

| JET PROBE LOG                                                                                                                                                                |       |                                                                                   |                       |                                                                                        |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------------------------------------------------------------------------------|-----------------------|----------------------------------------------------------------------------------------|--|
| PROJECT: Galveston County                                                                                                                                                    |       |                                                                                   | JET PROBE: GCJP-04-20 |                                                                                        |  |
| <b>COORDINATES:</b><br><br>N = 13644116<br><br>E = 3273290                                                                                                                   |       | <b>DATE:</b> 05/05/04<br><br><b>START TIME:</b> 1318<br><br><b>END TIME:</b> 1326 |                       | <b>WATER DEPTH:</b> 24.0 FT<br><br><b>TOP DIVER:</b> JC<br><br><b>BOTTOM DIVER:</b> KW |  |
| NOTES                                                                                                                                                                        | ELEV. | DEPTH                                                                             | SYMBOL                | DESCRIPTION                                                                            |  |
| LENGTH OF PVC PIPE: 20.0'<br><br>PENETRATION DEPTH: 17.0'<br><br>JET PUMP TYPE: BRIGGS & STRATON 3.0 HP<br><br>GAL/HR: 8460<br><br>DIAMETER OF PIPE: 1.5"                    | -24   | 0                                                                                 |                       | SEA FLOOR                                                                              |  |
|                                                                                                                                                                              |       |                                                                                   | [dots]                | SAND                                                                                   |  |
|                                                                                                                                                                              |       | 1                                                                                 | [diagonal lines]      | CLAY, Soft                                                                             |  |
|                                                                                                                                                                              |       | 2                                                                                 |                       |                                                                                        |  |
|                                                                                                                                                                              | 3     |                                                                                   |                       |                                                                                        |  |
| SUPPORT VESSEL: Aqua Quest<br><br>POSITIONING: DIFFERENTIAL GPS USCG BEACON<br><br>NAVIGATION SYSTEM: "HYPACK"                                                               |       | 4                                                                                 | [diagonal lines]      |                                                                                        |  |
|                                                                                                                                                                              |       | 5                                                                                 | [diagonal lines]      |                                                                                        |  |
|                                                                                                                                                                              |       | 6                                                                                 | [diagonal lines]      |                                                                                        |  |
| WEATHER:<br><br>WIND:<br>DIR: SOUTHEAST<br>SPEED: 10 Kt<br><br>WAVES:<br>DIR: SOUTHEAST<br>HEIGHT: 1 to 2 Ft.<br><br>CURRENT:<br>DIR: EAST<br>SPEED: MODERATE                |       | 7                                                                                 | [diagonal lines]      |                                                                                        |  |
|                                                                                                                                                                              |       | 8                                                                                 | [diagonal lines]      |                                                                                        |  |
|                                                                                                                                                                              |       | 9                                                                                 | [diagonal lines]      |                                                                                        |  |
|                                                                                                                                                                              |       | 10                                                                                | [diagonal lines]      |                                                                                        |  |
| SAND SAMPLES<br><br>TOP:<br>Mean (mm): 0.09, 11.63% Silt, Phi Sorting: 0.49<br>Munsell Color: Wet 5Y-4/2, Dry 5Y-6/1<br><br>BOTTOM:<br>Munsell Color: Wet 5Y-4/1, Dry 5Y-4/1 | -39   | 11                                                                                | [diagonal lines]      |                                                                                        |  |
|                                                                                                                                                                              |       | 12                                                                                | [diagonal lines]      |                                                                                        |  |
|                                                                                                                                                                              |       | 13                                                                                | [diagonal lines]      |                                                                                        |  |
|                                                                                                                                                                              |       | 14                                                                                | [diagonal lines]      |                                                                                        |  |
|                                                                                                                                                                              | -41   | 15                                                                                | [diagonal lines]      | CLAY, Stiff                                                                            |  |
|                                                                                                                                                                              |       | 16                                                                                | [diagonal lines]      |                                                                                        |  |
|                                                                                                                                                                              |       | 17                                                                                | [diagonal lines]      |                                                                                        |  |
|                                                                                                                                                                              |       | 18                                                                                |                       | Refusal @ 17.0'<br>Resistant Clay Layer                                                |  |
|                                                                                                                                                                              |       | 19                                                                                |                       |                                                                                        |  |
|                                                                                                                                                                              |       | 20                                                                                |                       |                                                                                        |  |
|                                                                                                                                                                              |       | 21                                                                                |                       |                                                                                        |  |
|                                                                                                                                                                              |       | 22                                                                                |                       |                                                                                        |  |
|                                                                                                                                                                              |       | 23                                                                                |                       |                                                                                        |  |
| TURBIDITY:<br>TOP (0.0' - 8.5)': High<br>BOTTOM: (8.5' - 17.0)': High                                                                                                        |       | 24                                                                                |                       |                                                                                        |  |
| DRAWN BY: KW                  CHECKED BY: MDA / JLA<br>JOB NO: 2600.02                                                                                                       |       |                                                                                   |                       |                                                                                        |  |

# Gradation Analysis Report

Project Name: Galveston Jet Probes

Sample Name: GCJP-04-20 Top

Sample Date: 5/5/2004

Analyzed By: ID



**Coastal Planning & Engineering, Inc.**

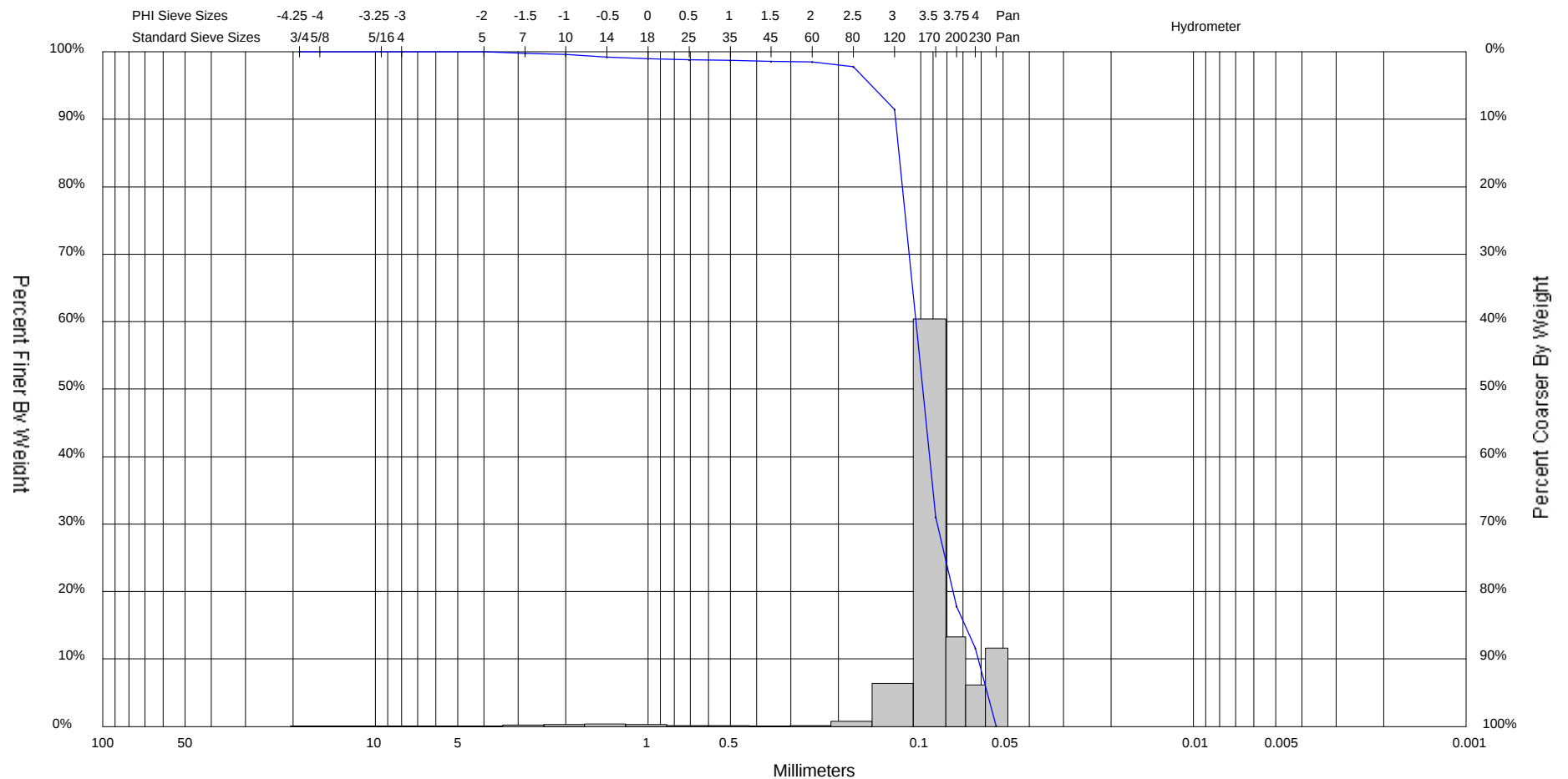
2481 N.W. Boca Raton Blvd.  
Boca Raton, FL 33431

|          |         |           |          |                    |                             |            |     |
|----------|---------|-----------|----------|--------------------|-----------------------------|------------|-----|
| Easting: | 3273290 | Northing: | 13644116 | Coordinate System: | State Plane 1983 TX SC Feet | Elevation: | N/A |
|----------|---------|-----------|----------|--------------------|-----------------------------|------------|-----|

|       |    |             |        |             |        |           |  |
|-------|----|-------------|--------|-------------|--------|-----------|--|
| USCS: | SM | Dry Munsel: | 5Y-6/1 | Wet Munsel: | 5Y-4/2 | Comments: |  |
|-------|----|-------------|--------|-------------|--------|-----------|--|

|             |       |              |       |             |      |               |       |                                  |      |
|-------------|-------|--------------|-------|-------------|------|---------------|-------|----------------------------------|------|
| Dry Weight: | 70.93 | Wash Weight: | 65.83 | Sieve Loss: | 0.02 | Percent Silt: | 11.63 | Estimated Percent Shell Content: | 1.42 |
|-------------|-------|--------------|-------|-------------|------|---------------|-------|----------------------------------|------|

| Sieve Number | Sieve Size (Phi) | Sieve Size (Millimeters) | Grams Retained | % Weight Retained | Cum. Grams Retained | C. % Weight Retained |
|--------------|------------------|--------------------------|----------------|-------------------|---------------------|----------------------|
| 3/4          | -4.25            | 19.02                    | 0.00           | 0.00              | 0.00                | 0.00                 |
| 5/8          | -4.00            | 16.00                    | 0.00           | 0.00              | 0.00                | 0.00                 |
| 5/16         | -3.25            | 9.51                     | 0.00           | 0.00              | 0.00                | 0.00                 |
| 4            | -3.00            | 8.00                     | 0.00           | 0.00              | 0.00                | 0.00                 |
| 5            | -2.00            | 4.00                     | 0.00           | 0.00              | 0.00                | 0.00                 |
| 7            | -1.50            | 2.82                     | 0.14           | 0.20              | 0.14                | 0.20                 |
| 10           | -1.00            | 2.00                     | 0.17           | 0.24              | 0.31                | 0.44                 |
| 14           | -0.50            | 1.41                     | 0.23           | 0.32              | 0.54                | 0.76                 |
| 18           | 0.00             | 1.00                     | 0.20           | 0.28              | 0.74                | 1.04                 |
| 25           | 0.50             | 0.70                     | 0.09           | 0.13              | 0.83                | 1.17                 |
| 35           | 1.00             | 0.50                     | 0.10           | 0.14              | 0.93                | 1.31                 |
| 45           | 1.50             | 0.35                     | 0.05           | 0.07              | 0.98                | 1.38                 |
| 60           | 2.00             | 0.25                     | 0.06           | 0.08              | 1.04                | 1.47                 |
| 80           | 2.50             | 0.17                     | 0.52           | 0.73              | 1.56                | 2.20                 |
| 120          | 3.00             | 0.12                     | 4.51           | 6.36              | 6.07                | 8.56                 |
| 170          | 3.50             | 0.08                     | 42.85          | 60.41             | 48.92               | 68.97                |
| 200          | 3.75             | 0.07                     | 9.40           | 13.25             | 58.32               | 82.22                |
| 230          | 4.00             | 0.06                     | 4.36           | 6.15              | 62.68               | 88.37                |
| Pan          | Pan              | Pan                      | 8.23           | 11.60             | 70.91               | 99.97                |
| Phi 5        | Phi 16           | Phi 25                   | Phi 50         | Phi 75            | Phi 84              | Phi 95               |
| 2.72         | 3.06             | 3.14                     | 3.34           | 3.61              | 3.82                | 4.14                 |
| Statistics   | Mean Phi         | Mean mm                  | Sorting        | Skewness          | Kurtosis            |                      |
| Graphic      | 3.42             | 0.09                     | 0.41           | 0.28              | 1.22                |                      |
| Moment       | 3.41             | 0.09                     | 0.49           | 0.14              | 1.68                |                      |



| Gravel |      | Sand   |        |      | Silt and Clay |
|--------|------|--------|--------|------|---------------|
| Coarse | Fine | Coarse | Medium | Fine |               |

| Sample                                                                              | Symbol                                                                              | Elev. | Comments            | USCS                                                                                                                         | % Silt | Median | Mean | Skew | Kurt | Sort | Sample Information |                      |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------|---------------------|------------------------------------------------------------------------------------------------------------------------------|--------|--------|------|------|------|------|--------------------|----------------------|
| GCJP-04-20 Top                                                                      |  | N/A   |                     | SM                                                                                                                           | 11.63  | 0.10   | 0.09 | 0.14 | 1.68 | 0.49 | Project Name:      | Galveston Jet Probes |
| Incremental % Weight                                                                |  | N/A   | Use Left Hand Scale |                                                                                                                              |        |        |      |      |      |      | Collection Date:   | 5/5/2004             |
|                                                                                     |                                                                                     |       |                     |                                                                                                                              |        |        |      |      |      |      | Analyzed By:       | ID                   |
|  |                                                                                     |       |                     | <b>Coastal Planning &amp; Engineering, Inc.</b><br>2481 N.W. Boca Raton Blvd.<br>Boca Raton, FL 33431<br><br>ph 561 391-8102 |        |        |      |      |      |      |                    |                      |