

Gradation Analysis Report

Proj Name: Central Boca
 Sample: CBJP-01-03#TOP
 Date: 3/14/2001
 By: ID



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

Elevation: 0 Easting: 963449.00 NAD 1983
 Northing: 732547.00 FLA East Feet

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

Dry Wt. 80.79 Percent Silt: 1.81
 Wash Wt. 79.35

| 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 | 0.060 | 0.074 | 0.060 | 0.074 |
| 10 | -1.000 | 2.000 | 0.410 | 0.507 | 0.470 | 0.582 |
| 14 | -0.500 | 1.414 | 0.860 | 1.064 | 1.330 | 1.646 |
| 18 | 0.000 | 1.000 | 1.600 | 1.980 | 2.930 | 3.627 |
| 25 | 0.500 | 0.707 | 3.540 | 4.382 | 6.470 | 8.008 |
| 35 | 1.000 | 0.500 | 7.640 | 9.457 | 14.110 | 17.465 |
| 45 | 1.500 | 0.354 | 10.480 | 12.972 | 24.590 | 30.437 |
| 60 | 2.000 | 0.250 | 19.220 | 23.790 | 43.810 | 54.227 |
| 80 | 2.500 | 0.177 | 25.030 | 30.982 | 68.840 | 85.209 |
| 120 | 3.000 | 0.125 | 9.140 | 11.313 | 77.980 | 96.522 |
| 170 | 3.500 | 0.088 | 1.330 | 1.646 | 79.310 | 98.168 |
| 200 | 3.750 | 0.074 | 0.010 | 0.012 | 79.320 | 98.180 |
| 230 | 4.000 | 0.063 | 0.020 | 0.025 | 79.340 | 98.205 |
| Pan | Pan | 0.053 | 1.440 | 1.782 | 80.780 | 99.988 |

PHI 5 PHI 16 PHI 25 PHI 50 PHI 75 PHI 84 PHI 95
 0.16 0.92 1.29 1.91 2.34 2.48 2.93

Median phi: 1.91 Median mm: 0.27

| | Mean phi | Mean mm | Sorting | Skewness | Kurtosis |
|---------|----------|---------|---------|----------|----------|
| Graphic | 1.68 | 0.31 | 0.81 | -0.42 | 1.09 |
| Moment | 1.72 | 0.30 | 0.98 | -0.34 | 1.65 |

Gradation Analysis Report

Proj Name: Central Boca
 Sample: CBJP-01-03#MID
 Date: 3/14/2001
 By: ID



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

| | | | | | |
|------------|----|-----------|-----------|----------|------|
| Elevation: | 10 | Easting: | 963449.00 | NAD | 1983 |
| | | Northing: | 732547.00 | FLA East | Feet |

| | | | | | |
|-----------|----|-------------|--------|-------------|--------|
| USCS: | SW | Munsel Dry: | 5Y 6/1 | Munsel Wet: | 5Y 7/1 |
| Comments: | 0 | | | | |

| | | | |
|----------|-------|---------------|------|
| Dry Wt. | 78.30 | Percent Silt: | 1.03 |
| Wash Wt. | 77.51 | | |

| 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 | 0.000 | 0.000 | 0.000 | 0.000 |
| 5 | -2.000 | 4.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 7 | -1.500 | 2.828 | 0.040 | 0.051 | 0.040 | 0.051 |
| 10 | -1.000 | 2.000 | 0.200 | 0.255 | 0.240 | 0.307 |
| 14 | -0.500 | 1.414 | 0.840 | 1.073 | 1.080 | 1.379 |
| 18 | 0.000 | 1.000 | 2.130 | 2.720 | 3.210 | 4.100 |
| 25 | 0.500 | 0.707 | 4.530 | 5.785 | 7.740 | 9.885 |
| 35 | 1.000 | 0.500 | 8.880 | 11.341 | 16.620 | 21.226 |
| 45 | 1.500 | 0.354 | 13.530 | 17.280 | 30.150 | 38.506 |
| 60 | 2.000 | 0.250 | 20.870 | 26.654 | 51.020 | 65.160 |
| 80 | 2.500 | 0.177 | 20.100 | 25.670 | 71.120 | 90.830 |
| 120 | 3.000 | 0.125 | 5.970 | 7.625 | 77.090 | 98.455 |
| 170 | 3.500 | 0.088 | 0.390 | 0.498 | 77.480 | 98.953 |
| 200 | 3.750 | 0.074 | 0.010 | 0.013 | 77.490 | 98.966 |
| 230 | 4.000 | 0.063 | 0.020 | 0.026 | 77.510 | 98.991 |
| Pan | Pan | 0.053 | 0.790 | 1.009 | 78.300 | 100.000 |

| | | | | | | |
|-------|--------|--------|--------|--------|--------|--------|
| PHI 5 | PHI 16 | PHI 25 | PHI 50 | PHI 75 | PHI 84 | PHI 95 |
| 0.08 | 0.77 | 1.11 | 1.72 | 2.19 | 2.37 | 2.77 |

Median phi: 1.72 Median mm: 0.30

| | Mean phi | Mean mm | Sorting | Skewness | Kurtosis |
|---------|----------|---------|---------|----------|----------|
| Graphic | 1.54 | 0.34 | 0.81 | -0.31 | 1.02 |
| Moment | 1.57 | 0.34 | 0.96 | -0.27 | 1.56 |

Gradation Analysis Report

Proj Name: Central Boca
 Sample: CBJP-01-03#BOT
 Date: 3/14/2001
 By: ID



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

| | | | | | |
|------------|----|-----------|-----------|----------|------|
| Elevation: | 20 | Easting: | 963449.00 | NAD | 1983 |
| | | Northing: | 732547.00 | FLA East | Feet |

| | | | | | |
|-----------|----|-------------|--------|-------------|--------|
| USCS: | SW | Munsel Dry: | 5Y 6/1 | Munsel Wet: | 5Y 7/1 |
| Comments: | 0 | | | | |

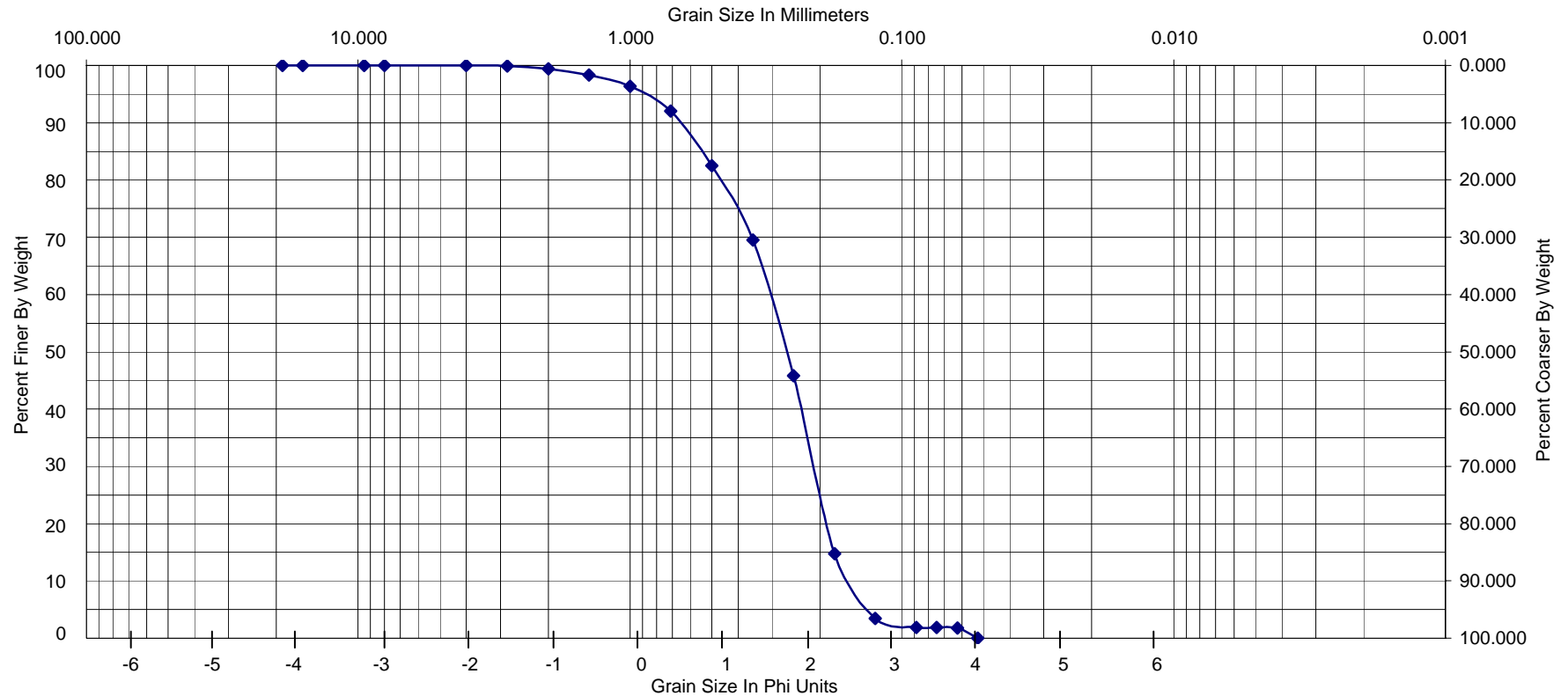
| | | | |
|----------|-------|---------------|------|
| Dry Wt. | 75.28 | Percent Silt: | 1.63 |
| Wash Wt. | 74.06 | | |

| 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 | 0.180 | 0.239 | 0.180 | 0.239 |
| 14 | -0.500 | 1.414 | 0.480 | 0.638 | 0.660 | 0.877 |
| 18 | 0.000 | 1.000 | 3.770 | 5.008 | 4.430 | 5.885 |
| 25 | 0.500 | 0.707 | 6.440 | 8.555 | 10.870 | 14.439 |
| 35 | 1.000 | 0.500 | 9.210 | 12.234 | 20.080 | 26.674 |
| 45 | 1.500 | 0.354 | 21.770 | 28.919 | 41.850 | 55.592 |
| 60 | 2.000 | 0.250 | 23.000 | 30.553 | 64.850 | 86.145 |
| 80 | 2.500 | 0.177 | 8.590 | 11.411 | 73.440 | 97.556 |
| 120 | 3.000 | 0.125 | 0.590 | 0.784 | 74.030 | 98.340 |
| 170 | 3.500 | 0.088 | 0.010 | 0.013 | 74.040 | 98.353 |
| 200 | 3.750 | 0.074 | 0.010 | 0.013 | 74.050 | 98.366 |
| 230 | 4.000 | 0.063 | 0.010 | 0.013 | 74.060 | 98.379 |
| Pan | Pan | 0.053 | 1.220 | 1.621 | 75.280 | 100.000 |

| | | | | | | |
|-------|--------|--------|--------|--------|--------|--------|
| PHI 5 | PHI 16 | PHI 25 | PHI 50 | PHI 75 | PHI 84 | PHI 95 |
| -0.09 | 0.56 | 0.93 | 1.40 | 1.82 | 1.96 | 2.39 |


Median phi: 1.40 Median mm: 0.38

| | Mean phi | Mean mm | Sorting | Skewness | Kurtosis |
|---------|----------|---------|---------|----------|----------|
| Graphic | 1.25 | 0.42 | 0.73 | -0.33 | 1.15 |
| Moment | 1.28 | 0.41 | 0.87 | -0.30 | 1.66 |



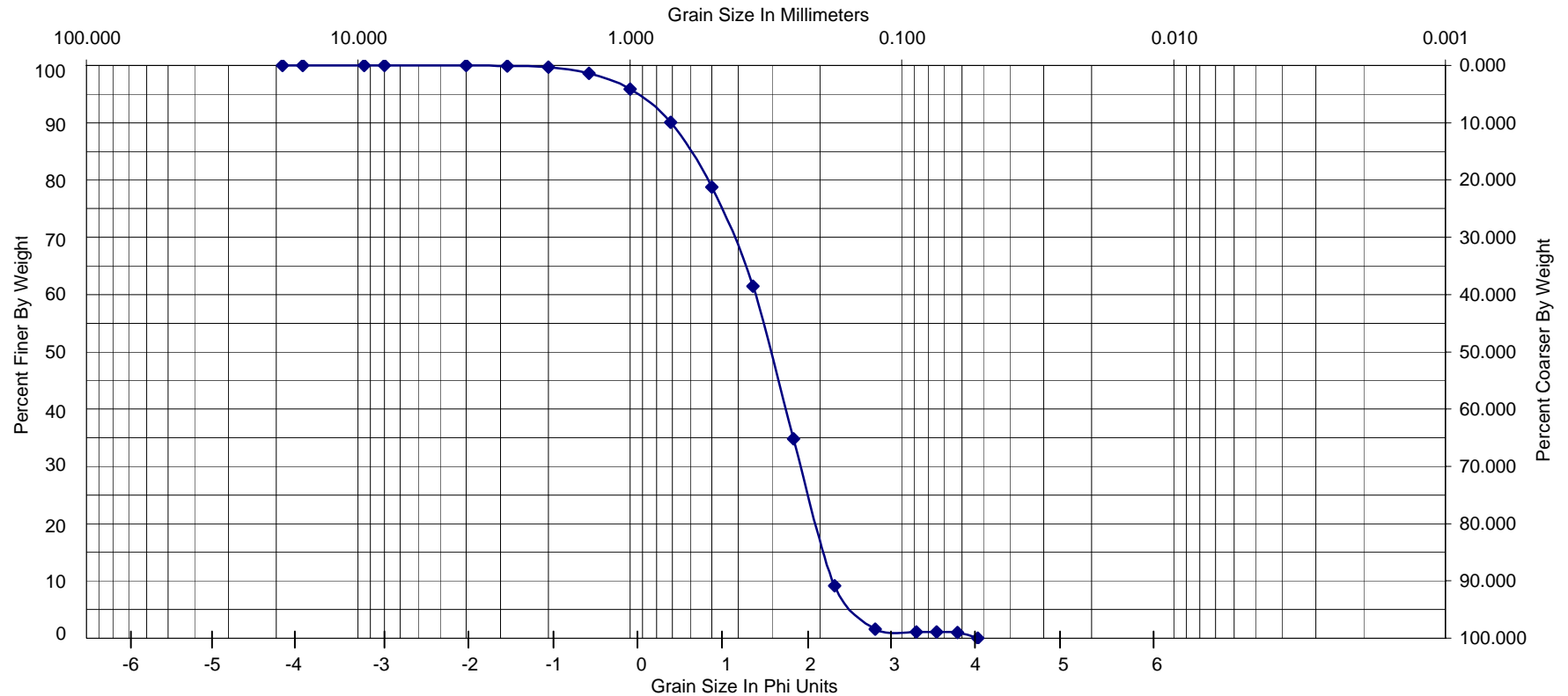
| Gravel | | Sand | | | Silt or Clay |
|--------|------|--------|--------|------|--------------|
| Coarse | Fine | Coarse | Medium | Fine | |

| Sample No. | Depth | Description | USCS | % Silt | Median | Mean | Skew | Kurt | Sort | PL | LL | PI | Sample Information |
|------------------|-------|-------------|------|--------|--------|------|-------|------|------|----|----|----|----------------------------|
| — CBJP-01-03#TOP | 0.0 | | SW | 1.81 | 0.27 | 0.3 | -0.34 | 1.65 | 0.98 | NA | NA | NA | Project Name: Central Boca |
| | | | | | | | | | | | | | Sample Type: JET PROBES |
| | | | | | | | | | | | | | Collection Date: 3/14/01 |
| | | | | | | | | | | | | | Analysis By: ID |



COASTAL PLANNING & ENGINEERING, INC.
2481 N. W. BOCA RATON BLVD.
BOCA RATON, FLORIDA 33431

| | |
|-------------------|-------------------|
| Easting (X): | 963449.00 Feet |
| Northing (Y): | 732547.00 Feet |
| Sample Elevation: | -48.00 NGVD 29 |
| Coord. System: | NAD 1983 FLA East |



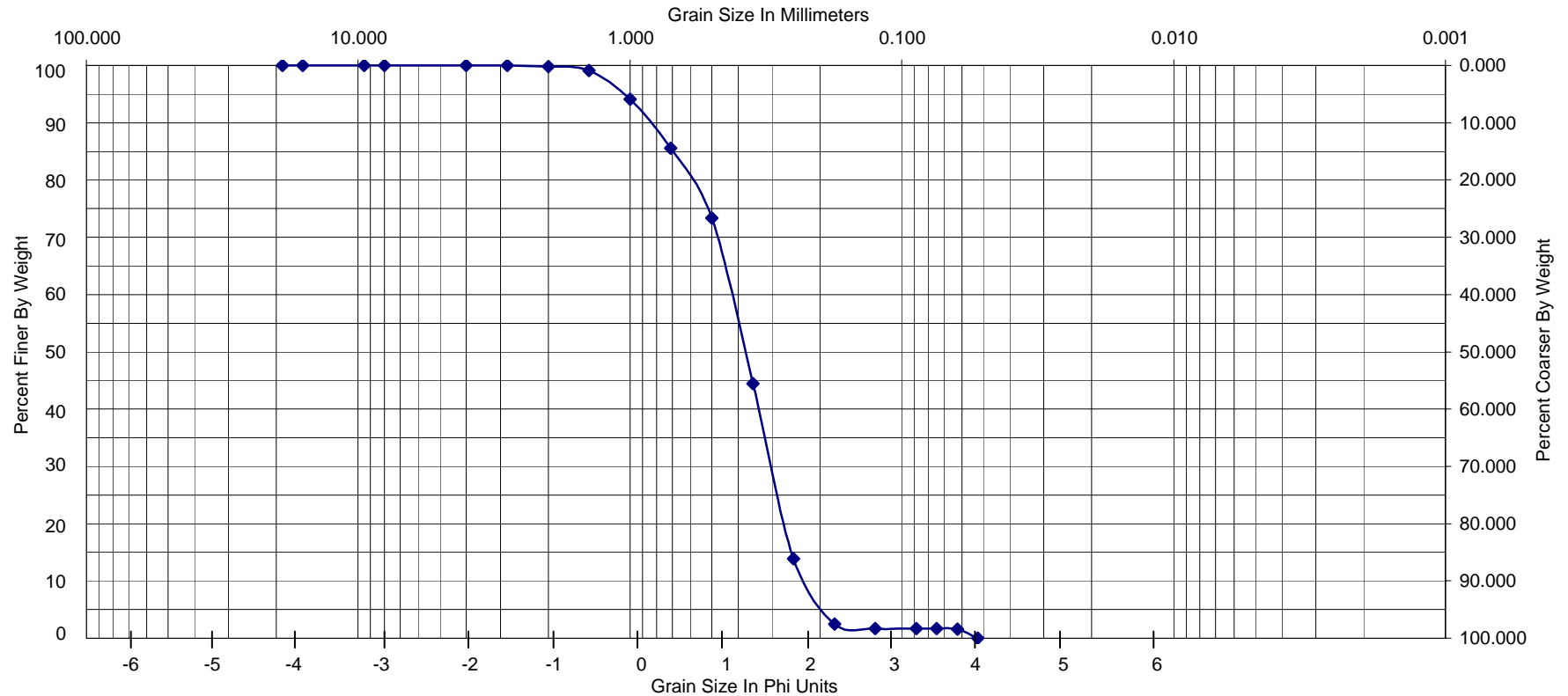
| Gravel | | Sand | | | Silt or Clay |
|--------|------|--------|--------|------|--------------|
| Coarse | Fine | Coarse | Medium | Fine | |

| Sample No. | Depth | Description | USCS | % Silt | Median | Mean | Skew | Kurt | Sort | PL | LL | PI | Sample Information |
|------------------|-------|-------------|------|--------|--------|------|-------|------|------|----|----|----|----------------------------|
| ◆ CBJP-01-03#MID | 10.0 | | SW | 1.03 | 0.3 | 0.34 | -0.27 | 1.56 | 0.96 | NA | NA | NA | Project Name: Central Boca |
| | | | | | | | | | | | | | Sample Type: JET PROBES |
| | | | | | | | | | | | | | Collection Date: 3/14/01 |
| | | | | | | | | | | | | | Analysis By: ID |



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| | |
|-------------------|-------------------|
| Easting (X): | 963449.00 Feet |
| Northing (Y): | 732547.00 Feet |
| Sample Elevation: | -48.00 NGVD 29 |
| Coord. System: | NAD 1983 FLA East |



| 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 |
|------------------|-------|-------------|------|--------|--------|------|------|------|------|----|----|----|----------------------------|
| — CBJP-01-03#BOT | 20.0 | | SW | 1.63 | 0.38 | 0.41 | -0.3 | 1.66 | 0.87 | NA | NA | NA | Project Name: Central Boca |
| | | | | | | | | | | | | | Sample Type: JET PROBES |
| | | | | | | | | | | | | | Collection Date: 3/14/01 |
| | | | | | | | | | | | | | Analysis By: ID |



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| | |
|-------------------|-------------------|
| Easting (X): | 963449.00 Feet |
| Northing (Y): | 732547.00 Feet |
| Sample Elevation: | -48.00 NGVD 29 |
| Coord. System: | NAD 1983 FLA East |