

**APPENDIX 1**

**BORROW AREA GEOTECHNICAL INFORMATION**



**Coastal Planning & Engineering, Inc.**  
2481 N.W. Boca Raton Blvd.  
Boca Raton, Florida 33431  
Phone # 1-561-391-8102

### Legend for Geotechnical Data

(SP), (SM), etc.

Refers to the Army Corps of Engineers Unified Soils Classification System. Class types are defined primarily by grain size, sorting and percent of material passing the 200 sieve. Classification of materials on the core logs based on visual field examinations are identified on the core logs under the Classification of Materials Description. Classifications based on laboratory sieve analyses are identified on the core logs in the Legend and under Remarks.

#### **Grain Size Terms**

Cobble – retained on the 3.0” sieve  
Gravel – greater than the #4 sieve and less than the 3.0” sieve  
    Coarse: greater than the ¾” sieve and less than the 3.0” sieve  
    Fine – greater than the #4 sieve and less than the ¾” sieve  
Sand - greater than the #200 sieve and less than the #4 sieve  
    Coarse - greater than the #10 sieve and less than the #4 sieve  
    Medium - greater than the #40 sieve and less than the #10 sieve  
    Fine - greater than the #230 sieve and less than the #40 sieve  
Fines – (silt or clay) passing the #230 sieve

#### **Proportional definition of descriptive terms**

<u>Descriptive Term</u>	<u>Range of Proportions</u>
Sandy, gravelly, etc.	35 % to 50 %
Some	20 % to 35 %
Little	10 % to 20 %
Trace	1 % to 10 %

Note: Information is after ACOE Atlantic Division Manual # 1110-1-1 titled *Engineering and Design Geotechnical Manual for Surface and Subsurface Investigations*



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**Legend for Geotechnical Data**

GW		Well graded gravels or gravel-sand mixtures, little or no fines	ML		Inorganic silts and very fine sands, rock flour, sandy silts or clayey silts with slight plasticity
GP		Poorly graded gravels or gravel-sand mixtures, w/ little or no fines	MH		Inorganic silts, micaceous or diatomaceous fine sandy or silty soil, elastic silts
GM		Silty gravels, gravel-sand-silt mixtures	OL		Organic silts and organic silt-clays of low plasticity
GC		Clayey gravels, gravel-sand-clay mixtures	OH		Organic clays of medium to high plasticity, organic silts
SW		Well graded sands or gravelly sands, little or no fines	CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
SP		Poorly graded sands or gravelly sands, little or no fines	CH		Inorganic clays of high plasticity, fat clays
SM		Silty sands, sand-silt mixtures	PT		Peat and other highly organic soils
SC		Clayey sands, sand-clay mixtures	SP-SM		Poorly-graded silty sand
SW-SM		Well-graded silty sand	SM-SC		Silty clayey sand
GW-GM		Well-graded silty gravel	ML-CL		Inorganic silty lean clay
GM-GC		Clayey silty gravel			

Note: Information is after ACOE Atlantic Division Manual # 1110-1-1 titled *Engineering and Design Geotechnical Manual for Surface and Subsurface Investigations*



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### **Legend for Geotechnical Data**

The naming convention used by Coastal Planning and Engineering incorporates key information about the item in the title. The naming format uses the following information:

- **Abbreviated area name (two letters that will be used throughout the project)**
- **Abbreviated data type: jet probe (JP), vibracore (VC) or surface sample (SS)**
- **Collection year (YY)**
- **Identification number**
- **Sample or composite identification in the case of jet probes or vibracores. Composite samples are indicated by COMP following the identification number. COMP represents a composite developed to characterize beach compatible material.**

#### Format examples:

- A) **AMVC-08-06**
- B) **AMVC-08-10 S#1**

Example A is vibracore number 06, collected in the Anna Maria Island area in the year 2008.

Example B refers to sample number 1 taken from vibracore number 10, which was collected in the Anna Maria Island area in 2008.


**APPENDIX 1-A**  
**2008 CPE VIBRACORE LOGS**






<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1</b> <b>OF 1 SHEETS</b>
<b>1. PROJECT</b> AMI 2008 Sand Search Anna Maria Island, Manatee County, FL			<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.	
<b>2. BORING DESIGNATION</b> AMVC-08-01			<b>10. COORDINATE SYSTEM/DATUM</b> Florida State Plane West	
<b>3. DRILLING AGENCY</b> Coastal Planning & Engineering, Inc.			<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> <input type="checkbox"/> AUTO HAMMER Diver Operated Vibracore <input type="checkbox"/> MANUAL HAMMER	
<b>4. NAME OF DRILLER</b> CPE			<b>12. TOTAL SAMPLES</b> DISTURBED _____ UNDISTURBED (UD) _____	
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED			<b>13. TOTAL NUMBER CORE BOXES</b>	
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.			<b>14. ELEVATION GROUND WATER</b>	
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.			<b>15. DATE BORING</b> STARTED 06-23-08 19:35 COMPLETED 06-23-08 19:56	
<b>8. TOTAL DEPTH OF BORING</b> 19.5 Ft.			<b>16. ELEVATION TOP OF BORING</b> -19.4 Ft.	
			<b>17. TOTAL RECOVERY FOR BORING</b> 19.1 Ft.	
			<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> PB	



ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-19.4	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
-22.0	2.6		SAND, fine grained, quartz, trace shell hash, trace silt, light gray (5Y-7/1), (SP).		1	Sample #1, Depth = 1.0' Mean (mm): 0.15, Phi Sorting: 0.46 Shell Hash: 0%, Fines (230): 1.21% (SP)
-23.8	4.4		SAND, fine grained, quartz, trace clay, trace shell hash, trace silt, clay distributed in clayey laminae, light gray (5Y-7/1), (SW).		2	Sample #2, Depth = 3.3' Mean (mm): 0.18, Phi Sorting: 0.90 Shell Hash: 0%, Fines (230): 2.19% (SW)
-24.8	5.4		SHELL HASH, some sand, quartz, trace clay, trace shell fragments, trace silt, trace whole shell, whole shells and shell fragments up to 0.75", (3.0"x2.0") shell fragment @ 5.2"; (1.5"x1.0") whole shell @ 5.4', 1.0" clay layer @ 5.0' and 5.2', light gray (5Y-7/1), (SW).		3	Sample #3, Depth = 4.7' Mean (mm): 0.37, Phi Sorting: 1.45 Shell Hash: 2%, Fines (230): 1.46% (SW)
-26.4	7.0		SAND, fine grained, quartz, trace shell hash, trace silt, light gray (5Y-7/1), (SP).		1	
-26.7	7.3		SHELL HASH, some sand, quartz, trace shell fragments, trace silt, shell fragments up to 0.75", light gray (5Y-7/1), (SW).		3	
-28.4	9.0		SAND, fine grained, quartz, trace clay, trace shell hash, trace silt, light olive gray (5Y-6/2), (SP).		4	Sample #4, Depth = 8.0' Mean (mm): 0.13, Phi Sorting: 0.37 Shell Hash: 0%, Fines (230): 2.58% (SP)
-30.9	11.5		SAND, fine grained, quartz, trace clay, trace shell fragments, trace shell hash, trace silt, trace whole shell, whole shells up to 1.0", shell fragments up to 0.75", (1.5"x1.0") rock @ 11.3', 2.0" clay layer at base, olive gray (5Y-5/2), (SM-SC).			
-36.8	17.4		Clayey SHELL, shell components are predominantly whole shells up to 2.0", olive gray (5Y-5/2), (GC).			
-38.5	19.1		CLAY, stiff clay, dark gray (5Y-4/1), (CL).			
-38.9	19.5		No Recovery.			
			End of Boring			

FLORIDA DEP ROSS AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1</b> <b>OF 1 SHEETS</b>				
<b>1. PROJECT</b> AMI 2008 Sand Search Anna Maria Island, Manatee County, FL			<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.					
			<b>10. COORDINATE SYSTEM/DATUM</b> <table border="1"> <tr> <th>HORIZONTAL</th> <th>VERTICAL</th> </tr> <tr> <td>Florida State Plane West</td> <td>NAVD 88</td> </tr> </table>		HORIZONTAL	VERTICAL	Florida State Plane West	NAVD 88
HORIZONTAL	VERTICAL							
Florida State Plane West	NAVD 88							
<b>2. BORING DESIGNATION</b> AMVC-08-02		<b>LOCATION COORDINATES</b> X = 412,571 Y = 1,154,054		<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> <table border="1"> <tr> <td><input type="checkbox"/> AUTO HAMMER</td> </tr> <tr> <td><input type="checkbox"/> MANUAL HAMMER</td> </tr> </table>	<input type="checkbox"/> AUTO HAMMER	<input type="checkbox"/> MANUAL HAMMER		
<input type="checkbox"/> AUTO HAMMER								
<input type="checkbox"/> MANUAL HAMMER								
<b>3. DRILLING AGENCY</b> Coastal Planning & Engineering, Inc.		<b>CONTRACTOR FILE NO.</b>		<b>12. TOTAL SAMPLES</b> <table border="1"> <tr> <th>DISTURBED</th> <th>UNDISTURBED (UD)</th> </tr> <tr> <td></td> <td></td> </tr> </table>	DISTURBED	UNDISTURBED (UD)		
DISTURBED	UNDISTURBED (UD)							
<b>4. NAME OF DRILLER</b> CPE								
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		<b>DEG. FROM VERTICAL</b>	<b>BEARING</b>					
<b>13. TOTAL NUMBER CORE BOXES</b>								
<b>14. ELEVATION GROUND WATER</b>								
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.		<b>15. DATE BORING</b> <table border="1"> <tr> <th>STARTED</th> <th>COMPLETED</th> </tr> <tr> <td>06-24-08 09:18</td> <td>06-24-08 09:20</td> </tr> </table>		STARTED	COMPLETED	06-24-08 09:18	06-24-08 09:20	<b>16. ELEVATION TOP OF BORING</b> -21.5 Ft.
STARTED	COMPLETED							
06-24-08 09:18	06-24-08 09:20							
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.		<b>17. TOTAL RECOVERY FOR BORING</b> 9.3 Ft.						
<b>8. TOTAL DEPTH OF BORING</b> 10.8 Ft.		<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> ML						

ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-21.5	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
-23.0	1.5		SAND, fine grained, quartz, trace shell hash, trace silt, (1.0"x0.5") sand dollar fragments @ 0.4', light gray (5Y-7/1), (SP).		1	Sample #1, Depth = 0.7' Mean (mm): 0.15, Phi Sorting: 0.48 Shell Hash: 0%, Fines (230): 1.16% (SP)
-24.6	3.1		SAND, fine grained, quartz, trace shell hash, trace silt, shell fragments up to 0.5", 1.0" shell hash pocket @ 1.6', light gray (5Y-7/1), (SW).		2	Sample #2, Depth = 2.3' Mean (mm): 0.19, Phi Sorting: 0.94 Shell Hash: 1%, Fines (230): 1.37% (SW)
-25.5	4.0		SAND, fine grained, quartz, trace shell hash, trace silt, light gray (5Y-7/1), (SP).		1	
-28.0	6.5		SAND, fine grained, quartz, trace clay, trace shell fragments, trace shell hash, trace silt, clay distributed in clayey laminae, 1.5" clay layers @ 6.0' and 6.3', shell fragments up to 0.75", light olive gray (5Y-6/2), (SP).		3	Sample #3, Depth = 4.6' Mean (mm): 0.15, Phi Sorting: 0.67 Shell Hash: 0%, Fines (230): 2.46% (SP)
-30.8	9.3		Clayey SHELL, olive gray (5Y-5/2), (GC).			
-32.3	10.8		No Recovery.			
			End of Boring			

FLORIDA DEP ROSS AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1</b> <b>OF 1 SHEETS</b>				
<b>1. PROJECT</b> AMI 2008 Sand Search Anna Maria Island, Manatee County, FL			<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.					
			<b>10. COORDINATE SYSTEM/DATUM</b> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td><b>HORIZONTAL</b></td> <td><b>VERTICAL</b></td> </tr> <tr> <td>Florida State Plane West</td> <td>NAD 1983 NAVD 88</td> </tr> </table>		<b>HORIZONTAL</b>	<b>VERTICAL</b>	Florida State Plane West	NAD 1983 NAVD 88
<b>HORIZONTAL</b>	<b>VERTICAL</b>							
Florida State Plane West	NAD 1983 NAVD 88							
<b>2. BORING DESIGNATION</b> AMVC-08-03		<b>LOCATION COORDINATES</b> X = 413,167 Y = 1,154,072		<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td><input type="checkbox"/> AUTO HAMMER</td> </tr> <tr> <td><input type="checkbox"/> MANUAL HAMMER</td> </tr> </table>	<input type="checkbox"/> AUTO HAMMER	<input type="checkbox"/> MANUAL HAMMER		
<input type="checkbox"/> AUTO HAMMER								
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<b>3. DRILLING AGENCY</b> Coastal Planning & Engineering, Inc.		<b>CONTRACTOR FILE NO.</b>						
<b>4. NAME OF DRILLER</b> CPE			<b>12. TOTAL SAMPLES</b> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td><b>DISTURBED</b></td> <td><b>UNDISTURBED (UD)</b></td> </tr> <tr> <td> </td> <td> </td> </tr> </table>		<b>DISTURBED</b>	<b>UNDISTURBED (UD)</b>		
<b>DISTURBED</b>	<b>UNDISTURBED (UD)</b>							
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED			<b>13. TOTAL NUMBER CORE BOXES</b>					
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.			<b>14. ELEVATION GROUND WATER</b>					
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.			<b>15. DATE BORING</b> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td><b>STARTED</b></td> <td><b>COMPLETED</b></td> </tr> <tr> <td>06-24-08 12:05</td> <td>06-24-08 12:12</td> </tr> </table>		<b>STARTED</b>	<b>COMPLETED</b>	06-24-08 12:05	06-24-08 12:12
<b>STARTED</b>	<b>COMPLETED</b>							
06-24-08 12:05	06-24-08 12:12							
<b>8. TOTAL DEPTH OF BORING</b> 12.9 Ft.			<b>16. ELEVATION TOP OF BORING</b> -18.8 Ft.					
<b>17. TOTAL RECOVERY FOR BORING</b> 11 Ft.			<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> PB					

ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-18.8	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
-20.7	1.9	•••••	SAND, fine grained, quartz, trace shell hash, trace silt, white (5Y-8/1), (SP).		1	Sample #1, Depth = 1.1' Mean (mm): 0.15, Phi Sorting: 0.47 Shell Hash: 0%, Fines (230): 1.26% (SP)
-23.3	4.5	•••••	SAND, fine grained, quartz, trace clay, trace shell hash, trace silt, clay distributed in clayey pockets up to 0.5", some shell hash @ 2.8'-3.0', light gray (5Y-7/2), (SW).		2	Sample #2, Depth = 3.6' Mean (mm): 0.19, Phi Sorting: 0.90 Shell Hash: 1%, Fines (230): 1.98% (SW)
-27.0	8.2	•••••	SAND, fine grained, quartz, trace shell hash, trace silt, trace whole shell, whole shells up to 0.5", silt content decreases from 7.8'-8.1', light olive gray (5Y-6/2), (SW).		3	Sample #3, Depth = 6.5' Mean (mm): 0.20, Phi Sorting: 1.37 Shell Hash: 3%, Fines (230): 4.44% (SW)
-29.8	11.0	•••••	SAND, fine grained, quartz, some rock, little silt, trace shell fragments, shell fragments up to 1.0", rock up to 3.0", light brownish gray (2.5Y-6/2), (GM).			
-31.7	12.9		No Recovery.			
			End of Boring			

FLORIDA DEP ROSS AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08



<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1</b> <b>OF 1 SHEETS</b>
<b>1. PROJECT</b> AMI 2008 Sand Search Anna Maria Island, Manatee County, FL			<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.	
<b>2. BORING DESIGNATION</b> AMVC-08-04			<b>10. COORDINATE SYSTEM/DATUM</b> Florida State Plane West	
<b>3. DRILLING AGENCY</b> Coastal Planning & Engineering, Inc.			<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> <input type="checkbox"/> AUTO HAMMER Diver Operated Vibracore <input type="checkbox"/> MANUAL HAMMER	
<b>4. NAME OF DRILLER</b> CPE			<b>12. TOTAL SAMPLES</b> DISTURBED _____ UNDISTURBED (UD) _____	
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED			<b>13. TOTAL NUMBER CORE BOXES</b> _____	
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.			<b>14. ELEVATION GROUND WATER</b> _____	
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.			<b>15. DATE BORING</b> STARTED 06-24-08 14:30 COMPLETED 06-24-08 14:32	
<b>8. TOTAL DEPTH OF BORING</b> 9.0 Ft.			<b>16. ELEVATION TOP OF BORING</b> -19.5 Ft.	
			<b>17. TOTAL RECOVERY FOR BORING</b> 7.4 Ft.	
			<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> PB	



ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-19.5	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
-20.0	0.5	○	SHELL HASH, some sand, quartz, trace shell fragments, trace silt, trace whole shell, whole shells and shell fragments up to 0.75", (3.0"x2.5") shell fragment @ 0.5', light olive gray (5Y-6/2), (SW).			
-21.6	2.1	○	SAND, fine grained, quartz, trace clay, trace shell fragments, trace shell hash, trace silt, shell fragments up to 0.75", light olive gray (5Y-6/2), (SM).  Shelly SAND, quartz, trace silt, shell components are predominantly shell fragments up to 1.0", (2.0"x1.5") rock @ 2.2', gray (5Y-5/1), (GW).			
-22.1	2.6	○				
-24.8	5.3	○	SAND, fine grained, quartz, trace shell hash, trace silt, trace whole shell, whole shells up to 1.0", light gray (5Y-7/1), (SP).			
-26.9	7.4	○	SAND, fine grained, quartz, little clay, little rock, rock up to 3.0", olive gray (5Y-5/2), (GC).			
-28.5	9.0		No Recovery.			
			End of Boring			

FLORIDA DEP ROSS AMI 2008 VIBRACORES ALL GPJ FL DEP ROSS GDT 10/29/08

<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1</b> <b>OF 1 SHEETS</b>
<b>1. PROJECT</b> AMI 2008 Sand Search Anna Maria Island, Manatee County, FL			<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.	
<b>2. BORING DESIGNATION</b> AMVC-08-05			<b>10. COORDINATE SYSTEM/DATUM</b> Florida State Plane West	
<b>3. DRILLING AGENCY</b> Coastal Planning & Engineering, Inc.			<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> <input type="checkbox"/> <b>AUTO HAMMER</b> Diver Operated Vibracore <input type="checkbox"/> <b>MANUAL HAMMER</b>	
<b>4. NAME OF DRILLER</b> CPE			<b>12. TOTAL SAMPLES</b> DISTURBED _____ UNDISTURBED (UD) _____	
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> <b>VERTICAL</b> <input type="checkbox"/> <b>INCLINED</b>			<b>13. TOTAL NUMBER CORE BOXES</b> _____	
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.			<b>14. ELEVATION GROUND WATER</b> _____	
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.			<b>15. DATE BORING</b> STARTED 06-24-08 16:05 COMPLETED 06-24-08 16:12	
<b>8. TOTAL DEPTH OF BORING</b> 12.5 Ft.			<b>16. ELEVATION TOP OF BORING</b> -19.0 Ft.	
			<b>17. TOTAL RECOVERY FOR BORING</b> 12 Ft.	
			<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> ML	



ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-19.0	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
-23.6	4.6		SAND, fine grained, quartz, trace clay, trace shell hash, trace silt, clay distributed in clayey pockets less than 1.0", 1.0" shell hash layers @ 4.2' and 4.5', light gray (5Y-7/1), (SP).		1	Sample #1, Depth = 2.5' Mean (mm): 0.17, Phi Sorting: 0.68 Shell Hash: 0%, Fines (230): 1.24% (SP)
-25.9	6.9		SAND, fine grained, quartz, trace clay, trace shell fragments, trace shell hash, trace silt, shell fragments up to 2.0", clay distributed in clayey pockets up to 0.5", 1" shelly pockets @ 5.6' and 6.4', light olive gray (5Y-6/2), (SW).		2	Sample #2, Depth = 5.3' Mean (mm): 0.17, Phi Sorting: 1.07 Shell Hash: 1%, Fines (230): 4.15% (SW)
-29.1	10.1		SAND, fine grained, quartz, trace shell hash, trace silt, clayey burrow @ 8.7'-9.1', 0.5" clay layer @ 9.8', white (5Y-8/1), (SP).		3	Sample #3, Depth = 8.0' Mean (mm): 0.16, Phi Sorting: 0.35 Shell Hash: 0%, Fines (230): 1.21% (SP)
-29.9	10.9		SAND, fine grained, quartz, little clay, dark gray (5Y-4/1), (SC).			
-31.0	12.0		SAND, fine grained, quartz, some rock, little clay, rock up to 3.0", light brownish gray (2.5Y-6/2), (GC).			
-31.5	12.5		No Recovery.			
			End of Boring			

FLORIDA DEP ROSS AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1</b> OF 1 SHEETS
<b>1. PROJECT</b> AMI 2008 Sand Search Anna Maria Island, Manatee County, FL			<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.	
<b>2. BORING DESIGNATION</b> AMVC-08-06			<b>10. COORDINATE SYSTEM/DATUM</b> Florida State Plane West	
<b>3. DRILLING AGENCY</b> Coastal Planning & Engineering, Inc.			<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> <input type="checkbox"/> AUTO HAMMER Diver Operated Vibracore <input type="checkbox"/> MANUAL HAMMER	
<b>4. NAME OF DRILLER</b> CPE			<b>12. TOTAL SAMPLES</b> <input type="checkbox"/> DISTURBED <input type="checkbox"/> UNDISTURBED (UD)	
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED			<b>13. TOTAL NUMBER CORE BOXES</b>	
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.			<b>14. ELEVATION GROUND WATER</b>	
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.			<b>15. DATE BORING</b> <b>STARTED</b> 06-27-08 15:50 <b>COMPLETED</b> 06-27-08 15:57	
<b>8. TOTAL DEPTH OF BORING</b> 17.4 Ft.			<b>16. ELEVATION TOP OF BORING</b> -21.9 Ft.	
			<b>17. TOTAL RECOVERY FOR BORING</b> 16 Ft.	
			<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> ML	



ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-21.9	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
-25.0	3.1		SAND, fine grained, quartz, trace clay, trace shell hash, trace silt, trace whole shell, whole shells up to 1.0", clay distributed in clayey pockets up to 1.0", 1.0" shelly pocket @ 0.9', (1.0"x1.5") shell fragment @ 0.9', gray (5Y-6/1), (SP).		1	Sample #1, Depth = 1.6' Mean (mm): 0.16, Phi Sorting: 0.67 Shell Hash: 0%, Fines (230): 1.72% (SP)
-25.5	3.6		SHELL HASH, some sand, fine grained, quartz, trace shell fragments, trace silt, trace whole shell, shell fragments and whole shells up to 1.0", gray (5Y-5/1), (SW).		2	Sample #2, Depth = 3.4' Mean (mm): 0.62, Phi Sorting: 1.92 Shell Hash: 5%, Fines (230): 1.42% (SW)
-26.2	4.3				3	Sample #3, Depth = 3.9' Mean (mm): 0.16, Phi Sorting: 0.78 Shell Hash: 0%, Fines (230): 1.74% (SP)
-27.5	5.6		SAND, fine grained, quartz, trace shell hash, trace silt, 1.0" shell hash layer at base, light gray (5Y-7/1), (SP).		4	Sample #4, Depth = 4.6' Mean (mm): 0.16, Phi Sorting: 0.83 Shell Hash: 0%, Fines (230): 2.92% (SP)
-28.3	6.4		SAND, fine grained, quartz, trace shell fragments, trace shell hash, trace silt, shell fragments up to 2.0", light gray (5Y-7/2), (SP).		5	Sample #5, Depth = 5.9' Mean (mm): 0.73, Phi Sorting: 2.00 Shell Hash: 9%, Fines (230): 3.39% (SW)
-29.9	8.0		Shelly SAND, quartz, trace silt, shell components are shell hash, shell fragments and whole shells up to 1.0", 1.0" clayey layer @ 5.9', 1.0" clay layer @ 6.3', gray (5Y-5/1), (GW).		6	Sample #6, Depth = 7.0' Mean (mm): 0.21, Phi Sorting: 1.21 Shell Hash: 1%, Fines (230): 4.38% (SW)
-36.1	14.2		SAND, fine grained, quartz, trace shell fragments, trace silt, trace whole shell, shell fragments up to 1.0", whole shells up to 3.0", light olive gray (5Y-6/2), (GW).			
-37.9	16.0		Shelly SAND, quartz, little clay, trace silt, shell components are whole shells up to 1.0" and shell fragments up to 3.0", clay increases with depth, light olive gray (5Y-6/2), (GW-GC).			
-39.3	17.4		Clayey SAND, fine grained, quartz, some rock fragments, trace shell hash, rock fragments up to 3.0", light gray (5Y-7/2), (GC).			
			No Recovery.			
			End of Boring			

FLORIDA DEP ROSS AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1</b> OF 1 SHEETS				
<b>1. PROJECT</b> AMI 2008 Sand Search Anna Maria Island, Manatee County, FL			<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.					
			<b>10. COORDINATE SYSTEM/DATUM</b> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td><b>HORIZONTAL</b></td> <td><b>VERTICAL</b></td> </tr> <tr> <td>Florida State Plane West</td> <td>NAD 1983 NAVD 88</td> </tr> </table>		<b>HORIZONTAL</b>	<b>VERTICAL</b>	Florida State Plane West	NAD 1983 NAVD 88
<b>HORIZONTAL</b>	<b>VERTICAL</b>							
Florida State Plane West	NAD 1983 NAVD 88							
<b>2. BORING DESIGNATION</b> AMVC-08-07		<b>LOCATION COORDINATES</b> X = 412,599 Y = 1,155,417		<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td><input type="checkbox"/> AUTO HAMMER</td> </tr> <tr> <td><input type="checkbox"/> MANUAL HAMMER</td> </tr> </table>	<input type="checkbox"/> AUTO HAMMER	<input type="checkbox"/> MANUAL HAMMER		
<input type="checkbox"/> AUTO HAMMER								
<input type="checkbox"/> MANUAL HAMMER								
<b>3. DRILLING AGENCY</b> Coastal Planning & Engineering, Inc.		<b>CONTRACTOR FILE NO.</b>						
<b>4. NAME OF DRILLER</b> CPE			<b>12. TOTAL SAMPLES</b> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td><b>DISTURBED</b></td> <td><b>UNDISTURBED (UD)</b></td> </tr> <tr> <td> </td> <td> </td> </tr> </table>		<b>DISTURBED</b>	<b>UNDISTURBED (UD)</b>		
<b>DISTURBED</b>	<b>UNDISTURBED (UD)</b>							
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED			<b>13. TOTAL NUMBER CORE BOXES</b>					
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.		<b>14. ELEVATION GROUND WATER</b>						
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.		<b>15. DATE BORING</b> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td><b>STARTED</b></td> <td><b>COMPLETED</b></td> </tr> <tr> <td>06-24-08 18:22</td> <td>06-24-08 18:30</td> </tr> </table>			<b>STARTED</b>	<b>COMPLETED</b>	06-24-08 18:22	06-24-08 18:30
<b>STARTED</b>	<b>COMPLETED</b>							
06-24-08 18:22	06-24-08 18:30							
<b>8. TOTAL DEPTH OF BORING</b> 12.5 Ft.		<b>16. ELEVATION TOP OF BORING</b> -19.0 Ft.						
		<b>17. TOTAL RECOVERY FOR BORING</b> 11.6 Ft.						
		<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> ML						

ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-19.0	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
-21.4	2.4		SAND, fine grained, quartz, trace shell hash, trace silt, light gray (5Y-7/1), (SP).		1	Sample #1, Depth = 1.0' Mean (mm): 0.16, Phi Sorting: 0.50 Shell Hash: 0%, Fines (230): 1.28% (SP)
-22.5	3.5		SAND, fine grained, quartz, little shell hash, trace silt, light gray (5Y-7/1), (SP).		2	Sample #2, Depth = 3.0' Mean (mm): 0.19, Phi Sorting: 0.80 Shell Hash: 0%, Fines (230): 1.37% (SP)
-23.3	4.3		SAND, fine grained, quartz, some shell hash, trace shell fragments, trace silt, shell fragments up to 0.5", light gray (5Y-7/1), (SW).		3	Sample #3, Depth = 4.1' Mean (mm): 0.45, Phi Sorting: 1.86
-24.1	5.1		SAND, fine grained, quartz, trace shell hash, trace silt, shell hash and little shell fragments up to 1.0" from 4.8' to 5.1'; (1.5"x1.0") rock @ 5.0', light olive gray (5Y-6/2), (SW).		4	Sample #4, Depth = 4.5' Mean (mm): 0.19, Phi Sorting: 1.08
-25.4	6.4		SAND, fine grained, quartz, trace clay, trace shell hash, trace silt, clay distributed in clayey pockets up to 0.5"; 2.0" shelly pocket @ 6.3', light gray (5Y-7/1), (SP).		5	Sample #5, Depth = 5.5' Mean (mm): 0.17, Phi Sorting: 0.74
-26.8	7.8		SAND, fine grained, quartz, trace clay, trace shell hash, trace silt, trace whole shell, whole shells up to 0.5"; 0.5" clay layer @ 7.1"; 2.0" layer of little shell hash at base, light olive gray (5Y-6/2), (SW).		6	Sample #6, Depth = 6.7' Mean (mm): 0.16, Phi Sorting: 0.95
-29.8	10.8		SAND, fine grained, quartz, little rock, trace silt, rock up to 3.0", light gray (2.5Y-7/2), (GW).			Shell Hash: 0%, Fines (230): 3.59% (SW)
-30.6	11.6		ROCK, little sand, quartz, little silt, rock up to 3.0", light gray (2.5Y-7/2), (GW).			
-31.5	12.5		No Recovery.			
			End of Boring			

FLORIDA DEP ROSS AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1</b> <b>OF 1 SHEETS</b>
<b>1. PROJECT</b> AMI 2008 Sand Search Anna Maria Island, Manatee County, FL			<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.	
<b>2. BORING DESIGNATION</b> AMVC-08-08			<b>10. COORDINATE SYSTEM/DATUM</b> Florida State Plane West	
<b>3. DRILLING AGENCY</b> Coastal Planning & Engineering, Inc.			<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> <input type="checkbox"/> <b>AUTO HAMMER</b> Diver Operated Vibracore <input type="checkbox"/> <b>MANUAL HAMMER</b>	
<b>4. NAME OF DRILLER</b> CPE			<b>12. TOTAL SAMPLES</b> <b>DISTURBED</b> <b>UNDISTURBED (UD)</b>	
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> <b>VERTICAL</b> <input type="checkbox"/> <b>INCLINED</b>			<b>13. TOTAL NUMBER CORE BOXES</b>	
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.			<b>14. ELEVATION GROUND WATER</b>	
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.			<b>15. DATE BORING</b> <b>STARTED</b> <b>COMPLETED</b> 06-25-08 08:57 06-25-08 09:01	
<b>8. TOTAL DEPTH OF BORING</b> 16.9 Ft.			<b>16. ELEVATION TOP OF BORING</b> -21.8 Ft.	
			<b>17. TOTAL RECOVERY FOR BORING</b> 14.4 Ft.	
			<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> ML	



ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-21.8	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
-24.7	2.9		SAND, fine grained, quartz, trace shell fragments, trace shell hash, trace silt, shell fragments up to 1.0"; 1.0" shelly pockets @ 1.7' and base, shell pocket components are shell hash and shell fragments up to 0.5", light gray (5Y-7/1), (SP).		1	Sample #1, Depth = 1.2' Mean (mm): 0.16, Phi Sorting: 0.58 Shell Hash: 0%, Fines (230): 1.31% (SP)
-28.0	6.2		SAND, fine grained, quartz, trace clay, trace silt, clay distributed in laminae; 2.0" clay layer at base, light olive gray (5Y-6/2), (SP).		2	Sample #2, Depth = 5.3' Mean (mm): 0.14, Phi Sorting: 0.38 Shell Hash: 0%, Fines (230): 3.08% (SP)
-30.8	9.0		SAND, fine grained, quartz, little shell fragments, little shell hash, trace clay, trace silt, trace whole shell, shell fragments and whole shells up to 0.5", (1.0"x0.5") rock fragment @ 6.3', light olive gray (5Y-6/2), (SW-SC).		3	Sample #3, Depth = 7.5' Mean (mm): 0.27, Phi Sorting: 1.72 Shell Hash: 4%, Fines (230): 5.52% (SW-SC)
-36.2	14.4		Shelly SAND, quartz, some clay, trace rock, shell components are whole shells and shell fragments up to 2.0", rock up to 3.0", light olive gray (5Y-6/2), (GC).			
-38.7	16.9		No Recovery.			
			End of Boring			

FLORIDA DEP ROSS AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1</b> <b>OF 1 SHEETS</b>
<b>1. PROJECT</b> AMI 2008 Sand Search Anna Maria Island, Manatee County, FL			<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.	
<b>2. BORING DESIGNATION</b> AMVC-08-09			<b>10. COORDINATE SYSTEM/DATUM</b> Florida State Plane West	
<b>3. DRILLING AGENCY</b> Coastal Planning & Engineering, Inc.			<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> <input type="checkbox"/> <b>AUTO HAMMER</b> Diver Operated Vibracore <input type="checkbox"/> <b>MANUAL HAMMER</b>	
<b>4. NAME OF DRILLER</b> CPE			<b>12. TOTAL SAMPLES</b> DISTURBED _____ UNDISTURBED (UD) _____	
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> <b>VERTICAL</b> <input type="checkbox"/> <b>INCLINED</b>			<b>13. TOTAL NUMBER CORE BOXES</b> _____	
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.			<b>14. ELEVATION GROUND WATER</b> _____	
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.			<b>15. DATE BORING</b> STARTED 06-25-08 09:44 COMPLETED 06-25-08 09:50	
<b>8. TOTAL DEPTH OF BORING</b> 19.0 Ft.			<b>16. ELEVATION TOP OF BORING</b> -22.0 Ft.	
			<b>17. TOTAL RECOVERY FOR BORING</b> 17.5 Ft.	
			<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> ML	



ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-22.0	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
-25.8	3.8		SAND, fine grained, quartz, trace clay, trace shell hash, trace silt, clay distributed in clayey pockets up to 0.5", 1.5" pockets of some shell hash @ 2.3' and 3.3', light gray (5Y-7/1), (SP).		1	Sample #1, Depth = 1.5' Mean (mm): 0.19, Phi Sorting: 0.78 Shell Hash: 1%, Fines (230): 1.26% (SP)
-27.0	5.0		SAND, fine grained, quartz, some shell hash, trace clay, trace shell fragments, trace silt, shell fragments up to 1.0", clay distributed in clayey pockets up to 0.5", light gray (5Y-7/1), (SW).		2	Sample #2, Depth = 4.2' Mean (mm): 0.27, Phi Sorting: 1.35 Shell Hash: 2%, Fines (230): 1.33% (SW)
-28.0	6.0		Shelly SAND, quartz, trace silt, shell components are shell hash and shell fragments up to 1.5", 1.0" clay layers @ 5.0' and 5.4', gray (5Y-6/1), (GW).			
-29.9	7.9		SAND, fine grained, quartz, trace silt, light olive gray (5Y-6/2), (SP-SM).			
-35.4	13.4		Shelly SAND, quartz, little clay, little rock, little silt, shell components are whole shells and shell fragments up to 3.0", rock up to 3.0", olive gray (5Y-5/2), (GC).			
-37.6	15.6		CLAY, little rock, little sand, quartz, rock up to 3.0", pale yellow (5Y-8/2), (GC).			
-38.6	16.6		CLAY, little sand, quartz, dark olive gray (5Y-3/2), (CL).			
-39.5	17.5		CLAY, little rock, little sand, quartz, pale yellow (5Y-8/2), (GC).			
-41.0	19.0		No Recovery.			
			End of Boring			

FLORIDA DEP ROSS AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1</b> OF 1 SHEETS
<b>1. PROJECT</b> AMI 2008 Sand Search Anna Maria Island, Manatee County, FL			<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.	
<b>2. BORING DESIGNATION</b> AMVC-08-10			<b>10. COORDINATE SYSTEM/DATUM</b> Florida State Plane West	
<b>3. DRILLING AGENCY</b> Coastal Planning & Engineering, Inc.			<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> <input type="checkbox"/> AUTO HAMMER <input type="checkbox"/> MANUAL HAMMER Diver Operated Vibracore	
<b>4. NAME OF DRILLER</b> CPE			<b>12. TOTAL SAMPLES</b> DISTURBED _____ UNDISTURBED (UD) _____	
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED			<b>13. TOTAL NUMBER CORE BOXES</b> _____	
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.			<b>14. ELEVATION GROUND WATER</b> _____	
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.			<b>15. DATE BORING</b> STARTED 06-25-08 10:41 COMPLETED 06-25-08 10:45	
<b>8. TOTAL DEPTH OF BORING</b> 19.2 Ft.			<b>16. ELEVATION TOP OF BORING</b> -18.0 Ft.	
			<b>17. TOTAL RECOVERY FOR BORING</b> 19.1 Ft.	
			<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> ML	



ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-18.0	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
-18.3	0.3		SAND, fine grained, quartz, trace shell hash, trace silt, light gray (5Y-7/1), (SP).		2	Sample #1, Depth = 0.5'
-18.7	0.7		SAND, fine grained, quartz, little shell hash, trace shell fragments, trace silt, shell fragments up to 0.5", 1.0" whole shell @ 0.6', light gray (5Y-7/1), (SW).		1	Mean (mm): 0.28, Phi Sorting: 1.30 Shell Hash: 2%, Fines (230): 1.41% (SW)
-19.9	1.9		SAND, fine grained, quartz, trace shell hash, trace silt, light gray (5Y-7/1), (SP).		2	Sample #2, Depth = 1.4'
-21.0	3.0		SAND, fine grained, quartz, little shell hash, trace shell fragments, trace silt, trace whole shell, shell fragments and whole shells up to 0.5", light gray (5Y-7/1), (SW).		3	Mean (mm): 0.17, Phi Sorting: 0.67 Shell Hash: 0%, Fines (230): 1.31% (SP)
-22.4	4.4		SAND, fine grained, quartz, trace shell hash, trace silt, trace whole shell, shell fragments and whole shells up to 0.5", light gray (5Y-7/1), (SW).		4	Sample #3, Depth = 2.7'
-23.5	5.5		SAND, fine grained, quartz, little shell hash, trace clay, trace shell fragments, shell fragments up to 2.0", clay distributed in clayey pockets up to 0.5", shell hash distributed in alternating 1.0"-2.0" layers, light gray (5Y-7/1), (SW).		5	Mean (mm): 0.23, Phi Sorting: 1.25 Shell Hash: 3%, Fines (230): 1.48% (SW)
-24.2	6.2		SAND, fine grained, quartz, little shell hash, trace clay, trace whole shell, whole shells up to 1.0", clay distributed in laminae, 3.0" rock @ 5.4', gray (5Y-6/1), (SW).		6	Sample #4, Depth = 3.6'
-26.5	8.5		SAND, fine grained, quartz, trace shell fragments, trace shell hash, trace silt, shell fragments up to 2.5", light gray (5Y-7/1), (SW).		7	Mean (mm): 0.24, Phi Sorting: 1.15 Shell Hash: 1%, Fines (230): 1.56% (SW)
-28.3	10.3		SAND, fine grained, quartz, trace clay, trace silt, clay distributed in laminae, light gray (5Y-7/1), (SP).			Sample #5, Depth = 4.7'
			SAND, fine grained, quartz, some clay, trace silt, clay distributed evenly in 2.0"-3.0" layers, mottled olive gray (5Y-5/2) and, light gray (5Y-7/1), (SC).			Mean (mm): 0.28, Phi Sorting: 1.38 Shell Hash: 2%, Fines (230): 3.11% (SW)
			Shelly SAND, quartz, some clay, shell components are whole shells and shell fragments up to 3.0", olive gray (5Y-5/2), (GC).			Sample #6, Depth = 5.9'
-34.7	16.7		CLAY, some sand, quartz, trace rock, rock up to 2.5", olive gray (5Y-5/2), (SC).			Mean (mm): 0.30, Phi Sorting: 1.81 Shell Hash: 3%, Fines (230): 1.19% (SW)
-37.1	19.1		No Recovery.			Sample #7, Depth = 7.2'
-37.2	19.2		End of Boring			Mean (mm): 0.15, Phi Sorting: 0.46 Shell Hash: 0%, Fines (230): 2.07% (SP)

FLORIDA DEP ROSS AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1</b> <b>OF 1 SHEETS</b>				
<b>1. PROJECT</b> AMI 2008 Sand Search Anna Maria Island, Manatee County, FL			<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.					
			<b>10. COORDINATE SYSTEM/DATUM</b> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td><b>HORIZONTAL</b></td> <td><b>VERTICAL</b></td> </tr> <tr> <td>Florida State Plane West</td> <td>NAD 1983 NAVD 88</td> </tr> </table>		<b>HORIZONTAL</b>	<b>VERTICAL</b>	Florida State Plane West	NAD 1983 NAVD 88
<b>HORIZONTAL</b>	<b>VERTICAL</b>							
Florida State Plane West	NAD 1983 NAVD 88							
<b>2. BORING DESIGNATION</b> AMVC-08-11		<b>LOCATION COORDINATES</b> X = 413,575 Y = 1,156,776		<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td><input type="checkbox"/> AUTO HAMMER</td> </tr> <tr> <td><input type="checkbox"/> MANUAL HAMMER</td> </tr> </table>	<input type="checkbox"/> AUTO HAMMER	<input type="checkbox"/> MANUAL HAMMER		
<input type="checkbox"/> AUTO HAMMER								
<input type="checkbox"/> MANUAL HAMMER								
<b>3. DRILLING AGENCY</b> Coastal Planning & Engineering, Inc.		<b>CONTRACTOR FILE NO.</b>						
<b>4. NAME OF DRILLER</b> CPE			<b>12. TOTAL SAMPLES</b> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td><b>DISTURBED</b></td> <td><b>UNDISTURBED (UD)</b></td> </tr> <tr> <td> </td> <td> </td> </tr> </table>		<b>DISTURBED</b>	<b>UNDISTURBED (UD)</b>		
<b>DISTURBED</b>	<b>UNDISTURBED (UD)</b>							
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED			<b>13. TOTAL NUMBER CORE BOXES</b>					
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.			<b>14. ELEVATION GROUND WATER</b>					
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.			<b>15. DATE BORING</b> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td><b>STARTED</b></td> <td><b>COMPLETED</b></td> </tr> <tr> <td>06-25-08 11:37</td> <td>06-25-08 11:40</td> </tr> </table>		<b>STARTED</b>	<b>COMPLETED</b>	06-25-08 11:37	06-25-08 11:40
<b>STARTED</b>	<b>COMPLETED</b>							
06-25-08 11:37	06-25-08 11:40							
<b>8. TOTAL DEPTH OF BORING</b> 9.5 Ft.			<b>16. ELEVATION TOP OF BORING</b> -20.1 Ft.					
			<b>17. TOTAL RECOVERY FOR BORING</b> 8.9 Ft.					
<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> PB								

ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-20.1	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
-21.0	0.9		SHELL HASH, some sand, quartz, trace clay, trace shell fragments, trace whole shell, whole shells and shell fragments up to 1.0", gray (5Y-6/1), (SW).		1	Sample #1, Depth = 0.4' Mean (mm): 0.67, Phi Sorting: 1.62 Shell Hash: 4%, Fines (230): 2.06% (SW)
-21.8	1.7				2	Sample #2, Depth = 1.4' Mean (mm): 0.19, Phi Sorting: 1.10 Shell Hash: 0%, Fines (230): 2.36% (SW)
-22.5	2.4		SAND, fine grained, quartz, trace clay, trace shell hash, trace silt, clay distributed in layers, 1.0" clay layer @ 1.0', 1.5" clay layer @ 1.2', light gray (5Y-7/1), (SW).		3	Sample #3, Depth = 2.1' Mean (mm): 0.54, Phi Sorting: 1.91 Shell Hash: 6%, Fines (230): 1.64% (SW)
-23.7	3.6		SANDY SHELL, trace silt, trace whole shell, shell components are shell hash, shell fragments up to 2.0", and whole shells up to 1.5", light gray (5Y-7/1), (SW).			
-25.4	5.3		SAND, fine grained, quartz, trace shell fragments, trace shell hash, trace silt, trace whole shell, whole shells and shell fragments up to 1.0", shell increases with depth, light gray (5Y-7/1), (SW).			
			SAND, fine grained, quartz, trace shell hash, trace silt, white (5Y-8/1), (SP).			
-29.0	8.9		SAND, fine grained, quartz, little rock, trace shell fragments, trace silt, rock up to 3.5", shell fragments up to 0.5", light gray (5Y-7/1), (GW).			
-29.6	9.5		No Recovery.			
			End of Boring			

FLORIDA DEP ROSS AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08



<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1</b> <b>OF 1 SHEETS</b>
<b>1. PROJECT</b> AMI 2008 Sand Search Anna Maria Island, Manatee County, FL			<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.	
<b>2. BORING DESIGNATION</b> AMVC-08-12			<b>10. COORDINATE SYSTEM/DATUM</b> Florida State Plane West	
<b>3. DRILLING AGENCY</b> Coastal Planning & Engineering, Inc.			<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> <input type="checkbox"/> AUTO HAMMER Diver Operated Vibracore <input type="checkbox"/> MANUAL HAMMER	
<b>4. NAME OF DRILLER</b> CPE			<b>12. TOTAL SAMPLES</b> DISTURBED _____ UNDISTURBED (UD) _____	
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED			<b>13. TOTAL NUMBER CORE BOXES</b> _____	
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.			<b>14. ELEVATION GROUND WATER</b> _____	
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.			<b>15. DATE BORING</b> STARTED 06-25-08 13:26 COMPLETED 06-25-08 13:33	
<b>8. TOTAL DEPTH OF BORING</b> 15.7 Ft.			<b>16. ELEVATION TOP OF BORING</b> -15.6 Ft.	
			<b>17. TOTAL RECOVERY FOR BORING</b> 14.3 Ft.	
			<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> BF	



ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-15.6	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
-16.5	0.9		SHELL HASH, some sand, quartz, trace shell fragments, trace silt, trace whole shell, whole shells and shell fragments up to 1.0", gray (5Y-5/1), (SW).		1	Sample #1, Depth = 0.4' Mean (mm): 0.72, Phi Sorting: 1.34 Shell Hash: 7%, Fines (230): 1.60% (SW)
-17.6	2.0		SAND, fine grained, quartz, little shell hash, trace shell fragments, trace silt, 2.0" clay layer @ 1.4', shell fragments up to 1.0", light gray (5Y-7/1), (SC).			
-20.1	4.5		SAND, fine grained, quartz, little shell hash, trace clay, trace shell fragments, trace silt, trace whole shell, shell hash distributed evenly in layers, shell fragments up to 2.0", whole shells up to 1.0", (2.0"x1.5") rock fragment @ 4.5', light gray (5Y-7/1), (SW).			
-22.9	7.3		SAND, fine grained, quartz, trace shell hash, trace silt, (2.5"x1.5") whole shell @ 6.9', 1.0" clay layer @ 5.9', 1.5" clay layer @ 6.7', light olive gray (5Y-6/2), (SP).			
-23.8	8.2		SAND, fine grained, quartz, little shell hash, trace shell fragments, trace silt, shell fragments up to 1.0", light gray (5Y-7/1), (SW).			
-24.8	9.2		SAND, fine grained, quartz, trace clay, trace shell hash, trace silt, clay distributed in clayey pockets up to 1.0", (1.5"x0.5") whole shell @ 8.9', shell content increases with depth, light gray (5Y-7/1), (SP).			
-29.9	14.3		SAND, fine grained, quartz, little rock fragments, trace shell hash, rock fragments up to 5.0", (2.0"x1.0") whole shell @ 11.3', light olive gray (5Y-6/2), (GW).			
-31.3	15.7		No Recovery.			
			End of Boring			

FLORIDA DEP ROSS AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1</b> OF 1 SHEETS
<b>1. PROJECT</b> AMI 2008 Sand Search Anna Maria Island, Manatee County, FL			<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.	
<b>2. BORING DESIGNATION</b> AMVC-08-13			<b>10. COORDINATE SYSTEM/DATUM</b> Florida State Plane West	
<b>3. DRILLING AGENCY</b> Coastal Planning & Engineering, Inc.			<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> <input type="checkbox"/> AUTO HAMMER Diver Operated Vibracore <input type="checkbox"/> MANUAL HAMMER	
<b>4. NAME OF DRILLER</b> CPE			<b>12. TOTAL SAMPLES</b> DISTURBED _____ UNDISTURBED (UD) _____	
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED			<b>13. TOTAL NUMBER CORE BOXES</b>	
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.			<b>14. ELEVATION GROUND WATER</b>	
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.			<b>15. DATE BORING</b> STARTED 06-25-08 14:20 COMPLETED 06-25-08 14:26	
<b>8. TOTAL DEPTH OF BORING</b> 17.0 Ft.			<b>16. ELEVATION TOP OF BORING</b> -12.8 Ft.	
			<b>17. TOTAL RECOVERY FOR BORING</b> 16.3 Ft.	
			<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> PB	



ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-12.8	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
-14.2	1.4		SAND, fine grained, quartz, trace shell hash, trace silt, 1.5" clayey pocket @ 0.6', light gray (5Y-7/1), (SP).		1	Sample #1, Depth = 1.0' Mean (mm): 0.17, Phi Sorting: 0.50 Shell Hash: 0%, Fines (230): 1.37% (SP)
-14.5	1.7		Sandy SHELL HASH, trace shell fragments, trace silt, shell fragments up to 1.0", light gray (5Y-7/1), (SW).		3	
-16.7	3.9		SAND, fine grained, quartz, little shell hash, trace silt, 2.0" shelly pocket @ 3.3', shell components of pocket are shell hash and shell fragments up to 2.5", light gray (5Y-7/1), (SP).		2	Sample #2, Depth = 2.2' Mean (mm): 0.20, Phi Sorting: 0.82 Shell Hash: 0%, Fines (230): 1.14% (SP)
-17.8	5.0		SAND, fine grained, quartz, some shell hash, trace clay, trace shell fragments, trace silt, trace whole shell, clay distributed in pockets up to 0.5", whole shells and shell fragments up to 1.0", light gray (5Y-7/1), (SW).		3	Sample #3, Depth = 4.4' Mean (mm): 0.46, Phi Sorting: 2.01 Shell Hash: 7%, Fines (230): 1.57% (SW)
-19.9	7.1		SAND, fine grained, quartz, trace clay, trace silt, clay distributed in laminae, 2 (1.0") clay layers between 6.2' and 6.4', 1.0" shelly pocket @ 6.5', shell components of pocket are shell hash and shell fragments up to 1.0", light gray (5Y-7/1), (SP).		2	
-22.4	9.6		SAND, fine grained, quartz, little shell hash, trace shell fragments, trace silt, trace whole shell, 2.0" shell hash layers @ 7.2' and 7.9', whole shells up to 1.0", shell fragments up to 2.0", light gray (5Y-7/1), (SP).		4	Sample #4, Depth = 9.0' Mean (mm): 0.16, Phi Sorting: 0.83 Shell Hash: 1%, Fines (230): 2.13% (SP)
-24.2	11.4		SAND, fine grained, quartz, trace clay, trace shell fragments, trace shell hash, trace silt, shell fragments up to 1.5", clay distributed in laminae, clay increases with depth, 1.0" clay layer at base, light olive gray (5Y-6/2), (SW).		5	Sample #5, Depth = 10.3' Mean (mm): 0.19, Phi Sorting: 1.30 Shell Hash: 1%, Fines (230): 2.48% (SW)
-24.7	11.9		Shelly SAND, quartz, trace rock, trace silt, shell components are shell hash, whole shells and shell fragments up to 1.0", rock up to 1.5", gray (5Y-6/1), (GW).			
-27.8	15.0		SAND, fine grained, quartz, little rock, trace clay, trace shell hash, trace silt, rock up to 3.0", clay distributed in laminae, light olive gray (5Y-6/2), (GW).			
-29.1	16.3		Gravelly SAND, quartz, trace shell hash, trace silt, gravel component is rock up to 3.0", olive gray (5Y-5/2), (GW).			
-29.8	17.0		No Recovery.			
			End of Boring			

FLORIDA DEP ROSS AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1</b> <b>OF 1 SHEETS</b>
<b>1. PROJECT</b> AMI 2008 Sand Search Anna Maria Island, Manatee County, FL			<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.	
<b>2. BORING DESIGNATION</b> AMVC-08-14			<b>10. COORDINATE SYSTEM/DATUM</b> Florida State Plane West	
<b>3. DRILLING AGENCY</b> Coastal Planning & Engineering, Inc.			<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> <input type="checkbox"/> <b>AUTO HAMMER</b> Diver Operated Vibracore <input type="checkbox"/> <b>MANUAL HAMMER</b>	
<b>4. NAME OF DRILLER</b> CPE			<b>12. TOTAL SAMPLES</b> DISTURBED _____ UNDISTURBED (UD) _____	
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> <b>VERTICAL</b> <input type="checkbox"/> <b>INCLINED</b>			<b>13. TOTAL NUMBER CORE BOXES</b> _____	
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.			<b>14. ELEVATION GROUND WATER</b> _____	
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.			<b>15. DATE BORING</b> STARTED 06-25-08 15:55 COMPLETED 06-25-08 16:02	
<b>8. TOTAL DEPTH OF BORING</b> 13.6 Ft.			<b>16. ELEVATION TOP OF BORING</b> -14.5 Ft.	
			<b>17. TOTAL RECOVERY FOR BORING</b> 12.7 Ft.	
			<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> ML	



ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-14.5	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
-16.8	2.3		SAND, fine grained, quartz, trace shell hash, trace silt, light gray (5Y-7/1), (SP).		1	Sample #1, Depth = 1.0' Mean (mm): 0.18, Phi Sorting: 0.76 Shell Hash: 1%, Fines (230): 1.29% (SP)
-18.0	3.5		SAND, fine grained, quartz, little shell hash, trace silt, light gray (5Y-7/1), (SW).		2	Sample #2, Depth = 3.0' Mean (mm): 0.25, Phi Sorting: 1.08 Shell Hash: 1%, Fines (230): 1.14% (SW)
-18.9	4.4		SAND, fine grained, quartz, trace shell hash, trace silt, light gray (5Y-7/1), (SP).		1	
-19.3	4.8		SAND, fine grained, quartz, little shell hash, trace silt, light gray (5Y-7/1), (SW).		2	
-19.8	5.3		SAND, fine grained, quartz, little shell hash, trace silt, light gray (5Y-7/1), (SW).		1	
-21.0	6.5		SAND, fine grained, quartz, trace shell hash, trace silt, light gray (5Y-7/1), (SP).		3	Sample #3, Depth = 5.7' Mean (mm): 0.40, Phi Sorting: 1.71 Shell Hash: 4%, Fines (230): 1.49% (SW)
-23.5	9.0		SAND, fine grained, quartz, some shell hash, little shell fragments, trace silt, shell fragments up to 0.5", 1.0" clay pockets @ 5.4', 5.9', 6.3' and 6.4', trace shell hash from 5.8'-6.0', gray (5Y-6/1), (SW).		4	Sample #4, Depth = 7.5' Mean (mm): 0.17, Phi Sorting: 0.98 Shell Hash: 0%, Fines (230): 1.74% (SW)
-25.5	11.0		SAND, fine grained, quartz, trace clay, trace shell fragments, trace shell hash, trace silt, shell fragments up to 1.0", clay distributed in clayey pockets up to 0.5", light gray (5Y-7/1), (SW).		5	Sample #5, Depth = 9.8' Mean (mm): 0.16, Phi Sorting: 0.72 Shell Hash: 1%, Fines (230): 2.52% (SP)
-27.2	12.7		SAND, fine grained, quartz, trace clay, trace shell hash, trace silt, clay distributed in clayey pockets up to 0.5", light olive gray (5Y-6/2), (SP).			
-28.1	13.6		SAND, fine grained, quartz, some rock, trace shell hash, trace silt, rock up to 3.0", light gray (5Y-7/1), (GW).			
			No Recovery.			
			End of Boring			

FLORIDA DEP ROSS AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1</b> OF 1 SHEETS
<b>1. PROJECT</b> AMI 2008 Sand Search Anna Maria Island, Manatee County, FL			<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.	
<b>2. BORING DESIGNATION</b> AMVC-08-15			<b>10. COORDINATE SYSTEM/DATUM</b> Florida State Plane West	
<b>3. DRILLING AGENCY</b> Coastal Planning & Engineering, Inc.			<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> <input type="checkbox"/> AUTO HAMMER Diver Operated Vibracore <input type="checkbox"/> MANUAL HAMMER	
<b>4. NAME OF DRILLER</b> CPE			<b>12. TOTAL SAMPLES</b> DISTURBED _____ UNDISTURBED (UD) _____	
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED			<b>13. TOTAL NUMBER CORE BOXES</b> _____	
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.			<b>14. ELEVATION GROUND WATER</b> _____	
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.			<b>15. DATE BORING</b> STARTED 06-26-08 08:10 COMPLETED 06-26-08 08:17	
<b>8. TOTAL DEPTH OF BORING</b> 18.5 Ft.			<b>16. ELEVATION TOP OF BORING</b> -14.8 Ft.	
			<b>17. TOTAL RECOVERY FOR BORING</b> 17.8 Ft.	
			<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> ML	

ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-14.8	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
-17.5	2.7		SAND, fine grained, quartz, trace clay, trace shell hash, trace silt, clay distributed in clayey laminae, some shell hash from 0.7'-1.0', (1.0"x1.5") whole shell @ 0.8', light gray (5Y-7/1), (SP).		1	Sample #1, Depth = 1.2' Mean (mm): 0.17, Phi Sorting: 0.69 Shell Hash: 0%, Fines (230): 1.23% (SP)
-18.5	3.7		SAND, fine grained, quartz, little shell hash, trace silt, 2.0" pocket of little clay @ 3.0', light gray (5Y-7/1), (SW).		2	Sample #2, Depth = 3.3' Mean (mm): 0.23, Phi Sorting: 1.19 Shell Hash: 1%, Fines (230): 1.41% (SW)
-19.5	4.7		SHELL, some sand, quartz, trace silt, shell components are shell hash and shell fragments up to 1.5", size of shell increases with depth, light olive gray (5Y-6/2), (SW).		3	Sample #3, Depth = 4.2' Mean (mm): 0.70, Phi Sorting: 1.74 Shell Hash: 6%, Fines (230): 2.15% (SW)
-20.6	5.8		SAND, fine grained, quartz, trace shell hash, trace silt, light gray (5Y-7/1), (SP).		4	Sample #4, Depth = 5.2' Mean (mm): 0.15, Phi Sorting: 0.49 Shell Hash: 0%, Fines (230): 1.44% (SP)
-21.8	7.0		SAND, fine grained, quartz, some shell hash, little shell fragments, trace silt, shell fragments up to 1.0", 1.5" rock @ 7.0', 1.0" clayey layer @ 6.4', 2.0" trace shell hash layer @ 6.2', light olive gray (5Y-6/2), (SW).		5	Sample #5, Depth = 6.5' Mean (mm): 0.93, Phi Sorting: 1.89 Shell Hash: 11%, Fines (230): 1.69% (SW)
-24.8	10.0		SAND, fine grained, quartz, trace shell hash, trace silt, light olive gray (5Y-6/2), (SP).		6	Sample #6, Depth = 8.0' Mean (mm): 0.14, Phi Sorting: 0.47 Shell Hash: 0%, Fines (230): 3.11% (SP)
-29.2	14.4		SAND, fine grained, quartz, little rock, trace shell hash, trace silt, rock up to 4.0", light olive gray (5Y-6/2), (GW).			
-31.4	16.6		ROCK, trace clay, trace sand, quartz, light olive gray (5Y-6/2), (GW).			
-32.6	17.8		SHELL, some sand, quartz, little clay, little rock, shell components are whole shells and shell fragments up to 3.0", rock fragments up to 3.0", olive gray (5Y-4/2), (GC).			
-33.3	18.5		No Recovery.			
			End of Boring			


FLORIDA DEP ROSS AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08



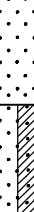
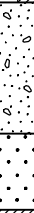

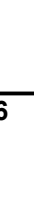

<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1</b> <b>OF 1 SHEETS</b>
<b>1. PROJECT</b> AMI 2008 Sand Search Anna Maria Island, Manatee County, FL			<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.	
<b>2. BORING DESIGNATION</b> AMVC-08-16			<b>10. COORDINATE SYSTEM/DATUM</b> Florida State Plane West	
<b>3. DRILLING AGENCY</b> Coastal Planning & Engineering, Inc.			<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> <input type="checkbox"/> AUTO HAMMER Diver Operated Vibracore <input type="checkbox"/> MANUAL HAMMER	
<b>4. NAME OF DRILLER</b> CPE			<b>12. TOTAL SAMPLES</b> DISTURBED _____ UNDISTURBED (UD) _____	
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED			<b>13. TOTAL NUMBER CORE BOXES</b> _____	
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.			<b>14. ELEVATION GROUND WATER</b> _____	
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.			<b>15. DATE BORING</b> STARTED 06-26-08 08:58 COMPLETED 06-26-08 09:07	
<b>8. TOTAL DEPTH OF BORING</b> 14.5 Ft.			<b>16. ELEVATION TOP OF BORING</b> -16.5 Ft.	
			<b>17. TOTAL RECOVERY FOR BORING</b> 13.2 Ft.	
			<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> PB	



ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-16.5	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
-19.7	3.2		SAND, fine grained, quartz, trace clay, trace shell hash, trace silt, clay distributed in laminae, white (5Y-8/1), (SP).		1	Sample #1, Depth = 1.3' Mean (mm): 0.16, Phi Sorting: 0.43 Shell Hash: 0%, Fines (230): 1.20% (SP)
-20.3	3.8		SHELL HASH, some sand, quartz, little shell fragments, trace silt, shell fragments up to 1.5", gray (5Y-6/1), (SW).		2	Sample #2, Depth = 3.5' Mean (mm): 0.99, Phi Sorting: 1.68 Shell Hash: 12%, Fines (230): 1.86% (SW)
-20.9	4.4		SAND, fine grained, quartz, trace clay, trace shell hash, trace silt, clay distributed in laminae, white (5Y-8/1), (SP).		1	Sample #3, Depth = 4.8' Mean (mm): 0.29, Phi Sorting: 1.69 Shell Hash: 3%, Fines (230): 1.61% (SW)
-21.7	5.2		SAND, fine grained, quartz, some shell hash, little shell fragments, trace clay, trace silt, trace whole shell, shell fragments and whole shells up to 1.0", light gray (5Y-7/1), (SW).		3	Sample #4, Depth = 6.8' Mean (mm): 0.14, Phi Sorting: 0.59 Shell Hash: 0%, Fines (230): 3.44% (SP)
-24.7	8.2		SAND, fine grained, quartz, trace clay, trace shell hash, trace silt, clay distributed in laminae increasing with depth, 1.0" shell hash pocket at base, light olive gray (5Y-6/2), (SP).		4	Sample #5, Depth = 8.7' Mean (mm): 0.17, Phi Sorting: 0.95 Shell Hash: 1%, Fines (230): 2.43% (SW)
-25.7	9.2		SAND, fine grained, quartz, trace shell fragments, trace silt, trace whole shell, whole shells up to 2.0", shell fragments up to 1.5", 1.0" rock @ 8.9', light gray (5Y-7/1), (SW).		5	
-26.5	10.0		SAND, fine grained, quartz, trace clay, trace shell fragments, trace shell hash, trace silt, shell fragments up to 1.0", clay distributed in laminae, shelly pocket @ 9.9', shell components of pocket are shell hash and shell fragments up to 0.5", light gray (5Y-7/1), (SP).		3	
-29.7	13.2		SAND, fine grained, quartz, trace clay, trace shell, trace shell hash, trace silt, trace whole shell, rock up to 1.0", clay distributed in laminae, whole shells up to 1.0", (3.0"x2.0") rock @ 10.2', gray (5Y-6/1), (SP).		1	
-31.0	14.5		No Recovery.			
			End of Boring			

FLORIDA DEP ROSS AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1</b>
<b>1. PROJECT</b> AMI 2008 Sand Search Anna Maria Island, Manatee County, FL				<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.
<b>2. BORING DESIGNATION</b> AMVC-08-17		<b>LOCATION COORDINATES</b> X = 412,935 Y = 1,158,323		<b>10. COORDINATE SYSTEM/DATUM</b> Florida State Plane West
<b>3. DRILLING AGENCY</b> Coastal Planning & Engineering, Inc.		<b>CONTRACTOR FILE NO.</b>		<b>HORIZONTAL</b> NAD 1983
<b>4. NAME OF DRILLER</b> CPE				<b>VERTICAL</b> NAVD 88
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		<b>DEG. FROM VERTICAL</b>	<b>BEARING</b>	<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> <input type="checkbox"/> AUTO HAMMER Diver Operated Vibracore <input type="checkbox"/> MANUAL HAMMER
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.				<b>12. TOTAL SAMPLES</b>
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.				<b>DISTURBED</b>
<b>8. TOTAL DEPTH OF BORING</b> 19.9 Ft.				<b>UNDISTURBED (UD)</b>
				<b>13. TOTAL NUMBER CORE BOXES</b>
				<b>14. ELEVATION GROUND WATER</b>
				<b>15. DATE BORING</b>
				<b>STARTED</b> 06-26-08 10:07
				<b>COMPLETED</b> 06-26-08 10:12
				<b>16. ELEVATION TOP OF BORING</b> -12.5 Ft.
				<b>17. TOTAL RECOVERY FOR BORING</b> 19.1 Ft.
				<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> BF

ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-12.5	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
-16.6	4.1		SAND, fine grained, quartz, trace clay, trace shell hash, trace silt, clay distributed in laminae, 2.0" pocket of little shell hash @ 3.4', white (5Y-8/1), (SP).		1	Sample #1, Depth = 2.1' Mean (mm): 0.16, Phi Sorting: 0.48 Shell Hash: 0%, Fines (230): 1.15% (SP)
-19.5	7.0		SAND, fine grained, quartz, trace clay, trace shell hash, clay distributed in laminae, 3.0" pocket of little shell hash @ 5.9', 1.0" whole shell @ 6.4', gray (5Y-6/1), (SP).		2	Sample #2, Depth = 5.2' Mean (mm): 0.17, Phi Sorting: 0.79 Shell Hash: 1%, Fines (230): 1.50% (SP)
-20.5	8.0		Shelly SAND, quartz, trace silt, shell components are shell hash, whole shells and shell fragments up to 2.0", gray (5Y-5/1), (SW).		3	Sample #3, Depth = 7.4' Mean (mm): 0.90, Phi Sorting: 2.10 Shell Hash: 13%, Fines (230): 2.03% (SW)
-22.5	10.0		SAND, fine grained, quartz, trace silt, clayey lamina @ 8.4', (1.0"x0.5") rock fragment @ 9.8', white (5Y-8/1), (SP).		4	Sample #4, Depth = 9.2' Mean (mm): 0.15, Phi Sorting: 0.44 Shell Hash: 0%, Fines (230): 1.29% (SP)
-24.7	12.2		SAND, fine grained, quartz, little silt, trace clay, trace shell hash, clay distributed in laminae, 2.0" little shell hash pocket @ 10.3', olive gray (5Y-5/2), (SP-SC).			
-27.1	14.6		SAND, fine grained, quartz, little shell hash, (2.0"x1.0") rock fragment @ 12.2', 2.0" shell hash pockets @ 12.2' and 12.6', shelly layers from 13.4'-13.8' and 14.3'-14.6', shell components of shelly layers are shell hash, shell fragments up to 3.0" and whole shells up to 1.5", 4.0" clayey pocket @ 13.9', gray (5Y-5/1), (GW).			
-28.5	16.0		SAND, fine grained, quartz, little shell hash, trace clay, trace rock fragments, trace silt, rock fragments up to 1.0", gray (5Y-6/1), (SP).			
-31.6	19.1		Shelly SAND, quartz, little silt, trace clay, trace rock fragments, shell components are whole shells and shell fragments up to 1.0", rock fragments up to 3.0", clay increases with depth, light olive gray (5Y-6/2), (GC).			
-32.4	19.9		No Recovery.			
			End of Boring			

FLORIDA DEP ROSS AMI 2008 VIBRACORES ALL GPJ FL DEP ROSS.GDT 10/29/08

<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1</b> OF 1 SHEETS
<b>1. PROJECT</b> AMI 2008 Sand Search Anna Maria Island, Manatee County, FL			<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.	
<b>2. BORING DESIGNATION</b> AMVC-08-18			<b>10. COORDINATE SYSTEM/DATUM</b> Florida State Plane West	
<b>3. DRILLING AGENCY</b> Coastal Planning & Engineering, Inc.			<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> <input type="checkbox"/> AUTO HAMMER Diver Operated Vibracore <input type="checkbox"/> MANUAL HAMMER	
<b>4. NAME OF DRILLER</b> CPE			<b>12. TOTAL SAMPLES</b> DISTURBED _____ UNDISTURBED (UD) _____	
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED			<b>13. TOTAL NUMBER CORE BOXES</b>	
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.			<b>14. ELEVATION GROUND WATER</b>	
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.			<b>15. DATE BORING</b> STARTED 06-26-08 11:04 COMPLETED 06-26-08 11:10	
<b>8. TOTAL DEPTH OF BORING</b> 20.0 Ft.			<b>16. ELEVATION TOP OF BORING</b> -18.5 Ft.	
			<b>17. TOTAL RECOVERY FOR BORING</b> 18.7 Ft.	
			<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> BF	



ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-18.5	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
-19.2	0.7		SAND, fine grained, quartz, trace shell hash, trace silt, 1.0" shell fragment @ 0.4', gray (5Y-6/1), (SW).		1	Sample #1, Depth = 0.3' Mean (mm): 0.22, Phi Sorting: 1.07 Shell Hash: 1%, Fines (230): 1.27% (SW)
-20.7	2.2		SAND, fine grained, quartz, trace clay, trace shell hash, trace silt, clay distributed in laminae, light gray (5Y-7/1), (SP).		2	Sample #2, Depth = 1.5' Mean (mm): 0.16, Phi Sorting: 0.53 Shell Hash: 0%, Fines (230): 1.46% (SP)
-22.5	4.0		SAND, fine grained, quartz, trace clay, trace shell hash, trace silt, clay distributed in laminae, clayey pocket from 3.4'-3.6', light gray (5Y-7/2), (SP).		3	Sample #3, Depth = 3.0' Mean (mm): 0.17, Phi Sorting: 0.54 Shell Hash: 0%, Fines (230): 1.41% (SP)
-24.0	5.5		SAND, fine grained, quartz, some shell hash, trace clay, trace shell fragments, trace silt, trace whole shell, whole shells and shell fragments up to 1.0", shell content increases with depth, gray (5Y-5/1), (SW).		4	Sample #4, Depth = 4.7' Mean (mm): 0.38, Phi Sorting: 1.58 Shell Hash: 4%, Fines (230): 2.49% (SW)
-25.5	7.0		SAND, fine grained, quartz, trace shell hash, trace silt, 1.0" shell fragment @ 6.2', 1.5" shell hash pocket @ 6.9', gray (5Y-6/1), (SW).		5	Sample #5, Depth = 6.3' Mean (mm): 0.17, Phi Sorting: 0.95 Shell Hash: 1%, Fines (230): 1.62% (SW)
-27.5	9.0		SAND, fine grained, quartz, trace clay, trace shell hash, trace silt, clay content increases with depth, gray (5Y-5/1), (SP).		6	Sample #6, Depth = 7.8' Mean (mm): 0.17, Phi Sorting: 0.76 Shell Hash: 0%, Fines (230): 3.51% (SP)
-28.8	10.3		Shelly SAND, quartz, trace silt, shell components are shell hash, shell fragments up to 2.0" and whole shells up to 1.0", (4.0"x2.0") rock fragment @ 9.0', light olive gray (5Y-6/2), (SW).		7	Sample #7, Depth = 9.5' Mean (mm): 1.84, Phi Sorting: 1.88 Shell Hash: 16%, Fines (230): 1.80% (SW)
-32.3	13.8		Shelly SAND, quartz, little clay, trace silt, shell components are shell hash, shell fragments up to 2.0" and whole shells up to 3.0", olive gray (5Y-5/2), (GM-GC).			
-37.2	18.7		CLAY, little rock fragments, rock fragments up to 3.0", light gray (5Y-7/2), (CL).			
-38.5	20.0		No Recovery.			
			End of Boring			

FLORIDA DEP ROSS AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1</b> <b>OF 1 SHEETS</b>
<b>1. PROJECT</b> AMI 2008 Sand Search Anna Maria Island, Manatee County, FL			<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.	
<b>2. BORING DESIGNATION</b> AMVC-08-19			<b>10. COORDINATE SYSTEM/DATUM</b> Florida State Plane West	
<b>3. DRILLING AGENCY</b> Coastal Planning & Engineering, Inc.			<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> Diver Operated Vibracore	
<b>4. NAME OF DRILLER</b> CPE			<input type="checkbox"/> <b>AUTO HAMMER</b> <input type="checkbox"/> <b>MANUAL HAMMER</b>	
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> <b>VERTICAL</b> <input type="checkbox"/> <b>INCLINED</b>			<b>12. TOTAL SAMPLES</b> DISTURBED: _____ UNDISTURBED (UD): _____	
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.			<b>13. TOTAL NUMBER CORE BOXES</b>	
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.			<b>14. ELEVATION GROUND WATER</b>	
<b>8. TOTAL DEPTH OF BORING</b> 19.4 Ft.			<b>15. DATE BORING</b> STARTED: 06-26-08 16:28 COMPLETED: 06-26-08 16:35	
			<b>16. ELEVATION TOP OF BORING</b> -20.0 Ft.	
			<b>17. TOTAL RECOVERY FOR BORING</b> 19 Ft.	
			<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> ML	



ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-20.0	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
-24.8	4.8		SAND, fine grained, quartz, trace clay, trace shell hash, trace silt, trace whole shell, whole shells up to 0.5", 2 (1.0"x1.5") rocks @ 4.0', clay distributed in clayey laminae, 2.0" shell hash layer at base, gray (5Y-6/1), (SP).		1	Sample #1, Depth = 2.5' Mean (mm): 0.17, Phi Sorting: 0.58 Shell Hash: 0%, Fines (230): 1.82% (SP)
-25.6	5.6		CLAY, 1.0" sand layer @ 4.8', 2.0" sand layer @ 5.1', olive gray (5Y-4/2), (CL).			
-25.8	5.8		Shelly SAND, quartz, trace silt, shell components are shell hash and shell fragments up to 1.0", gray (5Y-6/1), (SW).			
-28.5	8.5		SAND, fine grained, quartz, trace clay, trace shell fragments, trace shell hash, trace silt, clay distributed in clayey laminae, shell fragments up to 1.0", light olive gray (5Y-6/2), (SP-SM).			
-29.3	9.3		SAND, fine grained, quartz, trace shell hash, trace silt, 1.5" shell fragment @ 8.7', light gray (5Y-7/2), (SP).			
-37.8	17.8		Shelly CLAY, little sand, quartz, shell components are shell fragments and whole shells up to 2.5", light olive gray (5Y-6/2), (GC).			
-39.0	19.0		CLAY, some sand, quartz, pale yellow (5Y-8/2), (CL).			
-39.4	19.4		No Recovery.			
			End of Boring			

FLORIDA DEP ROSS AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08



<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1</b> OF 1 SHEETS
<b>1. PROJECT</b> AMI 2008 Sand Search Anna Maria Island, Manatee County, FL			<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.	
<b>2. BORING DESIGNATION</b> AMVC-08-20			<b>10. COORDINATE SYSTEM/DATUM</b> Florida State Plane West	
<b>3. DRILLING AGENCY</b> Coastal Planning & Engineering, Inc.			<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> <input type="checkbox"/> AUTO HAMMER Diver Operated Vibracore <input type="checkbox"/> MANUAL HAMMER	
<b>4. NAME OF DRILLER</b> CPE			<b>12. TOTAL SAMPLES</b> DISTURBED _____ UNDISTURBED (UD) _____	
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED			<b>13. TOTAL NUMBER CORE BOXES</b> _____	
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.			<b>14. ELEVATION GROUND WATER</b> _____	
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.			<b>15. DATE BORING</b> STARTED 06-26-08 17:34 COMPLETED 06-26-08 17:36	
<b>8. TOTAL DEPTH OF BORING</b> 20.0 Ft.			<b>16. ELEVATION TOP OF BORING</b> -20.2 Ft.	
			<b>17. TOTAL RECOVERY FOR BORING</b> 18.7 Ft.	
			<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> ML	



ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-20.2	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
			SAND, fine grained, quartz, trace clay, trace shell hash, trace silt, clay distributed in clayey laminae, 0.75" shell fragment @ 1.2', gray (5Y-6/1), (SP).		1	Sample #1, Depth = 2.0' Mean (mm): 0.16, Phi Sorting: 0.51 Shell Hash: 0%, Fines (230): 1.98% (SP)
-24.2	4.0				2	
-24.7	4.5				1	Sample #2, Depth = 4.3' Mean (mm): 0.45, Phi Sorting: 1.43 Shell Hash: 1%, Fines (230): 1.55% (SW)
-25.1	4.9		SAND, fine grained, quartz, trace shell hash, trace clay, clay distributed in clayey laminae, 1.0" clay layer at base, gray (5Y-6/1), (SW).		2	
-25.9	5.7		SAND, fine grained, quartz, trace shell hash, trace silt, light gray (5Y-7/1), (SP).		3	Sample #3, Depth = 6.4' Mean (mm): 0.19, Phi Sorting: 1.17 Shell Hash: 1%, Fines (230): 1.60% (SW)
-27.0	6.8		SAND, fine grained, quartz, some shell hash, trace clay, trace shell fragments, trace silt, trace whole shell, whole shells and shell fragments up to 2.0", clay distributed in clayey laminae, gray (5Y-6/1), (SW).			
-27.9	7.7		SAND, fine grained, quartz, trace shell fragments, trace shell hash, trace silt, shell fragments up to 0.5", 1.0" clayey pocket @ 6.2', light gray (5Y-7/1), (SW).			
-30.0	9.8		SAND, fine grained, quartz, some shell hash, trace rock, trace shell fragments, trace silt, trace whole shell, shell fragments and whole shells up to 1.0", rock up to 1.5", gray (5Y-5/1), (SW).			
-30.8	10.6		SAND, fine grained, quartz, little clay, trace silt, clay distributed in pockets and layers, light olive gray (5Y-6/2), (SC).			
			SAND, fine grained, quartz, some shell hash, little shell fragments, trace clay, trace silt, clay distributed in clayey laminae, shell fragments up to 0.5", gray (5Y-6/1), (SW-SM).			
			Shelly CLAY, some sand, quartz, trace rock, shell components are whole shells and shell fragments up to 3.0", rock up to 2.0", olive gray (5Y-5/2), (GC).			
-38.9	18.7					
-40.2	20.0		No Recovery.			
			End of Boring			

FLORIDA DEP ROSS AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1</b> OF 1 SHEETS
<b>1. PROJECT</b> AMI 2008 Sand Search Anna Maria Island, Manatee County, FL			<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.	
<b>2. BORING DESIGNATION</b> AMVC-08-21			<b>10. COORDINATE SYSTEM/DATUM</b> Florida State Plane West	
<b>3. DRILLING AGENCY</b> Coastal Planning & Engineering, Inc.			<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> <input type="checkbox"/> AUTO HAMMER Diver Operated Vibracore <input type="checkbox"/> MANUAL HAMMER	
<b>4. NAME OF DRILLER</b> CPE			<b>12. TOTAL SAMPLES</b> DISTURBED _____ UNDISTURBED (UD) _____	
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED			<b>13. TOTAL NUMBER CORE BOXES</b> _____	
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.			<b>14. ELEVATION GROUND WATER</b> _____	
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.			<b>15. DATE BORING</b> STARTED 06-26-08 18:22 COMPLETED 06-26-08 18:25	
<b>8. TOTAL DEPTH OF BORING</b> 20.0 Ft.			<b>16. ELEVATION TOP OF BORING</b> -18.8 Ft.	
			<b>17. TOTAL RECOVERY FOR BORING</b> 20 Ft.	
			<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> BF	



ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-18.8	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
-22.4	3.6		SAND, fine grained, quartz, trace clay, trace shell hash, trace silt, clay distributed in clayey laminae, 0.5" whole shell @ 1.5', shell content increases with depth, gray (5Y-6/1), (SP).		1	Sample #1, Depth = 2.1' Mean (mm): 0.15, Phi Sorting: 0.55 Shell Hash: 0%, Fines (230): 1.80% (SP)
-22.8	4.0		Shelly SAND, quartz, trace clay, trace silt, shell components are shell hash, whole shells up to 1.0" and shell fragments up to 0.5", gray (5Y-5/1), (SW).		2	Sample #2, Depth = 3.8' Mean (mm): 0.59, Phi Sorting: 1.77 Shell Hash: 6%, Fines (230): 3.23% (SW)
-23.4	4.6				1	Sample #3, Depth = 4.8' Mean (mm): 0.38, Phi Sorting: 1.62 Shell Hash: 4%, Fines (230): 2.82% (SW)
-24.2	5.4		SAND, fine grained, quartz, trace clay, trace shell hash, trace silt, clay distributed in clayey laminae, gray (5Y-6/1), (SP).		3	Sample #4, Depth = 5.8' Mean (mm): 0.16, Phi Sorting: 0.62 Shell Hash: 0%, Fines (230): 1.34% (SP)
-25.0	6.2		Shelly SAND, quartz, trace clay, trace silt, shell components are shell hash, whole shells up to 1.5" and shell fragments up to 2.0", gray (5Y-5/1), (SW).		4	Sample #5, Depth = 7.8' Mean (mm): 0.19, Phi Sorting: 0.41 Shell Hash: 0%, Fines (230): 3.52% (SP)
-28.5	9.7		SAND, fine grained, quartz, trace clay, trace shell hash, trace silt, clay distributed in clayey laminae, light gray (5Y-7/1), (SP).			
-29.6	10.8		SAND, fine grained, quartz, trace shell hash, trace silt, shell content increases with depth, olive gray (5Y-5/2), (SP).			
			Shelly SAND, quartz, trace silt, shell components are shell hash, shell fragments up to 2.0" and whole shells up to 1.0", 0.5" clay lamina @ 9.9', (2.0"x1.5") rock fragment @ 10.5', trace shell hash pocket from 10.1'-10.4', gray (5Y-5/1), (SW).			
			Shelly SAND, quartz, trace clay, trace silt, shell components are shell hash, whole shells up to 1.5" and shell fragments up to 3.0", olive gray (5Y-5/2), (GC).			
-38.8	20.0		End of Boring			

FLORIDA DEP ROSS AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1</b> OF 1 SHEETS
<b>1. PROJECT</b> AMI 2008 Sand Search Anna Maria Island, Manatee County, FL			<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.	
<b>2. BORING DESIGNATION</b> AMVC-08-22			<b>10. COORDINATE SYSTEM/DATUM</b> Florida State Plane West	
<b>3. DRILLING AGENCY</b> Coastal Planning & Engineering, Inc.			<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> <input type="checkbox"/> AUTO HAMMER Diver Operated Vibracore <input type="checkbox"/> MANUAL HAMMER	
<b>4. NAME OF DRILLER</b> CPE			<b>12. TOTAL SAMPLES</b> DISTURBED _____ UNDISTURBED (UD) _____	
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED			<b>13. TOTAL NUMBER CORE BOXES</b> _____	
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.			<b>14. ELEVATION GROUND WATER</b> _____	
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.			<b>15. DATE BORING</b> STARTED 06-26-08 19:07 COMPLETED 06-26-08 19:13	
<b>8. TOTAL DEPTH OF BORING</b> 19.5 Ft.			<b>16. ELEVATION TOP OF BORING</b> -16.7 Ft.	
			<b>17. TOTAL RECOVERY FOR BORING</b> 19.4 Ft.	
			<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> TD	



ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-16.7	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
-17.9	1.2		SAND, fine grained, quartz, trace shell hash, trace silt, gray (5Y-6/1), (SP).		1	Sample #1, Depth = 0.6' Mean (mm): 0.18, Phi Sorting: 0.74 Shell Hash: 0%, Fines (230): 1.76% (SP)
-19.9	3.2		SAND, fine grained, quartz, little shell hash, trace shell fragments, trace silt, shell fragments up to 0.5", gray (5Y-6/1), (SW).		2	Sample #2, Depth = 2.1' Mean (mm): 0.37, Phi Sorting: 1.72 Shell Hash: 3%, Fines (230): 1.16% (SW)
-21.4	4.7		SAND, fine grained, quartz, trace clay, trace shell hash, clay distributed in clayey pockets up to 0.5", 0.5" shell fragment @ 4.5', light gray (5Y-7/1), (SP).		1	
-23.3	6.6		Sandy SHELL, quartz, trace clay, trace silt, shell components are shell hash, whole shells and shell fragments up to 1.5", sandy clay laminae @ 4.9' and 6.0', gray (5Y-6/1), (GW).		3	Sample #3, Depth = 5.6' Mean (mm): 0.81, Phi Sorting: 2.06 Shell Hash: 7%, Fines (230): 1.89% (SW)
-25.6	8.9		SAND, fine grained, quartz, trace clay, trace shell hash, clay distributed in clayey pockets up to 0.5", 1.5" clay layer @ 8.3', light gray (5Y-7/1), (SP).			
-26.0	9.3		Clayey SAND, quartz, light olive gray (5Y-6/2), (SC).			
-30.3	13.6		SAND, fine grained, quartz, little clay, trace shell hash, clay distributed in laminae, 0.5" whole shell @ 13.3', 1.0" clay layer @ 13.4', light gray (5Y-7/1), (SC).			
-34.2	17.5		Shelly SAND, quartz, little clay, shell components are whole shells and shell fragments up to 2.0", olive gray (5Y-5/2), (GC).			
-36.1	19.4		CLAY, gray (5Y-5/1), (CL).			
-36.2	19.5		No Recovery.			
			End of Boring			

FLORIDA DEP ROSS AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1</b> OF 1 SHEETS
<b>1. PROJECT</b> AMI 2008 Sand Search Anna Maria Island, Manatee County, FL			<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.	
<b>2. BORING DESIGNATION</b> AMVC-08-23			<b>10. COORDINATE SYSTEM/DATUM</b> Florida State Plane West	
<b>3. DRILLING AGENCY</b> Coastal Planning & Engineering, Inc.			<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> <input type="checkbox"/> AUTO HAMMER Diver Operated Vibracore <input type="checkbox"/> MANUAL HAMMER	
<b>4. NAME OF DRILLER</b> CPE			<b>12. TOTAL SAMPLES</b> DISTURBED _____ UNDISTURBED (UD) _____	
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED			<b>13. TOTAL NUMBER CORE BOXES</b> _____	
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.			<b>14. ELEVATION GROUND WATER</b> _____	
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.			<b>15. DATE BORING</b> STARTED 06-27-08 08:09 COMPLETED 06-27-08 08:12	
<b>8. TOTAL DEPTH OF BORING</b> 20.1 Ft.			<b>16. ELEVATION TOP OF BORING</b> -15.2 Ft.	
			<b>17. TOTAL RECOVERY FOR BORING</b> 20 Ft.	
			<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> ML	



ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-15.2	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
-17.2	2.0		SAND, fine grained, quartz, little shell hash, trace clay, trace silt, clay distributed in clayey laminae, light gray (5Y-7/1), (SW).		1	Sample #1, Depth = 1.0' Mean (mm): 0.18, Phi Sorting: 0.86 Shell Hash: 0%, Fines (230): 1.81% (SW)
-19.3	4.1		SAND, fine grained, quartz, trace clay, trace shell hash, trace silt, clay distributed in clayey pockets up to 0.5", some shell hash from 2.5'-2.9', light gray (5Y-7/1), (SP).		2	Sample #2, Depth = 3.4' Mean (mm): 0.16, Phi Sorting: 0.62 Shell Hash: 0%, Fines (230): 1.88% (SP)
-21.1	5.9		SAND, fine grained, quartz, little shell hash, trace clay, trace silt, clay distributed in clayey laminae, light gray (5Y-7/1), (SW).		3	Sample #3, Depth = 4.7' Mean (mm): 0.23, Phi Sorting: 1.08 Shell Hash: 1%, Fines (230): 2.97% (SW)
-22.2	7.0		SAND, fine grained, quartz, some shell hash, little shell fragments, trace silt, trace whole shell, shell fragments and whole shells up to 1.5", 0.5" clay layers @ 6.0' and 6.5', light gray (5Y-7/2), (GW-GC).			
-24.0	8.8		SAND, fine grained, quartz, trace clay, trace shell hash, trace silt, clay distributed in clayey pockets up to 0.5", some shell hash and little shell fragments up to 1.0" from 8.6'-8.8', light gray (5Y-7/1), (SP).			
-29.4	14.2		SAND, fine grained, quartz, trace clay, trace silt, clay distributed in clayey pockets up to 0.5", 1.5" clay layer @ 13.8', light olive gray (5Y-6/2), (SP-SM).			
-32.5	17.3		Clayey SAND, quartz, very dark grayish brown (2.5Y-3/2), (SC).			
-35.2	20.0		Clayey SHELL, some sand, quartz, shell components are whole shells and shell fragments up to 3.0", olive gray (5Y-5/2), (GC).			
-35.3	20.1		No Recovery.			
			End of Boring			

FLORIDA DEP ROSS AMI\_2008 VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1</b> <b>OF 1 SHEETS</b>
<b>1. PROJECT</b> AMI 2008 Sand Search Anna Maria Island, Manatee County, FL			<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.	
<b>2. BORING DESIGNATION</b> AMVC-08-24			<b>10. COORDINATE SYSTEM/DATUM</b> Florida State Plane West	
<b>3. DRILLING AGENCY</b> Coastal Planning & Engineering, Inc.			<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> <input type="checkbox"/> <b>AUTO HAMMER</b> Diver Operated Vibracore <input type="checkbox"/> <b>MANUAL HAMMER</b>	
<b>4. NAME OF DRILLER</b> CPE			<b>12. TOTAL SAMPLES</b> <input type="checkbox"/> <b>DISTURBED</b> <input type="checkbox"/> <b>UNDISTURBED (UD)</b>	
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> <b>VERTICAL</b> <input type="checkbox"/> <b>INCLINED</b>			<b>13. TOTAL NUMBER CORE BOXES</b>	
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.			<b>14. ELEVATION GROUND WATER</b>	
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.			<b>15. DATE BORING</b> <b>STARTED</b> 06-27-08 08:54 <b>COMPLETED</b> 06-27-08 08:57	
<b>8. TOTAL DEPTH OF BORING</b> 20.4 Ft.			<b>16. ELEVATION TOP OF BORING</b> -16.0 Ft.	
			<b>17. TOTAL RECOVERY FOR BORING</b> 19.5 Ft.	
			<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> KD	

ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-16.0	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
-19.2	3.2		SAND, fine grained, quartz, little shell hash, trace silt, gray (5Y-6/1), (SP).		1	Sample #1, Depth = 2.0' Mean (mm): 0.20, Phi Sorting: 0.78 Shell Hash: 0%, Fines (230): 1.47% (SP)
-20.6	4.6		SAND, fine grained, quartz, some shell hash, trace clay, trace shell fragments, trace whole shell, shell fragments and whole shells up to 2.0", clay distributed in clayey pockets up to 0.5", gray (5Y-6/1), (SW).		2	Sample #2, Depth = 3.8' Mean (mm): 0.35, Phi Sorting: 1.50 Shell Hash: 3%, Fines (230): 1.31% (SW)
-22.0	6.0		Shelly SAND, quartz, trace silt, shell components are shell hash and shell fragments up to 1.5", 0.75" rock @ 4.9", (3.0"x2.0") shell fragment @ 5.7", gray (5Y-6/1), (GW).			
-22.5	6.5		SAND, fine grained, quartz, trace shell hash, trace silt, gray (5Y-6/1), (SP).			
-23.0	7.0		Shelly SAND, quartz, trace silt, shell components are shell hash and shell fragments up to 1.5", gray (5Y-6/1), (GW).			
-26.8	10.8		SAND, fine grained, quartz, trace shell fragments, trace silt, trace whole shell, trace silty laminae, whole shells and shell fragments up to 1.5", light gray (5Y-7/1), (SP).			
-31.0	15.0		SAND, fine grained, quartz, little clay, little silt, little rock fragments up to 2.5" from 13.3'-13.6', olive gray (5Y-5/2), (SM-SC).			
-35.5	19.5		Shelly SAND, quartz, little clay, little silt, shell components are shell hash and shell fragments up to 3.0", gray (5Y-6/1), (GC).			
-36.4	20.4		No Recovery.			
			End of Boring			

FLORIDA DEP ROSS AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1</b> <b>OF 1 SHEETS</b>
<b>1. PROJECT</b> AMI 2008 Sand Search Anna Maria Island, Manatee County, FL			<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.	
<b>2. BORING DESIGNATION</b> AMVC-08-25			<b>10. COORDINATE SYSTEM/DATUM</b> Florida State Plane West	
<b>3. DRILLING AGENCY</b> Coastal Planning & Engineering, Inc.			<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> <input type="checkbox"/> AUTO HAMMER Diver Operated Vibracore <input type="checkbox"/> MANUAL HAMMER	
<b>4. NAME OF DRILLER</b> CPE			<b>12. TOTAL SAMPLES</b> DISTURBED _____ UNDISTURBED (UD) _____	
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED			<b>13. TOTAL NUMBER CORE BOXES</b> _____	
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.			<b>14. ELEVATION GROUND WATER</b> _____	
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.			<b>15. DATE BORING</b> STARTED 06-27-08 09:52 COMPLETED 06-27-08 09:57	
<b>8. TOTAL DEPTH OF BORING</b> 20.0 Ft.			<b>16. ELEVATION TOP OF BORING</b> -16.5 Ft.	
			<b>17. TOTAL RECOVERY FOR BORING</b> 18.6 Ft.	
			<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> BF	



ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-16.5	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
-21.8	5.3		Shelly SAND, quartz, trace clay, trace silt, shell components are shell hash, shell fragments up to 3.0" and whole shells up to 1.0", trace shell hash pocket from 1.6'-1.8', 1.5" clay layers @ 2.3' and 2.8', clay distributed in pockets up to 1.0", gray (5Y-6/1), (GW).		1	Sample #1, Depth = 3.3' Mean (mm): 0.39, Phi Sorting: 1.60 Shell Hash: 2%, Fines (230): 1.27% (SW)
-26.3	9.8		SAND, fine grained, quartz, trace clay, trace silt, clay distributed in clayey pockets up to 1.0", 2.0" shelly pocket at 5.4', shell components are shell hash and shell fragments up to 0.5", 1.0" whole shell @ 9.0', 1.0" shell fragment @ 6.3', light gray (5Y-7/1), (SP).			
-29.4	12.9		SAND, fine grained, quartz, little clay, little silt, trace shell hash, olive gray (5Y-5/2), (SM-SC).			
-30.3	13.8		Shelly SAND, quartz, little clay, little silt, shell components are shell hash and shell fragments up to 2.0", 2.0" rock fragment @ 13.1', gray (5Y-5/1), (GM-GC).			
-35.1	18.6		Shelly SAND, quartz, little clay, little silt, shell components are shell hash, shell fragments up to 3.5" and whole shells up to 1.0", 3.0" coral fragment @ 18.0', olive gray (5Y-5/2), (GM-GC).			
-36.5	20.0		No Recovery.			
			End of Boring			

FLORIDA DEP ROSS AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1</b> OF 1 SHEETS
<b>1. PROJECT</b> AMI 2008 Sand Search Anna Maria Island, Manatee County, FL			<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.	
<b>2. BORING DESIGNATION</b> AMVC-08-26			<b>10. COORDINATE SYSTEM/DATUM</b> Florida State Plane West	
<b>3. DRILLING AGENCY</b> Coastal Planning & Engineering, Inc.			<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> <input type="checkbox"/> AUTO HAMMER Diver Operated Vibracore <input type="checkbox"/> MANUAL HAMMER	
<b>4. NAME OF DRILLER</b> CPE			<b>12. TOTAL SAMPLES</b> DISTURBED: _____ UNDISTURBED (UD): _____	
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED			<b>13. TOTAL NUMBER CORE BOXES</b>	
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.			<b>14. ELEVATION GROUND WATER</b>	
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.			<b>15. DATE BORING</b> STARTED: 06-27-08 10:45 COMPLETED: 06-27-08 10:50	
<b>8. TOTAL DEPTH OF BORING</b> 20.5 Ft.			<b>16. ELEVATION TOP OF BORING</b> -16.2 Ft.	
			<b>17. TOTAL RECOVERY FOR BORING</b> 19 Ft.	
			<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> BF	



ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-16.2	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
-17.5	1.3		SAND, fine grained, quartz, trace silt, shelly pockets evenly distributed, shell component is shell hash, gray (5Y-6/1), (SW).		1	Sample #1, Depth = 0.8' Mean (mm): 0.22, Phi Sorting: 1.24 Shell Hash: 1%, Fines (230): 1.35% (SW)
-20.7	4.5		SAND, fine grained, quartz, trace clay, trace shell hash, trace silt, silt content increases with depth, 1.0" shell fragment @ 3.5', clay distributed in clayey laminae, gray (5Y-6/1), (SP).		2	Sample #2, Depth = 2.9' Mean (mm): 0.16, Phi Sorting: 0.64 Shell Hash: 0%, Fines (230): 1.41% (SP)
-22.1	5.9		Shelly SAND, quartz, trace silt, shell components are shell hash, shell fragments up to 2.0" and whole shells up to 0.5", 2.0" trace shell hash pocket @ 5.0', gray (5Y-6/1), (SW).		3	Sample #3, Depth = 5.5' Mean (mm): 0.38, Phi Sorting: 1.55 Shell Hash: 2%, Fines (230): 1.20% (SW)
-24.8	8.6		SAND, fine grained, quartz, trace clay, trace shell hash, trace silt, clay distributed in 1.0" clayey pockets and clayey laminae, shelly pocket between 7.2' and 7.6', shell component of pocket is shell hash, 2.0" shell fragment @ 8.3', gray (5Y-6/1), (SW).		4	Sample #4, Depth = 6.8' Mean (mm): 0.14, Phi Sorting: 0.88 Shell Hash: 0%, Fines (230): 1.74% (SW)
-25.6	9.4		Shelly SAND, quartz, trace silt, shell components are shell hash and shell fragments up to 2.0", 1.0" clay layer at base, gray (5Y-5/1), (SW).		5	Sample #5, Depth = 8.9' Mean (mm): 0.52, Phi Sorting: 1.69 Shell Hash: 4%, Fines (230): 2.15% (SW)
-26.6	10.4		SAND, fine grained, quartz, trace shell hash, trace silt, (0.5"x2.0") shell fragment at base, light gray (5Y-7/1), (SP).		6	Sample #6, Depth = 9.8' Mean (mm): 0.18, Phi Sorting: 0.76 Shell Hash: 1%, Fines (230): 1.46% (SP)
-27.1	10.9		SAND, fine grained, quartz, trace clay, trace shell hash, trace silt, clay distributed in clayey pockets up to 0.5", olive gray (5Y-5/2), (SP-SM).			
-27.8	11.6		SAND, fine grained, quartz, trace clay, trace shell hash, trace silt, clay distributed in clayey pockets up to 0.5", gray (5Y-6/1), (SP).			
-30.8	14.6		SAND, fine grained, quartz, little silt, trace clay, trace shell hash, clay distributed in clayey laminae, 1.0" whole shell @ 14.0', (1.0"x0.5") shell fragment @ 14.1', olive gray (5Y-5/2), (SM-SC).			
-35.2	19.0		Shelly SAND, quartz, little clay, little silt, shell components are shell hash, whole shells up to 1.0" and shell fragments up to 2.0", 2.0" rock fragment @ 18.7', olive gray (5Y-5/2), (GM-GC).			
-36.7	20.5		No Recovery.			
			End of Boring			

FLORIDA DEP ROSS AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1</b> OF 1 SHEETS
<b>1. PROJECT</b> AMI 2008 Sand Search Anna Maria Island, Manatee County, FL			<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.	
<b>2. BORING DESIGNATION</b> AMVC-08-27			<b>10. COORDINATE SYSTEM/DATUM</b> Florida State Plane West	
<b>3. DRILLING AGENCY</b> Coastal Planning & Engineering, Inc.			<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> <input type="checkbox"/> AUTO HAMMER Diver Operated Vibracore <input type="checkbox"/> MANUAL HAMMER	
<b>4. NAME OF DRILLER</b> CPE			<b>12. TOTAL SAMPLES</b> DISTURBED _____ UNDISTURBED (UD) _____	
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED			<b>13. TOTAL NUMBER CORE BOXES</b> _____	
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.			<b>14. ELEVATION GROUND WATER</b> _____	
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.			<b>15. DATE BORING</b> STARTED 06-27-08 12:23 COMPLETED 06-27-08 12:26	
<b>8. TOTAL DEPTH OF BORING</b> 20.0 Ft.			<b>16. ELEVATION TOP OF BORING</b> -15.8 Ft.	
			<b>17. TOTAL RECOVERY FOR BORING</b> 19.7 Ft.	
			<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> KD	



ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-15.8	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
-18.8	3.0		SAND, fine grained, quartz, trace shell fragments, trace shell hash, trace silt, shell fragments up to 1.0", trace silty pockets up to 1.0", gray (5Y-6/1), (SP).		1	Sample #1, Depth = 1.5' Mean (mm): 0.19, Phi Sorting: 0.66 Shell Hash: 0%, Fines (230): 1.16% (SP)
-21.9	6.1		SAND, fine grained, quartz, little shell hash, trace shell fragments, trace silt, shell fragments up to 0.5", shell hash distributed in layers, trace silty pockets up to 1.0", gray (5Y-6/1), (SW).		2	Sample #2, Depth = 4.5' Mean (mm): 0.21, Phi Sorting: 1.08 Shell Hash: 1%, Fines (230): 1.79% (SW)
-24.3	8.5		SAND, fine grained, quartz, trace shell fragments, trace shell hash, trace silt, shell fragments up to 1.0", trace silty pockets up to 1.0", gray (5Y-6/1), (SP).		3	Sample #3, Depth = 7.0' Mean (mm): 0.17, Phi Sorting: 0.82 Shell Hash: 0%, Fines (230): 1.75% (SP)
-26.3	10.5		Shelly SAND, quartz, trace clay, trace silt, shell component is shell hash, (1.0"x2.0") clay pocket @ 8.8', gray (5Y-6/1), (SW).		4	Sample #4, Depth = 9.5' Mean (mm): 0.50, Phi Sorting: 1.49 Shell Hash: 4%, Fines (230): 2.18% (SW)
-28.3	12.5		SAND, fine grained, quartz, trace shell fragments, trace shell hash, trace silt, shell fragments up to 1.0", trace silty pockets up to 1.0", 1.0" pocket of some shell hash @ 11.8', light gray (5Y-7/1), (SP).		5	Sample #5, Depth = 11.0' Mean (mm): 0.17, Phi Sorting: 0.84 Shell Hash: 1%, Fines (230): 2.23% (SP)
-32.1	16.3		SAND, fine grained, quartz, trace clay, trace shell fragments, trace shell hash, trace silt, shell fragments up to 1.0", (2.0"x1.5") whole shell @ 15.3', olive gray (5Y-5/2), (SP).		6	Sample #6, Depth = 13.5' Mean (mm): 0.14, Phi Sorting: 0.42 Shell Hash: 0%, Fines (230): 4.58% (SP)
-35.5	19.7		SAND, fine grained, quartz, little clay, little shell fragments, little shell hash, little silt, little whole shell, whole shells up to 1.5", shell fragments up to 2.0", (3.0"x2.0") whole shell @ 19.4', olive gray (5Y-5/2), (GM-GC).			
-35.8	20.0		No Recovery.			
			End of Boring			

FLORIDA DEP ROSS AMI 2008 VIBRACORES ALL GPJ FL DEP ROSS GDT 10/29/08



<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1</b> OF 1 SHEETS
<b>1. PROJECT</b> AMI 2008 Sand Search Anna Maria Island, Manatee County, FL			<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.	
<b>2. BORING DESIGNATION</b> AMVC-08-28			<b>10. COORDINATE SYSTEM/DATUM</b> Florida State Plane West	
<b>3. DRILLING AGENCY</b> Coastal Planning & Engineering, Inc.			<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> <input type="checkbox"/> AUTO HAMMER Diver Operated Vibracore <input type="checkbox"/> MANUAL HAMMER	
<b>4. NAME OF DRILLER</b> CPE			<b>12. TOTAL SAMPLES</b> DISTURBED _____ UNDISTURBED (UD) _____	
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED			<b>13. TOTAL NUMBER CORE BOXES</b> _____	
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.			<b>14. ELEVATION GROUND WATER</b> _____	
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.			<b>15. DATE BORING</b> STARTED 06-27-08 13:08 COMPLETED 06-27-08 13:11	
<b>8. TOTAL DEPTH OF BORING</b> 20.0 Ft.			<b>16. ELEVATION TOP OF BORING</b> -17.7 Ft.	
			<b>17. TOTAL RECOVERY FOR BORING</b> 19.8 Ft.	
			<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> KD	



ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-17.7	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
-18.8	1.1		Shelly SAND, quartz, trace shell fragments, trace silt, shell components are shell hash and shell fragments up to 1.0", (2.0"x1.5") whole shell @ 0.3', gray (5Y-5/1), (SW).		1	Sample #1, Depth = 0.5' Mean (mm): 0.43, Phi Sorting: 1.19 Shell Hash: 1%, Fines (230): 1.21% (SW)
-21.6	3.9		SAND, fine grained, quartz, trace shell hash, trace silt, trace silty pockets up to 0.5", some shell hash from 3.0'-3.3', gray (5Y-6/1), (SP).		2	Sample #2, Depth = 2.5' Mean (mm): 0.18, Phi Sorting: 0.81 Shell Hash: 0%, Fines (230): 1.25% (SP)
-23.3	5.6		SAND, fine grained, quartz, little shell hash, trace silt, trace whole shell, shell hash increases with depth, whole shells up to 1.0", trace silty pockets up to 0.5", gray (5Y-5/1), (SW).		3	Sample #3, Depth = 4.7' Mean (mm): 0.21, Phi Sorting: 0.92 Shell Hash: 0%, Fines (230): 1.48% (SW)
-25.7	8.0		Shelly SAND, quartz, trace shell fragments, trace silt, shell fragments up to 2.0", shell component is shell hash, trace clayey pockets up to 0.5", gray (5Y-5/1), (SW).		4	Sample #4, Depth = 6.8' Mean (mm): 0.57, Phi Sorting: 1.31 Shell Hash: 2%, Fines (230): 1.88% (SW)
-27.4	9.7		SAND, fine grained, quartz, trace shell fragments, trace shell hash, trace silt, shell fragments up to 1.0", trace silty and clayey pockets up to 0.5", gray (5Y-6/1), (SW).		5	Sample #5, Depth = 8.9' Mean (mm): 0.17, Phi Sorting: 0.89 Shell Hash: 1%, Fines (230): 2.35% (SW)
-28.0	10.3		Shelly SAND, quartz, little silt, shell components are shell hash and shell fragments up to 1.0", (2.0"x1.5") shell fragments @ 9.8' and 10.2', gray (5Y-5/1), (SW-SM).			
-31.1	13.4		SAND, fine grained, quartz, little silt, trace clay, trace shell fragments, trace shell hash, trace whole shell, shell fragments and whole shells up to 1.0", gray (5Y-6/1), (SM-SC).			
-32.0	14.3		SAND, fine grained, quartz, little shell fragments, little silt, little whole shell, trace shell hash, shell fragments and whole shells up to 1.0", 3 (2.0"x1.5") rock fragments @ 13.8', gray (5Y-6/1), (GM).			
-34.6	16.9		SAND, fine grained, quartz, some silt, little shell fragments, little whole shell, trace shell hash, shell fragments and whole shells up to 1.0", 2 (1.0") rock fragments @ 16.6', light olive gray (5Y-6/2), (SM).			
-36.1	18.4		Shelly SAND, quartz, little clay, little silt, shell components are shell hash, shell fragments and whole shells up to 2.0", light olive gray (5Y-6/2), (GC).			
-37.5	19.8		CLAY, trace shell hash, mottled with white (5Y-8/1) and gray (5Y-6/1), (CL).			
-37.7	20.0		No Recovery.			
			End of Boring			

FLORIDA DEP ROSS AMI 2008 VIBRACORES ALL GPJ FL DEP ROSS GDT 10/29/08

<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1</b> OF 1 SHEETS
<b>1. PROJECT</b> AMI 2008 Sand Search Anna Maria Island, Manatee County, FL			<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.	
<b>2. BORING DESIGNATION</b> AMVC-08-29			<b>10. COORDINATE SYSTEM/DATUM</b> Florida State Plane West	
<b>3. DRILLING AGENCY</b> Coastal Planning & Engineering, Inc.			<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> <input type="checkbox"/> AUTO HAMMER Diver Operated Vibracore <input type="checkbox"/> MANUAL HAMMER	
<b>4. NAME OF DRILLER</b> CPE			<b>12. TOTAL SAMPLES</b> DISTURBED _____ UNDISTURBED (UD) _____	
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED			<b>13. TOTAL NUMBER CORE BOXES</b> _____	
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.			<b>14. ELEVATION GROUND WATER</b> _____	
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.			<b>15. DATE BORING</b> STARTED 06-27-08 13:52 COMPLETED 06-27-08 13:55	
<b>8. TOTAL DEPTH OF BORING</b> 20.0 Ft.			<b>16. ELEVATION TOP OF BORING</b> -17.5 Ft.	
			<b>17. TOTAL RECOVERY FOR BORING</b> 17.2 Ft.	
			<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> PB	



ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-17.5	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
-19.5	2.0		SAND, fine grained, quartz, trace shell fragments, trace shell hash, trace silt, shell fragments up to 1.0", gray (5Y-6/1), (SP).		1	Sample #1, Depth = 1.2' Mean (mm): 0.17, Phi Sorting: 0.68 Shell Hash: 0%, Fines (230): 1.68% (SP)
-21.4	3.9		Sandy SHELL HASH, quartz, trace clay, trace shell fragments, trace silt, trace whole shell, whole shells and shell fragments up to 1.0", 1.0" layers of shelly sand @ 3.0' and 3.5', clay distributed in clayey laminae, gray (5Y-5/1), (SW).		2	Sample #2, Depth = 2.8' Mean (mm): 0.77, Phi Sorting: 1.83 Shell Hash: 6%, Fines (230): 1.80% (SW)
-22.0	4.5		SAND, fine grained, quartz, trace clay, trace shell fragments, trace shell hash, trace silt, 1.0" clay pocket @ 4.0', shell fragments up to 0.75", white (5Y-8/1), (SP).		3	Sample #3, Depth = 4.2' Mean (mm): 0.16, Phi Sorting: 0.81 Shell Hash: 0%, Fines (230): 1.48% (SP)
-22.6	5.1		Shelly SAND, quartz, trace clay, trace silt, shell components are shell hash, shell fragments up to 1.5" and whole shells up to 1.0", clay distributed in pockets up to 1.0", gray (5Y-6/1), (SW).		4	Sample #4, Depth = 5.6' Mean (mm): 0.15, Phi Sorting: 0.83 Shell Hash: 1%, Fines (230): 2.34% (SP)
-23.5	6.0		SAND, fine grained, quartz, trace clay, trace shell fragments, trace shell hash, trace silt, clay distributed in laminae, 1.0" clay layer @ 5.8', light gray (5Y-7/1), (SP).		5	Sample #5, Depth = 6.5' Mean (mm): 0.28, Phi Sorting: 1.54 Shell Hash: 4%, Fines (230): 1.28% (SW)
-24.5	7.0		SAND, fine grained, quartz, some shell hash, trace shell fragments, trace silt, trace whole shell, shell fragments up to 1.0", whole shells up to 0.5", light gray (5Y-7/1), (SW).		6	Sample #6, Depth = 8.2' Mean (mm): 0.13, Phi Sorting: 0.38 Shell Hash: 0%, Fines (230): 2.31% (SP)
-27.1	9.6		SAND, fine grained, quartz, trace clay, trace shell fragments, trace shell hash, trace silt, clay distributed in clayey laminae that increases with depth, shell fragments up to 0.5", gray (5Y-6/1), (SP).			
-30.3	12.8		SAND, fine grained, quartz, some clay, little silt, trace shell fragments, trace shell hash, trace whole shell, whole shells up to 1.0", shell fragments up to 2.0", 2.0" dark gray (5Y-4/1) silty pocket @ 12.3', olive gray (5Y-5/2), (SC).			
-34.7	17.2		Shelly SAND, quartz, little silt, trace clay, shell components are shell hash, shell fragments up to 2.5" and whole shells up to 1.0", light olive gray (5Y-6/2), (GW).			
-37.5	20.0		No Recovery.			
			End of Boring			

FLORIDA DEP ROSS AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1</b> OF 1 SHEETS
<b>1. PROJECT</b> AMI 2008 Sand Search Anna Maria Island, Manatee County, FL			<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.	
<b>2. BORING DESIGNATION</b> AMVC-08-30			<b>10. COORDINATE SYSTEM/DATUM</b> Florida State Plane West	
<b>3. DRILLING AGENCY</b> Coastal Planning & Engineering, Inc.			<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> <input type="checkbox"/> AUTO HAMMER Diver Operated Vibracore <input type="checkbox"/> MANUAL HAMMER	
<b>4. NAME OF DRILLER</b> CPE			<b>12. TOTAL SAMPLES</b> DISTURBED _____ UNDISTURBED (UD) _____	
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED			<b>13. TOTAL NUMBER CORE BOXES</b>	
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.			<b>14. ELEVATION GROUND WATER</b>	
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.			<b>15. DATE BORING</b> STARTED 06-27-08 14:40 COMPLETED 06-27-08 14:43	
<b>8. TOTAL DEPTH OF BORING</b> 20.0 Ft.			<b>16. ELEVATION TOP OF BORING</b> -19.7 Ft.	
			<b>17. TOTAL RECOVERY FOR BORING</b> 18.8 Ft.	
			<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> KD	




ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-19.7	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
			SAND, fine grained, quartz, trace shell hash, trace silt, 1.0" shell fragment @ 0.4', trace silty pockets up to 0.5', light gray (5Y-7/1), (SP).		1	Sample #1, Depth = 1.5' Mean (mm): 0.16, Phi Sorting: 0.52 Shell Hash: 0%, Fines (230): 1.08% (SP)
-22.9	3.2				2	Sample #2, Depth = 3.4' Mean (mm): 0.48, Phi Sorting: 1.54 Shell Hash: 3%, Fines (230): 1.17% (SW)
-23.3	3.6		SAND, fine grained, quartz, some shell hash, trace shell fragments, trace silt, trace whole shell, whole shells and shell fragments up to 1.0", gray (5Y-5/1), (SW).		3	Sample #3, Depth = 4.4' Mean (mm): 0.21, Phi Sorting: 1.07 Shell Hash: 1%, Fines (230): 1.37% (SW)
-25.1	5.4		SAND, fine grained, quartz, trace shell fragments, trace shell hash, trace silt, trace whole shell, whole shells and shell fragments up to 1.0", (1.5"x1.0") shell fragment @ 5.4', trace silty pockets up to 0.5", gray (5Y-6/1), (SW).		1	
-25.9	6.2				4	Sample #4, Depth = 6.6' Mean (mm): 0.33, Phi Sorting: 1.50 Shell Hash: 3%, Fines (230): 1.17% (SW)
-26.9	7.2				1	
-27.6	7.9		SAND, fine grained, quartz, trace shell hash, trace silt, 1.0" whole shell @ 5.8', light gray (5Y-7/1), (SP).		5	Sample #5, Depth = 9.5' Mean (mm): 0.27, Phi Sorting: 1.34 Shell Hash: 4%, Fines (230): 1.47% (SW)
			SAND, fine grained, quartz, little shell hash, trace shell fragments, trace silt, trace whole shell, shell fragments and whole shells up to 1.0", shell hash increases with depth, 2 (2.0"x1.5") shell fragments @ 6.8', (2.5"x1.0") shell fragment @ 7.1', gray (5Y-6/1), (SW).			
			SAND, fine grained, quartz, trace shell hash, trace silt, light gray (5Y-7/1), (SP).			
			SAND, fine grained, quartz, little shell hash, trace shell fragments, trace silt, trace whole shell, shell fragments and whole shells up to 1.5", (2.0"x1.5") shell fragment @ 10.8', light gray (5Y-7/1), (SW).			
-34.3	14.6		SAND, fine grained, quartz, little clay, little silt, trace shell hash, gray (5Y-6/1), (SM-SC).			
			SAND, fine grained, quartz, little clay, little silt, little whole shell, trace shell fragments, whole shells up to 1.5", shell fragments up to 1.0", (4.0"x2.0") shell fragment @ 14.7', (3.0"x2.0") whole shell @ 16.6', light olive gray (5Y-6/2), (GC).			
-38.5	18.8					
-39.7	20.0		No Recovery.			
			End of Boring			

FLORIDA DEP ROSS AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

**APPENDIX 1-B**

**2005 CPE VIBRACORE LOGS**

<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1 OF 1 SHEETS</b>				
<b>1. PROJECT</b> Anna Maria Island Manatee County			<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.					
			<b>10. COORDINATE SYSTEM/DATUM</b> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Florida State Plane West</td> <td style="width: 33%;">HORIZONTAL NAD 1983</td> <td style="width: 33%;">VERTICAL NAVD 88</td> </tr> </table>		Florida State Plane West	HORIZONTAL NAD 1983	VERTICAL NAVD 88	
Florida State Plane West	HORIZONTAL NAD 1983	VERTICAL NAVD 88						
<b>2. BORING DESIGNATION</b> AMVC-05-08		<b>LOCATION COORDINATES</b> X = 413,793 Y = 1,157,117		<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Pneumatic</td> <td style="width: 50%;"> <input type="checkbox"/> AUTO HAMMER  <input type="checkbox"/> MANUAL HAMMER                 </td> </tr> </table>	Pneumatic	<input type="checkbox"/> AUTO HAMMER <input type="checkbox"/> MANUAL HAMMER		
Pneumatic	<input type="checkbox"/> AUTO HAMMER <input type="checkbox"/> MANUAL HAMMER							
<b>3. DRILLING AGENCY</b> America Vibracore, Inc.		<b>CONTRACTOR FILE NO.</b> 8446.36		<b>12. TOTAL SAMPLES</b> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">DISTURBED</td> <td style="width: 33%;">UNDISTURBED (UD)</td> </tr> </table>	DISTURBED	UNDISTURBED (UD)		
DISTURBED	UNDISTURBED (UD)							
<b>4. NAME OF DRILLER</b> Fred Kaub			<b>13. TOTAL NUMBER CORE BOXES</b>					
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED			<b>14. ELEVATION GROUND WATER</b>					
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.			<b>15. DATE BORING</b> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">STARTED</td> <td style="width: 33%;">COMPLETED</td> </tr> <tr> <td>02-24-05 09:13</td> <td>02-24-05 09:19</td> </tr> </table>		STARTED	COMPLETED	02-24-05 09:13	02-24-05 09:19
STARTED	COMPLETED							
02-24-05 09:13	02-24-05 09:19							
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.			<b>16. ELEVATION TOP OF BORING</b> -16.5 Ft.					
<b>8. TOTAL DEPTH OF BORING</b> 20.0 Ft.			<b>17. TOTAL RECOVERY FOR BORING</b> 19.9 Ft.					
<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> M. D. Andrews Geologist								

ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-16.5	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
-17.6	1.1	•••••	SAND, fine grained, quartz, trace shell hash, trace silt, light gray (5Y-7/1), (SP).		1	Sample #1, Depth = 0.5' Mean (mm): 0.17, Phi Sorting: 0.60 Shell Hash: 0%, Fines (230): 1.94% (SP)
-18.5	2.0	•••••	Shelly SAND, medium grained, quartz, trace silt, 1.2" clay layer from 1.5' to 1.6', gray (5Y-5/1), (SP).		2	Sample #2, Depth = 1.7' Mean (mm): 0.90, Phi Sorting: 1.90 Shell Hash: 8%, Fines (230): 3.33% (SW)
-20.0	3.5	•••••	SAND, fine grained, quartz, trace shell hash, trace silt, white (5Y-8/1), (SP).		3	Sample #3, Depth = 2.5' Mean (mm): 0.16, Phi Sorting: 0.51 Shell Hash: 0%, Fines (230): 2.01% (SP)
-22.0	5.5	•••••	SAND, fine to medium grained, quartz, trace shell hash, trace silt, white (5Y-8/1), (SW).		4	Sample #4, Depth = 4.5' Mean (mm): 0.20, Phi Sorting: 1.33 Shell Hash: 1%, Fines (230): 2.14% (SW)
-23.4	6.9	•••••	SAND, fine grained, quartz, little shell hash, trace silt, white (5Y-8/1), (SP).		5	Sample #5, Depth = 6.5' Mean (mm): 0.17, Phi Sorting: 1.08 Shell Hash: 11%, Fines (230): 3.66% (SP)
-28.3	11.8	•••••	SAND, medium grained, quartz, trace shell hash, trace silt, 1.0" rock fragments @ 6.5', 7.8', 8.4', 1.5" rock fragment @ 11.2', 2.0" rock fragments @ 9.4' and 9.6', gray (5Y-6/1), (SP).		6	Sample #6, Depth = 9.0' Mean (mm): 0.54, Phi Sorting: 2.32 Shell Hash: 1%, Fines (230): 3.70% (SP)
-30.2	13.7	■	ROCK FRAGMENTS, some clay, pale yellow (5Y-7/3), (GC).			
-31.2	14.7	•••••	Shelly SAND, fine to medium grained, quartz, trace clay, trace silt, pale yellow (5Y-7/3), (SP).			
-36.5	20.0	■	Sandy CLAY, pale yellow (5Y-8/3), (CL).			
			End of Boring			

FLORIDA DEP ROSS ANNA MARIA\_05 NAVD88.GPJ FL DEP ROSS.GDT 10/30/08

<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1</b> OF 1 SHEETS				
<b>1. PROJECT</b> Anna Maria Island Manatee County			<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.					
			<b>10. COORDINATE SYSTEM/DATUM</b> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td><b>HORIZONTAL</b></td> <td><b>VERTICAL</b></td> </tr> <tr> <td>Florida State Plane West</td> <td>NAD 1983 NAVD 88</td> </tr> </table>		<b>HORIZONTAL</b>	<b>VERTICAL</b>	Florida State Plane West	NAD 1983 NAVD 88
<b>HORIZONTAL</b>	<b>VERTICAL</b>							
Florida State Plane West	NAD 1983 NAVD 88							
<b>2. BORING DESIGNATION</b> AMVC-05-09		<b>LOCATION COORDINATES</b> X = 413,365 Y = 1,157,436		<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td><input type="checkbox"/> AUTO HAMMER</td> </tr> <tr> <td><input type="checkbox"/> MANUAL HAMMER</td> </tr> </table>	<input type="checkbox"/> AUTO HAMMER	<input type="checkbox"/> MANUAL HAMMER		
<input type="checkbox"/> AUTO HAMMER								
<input type="checkbox"/> MANUAL HAMMER								
<b>3. DRILLING AGENCY</b> America Vibracore, Inc.		<b>CONTRACTOR FILE NO.</b> 8446.36		<b>12. TOTAL SAMPLES</b> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td><b>DISTURBED</b></td> <td><b>UNDISTURBED (UD)</b></td> </tr> <tr> <td> </td> <td> </td> </tr> </table>	<b>DISTURBED</b>	<b>UNDISTURBED (UD)</b>		
<b>DISTURBED</b>	<b>UNDISTURBED (UD)</b>							
<b>4. NAME OF DRILLER</b> Fred Kaub			<b>13. TOTAL NUMBER CORE BOXES</b>					
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED			<b>14. ELEVATION GROUND WATER</b>					
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.			<b>15. DATE BORING</b> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td><b>STARTED</b></td> <td><b>COMPLETED</b></td> </tr> <tr> <td>02-24-05 09:59</td> <td>02-24-05 10:04</td> </tr> </table>		<b>STARTED</b>	<b>COMPLETED</b>	02-24-05 09:59	02-24-05 10:04
<b>STARTED</b>	<b>COMPLETED</b>							
02-24-05 09:59	02-24-05 10:04							
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.			<b>16. ELEVATION TOP OF BORING</b> -19.1 Ft.					
<b>8. TOTAL DEPTH OF BORING</b> 14.4 Ft.			<b>17. TOTAL RECOVERY FOR BORING</b> 14.1 Ft.					
<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> M. D. Andrews Geologist								

ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-19.1	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
-20.3	1.2	•••••	SAND, medium grained, quartz, little shell fragments, trace silt, gray (5Y-6/1), (SP).		1	Sample #1, Depth = 0.5' Mean (mm): 0.30, Phi Sorting: 1.46 Shell Hash: 2%, Fines (230): 3.14% (SW)
		•••••	SAND, fine grained, quartz, trace shell hash, trace silt, light gray (5Y-7/2), (SP).		2	Sample #2, Depth = 2.0' Mean (mm): 0.17, Phi Sorting: 0.95 Shell Hash: 1%, Fines (230): 2.11% (SW)
-25.2	6.1	•••••	SAND, fine to medium grained, quartz, trace shell hash, trace silt, 2.0" rock fragment @ 7.7', light gray (5Y-7/1), (SP).		3	Sample #3, Depth = 5.5' Mean (mm): 0.14, Phi Sorting: 0.50 Shell Hash: 1%, Fines (230): 1.88% (SP)
-27.1	8.0	•••••	SAND, fine to medium grained, quartz, trace shell hash, trace silt, 1.0" rock fragments @ 8.4' and 9.4', 3.0" rock fragment @ 10.7' with (<0.5") rock fragments from 10.7' to 12.1', light gray (5Y-7/1), (SP-SM).		4	Sample #4, Depth = 7.0' Mean (mm): 0.26, Phi Sorting: 1.60 Shell Hash: 1%, Fines (230): 4.10% (SP)
-31.1	12.0	•••••	Sandy SHELL HASH, medium grained, quartz, trace clay, trace silt, 3.0" whole shell @ 12.6' and 13.4', pale yellow (5Y-7/3), (SP-SM).		5	Sample #5, Depth = 9.0' Mean (mm): 0.49, Phi Sorting: 2.46 Shell Hash: 1%, Fines (230): 5.34% (SP-SM)
-33.1	14.0	•••••	Rock In Bit, Rock Refusal @ 14.4'.		6	Sample #6, Depth = 13.0' Mean (mm): 1.52, Phi Sorting: 2.85 Shell Hash: 55%, Fines (230): 5.03% (SP-SM)
-33.5	14.4		End of Boring			

FLORIDA DEP ROSS ANNA MARIA\_05 NAVD88.GPJ FL DEP ROSS.GDT 10/30/08

<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1</b> OF 1 SHEETS
<b>1. PROJECT</b> Anna Maria Island Manatee County			<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.	
<b>2. BORING DESIGNATION</b> AMVC-05-11			<b>10. COORDINATE SYSTEM/DATUM</b> Florida State Plane West	
<b>3. DRILLING AGENCY</b> America Vibracore, Inc.			<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> <input type="checkbox"/> AUTO HAMMER <input type="checkbox"/> MANUAL HAMMER Pneumatic	
<b>4. NAME OF DRILLER</b> Fred Kaub			<b>12. TOTAL SAMPLES</b>	
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED			<b>13. TOTAL NUMBER CORE BOXES</b>	
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.			<b>14. ELEVATION GROUND WATER</b>	
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.			<b>15. DATE BORING</b>	
<b>8. TOTAL DEPTH OF BORING</b> 15.0 Ft.			<b>16. ELEVATION TOP OF BORING</b> -19.2 Ft.	
			<b>17. TOTAL RECOVERY FOR BORING</b> 13.5 Ft.	
			<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> M. D. Andrews Geologist	



ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-19.2	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
			SAND, fine grained, quartz, trace shell hash, trace silt, gray (5Y-6/1), (SP).		1	Sample #1, Depth = 0.5' Mean (mm): 0.16, Phi Sorting: 0.56 Shell Hash: 0%, Fines (230): 1.87% (SP)
-22.4	3.2		Shelly SAND, medium grained, quartz, trace silt, gray (5Y-5/1), (SP).		2	Sample #2, Depth = 2.5' Mean (mm): 0.17, Phi Sorting: 0.71 Shell Hash: 0%, Fines (230): 2.00% (SP)
-22.9	3.7		SAND, fine grained, quartz, trace silt, 0.5" shell fragments @ 4.0' and 4.6', white (5Y-8/1), (SP).		3	Sample #3, Depth = 3.5' Mean (mm): 1.55, Phi Sorting: 2.13 Shell Hash: 11%, Fines (230): 2.66% (SW)
-24.4	5.2		SAND, fine to medium grained, quartz, trace shell hash, trace silt, 3.0" rock fragment @ 5.2', 1.0" to 2.0" rock fragments from 6.5' to 6.9', gray (5Y-6/1), (SP).		4	Sample #4, Depth = 4.1' Mean (mm): 0.16, Phi Sorting: 0.52 Shell Hash: 1%, Fines (230): 1.58% (SP)
-27.6	8.4		SAND, fine to medium grained, quartz, trace shell hash, trace silt, 2.0" rock fragment @ 8.8', white (5Y-8/1), (SP-SM).		5	Sample #5, Depth = 8.7' Mean (mm): 0.22, Phi Sorting: 1.64 Shell Hash: 2%, Fines (230): 5.41% (SP-SM)
-28.8	9.6		SAND, fine to medium grained, quartz, little shell hash, trace silt, white (5Y-8/1), (SP-SM).		6	Sample #6, Depth = 10.4' Mean (mm): 0.18, Phi Sorting: 1.02 Shell Hash: 13%, Fines (230): 5.36% (SP-SM)
-29.7	10.5		SAND, fine to medium grained, quartz, trace shell hash, trace silt, (<0.5") rock fragments from 10.4' to 12.5', gray (5Y-6/1), (SP).			
-31.7	12.5		ROCK FRAGMENTS, some clay, gray (5Y-6/1), (GC).			
-32.7	13.5		Rock In Bit.			
-33.0	13.8		No Recovery, Rock Refusal @ 15.0'.			
-34.2	15.0		End of Boring			

FLORIDA DEP ROSS ANNA MARIA\_05 NAVD88.GPJ FL DEP ROSS.GDT 10/30/08

<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1</b> <b>OF 1 SHEETS</b>
<b>1. PROJECT</b> Anna Maria Island Manatee County			<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.	
<b>2. BORING DESIGNATION</b> AMVC-05-13			<b>10. COORDINATE SYSTEM/DATUM</b> Florida State Plane West	
<b>3. DRILLING AGENCY</b> America Vibracore, Inc.			<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> <input type="checkbox"/> AUTO HAMMER <input type="checkbox"/> MANUAL HAMMER Pneumatic	
<b>4. NAME OF DRILLER</b> Fred Kaub			<b>12. TOTAL SAMPLES</b> DISTURBED _____ UNDISTURBED (UD) _____	
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED			<b>13. TOTAL NUMBER CORE BOXES</b> _____	
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.			<b>14. ELEVATION GROUND WATER</b> _____	
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.			<b>15. DATE BORING</b> STARTED 02-24-05 13:02 COMPLETED 02-24-05 13:08	
<b>8. TOTAL DEPTH OF BORING</b> 16.0 Ft.			<b>16. ELEVATION TOP OF BORING</b> -18.8 Ft.	
			<b>17. TOTAL RECOVERY FOR BORING</b> 14.3 Ft.	
			<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> M. D. Andrews Geologist	



ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-18.8	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
-19.9	1.1		SAND, fine grained, quartz, trace shell hash, trace silt, gray (5Y-6/1), (SP).		1	Sample #1, Depth = 0.5' Mean (mm): 0.19, Phi Sorting: 0.83 Shell Hash: 0%, Fines (230): 1.56% (SP)
-21.9	3.1		SAND, fine to medium grained, quartz, trace shell hash, trace silt, light gray (5Y-7/1), (SP).		2	Sample #2, Depth = 2.0' Mean (mm): 0.24, Phi Sorting: 1.25 Shell Hash: 1%, Fines (230): 2.05% (SW)
-24.8	6.0		SAND, fine grained, quartz, trace shell hash, trace silt, 3.0" shell fragment @ 4.0', white (5Y-8/1), (SP).		3	Sample #3, Depth = 3.5' Mean (mm): 0.15, Phi Sorting: 0.69 Shell Hash: 0%, Fines (230): 3.03% (SP)
-25.8	7.0		Shelly SAND, fine to medium grained, quartz, trace clay, trace silt, pale olive (5Y-6/3), (SP-SM).		4	Sample #4, Depth = 5.7' Mean (mm): 0.17, Phi Sorting: 0.52 Shell Hash: 0%, Fines (230): 1.55% (SP)
-28.5	9.7		SAND, fine grained, quartz, some shell hash, trace clay, trace silt, 5.0" rock fragment @ 7.5', light gray (5Y-7/2), (SP).		7	Sample #7, Depth = 6.5' Mean (mm): 1.08, Phi Sorting: 2.59 Shell Hash: 6%, Fines (230): 3.16% (SW)
-30.6	11.8		SAND, fine grained, quartz, trace shell hash, trace silt, 2.0" rock fragments @ 10.3' and 11.4', light gray (5Y-7/2), (SP).		5	Sample #5, Depth = 8.0' Mean (mm): 0.76, Phi Sorting: 3.19 Shell Hash: 22%, Fines (230): 3.93% (SP)
-32.3	13.5		Shelly SAND, fine to medium grained, quartz, trace clay, trace silt, 3.0" rock fragments @ 12.2' and 13.6', 2.0" rock fragment @ 12.6', light gray (5Y-7/2), (SP-SM).		6	Sample #6, Depth = 11.3' Mean (mm): 0.16, Phi Sorting: 0.61 Shell Hash: 10%, Fines (230): 4.21% (SP)
-33.1	14.3		ROCK FRAGMENTS, some clay, gray (5Y-6/1), (GM).			
-33.4	14.6		Rock In Bit, (GC).			
-34.8	16.0		No Recovery, Rock Refusal @ 16.0'.			
			End of Boring			

FLORIDA DEP ROSS ANNA MARIA\_05 NAVD88.GPJ FL DEP ROSS.GDT 10/30/08



<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1</b> OF 1 SHEETS
<b>1. PROJECT</b> Anna Maria Island Manatee County			<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.	
<b>2. BORING DESIGNATION</b> AMVC-05-14			<b>10. COORDINATE SYSTEM/DATUM</b> Florida State Plane West	
<b>3. DRILLING AGENCY</b> America Vibracore, Inc.			<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> <input type="checkbox"/> AUTO HAMMER Pneumatic <input type="checkbox"/> MANUAL HAMMER	
<b>4. NAME OF DRILLER</b> Fred Kaub			<b>12. TOTAL SAMPLES</b> <input type="checkbox"/> DISTURBED <input type="checkbox"/> UNDISTURBED (UD)	
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED			<b>13. TOTAL NUMBER CORE BOXES</b>	
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.			<b>14. ELEVATION GROUND WATER</b>	
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.			<b>15. DATE BORING</b> <b>STARTED</b> 02-24-05 13:36 <b>COMPLETED</b> 02-24-05 13:38	
<b>8. TOTAL DEPTH OF BORING</b> 20.0 Ft.			<b>16. ELEVATION TOP OF BORING</b> -17.1 Ft.	
			<b>17. TOTAL RECOVERY FOR BORING</b> 17.3 Ft.	
			<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> M. D. Andrews Geologist	



ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-17.1	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
			SAND, fine grained, quartz, trace shell hash, trace silt, light gray (5Y-7/1), (SP).		1	Sample #1, Depth = 0.5' Mean (mm): 0.18, Phi Sorting: 0.54 Shell Hash: 0%, Fines (230): 1.26% (SP)
-20.5	3.4				2	Sample #2, Depth = 3.0' Mean (mm): 0.18, Phi Sorting: 0.70 Shell Hash: 0%, Fines (230): 1.59% (SP)
			SAND, fine to medium grained, quartz, some shell hash, trace silt, coarsening downward, light gray (5Y-7/1), (SP).		3	Sample #3, Depth = 4.0' Mean (mm): 0.26, Phi Sorting: 0.83 Shell Hash: 1%, Fines (230): 1.84% (SP)
-23.3	6.2				4	Sample #4, Depth = 5.7' Mean (mm): 0.63, Phi Sorting: 1.82 Shell Hash: 4%, Fines (230): 3.76% (SW)
			SAND, fine grained, quartz, trace shell fragments, trace silt, light gray (5Y-7/2), (SP).		5	Sample #5, Depth = 6.5' Mean (mm): 0.15, Phi Sorting: 0.64 Shell Hash: 0%, Fines (230): 2.92% (SP)
-24.7	7.6				6	Sample #6, Depth = 8.7' Mean (mm): 0.16, Phi Sorting: 0.76 Shell Hash: 1%, Fines (230): 5.35% (SP-SM)
-26.3	9.2				7	Sample #7, Depth = 9.6' Mean (mm): 0.40, Phi Sorting: 2.11 Shell Hash: 34%, Fines (230): 2.68% (SW)
-27.9	10.8		SAND, medium grained, quartz, some shell hash, trace silt, pale olive (5Y-6/3), (SW).			
			SAND, fine to medium grained, quartz, little clay, little silt, 3.0" rock fragments @ 10.8, 11.2, and 12.6, 1.0" rock fragments from 11.1' to 13.0', 3.0" rock fragment @ 14.9', (<1.0") shell fragments from 16.5' to 17.3', pale yellow (5Y-7/3), (SM).			
-34.4	17.3					
-34.7	17.6		Rock In Bit, (GC).			
			No Recovery.			
-37.1	20.0		End of Boring			

FLORIDA DEP ROSS ANNA MARIA\_05 NAVD88.GPJ FL DEP ROSS.GDT 10/30/08

<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1</b> <b>OF 1 SHEETS</b>
<b>1. PROJECT</b> Anna Maria Island Manatee County			<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.	
<b>2. BORING DESIGNATION</b> AMVC-05-15			<b>10. COORDINATE SYSTEM/DATUM</b> Florida State Plane West	
<b>3. DRILLING AGENCY</b> America Vibracore, Inc.			<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> <input type="checkbox"/> AUTO HAMMER Pneumatic <input type="checkbox"/> MANUAL HAMMER	
<b>4. NAME OF DRILLER</b> Fred Kaub			<b>12. TOTAL SAMPLES</b> DISTURBED _____ UNDISTURBED (UD) _____	
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED			<b>13. TOTAL NUMBER CORE BOXES</b> _____	
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.			<b>14. ELEVATION GROUND WATER</b> _____	
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.			<b>15. DATE BORING</b> STARTED 02-24-05 14:07 COMPLETED 02-24-05 14:11	
<b>8. TOTAL DEPTH OF BORING</b> 18.0 Ft.			<b>16. ELEVATION TOP OF BORING</b> -18.4 Ft.	
			<b>17. TOTAL RECOVERY FOR BORING</b> 17.7 Ft.	
			<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> M. D. Andrews Geologist	



ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-18.4	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
-19.7	1.3		SAND, fine grained, quartz, trace shell hash, trace silt, light gray (5Y-7/1), (SP).		1	Sample #1, Depth = 0.7' Mean (mm): 0.17, Phi Sorting: 0.57 Shell Hash: 0%, Fines (230): 1.37% (SP)
-21.2	2.8		SAND, fine to medium grained, quartz, some shell hash, trace silt, light gray (5Y-7/2), (SP).		2	Sample #2, Depth = 2.0' Mean (mm): 0.20, Phi Sorting: 1.02 Shell Hash: 1%, Fines (230): 1.93% (SW)
-23.7	5.3		SAND, fine grained, quartz, trace silt, pale yellow (5Y-8/2), (SP).		3	Sample #3, Depth = 4.0' Mean (mm): 0.16, Phi Sorting: 0.45 Shell Hash: 0%, Fines (230): 1.18% (SP)
-26.8	8.4		SAND, fine to medium grained, quartz, trace shell hash, trace silt, 2.0" rock fragment @ 5.45, <1.0" rock fragment @ 6.2' and 6.6', 1.0" rock fragment @ 7.1', 7.5, and 7.6', gray (5Y-6/1), (SP).		4	Sample #4, Depth = 6.8' Mean (mm): 0.57, Phi Sorting: 2.59 Shell Hash: 0%, Fines (230): 3.11% (SW)
-31.0	12.6		Silty SAND, fine grained, quartz, some shell fragments, 3.0' rock fragments @ 8.5' and 9.0', <1.0" rock fragments from 9.3' to 12.3', shell fragments from 10.6' to 11.2', pale yellow (5Y-7/3), (SM).			
-33.2	14.8		Sandy CLAY, little shell hash, 1.0" rock fragment @ 14.5', pale yellow (5Y-7/3), (CL).			
-36.1	17.7		Sandy CLAY, 1.0" shell fragment @ 14.9', pale yellow (5Y-8/2), (CL).			
-36.4	18.0		Rock Refusal @ 18.0', Rock In Bit.			
			End of Boring			

FLORIDA DEP ROSS ANNA MARIA\_05 NAVD88.GPJ FL DEP ROSS.GDT 10/30/08

<b>DRILLING LOG</b>		<b>DIVISION</b>	<b>INSTALLATION</b>	<b>SHEET 1</b> OF 1 SHEETS
<b>1. PROJECT</b> Anna Maria Island Manatee County			<b>9. SIZE AND TYPE OF BIT</b> 3.0 In.	
<b>2. BORING DESIGNATION</b> AMVC-05-16			<b>10. COORDINATE SYSTEM/DATUM</b> Florida State Plane West	
<b>3. DRILLING AGENCY</b> America Vibracore, Inc.			<b>11. MANUFACTURER'S DESIGNATION OF DRILL</b> <input type="checkbox"/> AUTO HAMMER <input type="checkbox"/> MANUAL HAMMER Pneumatic	
<b>4. NAME OF DRILLER</b> Fred Kaub			<b>12. TOTAL SAMPLES</b> DISTURBED _____ UNDISTURBED (UD) _____	
<b>5. DIRECTION OF BORING</b> <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED			<b>13. TOTAL NUMBER CORE BOXES</b> _____	
<b>6. THICKNESS OF OVERBURDEN</b> 0.0 Ft.			<b>14. ELEVATION GROUND WATER</b> _____	
<b>7. DEPTH DRILLED INTO ROCK</b> 0.0 Ft.			<b>15. DATE BORING</b> STARTED 02-24-05 14:35 COMPLETED 02-24-05 14:37	
<b>8. TOTAL DEPTH OF BORING</b> 20.0 Ft.			<b>16. ELEVATION TOP OF BORING</b> -19.2 Ft.	
			<b>17. TOTAL RECOVERY FOR BORING</b> 19.9 Ft.	
			<b>18. SIGNATURE AND TITLE OF INSPECTOR</b> M. D. Andrews Geologist	



ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-19.2	0.0					Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
-20.0	0.8	.....	SAND, fine to medium grained, quartz, trace shell hash, trace silt, light gray (5Y-7/1), (SP).		1	Sample #1, Depth = 0.4' Mean (mm): 0.20, Phi Sorting: 0.99 Shell Hash: 1%, Fines (230): 1.55% (SW)
-21.1	1.9	.....	SAND, fine to medium grained, quartz, some shell hash, trace silt, gray (5Y-5/1), (SP).		2	Sample #2, Depth = 1.3' Mean (mm): 0.78, Phi Sorting: 1.71 Shell Hash: 6%, Fines (230): 0.70% (SW)
		.....	SAND, fine grained, quartz, trace shell hash, trace silt, gray (5Y-6/1), (SP).		3	Sample #3, Depth = 2.5' Mean (mm): 0.17, Phi Sorting: 0.84 Shell Hash: 1%, Fines (230): 3.94% (SP)
-25.5	6.3	.....			4	Sample #4, Depth = 5.6' Mean (mm): 0.15, Phi Sorting: 0.65 Shell Hash: 0%, Fines (230): 3.28% (SP)
-28.3	9.1	.....	SHELL HASH, coarse grained, trace sand, trace silt, 2.0" rock fragments @ 6.2', 6.8', and 7.0', 3.0" rock fragment @ 8.8', gray (5Y-6/1), (SW).		5	Sample #5, Depth = 7.5' Mean (mm): 2.41, Phi Sorting: 1.53 Shell Hash: 91%, Fines (230): 2.00% (SW)
-31.5	12.3	.....	Shelly SAND, fine grained, quartz, trace silt, trace whole shell, pale olive (5Y-6/3), (SP-SM).		6	Sample #6, Depth = 9.5' Mean (mm): 0.90, Phi Sorting: 2.46 Shell Hash: 49%, Fines (230): 6.40% (SP-SM)
		.....	CLAY, 1.0" rock fragment @ 19.9', pale yellow (5Y-8/2), (CL).			
-39.1	19.9	.....				
-39.2	20.0	.....	No Recovery.			
		.....	End of Boring			

FLORIDA DEP ROSS ANNA MARIA\_05 NAVD88.GPJ FL DEP ROSS.GDT 10/30/08

**APPENDIX 1-C**

**2008 CPE VIBRACORE PHOTOGRAPHS**



ANNA MARIA ISLAND  
AMVC-08-01  
0.0 - 2.0



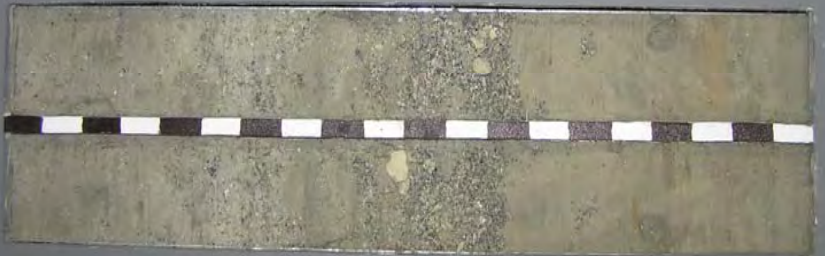
ANNA MARIA ISLAND  
AMVC-08-01  
2.0 - 4.0



ANNA MARIA ISLAND  
AMVC-08-01  
4.0 - 6.0



ANNA MARIA ISLAND  
AMVC-08-01  
6.0 - 8.0





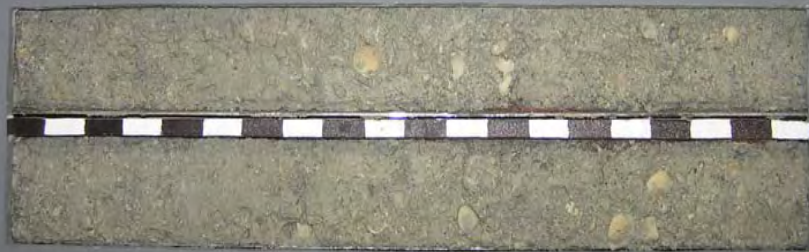
ANNA MARIA ISLAND  
AMVC-08-01  
8.0 - 10.0



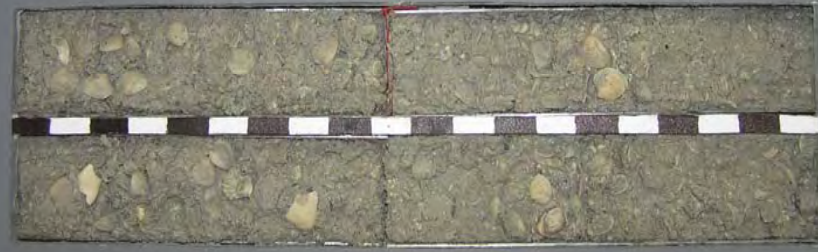
ANNA MARIA ISLAND  
AMVC-08-01  
10.0 - 12.0



ANNA MARIA ISLAND  
AMVC-08-01  
12.0 - 14.0



ANNA MARIA ISLAND  
AMVC-08-01  
14.0 - 16.0







ANNA MARIA ISLAND  
AMVC-08-02  
0.0 - 2.0



ANNA MARIA ISLAND  
AMVC-08-02  
2.0 - 4.0



ANNA MARIA ISLAND  
AMVC-08-02  
4.0 - 6.0



ANNA MARIA ISLAND  
AMVC-08-02  
6.0 - 8.0







ANNA MARIA ISLAND  
AMVC-08-02  
8.0 - 9.3











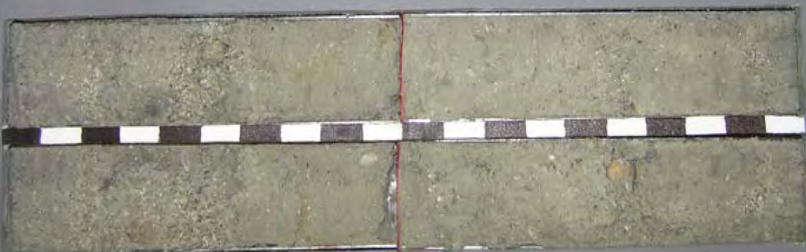
ANNA MARIA ISLAND  
AMVC-08-05  
0.0 - 2.0



ANNA MARIA ISLAND  
AMVC-08-05  
2.0 - 4.0



ANNA MARIA ISLAND  
AMVC-08-05  
4.0 - 6.0



ANNA MARIA ISLAND  
AMVC-08-05  
6.0 - 8.0



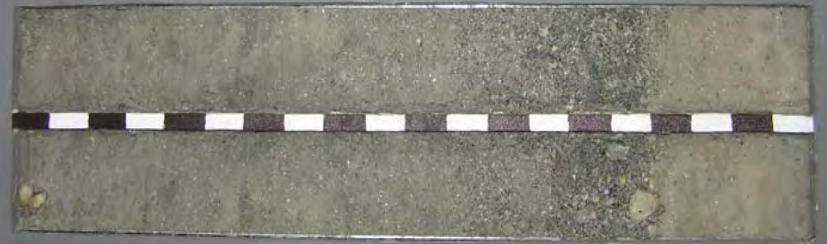




ANNA MARIA ISLAND  
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ANNA MARIA ISLAND  
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ANNA MARIA ISLAND  
AMVC-08-06  
4.0 - 6.0



ANNA MARIA ISLAND  
AMVC-08-06  
6.0 - 8.0





ANNA MARIA ISLAND  
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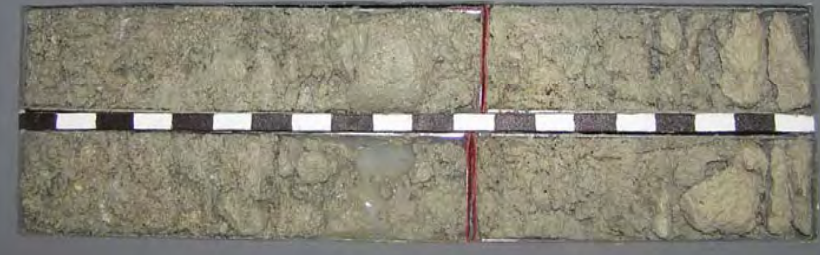
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14.0 - 16.0







ANNA MARIA ISLAND  
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ANNA MARIA ISLAND  
AMVC-08-07  
2.0 - 4.0



ANNA MARIA ISLAND  
AMVC-08-07  
4.0 - 6.0



ANNA MARIA ISLAND  
AMVC-08-07  
6.0 - 8.0





ANNA MARIA ISLAND  
AMVC-08-07  
8.0 - 10.0



ANNA MARIA ISLAND  
AMVC-08-07  
10.0 - 11.6





ANNA MARIA ISLAND  
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0.0 - 2.0



ANNA MARIA ISLAND  
AMVC-08-08  
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AMVC-08-08  
4.0 - 6.0



ANNA MARIA ISLAND  
AMVC-08-08  
6.0 - 8.0



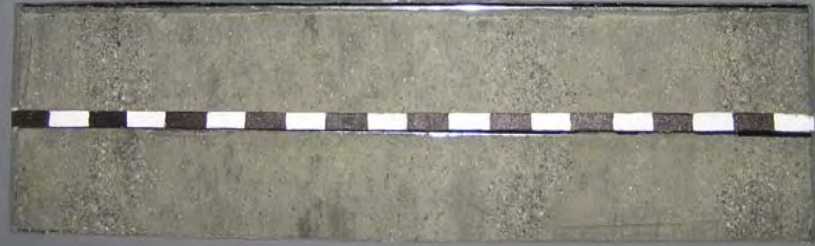




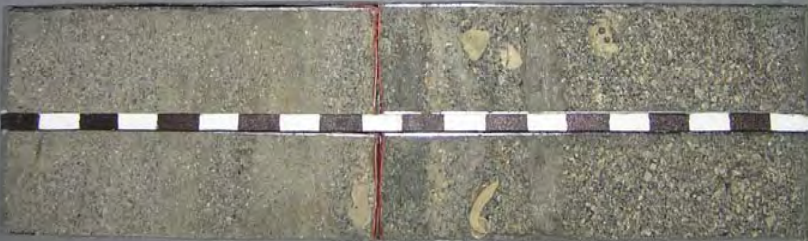
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ANNA MARIA ISLAND  
AMVC-08-09  
4.0 - 6.0



ANNA MARIA ISLAND  
AMVC-08-09  
6.0 - 8.0





ANNA MARIA ISLAND  
AMVC-08-09  
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ANNA MARIA ISLAND  
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ANNA MARIA ISLAND  
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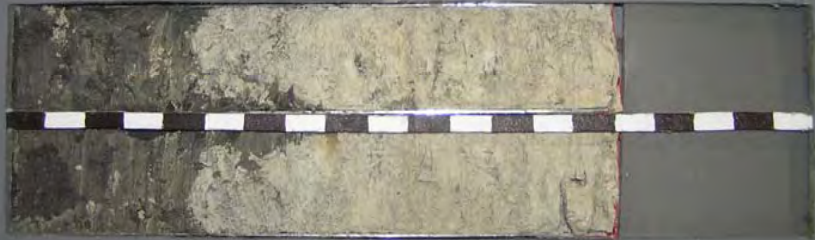


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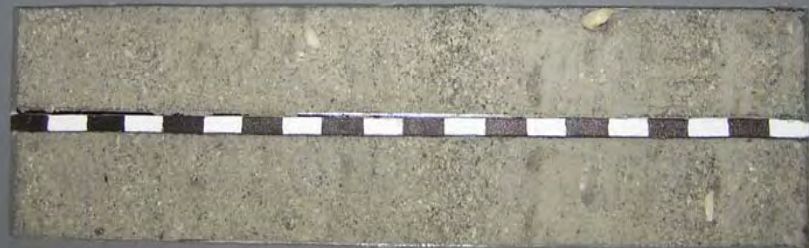




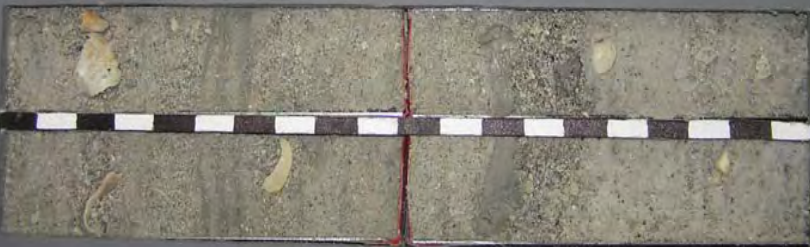
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2.0 - 4.0



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AMVC-08-10  
4.0 - 6.0



ANNA MARIA ISLAND  
AMVC-08-10  
6.0 - 8.0





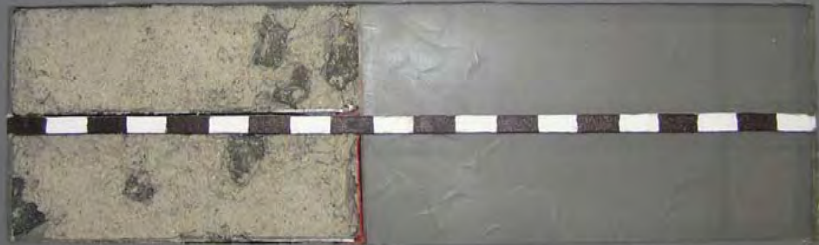








ANNA MARIA ISLAND  
AMVC-08-11  
8.0 - 8.9















ANNA MARIA ISLAND  
AMVC-08-13  
16.0 - 16.3













ANNA MARIA ISLAND

AMVC-08-15

16.0 - 17.8











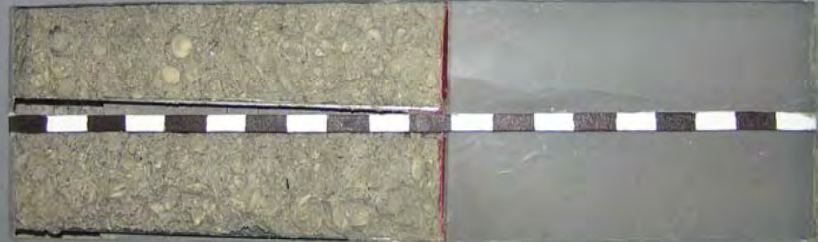




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AMVC-08-17  
16.0 - 18.0



ANNA MARIA ISLAND  
AMVC-08-17  
18.0 - 19.1





















ANNA MARIA ISLAND  
AMVC-08-20  
8.0 - 10.0



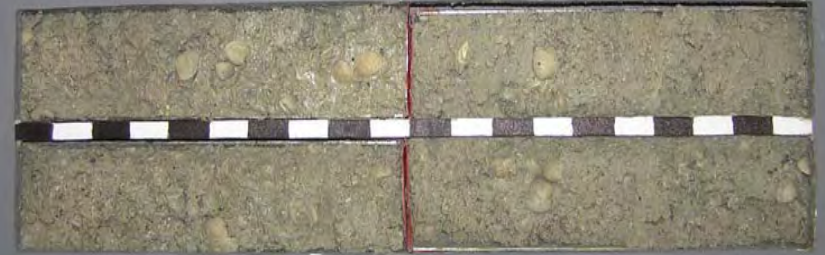
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ANNA MARIA ISLAND  
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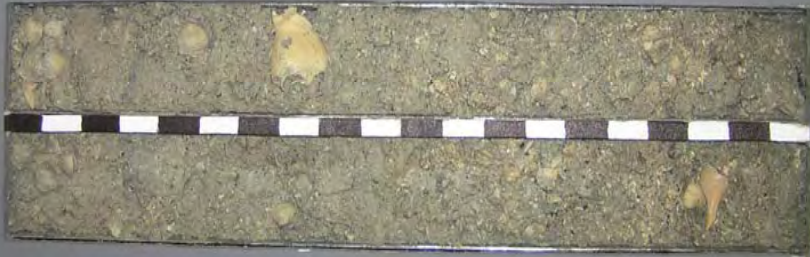




ANNA MARIA ISLAND

AMVC-08-20

16.0 - 18.0



ANNA MARIA ISLAND

AMVC-08-20

18.0 - 18.7





ANNA MARIA ISLAND  
AMVC-08-21  
0.0 - 2.0



ANNA MARIA ISLAND  
AMVC-08-21  
2.0 - 4.0



ANNA MARIA ISLAND  
AMVC-08-21  
4.0 - 6.0



ANNA MARIA ISLAND  
AMVC-08-21  
6.0 - 8.0



















ANNA MARIA ISLAND  
AMVC-08-23  
8.0 - 10.0



ANNA MARIA ISLAND  
AMVC-08-23  
10.0 - 12.0



ANNA MARIA ISLAND  
AMVC-08-23  
12.0 - 14.0



ANNA MARIA ISLAND  
AMVC-08-23  
14.0 - 16.0











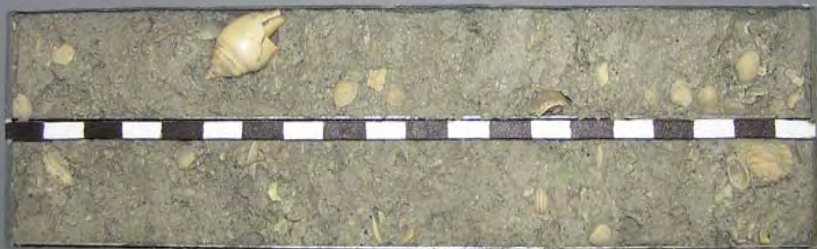








ANNA MARIA ISLAND  
AMVC-08-25  
16.0 - 18.0



ANNA MARIA ISLAND  
AMVC-08-25  
18.0 - 18.6





















ANNA MARIA ISLAND  
AMVC-08-28  
8.0 - 10.0



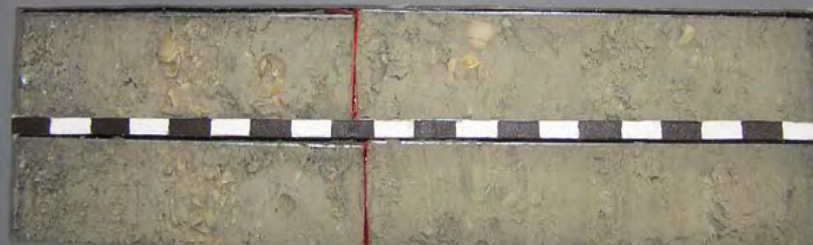
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AMVC-08-28  
12.0 - 14.0



ANNA MARIA ISLAND  
AMVC-08-28  
14.0 - 16.0







ANNA MARIA ISLAND

AMVC-08-29

0.0 - 2.0



ANNA MARIA ISLAND

AMVC-08-29

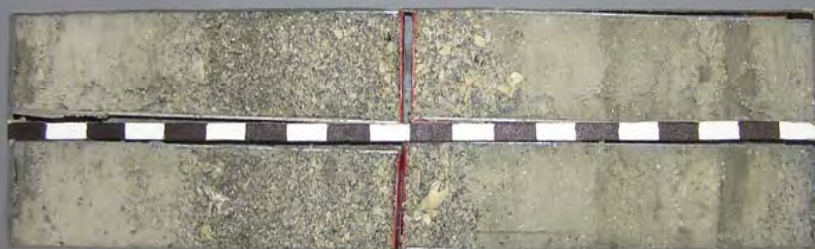
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ANNA MARIA ISLAND

AMVC-08-29

4.0 - 6.0



ANNA MARIA ISLAND

AMVC-08-29

6.0 - 8.0





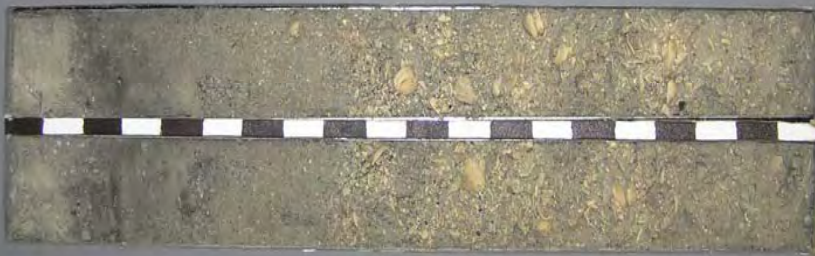
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ANNA MARIA ISLAND  
AMVC-08-29  
10.0 - 12.0



ANNA MARIA ISLAND  
AMVC-08-29  
12.0 - 14.0



ANNA MARIA ISLAND  
AMVC-08-29  
14.0 - 16.0





ANNA MARIA ISLAND  
AMVC-08-29  
16.0 - 17.2











**APPENDIX 1-D**

**2005 CPE VIBRACORE PHOTOGRAPHS**











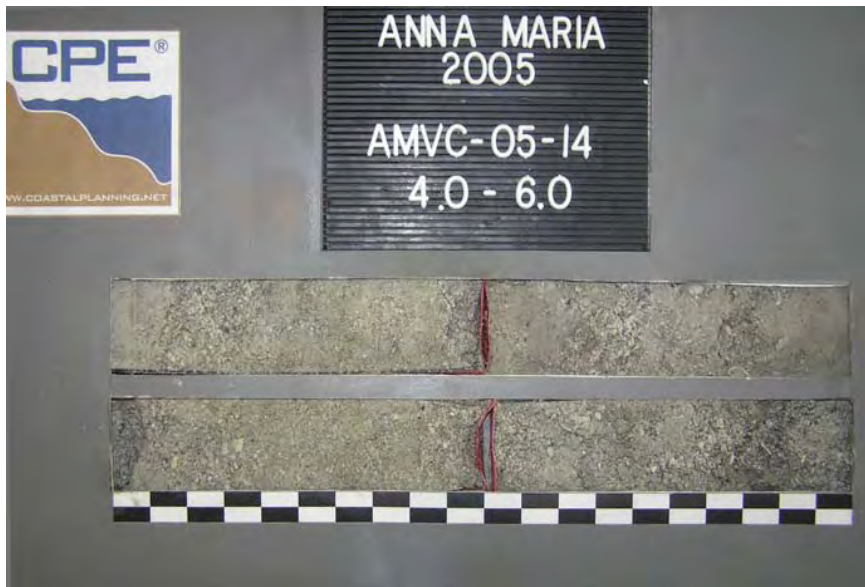
















ANNA MARIA  
2005

AMVC-05-14  
16.0 - 17.3











ANNA MARIA  
2005  
AMVC-05-15  
16.0 - 17.7









**APPENDIX 1-E**

**2008 CPE INDIVIDUAL VIBRACORE GRANULARMETRIC REPORTS**

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-01 #1  
 Analysis Date: 07-05-08  
 Analyzed By: TD

Easting (ft): 409,803	Northing (ft): 1,157,404	Coordinate System: Florida State Plane West	Elevation (ft): -20.4 NAVD 88
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USCS: SP	Munsell: Wet - 5Y-7/1 Dry - 5Y-8/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): 97.72	Wash Weight (g): 96.59	Pan Retained (g): 0.03	Sieve Loss (%): 0.02	Fines (%): #200 - 1.28 #230 - 1.21	Organics (%):	Carbonates (%): 4	Shell Hash (%): 0
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.03	0.03	0.03	0.03
10	-1.00	2.00	0.10	0.10	0.13	0.13
14	-0.50	1.41	0.21	0.21	0.34	0.34
18	0.00	1.00	0.24	0.25	0.58	0.59
25	0.50	0.71	0.34	0.35	0.92	0.94
35	1.00	0.50	0.41	0.42	1.33	1.36
45	1.50	0.35	0.47	0.48	1.80	1.84
60	2.00	0.25	1.74	1.78	3.54	3.62
80	2.50	0.18	13.80	14.12	17.34	17.74
120	3.00	0.13	64.25	65.75	81.59	83.49
170	3.50	0.09	14.42	14.76	96.01	98.25
200	3.75	0.07	0.46	0.47	96.47	98.72
230	4.00	0.06	0.07	0.07	96.54	98.79

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.39	3.02	2.94	2.75	2.56	2.44	2.05
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.69	0.15	0.46	-3.4	24.18	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-01 #2  
 Analysis Date: 07-05-08  
 Analyzed By: TD

Easting (ft): 409,803	Northing (ft): 1,157,404	Coordinate System: Florida State Plane West	Elevation (ft): -22.7 NAVD 88
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USCS: SW	Munsell: Wet - 5Y-7/1 Dry - 5Y-7/1 Washed - 5Y-7/1	Comments:
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Dry Weight (g): 90.71	Wash Weight (g): 88.75	Pan Retained (g): 0.02	Sieve Loss (%): 0.00	Fines (%): #200 - 2.27 #230 - 2.19	Organics (%):	Carbonates (%): 13	Shell Hash (%): 0
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.06	0.07	0.06	0.07
5	-2.00	4.00	0.02	0.02	0.08	0.09
7	-1.50	2.83	0.34	0.37	0.42	0.46
10	-1.00	2.00	0.63	0.69	1.05	1.15
14	-0.50	1.41	1.34	1.48	2.39	2.63
18	0.00	1.00	1.41	1.55	3.80	4.18
25	0.50	0.71	1.64	1.81	5.44	5.99
35	1.00	0.50	1.92	2.12	7.36	8.11
45	1.50	0.35	1.95	2.15	9.31	10.26
60	2.00	0.25	3.02	3.33	12.33	13.59
80	2.50	0.18	12.59	13.88	24.92	27.47
120	3.00	0.13	50.91	56.12	75.83	83.59
170	3.50	0.09	12.30	13.56	88.13	97.15
200	3.75	0.07	0.53	0.58	88.66	97.73
230	4.00	0.06	0.07	0.08	88.73	97.81

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.42	3.02	2.92	2.70	2.41	2.09	0.23
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.45	0.18	0.9	-2.46	9.31	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08



# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-01 #3  
 Analysis Date: 07-03-08  
 Analyzed By: JC

Easting (ft): 409,803	Northing (ft): 1,157,404	Coordinate System: Florida State Plane West	Elevation (ft): -24.1 NAVD 88
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USCS: SW	Munsell: Wet - 5Y-7/1 Dry - 5Y-7/1 Washed - 5Y-7/1	Comments:
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Dry Weight (g): 94.36	Wash Weight (g): 93.13	Pan Retained (g): 0.04	Sieve Loss (%): 0.15	Fines (%): #200 - 1.48 #230 - 1.46	Organics (%):	Carbonates (%): 50	Shell Hash (%): 2
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.45	0.48	0.45	0.48
3.5	-2.50	5.66	0.11	0.12	0.56	0.60
4	-2.25	4.76	0.03	0.03	0.59	0.63
5	-2.00	4.00	0.46	0.49	1.05	1.12
7	-1.50	2.83	1.00	1.06	2.05	2.18
10	-1.00	2.00	2.99	3.17	5.04	5.35
14	-0.50	1.41	6.31	6.69	11.35	12.04
18	0.00	1.00	7.28	7.72	18.63	19.76
25	0.50	0.71	7.95	8.43	26.58	28.19
35	1.00	0.50	7.47	7.92	34.05	36.11
45	1.50	0.35	7.35	7.79	41.40	43.90
60	2.00	0.25	7.64	8.10	49.04	52.00
80	2.50	0.18	10.05	10.65	59.09	62.65
120	3.00	0.13	25.90	27.45	84.99	90.10
170	3.50	0.09	7.64	8.10	92.63	98.20
200	3.75	0.07	0.30	0.32	92.93	98.52
230	4.00	0.06	0.02	0.02	92.95	98.54

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.30	2.89	2.72	1.88	0.31	-0.24	-1.06
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.45	0.37	1.45	-0.64	2.45	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-01 #4  
 Analysis Date: 07-03-08  
 Analyzed By: TD

Easting (ft): 409,803	Northing (ft): 1,157,404	Coordinate System: Florida State Plane West	Elevation (ft): -27.4 NAVD 88
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USCS: SP	Munsell: Wet - 5Y-6/2 Dry - 5Y-7/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): 92.10	Wash Weight (g): 89.80	Pan Retained (g): 0.09	Sieve Loss (%): 0.00	Fines (%): #200 - 2.96 #230 - 2.58	Organics (%):	Carbonates (%):	Shell Hash (%): 0
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.04	0.04	0.04	0.04
5	-2.00	4.00	0.00	0.00	0.04	0.04
7	-1.50	2.83	0.01	0.01	0.05	0.05
10	-1.00	2.00	0.03	0.03	0.08	0.08
14	-0.50	1.41	0.07	0.08	0.15	0.16
18	0.00	1.00	0.05	0.05	0.20	0.21
25	0.50	0.71	0.07	0.08	0.27	0.29
35	1.00	0.50	0.08	0.09	0.35	0.38
45	1.50	0.35	0.10	0.11	0.45	0.49
60	2.00	0.25	0.22	0.24	0.67	0.73
80	2.50	0.18	2.16	2.35	2.83	3.08
120	3.00	0.13	48.97	53.17	51.80	56.25
170	3.50	0.09	35.39	38.43	87.19	94.68
200	3.75	0.07	2.17	2.36	89.36	97.04
230	4.00	0.06	0.35	0.38	89.71	97.42

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.53	3.36	3.24	2.94	2.71	2.62	2.52
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.94	0.13	0.37	-3.63	42.87	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-02 #1  
 Analysis Date: 07-02-08  
 Analyzed By: LH

Easting (ft): <b>412,571</b>	Northing (ft): <b>1,154,054</b>	Coordinate System: <b>Florida State Plane West</b>	Elevation (ft): <b>-22.2 NAVD 88</b>
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USCS: <b>SP</b>	Munsell: Wet - 5Y-7/1 Dry - 5Y-8/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): <b>101.62</b>	Wash Weight (g): <b>100.44</b>	Pan Retained (g): <b>0.01</b>	Sieve Loss (%): <b>0.00</b>	Fines (%): #200 - 1.22 #230 - 1.16	Organics (%):	Carbonates (%): <b>4</b>	Shell Hash (%): <b>0</b>
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.02	0.02	0.02	0.02
7	-1.50	2.83	0.03	0.03	0.05	0.05
10	-1.00	2.00	0.17	0.17	0.22	0.22
14	-0.50	1.41	0.19	0.19	0.41	0.41
18	0.00	1.00	0.22	0.22	0.63	0.63
25	0.50	0.71	0.38	0.37	1.01	1.00
35	1.00	0.50	0.31	0.31	1.32	1.31
45	1.50	0.35	0.51	0.50	1.83	1.81
60	2.00	0.25	1.64	1.61	3.47	3.42
80	2.50	0.18	11.59	11.41	15.06	14.83
120	3.00	0.13	62.59	61.59	77.65	76.42
170	3.50	0.09	22.15	21.80	99.80	98.22
200	3.75	0.07	0.57	0.56	100.37	98.78
230	4.00	0.06	0.06	0.06	100.43	98.84

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.43	3.17	2.99	2.79	2.58	2.51	2.07
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.75	0.15	0.48	-3.51	25.45	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-02 #2  
 Analysis Date: 07-05-08  
 Analyzed By: TD

Easting (ft): <b>412,571</b>	Northing (ft): <b>1,154,054</b>	Coordinate System: <b>Florida State Plane West</b>	Elevation (ft): <b>-23.8 NAVD 88</b>
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USCS: <b>SW</b>	Munsell: Wet - 5Y-7/1 Dry - 5Y-8/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): <b>102.61</b>	Wash Weight (g): <b>101.21</b>	Pan Retained (g): <b>0.01</b>	Sieve Loss (%): <b>0.00</b>	Fines (%): #200 - 1.44 #230 - 1.37	Organics (%):	Carbonates (%): <b>15</b>	Shell Hash (%): <b>1</b>
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.05	0.05	0.05	0.05
5	-2.00	4.00	0.07	0.07	0.12	0.12
7	-1.50	2.83	0.76	0.74	0.88	0.86
10	-1.00	2.00	0.82	0.80	1.70	1.66
14	-0.50	1.41	1.56	1.52	3.26	3.18
18	0.00	1.00	1.59	1.55	4.85	4.73
25	0.50	0.71	1.74	1.70	6.59	6.43
35	1.00	0.50	1.91	1.86	8.50	8.29
45	1.50	0.35	2.26	2.20	10.76	10.49
60	2.00	0.25	4.89	4.77	15.65	15.26
80	2.50	0.18	14.64	14.27	30.29	29.53
120	3.00	0.13	58.06	56.58	88.35	86.11
170	3.50	0.09	12.15	11.84	100.50	97.95
200	3.75	0.07	0.63	0.61	101.13	98.56
230	4.00	0.06	0.07	0.07	101.20	98.63

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.38	2.98	2.90	2.68	2.34	2.03	0.08
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.41	0.19	0.94	-2.48	9.36	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
Sample Name: AMVC-08-02 #3  
Analysis Date: 07-05-08  
Analyzed By: TD

Easting (ft): <b>412,571</b>	Northing (ft): <b>1,154,054</b>	Coordinate System: <b>Florida State Plane West</b>	Elevation (ft): <b>-26.1 NAVD 88</b>
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USCS: <b>SP</b>	Munsell: Wet - 5Y-6/2 Dry - 5Y-7/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): <b>89.74</b>	Wash Weight (g): <b>87.58</b>	Pan Retained (g): <b>0.05</b>	Sieve Loss (%): <b>0.00</b>	Fines (%): #200 - 2.74 #230 - 2.46	Organics (%):	Carbonates (%):	Shell Hash (%): <b>0</b>
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.11	0.12	0.11	0.12
7	-1.50	2.83	0.22	0.25	0.33	0.37
10	-1.00	2.00	0.36	0.40	0.69	0.77
14	-0.50	1.41	0.45	0.50	1.14	1.27
18	0.00	1.00	0.46	0.51	1.60	1.78
25	0.50	0.71	0.50	0.56	2.10	2.34
35	1.00	0.50	0.50	0.56	2.60	2.90
45	1.50	0.35	0.65	0.72	3.25	3.62
60	2.00	0.25	1.27	1.42	4.52	5.04
80	2.50	0.18	6.20	6.91	10.72	11.95
120	3.00	0.13	50.71	56.51	61.43	68.46
170	3.50	0.09	24.67	27.49	86.10	95.95
200	3.75	0.07	1.18	1.31	87.28	97.26
230	4.00	0.06	0.25	0.28	87.53	97.54

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.48	3.28	3.12	2.84	2.62	2.54	1.99
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.75	0.15	0.67	-3.78	21.85	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-03 #1  
 Analysis Date: 07-05-08  
 Analyzed By: TD

Easting (ft): <b>413,167</b>	Northing (ft): <b>1,154,072</b>	Coordinate System: <b>Florida State Plane West</b>	Elevation (ft): <b>-19.9 NAVD 88</b>
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USCS: <b>SP</b>	Munsell: Wet - 5Y-8/1 Dry - 5Y-8/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): <b>88.37</b>	Wash Weight (g): <b>87.28</b>	Pan Retained (g): <b>0.01</b>	Sieve Loss (%): <b>0.01</b>	Fines (%): #200 - 1.35 #230 - 1.26	Organics (%):	Carbonates (%): <b>4</b>	Shell Hash (%): <b>0</b>
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.07	0.08	0.07	0.08
10	-1.00	2.00	0.11	0.12	0.18	0.20
14	-0.50	1.41	0.15	0.17	0.33	0.37
18	0.00	1.00	0.15	0.17	0.48	0.54
25	0.50	0.71	0.24	0.27	0.72	0.81
35	1.00	0.50	0.33	0.37	1.05	1.18
45	1.50	0.35	0.44	0.50	1.49	1.68
60	2.00	0.25	1.48	1.67	2.97	3.35
80	2.50	0.18	10.00	11.32	12.97	14.67
120	3.00	0.13	54.07	61.19	67.04	75.86
170	3.50	0.09	19.71	22.30	86.75	98.16
200	3.75	0.07	0.43	0.49	87.18	98.65
230	4.00	0.06	0.08	0.09	87.26	98.74

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.43	3.18	2.99	2.79	2.58	2.51	2.07
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.75	0.15	0.47	-3.44	25.76	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-03 #2

Analysis Date: 07-14-08

Analyzed By: LH

Easting (ft):	Northing (ft):
413,167	1,154,072

Coordinate System:	Elevation (ft):
Florida State Plane West	-22.4 NAVD 88

USCS:	Munsell:	Comments:
SW	Wet - 5Y-7/2 Dry - 5Y-7/1 Washed - 5Y-8/1	

Dry Weight (g):	Wash Weight (g):	Pan Retained (g):	Sieve Loss (%):	Fines (%):	Organics (%):	Carbonates (%):	Shell Hash (%):
68.00	66.72	0.01	0.07	#200 - 2.04 #230 - 1.98		11	1

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.36	0.53	0.36	0.53
7	-1.50	2.83	0.30	0.44	0.66	0.97
10	-1.00	2.00	0.73	1.07	1.39	2.04
14	-0.50	1.41	0.80	1.18	2.19	3.22
18	0.00	1.00	0.71	1.04	2.90	4.26
25	0.50	0.71	0.89	1.31	3.79	5.57
35	1.00	0.50	0.86	1.26	4.65	6.83
45	1.50	0.35	0.93	1.37	5.58	8.20
60	2.00	0.25	2.43	3.57	8.01	11.77
80	2.50	0.18	15.06	22.15	23.07	33.92
120	3.00	0.13	36.13	53.13	59.20	87.05
170	3.50	0.09	6.89	10.13	66.09	97.18
200	3.75	0.07	0.53	0.78	66.62	97.96
230	4.00	0.06	0.04	0.06	66.66	98.02

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.39	2.97	2.89	2.65	2.30	2.10	0.28
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.42	0.19	0.9	-2.82	11.77	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-03 #3  
 Analysis Date: 07-14-08  
 Analyzed By: LH

Easting (ft): <b>413,167</b>	Northing (ft): <b>1,154,072</b>	Coordinate System: <b>Florida State Plane West</b>	Elevation (ft): <b>-25.3 NAVD 88</b>
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USCS: <b>SW</b>	Munsell: Wet - 5Y-6/2 Dry - 5Y-7/2 Washed - 5Y-7/2	Comments:
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Dry Weight (g): <b>89.39</b>	Wash Weight (g): <b>85.62</b>	Pan Retained (g): <b>0.08</b>	Sieve Loss (%): <b>0.11</b>	Fines (%): #200 - 4.70 #230 - 4.44	Organics (%):	Carbonates (%): <b>14</b>	Shell Hash (%): <b>3</b>
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	1.14	1.28	1.14	1.28
3.5	-2.50	5.66	0.24	0.27	1.38	1.55
4	-2.25	4.76	0.10	0.11	1.48	1.66
5	-2.00	4.00	1.70	1.90	3.18	3.56
7	-1.50	2.83	1.03	1.15	4.21	4.71
10	-1.00	2.00	1.07	1.20	5.28	5.91
14	-0.50	1.41	1.30	1.45	6.58	7.36
18	0.00	1.00	1.02	1.14	7.60	8.50
25	0.50	0.71	0.88	0.98	8.48	9.48
35	1.00	0.50	0.80	0.89	9.28	10.37
45	1.50	0.35	0.95	1.06	10.23	11.43
60	2.00	0.25	1.53	1.71	11.76	13.14
80	2.50	0.18	10.73	12.00	22.49	25.14
120	3.00	0.13	45.18	50.54	67.67	75.68
170	3.50	0.09	15.60	17.45	83.27	93.13
200	3.75	0.07	1.94	2.17	85.21	95.30
230	4.00	0.06	0.23	0.26	85.44	95.56

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.72	3.24	2.99	2.75	2.49	2.12	-1.38
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.33	0.20	1.37	-2.54	8.83	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08



# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-05 #1

Analysis Date: 07-03-08

Analyzed By: TD

Easting (ft):	Northing (ft):
413,024	1,154,853

Coordinate System:	Elevation (ft):
Florida State Plane West	-21.5 NAVD 88

USCS:	Munsell:	Wet - 5Y-7/1 Dry - 5Y-8/1 Washed - 5Y-8/1	Comments:
SP			

Dry Weight (g):	Wash Weight (g):	Pan Retained (g):	Sieve Loss (%):	Fines (%): #200 - 1.28 #230 - 1.24	Organics (%):	Carbonates (%):	Shell Hash (%):
99.90	98.71	0.02	0.02			8	0

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.05	0.05	0.05	0.05
7	-1.50	2.83	0.22	0.22	0.27	0.27
10	-1.00	2.00	0.42	0.42	0.69	0.69
14	-0.50	1.41	0.66	0.66	1.35	1.35
18	0.00	1.00	0.64	0.64	1.99	1.99
25	0.50	0.71	0.73	0.73	2.72	2.72
35	1.00	0.50	1.01	1.01	3.73	3.73
45	1.50	0.35	1.19	1.19	4.92	4.92
60	2.00	0.25	3.44	3.44	8.36	8.36
80	2.50	0.18	18.03	18.05	26.39	26.41
120	3.00	0.13	57.96	58.02	84.35	84.43
170	3.50	0.09	13.82	13.83	98.17	98.26
200	3.75	0.07	0.46	0.46	98.63	98.72
230	4.00	0.06	0.04	0.04	98.67	98.76

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.38	3.00	2.92	2.70	2.46	2.21	1.51
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.57	0.17	0.68	-3.17	16.37	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
Sample Name: AMVC-08-05 #2  
Analysis Date: 07-03-08  
Analyzed By: JC

Easting (ft): <b>413,024</b>	Northing (ft): <b>1,154,853</b>	Coordinate System: <b>Florida State Plane West</b>	Elevation (ft): <b>-24.3 NAVD 88</b>
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USCS: <b>SW</b>	Munsell: Wet - 5Y-6/2 Dry - 5Y-7/1 Washed - 5Y-7/1	Comments:
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Dry Weight (g): <b>102.71</b>	Wash Weight (g): <b>98.75</b>	Pan Retained (g): <b>0.28</b>	Sieve Loss (%): <b>0.04</b>	Fines (%): #200 - 4.89 #230 - 4.15	Organics (%):	Carbonates (%): <b>13</b>	Shell Hash (%): <b>1</b>
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.16	0.16	0.16	0.16
3.5	-2.50	5.66	0.46	0.45	0.62	0.61
4	-2.25	4.76	0.00	0.00	0.62	0.61
5	-2.00	4.00	0.53	0.52	1.15	1.13
7	-1.50	2.83	0.82	0.80	1.97	1.93
10	-1.00	2.00	1.04	1.01	3.01	2.94
14	-0.50	1.41	1.23	1.20	4.24	4.14
18	0.00	1.00	1.02	0.99	5.26	5.13
25	0.50	0.71	1.15	1.12	6.41	6.25
35	1.00	0.50	1.19	1.16	7.60	7.41
45	1.50	0.35	1.37	1.33	8.97	8.74
60	2.00	0.25	1.94	1.89	10.91	10.63
80	2.50	0.18	9.60	9.35	20.51	19.98
120	3.00	0.13	50.81	49.47	71.32	69.45
170	3.50	0.09	24.01	23.38	95.33	92.83
200	3.75	0.07	2.34	2.28	97.67	95.11
230	4.00	0.06	0.76	0.74	98.43	95.85

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.74	3.31	3.12	2.80	2.55	2.29	-0.07
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.54	0.17	1.07	-2.88	11.84	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-05 #3

Analysis Date: 07-03-08

Analyzed By: TD

Easting (ft):	Northing (ft):
413,024	1,154,853

Coordinate System:	Elevation (ft):
Florida State Plane West	-27.0 NAVD 88

USCS:	Munsell:	Wet - 5Y-8/1 Dry - 5Y-8/1 Washed - 5Y-8/1	Comments:
SP			

Dry Weight (g):	Wash Weight (g):	Pan Retained (g):	Sieve Loss (%):	Fines (%): #200 - 1.23 #230 - 1.21	Organics (%):	Carbonates (%):	Shell Hash (%):
108.58	107.30	0.02	0.00			4	0

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.01	0.01	0.01	0.01
10	-1.00	2.00	0.04	0.04	0.05	0.05
14	-0.50	1.41	0.08	0.07	0.13	0.12
18	0.00	1.00	0.07	0.06	0.20	0.18
25	0.50	0.71	0.14	0.13	0.34	0.31
35	1.00	0.50	0.21	0.19	0.55	0.50
45	1.50	0.35	0.33	0.30	0.88	0.80
60	2.00	0.25	1.18	1.09	2.06	1.89
80	2.50	0.18	22.72	20.92	24.78	22.81
120	3.00	0.13	72.65	66.91	97.43	89.72
170	3.50	0.09	9.64	8.88	107.07	98.60
200	3.75	0.07	0.19	0.17	107.26	98.77
230	4.00	0.06	0.02	0.02	107.28	98.79

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.30	2.96	2.89	2.70	2.52	2.34	2.07
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.66	0.16	0.35	-2.66	23.92	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-06 #1  
 Analysis Date: 07-03-08  
 Analyzed By: TD

Easting (ft): 412,252	Northing (ft): 1,154,756	Coordinate System: Florida State Plane West	Elevation (ft): -23.5 NAVD 88
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USCS: SP	Munsell: Wet - 5Y-6/1 Dry - 5Y-7/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): 91.49	Wash Weight (g): 89.92	Pan Retained (g): 0.01	Sieve Loss (%): 0.00	Fines (%): #200 - 1.79 #230 - 1.72	Organics (%):	Carbonates (%): 8	Shell Hash (%): 0
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.06	0.07	0.06	0.07
7	-1.50	2.83	0.16	0.17	0.22	0.24
10	-1.00	2.00	0.24	0.26	0.46	0.50
14	-0.50	1.41	0.55	0.60	1.01	1.10
18	0.00	1.00	0.60	0.66	1.61	1.76
25	0.50	0.71	0.79	0.86	2.40	2.62
35	1.00	0.50	0.83	0.91	3.23	3.53
45	1.50	0.35	1.11	1.21	4.34	4.74
60	2.00	0.25	2.87	3.14	7.21	7.88
80	2.50	0.18	13.15	14.37	20.36	22.25
120	3.00	0.13	54.05	59.08	74.41	81.33
170	3.50	0.09	14.82	16.20	89.23	97.53
200	3.75	0.07	0.62	0.68	89.85	98.21
230	4.00	0.06	0.06	0.07	89.91	98.28

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.42	3.08	2.95	2.73	2.52	2.28	1.54
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.61	0.16	0.67	-3.16	16.52	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-06 #2  
 Analysis Date: 07-03-08  
 Analyzed By: TD

Easting (ft): 412,252	Northing (ft): 1,154,756	Coordinate System: Florida State Plane West	Elevation (ft): -25.3 NAVD 88
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USCS: SW	Munsell: Wet - 5Y-5/1 Dry - 5Y-6/1 Washed - 5Y-6/1	Comments:
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Dry Weight (g): 96.30	Wash Weight (g): 94.98	Pan Retained (g): 0.01	Sieve Loss (%): 0.05	Fines (%): #200 - 1.48 #230 - 1.42	Organics (%):	Carbonates (%): 57	Shell Hash (%): 5
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.89	0.92	0.89	0.92
5/16"	-3.00	8.00	1.70	1.77	2.59	2.69
3.5	-2.50	5.66	3.54	3.68	6.13	6.37
4	-2.25	4.76	1.59	1.65	7.72	8.02
5	-2.00	4.00	1.52	1.58	9.24	9.60
7	-1.50	2.83	4.13	4.29	13.37	13.89
10	-1.00	2.00	6.55	6.80	19.92	20.69
14	-0.50	1.41	10.89	11.31	30.81	32.00
18	0.00	1.00	6.97	7.24	37.78	39.24
25	0.50	0.71	7.35	7.63	45.13	46.87
35	1.00	0.50	5.98	6.21	51.11	53.08
45	1.50	0.35	4.58	4.76	55.69	57.84
60	2.00	0.25	4.43	4.60	60.12	62.44
80	2.50	0.18	7.43	7.72	67.55	70.16
120	3.00	0.13	20.46	21.25	88.01	91.41
170	3.50	0.09	6.54	6.79	94.55	98.20
200	3.75	0.07	0.31	0.32	94.86	98.52
230	4.00	0.06	0.06	0.06	94.92	98.58

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.26	2.83	2.61	0.75	-0.81	-1.34	-2.69
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	0.68	0.62	1.92	-0.31	1.94	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-06 #3

Analysis Date: 07-03-08

Analyzed By: JC

Easting (ft): 412,252	Northing (ft): 1,154,756	Coordinate System: Florida State Plane West	Elevation (ft): -25.8 NAVD 88
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USCS: SP	Munsell: Wet - 5Y-7/1 Dry - 5Y-7/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): 79.28	Wash Weight (g): 77.94	Pan Retained (g): 0.04	Sieve Loss (%): 0.00	Fines (%): #200 - 1.94 #230 - 1.74	Organics (%):	Carbonates (%): 8	Shell Hash (%): 0
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.33	0.42	0.33	0.42
3.5	-2.50	5.66	0.00	0.00	0.33	0.42
4	-2.25	4.76	0.00	0.00	0.33	0.42
5	-2.00	4.00	0.06	0.08	0.39	0.50
7	-1.50	2.83	0.31	0.39	0.70	0.89
10	-1.00	2.00	0.21	0.26	0.91	1.15
14	-0.50	1.41	0.50	0.63	1.41	1.78
18	0.00	1.00	0.30	0.38	1.71	2.16
25	0.50	0.71	0.57	0.72	2.28	2.88
35	1.00	0.50	0.47	0.59	2.75	3.47
45	1.50	0.35	0.60	0.76	3.35	4.23
60	2.00	0.25	2.09	2.64	5.44	6.87
80	2.50	0.18	9.99	12.60	15.43	19.47
120	3.00	0.13	43.44	54.79	58.87	74.26
170	3.50	0.09	18.21	22.97	77.08	97.23
200	3.75	0.07	0.66	0.83	77.74	98.06
230	4.00	0.06	0.16	0.20	77.90	98.26

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.45	3.21	3.02	2.78	2.55	2.36	1.65
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.65	0.16	0.78	-4.04	24.6	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-06 #4  
 Analysis Date: 07-05-08  
 Analyzed By: TD

Easting (ft): 412,252	Northing (ft): 1,154,756	Coordinate System: Florida State Plane West	Elevation (ft): -26.5 NAVD 88
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USCS: SP	Munsell: Wet - 5Y-7/2 Dry - 5Y-7/1 Washed - 5Y-7/1	Comments:
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Dry Weight (g): 86.92	Wash Weight (g): 84.48	Pan Retained (g): 0.05	Sieve Loss (%): 0.05	Fines (%): #200 - 3.08 #230 - 2.92	Organics (%):	Carbonates (%): 9	Shell Hash (%): 0
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.68	0.78	0.68	0.78
5	-2.00	4.00	0.00	0.00	0.68	0.78
7	-1.50	2.83	0.47	0.54	1.15	1.32
10	-1.00	2.00	0.38	0.44	1.53	1.76
14	-0.50	1.41	0.48	0.55	2.01	2.31
18	0.00	1.00	0.43	0.49	2.44	2.80
25	0.50	0.71	0.56	0.64	3.00	3.44
35	1.00	0.50	0.65	0.75	3.65	4.19
45	1.50	0.35	0.50	0.58	4.15	4.77
60	2.00	0.25	0.88	1.01	5.03	5.78
80	2.50	0.18	6.56	7.55	11.59	13.33
120	3.00	0.13	52.70	60.63	64.29	73.96
170	3.50	0.09	19.13	22.01	83.42	95.97
200	3.75	0.07	0.83	0.95	84.25	96.92
230	4.00	0.06	0.14	0.16	84.39	97.08

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.48	3.23	3.02	2.80	2.60	2.52	1.61
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.66	0.16	0.83	-3.96	21.03	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-06 #5  
 Analysis Date: 08-18-08  
 Analyzed By: LH

Easting (ft): 412,252	Northing (ft): 1,154,756	Coordinate System: Florida State Plane West	Elevation (ft): -27.8 NAVD 88
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USCS: SW	Munsell: Wet - 5Y-5/1 Dry - 2.5Y-6/1 Washed - 2.5Y-6/1	Comments:
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Dry Weight (g): 87.44	Wash Weight (g): 84.60	Pan Retained (g): 0.05	Sieve Loss (%): 0.09	Fines (%): #200 - 3.58 #230 - 3.39	Organics (%):	Carbonates (%): 22	Shell Hash (%): 9
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	1.99	2.28	1.99	2.28
3.5	-2.50	5.66	4.76	5.44	6.75	7.72
4	-2.25	4.76	1.53	1.75	8.28	9.47
5	-2.00	4.00	2.37	2.71	10.65	12.18
7	-1.50	2.83	5.33	6.10	15.98	18.28
10	-1.00	2.00	6.27	7.17	22.25	25.45
14	-0.50	1.41	8.33	9.53	30.58	34.98
18	0.00	1.00	8.27	9.46	38.85	44.44
25	0.50	0.71	7.84	8.97	46.69	53.41
35	1.00	0.50	5.50	6.29	52.19	59.70
45	1.50	0.35	3.12	3.57	55.31	63.27
60	2.00	0.25	2.18	2.49	57.49	65.76
80	2.50	0.18	2.60	2.97	60.09	68.73
120	3.00	0.13	13.36	15.28	73.45	84.01
170	3.50	0.09	10.18	11.64	83.63	95.65
200	3.75	0.07	0.67	0.77	84.30	96.42
230	4.00	0.06	0.17	0.19	84.47	96.61

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.47	3.00	2.71	0.31	-1.03	-1.69	-2.75
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	0.46	0.73	2	-0.02	1.77	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08



# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-06 #6  
 Analysis Date: 08-18-08  
 Analyzed By: LH

Easting (ft): 412,252	Northing (ft): 1,154,756	Coordinate System: Florida State Plane West	Elevation (ft): -28.9 NAVD 88
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USCS: SW	Munsell: Wet - 5Y-6/2 Dry - 5Y-7/1 Washed - 5Y-7/1	Comments:
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Dry Weight (g): 78.15	Wash Weight (g): 74.83	Pan Retained (g): 0.05	Sieve Loss (%): 0.06	Fines (%): #200 - 4.61 #230 - 4.38	Organics (%):	Carbonates (%): 22	Shell Hash (%): 1
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	1.35	1.73	1.35	1.73
4	-2.25	4.76	0.39	0.50	1.74	2.23
5	-2.00	4.00	0.07	0.09	1.81	2.32
7	-1.50	2.83	0.55	0.70	2.36	3.02
10	-1.00	2.00	0.65	0.83	3.01	3.85
14	-0.50	1.41	0.99	1.27	4.00	5.12
18	0.00	1.00	1.40	1.79	5.40	6.91
25	0.50	0.71	1.61	2.06	7.01	8.97
35	1.00	0.50	1.54	1.97	8.55	10.94
45	1.50	0.35	1.41	1.80	9.96	12.74
60	2.00	0.25	1.94	2.48	11.90	15.22
80	2.50	0.18	15.92	20.37	27.82	35.59
120	3.00	0.13	37.58	48.09	65.40	83.68
170	3.50	0.09	8.18	10.47	73.58	94.15
200	3.75	0.07	0.97	1.24	74.55	95.39
230	4.00	0.06	0.18	0.23	74.73	95.62

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.67	3.02	2.91	2.65	2.24	2.02	-0.55
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.26	0.21	1.21	-2.51	9.26	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-07 #1  
 Analysis Date: 07-05-08  
 Analyzed By: TD

Easting (ft): <b>412,599</b>	Northing (ft): <b>1,155,417</b>	Coordinate System: <b>Florida State Plane West</b>	Elevation (ft): <b>-20.0 NAVD 88</b>
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USCS: <b>SP</b>	Munsell: Wet - 5Y-7/1 Dry - 2.5Y-8/1 Washed - 2.5Y-8/1	Comments:
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Dry Weight (g): <b>86.55</b>	Wash Weight (g): <b>85.48</b>	Pan Retained (g): <b>0.01</b>	Sieve Loss (%): <b>0.02</b>	Fines (%): #200 - 1.31 #230 - 1.28	Organics (%):	Carbonates (%): <b>5</b>	Shell Hash (%): <b>0</b>
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.06	0.07	0.06	0.07
10	-1.00	2.00	0.10	0.12	0.16	0.19
14	-0.50	1.41	0.19	0.22	0.35	0.41
18	0.00	1.00	0.18	0.21	0.53	0.62
25	0.50	0.71	0.32	0.37	0.85	0.99
35	1.00	0.50	0.44	0.51	1.29	1.50
45	1.50	0.35	0.67	0.77	1.96	2.27
60	2.00	0.25	2.15	2.48	4.11	4.75
80	2.50	0.18	14.18	16.38	18.29	21.13
120	3.00	0.13	52.64	60.82	70.93	81.95
170	3.50	0.09	14.10	16.29	85.03	98.24
200	3.75	0.07	0.39	0.45	85.42	98.69
230	4.00	0.06	0.03	0.03	85.45	98.72

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.40	3.06	2.94	2.74	2.53	2.34	2.01
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.68	0.16	0.5	-3.12	21.08	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-07 #2  
 Analysis Date: 07-05-08  
 Analyzed By: TD

Easting (ft): <b>412,599</b>	Northing (ft): <b>1,155,417</b>	Coordinate System: <b>Florida State Plane West</b>	Elevation (ft): <b>-22.0 NAVD 88</b>
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USCS: <b>SP</b>	Munsell: Wet - 5Y-7/1 Dry - 2.5Y-8/1 Washed - 2.5Y-8/1	Comments:
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Dry Weight (g): <b>89.17</b>	Wash Weight (g): <b>87.96</b>	Pan Retained (g): <b>0.01</b>	Sieve Loss (%): <b>0.00</b>	Fines (%): #200 - 1.41 #230 - 1.37	Organics (%):	Carbonates (%): <b>13</b>	Shell Hash (%): <b>0</b>
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.32	0.36	0.32	0.36
10	-1.00	2.00	0.58	0.65	0.90	1.01
14	-0.50	1.41	0.90	1.01	1.80	2.02
18	0.00	1.00	0.97	1.09	2.77	3.11
25	0.50	0.71	1.32	1.48	4.09	4.59
35	1.00	0.50	1.77	1.98	5.86	6.57
45	1.50	0.35	2.01	2.25	7.87	8.82
60	2.00	0.25	4.25	4.77	12.12	13.59
80	2.50	0.18	21.85	24.50	33.97	38.09
120	3.00	0.13	45.28	50.78	79.25	88.87
170	3.50	0.09	8.36	9.38	87.61	98.25
200	3.75	0.07	0.30	0.34	87.91	98.59
230	4.00	0.06	0.04	0.04	87.95	98.63

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.33	2.95	2.86	2.62	2.23	2.05	0.60
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.4	0.19	0.8	-2.52	10.52	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-07 #3

Analysis Date: 07-14-08

Analyzed By: LH

Easting (ft): 412,599  
 Northing (ft): 1,155,417

Coordinate System: Florida State Plane West  
 Elevation (ft): -23.1 NAVD 88

USCS: SW  
 Munsell: Wet - 5Y-7/1  
 Dry - 5Y-7/1  
 Washed - 5Y-7/1  
 Comments:

Dry Weight (g): 78.84  
 Wash Weight (g): 77.75  
 Pan Retained (g): 0.01  
 Sieve Loss (%): 0.00  
 Fines (%): #200 - 1.42  
 #230 - 1.39  
 Organics (%):  
 Carbonates (%): 42  
 Shell Hash (%): 7

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.61	0.77	0.61	0.77
5/16"	-3.00	8.00	0.94	1.19	1.55	1.96
3.5	-2.50	5.66	1.29	1.64	2.84	3.60
4	-2.25	4.76	1.75	2.22	4.59	5.82
5	-2.00	4.00	1.27	1.61	5.86	7.43
7	-1.50	2.83	3.95	5.01	9.81	12.44
10	-1.00	2.00	4.48	5.68	14.29	18.12
14	-0.50	1.41	4.97	6.30	19.26	24.42
18	0.00	1.00	3.72	4.72	22.98	29.14
25	0.50	0.71	3.53	4.48	26.51	33.62
35	1.00	0.50	3.01	3.82	29.52	37.44
45	1.50	0.35	2.79	3.54	32.31	40.98
60	2.00	0.25	4.05	5.14	36.36	46.12
80	2.50	0.18	15.93	20.21	52.29	66.33
120	3.00	0.13	21.86	27.73	74.15	94.06
170	3.50	0.09	3.37	4.27	77.52	98.33
200	3.75	0.07	0.20	0.25	77.72	98.58
230	4.00	0.06	0.02	0.03	77.74	98.61

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.11	2.82	2.66	2.10	-0.44	-1.19	-2.34
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	1.14	0.45	1.86	-0.8	2.32	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-07 #4  
 Analysis Date: 08-14-08  
 Analyzed By: TD

Easting (ft): 412,599	Northing (ft): 1,155,417	Coordinate System: Florida State Plane West	Elevation (ft): -23.5 NAVD 88
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USCS: SW	Munsell: Wet - 5Y-6/2 Dry - 2.5Y-7/3 Washed - 2.5Y-7/3	Comments:
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Dry Weight (g): 87.10	Wash Weight (g): 85.21	Pan Retained (g): 0.05	Sieve Loss (%): 0.01	Fines (%): #200 - 2.34 #230 - 2.24	Organics (%):	Carbonates (%): 61	Shell Hash (%): 0
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.82	0.94	0.82	0.94
5/16"	-3.00	8.00	0.00	0.00	0.82	0.94
3.5	-2.50	5.66	0.18	0.21	1.00	1.15
4	-2.25	4.76	0.08	0.09	1.08	1.24
5	-2.00	4.00	0.06	0.07	1.14	1.31
7	-1.50	2.83	0.28	0.32	1.42	1.63
10	-1.00	2.00	0.74	0.85	2.16	2.48
14	-0.50	1.41	0.92	1.06	3.08	3.54
18	0.00	1.00	1.00	1.15	4.08	4.69
25	0.50	0.71	1.43	1.64	5.51	6.33
35	1.00	0.50	1.68	1.93	7.19	8.26
45	1.50	0.35	1.65	1.89	8.84	10.15
60	2.00	0.25	3.27	3.75	12.11	13.90
80	2.50	0.18	14.56	16.72	26.67	30.62
120	3.00	0.13	46.31	53.17	72.98	83.79
170	3.50	0.09	11.55	13.26	84.53	97.05
200	3.75	0.07	0.53	0.61	85.06	97.66
230	4.00	0.06	0.09	0.10	85.15	97.76

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.42	3.01	2.92	2.68	2.33	2.06	0.09
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.38	0.19	1.08	-3.18	15.02	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-07 #5

Analysis Date: 08-18-08

Analyzed By: LH

Easting (ft): 412,599  
 Northing (ft): 1,155,417

Coordinate System: Florida State Plane West  
 Elevation (ft): -24.5 NAVD 88

USCS: SP  
 Munsell: Wet - 5Y-7/1  
 Dry - 2.5Y-8/1  
 Washed - 2.5Y-8/1  
 Comments:

Dry Weight (g): 78.95  
 Wash Weight (g): 77.56  
 Pan Retained (g): 0.00  
 Sieve Loss (%): 0.00  
 Finer (%): #200 - 1.85, #230 - 1.76  
 Organics (%):  
 Carbonates (%): 5  
 Shell Hash (%): 0

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.31	0.39	0.31	0.39
5/16"	-3.00	8.00	0.00	0.00	0.31	0.39
3.5	-2.50	5.66	0.05	0.06	0.36	0.45
4	-2.25	4.76	0.06	0.08	0.42	0.53
5	-2.00	4.00	0.02	0.03	0.44	0.56
7	-1.50	2.83	0.13	0.16	0.57	0.72
10	-1.00	2.00	0.31	0.39	0.88	1.11
14	-0.50	1.41	0.40	0.51	1.28	1.62
18	0.00	1.00	0.38	0.48	1.66	2.10
25	0.50	0.71	0.36	0.46	2.02	2.56
35	1.00	0.50	0.36	0.46	2.38	3.02
45	1.50	0.35	0.49	0.62	2.87	3.64
60	2.00	0.25	1.49	1.89	4.36	5.53
80	2.50	0.18	19.92	25.23	24.28	30.76
120	3.00	0.13	45.36	57.45	69.64	88.21
170	3.50	0.09	7.36	9.32	77.00	97.53
200	3.75	0.07	0.49	0.62	77.49	98.15
230	4.00	0.06	0.07	0.09	77.56	98.24

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.36	2.96	2.89	2.67	2.39	2.21	1.86
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.53	0.17	0.74	-4.68	32.65	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-07 #6  
 Analysis Date: 08-19-08  
 Analyzed By: PB

Easting (ft): <b>412,599</b>	Northing (ft): <b>1,155,417</b>	Coordinate System: <b>Florida State Plane West</b>	Elevation (ft): <b>-25.7 NAVD 88</b>
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USCS: <b>SW</b>	Munsell: Wet - 5Y-6/2 Dry - 5Y-7/1 Washed - 5Y-7/1	Comments:
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Dry Weight (g): <b>97.65</b>	Wash Weight (g): <b>94.19</b>	Pan Retained (g): <b>0.04</b>	Sieve Loss (%): <b>0.00</b>	Fines (%): #200 - 3.92 #230 - 3.59	Organics (%):	Carbonates (%): <b>8</b>	Shell Hash (%): <b>0</b>
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	1.14	1.17	1.14	1.17
3.5	-2.50	5.66	0.08	0.08	1.22	1.25
4	-2.25	4.76	0.03	0.03	1.25	1.28
5	-2.00	4.00	0.14	0.14	1.39	1.42
7	-1.50	2.83	0.32	0.33	1.71	1.75
10	-1.00	2.00	0.53	0.54	2.24	2.29
14	-0.50	1.41	0.52	0.53	2.76	2.82
18	0.00	1.00	0.43	0.44	3.19	3.26
25	0.50	0.71	0.40	0.41	3.59	3.67
35	1.00	0.50	0.43	0.44	4.02	4.11
45	1.50	0.35	0.52	0.53	4.54	4.64
60	2.00	0.25	0.91	0.93	5.45	5.57
80	2.50	0.18	9.53	9.76	14.98	15.33
120	3.00	0.13	61.70	63.18	76.68	78.51
170	3.50	0.09	15.20	15.57	91.88	94.08
200	3.75	0.07	1.95	2.00	93.83	96.08
230	4.00	0.06	0.32	0.33	94.15	96.41

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.62	3.18	2.97	2.77	2.58	2.51	1.69
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.61	0.16	0.95	-4.31	23.96	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-08 #1  
 Analysis Date: 07-07-08  
 Analyzed By: LH

Easting (ft): 411,713	Northing (ft): 1,155,241	Coordinate System: Florida State Plane West	Elevation (ft): -23.0 NAVD 88
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USCS: SP	Munsell: Wet - 5Y-7/1 Dry - 5Y-7/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): 86.20	Wash Weight (g): 85.13	Pan Retained (g): 0.06	Sieve Loss (%): 0.00	Fines (%): #200 - 1.32 #230 - 1.31	Organics (%):	Carbonates (%): 6	Shell Hash (%): 0
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.19	0.22	0.19	0.22
7	-1.50	2.83	0.11	0.13	0.30	0.35
10	-1.00	2.00	0.23	0.27	0.53	0.62
14	-0.50	1.41	0.25	0.29	0.78	0.91
18	0.00	1.00	0.23	0.27	1.01	1.18
25	0.50	0.71	0.30	0.35	1.31	1.53
35	1.00	0.50	0.42	0.49	1.73	2.02
45	1.50	0.35	0.56	0.65	2.29	2.67
60	2.00	0.25	1.36	1.58	3.65	4.25
80	2.50	0.18	12.01	13.93	15.66	18.18
120	3.00	0.13	54.31	63.00	69.97	81.18
170	3.50	0.09	14.51	16.83	84.48	98.01
200	3.75	0.07	0.58	0.67	85.06	98.68
230	4.00	0.06	0.01	0.01	85.07	98.69

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.41	3.08	2.95	2.75	2.55	2.42	2.03
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.68	0.16	0.58	-4.16	28.7	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08



# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-08 #2  
 Analysis Date: 07-07-08  
 Analyzed By: TD

Easting (ft): 411,713	Northing (ft): 1,155,241	Coordinate System: Florida State Plane West	Elevation (ft): -27.1 NAVD 88
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USCS: SP	Munsell: Wet - 5Y-6/2 Dry - 5Y-7/1 Washed - 5Y-7/1	Comments:
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Dry Weight (g): 85.01	Wash Weight (g): 82.52	Pan Retained (g): 0.12	Sieve Loss (%): 0.01	Fines (%): #200 - 3.34 #230 - 3.08	Organics (%):	Carbonates (%): 7	Shell Hash (%): 0
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.02	0.02	0.02	0.02
10	-1.00	2.00	0.05	0.06	0.07	0.08
14	-0.50	1.41	0.08	0.09	0.15	0.17
18	0.00	1.00	0.13	0.15	0.28	0.32
25	0.50	0.71	0.17	0.20	0.45	0.52
35	1.00	0.50	0.20	0.24	0.65	0.76
45	1.50	0.35	0.17	0.20	0.82	0.96
60	2.00	0.25	0.34	0.40	1.16	1.36
80	2.50	0.18	2.70	3.18	3.86	4.54
120	3.00	0.13	59.08	69.50	62.94	74.04
170	3.50	0.09	18.17	21.37	81.11	95.41
200	3.75	0.07	1.06	1.25	82.17	96.66
230	4.00	0.06	0.22	0.26	82.39	96.92

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.49	3.23	3.02	2.83	2.65	2.58	2.50
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.83	0.14	0.38	-3.84	37.01	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-08 #3

Analysis Date: 08-18-08

Analyzed By: LH

Easting (ft): <b>411,713</b>	Northing (ft): <b>1,155,241</b>	Coordinate System: <b>Florida State Plane West</b>	Elevation (ft): <b>-29.3 NAVD 88</b>
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USCS: <b>SW-SC</b>	Munsell: Wet - 5Y-6/2 Dry - 5Y-6/1 Washed - 5Y-7/1	Comments:
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Dry Weight (g): <b>92.99</b>	Wash Weight (g): <b>87.99</b>	Pan Retained (g): <b>0.11</b>	Sieve Loss (%): <b>0.04</b>	Fines (%): #200 - 5.75 #230 - 5.52	Organics (%):	Carbonates (%): <b>28</b>	Shell Hash (%): <b>4</b>
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.94	1.01	0.94	1.01
5/16"	-3.00	8.00	0.00	0.00	0.94	1.01
3.5	-2.50	5.66	2.39	2.57	3.33	3.58
4	-2.25	4.76	0.49	0.53	3.82	4.11
5	-2.00	4.00	0.89	0.96	4.71	5.07
7	-1.50	2.83	2.38	2.56	7.09	7.63
10	-1.00	2.00	2.55	2.74	9.64	10.37
14	-0.50	1.41	2.84	3.05	12.48	13.42
18	0.00	1.00	2.39	2.57	14.87	15.99
25	0.50	0.71	2.46	2.65	17.33	18.64
35	1.00	0.50	1.80	1.94	19.13	20.58
45	1.50	0.35	1.39	1.49	20.52	22.07
60	2.00	0.25	1.70	1.83	22.22	23.90
80	2.50	0.18	9.10	9.79	31.32	33.69
120	3.00	0.13	43.25	46.51	74.57	80.20
170	3.50	0.09	11.90	12.80	86.47	93.00
200	3.75	0.07	1.16	1.25	87.63	94.25
230	4.00	0.06	0.21	0.23	87.84	94.48

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
	3.15	2.94	2.68	2.06	0.00	-2.02
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	1.9	0.27	1.72	-1.61	4.41	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-09 #1

Analysis Date: 07-07-08

Analyzed By: LH

Easting (ft): 410,625  
 Northing (ft): 1,155,511

Coordinate System: Florida State Plane West  
 Elevation (ft): -23.5 NAVD 88

USCS: SP  
 Munsell: Wet - 5Y-7/1  
 Dry - 5Y-8/1  
 Washed - 5Y-8/1  
 Comments:

Dry Weight (g): 86.05  
 Wash Weight (g): 85.02  
 Pan Retained (g): 0.00  
 Sieve Loss (%): 0.07  
 Finer (%): #200 - 1.29  
 #230 - 1.26  
 Organics (%):  
 Carbonates (%): 9  
 Shell Hash (%): 1

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.75	0.87	0.75	0.87
10	-1.00	2.00	0.53	0.62	1.28	1.49
14	-0.50	1.41	0.61	0.71	1.89	2.20
18	0.00	1.00	0.70	0.81	2.59	3.01
25	0.50	0.71	0.71	0.83	3.30	3.84
35	1.00	0.50	0.96	1.12	4.26	4.96
45	1.50	0.35	1.36	1.58	5.62	6.54
60	2.00	0.25	4.82	5.60	10.44	12.14
80	2.50	0.18	25.82	30.01	36.26	42.15
120	3.00	0.13	41.46	48.18	77.72	90.33
170	3.50	0.09	7.01	8.15	84.73	98.48
200	3.75	0.07	0.20	0.23	84.93	98.71
230	4.00	0.06	0.03	0.03	84.96	98.74

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.29	2.93	2.84	2.58	2.21	2.06	1.01
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.4	0.19	0.78	-2.98	14.04	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-09 #2  
 Analysis Date: 07-07-08  
 Analyzed By: LH

Easting (ft): 410,625	Northing (ft): 1,155,511	Coordinate System: Florida State Plane West	Elevation (ft): -26.2 NAVD 88
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USCS: SW	Munsell: Wet - 5Y-7/1 Dry - 5Y-7/1 Washed - 5Y-7/1	Comments:
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Dry Weight (g): 86.18	Wash Weight (g): 85.04	Pan Retained (g): 0.00	Sieve Loss (%): 0.01	Fines (%): #200 - 1.36 #230 - 1.33	Organics (%):	Carbonates (%):	Shell Hash (%): 2
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.36	0.42	0.36	0.42
5	-2.00	4.00	0.62	0.72	0.98	1.14
7	-1.50	2.83	1.36	1.58	2.34	2.72
10	-1.00	2.00	3.08	3.57	5.42	6.29
14	-0.50	1.41	3.78	4.39	9.20	10.68
18	0.00	1.00	3.26	3.78	12.46	14.46
25	0.50	0.71	1.30	1.51	13.76	15.97
35	1.00	0.50	2.55	2.96	16.31	18.93
45	1.50	0.35	3.81	4.42	20.12	23.35
60	2.00	0.25	5.77	6.70	25.89	30.05
80	2.50	0.18	19.28	22.37	45.17	52.42
120	3.00	0.13	32.85	38.12	78.02	90.54
170	3.50	0.09	6.63	7.69	84.65	98.23
200	3.75	0.07	0.35	0.41	85.00	98.64
230	4.00	0.06	0.03	0.03	85.03	98.67

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.29	2.91	2.80	2.45	1.62	0.51	-1.18
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.9	0.27	1.35	-1.46	4.05	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-10 #1  
 Analysis Date: 07-05-08  
 Analyzed By: TD

Easting (ft): 411,957	Northing (ft): 1,156,109	Coordinate System: Florida State Plane West	Elevation (ft): -18.5 NAVD 88
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USCS: SW	Munsell: Wet - 5Y-7/1 Dry - 5Y-7/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): 90.45	Wash Weight (g): 89.21	Pan Retained (g): 0.03	Sieve Loss (%): 0.00	Fines (%): #200 - 1.45 #230 - 1.41	Organics (%):	Carbonates (%): 28	Shell Hash (%): 2
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.35	0.39	0.35	0.39
3.5	-2.50	5.66	0.37	0.41	0.72	0.80
4	-2.25	4.76	0.06	0.07	0.78	0.87
5	-2.00	4.00	0.38	0.42	1.16	1.29
7	-1.50	2.83	1.74	1.92	2.90	3.21
10	-1.00	2.00	1.93	2.13	4.83	5.34
14	-0.50	1.41	2.97	3.28	7.80	8.62
18	0.00	1.00	2.70	2.99	10.50	11.61
25	0.50	0.71	3.33	3.68	13.83	15.29
35	1.00	0.50	3.88	4.29	17.71	19.58
45	1.50	0.35	4.67	5.16	22.38	24.74
60	2.00	0.25	9.22	10.19	31.60	34.93
80	2.50	0.18	21.21	23.45	52.81	58.38
120	3.00	0.13	31.44	34.76	84.25	93.14
170	3.50	0.09	4.79	5.30	89.04	98.44
200	3.75	0.07	0.10	0.11	89.14	98.55
230	4.00	0.06	0.04	0.04	89.18	98.59

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.18	2.87	2.74	2.32	1.51	0.58	-1.08
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	1.84	0.28	1.3	-1.56	4.85	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
Sample Name: AMVC-08-10 #2  
Analysis Date: 07-05-08  
Analyzed By: TD

Easting (ft): <b>411,957</b>	Northing (ft): <b>1,156,109</b>	Coordinate System: <b>Florida State Plane West</b>	Elevation (ft): <b>-19.4 NAVD 88</b>
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USCS: <b>SP</b>	Munsell: Wet - 5Y-7/1 Dry - 2.5Y-8/1 Washed - 2.5Y-8/1	Comments:
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Dry Weight (g): <b>87.00</b>	Wash Weight (g): <b>85.87</b>	Pan Retained (g): <b>0.01</b>	Sieve Loss (%): <b>0.00</b>	Fines (%): #200 - 1.36 #230 - 1.31	Organics (%):	Carbonates (%): <b>8</b>	Shell Hash (%): <b>0</b>
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.07	0.08	0.07	0.08
7	-1.50	2.83	0.19	0.22	0.26	0.30
10	-1.00	2.00	0.29	0.33	0.55	0.63
14	-0.50	1.41	0.48	0.55	1.03	1.18
18	0.00	1.00	0.55	0.63	1.58	1.81
25	0.50	0.71	0.65	0.75	2.23	2.56
35	1.00	0.50	0.86	0.99	3.09	3.55
45	1.50	0.35	1.19	1.37	4.28	4.92
60	2.00	0.25	2.97	3.41	7.25	8.33
80	2.50	0.18	16.17	18.59	23.42	26.92
120	3.00	0.13	50.85	58.45	74.27	85.37
170	3.50	0.09	11.33	13.02	85.60	98.39
200	3.75	0.07	0.22	0.25	85.82	98.64
230	4.00	0.06	0.04	0.05	85.86	98.69

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.37	2.99	2.91	2.70	2.45	2.21	1.51
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.56	0.17	0.67	-3.21	16.97	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-10 #3  
 Analysis Date: 07-07-08  
 Analyzed By: LH

Easting (ft): 411,957	Northing (ft): 1,156,109	Coordinate System: Florida State Plane West	Elevation (ft): -20.7 NAVD 88
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USCS: SW	Munsell: Wet - 5Y-7/1 Dry - 2.5Y-8/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): 84.71	Wash Weight (g): 83.47	Pan Retained (g): 0.02	Sieve Loss (%): 0.00	Fines (%): #200 - 1.49 #230 - 1.48	Organics (%):	Carbonates (%): 17	Shell Hash (%): 3
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.70	0.83	0.70	0.83
5	-2.00	4.00	1.39	1.64	2.09	2.47
7	-1.50	2.83	1.35	1.59	3.44	4.06
10	-1.00	2.00	1.71	2.02	5.15	6.08
14	-0.50	1.41	1.53	1.81	6.68	7.89
18	0.00	1.00	0.92	1.09	7.60	8.98
25	0.50	0.71	0.78	0.92	8.38	9.90
35	1.00	0.50	1.89	2.23	10.27	12.13
45	1.50	0.35	2.14	2.53	12.41	14.66
60	2.00	0.25	4.40	5.19	16.81	19.85
80	2.50	0.18	20.33	24.00	37.14	43.85
120	3.00	0.13	39.33	46.43	76.47	90.28
170	3.50	0.09	6.54	7.72	83.01	98.00
200	3.75	0.07	0.43	0.51	83.44	98.51
230	4.00	0.06	0.01	0.01	83.45	98.52

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.31	2.93	2.84	2.57	2.11	1.63	-1.27
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.14	0.23	1.25	-2.2	7.13	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-10 #4

Analysis Date: 07-05-08

Analyzed By: TD

Easting (ft): 411,957	Northing (ft): 1,156,109	Coordinate System: Florida State Plane West	Elevation (ft): -21.6 NAVD 88
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USCS: SW	Munsell: Wet - 5Y-7/1 Dry - 5Y-7/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): 83.79	Wash Weight (g): 82.52	Pan Retained (g): 0.02	Sieve Loss (%): 0.04	Fines (%): #200 - 1.60 #230 - 1.56	Organics (%):	Carbonates (%): 21	Shell Hash (%): 1
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.15	0.18	0.15	0.18
3.5	-2.50	5.66	0.10	0.12	0.25	0.30
4	-2.25	4.76	0.14	0.17	0.39	0.47
5	-2.00	4.00	0.06	0.07	0.45	0.54
7	-1.50	2.83	0.90	1.07	1.35	1.61
10	-1.00	2.00	1.32	1.58	2.67	3.19
14	-0.50	1.41	2.33	2.78	5.00	5.97
18	0.00	1.00	2.09	2.49	7.09	8.46
25	0.50	0.71	2.52	3.01	9.61	11.47
35	1.00	0.50	2.95	3.52	12.56	14.99
45	1.50	0.35	3.09	3.69	15.65	18.68
60	2.00	0.25	5.82	6.95	21.47	25.63
80	2.50	0.18	20.37	24.31	41.84	49.94
120	3.00	0.13	34.41	41.07	76.25	91.01
170	3.50	0.09	5.93	7.08	82.18	98.09
200	3.75	0.07	0.26	0.31	82.44	98.40
230	4.00	0.06	0.03	0.04	82.47	98.44

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.28	2.91	2.81	2.50	1.95	1.14	-0.67
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.07	0.24	1.15	-1.82	5.97	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08



# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-10 #5

Analysis Date: 08-08-08

Analyzed By: PB

Easting (ft):	Northing (ft):
411,957	1,156,109

Coordinate System:	Elevation (ft):
Florida State Plane West	-22.7 NAVD 88

USCS:	Munsell:	Wet - 5Y-6/1 Dry - 5Y-7/2 Washed - 5Y-7/1	Comments:
SW			

Dry Weight (g):	Wash Weight (g):	Pan Retained (g):	Sieve Loss (%):	Fines (%): #200 - 3.16 #230 - 3.11	Organics (%):	Carbonates (%):	Shell Hash (%):
93.10	90.25	0.05	0.00			29	2

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.65	0.70	0.65	0.70
3.5	-2.50	5.66	1.34	1.44	1.99	2.14
4	-2.25	4.76	0.21	0.23	2.20	2.37
5	-2.00	4.00	0.33	0.35	2.53	2.72
7	-1.50	2.83	1.28	1.37	3.81	4.09
10	-1.00	2.00	1.61	1.73	5.42	5.82
14	-0.50	1.41	2.65	2.85	8.07	8.67
18	0.00	1.00	2.68	2.88	10.75	11.55
25	0.50	0.71	3.61	3.88	14.36	15.43
35	1.00	0.50	3.96	4.25	18.32	19.68
45	1.50	0.35	4.71	5.06	23.03	24.74
60	2.00	0.25	7.68	8.25	30.71	32.99
80	2.50	0.18	22.88	24.58	53.59	57.57
120	3.00	0.13	31.09	33.39	84.68	90.96
170	3.50	0.09	5.08	5.46	89.76	96.42
200	3.75	0.07	0.39	0.42	90.15	96.84
230	4.00	0.06	0.05	0.05	90.20	96.89

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.37	2.90	2.76	2.35	1.52	0.57	-1.24
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	1.82	0.28	1.38	-1.68	5.36	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-10 #6

Analysis Date: 08-08-08

Analyzed By: TD

Easting (ft): 411,957  
 Northing (ft): 1,156,109

Coordinate System: Florida State Plane West  
 Elevation (ft): -23.9 NAVD 88

USCS: SW  
 Munsell: Wet - 5Y-7/1  
 Dry - 5Y-7/1  
 Washed - 5Y-8/1  
 Comments:

Dry Weight (g): 94.36  
 Wash Weight (g): 93.29  
 Pan Retained (g): 0.00  
 Sieve Loss (%): 0.05  
 Finest (%): #200 - 1.22  
 #230 - 1.19  
 Organics (%):  
 Carbonates (%): 27  
 Shell Hash (%): 3

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	1.41	1.49	1.41	1.49
5/16"	-3.00	8.00	1.84	1.95	3.25	3.44
3.5	-2.50	5.66	2.14	2.27	5.39	5.71
4	-2.25	4.76	0.33	0.35	5.72	6.06
5	-2.00	4.00	1.03	1.09	6.75	7.15
7	-1.50	2.83	2.11	2.24	8.86	9.39
10	-1.00	2.00	2.61	2.77	11.47	12.16
14	-0.50	1.41	3.12	3.31	14.59	15.47
18	0.00	1.00	2.61	2.77	17.20	18.24
25	0.50	0.71	2.23	2.36	19.43	20.60
35	1.00	0.50	1.88	1.99	21.31	22.59
45	1.50	0.35	1.46	1.55	22.77	24.14
60	2.00	0.25	2.22	2.35	24.99	26.49
80	2.50	0.18	15.62	16.55	40.61	43.04
120	3.00	0.13	45.99	48.74	86.60	91.78
170	3.50	0.09	6.44	6.82	93.04	98.60
200	3.75	0.07	0.17	0.18	93.21	98.78
230	4.00	0.06	0.03	0.03	93.24	98.81

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Moment Statistics	Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
	3.24	2.92	2.83	2.57	1.68	-0.40	-2.66
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
	1.73	0.30	1.81	-1.61	4.36		

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-10 #7  
 Analysis Date: 08-19-08  
 Analyzed By: TD

Easting (ft): 411,957	Northing (ft): 1,156,109	Coordinate System: Florida State Plane West	Elevation (ft): -25.2 NAVD 88
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USCS: SP	Munsell: Wet - 5Y-7/1 Dry - 2.5Y-8/2 Washed - 2.5Y-8/2	Comments:
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Dry Weight (g): 89.22	Wash Weight (g): 87.42	Pan Retained (g): 0.02	Sieve Loss (%): 0.03	Fines (%): #200 - 2.15 #230 - 2.07	Organics (%):	Carbonates (%): 4	Shell Hash (%): 0
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.03	0.03	0.03	0.03
4	-2.25	4.76	0.00	0.00	0.03	0.03
5	-2.00	4.00	0.01	0.01	0.04	0.04
7	-1.50	2.83	0.07	0.08	0.11	0.12
10	-1.00	2.00	0.09	0.10	0.20	0.22
14	-0.50	1.41	0.18	0.20	0.38	0.42
18	0.00	1.00	0.14	0.16	0.52	0.58
25	0.50	0.71	0.22	0.25	0.74	0.83
35	1.00	0.50	0.24	0.27	0.98	1.10
45	1.50	0.35	0.32	0.36	1.30	1.46
60	2.00	0.25	1.05	1.18	2.35	2.64
80	2.50	0.18	14.41	16.15	16.76	18.79
120	3.00	0.13	57.29	64.21	74.05	83.00
170	3.50	0.09	12.64	14.17	86.69	97.17
200	3.75	0.07	0.61	0.68	87.30	97.85
230	4.00	0.06	0.07	0.08	87.37	97.93

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.42	3.04	2.94	2.74	2.55	2.41	2.07
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.7	0.15	0.46	-3.94	33.41	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-11 #1

Analysis Date: 07-07-08

Analyzed By: LH

Easting (ft):	Northing (ft):
413,575	1,156,776

Coordinate System:	Elevation (ft):
Florida State Plane West	-20.5 NAVD 88

USCS:	Munsell:	Comments:
SW	Wet - 5Y-6/1 Dry - 5Y-7/1 Washed - 5Y-7/1	

Dry Weight (g):	Wash Weight (g):	Pan Retained (g):	Sieve Loss (%):	Fines (%):	Organics (%):	Carbonates (%):	Shell Hash (%):
85.21	83.54	0.01	0.11	#200 - 2.10 #230 - 2.06		62	4

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	2.52	2.96	2.52	2.96
3.5	-2.50	5.66	1.55	1.82	4.07	4.78
4	-2.25	4.76	0.55	0.65	4.62	5.43
5	-2.00	4.00	1.08	1.27	5.70	6.70
7	-1.50	2.83	2.81	3.30	8.51	10.00
10	-1.00	2.00	4.89	5.74	13.40	15.74
14	-0.50	1.41	8.26	9.69	21.66	25.43
18	0.00	1.00	8.85	10.39	30.51	35.82
25	0.50	0.71	8.85	10.39	39.36	46.21
35	1.00	0.50	9.36	10.98	48.72	57.19
45	1.50	0.35	9.28	10.89	58.00	68.08
60	2.00	0.25	5.93	6.96	63.93	75.04
80	2.50	0.18	6.40	7.51	70.33	82.55
120	3.00	0.13	11.00	12.91	81.33	95.46
170	3.50	0.09	1.95	2.29	83.28	97.75
200	3.75	0.07	0.13	0.15	83.41	97.90
230	4.00	0.06	0.03	0.04	83.44	97.94

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.98	2.56	2.00	0.67	-0.52	-0.99	-2.42
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	0.57	0.67	1.62	-0.34	2.49	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-11 #2

Analysis Date: 09-16-08

Analyzed By: TD

Easting (ft):	Northing (ft):
413,575	1,156,776

Coordinate System:	Elevation (ft):
Florida State Plane West	-21.5 NAVD 88

USCS:	Munsell:	Comments:
SW	Wet - 5Y-7/1 Dry - 5Y-7/1 Washed - 5Y-8/1	

Dry Weight (g):	Wash Weight (g):	Pan Retained (g):	Sieve Loss (%):	Fines (%):	Organics (%):	Carbonates (%):	Shell Hash (%):
87.41	85.40	0.04	0.01	#200 - 2.44 #230 - 2.36		13	0

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	1.64	1.88	1.64	1.88
3.5	-2.50	5.66	0.00	0.00	1.64	1.88
4	-2.25	4.76	0.00	0.00	1.64	1.88
5	-2.00	4.00	0.08	0.09	1.72	1.97
7	-1.50	2.83	0.30	0.34	2.02	2.31
10	-1.00	2.00	0.37	0.42	2.39	2.73
14	-0.50	1.41	0.65	0.74	3.04	3.47
18	0.00	1.00	0.62	0.71	3.66	4.18
25	0.50	0.71	1.42	1.62	5.08	5.80
35	1.00	0.50	1.47	1.68	6.55	7.48
45	1.50	0.35	1.52	1.74	8.07	9.22
60	2.00	0.25	2.18	2.49	10.25	11.71
80	2.50	0.18	11.70	13.39	21.95	25.10
120	3.00	0.13	52.06	59.56	74.01	84.66
170	3.50	0.09	10.66	12.20	84.67	96.86
200	3.75	0.07	0.61	0.70	85.28	97.56
230	4.00	0.06	0.07	0.08	85.35	97.64

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.42	2.99	2.92	2.71	2.50	2.16	0.25
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.42	0.19	1.1	-3.45	16.17	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-11 #3  
 Analysis Date: 09-16-08  
 Analyzed By: PB

Easting (ft): <b>413,575</b>	Northing (ft): <b>1,156,776</b>	Coordinate System: <b>Florida State Plane West</b>	Elevation (ft): <b>-22.2 NAVD 88</b>
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USCS: <b>SW</b>	Munsell: Wet - 5Y-7/1 Dry - 5Y-7/1 Washed - 5Y-7/1	Comments:
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Dry Weight (g): <b>104.42</b>	Wash Weight (g): <b>102.71</b>	Pan Retained (g): <b>0.01</b>	Sieve Loss (%): <b>0.00</b>	Fines (%): #200 - 1.70 #230 - 1.64	Organics (%):	Carbonates (%): <b>49</b>	Shell Hash (%): <b>6</b>
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	2.57	2.46	2.57	2.46
5/16"	-3.00	8.00	0.30	0.29	2.87	2.75
3.5	-2.50	5.66	1.89	1.81	4.76	4.56
4	-2.25	4.76	1.34	1.28	6.10	5.84
5	-2.00	4.00	2.26	2.16	8.36	8.00
7	-1.50	2.83	4.69	4.49	13.05	12.49
10	-1.00	2.00	7.19	6.89	20.24	19.38
14	-0.50	1.41	8.75	8.38	28.99	27.76
18	0.00	1.00	7.41	7.10	36.40	34.86
25	0.50	0.71	6.72	6.44	43.12	41.30
35	1.00	0.50	4.75	4.55	47.87	45.85
45	1.50	0.35	4.27	4.09	52.14	49.94
60	2.00	0.25	4.38	4.19	56.52	54.13
80	2.50	0.18	14.00	13.41	70.52	67.54
120	3.00	0.13	27.66	26.49	98.18	94.03
170	3.50	0.09	4.20	4.02	102.38	98.05
200	3.75	0.07	0.26	0.25	102.64	98.30
230	4.00	0.06	0.06	0.06	102.70	98.36

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.12	2.81	2.64	1.51	-0.66	-1.25	-2.41
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	0.89	0.54	1.91	-0.57	2.16	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-12 #1

Analysis Date: 07-07-08

Analyzed By: LH

Easting (ft):	Northing (ft):
414,079	1,156,860

Coordinate System:	Elevation (ft):
Florida State Plane West	-16.0 NAVD 88

USCS:	Munsell:	Wet - 5Y-5/1 Dry - 5Y-6/1 Washed - 5Y-7/1	Comments:
SW			

Dry Weight (g):	Wash Weight (g):	Pan Retained (g):	Sieve Loss (%):	Fines (%): #200 - 1.62 #230 - 1.60	Organics (%):	Carbonates (%):	Shell Hash (%):
83.23	82.02	0.12	0.00				7

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	3.04	3.65	3.04	3.65
7	-1.50	2.83	2.63	3.16	5.67	6.81
10	-1.00	2.00	5.43	6.52	11.10	13.33
14	-0.50	1.41	10.14	12.18	21.24	25.51
18	0.00	1.00	11.34	13.62	32.58	39.13
25	0.50	0.71	10.20	12.26	42.78	51.39
35	1.00	0.50	9.47	11.38	52.25	62.77
45	1.50	0.35	8.83	10.61	61.08	73.38
60	2.00	0.25	7.69	9.24	68.77	82.62
80	2.50	0.18	6.19	7.44	74.96	90.06
120	3.00	0.13	5.91	7.10	80.87	97.16
170	3.50	0.09	0.97	1.17	81.84	98.33
200	3.75	0.07	0.04	0.05	81.88	98.38
230	4.00	0.06	0.02	0.02	81.90	98.40

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.85	2.09	1.59	0.44	-0.52	-0.89	-1.79
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	0.48	0.72	1.34	0.06	2.18	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-13 #1

Analysis Date: 07-14-08

Analyzed By: LH

Easting (ft): **413,927**      Northing (ft): **1,157,393**

Coordinate System: **Florida State Plane West**      Elevation (ft): **-13.8 NAVD 88**

USCS: **SP**      Munsell: **Wet - 5Y-7/1  
Dry - 5Y-8/1  
Washed - 5Y-8/1**      Comments:

Dry Weight (g): **98.24**      Wash Weight (g): **97.03**      Pan Retained (g): **0.00**      Sieve Loss (%): **0.13**      Fines (%): **#200 - 1.44  
#230 - 1.37**      Organics (%):      Carbonates (%): **5**      Shell Hash (%): **0**

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.04	0.04	0.04	0.04
10	-1.00	2.00	0.11	0.11	0.15	0.15
14	-0.50	1.41	0.24	0.24	0.39	0.39
18	0.00	1.00	0.30	0.31	0.69	0.70
25	0.50	0.71	0.47	0.48	1.16	1.18
35	1.00	0.50	0.63	0.64	1.79	1.82
45	1.50	0.35	1.19	1.21	2.98	3.03
60	2.00	0.25	3.67	3.74	6.65	6.77
80	2.50	0.18	28.64	29.15	35.29	35.92
120	3.00	0.13	55.30	56.29	90.59	92.21
170	3.50	0.09	6.23	6.34	96.82	98.55
200	3.75	0.07	0.01	0.01	96.83	98.56
230	4.00	0.06	0.07	0.07	96.90	98.63

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.22	2.93	2.85	2.63	2.31	2.16	1.76
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.53	0.17	0.5	-2.9	17.88	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08



# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-13 #2  
 Analysis Date: 07-14-08  
 Analyzed By: TD

Easting (ft): 413,927	Northing (ft): 1,157,393	Coordinate System: Florida State Plane West	Elevation (ft): -15.0 NAVD 88
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USCS: SP	Munsell: Wet - 5Y-7/1 Dry - 5Y-7/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): 88.38	Wash Weight (g): 87.40	Pan Retained (g): 0.02	Sieve Loss (%): 0.01	Fines (%): #200 - 1.16 #230 - 1.14	Organics (%):	Carbonates (%): 12	Shell Hash (%): 0
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.16	0.18	0.16	0.18
4	-2.25	4.76	0.00	0.00	0.16	0.18
5	-2.00	4.00	0.04	0.05	0.20	0.23
7	-1.50	2.83	0.19	0.21	0.39	0.44
10	-1.00	2.00	0.54	0.61	0.93	1.05
14	-0.50	1.41	0.90	1.02	1.83	2.07
18	0.00	1.00	1.22	1.38	3.05	3.45
25	0.50	0.71	1.42	1.61	4.47	5.06
35	1.00	0.50	1.93	2.18	6.40	7.24
45	1.50	0.35	2.07	2.34	8.47	9.58
60	2.00	0.25	4.00	4.53	12.47	14.11
80	2.50	0.18	23.67	26.78	36.14	40.89
120	3.00	0.13	45.99	52.04	82.13	92.93
170	3.50	0.09	5.06	5.73	87.19	98.66
200	3.75	0.07	0.16	0.18	87.35	98.84
230	4.00	0.06	0.02	0.02	87.37	98.86

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.18	2.91	2.83	2.59	2.20	2.04	0.48
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.35	0.20	0.82	-2.66	11.44	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-13 #3  
 Analysis Date: 07-14-08  
 Analyzed By: TD

Easting (ft): 413,927	Northing (ft): 1,157,393	Coordinate System: Florida State Plane West	Elevation (ft): -17.2 NAVD 88
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USCS: SW	Munsell: Wet - 5Y-7/1 Dry - 5Y-7/1 Washed - 5Y-7/1	Comments:
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Dry Weight (g): 86.26	Wash Weight (g): 84.99	Pan Retained (g): 0.04	Sieve Loss (%): 0.07	Fines (%): #200 - 1.77 #230 - 1.57	Organics (%):	Carbonates (%): 47	Shell Hash (%): 7
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.89	1.03	0.89	1.03
5/16"	-3.00	8.00	1.05	1.22	1.94	2.25
3.5	-2.50	5.66	3.36	3.90	5.30	6.15
4	-2.25	4.76	0.79	0.92	6.09	7.07
5	-2.00	4.00	1.97	2.28	8.06	9.35
7	-1.50	2.83	4.07	4.72	12.13	14.07
10	-1.00	2.00	5.27	6.11	17.40	20.18
14	-0.50	1.41	6.08	7.05	23.48	27.23
18	0.00	1.00	4.45	5.16	27.93	32.39
25	0.50	0.71	3.85	4.46	31.78	36.85
35	1.00	0.50	2.77	3.21	34.55	40.06
45	1.50	0.35	2.13	2.47	36.68	42.53
60	2.00	0.25	2.09	2.42	38.77	44.95
80	2.50	0.18	9.09	10.54	47.86	55.49
120	3.00	0.13	30.49	35.35	78.35	90.84
170	3.50	0.09	5.75	6.67	84.10	97.51
200	3.75	0.07	0.62	0.72	84.72	98.23
230	4.00	0.06	0.17	0.20	84.89	98.43

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.31	2.90	2.78	2.24	-0.66	-1.34	-2.65
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	1.11	0.46	2.01	-0.69	2.07	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-13 #4  
 Analysis Date: 08-18-08  
 Analyzed By: LH

Easting (ft): 413,927	Northing (ft): 1,157,393	Coordinate System: Florida State Plane West	Elevation (ft): -21.8 NAVD 88
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USCS: SP	Munsell: Wet - 5Y-7/1 Dry - 5Y-7/1 Washed - 5Y-7/1	Comments:
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Dry Weight (g): 90.62	Wash Weight (g): 88.74	Pan Retained (g): 0.04	Sieve Loss (%): 0.00	Fines (%): #200 - 2.28 #230 - 2.13	Organics (%):	Carbonates (%): 9	Shell Hash (%): 1
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.23	0.25	0.23	0.25
7	-1.50	2.83	0.46	0.51	0.69	0.76
10	-1.00	2.00	0.60	0.66	1.29	1.42
14	-0.50	1.41	0.95	1.05	2.24	2.47
18	0.00	1.00	0.84	0.93	3.08	3.40
25	0.50	0.71	0.89	0.98	3.97	4.38
35	1.00	0.50	0.96	1.06	4.93	5.44
45	1.50	0.35	0.88	0.97	5.81	6.41
60	2.00	0.25	1.37	1.51	7.18	7.92
80	2.50	0.18	5.54	6.11	12.72	14.03
120	3.00	0.13	56.82	62.70	69.54	76.73
170	3.50	0.09	18.22	20.11	87.76	96.84
200	3.75	0.07	0.80	0.88	88.56	97.72
230	4.00	0.06	0.14	0.15	88.70	97.87

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.45	3.18	2.99	2.79	2.59	2.52	0.79
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.63	0.16	0.83	-3.32	15.15	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
Sample Name: AMVC-08-13 #5  
Analysis Date: 08-18-08  
Analyzed By: LH

Easting (ft): <b>413,927</b>	Northing (ft): <b>1,157,393</b>	Coordinate System: <b>Florida State Plane West</b>	Elevation (ft): <b>-23.1 NAVD 88</b>
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USCS: <b>SW</b>	Munsell: Wet - 5Y-6/2 Dry - 5Y-7/2 Washed - 5Y-7/1	Comments:
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Dry Weight (g): <b>95.20</b>	Wash Weight (g): <b>93.06</b>	Pan Retained (g): <b>0.15</b>	Sieve Loss (%): <b>0.07</b>	Fines (%): #200 - 2.64 #230 - 2.48	Organics (%):	Carbonates (%): <b>12</b>	Shell Hash (%): <b>1</b>
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	1.22	1.28	1.22	1.28
5/16"	-3.00	8.00	0.20	0.21	1.42	1.49
3.5	-2.50	5.66	1.11	1.17	2.53	2.66
4	-2.25	4.76	0.10	0.11	2.63	2.77
5	-2.00	4.00	0.30	0.32	2.93	3.09
7	-1.50	2.83	0.40	0.42	3.33	3.51
10	-1.00	2.00	0.83	0.87	4.16	4.38
14	-0.50	1.41	0.95	1.00	5.11	5.38
18	0.00	1.00	0.88	0.92	5.99	6.30
25	0.50	0.71	1.44	1.51	7.43	7.81
35	1.00	0.50	1.09	1.14	8.52	8.95
45	1.50	0.35	0.94	0.99	9.46	9.94
60	2.00	0.25	2.12	2.23	11.58	12.17
80	2.50	0.18	7.77	8.16	19.35	20.33
120	3.00	0.13	56.62	59.47	75.97	79.80
170	3.50	0.09	15.94	16.74	91.91	96.54
200	3.75	0.07	0.78	0.82	92.69	97.36
230	4.00	0.06	0.15	0.16	92.84	97.52

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.45	3.13	2.96	2.75	2.54	2.23	-0.69
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.4	0.19	1.3	-3.13	12.84	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-14 #1  
 Analysis Date: 07-14-08  
 Analyzed By: LH

Easting (ft): 413,101	Northing (ft): 1,157,209	Coordinate System: Florida State Plane West	Elevation (ft): -15.5 NAVD 88
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USCS: SP	Munsell: Wet - 5Y-7/1 Dry - 5Y-8/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): 87.27	Wash Weight (g): 86.21	Pan Retained (g): 0.00	Sieve Loss (%): 0.08	Fines (%): #200 - 1.30 #230 - 1.29	Organics (%):	Carbonates (%): 14	Shell Hash (%): 1
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.35	0.40	0.35	0.40
7	-1.50	2.83	0.19	0.22	0.54	0.62
10	-1.00	2.00	0.41	0.47	0.95	1.09
14	-0.50	1.41	0.67	0.77	1.62	1.86
18	0.00	1.00	0.68	0.78	2.30	2.64
25	0.50	0.71	0.92	1.05	3.22	3.69
35	1.00	0.50	1.16	1.33	4.38	5.02
45	1.50	0.35	1.50	1.72	5.88	6.74
60	2.00	0.25	4.26	4.88	10.14	11.62
80	2.50	0.18	21.02	24.09	31.16	35.71
120	3.00	0.13	48.46	55.53	79.62	91.24
170	3.50	0.09	6.33	7.25	85.95	98.49
200	3.75	0.07	0.18	0.21	86.13	98.70
230	4.00	0.06	0.01	0.01	86.14	98.71

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.26	2.93	2.85	2.63	2.28	2.09	0.99
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.44	0.18	0.76	-3.09	14.97	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-14 #2  
 Analysis Date: 07-11-08  
 Analyzed By: TD

Easting (ft): 413,101	Northing (ft): 1,157,209	Coordinate System: Florida State Plane West	Elevation (ft): -17.5 NAVD 88
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USCS: SW	Munsell: Wet - 5Y-7/1 Dry - 5Y-8/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): 92.92	Wash Weight (g): 91.87	Pan Retained (g): 0.01	Sieve Loss (%): 0.01	Fines (%): #200 - 1.15 #230 - 1.14	Organics (%):	Carbonates (%): 23	Shell Hash (%): 1
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.22	0.24	0.22	0.24
4	-2.25	4.76	0.10	0.11	0.32	0.35
5	-2.00	4.00	0.34	0.37	0.66	0.72
7	-1.50	2.83	0.63	0.68	1.29	1.40
10	-1.00	2.00	1.11	1.19	2.40	2.59
14	-0.50	1.41	2.07	2.23	4.47	4.82
18	0.00	1.00	2.62	2.82	7.09	7.64
25	0.50	0.71	3.00	3.23	10.09	10.87
35	1.00	0.50	3.74	4.02	13.83	14.89
45	1.50	0.35	4.34	4.67	18.17	19.56
60	2.00	0.25	8.75	9.42	26.92	28.98
80	2.50	0.18	27.77	29.89	54.69	58.87
120	3.00	0.13	33.60	36.16	88.29	95.03
170	3.50	0.09	3.46	3.72	91.75	98.75
200	3.75	0.07	0.09	0.10	91.84	98.85
230	4.00	0.06	0.01	0.01	91.85	98.86

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.00	2.85	2.72	2.35	1.79	1.12	-0.47
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.01	0.25	1.08	-1.8	6.05	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-14 #3

Analysis Date: 08-21-08

Analyzed By: TD

Easting (ft):	Northing (ft):
413,101	1,157,209

Coordinate System:	Elevation (ft):
Florida State Plane West	-20.2 NAVD 88

USCS:	Munsell:	Wet - 5Y-6/1 Dry - 5Y-7/2 Washed - 5Y-7/1	Comments:
SW			

Dry Weight (g):	Wash Weight (g):	Pan Retained (g):	Sieve Loss (%):	Fines (%): #200 - 1.53 #230 - 1.49	Organics (%):	Carbonates (%):	Shell Hash (%):
91.37	90.03	0.01	0.01			36	4

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.24	0.26	0.24	0.26
5/16"	-3.00	8.00	0.69	0.76	0.93	1.02
3.5	-2.50	5.66	1.43	1.57	2.36	2.59
4	-2.25	4.76	1.03	1.13	3.39	3.72
5	-2.00	4.00	0.78	0.85	4.17	4.57
7	-1.50	2.83	3.32	3.63	7.49	8.20
10	-1.00	2.00	4.52	4.95	12.01	13.15
14	-0.50	1.41	5.55	6.07	17.56	19.22
18	0.00	1.00	4.97	5.44	22.53	24.66
25	0.50	0.71	4.70	5.14	27.23	29.80
35	1.00	0.50	5.16	5.65	32.39	35.45
45	1.50	0.35	5.16	5.65	37.55	41.10
60	2.00	0.25	5.60	6.13	43.15	47.23
80	2.50	0.18	14.35	15.71	57.50	62.94
120	3.00	0.13	25.44	27.84	82.94	90.78
170	3.50	0.09	6.78	7.42	89.72	98.20
200	3.75	0.07	0.25	0.27	89.97	98.47
230	4.00	0.06	0.04	0.04	90.01	98.51

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.28	2.88	2.72	2.09	0.03	-0.77	-1.94
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.32	0.40	1.71	-0.85	2.58	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-14 #4

Analysis Date: 08-18-08

Analyzed By: TD

Easting (ft):	Northing (ft):
413,101	1,157,209

Coordinate System:	Elevation (ft):
Florida State Plane West	-22.0 NAVD 88

USCS:	Munsell:	Wet - 5Y-7/1 Dry - 5Y-8/1 Washed - 5Y-8/1	Comments:
SW			

Dry Weight (g):	Wash Weight (g):	Pan Retained (g):	Sieve Loss (%):	Fines (%): #200 - 1.80 #230 - 1.74	Organics (%):	Carbonates (%):	Shell Hash (%):
89.28	87.80	0.04	0.01			7	0

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	1.34	1.50	1.34	1.50
3.5	-2.50	5.66	0.15	0.17	1.49	1.67
4	-2.25	4.76	0.20	0.22	1.69	1.89
5	-2.00	4.00	0.12	0.13	1.81	2.02
7	-1.50	2.83	0.29	0.32	2.10	2.34
10	-1.00	2.00	0.34	0.38	2.44	2.72
14	-0.50	1.41	0.28	0.31	2.72	3.03
18	0.00	1.00	0.17	0.19	2.89	3.22
25	0.50	0.71	0.27	0.30	3.16	3.52
35	1.00	0.50	0.29	0.32	3.45	3.84
45	1.50	0.35	0.26	0.29	3.71	4.13
60	2.00	0.25	0.61	0.68	4.32	4.81
80	2.50	0.18	11.43	12.80	15.75	17.61
120	3.00	0.13	58.57	65.60	74.32	83.21
170	3.50	0.09	13.14	14.72	87.46	97.93
200	3.75	0.07	0.24	0.27	87.70	98.20
230	4.00	0.06	0.05	0.06	87.75	98.26

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.40	3.03	2.94	2.75	2.56	2.44	2.01
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.57	0.17	0.98	-4.58	25.28	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08



# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-14 #5  
 Analysis Date: 08-18-08  
 Analyzed By: TD

Easting (ft): 413,101	Northing (ft): 1,157,209	Coordinate System: Florida State Plane West	Elevation (ft): -24.3 NAVD 88
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USCS: SP	Munsell: Wet - 5Y-6/2 Dry - 5Y-6/2 Washed - 5Y-7/2	Comments:
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Dry Weight (g): 89.90	Wash Weight (g): 87.65	Pan Retained (g): 0.02	Sieve Loss (%): 0.01	Fines (%): #200 - 2.62 #230 - 2.52	Organics (%):	Carbonates (%): 7	Shell Hash (%): 1
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.08	0.09	0.08	0.09
5	-2.00	4.00	0.16	0.18	0.24	0.27
7	-1.50	2.83	0.42	0.47	0.66	0.74
10	-1.00	2.00	0.60	0.67	1.26	1.41
14	-0.50	1.41	0.58	0.65	1.84	2.06
18	0.00	1.00	0.44	0.49	2.28	2.55
25	0.50	0.71	0.49	0.55	2.77	3.10
35	1.00	0.50	0.47	0.52	3.24	3.62
45	1.50	0.35	0.46	0.51	3.70	4.13
60	2.00	0.25	0.76	0.85	4.46	4.98
80	2.50	0.18	6.94	7.72	11.40	12.70
120	3.00	0.13	65.08	72.39	76.48	85.09
170	3.50	0.09	10.18	11.32	86.66	96.41
200	3.75	0.07	0.87	0.97	87.53	97.38
230	4.00	0.06	0.09	0.10	87.62	97.48

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.44	2.99	2.93	2.76	2.58	2.52	2.00
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.64	0.16	0.72	-4.22	23.39	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-15 #1  
 Analysis Date: 07-15-08  
 Analyzed By: TD

Easting (ft): 413,461	Northing (ft): 1,157,788	Coordinate System: Florida State Plane West	Elevation (ft): -16.0 NAVD 88
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USCS: SP	Munsell: Wet - 5Y-7/1 Dry - 5Y-8/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): 101.88	Wash Weight (g): 100.63	Pan Retained (g): 0.01	Sieve Loss (%): 0.00	Fines (%): #200 - 1.27 #230 - 1.23	Organics (%):	Carbonates (%): 9	Shell Hash (%): 0
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.07	0.07	0.07	0.07
4	-2.25	4.76	0.00	0.00	0.07	0.07
5	-2.00	4.00	0.03	0.03	0.10	0.10
7	-1.50	2.83	0.21	0.21	0.31	0.31
10	-1.00	2.00	0.37	0.36	0.68	0.67
14	-0.50	1.41	0.66	0.65	1.34	1.32
18	0.00	1.00	0.63	0.62	1.97	1.94
25	0.50	0.71	0.96	0.94	2.93	2.88
35	1.00	0.50	1.13	1.11	4.06	3.99
45	1.50	0.35	1.60	1.57	5.66	5.56
60	2.00	0.25	4.03	3.96	9.69	9.52
80	2.50	0.18	19.31	18.95	29.00	28.47
120	3.00	0.13	59.45	58.35	88.45	86.82
170	3.50	0.09	11.89	11.67	100.34	98.49
200	3.75	0.07	0.24	0.24	100.58	98.73
230	4.00	0.06	0.04	0.04	100.62	98.77

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.35	2.98	2.90	2.68	2.41	2.17	1.32
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.53	0.17	0.69	-3.15	16.3	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
Sample Name: AMVC-08-15 #2  
Analysis Date: 07-07-08  
Analyzed By: TD

Easting (ft): <b>413,461</b>	Northing (ft): <b>1,157,788</b>	Coordinate System: <b>Florida State Plane West</b>	Elevation (ft): <b>-18.1 NAVD 88</b>
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USCS: <b>SW</b>	Munsell: Wet - 5Y-7/1 Dry - 5Y-8/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): <b>85.70</b>	Wash Weight (g): <b>84.54</b>	Pan Retained (g): <b>0.02</b>	Sieve Loss (%): <b>0.04</b>	Fines (%): #200 - 1.46 #230 - 1.41	Organics (%):	Carbonates (%): <b>23</b>	Shell Hash (%): <b>1</b>
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.21	0.25	0.21	0.25
3.5	-2.50	5.66	0.44	0.51	0.65	0.76
4	-2.25	4.76	0.08	0.09	0.73	0.85
5	-2.00	4.00	0.27	0.32	1.00	1.17
7	-1.50	2.83	0.84	0.98	1.84	2.15
10	-1.00	2.00	1.11	1.30	2.95	3.45
14	-0.50	1.41	1.93	2.25	4.88	5.70
18	0.00	1.00	1.98	2.31	6.86	8.01
25	0.50	0.71	2.44	2.85	9.30	10.86
35	1.00	0.50	3.12	3.64	12.42	14.50
45	1.50	0.35	3.49	4.07	15.91	18.57
60	2.00	0.25	5.59	6.52	21.50	25.09
80	2.50	0.18	15.98	18.65	37.48	43.74
120	3.00	0.13	39.51	46.10	76.99	89.84
170	3.50	0.09	7.27	8.48	84.26	98.32
200	3.75	0.07	0.19	0.22	84.45	98.54
230	4.00	0.06	0.04	0.05	84.49	98.59

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.30	2.94	2.84	2.57	1.99	1.18	-0.66
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.12	0.23	1.19	-1.97	6.74	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-15 #3

Analysis Date: 08-19-08

Analyzed By: TD

Easting (ft): 413,461  
 Northing (ft): 1,157,788

Coordinate System: Florida State Plane West  
 Elevation (ft): -19.0 NAVD 88

USCS: SW  
 Munsell: Wet - 5Y-6/2  
 Dry - 5Y-6/1  
 Washed - 5Y-6/1  
 Comments:

Dry Weight (g): 60.75  
 Wash Weight (g): 59.51  
 Pan Retained (g): 0.02  
 Sieve Loss (%): 0.08  
 Fines (%): #200 - 2.22  
 #230 - 2.15  
 Organics (%):  
 Carbonates (%): 73  
 Shell Hash (%): 6

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.71	1.17	0.71	1.17
5/16"	-3.00	8.00	0.95	1.56	1.66	2.73
3.5	-2.50	5.66	1.53	2.52	3.19	5.25
4	-2.25	4.76	0.89	1.47	4.08	6.72
5	-2.00	4.00	0.89	1.47	4.97	8.19
7	-1.50	2.83	2.93	4.82	7.90	13.01
10	-1.00	2.00	4.07	6.70	11.97	19.71
14	-0.50	1.41	5.90	9.71	17.87	29.42
18	0.00	1.00	5.37	8.84	23.24	38.26
25	0.50	0.71	5.82	9.58	29.06	47.84
35	1.00	0.50	6.32	10.40	35.38	58.24
45	1.50	0.35	4.64	7.64	40.02	65.88
60	2.00	0.25	3.41	5.61	43.43	71.49
80	2.50	0.18	4.49	7.39	47.92	78.88
120	3.00	0.13	9.80	16.13	57.72	95.01
170	3.50	0.09	1.61	2.65	59.33	97.66
200	3.75	0.07	0.07	0.12	59.40	97.78
230	4.00	0.06	0.04	0.07	59.44	97.85

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.00	2.66	2.24	0.60	-0.73	-1.28	-2.55
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	0.52	0.70	1.74	-0.29	2.25	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-15 #4  
 Analysis Date: 08-19-08  
 Analyzed By: TD

Easting (ft): <b>413,461</b>	Northing (ft): <b>1,157,788</b>	Coordinate System: <b>Florida State Plane West</b>	Elevation (ft): <b>-20.0 NAVD 88</b>
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USCS: <b>SP</b>	Munsell: Wet - 5Y-7/1 Dry - 5Y-8/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): <b>90.28</b>	Wash Weight (g): <b>89.05</b>	Pan Retained (g): <b>0.03</b>	Sieve Loss (%): <b>0.06</b>	Fines (%): #200 - 1.52 #230 - 1.44	Organics (%):	Carbonates (%): <b>4</b>	Shell Hash (%): <b>0</b>
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.07	0.08	0.07	0.08
7	-1.50	2.83	0.19	0.21	0.26	0.29
10	-1.00	2.00	0.14	0.16	0.40	0.45
14	-0.50	1.41	0.20	0.22	0.60	0.67
18	0.00	1.00	0.12	0.13	0.72	0.80
25	0.50	0.71	0.18	0.20	0.90	1.00
35	1.00	0.50	0.20	0.22	1.10	1.22
45	1.50	0.35	0.27	0.30	1.37	1.52
60	2.00	0.25	0.62	0.69	1.99	2.21
80	2.50	0.18	7.83	8.67	9.82	10.88
120	3.00	0.13	61.93	68.60	71.75	79.48
170	3.50	0.09	16.58	18.37	88.33	97.85
200	3.75	0.07	0.57	0.63	88.90	98.48
230	4.00	0.06	0.07	0.08	88.97	98.56

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.42	3.12	2.97	2.79	2.60	2.54	2.16
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.75	0.15	0.49	-4.95	41.68	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-15 #5

Analysis Date: 08-18-08

Analyzed By: LH

Easting (ft):	Northing (ft):
413,461	1,157,788

Coordinate System:	Elevation (ft):
Florida State Plane West	-21.3 NAVD 88

USCS:	Munsell:	Comments:
SW	Wet - 5Y-6/2 Dry - 5Y-7/1 Washed - 5Y-7/1	

Dry Weight (g):	Wash Weight (g):	Pan Retained (g):	Sieve Loss (%):	Fines (%):	Organics (%):	Carbonates (%):	Shell Hash (%):
97.13	95.67	0.00	0.19	#200 - 1.71 #230 - 1.69		60	11

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	2.11	2.17	2.11	2.17
5/16"	-3.00	8.00	1.27	1.31	3.38	3.48
3.5	-2.50	5.66	4.26	4.39	7.64	7.87
4	-2.25	4.76	2.66	2.74	10.30	10.61
5	-2.00	4.00	3.71	3.82	14.01	14.43
7	-1.50	2.83	7.14	7.35	21.15	21.78
10	-1.00	2.00	9.25	9.52	30.40	31.30
14	-0.50	1.41	11.30	11.63	41.70	42.93
18	0.00	1.00	8.71	8.97	50.41	51.90
25	0.50	0.71	6.68	6.88	57.09	58.78
35	1.00	0.50	4.84	4.98	61.93	63.76
45	1.50	0.35	4.15	4.27	66.08	68.03
60	2.00	0.25	3.94	4.06	70.02	72.09
80	2.50	0.18	10.60	10.91	80.62	83.00
120	3.00	0.13	13.38	13.78	94.00	96.78
170	3.50	0.09	1.41	1.45	95.41	98.23
200	3.75	0.07	0.06	0.06	95.47	98.29
230	4.00	0.06	0.02	0.02	95.49	98.31

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.94	2.54	2.13	-0.11	-1.33	-1.89	-2.83
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	0.11	0.93	1.89	0	1.87	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-15 #6  
 Analysis Date: 08-18-08  
 Analyzed By: TD

Easting (ft): 413,461	Northing (ft): 1,157,788	Coordinate System: Florida State Plane West	Elevation (ft): -22.8 NAVD 88
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USCS: SP	Munsell: Wet - 5Y-6/2 Dry - 5Y-7/2 Washed - 5Y-7/1	Comments:
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Dry Weight (g): 88.54	Wash Weight (g): 85.93	Pan Retained (g): 0.11	Sieve Loss (%): 0.02	Fines (%): #200 - 3.32 #230 - 3.11	Organics (%):	Carbonates (%): 6	Shell Hash (%): 0
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.07	0.08	0.07	0.08
10	-1.00	2.00	0.10	0.11	0.17	0.19
14	-0.50	1.41	0.19	0.21	0.36	0.40
18	0.00	1.00	0.19	0.21	0.55	0.61
25	0.50	0.71	0.22	0.25	0.77	0.86
35	1.00	0.50	0.22	0.25	0.99	1.11
45	1.50	0.35	0.32	0.36	1.31	1.47
60	2.00	0.25	0.66	0.75	1.97	2.22
80	2.50	0.18	3.78	4.27	5.75	6.49
120	3.00	0.13	48.69	54.99	54.44	61.48
170	3.50	0.09	29.92	33.79	84.36	95.27
200	3.75	0.07	1.25	1.41	85.61	96.68
230	4.00	0.06	0.19	0.21	85.80	96.89

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.50	3.33	3.20	2.90	2.67	2.59	2.33
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.87	0.14	0.47	-3.96	30.93	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-16 #1

Analysis Date: 07-07-08

Analyzed By: TD

Easting (ft):	Northing (ft):
412,941	1,157,673

Coordinate System:	Elevation (ft):
Florida State Plane West	-17.8 NAVD 88

USCS:	Munsell:	Wet - 5Y-8/1 Dry - 5Y-8/1 Washed - 5Y-8/1	Comments:
SP			

Dry Weight (g):	Wash Weight (g):	Pan Retained (g):	Sieve Loss (%):	Fines (%): #200 - 1.21 #230 - 1.20	Organics (%):	Carbonates (%):	Shell Hash (%):
84.09	83.10	0.01	0.00			4	0

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.01	0.01	0.01	0.01
10	-1.00	2.00	0.10	0.12	0.11	0.13
14	-0.50	1.41	0.15	0.18	0.26	0.31
18	0.00	1.00	0.11	0.13	0.37	0.44
25	0.50	0.71	0.18	0.21	0.55	0.65
35	1.00	0.50	0.32	0.38	0.87	1.03
45	1.50	0.35	0.49	0.58	1.36	1.61
60	2.00	0.25	1.98	2.35	3.34	3.96
80	2.50	0.18	15.68	18.65	19.02	22.61
120	3.00	0.13	54.60	64.93	73.62	87.54
170	3.50	0.09	9.33	11.10	82.95	98.64
200	3.75	0.07	0.13	0.15	83.08	98.79
230	4.00	0.06	0.01	0.01	83.09	98.80

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.34	2.97	2.90	2.71	2.52	2.32	2.03
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.65	0.16	0.43	-3.19	23.63	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08



# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
Sample Name: AMVC-08-16 #2  
Analysis Date: 07-14-08  
Analyzed By: LH

Easting (ft): <b>412,941</b>	Northing (ft): <b>1,157,673</b>	Coordinate System: <b>Florida State Plane West</b>	Elevation (ft): <b>-20.0 NAVD 88</b>
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USCS: <b>SW</b>	Munsell: <b>Wet - 5Y-6/1 Dry - 2.5Y-7/1 Washed - 2.5Y-7/1</b>	Comments:
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Dry Weight (g): <b>82.01</b>	Wash Weight (g): <b>80.77</b>	Pan Retained (g): <b>0.01</b>	Sieve Loss (%): <b>0.33</b>	Fines (%): <b>#200 - 1.88 #230 - 1.86</b>	Organics (%):	Carbonates (%):	Shell Hash (%): <b>12</b>
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.41	0.50	0.41	0.50
3.5	-2.50	5.66	4.12	5.02	4.53	5.52
4	-2.25	4.76	1.75	2.13	6.28	7.65
5	-2.00	4.00	2.05	2.50	8.33	10.15
7	-1.50	2.83	7.54	9.19	15.87	19.34
10	-1.00	2.00	9.09	11.08	24.96	30.42
14	-0.50	1.41	11.15	13.60	36.11	44.02
18	0.00	1.00	8.85	10.79	44.96	54.81
25	0.50	0.71	7.06	8.61	52.02	63.42
35	1.00	0.50	5.92	7.22	57.94	70.64
45	1.50	0.35	3.81	4.65	61.75	75.29
60	2.00	0.25	3.38	4.12	65.13	79.41
80	2.50	0.18	5.29	6.45	70.42	85.86
120	3.00	0.13	8.60	10.49	79.02	96.35
170	3.50	0.09	1.37	1.67	80.39	98.02
200	3.75	0.07	0.08	0.10	80.47	98.12
230	4.00	0.06	0.02	0.02	80.49	98.14

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.94	2.36	1.47	-0.22	-1.24	-1.68	-2.55
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	0.01	0.99	1.68	0.28	2.06	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-16 #3

Analysis Date: 07-11-08

Analyzed By: PB

Easting (ft):	Northing (ft):
412,941	1,157,673

Coordinate System:	Elevation (ft):
Florida State Plane West	-21.3 NAVD 88

USCS:	Munsell:	Wet - 5Y-7/1 Dry - 5Y-7/1 Washed - 5Y-8/1	Comments:
SW			

Dry Weight (g):	Wash Weight (g):	Pan Retained (g):	Sieve Loss (%):	Fines (%):	Organics (%):	Carbonates (%):	Shell Hash (%):
79.27	78.02	0.02	0.00	#200 - 1.76 #230 - 1.61			3

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.80	1.01	0.80	1.01
5/16"	-3.00	8.00	0.79	1.00	1.59	2.01
3.5	-2.50	5.66	0.89	1.12	2.48	3.13
4	-2.25	4.76	0.43	0.54	2.91	3.67
5	-2.00	4.00	1.13	1.43	4.04	5.10
7	-1.50	2.83	1.42	1.79	5.46	6.89
10	-1.00	2.00	2.42	3.05	7.88	9.94
14	-0.50	1.41	2.93	3.70	10.81	13.64
18	0.00	1.00	2.15	2.71	12.96	16.35
25	0.50	0.71	2.69	3.39	15.65	19.74
35	1.00	0.50	2.64	3.33	18.29	23.07
45	1.50	0.35	3.28	4.14	21.57	27.21
60	2.00	0.25	3.26	4.11	24.83	31.32
80	2.50	0.18	8.76	11.05	33.59	42.37
120	3.00	0.13	34.31	43.28	67.90	85.65
170	3.50	0.09	9.08	11.45	76.98	97.10
200	3.75	0.07	0.90	1.14	77.88	98.24
230	4.00	0.06	0.12	0.15	78.00	98.39

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.41	2.98	2.88	2.59	1.23	-0.06	-2.02
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.8	0.29	1.69	-1.51	4.32	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-16 #4

Analysis Date: 07-08-08

Analyzed By: TD

Easting (ft):	Northing (ft):
412,941	1,157,673

Coordinate System:	Elevation (ft):
Florida State Plane West	-23.3 NAVD 88

USCS:	Munsell:	Comments:
SP	Wet - 5Y-6/2 Dry - 5Y-7/1 Washed - 5Y-7/1	

Dry Weight (g):	Wash Weight (g):	Pan Retained (g):	Sieve Loss (%):	Fines (%):	Organics (%):	Carbonates (%):	Shell Hash (%):
85.30	82.50	0.12	0.01	#200 - 3.66 #230 - 3.44			0

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.25	0.29	0.25	0.29
4	-2.25	4.76	0.00	0.00	0.25	0.29
5	-2.00	4.00	0.00	0.00	0.25	0.29
7	-1.50	2.83	0.18	0.21	0.43	0.50
10	-1.00	2.00	0.07	0.08	0.50	0.58
14	-0.50	1.41	0.16	0.19	0.66	0.77
18	0.00	1.00	0.16	0.19	0.82	0.96
25	0.50	0.71	0.20	0.23	1.02	1.19
35	1.00	0.50	0.24	0.28	1.26	1.47
45	1.50	0.35	0.52	0.61	1.78	2.08
60	2.00	0.25	0.94	1.10	2.72	3.18
80	2.50	0.18	2.99	3.51	5.71	6.69
120	3.00	0.13	47.01	55.11	52.72	61.80
170	3.50	0.09	27.80	32.59	80.52	94.39
200	3.75	0.07	1.66	1.95	82.18	96.34
230	4.00	0.06	0.19	0.22	82.37	96.56

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.58	3.34	3.20	2.89	2.67	2.58	2.26
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.85	0.14	0.59	-5.08	41.24	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-16 #5  
 Analysis Date: 07-08-08  
 Analyzed By: TD

Easting (ft): <b>412,941</b>	Northing (ft): <b>1,157,673</b>	Coordinate System: <b>Florida State Plane West</b>	Elevation (ft): <b>-25.2 NAVD 88</b>
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USCS: <b>SW</b>	Munsell: Wet - 5Y-7/1 Dry - 5Y-7/1 Washed - 5Y-7/1	Comments:
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Dry Weight (g): <b>91.57</b>	Wash Weight (g): <b>89.41</b>	Pan Retained (g): <b>0.07</b>	Sieve Loss (%): <b>0.00</b>	Fines (%): #200 - 2.68 #230 - 2.43	Organics (%):	Carbonates (%):	Shell Hash (%): <b>1</b>
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.09	0.10	0.09	0.10
4	-2.25	4.76	0.42	0.46	0.51	0.56
5	-2.00	4.00	0.17	0.19	0.68	0.75
7	-1.50	2.83	0.57	0.62	1.25	1.37
10	-1.00	2.00	0.60	0.66	1.85	2.03
14	-0.50	1.41	0.98	1.07	2.83	3.10
18	0.00	1.00	0.93	1.02	3.76	4.12
25	0.50	0.71	0.97	1.06	4.73	5.18
35	1.00	0.50	1.04	1.14	5.77	6.32
45	1.50	0.35	1.01	1.10	6.78	7.42
60	2.00	0.25	1.96	2.14	8.74	9.56
80	2.50	0.18	11.45	12.50	20.19	22.06
120	3.00	0.13	48.04	52.46	68.23	74.52
170	3.50	0.09	19.14	20.90	87.37	95.42
200	3.75	0.07	1.74	1.90	89.11	97.32
230	4.00	0.06	0.23	0.25	89.34	97.57

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.49	3.23	3.01	2.77	2.53	2.26	0.42
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.56	0.17	0.95	-3.03	13.34	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-17 #1  
 Analysis Date: 07-08-08  
 Analyzed By: TD

Easting (ft): 412,935	Northing (ft): 1,158,323	Coordinate System: Florida State Plane West	Elevation (ft): -14.6 NAVD 88
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USCS: SP	Munsell: Wet - 5Y-8/1 Dry - 5Y-8/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): 91.69	Wash Weight (g): 90.68	Pan Retained (g): 0.02	Sieve Loss (%): 0.01	Fines (%): #200 - 1.17 #230 - 1.15	Organics (%):	Carbonates (%): 4	Shell Hash (%): 0
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.04	0.04	0.04	0.04
10	-1.00	2.00	0.15	0.16	0.19	0.20
14	-0.50	1.41	0.30	0.33	0.49	0.53
18	0.00	1.00	0.37	0.40	0.86	0.93
25	0.50	0.71	0.38	0.41	1.24	1.34
35	1.00	0.50	0.41	0.45	1.65	1.79
45	1.50	0.35	0.45	0.49	2.10	2.28
60	2.00	0.25	1.08	1.18	3.18	3.46
80	2.50	0.18	10.11	11.03	13.29	14.49
120	3.00	0.13	67.56	73.68	80.85	88.17
170	3.50	0.09	9.52	10.38	90.37	98.55
200	3.75	0.07	0.26	0.28	90.63	98.83
230	4.00	0.06	0.02	0.02	90.65	98.85

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.33	2.97	2.91	2.74	2.57	2.51	2.07
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.68	0.16	0.48	-4.28	29.41	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-17 #2  
 Analysis Date: 07-08-08  
 Analyzed By: TD

Easting (ft): 412,935	Northing (ft): 1,158,323	Coordinate System: Florida State Plane West	Elevation (ft): -17.7 NAVD 88
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USCS: SP	Munsell: Wet - 5Y-6/1 Dry - 5Y-7/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): 89.62	Wash Weight (g): 88.31	Pan Retained (g): 0.03	Sieve Loss (%): 0.00	Fines (%): #200 - 1.54 #230 - 1.50	Organics (%):	Carbonates (%): 9	Shell Hash (%): 1
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.13	0.15	0.13	0.15
5	-2.00	4.00	0.29	0.32	0.42	0.47
7	-1.50	2.83	0.25	0.28	0.67	0.75
10	-1.00	2.00	0.43	0.48	1.10	1.23
14	-0.50	1.41	0.69	0.77	1.79	2.00
18	0.00	1.00	0.74	0.83	2.53	2.83
25	0.50	0.71	0.87	0.97	3.40	3.80
35	1.00	0.50	1.07	1.19	4.47	4.99
45	1.50	0.35	1.09	1.22	5.56	6.21
60	2.00	0.25	1.56	1.74	7.12	7.95
80	2.50	0.18	8.37	9.34	15.49	17.29
120	3.00	0.13	58.57	65.35	74.06	82.64
170	3.50	0.09	13.40	14.95	87.46	97.59
200	3.75	0.07	0.78	0.87	88.24	98.46
230	4.00	0.06	0.04	0.04	88.28	98.50

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.41	3.05	2.94	2.75	2.56	2.43	1.00
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.59	0.17	0.79	-3.48	17.12	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-17 #3

Analysis Date: 07-08-08

Analyzed By: TD

Easting (ft): 412,935  
 Northing (ft): 1,158,323

Coordinate System: Florida State Plane West  
 Elevation (ft): -19.9 NAVD 88

USCS: SW  
 Munsell: Wet - 5Y-5/1  
 Dry - 5Y-7/1  
 Washed - 5Y-7/1  
 Comments:

Dry Weight (g): 96.43  
 Wash Weight (g): 94.50  
 Pan Retained (g): 0.04  
 Sieve Loss (%): 0.00  
 Finer (%): #200 - 2.09  
 #230 - 2.03  
 Organics (%):  
 Carbonates (%):  
 Shell Hash (%): 13

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	2.31	2.40	2.31	2.40
5/16"	-3.00	8.00	0.85	0.88	3.16	3.28
3.5	-2.50	5.66	6.80	7.05	9.96	10.33
4	-2.25	4.76	3.11	3.23	13.07	13.56
5	-2.00	4.00	3.92	4.07	16.99	17.63
7	-1.50	2.83	9.18	9.52	26.17	27.15
10	-1.00	2.00	8.06	8.36	34.23	35.51
14	-0.50	1.41	9.47	9.82	43.70	45.33
18	0.00	1.00	6.50	6.74	50.20	52.07
25	0.50	0.71	4.99	5.17	55.19	57.24
35	1.00	0.50	3.97	4.12	59.16	61.36
45	1.50	0.35	2.77	2.87	61.93	64.23
60	2.00	0.25	1.92	1.99	63.85	66.22
80	2.50	0.18	5.29	5.49	69.14	71.71
120	3.00	0.13	20.58	21.34	89.72	93.05
170	3.50	0.09	4.46	4.63	94.18	97.68
200	3.75	0.07	0.22	0.23	94.40	97.91
230	4.00	0.06	0.06	0.06	94.46	97.97

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.21	2.79	2.58	-0.15	-1.61	-2.10	-2.88
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	0.15	0.90	2.1	0.05	1.64	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-17 #4

Analysis Date: 07-07-08

Analyzed By: TD

Easting (ft):	Northing (ft):
412,935	1,158,323

Coordinate System:	Elevation (ft):
Florida State Plane West	-21.7 NAVD 88

USCS:	Munsell:	Wet - 5Y-8/1 Dry - 5Y-8/1 Washed - 5Y-8/1	Comments:
SP			

Dry Weight (g):	Wash Weight (g):	Pan Retained (g):	Sieve Loss (%):	Fines (%):	Organics (%):	Carbonates (%):	Shell Hash (%):
85.33	84.24	0.01	0.00	#200 - 1.38 #230 - 1.29			0

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.03	0.04	0.03	0.04
10	-1.00	2.00	0.09	0.11	0.12	0.15
14	-0.50	1.41	0.19	0.22	0.31	0.37
18	0.00	1.00	0.18	0.21	0.49	0.58
25	0.50	0.71	0.25	0.29	0.74	0.87
35	1.00	0.50	0.30	0.35	1.04	1.22
45	1.50	0.35	0.48	0.56	1.52	1.78
60	2.00	0.25	1.08	1.27	2.60	3.05
80	2.50	0.18	9.27	10.86	11.87	13.91
120	3.00	0.13	59.95	70.26	71.82	84.17
170	3.50	0.09	11.94	13.99	83.76	98.16
200	3.75	0.07	0.39	0.46	84.15	98.62
230	4.00	0.06	0.08	0.09	84.23	98.71

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.39	3.00	2.93	2.76	2.58	2.51	2.09
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.71	0.15	0.44	-3.84	29.07	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08



# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
Sample Name: AMVC-08-18 #1  
Analysis Date: 07-08-08  
Analyzed By: TD

Easting (ft): <b>411,655</b>	Northing (ft): <b>1,156,808</b>	Coordinate System: <b>Florida State Plane West</b>	Elevation (ft): <b>-18.8 NAVD 88</b>
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USCS: <b>SW</b>	Munsell: Wet - 5Y-6/1 Dry - 5Y-8/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): <b>87.40</b>	Wash Weight (g): <b>86.36</b>	Pan Retained (g): <b>0.02</b>	Sieve Loss (%): <b>0.05</b>	Fines (%): #200 - 1.29 #230 - 1.27	Organics (%):	Carbonates (%): <b>16</b>	Shell Hash (%): <b>1</b>
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.74	0.85	0.74	0.85
3.5	-2.50	5.66	0.15	0.17	0.89	1.02
4	-2.25	4.76	0.03	0.03	0.92	1.05
5	-2.00	4.00	0.03	0.03	0.95	1.08
7	-1.50	2.83	0.43	0.49	1.38	1.57
10	-1.00	2.00	0.78	0.89	2.16	2.46
14	-0.50	1.41	1.60	1.83	3.76	4.29
18	0.00	1.00	1.58	1.81	5.34	6.10
25	0.50	0.71	1.73	1.98	7.07	8.08
35	1.00	0.50	1.91	2.19	8.98	10.27
45	1.50	0.35	2.08	2.38	11.06	12.65
60	2.00	0.25	5.94	6.80	17.00	19.45
80	2.50	0.18	23.64	27.05	40.64	46.50
120	3.00	0.13	40.33	46.14	80.97	92.64
170	3.50	0.09	5.16	5.90	86.13	98.54
200	3.75	0.07	0.15	0.17	86.28	98.71
230	4.00	0.06	0.02	0.02	86.30	98.73

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.20	2.91	2.81	2.54	2.10	1.75	-0.30
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.2	0.22	1.07	-2.62	10.81	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-18 #2  
 Analysis Date: 07-08-08  
 Analyzed By: TD

Easting (ft): 411,655	Northing (ft): 1,156,808	Coordinate System: Florida State Plane West	Elevation (ft): -20.0 NAVD 88
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USCS: SP	Munsell: Wet - 5Y-7/1 Dry - 5Y-7/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): 89.11	Wash Weight (g): 87.86	Pan Retained (g): 0.02	Sieve Loss (%): 0.03	Fines (%): #200 - 1.50 #230 - 1.46	Organics (%):	Carbonates (%): 5	Shell Hash (%): 0
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.08	0.09	0.08	0.09
10	-1.00	2.00	0.12	0.13	0.20	0.22
14	-0.50	1.41	0.25	0.28	0.45	0.50
18	0.00	1.00	0.24	0.27	0.69	0.77
25	0.50	0.71	0.40	0.45	1.09	1.22
35	1.00	0.50	0.54	0.61	1.63	1.83
45	1.50	0.35	0.95	1.07	2.58	2.90
60	2.00	0.25	2.97	3.33	5.55	6.23
80	2.50	0.18	19.00	21.32	24.55	27.55
120	3.00	0.13	52.62	59.05	77.17	86.60
170	3.50	0.09	10.27	11.53	87.44	98.13
200	3.75	0.07	0.33	0.37	87.77	98.50
230	4.00	0.06	0.04	0.04	87.81	98.54

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.36	2.98	2.90	2.69	2.44	2.23	1.82
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.6	0.16	0.53	-3.04	19.21	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-18 #3  
 Analysis Date: 07-08-08  
 Analyzed By: TD

Easting (ft): 411,655	Northing (ft): 1,156,808	Coordinate System: Florida State Plane West	Elevation (ft): -21.5 NAVD 88
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USCS: SP	Munsell: Wet - 5Y-7/2 Dry - 5Y-7/1 Washed - 5Y-7/1	Comments:
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Dry Weight (g): 84.44	Wash Weight (g): 83.27	Pan Retained (g): 0.02	Sieve Loss (%): 0.00	Fines (%): #200 - 1.45 #230 - 1.41	Organics (%):	Carbonates (%): 5	Shell Hash (%): 0
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.07	0.08	0.07	0.08
4	-2.25	4.76	0.00	0.00	0.07	0.08
5	-2.00	4.00	0.00	0.00	0.07	0.08
7	-1.50	2.83	0.05	0.06	0.12	0.14
10	-1.00	2.00	0.09	0.11	0.21	0.25
14	-0.50	1.41	0.18	0.21	0.39	0.46
18	0.00	1.00	0.28	0.33	0.67	0.79
25	0.50	0.71	0.34	0.40	1.01	1.19
35	1.00	0.50	0.63	0.75	1.64	1.94
45	1.50	0.35	0.99	1.17	2.63	3.11
60	2.00	0.25	3.56	4.22	6.19	7.33
80	2.50	0.18	21.24	25.15	27.43	32.48
120	3.00	0.13	48.12	56.99	75.55	89.47
170	3.50	0.09	7.40	8.76	82.95	98.23
200	3.75	0.07	0.27	0.32	83.22	98.55
230	4.00	0.06	0.03	0.04	83.25	98.59

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.32	2.95	2.87	2.65	2.35	2.17	1.72
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.55	0.17	0.54	-3.22	22.23	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
Sample Name: AMVC-08-18 #4  
Analysis Date: 07-08-08  
Analyzed By: TD

Easting (ft): <b>411,655</b>	Northing (ft): <b>1,156,808</b>	Coordinate System: <b>Florida State Plane West</b>	Elevation (ft): <b>-23.2 NAVD 88</b>
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USCS: <b>SW</b>	Munsell: Wet - 5Y-5/1 Dry - 5Y-7/2 Washed - 5Y-7/1	Comments:
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Dry Weight (g): <b>86.12</b>	Wash Weight (g): <b>84.04</b>	Pan Retained (g): <b>0.06</b>	Sieve Loss (%): <b>0.02</b>	Fines (%): #200 - 2.55 #230 - 2.49	Organics (%):	Carbonates (%): <b>37</b>	Shell Hash (%): <b>4</b>
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.99	1.15	0.99	1.15
4	-2.25	4.76	0.12	0.14	1.11	1.29
5	-2.00	4.00	0.52	0.60	1.63	1.89
7	-1.50	2.83	2.53	2.94	4.16	4.83
10	-1.00	2.00	4.13	4.80	8.29	9.63
14	-0.50	1.41	6.76	7.85	15.05	17.48
18	0.00	1.00	5.65	6.56	20.70	24.04
25	0.50	0.71	5.12	5.95	25.82	29.99
35	1.00	0.50	4.38	5.09	30.20	35.08
45	1.50	0.35	4.88	5.67	35.08	40.75
60	2.00	0.25	5.42	6.29	40.50	47.04
80	2.50	0.18	12.64	14.68	53.14	61.72
120	3.00	0.13	25.39	29.48	78.53	91.20
170	3.50	0.09	4.79	5.56	83.32	96.76
200	3.75	0.07	0.59	0.69	83.91	97.45
230	4.00	0.06	0.05	0.06	83.96	97.51

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.34	2.88	2.73	2.10	0.08	-0.59	-1.48
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	1.38	0.38	1.58	-0.72	2.27	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
Sample Name: AMVC-08-18 #5  
Analysis Date: 08-18-08  
Analyzed By: LH

Easting (ft): <b>411,655</b>	Northing (ft): <b>1,156,808</b>	Coordinate System: <b>Florida State Plane West</b>	Elevation (ft): <b>-24.8 NAVD 88</b>
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USCS: <b>SW</b>	Munsell: Wet - 5Y-6/1 Dry - 2.5Y-8/1 Washed - 2.5Y-8/1	Comments:
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Dry Weight (g): <b>96.58</b>	Wash Weight (g): <b>95.05</b>	Pan Retained (g): <b>0.03</b>	Sieve Loss (%): <b>0.02</b>	Fines (%): #200 - 1.68 #230 - 1.62	Organics (%):	Carbonates (%): <b>8</b>	Shell Hash (%): <b>1</b>
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.38	0.39	0.38	0.39
3.5	-2.50	5.66	0.47	0.49	0.85	0.88
4	-2.25	4.76	0.00	0.00	0.85	0.88
5	-2.00	4.00	0.00	0.00	0.85	0.88
7	-1.50	2.83	0.76	0.79	1.61	1.67
10	-1.00	2.00	0.53	0.55	2.14	2.22
14	-0.50	1.41	0.79	0.82	2.93	3.04
18	0.00	1.00	0.72	0.75	3.65	3.79
25	0.50	0.71	1.01	1.05	4.66	4.84
35	1.00	0.50	0.92	0.95	5.58	5.79
45	1.50	0.35	1.04	1.08	6.62	6.87
60	2.00	0.25	1.88	1.95	8.50	8.82
80	2.50	0.18	11.32	11.72	19.82	20.54
120	3.00	0.13	58.11	60.17	77.93	80.71
170	3.50	0.09	16.66	17.25	94.59	97.96
200	3.75	0.07	0.35	0.36	94.94	98.32
230	4.00	0.06	0.06	0.06	95.00	98.38

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.41	3.10	2.95	2.74	2.54	2.31	0.58
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.54	0.17	0.95	-3.58	17.56	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-18 #6  
 Analysis Date: 08-18-08  
 Analyzed By: LH

Easting (ft): 411,655	Northing (ft): 1,156,808	Coordinate System: Florida State Plane West	Elevation (ft): -26.3 NAVD 88
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USCS: SP	Munsell: Wet - 5Y-5/1 Dry - 5Y-6/1 Washed - 5Y-7/1	Comments:
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Dry Weight (g): 104.01	Wash Weight (g): 100.39	Pan Retained (g): 0.02	Sieve Loss (%): 0.00	Fines (%): #200 - 3.73 #230 - 3.51	Organics (%):	Carbonates (%): 11	Shell Hash (%): 0
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.42	0.40	0.42	0.40
10	-1.00	2.00	0.62	0.60	1.04	1.00
14	-0.50	1.41	0.75	0.72	1.79	1.72
18	0.00	1.00	0.75	0.72	2.54	2.44
25	0.50	0.71	1.19	1.14	3.73	3.58
35	1.00	0.50	1.26	1.21	4.99	4.79
45	1.50	0.35	1.50	1.44	6.49	6.23
60	2.00	0.25	2.32	2.23	8.81	8.46
80	2.50	0.18	16.64	16.00	25.45	24.46
120	3.00	0.13	58.89	56.62	84.34	81.08
170	3.50	0.09	13.99	13.45	98.33	94.53
200	3.75	0.07	1.81	1.74	100.14	96.27
230	4.00	0.06	0.23	0.22	100.37	96.49

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.57	3.11	2.95	2.73	2.50	2.24	1.07
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.56	0.17	0.76	-2.96	13.95	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-18 #7

Analysis Date: 08-18-08

Analyzed By: LH

Easting (ft):	Northing (ft):
411,655	1,156,808

Coordinate System:	Elevation (ft):
Florida State Plane West	-28.0 NAVD 88

USCS:	Munsell:	Comments:
SW	Wet - 5Y-6/2 Dry - 5Y-7/1 Washed - 5Y-7/1	

Dry Weight (g):	Wash Weight (g):	Pan Retained (g):	Sieve Loss (%):	Fines (%):	Organics (%):	Carbonates (%):	Shell Hash (%):
90.56	89.32	0.02	0.42	#200 - 1.84 #230 - 1.80		77	16

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.66	0.73	0.66	0.73
7/16"	-3.50	11.31	5.62	6.21	6.28	6.94
5/16"	-3.00	8.00	3.71	4.10	9.99	11.04
3.5	-2.50	5.66	8.86	9.78	18.85	20.82
4	-2.25	4.76	4.89	5.40	23.74	26.22
5	-2.00	4.00	4.71	5.20	28.45	31.42
7	-1.50	2.83	9.72	10.73	38.17	42.15
10	-1.00	2.00	9.56	10.56	47.73	52.71
14	-0.50	1.41	8.59	9.49	56.32	62.20
18	0.00	1.00	6.53	7.21	62.85	69.41
25	0.50	0.71	5.12	5.65	67.97	75.06
35	1.00	0.50	3.93	4.34	71.90	79.40
45	1.50	0.35	3.13	3.46	75.03	82.86
60	2.00	0.25	4.01	4.43	79.04	87.29
80	2.50	0.18	4.43	4.89	83.47	92.18
120	3.00	0.13	4.37	4.83	87.84	97.01
170	3.50	0.09	0.95	1.05	88.79	98.06
200	3.75	0.07	0.09	0.10	88.88	98.16
230	4.00	0.06	0.04	0.04	88.92	98.20

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.79	1.63	0.49	-1.13	-2.31	-2.75	-3.66
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	-0.88	1.84	1.88	0.44	2.29	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-19 #1

Analysis Date: 07-11-08

Analyzed By: TD

Easting (ft):	Northing (ft):
411,064	1,156,409

Coordinate System:	Elevation (ft):
Florida State Plane West	-22.5 NAVD 88

USCS:	Munsell:	Wet - 5Y-6/1 Dry - 5Y-7/2 Washed - 5Y-8/1	Comments:
SP			

Dry Weight (g):	Wash Weight (g):	Pan Retained (g):	Sieve Loss (%):	Fines (%): #200 - 1.90 #230 - 1.82	Organics (%):	Carbonates (%):	Shell Hash (%):
89.63	88.04	0.03	0.02			8	0

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.02	0.02	0.02	0.02
10	-1.00	2.00	0.14	0.16	0.16	0.18
14	-0.50	1.41	0.39	0.44	0.55	0.62
18	0.00	1.00	0.28	0.31	0.83	0.93
25	0.50	0.71	0.65	0.73	1.48	1.66
35	1.00	0.50	0.88	0.98	2.36	2.64
45	1.50	0.35	1.28	1.43	3.64	4.07
60	2.00	0.25	3.65	4.07	7.29	8.14
80	2.50	0.18	18.73	20.90	26.02	29.04
120	3.00	0.13	50.11	55.91	76.13	84.95
170	3.50	0.09	11.00	12.27	87.13	97.22
200	3.75	0.07	0.79	0.88	87.92	98.10
230	4.00	0.06	0.07	0.08	87.99	98.18

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.41	2.99	2.91	2.69	2.40	2.19	1.61
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.58	0.17	0.58	-2.62	14.16	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08



# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
Sample Name: AMVC-08-20 #1  
Analysis Date: 07-14-08  
Analyzed By: LH

Easting (ft): <b>410,427</b>	Northing (ft): <b>1,156,981</b>	Coordinate System: <b>Florida State Plane West</b>	Elevation (ft): <b>-22.2 NAVD 88</b>
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USCS: <b>SP</b>	Munsell: <b>Wet - 5Y-6/1 Dry - 5Y-7/1 Washed - 5Y-7/1</b>	Comments:
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Dry Weight (g): <b>93.58</b>	Wash Weight (g): <b>91.77</b>	Pan Retained (g): <b>0.04</b>	Sieve Loss (%): <b>0.00</b>	Fines (%): <b>#200 - 2.02 #230 - 1.98</b>	Organics (%):	Carbonates (%): <b>6</b>	Shell Hash (%): <b>0</b>
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.01	0.01	0.01	0.01
10	-1.00	2.00	0.11	0.12	0.12	0.13
14	-0.50	1.41	0.20	0.21	0.32	0.34
18	0.00	1.00	0.24	0.26	0.56	0.60
25	0.50	0.71	0.47	0.50	1.03	1.10
35	1.00	0.50	0.62	0.66	1.65	1.76
45	1.50	0.35	0.91	0.97	2.56	2.73
60	2.00	0.25	2.42	2.59	4.98	5.32
80	2.50	0.18	13.84	14.79	18.82	20.11
120	3.00	0.13	57.51	61.46	76.33	81.57
170	3.50	0.09	14.88	15.90	91.21	97.47
200	3.75	0.07	0.48	0.51	91.69	97.98
230	4.00	0.06	0.04	0.04	91.73	98.02

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.42	3.08	2.95	2.74	2.54	2.36	1.94
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.67	0.16	0.51	-2.92	17.85	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-20 #2  
 Analysis Date: 07-14-08  
 Analyzed By: TD

Easting (ft): 410,427	Northing (ft): 1,156,981	Coordinate System: Florida State Plane West	Elevation (ft): -24.5 NAVD 88
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USCS: SW	Munsell: Wet - 5Y-6/1 Dry - 5Y-6/1 Washed - 5Y-7/1	Comments:
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Dry Weight (g): 81.84	Wash Weight (g): 80.59	Pan Retained (g): 0.02	Sieve Loss (%): 0.00	Fines (%): #200 - 1.56 #230 - 1.55	Organics (%):	Carbonates (%): 51	Shell Hash (%): 1
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.83	1.01	0.83	1.01
3.5	-2.50	5.66	0.65	0.79	1.48	1.80
4	-2.25	4.76	0.16	0.20	1.64	2.00
5	-2.00	4.00	0.16	0.20	1.80	2.20
7	-1.50	2.83	1.00	1.22	2.80	3.42
10	-1.00	2.00	2.91	3.56	5.71	6.98
14	-0.50	1.41	5.95	7.27	11.66	14.25
18	0.00	1.00	6.52	7.97	18.18	22.22
25	0.50	0.71	7.60	9.29	25.78	31.51
35	1.00	0.50	8.53	10.42	34.31	41.93
45	1.50	0.35	8.31	10.15	42.62	52.08
60	2.00	0.25	8.14	9.95	50.76	62.03
80	2.50	0.18	11.82	14.44	62.58	76.47
120	3.00	0.13	15.37	18.78	77.95	95.25
170	3.50	0.09	2.53	3.09	80.48	98.34
200	3.75	0.07	0.08	0.10	80.56	98.44
230	4.00	0.06	0.01	0.01	80.57	98.45

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.99	2.70	2.45	1.40	0.15	-0.39	-1.28
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	1.16	0.45	1.43	-0.64	2.84	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-20 #3  
 Analysis Date: 07-14-08  
 Analyzed By: LH

Easting (ft): 410,427	Northing (ft): 1,156,981	Coordinate System: Florida State Plane West	Elevation (ft): -26.6 NAVD 88
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USCS: SW	Munsell: Wet - 5Y-7/1 Dry - 5Y-8/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): 86.68	Wash Weight (g): 85.46	Pan Retained (g): 0.01	Sieve Loss (%): 0.18	Fines (%): #200 - 1.68 #230 - 1.60	Organics (%):	Carbonates (%):	Shell Hash (%): 1
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.92	1.06	0.92	1.06
3.5	-2.50	5.66	0.89	1.03	1.81	2.09
4	-2.25	4.76	0.17	0.20	1.98	2.29
5	-2.00	4.00	0.03	0.03	2.01	2.32
7	-1.50	2.83	0.41	0.47	2.42	2.79
10	-1.00	2.00	0.62	0.72	3.04	3.51
14	-0.50	1.41	0.97	1.12	4.01	4.63
18	0.00	1.00	1.03	1.19	5.04	5.82
25	0.50	0.71	1.42	1.64	6.46	7.46
35	1.00	0.50	1.25	1.44	7.71	8.90
45	1.50	0.35	1.35	1.56	9.06	10.46
60	2.00	0.25	1.79	2.07	10.85	12.53
80	2.50	0.18	13.49	15.56	24.34	28.09
120	3.00	0.13	50.93	58.76	75.27	86.85
170	3.50	0.09	9.53	10.99	84.80	97.84
200	3.75	0.07	0.42	0.48	85.22	98.32
230	4.00	0.06	0.07	0.08	85.29	98.40

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.37	2.98	2.90	2.69	2.40	2.11	-0.34
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.36	0.19	1.17	-3.06	12.74	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-21 #1  
 Analysis Date: 07-09-08  
 Analyzed By: TD

Easting (ft): 410,936	Northing (ft): 1,157,377	Coordinate System: Florida State Plane West	Elevation (ft): -20.9 NAVD 88
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USCS: SP	Munsell: Wet - 5Y-6/1 Dry - 5Y-8/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): 86.16	Wash Weight (g): 84.67	Pan Retained (g): 0.06	Sieve Loss (%): 0.00	Fines (%): #200 - 1.88 #230 - 1.80	Organics (%):	Carbonates (%): 6	Shell Hash (%): 0
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.08	0.09	0.08	0.09
7	-1.50	2.83	0.05	0.06	0.13	0.15
10	-1.00	2.00	0.13	0.15	0.26	0.30
14	-0.50	1.41	0.22	0.26	0.48	0.56
18	0.00	1.00	0.28	0.32	0.76	0.88
25	0.50	0.71	0.40	0.46	1.16	1.34
35	1.00	0.50	0.49	0.57	1.65	1.91
45	1.50	0.35	0.64	0.74	2.29	2.65
60	2.00	0.25	1.94	2.25	4.23	4.90
80	2.50	0.18	11.27	13.08	15.50	17.98
120	3.00	0.13	51.53	59.81	67.03	77.79
170	3.50	0.09	16.85	19.56	83.88	97.35
200	3.75	0.07	0.66	0.77	84.54	98.12
230	4.00	0.06	0.07	0.08	84.61	98.20

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.44	3.16	2.98	2.77	2.56	2.42	2.00
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.7	0.15	0.55	-3.46	22.91	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
Sample Name: AMVC-08-21 #2  
Analysis Date: 07-10-08  
Analyzed By: TD

Easting (ft): <b>410,936</b>	Northing (ft): <b>1,157,377</b>	Coordinate System: <b>Florida State Plane West</b>	Elevation (ft): <b>-22.6 NAVD 88</b>
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USCS: <b>SW</b>	Munsell: <b>Wet - 5Y-5/1 Dry - 5Y-6/1 Washed - 2.5Y-7/1</b>	Comments:
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Dry Weight (g): <b>92.09</b>	Wash Weight (g): <b>89.18</b>	Pan Retained (g): <b>0.03</b>	Sieve Loss (%): <b>0.00</b>	Fines (%): <b>#200 - 3.26 #230 - 3.23</b>	Organics (%):	Carbonates (%): <b>62</b>	Shell Hash (%): <b>6</b>
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	1.56	1.69	1.56	1.69
5/16"	-3.00	8.00	0.00	0.00	1.56	1.69
3.5	-2.50	5.66	1.67	1.81	3.23	3.50
4	-2.25	4.76	0.94	1.02	4.17	4.52
5	-2.00	4.00	1.29	1.40	5.46	5.92
7	-1.50	2.83	4.44	4.82	9.90	10.74
10	-1.00	2.00	5.97	6.48	15.87	17.22
14	-0.50	1.41	9.36	10.16	25.23	27.38
18	0.00	1.00	8.68	9.43	33.91	36.81
25	0.50	0.71	7.04	7.64	40.95	44.45
35	1.00	0.50	5.73	6.22	46.68	50.67
45	1.50	0.35	4.88	5.30	51.56	55.97
60	2.00	0.25	5.16	5.60	56.72	61.57
80	2.50	0.18	10.99	11.93	67.71	73.50
120	3.00	0.13	17.84	19.37	85.55	92.87
170	3.50	0.09	3.42	3.71	88.97	96.58
200	3.75	0.07	0.15	0.16	89.12	96.74
230	4.00	0.06	0.03	0.03	89.15	96.77

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.29	2.77	2.54	0.95	-0.62	-1.09	-2.16
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	0.75	0.59	1.77	-0.38	2.14	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-21 #3  
 Analysis Date: 07-10-08  
 Analyzed By: TD

Easting (ft): 410,936	Northing (ft): 1,157,377	Coordinate System: Florida State Plane West	Elevation (ft): -23.6 NAVD 88
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USCS: SW	Munsell: Wet - 5Y-5/1 Dry - 5Y-6/1 Washed - 5Y-7/1	Comments:
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Dry Weight (g): 85.36	Wash Weight (g): 83.03	Pan Retained (g): 0.06	Sieve Loss (%): 0.01	Fines (%): #200 - 2.91 #230 - 2.82	Organics (%):	Carbonates (%): 51	Shell Hash (%): 4
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.58	0.68	0.58	0.68
4	-2.25	4.76	0.49	0.57	1.07	1.25
5	-2.00	4.00	1.18	1.38	2.25	2.63
7	-1.50	2.83	2.09	2.45	4.34	5.08
10	-1.00	2.00	3.96	4.64	8.30	9.72
14	-0.50	1.41	5.85	6.85	14.15	16.57
18	0.00	1.00	5.64	6.61	19.79	23.18
25	0.50	0.71	6.20	7.26	25.99	30.44
35	1.00	0.50	5.50	6.44	31.49	36.88
45	1.50	0.35	4.82	5.65	36.31	42.53
60	2.00	0.25	5.24	6.14	41.55	48.67
80	2.50	0.18	7.95	9.31	49.50	57.98
120	3.00	0.13	23.15	27.12	72.65	85.10
170	3.50	0.09	9.49	11.12	82.14	96.22
200	3.75	0.07	0.74	0.87	82.88	97.09
230	4.00	0.06	0.08	0.09	82.96	97.18

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.45	2.98	2.81	2.07	0.13	-0.54	-1.52
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.41	0.38	1.62	-0.63	2.18	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-21 #4  
 Analysis Date: 07-14-08  
 Analyzed By: LH

Easting (ft): 410,936	Northing (ft): 1,157,377	Coordinate System: Florida State Plane West	Elevation (ft): -24.6 NAVD 88
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USCS: SP	Munsell: Wet - 5Y-7/1 Dry - 5Y-8/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): 85.62	Wash Weight (g): 84.58	Pan Retained (g): 0.00	Sieve Loss (%): 0.12	Fines (%): #200 - 1.40 #230 - 1.34	Organics (%):	Carbonates (%): 5	Shell Hash (%): 0
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.11	0.13	0.11	0.13
7	-1.50	2.83	0.20	0.23	0.31	0.36
10	-1.00	2.00	0.26	0.30	0.57	0.66
14	-0.50	1.41	0.42	0.49	0.99	1.15
18	0.00	1.00	0.41	0.48	1.40	1.63
25	0.50	0.71	0.49	0.57	1.89	2.20
35	1.00	0.50	0.44	0.51	2.33	2.71
45	1.50	0.35	0.58	0.68	2.91	3.39
60	2.00	0.25	1.66	1.94	4.57	5.33
80	2.50	0.18	13.18	15.39	17.75	20.72
120	3.00	0.13	55.48	64.80	73.23	85.52
170	3.50	0.09	10.96	12.80	84.19	98.32
200	3.75	0.07	0.24	0.28	84.43	98.60
230	4.00	0.06	0.05	0.06	84.48	98.66

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.37	2.99	2.92	2.73	2.53	2.35	1.91
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.62	0.16	0.62	-3.95	23.88	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
Sample Name: AMVC-08-21 #5  
Analysis Date: 07-14-08  
Analyzed By: LH

Easting (ft): <b>410,936</b>	Northing (ft): <b>1,157,377</b>	Coordinate System: <b>Florida State Plane West</b>	Elevation (ft): <b>-26.6 NAVD 88</b>
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USCS: <b>SP</b>	Munsell: Wet - 5Y-5/2 Dry - 5Y-7/2 Washed - 5Y-7/1	Comments:
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Dry Weight (g): <b>81.22</b>	Wash Weight (g): <b>78.39</b>	Pan Retained (g): <b>0.03</b>	Sieve Loss (%): <b>0.00</b>	Fines (%): #200 - 3.67 #230 - 3.52	Organics (%):	Carbonates (%): <b>7</b>	Shell Hash (%): <b>0</b>
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.05	0.06	0.05	0.06
10	-1.00	2.00	0.11	0.14	0.16	0.20
14	-0.50	1.41	0.09	0.11	0.25	0.31
18	0.00	1.00	0.10	0.12	0.35	0.43
25	0.50	0.71	0.11	0.14	0.46	0.57
35	1.00	0.50	0.29	0.36	0.75	0.93
45	1.50	0.35	0.55	0.68	1.30	1.61
60	2.00	0.25	3.69	4.54	4.99	6.15
80	2.50	0.18	48.50	59.71	53.49	65.86
120	3.00	0.13	23.02	28.34	76.51	94.20
170	3.50	0.09	1.53	1.88	78.04	96.08
200	3.75	0.07	0.20	0.25	78.24	96.33
230	4.00	0.06	0.12	0.15	78.36	96.48

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.21	2.82	2.66	2.37	2.16	2.08	1.87
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.37	0.19	0.41	-2.67	25.3	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08



# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-22 #1

Analysis Date: 07-14-08

Analyzed By: LH

Easting (ft): 410,420  
 Northing (ft): 1,157,939

Coordinate System: Florida State Plane West  
 Elevation (ft): -17.3 NAVD 88

USCS: SP  
 Munsell: Wet - 5Y-6/1  
 Dry - 5Y-7/1  
 Washed - 5Y-8/1  
 Comments:

Dry Weight (g): 88.73  
 Wash Weight (g): 87.50  
 Pan Retained (g): 0.00  
 Sieve Loss (%): 0.36  
 Finest (%): #200 - 1.76  
 #230 - 1.76  
 Organics (%):  
 Carbonates (%): 10  
 Shell Hash (%): 0

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.19	0.21	0.19	0.21
10	-1.00	2.00	0.27	0.30	0.46	0.51
14	-0.50	1.41	0.78	0.88	1.24	1.39
18	0.00	1.00	0.91	1.03	2.15	2.42
25	0.50	0.71	1.35	1.52	3.50	3.94
35	1.00	0.50	1.53	1.72	5.03	5.66
45	1.50	0.35	1.73	1.95	6.76	7.61
60	2.00	0.25	3.18	3.58	9.94	11.19
80	2.50	0.18	13.59	15.32	23.53	26.51
120	3.00	0.13	54.20	61.08	77.73	87.59
170	3.50	0.09	9.02	10.17	86.75	97.76
200	3.75	0.07	0.43	0.48	87.18	98.24
230	4.00	0.06	0.00	0.00	87.18	98.24

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.36	2.97	2.90	2.69	2.45	2.16	0.81
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.5	0.18	0.74	-2.74	11.76	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-22 #2

Analysis Date: 07-14-08

Analyzed By: LH

Easting (ft): 410,420  
 Northing (ft): 1,157,939

Coordinate System: Florida State Plane West  
 Elevation (ft): -18.8 NAVD 88

USCS: SW  
 Munsell: Wet - 5Y-6/1  
 Dry - 5Y-7/1  
 Washed - 5Y-7/1  
 Comments:

Dry Weight (g): 87.14  
 Wash Weight (g): 86.22  
 Pan Retained (g): 0.00  
 Sieve Loss (%): 0.09  
 Fines (%): #200 - 1.18  
 #230 - 1.16  
 Organics (%):  
 Carbonates (%): 36  
 Shell Hash (%): 3

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.83	0.95	0.83	0.95
7/16"	-3.50	11.31	0.00	0.00	0.83	0.95
5/16"	-3.00	8.00	0.55	0.63	1.38	1.58
3.5	-2.50	5.66	0.85	0.98	2.23	2.56
4	-2.25	4.76	0.64	0.73	2.87	3.29
5	-2.00	4.00	0.50	0.57	3.37	3.86
7	-1.50	2.83	1.96	2.25	5.33	6.11
10	-1.00	2.00	4.04	4.64	9.37	10.75
14	-0.50	1.41	6.25	7.17	15.62	17.92
18	0.00	1.00	5.76	6.61	21.38	24.53
25	0.50	0.71	4.51	5.18	25.89	29.71
35	1.00	0.50	3.69	4.23	29.58	33.94
45	1.50	0.35	3.11	3.57	32.69	37.51
60	2.00	0.25	1.29	1.48	33.98	38.99
80	2.50	0.18	14.61	16.77	48.59	55.76
120	3.00	0.13	32.08	36.81	80.67	92.57
170	3.50	0.09	5.31	6.09	85.98	98.66
200	3.75	0.07	0.14	0.16	86.12	98.82
230	4.00	0.06	0.02	0.02	86.14	98.84

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.20	2.88	2.76	2.33	0.05	-0.63	-1.75
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.44	0.37	1.72	-1.03	3.07	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-22 #3

Analysis Date: 07-14-08

Analyzed By: LH

Easting (ft):	Northing (ft):
410,420	1,157,939

Coordinate System:	Elevation (ft):
Florida State Plane West	-22.3 NAVD 88

USCS:	Munsell:	Wet - 5Y-6/1 Dry - 5Y-7/1 Washed - 5Y-7/1	Comments:
SW			

Dry Weight (g):	Wash Weight (g):	Pan Retained (g):	Sieve Loss (%):	Fines (%): #200 - 1.96 #230 - 1.89	Organics (%):	Carbonates (%):	Shell Hash (%):
82.19	80.79	0.05	0.13			60	7

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	1.28	1.56	1.28	1.56
7/16"	-3.50	11.31	3.33	4.05	4.61	5.61
5/16"	-3.00	8.00	1.54	1.87	6.15	7.48
3.5	-2.50	5.66	3.69	4.49	9.84	11.97
4	-2.25	4.76	0.63	0.77	10.47	12.74
5	-2.00	4.00	1.85	2.25	12.32	14.99
7	-1.50	2.83	4.25	5.17	16.57	20.16
10	-1.00	2.00	4.88	5.94	21.45	26.10
14	-0.50	1.41	7.18	8.74	28.63	34.84
18	0.00	1.00	6.69	8.14	35.32	42.98
25	0.50	0.71	7.27	8.85	42.59	51.83
35	1.00	0.50	5.74	6.98	48.33	58.81
45	1.50	0.35	4.60	5.60	52.93	64.41
60	2.00	0.25	3.42	4.16	56.35	68.57
80	2.50	0.18	6.42	7.81	62.77	76.38
120	3.00	0.13	14.45	17.58	77.22	93.96
170	3.50	0.09	3.14	3.82	80.36	97.78
200	3.75	0.07	0.21	0.26	80.57	98.04
230	4.00	0.06	0.06	0.07	80.63	98.11

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.14	2.72	2.41	0.40	-1.09	-1.90	-3.58
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	0.3	0.81	2.06	-0.35	2.11	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-23 #1  
 Analysis Date: 07-11-08  
 Analyzed By: TD

Easting (ft): 411,207	Northing (ft): 1,158,172	Coordinate System: Florida State Plane West	Elevation (ft): -16.2 NAVD 88
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USCS: SW	Munsell: Wet - 5Y-7/1 Dry - 5Y-8/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): 92.51	Wash Weight (g): 90.88	Pan Retained (g): 0.02	Sieve Loss (%): 0.03	Fines (%): #200 - 1.84 #230 - 1.81	Organics (%):	Carbonates (%): 12	Shell Hash (%): 0
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.12	0.13	0.12	0.13
4	-2.25	4.76	0.00	0.00	0.12	0.13
5	-2.00	4.00	0.04	0.04	0.16	0.17
7	-1.50	2.83	0.23	0.25	0.39	0.42
10	-1.00	2.00	0.75	0.81	1.14	1.23
14	-0.50	1.41	1.23	1.33	2.37	2.56
18	0.00	1.00	1.18	1.28	3.55	3.84
25	0.50	0.71	1.43	1.55	4.98	5.39
35	1.00	0.50	1.62	1.75	6.60	7.14
45	1.50	0.35	1.72	1.86	8.32	9.00
60	2.00	0.25	2.59	2.80	10.91	11.80
80	2.50	0.18	11.07	11.97	21.98	23.77
120	3.00	0.13	59.00	63.78	80.98	87.55
170	3.50	0.09	9.30	10.05	90.28	97.60
200	3.75	0.07	0.52	0.56	90.80	98.16
230	4.00	0.06	0.03	0.03	90.83	98.19

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.37	2.97	2.90	2.71	2.51	2.18	0.37
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.47	0.18	0.86	-2.82	11.62	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-23 #2  
 Analysis Date: 07-11-08  
 Analyzed By: LH

Easting (ft): 411,207	Northing (ft): 1,158,172	Coordinate System: Florida State Plane West	Elevation (ft): -18.6 NAVD 88
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USCS: SP	Munsell: Wet - 5Y-7/1 Dry - 5Y-7/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): 89.37	Wash Weight (g): 87.84	Pan Retained (g): 0.01	Sieve Loss (%): 0.16	Fines (%): #200 - 1.90 #230 - 1.88	Organics (%):	Carbonates (%):	Shell Hash (%): 0
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.02	0.02	0.02	0.02
7	-1.50	2.83	0.05	0.06	0.07	0.08
10	-1.00	2.00	0.19	0.21	0.26	0.29
14	-0.50	1.41	0.50	0.56	0.76	0.85
18	0.00	1.00	0.61	0.68	1.37	1.53
25	0.50	0.71	0.81	0.91	2.18	2.44
35	1.00	0.50	0.96	1.07	3.14	3.51
45	1.50	0.35	1.00	1.12	4.14	4.63
60	2.00	0.25	2.02	2.26	6.16	6.89
80	2.50	0.18	12.86	14.39	19.02	21.28
120	3.00	0.13	58.59	65.56	77.61	86.84
170	3.50	0.09	9.76	10.92	87.37	97.76
200	3.75	0.07	0.30	0.34	87.67	98.10
230	4.00	0.06	0.02	0.02	87.69	98.12

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.37	2.98	2.91	2.72	2.53	2.32	1.58
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.6	0.16	0.62	-3.3	17.11	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-23 #3  
 Analysis Date: 07-11-08  
 Analyzed By: LH

Easting (ft): 411,207	Northing (ft): 1,158,172	Coordinate System: Florida State Plane West	Elevation (ft): -19.9 NAVD 88
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USCS: SW	Munsell: Wet - 5Y-7/1 Dry - 5Y-7/1 Washed - 5Y-7/1	Comments:
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Dry Weight (g): 91.48	Wash Weight (g): 89.25	Pan Retained (g): 0.02	Sieve Loss (%): 0.51	Fines (%): #200 - 3.01 #230 - 2.97	Organics (%):	Carbonates (%):	Shell Hash (%): 1
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.25	0.27	0.25	0.27
7	-1.50	2.83	0.64	0.70	0.89	0.97
10	-1.00	2.00	1.09	1.19	1.98	2.16
14	-0.50	1.41	2.06	2.25	4.04	4.41
18	0.00	1.00	2.54	2.78	6.58	7.19
25	0.50	0.71	3.13	3.42	9.71	10.61
35	1.00	0.50	3.51	3.84	13.22	14.45
45	1.50	0.35	3.64	3.98	16.86	18.43
60	2.00	0.25	5.45	5.96	22.31	24.39
80	2.50	0.18	19.09	20.87	41.40	45.26
120	3.00	0.13	41.77	45.66	83.17	90.92
170	3.50	0.09	5.32	5.82	88.49	96.74
200	3.75	0.07	0.23	0.25	88.72	96.99
230	4.00	0.06	0.04	0.04	88.76	97.03

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.35	2.92	2.83	2.55	2.01	1.19	-0.39
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.12	0.23	1.08	-1.75	5.49	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-24 #1

Analysis Date: 07-09-08

Analyzed By: LH

Easting (ft):	Northing (ft):
410,358	1,158,939

Coordinate System:	Elevation (ft):
Florida State Plane West	-18.0 NAVD 88

USCS:	Munsell:	Comments:
SP	Wet - 5Y-6/1 Dry - 5Y-8/1 Washed - 5Y-8/1	

Dry Weight (g):	Wash Weight (g):	Pan Retained (g):	Sieve Loss (%):	Fines (%):	Organics (%):	Carbonates (%):	Shell Hash (%):
93.63	92.46	0.00	0.22	#200 - 1.47 #230 - 1.47			0

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.25	0.27	0.25	0.27
10	-1.00	2.00	0.50	0.53	0.75	0.80
14	-0.50	1.41	0.88	0.94	1.63	1.74
18	0.00	1.00	1.13	1.21	2.76	2.95
25	0.50	0.71	1.44	1.54	4.20	4.49
35	1.00	0.50	2.06	2.20	6.26	6.69
45	1.50	0.35	3.01	3.21	9.27	9.90
60	2.00	0.25	7.50	8.01	16.77	17.91
80	2.50	0.18	24.86	26.55	41.63	44.46
120	3.00	0.13	46.28	49.43	87.91	93.89
170	3.50	0.09	4.24	4.53	92.15	98.42
200	3.75	0.07	0.10	0.11	92.25	98.53
230	4.00	0.06	0.00	0.00	92.25	98.53

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.12	2.90	2.81	2.56	2.13	1.88	0.62
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.32	0.20	0.78	-2.37	9.63	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-24 #2  
 Analysis Date: 07-09-08  
 Analyzed By: LH

Easting (ft): 410,358	Northing (ft): 1,158,939	Coordinate System: Florida State Plane West	Elevation (ft): -19.8 NAVD 88
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USCS: SW	Munsell: Wet - 5Y-6/1 Dry - 5Y-7/1 Washed - 5Y-7/1	Comments:
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Dry Weight (g): 91.07	Wash Weight (g): 89.93	Pan Retained (g): 0.00	Sieve Loss (%): 0.03	Fines (%): #200 - 1.34 #230 - 1.31	Organics (%):	Carbonates (%):	Shell Hash (%): 3
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	1.23	1.35	1.23	1.35
3.5	-2.50	5.66	0.55	0.60	1.78	1.95
4	-2.25	4.76	0.03	0.03	1.81	1.98
5	-2.00	4.00	1.01	1.11	2.82	3.09
7	-1.50	2.83	2.08	2.28	4.90	5.37
10	-1.00	2.00	2.84	3.12	7.74	8.49
14	-0.50	1.41	4.35	4.78	12.09	13.27
18	0.00	1.00	4.21	4.62	16.30	17.89
25	0.50	0.71	4.30	4.72	20.60	22.61
35	1.00	0.50	5.04	5.53	25.64	28.14
45	1.50	0.35	5.42	5.95	31.06	34.09
60	2.00	0.25	8.94	9.82	40.00	43.91
80	2.50	0.18	20.49	22.50	60.49	66.41
120	3.00	0.13	26.85	29.48	87.34	95.89
170	3.50	0.09	2.39	2.62	89.73	98.51
200	3.75	0.07	0.14	0.15	89.87	98.66
230	4.00	0.06	0.03	0.03	89.90	98.69

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.98	2.80	2.65	2.14	0.72	-0.20	-1.58
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.52	0.35	1.5	-1.23	3.68	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08



# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-25 #1  
 Analysis Date: 07-09-08  
 Analyzed By: LH

Easting (ft): 409,986	Northing (ft): 1,158,655	Coordinate System: Florida State Plane West	Elevation (ft): -19.8 NAVD 88
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USCS: SW	Munsell: Wet - 5Y-6/1 Dry - 5Y-7/1 Washed - 5Y-7/1	Comments:
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Dry Weight (g): 94.00	Wash Weight (g): 92.83	Pan Retained (g): 0.01	Sieve Loss (%): 0.03	Fines (%): #200 - 1.27 #230 - 1.27	Organics (%):	Carbonates (%):	Shell Hash (%): 2
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	1.36	1.45	1.36	1.45
7/16"	-3.50	11.31	0.00	0.00	1.36	1.45
5/16"	-3.00	8.00	0.28	0.30	1.64	1.75
3.5	-2.50	5.66	0.09	0.10	1.73	1.85
4	-2.25	4.76	0.06	0.06	1.79	1.91
5	-2.00	4.00	0.38	0.40	2.17	2.31
7	-1.50	2.83	1.72	1.83	3.89	4.14
10	-1.00	2.00	3.14	3.34	7.03	7.48
14	-0.50	1.41	6.53	6.95	13.56	14.43
18	0.00	1.00	7.43	7.90	20.99	22.33
25	0.50	0.71	7.94	8.45	28.93	30.78
35	1.00	0.50	7.48	7.96	36.41	38.74
45	1.50	0.35	5.26	5.60	41.67	44.34
60	2.00	0.25	4.53	4.82	46.20	49.16
80	2.50	0.18	10.85	11.54	57.05	60.70
120	3.00	0.13	31.62	33.64	88.67	94.34
170	3.50	0.09	4.02	4.28	92.69	98.62
200	3.75	0.07	0.10	0.11	92.79	98.73
230	4.00	0.06	0.00	0.00	92.79	98.73

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.08	2.85	2.71	2.04	0.16	-0.40	-1.37
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.35	0.39	1.6	-0.95	3.47	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
Sample Name: AMVC-08-26 #1  
Analysis Date: 07-11-08  
Analyzed By: TD

Easting (ft): <b>409,640</b>	Northing (ft): <b>1,158,254</b>	Coordinate System: <b>Florida State Plane West</b>	Elevation (ft): <b>-17.0 NAVD 88</b>
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USCS: <b>SW</b>	Munsell: <b>Wet - 5Y-6/1 Dry - 5Y-7/1 Washed - 5Y-8/1</b>	Comments:
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Dry Weight (g): <b>89.29</b>	Wash Weight (g): <b>88.10</b>	Pan Retained (g): <b>0.03</b>	Sieve Loss (%): <b>0.00</b>	Fines (%): <b>#200 - 1.41 #230 - 1.35</b>	Organics (%):	Carbonates (%): <b>20</b>	Shell Hash (%): <b>1</b>
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.36	0.40	0.36	0.40
4	-2.25	4.76	0.00	0.00	0.36	0.40
5	-2.00	4.00	0.13	0.15	0.49	0.55
7	-1.50	2.83	0.89	1.00	1.38	1.55
10	-1.00	2.00	1.52	1.70	2.90	3.25
14	-0.50	1.41	2.78	3.11	5.68	6.36
18	0.00	1.00	3.06	3.43	8.74	9.79
25	0.50	0.71	3.14	3.52	11.88	13.31
35	1.00	0.50	2.69	3.01	14.57	16.32
45	1.50	0.35	2.49	2.79	17.06	19.11
60	2.00	0.25	2.81	3.15	19.87	22.26
80	2.50	0.18	9.07	10.16	28.94	32.42
120	3.00	0.13	45.86	51.36	74.80	83.78
170	3.50	0.09	12.56	14.07	87.36	97.85
200	3.75	0.07	0.66	0.74	88.02	98.59
230	4.00	0.06	0.05	0.06	88.07	98.65

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.40	3.01	2.91	2.67	2.13	0.95	-0.72
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.19	0.22	1.24	-1.76	5.23	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-26 #2  
 Analysis Date: 07-10-08  
 Analyzed By: TD

Easting (ft): 409,640	Northing (ft): 1,158,254	Coordinate System: Florida State Plane West	Elevation (ft): -19.1 NAVD 88
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USCS: SP	Munsell: Wet - 5Y-6/1 Dry - 5Y-8/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): 94.01	Wash Weight (g): 92.73	Pan Retained (g): 0.01	Sieve Loss (%): 0.02	Fines (%): #200 - 1.47 #230 - 1.41	Organics (%):	Carbonates (%): 7	Shell Hash (%): 0
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.17	0.18	0.17	0.18
10	-1.00	2.00	0.19	0.20	0.36	0.38
14	-0.50	1.41	0.54	0.57	0.90	0.95
18	0.00	1.00	0.63	0.67	1.53	1.62
25	0.50	0.71	0.91	0.97	2.44	2.59
35	1.00	0.50	1.14	1.21	3.58	3.80
45	1.50	0.35	1.25	1.33	4.83	5.13
60	2.00	0.25	2.19	2.33	7.02	7.46
80	2.50	0.18	11.61	12.35	18.63	19.81
120	3.00	0.13	62.69	66.68	81.32	86.49
170	3.50	0.09	11.05	11.75	92.37	98.24
200	3.75	0.07	0.27	0.29	92.64	98.53
230	4.00	0.06	0.06	0.06	92.70	98.59

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.36	2.98	2.91	2.73	2.54	2.35	1.45
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.6	0.16	0.64	-3.3	16.88	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-26 #3

Analysis Date: 07-09-08

Analyzed By: TD

Easting (ft): 409,640  
 Northing (ft): 1,158,254

Coordinate System: Florida State Plane West  
 Elevation (ft): -21.7 NAVD 88

USCS: SW  
 Munsell: Wet - 5Y-6/1  
 Dry - 5Y-6/1  
 Washed - 5Y-7/1  
 Comments:

Dry Weight (g): 92.07  
 Wash Weight (g): 91.03  
 Pan Retained (g): 0.01  
 Sieve Loss (%): 0.05  
 Fines (%): #200 - 1.22  
 #230 - 1.20  
 Organics (%):  
 Carbonates (%): 44  
 Shell Hash (%): 2

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.35	0.38	0.35	0.38
3.5	-2.50	5.66	0.68	0.74	1.03	1.12
4	-2.25	4.76	0.00	0.00	1.03	1.12
5	-2.00	4.00	0.29	0.31	1.32	1.43
7	-1.50	2.83	1.76	1.91	3.08	3.34
10	-1.00	2.00	3.75	4.07	6.83	7.41
14	-0.50	1.41	7.18	7.80	14.01	15.21
18	0.00	1.00	7.13	7.74	21.14	22.95
25	0.50	0.71	7.49	8.14	28.63	31.09
35	1.00	0.50	6.97	7.57	35.60	38.66
45	1.50	0.35	6.70	7.28	42.30	45.94
60	2.00	0.25	4.60	5.00	46.90	50.94
80	2.50	0.18	7.72	8.38	54.62	59.32
120	3.00	0.13	28.92	31.41	83.54	90.73
170	3.50	0.09	6.98	7.58	90.52	98.31
200	3.75	0.07	0.43	0.47	90.95	98.78
230	4.00	0.06	0.02	0.02	90.97	98.80

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.28	2.89	2.75	1.91	0.13	-0.45	-1.30
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	1.39	0.38	1.55	-0.61	2.26	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-26 #4  
 Analysis Date: 07-09-08  
 Analyzed By: LH

Easting (ft): 409,640	Northing (ft): 1,158,254	Coordinate System: Florida State Plane West	Elevation (ft): -23.0 NAVD 88
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USCS: SW	Munsell: Wet - 5Y-6/1 Dry - 5Y-7/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): 83.91	Wash Weight (g): 82.72	Pan Retained (g): 0.04	Sieve Loss (%): 0.26	Fines (%): #200 - 2.04 #230 - 1.74	Organics (%):	Carbonates (%): 16	Shell Hash (%): 0
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.10	0.12	0.10	0.12
10	-1.00	2.00	0.11	0.13	0.21	0.25
14	-0.50	1.41	0.43	0.51	0.64	0.76
18	0.00	1.00	1.15	1.37	1.79	2.13
25	0.50	0.71	1.61	1.92	3.40	4.05
35	1.00	0.50	2.32	2.76	5.72	6.81
45	1.50	0.35	2.55	3.04	8.27	9.85
60	2.00	0.25	2.41	2.87	10.68	12.72
80	2.50	0.18	2.93	3.49	13.61	16.21
120	3.00	0.13	14.14	16.85	27.75	33.06
170	3.50	0.09	47.35	56.43	75.10	89.49
200	3.75	0.07	7.11	8.47	82.21	97.96
230	4.00	0.06	0.25	0.30	82.46	98.26

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.66	3.45	3.37	3.15	2.76	2.47	0.67
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.85	0.14	0.88	-2.25	7.86	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-26 #5

Analysis Date: 07-10-08

Analyzed By: TD

Easting (ft):	Northing (ft):
409,640	1,158,254

Coordinate System:	Elevation (ft):
Florida State Plane West	-25.1 NAVD 88

USCS:	Munsell:	Comments:
SW	Wet - 5Y-5/1 Dry - 5Y-6/1 Washed - 5Y-7/1	

Dry Weight (g):	Wash Weight (g):	Pan Retained (g):	Sieve Loss (%):	Fines (%):	Organics (%):	Carbonates (%):	Shell Hash (%):
88.15	86.37	0.06	0.07	#200 - 2.27 #230 - 2.15		58	4

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.96	1.09	0.96	1.09
3.5	-2.50	5.66	1.46	1.66	2.42	2.75
4	-2.25	4.76	0.82	0.93	3.24	3.68
5	-2.00	4.00	0.93	1.06	4.17	4.74
7	-1.50	2.83	2.52	2.86	6.69	7.60
10	-1.00	2.00	4.25	4.82	10.94	12.42
14	-0.50	1.41	7.93	9.00	18.87	21.42
18	0.00	1.00	8.58	9.73	27.45	31.15
25	0.50	0.71	9.07	10.29	36.52	41.44
35	1.00	0.50	7.78	8.83	44.30	50.27
45	1.50	0.35	5.92	6.72	50.22	56.99
60	2.00	0.25	4.13	4.69	54.35	61.68
80	2.50	0.18	5.76	6.53	60.11	68.21
120	3.00	0.13	20.02	22.71	80.13	90.92
170	3.50	0.09	5.38	6.10	85.51	97.02
200	3.75	0.07	0.63	0.71	86.14	97.73
230	4.00	0.06	0.11	0.12	86.25	97.85

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.33	2.85	2.65	0.98	-0.32	-0.80	-1.95
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	0.95	0.52	1.69	-0.35	2.14	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-26 #6  
 Analysis Date: 08-19-08  
 Analyzed By: PB

Easting (ft): 409,640	Northing (ft): 1,158,254	Coordinate System: Florida State Plane West	Elevation (ft): -26.0 NAVD 88
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USCS: SP	Munsell: Wet - 5Y-7/1 Dry - 5Y-8/2 Washed - 5Y-8/1	Comments:
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Dry Weight (g): 90.39	Wash Weight (g): 89.11	Pan Retained (g): 0.02	Sieve Loss (%): 0.01	Fines (%): #200 - 1.52 #230 - 1.46	Organics (%):	Carbonates (%): 7	Shell Hash (%): 1
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.30	0.33	0.30	0.33
5	-2.00	4.00	0.31	0.34	0.61	0.67
7	-1.50	2.83	0.42	0.46	1.03	1.13
10	-1.00	2.00	0.32	0.35	1.35	1.48
14	-0.50	1.41	0.70	0.77	2.05	2.25
18	0.00	1.00	0.50	0.55	2.55	2.80
25	0.50	0.71	0.54	0.60	3.09	3.40
35	1.00	0.50	0.46	0.51	3.55	3.91
45	1.50	0.35	0.41	0.45	3.96	4.36
60	2.00	0.25	0.82	0.91	4.78	5.27
80	2.50	0.18	25.61	28.33	30.39	33.60
120	3.00	0.13	51.72	57.22	82.11	90.82
170	3.50	0.09	6.58	7.28	88.69	98.10
200	3.75	0.07	0.34	0.38	89.03	98.48
230	4.00	0.06	0.05	0.06	89.08	98.54

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.29	2.94	2.86	2.64	2.35	2.19	1.85
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.49	0.18	0.76	-3.94	21.5	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-27 #1

Analysis Date: 07-09-08

Analyzed By: LH

Easting (ft):	Northing (ft):
409,240	1,158,469

Coordinate System:	Elevation (ft):
Florida State Plane West	-17.3 NAVD 88

USCS:	Munsell:	Wet - 5Y-6/1 Dry - 5Y-8/1 Washed - 5Y-8/1	Comments:
SP			

Dry Weight (g):	Wash Weight (g):	Pan Retained (g):	Sieve Loss (%):	Fines (%): #200 - 1.18 #230 - 1.16	Organics (%):	Carbonates (%):	Shell Hash (%):
90.85	89.84	0.00	0.03			9	0

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.21	0.23	0.21	0.23
10	-1.00	2.00	0.29	0.32	0.50	0.55
14	-0.50	1.41	0.54	0.59	1.04	1.14
18	0.00	1.00	0.65	0.72	1.69	1.86
25	0.50	0.71	0.87	0.96	2.56	2.82
35	1.00	0.50	1.32	1.45	3.88	4.27
45	1.50	0.35	1.71	1.88	5.59	6.15
60	2.00	0.25	4.91	5.40	10.50	11.55
80	2.50	0.18	27.61	30.39	38.11	41.94
120	3.00	0.13	46.97	51.70	85.08	93.64
170	3.50	0.09	4.58	5.04	89.66	98.68
200	3.75	0.07	0.13	0.14	89.79	98.82
230	4.00	0.06	0.02	0.02	89.81	98.84

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.13	2.91	2.82	2.58	2.22	2.07	1.19
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.42	0.19	0.66	-2.85	14.03	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08



# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-27 #2  
 Analysis Date: 07-09-08  
 Analyzed By: LH

Easting (ft): 409,240	Northing (ft): 1,158,469	Coordinate System: Florida State Plane West	Elevation (ft): -20.3 NAVD 88
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USCS: SW	Munsell: Wet - 5Y-6/1 Dry - 5Y-7/1 Washed - 5Y-7/1	Comments:
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Dry Weight (g): 81.09	Wash Weight (g): 79.86	Pan Retained (g): 0.01	Sieve Loss (%): 0.27	Fines (%): #200 - 1.85 #230 - 1.79	Organics (%):	Carbonates (%): 25	Shell Hash (%): 1
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.14	0.17	0.14	0.17
7	-1.50	2.83	0.39	0.48	0.53	0.65
10	-1.00	2.00	1.01	1.25	1.54	1.90
14	-0.50	1.41	1.84	2.27	3.38	4.17
18	0.00	1.00	2.31	2.85	5.69	7.02
25	0.50	0.71	2.61	3.22	8.30	10.24
35	1.00	0.50	2.94	3.63	11.24	13.87
45	1.50	0.35	2.69	3.32	13.93	17.19
60	2.00	0.25	3.81	4.70	17.74	21.89
80	2.50	0.18	9.86	12.16	27.60	34.05
120	3.00	0.13	43.91	54.15	71.51	88.20
170	3.50	0.09	7.91	9.75	79.42	97.95
200	3.75	0.07	0.16	0.20	79.58	98.15
230	4.00	0.06	0.05	0.06	79.63	98.21

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.35	2.96	2.88	2.65	2.13	1.32	-0.35
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.24	0.21	1.08	-1.83	5.64	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-27 #3  
 Analysis Date: 07-09-08  
 Analyzed By: LH

Easting (ft): 409,240	Northing (ft): 1,158,469	Coordinate System: Florida State Plane West	Elevation (ft): -22.8 NAVD 88
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USCS: SP	Munsell: Wet - 5Y-6/1 Dry - 5Y-7/1 Washed - 5Y-7/1	Comments:
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Dry Weight (g): 86.79	Wash Weight (g): 85.46	Pan Retained (g): 0.02	Sieve Loss (%): 0.21	Fines (%): #200 - 1.81 #230 - 1.75	Organics (%):	Carbonates (%): 14	Shell Hash (%): 0
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.05	0.06	0.05	0.06
7	-1.50	2.83	0.16	0.18	0.21	0.24
10	-1.00	2.00	0.44	0.51	0.65	0.75
14	-0.50	1.41	1.01	1.16	1.66	1.91
18	0.00	1.00	1.21	1.39	2.87	3.30
25	0.50	0.71	1.49	1.72	4.36	5.02
35	1.00	0.50	1.83	2.11	6.19	7.13
45	1.50	0.35	1.59	1.83	7.78	8.96
60	2.00	0.25	0.30	0.35	8.08	9.31
80	2.50	0.18	12.01	13.84	20.09	23.15
120	3.00	0.13	52.16	60.10	72.25	83.25
170	3.50	0.09	12.59	14.51	84.84	97.76
200	3.75	0.07	0.37	0.43	85.21	98.19
230	4.00	0.06	0.05	0.06	85.26	98.25

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.40	3.03	2.93	2.72	2.52	2.24	0.49
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.52	0.17	0.82	-2.71	10.89	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-27 #4  
 Analysis Date: 08-19-08  
 Analyzed By: PB

Easting (ft): 409,240	Northing (ft): 1,158,469	Coordinate System: Florida State Plane West	Elevation (ft): -25.3 NAVD 88
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USCS: SW	Munsell: Wet - 5Y-6/1 Dry - 5Y-7/1 Washed - 5Y-7/1	Comments:
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Dry Weight (g): 85.03	Wash Weight (g): 83.20	Pan Retained (g): 0.02	Sieve Loss (%): 0.00	Fines (%): #200 - 2.23 #230 - 2.18	Organics (%):	Carbonates (%): 57	Shell Hash (%): 4
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.78	0.92	0.78	0.92
4	-2.25	4.76	0.18	0.21	0.96	1.13
5	-2.00	4.00	0.63	0.74	1.59	1.87
7	-1.50	2.83	2.60	3.06	4.19	4.93
10	-1.00	2.00	4.48	5.27	8.67	10.20
14	-0.50	1.41	7.33	8.62	16.00	18.82
18	0.00	1.00	8.07	9.49	24.07	28.31
25	0.50	0.71	8.43	9.91	32.50	38.22
35	1.00	0.50	8.25	9.70	40.75	47.92
45	1.50	0.35	7.49	8.81	48.24	56.73
60	2.00	0.25	6.79	7.99	55.03	64.72
80	2.50	0.18	9.13	10.74	64.16	75.46
120	3.00	0.13	16.26	19.12	80.42	94.58
170	3.50	0.09	2.58	3.03	83.00	97.61
200	3.75	0.07	0.14	0.16	83.14	97.77
230	4.00	0.06	0.04	0.05	83.18	97.82

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.07	2.72	2.48	1.12	-0.17	-0.66	-1.49
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	0.99	0.50	1.49	-0.31	2.05	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-27 #5

Analysis Date: 08-19-08

Analyzed By: TD

Easting (ft): 409,240  
 Northing (ft): 1,158,469

Coordinate System: Florida State Plane West  
 Elevation (ft): -26.8 NAVD 88

USCS: SP  
 Munsell: Wet - 5Y-7/1  
 Dry - 5Y-7/1  
 Washed - 5Y-7/1  
 Comments:

Dry Weight (g): 94.33  
 Wash Weight (g): 92.37  
 Pan Retained (g): 0.10  
 Sieve Loss (%): 0.05  
 Fines (%): #200 - 2.42  
 #230 - 2.23  
 Organics (%):  
 Carbonates (%): 10  
 Shell Hash (%): 1

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.19	0.20	0.19	0.20
4	-2.25	4.76	0.08	0.08	0.27	0.28
5	-2.00	4.00	0.11	0.12	0.38	0.40
7	-1.50	2.83	0.47	0.50	0.85	0.90
10	-1.00	2.00	0.60	0.64	1.45	1.54
14	-0.50	1.41	0.86	0.91	2.31	2.45
18	0.00	1.00	0.78	0.83	3.09	3.28
25	0.50	0.71	1.07	1.13	4.16	4.41
35	1.00	0.50	1.11	1.18	5.27	5.59
45	1.50	0.35	0.88	0.93	6.15	6.52
60	2.00	0.25	0.88	0.93	7.03	7.45
80	2.50	0.18	7.43	7.88	14.46	15.33
120	3.00	0.13	64.52	68.40	78.98	83.73
170	3.50	0.09	11.78	12.49	90.76	96.22
200	3.75	0.07	1.28	1.36	92.04	97.58
230	4.00	0.06	0.18	0.19	92.22	97.77

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.45	3.01	2.94	2.75	2.57	2.50	0.75
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.58	0.17	0.84	-3.5	16.8	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-27 #6

Analysis Date: 08-19-08

Analyzed By: PB

Easting (ft): 409,240  
 Northing (ft): 1,158,469

Coordinate System: Florida State Plane West  
 Elevation (ft): -29.3 NAVD 88

USCS: SP  
 Munsell: Wet - 5Y-5/2  
 Dry - 5Y-6/2  
 Washed - 5Y-7/2  
 Comments:

Dry Weight (g): 70.93  
 Wash Weight (g): 67.79  
 Pan Retained (g): 0.04  
 Sieve Loss (%): 0.07  
 Finest (%): #200 - 4.97  
 #230 - 4.58  
 Organics (%):  
 Carbonates (%): 7  
 Shell Hash (%): 0

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.01	0.01	0.01	0.01
10	-1.00	2.00	0.03	0.04	0.04	0.05
14	-0.50	1.41	0.06	0.08	0.10	0.13
18	0.00	1.00	0.08	0.11	0.18	0.24
25	0.50	0.71	0.25	0.35	0.43	0.59
35	1.00	0.50	0.23	0.32	0.66	0.91
45	1.50	0.35	0.21	0.30	0.87	1.21
60	2.00	0.25	0.38	0.54	1.25	1.75
80	2.50	0.18	5.79	8.16	7.04	9.91
120	3.00	0.13	44.45	62.67	51.49	72.58
170	3.50	0.09	14.04	19.79	65.53	92.37
200	3.75	0.07	1.89	2.66	67.42	95.03
230	4.00	0.06	0.28	0.39	67.70	95.42

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.75	3.29	3.06	2.82	2.62	2.55	2.20
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.8	0.14	0.42	-2.7	22.33	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
Sample Name: AMVC-08-28 #1  
Analysis Date: 07-10-08  
Analyzed By: TD

Easting (ft): <b>408,532</b>	Northing (ft): <b>1,158,705</b>	Coordinate System: <b>Florida State Plane West</b>	Elevation (ft): <b>-18.2 NAVD 88</b>
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USCS: <b>SW</b>	Munsell: <b>Wet - 5Y-5/1 Dry - 5Y-6/1 Washed - 2.5Y-7/1</b>	Comments:
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Dry Weight (g): <b>87.93</b>	Wash Weight (g): <b>86.88</b>	Pan Retained (g): <b>0.01</b>	Sieve Loss (%): <b>0.00</b>	Fines (%): <b>#200 - 1.21 #230 - 1.21</b>	Organics (%):	Carbonates (%): <b>48</b>	Shell Hash (%): <b>1</b>
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.32	0.36	0.32	0.36
4	-2.25	4.76	0.00	0.00	0.32	0.36
5	-2.00	4.00	0.24	0.27	0.56	0.63
7	-1.50	2.83	0.66	0.75	1.22	1.38
10	-1.00	2.00	2.32	2.64	3.54	4.02
14	-0.50	1.41	5.23	5.95	8.77	9.97
18	0.00	1.00	7.02	7.98	15.79	17.95
25	0.50	0.71	8.48	9.64	24.27	27.59
35	1.00	0.50	9.51	10.82	33.78	38.41
45	1.50	0.35	12.02	13.67	45.80	52.08
60	2.00	0.25	15.45	17.57	61.25	69.65
80	2.50	0.18	12.98	14.76	74.23	84.41
120	3.00	0.13	11.26	12.81	85.49	97.22
170	3.50	0.09	1.33	1.51	86.82	98.73
200	3.75	0.07	0.05	0.06	86.87	98.79
230	4.00	0.06	0.00	0.00	86.87	98.79

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.91	2.49	2.18	1.42	0.37	-0.12	-0.92
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	1.21	0.43	1.19	-0.54	2.65	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-28 #2  
 Analysis Date: 07-09-08  
 Analyzed By: TD

Easting (ft): 408,532	Northing (ft): 1,158,705	Coordinate System: Florida State Plane West	Elevation (ft): -20.2 NAVD 88
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USCS: SP	Munsell: Wet - 5Y-6/1 Dry - 5Y-7/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): 85.02	Wash Weight (g): 83.97	Pan Retained (g): 0.02	Sieve Loss (%): 0.00	Fines (%): #200 - 1.29 #230 - 1.25	Organics (%):	Carbonates (%):	Shell Hash (%): 0
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.08	0.09	0.08	0.09
5	-2.00	4.00	0.02	0.02	0.10	0.11
7	-1.50	2.83	0.09	0.11	0.19	0.22
10	-1.00	2.00	0.27	0.32	0.46	0.54
14	-0.50	1.41	0.72	0.85	1.18	1.39
18	0.00	1.00	1.08	1.27	2.26	2.66
25	0.50	0.71	1.57	1.85	3.83	4.51
35	1.00	0.50	2.27	2.67	6.10	7.18
45	1.50	0.35	2.61	3.07	8.71	10.25
60	2.00	0.25	4.32	5.08	13.03	15.33
80	2.50	0.18	11.86	13.95	24.89	29.28
120	3.00	0.13	48.03	56.49	72.92	85.77
170	3.50	0.09	10.20	12.00	83.12	97.77
200	3.75	0.07	0.80	0.94	83.92	98.71
230	4.00	0.06	0.03	0.04	83.95	98.75

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.38	2.98	2.90	2.68	2.35	2.02	0.59
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.46	0.18	0.81	-2.3	9.19	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-28 #3  
 Analysis Date: 07-09-08  
 Analyzed By: TD

Easting (ft): 408,532	Northing (ft): 1,158,705	Coordinate System: Florida State Plane West	Elevation (ft): -22.4 NAVD 88
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USCS: SW	Munsell: Wet - 5Y-5/1 Dry - 5Y-7/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): 88.04	Wash Weight (g): 86.74	Pan Retained (g): 0.01	Sieve Loss (%): 0.00	Fines (%): #200 - 1.54 #230 - 1.48	Organics (%):	Carbonates (%):	Shell Hash (%): 0
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.11	0.12	0.11	0.12
10	-1.00	2.00	0.35	0.40	0.46	0.52
14	-0.50	1.41	0.92	1.04	1.38	1.56
18	0.00	1.00	1.57	1.78	2.95	3.34
25	0.50	0.71	2.94	3.34	5.89	6.68
35	1.00	0.50	4.25	4.83	10.14	11.51
45	1.50	0.35	5.88	6.68	16.02	18.19
60	2.00	0.25	8.84	10.04	24.86	28.23
80	2.50	0.18	12.49	14.19	37.35	42.42
120	3.00	0.13	40.23	45.70	77.58	88.12
170	3.50	0.09	8.60	9.77	86.18	97.89
200	3.75	0.07	0.50	0.57	86.68	98.46
230	4.00	0.06	0.05	0.06	86.73	98.52

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.35	2.95	2.86	2.58	1.84	1.34	0.25
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.23	0.21	0.92	-1.45	4.82	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08



# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-28 #4  
 Analysis Date: 07-08-08  
 Analyzed By: TD

Easting (ft): 408,532	Northing (ft): 1,158,705	Coordinate System: Florida State Plane West	Elevation (ft): -24.5 NAVD 88
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USCS: SW	Munsell: Wet - 5Y-5/1 Dry - 5Y-6/1 Washed - 2.5Y-7/1	Comments:
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Dry Weight (g): 93.28	Wash Weight (g): 91.57	Pan Retained (g): 0.04	Sieve Loss (%): 0.01	Fines (%): #200 - 1.90 #230 - 1.88	Organics (%):	Carbonates (%):	Shell Hash (%): 2
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.87	0.93	0.87	0.93
3.5	-2.50	5.66	2.04	2.19	2.91	3.12
4	-2.25	4.76	0.42	0.45	3.33	3.57
5	-2.00	4.00	0.40	0.43	3.73	4.00
7	-1.50	2.83	1.15	1.23	4.88	5.23
10	-1.00	2.00	2.32	2.49	7.20	7.72
14	-0.50	1.41	5.90	6.33	13.10	14.05
18	0.00	1.00	8.18	8.77	21.28	22.82
25	0.50	0.71	11.70	12.54	32.98	35.36
35	1.00	0.50	13.38	14.34	46.36	49.70
45	1.50	0.35	17.66	18.93	64.02	68.63
60	2.00	0.25	14.13	15.15	78.15	83.78
80	2.50	0.18	4.46	4.78	82.61	88.56
120	3.00	0.13	7.20	7.72	89.81	96.28
170	3.50	0.09	1.19	1.28	91.00	97.56
200	3.75	0.07	0.50	0.54	91.50	98.10
230	4.00	0.06	0.02	0.02	91.52	98.12

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.92	2.02	1.71	1.01	0.09	-0.39	-1.59
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	0.81	0.57	1.31	-0.67	3.68	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-28 #5  
 Analysis Date: 07-09-08  
 Analyzed By: TD

Easting (ft): 408,532	Northing (ft): 1,158,705	Coordinate System: Florida State Plane West	Elevation (ft): -26.6 NAVD 88
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USCS: SW	Munsell: Wet - 5Y-6/1 Dry - 5Y-7/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): 87.52	Wash Weight (g): 85.63	Pan Retained (g): 0.07	Sieve Loss (%): 0.10	Fines (%): #200 - 2.54 #230 - 2.35	Organics (%):	Carbonates (%):	Shell Hash (%): 1
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.24	0.27	0.24	0.27
4	-2.25	4.76	0.00	0.00	0.24	0.27
5	-2.00	4.00	0.15	0.17	0.39	0.44
7	-1.50	2.83	0.40	0.46	0.79	0.90
10	-1.00	2.00	0.61	0.70	1.40	1.60
14	-0.50	1.41	0.81	0.93	2.21	2.53
18	0.00	1.00	0.85	0.97	3.06	3.50
25	0.50	0.71	1.08	1.23	4.14	4.73
35	1.00	0.50	1.40	1.60	5.54	6.33
45	1.50	0.35	1.45	1.66	6.99	7.99
60	2.00	0.25	1.97	2.25	8.96	10.24
80	2.50	0.18	9.03	10.32	17.99	20.56
120	3.00	0.13	50.17	57.32	68.16	77.88
170	3.50	0.09	16.28	18.60	84.44	96.48
200	3.75	0.07	0.86	0.98	85.30	97.46
230	4.00	0.06	0.17	0.19	85.47	97.65

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.46	3.16	2.97	2.76	2.54	2.28	0.58
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.55	0.17	0.89	-3.04	13.62	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-29 #1

Analysis Date: 07-09-08

Analyzed By: TD

Easting (ft):	Northing (ft):
408,832	1,159,333

Coordinate System:	Elevation (ft):
Florida State Plane West	-18.7 NAVD 88

USCS:	Munsell:	Wet - 5Y-6/1 Dry - 5Y-8/1 Washed - 5Y-8/1	Comments:
SP			

Dry Weight (g):	Wash Weight (g):	Pan Retained (g):	Sieve Loss (%):	Fines (%): #200 - 1.73 #230 - 1.68	Organics (%):	Carbonates (%):	Shell Hash (%):
84.00	82.60	0.02	0.00			10	0

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.09	0.11	0.09	0.11
10	-1.00	2.00	0.20	0.24	0.29	0.35
14	-0.50	1.41	0.55	0.65	0.84	1.00
18	0.00	1.00	0.67	0.80	1.51	1.80
25	0.50	0.71	0.98	1.17	2.49	2.97
35	1.00	0.50	1.20	1.43	3.69	4.40
45	1.50	0.35	1.31	1.56	5.00	5.96
60	2.00	0.25	2.69	3.20	7.69	9.16
80	2.50	0.18	9.98	11.88	17.67	21.04
120	3.00	0.13	52.16	62.10	69.83	83.14
170	3.50	0.09	12.01	14.30	81.84	97.44
200	3.75	0.07	0.70	0.83	82.54	98.27
230	4.00	0.06	0.04	0.05	82.58	98.32

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.41	3.03	2.93	2.73	2.53	2.29	1.19
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.59	0.17	0.68	-2.88	13.46	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-29 #2  
 Analysis Date: 07-09-08  
 Analyzed By: TD

Easting (ft): 408,832	Northing (ft): 1,159,333	Coordinate System: Florida State Plane West	Elevation (ft): -20.3 NAVD 88
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USCS: SW	Munsell: Wet - 5Y-5/1 Dry - 5Y-6/1 Washed - 5Y-6/1	Comments:
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Dry Weight (g): 83.55	Wash Weight (g): 82.12	Pan Retained (g): 0.06	Sieve Loss (%): 0.02	Fines (%): #200 - 1.81 #230 - 1.80	Organics (%):	Carbonates (%): 65	Shell Hash (%): 6
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	2.52	3.02	2.52	3.02
5/16"	-3.00	8.00	1.82	2.18	4.34	5.20
3.5	-2.50	5.66	1.34	1.60	5.68	6.80
4	-2.25	4.76	0.81	0.97	6.49	7.77
5	-2.00	4.00	1.52	1.82	8.01	9.59
7	-1.50	2.83	3.71	4.44	11.72	14.03
10	-1.00	2.00	5.88	7.04	17.60	21.07
14	-0.50	1.41	10.05	12.03	27.65	33.10
18	0.00	1.00	8.74	10.46	36.39	43.56
25	0.50	0.71	8.24	9.86	44.63	53.42
35	1.00	0.50	6.43	7.70	51.06	61.12
45	1.50	0.35	5.14	6.15	56.20	67.27
60	2.00	0.25	4.43	5.30	60.63	72.57
80	2.50	0.18	5.54	6.63	66.17	79.20
120	3.00	0.13	13.15	15.74	79.32	94.94
170	3.50	0.09	2.58	3.09	81.90	98.03
200	3.75	0.07	0.13	0.16	82.03	98.19
230	4.00	0.06	0.01	0.01	82.04	98.20

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.01	2.65	2.18	0.33	-0.84	-1.36	-3.05
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	0.38	0.77	1.83	-0.26	2.31	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-29 #3  
 Analysis Date: 07-09-08  
 Analyzed By: TD

Easting (ft): 408,832	Northing (ft): 1,159,333	Coordinate System: Florida State Plane West	Elevation (ft): -21.7 NAVD 88
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USCS: SP	Munsell: Wet - 5Y-8/1 Dry - 5Y-8/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): 84.68	Wash Weight (g): 83.46	Pan Retained (g): 0.02	Sieve Loss (%): 0.01	Fines (%): #200 - 1.57 #230 - 1.48	Organics (%):	Carbonates (%):	Shell Hash (%): 0
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.17	0.20	0.17	0.20
4	-2.25	4.76	0.05	0.06	0.22	0.26
5	-2.00	4.00	0.10	0.12	0.32	0.38
7	-1.50	2.83	0.23	0.27	0.55	0.65
10	-1.00	2.00	0.48	0.57	1.03	1.22
14	-0.50	1.41	0.77	0.91	1.80	2.13
18	0.00	1.00	0.76	0.90	2.56	3.03
25	0.50	0.71	0.95	1.12	3.51	4.15
35	1.00	0.50	0.87	1.03	4.38	5.18
45	1.50	0.35	0.79	0.93	5.17	6.11
60	2.00	0.25	0.70	0.83	5.87	6.94
80	2.50	0.18	6.96	8.22	12.83	15.16
120	3.00	0.13	53.64	63.34	66.47	78.50
170	3.50	0.09	16.08	18.99	82.55	97.49
200	3.75	0.07	0.80	0.94	83.35	98.43
230	4.00	0.06	0.08	0.09	83.43	98.52

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.43	3.14	2.97	2.78	2.58	2.51	0.91
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.63	0.16	0.81	-3.51	17.31	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-29 #4

Analysis Date: 07-11-08

Analyzed By: TD

Easting (ft): <b>408,832</b>	Northing (ft): <b>1,159,333</b>
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Coordinate System: <b>Florida State Plane West</b>	Elevation (ft): <b>-23.1 NAVD 88</b>
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USCS: <b>SP</b>	Munsell: Wet - 5Y-7/1 Dry - 5Y-7/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): <b>88.94</b>	Wash Weight (g): <b>86.99</b>	Pan Retained (g): <b>0.13</b>	Sieve Loss (%): <b>0.01</b>	Fines (%): #200 - 2.82 #230 - 2.34	Organics (%):	Carbonates (%):	Shell Hash (%): <b>1</b>
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.15	0.17	0.15	0.17
5	-2.00	4.00	0.15	0.17	0.30	0.34
7	-1.50	2.83	0.62	0.70	0.92	1.04
10	-1.00	2.00	0.46	0.52	1.38	1.56
14	-0.50	1.41	0.75	0.84	2.13	2.40
18	0.00	1.00	0.63	0.71	2.76	3.11
25	0.50	0.71	0.59	0.66	3.35	3.77
35	1.00	0.50	0.54	0.61	3.89	4.38
45	1.50	0.35	0.53	0.60	4.42	4.98
60	2.00	0.25	0.79	0.89	5.21	5.87
80	2.50	0.18	4.08	4.59	9.29	10.46
120	3.00	0.13	47.29	53.17	56.58	63.63
170	3.50	0.09	27.27	30.66	83.85	94.29
200	3.75	0.07	2.57	2.89	86.42	97.18
230	4.00	0.06	0.43	0.48	86.85	97.66

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.56	3.33	3.19	2.87	2.64	2.55	1.51
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.74	0.15	0.83	-3.62	18.04	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granulometric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
Sample Name: AMVC-08-29 #5  
Analysis Date: 07-10-08  
Analyzed By: TD

Easting (ft): <b>408,832</b>	Northing (ft): <b>1,159,333</b>	Coordinate System: <b>Florida State Plane West</b>	Elevation (ft): <b>-24.0 NAVD 88</b>
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USCS: <b>SW</b>	Munsell: Wet - 5Y-7/1 Dry - 2.5Y-7/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): <b>87.61</b>	Wash Weight (g): <b>86.56</b>	Pan Retained (g): <b>0.05</b>	Sieve Loss (%): <b>0.03</b>	Fines (%): #200 - 1.36 #230 - 1.28	Organics (%):	Carbonates (%):	Shell Hash (%): <b>4</b>
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.71	0.81	0.71	0.81
3.5	-2.50	5.66	0.33	0.38	1.04	1.19
4	-2.25	4.76	0.10	0.11	1.14	1.30
5	-2.00	4.00	1.04	1.19	2.18	2.49
7	-1.50	2.83	2.88	3.29	5.06	5.78
10	-1.00	2.00	3.20	3.65	8.26	9.43
14	-0.50	1.41	3.67	4.19	11.93	13.62
18	0.00	1.00	2.97	3.39	14.90	17.01
25	0.50	0.71	2.23	2.55	17.13	19.56
35	1.00	0.50	1.94	2.21	19.07	21.77
45	1.50	0.35	1.86	2.12	20.93	23.89
60	2.00	0.25	3.95	4.51	24.88	28.40
80	2.50	0.18	15.67	17.89	40.55	46.29
120	3.00	0.13	39.58	45.18	80.13	91.47
170	3.50	0.09	5.92	6.76	86.05	98.23
200	3.75	0.07	0.36	0.41	86.41	98.64
230	4.00	0.06	0.07	0.08	86.48	98.72

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.26	2.92	2.82	2.54	1.62	-0.15	-1.62
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	1.83	0.28	1.54	-1.48	3.98	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search

Sample Name: AMVC-08-29 #6

Analysis Date: 07-11-08

Analyzed By: TD

Easting (ft):	Northing (ft):
408,832	1,159,333

Coordinate System:	Elevation (ft):
Florida State Plane West	-25.7 NAVD 88

USCS:	Munsell:	Wet - 5Y-6/1 Dry - 5Y-7/1 Washed - 5Y-8/1	Comments:
SP			

Dry Weight (g):	Wash Weight (g):	Pan Retained (g):	Sieve Loss (%):	Fines (%): #200 - 2.85 #230 - 2.31	Organics (%):	Carbonates (%):	Shell Hash (%):
91.18	89.22	0.14	0.01				0

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.08	0.09	0.08	0.09
10	-1.00	2.00	0.06	0.07	0.14	0.16
14	-0.50	1.41	0.05	0.05	0.19	0.21
18	0.00	1.00	0.02	0.02	0.21	0.23
25	0.50	0.71	0.06	0.07	0.27	0.30
35	1.00	0.50	0.03	0.03	0.30	0.33
45	1.50	0.35	0.07	0.08	0.37	0.41
60	2.00	0.25	0.13	0.14	0.50	0.55
80	2.50	0.18	2.58	2.83	3.08	3.38
120	3.00	0.13	46.83	51.36	49.91	54.74
170	3.50	0.09	36.30	39.81	86.21	94.55
200	3.75	0.07	2.37	2.60	88.58	97.15
230	4.00	0.06	0.49	0.54	89.07	97.69

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.54	3.37	3.25	2.95	2.71	2.62	2.52
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.95	0.13	0.38	-3.66	42.75	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08



# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-30 #1  
 Analysis Date: 07-11-08  
 Analyzed By: TD

Easting (ft): 409,194	Northing (ft): 1,159,509	Coordinate System: Florida State Plane West	Elevation (ft): -21.2 NAVD 88
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USCS: SP	Munsell: Wet - 5Y-7/1 Dry - 5Y-8/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): 90.43	Wash Weight (g): 89.52	Pan Retained (g): 0.01	Sieve Loss (%): 0.04	Fines (%): #200 - 1.11 #230 - 1.08	Organics (%):	Carbonates (%): 5	Shell Hash (%): 0
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.02	0.02	0.02	0.02
10	-1.00	2.00	0.09	0.10	0.11	0.12
14	-0.50	1.41	0.21	0.23	0.32	0.35
18	0.00	1.00	0.28	0.31	0.60	0.66
25	0.50	0.71	0.51	0.56	1.11	1.22
35	1.00	0.50	0.67	0.74	1.78	1.96
45	1.50	0.35	1.17	1.29	2.95	3.25
60	2.00	0.25	3.40	3.76	6.35	7.01
80	2.50	0.18	12.74	14.09	19.09	21.10
120	3.00	0.13	58.46	64.65	77.55	85.75
170	3.50	0.09	11.29	12.48	88.84	98.23
200	3.75	0.07	0.60	0.66	89.44	98.89
230	4.00	0.06	0.03	0.03	89.47	98.92

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.37	2.99	2.92	2.72	2.53	2.32	1.73
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	2.64	0.16	0.52	-2.88	16.65	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
Sample Name: AMVC-08-30 #2  
Analysis Date: 07-11-08  
Analyzed By: LH

Easting (ft): <b>409,194</b>	Northing (ft): <b>1,159,509</b>	Coordinate System: <b>Florida State Plane West</b>	Elevation (ft): <b>-23.1 NAVD 88</b>
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USCS: <b>SW</b>	Munsell: <b>Wet - 5Y-5/1 Dry - 5Y-7/1 Washed - 5Y-7/1</b>	Comments:
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Dry Weight (g): <b>94.51</b>	Wash Weight (g): <b>93.61</b>	Pan Retained (g): <b>0.00</b>	Sieve Loss (%): <b>0.21</b>	Fines (%): <b>#200 - 1.17 #230 - 1.17</b>	Organics (%):	Carbonates (%):	Shell Hash (%): <b>3</b>
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.86	0.91	0.86	0.91
5/16"	-3.00	8.00	0.07	0.07	0.93	0.98
3.5	-2.50	5.66	0.80	0.85	1.73	1.83
4	-2.25	4.76	0.49	0.52	2.22	2.35
5	-2.00	4.00	0.59	0.62	2.81	2.97
7	-1.50	2.83	1.91	2.02	4.72	4.99
10	-1.00	2.00	4.09	4.33	8.81	9.32
14	-0.50	1.41	8.09	8.56	16.90	17.88
18	0.00	1.00	8.83	9.34	25.73	27.22
25	0.50	0.71	8.64	9.14	34.37	36.36
35	1.00	0.50	8.23	8.71	42.60	45.07
45	1.50	0.35	7.54	7.98	50.14	53.05
60	2.00	0.25	7.50	7.94	57.64	60.99
80	2.50	0.18	12.21	12.92	69.85	73.91
120	3.00	0.13	21.26	22.49	91.11	96.40
170	3.50	0.09	2.23	2.36	93.34	98.76
200	3.75	0.07	0.07	0.07	93.41	98.83
230	4.00	0.06	0.00	0.00	93.41	98.83

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.97	2.72	2.52	1.31	-0.12	-0.61	-1.50
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	1.07	0.48	1.54	-0.59	2.62	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-30 #3  
 Analysis Date: 07-11-08  
 Analyzed By: LH

Easting (ft): 409,194	Northing (ft): 1,159,509	Coordinate System: Florida State Plane West	Elevation (ft): -24.1 NAVD 88
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USCS: SW	Munsell: Wet - 5Y-6/1 Dry - 5Y-7/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): 87.36	Wash Weight (g): 86.19	Pan Retained (g): 0.00	Sieve Loss (%): 0.02	Fines (%): #200 - 1.38 #230 - 1.37	Organics (%):	Carbonates (%):	Shell Hash (%): 1
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.27	0.31	0.27	0.31
5/16"	-3.00	8.00	0.00	0.00	0.27	0.31
3.5	-2.50	5.66	0.17	0.19	0.44	0.50
4	-2.25	4.76	0.05	0.06	0.49	0.56
5	-2.00	4.00	0.34	0.39	0.83	0.95
7	-1.50	2.83	0.53	0.61	1.36	1.56
10	-1.00	2.00	0.89	1.02	2.25	2.58
14	-0.50	1.41	1.39	1.59	3.64	4.17
18	0.00	1.00	1.62	1.85	5.26	6.02
25	0.50	0.71	1.87	2.14	7.13	8.16
35	1.00	0.50	2.55	2.92	9.68	11.08
45	1.50	0.35	2.90	3.32	12.58	14.40
60	2.00	0.25	4.85	5.55	17.43	19.95
80	2.50	0.18	14.86	17.01	32.29	36.96
120	3.00	0.13	47.88	54.81	80.17	91.77
170	3.50	0.09	5.89	6.74	86.06	98.51
200	3.75	0.07	0.10	0.11	86.16	98.62
230	4.00	0.06	0.01	0.01	86.17	98.63

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.24	2.93	2.85	2.62	2.15	1.64	-0.28
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.24	0.21	1.07	-2.46	9.65	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-30 #4  
 Analysis Date: 07-11-08  
 Analyzed By: LH

Easting (ft): 409,194	Northing (ft): 1,159,509	Coordinate System: Florida State Plane West	Elevation (ft): -26.3 NAVD 88
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USCS: SW	Munsell: Wet - 5Y-6/1 Dry - 5Y-7/1 Washed - 5Y-8/1	Comments:
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Dry Weight (g): 91.98	Wash Weight (g): 91.05	Pan Retained (g): 0.00	Sieve Loss (%): 0.15	Fines (%): #200 - 1.20 #230 - 1.17	Organics (%):	Carbonates (%):	Shell Hash (%): 3
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	1.08	1.17	1.08	1.17
5	-2.00	4.00	0.76	0.83	1.84	2.00
7	-1.50	2.83	2.16	2.35	4.00	4.35
10	-1.00	2.00	3.30	3.59	7.30	7.94
14	-0.50	1.41	5.29	5.75	12.59	13.69
18	0.00	1.00	5.51	5.99	18.10	19.68
25	0.50	0.71	5.07	5.51	23.17	25.19
35	1.00	0.50	4.48	4.87	27.65	30.06
45	1.50	0.35	3.08	3.35	30.73	33.41
60	2.00	0.25	3.66	3.98	34.39	37.39
80	2.50	0.18	15.84	17.22	50.23	54.61
120	3.00	0.13	37.67	40.95	87.90	95.56
170	3.50	0.09	2.93	3.19	90.83	98.75
200	3.75	0.07	0.05	0.05	90.88	98.80
230	4.00	0.06	0.03	0.03	90.91	98.83

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.99	2.86	2.75	2.37	0.48	-0.31	-1.41
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.61	0.33	1.5	-1.03	2.73	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
 2481 NW Boca Raton Blvd, Boca Raton  
 FL 33431  
 ph (561) 391-8102  
 fax (561) 391-9116

Project Name: AMI 2008 Sand Search  
 Sample Name: AMVC-08-30 #5  
 Analysis Date: 07-11-08  
 Analyzed By: LH

Easting (ft): <b>409,194</b>	Northing (ft): <b>1,159,509</b>	Coordinate System: <b>Florida State Plane West</b>	Elevation (ft): <b>-29.2 NAVD 88</b>
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USCS: <b>SW</b>	Munsell: Wet - 5Y-7/1 Dry - 5Y-7/1 Washed - 5Y-7/1	Comments:
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Dry Weight (g): <b>86.86</b>	Wash Weight (g): <b>85.62</b>	Pan Retained (g): <b>0.03</b>	Sieve Loss (%): <b>0.00</b>	Fines (%): #200 - 1.49 #230 - 1.47	Organics (%):	Carbonates (%):	Shell Hash (%): <b>4</b>
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	1.94	2.23	1.94	2.23
7	-1.50	2.83	1.90	2.19	3.84	4.42
10	-1.00	2.00	2.21	2.54	6.05	6.96
14	-0.50	1.41	2.81	3.24	8.86	10.20
18	0.00	1.00	2.69	3.10	11.55	13.30
25	0.50	0.71	2.39	2.75	13.94	16.05
35	1.00	0.50	2.17	2.50	16.11	18.55
45	1.50	0.35	2.32	2.67	18.43	21.22
60	2.00	0.25	4.43	5.10	22.86	26.32
80	2.50	0.18	27.54	31.71	50.40	58.03
120	3.00	0.13	32.21	37.08	82.61	95.11
170	3.50	0.09	2.87	3.30	85.48	98.41
200	3.75	0.07	0.09	0.10	85.57	98.51
230	4.00	0.06	0.02	0.02	85.59	98.53

Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.00	2.85	2.73	2.37	1.87	0.49	-1.39
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.87	0.27	1.34	-1.65	4.62	

GRANULARMETRIC REPORT AMI\_2008\_VIBRACORES\_ALL.GPJ FL DEP ROSS.GDT 10/29/08