOH Certificate for Potable and Non-Potable Water.

Texas Commisson on Environmental Quality Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 $S2^{-}$D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Department of Defense Certificate/Lab ID: L2217.
Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 9251, 9038, 350.1, 353.2, 351.1, 314, 120.1, 9050A , 410.4, 9060, 1664, 420.1, LACHAT 10-107-06-1-B, SM 4500CN-E, 4500H-B, 4500CL-E, 4500F-BC, 4500SO4-E, 426C, 4500NH3-B, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500Norg-C, 4500PE, 2510B, 5540C, 5220D, 5310C, 2540B, 2540C, 2540D, 510C, 4500S2-AD, 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8330, 625, 8082, 8151A, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9040B, 9045C, 9065, 420.1, 9012A, 6860, 1311, 1312, 3050B, 9030B, 3051, 9010B, 3540C, SM 510ABC, 4500CN-CE, 2540G, SW-846 7.3, Organic Parameters: EPA 8260B, 8270C, 8330, 8082, 8081A, 8151A, 3545, 3546, 3580, 5035, MassDEP EPH, MassDEP VPH.)

Analytes Not Accredited by NELAP
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

L1009775

CHAIN OF CUSTODY

PAGE 4 OF 4

Date Rec'd in Lab: 6/17/10

ALPHA Job #: L1009775

ALPHA Analytical
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Woods Hole Group
Address: 81 Technology Park Nr
East Falmouth, MA 02536
Phone: 508-495-6210
Fax: 508-540-1001
Email: mbuck@whgrp.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Katama Ceriag
Project Location: Katama Bay, MA
Project #: 2009-120
Project Manager: Tara Marden
ALPHA Quote #: 20100644M

Turn-Around Time

☐ Standard ☒ RUSH (only confirmed if pre-approved)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX ☐ EMAIL
☑ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program: EPA Criteria: 401 Water Quality

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☐ Yes ☑ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)
Rush grain size only To determine if chemical is necessary

SAMPLE HANDLING

Filtration
☐ Done
☑ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	ANALYSIS: VOC Low Level	VOC High Level	Total Analytes	EPH	Grain Size	Sample Specific Comments	TOTAL # BOTTLES
-1 9137.7	ST07	6/16	19:27	B	MAB	X						2
7	ST07						X					1
7	ST07							X				1
7	ST07								X			1
9137.7	ST07		↓							X		1
9137.8	ST07A		19:50			X						2
8	ST07A						X					1
8	ST07A							X				1
8	ST07A								X			1
8	ST07A	↓	↓	↓	↓					X		1

Container Type	V	V	A	A	O
Preservative	O	F	A	A	A

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
	6/17/10 1420		6/17/10
	6/17/10 1705		6/17/10 1705

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

L1009775

CHAIN OF CUSTODY

PAGE 4 OF 4

Date Rec'd in Lab: 6/17/10

ALPHA Job #: L1009775

ALPHA Analytical
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Woods Hole Group
Address: 81 Technology Park Dr
East Falmouth, MA 02536
Phone: 508-495-6210
Fax: 508-540-1001
Email: mbuck@whgrp.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Katama Corlay
Project Location: Katama Bay, MA
Project #: 2009-120
Project Manager: Tara Marden
ALPHA Quote #: 20100644

Turn-Around Time

☐ Standard ☒ RUSH (only confirmed if pre-approved)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX ☐ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client Info PO #:

Regulatory Requirements/Report Limits

State /Fed Program: EPA Criteria: 401 Water Quality

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☐ Yes ☒ No Are MCP Analytical Methods Required?
☐ Yes ☒ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)
Rush grain size only To determine if chemical is necessary

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	ANALYSIS: VOC Low Level	VOC High Level	Total Phosphorus EPA	EPH	Grain Size	SAMPLE HANDLING	Sample Specific Comments	TOTAL # BOTTLES
91377	ST07	6/16	9:27	B	MAB	X							2
7	ST07						X						1
7	ST07							X					1
7	ST07								X				1
91377	ST07		↓							X			1
91378	ST07A		9:50			X							2
8	ST07A						X						1
8	ST07A							X					1
8	ST07A								X				1
8	ST07A	↓	↓	↓	↓					X			1

SAMPLE HANDLING
Filtration ☐ Done ☒ Not needed ☐ Lab to do
Preservation ☐ Lab to do
(Please specify below)

Container Type	V	V	A	A	O						
Preservative	O	F	A	A	A						

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

FORM NO: 01-01 (rev. 18-Jan-2010)

Relinquished By:	Date/Time	Received By:	Date/Time
	6/17/10 1400		6/17/10 1400
	6/30/10 1225		6/30/10 1225
	6/30/10 1320		6/30/10 1320

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1009775

Instrument ID: Charlie.i Calibration Date: 30-JUN-2010 Time: 06:26

Lab File ID: 0630A01.D Init. Calib. Date(s): 21-JUN-2 21-JUN-2

Sample No: 8260 CCAL Init. Calib. Times : 09:35 12:22

Compound	RRF	RRF	MIN RRF	%D	MAX %D	
dichlorodifluoromethane	.09584	.11165	.05	-16	20	
chloromethane	.26955	.25516	.05	5	20	
vinyl chloride	.15296	.1597	.05	-4	20	
bromomethane	.03257	.04336	.05	-33	20	F
chloroethane	.06049	.07542	.05	-25	20	F
trichlorofluoromethane	.13976	.15268	.05	-9	20	
ethyl ether	.05686	.06713	.05	-18	20	
acetone	.12344	.11761	.05	5	20	
1,1,-dichloroethene	.10718	.0953	.05	11	20	
carbon disulfide	.36567	.34251	.05	6	20	
methylene chloride	.1459	.14574	.05	0	20	
methyl tert butyl ether	.42656	.44423	.05	-4	20	
trans-1,2-dichloroethene	.13191	.13261	.05	-1	20	
Diisopropyl Ether	.96919	.93402	.05	4	20	
1,1-dichloroethane	.32781	.32128	.05	2	20	
Ethyl-Tert-Butyl-Ether	.77334	.80534	.05	-4	20	
2-butanone	.20116	.19601	.05	3	20	
2,2-dichloropropane	.17582	.18313	.05	-4	20	
cis-1,2-dichloroethene	.15219	.14814	.05	3	20	
chloroform	.22886	.2262	.05	1	20	
bromochloromethane	.0831	.08142	.05	2	20	
tetrahydrofuran	.14976	.14038	.05	6	20	
1,1,1-trichloroethane	.20079	.1938	.05	3	20	
1,1-dichloropropene	.16345	.14764	.05	10	20	
carbontetrachloride	.18305	.17203	.05	6	20	
Tertiary-Amyl Methyl Ether	.40869	.4138	.05	-1	20	
1,2-dichloroethane	.30355	.30192	.05	1	20	
benzene	.50586	.48709	.05	4	20	
trichloroethene	.15354	.14125	.05	8	20	
1,2-dichloropropane	.19862	.19151	.05	4	20	
bromodichloromethane	.17503	.17802	.05	-2	20	
1,4-dioxane	.00319	.00248	.05	22	20	F
dibromomethane	.09953	.09485	.05	5	20	
4-methyl-2-pentanone	.15015	.1524	.05	-1	20	
cis-1,3-dichloropropene	.21465	.19707	.05	8	20	
toluene	.45424	.40743	.05	10	20	
trans-1,3-dichloropropene	.26667	.25892	.05	3	20	
1,1,2-trichloroethane	.13771	.12367	.05	10	20	

FORM VII MCP-8260HLW-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1009775

Instrument ID: Charlie.i Calibration Date: 30-JUN-2010 Time: 06:26

Lab File ID: 0630A01.D Init. Calib. Date(s): 21-JUN-2 21-JUN-2

Sample No: 8260 CCAL Init. Calib. Times : 09:35 12:22

Compound	RRF	RRF	MIN RRF	%D	MAX %D
2-hexanone	.38637	.37853	.05	2	20
1,3-dichloropropane	.28799	.26542	.05	8	20
tetrachloroethene	.20518	.19109	.05	7	20
chlorodibromomethane	.20339	.18951	.05	7	20
1,2-dibromoethane	.19462	.17952	.05	8	20
chlorobenzene	.55045	.49908	.05	9	20
1,1,1,2-tetrachloroethane	.19386	.18301	.05	6	20
ethyl benzene	.84414	.7929	.05	6	20
p/m xylene	.32959	.31967	.05	3	20
o xylene	.30982	.31021	.05	0	20
styrene	.53667	.54706	.05	-2	20
bromoform	.26083	.24013	.05	8	20
isopropylbenzene	1.4449	1.3013	.05	10	20
1,1,2,2,-tetrachloroethane	.40999	.37505	.05	9	20
1,2,3-trichloropropane	.53	.50093	.05	5	20
n-propylbenzene	1.6905	1.5279	.05	10	20
bromobenzene	.40476	.38886	.05	4	20
1,3,5-trimethybenzene	1.2460	1.1448	.05	8	20
2-chlorotoluene	1.0873	.99276	.05	9	20
4-chorotoluene	1.2270	1.1703	.05	5	20
tert-butylbenzene	1.1226	.98867	.05	12	20
1,2,4-trimethylbenzene	1.3133	1.2219	.05	7	20
sec-butylbenzene	1.5645	1.3389	.05	14	20
p-isopropyltoluene	1.4066	1.2691	.05	10	20
1,3-dichlorobenzene	.80472	.76006	.05	6	20
1,4-dichlorobenzene	.8481	.80326	.05	5	20
n-butylbenzene	1.4568	1.3028	.05	11	20
1,2-dichlorobenzene	.7751	.72943	.05	6	20
1,2-dibromo-3-chloropropane	.11608	.0986	.05	15	20
1,2,4-trichlorobenzene	.59268	.57674	.05	3	20
hexachlorobutadiene	.30117	.24227	.05	20	20
naphthalene	1.8421	1.6086	.05	13	20
1,2,3-trichlorobenzene	.57996	.53566	.05	8	20
dibromofluoromethane	.25842	.27189	.05	-5	30
1,2-dichloroethane-d4	.3505	.36579	.05	-4	30
toluene-d8	1.2306	1.1968	.05	3	30
4-bromofluorobenzene	.89926	.87536	.05	3	30

FORM VII MCP-8260HLW-10

ANALYTICAL REPORT

Lab Number:	L1012602
Client:	Woods Hole Group 81 Technology Park Drive East Falmouth, MA 02536
ATTN:	Mitch Buck
Phone:	(508) 540-8080
Project Name:	KATAMA BAY, MA
Project Number:	2009-120
Report Date:	08/25/10

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: KATAMA BAY, MA
Project Number: 2009-120

Lab Number: L1012602
Report Date: 08/25/10

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1012602-01	ST07	KATAMA BAY, MA	06/16/10 19:27

Project Name: KATAMA BAY, MA
Project Number: 2009-120

Lab Number: L1012602
Report Date: 08/25/10

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

PAH/PCB Congeners

The surrogate recovery for Method Blank, WG428394-1 is outside the individual acceptance criteria for DBOB (41%), but within the overall method allowances. The results of the original analysis are reported; however, all associated compounds are considered to have a potential bias.

EPH

The surrogate recoveries for the WG428497-2 LCS are below the acceptance criteria for Chloro-Octadecane (35%). The LCS spike compounds are within overall method allowances; therefore, no further action was taken.

Total Metals

The WG428391-3 Laboratory Duplicate RPD, performed on L1012505-04, is outside the acceptance criteria

Project Name: KATAMA BAY, MA
Project Number: 2009-120
Lab Number: L1012602
Report Date: 08/25/10

Case Narrative (continued)

for Mercury (44%). The elevated RPD has been attributed to the non-homogeneous nature of the sample utilized for the laboratory duplicate.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Cynthia McQueen

Title: Technical Director/Representative Date: 08/25/10

ORGANICS

SEMIVOLATILES

Project Name: KATAMA BAY, MA
Project Number: 2009-120
Lab Number: L1012602
Report Date: 08/25/10

SAMPLE RESULTS

Lab ID:	L1012602-01	Date Collected:	06/16/10 19:27
Client ID:	ST07	Date Received:	06/12/10
Sample Location:	KATAMA BAY, MA	Field Prep:	Not Specified
Matrix:	Sediment	Extraction Method:	EPA 3570
Analytical Method:	1,8270C-SIM	Extraction Date:	08/19/10 09:45
Analytical Date:	08/24/10 17:49	Cleanup Method1:	EPA 3630
Analyst:	JS	Cleanup Date1:	08/23/10
Percent Solids:	54%	Cleanup Method2:	- - - -

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PAHs/PCB Congeners by GC/MS - Mansfield Lab						
Naphthalene	ND		ug/kg	12.6	--	1
Acenaphthylene	ND		ug/kg	12.6	--	1
Acenaphthene	ND		ug/kg	12.6	--	1
Fluorene	ND		ug/kg	12.6	--	1
Phenanthrene	16.8		ug/kg	12.6	--	1
Anthracene	ND		ug/kg	12.6	--	1
Fluoranthene	29.4		ug/kg	12.6	--	1
Pyrene	25.5		ug/kg	12.6	--	1
Benz(a)anthracene	ND		ug/kg	12.6	--	1
Chrysene	ND		ug/kg	12.6	--	1
Benzo(b)fluoranthene	20.7		ug/kg	12.6	--	1
Benzo(k)fluoranthene	ND		ug/kg	12.6	--	1
Benzo(a)pyrene	ND		ug/kg	12.6	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/kg	12.6	--	1
Dibenz(a,h)anthracene	ND		ug/kg	12.6	--	1
Benzo(ghi)perylene	ND		ug/kg	12.6	--	1
Cl2-BZ#8	ND		ug/kg	1.26	--	1
Cl3-BZ#18	ND		ug/kg	1.26	--	1
Cl3-BZ#28	ND		ug/kg	1.26	--	1
Cl4-BZ#52	ND		ug/kg	1.26	--	1
Cl4-BZ#49	ND		ug/kg	1.26	--	1
Cl4-BZ#44	ND		ug/kg	1.26	--	1
Cl4-BZ#66	ND		ug/kg	1.26	--	1
Cl5-BZ#101	ND		ug/kg	1.26	--	1
Cl5-BZ#87	ND		ug/kg	1.26	--	1
Cl5-BZ#118	ND		ug/kg	1.26	--	1
Cl6-BZ#153	ND		ug/kg	1.26	--	1
Cl7-BZ#184	ND		ug/kg	1.26	--	1
Cl5-BZ#105	ND		ug/kg	1.26	--	1
Cl6-BZ#138	ND		ug/kg	1.26	--	1

Project Name: KATAMA BAY, MA
Project Number: 2009-120
Lab Number: L1012602
Report Date: 08/25/10

SAMPLE RESULTS

Lab ID: L1012602-01
Client ID: ST07
Sample Location: KATAMA BAY, MA
Date Collected: 06/16/10 19:27
Date Received: 06/12/10
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PAHs/PCB Congeners by GC/MS - Mansfield Lab						
Cl7-BZ#187	ND		ug/kg	1.26	--	1
Cl7-BZ#183	ND		ug/kg	1.26	--	1
Cl6-BZ#128	ND		ug/kg	1.26	--	1
Cl7-BZ#180	ND		ug/kg	1.26	--	1
Cl7-BZ#170	ND		ug/kg	1.26	--	1
Cl8-BZ#195	ND		ug/kg	1.26	--	1
Cl9-BZ#206	ND		ug/kg	1.26	--	1
Cl10-BZ#209	ND		ug/kg	1.26	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Methylnaphthalene-d10	54		30-150
Pyrene-d10	74		30-150
Benzo(b)fluoranthene-d12	72		30-150
DBOB	64		50-125
BZ 198	73		50-125

Project Name: KATAMA BAY, MA
Project Number: 2009-120
Lab Number: L1012602
Report Date: 08/25/10

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270C-SIM
Analytical Date: 08/24/10 15:13
Analyst: JS

Extraction Method: EPA 3570
Extraction Date: 08/19/10 09:45
Cleanup Method1: EPA 3630
Cleanup Date1: 08/23/10
Cleanup Method2: - - - -
Cleanup Date2:

Parameter	Result	Qualifier	Units	RL	MDL
PAHs/PCB Congeners by GC/MS - Mansfield Lab for sample(s): 01 Batch: WG428394-1					
Naphthalene	ND		ug/kg	8.00	--
Acenaphthylene	ND		ug/kg	8.00	--
Acenaphthene	ND		ug/kg	8.00	--
Fluorene	ND		ug/kg	8.00	--
Phenanthrene	ND		ug/kg	8.00	--
Anthracene	ND		ug/kg	8.00	--
Fluoranthene	ND		ug/kg	8.00	--
Pyrene	ND		ug/kg	8.00	--
Benz(a)anthracene	ND		ug/kg	8.00	--
Chrysene	ND		ug/kg	8.00	--
Benzo(b)fluoranthene	ND		ug/kg	8.00	--
Benzo(k)fluoranthene	ND		ug/kg	8.00	--
Benzo(a)pyrene	ND		ug/kg	8.00	--
Indeno(1,2,3-cd)Pyrene	ND		ug/kg	8.00	--
Dibenz(a,h)anthracene	ND		ug/kg	8.00	--
Benzo(ghi)perylene	ND		ug/kg	8.00	--
Cl2-BZ#8	ND		ug/kg	0.800	--
Cl3-BZ#18	ND		ug/kg	0.800	--
Cl3-BZ#28	ND		ug/kg	0.800	--
Cl4-BZ#52	ND		ug/kg	0.800	--
Cl4-BZ#49	ND		ug/kg	0.800	--
Cl4-BZ#44	ND		ug/kg	0.800	--
Cl4-BZ#66	ND		ug/kg	0.800	--
Cl5-BZ#101	ND		ug/kg	0.800	--
Cl5-BZ#87	ND		ug/kg	0.800	--
Cl5-BZ#118	ND		ug/kg	0.800	--
Cl6-BZ#153	ND		ug/kg	0.800	--
Cl7-BZ#184	ND		ug/kg	0.800	--
Cl5-BZ#105	ND		ug/kg	0.800	--
Cl6-BZ#138	ND		ug/kg	0.800	--
Cl7-BZ#187	ND		ug/kg	0.800	--

Project Name: KATAMA BAY, MA
Project Number: 2009-120

Lab Number: L1012602
Report Date: 08/25/10

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270C-SIM
Analytical Date: 08/24/10 15:13
Analyst: JS

Extraction Method: EPA 3570
Extraction Date: 08/19/10 09:45
Cleanup Method1: EPA 3630
Cleanup Date1: 08/23/10
Cleanup Method2: - - - -
Cleanup Date2:

Parameter	Result	Qualifier	Units	RL	MDL
PAHs/PCB Congeners by GC/MS - Mansfield Lab for sample(s): 01 Batch: WG428394-1					
Cl7-BZ#183	ND		ug/kg	0.800	--
Cl6-BZ#128	ND		ug/kg	0.800	--
Cl7-BZ#180	ND		ug/kg	0.800	--
Cl7-BZ#170	ND		ug/kg	0.800	--
Cl8-BZ#195	ND		ug/kg	0.800	--
Cl9-BZ#206	ND		ug/kg	0.800	--
Cl10-BZ#209	ND		ug/kg	0.800	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Methylnaphthalene-d10	44		30-150
Pyrene-d10	54		30-150
Benzo(b)fluoranthene-d12	58		30-150
DBOB	**41**	Q	50-125
BZ 198	54		50-125

Lab Control Sample Analysis

Batch Quality Control

Project Name: KATAMA BAY, MA

Project Number: 2009-120

Lab Number: L1012602

Report Date: 08/25/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PAHs/PCB Congeners by GC/MS - Mansfield Lab Associated sample(s): 01 Batch: WG428394-2 WG428394-3								
Naphthalene	54		54		40-140	0		30
Acenaphthylene	50		51		40-140	2		30
Acenaphthene	55		56		40-140	2		30
Fluorene	58		59		40-140	2		30
Phenanthrene	66		68		40-140	3		30
Anthracene	48		51		40-140	6		30
Fluoranthene	64		70		40-140	9		30
Pyrene	64		70		40-140	9		30
Benz(a)anthracene	74		81		40-140	9		30
Chrysene	57		62		40-140	8		30
Benzo(b)fluoranthene	92		101		40-140	9		30
Benzo(k)fluoranthene	48		50		40-140	4		30
Benzo(a)pyrene	75		82		40-140	9		30
Indeno(1,2,3-cd)Pyrene	66		72		40-140	9		30
Dibenz(a,h)anthracene	66		73		40-140	10		30
Benzo(ghi)perylene	65		71		40-140	9		30
Cl2-BZ#8	62		64		40-140	3		50
Cl3-BZ#18	63		66		40-140	5		50
Cl3-BZ#28	63		67		40-140	6		50
Cl4-BZ#52	82		90		40-140	9		50
Cl4-BZ#49	43		48		40-140	11		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: KATAMA BAY, MA

Project Number: 2009-120

Lab Number: L1012602

Report Date: 08/25/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PAHs/PCB Congeners by GC/MS - Mansfield Lab Associated sample(s): 01 Batch: WG428394-2 WG428394-3								
Cl4-BZ#44	66		72		40-140	9		50
Cl4-BZ#66	69		75		40-140	8		50
Cl5-BZ#101	70		75		40-140	7		50
Cl5-BZ#87	68		75		40-140	10		50
Cl5-BZ#118	73		73		40-140	0		50
Cl6-BZ#153	67		76		40-140	13		50
Cl7-BZ#184	65		71		40-140	9		50
Cl5-BZ#105	57		65		40-140	13		50
Cl6-BZ#138	68		72		40-140	6		50
Cl7-BZ#187	77		83		40-140	8		50
Cl7-BZ#183	50		57		40-140	13		50
Cl6-BZ#128	66		73		40-140	10		50
Cl7-BZ#180	64		70		40-140	9		50
Cl7-BZ#170	65		71		40-140	9		50
Cl8-BZ#195	58		64		40-140	10		50
Cl9-BZ#206	64		69		40-140	8		50
Cl10-BZ#209	63		70		40-140	11		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: KATAMA BAY, MA

Project Number: 2009-120

Lab Number: L1012602

Report Date: 08/25/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PAHs/PCB Congeners by GC/MS - Mansfield Lab Associated sample(s): 01 Batch: WG428394-2 WG428394-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Methylnaphthalene-d10	59		57		30-150
Pyrene-d10	67		72		30-150
Benzo(b)fluoranthene-d12	71		76		30-150
DBOB	52		56		50-125
BZ 198	65		71		50-125

PETROLEUM HYDROCARBONS

Project Name: KATAMA BAY, MA
Project Number: 2009-120
Lab Number: L1012602
Report Date: 08/25/10

SAMPLE RESULTS

Lab ID:	L1012602-01	Date Collected:	06/16/10 19:27
Client ID:	ST07	Date Received:	06/12/10
Sample Location:	KATAMA BAY, MA	Field Prep:	Not Specified
Matrix:	Sediment	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	08/19/10 18:41
Analytical Date:	08/23/10 21:38	Cleanup Method1:	EPH-04-1
Analyst:	MW	Cleanup Date1:	08/20/10
Percent Solids:	54%		

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		mg/kg	12.2	--	1
C19-C36 Aliphatics	ND		mg/kg	12.2	--	1
C11-C22 Aromatics, Unadjusted	ND		mg/kg	12.2	--	1
C11-C22 Aromatics, Adjusted	ND		mg/kg	12.2	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	68		40-140
o-Terphenyl	96		40-140
2-Fluorobiphenyl	79		40-140
2-Bromonaphthalene	81		40-140

Project Name: KATAMA BAY, MA
Project Number: 2009-120

Lab Number: L1012602
Report Date: 08/25/10

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 08/20/10 17:35
Analyst: MW

Extraction Method: EPA 3546
Extraction Date: 08/19/10 18:41
Cleanup Method1: EPH-04-1
Cleanup Date1: 08/20/10

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 01 Batch: WG428497-1					
C9-C18 Aliphatics	ND		mg/kg	6.67	--
C19-C36 Aliphatics	ND		mg/kg	6.67	--
C11-C22 Aromatics, Unadjusted	ND		mg/kg	6.67	--
C11-C22 Aromatics, Adjusted	ND		mg/kg	6.67	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	48		40-140
o-Terphenyl	90		40-140
2-Fluorobiphenyl	82		40-140
2-Bromonaphthalene	91		40-140

Lab Control Sample Analysis
Batch Quality Control

Project Name: KATAMA BAY, MA
Project Number: 2009-120

Lab Number: L1012602
Report Date: 08/25/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01 Batch: WG428497-2 WG428497-3								
C9-C18 Aliphatics	65		68		40-140	5		25
C19-C36 Aliphatics	82		84		40-140	2		25
C11-C22 Aromatics	107		108		40-140	1		25
Naphthalene	88		95		40-140	8		25
2-Methylnaphthalene	98		104		40-140	6		25
Acenaphthylene	104		112		40-140	7		25
Acenaphthene	99		104		40-140	5		25
Fluorene	101		105		40-140	4		25
Phenanthrene	108		112		40-140	4		25
Anthracene	103		108		40-140	5		25
Fluoranthene	103		108		40-140	5		25
Pyrene	104		109		40-140	5		25
Benzo(a)anthracene	98		102		40-140	4		25
Chrysene	99		103		40-140	4		25
Benzo(b)fluoranthene	98		102		40-140	4		25
Benzo(k)fluoranthene	95		100		40-140	5		25
Benzo(a)pyrene	92		99		40-140	7		25
Indeno(1,2,3-cd)Pyrene	97		102		40-140	5		25
Dibenzo(a,h)anthracene	93		97		40-140	4		25
Benzo(ghi)perylene	95		102		40-140	7		25
Nonane (C9)	61		63		30-140	3		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: KATAMA BAY, MA

Project Number: 2009-120

Lab Number: L1012602

Report Date: 08/25/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01 Batch: WG428497-2 WG428497-3								
Decane (C10)	68		71		40-140	4		25
Dodecane (C12)	70		74		40-140	6		25
Tetradecane (C14)	72		74		40-140	3		25
Hexadecane (C16)	75		78		40-140	4		25
Octadecane (C18)	79		82		40-140	4		25
Nonadecane (C19)	81		84		40-140	4		25
Eicosane (C20)	81		84		40-140	4		25
Docosane (C22)	82		85		40-140	4		25
Tetracosane (C24)	83		86		40-140	4		25
Hexacosane (C26)	84		87		40-140	4		25
Octacosane (C28)	82		85		40-140	4		25
Triacontane (C30)	85		88		40-140	3		25
Hexatriacontane (C36)	86		89		40-140	3		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	35	Q	62		40-140
o-Terphenyl	106		124		40-140
2-Fluorobiphenyl	78		88		40-140
2-Bromonaphthalene	81		92		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Project Name: KATAMA BAY, MA
Project Number: 2009-120
Lab Number: L1012602
Report Date: 08/25/10

Fractionation Check Standard Quality Control

Fractionation check standard for 201004218

Parameter	% Recovery	QC Criteria
C9-C18 Aliphatics	79	40-140
C19-C36 Aliphatics	90	40-140
C11-C22 Aromatics	85	40-140
Naphthalene	80	40-140
2-Methylnaphthalene	80	40-140
Acenaphthylene	75	40-140
Acenaphthene	81	40-140
Fluorene	78	40-140
Phenanthrene	82	40-140
Anthracene	80	40-140
Fluoranthene	80	40-140
Pyrene	81	40-140
Benzo(a)anthracene	74	40-140
Chrysene	76	40-140
Benzo(b)fluoranthene	72	40-140
Benzo(k)fluoranthene	79	40-140
Benzo(a)pyrene	66	40-140
Indeno(1,2,3-cd)Pyrene	75	40-140
Dibenzo(a,h)anthracene	72	40-140
Benzo(g,h,i)perylene	76	40-140
Nonane	42	30-140
Decane	75	40-140
Dodecane	79	40-140
Tetradecane	83	40-140
Hexadecane	87	40-140
Octadecane	90	40-140
Nonadecane	90	40-140
Eicosane	90	40-140
Docosane	91	40-140
Tetracosane	91	40-140
Hexacosane	90	40-140
Octacosane	90	40-140
Triacontane	90	40-140
Hexatriacontane	88	40-140
% Naphthalene Breakthrough	0	0-5
% 2-Methylnaphthalene Breakthrough	0	0-5

Project Name: KATAMA BAY, MA
Project Number: 2009-120
Lab Number: L1012602
Report Date: 08/25/10

Fractionation Check Standard
Quality Control

Fractionation check standard for 201004218

Surrogate	% Recovery	QC Criteria
Chloro-Octadecane	79	40-140
o-Terphenyl	75	40-140
2-Fluorobiphenyl	76	40-140
2-Bromonaphthalene	80	40-140

METALS

Project Name: KATAMA BAY, MA
Lab Number: L1012602
Project Number: 2009-120
Report Date: 08/25/10

SAMPLE RESULTS

Lab ID: L1012602-01
Client ID: ST07
Sample Location: KATAMA BAY, MA
Matrix: Sediment
Percent Solids: 54%

Date Collected: 06/16/10 19:27
Date Received: 06/12/10
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	5.90		mg/kg	0.052	--	2	08/19/10 11:00	08/23/10 11:04	EPA 3050B	1,6020A	LR
Cadmium, Total	0.294		mg/kg	0.052	--	2	08/19/10 11:00	08/23/10 11:04	EPA 3050B	1,6020A	LR
Chromium, Total	16.3		mg/kg	0.207	--	2	08/19/10 11:00	08/23/10 11:04	EPA 3050B	1,6020A	LR
Copper, Total	11.6		mg/kg	0.104	--	2	08/19/10 11:00	08/23/10 11:04	EPA 3050B	1,6020A	LR
Lead, Total	9.20		mg/kg	0.052	--	2	08/19/10 11:00	08/23/10 11:04	EPA 3050B	1,6020A	LR
Mercury, Total	ND		mg/kg	0.022	--	5	08/19/10 11:00	08/24/10 10:25	EPA 7474	1,7474	LP
Nickel, Total	9.57		mg/kg	0.104	--	2	08/19/10 11:00	08/23/10 11:04	EPA 3050B	1,6020A	LR
Zinc, Total	45.0		mg/kg	1.04	--	2	08/19/10 11:00	08/23/10 11:04	EPA 3050B	1,6020A	LR

Project Name: KATAMA BAY, MA
Project Number: 2009-120
Lab Number: L1012602
Report Date: 08/25/10

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG428388-1										
Arsenic, Total	ND		mg/kg	0.050	--	2	08/19/10 11:00	08/23/10 10:53	1,6020A	LR
Cadmium, Total	ND		mg/kg	0.050	--	2	08/19/10 11:00	08/23/10 10:53	1,6020A	LR
Chromium, Total	ND		mg/kg	0.200	--	2	08/19/10 11:00	08/23/10 10:53	1,6020A	LR
Copper, Total	ND		mg/kg	0.100	--	2	08/19/10 11:00	08/23/10 10:53	1,6020A	LR
Lead, Total	ND		mg/kg	0.050	--	2	08/19/10 11:00	08/23/10 10:53	1,6020A	LR
Nickel, Total	ND		mg/kg	0.100	--	2	08/19/10 11:00	08/23/10 10:53	1,6020A	LR
Zinc, Total	ND		mg/kg	1.00	--	2	08/19/10 11:00	08/23/10 10:53	1,6020A	LR

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG428391-1										
Mercury, Total	ND		mg/kg	0.013	--	5	08/19/10 11:00	08/24/10 10:02	1,7474	LP

Prep Information

Digestion Method: EPA 7474

Lab Control Sample Analysis

Batch Quality Control

Project Name: KATAMA BAY, MA

Project Number: 2009-120

Lab Number: L1012602

Report Date: 08/25/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG428388-2								
Arsenic, Total	110		-		80-120	-		20
Cadmium, Total	109		-		80-120	-		20
Chromium, Total	100		-		80-120	-		20
Copper, Total	102		-		80-120	-		20
Lead, Total	103		-		80-120	-		20
Nickel, Total	103		-		80-120	-		20
Zinc, Total	108		-		80-120	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG428391-2								
Mercury, Total	98		-		80-120	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: KATAMA BAY, MA
Project Number: 2009-120

Lab Number: L1012602
Report Date: 08/25/10

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG428388-4 QC Sample: L1012505-04 Client ID: MS Sample												
Arsenic, Total	4.54	220	249	111		-	-		75-125	-		20
Cadmium, Total	0.212	110	118	107		-	-		75-125	-		20
Chromium, Total	7.24	220	228	100		-	-		75-125	-		20
Copper, Total	6.96	220	226	100		-	-		75-125	-		20
Lead, Total	23.2	220	225	92		-	-		75-125	-		20
Nickel, Total	8.81	220	236	103		-	-		75-125	-		20
Zinc, Total	32.0	220	274	110		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG428391-4 QC Sample: L1012505-04 Client ID: MS Sample												
Mercury, Total	0.094	1.84	2.02	104		-	-		80-120	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: KATAMA BAY, MA
Project Number: 2009-120

Lab Number: L1012602
Report Date: 08/25/10

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG428388-3 QC Sample: L1012505-04 Client ID: DUP Sample						
Arsenic, Total	4.54	4.63	mg/kg	2		20
Cadmium, Total	0.212	0.182	mg/kg	15		20
Chromium, Total	7.24	6.66	mg/kg	8		20
Copper, Total	6.96	6.83	mg/kg	2		20
Lead, Total	23.2	23.3	mg/kg	0		20
Nickel, Total	8.81	9.05	mg/kg	3		20
Zinc, Total	32.0	32.3	mg/kg	1		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG428391-3 QC Sample: L1012505-04 Client ID: DUP Sample						
Mercury, Total	0.094	0.060	mg/kg	**44**	Q	20

Project Name: KATAMA BAY, MA
Project Number: 2009-120

Lab Serial Dilution Analysis
Batch Quality Control

Lab Number: L1012602
Report Date: 08/25/10

Parameter	Native Sample	Serial Dilution	Units	% D	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG428388-5 QC Sample: L1012505-04 Client ID: DUP Sample						
Arsenic, Total	4.54	4.07	mg/kg	10		10
Cadmium, Total	0.212	ND	mg/kg	NC		10
Chromium, Total	7.24	7.47	mg/kg	3		10
Copper, Total	6.96	7.21	mg/kg	4		10
Lead, Total	23.2	24.6	mg/kg	6		10
Nickel, Total	8.81	8.91	mg/kg	1		10
Zinc, Total	32.0	29.5	mg/kg	8		10
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG428391-5 QC Sample: L1012505-04 Client ID: DUP Sample						
Mercury, Total	0.094	ND	mg/kg	NC		10

INORGANICS
&
MISCELLANEOUS

Project Name: KATAMA BAY, MA
Project Number: 2009-120
Lab Number: L1012602
Report Date: 08/25/10

SAMPLE RESULTS

Lab ID: L1012602-01
Client ID: ST07
Sample Location: KATAMA BAY, MA
Matrix: Sediment

Date Collected: 06/16/10 19:27
Date Received: 06/12/10
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	0.915		%	0.010	--	1	-	08/25/10 12:00	1,9060	NR
Total Organic Carbon (Rep2)	0.851		%	0.010	--	1	-	08/25/10 12:00	1,9060	NR
General Chemistry - Mansfield Lab										
Solids, Total	54.2		%	0.100	--	1	-	08/19/10 11:45	30,2540G	NR

Project Name: KATAMA BAY, MA
Project Number: 2009-120

Lab Number: L1012602
Report Date: 08/25/10

SAMPLE RESULTS

Lab ID: L1012602-01
Client ID: ST07
Sample Location: KATAMA BAY, MA
Matrix: Sediment

Date Collected: 06/16/10 19:27
Date Received: 06/12/10
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Moisture	45.8		%	0.100	NA	1	-	08/19/10 11:45	30,2540G	KB

Project Name: KATAMA BAY, MA
Project Number: 2009-120
Lab Number: L1012602
Report Date: 08/25/10

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab for sample(s): 01 Batch: WG428041-1										
Total Organic Carbon (Rep1)	ND		%	0.010	--	1	-	08/25/10 12:00	1,9060	NR
Total Organic Carbon (Rep2)	ND		%	0.010	--	1	-	08/25/10 12:00	1,9060	NR

Lab Duplicate Analysis
Batch Quality Control

Project Name: KATAMA BAY, MA
Project Number: 2009-120

Lab Number: L1012602
Report Date: 08/25/10

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG428422-1 QC Sample: L1012602-01 Client ID: ST07						
Moisture	45.8	45.9	%	0		10
General Chemistry - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG428423-1 QC Sample: L1012602-01 Client ID: ST07						
Solids, Total	54.2	54.1	%	0		20

Project Name: KATAMA BAY, MA
Project Number: 2009-120
Lab Number: L1012602
Report Date: 08/25/10

S.R.M. Standard Quality Control

Standard Reference Material (SRM): WG428041-2

Parameter	% Recovery	Qual	QC Criteria
Total Organic Carbon (Rep1)	116		75-125
Total Organic Carbon (Rep2)	118		75-125

Project Name: KATAMA BAY, MA
Project Number: 2009-120

Lab Number: L1012602
Report Date: 08/25/10

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information	Custody Seal
Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1012602-01A	Glass 250ml unpreserved	A	N/A	3	Y	Absent	A2-PB-6020T(180),A2-MOISTURE-2540(7),A2-NI-6020T(180),A2-ZN-6020T(180),A2-HG-7474T(28),A2-CR-6020T(180),A2-TS(7),A2-AS-6020T(180),A2-CD-6020T(180),A2-HGPREP-AF(28),A2-PREP-3050:2T(180),A2-TOC-9060-2REPS(28),A2-CU-6020T(180),A2-PAH/PCBCONG(14)
L1012602-01B	Glass 250ml unpreserved	A	N/A	3	Y	Absent	EPH-10(14)

Container Comments

L1012602-01A	SAMPLES FROZEN 6/17/10 JS
L1012602-01B	SAMPLES FROZEN 6/17/10 JS

*Values in parentheses indicate holding time in days

Project Name:	KATAMA BAY, MA	**Lab Number:**	L1012602
Project Number:	2009-120	**Report Date:**	08/25/10

GLOSSARY

Acronyms

EPA · Environmental Protection Agency.

LCS · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD · Laboratory Control Sample Duplicate: Refer to LCS.

MDL · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD · Matrix Spike Sample Duplicate: Refer to MS.

NA · Not Applicable.

NC · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI · Not Ignitable.

RL · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

Report Format: Data Usability Report

Project Name:	KATAMA BAY, MA	**Lab Number:**	L1012602
Project Number:	2009-120	**Report Date:**	08/25/10

Data Qualifiers

RE - Analytical results are from sample re-extraction.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name:	KATAMA BAY, MA	**Lab Number:**	L1012602
Project Number:	2009-120	**Report Date:**	08/25/10

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

98 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of EPH under the Massachusetts Contingency Plan, WSC-CAM-IVB, July 2010.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certificate/Approval Program Summary

Last revised July 19, 2010 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0141.

Wastewater/Non-Potable Water (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

Solid Waste/Soil (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Florida Department of Health Certificate/Lab ID: E87814. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SM2320B, EPA 120.1, SM2510B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

Air & Emissions (EPA TO-15.)

Louisiana Department of Environmental Quality Certificate/Lab ID: 03090. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270,)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

Biological Tissue (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA030.

Non-Potable Water (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

Atmospheric Organic Parameters (EPA TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

Air & Emissions (EPA TO-15.)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. ***NELAP Accredited via LA-DEQ.***

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

Texas Commission of Environmental Quality Certificate/Lab ID: T104704419-08-TX. ***NELAP Accredited.***

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

Air (Organic Parameters: EPA TO-15)

U.S. Army Corps of Engineers

Department of Defense Certificate/Lab ID: L2217.01.

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312,3051, 6020, 747A, 7474, 9045C,9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580, 3570, 3540C, 5035, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP
Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl.

Certificate/Approval Program Summary

Last revised July 19, 2010 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

Drinking Water (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))
Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)
Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Maine Department of Human Services Certificate/Lab ID: 2009024.
Drinking Water (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 300.0, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)
Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, Lachat 10-107-06-1-B, SM2320B, 2340B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B.5, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME DRO, ME GRO, MA EPH, MA VPH.)
*Solid Waste/Soil (*Organic Parameters: ME DRO, ME GRO, MA EPH, MA VPH.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.
Drinking Water
Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl)
(EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate)
353.2 for: Nitrate-N, Nitrite-N; SM4500NO3-F, 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B.
Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics)
(504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), 314.0, 332.
Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; MF-SM9222D
Non-Potable Water
Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn)
(EPA 200.7 for: Al,Sb,As,Be,Cd,Cr,Co,Cu,Fe,Pb,Mn,Mo,Ni,Se,Ag,Sr,Ti,Tl, V,Zn,Ca,Mg,Na,K)
245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2540B, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-B,C-Titr, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics)

(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables, 600/4-81-045-PCB-Oil

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM6215B, 9222B, 9223B Colilert, EPA 200.7, 200.8, 245.2, 120.1, 300.0, 314.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 331.0. Organic Parameters: 504.1, 524.2, SM6251B.)
Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 420.1, 1664A, SW-846 9010, 9030, 9040B, SM426C, SM2310B, 2540B, 2540D, 4500H+B, 4500NH3-H, 4500NH3-E, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 2320B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-117-07-1-B, LACHAT 10-107-06-1-B, LACHAT 10-107-04-1-C, LACHAT 10-107-04-1-J, LACHAT 10-117-07-1-A, SM4500CL-E, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3005A, 3015A, 3510C, 5030B, 8021B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A.)
Solid & Chemical Materials (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 7.3.3.2, 7.3.4.2, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040, 9045C, 9050C, 1311, 3005A, 3050B, 3051A. Organic Parameters: SW-846 3540C, 3545, 3580A, 5030B, 5035, 8021B, 8260B, 8270C, 8330, 8151A, 8082, 8081A.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 2540C, 2320B, 314.0, SM2120B, 2510B, 5310C, SM4500H-B, EPA 200.8, 245.2. Organic Parameters: 504.1, SM6251B, 524.2.)
Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-D, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, SM9221CE, 9222D, 9221B, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, SM5210B, SW-846 3015, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 3510C, EPA 608, 624, 625, SW-846 5030B, 8021B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7.)
Solid & Chemical Materials (Inorganic Parameters: SW-846 9040B, 3005A, 6010B, 7196A, 5030B, 9010B, 9030B, 1030, 1311, 3050B, 3051, 7471A, 9014, 9012A, 9045C, 9050A, 9065. Organic Parameters: SW-846 8021B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 1311, 1312, 3540C, 3545, 3550B, 3580A, 5035L, 5035H, NJ OQA-QAM-025 Rev.7.)

New York Department of Health Certificate/Lab ID: 11148. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 314.0, 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, EPA 120.1, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)
Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, LACHAT 10-117-07-1A or B, SM4500Cl-E, 4500F-C, SM15 426C, EPA 350.1, LACHAT 10-107-06-1-B, SM4500NH3-H, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-041-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, S\M3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, SM4500-CN-E LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, SM5310C, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B, 9010B, 9030B.)
Solid & Hazardous Waste (Inorganic Parameters: 1010, 1030, SW-846 Ch 7 Sec 7.3, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
Non-Potable Water (Organic Parameters: EPA 3510C, 5030B, 625, 624. 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)
Solid & Hazardous Waste (Inorganic Parameters: EPA 1010, 1030, 1311, 3050B, 3051, 6010B, EPA 7.3.3.2, EPA 7.3.4.2, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065. Organic Parameters: 3540C, 3545, 3580A, 5035, 8021B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NY-DOH Certificate for Potable and Non-Potable Water.

Texas Commisson on Environmental Quality Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 $S2^{-}$D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Department of Defense Certificate/Lab ID: L2217.
Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 9251, 9038, 350.1, 353.2, 351.1, 120.1, 9050A , 410.4, 9060, 1664, 420.1, LACHAT 10-107-06-1-B, SM 4500CN-E, 4500H-B, 4500CL-E, 4500F-BC, 4500SO4-E, 426C, 4500NH3-B, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500Norg-C, 4500PE, 2510B, 5540C, 5220D, 5310C, 2540B, 2540C, 2540D, 510C, 4500S2-AD, 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8330, 625, 8082, 8151A, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9040B, 9045C, 9065, 420.1, 9012A, 6860, 1311, 1312, 3050B, 9030B, 3051, 9010B, 3540C, SM 510ABC, 4500CN-CE, 2540G, SW-846 7.3, Organic Parameters: EPA 8260B, 8270C, 8330, 8082, 8081A, 8151A, 3545, 3546, 3580, 5035, MassDEP EPH, MassDEP VPH.)

Analytes Not Accredited by NELAP
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.