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|--|------------------|------------------------------|-----------------|--|---------------------|----------------------|-------------|
| Granularmetric Report Depths and elevations based on measured values | | | |  COASTAL TECH Coastal Geology & Sediments Laboratory 1333 Gateway Dr., Suite 1004 Melbourne, FL 32901 Phone (321) 751-1135 Fax (321) 751-2343 | | | |
| Project Name: Bonita Beach | | | | | | | |
| Sample Name: C-15A #1 | | | | | | | |
| Analysis Date: 03-21-12 | | | | | | | |
| Analyzed By: WD | | | | | | | |
| Easting (ft): | | Northing (ft): | | Coordinate System: | | Elevation (ft): | |
| 684,161.9 | | 754,672.4 | | Florida State Plane West | | -13.5 NAVD 88 | |
| USCS: | | Munsell: | | Comments: | | | |
| SM | | Wet - 5Y-5/2 Dry - 5Y-5/2 | | | | | |
| Dry Weight (g): | Wash Weight (g): | Pan Retained (g): | Sieve Loss (%): | Fines (%): | Organics (%): | Carbonates (%): | Shells (%): |
| 149.60 | 125.16 | 0.98 | 0.06 | #200 - 17.83 #230 - 17.05 | 4.10 | 42.40 | |
| Sieve Number | Sieve Size (Phi) | Sieve Size (Millimeters) | Grams Retained | % Weight Retained | Cum. Grams Retained | C. % Weight Retained | |
| 3/4" | -4.25 | 19.03 | 7.51 | 5.02 | 7.51 | 5.02 | |
| 5/8" | -4.00 | 16.00 | 0.00 | 0.00 | 7.51 | 5.02 | |
| 7/16" | -3.50 | 11.31 | 0.00 | 0.00 | 7.51 | 5.02 | |
| 5/16" | -3.00 | 8.00 | 0.54 | 0.36 | 8.05 | 5.38 | |
| 3.5 | -2.50 | 5.66 | 1.19 | 0.80 | 9.24 | 6.18 | |
| 4 | -2.25 | 4.76 | 0.82 | 0.55 | 10.06 | 6.73 | |
| 5 | -2.00 | 4.00 | 3.13 | 2.09 | 13.19 | 8.82 | |
| 7 | -1.50 | 2.83 | 6.13 | 4.10 | 19.32 | 12.92 | |
| 10 | -1.00 | 2.00 | 6.15 | 4.11 | 25.47 | 17.03 | |
| 14 | -0.50 | 1.41 | 8.93 | 5.97 | 34.40 | 23.00 | |
| 18 | 0.00 | 1.00 | 6.31 | 4.22 | 40.71 | 27.22 | |
| 25 | 0.50 | 0.71 | 4.08 | 2.73 | 44.79 | 29.95 | |
| 35 | 1.00 | 0.50 | 3.28 | 2.19 | 48.07 | 32.14 | |
| 45 | 1.50 | 0.35 | 2.63 | 1.76 | 50.70 | 33.90 | |
| 60 | 2.00 | 0.25 | 2.75 | 1.84 | 53.45 | 35.74 | |
| 80 | 2.50 | 0.18 | 4.97 | 3.32 | 58.42 | 39.06 | |
| 120 | 3.00 | 0.13 | 34.25 | 22.89 | 92.67 | 61.95 | |
| 170 | 3.50 | 0.09 | 26.26 | 17.55 | 118.93 | 79.50 | |
| 200 | 3.75 | 0.07 | 4.00 | 2.67 | 122.93 | 82.17 | |
| 230 | 4.00 | 0.06 | 1.16 | 0.78 | 124.09 | 82.95 | |
| | | | | | | | |
| Phi 5 | Phi 16 | Phi 25 | Phi 50 | Phi 75 | Phi 84 | Phi 95 | |
| | | 3.37 | 2.74 | -0.26 | -1.13 | | |
| Moment | Mean Phi | Mean mm | Sorting | Skewness | Kurtosis | | |
| Statistics | 1.19 | 0.44 | 1.9 | -0.19 | 1.69 | | |

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| Project Name: Bonita Beach | | | | | | | |
| Sample Name: C-15A #2 | | | | | | | |
| Analysis Date: 03-21-12 | | | | | | | |
| Analyzed By: WD | | | | | | | |
| Easting (ft): <div style="text-align: center;">684,161.9</div> | | Northing (ft): <div style="text-align: center;">754,672.4</div> | | Coordinate System: <div style="text-align: center;">Florida State Plane West</div> | | Elevation (ft): <div style="text-align: center;">-14.5 NAVD 88</div> | |
| USCS: SW-SM W/ GRAVEL | | Munsell: Wet - 5Y-5/1 Dry - 5Y-6/1 | | Comments: | | | |
| Dry Weight (g): <div style="text-align: center;">140.78</div> | Wash Weight (g): <div style="text-align: center;">127.65</div> | Pan Retained (g): <div style="text-align: center;">0.65</div> | Sieve Loss (%): <div style="text-align: center;">0.27</div> | Fines (%): #200 - 10.70 #230 - 10.06 | Organics (%): <div style="text-align: center;">3.10</div> | Carbonates (%): <div style="text-align: center;">74.20</div> | Shells (%): |
| 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 | 4.01 | 2.85 | 4.01 | 2.85 | |
| 5/16" | -3.00 | 8.00 | 7.03 | 4.99 | 11.04 | 7.84 | |
| 3.5 | -2.50 | 5.66 | 10.82 | 7.69 | 21.86 | 15.53 | |
| 4 | -2.25 | 4.76 | 6.96 | 4.94 | 28.82 | 20.47 | |
| 5 | -2.00 | 4.00 | 5.31 | 3.77 | 34.13 | 24.24 | |
| 7 | -1.50 | 2.83 | 12.02 | 8.54 | 46.15 | 32.78 | |
| 10 | -1.00 | 2.00 | 12.71 | 9.03 | 58.86 | 41.81 | |
| 14 | -0.50 | 1.41 | 14.23 | 10.11 | 73.09 | 51.92 | |
| 18 | 0.00 | 1.00 | 9.37 | 6.66 | 82.46 | 58.58 | |
| 25 | 0.50 | 0.71 | 4.72 | 3.35 | 87.18 | 61.93 | |
| 35 | 1.00 | 0.50 | 2.64 | 1.88 | 89.82 | 63.81 | |
| 45 | 1.50 | 0.35 | 1.74 | 1.24 | 91.56 | 65.05 | |
| 60 | 2.00 | 0.25 | 1.73 | 1.23 | 93.29 | 66.28 | |
| 80 | 2.50 | 0.18 | 2.71 | 1.92 | 96.00 | 68.20 | |
| 120 | 3.00 | 0.13 | 14.52 | 10.31 | 110.52 | 78.51 | |
| 170 | 3.50 | 0.09 | 13.21 | 9.38 | 123.73 | 87.89 | |
| 200 | 3.75 | 0.07 | 1.99 | 1.41 | 125.72 | 89.30 | |
| 230 | 4.00 | 0.06 | 0.90 | 0.64 | 126.62 | 89.94 | |
| | | | | | | | |
| Phi 5 | Phi 16 | Phi 25 | Phi 50 | Phi 75 | Phi 84 | Phi 95 | |
| | 3.29 | 2.83 | -0.59 | -1.96 | -2.48 | -3.28 | |
| Moment | Mean Phi | Mean mm | Sorting | Skewness | Kurtosis | | |
| Statistics | -0.3 | 1.23 | 2.25 | 0.42 | 1.84 | | |

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|--|---|--|--|--|--|---|-------------|
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| Project Name: Bonita Beach | | | | | | | |
| Sample Name: C-15A #3 | | | | | | | |
| Analysis Date: 03-21-12 | | | | | | | |
| Analyzed By: WD | | | | | | | |
| Easting (ft): <div style="text-align: center;">684,161.9</div> | | Northing (ft): <div style="text-align: center;">754,672.4</div> | | Coordinate System: <div style="text-align: center;">Florida State Plane West</div> | | Elevation (ft): <div style="text-align: center;">-16.0 NAVD 88</div> | |
| USCS: <div style="text-align: center;">SM</div> | | Munsell: Wet - 5Y-5/1 Dry - 5Y-6/1 | | Comments: | | | |
| Dry Weight (g): <div style="text-align: center;">141.75</div> | Wash Weight (g): <div style="text-align: center;">125.89</div> | Pan Retained (g): <div style="text-align: center;">0.33</div> | Sieve Loss (%): <div style="text-align: center;">0.46</div> | Fines (%): #200 - 14.15 #230 - 11.88 | Organics (%): <div style="text-align: center;">2.50</div> | Carbonates (%): <div style="text-align: center;">20.40</div> | Shells (%): |
| 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 | 2.36 | 1.66 | 2.36 | 1.66 | |
| 5/16" | -3.00 | 8.00 | 1.91 | 1.35 | 4.27 | 3.01 | |
| 3.5 | -2.50 | 5.66 | 1.51 | 1.07 | 5.78 | 4.08 | |
| 4 | -2.25 | 4.76 | 0.63 | 0.44 | 6.41 | 4.52 | |
| 5 | -2.00 | 4.00 | 0.64 | 0.45 | 7.05 | 4.97 | |
| 7 | -1.50 | 2.83 | 2.10 | 1.48 | 9.15 | 6.45 | |
| 10 | -1.00 | 2.00 | 2.61 | 1.84 | 11.76 | 8.29 | |
| 14 | -0.50 | 1.41 | 2.79 | 1.97 | 14.55 | 10.26 | |
| 18 | 0.00 | 1.00 | 1.99 | 1.40 | 16.54 | 11.66 | |
| 25 | 0.50 | 0.71 | 1.62 | 1.14 | 18.16 | 12.80 | |
| 35 | 1.00 | 0.50 | 1.70 | 1.20 | 19.86 | 14.00 | |
| 45 | 1.50 | 0.35 | 1.62 | 1.14 | 21.48 | 15.14 | |
| 60 | 2.00 | 0.25 | 2.02 | 1.43 | 23.50 | 16.57 | |
| 80 | 2.50 | 0.18 | 3.44 | 2.43 | 26.94 | 19.00 | |
| 120 | 3.00 | 0.13 | 38.45 | 27.13 | 65.39 | 46.13 | |
| 170 | 3.50 | 0.09 | 45.97 | 32.43 | 111.36 | 78.56 | |
| 200 | 3.75 | 0.07 | 10.33 | 7.29 | 121.69 | 85.85 | |
| 230 | 4.00 | 0.06 | 3.22 | 2.27 | 124.91 | 88.12 | |
| | | | | | | | |
| Phi 5 | Phi 16 | Phi 25 | Phi 50 | Phi 75 | Phi 84 | Phi 95 | |
| | 3.69 | 3.45 | 3.06 | 2.61 | 1.80 | -1.99 | |
| Moment | Mean Phi | Mean mm | Sorting | Skewness | Kurtosis | | |
| Statistics | 2.31 | 0.20 | 1.8 | -2.04 | 6.09 | | |

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|--|---|--|--|--|--|---|-------------|
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| Project Name: Bonita Beach | | | | | | | |
| Sample Name: C-15A #4 | | | | | | | |
| Analysis Date: 03-21-12 | | | | | | | |
| Analyzed By: WD | | | | | | | |
| Easting (ft): <div style="text-align: center;">684,161.9</div> | | Northing (ft): <div style="text-align: center;">754,672.4</div> | | Coordinate System: <div style="text-align: center;">Florida State Plane West</div> | | Elevation (ft): <div style="text-align: center;">-18.5 NAVD 88</div> | |
| USCS: <div style="text-align: center;">SM W/ GRAVEL</div> | | Munsell: <div style="text-align: center;">Wet - 5Y-4/1 Dry - 5Y-6/1</div> | | Comments: | | | |
| Dry Weight (g): <div style="text-align: center;">154.85</div> | Wash Weight (g): <div style="text-align: center;">134.14</div> | Pan Retained (g): <div style="text-align: center;">0.53</div> | Sieve Loss (%): <div style="text-align: center;">0.02</div> | Fines (%): #200 - 15.39 #230 - 13.73 | Organics (%): <div style="text-align: center;">2.50</div> | Carbonates (%): <div style="text-align: center;">53.60</div> | Shells (%): |
| 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 | 4.45 | 2.87 | 4.45 | 2.87 | |
| 7/16" | -3.50 | 11.31 | 19.69 | 12.72 | 24.14 | 15.59 | |
| 5/16" | -3.00 | 8.00 | 9.98 | 6.44 | 34.12 | 22.03 | |
| 3.5 | -2.50 | 5.66 | 9.03 | 5.83 | 43.15 | 27.86 | |
| 4 | -2.25 | 4.76 | 3.07 | 1.98 | 46.22 | 29.84 | |
| 5 | -2.00 | 4.00 | 2.66 | 1.72 | 48.88 | 31.56 | |
| 7 | -1.50 | 2.83 | 6.66 | 4.30 | 55.54 | 35.86 | |
| 10 | -1.00 | 2.00 | 6.62 | 4.28 | 62.16 | 40.14 | |
| 14 | -0.50 | 1.41 | 6.13 | 3.96 | 68.29 | 44.10 | |
| 18 | 0.00 | 1.00 | 4.64 | 3.00 | 72.93 | 47.10 | |
| 25 | 0.50 | 0.71 | 2.82 | 1.82 | 75.75 | 48.92 | |
| 35 | 1.00 | 0.50 | 1.98 | 1.28 | 77.73 | 50.20 | |
| 45 | 1.50 | 0.35 | 1.68 | 1.08 | 79.41 | 51.28 | |
| 60 | 2.00 | 0.25 | 2.14 | 1.38 | 81.55 | 52.66 | |
| 80 | 2.50 | 0.18 | 3.28 | 2.12 | 84.83 | 54.78 | |
| 120 | 3.00 | 0.13 | 20.03 | 12.94 | 104.86 | 67.72 | |
| 170 | 3.50 | 0.09 | 21.04 | 13.59 | 125.90 | 81.31 | |
| 200 | 3.75 | 0.07 | 5.11 | 3.30 | 131.01 | 84.61 | |
| 230 | 4.00 | 0.06 | 2.57 | 1.66 | 133.58 | 86.27 | |
| | | | | | | | |
| Phi 5 | Phi 16 | Phi 25 | Phi 50 | Phi 75 | Phi 84 | Phi 95 | |
| | 3.70 | 3.27 | 0.92 | -2.75 | -3.47 | -3.92 | |
| Moment | Mean Phi | Mean mm | Sorting | Skewness | Kurtosis | | |
| Statistics | -0.16 | 1.12 | 2.86 | 0.03 | 1.34 | | |