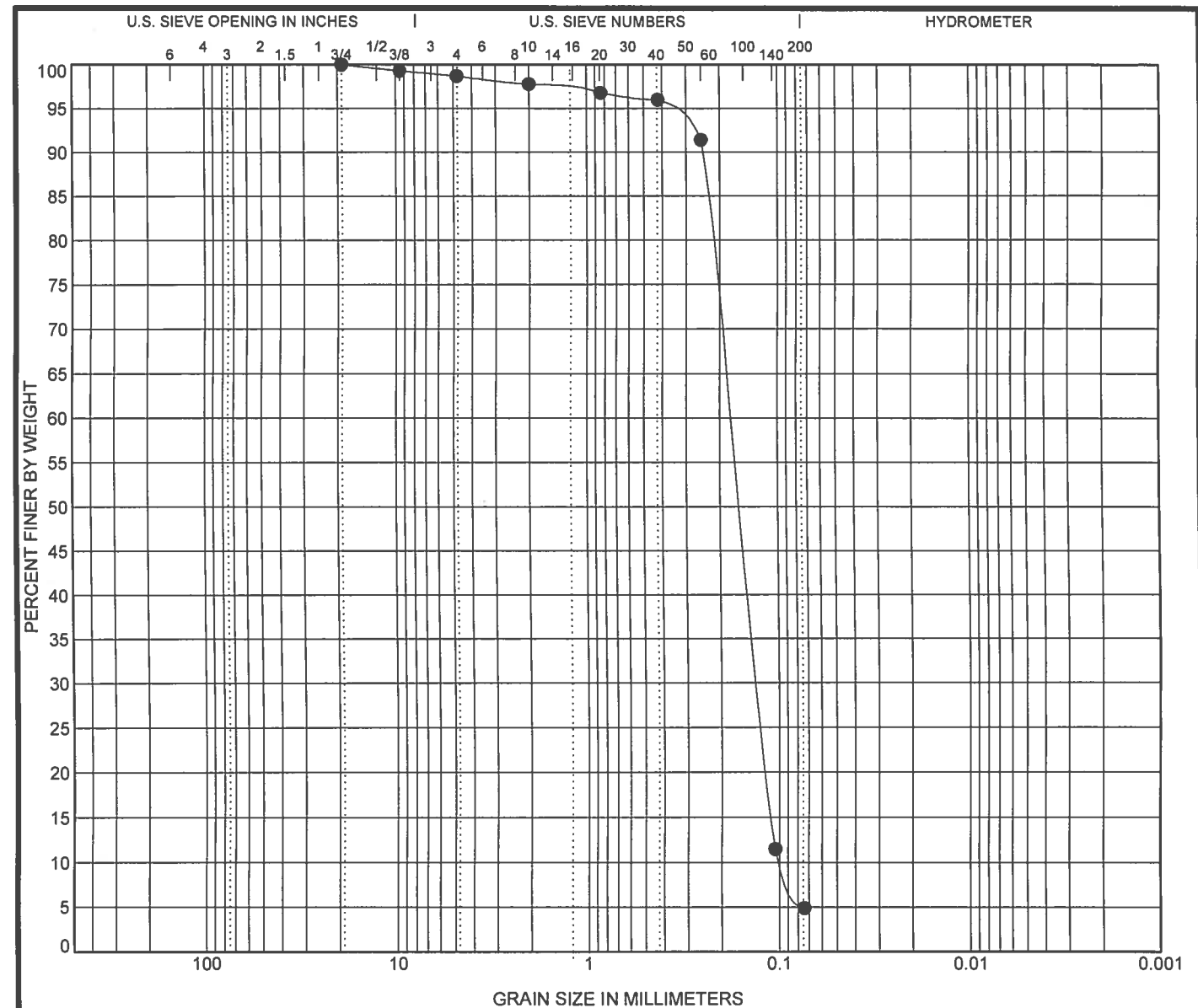
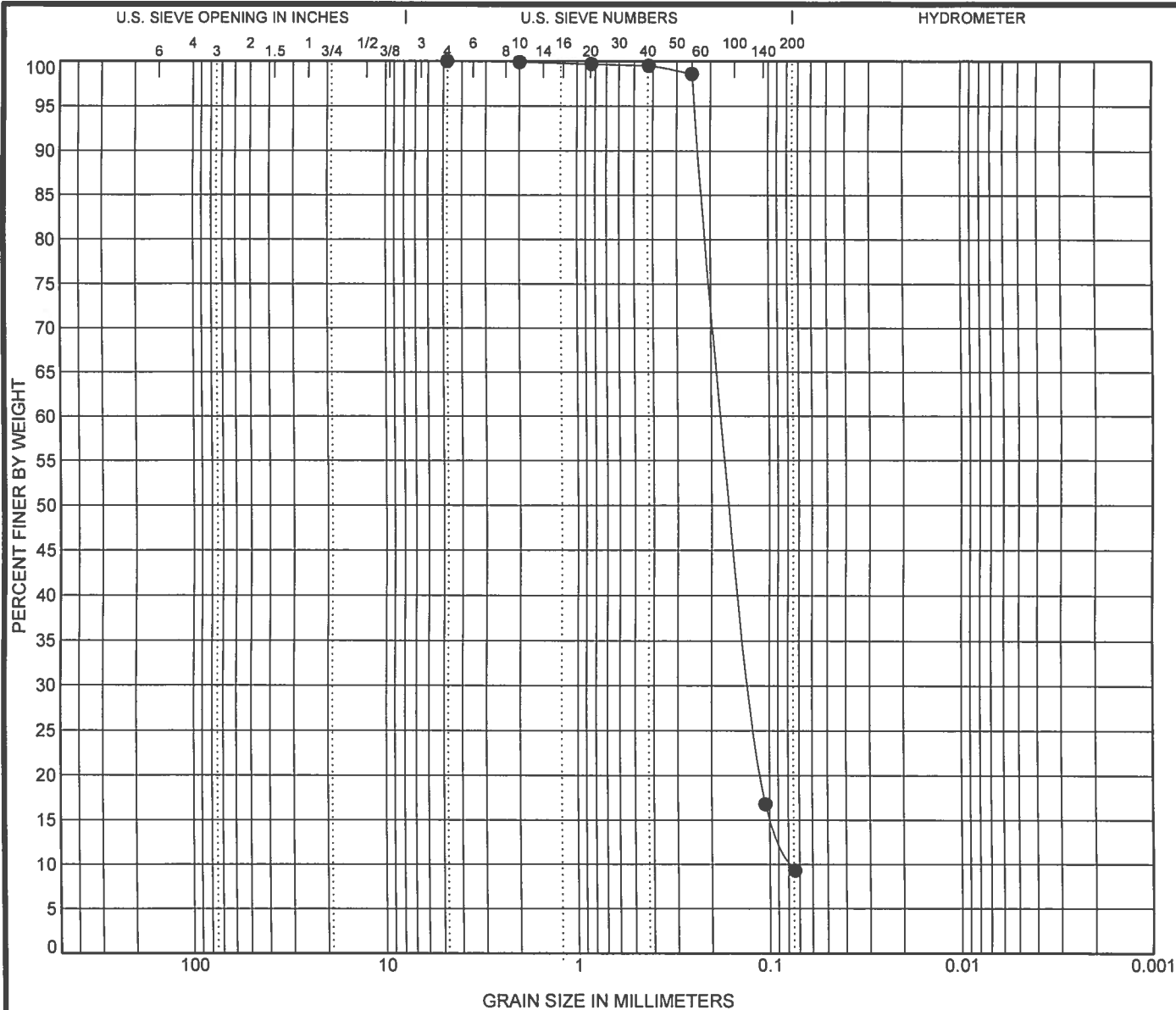






| COBBLES | GRAVEL |      | SAND   |        |      | SILT OR CLAY |
|---------|--------|------|--------|--------|------|--------------|
|         | coarse | fine | coarse | medium | fine |              |

| Specimen ID | Depth | Classification  | LL | PL | PI | Cc   | Cu   |
|-------------|-------|-----------------|----|----|----|------|------|
| ● BA-N-2    | 1.0'  | BA-N-2; 1' - 2' |    |    |    | 1.15 | 2.17 |
|             |       |                 |    |    |    |      |      |
|             |       |                 |    |    |    |      |      |
|             |       |                 |    |    |    |      |      |

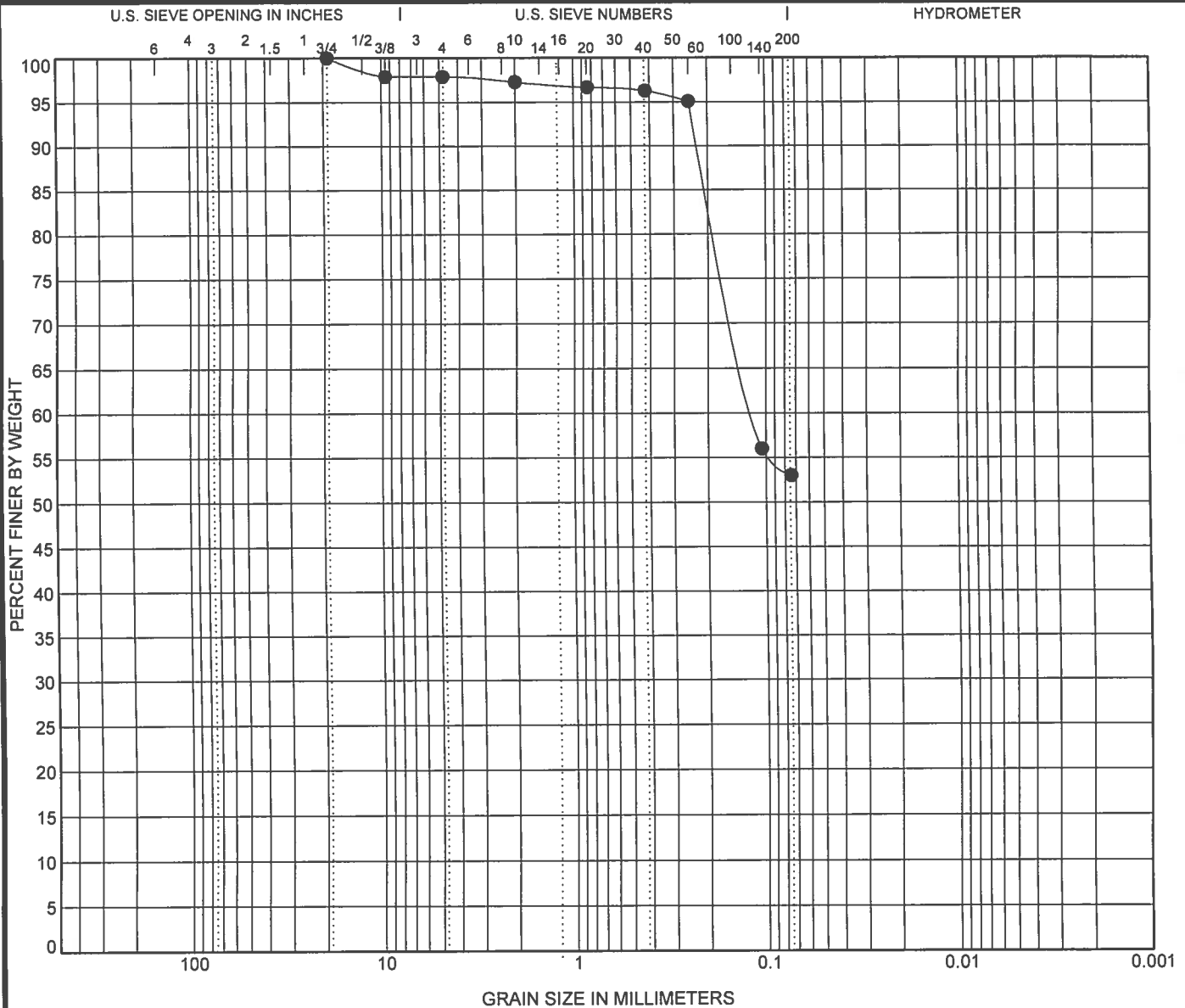
| Specimen ID | Depth | D100 | D60   | D30   | D10   | %Gravel | %Sand | %Silt | %Clay |
|-------------|-------|------|-------|-------|-------|---------|-------|-------|-------|
| ● BA-N-2    | 1.0'  | 4.78 | 0.166 | 0.121 | 0.076 | 0.0     |       |       |       |
|             |       |      |       |       |       |         |       |       |       |
|             |       |      |       |       |       |         |       |       |       |
|             |       |      |       |       |       |         |       |       |       |



Rock Engineering & Testing Lab., Inc.  
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Fax: (361) 883-4711

## GRAIN SIZE DISTRIBUTION

Project: Prop. Shamrock Island Restoration Proj.  
Location: E of Corpus Christi Bay; Corpus Christi, TX  
Number: G113211



| COBBLES | GRAVEL |      | SAND   |        |      | SILT OR CLAY |
|---------|--------|------|--------|--------|------|--------------|
|         | coarse | fine | coarse | medium | fine |              |

| Specimen ID | Depth | Classification  | LL | PL | PI | Cc | Cu |
|-------------|-------|-----------------|----|----|----|----|----|
| ● BA-N-2    | 2.0'  | BA-N-2; 2' - 3' |    |    |    |    |    |
|             |       |                 |    |    |    |    |    |
|             |       |                 |    |    |    |    |    |
|             |       |                 |    |    |    |    |    |

| Specimen ID | Depth | D100 | D60   | D30 | D10 | %Gravel | %Sand | %Silt | %Clay |
|-------------|-------|------|-------|-----|-----|---------|-------|-------|-------|
| ● BA-N-2    | 2.0'  | 19   | 0.115 |     |     | 2.1     |       |       |       |
|             |       |      |       |     |     |         |       |       |       |
|             |       |      |       |     |     |         |       |       |       |
|             |       |      |       |     |     |         |       |       |       |



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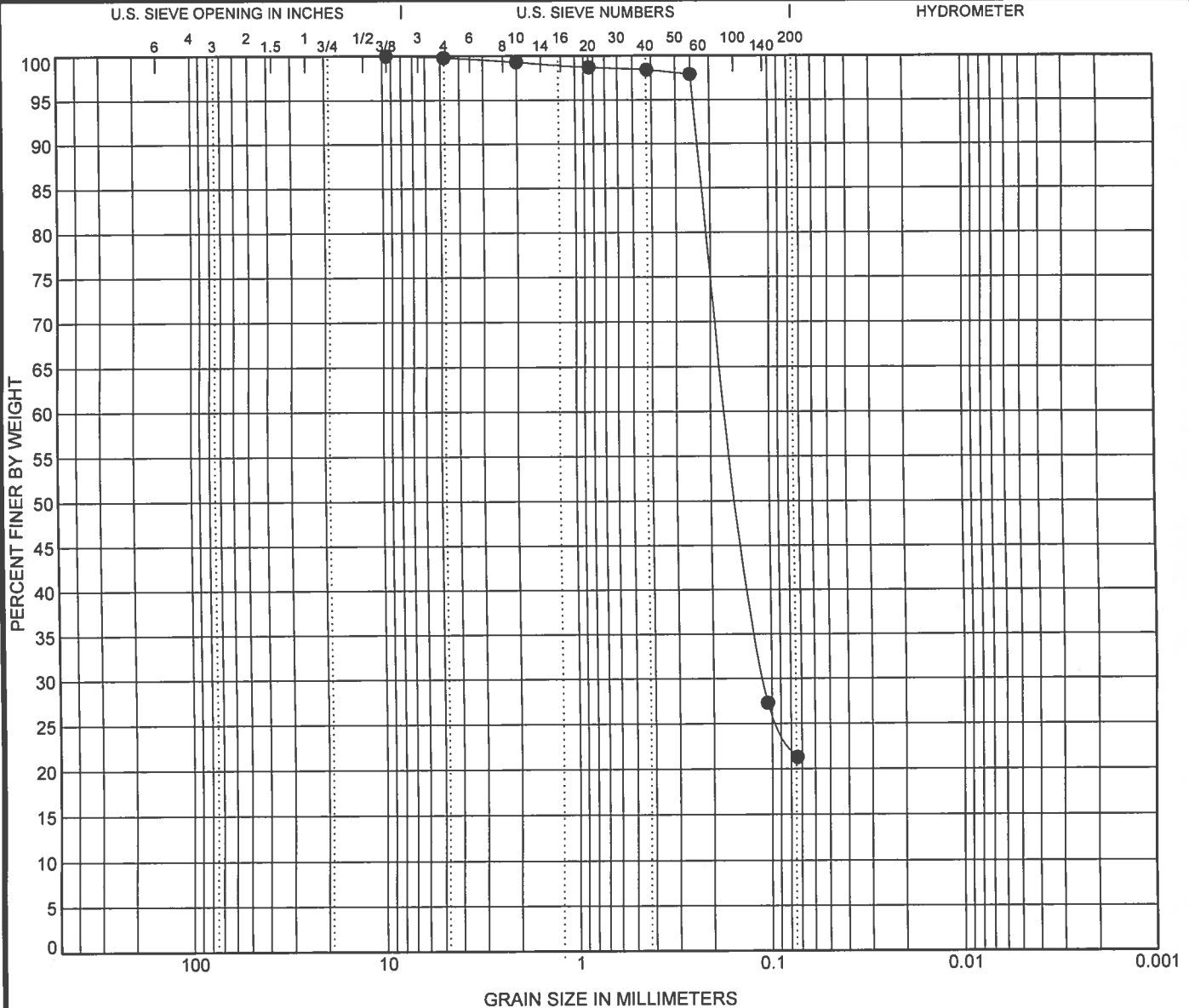
## GRAIN SIZE DISTRIBUTION

Project: Prop. Shamrock Island Restoration Proj.

Location: E of Corpus Christi Bay; Corpus Christi, TX

Number: G113211





| COBBLES | GRAVEL |      | SAND   |        |      | SILT OR CLAY |
|---------|--------|------|--------|--------|------|--------------|
|         | coarse | fine | coarse | medium | fine |              |

| Specimen ID | Depth | Classification  | LL | PL | PI | Cc | Cu |
|-------------|-------|-----------------|----|----|----|----|----|
| ● BA-N-2    | 5.0'  | BA-N-2; 5' - 6' |    |    |    |    |    |
|             |       |                 |    |    |    |    |    |
|             |       |                 |    |    |    |    |    |
|             |       |                 |    |    |    |    |    |

| Specimen ID | Depth | D100 | D60   | D30   | D10 | %Gravel | %Sand | %Silt | %Clay |
|-------------|-------|------|-------|-------|-----|---------|-------|-------|-------|
| ● BA-N-2    | 5.0'  | 9.5  | 0.157 | 0.109 |     | 0.2     |       |       |       |
|             |       |      |       |       |     |         |       |       |       |
|             |       |      |       |       |     |         |       |       |       |
|             |       |      |       |       |     |         |       |       |       |



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**GRAIN SIZE DISTRIBUTION**

Project: Prop. Shamrock Island Restoration Proj.  
 Location: E of Corpus Christi Bay; Corpus Christi, TX  
 Number: G113211

US GRAIN SIZE G113211 SHAMROCK.GPJ US LAB.GDT 9/18/13

# LOG OF BORING BA-N-2

SHEET 1 of 1



Rock Engineering & Testing Lab., Inc.  
6817 Leopard Street  
Corpus Christi, Texas 78409  
Telephone: (361) 883-4555  
Fax: (361) 883-4711

CLIENT: Coast & Harbor Engineering, Inc.  
PROJECT: Prop. Shamrock Island Restoration Proj.  
LOCATION: E of Corpus Christi Bay; Corpus Christi, TX  
NUMBER: G113211

DATE(S) DRILLED: 08/14/13 - 08/14/13

| FIELD DATA                                                                                                          |            |               |         |                                                                                                |                      |                  |               |                  |                             | LABORATORY DATA                         |                         |                                                                                                                                                        |  |  | DRILLING METHOD(S): |
|---------------------------------------------------------------------------------------------------------------------|------------|---------------|---------|------------------------------------------------------------------------------------------------|----------------------|------------------|---------------|------------------|-----------------------------|-----------------------------------------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|---------------------|
| SOIL SYMBOL                                                                                                         | DEPTH (FT) | SAMPLE NUMBER | SAMPLES | N: BLOWS/FT<br>P: TONS/SQ FT<br>T: TONS/SQ FT<br>PERCENT RECOVERY/<br>ROCK QUALITY DESIGNATION | MOISTURE CONTENT (%) | ATTERBERG LIMITS |               |                  | DRY DENSITY<br>POUNDS/CU.FT | COMPRESSIVE<br>STRENGTH<br>(TONS/SQ FT) | MINUS NO. 200 SIEVE (%) | GROUNDWATER INFORMATION:                                                                                                                               |  |  |                     |
|                                                                                                                     |            |               |         |                                                                                                |                      | LL               | PL            | PI               |                             |                                         |                         |                                                                                                                                                        |  |  |                     |
|                                                                                                                     |            |               |         |                                                                                                |                      | LIQUID LIMIT     | PLASTIC LIMIT | PLASTICITY INDEX |                             |                                         |                         |                                                                                                                                                        |  |  |                     |
|                                                                                                                     |            | S-1           |         |                                                                                                |                      |                  |               |                  |                             |                                         |                         | DRILLING METHOD(S):<br>Vibracore                                                                                                                       |  |  |                     |
|                                                                                                                     | 1          |               |         |                                                                                                |                      |                  |               |                  |                             |                                         |                         |                                                                                                                                                        |  |  |                     |
|                                                                                                                     |            | S-2           |         |                                                                                                |                      |                  |               |                  |                             |                                         |                         | SURFACE ELEVATION: -4.6' NAVD 88                                                                                                                       |  |  |                     |
|                                                                                                                     | 2          |               |         |                                                                                                |                      |                  |               |                  |                             |                                         |                         |                                                                                                                                                        |  |  |                     |
|                                                                                                                     |            | S-3           |         |                                                                                                |                      |                  |               |                  |                             |                                         |                         | DESCRIPTION OF STRATUM                                                                                                                                 |  |  |                     |
|                                                                                                                     | 3          |               |         |                                                                                                |                      |                  |               |                  |                             |                                         |                         |                                                                                                                                                        |  |  |                     |
|                                                                                                                     |            | S-4           |         |                                                                                                |                      |                  |               |                  |                             |                                         |                         | SAND, gray.                                                                                                                                            |  |  |                     |
|                                                                                                                     | 4          |               |         |                                                                                                |                      |                  |               |                  |                             |                                         |                         |                                                                                                                                                        |  |  |                     |
|                                                                                                                     |            | S-5           |         |                                                                                                |                      |                  |               |                  |                             |                                         |                         | Same as above.                                                                                                                                         |  |  |                     |
|                                                                                                                     | 5          |               |         |                                                                                                |                      |                  |               |                  |                             |                                         |                         |                                                                                                                                                        |  |  |                     |
|                                                                                                                     |            | S-6           |         |                                                                                                |                      |                  |               |                  |                             |                                         |                         | Same as above.                                                                                                                                         |  |  |                     |
|                                                                                                                     | 6          |               |         |                                                                                                |                      |                  |               |                  |                             |                                         |                         |                                                                                                                                                        |  |  |                     |
|                                                                                                                     |            |               |         |                                                                                                |                      |                  |               |                  |                             |                                         |                         | Boring was terminated at a depth of 6-feet (-10.6-feet NAVD 88).                                                                                       |  |  |                     |
| N - STANDARD PENETRATION TEST RESISTANCE<br>P - POCKET PENETROMETER RESISTANCE<br>T - POCKET TORVANE SHEAR STRENGTH |            |               |         |                                                                                                |                      |                  |               |                  |                             |                                         |                         | REMARKS:<br>Boring depth and location was determined by Coast & Harbor Engineering, Inc. Boring operations were performed by Naismith Marine Services. |  |  |                     |

LOG OF BORING G113211 SHAMROCK.GPJ ROCK.ETL.GDT 8/26/13