

Gradation Analysis Report

Proj Name: Central Boca
 Sample: CBVC-01-24#1
 Date: 4/3/01
 By: ID



2841 N. W. Boca Raton Blvd. Boca Raton FL 33428

Elevation: -20.40 Feet Easting: 961498.27 State Plane 1983
 Reference: NGVD Northing: 728432.12 FLA East Feet

USCS: SP Munsel Dry: 5Y 6/1 Munsel Wet: 5Y 6/1
 Comments: 0

Dry Wt. 69.75 Percent Silt: 1.33
 Wash Wt. 68.82

| Sieve Size | PHI Size | mm Size | Grams Retained | % Weight Retained | Cum. Grams Retained | C % Weight Retained |
|------------|----------|---------|----------------|-------------------|---------------------|---------------------|
| 3/4 | -4.250 | 19.027 | 0.000 | 0.000 | 0.000 | 0.000 |
| 5/8 | -4.000 | 16.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 5/16 | -3.250 | 9.514 | 0.000 | 0.000 | 0.000 | 0.000 |
| 4 | -3.000 | 8.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 5 | -2.000 | 4.000 | 0.070 | 0.100 | 0.070 | 0.100 |
| 7 | -1.500 | 2.828 | 0.040 | 0.057 | 0.110 | 0.158 |
| 10 | -1.000 | 2.000 | 0.220 | 0.315 | 0.330 | 0.473 |
| 14 | -0.500 | 1.414 | 0.230 | 0.330 | 0.560 | 0.803 |
| 18 | 0.000 | 1.000 | 0.450 | 0.645 | 1.010 | 1.448 |
| 25 | 0.500 | 0.707 | 1.420 | 2.036 | 2.430 | 3.484 |
| 35 | 1.000 | 0.500 | 4.540 | 6.509 | 6.970 | 9.993 |
| 45 | 1.500 | 0.354 | 10.350 | 14.839 | 17.320 | 24.832 |
| 60 | 2.000 | 0.250 | 25.430 | 36.459 | 42.750 | 61.290 |
| 80 | 2.500 | 0.177 | 20.180 | 28.932 | 62.930 | 90.222 |
| 120 | 3.000 | 0.125 | 5.460 | 7.828 | 68.390 | 98.050 |
| 170 | 3.500 | 0.088 | 0.400 | 0.573 | 68.790 | 98.624 |
| 200 | 3.750 | 0.074 | 0.010 | 0.014 | 68.800 | 98.638 |
| 230 | 4.000 | 0.063 | 0.000 | 0.000 | 68.800 | 98.638 |
| Pan | Pan | 0.053 | 0.930 | 1.333 | 69.730 | 99.971 |

PHI 5 PHI 16 PHI 25 PHI 50 PHI 75 PHI 84 PHI 95
 0.62 1.20 1.50 1.84 2.24 2.39 2.80

Median phi: 1.84 Median mm: 0.28

| | Mean phi | Mean mm | Sorting | Skewness | Kurtosis |
|---------|----------|---------|---------|----------|----------|
| Graphic | 1.77 | 0.29 | 0.63 | -0.19 | 1.22 |
| Moment | 1.80 | 0.29 | 0.75 | -0.23 | 1.70 |

Gradation Analysis Report

Proj Name: Central Boca
 Sample: CBVC-01-24#2
 Date: 4/3/01
 By: ID



2841 N. W. Boca Raton Blvd. Boca Raton FL 33428

Elevation: -24.90 Feet Easting: 961498.27 State Plane 1983
 Reference: NGVD Northing: 728432.12 FLA East Feet

USCS: SP Munsel Dry: 5Y 7/1 Munsel Wet: 5Y 6/1
 Comments: 0

Dry Wt. 79.58 Percent Silt: 1.67
 Wash Wt. 78.26

| Sieve Size | PHI Size | mm Size | Grams Retained | % Weight Retained | Cum. Grams Retained | C % Weight Retained |
|------------|----------|---------|----------------|-------------------|---------------------|---------------------|
| 3/4 | -4.250 | 19.027 | 0.000 | 0.000 | 0.000 | 0.000 |
| 5/8 | -4.000 | 16.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 5/16 | -3.250 | 9.514 | 0.000 | 0.000 | 0.000 | 0.000 |
| 4 | -3.000 | 8.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 5 | -2.000 | 4.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 7 | -1.500 | 2.828 | 0.170 | 0.214 | 0.170 | 0.214 |
| 10 | -1.000 | 2.000 | 0.100 | 0.126 | 0.270 | 0.339 |
| 14 | -0.500 | 1.414 | 0.210 | 0.264 | 0.480 | 0.603 |
| 18 | 0.000 | 1.000 | 0.410 | 0.515 | 0.890 | 1.118 |
| 25 | 0.500 | 0.707 | 1.440 | 1.809 | 2.330 | 2.928 |
| 35 | 1.000 | 0.500 | 4.380 | 5.504 | 6.710 | 8.432 |
| 45 | 1.500 | 0.354 | 10.490 | 13.182 | 17.200 | 21.613 |
| 60 | 2.000 | 0.250 | 25.650 | 32.232 | 42.850 | 53.845 |
| 80 | 2.500 | 0.177 | 27.270 | 34.267 | 70.120 | 88.113 |
| 120 | 3.000 | 0.125 | 7.630 | 9.588 | 77.750 | 97.700 |
| 170 | 3.500 | 0.088 | 0.470 | 0.591 | 78.220 | 98.291 |
| 200 | 3.750 | 0.074 | 0.030 | 0.038 | 78.250 | 98.329 |
| 230 | 4.000 | 0.063 | 0.000 | 0.000 | 78.250 | 98.329 |
| Pan | Pan | 0.053 | 1.330 | 1.671 | 79.580 | 100.000 |

PHI 5 PHI 16 PHI 25 PHI 50 PHI 75 PHI 84 PHI 95
 0.69 1.29 1.55 1.94 2.31 2.44 2.86

Median phi: 1.94 Median mm: 0.26

| | Mean phi | Mean mm | Sorting | Skewness | Kurtosis |
|---------|----------|---------|---------|----------|----------|
| Graphic | 1.84 | 0.28 | 0.62 | -0.25 | 1.18 |
| Moment | 1.87 | 0.27 | 0.75 | -0.25 | 1.71 |

Gradation Analysis Report

Proj Name: Central Boca
 Sample: CBVC-01-24#3
 Date: 4/3/01
 By: ID



2841 N. W. Boca Raton Blvd. Boca Raton FL 33428

Elevation: -29.90 Feet Easting: 961498.27 State Plane 1983
 Reference: NGVD Northing: 728432.12 FLA East Feet

USCS: SP Munsel Dry: 5Y 7/1 Munsel Wet: 5Y 6/1
 Comments: 0

Dry Wt. 72.19 Percent Silt: 1.39
 Wash Wt. 71.20

| Sieve Size | PHI Size | mm Size | Grams Retained | % Weight Retained | Cum. Grams Retained | C % Weight Retained |
|------------|----------|---------|----------------|-------------------|---------------------|---------------------|
| 3/4 | -4.250 | 19.027 | 0.000 | 0.000 | 0.000 | 0.000 |
| 5/8 | -4.000 | 16.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 5/16 | -3.250 | 9.514 | 0.000 | 0.000 | 0.000 | 0.000 |
| 4 | -3.000 | 8.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 5 | -2.000 | 4.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 7 | -1.500 | 2.828 | 0.000 | 0.000 | 0.000 | 0.000 |
| 10 | -1.000 | 2.000 | 0.070 | 0.097 | 0.070 | 0.097 |
| 14 | -0.500 | 1.414 | 0.110 | 0.152 | 0.180 | 0.249 |
| 18 | 0.000 | 1.000 | 0.770 | 1.067 | 0.950 | 1.316 |
| 25 | 0.500 | 0.707 | 5.750 | 7.965 | 6.700 | 9.281 |
| 35 | 1.000 | 0.500 | 18.740 | 25.959 | 25.440 | 35.240 |
| 45 | 1.500 | 0.354 | 19.650 | 27.220 | 45.090 | 62.460 |
| 60 | 2.000 | 0.250 | 19.390 | 26.860 | 64.480 | 89.320 |
| 80 | 2.500 | 0.177 | 5.780 | 8.007 | 70.260 | 97.326 |
| 120 | 3.000 | 0.125 | 0.860 | 1.191 | 71.120 | 98.518 |
| 170 | 3.500 | 0.088 | 0.050 | 0.069 | 71.170 | 98.587 |
| 200 | 3.750 | 0.074 | 0.020 | 0.028 | 71.190 | 98.615 |
| 230 | 4.000 | 0.063 | 0.010 | 0.014 | 71.200 | 98.629 |
| Pan | Pan | 0.053 | 0.990 | 1.371 | 72.190 | 100.000 |

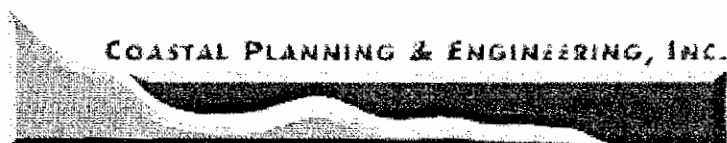
PHI 5 PHI 16 PHI 25 PHI 50 PHI 75 PHI 84 PHI 95
 0.23 0.63 0.80 1.27 1.73 1.90 2.35

Median phi: 1.27 Median mm: 0.41

| | Mean phi | Mean mm | Sorting | Skewness | Kurtosis |
|---------|----------|---------|---------|----------|----------|
| Graphic | 1.28 | 0.41 | 0.64 | 0.01 | 0.94 |
| Moment | 1.27 | 0.41 | 0.76 | 0.03 | 1.46 |

Gradation Analysis Report

Proj Name: Central Boca
 Sample: CBVC-01-24#4
 Date: 4/3/01
 By: ID



2841 N. W. Boca Raton Blvd. Boca Raton FL 33428

Elevation: -33.90 Feet Easting: 961498.27 State Plane 1983
 Reference: NGVD Northing: 728432.12 FLA East Feet

USCS: SP Munsel Dry: 5Y 6/1 Munsel Wet: 5Y 5/1
 Comments: 0

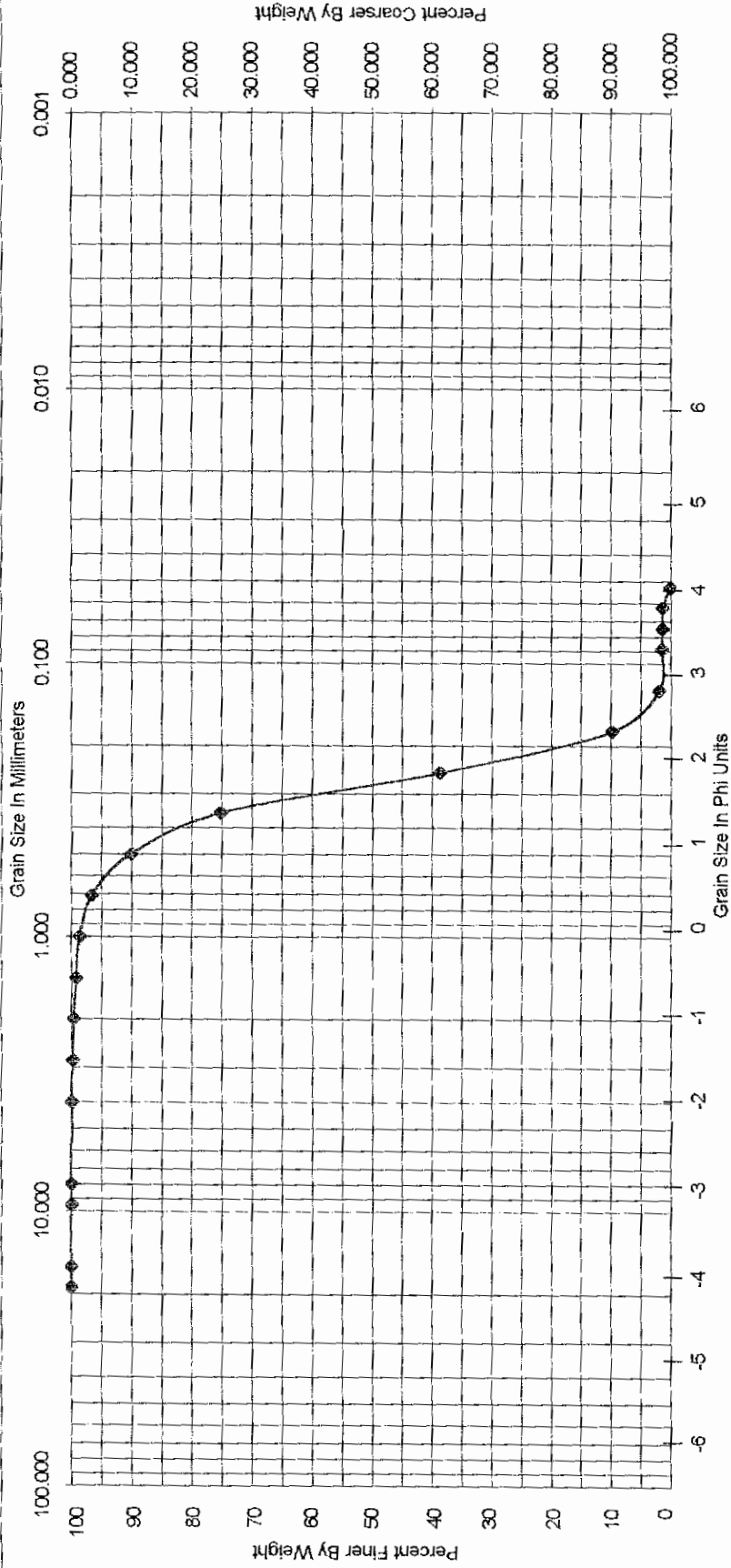
Dry Wt. 67.39 Percent Silt: 1.31
 Wash Wt. 66.51

| Sieve Size | PHI Size | mm Size | Grams Retained | % Weight Retained | Cum. Grams Retained | C % Weight Retained |
|------------|----------|---------|----------------|-------------------|---------------------|---------------------|
| 3/4 | -4.250 | 19.027 | 0.000 | 0.000 | 0.000 | 0.000 |
| 5/8 | -4.000 | 16.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 5/16 | -3.250 | 9.514 | 0.000 | 0.000 | 0.000 | 0.000 |
| 4 | -3.000 | 8.000 | 0.250 | 0.371 | 0.250 | 0.371 |
| 5 | -2.000 | 4.000 | 0.160 | 0.237 | 0.410 | 0.608 |
| 7 | -1.500 | 2.828 | 0.280 | 0.415 | 0.690 | 1.024 |
| 10 | -1.000 | 2.000 | 0.840 | 1.246 | 1.530 | 2.270 |
| 14 | -0.500 | 1.414 | 1.630 | 2.419 | 3.160 | 4.689 |
| 18 | 0.000 | 1.000 | 3.500 | 5.194 | 6.660 | 9.883 |
| 25 | 0.500 | 0.707 | 6.570 | 9.749 | 13.230 | 19.632 |
| 35 | 1.000 | 0.500 | 10.390 | 15.418 | 23.620 | 35.050 |
| 45 | 1.500 | 0.354 | 35.410 | 52.545 | 59.030 | 87.595 |
| 60 | 2.000 | 0.250 | 6.770 | 10.046 | 65.800 | 97.641 |
| 80 | 2.500 | 0.177 | 0.680 | 1.009 | 66.480 | 98.650 |
| 120 | 3.000 | 0.125 | 0.010 | 0.015 | 66.490 | 98.664 |
| 170 | 3.500 | 0.088 | 0.010 | 0.015 | 66.500 | 98.679 |
| 200 | 3.750 | 0.074 | 0.010 | 0.015 | 66.510 | 98.694 |
| 230 | 4.000 | 0.063 | 0.000 | 0.000 | 66.510 | 98.694 |
| Pan | Pan | 0.053 | 0.880 | 1.306 | 67.390 | 100.000 |

PHI 5 PHI 16 PHI 25 PHI 50 PHI 75 PHI 84 PHI 95
 -0.47 0.31 0.67 1.14 1.38 1.47 1.87

Median phi: 1.14 Median mm: 0.45

| | Mean phi | Mean mm | Sorting | Skewness | Kurtosis |
|---------|----------|---------|---------|----------|----------|
| Graphic | 0.86 | 0.55 | 0.64 | -0.73 | 1.36 |
| Moment | 0.91 | 0.53 | 0.80 | -0.56 | 1.96 |

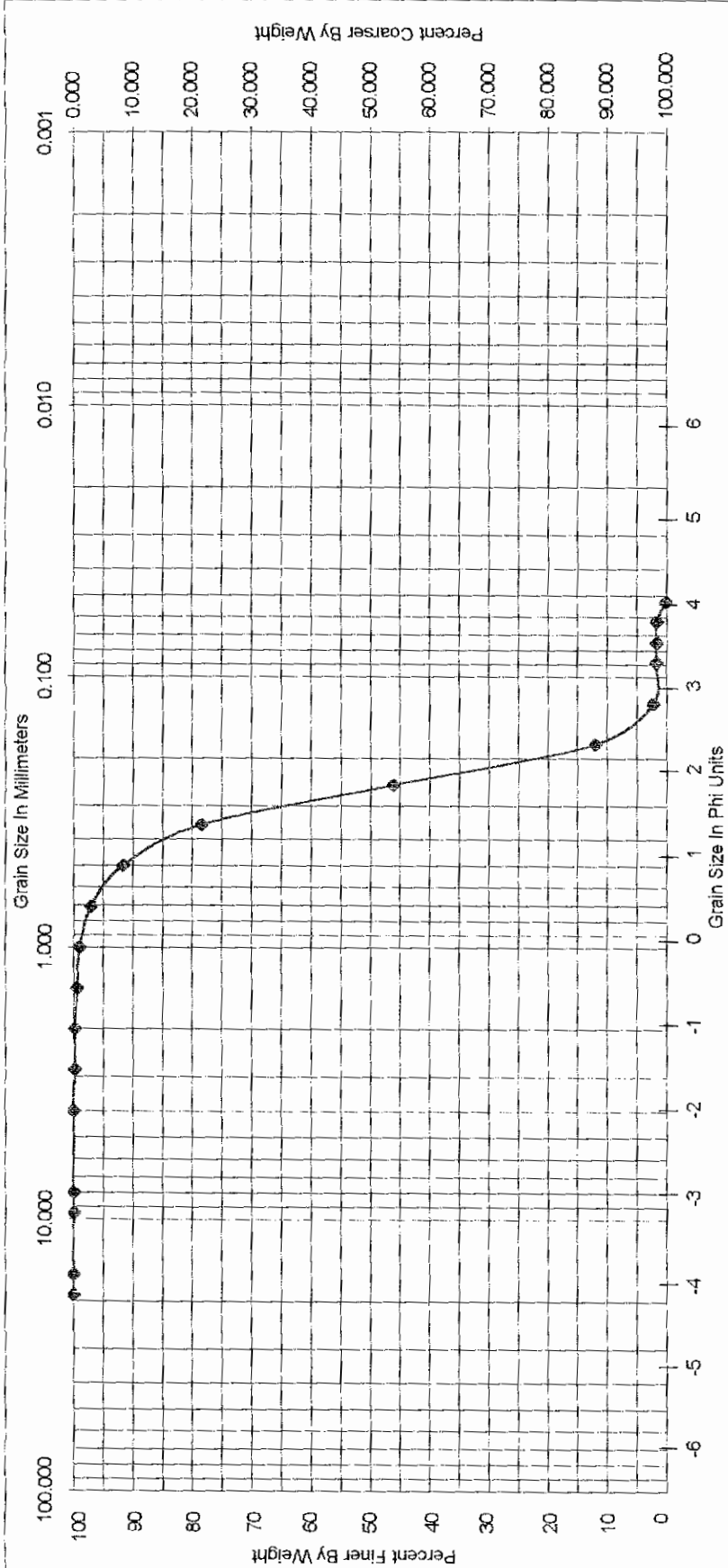


| Gravel | | | Sand | | | Silt or Clay | | |
|--------|------|--|--------|--------|------|--------------|--|--|
| Coarse | Fine | | Coarse | Medium | Fine | | | |

| Sample No. | Depth | Description | USCS | % Silt | Median | Mean | Skew | Kurt | Sort | PL | LL | PI | Sample Information | |
|--------------|-------|-------------|------|--------|--------|------|-------|------|------|----|----|----|--------------------|---------------------------|
| CBVC-01-24#1 | 2.5 | | SP | 1.33 | 0.28 | 0.29 | -0.23 | 1.7 | 0.75 | NA | NA | NA | Project Name: | Central Boca |
| | | | | | | | | | | | | | Sample Type: | VibraCores |
| | | | | | | | | | | | | | Collection Date: | 4/3/01 |
| | | | | | | | | | | | | | Analysis By: | ID |
| | | | | | | | | | | | | | Easting (X): | 961498.27 Feet |
| | | | | | | | | | | | | | Northing (Y): | 728432.12 Feet |
| | | | | | | | | | | | | | Sample Elevation: | -20.4 NGVD |
| | | | | | | | | | | | | | Coord. System: | State Plane 1983 FLA East |

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BOCA RATON, FLORIDA 33431

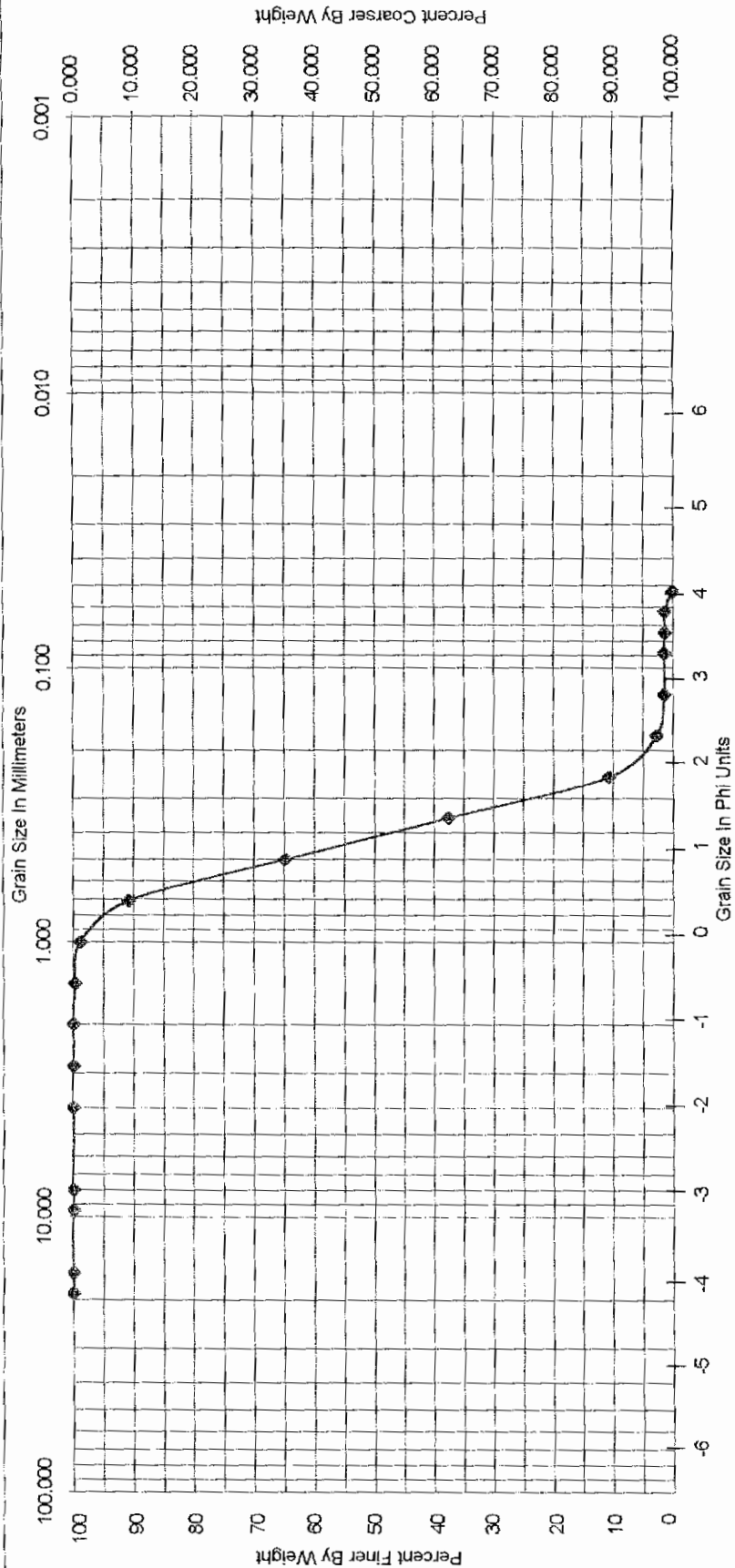


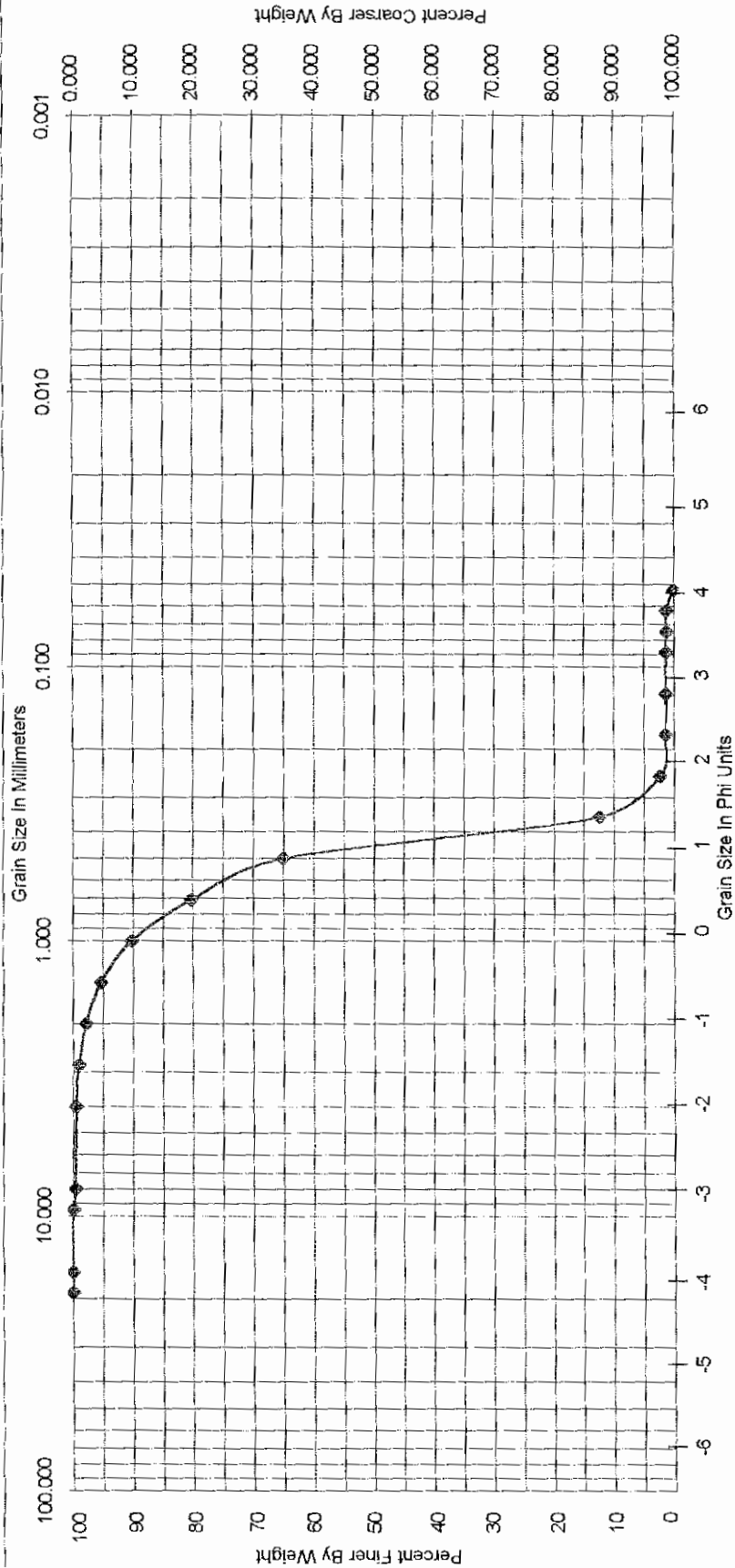
| Gravel | | | Sand | | | Silt or Clay | | |
|--------|------|--|--------|--------|------|--------------|--|--|
| Coarse | Fine | | Coarse | Medium | Fine | | | |

| Sample No. | Depth | Description | USCS | % Silt | Median | Mean | Skew | Kurt | Sort | PL | LL | PI | Sample Information | |
|--------------|-------|-------------|------|--------|--------|------|-------|------|------|----|----|----|--------------------|---------------------------|
| CBVC-01-24#2 | 7 | | SP | 1.67 | 0.26 | 0.27 | -0.25 | 1.71 | 0.75 | NA | NA | NA | Project Name: | Central Boca |
| | | | | | | | | | | | | | Sample Type: | VibraCores |
| | | | | | | | | | | | | | Collection Date: | 4/3/01 |
| | | | | | | | | | | | | | Analysis By: | ID |
| | | | | | | | | | | | | | Easting (X): | 961498.27 Feet |
| | | | | | | | | | | | | | Northing (Y): | 728432.12 Feet |
| | | | | | | | | | | | | | Sample Elevation: | -24.9 NGVD |
| | | | | | | | | | | | | | Coord. System: | State Plane 1983 FLA East |

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 BOCA RATON, FLORIDA 33431





| Gravel | | Sand | | Silt or Clay | |
|--------|------|--------|------|--------------|--|
| Coarse | Fine | Coarse | Fine | | |

| Sample No. | Depth | Description | USCS | % Silt | Median | Mean | Skew | Kurt | Sort | PL | LL | PI | Sample Information |
|--------------|-------|-------------|------|--------|--------|------|-------|------|------|----|----|----|----------------------------|
| CBVC-01-24#4 | 16 | | SP | 1.31 | 0.45 | 0.53 | -0.56 | 1.96 | 0.8 | NA | NA | NA | Project Name: Central Boca |
| | | | | | | | | | | | | | Sample Type: VibraCores |
| | | | | | | | | | | | | | Collection Date: 4/3/01 |
| | | | | | | | | | | | | | Analysis By: ID |

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 BOCA RATON, FLORIDA 33431

COASTAL PLANNING & ENGINEERING, INC.
 961498.27 Feet
 728432.12 Feet
 -33.9 NGVD
 State Plane 1983 FLA East