

Gradation Analysis Report

Project Name: Collier County

Sample Name: CCVC-03-01 S#1

Sample Date: 08/14/03

Analyzed By: ID



Coastal Planning & Engineering, Inc.

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

| | | | |
|--------------------|---------------------|---|------------------------------------|
| Easting: 364594 | Northing: 656767 | Coordinate System: State Plane 1983 FL East Ft | Elevation: -28.1 NGVD 1929 Feet |
|--------------------|---------------------|---|------------------------------------|

| | | | |
|----------------|-----------------------|-----------------------|-----------|
| USCS: SW-SM | Dry Munsel: 5Y-7/1 | Wet Munsel: 5Y-7/1 | Comments: |
|----------------|-----------------------|-----------------------|-----------|

| | | | | |
|----------------------|-----------------------|---------------------|-----------------------|---|
| Dry Weight: 46.96 | Wash Weight: 43.58 | Sieve Loss: 0.01 | Percent Silt: 7.37 | Estimated Percent Shell Content: 15.33 |
|----------------------|-----------------------|---------------------|-----------------------|---|

| 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 | 1.09 | 2.32 | 1.09 | 2.32 |
| 5 | -2.00 | 4.00 | 0.38 | 0.81 | 1.47 | 3.13 |
| 7 | -1.50 | 2.82 | 1.00 | 2.13 | 2.47 | 5.26 |
| 10 | -1.00 | 2.00 | 0.84 | 1.79 | 3.31 | 7.05 |
| 14 | -0.50 | 1.41 | 1.21 | 2.58 | 4.52 | 9.63 |
| 18 | 0.00 | 1.00 | 1.04 | 2.21 | 5.56 | 11.84 |
| 25 | 0.50 | 0.70 | 1.04 | 2.21 | 6.60 | 14.05 |
| 35 | 1.00 | 0.50 | 0.96 | 2.04 | 7.56 | 16.10 |
| 45 | 1.50 | 0.35 | 0.68 | 1.45 | 8.24 | 17.55 |
| 60 | 2.00 | 0.25 | 0.93 | 1.98 | 9.17 | 19.53 |
| 80 | 2.50 | 0.17 | 3.66 | 7.79 | 12.83 | 27.32 |
| 120 | 3.00 | 0.12 | 22.51 | 47.93 | 35.34 | 75.26 |
| 170 | 3.50 | 0.08 | 7.11 | 15.14 | 42.45 | 90.40 |
| 200 | 3.75 | 0.07 | 0.81 | 1.72 | 43.26 | 92.12 |
| 230 | 4.00 | 0.06 | 0.24 | 0.51 | 43.50 | 92.63 |
| Pan | Pan | Pan | 3.45 | 7.35 | 46.95 | 99.98 |

| | | | | | | |
|-------|--------|--------|--------|--------|--------|--------|
| Phi 5 | Phi 16 | Phi 25 | Phi 50 | Phi 75 | Phi 84 | Phi 95 |
| -1.56 | 0.98 | 2.35 | 2.74 | 3 | 3.29 | 4.08 |

| | | | | | |
|------------|----------|---------|---------|----------|----------|
| Statistics | Mean Phi | Mean mm | Sorting | Skewness | Kurtosis |
| Graphic | 1.90 | 0.27 | 1.43 | -2.13 | 3.58 |
| Moment | 2.12 | 0.23 | 1.88 | -1.04 | 2.70 |

Gradation Analysis Report

Project Name: Collier County

Sample Name: CCVC-03-01 S#2

Sample Date: 08/14/03

Analyzed By: ID



Coastal Planning & Engineering, Inc.

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

| | | | |
|--------------------|---------------------|---|------------------------------------|
| Easting: 364594 | Northing: 656767 | Coordinate System: State Plane 1983 FL East Ft | Elevation: -29.1 NGVD 1929 Feet |
|--------------------|---------------------|---|------------------------------------|

| | | | |
|----------------|-----------------------|-----------------------|-----------|
| USCS: SW-SM | Dry Munsel: 5Y-7/1 | Wet Munsel: 5Y-7/1 | Comments: |
|----------------|-----------------------|-----------------------|-----------|

| | | | | |
|----------------------|-----------------------|---------------------|-----------------------|--|
| Dry Weight: 46.32 | Wash Weight: 42.74 | Sieve Loss: 0.02 | Percent Silt: 7.97 | Estimated Percent Shell Content: 8.21 |
|----------------------|-----------------------|---------------------|-----------------------|--|

| 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 | 0.83 | 1.79 | 0.83 | 1.79 |
| 7 | -1.50 | 2.82 | 0.01 | 0.02 | 0.84 | 1.81 |
| 10 | -1.00 | 2.00 | 0.90 | 1.94 | 1.74 | 3.76 |
| 14 | -0.50 | 1.41 | 0.46 | 0.99 | 2.20 | 4.75 |
| 18 | 0.00 | 1.00 | 0.70 | 1.51 | 2.90 | 6.26 |
| 25 | 0.50 | 0.70 | 0.58 | 1.25 | 3.48 | 7.51 |
| 35 | 1.00 | 0.50 | 0.86 | 1.86 | 4.34 | 9.37 |
| 45 | 1.50 | 0.35 | 0.57 | 1.23 | 4.91 | 10.60 |
| 60 | 2.00 | 0.25 | 0.69 | 1.49 | 5.60 | 12.09 |
| 80 | 2.50 | 0.17 | 3.68 | 7.94 | 9.28 | 20.03 |
| 120 | 3.00 | 0.12 | 21.91 | 47.30 | 31.19 | 67.34 |
| 170 | 3.50 | 0.08 | 10.07 | 21.74 | 41.26 | 89.08 |
| 200 | 3.75 | 0.07 | 1.03 | 2.22 | 42.29 | 91.30 |
| 230 | 4.00 | 0.06 | 0.34 | 0.73 | 42.63 | 92.03 |
| Pan | Pan | Pan | 3.67 | 7.92 | 46.30 | 99.96 |

| | | | | | | |
|-------|--------|--------|--------|--------|--------|--------|
| Phi 5 | Phi 16 | Phi 25 | Phi 50 | Phi 75 | Phi 84 | Phi 95 |
| -0.42 | 2.25 | 2.55 | 2.82 | 3.18 | 3.38 | 4.09 |

| | | | | | |
|------------|----------|---------|---------|----------|----------|
| Statistics | Mean Phi | Mean mm | Sorting | Skewness | Kurtosis |
| Graphic | 2.42 | 0.19 | 0.97 | -1.29 | 2.96 |
| Moment | 2.55 | 0.17 | 1.44 | -1.21 | 3.25 |

Gradation Analysis Report

Project Name: Collier County

Sample Name: CCVC-03-01 S#3

Sample Date: 08/14/03

Analyzed By: ID



Coastal Planning & Engineering, Inc.

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

| | | | |
|--------------------|---------------------|---|------------------------------------|
| Easting: 364594 | Northing: 656767 | Coordinate System: State Plane 1983 FL East Ft | Elevation: -30.1 NGVD 1929 Feet |
|--------------------|---------------------|---|------------------------------------|

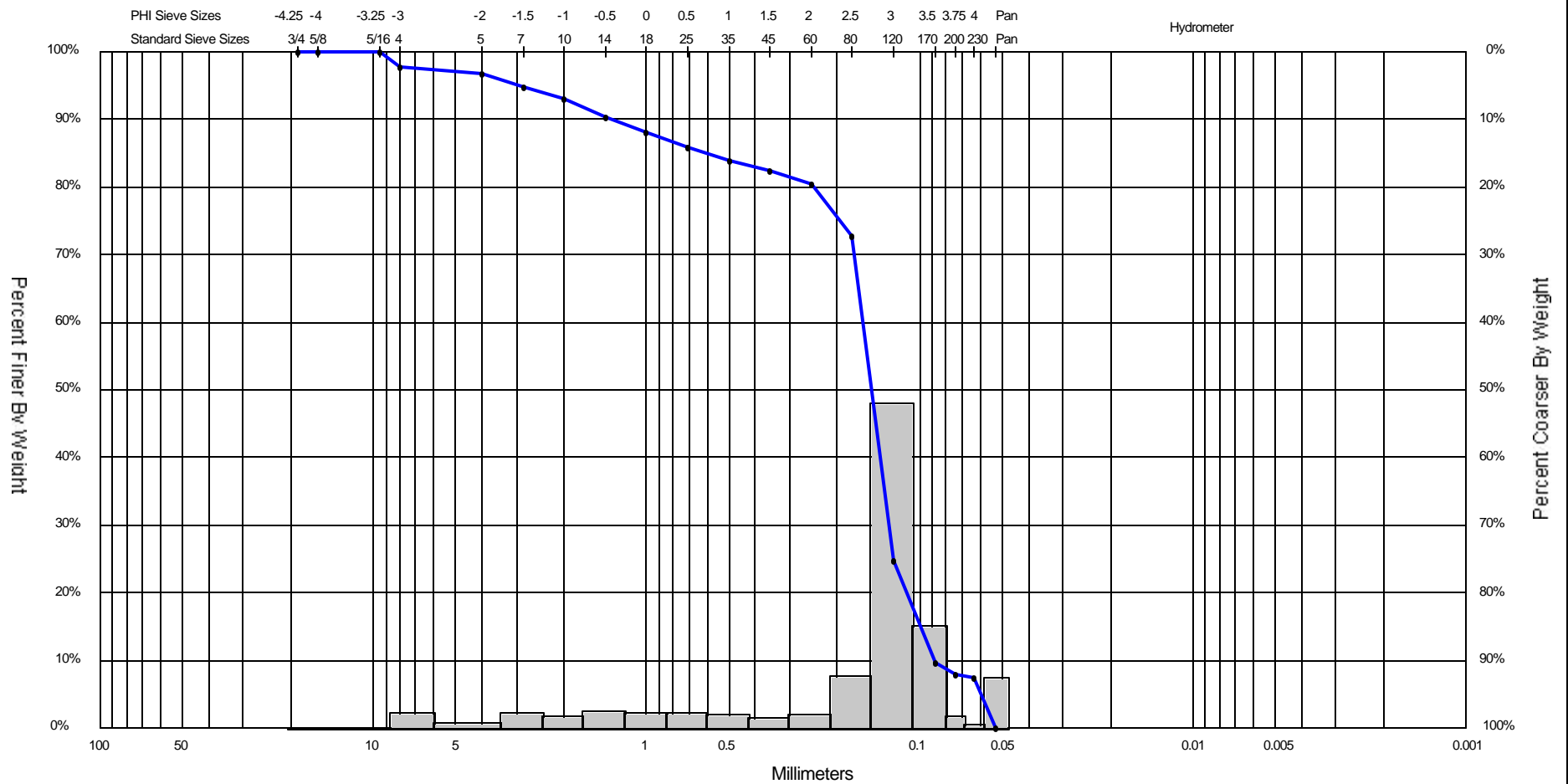
| | | | |
|----------------|-----------------------|-----------------------|-----------|
| USCS: SW-SM | Dry Munsel: 5Y-7/1 | Wet Munsel: 5Y-7/1 | Comments: |
|----------------|-----------------------|-----------------------|-----------|

| | | | | |
|----------------------|-----------------------|---------------------|-----------------------|---|
| Dry Weight: 45.03 | Wash Weight: 41.15 | Sieve Loss: 0.02 | Percent Silt: 8.71 | Estimated Percent Shell Content: 11.51 |
|----------------------|-----------------------|---------------------|-----------------------|---|


| 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 | 1.73 | 3.84 | 1.73 | 3.84 |
| 5 | -2.00 | 4.00 | 0.18 | 0.40 | 1.91 | 4.24 |
| 7 | -1.50 | 2.82 | 0.70 | 1.55 | 2.61 | 5.80 |
| 10 | -1.00 | 2.00 | 0.60 | 1.33 | 3.21 | 7.13 |
| 14 | -0.50 | 1.41 | 0.58 | 1.29 | 3.79 | 8.42 |
| 18 | 0.00 | 1.00 | 0.53 | 1.18 | 4.32 | 9.59 |
| 25 | 0.50 | 0.70 | 0.61 | 1.35 | 4.93 | 10.95 |
| 35 | 1.00 | 0.50 | 0.71 | 1.58 | 5.64 | 12.52 |
| 45 | 1.50 | 0.35 | 0.42 | 0.93 | 6.06 | 13.46 |
| 60 | 2.00 | 0.25 | 0.70 | 1.55 | 6.76 | 15.01 |
| 80 | 2.50 | 0.17 | 2.13 | 4.73 | 8.89 | 19.74 |
| 120 | 3.00 | 0.12 | 20.30 | 45.08 | 29.19 | 64.82 |
| 170 | 3.50 | 0.08 | 9.91 | 22.01 | 39.10 | 86.83 |
| 200 | 3.75 | 0.07 | 1.42 | 3.15 | 40.52 | 89.98 |
| 230 | 4.00 | 0.06 | 0.59 | 1.31 | 41.11 | 91.29 |
| Pan | Pan | Pan | 3.90 | 8.66 | 45.01 | 99.96 |

| | | | | | | |
|-------|--------|--------|--------|--------|--------|--------|
| Phi 5 | Phi 16 | Phi 25 | Phi 50 | Phi 75 | Phi 84 | Phi 95 |
| -1.76 | 2.1 | 2.56 | 2.84 | 3.23 | 3.44 | 4.11 |

| | | | | | |
|------------|----------|---------|---------|----------|----------|
| Statistics | Mean Phi | Mean mm | Sorting | Skewness | Kurtosis |
| Graphic | 2.15 | 0.23 | 1.22 | -2.07 | 3.57 |
| Moment | 2.36 | 0.19 | 1.93 | -1.46 | 3.62 |



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

| Sample | Symbol | Elev. | Comments | USCS | % Silt | Median | Mean | Skew | Kurt | Sort | Sample Information | |
|---|--------|-------|---------------------|-------|--------|--------|------|-------|------|------|--------------------|-----------------------------|
| CCVC-03-01 S#1 | | -28.1 | | SW-SM | 7.37 | 0.15 | 0.23 | -1.04 | 2.70 | 1.88 | Project Name: | Collier County |
| Incremental % Weight | | N/A | Use Left Hand Scale | | | | | | | | Collection Date: | 08/14/03 |
| | | | | | | | | | | | Analyzed By: | ID |
|  <div> Coastal Planning & Engineering, Inc. 2481 N.W. Boca Raton Blvd. Boca Raton, FL 33431 ph 561 391-8102 fax 561 391-9116 </div> | | | | | | | | | | | Easting (X): | 364594 |
| | | | | | | | | | | | Northing (Y): | 656767 |
| | | | | | | | | | | | Horizontal System: | State Plane 1983 FL East Ft |
| | | | | | | | | | | | Vertical System: | NGVD 1929 Feet |

