

GRADATION ANALYSIS REPORT
DELRAY BEACH VIBRACORES 1999
TESTED BY: RW ON: 8/99

SAMPLE NO.: DB99-20 S#1
SAMPLE ELEV. (FT. NGVD):
SAMPLE DEPTH (FT.): 2.0
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 177.97
SAMPLE WEIGHT AFTER WASH (GRAMS): 174.40

| SIEVE SIZE | PHI SIZE | MESH SIZE (mm) | RETAINED (GRAMS) | RETAINED (%) | PASSED (%) |
|---------------|-------------|-------------------|---------------------|-----------------|---------------|
| 5/8 | -4.00 | 16.000 | 0.00 | 0.00 | 100.00 |
| 5/16 | -3.00 | 8.000 | 0.00 | 0.00 | 100.00 |
| 5 | -2.00 | 4.000 | 0.07 | 0.04 | 99.96 |
| 7 | -1.50 | 2.800 | 0.10 | 0.06 | 99.94 |
| 10 | -1.00 | 2.000 | 0.20 | 0.11 | 99.89 |
| 14 | -0.50 | 1.400 | 0.35 | 0.20 | 99.80 |
| 18 | 0.00 | 1.000 | 0.46 | 0.26 | 99.74 |
| 25 | 0.50 | 0.710 | 0.62 | 0.35 | 99.65 |
| 35 | 1.00 | 0.500 | 0.82 | 0.46 | 99.54 |
| 45 | 1.50 | 0.355 | 1.21 | 0.68 | 99.32 |
| 60 | 2.00 | 0.250 | 3.12 | 1.75 | 98.25 |
| 80 | 2.50 | 0.180 | 19.61 | 11.02 | 88.98 |
| 120 | 3.00 | 0.125 | 127.01 | 71.37 | 28.63 |
| 170 | 3.50 | 0.090 | 171.44 | 96.33 | 3.67 |
| 200 | 3.75 | 0.075 | 172.97 | 97.19 | 2.81 |
| 230 | 4.00 | 0.063 | 175.45 | 98.58 | 1.42 |
| PAN | | | 177.94 | 99.98 | 0.02 |

| | | |
|---------------|---------------|---------------|
| PHI(5): 2.18 | PHI(16): 2.54 | PHI(25): 2.62 |
| PHI(50): 2.82 | PHI(75): 3.07 | PHI(84): 3.25 |
| PHI(95): 3.47 | | |

| | |
|---------------------|------------------|
| SIEVE LOSS(g): 0.03 | SILT/CLAY: 2.81% |
| SKEWNESS: 0.004 | KURTOSIS: 1.164 |

GRAPHIC METHOD

| | |
|--|-------------------|
| MEAN (PHI): 2.85 | SORTING: 0.36 |
| MEAN (mm): 0.14 | MEDIAN (mm): 0.14 |
| NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD | |

MOMENT METHOD

| | |
|------------------|---------------|
| MEAN (PHI): 2.82 | SORTING: 0.41 |
| MEAN (mm): 0.14 | |

DATA FILE NAME: DB99-20#1.TAB

GRADATION ANALYSIS REPORT
DELRAY BEACH VIBRACORES 1999
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SAMPLE NO.: DB99-20 S#2
SAMPLE ELEV. (FT. NGVD):
SAMPLE DEPTH (FT.): 6.0
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 232.02
SAMPLE WEIGHT AFTER WASH (GRAMS): 227.85

| SIEVE SIZE | PHI SIZE | MESH SIZE (mm) | RETAINED (GRAMS) | RETAINED (%) | PASSED (%) |
|---------------|-------------|-------------------|---------------------|-----------------|---------------|
| 5/8 | -4.00 | 16.000 | 0.00 | 0.00 | 100.00 |
| 5/16 | -3.00 | 8.000 | 0.00 | 0.00 | 100.00 |
| 5 | -2.00 | 4.000 | 2.95 | 1.27 | 98.73 |
| 7 | -1.50 | 2.800 | 4.17 | 1.80 | 98.20 |
| 10 | -1.00 | 2.000 | 5.73 | 2.47 | 97.53 |
| 14 | -0.50 | 1.400 | 7.37 | 3.18 | 96.82 |
| 18 | 0.00 | 1.000 | 9.37 | 4.04 | 95.96 |
| 25 | 0.50 | 0.710 | 11.98 | 5.16 | 94.84 |
| 35 | 1.00 | 0.500 | 16.73 | 7.21 | 92.79 |
| 45 | 1.50 | 0.355 | 26.54 | 11.44 | 88.56 |
| 60 | 2.00 | 0.250 | 55.88 | 24.08 | 75.92 |
| 80 | 2.50 | 0.180 | 125.00 | 53.87 | 46.13 |
| 120 | 3.00 | 0.125 | 208.98 | 90.07 | 9.93 |
| 170 | 3.50 | 0.090 | 226.64 | 97.68 | 2.32 |
| 200 | 3.75 | 0.075 | 227.14 | 97.90 | 2.10 |
| 230 | 4.00 | 0.063 | 229.55 | 98.93 | 1.07 |
| PAN | | | 232.01 | 100.00 | 0.00 |

PHI(5): 0.43 PHI(16): 1.68 PHI(25): 2.02
PHI(50): 2.43 PHI(75): 2.79 PHI(84): 2.92
PHI(95): 3.32

SIEVE LOSS(g): 0.01 SILT/CLAY: 2.10%
SKEWNESS: -0.905 KURTOSIS: 1.529

GRAPHIC METHOD

MEAN (PHI): 2.16 SORTING: 0.62
MEAN (mm) : 0.22 MEDIAN (mm): 0.18
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

MOMENT METHOD

MEAN (PHI): 2.22 SORTING: 0.97
MEAN (mm) : 0.21

DATA FILE NAME: DB99-20#2.TAB

GRADATION ANALYSIS REPORT
DELRAY BEACH VIBRACORES 1999
TESTED BY: RW ON: 8/99

SAMPLE NO.: DB99-20 S#3
SAMPLE ELEV. (FT. NGVD):
SAMPLE DEPTH (FT.): 8.3
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 220.14
SAMPLE WEIGHT AFTER WASH (GRAMS): 215.71

| SIEVE SIZE | PHI SIZE | MESH SIZE (mm) | RETAINED (GRAMS) | RETAINED (%) | PASSED (%) |
|---------------|-------------|-------------------|---------------------|-----------------|---------------|
| 5/8 | -4.00 | 16.000 | 0.00 | 0.00 | 100.00 |
| 5/16 | -3.00 | 8.000 | 0.61 | 0.28 | 99.72 |
| 5 | -2.00 | 4.000 | 4.66 | 2.12 | 97.88 |
| 7 | -1.50 | 2.800 | 9.58 | 4.35 | 95.65 |
| 10 | -1.00 | 2.000 | 14.94 | 6.79 | 93.21 |
| 14 | -0.50 | 1.400 | 23.29 | 10.58 | 89.42 |
| 18 | 0.00 | 1.000 | 30.72 | 13.95 | 86.05 |
| 25 | 0.50 | 0.710 | 40.34 | 18.32 | 81.68 |
| 35 | 1.00 | 0.500 | 52.36 | 23.78 | 76.22 |
| 45 | 1.50 | 0.355 | 66.70 | 30.30 | 69.70 |
| 60 | 2.00 | 0.250 | 92.14 | 41.86 | 58.14 |
| 80 | 2.50 | 0.180 | 128.34 | 58.30 | 41.70 |
| 120 | 3.00 | 0.125 | 198.09 | 89.98 | 10.02 |
| 170 | 3.50 | 0.090 | 214.44 | 97.41 | 2.59 |
| 200 | 3.75 | 0.075 | 215.17 | 97.74 | 2.26 |
| 230 | 4.00 | 0.063 | 217.71 | 98.89 | 1.11 |
| PAN | | | 220.14 | 100.00 | 0.00 |

PHI(5): -1.37 PHI(16): 0.23 PHI(25): 1.09
PHI(50): 2.25 PHI(75): 2.76 PHI(84): 2.91
PHI(95): 3.34

SIEVE LOSS(g): 0.00 SILT/CLAY: 2.26%
SKEWNESS: -0.945 KURTOSIS: 1.154

GRAPHIC METHOD

MEAN (PHI): 1.47 SORTING: 1.34
MEAN (mm): 0.36 MEDIAN (mm): 0.21
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

MOMENT METHOD

MEAN (PHI): 1.73 SORTING: 1.43
MEAN (mm): 0.30

DATA FILE NAME: DB99-20#3.TAB

GRADATION ANALYSIS REPORT
DELRAY BEACH VIBRACORES 1999
TESTED BY: RW ON: 8/99

SAMPLE NO.: DB99-20 S#4
SAMPLE ELEV. (FT. NGVD):
SAMPLE DEPTH (FT.): 10.0
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 222.72
SAMPLE WEIGHT AFTER WASH (GRAMS): 217.99

| SIEVE SIZE | PHI SIZE | MESH SIZE (mm) | RETAINED (GRAMS) | RETAINED (%) | PASSED (%) |
|---------------|-------------|-------------------|---------------------|-----------------|---------------|
| 5/8 | -4.00 | 16.000 | 0.00 | 0.00 | 100.00 |
| 5/16 | -3.00 | 8.000 | 3.17 | 1.42 | 98.58 |
| 5 | -2.00 | 4.000 | 5.02 | 2.25 | 97.75 |
| 7 | -1.50 | 2.800 | 6.95 | 3.12 | 96.88 |
| 10 | -1.00 | 2.000 | 9.10 | 4.09 | 95.91 |
| 14 | -0.50 | 1.400 | 11.57 | 5.19 | 94.81 |
| 18 | 0.00 | 1.000 | 14.38 | 6.46 | 93.54 |
| 25 | 0.50 | 0.710 | 18.20 | 8.17 | 91.83 |
| 35 | 1.00 | 0.500 | 24.93 | 11.19 | 88.81 |
| 45 | 1.50 | 0.355 | 35.59 | 15.98 | 84.02 |
| 60 | 2.00 | 0.250 | 62.11 | 27.89 | 72.11 |
| 80 | 2.50 | 0.180 | 111.87 | 50.23 | 49.77 |
| 120 | 3.00 | 0.125 | 196.75 | 88.34 | 11.66 |
| 170 | 3.50 | 0.090 | 215.96 | 96.96 | 3.04 |
| 200 | 3.75 | 0.075 | 216.69 | 97.29 | 2.71 |
| 230 | 4.00 | 0.063 | 219.51 | 98.56 | 1.44 |
| PAN | | | 222.69 | 99.99 | 0.01 |

PHI(5): -0.59 PHI(16): 1.50 PHI(25): 1.88
PHI(50): 2.49 PHI(75): 2.82 PHI(84): 2.94
PHI(95): 3.39

SIEVE LOSS(g): 0.03 SILT/CLAY: 2.71%
SKEWNESS: -1.520 KURTOSIS: 1.721

GRAPHIC METHOD

MEAN (PHI): 1.95 SORTING: 0.72
MEAN (mm): 0.26 MEDIAN (mm): 0.18
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

MOMENT METHOD

MEAN (PHI): 2.11 SORTING: 1.24
MEAN (mm): 0.23

DATA FILE NAME: DB99-20#4.TAB

GRADATION ANALYSIS REPORT
DELRAY BEACH VIBRACORES 1999
TESTED BY: RW ON: 8/99

SAMPLE NO.: DB99-20 S#5
SAMPLE ELEV. (FT. NGVD):
SAMPLE DEPTH (FT.): 12.0
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 176.51
SAMPLE WEIGHT AFTER WASH (GRAMS): 173.12

| SIEVE SIZE | PHI SIZE | MESH SIZE (mm) | RETAINED (GRAMS) | RETAINED (%) | PASSED (%) |
|---------------|-------------|-------------------|---------------------|-----------------|---------------|
| 5/8 | -4.00 | 16.000 | 0.00 | 0.00 | 100.00 |
| 5/16 | -3.00 | 8.000 | 0.62 | 0.35 | 99.65 |
| 5 | -2.00 | 4.000 | 2.57 | 1.46 | 98.54 |
| 7 | -1.50 | 2.800 | 4.51 | 2.56 | 97.44 |
| 10 | -1.00 | 2.000 | 7.00 | 3.97 | 96.03 |
| 14 | -0.50 | 1.400 | 9.72 | 5.51 | 94.49 |
| 18 | 0.00 | 1.000 | 12.82 | 7.26 | 92.74 |
| 25 | 0.50 | 0.710 | 17.39 | 9.85 | 90.15 |
| 35 | 1.00 | 0.500 | 25.12 | 14.23 | 85.77 |
| 45 | 1.50 | 0.355 | 35.87 | 20.32 | 79.68 |
| 60 | 2.00 | 0.250 | 58.96 | 33.40 | 66.60 |
| 80 | 2.50 | 0.180 | 88.90 | 50.37 | 49.63 |
| 120 | 3.00 | 0.125 | 158.80 | 89.97 | 10.03 |
| 170 | 3.50 | 0.090 | 171.69 | 97.27 | 2.73 |
| 200 | 3.75 | 0.075 | 172.19 | 97.55 | 2.45 |
| 230 | 4.00 | 0.063 | 174.17 | 98.68 | 1.32 |
| PAN | | | 176.49 | 99.99 | 0.01 |

PHI(5): -0.66 PHI(16): 1.15 PHI(25): 1.68
PHI(50): 2.49 PHI(75): 2.81 PHI(84): 2.92
PHI(95): 3.34

SIEVE LOSS(g): 0.02 SILT/CLAY: 2.45%
SKEWNESS: -1.292 KURTOSIS: 1.451

GRAPHIC METHOD

MEAN (PHI): 1.85 SORTING: 0.89
MEAN (mm): 0.28 MEDIAN (mm): 0.18
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

MOMENT METHOD

MEAN (PHI): 2.04 SORTING: 1.20
MEAN (mm): 0.24

DATA FILE NAME: DB99-20#5.TAB

GRADATION ANALYSIS REPORT
DELRAY BEACH VIBRACORES 1999
TESTED BY: RW ON: 8/99

SAMPLE NO.: DB99-20 S#6
SAMPLE ELEV. (FT. NGVD):
SAMPLE DEPTH (FT.): 13.5
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 229.14
SAMPLE WEIGHT AFTER WASH (GRAMS): 224.83

| SIEVE SIZE | PHI SIZE | MESH SIZE (mm) | RETAINED (GRAMS) | RETAINED (%) | PASSED (%) |
|---------------|-------------|-------------------|---------------------|-----------------|---------------|
| 5/8 | -4.00 | 16.000 | 0.00 | 0.00 | 100.00 |
| 5/16 | -3.00 | 8.000 | 49.70 | 21.69 | 78.31 |
| 5 | -2.00 | 4.000 | 68.80 | 30.03 | 69.97 |
| 7 | -1.50 | 2.800 | 77.02 | 33.61 | 66.39 |
| 10 | -1.00 | 2.000 | 84.53 | 36.89 | 63.11 |
| 14 | -0.50 | 1.400 | 93.33 | 40.73 | 59.27 |
| 18 | 0.00 | 1.000 | 103.28 | 45.07 | 54.93 |
| 25 | 0.50 | 0.710 | 116.87 | 51.00 | 49.00 |
| 35 | 1.00 | 0.500 | 135.67 | 59.21 | 40.79 |
| 45 | 1.50 | 0.355 | 152.81 | 66.69 | 33.31 |
| 60 | 2.00 | 0.250 | 170.87 | 74.57 | 25.43 |
| 80 | 2.50 | 0.180 | 180.00 | 78.55 | 21.45 |
| 120 | 3.00 | 0.125 | 215.39 | 94.00 | 6.00 |
| 170 | 3.50 | 0.090 | 223.48 | 97.53 | 2.47 |
| 200 | 3.75 | 0.075 | 224.11 | 97.80 | 2.20 |
| 230 | 4.00 | 0.063 | 226.65 | 98.91 | 1.09 |
| PAN | | | 229.09 | 99.98 | 0.02 |

PHI(5): -3.77 PHI(16): -3.26 PHI(25): -2.60
PHI(50): 0.42 PHI(75): 2.05 PHI(84): 2.68
PHI(95): 3.14

SIEVE LOSS(g): 0.05 SILT/CLAY: 2.20%
SKEWNESS: -0.246 KURTOSIS: 0.608

GRAPHIC METHOD

MEAN (PHI): -0.16 SORTING: 2.97
MEAN (mm): 1.12 MEDIAN (mm): 0.75
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

MOMENT METHOD

MEAN (PHI): -0.12 SORTING: 2.40
MEAN (mm): 1.09

DATA FILE NAME: DB99-20#6.TAB

GRADATION ANALYSIS REPORT
DELRAY BEACH VIBRACORES 1999
TESTED BY: RW ON: 8/99

SAMPLE NO.: DB99-20 S#7
SAMPLE ELEV. (FT. NGVD):
SAMPLE DEPTH (FT.): 16.0
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 208.29
SAMPLE WEIGHT AFTER WASH (GRAMS): 203.00

| SIEVE SIZE | PHI SIZE | MESH SIZE (mm) | RETAINED (GRAMS) | RETAINED (%) | PASSED (%) |
|---------------|-------------|-------------------|---------------------|-----------------|---------------|
| 5/8 | -4.00 | 16.000 | 0.00 | 0.00 | 100.00 |
| 5/16 | -3.00 | 8.000 | 3.17 | 1.52 | 98.48 |
| 5 | -2.00 | 4.000 | 7.53 | 3.62 | 96.38 |
| 7 | -1.50 | 2.800 | 10.35 | 4.97 | 95.03 |
| 10 | -1.00 | 2.000 | 16.20 | 7.78 | 92.22 |
| 14 | -0.50 | 1.400 | 28.87 | 13.86 | 86.14 |
| 18 | 0.00 | 1.000 | 38.33 | 18.40 | 81.60 |
| 25 | 0.50 | 0.710 | 53.83 | 25.84 | 74.16 |
| 35 | 1.00 | 0.500 | 77.77 | 37.34 | 62.66 |
| 45 | 1.50 | 0.355 | 103.88 | 49.87 | 50.13 |
| 60 | 2.00 | 0.250 | 136.29 | 65.43 | 34.57 |
| 80 | 2.50 | 0.180 | 162.22 | 77.88 | 22.12 |
| 120 | 3.00 | 0.125 | 194.18 | 93.23 | 6.77 |
| 170 | 3.50 | 0.090 | 201.98 | 96.97 | 3.03 |
| 200 | 3.75 | 0.075 | 202.49 | 97.22 | 2.78 |
| 230 | 4.00 | 0.063 | 205.42 | 98.62 | 1.38 |
| PAN | | | 208.29 | 100.00 | 0.00 |

PHI(5): -1.49 PHI(16): -0.26 PHI(25): 0.44
PHI(50): 1.50 PHI(75): 2.38 PHI(84): 2.70
PHI(95): 3.24

SIEVE LOSS(g): 0.00 SILT/CLAY: 2.78%
SKEWNESS: -0.427 KURTOSIS: 0.999

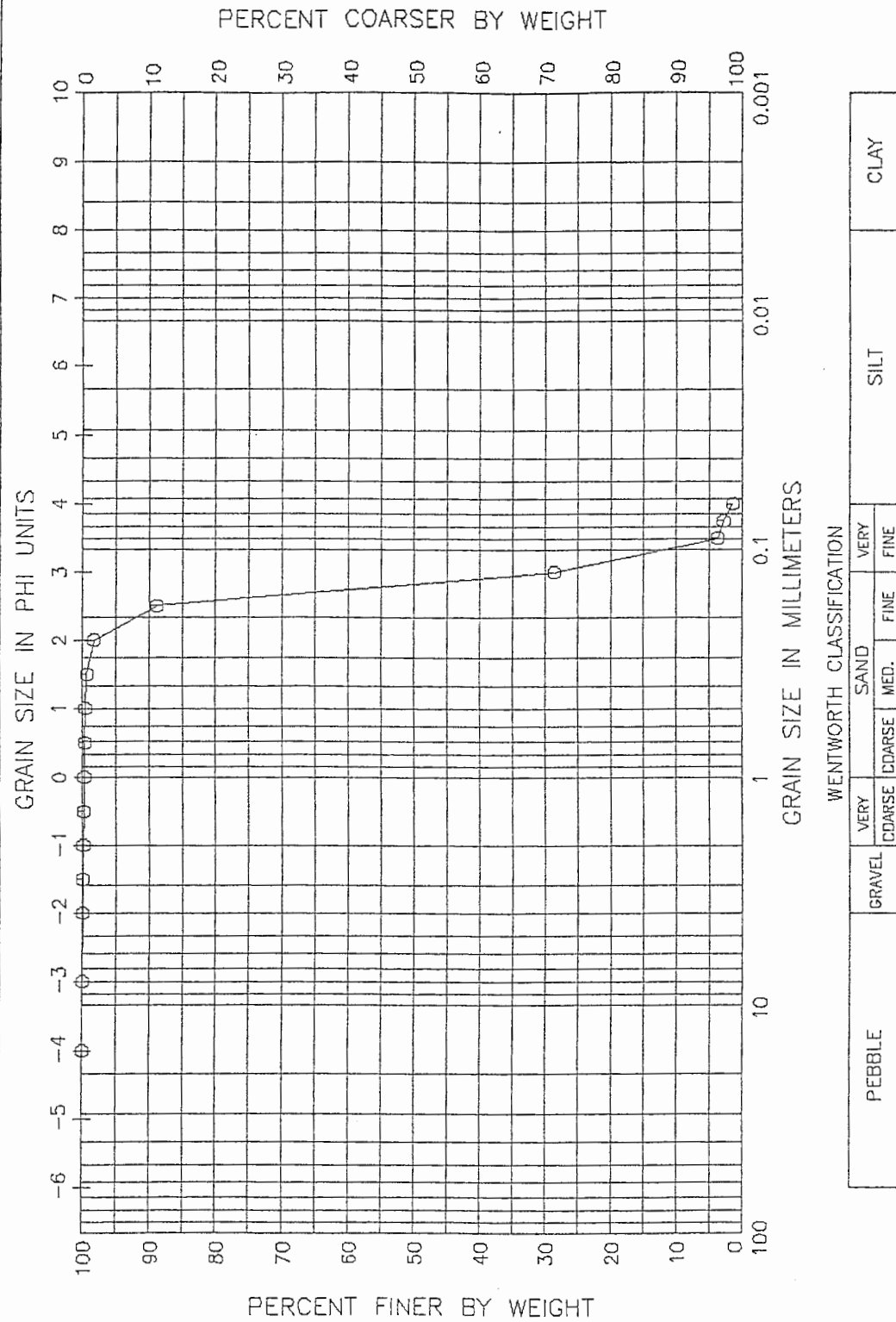
GRAPHIC METHOD

MEAN (PHI): 1.14 SORTING: 1.48
MEAN (mm): 0.45 MEDIAN (mm): 0.35
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

MOMENT METHOD

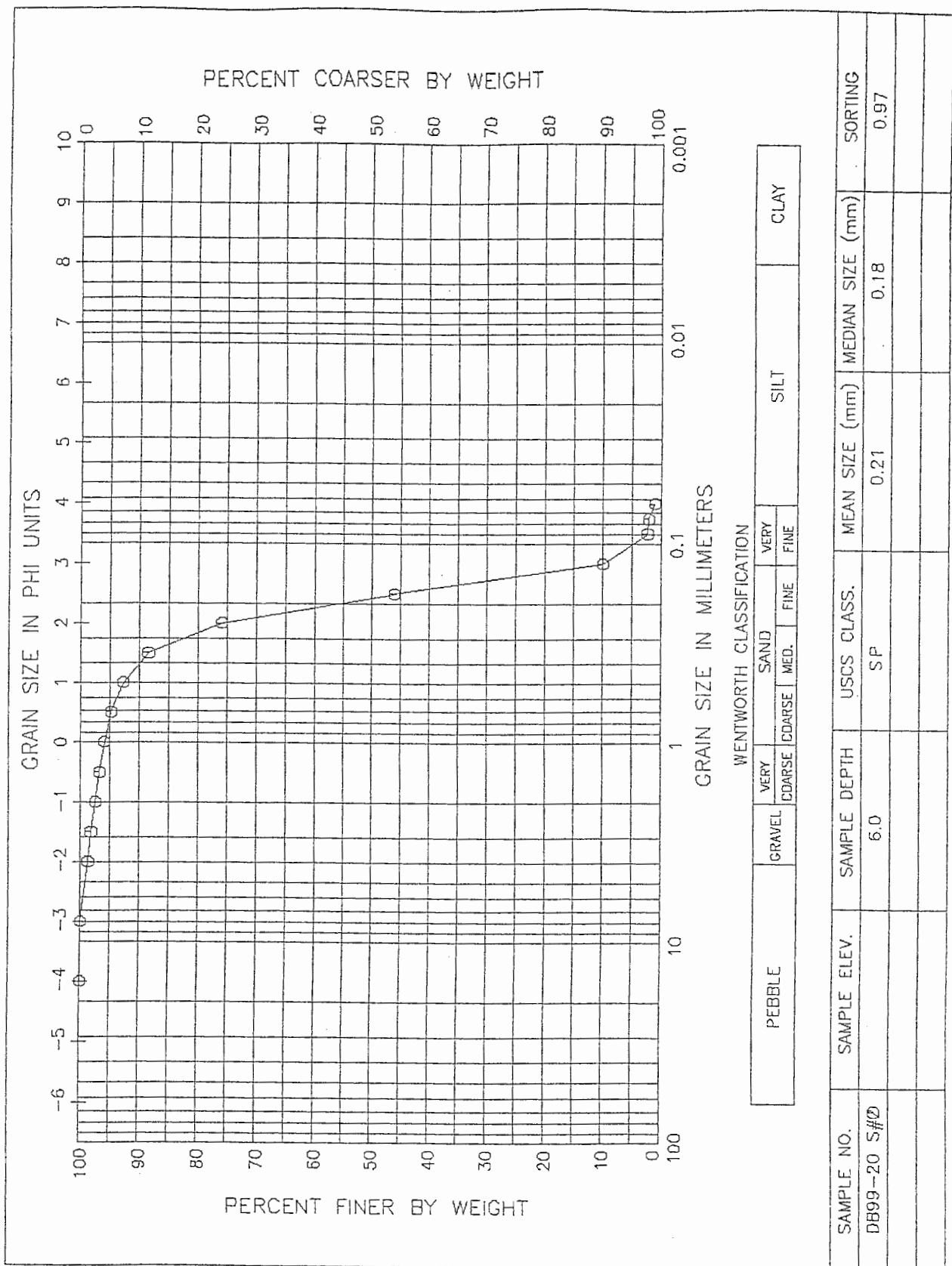
MEAN (PHI): 1.22 SORTING: 1.48
MEAN (mm): 0.43

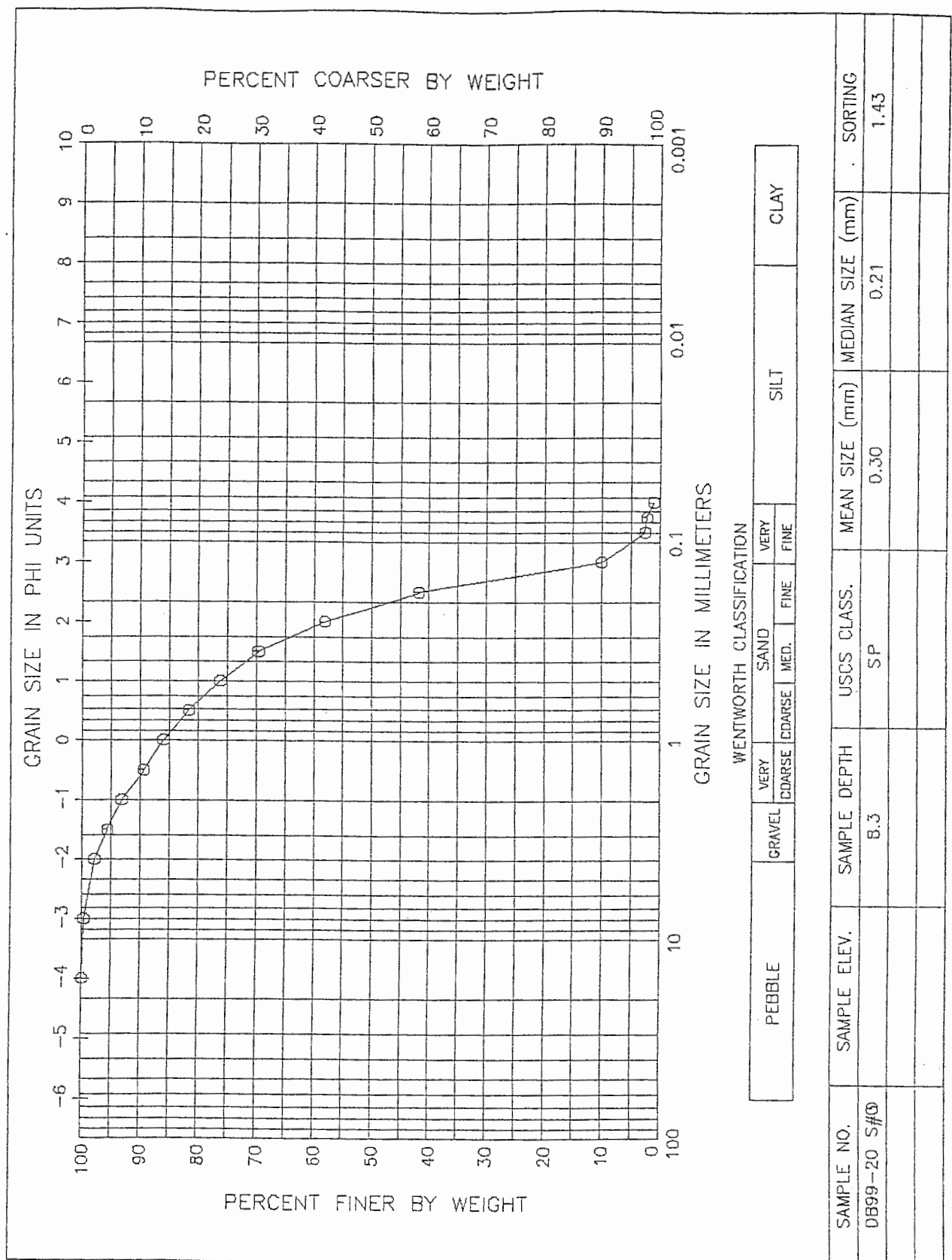
DATA FILE NAME: DB99-20#7.TAB



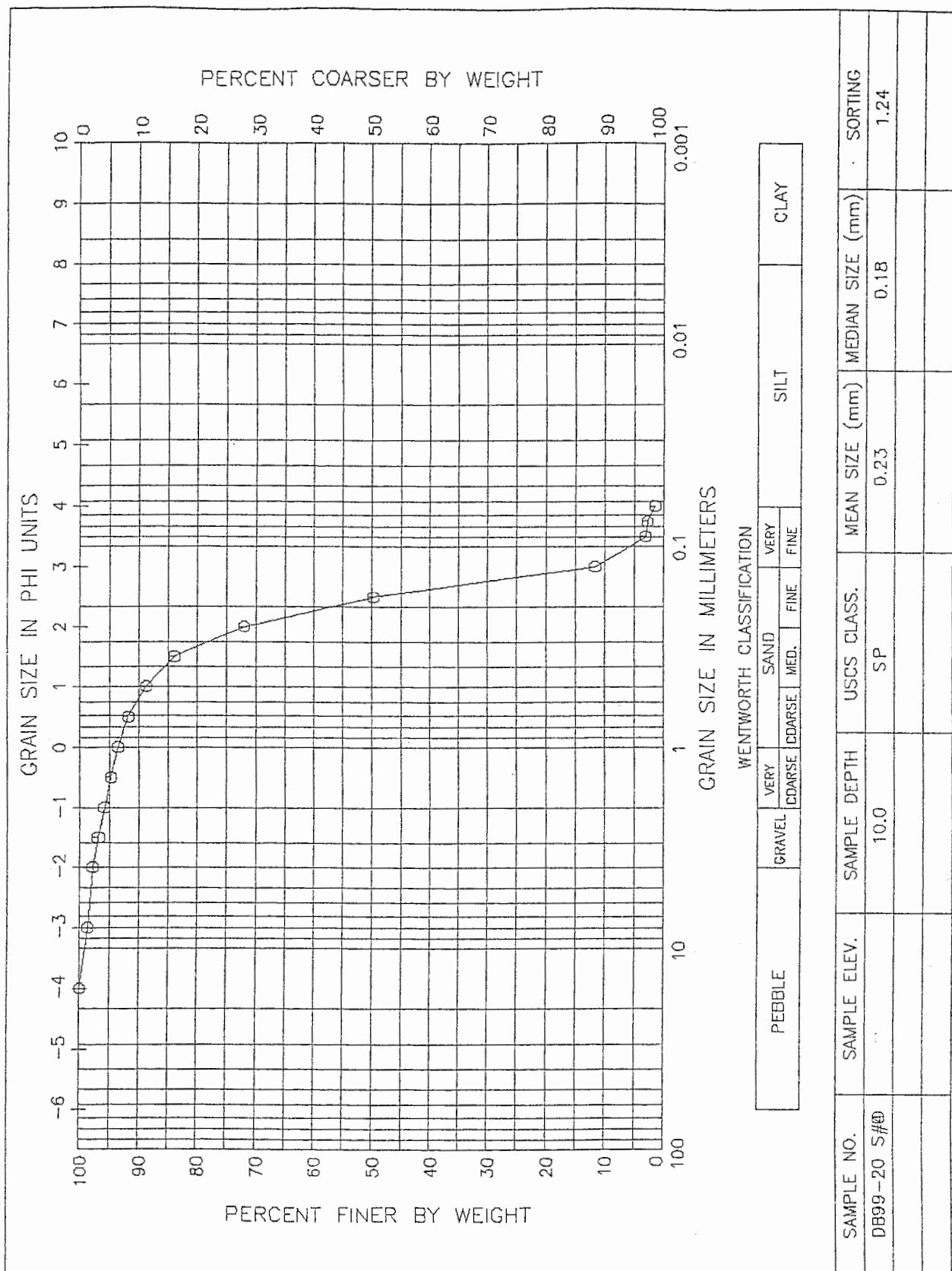
| SAMPLE NO. | SAMPLE ELEV. | SAMPLE DEPTH | USCS CLASS. | MEAN SIZE (mm) | MEDIAN SIZE (mm) | SORTING |
|--------------|--------------|--------------|-------------|----------------|------------------|---------|
| DB99-20 S#00 | | 2.0 | SP | 0.14 | 0.14 | 0.41 |
| | | | | | | |
| | | | | | | |

GRAIN SIZE DISTRIBUTION CURVE
DELRAY BEACH VIBRACORES 1999

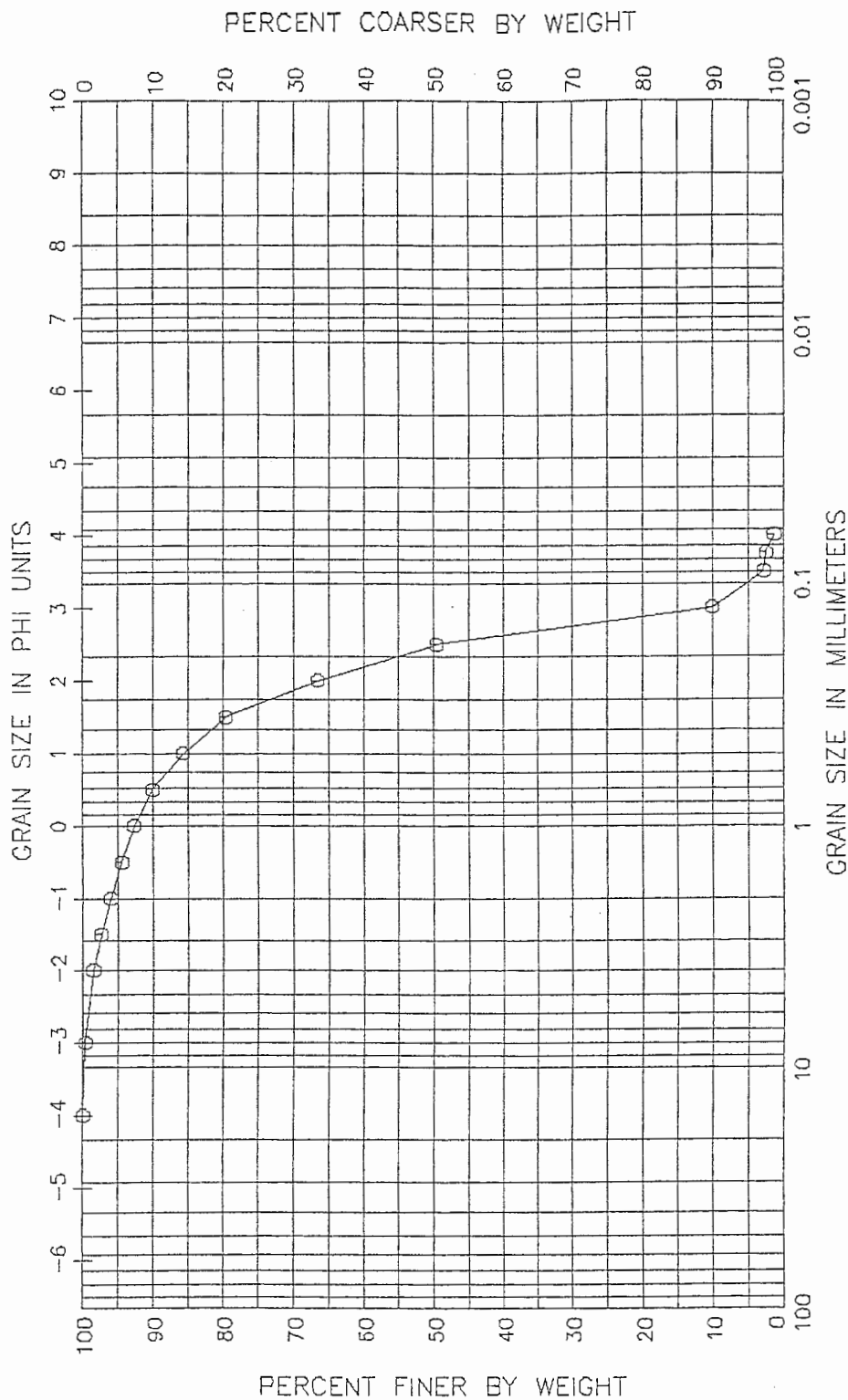




GRAIN SIZE DISTRIBUTION CURVE
DELRAY BEACH VIBRACORES 1999

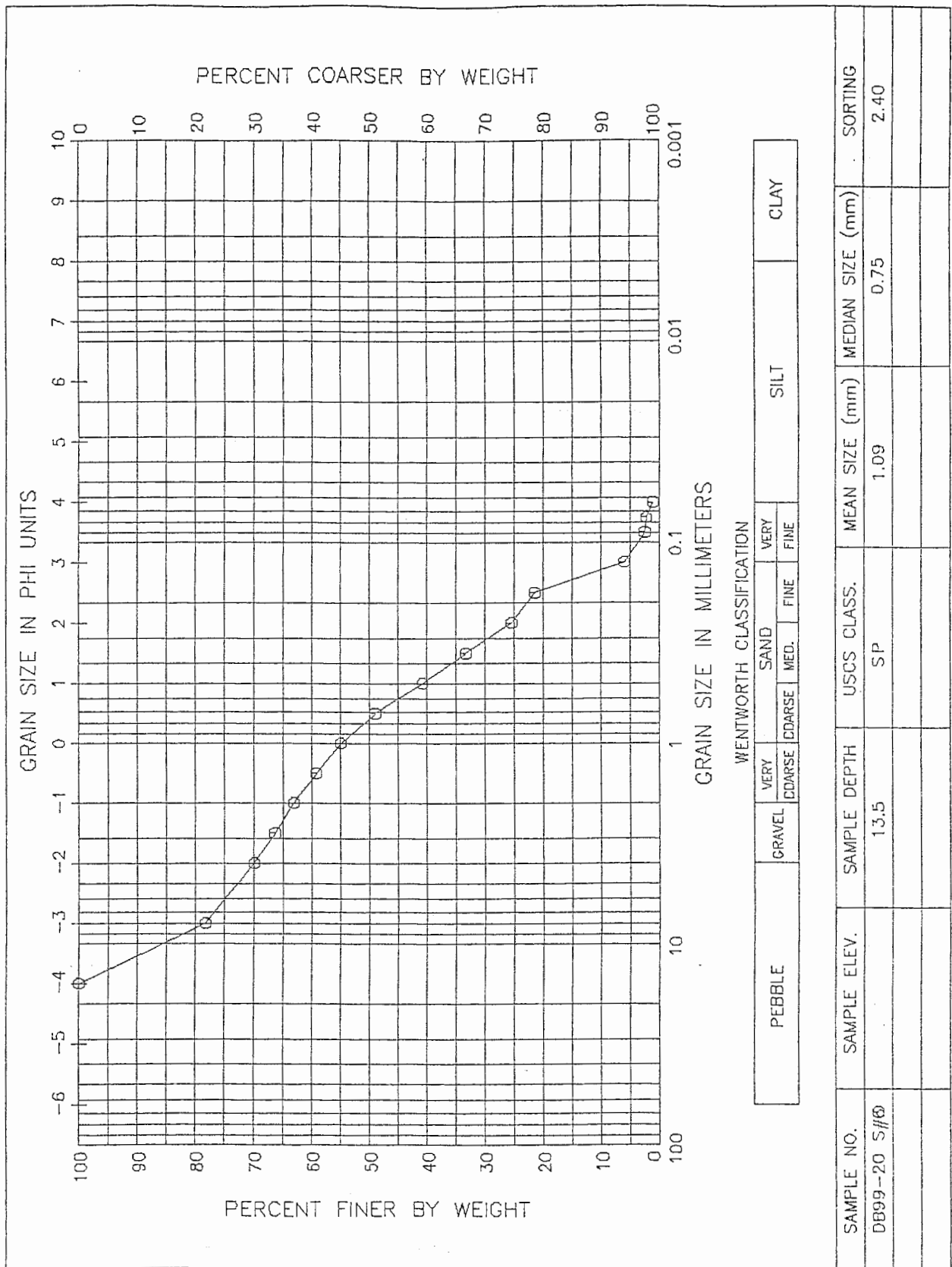


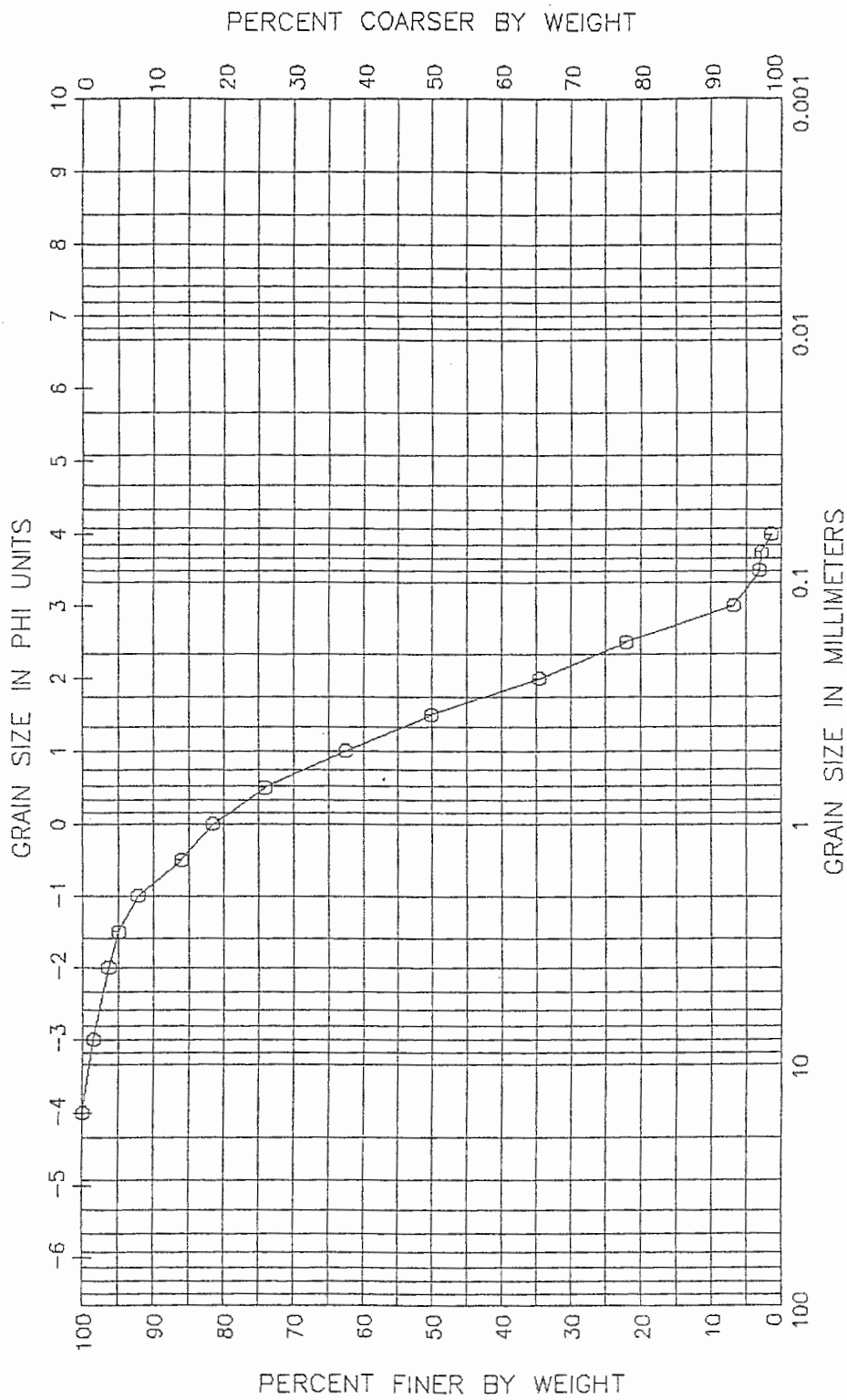
GRAIN SIZE DISTRIBUTION CURVE
DELRAY BEACH VIBRACORES 1999



| SAMPLE NO. | SAMPLE ELEV. | SAMPLE DEPTH | USCS CLASS. | MEAN SIZE (mm) | MEDIAN SIZE (mm) | SORTING |
|--------------|--------------|--------------|-------------|----------------|------------------|---------|
| DB99-20 S#10 | | 12.0 | SP | 0.24 | 0.18 | 1.20 |
| | | | | | | |
| | | | | | | |

GRAIN SIZE DISTRIBUTION CURVE
DELRAY BEACH VIBRACORES 1999





WENTWORTH CLASSIFICATION

| PEBBLE | GRAVEL | SAND | | | SILT | | CLAY |
|--------|--------|-------------|--------|------|-----------|------|------|
| | | VERY COARSE | COARSE | MED. | VERY FINE | FINE | |

| SAMPLE NO. | SAMPLE ELEV. | SAMPLE DEPTH | USCS CLASS. | MEAN SIZE (mm) | MEDIAN SIZE (mm) | SORTING |
|-------------|--------------|--------------|-------------|----------------|------------------|---------|
| DB99-20 S#D | | 16.0 | SP | 0.43 | 0.35 | 1.48 |
| | | | | | | |
| | | | | | | |

GRAIN SIZE DISTRIBUTION CURVE
DELRAY BEACH VIBRACORES 1999