

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

SAMPLE NO.: DB99-13 S#1  
SAMPLE ELEV. (FT. NGVD):  
SAMPLE DEPTH (FT.): 2.0  
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 249.16  
SAMPLE WEIGHT AFTER WASH (GRAMS): 240.16

| SIEVE<br>SIZE | PHI<br>SIZE | MESH SIZE<br>(mm) | RETAINED<br>(GRAMS) | RETAINED<br>(%) | PASSED<br>(%) |
|---------------|-------------|-------------------|---------------------|-----------------|---------------|
| 5/8           | -4.00       | 16.000            | 0.00                | 0.00            | 100.00        |
| 5/16          | -3.00       | 8.000             | 0.73                | 0.29            | 99.71         |
| 5             | -2.00       | 4.000             | 1.55                | 0.62            | 99.38         |
| 7             | -1.50       | 2.800             | 2.61                | 1.05            | 98.95         |
| 10            | -1.00       | 2.000             | 5.16                | 2.07            | 97.93         |
| 14            | -0.50       | 1.400             | 8.69                | 3.49            | 96.51         |
| 18            | 0.00        | 1.000             | 13.44               | 5.39            | 94.61         |
| 25            | 0.50        | 0.710             | 21.56               | 8.65            | 91.35         |
| 35            | 1.00        | 0.500             | 36.34               | 14.59           | 85.41         |
| 45            | 1.50        | 0.355             | 50.84               | 20.40           | 79.60         |
| 60            | 2.00        | 0.250             | 84.80               | 34.03           | 65.97         |
| 80            | 2.50        | 0.180             | 163.14              | 65.48           | 34.52         |
| 120           | 3.00        | 0.125             | 228.09              | 91.54           | 8.46          |
| 170           | 3.50        | 0.090             | 239.98              | 96.32           | 3.68          |
| 200           | 3.75        | 0.075             | 240.06              | 96.35           | 3.65          |
| 230           | 4.00        | 0.063             | 244.64              | 98.19           | 1.81          |
| PAN           |             |                   | 249.16              | 100.00          | 0.00          |

PHI(5): -0.10 PHI(16): 1.12 PHI(25): 1.67  
PHI(50): 2.25 PHI(75): 2.68 PHI(84): 2.86  
PHI(95): 3.36

SIEVE LOSS(g): 0.00 SILT/CLAY: 3.65%  
SKEWNESS: -0.720 KURTOSIS: 1.401

GRAPHIC METHOD

MEAN (PHI): 1.90 SORTING: 0.87  
MEAN (mm): 0.27 MEDIAN (mm): 0.21  
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

MOMENT METHOD

MEAN (PHI): 2.00 SORTING: 1.04  
MEAN (mm): 0.25

DATA FILE NAME: DB99-13#1.TAB

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

SAMPLE NO.: DB99-13 S#2  
SAMPLE ELEV. (FT. NGVD):  
SAMPLE DEPTH (FT.): 4.0  
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 202.08  
SAMPLE WEIGHT AFTER WASH (GRAMS): 199.95

| SIEVE<br>SIZE | PHI<br>SIZE | MESH SIZE<br>(mm) | RETAINED<br>(GRAMS) | RETAINED<br>(%) | PASSED<br>(%) |
|---------------|-------------|-------------------|---------------------|-----------------|---------------|
| 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             | 1.09                | 0.54            | 99.46         |
| 7             | -1.50       | 2.800             | 2.23                | 1.10            | 98.90         |
| 10            | -1.00       | 2.000             | 6.57                | 3.25            | 96.75         |
| 14            | -0.50       | 1.400             | 10.91               | 5.40            | 94.60         |
| 18            | 0.00        | 1.000             | 15.92               | 7.88            | 92.12         |
| 25            | 0.50        | 0.710             | 23.94               | 11.85           | 88.15         |
| 35            | 1.00        | 0.500             | 37.07               | 18.34           | 81.66         |
| 45            | 1.50        | 0.355             | 49.95               | 24.72           | 75.28         |
| 60            | 2.00        | 0.250             | 75.04               | 37.13           | 62.87         |
| 80            | 2.50        | 0.180             | 128.80              | 63.74           | 36.26         |
| 120           | 3.00        | 0.125             | 187.08              | 92.58           | 7.42          |
| 170           | 3.50        | 0.090             | 199.67              | 98.81           | 1.19          |
| 200           | 3.75        | 0.075             | 199.83              | 98.89           | 1.11          |
| 230           | 4.00        | 0.063             | 200.96              | 99.45           | 0.55          |
| PAN           |             |                   | 202.05              | 99.99           | 0.01          |

PHI(5): -0.59 PHI(16): 0.82 PHI(25): 1.51  
PHI(50): 2.24 PHI(75): 2.70 PHI(84): 2.85  
PHI(95): 3.19

SIEVE LOSS(g): 0.03 SILT/CLAY: 1.11%  
SKEWNESS: -0.926 KURTOSIS: 1.311

GRAPHIC METHOD

MEAN (PHI): 1.70 SORTING: 1.02  
MEAN (mm): 0.31 MEDIAN (mm): 0.21  
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

MOMENT METHOD

MEAN (PHI): 1.91 SORTING: 1.13  
MEAN (mm): 0.27

DATA FILE NAME: DB99-13#2.TAB

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

SAMPLE NO.: DB99-13 S#3  
SAMPLE ELEV. (FT. NGVD):  
SAMPLE DEPTH (FT.): 6.0  
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 180.86  
SAMPLE WEIGHT AFTER WASH (GRAMS): 178.33

| SIEVE<br>SIZE | PHI<br>SIZE | MESH SIZE<br>(mm) | RETAINED<br>(GRAMS) | RETAINED<br>(%) | PASSED<br>(%) |
|---------------|-------------|-------------------|---------------------|-----------------|---------------|
| 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             | 0.06                | 0.03            | 99.97         |
| 7             | -1.50       | 2.800             | 0.17                | 0.09            | 99.91         |
| 10            | -1.00       | 2.000             | 0.64                | 0.35            | 99.65         |
| 14            | -0.50       | 1.400             | 1.18                | 0.65            | 99.35         |
| 18            | 0.00        | 1.000             | 2.18                | 1.21            | 98.79         |
| 25            | 0.50        | 0.710             | 4.06                | 2.24            | 97.76         |
| 35            | 1.00        | 0.500             | 9.16                | 5.06            | 94.94         |
| 45            | 1.50        | 0.355             | 17.50               | 9.68            | 90.32         |
| 60            | 2.00        | 0.250             | 44.23               | 24.46           | 75.54         |
| 80            | 2.50        | 0.180             | 106.88              | 59.10           | 40.90         |
| 120           | 3.00        | 0.125             | 165.73              | 91.63           | 8.37          |
| 170           | 3.50        | 0.090             | 178.06              | 98.45           | 1.55          |
| 200           | 3.75        | 0.075             | 178.22              | 98.54           | 1.46          |
| 230           | 4.00        | 0.063             | 179.57              | 99.28           | 0.72          |
| PAN           |             |                   | 180.84              | 99.99           | 0.01          |

PHI(5): 0.99 PHI(16): 1.71 PHI(25): 2.01  
PHI(50): 2.37 PHI(75): 2.74 PHI(84): 2.88  
PHI(95): 3.25

SIEVE LOSS(g): 0.02 SILT/CLAY: 1.46%  
SKEWNESS: -0.430 KURTOSIS: 1.257

GRAPHIC METHOD

MEAN (PHI): 2.24 SORTING: 0.58  
MEAN (mm): 0.21 MEDIAN (mm): 0.19  
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

MOMENT METHOD

MEAN (PHI): 2.28 SORTING: 0.69  
MEAN (mm): 0.21

DATA FILE NAME: DB99-13#3.TAB

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

SAMPLE NO.: DB99-13 S#4  
SAMPLE ELEV. (FT. NGVD):  
SAMPLE DEPTH (FT.): 9.5  
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 209.77  
SAMPLE WEIGHT AFTER WASH (GRAMS): 206.17

| SIEVE<br>SIZE | PHI<br>SIZE | MESH SIZE<br>(mm) | RETAINED<br>(GRAMS) | RETAINED<br>(%) | PASSED<br>(%) |
|---------------|-------------|-------------------|---------------------|-----------------|---------------|
| 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             | 0.26                | 0.12            | 99.88         |
| 7             | -1.50       | 2.800             | 0.57                | 0.27            | 99.73         |
| 10            | -1.00       | 2.000             | 1.24                | 0.59            | 99.41         |
| 14            | -0.50       | 1.400             | 2.57                | 1.23            | 98.77         |
| 18            | 0.00        | 1.000             | 4.83                | 2.30            | 97.70         |
| 25            | 0.50        | 0.710             | 9.55                | 4.55            | 95.45         |
| 35            | 1.00        | 0.500             | 21.87               | 10.43           | 89.57         |
| 45            | 1.50        | 0.355             | 41.39               | 19.73           | 80.27         |
| 60            | 2.00        | 0.250             | 85.96               | 40.98           | 59.02         |
| 80            | 2.50        | 0.180             | 147.46              | 70.30           | 29.70         |
| 120           | 3.00        | 0.125             | 197.64              | 94.22           | 5.78          |
| 170           | 3.50        | 0.090             | 205.97              | 98.19           | 1.81          |
| 200           | 3.75        | 0.075             | 206.08              | 98.24           | 1.76          |
| 230           | 4.00        | 0.063             | 207.94              | 99.13           | 0.87          |
| PAN           |             |                   | 209.76              | 100.00          | 0.00          |

PHI(5): 0.54            PHI(16): 1.30            PHI(25): 1.62  
PHI(50): 2.15           PHI(75): 2.60           PHI(84): 2.79  
PHI(95): 3.10

SIEVE LOSS(g): 0.01            SILT/CLAY: 1.76%  
SKEWNESS: -0.451            KURTOSIS: 1.077

GRAPHIC METHOD

MEAN (PHI): 1.98            SORTING: 0.74  
MEAN (mm) : 0.25            MEDIAN (mm): 0.22  
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

MOMENT METHOD

MEAN (PHI): 2.02            SORTING: 0.81  
MEAN (mm) : 0.25

DATA FILE NAME: DB99-13#4.TAB

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

SAMPLE NO.: DB99-13 S#5  
SAMPLE ELEV. (FT. NGVD):  
SAMPLE DEPTH (FT.): 13.0  
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 224.06  
SAMPLE WEIGHT AFTER WASH (GRAMS): 220.97

| SIEVE<br>SIZE | PHI<br>SIZE | MESH SIZE<br>(mm) | RETAINED<br>(GRAMS) | RETAINED<br>(%) | PASSED<br>(%) |
|---------------|-------------|-------------------|---------------------|-----------------|---------------|
| 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             | 0.12                | 0.05            | 99.95         |
| 7             | -1.50       | 2.800             | 0.34                | 0.15            | 99.85         |
| 10            | -1.00       | 2.000             | 0.70                | 0.31            | 99.69         |
| 14            | -0.50       | 1.400             | 1.62                | 0.72            | 99.28         |
| 18            | 0.00        | 1.000             | 3.07                | 1.37            | 98.63         |
| 25            | 0.50        | 0.710             | 6.07                | 2.71            | 97.29         |
| 35            | 1.00        | 0.500             | 13.87               | 6.19            | 93.81         |
| 45            | 1.50        | 0.355             | 26.11               | 11.65           | 88.35         |
| 60            | 2.00        | 0.250             | 61.80               | 27.58           | 72.42         |
| 80            | 2.50        | 0.180             | 133.20              | 59.45           | 40.55         |
| 120           | 3.00        | 0.125             | 207.67              | 92.68           | 7.32          |
| 170           | 3.50        | 0.090             | 220.60              | 98.46           | 1.54          |
| 200           | 3.75        | 0.075             | 220.78              | 98.54           | 1.46          |
| 230           | 4.00        | 0.063             | 222.43              | 99.27           | 0.73          |
| PAN           |             |                   | 224.06              | 100.00          | 0.00          |

PHI(5): 0.83 PHI(16): 1.64 PHI(25): 1.92  
PHI(50): 2.35 PHI(75): 2.73 PHI(84): 2.87  
PHI(95): 3.20

SIEVE LOSS(g): 0.00 SILT/CLAY: 1.46%  
SKEWNESS: -0.547 KURTOSIS: 1.193

GRAPHIC METHOD

MEAN (PHI): 2.18 SORTING: 0.62  
MEAN (mm): 0.22 MEDIAN (mm): 0.20  
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

MOMENT METHOD

MEAN (PHI): 2.23 SORTING: 0.72  
MEAN (mm): 0.21

DATA FILE NAME: DB99-13#5.TAB

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

SAMPLE NO.: DB99-13 S#6  
SAMPLE ELEV. (FT. NGVD):  
SAMPLE DEPTH (FT.): 17.0  
SAMPLE TYPE: CORE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 178.76  
SAMPLE WEIGHT AFTER WASH (GRAMS): 175.94

| SIEVE<br>SIZE | PHI<br>SIZE | MESH SIZE<br>(mm) | RETAINED<br>(GRAMS) | RETAINED<br>(%) | PASSED<br>(%) |
|---------------|-------------|-------------------|---------------------|-----------------|---------------|
| 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             | 0.38                | 0.21            | 99.79         |
| 7             | -1.50       | 2.800             | 1.04                | 0.58            | 99.42         |
| 10            | -1.00       | 2.000             | 2.04                | 1.14            | 98.86         |
| 14            | -0.50       | 1.400             | 3.29                | 1.84            | 98.16         |
| 18            | 0.00        | 1.000             | 4.38                | 2.45            | 97.55         |
| 25            | 0.50        | 0.710             | 5.65                | 3.16            | 96.84         |
| 35            | 1.00        | 0.500             | 8.78                | 4.91            | 95.09         |
| 45            | 1.50        | 0.355             | 15.56               | 8.70            | 91.30         |
| 60            | 2.00        | 0.250             | 36.73               | 20.55           | 79.45         |
| 80            | 2.50        | 0.180             | 94.40               | 52.81           | 47.19         |
| 120           | 3.00        | 0.125             | 165.28              | 92.46           | 7.54          |
| 170           | 3.50        | 0.090             | 175.57              | 98.22           | 1.78          |
| 200           | 3.75        | 0.075             | 175.74              | 98.31           | 1.69          |
| 230           | 4.00        | 0.063             | 177.24              | 99.15           | 0.85          |
| PAN           |             |                   | 178.75              | 99.99           | 0.01          |

PHI(5): 1.01 PHI(16): 1.81 PHI(25): 2.07  
PHI(50): 2.46 PHI(75): 2.78 PHI(84): 2.89  
PHI(95): 3.22

SIEVE LOSS(g): 0.01 SILT/CLAY: 1.69%  
SKEWNESS: -0.627 KURTOSIS: 1.274

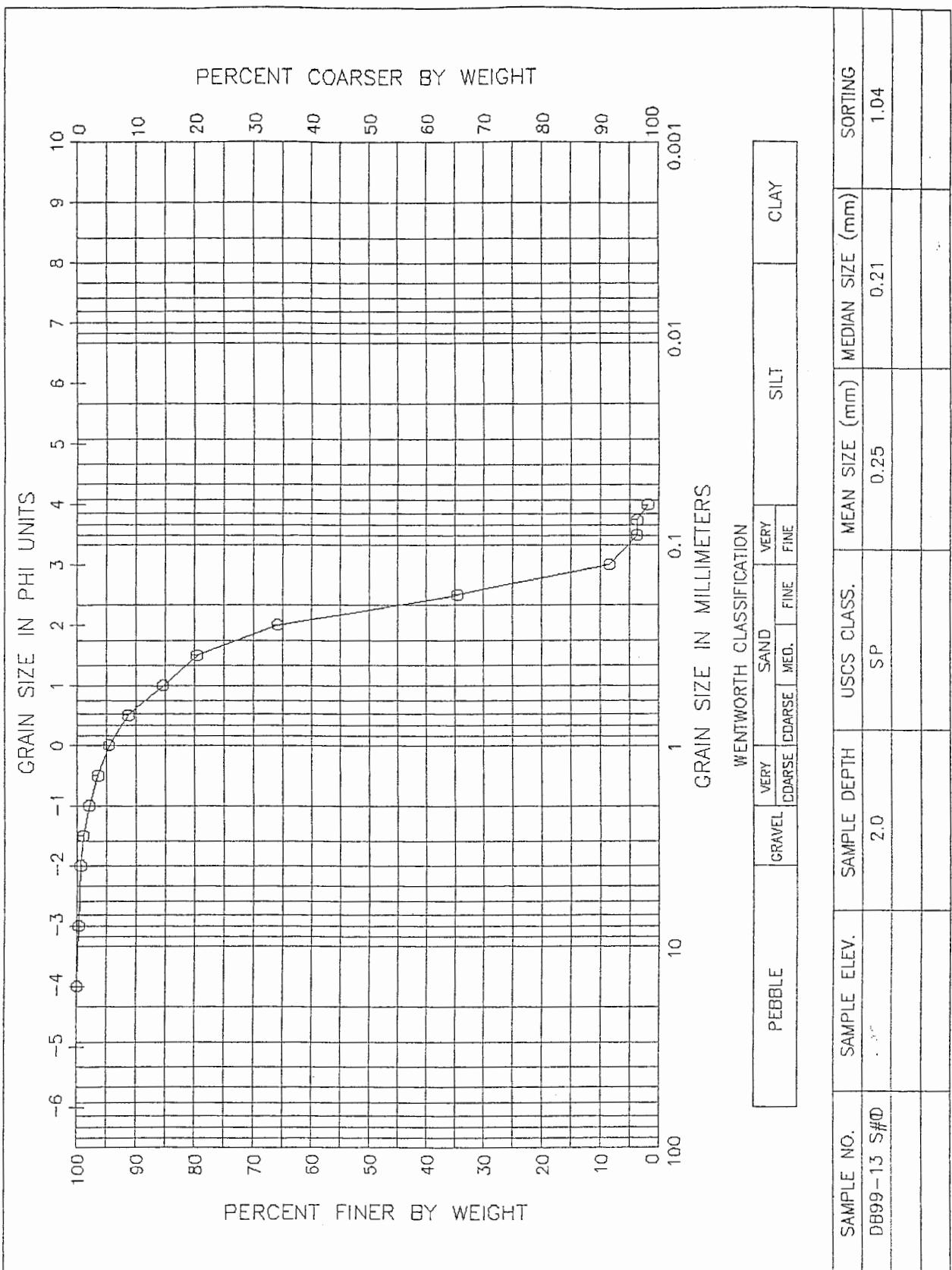
GRAPHIC METHOD

MEAN (PHI): 2.28 SORTING: 0.54  
MEAN (mm): 0.21 MEDIAN (mm): 0.18  
NOTE: MEAN WAS CALCULATED USING 5 POINT METHOD

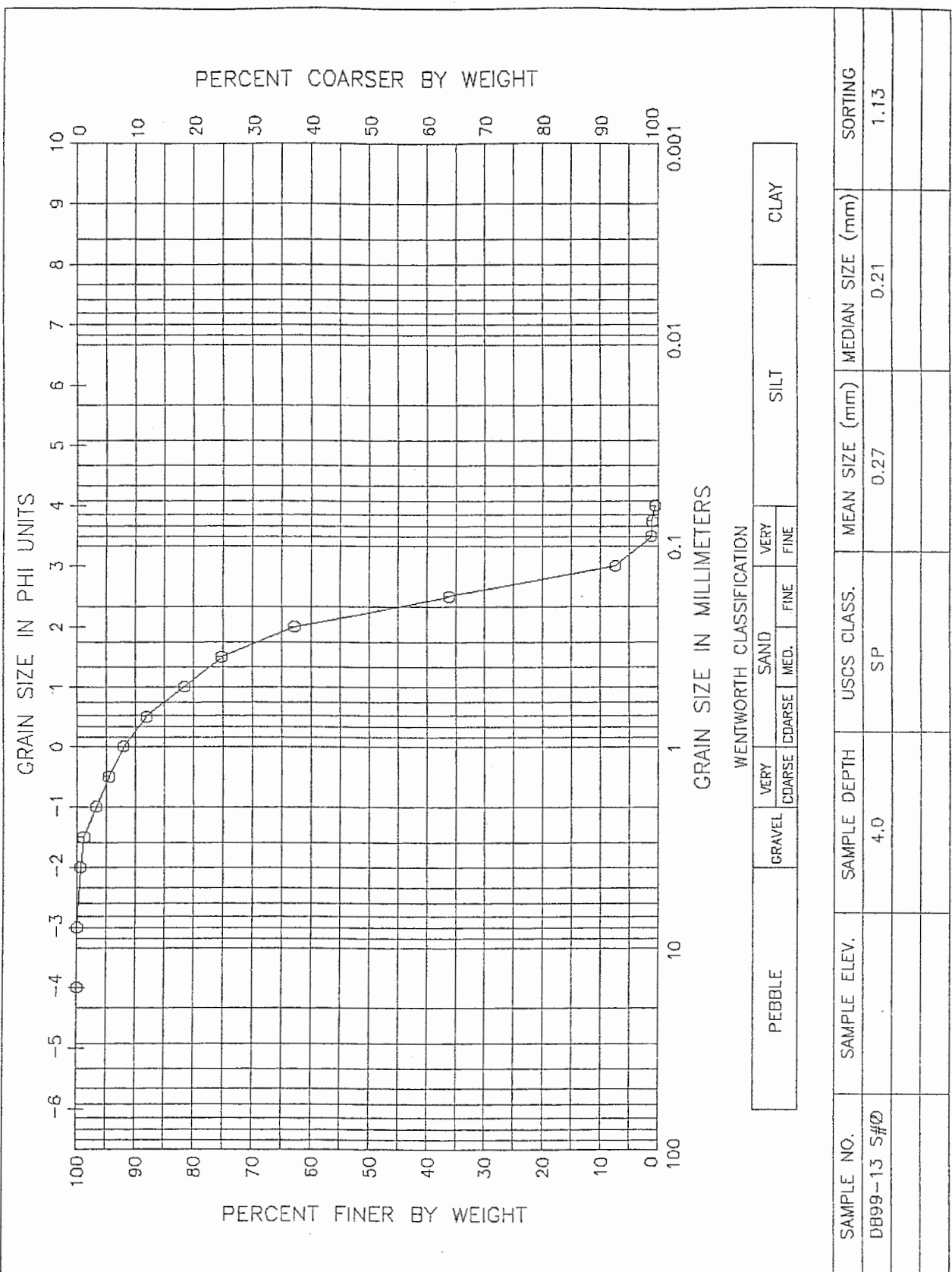
MOMENT METHOD

MEAN (PHI): 2.30 SORTING: 0.77  
MEAN (mm): 0.20

DATA FILE NAME: DB99-13#6.TAB

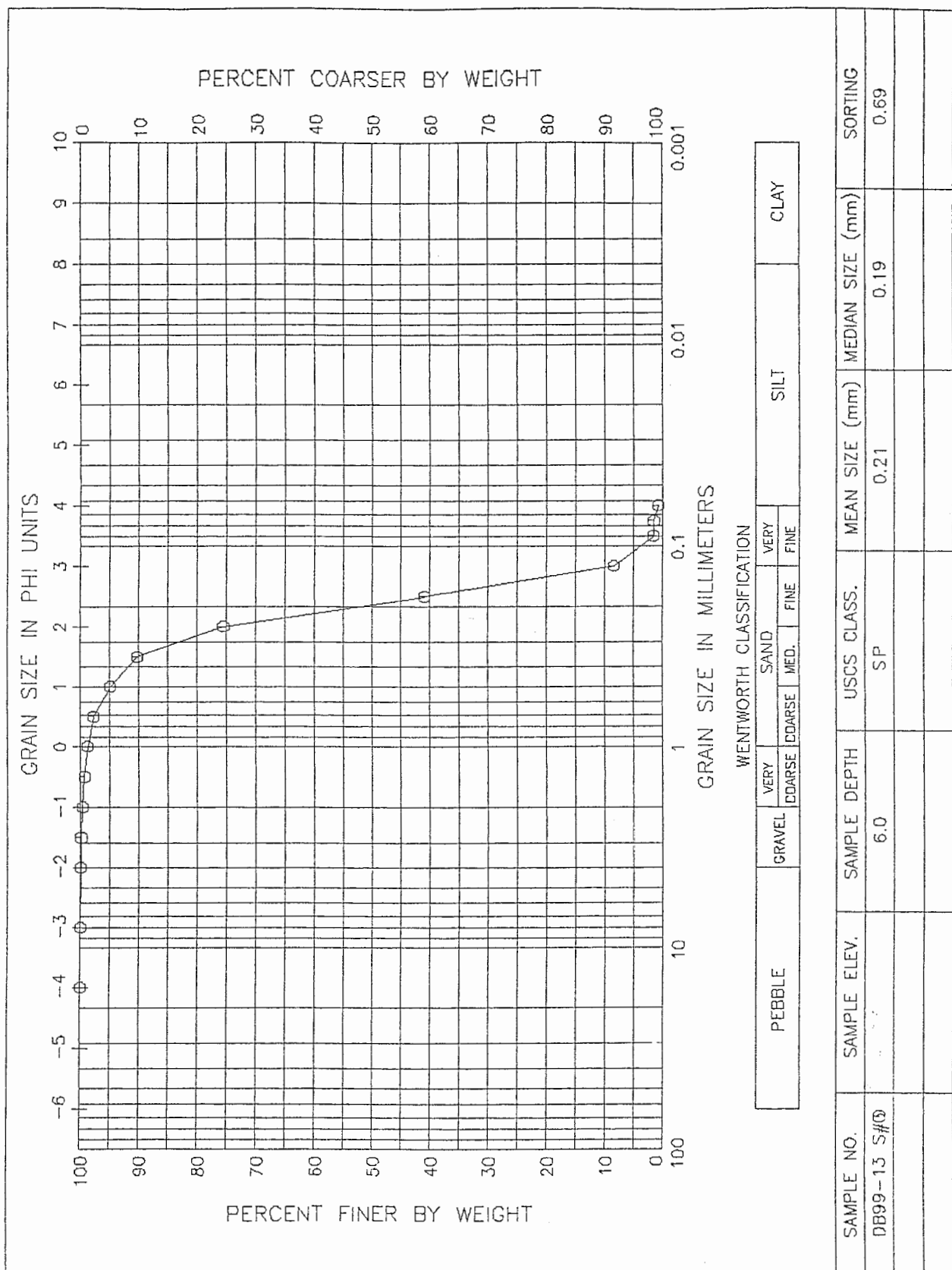


GRAIN SIZE DISTRIBUTION CURVE  
DELRAY BEACH VIBRACORES 1999

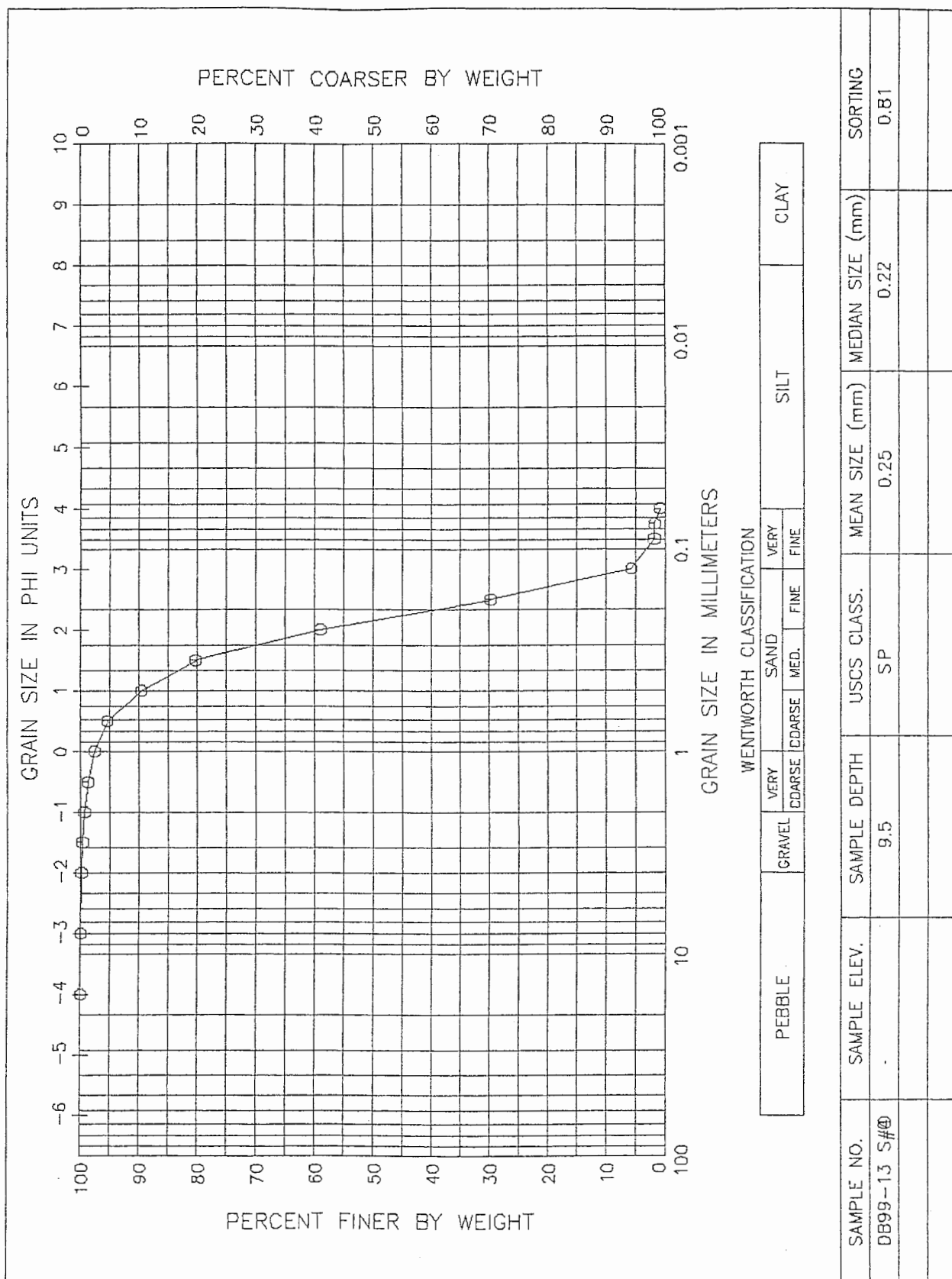


GRAIN SIZE DISTRIBUTION CURVE  
DELRAY BEACH VIBRACORES 1999

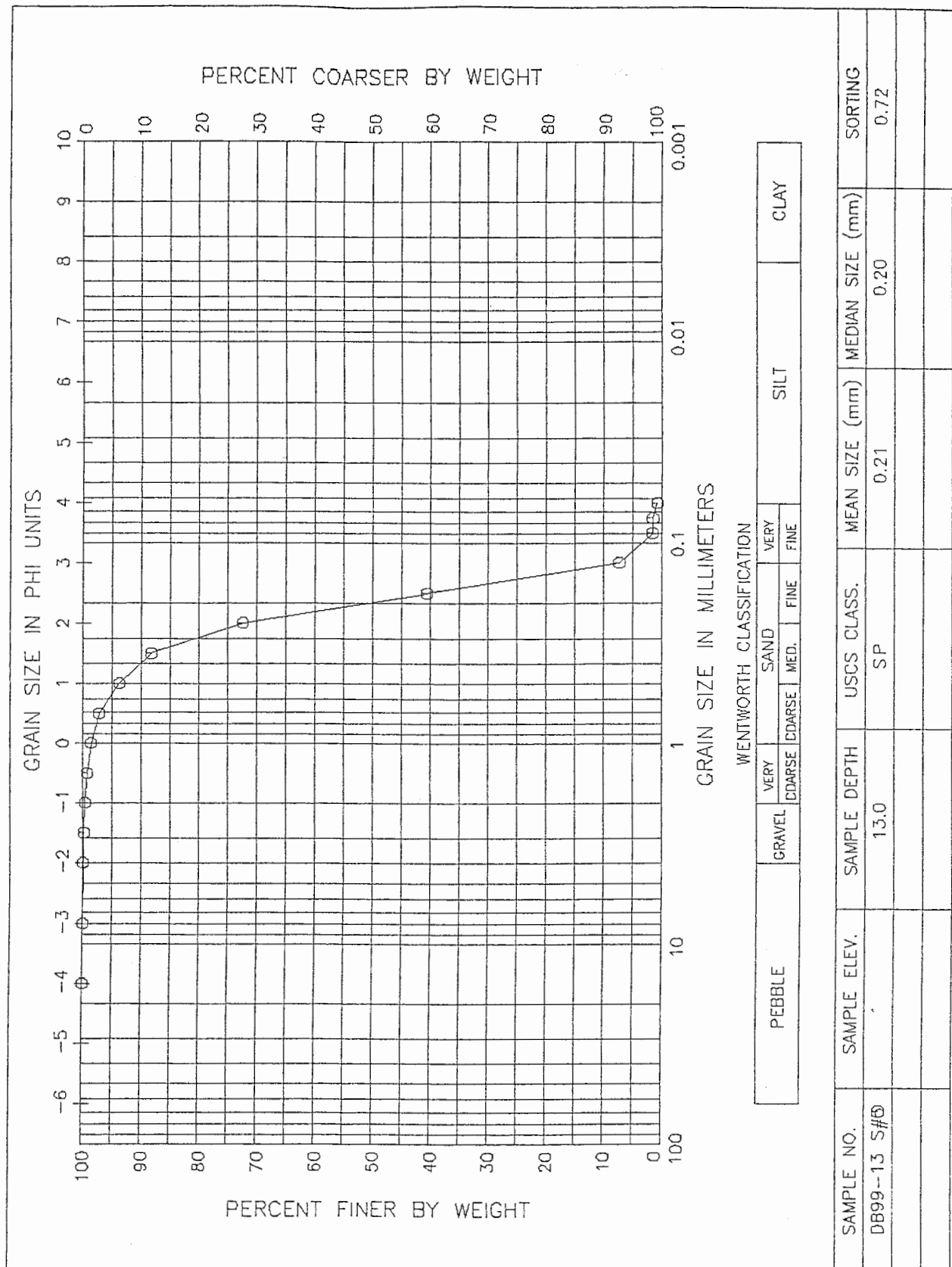


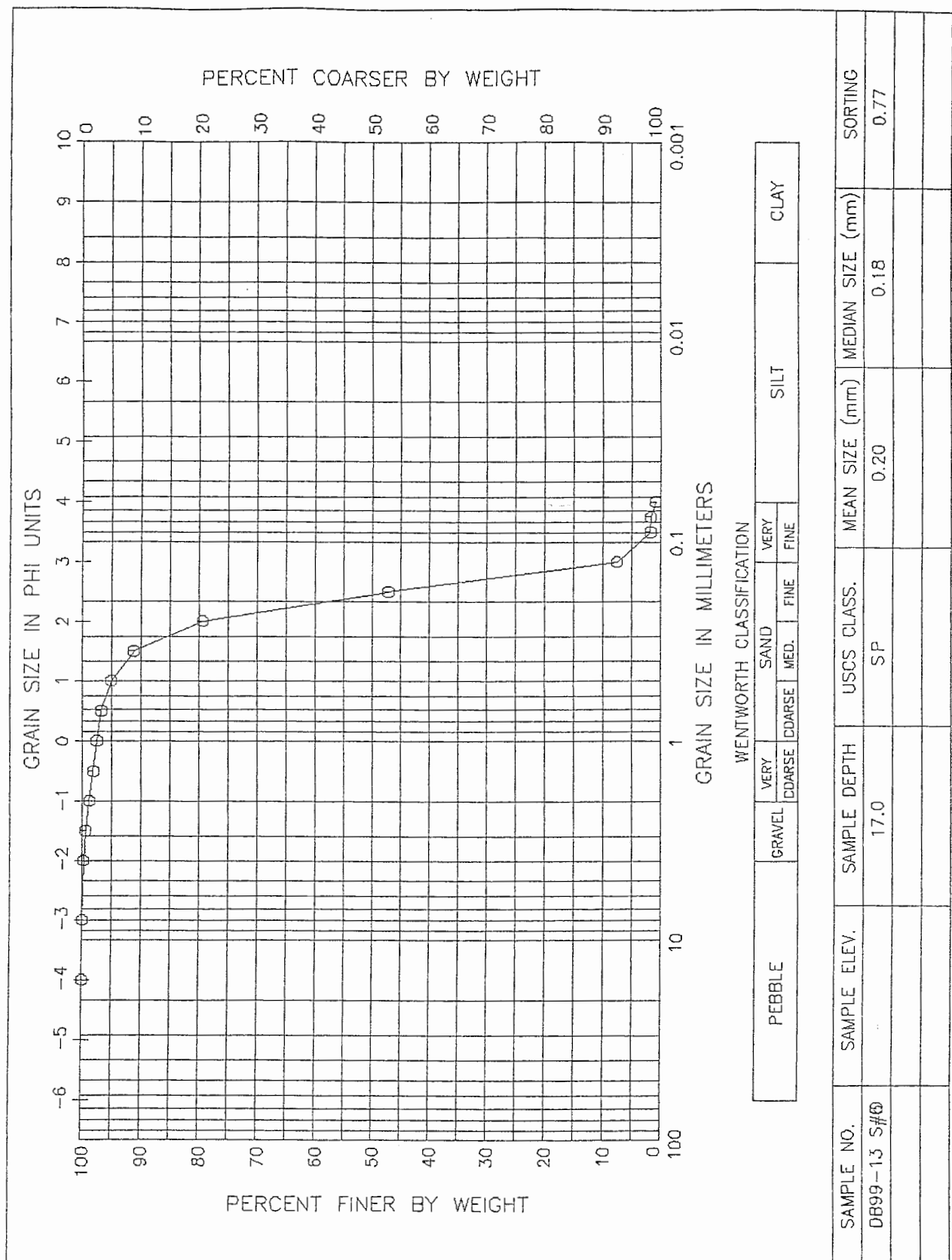


GRAIN SIZE DISTRIBUTION CURVE  
DELRAY BEACH VIBRACORES 1999



GRAIN SIZE DISTRIBUTION CURVE  
DELRAY BEACH VIBRACORES 1999





GRAIN SIZE DISTRIBUTION CURVE  
DELRAY BEACH VIBRACORES 1999