

**Onshore Grab Sample**

**Sample:** VO-23-BB  
**Sample Taken By:** J. Ladner  
**Sample Collected On:** 12/3/03  
**Splits?** N/A

**County:** Volusia  
**Latitude:** 29° 09' 6.06"  
**Longitude:** 80° 58' 5.70"  
**Datum:** NAD 83  
**Surf. Elev:** N/A  
**Datum:** N/A

**Fine Data Summary**

Total Sample Weight 73.808 grams  
Total Fines in Sample 0.227 grams  
Total Percent Fines 0.31 %

**Dry Sieving Summary**

Total Sample Weight 73.519 grams  
Total Digested Weight 69.879 grams  
Total Carbonate Weight 3.640 grams  
Total Silica % 95.05 %  
Total Carbonate % 4.95 %  
Carbonate/Silica Ratio 0.052

**General Comments:**

None

**Description**

Worked By: M. Lachance

# Pre-Digestion Grain Size Distribution

Onshore Grab Sample

Sample: VO-23-BB

Total Sample Mass: 73.519 grams

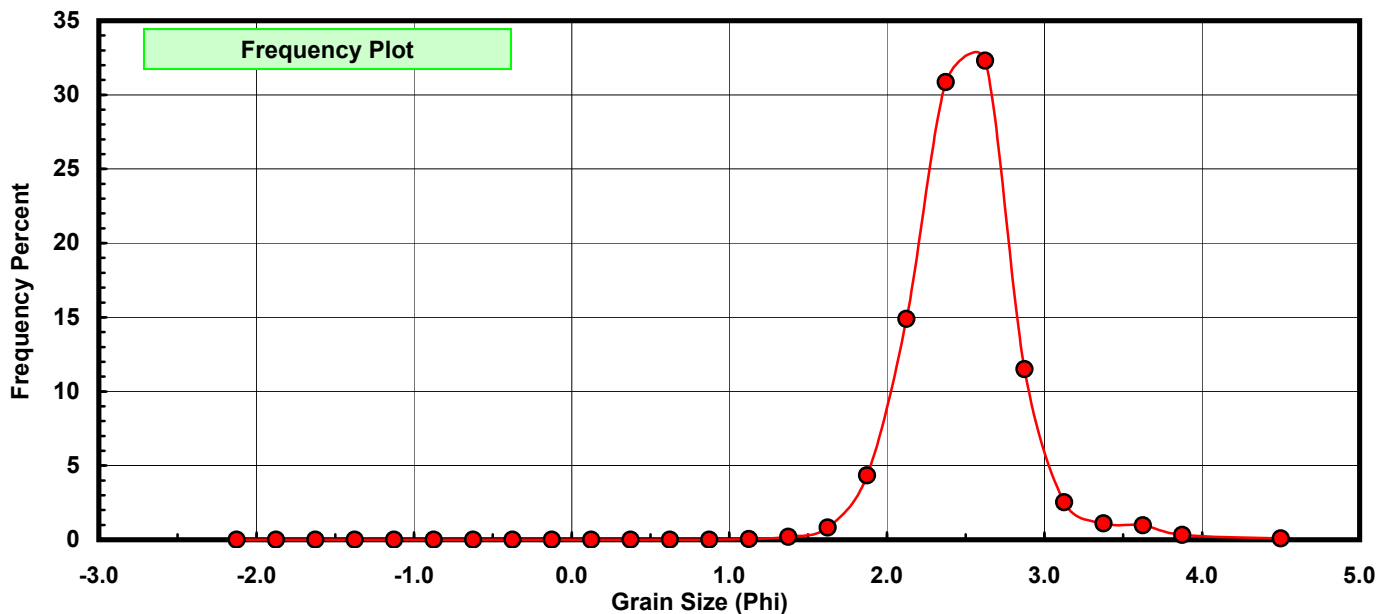
| Sieve Size (phi) | Sieve Midpt (phi) | Weight (grams) | Freq Weight % | Cumulative Weight % |
|------------------|-------------------|----------------|---------------|---------------------|
| -2.00            | -2.125            | 0.000          | 0.000         | 0.000               |
| -1.75            | -1.875            | 0.000          | 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            | 0.000          | 0.000         | 0.000               |
| -0.50            | -0.625            | 0.007          | 0.010         | 0.010               |
| -0.25            | -0.375            | 0.001          | 0.001         | 0.011               |
| 0.00             | -0.125            | 0.001          | 0.001         | 0.012               |
| 0.25             | 0.125             | 0.001          | 0.001         | 0.014               |
| 0.50             | 0.375             | 0.002          | 0.003         | 0.016               |
| 0.75             | 0.625             | 0.001          | 0.001         | 0.018               |
| 1.00             | 0.875             | 0.006          | 0.008         | 0.026               |
| 1.25             | 1.125             | 0.032          | 0.044         | 0.069               |
| 1.50             | 1.375             | 0.149          | 0.203         | 0.272               |
| 1.75             | 1.625             | 0.601          | 0.817         | 1.090               |
| 2.00             | 1.875             | 3.194          | 4.344         | 5.434               |
| 2.25             | 2.125             | 10.943         | 14.885        | 20.319              |
| 2.50             | 2.375             | 22.689         | 30.861        | 51.180              |
| 2.75             | 2.625             | 23.749         | 32.303        | 83.483              |
| 3.00             | 2.875             | 8.458          | 11.505        | 94.988              |
| 3.25             | 3.125             | 1.854          | 2.522         | 97.509              |
| 3.50             | 3.375             | 0.812          | 1.104         | 98.614              |
| 3.75             | 3.625             | 0.714          | 0.971         | 99.585              |
| 4.00             | 3.875             | 0.244          | 0.332         | 99.917              |
| 5.00             | 4.500             | 0.061          | 0.083         | 100.000             |

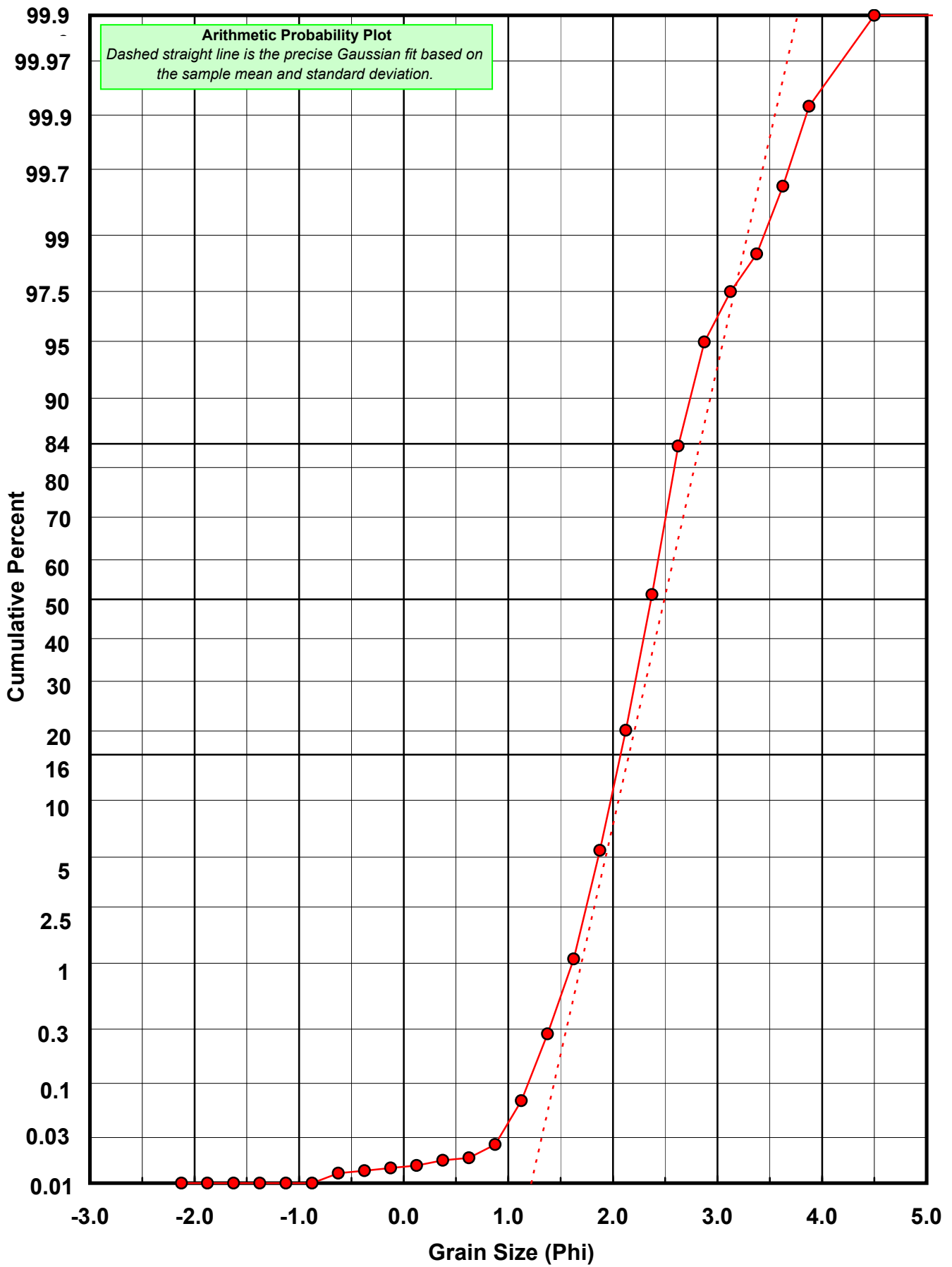
| Statistical Results |          |               |             |
|---------------------|----------|---------------|-------------|
| Mean:               | 2.4939   | phi           | (0.1775 mm) |
| Standard Dev:       | 0.3420   | phi-units     | (0.789 mm)  |
| Skewness:           | 0.4702   | dimensionless |             |
| Kurtosis:           | 6.3325   | dimensionless |             |
| 5th Moment:         | 4.4370   | dimensionless |             |
| 6th Moment:         | 142.1757 | dimensionless |             |
| RARD *              | 0.1371   | dimensionless |             |
| Median              | 2.3654   | phi           | (0.1941 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-23-BB

Total Carbonate Mass: 4.534 grams

% Carbonate: 5.0 %

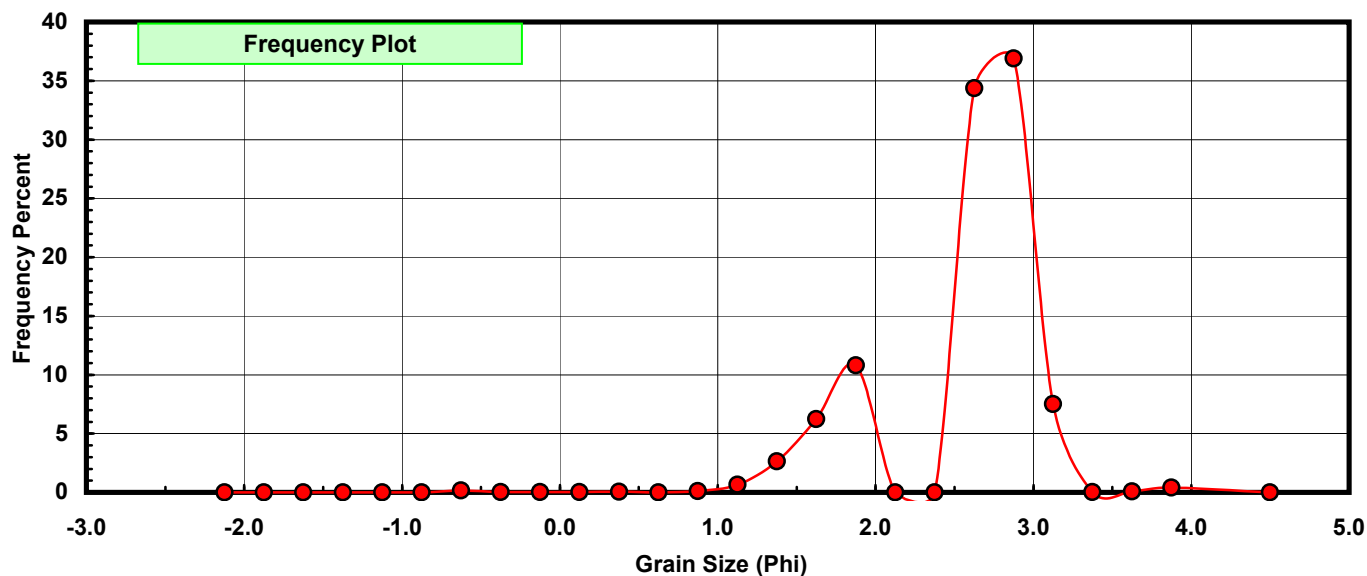
| Sieve Size (phi) | Sieve Midpt (phi) | Weight (grams) | Freq Weight % | Cumulative Weight % |
|------------------|-------------------|----------------|---------------|---------------------|
| -2.00            | -2.125            | 0.000          | 0.000         | 0.000               |
| -1.75            | -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            | 0.000          | 0.000         | 0.000               |
| -0.50            | -0.625            | 0.007          | 0.154         | 0.154               |
| -0.25            | -0.375            | 0.001          | 0.022         | 0.176               |
| 0.00             | -0.125            | 0.001          | 0.022         | 0.199               |
| 0.25             | 0.125             | 0.001          | 0.022         | 0.221               |
| 0.50             | 0.375             | 0.002          | 0.044         | 0.265               |
| 0.75             | 0.625             | 0.000          | 0.000         | 0.265               |
| 1.00             | 0.875             | 0.005          | 0.110         | 0.375               |
| 1.25             | 1.125             | 0.029          | 0.640         | 1.015               |
| 1.50             | 1.375             | 0.120          | 2.647         | 3.661               |
| 1.75             | 1.625             | 0.282          | 6.220         | 9.881               |
| 2.00             | 1.875             | 0.490          | 10.807        | 20.688              |
| 2.25             | 2.125             | 0.000          | 0.000         | 20.688              |
| 2.50             | 2.375             | 0.000          | 0.000         | 20.688              |
| 2.75             | 2.625             | 1.558          | 34.363        | 55.051              |
| 3.00             | 2.875             | 1.673          | 36.899        | 91.950              |
| 3.25             | 3.125             | 0.341          | 7.521         | 99.471              |
| 3.50             | 3.375             | 0.001          | 0.022         | 99.493              |
| 3.75             | 3.625             | 0.004          | 0.088         | 99.581              |
| 4.00             | 3.875             | 0.019          | 0.419         | 100.000             |
| 5.00             | 4.500             | 0.000          | 0.000         | 100.000             |

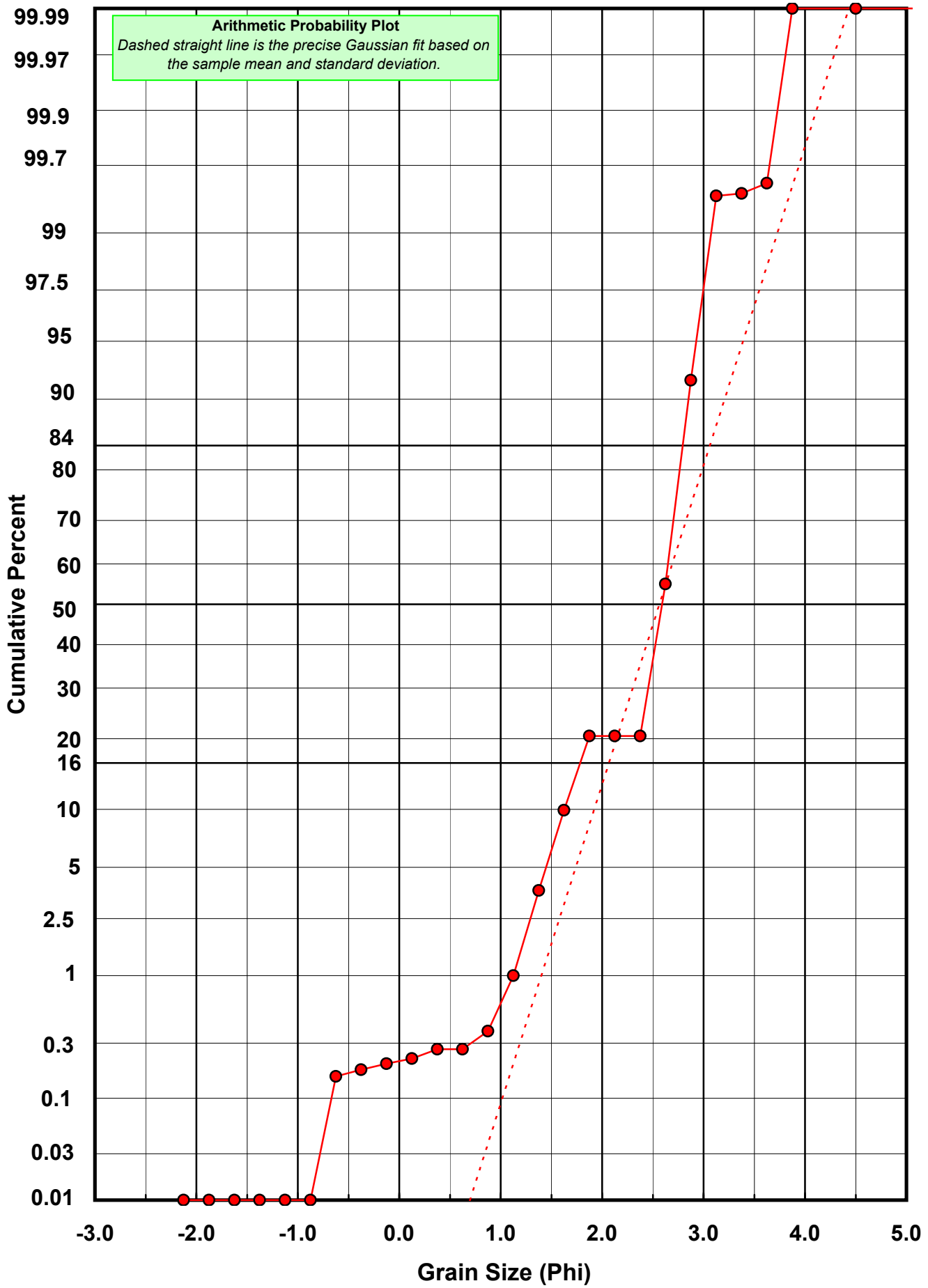
| Statistical Results |          |               |             |
|---------------------|----------|---------------|-------------|
| Mean:               | 2.5654   | phi           | (0.1689 mm) |
| Standard Dev:       | 0.5016   | phi-units     | (0.7063 mm) |
| Skewness:           | -1.5021  | dimensionless |             |
| Kurtosis:           | 6.2136   | dimensionless |             |
| 5th Moment:         | -24.8782 | dimensionless |             |
| 6th Moment:         | 137.4416 | dimensionless |             |
| RARD *              | 0.1955   | dimensionless |             |
| Median              | 2.5883   | phi           | (0.1663 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-23-BB

Total Digested Mass: 69.828 grams

% Silica: 95.0 %

| 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            | 0.000          | 0.000         | 0.000               |
| -0.50            | -0.625            | 0.000          | 0.000         | 0.000               |
| -0.25            | -0.375            | 0.000          | 0.000         | 0.000               |
| 0.00             | -0.125            | 0.000          | 0.000         | 0.000               |
| 0.25             | 0.125             | 0.000          | 0.000         | 0.000               |
| 0.50             | 0.375             | 0.000          | 0.000         | 0.000               |
| 0.75             | 0.625             | 0.002          | 0.003         | 0.003               |
| 1.00             | 0.875             | 0.001          | 0.001         | 0.004               |
| 1.25             | 1.125             | 0.003          | 0.004         | 0.009               |
| 1.50             | 1.375             | 0.029          | 0.042         | 0.050               |
| 1.75             | 1.625             | 0.319          | 0.457         | 0.507               |
| 2.00             | 1.875             | 2.704          | 3.872         | 4.379               |
| 2.25             | 2.125             | 10.974         | 15.716        | 20.095              |
| 2.50             | 2.375             | 23.561         | 33.741        | 53.837              |
| 2.75             | 2.625             | 22.191         | 31.780        | 85.616              |
| 3.00             | 2.875             | 6.785          | 9.717         | 95.333              |
| 3.25             | 3.125             | 1.513          | 2.167         | 97.500              |
| 3.50             | 3.375             | 0.811          | 1.161         | 98.661              |
| 3.75             | 3.625             | 0.710          | 1.017         | 99.678              |
| 4.00             | 3.875             | 0.225          | 0.322         | 100.000             |
| 5.00             | 4.500             | 0.000          | 0.000         | 100.000             |

| Statistical Results |         |               |             |
|---------------------|---------|---------------|-------------|
| Mean:               | 2.4858  | phi           | (0.1785 mm) |
| Standard Dev:       | 0.3209  | phi-units     | (0.8006 mm) |
| Skewness:           | 0.7239  | dimensionless |             |
| Kurtosis:           | 5.1852  | dimensionless |             |
| 5th Moment:         | 11.2475 | dimensionless |             |
| 6th Moment:         | 55.4404 | dimensionless |             |
| RARD *              | 0.1291  | dimensionless |             |
| Median              | 2.3466  | phi           | (0.1966 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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| > 1.33   | Poor homogeneity (e.g., glacial)      |

