

Quality Control Statistical Summary

Onshore Grab Sample: PI-34-BB

Sample Taken By: D. Phelps
 Sample Taken On: 12/01/09
 County: Pinellas

Latitude: 27° 46' 19.0"
 Longitude: 82° 46' 33.3"
 Datum: WGS 84

Statistical Results: Pre-CaCO3				
	Duplicate		Original	
Mean:	0.4225	phi (0.7462 mm)	0.9034	phi (0.5346 mm)
Standard Dev:	1.7319	phi-units (0.3011 mm)	1.7030	phi-units (0.3071 mm)
Skewness:	0.0413	dimensionless	-0.3963	dimensionless
Kurtosis:	1.5989	dimensionless	1.7140	dimensionless
5th Moment:	0.0325	dimensionless	-1.5261	dimensionless
6th Moment:	3.0854	dimensionless	4.0214	dimensionless
RARD*:	4.0996	dimensionless	1.8852	dimensionless
Median:	0.1132	phi (0.9245 mm)	1.2702	phi (0.4146 mm)

Statistical Results: CaCO3				
	Duplicate		Original	
Mean:	-0.6481	phi (1.5671 mm)	-0.4421	phi (1.3586 mm)
Standard Dev:	1.2038	phi-units (0.4341 mm)	1.2759	phi-units (0.413 mm)
Skewness:	0.8469	dimensionless	0.6007	dimensionless
Kurtosis:	3.6872	dimensionless	2.7413	dimensionless
5th Moment:	8.0234	dimensionless	3.9390	dimensionless
6th Moment:	26.8076	dimensionless	12.5211	dimensionless
RARD*:	1.8575	dimensionless	2.8863	dimensionless
Median:	-0.9345	phi (1.9112 mm)	-0.7709	phi (1.7063 mm)

Statistical Results: Post-CaCO3				
	Duplicate		Original	
Mean:	2.1924	phi (0.2188 mm)	2.2997	phi (0.2031 mm)
Standard Dev:	0.7063	phi-units (0.6129 mm)	0.6115	phi-units (0.6545 mm)
Skewness:	-0.9958	dimensionless	-1.2604	dimensionless
Kurtosis:	3.6957	dimensionless	5.7205	dimensionless
5th Moment:	-7.6965	dimensionless	-18.2618	dimensionless
6th Moment:	25.4889	dimensionless	84.2528	dimensionless
RARD*:	0.3222	dimensionless	0.2659	dimensionless
Median:	2.2386	phi (0.2119 mm)	2.2999	phi (0.2031 mm)

Additional Data	
Total Fines	
Original:	0.46 %
Duplicate:	0.38 %
Total Carbonates	
Original:	50.86 %
Duplicate:	62.23 %

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)

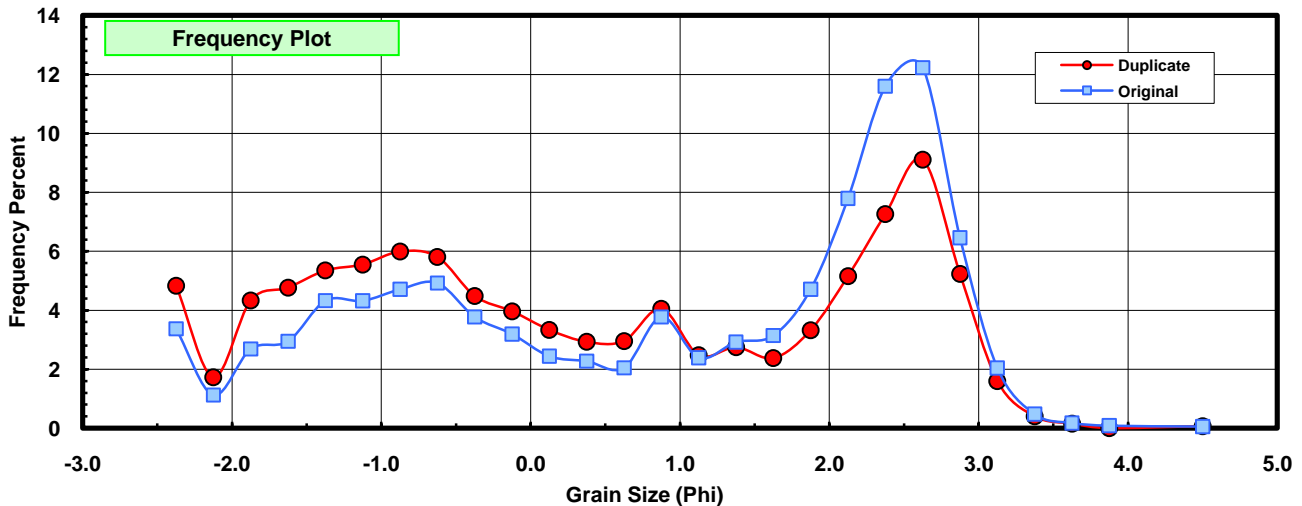
Pre-Digestion Grain Size Distribution

Onshore Grab Sample: PI-34-BB

Total Duplicate Sample Mass: 55.617 grams

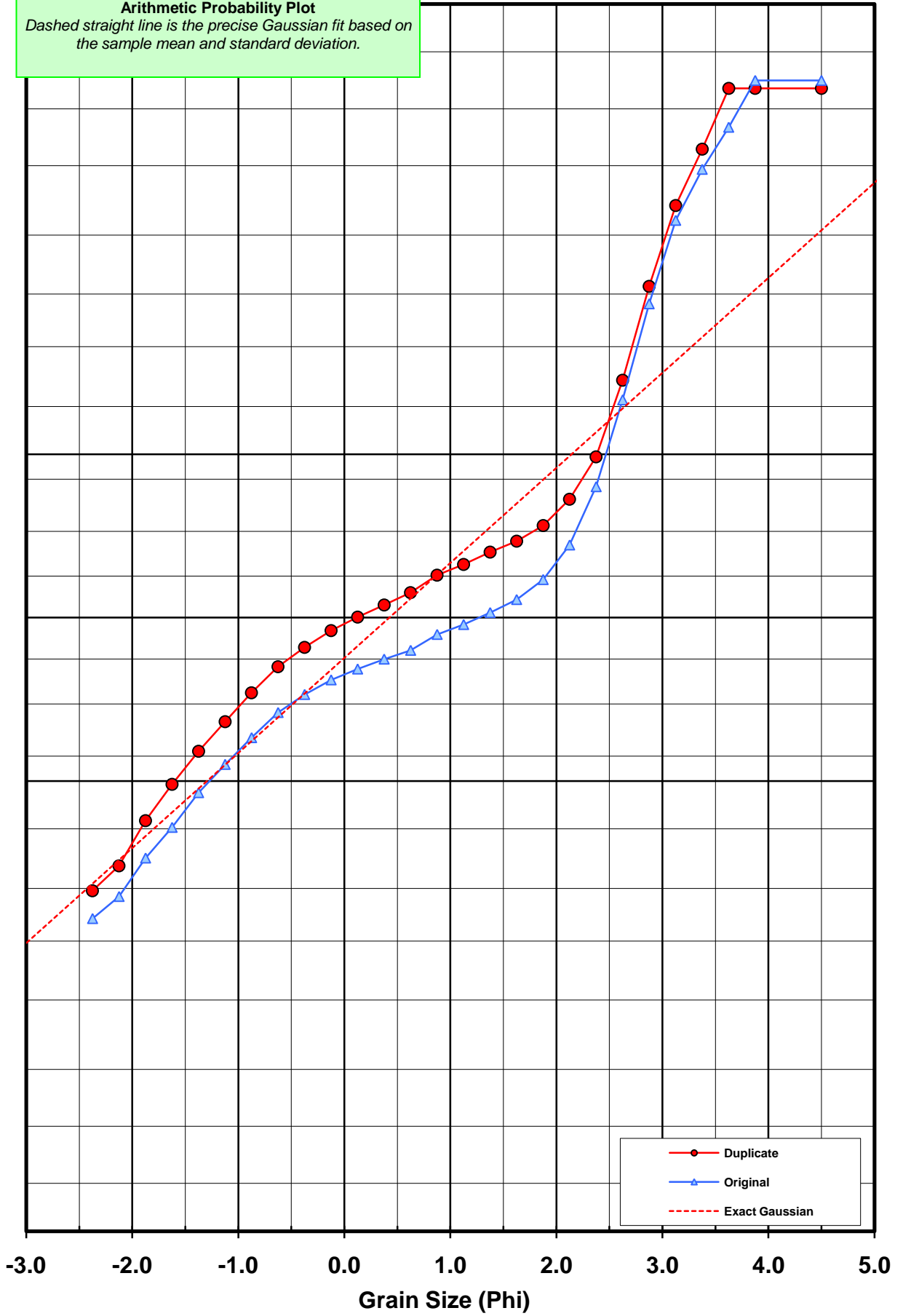
Total Original Sample Mass: 61.785 grams

Sieve Size (phi)	Sieve Midpt (phi)	Weight of Dupl (grams)	Freq Weight %	Cumulative Weight %	Weight of Original (grams)	Freq Weight %	Cumulative Weight %
-2.25	-2.375	2.688	4.833	4.833	2.083	3.371	3.371
-2.00	-2.125	0.961	1.728	6.561	0.695	1.125	4.496
-1.75	-1.875	2.411	4.335	10.896	1.661	2.688	7.185
-1.50	-1.625	2.652	4.768	15.664	1.821	2.947	10.132
-1.25	-1.375	2.976	5.351	21.015	2.673	4.326	14.458
-1.00	-1.125	3.088	5.552	26.567	2.669	4.320	18.778
-0.75	-0.875	3.334	5.995	32.562	2.910	4.710	23.488
-0.50	-0.625	3.232	5.811	38.373	3.042	4.924	28.411
-0.25	-0.375	2.494	4.484	42.857	2.331	3.773	32.184
0.00	-0.125	2.206	3.966	46.824	1.974	3.195	35.379
0.25	0.125	1.854	3.334	50.157	1.508	2.441	37.820
0.50	0.375	1.628	2.927	53.084	1.405	2.274	40.094
0.75	0.625	1.646	2.960	56.044	1.265	2.047	42.141
1.00	0.875	2.255	4.055	60.099	2.332	3.774	45.916
1.25	1.125	1.375	2.472	62.571	1.475	2.387	48.303
1.50	1.375	1.527	2.746	65.316	1.805	2.921	51.224
1.75	1.625	1.321	2.375	67.692	1.942	3.143	54.368
2.00	1.875	1.850	3.326	71.018	2.913	4.715	59.082
2.25	2.125	2.871	5.162	76.180	4.817	7.796	66.879
2.50	2.375	4.038	7.260	83.440	7.166	11.598	78.477
2.75	2.625	5.066	9.109	92.549	7.555	12.228	90.705
3.00	2.875	2.910	5.232	97.781	3.991	6.459	97.164
3.25	3.125	0.891	1.602	99.383	1.261	2.041	99.205
3.50	3.375	0.222	0.399	99.782	0.294	0.476	99.681
3.75	3.625	0.084	0.151	99.933	0.109	0.176	99.858
4.00	3.875	0.000	0.000	99.933	0.053	0.086	99.943
5.00	4.500	0.037	0.067	100.000	0.035	0.057	100.000



99.99
99.97
99.9
99.7
99
97.5
95
90
84
80
70
60
50
40
30
20
16
10
5
2.5
1
0.3
0.1
0.03
0.01

Arithmetic Probability Plot
Dashed straight line is the precise Gaussian fit based on the sample mean and standard deviation.



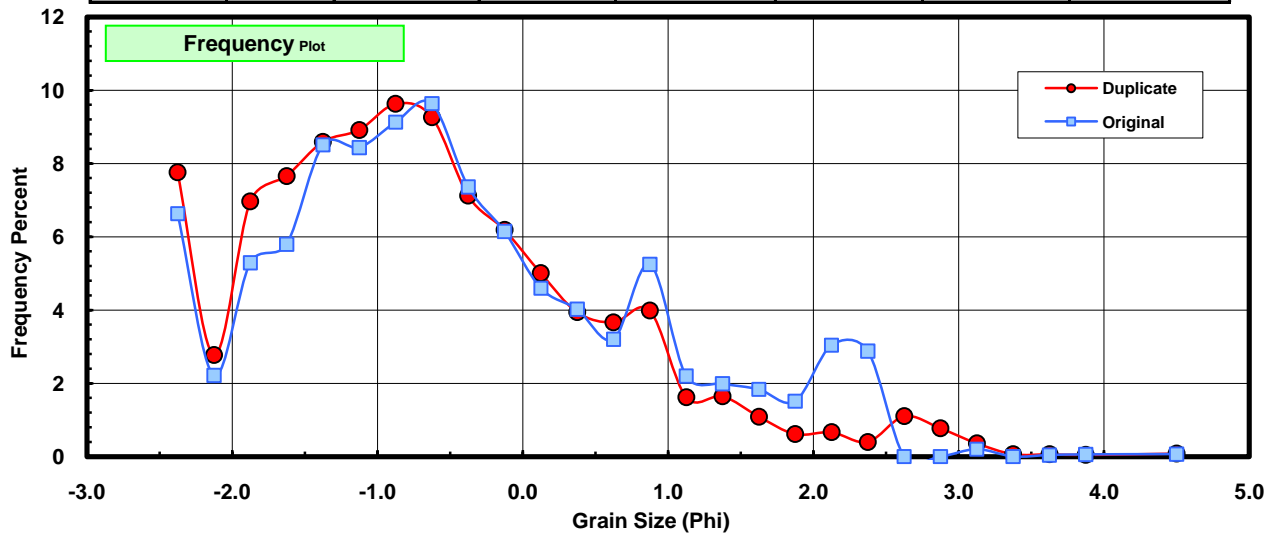
● Duplicate
▲ Original
- - - Exact Gaussian

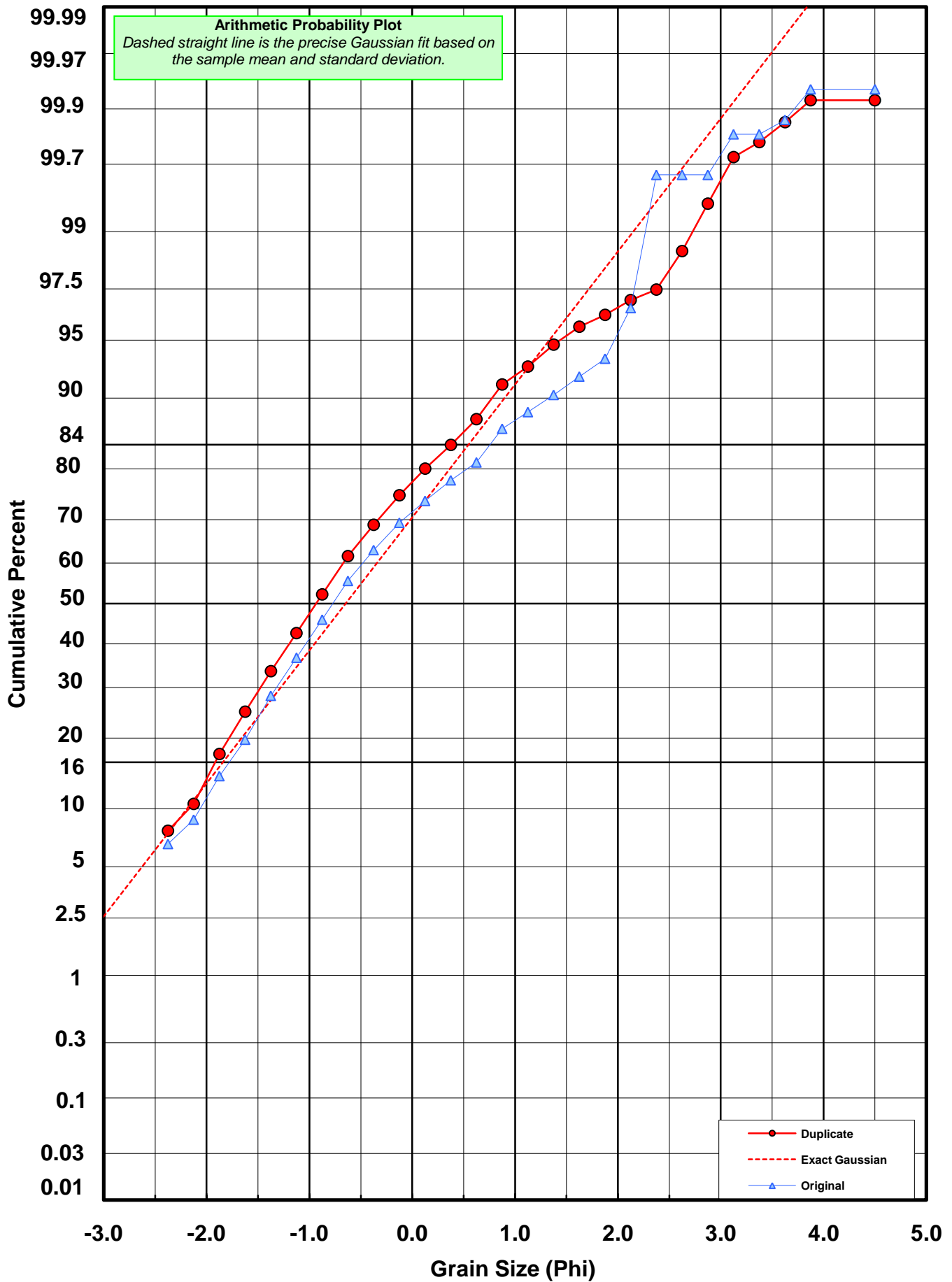
Carbonate Grain Size Distribution

Onshore Grab Sample: PI-34-BB

Total Duplicate Carbonate Mass: 34.634 grams
% Carbonate in Duplicate: 62.2 %
Total Original Carbonate Mass: 31.424 grams
% Carbonate in Original: 50.9 %

Sieve Size (phi)	Sieve Midpt (phi)	Weight of Dupl (grams)	Freq Weight %	Cumulative Weight %	Weight of Original (grams)	Freq Weight %	Cumulative Weight %
-2.25	-2.375	2.688	7.761	7.761	2.083	6.629	6.629
-2.00	-2.125	0.961	2.775	10.536	0.695	2.212	8.840
-1.75	-1.875	2.411	6.961	17.497	1.661	5.286	14.126
-1.50	-1.625	2.652	7.657	25.154	1.821	5.795	19.921
-1.25	-1.375	2.976	8.593	33.747	2.673	8.506	28.427
-1.00	-1.125	3.088	8.916	42.663	2.650	8.433	36.860
-0.75	-0.875	3.334	9.626	52.290	2.868	9.127	45.987
-0.50	-0.625	3.209	9.265	61.555	3.027	9.633	55.620
-0.25	-0.375	2.466	7.120	68.675	2.313	7.361	62.981
0.00	-0.125	2.143	6.188	74.863	1.931	6.145	69.126
0.25	0.125	1.734	5.007	79.869	1.444	4.595	73.721
0.50	0.375	1.365	3.941	83.811	1.263	4.019	77.740
0.75	0.625	1.269	3.664	87.475	1.006	3.201	80.941
1.00	0.875	1.380	3.985	91.459	1.649	5.248	86.189
1.25	1.125	0.562	1.623	93.082	0.690	2.196	88.385
1.50	1.375	0.571	1.649	94.731	0.625	1.989	90.374
1.75	1.625	0.378	1.091	95.822	0.576	1.833	92.207
2.00	1.875	0.213	0.615	96.437	0.475	1.512	93.718
2.25	2.125	0.230	0.664	97.101	0.955	3.039	96.757
2.50	2.375	0.139	0.401	97.502	0.904	2.877	99.634
2.75	2.625	0.382	1.103	98.605	0.000	0.000	99.634
3.00	2.875	0.267	0.771	99.376	0.000	0.000	99.634
3.25	3.125	0.126	0.364	99.740	0.063	0.200	99.835
3.50	3.375	0.023	0.066	99.807	0.000	0.000	99.835
3.75	3.625	0.022	0.064	99.870	0.013	0.041	99.876
4.00	3.875	0.016	0.046	99.916	0.018	0.057	99.933
5.00	4.500	0.029	0.084	100.000	0.021	0.067	100.000





Post-Digestion Grain Size Distribution

Onshore Grab Sample: PI-34-BB

Total Duplicate Digested Mass: 21.020 grams
% Silica in Duplicate: 37.8 %
Total Original Digested Mass: 30.593 grams
% Silica in Original: 49.5 %

Sieve Size (phi)	Sieve Midpt (phi)	Weight (grams)	Freq Weight %	Cumulative Weight %	Weight of Original (grams)	Freq Weight %	Cumulative Weight %
-2.25	-2.375	0.000	0.000	0.000	0.000	0.000	0.000
-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	0.019	0.062	0.062
-0.75	-0.875	0.000	0.000	0.000	0.042	0.137	0.199
-0.50	-0.625	0.023	0.109	0.109	0.015	0.049	0.248
-0.25	-0.375	0.028	0.133	0.243	0.018	0.059	0.307
0.00	-0.125	0.063	0.300	0.542	0.043	0.141	0.448
0.25	0.125	0.120	0.571	1.113	0.064	0.209	0.657
0.50	0.375	0.263	1.251	2.364	0.142	0.464	1.121
0.75	0.625	0.377	1.794	4.158	0.259	0.847	1.968
1.00	0.875	0.875	4.163	8.321	0.683	2.233	4.200
1.25	1.125	0.813	3.868	12.188	0.785	2.566	6.766
1.50	1.375	0.956	4.548	16.736	1.180	3.857	10.623
1.75	1.625	0.943	4.486	21.223	1.366	4.465	15.088
2.00	1.875	1.637	7.788	29.010	2.438	7.969	23.058
2.25	2.125	2.641	12.564	41.575	3.862	12.624	35.681
2.50	2.375	3.899	18.549	60.124	6.262	20.469	56.150
2.75	2.625	4.684	22.284	82.407	7.629	24.937	81.087
3.00	2.875	2.643	12.574	94.981	4.147	13.555	94.643
3.25	3.125	0.765	3.639	98.620	1.198	3.916	98.558
3.50	3.375	0.199	0.947	99.567	0.296	0.968	99.526
3.75	3.625	0.062	0.295	99.862	0.096	0.314	99.840
4.00	3.875	0.021	0.100	99.962	0.035	0.114	99.954
5.00	4.500	0.008	0.038	100.000	0.014	0.046	100.000

