

# Quality Control Statistical Summary

Onshore Grab Sample: VO-55-BB

Sample Taken By: J. Ladner                      **Latitude:** 28° 48' 48.24'  
 Sample Taken On: 12/03/03                      **Longitude:** 80° 44' 52.62'  
 County: Volusia                                      **Datum:** NAD 83

Statistical Results: Pre-CaCO3				
	Duplicate		Original	
<b>Mean:</b>	0.5572	phi (0.6796 mm)	0.5539	phi (0.6812 mm)
<b>Standard Dev:</b>	0.5783	phi-units (0.6697 mm)	0.6044	phi-units (0.6577 mm)
<b>Skewness:</b>	0.2092	dimensionless	-0.1589	dimensionless
<b>Kurtosis:</b>	4.2200	dimensionless	5.0536	dimensionless
<b>5th Moment:</b>	4.9701	dimensionless	-3.3647	dimensionless
<b>6th Moment:</b>	47.5364	dimensionless	64.6872	dimensionless
<b>RARD*:</b>	1.0380	dimensionless	1.0912	dimensionless
<b>Median:</b>	0.4491	phi (0.7325 mm)	0.4542	phi (0.7299 mm)

Statistical Results: CaCO3				
	Duplicate		Original	
<b>Mean:</b>	0.3457	phi (0.7869 mm)	0.3263	phi (0.7976 mm)
<b>Standard Dev:</b>	0.5571	phi-units (0.6797 mm)	0.6037	phi-units (0.6581 mm)
<b>Skewness:</b>	-0.0952	dimensionless	-0.5440	dimensionless
<b>Kurtosis:</b>	3.4005	dimensionless	4.8963	dimensionless
<b>5th Moment:</b>	-0.0392	dimensionless	-9.2501	dimensionless
<b>6th Moment:</b>	32.5056	dimensionless	56.8147	dimensionless
<b>RARD*:</b>	1.6115	dimensionless	1.8500	dimensionless
<b>Median:</b>	0.2213	phi (0.8578 mm)	0.2314	phi (0.8518 mm)

Statistical Results: Post-CaCO3				
	Duplicate		Original	
<b>Mean:</b>	0.7525	phi (0.5936 mm)	0.7631	phi (0.5892 mm)
<b>Standard Dev:</b>	0.5432	phi-units (0.6863 mm)	0.5362	phi-units (0.6896 mm)
<b>Skewness:</b>	0.7944	dimensionless	0.6544	dimensionless
<b>Kurtosis:</b>	5.0188	dimensionless	4.5944	dimensionless
<b>5th Moment:</b>	14.7934	dimensionless	11.9351	dimensionless
<b>6th Moment:</b>	74.8990	dimensionless	60.9584	dimensionless
<b>RARD*:</b>	0.7219	dimensionless	0.7026	dimensionless
<b>Median:</b>	0.6086	phi (0.6558 mm)	0.6385	phi (0.6424 mm)

Additional Data	
<b>Total Fines</b>	
<b>Original:</b>	0.23 %
<b>Duplicate:</b>	0.29 %
<b>Total Carbonates</b>	
<b>Original:</b>	47.62 %
<b>Duplicate:</b>	47.47 %

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 Millimeter data calculated by $mm = 2^{\sqrt{-\phi}}$	
* 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)



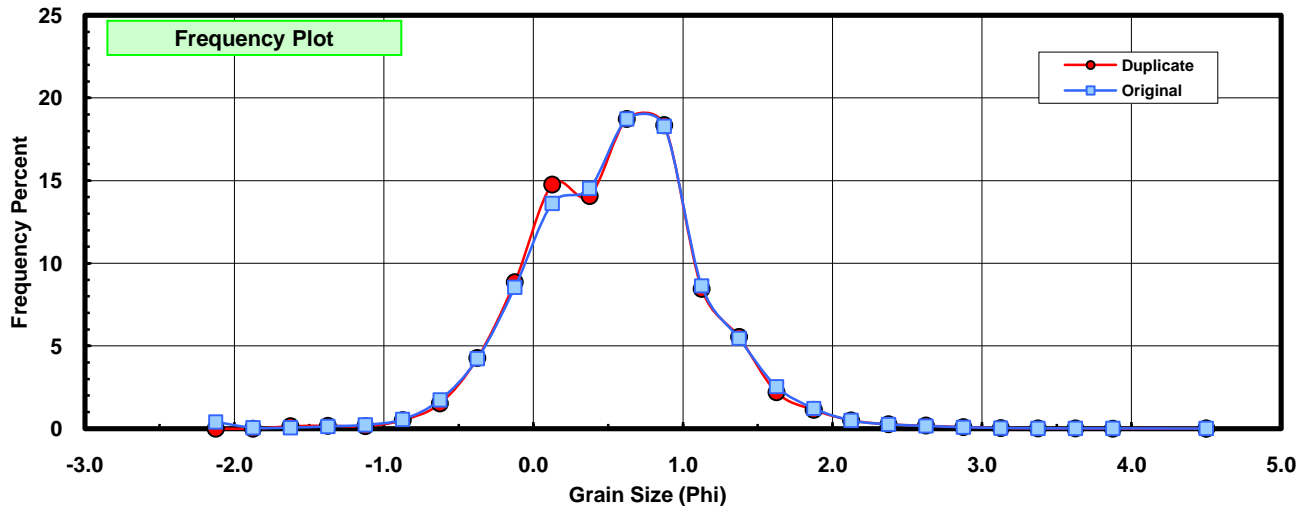
# Pre-Digestion Grain Size Distribution

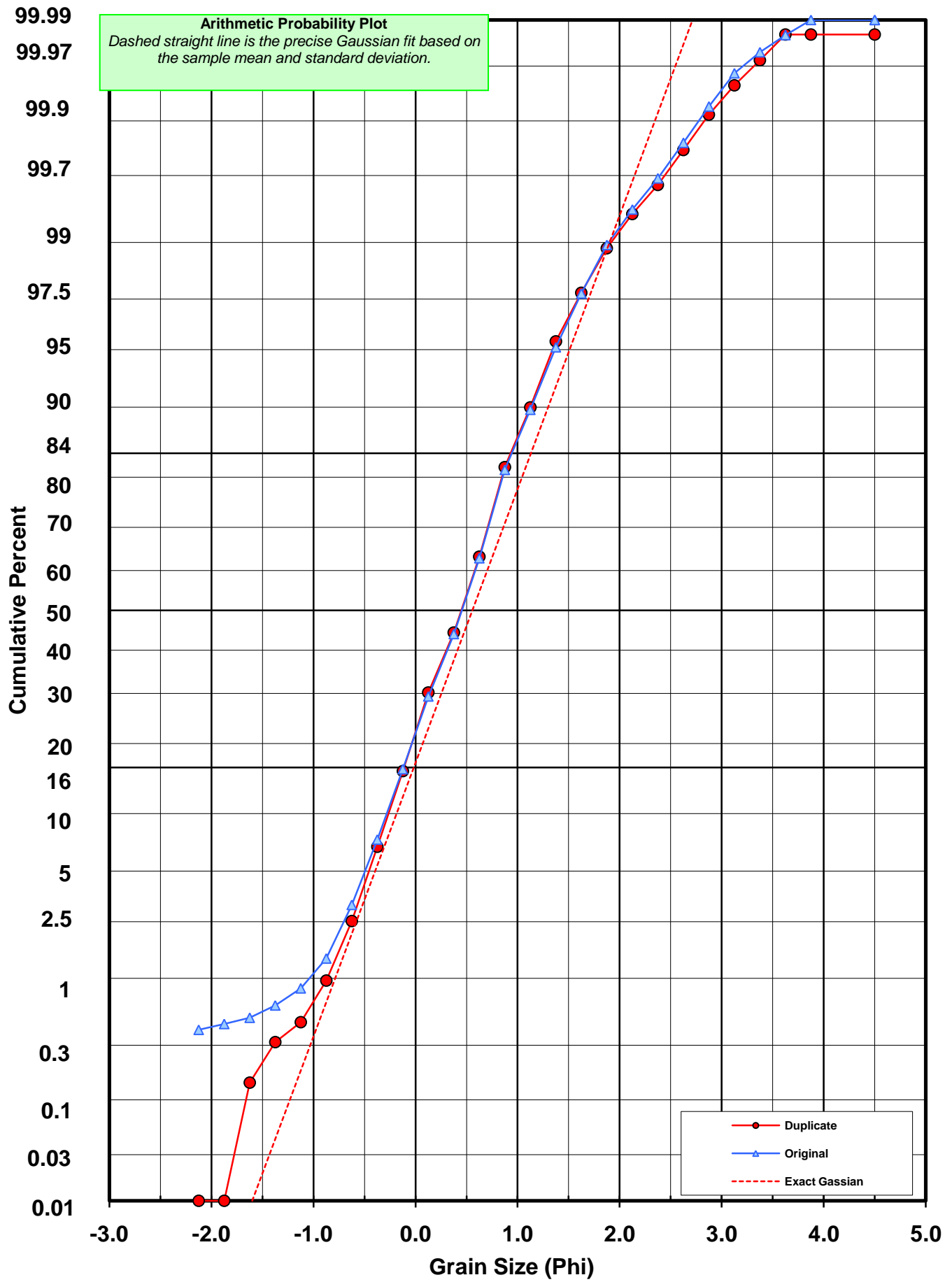
Onshore Grab Sample: VO-55-BB

Total Duplicate Sample Mass: 67.353 grams

Total Original Sample Mass: 74.011 grams

Sieve Size (phi)	Sieve Midpt (phi)	Weight of Dupl (grams)	Freq Weight %	Cumulative Weight %	Weight of Original (grams)	Freq Weight %	Cumulative Weight %
-2.00	-2.125	0.000	0.000	0.000	0.297	0.401	0.401
-1.75	-1.875	0.000	0.000	0.000	0.035	0.047	0.449
-1.50	-1.625	0.095	0.141	0.141	0.041	0.055	0.504
-1.25	-1.375	0.118	0.175	0.316	0.095	0.128	0.632
-1.00	-1.125	0.099	0.147	0.463	0.166	0.224	0.857
-0.75	-0.875	0.348	0.517	0.980	0.409	0.553	1.409
-0.50	-0.625	1.023	1.519	2.499	1.289	1.742	3.151
-0.25	-0.375	2.874	4.267	6.766	3.128	4.227	7.378
0.00	-0.125	5.968	8.861	15.627	6.324	8.545	15.923
0.25	0.125	9.937	14.754	30.380	10.081	13.622	29.545
0.50	0.375	9.475	14.068	44.448	10.750	14.526	44.071
0.75	0.625	12.620	18.737	63.185	13.858	18.726	62.796
1.00	0.875	12.361	18.353	81.538	13.533	18.286	81.083
1.25	1.125	5.689	8.447	89.984	6.390	8.634	89.717
1.50	1.375	3.741	5.554	95.538	4.040	5.459	95.176
1.75	1.625	1.485	2.205	97.743	1.880	2.540	97.716
2.00	1.875	0.764	1.134	98.878	0.904	1.222	98.938
2.25	2.125	0.340	0.505	99.382	0.365	0.493	99.431
2.50	2.375	0.175	0.260	99.642	0.188	0.254	99.685
2.75	2.625	0.120	0.178	99.820	0.118	0.159	99.845
3.00	2.875	0.062	0.092	99.912	0.060	0.081	99.926
3.25	3.125	0.027	0.040	99.952	0.028	0.038	99.964
3.50	3.375	0.014	0.021	99.973	0.011	0.015	99.978
3.75	3.625	0.010	0.015	99.988	0.007	0.009	99.988
4.00	3.875	0.000	0.000	99.988	0.009	0.012	100.000
5.00	4.500	0.000	0.000	99.988	0.000	0.000	100.000
5.00	4.500	0.008	0.012	100.000	0.005	0.007	100.007



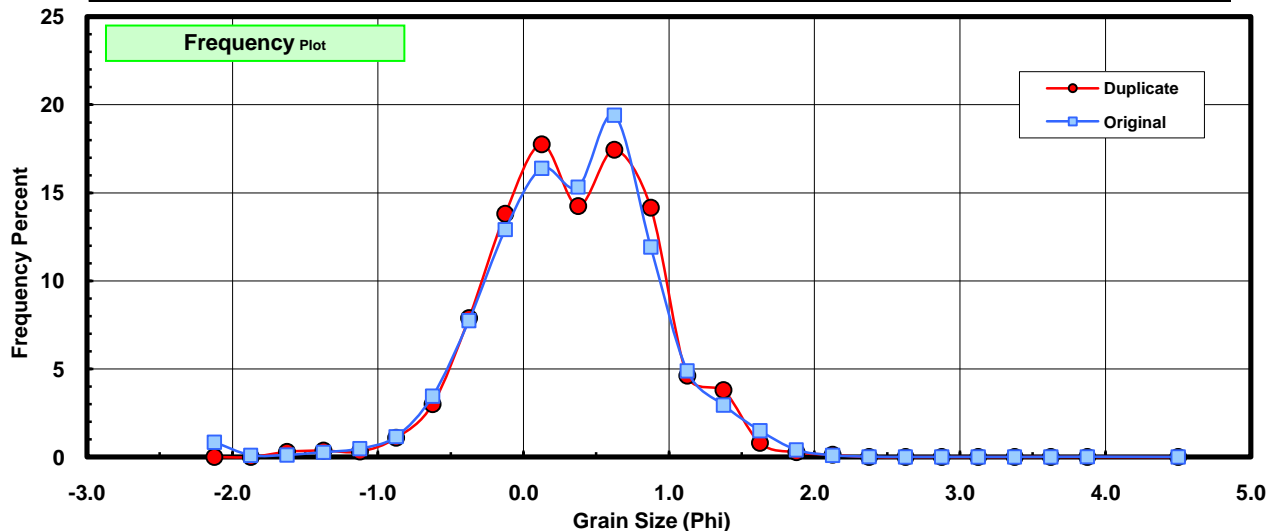


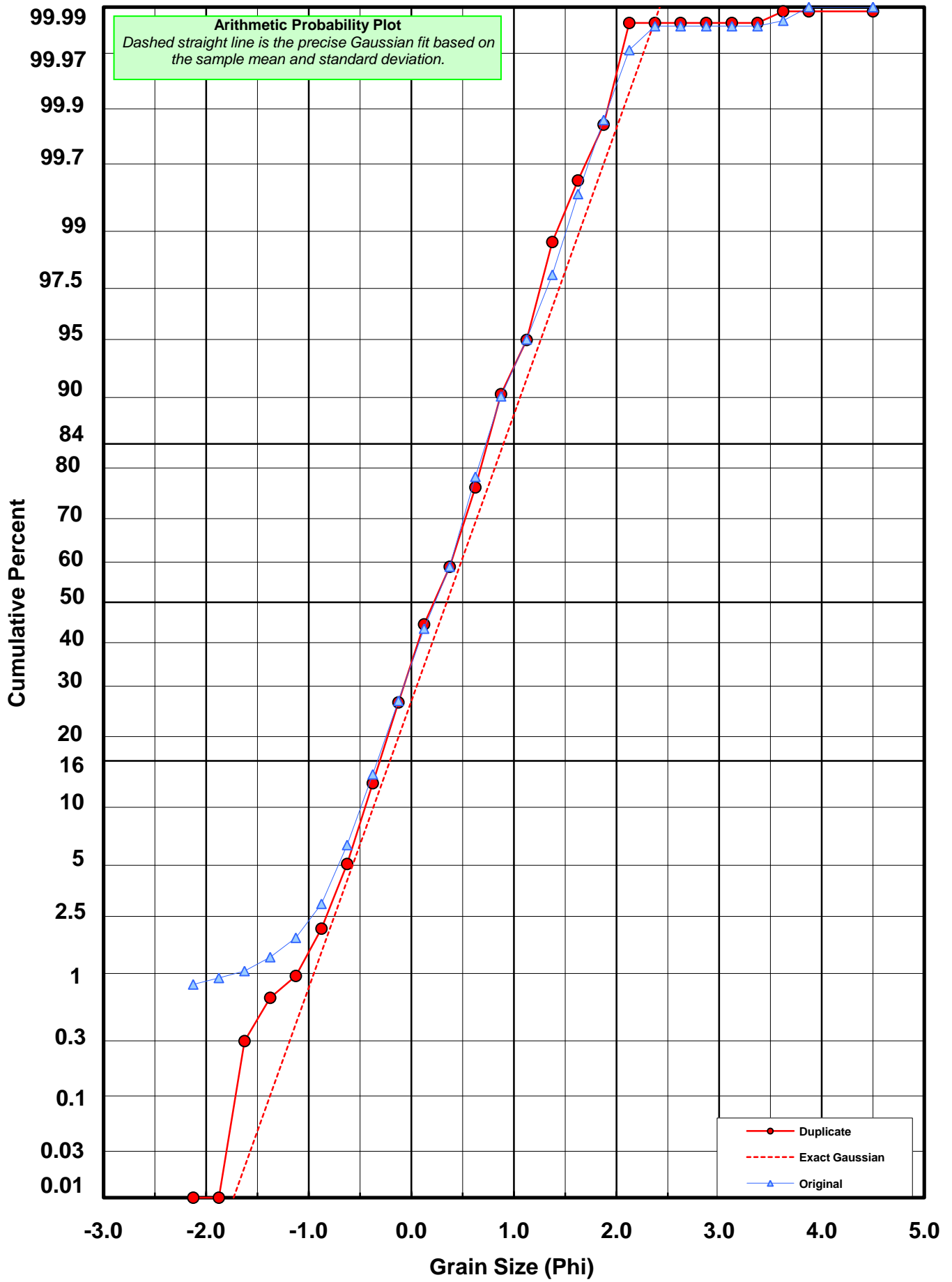
# Carbonate Grain Size Distribution

Onshore Grab Sample: VO-55-BB

**Total Duplicate Carbonate Mass:** 32.020 grams  
**% Carbonate in Duplicate:** 47.5 %  
**Total Original Carbonate Mass:** 35.277 grams  
**% Carbonate in Original:** 47.6 %

Sieve Size (phi)	Sieve Midpt (phi)	Weight of Dupl (grams)	Freq Weight %	Cumulative Weight %	Weight of Original (grams)	Freq Weight %	Cumulative Weight %
-2.00	-2.125	0.000	0.000	0.000	0.297	0.842	0.842
-1.75	-1.875	0.000	0.000	0.000	0.035	0.099	0.941
-1.50	-1.625	0.095	0.297	0.297	0.041	0.116	1.057
-1.25	-1.375	0.118	0.369	0.665	0.095	0.269	1.327
-1.00	-1.125	0.099	0.309	0.974	0.166	0.471	1.797
-0.75	-0.875	0.348	1.087	2.061	0.409	1.159	2.957
-0.50	-0.625	0.959	2.995	5.056	1.220	3.458	6.415
-0.25	-0.375	2.525	7.886	12.942	2.734	7.750	14.165
0.00	-0.125	4.422	13.810	26.752	4.556	12.915	27.080
0.25	0.125	5.686	17.758	44.510	5.784	16.396	43.476
0.50	0.375	4.562	14.247	58.757	5.408	15.330	58.806
0.75	0.625	5.587	17.448	76.205	6.848	19.412	78.218
1.00	0.875	4.535	14.163	90.369	4.205	11.920	90.138
1.25	1.125	1.480	4.622	94.991	1.727	4.896	95.034
1.50	1.375	1.215	3.795	98.785	1.038	2.942	97.976
1.75	1.625	0.258	0.806	99.591	0.528	1.497	99.473
2.00	1.875	0.087	0.272	99.863	0.142	0.403	99.875
2.25	2.125	0.040	0.125	99.988	0.034	0.096	99.972
2.50	2.375	0.000	0.000	99.988	0.005	0.014	99.986
2.75	2.625	0.000	0.000	99.988	0.000	0.000	99.986
3.00	2.875	0.000	0.000	99.988	0.000	0.000	99.986
3.25	3.125	0.000	0.000	99.988	0.000	0.000	99.986
3.50	3.375	0.000	0.000	99.988	0.000	0.000	99.986
3.75	3.625	0.002	0.006	99.994	0.001	0.003	99.989
4.00	3.875	0.000	0.000	99.994	0.004	0.011	100.000
5.00	4.500	0.000	0.000	99.994	0.000	0.000	100.000
5.00	4.500	0.002	0.006	100.000	0.000	0.000	100.000





# Post-Digestion Grain Size Distribution

Onshore Grab Sample: VO-55-BB

**Total Duplicate Digested Mass:** 35.388 grams  
**% Silica in Duplicate:** 52.5 %  
**Total Original Digested Mass:** 38.770 grams  
**% Silica in Original:** 52.4 %

Sieve Size (phi)	Sieve Midpt (phi)	Weight (grams)	Freq Weight %	Cumulative Weight %	Weight of Original (grams)	Freq Weight %	Cumulative Weight %
-2.00	-2.125	0.000	0.000	0.000	0.000	0.000	0.000
-1.75	-1.875	0.000	0.000	0.000	0.000	0.000	0.000
-1.50	-1.625	0.000	0.000	0.000	0.000	0.000	0.000
-1.25	-1.375	0.000	0.000	0.000	0.000	0.000	0.000
-1.00	-1.125	0.000	0.000	0.000	0.000	0.000	0.000
-0.75	-0.875	0.000	0.000	0.000	0.000	0.000	0.000
-0.50	-0.625	0.064	0.181	0.181	0.069	0.178	0.178
-0.25	-0.375	0.349	0.986	1.167	0.394	1.016	1.194
0.00	-0.125	1.546	4.369	5.536	1.768	4.560	5.754
0.25	0.125	4.251	12.013	17.548	4.297	11.083	16.838
0.50	0.375	4.913	13.883	31.432	5.342	13.779	30.616
0.75	0.625	7.033	19.874	51.306	7.010	18.081	48.697
1.00	0.875	7.826	22.115	73.420	9.328	24.060	72.757
1.25	1.125	4.209	11.894	85.314	4.663	12.027	84.785
1.50	1.375	2.526	7.138	92.452	3.002	7.743	92.528
1.75	1.625	1.227	3.467	95.920	1.352	3.487	96.015
2.00	1.875	0.677	1.913	97.833	0.762	1.965	97.980
2.25	2.125	0.300	0.848	98.680	0.331	0.854	98.834
2.50	2.375	0.179	0.506	99.186	0.183	0.472	99.306
2.75	2.625	0.131	0.370	99.556	0.132	0.340	99.647
3.00	2.875	0.076	0.215	99.771	0.069	0.178	99.825
3.25	3.125	0.037	0.105	99.876	0.034	0.088	99.912
3.50	3.375	0.019	0.054	99.929	0.018	0.046	99.959
3.75	3.625	0.008	0.023	99.952	0.006	0.015	99.974
4.00	3.875	0.011	0.031	99.983	0.005	0.013	99.987
5.00	4.500	0.000	0.000	99.983	0.000	0.000	99.987
5.00	4.500	0.006	0.017	100.000	0.005	0.013	100.000

