

**Onshore Grab Sample**

**Sample:** VO-46-SS  
**Sample Taken By:** J. Ladner  
**Sample Collected On:** 12/3/03  
**Splits?** N/A

**County:** Volusia  
**Latitude:** 28° 54' 03.66"  
**Longitude:** 80° 48' 16.02"  
**Datum:** NAD 83  
**Surf. Elev:** N/A  
**Datum:** N/A

**Fine Data Summary**

|                       |              |
|-----------------------|--------------|
| Total Sample Weight   | 94.349 grams |
| Total Fines in Sample | 1.437 grams  |
| Total Percent Fines   | 1.50 %       |

**Dry Sieving Summary**

|                        |              |
|------------------------|--------------|
| Total Sample Weight    | 94.083 grams |
| Total Digested Weight  | 33.465 grams |
| Total Carbonate Weight | 60.618 grams |
| Total Silica %         | 35.57 %      |
| Total Carbonate %      | 64.43 %      |
| Carbonate/Silica Ratio | 1.811        |

**General Comments:**

None

**Description**

Worked By: M. Lachance

# Pre-Digestion Grain Size Distribution

Onshore Grab Sample

Sample: VO-46-SS

Total Sample Mass: 94.083 grams

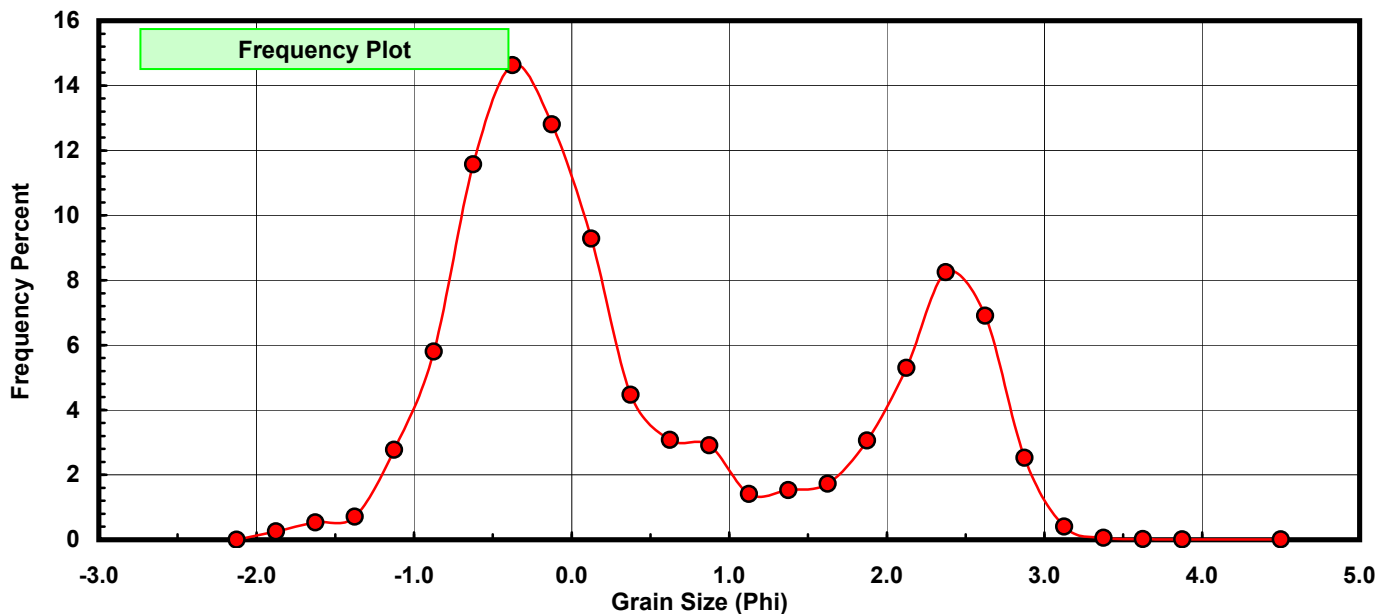
| Sieve Size (phi) | Sieve Midpt (phi) | Weight (grams) | Freq Weight % | Cumulative Weight % |
|------------------|-------------------|----------------|---------------|---------------------|
| -2.00            | -2.125            | 0.000          | 0.000         | 0.000               |
| -1.75            | -1.875            | 0.241          | 0.256         | 0.256               |
| -1.50            | -1.625            | 0.500          | 0.531         | 0.788               |
| -1.25            | -1.375            | 0.669          | 0.711         | 1.499               |
| -1.00            | -1.125            | 2.604          | 2.768         | 4.266               |
| -0.75            | -0.875            | 5.457          | 5.800         | 10.067              |
| -0.50            | -0.625            | 10.890         | 11.575        | 21.642              |
| -0.25            | -0.375            | 13.761         | 14.626        | 36.268              |
| 0.00             | -0.125            | 12.050         | 12.808        | 49.076              |
| 0.25             | 0.125             | 8.730          | 9.279         | 58.355              |
| 0.50             | 0.375             | 4.205          | 4.469         | 62.824              |
| 0.75             | 0.625             | 2.891          | 3.073         | 65.897              |
| 1.00             | 0.875             | 2.735          | 2.907         | 68.804              |
| 1.25             | 1.125             | 1.324          | 1.407         | 70.211              |
| 1.50             | 1.375             | 1.442          | 1.533         | 71.744              |
| 1.75             | 1.625             | 1.624          | 1.726         | 73.470              |
| 2.00             | 1.875             | 2.873          | 3.054         | 76.524              |
| 2.25             | 2.125             | 4.988          | 5.302         | 81.826              |
| 2.50             | 2.375             | 7.759          | 8.247         | 90.073              |
| 2.75             | 2.625             | 6.497          | 6.906         | 96.978              |
| 3.00             | 2.875             | 2.372          | 2.521         | 99.499              |
| 3.25             | 3.125             | 0.376          | 0.400         | 99.899              |
| 3.50             | 3.375             | 0.056          | 0.060         | 99.959              |
| 3.75             | 3.625             | 0.020          | 0.021         | 99.980              |
| 4.00             | 3.875             | 0.010          | 0.011         | 99.990              |
| 5.00             | 4.500             | 0.009          | 0.010         | 100.000             |

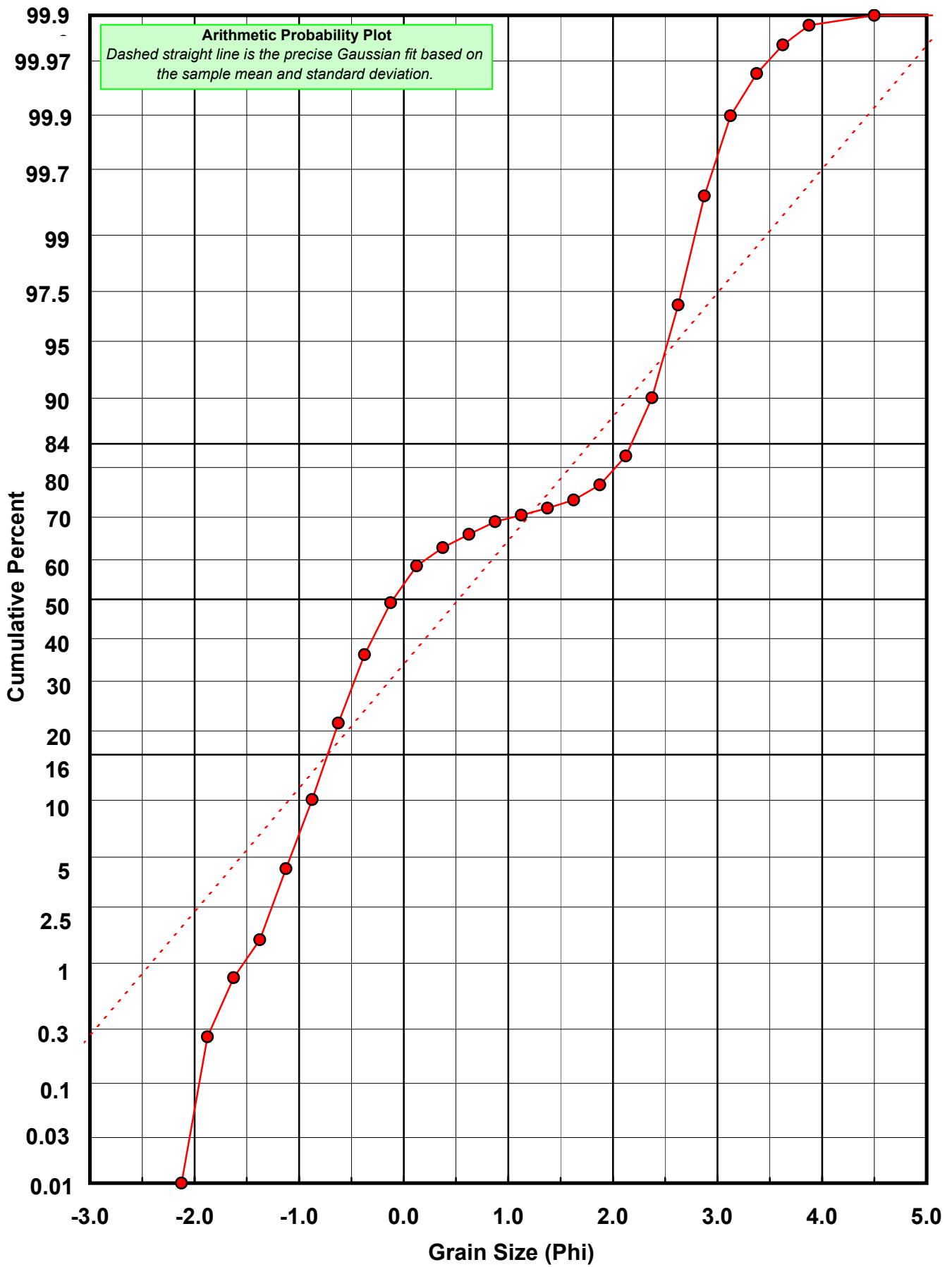
| Statistical Results |         |               |             |
|---------------------|---------|---------------|-------------|
| Mean:               | 0.5253  | phi           | (0.6948 mm) |
| Standard Dev:       | 1.2679  | phi-units     | (0.4153 mm) |
| Skewness:           | 0.5814  | dimensionless |             |
| Kurtosis:           | 1.9098  | dimensionless |             |
| 5th Moment:         | 1.9477  | dimensionless |             |
| 6th Moment:         | 4.7555  | dimensionless |             |
| RARD *              | 2.4136  | dimensionless |             |
| Median              | -0.1001 | phi           | (1.0718 mm) |

\* RARD = reciprocal absolute relative dispersion (see below)

| Statistical Explanation                           |
|---|
| Calculations based on the Method of Moments       |
| Skewness: 3rd Stand. Moment; Exact Gaussian = 0.0 |
| Kurtosis: 4th Stand. Moment; Exact Gaussian = 3.0 |
| For Further Explanation, See Calculation Sheets   |
| Millimeter data calculated by $mm = 2^{(-phi)}$   |

| Reciprocal Absolute Relative Dispersion (RARD) Scale |                                       |
|--|---------------------------------------|
| < 0.5  | Excellent homogeneity (e.g., beaches) |
| 0.5 to 1.0   | Good homogeneity                      |
| 1.0 to 1.33  | Fair homogeneity                      |
| > 1.33   | Poor homogeneity (e.g., glacial)      |





# Carbonate Grain Size Distribution

Onshore Grab Sample

Sample: VO-46-SS

Total Carbonate Mass: 60.628 grams

% Carbonate: 64.4 %

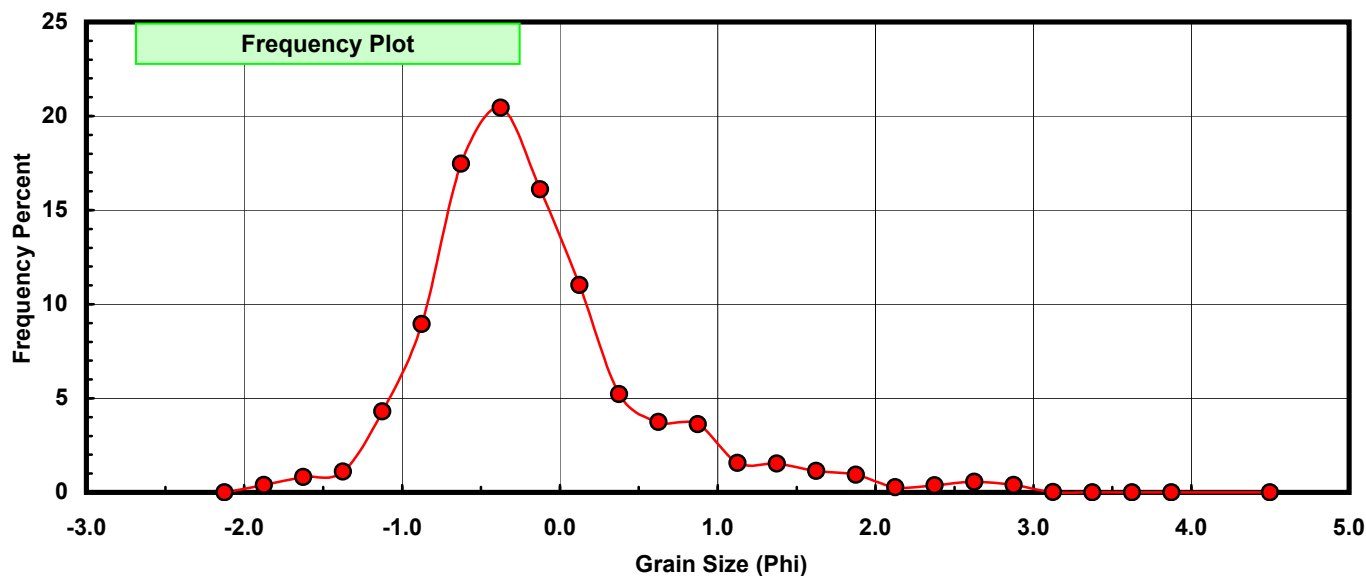
| Sieve Size (phi) | Sieve Midpt (phi) | Weight (grams) | Freq Weight % | Cumulative Weight % |
|------------------|-------------------|----------------|---------------|---------------------|
| -2.00            | -2.125            | 0.000          | 0.000         | 0.000               |
| -1.75            | -1.875            | 0.241          | 0.398         | 0.398               |
| -1.50            | -1.625            | 0.500          | 0.825         | 1.222               |
| -1.25            | -1.375            | 0.669          | 1.103         | 2.326               |
| -1.00            | -1.125            | 2.604          | 4.295         | 6.621               |
| -0.75            | -0.875            | 5.426          | 8.950         | 15.570              |
| -0.50            | -0.625            | 10.593         | 17.472        | 33.042              |
| -0.25            | -0.375            | 12.394         | 20.443        | 53.485              |
| 0.00             | -0.125            | 9.764          | 16.105        | 69.590              |
| 0.25             | 0.125             | 6.680          | 11.018        | 80.608              |
| 0.50             | 0.375             | 3.162          | 5.215         | 85.823              |
| 0.75             | 0.625             | 2.267          | 3.739         | 89.563              |
| 1.00             | 0.875             | 2.197          | 3.624         | 93.186              |
| 1.25             | 1.125             | 0.949          | 1.565         | 94.752              |
| 1.50             | 1.375             | 0.927          | 1.529         | 96.281              |
| 1.75             | 1.625             | 0.694          | 1.145         | 97.425              |
| 2.00             | 1.875             | 0.565          | 0.932         | 98.357              |
| 2.25             | 2.125             | 0.169          | 0.279         | 98.636              |
| 2.50             | 2.375             | 0.227          | 0.374         | 99.010              |
| 2.75             | 2.625             | 0.345          | 0.569         | 99.579              |
| 3.00             | 2.875             | 0.240          | 0.396         | 99.975              |
| 3.25             | 3.125             | 0.015          | 0.025         | 100.000             |
| 3.50             | 3.375             | 0.000          | 0.000         | 100.000             |
| 3.75             | 3.625             | 0.000          | 0.000         | 100.000             |
| 4.00             | 3.875             | 0.000          | 0.000         | 100.000             |
| 5.00             | 4.500             | 0.000          | 0.000         | 100.000             |

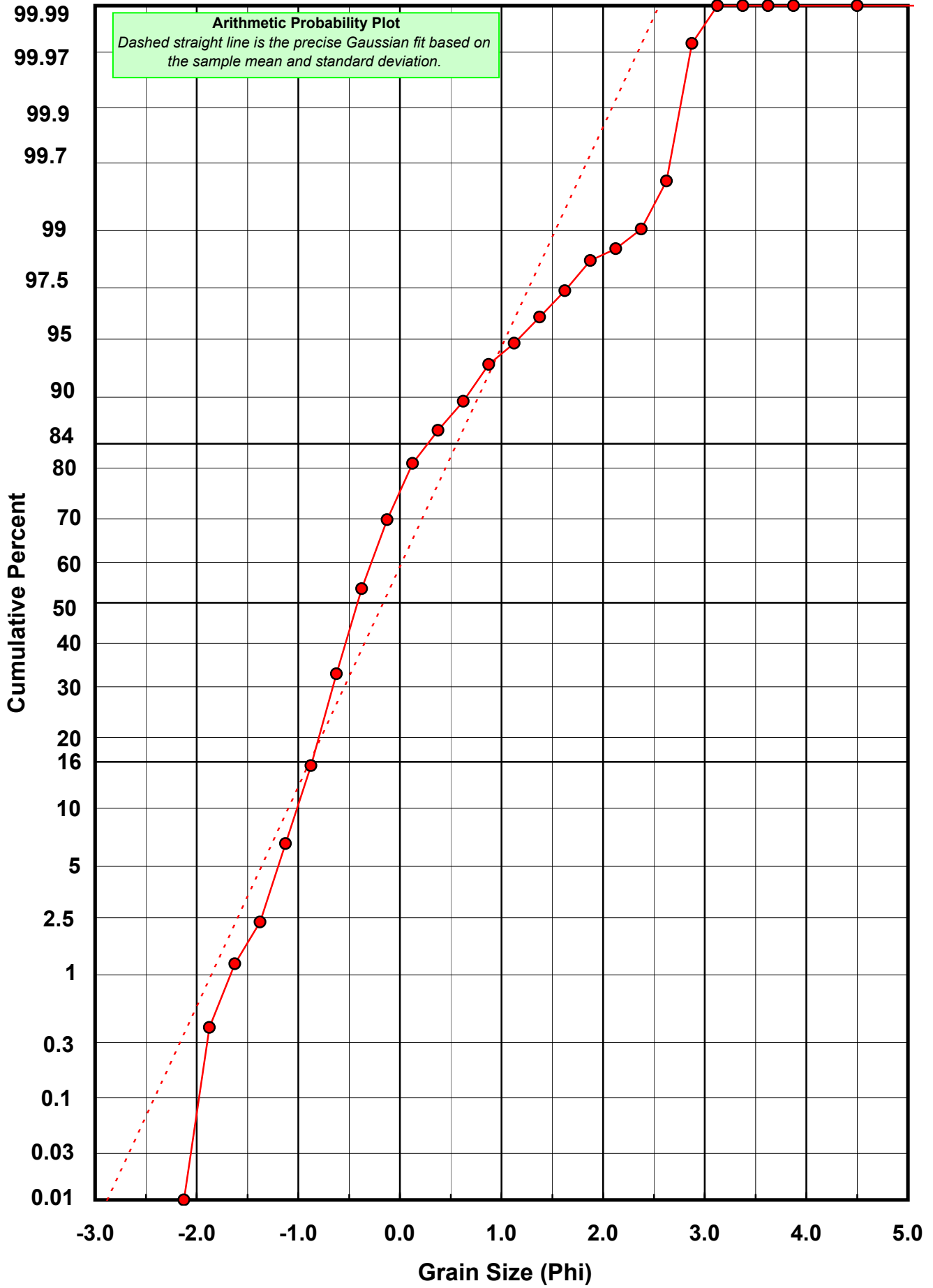
| Statistical Results |         |               |             |
|---------------------|---------|---------------|-------------|
| Mean:               | -0.1636 | phi           | (1.1201 mm) |
| Standard Dev:       | 0.7295  | phi-units     | (0.6031 mm) |
| Skewness:           | 1.2743  | dimensionless |             |
| Kurtosis:           | 5.6532  | dimensionless |             |
| 5th Moment:         | 15.9230 | dimensionless |             |
| 6th Moment:         | 61.6862 | dimensionless |             |
| RARD *              | 4.4584  | dimensionless |             |
| Median              | -0.4176 | phi           | (1.3357 mm) |

\* RARD = reciprocal absolute relative dispersion (see below)

| Statistical Explanation                           |  |
|---|--|
| Calculations based on the Method of Moments       |  |
| Skewness: 3rd Stand. Moment; Exact Gaussian = 0.0 |  |
| Kurtosis: 4th Stand. Moment; Exact Gaussian = 3.0 |  |
| For Further Explanation, See Calculation Sheets   |  |
| Millimeter data calculated by $mm = 2^{(-phi)}$   |  |

| Reciprocal Absolute Relative Dispersion (RARD) Scale |                                       |
|--|---------------------------------------|
| < 0.5  | Excellent homogeneity (e.g., beaches) |
| 0.5 to 1.0   | Good homogeneity                      |
| 1.0 to 1.33  | Fair homogeneity                      |
| > 1.33   | Poor homogeneity (e.g., glacial)      |





# Post-Digestion Grain Size Distribution

Onshore Grab Sample

Sample: VO-46-SS

Total Digested Mass: 33.455 grams

% Silica: 35.6 %

| Sieve Size (phi) | Sieve Midpt (phi) | Weight (grams) | Freq Weight % | Cumulative Weight % |
|------------------|-------------------|----------------|---------------|---------------------|
| -2.00            | -2.125            | 0.000          | 0.000         | 0.000               |
| -1.75            | -1.875            | 0.000          | 0.000         | 0.000               |
| -1.50            | -1.625            | 0.000          | 0.000         | 0.000               |
| -1.25            | -1.375            | 0.000          | 0.000         | 0.000               |
| -1.00            | -1.125            | 0.000          | 0.000         | 0.000               |
| -0.75            | -0.875            | 0.031          | 0.093         | 0.093               |
| -0.50            | -0.625            | 0.297          | 0.888         | 0.980               |
| -0.25            | -0.375            | 1.367          | 4.086         | 5.067               |
| 0.00             | -0.125            | 2.286          | 6.833         | 11.900              |
| 0.25             | 0.125             | 2.050          | 6.128         | 18.027              |
| 0.50             | 0.375             | 1.043          | 3.118         | 21.145              |
| 0.75             | 0.625             | 0.624          | 1.865         | 23.010              |
| 1.00             | 0.875             | 0.538          | 1.608         | 24.618              |
| 1.25             | 1.125             | 0.375          | 1.121         | 25.739              |
| 1.50             | 1.375             | 0.515          | 1.539         | 27.278              |
| 1.75             | 1.625             | 0.930          | 2.780         | 30.058              |
| 2.00             | 1.875             | 2.308          | 6.899         | 36.957              |
| 2.25             | 2.125             | 4.819          | 14.404        | 51.362              |
| 2.50             | 2.375             | 7.532          | 22.514        | 73.875              |
| 2.75             | 2.625             | 6.152          | 18.389        | 92.264              |
| 3.00             | 2.875             | 2.132          | 6.373         | 98.637              |
| 3.25             | 3.125             | 0.361          | 1.079         | 99.716              |
| 3.50             | 3.375             | 0.060          | 0.179         | 99.895              |
| 3.75             | 3.625             | 0.022          | 0.066         | 99.961              |
| 4.00             | 3.875             | 0.013          | 0.039         | 100.000             |
| 5.00             | 4.500             | 0.000          | 0.000         | 100.000             |

| Statistical Results |         |               |             |
|---------------------|---------|---------------|-------------|
| Mean:               | 1.7735  | phi           | (0.2925 mm) |
| Standard Dev:       | 1.0669  | phi-units     | (0.4773 mm) |
| Skewness:           | -0.9513 | dimensionless |             |
| Kurtosis:           | 2.3871  | dimensionless |             |
| 5th Moment:         | -3.7593 | dimensionless |             |
| 6th Moment:         | 7.7560  | dimensionless |             |
| RARD *              | 0.6016  | dimensionless |             |
| Median              | 2.1014  | phi           | (0.233 mm)  |

\* RARD = reciprocal absolute relative dispersion (see below)

| Statistical Explanation                           |  |
|---|--|
| Calculations based on the Method of Moments       |  |
| Skewness: 3rd Stand. Moment; Exact Gaussian = 0.0 |  |
| Kurtosis: 4th Stand. Moment; Exact Gaussian = 3.0 |  |
| For Further Explanation, See Calculation Sheets   |  |
| Millimeter data calculated by $mm = 2^{(-\phi)}$  |  |

| Reciprocal Absolute Relative Dispersion (RARD) Scale |                                       |
|--|---------------------------------------|
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