APPENDIX 8
1998 USACE VIBRACORE LOGS, GRANULARMETRIC REPORTS & GRAIN SIZE DISTRIBUTION CURVES

Hole No. SHI-1

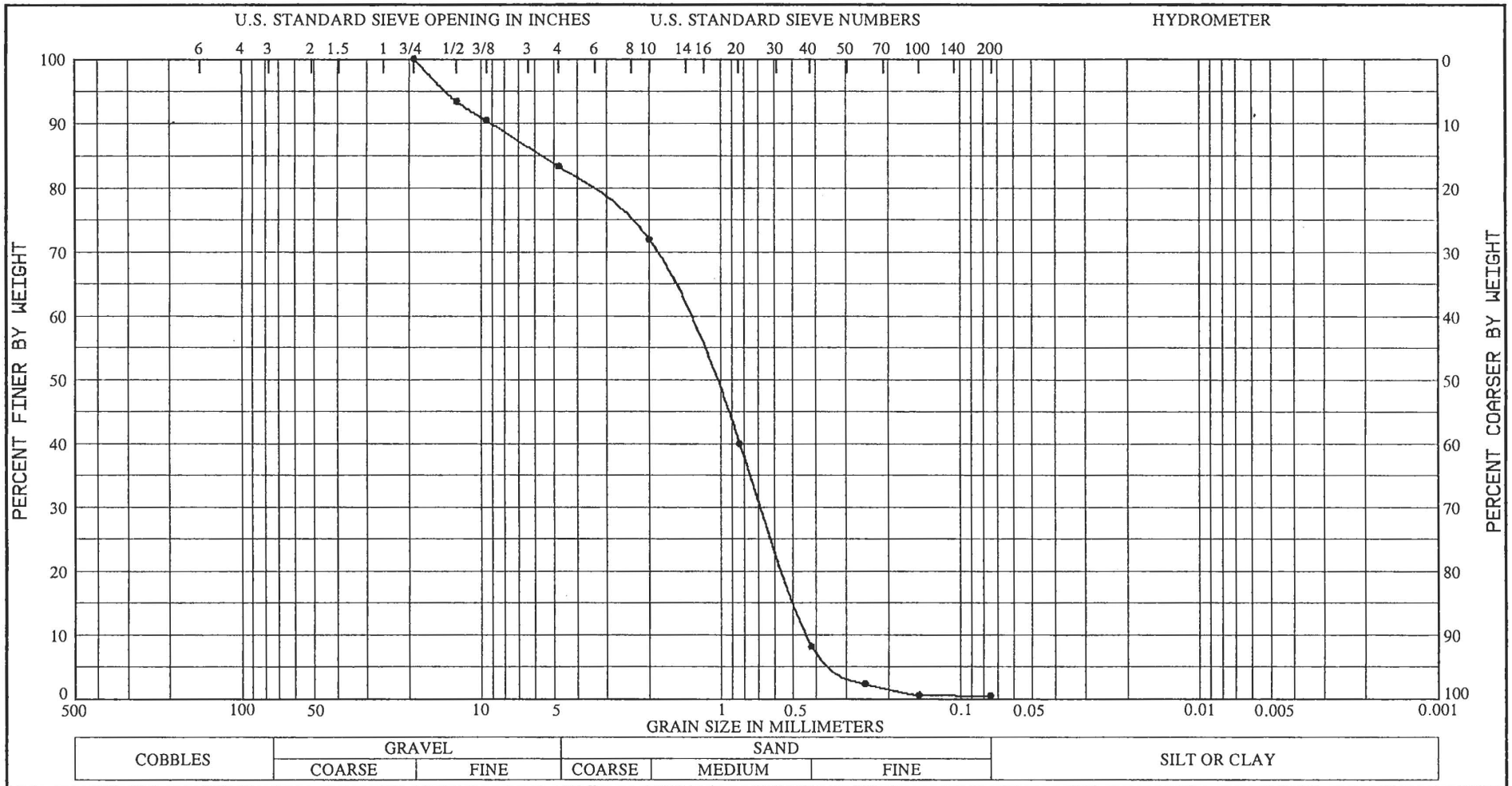
DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION WILMINGTON DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT SHALLOTTE INLET	10. SIZE AND TYPE OF BIT 4" VIBRACORE TUBE 20'
2. LOCATION (Coordinates or Station) E 2187021 N 57751	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY WILMINGTON DISTRICT	12. MANUFACTURER'S DESIGNATION OF DRILL VIBRA-CORE (SNELL)
4. HOLE NO. (As shown on drawing title and file number) SHI-1	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED 4; UNDISTURBED 0
5. NAME OF DRILLER JERRY FULCHER	14. TOTAL NUMBER CORE BOXES N/A
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER
	16. DATE HOLE: STARTED 2/5/98; COMPLETED 2/5/98
7. THICKNESS OF OVERBURDEN N/A	17. ELEVATION TOP OF HOLE -5.0 Ft.
8. DEPTH DRILLED INTO ROCK 0.0'	18. TOTAL CORE RECOVERY FOR BORING N/A %
9. TOTAL DEPTH OF HOLE 12.6'	19. SIGNATURE OF INSPECTOR KEITH BENTON

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
-5.0	0					
			SP-Tan, coarse poorly graded sand with shell fragments		1	Time Begin Vibracoring @ 8:05 hours NOTE: CLASSIFIED ON 3/4/98 BY LARRY BENJAMIN CIVIL ENGINEER TECH. NOTE: Top of Hole at River Bottom
	2					
	4					LAB CLASSIFICATION Jar Number / Classification 1 SP 2 SM 3 SM 4 SP
-11.0	6		SP-SM Grayish tan medium, to coarse poorly graded silty sand, trace of shell fragments		2	
	8					
-13.6			MH Dark gray elastic silt		3	
-14.0			SP-Tan, coarse poorly graded sand		4	
	10					NOTE: Hole Terminated as necessary for convenience, predetermined depth, or assumed vibracore refusal. NOTE: The Vibracore run depth was not recorded.
	12					
-17.6	12.6		BOTTOM OF HOLE AT 12.6' SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOIL CLASSIFICATION SYSTEM			

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GA. 30060

WORK ORDER: 8426
REQUISITION: W81LJ881245987



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

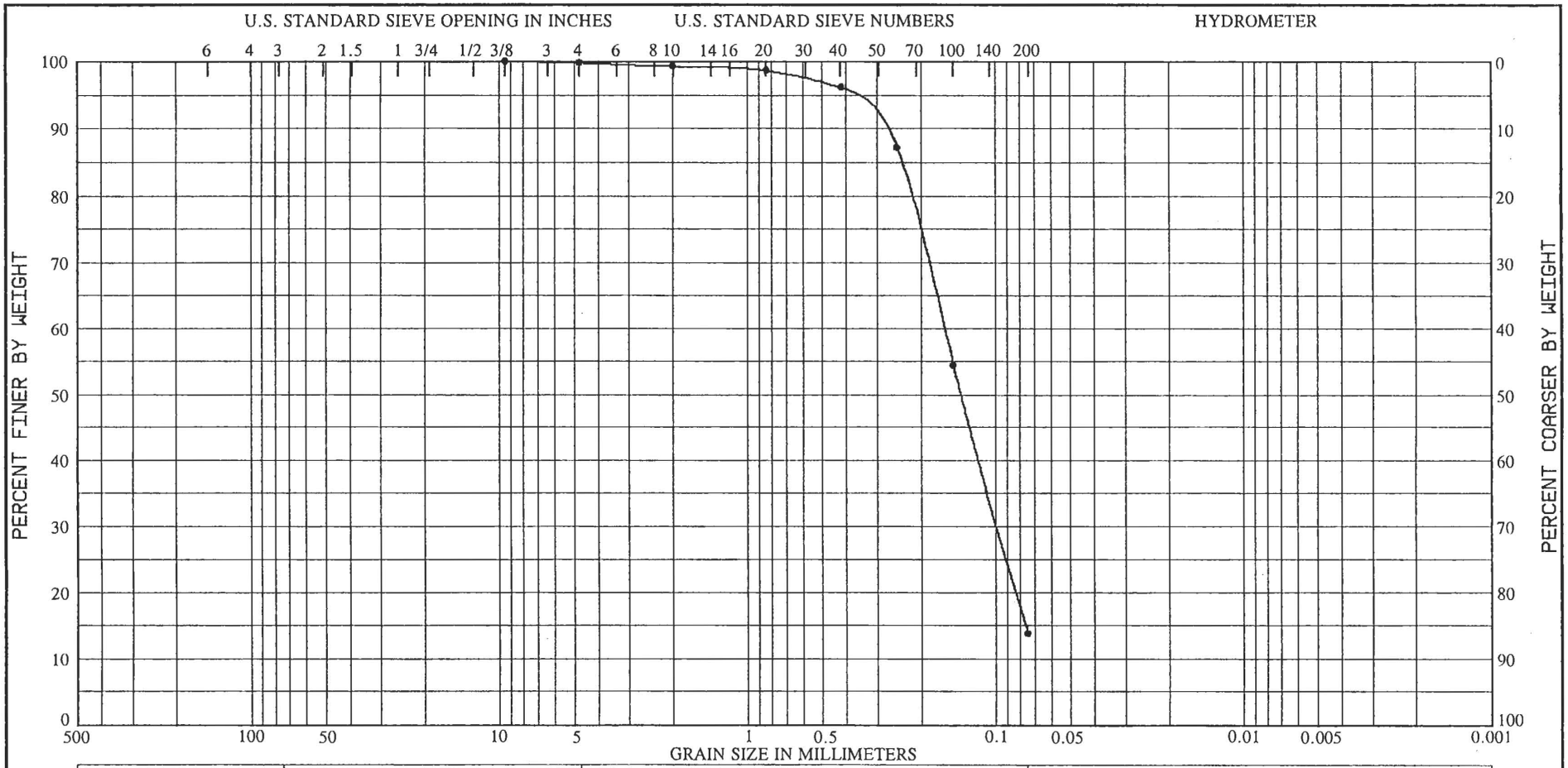
Sample No.	Depth (ft)	(VISUAL) Classification	Nat w%	LL	PL	PI
1	1.0 - 1.5	TAN, POORLY GRADED SAND (SP), WITH A LITTLE GRAVEL SIZE AND SAND SIZE SHELL FRAGMENTS.	11.3			

Project SHALLOTTE INLET
WILMINGTON DISTRICT
Lab No. 72/6005
Hole No. SHI-1
Date 05/26/98

GRADATION CURVES

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GA. 30060

WORK ORDER: 8426
REQUISITION: W81LJ881245987



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

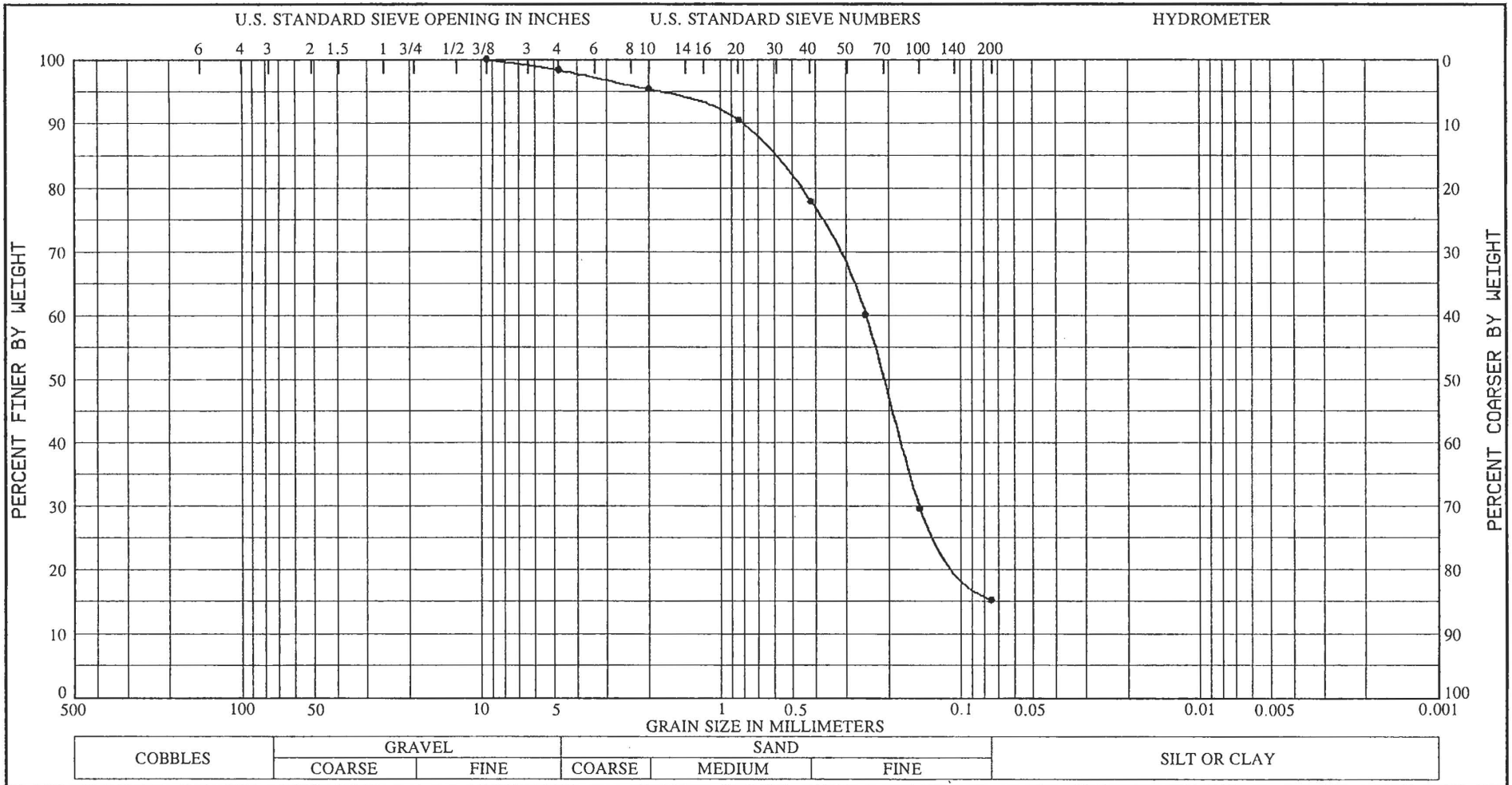
Sample No.	Depth (ft)	(VISUAL) Classification	Nat w%	LL	PL	PI
2	6.0 - 6.5	GRAY, SILTY SAND (SM), WITH A TRACE OF MICA.	25.8			

Project SHALLOTTE INLET
WILMINGTON DISTRICT
Lab No. 72/6006
Hole No. SHI-1
Date 05/26/98

GRADATION CURVES

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GA. 30060

WORK ORDER: 8426
REQUISITION: W81LJ881245987



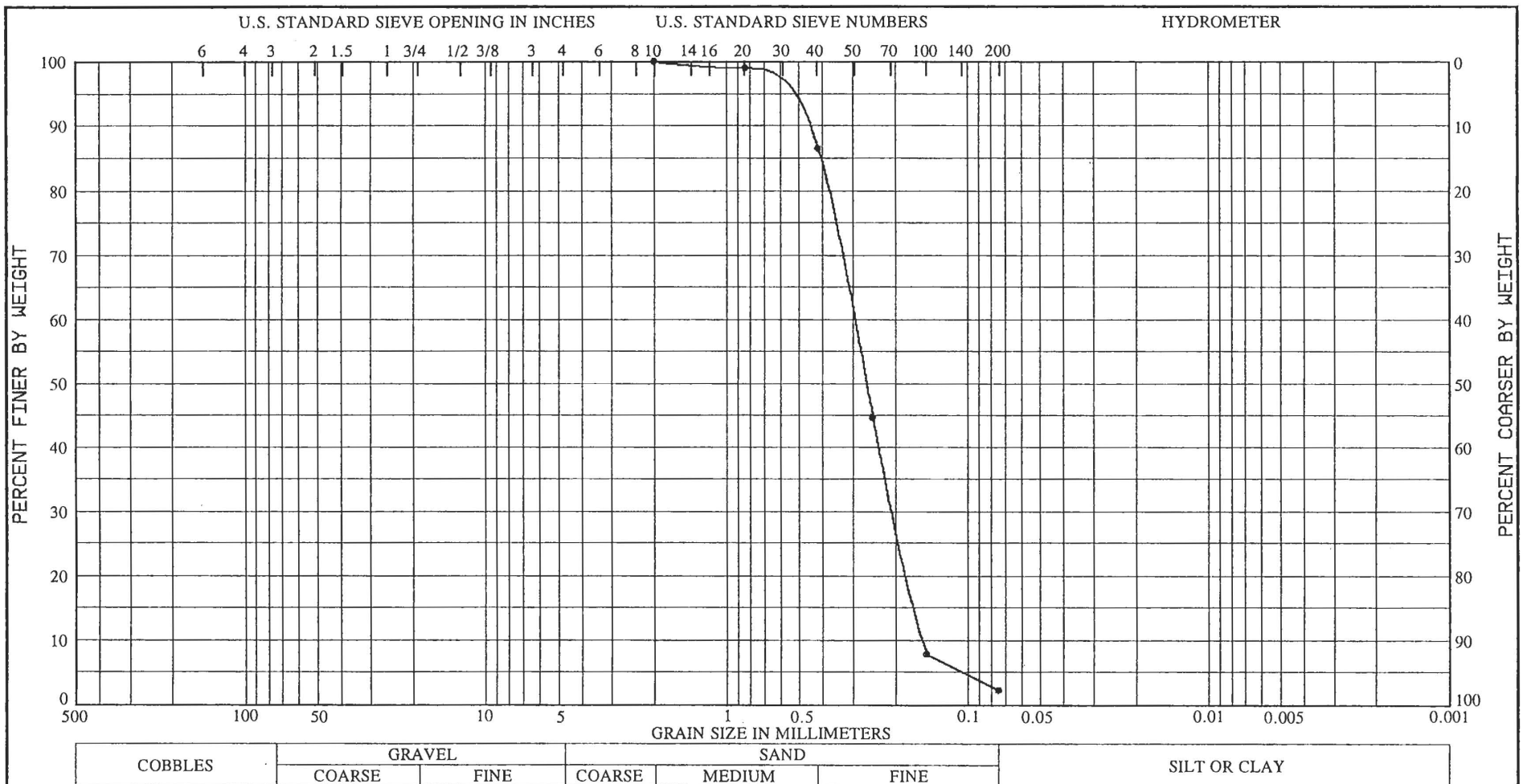
Sample No.	Depth (ft)	(VISUAL) Classification	Nat w%	LL	PL	PI
3	8.5 - 9.0	GRAY, SILTY SAND (SM), WITH A TRACE OF GRAVEL AND SHELL FRAGMENTS.	34.4			

Project SHALLOTTE INLET
WILMINGTON DISTRICT
Lab No. 72/6007
Hole No. SHI-1
Date 05/26/98

GRADATION CURVES

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GA. 30060

WORK ORDER: 8426
REQUISITION: W81LJ881245987



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Sample No.	Depth (ft)	(VISUAL) Classification	Nat w%	LL	PL	PI
4	9.0 - 9.5	GRAYISH TAN, POORLY GRADED SAND (SP).	16.8			

Project SHALLOTTE INLET
WILMINGTON DISTRICT
Lab No. 72/6008
Hole No. SHI-1
Date 05/26/98

GRADATION CURVES

Hole No. SHI-2

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION WILMINGTON DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT SHALLOTTE INLET	10. SIZE AND TYPE OF BIT 4" VIBRACORE TUBE 20'
2. LOCATION (Coordinates or Station) E 2187299 N 57375	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY WILMINGTON DISTRICT	12. MANUFACTURER'S DESIGNATION OF DRILL VIBRA-CORE (SNELL)
4. HOLE NO. (As shown on drawing title and file number) SHI-2	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED 2 UNDISTURBED 0
5. NAME OF DRILLER JERRY FULCHER	14. TOTAL NUMBER CORE BOXES N/A
6. DIRECTION OF HOLE [X] VERTICAL [ ] INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER
	16. DATE HOLE STARTED 2/5/98 COMPLETED 2/5/98
7. THICKNESS OF OVERBURDEN N/A	17. ELEVATION TOP OF HOLE -5.6 Ft.
8. DEPTH DRILLED INTO ROCK 0.0'	18. TOTAL CORE RECOVERY FOR BORING N/A %
9. TOTAL DEPTH OF HOLE 11.2'	19. SIGNATURE OF INSPECTOR KEITH BENTON

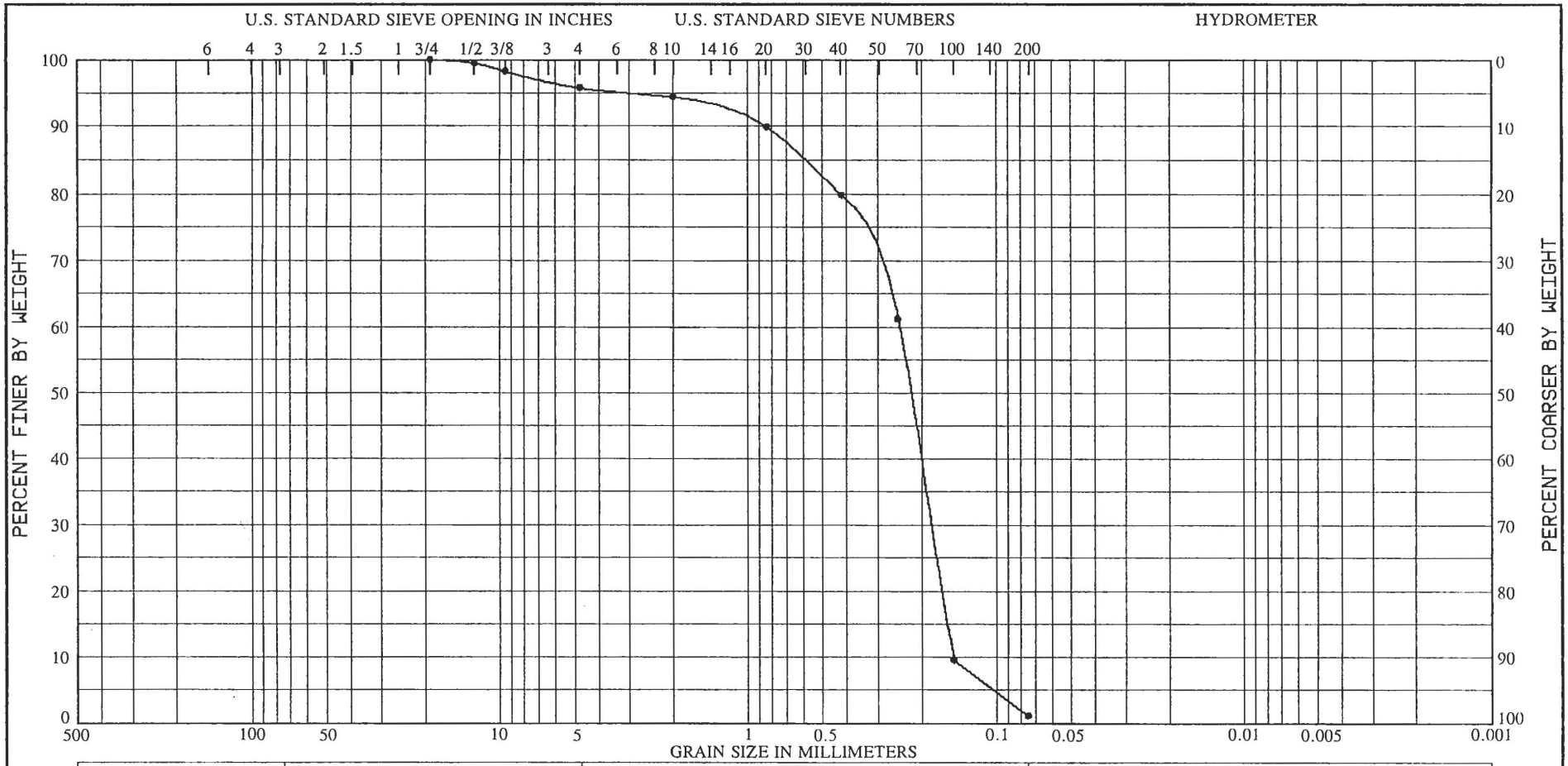
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-5.6	0		SP-Grayish tan, coarse poorly graded sand with shell fragments		1	Time Began Vibracoring @ 9:55 hours NOTE: CLASSIFIED ON 3/5/98 BY LARRY BENJAMIN CIVIL ENGINEER TECH. NOTE: Top of Hole at River Bottom LAB CLASSIFICATION Jar Number / Classification 1 SP 2 SP
	2					
	4					
	6					
	8		Trace of shell fragments		2	NOTE: Hole Terminated as necessary for convenience, predetermined depth, or assumed vibracore refusal. NOTE: The Vibracore run depth was not recorded.
	10					
-16.8	11.2		BOTTOM OF HOLE AT 11.2' SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOIL CLASSIFICATION SYSTEM			

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT SHALLOTTE INLET | HOLE NO. SHI-2

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GA. 30060

WORK ORDER: 8426
REQUISITION: W81LJ881245987



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

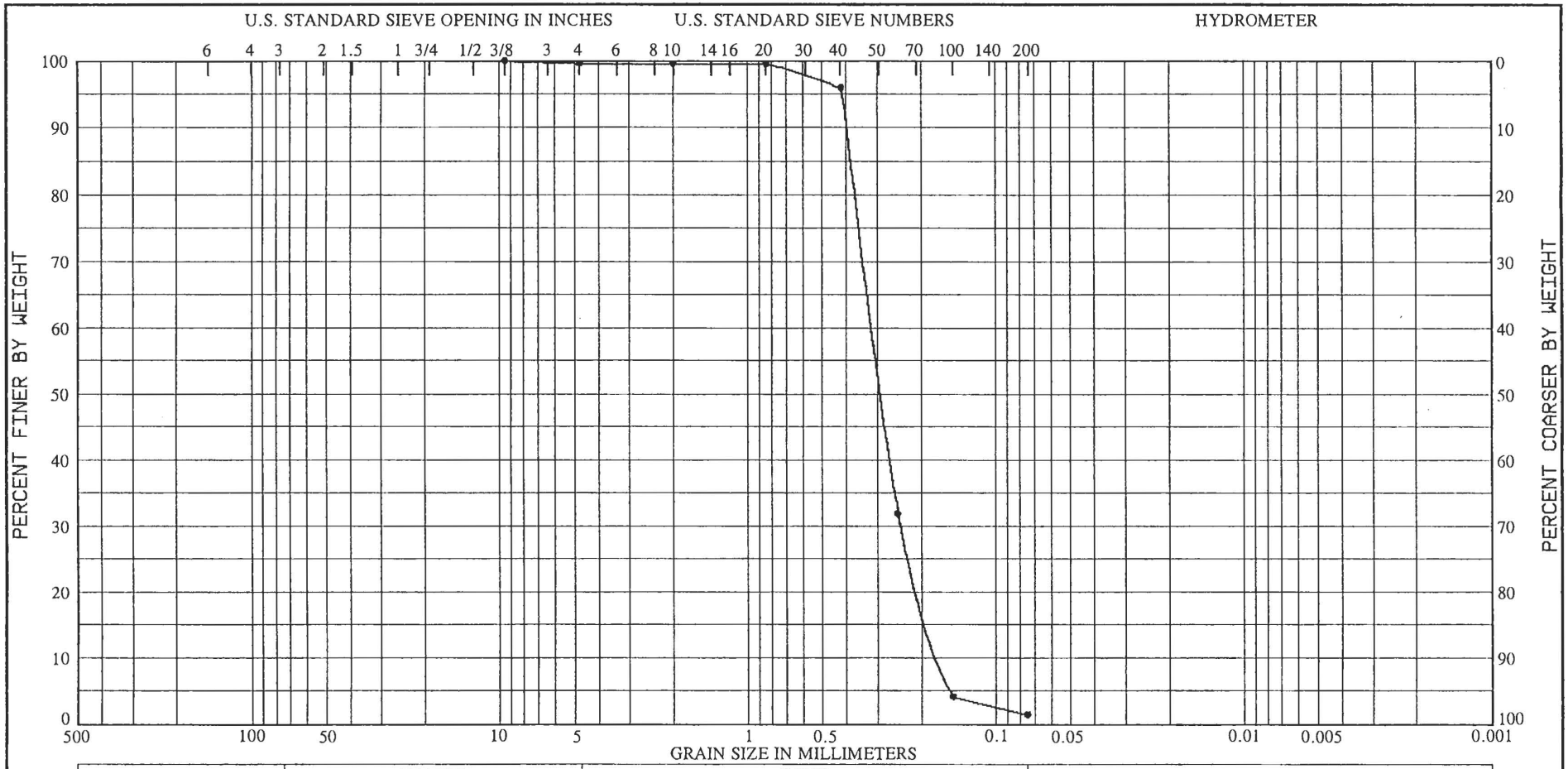
Sample No.	Depth (ft)	(VISUAL) Classification	Nat w%	LL	PL	PI
1	1.0 - 1.5	GRAY, POORLY GRADED SAND (SP), WITH A TRACE OF GRAVEL SIZE AND SAND SIZE SHELL FRAGMENTS.	19.2			

Project SHALLOTTE INLET
WILMINGTON DISTRICT
Lab No. 72/6009
Hole No. SHI-2
Date 05/26/98

GRADATION CURVES

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GA. 30060

WORK ORDER: 8426
REQUISITION: W81LJ881245987



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Sample No.	Depth (ft)	(VISUAL) Classification	Nat w%	LL	PL	PI
2	8.0 - 8.5	GRAY, POORLY GRADED SAND (SP).	19.3			

Project SHALLOTTE INLET
WILMINGTON DISTRICT
Lab No. 72/6010
Hole No. SHI-2
Date 05/26/98

GRADATION CURVES

Hole No. SHI-3

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION WILMINGTON DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT SHALLOTTE INLET	10. SIZE AND TYPE OF BIT 4" VIBRACORE TUBE 20'
2. LOCATION (Coordinates or Station) E 2186432 N 57188	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY WILMINGTON DISTRICT	12. MANUFACTURER'S DESIGNATION OF DRILL VIBRA-CORE (SNELL)
4. HOLE NO. (As shown on drawing title and file number) SHI-3	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED 2 UNDISTURBED 0
5. NAME OF DRILLER JERRY FULCHER	14. TOTAL NUMBER CORE BOXES N/A
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER
	16. DATE HOLE STARTED 2/5/98 COMPLETED 2/5/98
	17. ELEVATION TOP OF HOLE -5.8 Ft.
7. THICKNESS OF OVERBURDEN N/A	18. TOTAL CORE RECOVERY FOR BORING N/A %
8. DEPTH DRILLED INTO ROCK 0.0'	19. SIGNATURE OF INSPECTOR KEITH BENTON
9. TOTAL DEPTH OF HOLE 4.1'	

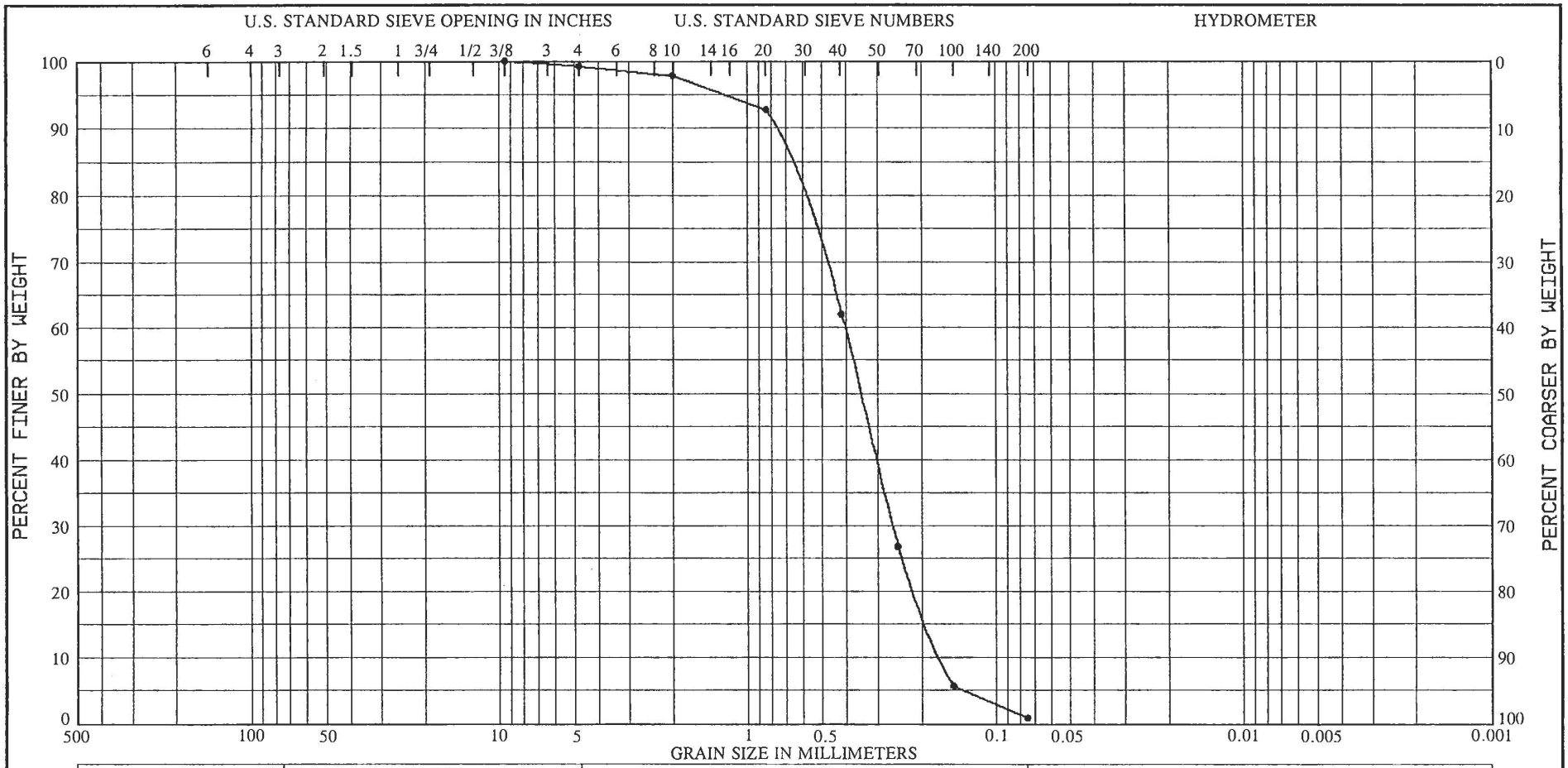
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
-5.8	0		SP-Tan, coarse poorly graded sand with shell fragments			Time Began Vibracoring @ 8:42 hours NOTE: CLASSIFIED ON 3/4/98 BY LARRY BENJAMIN CIVIL ENGINEER TECH.
	1				1	NOTE: Top of Hole at River Bottom
	2					LAB CLASSIFICATION Jar Number / Classification 1 SP 2 SC
	3					
-9.2			SC-Brown fine to medium clayey sand with rock fragments		2	
-9.9	4 4.1		BOTTOM OF HOLE AT 4.1' SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOIL CLASSIFICATION SYSTEM			NOTE: Hole Terminated as necessary for convenience, predetermined depth, or assumed vibracore refusal. NOTE: The Vibracore run depth was not recorded.

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT SHALLOTTE INLET | HOLE NO. SHI-3

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GA. 30060

WORK ORDER: 8426
REQUISITION: W81LJ881245987



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Sample No.	Depth (ft)	(VISUAL) Classification	Nat w%	LL	PL	PI
1	1.0 - 1.5	TAN, POORLY GRADED SAND (SP), WITH A TRACE OF SAND SIZE SHELL FRAGMENTS.	17.0			

Project SHALLOTTE INLET
WILMINGTON DISTRICT
Lab No. 72/6011
Hole No. SHI-3
Date 05/26/98

GRADATION CURVES

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GA. 30060

WORK ORDER: 8426
REQUISITION: W81LJ881245987

COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Sample No.	Depth (ft)	(VISUAL) Classification	Nat w%	LL	PL	PI
2	3.4 - 3.9	TAN, CLAYEY SAND (SC), WITH A LITTLE GRAVEL.	18.1			

Project SHALLOTTE INLET
WILMINGTON DISTRICT
Lab No. 72/6012
Hole No. SHI-3
Date 05/26/98

GRADATION CURVES

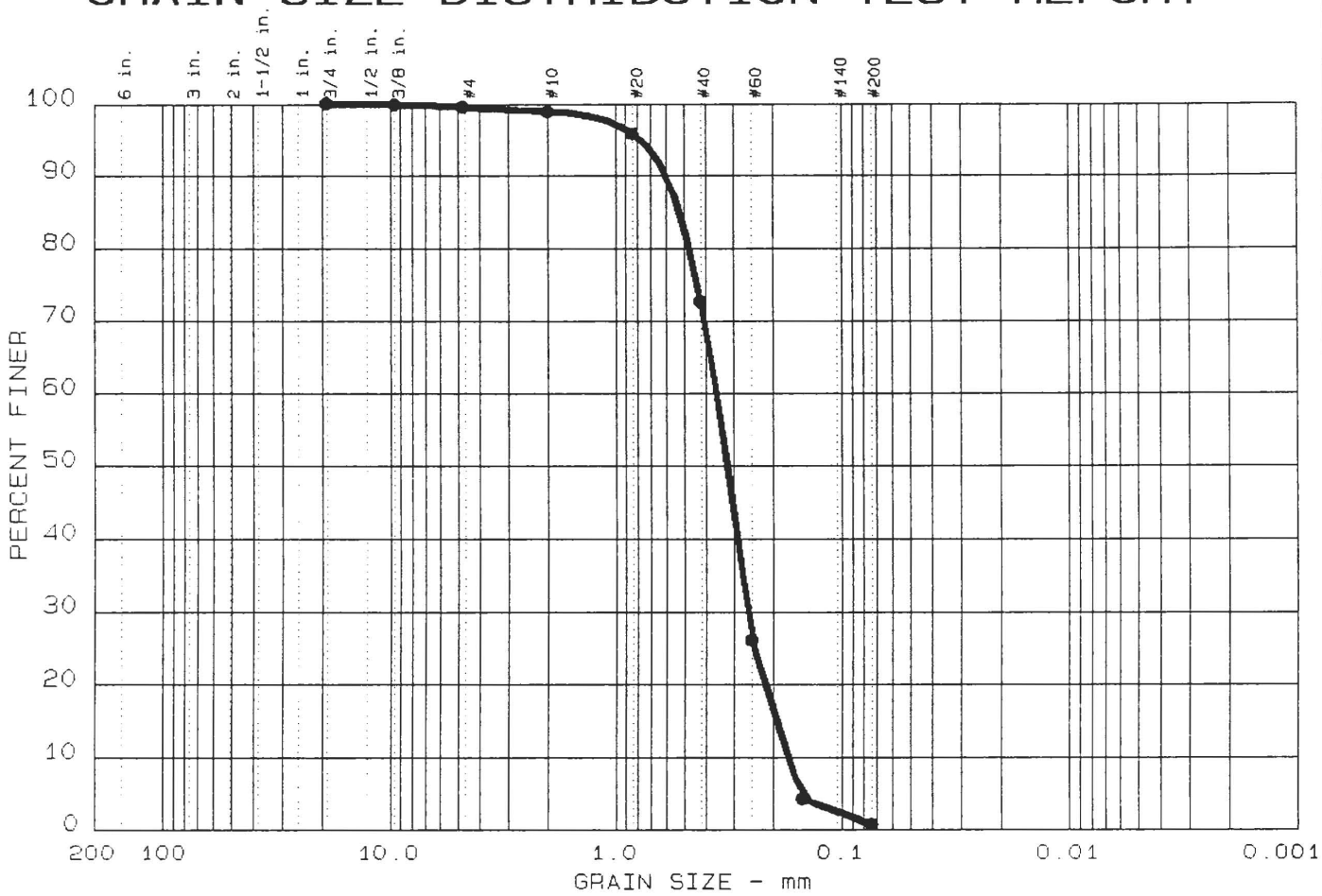
Hole No. SHI-4

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION WILMINGTON DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT SHALLOTTE INLET	10. SIZE AND TYPE OF BIT 4" VIBRACORE TUBE 20'
2. LOCATION (Coordinates or Station) E 2187011 N 56726	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY WILMINGTON DISTRICT	12. MANUFACTURER'S DESIGNATION OF DRILL VIBRA-CORE (SNELL)
4. HOLE NO. (As shown on drawing title and file number) SHI-4	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED 3 UNDISTURBED 0
5. NAME OF DRILLER JERRY FULCHER	14. TOTAL NUMBER CORE BOXES N/A
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.	15. ELEVATION GROUND WATER
	16. DATE HOLE STARTED 2/5/98 COMPLETED 2/5/98
7. THICKNESS OF OVERBURDEN N/A	17. ELEVATION TOP OF HOLE -2.4 Ft.
8. DEPTH DRILLED INTO ROCK 0.0'	18. TOTAL CORE RECOVERY FOR BORING N/A %
9. TOTAL DEPTH OF HOLE 11.7'	19. SIGNATURE OF INSPECTOR KEITH BENTON

ELEVATION	DEPTH	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-2.4	0		SP-Tan, coarse poorly graded sand trace of shell fragments		1	Time Began Vibracoring @ 9:25 hours NOTE: CLASSIFIED ON 3/4/98 BY LARRY BENJAMIN CIVIL ENGINEER TECH. NOTE: Top of Hole at River Bottom
	2					
	4				2	LAB CLASSIFICATION Jar Number 1 — Classification SP
	6					
	8				3	NOTE: Hole Terminated as necessary for convenience, predetermined depth, or assumed vibracore refusal. NOTE: The Vibracore run depth was not recorded.
	10					
-14.1	11.7		BOTTOM OF HOLE AT 11.7' SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOIL CLASSIFICATION SYSTEM			

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	14	0.0	0.5	98.8	0.7	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.52	0.36	0.32	0.261	0.1919	0.1704	1.12	2.1

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Poorly Graded Sand with Shell Fragments	SP	

Project No.: 50160-8-0025-W01-830

Project: Shallote Inlet, Brunswick, NC

● Location: SHI-4 Jar Sample 1 @ 1.0-1.5 Ft.

Date: Feb.20, 1999

Remarks:

Tested by: JL CA

Reviewed by: HJ

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 14

Date: Feb.20,1999
Project No.: 50160-8-0025-W01-830
Project: Shallote Inlet,Brunswick,NC

Sample Data

Location of Sample: SHI-4 Jar Sample 1 @ 1.0-1.5 Ft.
Sample Description: Tan Poorly Graded Sand with Shell Fragments
USCS Class: SP
Liquid limit:
AASHTO Class:
Plasticity index:

Notes

Remarks: Tested by: JL CA Reviewed by: HJ

Fig. No.:

Mechanical Analysis Data

	Initial
Dry sample and tare=	303.47
Tare =	0.00
Dry sample weight =	303.47

Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.75 inches	0.00	100.0
0.375 inches	0.39	99.9
# 4	1.48	99.5
# 10	3.40	98.9
# 20	12.67	95.8
# 40	82.80	72.7
# 60	224.19	26.1
# 100	290.46	4.3
# 200	301.34	0.7

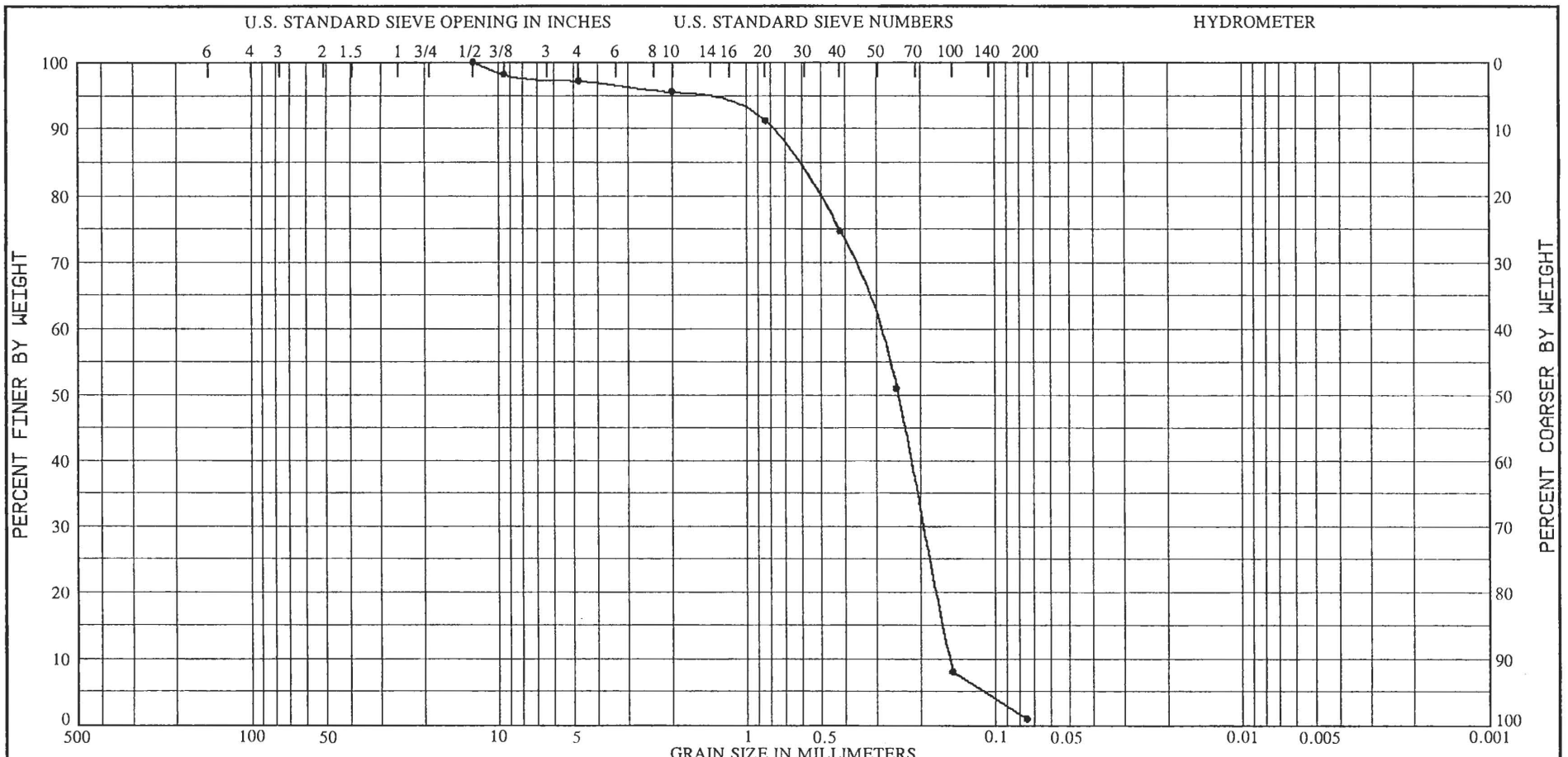
Fractional Components

% + 3 in. = 0.0 % GRAVEL = 0.5 % SAND = 98.8
% FINES = 0.7

D85= 0.52 D60= 0.355 D50= 0.320
D30= 0.2606 D15= 0.19187 D10= 0.17041
Cc = 1.1220 Cu = 2.0845

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GA. 30060

WORK ORDER: 8426
REQUISITION: W81LJ881245987



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Sample No.	Depth (ft)	(VISUAL) Classification	Nat w%	LL	PL	PI
2	5.0 - 5.5	TAN, POORLY GRADED SAND (SP), WITH A TRACE OF GRAVEL SIZE AND SAND SIZE SHELL FRAGMENTS.	18.2			

Project SHALLOTTE INLET
WILMINGTON DISTRICT
Lab No. 72/6013
Hole No. SHI-4
Date 05/26/98

GRADATION CURVES

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 15

Date: Feb.20,1999
Project No.: 50160-8-0025-W01-830
Project: Shallote Inlet,Brunswick,NC

Sample Data

Location of Sample: SHI-4 Jar Sample 3 @ 9.0-9.5 Ft.
Sample Description: Tan Poorly Graded Sand with Shell Fragments
USCS Class: SP Liquid limit:
AASHTO Class: Plasticity index:

Notes

Remarks: Tested by: CA JL Reviewed by: HJ

Fig. No.:

Mechanical Analysis Data

	Initial
Dry sample and tare=	338.90
Tare =	0.00
Dry sample weight =	338.90

Tare for cumulative weight retained= 0

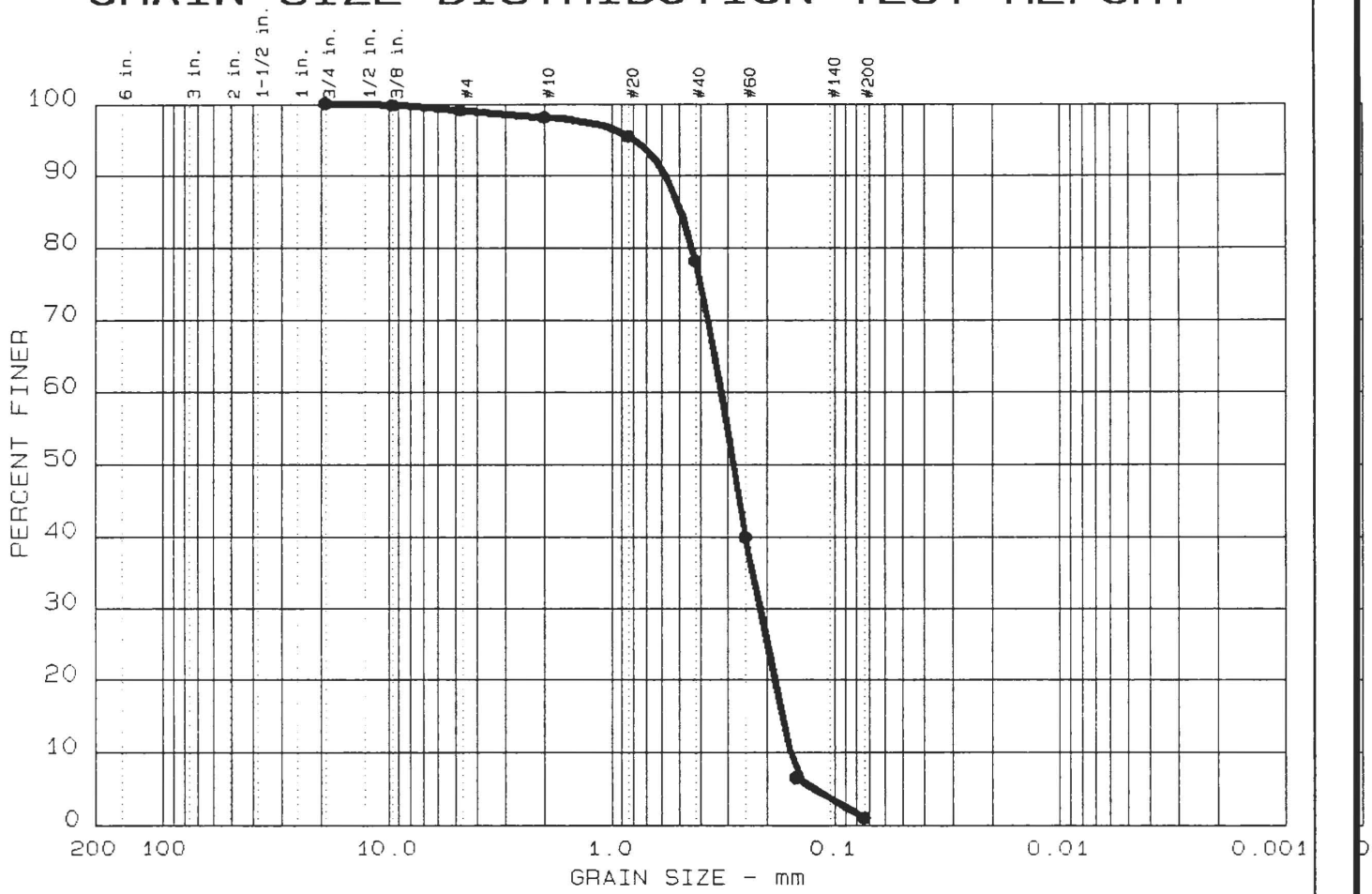
Sieve	Cumul. Wt. retained	Percent finer
0.75 inches	0.00	100.0
0.375 inches	0.73	99.8
# 4	3.01	99.1
# 10	6.41	98.1
# 20	15.38	95.5
# 40	73.85	78.2
# 60	203.92	39.8
# 100	316.75	6.5
# 200	335.47	1.0

Fractional Components

% + 3 in. = 0.0 % GRAVEL = 0.9 % SAND = 98.1
% FINES = 1.0

D85= 0.48 D60= 0.320 D50= 0.282
D30= 0.2143 D15= 0.16982 D10= 0.15722
Cc = 0.9131 Cu = 2.0347

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	15	0.0	0.9	98.1	1.0	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.48	0.32	0.28	0.214	0.1698	0.1572	0.91	2.0

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Poorly Graded Sand with Shell Fragments	SP	

Project No.: 50160-8-0025-W01-830
Project: Shallote Inlet, Brunswick, NC
● Location: SHI-4 Jar Sample 3 @ 9.0-9.5 Ft.

Date: Feb.20, 1999

Remarks:

Tested by: CA JL

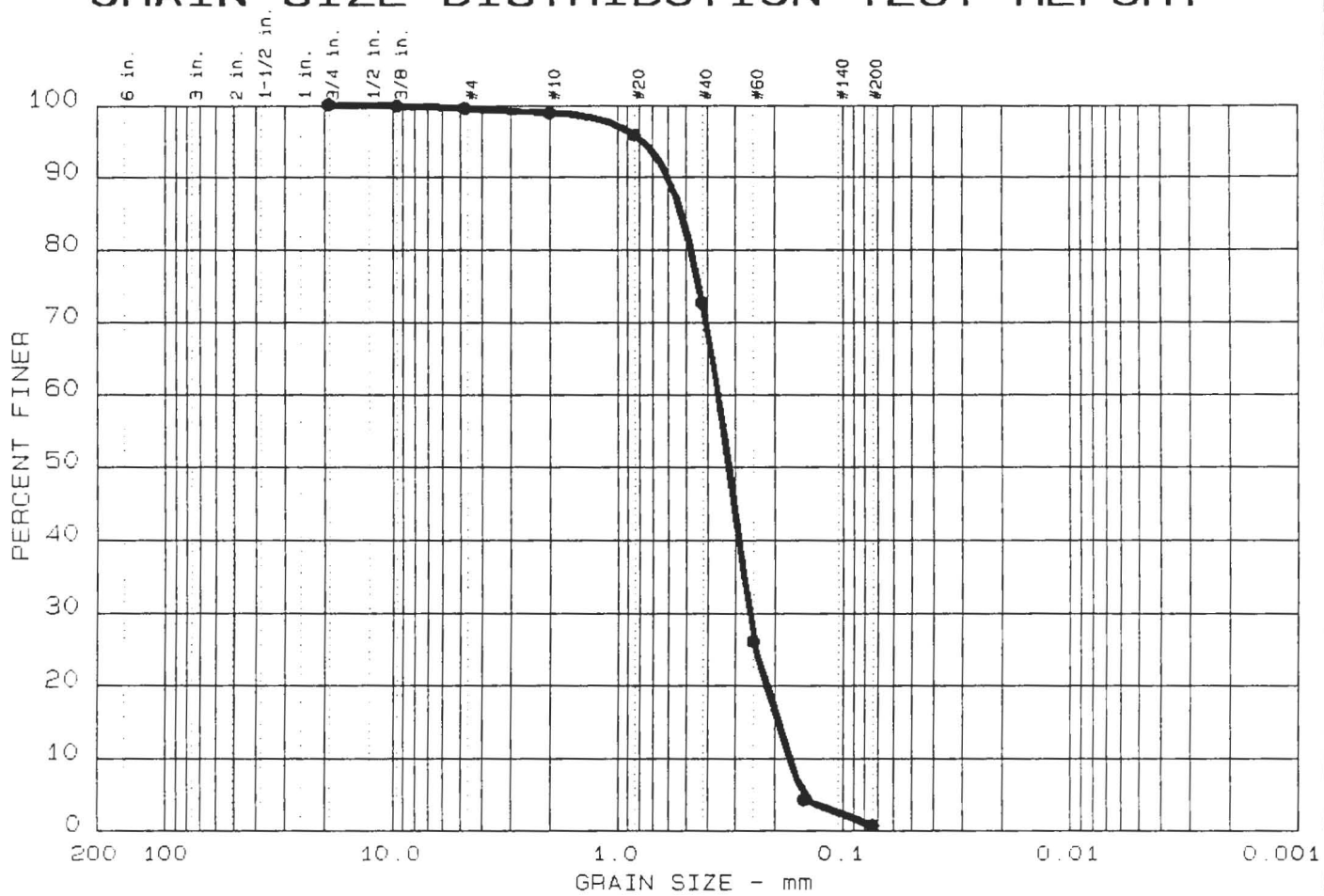
Reviewed by: HJ

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	14	0.0	0.5	98.8	0.7	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.52	0.36	0.32	0.261	0.1919	0.1704	1.12	2.1

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Poorly Graded Sand with Shell Fragments	SP	

Project No.: 50160-8-0025-W01-830
Project: Shallote Inlet, Brunswick, NC
● Location: SHI-4 Jar Sample 1 @ 1.0-1.5 Ft.

Date: Feb.20, 1999

Remarks:

Tested by: JL CA

Reviewed by: HJ

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 14

Date: Feb.20,1999
Project No.: 50160-8-0025-W01-830
Project: Shallote Inlet,Brunswick,NC

Sample Data

Location of Sample: SHI-4 Jar Sample 1 @ 1.0-1.5 Ft.
Sample Description: Tan Poorly Graded Sand with Shell Fragments
USCS Class: SP
Liquid limit:
AASHTO Class:
Plasticity index:

Notes

Remarks: Tested by: JL CA Reviewed by: HJ

Fig. No.:

Mechanical Analysis Data

	Initial
Dry sample and tare=	303.47
Tare =	0.00
Dry sample weight =	303.47

Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.75 inches	0.00	100.0
0.375 inches	0.39	99.9
# 4	1.48	99.5
# 10	3.40	98.9
# 20	12.67	95.8
# 40	82.80	72.7
# 60	224.19	26.1
# 100	290.46	4.3
# 200	301.34	0.7

Fractional Components

% + 3 in. = 0.0 % GRAVEL = 0.5 % SAND = 98.8
% FINES = 0.7

D85= 0.52 D60= 0.355 D50= 0.320
D30= 0.2606 D15= 0.19187 D10= 0.17041
Cc = 1.1220 Cu = 2.0845