

Gradation Analysis Report

Project Name: Collier County
 Sample Name: CCVC-03-18 S#1
 Sample Date: 08/13/03
 Analyzed By: ID



Coastal Planning & Engineering, Inc.
 2481 N.W. Boca Raton Blvd.
 Boca Raton, FL 33431

| | | | |
|--------------------|---------------------|---|------------------------------------|
| Easting: 387964 | Northing: 580320 | Coordinate System: State Plane 1983 FL East Ft | Elevation: -31.7 NGVD 1929 Feet |
|--------------------|---------------------|---|------------------------------------|

| | | | |
|----------------|-----------------------|-----------------------|-----------|
| USCS: SW-SM | Dry Munsel: 5Y-7/1 | Wet Munsel: 5Y-6/1 | Comments: |
|----------------|-----------------------|-----------------------|-----------|

| | | | | |
|----------------------|-----------------------|---------------------|-----------------------|--|
| Dry Weight: 44.65 | Wash Weight: 41.49 | Sieve Loss: 0.01 | Percent Silt: 7.26 | Estimated Percent Shell Content: 28.3 |
|----------------------|-----------------------|---------------------|-----------------------|--|

| 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 | 1.26 | 2.82 | 1.26 | 2.82 |
| 5 | -2.00 | 4.00 | 0.39 | 0.87 | 1.65 | 3.70 |
| 7 | -1.50 | 2.82 | 1.00 | 2.24 | 2.65 | 5.94 |
| 10 | -1.00 | 2.00 | 1.01 | 2.26 | 3.66 | 8.20 |
| 14 | -0.50 | 1.41 | 1.79 | 4.01 | 5.45 | 12.21 |
| 18 | 0.00 | 1.00 | 3.88 | 8.69 | 9.33 | 20.90 |
| 25 | 0.50 | 0.70 | 6.04 | 13.53 | 15.37 | 34.42 |
| 35 | 1.00 | 0.50 | 9.40 | 21.05 | 24.77 | 55.48 |
| 45 | 1.50 | 0.35 | 5.68 | 12.72 | 30.45 | 68.20 |
| 60 | 2.00 | 0.25 | 2.91 | 6.52 | 33.36 | 74.71 |
| 80 | 2.50 | 0.17 | 2.13 | 4.77 | 35.49 | 79.48 |
| 120 | 3.00 | 0.12 | 4.23 | 9.47 | 39.72 | 88.96 |
| 170 | 3.50 | 0.08 | 1.22 | 2.73 | 40.94 | 91.69 |
| 200 | 3.75 | 0.07 | 0.31 | 0.69 | 41.25 | 92.39 |
| 230 | 4.00 | 0.06 | 0.16 | 0.36 | 41.41 | 92.74 |
| Pan | Pan | Pan | 3.23 | 7.23 | 44.64 | 99.98 |

| | | | | | | |
|-------|--------|--------|--------|--------|--------|--------|
| Phi 5 | Phi 16 | Phi 25 | Phi 50 | Phi 75 | Phi 84 | Phi 95 |
| -1.71 | -0.28 | 0.15 | 0.87 | 2.03 | 2.74 | 4.08 |

| | | | | | |
|------------|----------|---------|---------|----------|----------|
| Statistics | Mean Phi | Mean mm | Sorting | Skewness | Kurtosis |
| Graphic | 1.14 | 0.45 | 1.63 | 0.26 | 1.26 |
| Moment | 1.13 | 0.46 | 1.96 | 0.09 | 1.71 |

Gradation Analysis Report

Project Name: Collier County

Sample Name: CCVC-03-18 S#2

Sample Date: 08/13/03

Analyzed By: ID



Coastal Planning & Engineering, Inc.

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

| | | | | | | | |
|----------|--------|-----------|--------|--------------------|-----------------------------|------------|----------------------|
| Easting: | 387964 | Northing: | 580320 | Coordinate System: | State Plane 1983 FL East Ft | Elevation: | -33.2 NGVD 1929 Feet |
|----------|--------|-----------|--------|--------------------|-----------------------------|------------|----------------------|

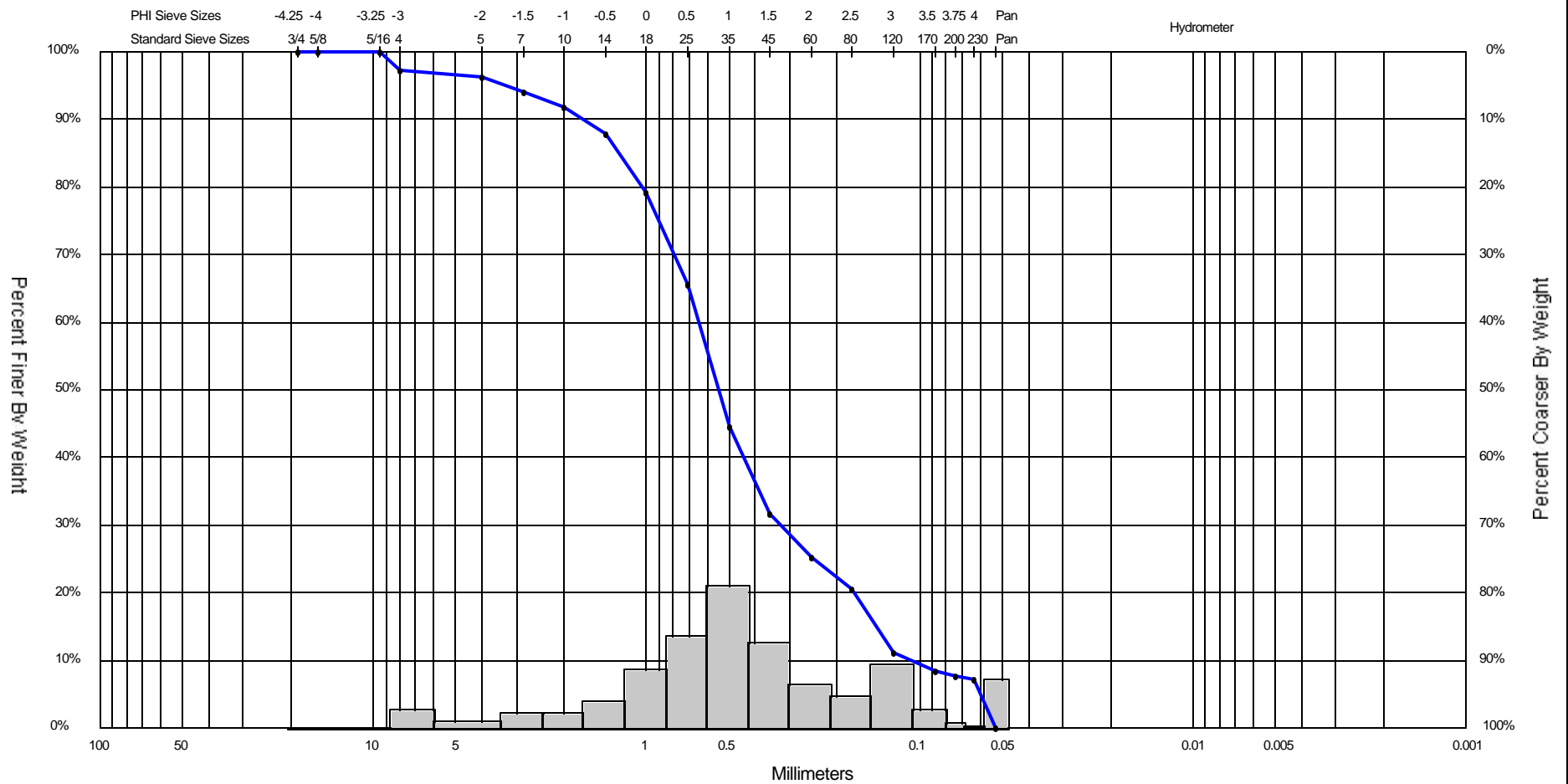
| | | | |
|-------|-------------|-------------|-----------|
| USCS: | Dry Munsel: | Wet Munsel: | Comments: |
| SM | 5Y-7/1 | 5Y-6/1 | |

| | | | | |
|-------------|--------------|-------------|---------------|----------------------------------|
| Dry Weight: | Wash Weight: | Sieve Loss: | Percent Silt: | Estimated Percent Shell Content: |
| 55.97 | 47.58 | 0.01 | 15.26 | 14.85 |


| 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 | 4.64 | 8.29 | 4.64 | 8.29 |
| 4 | -3.00 | 8.00 | 7.62 | 13.61 | 12.26 | 21.90 |
| 5 | -2.00 | 4.00 | 2.30 | 4.11 | 14.56 | 26.01 |
| 7 | -1.50 | 2.82 | 3.50 | 6.25 | 18.06 | 32.27 |
| 10 | -1.00 | 2.00 | 2.69 | 4.81 | 20.75 | 37.07 |
| 14 | -0.50 | 1.41 | 2.37 | 4.23 | 23.12 | 41.31 |
| 18 | 0.00 | 1.00 | 2.00 | 3.57 | 25.12 | 44.88 |
| 25 | 0.50 | 0.70 | 1.81 | 3.23 | 26.93 | 48.12 |
| 35 | 1.00 | 0.50 | 1.71 | 3.06 | 28.64 | 51.17 |
| 45 | 1.50 | 0.35 | 1.28 | 2.29 | 29.92 | 53.46 |
| 60 | 2.00 | 0.25 | 1.52 | 2.72 | 31.44 | 56.17 |
| 80 | 2.50 | 0.17 | 2.57 | 4.59 | 34.01 | 60.76 |
| 120 | 3.00 | 0.12 | 8.41 | 15.03 | 42.42 | 75.79 |
| 170 | 3.50 | 0.08 | 3.61 | 6.45 | 46.03 | 82.24 |
| 200 | 3.75 | 0.07 | 0.89 | 1.59 | 46.92 | 83.83 |
| 230 | 4.00 | 0.06 | 0.51 | 0.91 | 47.43 | 84.74 |
| Pan | Pan | Pan | 8.53 | 15.24 | 55.96 | 99.98 |

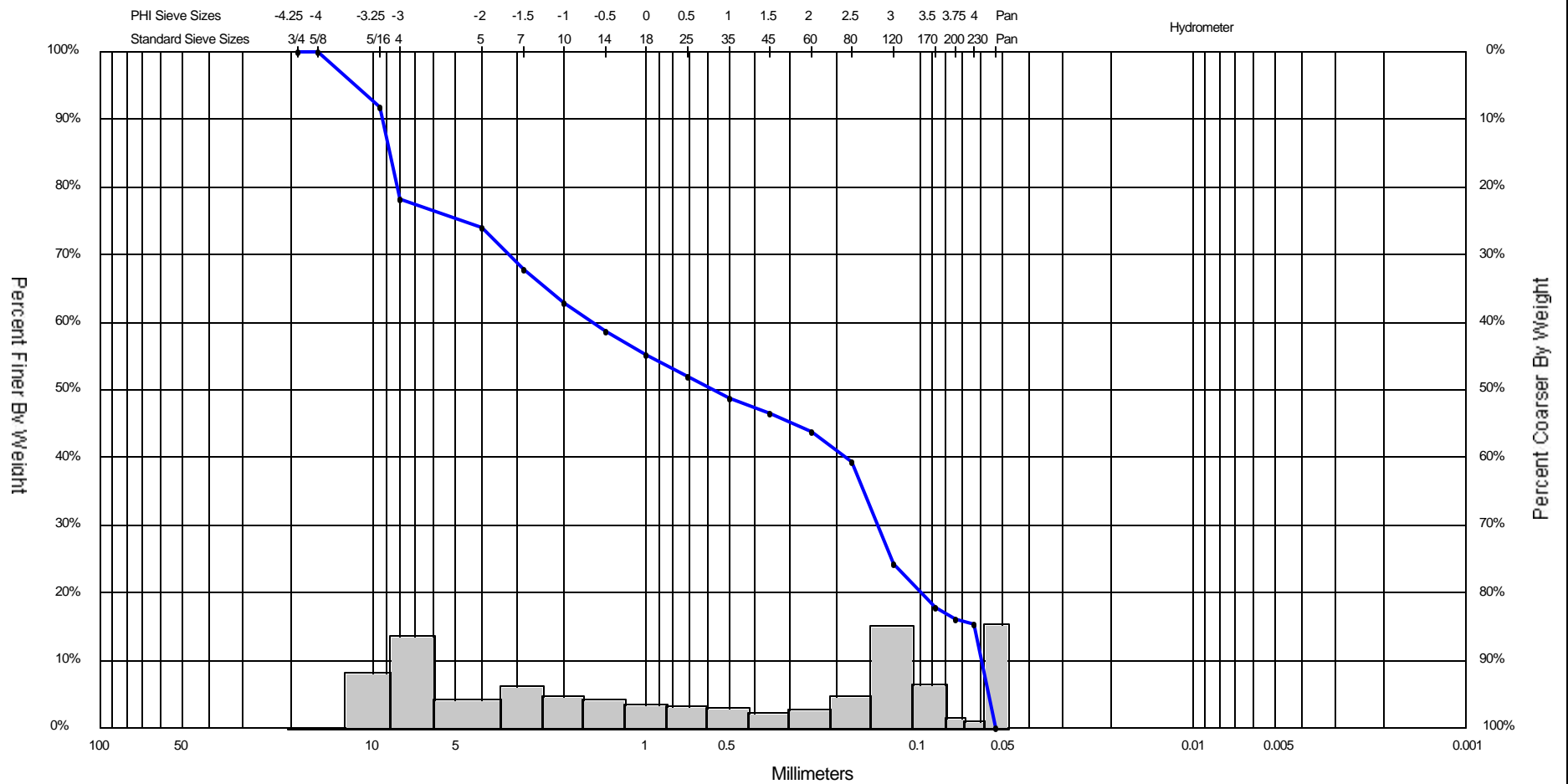
| | | | | | | |
|-------|--------|--------|--------|--------|--------|--------|
| Phi 5 | Phi 16 | Phi 25 | Phi 50 | Phi 75 | Phi 84 | Phi 95 |
| -3.55 | -3.11 | -2.25 | 0.81 | 2.97 | 3.8 | 4.17 |

| | | | | | |
|------------|----------|---------|---------|----------|----------|
| Statistics | Mean Phi | Mean mm | Sorting | Skewness | Kurtosis |
| Graphic | 0.42 | 0.75 | 2.90 | -0.15 | 0.61 |
| Moment | 0.41 | 0.75 | 3.35 | -0.07 | 1.09 |






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

| Sample | Symbol | Elev. | Comments | USCS | % Silt | Median | Mean | Skew | Kurt | Sort | Sample Information | |
|---|--------|-------|---------------------|-------|--------|--------|------|------|------|------|--------------------|-----------------------------|
| CCVC-03-18 S#1 | | -31.7 | | SW-SM | 7.26 | 0.55 | 0.46 | 0.09 | 1.71 | 1.96 | Project Name: | Collier County |
| Incremental % Weight | | N/A | Use Left Hand Scale | | | | | | | | Collection Date: | 08/13/03 |
| | | | | | | | | | | | 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): | 387964 |
| | | | | | | | | | | | Northing (Y): | 580320 |
| | | | | | | | | | | | Horizontal System: | State Plane 1983 FL East Ft |
| | | | | | | | | | | | Vertical System: | NGVD 1929 Feet |



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

| Sample | Symbol | Elev. | Comments | USCS | % Silt | Median | Mean | Skew | Kurt | Sort | Sample Information | |
|---|---|-------|---------------------|--|--------|--------|------|-------|------|------|--------------------|----------------|
| CCVC-03-18 S#2 |  | -33.2 | | SM | 15.26 | 0.57 | 0.75 | -0.07 | 1.09 | 3.35 | Project Name: | Collier County |
| Incremental % Weight |  | N/A | Use Left Hand Scale | | | | | | | | Collection Date: | 08/13/03 |
| | | | | | | | | | | | Analyzed By: | ID |
|  | | | | Coastal Planning & Engineering, Inc. 2481 N.W. Boca Raton Blvd. Boca Raton, FL 33431 ph 561 391-8102 | | | | | | | | |