

DRILLING LOG		HUMISTON & MOORE ENGINEERS		INSTALLATION		SHEET 7 OF 12 SHEETS	
1. PROJECT KNIGHT ISLAND BEACH NOURISHMENT				10. SIZE AND TYPE OF BIT 2.5 INCHES			
2. LOCATION CHARLOTTE COUNTY, FLORIDA				11. DATUM FOR ELEVATION SHOWN NGVD			
3. DRILLING AGENCY EXMAR				12. MANUFACTURERS DESIGNATION OF DRILL VIBRACORE			
4. HOLE NO. 5				13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		DISTURBED NA	
						UNDISTURBED NA	
5. NAME OF DRILLER MIKE CLARK				14. TOTAL NUMBER OF CORE BOXES (SECTIONS) 3			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION OF GROUND WATER TIDAL			
7. THICKNESS OF OVERBURDEN NA				16. DATE HOLE		STARTED 9/19/93 FINISHED 9/19/93	
8. DEPTH DRILLED INTO ROCK NONE				17. ELEVATION TOP OF HOLE -14.8 FEET NGVD			
9. TOTAL DEPTH OF HOLE 10 FEET				18. TOTAL CORE RECOVERY FOR BORING 10 FEET			
				19. SIGNATURE OF INSPECTOR			

ELEVATION (Feet)	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV- ERY	BOX OR SAMPLE NO.	REMARKS
a	b	c	d	e	f	g
-17.2	1		FINE QUARTZ SAND, (SP), LT. GRAY		5-1	EL. = -16.3
	2					
-18.0	3					
-18.8	4		FINE QUARTZ SAND, (SP), LT. GRAY, TRACE SHELL			
	5					
-21.5	6					
	7		SHELLY, SILTY FINE QUARTZ SAND			
-23.0	8					
	9					
-25.1	10		FINE QUARTZ SAND, (SP), DK. BROWN, ORGANIC SILT		5-5	EL. = -23.8
	11					
	12					
	13					
	14					
	15					
	16					
	17					
	18					
	19					

**LAW ENGINEERING**  
**3627 PROGRESS AVENUE**  
**NAPLES, FLORIDA 33942**  
**(813) 643-4747**

**REPORT OF GRAINSIZE ANALYSIS WITH WASH 200 AND WATER CONTENT**

**CLIENT:** Humiston, Moore Engineers

**DATE:** October 22, 1993

**PROJECT:** Knight Island Beach Restoration Project

**TECHNICIAN:** SC

**JOB NUMBER:** 76-611005-01

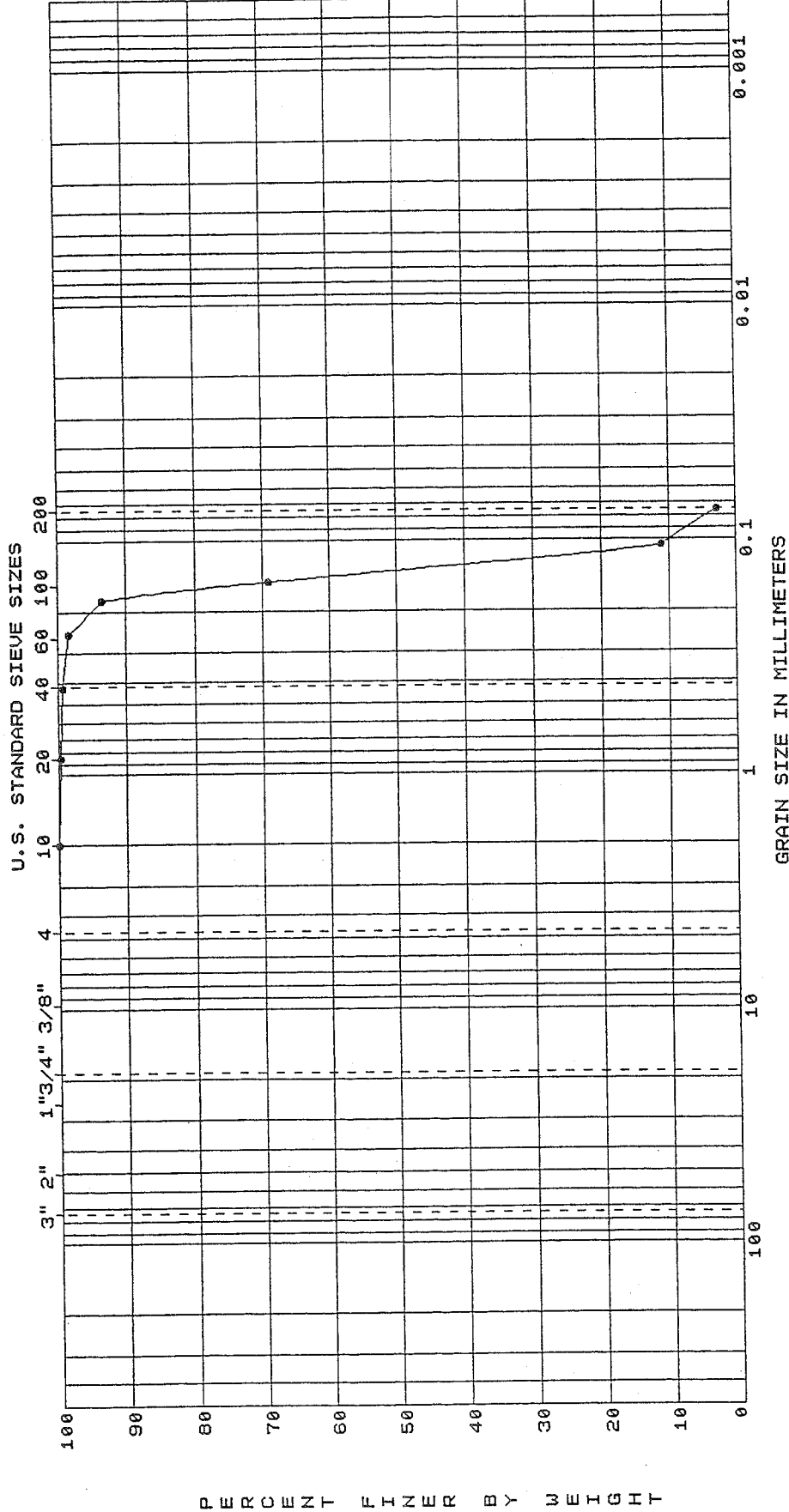
**BORING NUMBER:** 5

**SAMPLE NUMBER:** 1

**Sample Description:** Gray fine SAND

<b>SIEVE NO.</b>	<b>WEIGHT RETAINED</b>	<b>% RETAINED</b>	<b>% PASSING</b>
<b>1 in.</b>	0.0	0.0	100.0
<b>3/4 in.</b>	0.0	0.0	100.0
<b>1/2 in.</b>	0.0	0.0	100.0
<b>3/8 in.</b>	0.0	0.0	100.0
<b>4</b>	0.0	0.0	100.0
<b>10</b>	0.4	0.1	99.9
<b>20</b>	1.0	0.4	99.6
<b>40</b>	2.2	0.8	99.2
<b>60</b>	4.8	1.7	98.3
<b>80</b>	18.5	6.5	93.5
<b>100</b>	87.5	30.9	69.1
<b>140</b>	251.8	88.8	11.2
<b>200</b>	275.6	97.2	2.8

Boulders	GRAVEL		SAND			FINES	
	Coarse	Fine	Coarse	Medium	Fine	Silt Sizes	Clay Sizes



PERCENT FINER BY WEIGHT

DESCRIPTION					
DEPTH	NAT WC	LL	PL	PI	
0.0					Gray fine SAND

GRAIN SIZE DISTRIBUTION			
SAMPLE 1			
BORING NUMBER	5		
PROJECT NUMBER	76-611005-01		
PROJECT	KNIGHT ISLAND BEACH RESTORATION		
LAW ENGINEERING			

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REPORT OF GRAINSIZE ANALYSIS WITH WASH 200 AND WATER CONTENT

CLIENT: Humiston, Moore Engineers

DATE: October 20, 1993

PROJECT: Knight Island Beach Restoration Project

TECHNICIAN: SC

JOB NUMBER: 76-611005-01

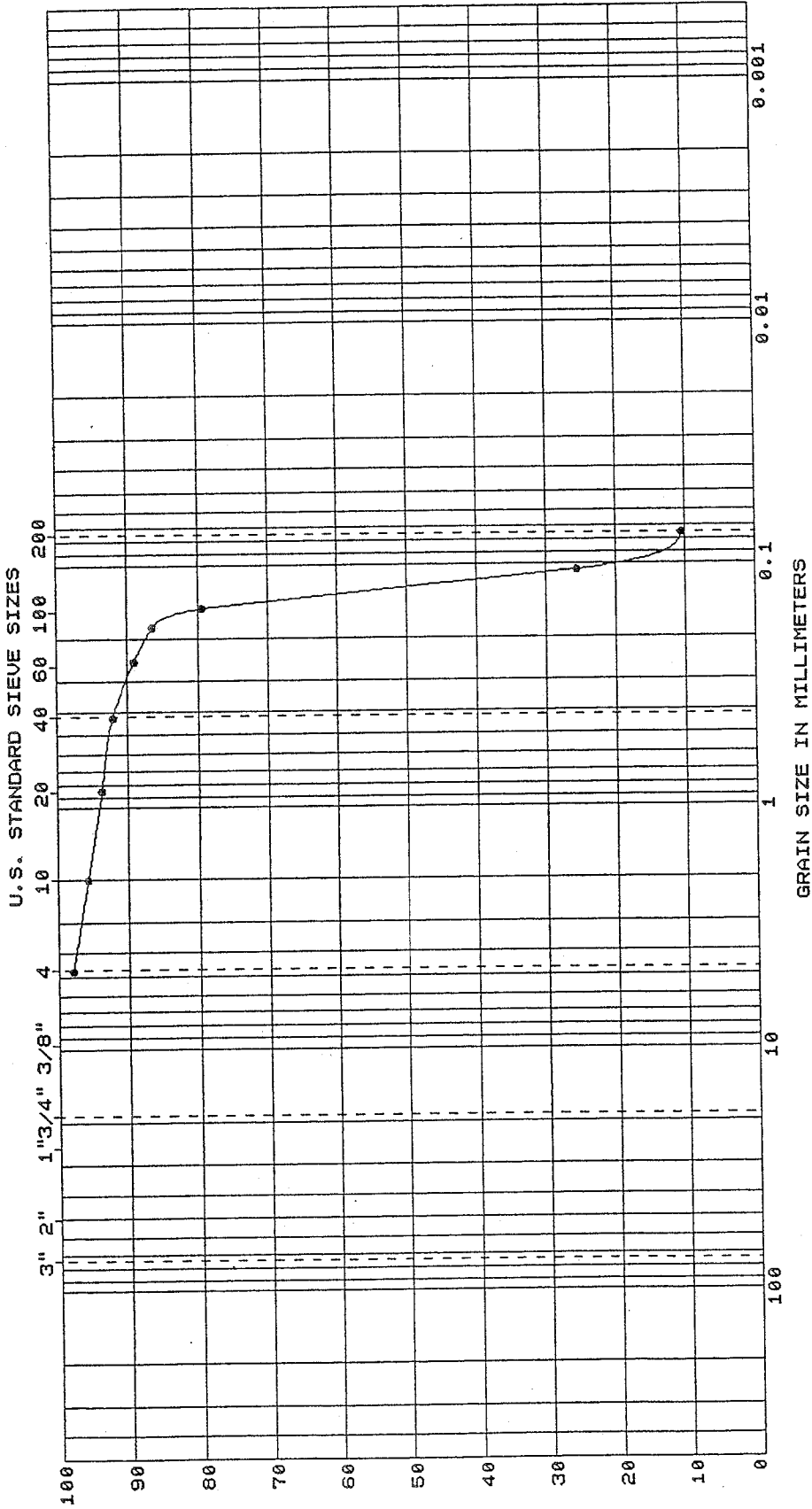
BORING NUMBER: 5

SAMPLE NUMBER: 2

Sample Description: Gray slightly silty fine SAND

<i>SIEVE NO.</i>	<i>WEIGHT RETAINED</i>	<i>% RETAINED</i>	<i>% PASSING</i>
<i>1 in.</i>	<i>0.0</i>	<i>0.0</i>	<i>100.0</i>
<i>3/4 in.</i>	<i>0.0</i>	<i>0.0</i>	<i>100.0</i>
<i>1/2 in.</i>	<i>0.0</i>	<i>0.0</i>	<i>100.0</i>
<i>3/8 in.</i>	<i>0.0</i>	<i>0.0</i>	<i>100.0</i>
<i>4</i>	<i>5.9</i>	<i>2.1</i>	<i>97.9</i>
<i>10</i>	<i>11.9</i>	<i>4.3</i>	<i>95.7</i>
<i>20</i>	<i>17.3</i>	<i>6.3</i>	<i>93.7</i>
<i>40</i>	<i>21.8</i>	<i>7.9</i>	<i>92.1</i>
<i>60</i>	<i>30.5</i>	<i>11.0</i>	<i>89.0</i>
<i>80</i>	<i>37.7</i>	<i>13.6</i>	<i>86.4</i>
<i>100</i>	<i>57.0</i>	<i>20.6</i>	<i>79.4</i>
<i>140</i>	<i>205.8</i>	<i>74.4</i>	<i>25.6</i>
<i>200</i>	<i>247.6</i>	<i>89.5</i>	<i>10.5</i>

Boul ders	GRAVEL		SAND			FINES	
	Coarse	Fine	Coarse	Medium	Fine	Silt Sizes	Clay Sizes



PERCENT FINER BY WEIGHT

DEPTH		NAT	WC	LL	PL	PI	DESCRIPTION
0.0							Gray slightly silty fine sand

GRAIN SIZE DISTRIBUTION	
BORING NUMBER	SAMPLE 2
PROJECT NUMBER	5
PROJECT	76-611005-01
	KNIGHT ISLAND BEACH RESTORATION
LAW ENGINEERING	

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REPORT OF GRAINSIZE ANALYSIS WITH WASH 200 AND WATER CONTENT

CLIENT: Humiston, Moore Engineers

DATE: October 20, 1993

PROJECT: Knight Island Beach Restoration Project

TECHNICIAN: SC

LAB NUMBER: 76-611005-01

BORING NUMBER: 5

SAMPLE NUMBER: 3

Sample Description: Gray fine SAND

SIEVE NO.	WEIGHT RETAINED	% RETAINED	% PASSING
1 in.	0.0	0.0	100.0
3/4 in.	0.0	0.0	100.0
1/2 in.	0.0	0.0	100.0
3/8 in.	0.0	0.0	100.0
4	0.5	0.2	99.8
10	0.8	0.3	99.7
20	1.3	0.5	99.5
40	2.7	1.0	99.0
60	13.2	4.7	95.3
80	96.9	34.5	65.5
100	254.3	90.5	9.5
140	272.6	97.0	3.0
200	274.1	97.6	2.4



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CLIENT: Humiston, Moore Engineers

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JOB NUMBER: 76-611005-01

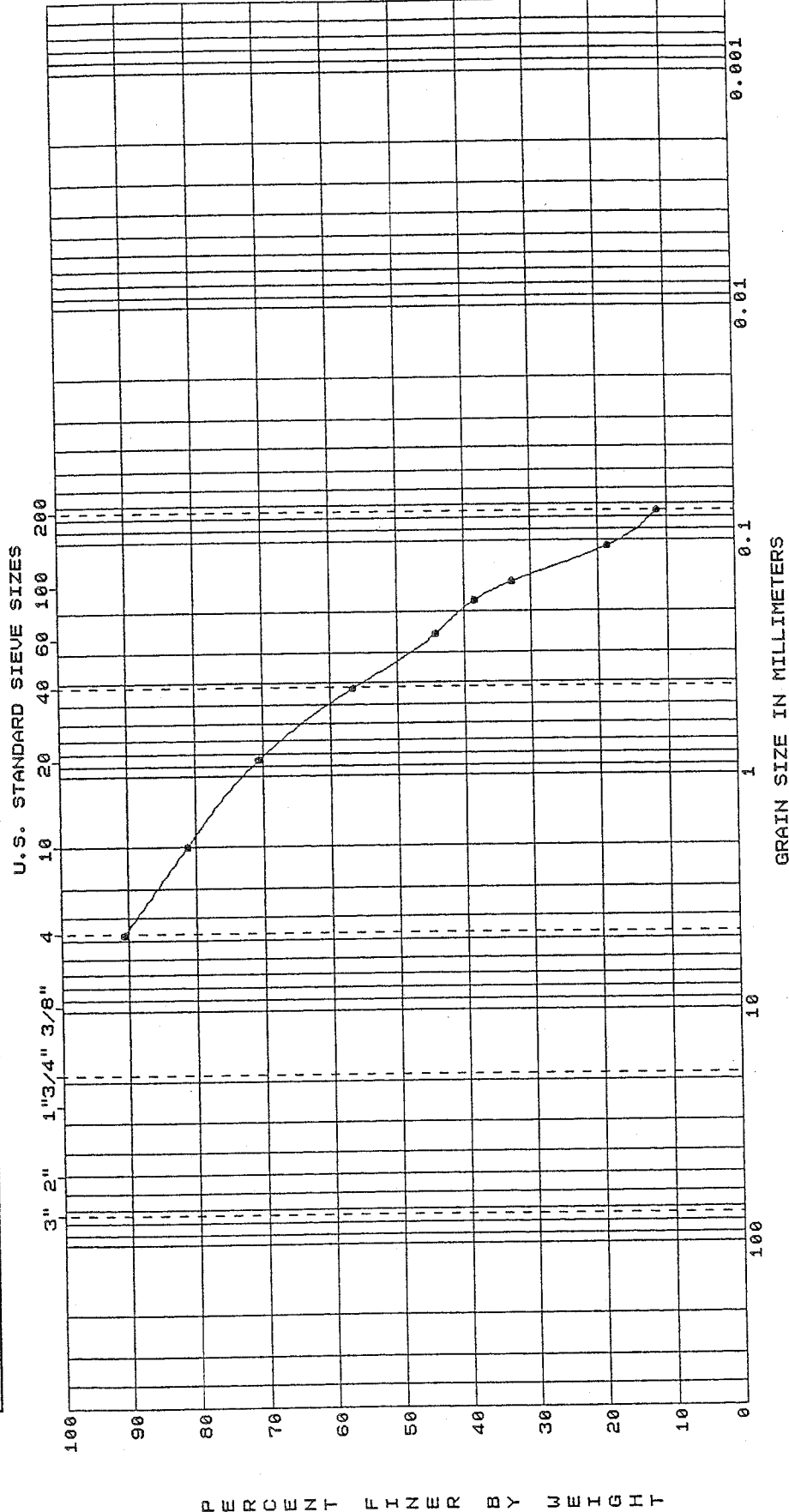
BORING NUMBER: 5

SAMPLE NUMBER: 4

Sample Description: Gray slightly silty fine SAND, trace shell fragments

SIEVE NO.	WEIGHT RETAINED	% RETAINED	% PASSING
1 in.	0.0	0.0	100.0
3/4 in.	0.0	0.0	100.0
1/2 in.	0.0	0.0	100.0
3/8 in.	0.0	0.0	100.0
4	27.1	9.4	90.6
10	54.3	18.8	81.2
20	84.6	29.4	70.6
40	124.9	43.4	56.6
60	160.5	55.7	44.3
80	177.2	61.5	38.5
100	193.6	67.2	32.8
140	234.4	81.4	18.6
200	254.9	88.5	11.5

Boul ders	GRAVEL		SAND			FINES	
	Coarse	Fine	Coarse	Medium	Fine	Silt Sizes	Clay Sizes



PERCENT FINER BY WEIGHT

DESCRIPTION				
DEPTH	NAT WC	LL	PL	PI
0.0				
Gray slightly silty fine sand, trace shell fragments				

GRAIN SIZE DISTRIBUTION	
SAMPLE 4	
BORING NUMBER	5
PROJECT NUMBER	76-611005-01
PROJECT	KNIGHT ISLAND BEACH RESTORATION
LAW ENGINEERING	

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**CLIENT:** Humiston, Moore Engineers

**DATE:** October 20, 1993

**PROJECT:** Knight Island Beach Restoration Project

**TECHNICIAN:** SC

**JOB NUMBER:** 76-611005-01

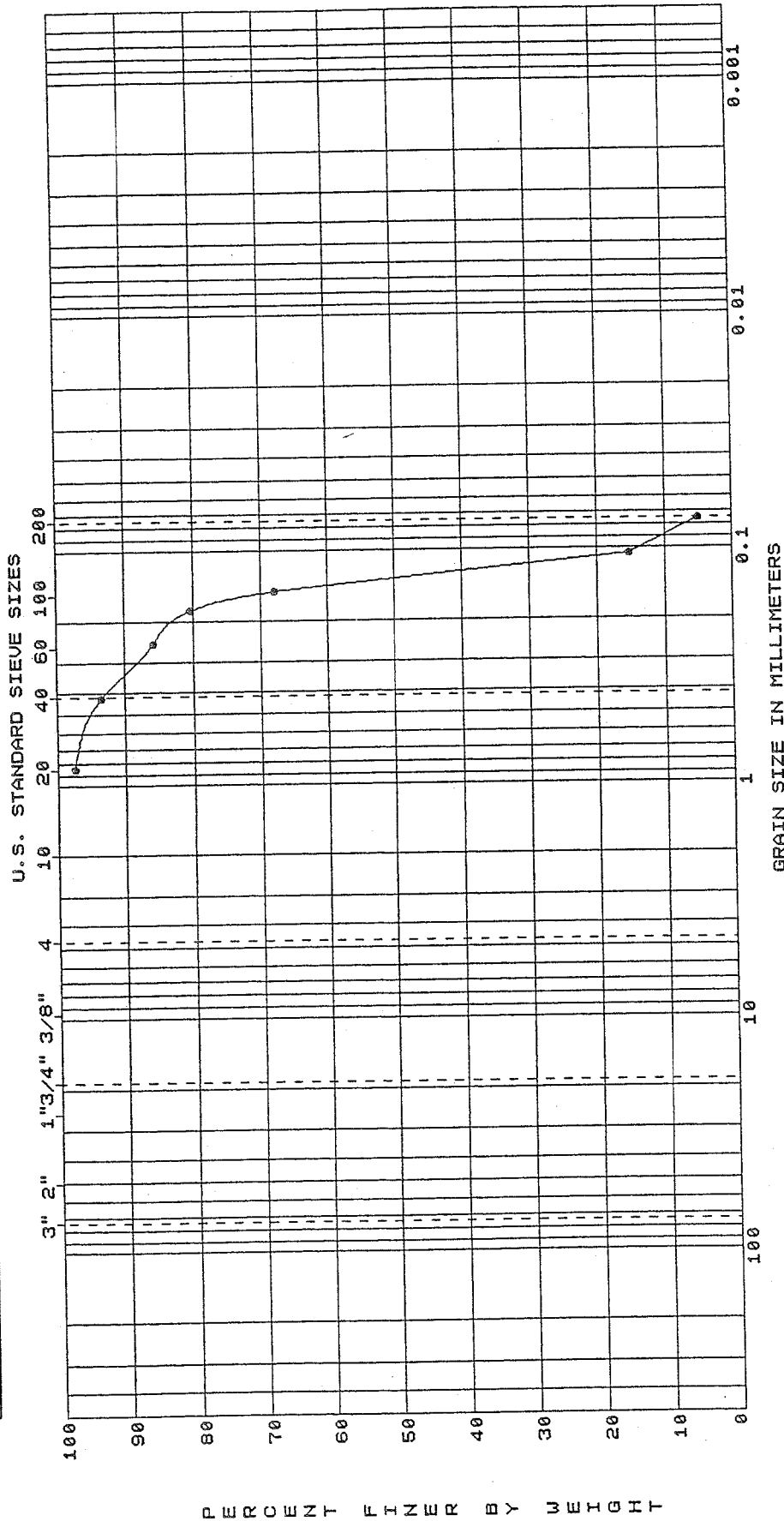
**BORING NUMBER:** 5

**SAMPLE NUMBER:** 5

**Sample Description:** Dark gray slightly silty fine SAND

<i>SIEVE NO.</i>	<i>WEIGHT RETAINED</i>	<i>% RETAINED</i>	<i>% PASSING</i>
1 in.	0.0	0.0	100.0
3/4 in.	0.0	0.0	100.0
1/2 in.	0.0	0.0	100.0
3/8 in.	0.0	0.0	100.0
4	0.0	0.0	100.0
10	0.0	0.0	100.0
20	7.3	2.6	97.4
40	18.4	6.5	93.5
60	39.9	14.2	85.8
80	55.1	19.6	80.4
100	90.4	32.1	67.9
140	238.7	84.7	15.3
200	267.6	95.0	5.0

Boul ders	GRAVEL		SAND			FINES	
	Coarse	Fine	Coarse	Medium	Fine	Silt Sizes	Clay Sizes



PERCENT FINER BY WEIGHT

DESCRIPTION				
DEPTH	NAT WC	LL	PL	PI
0.0				
Dark gray slightly silty fine sand				

GRAIN SIZE DISTRIBUTION	
BORING NUMBER	SAMPLE 5
PROJECT NUMBER	76-611005-01
PROJECT	KNIGHT ISLAND BEACH RESTORATION
LAW ENGINEERING	