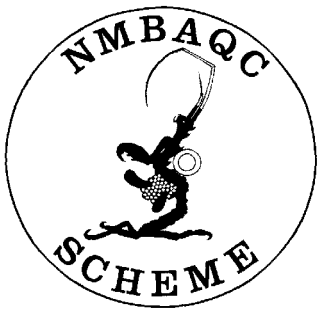

The National Marine Biological
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Particle Size Results – PS37

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Table 1. Summary of the particle size information received from participating laboratories and replicate analysis laboratory for the thirty-seventh particle size distribution - PS37.

Replicate Sample Data

Sample	Method	%<63µm	Median	Mean	Sort	IGS (Ski)
PS37 60	L[1]	0.00	1.54	1.54	0.52	-0.01
PS37 61	L[1]	0.00	1.54	1.54	0.52	-0.01
PS37 62	L[1]	0.00	1.55	1.55	0.52	-0.01
PS37 63	L[1]	0.00	1.55	1.55	0.51	-0.01
PS37 64	L[1]	0.00	1.54	1.54	0.52	-0.01
PS37 65	L[1]	0.00	1.47	1.47	0.53	0.00
PS37 66	L[1]	0.00	1.52	1.51	0.52	-0.02
PS37 67	L[1]	0.00	1.53	1.53	0.52	-0.01
PS37 68	L[1]	0.00	1.52	1.52	0.52	-0.01
PS37 69	L[1]	0.00	1.53	1.52	0.52	-0.01
UM	**L[1]RepAv**	**0.00**	**1.53**	**1.53**	**0.52**	**-0.01**

Participant Data

Lab	Method	%<63µm	Median	Mean	Sort	IGS (Ski)
LB1701	L	0.00	1.52	1.51	0.52	-0.02
LB1702	DS/L	0.00	-	-	-	-
LB1703	S/L	1.29	1.10	1.08	0.50	-0.04
LB1705	L	0.00	-	-	-	-
LB1707#1	WS/DS/L	1.15	1.84	1.84	0.46	-0.07
LB1707#2	WS/DS/L	1.13	1.88	1.88	0.45	-0.09
LB1712	L	0.00	1.49	1.49	0.52	-0.07
LB1713	L	0.00	1.59	1.59	0.53	-0.02
LB1714	L	0.00	1.55	1.55	0.54	0.00
LB1715	DS	0.20	1.76	1.75	0.46	-0.08
LB1716	L	0.00	-	-	-	-
LB1726	L	0.00	-	-	-	-
LB1727	-	-	-	-	-	-
LB1728	L	0.99	-	-	-	-

Key to methods:
L[1] - Replicate analysis by Malvern MS2000+Hydro-G 0.02-2000µm;no blue laser
L - Laser analysis
S - Sieve
WS - Wet Sieve
DS - Dry Sieve

"-" - No data provided

Table 2. Summary of z-scores for each phi interval for PS37.

	Phi intervals																			
	-6.50 to -6.00	-6.00 to -5.50	-5.50 to -5.00	-5.00 to -4.50	-4.50 to -4.00	-4.00 to -3.50	-3.50 to -3.00	-3.00 to -2.50	-2.50 to -2.00	-2.00 to -1.50	-1.50 to -1.00	-1.00 to -0.50	-0.50 to 0.00	0.00 to 0.50	0.50 to 1.00	1.00 to 1.50	1.50 to 2.00	2.00 to 2.50	2.50 to 3.00	3.00 to 3.50
LB1701	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.27	0.29	0.49	-0.48	0.28	0.39	0.34	-0.36	-0.35	0.08	-0.60
LB1702	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.47	2.01	3.34	1.52	-0.88	0.04	0.67	0.09	-0.52	-1.08	-0.60
LB1703	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.27	-0.63	-0.37	-0.16	-0.51	-1.28	0.56	0.81	-0.34	0.33	0.98
LB1705	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.27	-0.63	-0.37	2.87	-0.04	0.29	0.30	-0.30	-0.26	0.49	-0.60
LB1707	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.27	0.57	-0.37	-0.22	-0.56	-1.17	-1.81	1.14	1.77	0.13	1.81
LB1707*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.27	0.73	-0.37	-0.47	-0.47	-1.24	-1.93	0.77	2.21	0.79	1.72
LB1712	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.27	-0.63	-0.37	-0.62	0.57	0.48	0.41	-0.52	-0.36	-0.43	-0.60
LB1713	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.27	-0.63	-0.37	-0.62	-0.71	-0.06	0.25	-0.13	0.03	0.72	-0.60
LB1714	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.27	-0.63	-0.37	-0.04	-0.42	0.27	0.31	-0.36	-0.14	0.54	-0.60
LB1715	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.27	2.10	0.27	0.13	-0.36	-1.08	-1.50	2.14	0.58	0.33	1.48
LB1716	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.27	-0.63	-0.37	-0.62	0.00	0.44	0.50	-0.44	-0.37	-0.59	-0.60
LB1726	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.27	-0.63	-0.37	-0.62	3.19	2.54	1.45	-2.19	-1.94	-2.73	-0.60
LB1728	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.27	-0.63	-0.37	-0.62	-0.21	0.10	0.12	-0.29	-0.10	1.39	-0.60
BENCHMARK	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.27	-0.63	-0.37	-0.07	0.11	0.29	0.34	-0.38	-0.21	0.03	-0.60

	Phi intervals																			
	3.50 to 4.00	4.00 to 4.50	4.50 to 5.00	5.00 to 5.50	5.50 to 6.00	6.00 to 6.50	6.50 to 7.00	7.00 to 7.50	7.50 to 8.00	8.00 to 8.50	8.50 to 9.00	9.00 to 9.50	9.50 to 10.00	10.00 to 10.50	10.50 to 11.00	11.00 to 11.50	11.50 to 12.00	12.00 to 12.50	12.50 to 13.00	13.00 to 13.50
LB1701	-0.55	-0.44	-0.39	-0.48	-0.39	-0.57	-0.43	-0.53	-0.46	-0.36	-0.50	-0.39	-0.39	-0.39	-0.39	-0.39	-0.39	0.00	0.00	0.00
LB1702	-0.55	-0.44	-0.39	-0.48	-0.39	-0.57	-0.43	-0.53	-0.46	-0.36	-0.50	-0.39	-0.39	-0.39	-0.39	-0.39	-0.39	0.00	0.00	0.00
LB1703	0.08	3.06	-0.39	2.66	-0.39	2.46	-0.43	2.09	-0.46	3.38	-0.50	-0.39	-0.39	-0.39	-0.39	-0.39	-0.39	0.00	0.00	0.00
LB1705	-0.55	-0.44	-0.39	-0.48	-0.39	-0.57	-0.43	-0.53	-0.46	-0.36	-0.50	-0.39	-0.39	-0.39	-0.39	-0.39	-0.39	0.00	0.00	0.00
LB1707	1.91	0.82	2.21	1.23	2.34	1.06	0.82	0.52	1.20	0.31	1.81	2.41	2.42	2.39	2.34	2.31	2.25	0.00	0.00	0.00
LB1707*	2.11	0.94	2.51	1.38	2.38	0.97	0.72	0.43	1.07	0.27	1.68	2.31	2.30	2.33	2.38	2.41	2.46	0.00	0.00	0.00
LB1712	-0.55	-0.44	-0.39	-0.48	-0.39	-0.57	-0.43	-0.53	-0.46	-0.36	-0.50	-0.39	-0.39	-0.39	-0.39	-0.39	-0.39	0.00	0.00	0.00
LB1713	-0.55	-0.44	-0.39	-0.48	-0.39	-0.57	-0.43	-0.53	-0.46	-0.36	-0.50	-0.39	-0.39	-0.39	-0.39	-0.39	-0.39	0.00	0.00	0.00
LB1714	-0.55	-0.44	-0.39	-0.48	-0.39	-0.57	-0.43	-0.53	-0.46	-0.36	-0.50	-0.39	-0.39	-0.39	-0.39	-0.39	-0.39	0.00	0.00	0.00
LB1715	1.38	-0.44	-0.39	-0.48	-0.39	-0.57	-0.43	-0.53	-0.46	-0.36	-0.50	-0.39	-0.39	-0.39	-0.39	-0.39	-0.39	0.00	0.00	0.00
LB1716	-0.55	-0.44	-0.39	-0.48	-0.39	-0.57	-0.43	-0.53	-0.46	-0.36	-0.50	-0.39	-0.39	-0.39	-0.39	-0.39	-0.39	0.00	0.00	0.00
LB1726	-0.55	-0.44	-0.39	-0.48	-0.39	-0.57	-0.43	-0.53	-0.46	-0.36	-0.50	-0.39	-0.39	-0.39	-0.39	-0.39	-0.39	0.00	0.00	0.00
LB1728	-0.55	-0.44	-0.39	-0.48	-0.39	1.26	3.13	2.31	2.83	-0.36	2.03	-0.39	-0.39	-0.39	-0.39	-0.39	-0.39	0.00	0.00	0.00
BENCHMARK	-0.55	-0.44	-0.39	-0.48	-0.39	-0.57	-0.43	-0.53	-0.46	-0.36	-0.50	-0.39	-0.39	-0.39	-0.39	-0.39	-0.39	0.00	0.00	0.00

*Intervals left blank or marked "-" (not analysed) have been entered as "0" to calculate z-scores.

Figure 1. Particle size distribution curves resulting from analysis of ten replicate samples of sediment distributed as PS37 (Benchmark Data). All ten samples analysed by Malvern Mastersizer 2000.

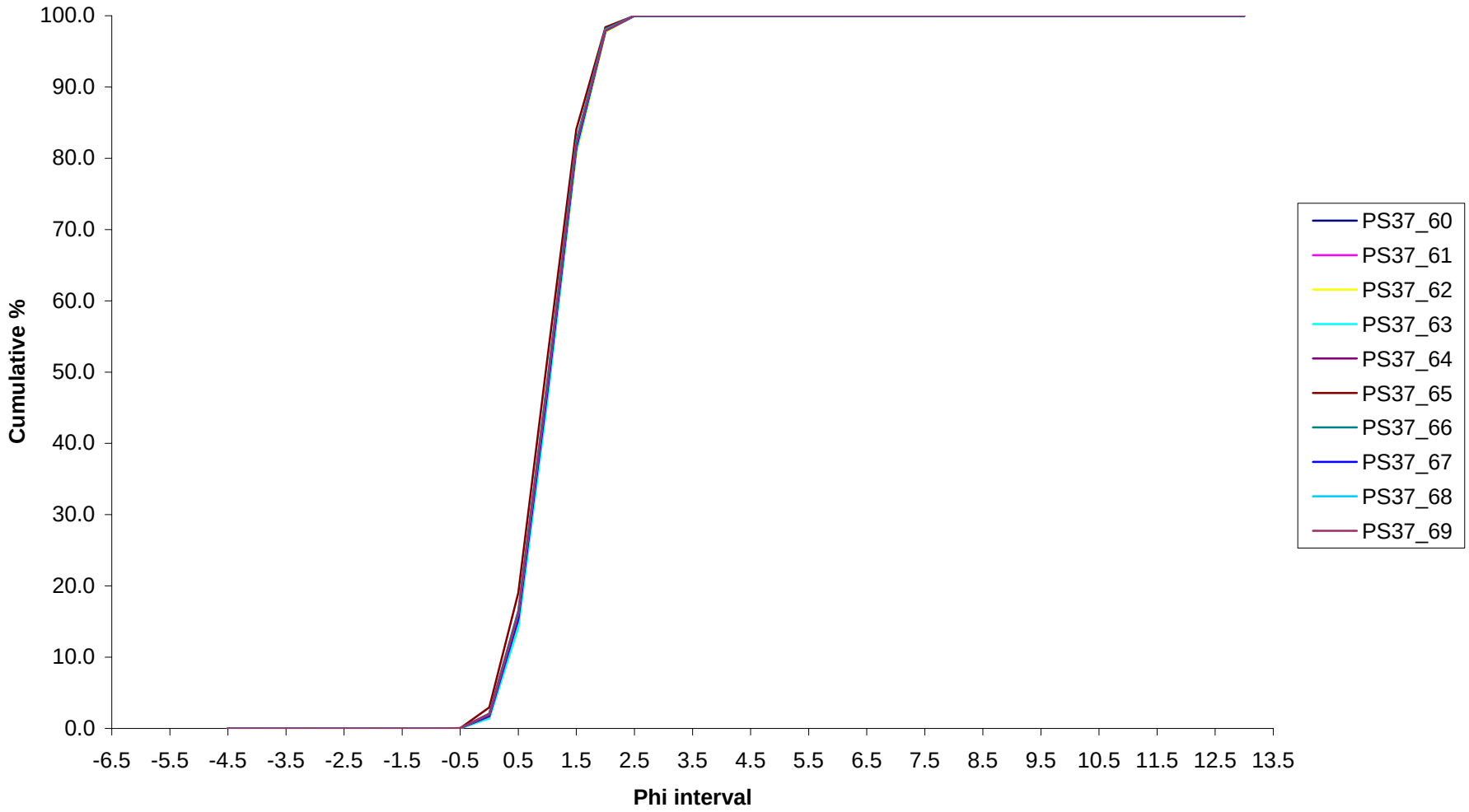


Figure 2. Particle size distribution curves from participating laboratories for sediment samples from PS37.

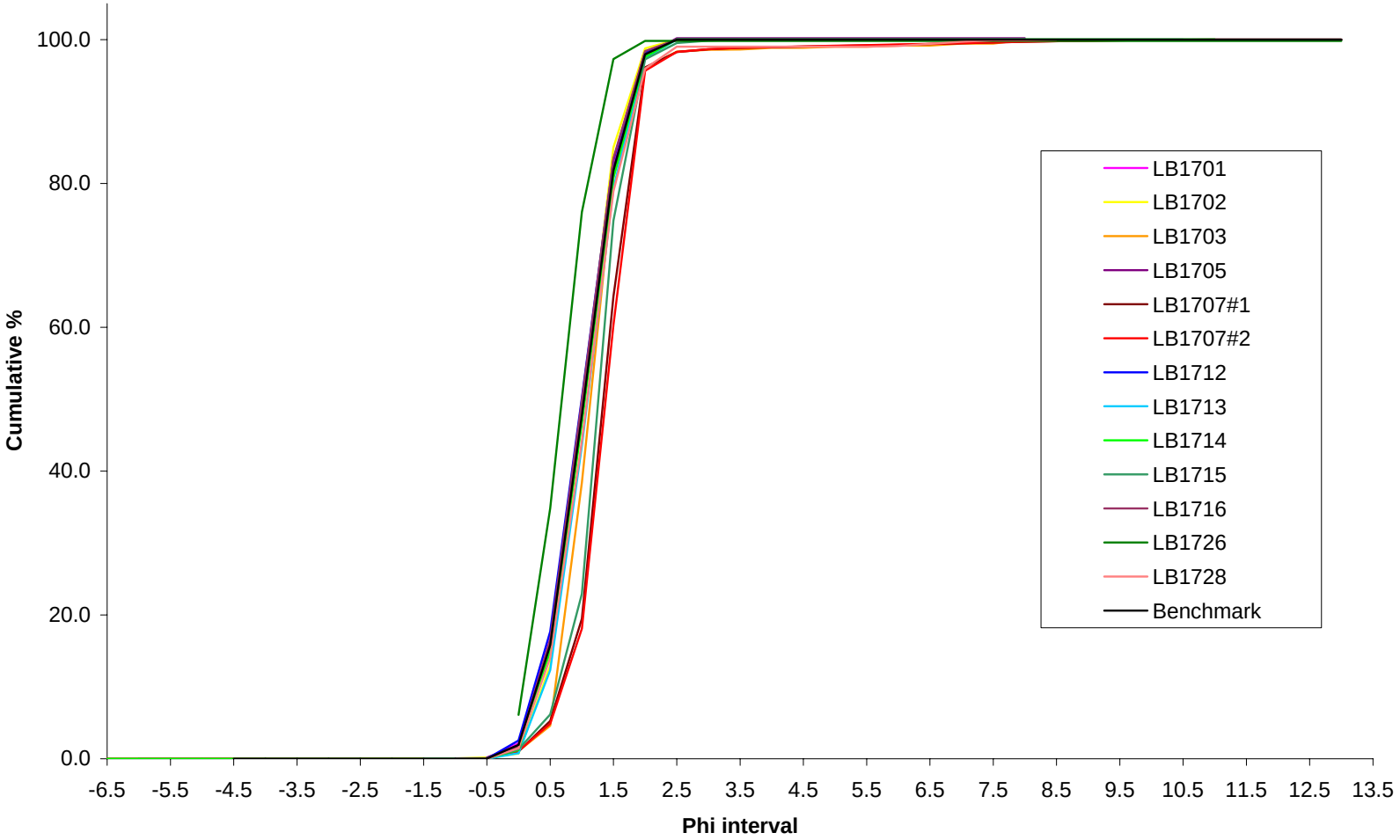
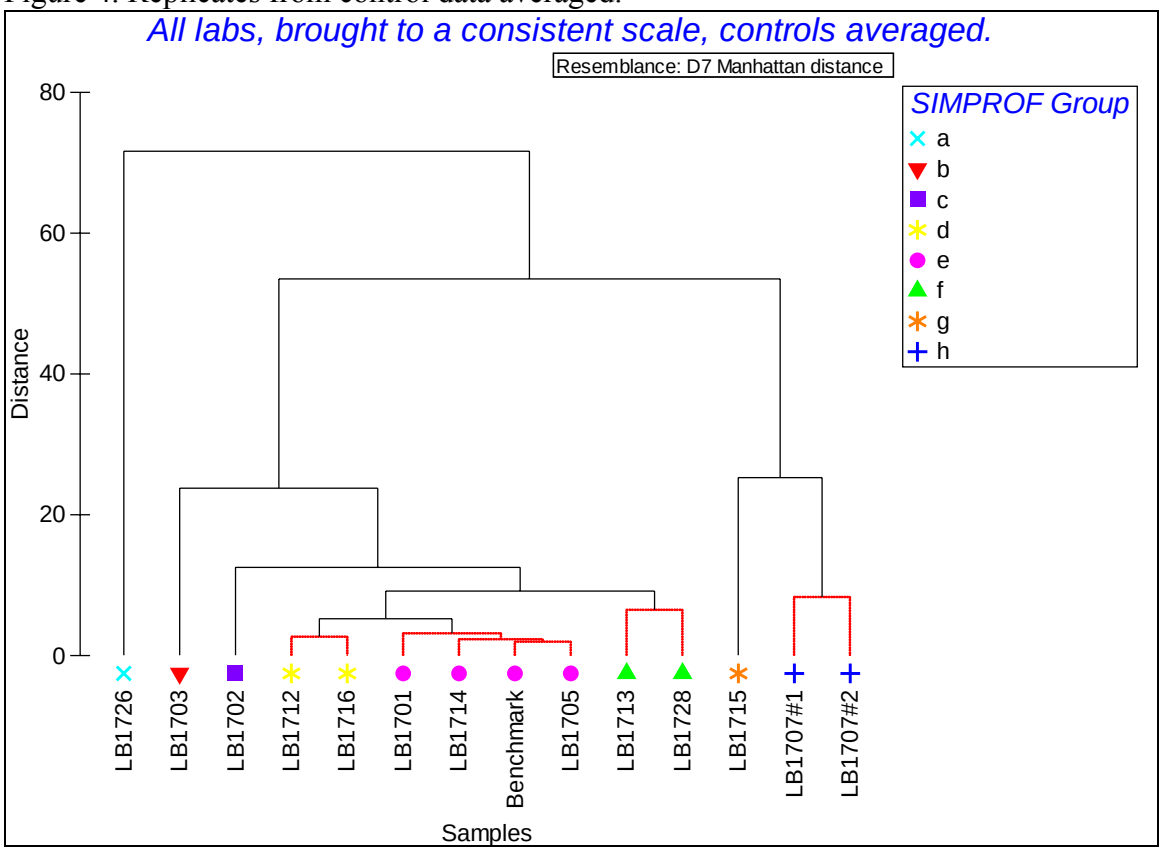


Figure 4. Replicates from control data averaged.



Results of SIMPROF testing on PSA Ring test PS37 data

Sediment fractions were first reduced to lowest common denominators to allow full comparison between test labs

- all fractions >8φ were combined
- fractions between 4φ and 8φ were combined into 1φ intervals rather than 0.5φ intervals).

The data was then entered into PRIMER v. 6.1.13 and used to create a Manhattan distance matrix. From this distance matrix cluster analysis was carried out, including a SIMPROF test at a 5% significance level. The results are presented as cluster diagrams below:

Figure 3. Replicates from the control lab kept separate.

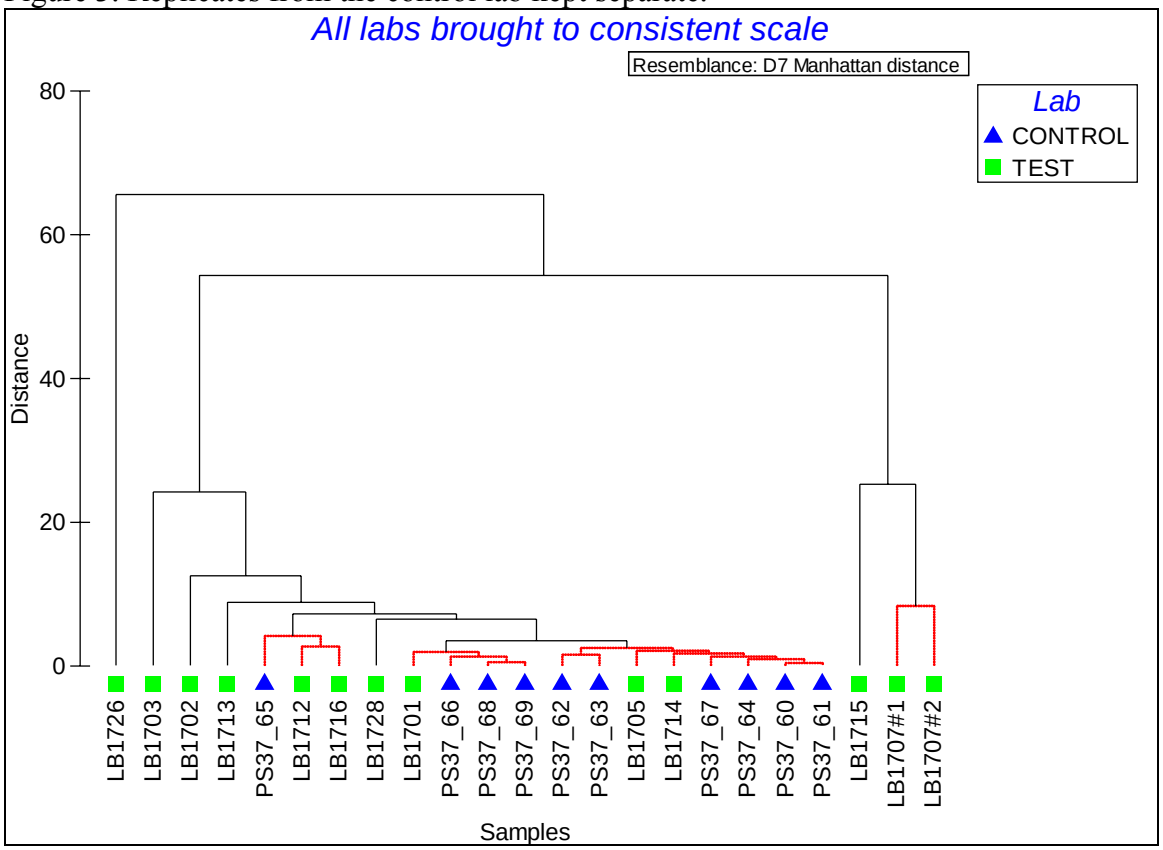
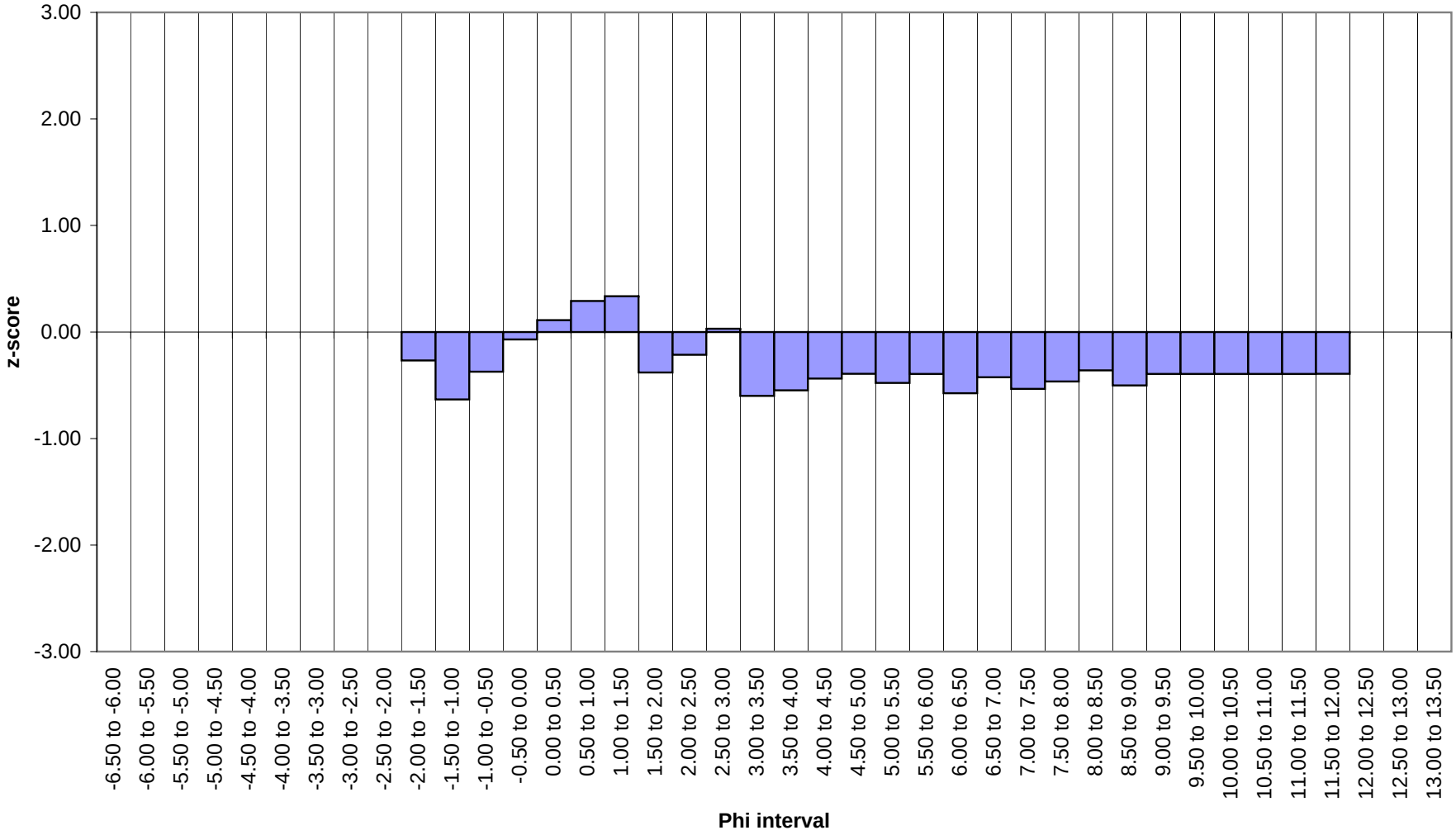
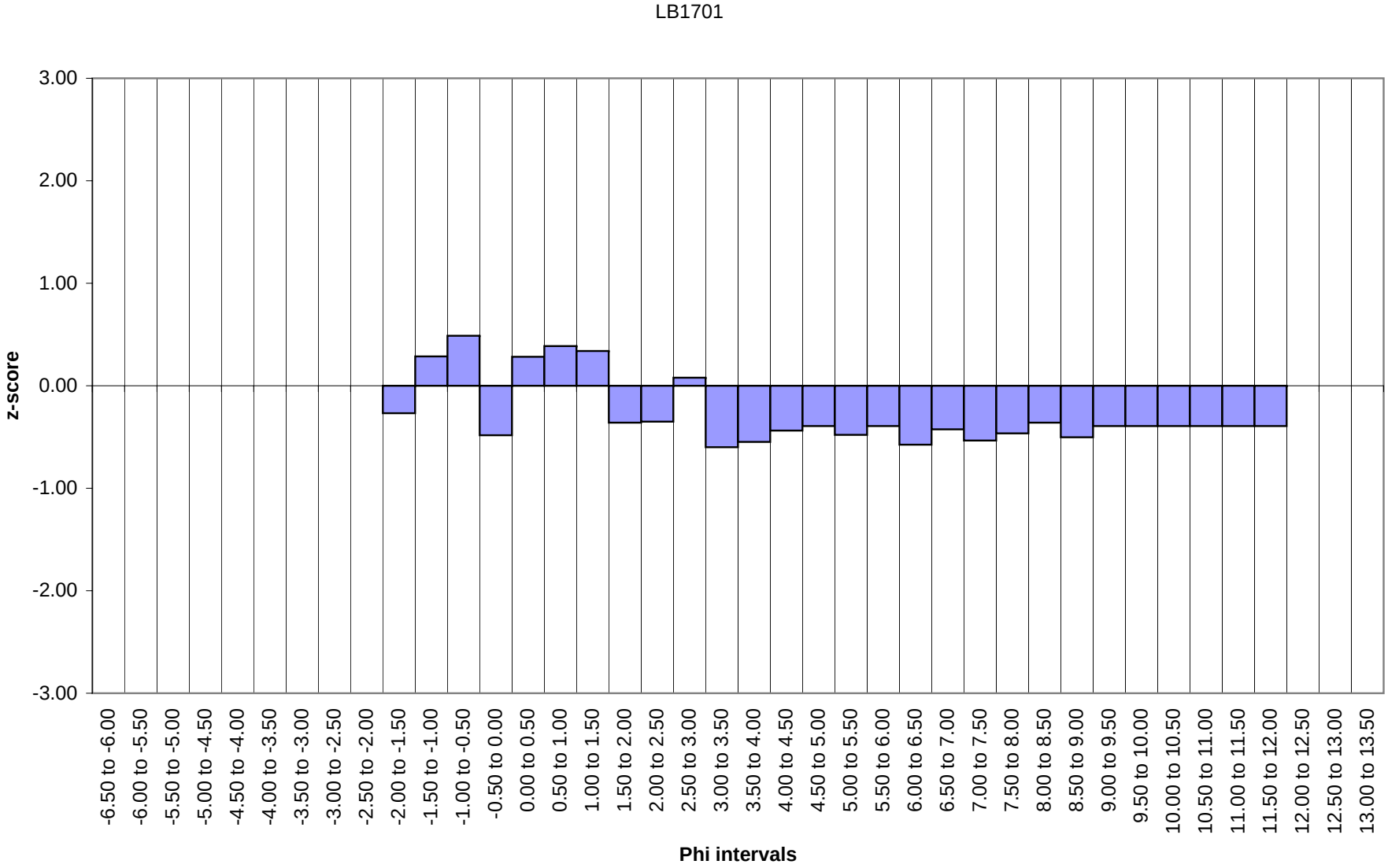
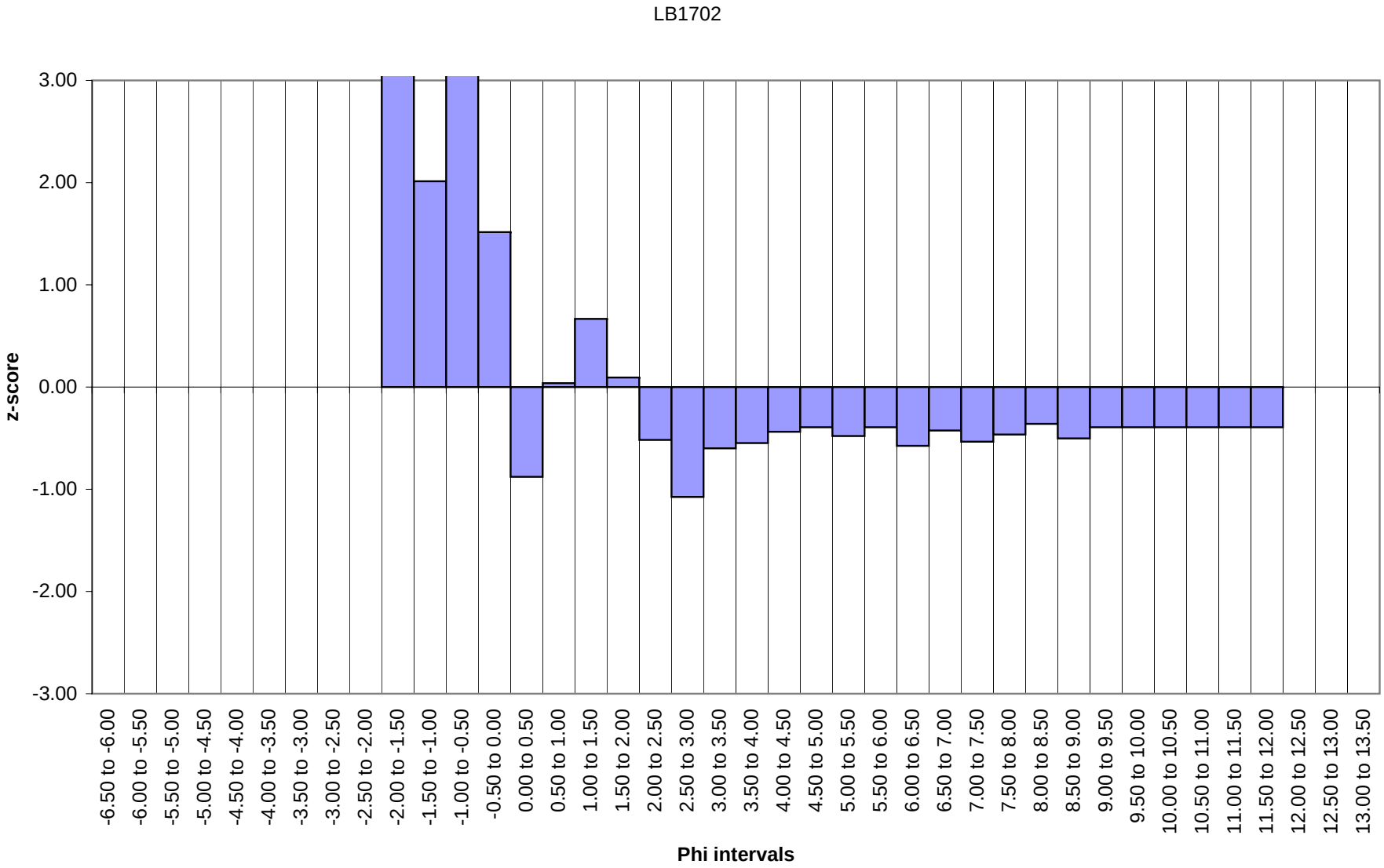
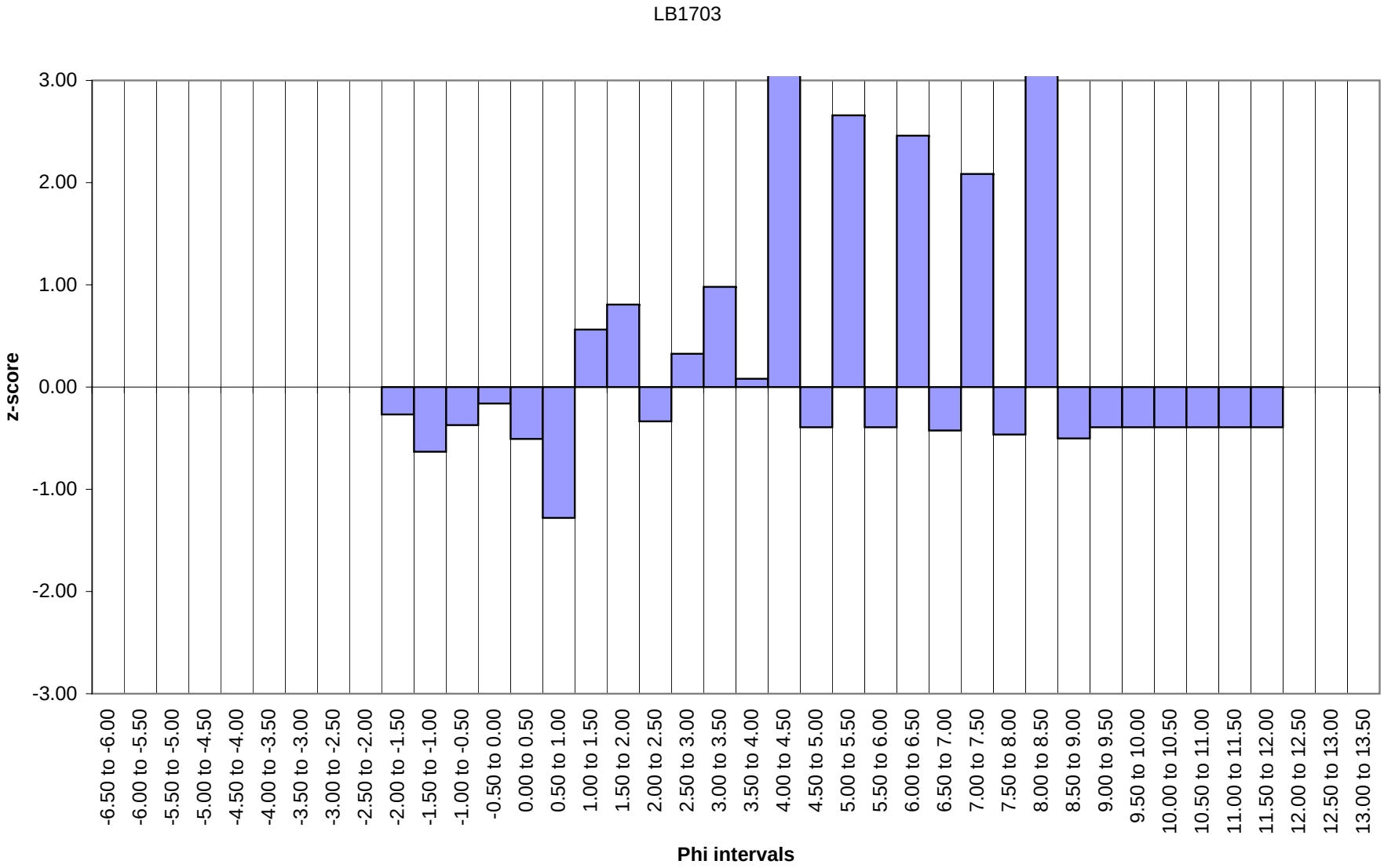


Figure 5. Z-scores for each phi interval for the benchmrk data for sediment PS37.




LB1701
3.00
2.00
1.00
0.00
-1.00
-2.00
-3.00
z-score
-6.50 to -6.00
-6.00 to -5.50
-5.50 to -5.00
-5.00 to -4.50
-4.50 to -4.00
-4.00 to -3.50
-3.50 to -3.00
-3.00 to -2.50
-2.50 to -2.00
-2.00 to -1.50
-1.50 to -1.00
-1.00 to -0.50
-0.50 to 0.00
0.00 to 0.50
0.50 to 1.00
1.00 to 1.50
1.50 to 2.00
2.00 to 2.50
2.50 to 3.00
3.00 to 3.50
3.50 to 4.00
4.00 to 4.50
4.50 to 5.00
5.00 to 5.50
5.50 to 6.00
6.00 to 6.50
6.50 to 7.00
7.00 to 7.50
7.50 to 8.00
8.00 to 8.50
8.50 to 9.00
9.00 to 9.50
9.50 to 10.00
10.00 to 10.50
10.50 to 11.00
11.00 to 11.50
11.50 to 12.00
12.00 to 12.50
12.50 to 13.00
13.00 to 13.50
Phi intervals


LB1702
3.00
2.00
1.00
0.00
-1.00
-2.00
-3.00
z-score
-6.50 to -6.00
-6.00 to -5.50
-5.50 to -5.00
-5.00 to -4.50
-4.50 to -4.00
-4.00 to -3.50
-3.50 to -3.00
-3.00 to -2.50
-2.50 to -2.00
-2.00 to -1.50
-1.50 to -1.00
-1.00 to -0.50
-0.50 to 0.00
0.00 to 0.50
0.50 to 1.00
1.00 to 1.50
1.50 to 2.00
2.00 to 2.50
2.50 to 3.00
3.00 to 3.50
3.50 to 4.00
4.00 to 4.50
4.50 to 5.00
5.00 to 5.50
5.50 to 6.00
6.00 to 6.50
6.50 to 7.00
7.00 to 7.50
7.50 to 8.00
8.00 to 8.50
8.50 to 9.00
9.00 to 9.50
9.50 to 10.00
10.00 to 10.50
10.50 to 11.00
11.00 to 11.50
11.50 to 12.00
12.00 to 12.50
12.50 to 13.00
13.00 to 13.50
Phi intervals


LB1703
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2.00
1.00
0.00
-1.00
-2.00
-3.00
z-score
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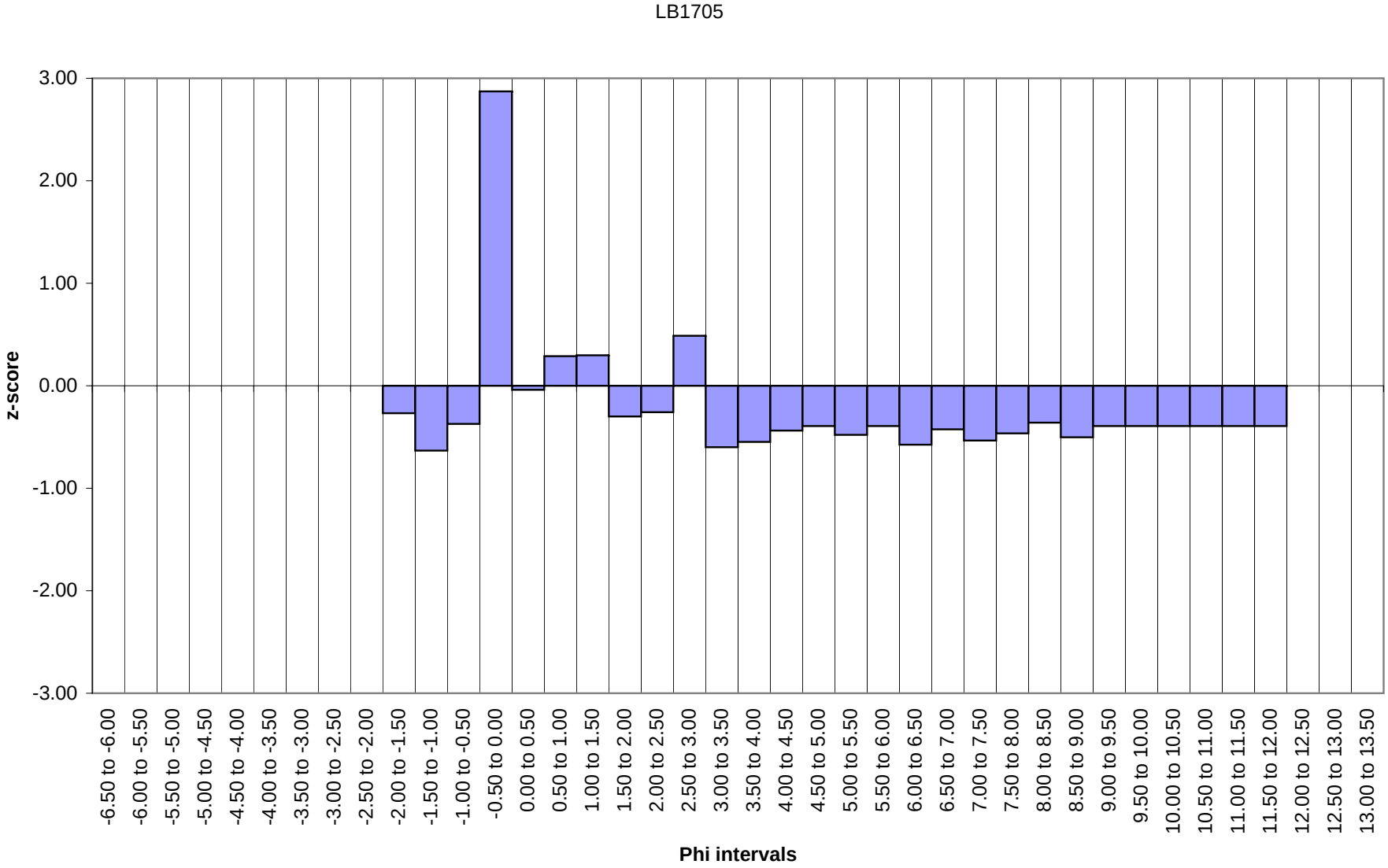
-6.00 to -5.50
-5.50 to -5.00
-5.00 to -4.50
-4.50 to -4.00
-4.00 to -3.50
-3.50 to -3.00
-3.00 to -2.50
-2.50 to -2.00
-2.00 to -1.50
-1.50 to -1.00
-1.00 to -0.50
-0.50 to 0.00
0.00 to 0.50
0.50 to 1.00
1.00 to 1.50
1.50 to 2.00
2.00 to 2.50
2.50 to 3.00
3.00 to 3.50
3.50 to 4.00
4.00 to 4.50
4.50 to 5.00
5.00 to 5.50
5.50 to 6.00
6.00 to 6.50
6.50 to 7.00
7.00 to 7.50
7.50 to 8.00
8.00 to 8.50
8.50 to 9.00
9.00 to 9.50
9.50 to 10.00
10.00 to 10.50
10.50 to 11.00
11.00 to 11.50
11.50 to 12.00
12.00 to 12.50
12.50 to 13.00
13.00 to 13.50
Phi intervals


LB1705
3.00
2.00
1.00
0.00
-1.00
-2.00
-3.00
z-score
-6.50 to -6.00
-6.00 to -5.50
-5.50 to -5.00
-5.00 to -4.50
-4.50 to -4.00
-4.00 to -3.50
-3.50 to -3.00
-3.00 to -2.50
-2.50 to -2.00
-2.00 to -1.50
-1.50 to -1.00
-1.00 to -0.50
-0.50 to 0.00
0.00 to 0.50
0.50 to 1.00
1.00 to 1.50
1.50 to 2.00
2.00 to 2.50
2.50 to 3.00
3.00 to 3.50
3.50 to 4.00
4.00 to 4.50
4.50 to 5.00
5.00 to 5.50
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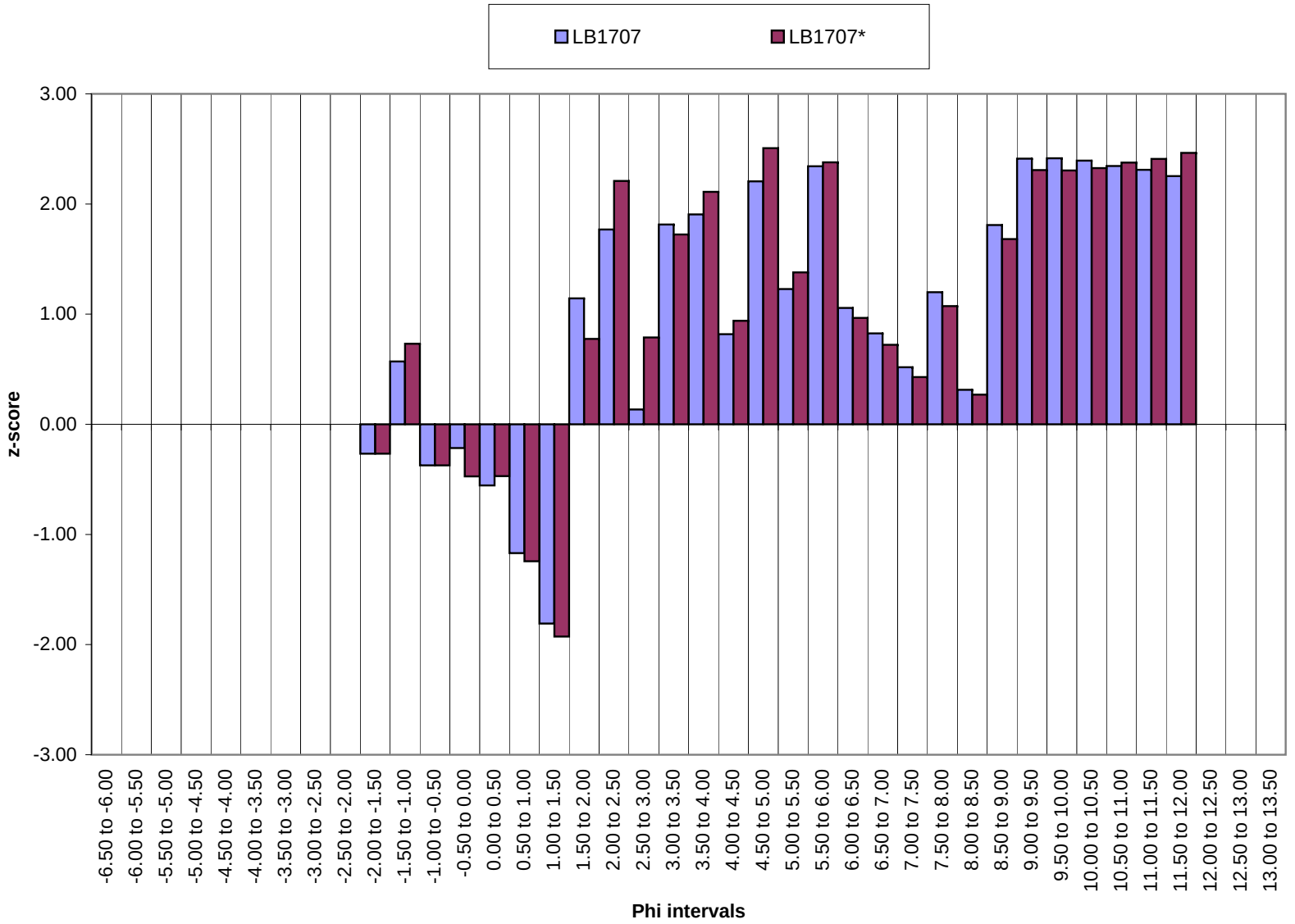
6.50 to 7.00
7.00 to 7.50
7.50 to 8.00
8.00 to 8.50
8.50 to 9.00
9.00 to 9.50
9.50 to 10.00
10.00 to 10.50
10.50 to 11.00
11.00 to 11.50
11.50 to 12.00
12.00 to 12.50
12.50 to 13.00
13.00 to 13.50
Phi intervals


LB1707
LB1707*
3.00
2.00
1.00
0.00
-1.00
-2.00
-3.00
z-score
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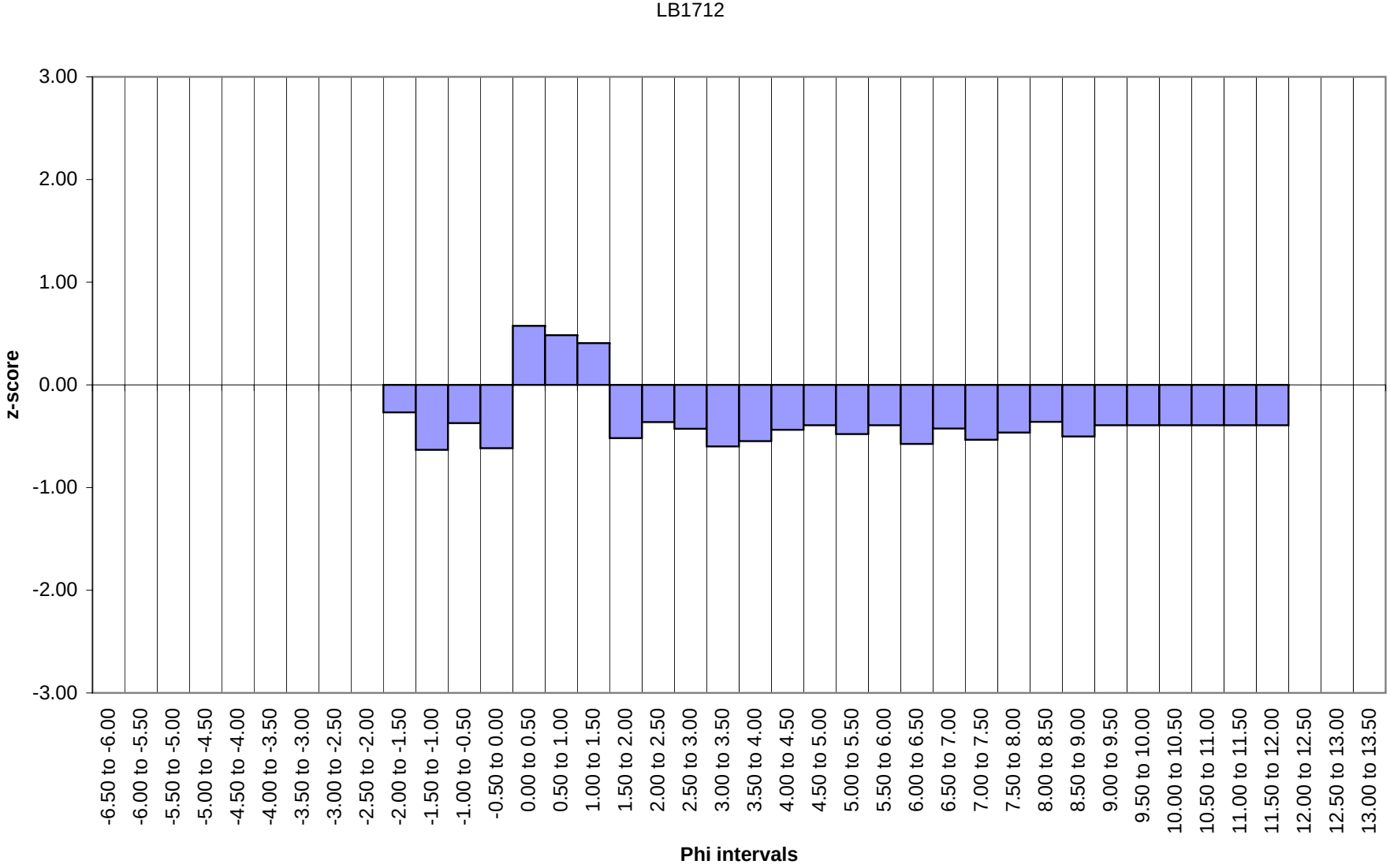
-6.00 to -5.50
-5.50 to -5.00
-5.00 to -4.50
-4.50 to -4.00
-4.00 to -3.50
-3.50 to -3.00
-3.00 to -2.50
-2.50 to -2.00
-2.00 to -1.50
-1.50 to -1.00
-1.00 to -0.50
-0.50 to 0.00
0.00 to 0.50
0.50 to 1.00
1.00 to 1.50
1.50 to 2.00
2.00 to 2.50
2.50 to 3.00
3.00 to 3.50
3.50 to 4.00
4.00 to 4.50
4.50 to 5.00
5.00 to 5.50
5.50 to 6.00
6.00 to 6.50
6.50 to 7.00
7.00 to 7.50
7.50 to 8.00
8.00 to 8.50
8.50 to 9.00
9.00 to 9.50
9.50 to 10.00
10.00 to 10.50
10.50 to 11.00
11.00 to 11.50
11.50 to 12.00
12.00 to 12.50
12.50 to 13.00
13.00 to 13.50
Phi intervals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2.00
1.00
0.00
-1.00
-2.00
-3.00
z-score
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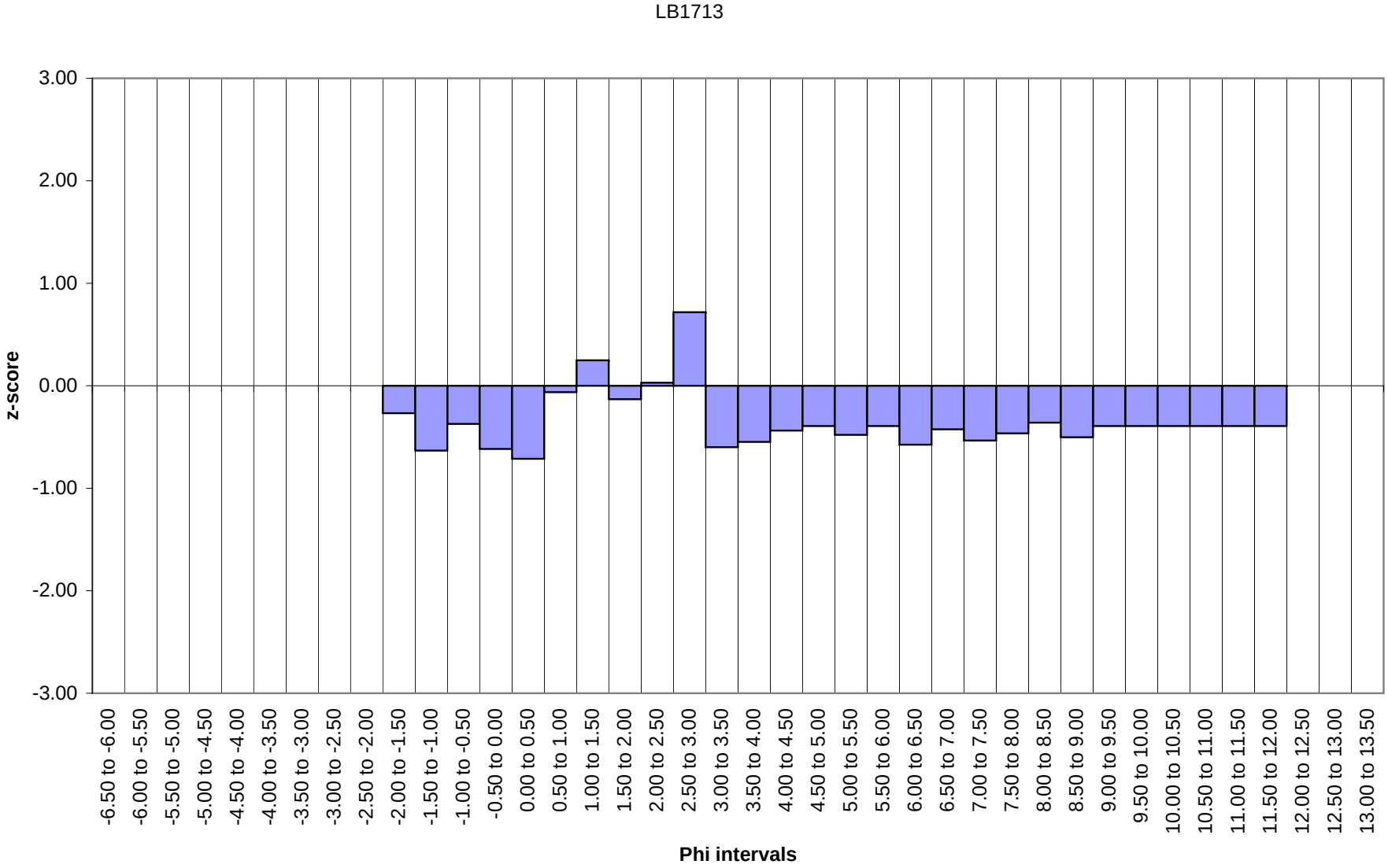
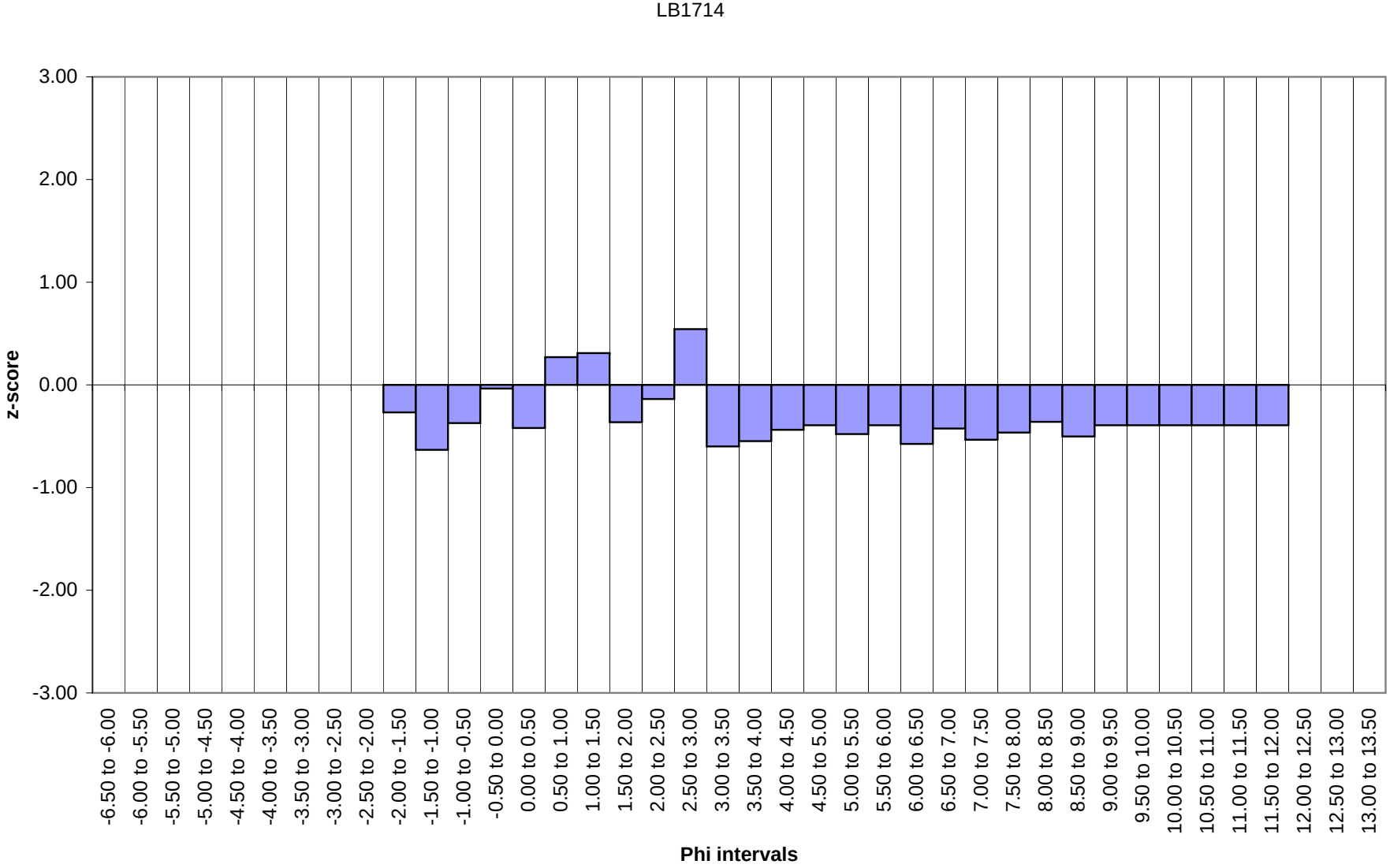
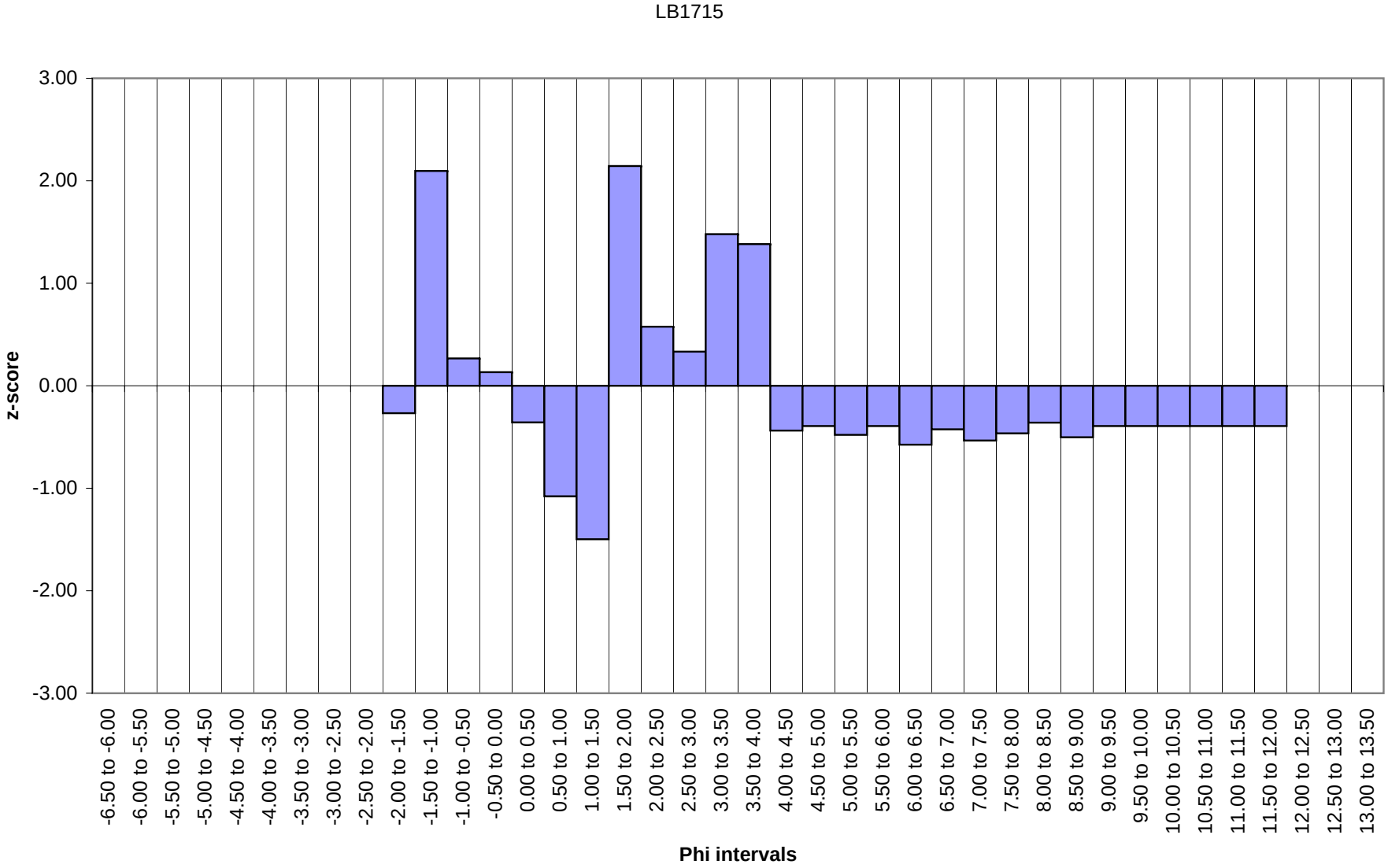
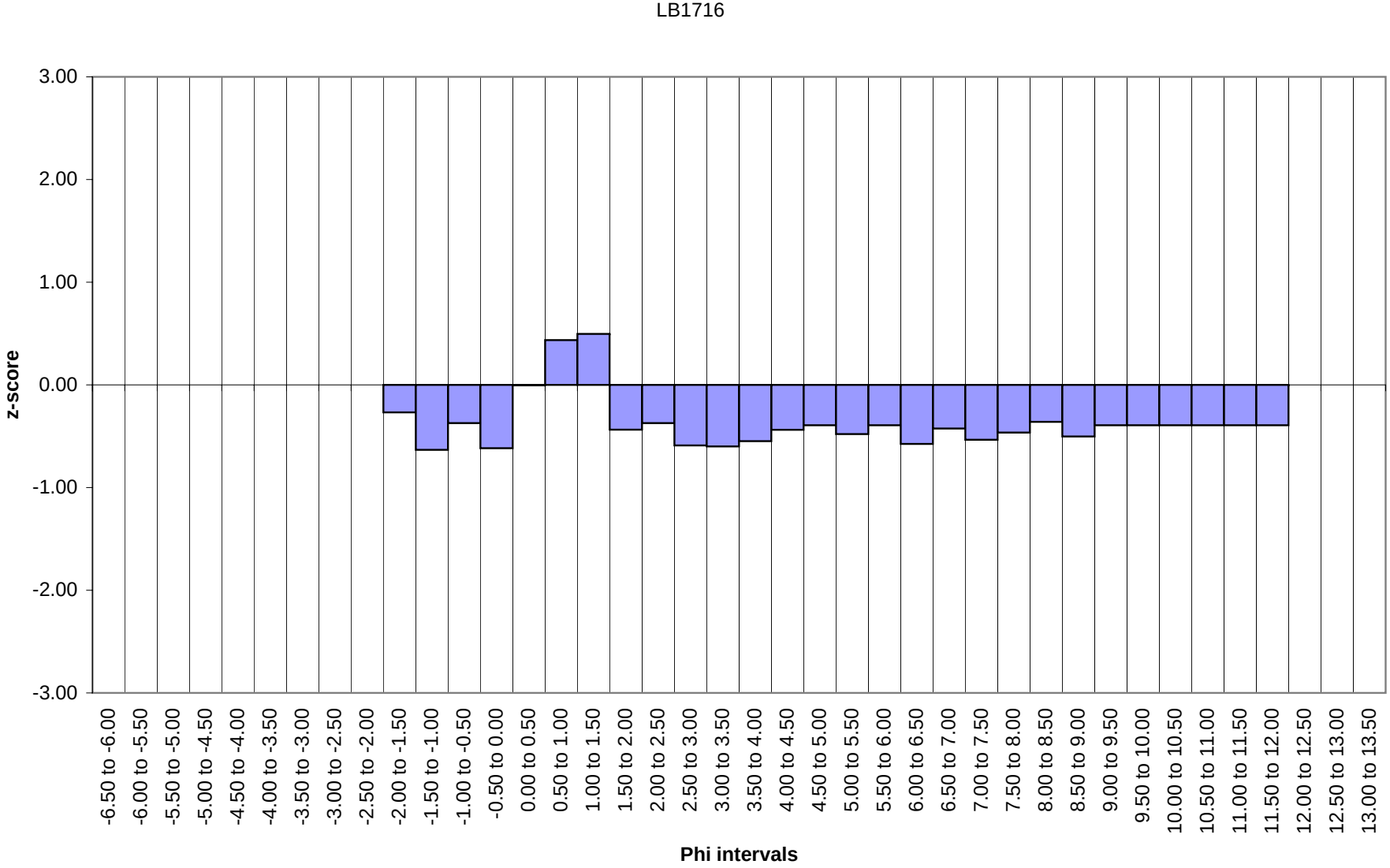
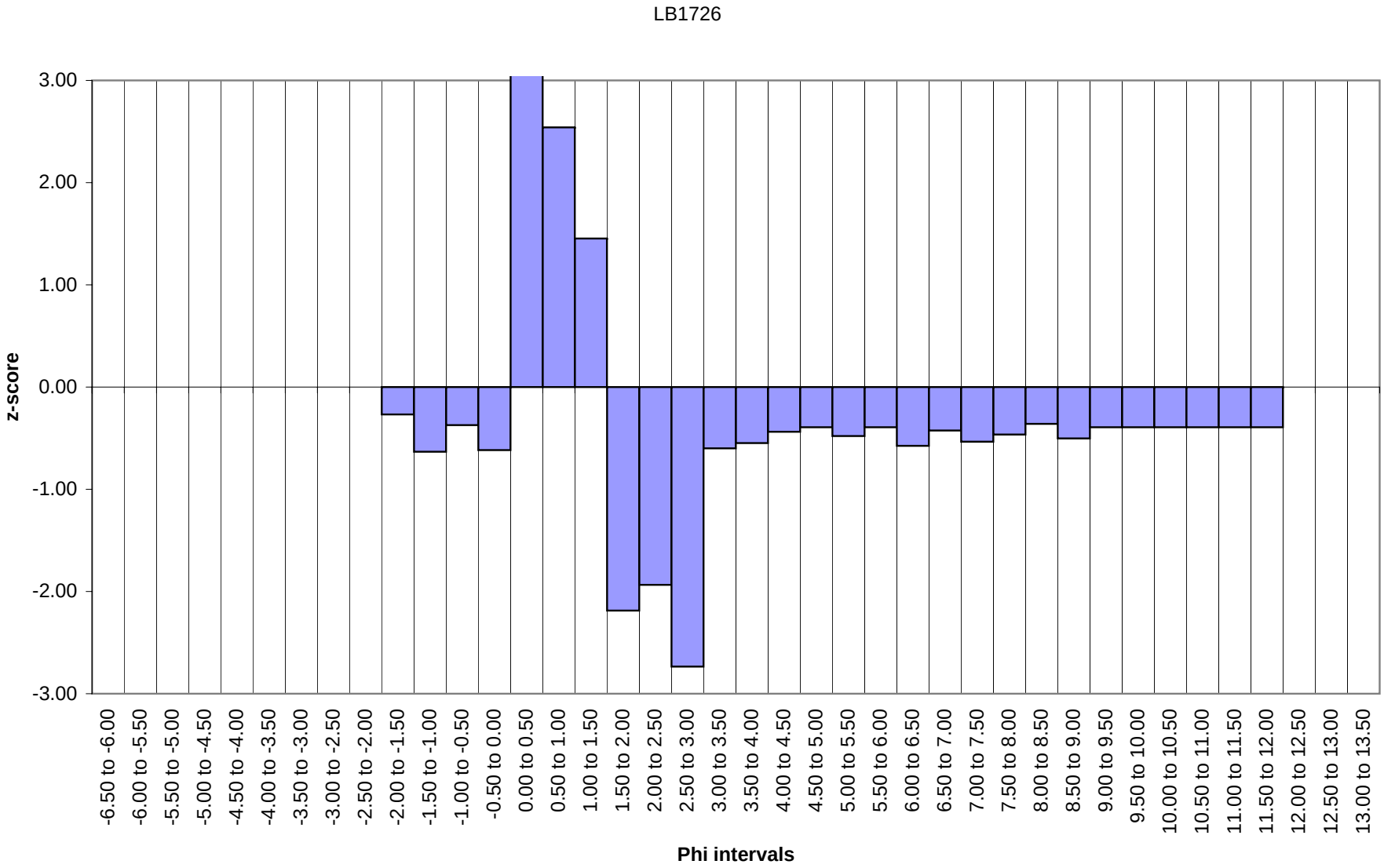
-6.00 to -5.50
-5.50 to -5.00
-5.00 to -4.50
-4.50 to -4.00
-4.00 to -3.50
-3.50 to -3.00
-3.00 to -2.50
-2.50 to -2.00
-2.00 to -1.50
-1.50 to -1.00
-1.00 to -0.50
-0.50 to 0.00
0.00 to 0.50
0.50 to 1.00
1.00 to 1.50
1.50 to 2.00
2.00 to 2.50
2.50 to 3.00
3.00 to 3.50
3.50 to 4.00
4.00 to 4.50
4.50 to 5.00
5.00 to 5.50
5.50 to 6.00
6.00 to 6.50
6.50 to 7.00
7.00 to 7.50
7.50 to 8.00
8.00 to 8.50
8.50 to 9.00
9.00 to 9.50
9.50 to 10.00
10.00 to 10.50
10.50 to 11.00
11.00 to 11.50
11.50 to 12.00
12.00 to 12.50
12.50 to 13.00
13.00 to 13.50
Phi intervals

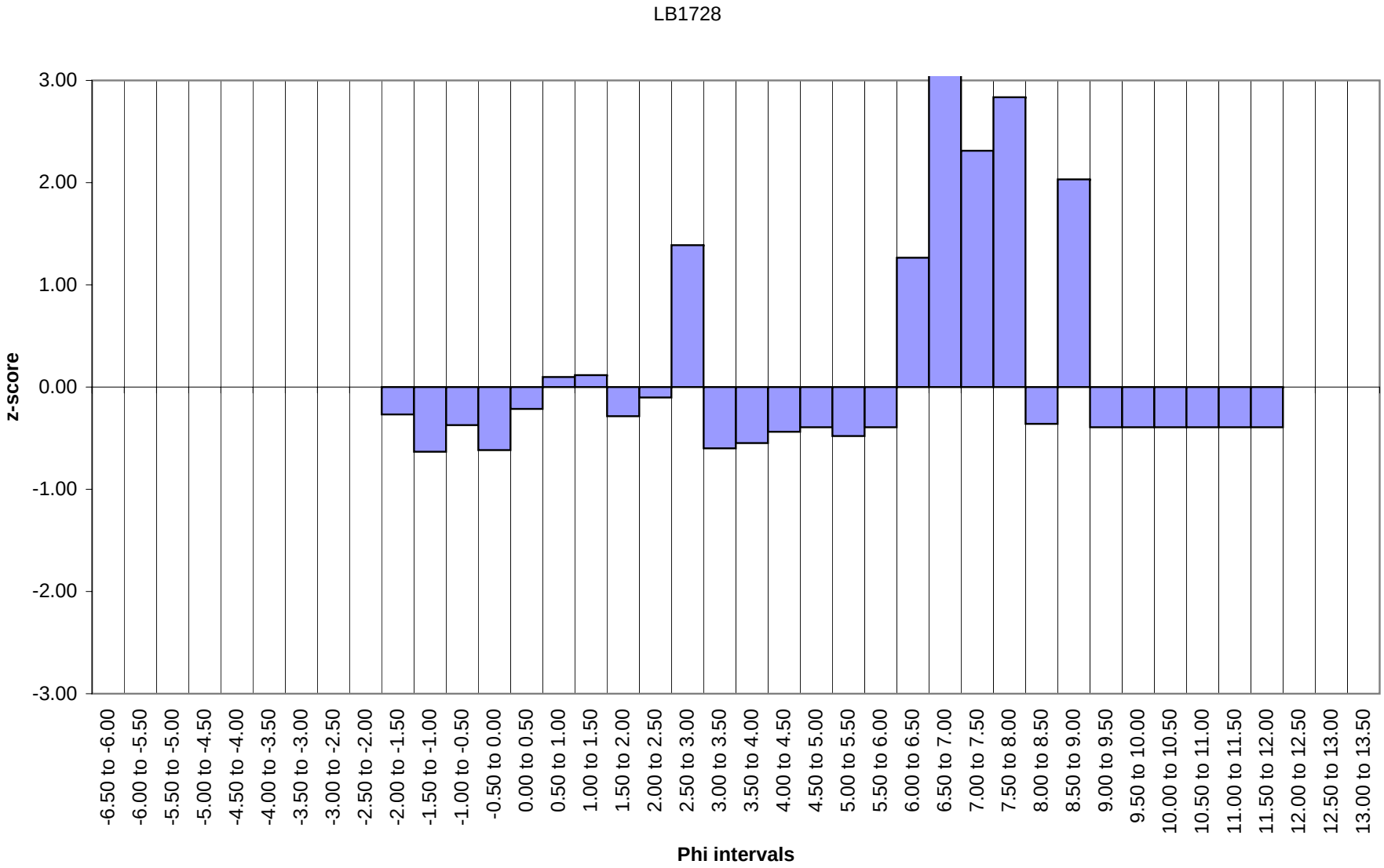

LB1713
3.00
2.00
1.00
0.00
-1.00
-2.00
-3.00
z-score
-6.50 to -6.00
-6.00 to -5.50
-5.50 to -5.00
-5.00 to -4.50
-4.50 to -4.00
-4.00 to -3.50
-3.50 to -3.00
-3.00 to -2.50
-2.50 to -2.00
-2.00 to -1.50
-1.50 to -1.00
-1.00 to -0.50
-0.50 to 0.00
0.00 to 0.50
0.50 to 1.00
1.00 to 1.50
1.50 to 2.00
2.00 to 2.50
2.50 to 3.00
3.00 to 3.50
3.50 to 4.00
4.00 to 4.50
4.50 to 5.00
5.00 to 5.50
5.50 to 6.00
6.00 to 6.50
6.50 to 7.00
7.00 to 7.50
7.50 to 8.00
8.00 to 8.50
8.50 to 9.00
9.00 to 9.50
9.50 to 10.00
10.00 to 10.50
10.50 to 11.00
11.00 to 11.50
11.50 to 12.00
12.00 to 12.50
12.50 to 13.00
13.00 to 13.50
Phi intervals


LB1714
3.00
2.00
1.00
0.00
-1.00
-2.00
-3.00
z-score
-6.50 to -6.00
-6.00 to -5.50
-5.50 to -5.00
-5.00 to -4.50
-4.50 to -4.00
-4.00 to -3.50
-3.50 to -3.00
-3.00 to -2.50
-2.50 to -2.00
-2.00 to -1.50
-1.50 to -1.00
-1.00 to -0.50
-0.50 to 0.00
0.00 to 0.50
0.50 to 1.00
1.00 to 1.50
1.50 to 2.00
2.00 to 2.50
2.50 to 3.00
3.00 to 3.50
3.50 to 4.00
4.00 to 4.50
4.50 to 5.00
5.00 to 5.50
5.50 to 6.00
6.00 to 6.50
6.50 to 7.00
7.00 to 7.50
7.50 to 8.00
8.00 to 8.50
8.50 to 9.00
9.00 to 9.50
9.50 to 10.00
10.00 to 10.50
10.50 to 11.00
11.00 to 11.50
11.50 to 12.00
12.00 to 12.50
12.50 to 13.00
13.00 to 13.50
Phi intervals


LB1715
z-score
3.00
2.00
1.00
0.00
-1.00
-2.00
-3.00
-6.50 to -6.00
-6.00 to -5.50
-5.50 to -5.00
-5.00 to -4.50
-4.50 to -4.00
-4.00 to -3.50
-3.50 to -3.00
-3.00 to -2.50
-2.50 to -2.00
-2.00 to -1.50
-1.50 to -1.00
-1.00 to -0.50
-0.50 to 0.00
0.00 to 0.50
0.50 to 1.00
1.00 to 1.50
1.50 to 2.00
2.00 to 2.50
2.50 to 3.00
3.00 to 3.50
3.50 to 4.00
4.00 to 4.50
4.50 to 5.00
5.00 to 5.50
5.50 to 6.00
6.00 to 6.50
6.50 to 7.00
7.00 to 7.50
7.50 to 8.00
8.00 to 8.50
8.50 to 9.00
9.00 to 9.50
9.50 to 10.00
10.00 to 10.50
10.50 to 11.00
11.00 to 11.50
11.50 to 12.00
12.00 to 12.50
12.50 to 13.00
13.00 to 13.50
Phi intervals


LB1716
3.00
2.00
1.00
0.00
-1.00
-2.00
-3.00
z-score
-6.50 to -6.00
-6.00 to -5.50
-5.50 to -5.00
-5.00 to -4.50
-4.50 to -4.00
-4.00 to -3.50
-3.50 to -3.00
-3.00 to -2.50
-2.50 to -2.00
-2.00 to -1.50
-1.50 to -1.00
-1.00 to -0.50
-0.50 to 0.00
0.00 to 0.50
0.50 to 1.00
1.00 to 1.50
1.50 to 2.00
2.00 to 2.50
2.50 to 3.00
3.00 to 3.50
3.50 to 4.00
4.00 to 4.50
4.50 to 5.00
5.00 to 5.50
5.50 to 6.00
6.00 to 6.50
6.50 to 7.00
7.00 to 7.50
7.50 to 8.00
8.00 to 8.50
8.50 to 9.00
9.00 to 9.50
9.50 to 10.00
10.00 to 10.50
10.50 to 11.00
11.00 to 11.50
11.50 to 12.00
12.00 to 12.50
12.50 to 13.00
13.00 to 13.50
Phi intervals


LB1726
3.00
2.00
1.00
0.00
-1.00
-2.00
-3.00
z-score
-6.50 to -6.00
-6.00 to -5.50
-5.50 to -5.00
-5.00 to -4.50
-4.50 to -4.00
-4.00 to -3.50
-3.50 to -3.00
-3.00 to -2.50
-2.50 to -2.00
-2.00 to -1.50
-1.50 to -1.00
-1.00 to -0.50
-0.50 to 0.00
0.00 to 0.50
0.50 to 1.00
1.00 to 1.50
1.50 to 2.00
2.00 to 2.50
2.50 to 3.00
3.00 to 3.50
3.50 to 4.00
4.00 to 4.50
4.50 to 5.00
5.00 to 5.50
5.50 to 6.00
6.00 to 6.50
6.50 to 7.00
7.00 to 7.50
7.50 to 8.00
8.00 to 8.50
8.50 to 9.00
9.00 to 9.50
9.50 to 10.00
10.00 to 10.50
10.50 to 11.00
11.00 to 11.50
11.50 to 12.00
12.00 to 12.50
12.50 to 13.00
13.00 to 13.50
Phi intervals


LB1728
z-score
3.00
2.00
1.00
0.00
-1.00
-2.00
-3.00
-6.50 to -6.00
-6.00 to -5.50
-5.50 to -5.00
-5.00 to -4.50
-4.50 to -4.00
-4.00 to -3.50
-3.50 to -3.00
-3.00 to -2.50
-2.50 to -2.00
-2.00 to -1.50
-1.50 to -1.00
-1.00 to -0.50
-0.50 to 0.00
0.00 to 0.50
0.50 to 1.00
1.00 to 1.50
1.50 to 2.00
2.00 to 2.50
2.50 to 3.00
3.00 to 3.50
3.50 to 4.00
4.00 to 4.50
4.50 to 5.00
5.00 to 5.50
5.50 to 6.00
6.00 to 6.50
6.50 to 7.00
7.00 to 7.50
7.50 to 8.00
8.00 to 8.50
8.50 to 9.00
9.00 to 9.50
9.50 to 10.00
10.00 to 10.50
10.50 to 11.00
11.00 to 11.50
11.50 to 12.00
12.00 to 12.50
12.50 to 13.00
13.00 to 13.50
Phi intervals

Appendices

NMBAQCS - PS Exercise Record Sheet

Return to Unicomarine Ltd. by 29-10-10

Exercise Code:	**PS37**
LabCode:	**LB1701**
Sample Code:	**PS371701**
Equipment used (e.g. laser model and range):	Malvern Mastersizer 2000
Method used:	NMBAQC PSA SOP for supporting biological data*
Peroxide pre-treatment used:	NO*
Chemical dispersant used:	NO*
% <63µm	0.00
Median particle diameter (phi):	1.52
Mean particle diameter (phi):	1.51
Sorting Coefficient:	0.52
Inclusive Graphic Skewness (SKi):	-0.02
Visual Sediment Description Pre-analysis (e.g. sandy mud):	Sand
Sediment Description Post-analysis (Folk Triangle)#:	Sand

Phi interval (explicit)	Volume/ Weight (%/g) (Mark as"-" for not analysed; "0" for no material)
-6.50 to -6.00	-
-6.00 to -5.50	0.00
-5.50 to -5.00	0.00
-5.00 to -4.50	0.00
-4.50 to -4.00	0.00
-4.00 to -3.50	0.00
-3.50 to -3.00	0.00
-3.00 to -2.50	0.00
-2.50 to -2.00	0.00
-2.00 to -1.50	0.00
-1.50 to -1.00	0.00
-1.00 to -0.50	0.01
-0.50 to 0.00	0.01
0.00 to 0.50	2.14
0.50 to 1.00	14.51
1.00 to 1.50	31.97
1.50 to 2.00	34.19
2.00 to 2.50	15.08
2.50 to 3.00	2.09
3.00 to 3.50	0.00
3.50 to 4.00	0.00
4.00 to 4.50	0.00
4.50 to 5.00	0.00
5.00 to 5.50	0.00
5.50 to 6.00	0.00
6.00 to 6.50	0.00
6.50 to 7.00	0.00
7.00 to 7.50	0.00
7.50 to 8.00	0.00
8.00 to 8.50	0.00
8.50 to 9.00	0.00
9.00 to 9.50	0.00
9.50 to 10.00	0.00
10.00 to 10.50	0.00
10.50 to 11.00	0.00
11.00 to 11.50	0.00
11.50 to 12.00	-
12.00 to 12.50	-
12.50 to 13.00	-
13.00 to 13.50	-

† Blott, S.J. and Pye, K. (2001). GRADISTAT: a grain size distribution and statistics package for the analysis of unconsolidated sediments. Earth Surface Processes and Landforms 26, 1237-1248.

The Folk Sediment Description Triangle can be found on the British Geological Surveys web site or Folk, R. L. (1974) The Petrology of Sedimentary Rocks. Hemphill Publishing Co.

NMBAQCS - PS Exercise Record Sheet

Return to Unicomarine Ltd. by 29-10-10

Exercise Code:	**PS37**
LabCode:	**LB1703**
Sample Code:	**PS371703**
Equipment used (e.g. laser model and range):	sieve and malvern laser mam5004
Method used:	In House
Peroxide pre-treatment used:	Yes
Chemical dispersant used:	NO*
% <63µm	1.29
Median particle diameter (phi):	1.10
Mean particle diameter (phi):	1.08
Sorting Coefficient:	0.50
Inclusive Graphic Skewness (SKi):	-0.04
Visual Sediment Description Pre-analysis (e.g. sandy mud):	Sand
Sediment Description Post-analysis (Folk Triangle)#:	Sand

Phi interval (explicit)	Volume/ Weight (%/g) (Mark as"-" for not analysed; "0" for no material)
-6.50 to -6.00	
-6.00 to -5.50	
-5.50 to -5.00	
-5.00 to -4.50	0.00
-4.50 to -4.00	
-4.00 to -3.50	
-3.50 to -3.00	
-3.00 to -2.50	
-2.50 to -2.00	0.00
-2.00 to -1.50	
-1.50 to -1.00	0.00
-1.00 to -0.50	0.00
-0.50 to 0.00	0.02
0.00 to 0.50	0.90
0.50 to 1.00	2.99
1.00 to 1.50	28.77
1.50 to 2.00	36.10
2.00 to 2.50	12.93
2.50 to 3.00	1.93
3.00 to 3.50	0.22
3.50 to 4.00	0.04
4.00 to 4.50	
4.50 to 5.00	0.20
5.00 to 5.50	
5.50 to 6.00	0.13
6.00 to 6.50	
6.50 to 7.00	0.14
7.00 to 7.50	
7.50 to 8.00	0.23
8.00 to 8.50	
8.50 to 9.00	
9.00 to 9.50	
9.50 to 10.00	
10.00 to 10.50	
10.50 to 11.00	
11.00 to 11.50	
11.50 to 12.00	
12.00 to 12.50	
12.50 to 13.00	
13.00 to 13.50	0.47

† Blott, S.J. and Pye, K. (2001). GRADISTAT: a grain size distribution and statistics package for the analysis of unconsolidated sediments. Earth Surface Processes and Landforms 26, 1237-1248.

The Folk Sediment Description Triangle can be found on the British Geological Surveys web site or Folk, R. L. (1974) The Petrology of Sedimentary Rocks. Hemphill Publishing Co.

NMBAQCS - PS Exercise Record Sheet

Return to Unicomarine Ltd. by 29-10-10

Exercise Code:	**PS37**
LabCode:	**LB1707#1**
Sample Code:	**PS3707#1**
Equipment used (e.g. laser model and range):	Endecotts Test Sieves, Malvern Mastersizer Micro Laser Diffractor (Model: MAF5000)
Method used:	Wet Sieve at 63um and Dry Sieve >63um fraction (Based on BS1377: 1990 Parts 1-2). Laser Diffraction (Mastersizer Micro) a subsample of the wet <63um fraction (based on BS13320: 2009).
Peroxide pre-treatment used:	NO*
Chemical dispersant used:	NO*
% <63µm	1.15
Median particle diameter (phi):	1.84
Mean particle diameter (phi):	1.84
Sorting Coefficient:	0.46
Inclusive Graphic Skewness (SKi):	-0.70
Visual Sediment Description Pre-analysis (e.g. sandy mud):	Medium Sand
Sediment Description Post-analysis (Folk Triangle)#:	Slightly Gravelly Sand

Phi interval (explicit)	Volume (%) (Mark as"-" for not analysed; "0" for no material)
-6.50 to -6.00	0.00
-6.00 to -5.50	0.00
-5.50 to -5.00	0.00
-5.00 to -4.50	0.00
-4.50 to -4.00	0.00
-4.00 to -3.50	0.00
-3.50 to -3.00	0.00
-3.00 to -2.50	0.00
-2.50 to -2.00	0.00
-2.00 to -1.50	0.00
-1.50 to -1.00	0.00
-1.00 to -0.50	0.00
-0.50 to 0.00	0.02
0.00 to 0.50	0.99
0.50 to 1.00	4.25
1.00 to 1.50	14.20
1.50 to 2.00	44.81
2.00 to 2.50	31.87
2.50 to 3.00	2.13
3.00 to 3.50	0.40
3.50 to 4.00	0.18
4.00 to 4.50	0.08
4.50 to 5.00	0.09
5.00 to 5.50	0.08
5.50 to 6.00	0.08
6.00 to 6.50	0.09
6.50 to 7.00	0.10
7.00 to 7.50	0.11
7.50 to 8.00	0.11
8.00 to 8.50	0.10
8.50 to 9.00	0.08
9.00 to 9.50	0.06
9.50 to 10.00	0.05
10.00 to 10.50	0.05
10.50 to 11.00	0.04
11.00 to 11.50	0.02
>11.50	0.00

[!] Blott, S.J. and Pye, K. (2001). GRADISTAT: a grain size distribution and statistics package for the analysis of unconsolidated sediments. Earth Surface Processes and Landforms 26, 1237-1248.

[#] The Folk Sediment Description Triangle can be found on the British Geological Surveys web site or Folk, R. L. (1974) The Petrology of Sedimentary Rocks. Hemphill Publishing Co.

NMBAQCS - PS Exercise Record Sheet

Return to Unicomarine Ltd. by 29-10-10

Exercise Code:	**PS37**
LabCode:	**LB1712**
Sample Code:	**PS371712**
Equipment used (e.g. laser model and range):	Malvern Mastersizer 2000 with HydroG dispersion unit
Method used:	NMBAQC PSA SOP for supporting biological data*
Peroxide pre-treatment used:	NO*
Chemical dispersant used:	NO*
% <63µm	0
Median particle diameter (phi):	1.74
Mean particle diameter (phi):	1.73
Sorting Coefficient:	0.72
Inclusive Graphic Skewness (SKi):	-0.01
Visual Sediment Description Pre-analysis (e.g. sandy mud):	Sand
Sediment Description Post-analysis (Folk Triangle)#:	Medium Sand

Phi interval (explicit)	Volume/ Weight (%/g) (Mark as"-" for not analysed; "0" for no material)
-6.50 to -6.00	
-6.00 to -5.50	
-5.50 to -5.00	
-5.00 to -4.50	
-4.50 to -4.00	
-4.00 to -3.50	
-3.50 to -3.00	
-3.00 to -2.50	
-2.50 to -2.00	
-2.00 to -1.50	
-1.50 to -1.00	
-1.00 to -0.50	
-0.50 to 0.00	2.538
0.00 to 0.50	15.152
0.50 to 1.00	32.53
1.00 to 1.50	33.068
1.50 to 2.00	14.984
2.00 to 2.50	1.71
2.50 to 3.00	0
3.00 to 3.50	0
3.50 to 4.00	0
4.00 to 4.50	0
4.50 to 5.00	0
5.00 to 5.50	0
5.50 to 6.00	0
6.00 to 6.50	0
6.50 to 7.00	0
7.00 to 7.50	0
7.50 to 8.00	0
8.00 to 8.50	0
8.50 to 9.00	0
9.00 to 9.50	0
9.50 to 10.00	0
10.00 to 10.50	0
10.50 to 11.00	0
11.00 to 11.50	
11.50 to 12.00	
12.00 to 12.50	
12.50 to 13.00	
13.00 to 13.50	

[T] Blott, S.J. and Pye, K. (2001). GRADISTAT: a grain size distribution and statistics package for the analysis of unconsolidated sediments. Earth Surface Processes and Landforms 26, 1237-1248.

[#] The Folk Sediment Description Triangle can be found on the British Geological Surveys web site or Folk, R. L. (1974) The Petrology of Sedimentary Rocks. Hemphill Publishing Co.

NMBAQCS - PS Exercise Record Sheet

Return to Unicomarine Ltd. by 29-10-10

Exercise Code:	**PS37**
LabCode:	**LB1714**
Sample Code:	**PS371714**
Equipment used (e.g. laser model and range):	Malvern Mastersizer Hydro 2000MU
Method used:	NMBAQC PSA SOP for supporting biological data*
Peroxide pre-treatment used:	NO*
Chemical dispersant used:	NO*
% <63µm	0
Median particle diameter (phi):	1.55
Mean particle diameter (phi):	1.55
Sorting Coefficient:	0.54
Inclusive Graphic Skewness (SKi):	0.004
Visual Sediment Description Pre-analysis (e.g. sandy mud):	Medium Sand
Sediment Description Post-analysis (Folk Triangle)#:	Medium Sand

Phi interval (explicit)	Volume/ Weight (%/g) (Mark as"-" for not analysed; "0" for no material)
-6.50 to -6.00	0.0000
-6.00 to -5.50	0.0000
-5.50 to -5.00	0.0000
-5.00 to -4.50	0.0000
-4.50 to -4.00	0.0000
-4.00 to -3.50	0.0000
-3.50 to -3.00	0.0000
-3.00 to -2.50	0.0000
-2.50 to -2.00	0.0000
-2.00 to -1.50	0.0000
-1.50 to -1.00	0.0000
-1.00 to -0.50	0.0000
-0.50 to 0.00	0.0300
0.00 to 0.50	1.1779
0.50 to 1.00	13.7362
1.00 to 1.50	31.7262
1.50 to 2.00	34.1648
2.00 to 2.50	16.7656
2.50 to 3.00	2.4297
3.00 to 3.50	0.0000
3.50 to 4.00	0.0000
4.00 to 4.50	0.0000
4.50 to 5.00	0.0000
5.00 to 5.50	0.0000
5.50 to 6.00	0.0000
6.00 to 6.50	0.0000
6.50 to 7.00	0.0000
7.00 to 7.50	0.0000
7.50 to 8.00	0.0000
8.00 to 8.50	0.0000
8.50 to 9.00	0.0000
9.00 to 9.50	0.0000
9.50 to 10.00	0.0000
10.00 to 10.50	0.0000
10.50 to 11.00	0.0000
11.00 to 11.50	0.0000
11.50 to 12.00	" "
12.00 to 12.50	" "
12.50 to 13.00	" "
13.00 to 13.50	" "

[!] Blott, S.J. and Pye, K. (2001). GRADISTAT: a grain size distribution and statistics package for the analysis of unconsolidated sediments. Earth Surface Processes and Landforms 26, 1237-1248.

¨ The Folk Sediment Description Triangle can be found on the British Geological Surveys web site or Folk, R. L. (1974) The Petrology of Sedimentary Rocks. Hemphill Publishing Co.

NMBAQCS - PS Exercise Record Sheet

Return to Unicomarine Ltd. by 29-10-10

Exercise Code:	**PS37**
LabCode:	**LB1716**
Sample Code:	**PS371716**
Equipment used (e.g. laser model and range):	Malvern Mastersizer2000
Method used:	NMBAQC PSA SOP for supporting biological data*
Peroxide pre-treatment used:	NO*
Chemical dispersant used:	NO*
% <63µm	0
Median particle diameter (phi):	-
Mean particle diameter (phi):	-
Sorting Coefficient:	-
Inclusive Graphic Skewness (SKi):	-
Visual Sediment Description Pre-analysis (e.g. sandy mud):	Sand
Sediment Description Post-analysis (Folk Triangle)#:	Sand

Phi interval (explicit)	Volume/ Weight (%/g) (Mark as"-" for not analysed; "0" for no material)
-6.50 to -6.00	_
-6.00 to -5.50	_
-5.50 to -5.00	_
-5.00 to -4.50	_
-4.50 to -4.00	_
-4.00 to -3.50	_
-3.50 to -3.00	_
-3.00 to -2.50	_
-2.50 to -2.00	_
-2.00 to -1.50	_
-1.50 to -1.00	_
-1.00 to -0.50	0.0000
-0.50 to 0.00	0.0000
0.00 to 0.50	1.7500
0.50 to 1.00	14.8300
1.00 to 1.50	33.2700
1.50 to 2.00	33.6500
2.00 to 2.50	14.9100
2.50 to 3.00	1.5900
3.00 to 3.50	0.0000
3.50 to 4.00	0.0000
4.00 to 4.50	0.0000
4.50 to 5.00	0.0000
5.00 to 5.50	0.0000
5.50 to 6.00	0.0000
6.00 to 6.50	0.0000
6.50 to 7.00	0.0000
7.00 to 7.50	0.0000
7.50 to 8.00	0.0000
8.00 to 8.50	0.0000
8.50 to 9.00	0.0000
9.00 to 9.50	0.0000
9.50 to 10.00	0.0000
10.00 to 10.50	0.0000
10.50 to 11.00	0.0000
11.00 to 11.50	0.0000
11.50 to 12.00	0.0000
12.00 to 12.50	0.0000
12.50 to 13.00	0.0000
13.00 to 13.50	0.0000

† Blott, S.J. and Pye, K. (2001). GRADISTAT: a grain size distribution and statistics package for the analysis of unconsolidated sediments. Earth Surface Processes and Landforms 26, 1237-1248.

The Folk Sediment Description Triangle can be found on the British Geological Surveys web site or Folk, R. L. (1974) The Petrology of Sedimentary Rocks. Hemphill Publishing Co.

NMBAQCS - PS Exercise Record Sheet

Return to Unicomarine Ltd. by 29-10-10

Exercise Code:	**PS37**
LabCode:	**LB1728**
Sample Code:	**PS371728**
Equipment used (e.g. laser model and range):	Malvern Mastersizer 2000 and Hydro MU
Method used:	NMBAQC PSA SOP for supporting biological data*
Peroxide pre-treatment used:	NO*
Chemical dispersant used:	NO*
% <63µm	1
Median particle diameter (phi):	-
Mean particle diameter (phi):	-
Sorting Coefficient:	-
Inclusive Graphic Skewness (SKi):	-
Visual Sediment Description Pre-analysis (e.g. sandy mud):	Sand
Sediment Description Post-analysis (Folk Triangle)#:	Sands

Phi interval (explicit)	Volume/ Weight (%/g) (Mark as"-" for not analysed; "0" for no material)
-6.50 to -6.00	
-6.00 to -5.50	
-5.50 to -5.00	
-5.00 to -4.50	
-4.50 to -4.00	
-4.00 to -3.50	
-3.50 to -3.00	
-3.00 to -2.50	
-2.50 to -2.00	
-2.00 to -1.50	
-1.50 to -1.00	
-1.00 to -0.50	
-0.50 to 0.00	0.00
0.00 to 0.50	1.46
0.50 to 1.00	12.60
1.00 to 1.50	30.13
1.50 to 2.00	34.71
2.00 to 2.50	17.05
2.50 to 3.00	3.06
3.00 to 3.50	0.00
3.50 to 4.00	0.00
4.00 to 4.50	0.00
4.50 to 5.00	0.00
5.00 to 5.50	0.00
5.50 to 6.00	0.00
6.00 to 6.50	0.10
6.50 to 7.00	0.29
7.00 to 7.50	0.29
7.50 to 8.00	0.22
8.00 to 8.50	
8.50 to 9.00	0.09
9.00 to 9.50	
9.50 to 10.00	
10.00 to 10.50	
10.50 to 11.00	
11.00 to 11.50	
11.50 to 12.00	
12.00 to 12.50	
12.50 to 13.00	
13.00 to 13.50	

[!] Blott, S.J. and Pye, K. (2001). GRADISTAT: a grain size distribution and statistics package for the analysis of unconsolidated sediments. Earth Surface Processes and Landforms 26, 1237-1248.

[#] The Folk Sediment Description Triangle can be found on the British Geological Surveys web site or Folk, R. L. (1974) The Petrology of Sedimentary Rocks. Hemphill Publishing Co.

NMBAQCS - PS Exercise Record Sheet

Return to Unicomarine Ltd. by 29-10-10

Exercise Code:	**PS37**
LabCode:	**LB1702**
Sample Code:	**PS371702**
Equipment used (e.g. laser model and range):	Endecotts Dry Sieves (half phi) & Malvern 2000(0.02 - 2000 µm) & Hydro G
Method used:	NMBAQC PSA SOP for supporting biological data*
Peroxide pre-treatment used:	NO*
Chemical dispersant used:	NO*
% <63µm	0
Median particle diameter (phi):	-
Mean particle diameter (phi):	-
Sorting Coefficient:	-
Inclusive Graphic Skewness (SKi):	-
Visual Sediment Description Pre-analysis (e.g. sandy mud):	g(S)
Sediment Description Post-analysis (Folk Triangle)#:	S

Phi interval (explicit)	Volume/ Weight (%/g) (Mark as"-" for not analysed; "0" for no material)
-6.50 to -6.00	
-6.00 to -5.50	
-5.50 to -5.00	
-5.00 to -4.50	
-4.50 to -4.00	
-4.00 to -3.50	
-3.50 to -3.00	
-3.00 to -2.50	
-2.50 to -2.00	0.00
-2.00 to -1.50	0.02
-1.50 to -1.00	0.01
-1.00 to -0.50	0.03
-0.50 to 0.00	0.11
0.00 to 0.50	0.55
0.50 to 1.00	12.21
1.00 to 1.50	34.69
1.50 to 2.00	37.39
2.00 to 2.50	13.76
2.50 to 3.00	1.23
3.00 to 3.50	0.00
3.50 to 4.00	
4.00 to 4.50	
4.50 to 5.00	
5.00 to 5.50	
5.50 to 6.00	
6.00 to 6.50	
6.50 to 7.00	
7.00 to 7.50	
7.50 to 8.00	
8.00 to 8.50	
8.50 to 9.00	
9.00 to 9.50	
9.50 to 10.00	
10.00 to 10.50	
10.50 to 11.00	
11.00 to 11.50	
11.50 to 12.00	
12.00 to 12.50	
12.50 to 13.00	
13.00 to 13.50	

† Blott, S.J. and Pye, K. (2001). GRADISTAT: a grain size distribution and statistics package for the analysis of unconsolidated sediments. Earth Surface Processes and Landforms 26, 1237-1248.

The Folk Sediment Description Triangle can be found on the British Geological Surveys web site or Folk, R. L. (1974) The Petrology of Sedimentary Rocks. Hemphill Publishing Co.

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Exercise Code:	**PS37**
LabCode:	**LB1705**
Sample Code:	**PS371705**
Equipment used (e.g. laser model and range):	Malvern 2000
Method used:	NMBAQC PSA SOP for supporting biological data*
Peroxide pre-treatment used:	NO*
Chemical dispersant used:	NO*
% <63µm	0
Median particle diameter (phi):	-
Mean particle diameter (phi):	-
Sorting Coefficient:	-
Inclusive Graphic Skewness (SKi):	-
Visual Sediment Description Pre-analysis (e.g. sandy mud):	Sand
Sediment Description Post-analysis (Folk Triangle)#:	Sand

Phi interval (explicit)	Volume/ Weight (%/g) (Mark as"-" for not analysed; "0" for no material)
-6.50 to -6.00	
-6.00 to -5.50	
-5.50 to -5.00	
-5.00 to -4.50	
-4.50 to -4.00	
-4.00 to -3.50	
-3.50 to -3.00	
-3.00 to -2.50	
-2.50 to -2.00	
-2.00 to -1.50	
-1.50 to -1.00	
-1.00 to -0.50	-
-0.50 to 0.00	0.1800
0.00 to 0.50	1.6978
0.50 to 1.00	13.8633
1.00 to 1.50	31.6289
1.50 to 2.00	34.6100
2.00 to 2.50	15.8089
2.50 to 3.00	2.3889
3.00 to 3.50	0.0000
3.50 to 4.00	0.0000
4.00 to 4.50	0.0000
4.50 to 5.00	0.0000
5.00 to 5.50	0.0000
5.50 to 6.00	0.0000
6.00 to 6.50	0.0000
6.50 to 7.00	0.0000
7.00 to 7.50	0.0000
7.50 to 8.00	0.0000
8.00 to 8.50	0.0000
8.50 to 9.00	-
9.00 to 9.50	
9.50 to 10.00	
10.00 to 10.50	
10.50 to 11.00	
11.00 to 11.50	
11.50 to 12.00	
12.00 to 12.50	
12.50 to 13.00	
13.00 to 13.50	

† Blott, S.J. and Pye, K. (2001). GRADISTAT: a grain size distribution and statistics package for the analysis of unconsolidated sediments. Earth Surface Processes and Landforms 26, 1237-1248.

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NMBAQCS - PS Exercise Record Sheet

Return to Unicomarine Ltd. by 29-10-10

Exercise Code:	**PS37**
LabCode:	**LB1707#2**
Sample Code:	**PS3707#2**
Equipment used (e.g. laser model and range):	Endecotts Test Sieves, Malvern Mastersizer Micro Laser Diffractor (Model: MAF5000)
Method used:	Wet Sieve at 63um and Dry Sieve >63um fraction (Based on BS1377: 1990 Parts 1-2). Laser Diffraction (Mastersizer Micro) a subsample of the wet <63um fraction (based on BS13320: 2009).
Peroxide pre-treatment used:	NO*
Chemical dispersant used:	NO*
% <63µm	1.13
Median particle diameter (phi):	1.88
Mean particle diameter (phi):	1.88
Sorting Coefficient:	0.45
Inclusive Graphic Skewness (SKi):	-0.09
Visual Sediment Description Pre-analysis (e.g. sandy mud):	Medium Sand
Sediment Description Post-analysis (Folk Triangle)#:	Slightly gravelly sand

Phi interval (explicit)	Volume (%) (Mark as"-" for not analysed; "0" for no material)
-6.50 to -6.00	0.00
-6.00 to -5.50	0.00
-5.50 to -5.00	0.00
-5.00 to -4.50	0.00
-4.50 to -4.00	0.00
-4.00 to -3.50	0.00
-3.50 to -3.00	0.00
-3.00 to -2.50	0.00
-2.50 to -2.00	0.00
-2.00 to -1.50	0.00
-1.50 to -1.00	0.01
-1.00 to -0.50	0.00
-0.50 to 0.00	0.01
0.00 to 0.50	1.11
0.50 to 1.00	3.76
1.00 to 1.50	13.22
1.50 to 2.00	42.21
2.00 to 2.50	35.36
2.50 to 3.00	2.61
3.00 to 3.50	0.38
3.50 to 4.00	0.20
4.00 to 4.50	0.09
4.50 to 5.00	0.10
5.00 to 5.50	0.09
5.50 to 6.00	0.08
6.00 to 6.50	0.08
6.50 to 7.00	0.09
7.00 to 7.50	0.10
7.50 to 8.00	0.10
8.00 to 8.50	0.09
8.50 to 9.00	0.08
9.00 to 9.50	0.06
9.50 to 10.00	0.05
10.00 to 10.50	0.05
10.50 to 11.00	0.04
11.00 to 11.50	0.02
>11.50	0.00

[!] Blott, S.J. and Pye, K. (2001). GRADISTAT: a grain size distribution and statistics package for the analysis of unconsolidated sediments. Earth Surface Processes and Landforms 26, 1237-1248.

[#] The Folk Sediment Description Triangle can be found on the British Geological Surveys web site or Folk, R. L. (1974) The Petrology of Sedimentary Rocks. Hemphill Publishing Co.

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Return to Unicomarine Ltd. by 29-10-10

Exercise Code:	**PS37**
LabCode:	**LB1713**
Sample Code:	**PS371713**
Equipment used (e.g. laser model and range):	Mastersizer 2000 and accessory unit (0.02um to 1000um
Method used:	NMBAQC PSA SOP for supporting biological data*
Peroxide pre-treatment used:	NO*
Chemical dispersant used:	NO*
% <63µm	0
Median particle diameter (phi):	1.59
Mean particle diameter (phi):	1.59
Sorting Coefficient:	0.53
Inclusive Graphic Skewness (SKi):	-0.02
Visual Sediment Description Pre-analysis (e.g. sandy mud):	Sand (S)
Sediment Description Post-analysis (Folk Triangle)#:	Sand (S)

Phi interval (explicit)	Volume/ Weight (%/g) (Mark as"-" for not analysed; "0" for no material)
-6.50 to -6.00	"-"
-6.00 to -5.50	"-"
-5.50 to -5.00	"-"
-5.00 to -4.50	"-"
-4.50 to -4.00	"-"
-4.00 to -3.50	"-"
-3.50 to -3.00	"-"
-3.00 to -2.50	"-"
-2.50 to -2.00	"-"
-2.00 to -1.50	"-"
-1.50 to -1.00	"-"
-1.00 to -0.50	0.0000
-0.50 to 0.00	0.0000
0.00 to 0.50	0.7767
0.50 to 1.00	11.5444
1.00 to 1.50	31.2233
1.50 to 2.00	35.8067
2.00 to 2.50	18.0889
2.50 to 3.00	2.5589
3.00 to 3.50	0.0000
3.50 to 4.00	0.0000
4.00 to 4.50	0.0000
4.50 to 5.00	0.0000
5.00 to 5.50	0.0000
5.50 to 6.00	0.0000
6.00 to 6.50	0.0000
6.50 to 7.00	0.0000
7.00 to 7.50	0.0000
7.50 to 8.00	0.0000
8.00 to 8.50	0.0000
8.50 to 9.00	0.0000
9.00 to 9.50	0.0000
9.50 to 10.00	0.0000
10.00 to 10.50	0.0000
10.50 to 11.00	0.0000
11.00 to 11.50	0.0000
11.50 to 12.00	0.0000
12.00 to 12.50	0.0000
12.50 to 13.00	0.0000
13.00 to 13.50	0.0000

[T] Blott, S.J. and Pye, K. (2001). GRADISTAT: a grain size distribution and statistics package for the analysis of unconsolidated sediments. Earth Surface Processes and Landforms 26, 1237-1248.

[#] The Folk Sediment Description Triangle can be found on the British Geological Surveys web site or Folk, R. L. (1974) The Petrology of Sedimentary Rocks. Hemphill Publishing Co.

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Return to Unicomarine Ltd. by 29-10-10

Exercise Code:	**PS37**
LabCode:	**LB1715**
Sample Code:	**PS371715**
Equipment used (e.g. laser model and range):	Retsch AS200 sieve shaker
Method used:	Dry sieve at half-phi intervals
Peroxide pre-treatment used:	NO*
Chemical dispersant used:	NO*
% <63µm	0.2
Median particle diameter (phi):	-
Mean particle diameter (phi):	-
Sorting Coefficient:	-
Inclusive Graphic Skewness (SKi):	-
Visual Sediment Description Pre-analysis (e.g. sandy mud):	Sand
Sediment Description Post-analysis (Folk Triangle)#:	Well sorted medium sand

Phi interval (explicit)	Weight (g) (Mark as"-" for not analysed; "0" for no material)
-6.50 to -6.00	0.00
-6.00 to -5.50	0.00
-5.50 to -5.00	0.00
-5.00 to -4.50	0.00
-4.50 to -4.00	0.00
-4.00 to -3.50	0.00
-3.50 to -3.00	0.00
-3.00 to -2.50	0.00
-2.50 to -2.00	0.00
-2.00 to -1.50	0.00
-1.50 to -1.00	0.04
-1.00 to -0.50	0.02
-0.50 to 0.00	0.15
0.00 to 0.50	4.90
0.50 to 1.00	18.79
1.00 to 1.50	65.06
1.50 to 2.00	201.30
2.00 to 2.50	86.97
2.50 to 3.00	8.82
3.00 to 3.50	1.32
3.50 to 4.00	0.56
4.00 to 4.50	-
4.50 to 5.00	-
5.00 to 5.50	-
5.50 to 6.00	-
6.00 to 6.50	-
6.50 to 7.00	-
7.00 to 7.50	-
7.50 to 8.00	-
8.00 to 8.50	-
8.50 to 9.00	-
9.00 to 9.50	-
9.50 to 10.00	-
10.00 to 10.50	-
10.50 to 11.00	-
11.00 to 11.50	-
11.50 to 12.00	-
12.00 to 12.50	-
12.50 to 13.00	-
13.00 to 13.50	-

[†] Blott, S.J. and Pye, K. (2001). GRADISTAT: a grain size distribution and statistics package for the analysis of unconsolidated sediments. Earth Surface Processes and Landforms 26, 1237-1248.

[¨] The Folk Sediment Description Triangle can be found on the British Geological Surveys web site or Folk, R. L. (1974) The Petrology of Sedimentary Rocks. Hemphil Publishing Co.

NMBAQCS - PS Exercise Record Sheet

Return to Unicomarine Ltd. by 29-10-10

Exercise Code:	**PS37**
LabCode:	**LB1726**
Sample Code:	**PS371726**
Equipment used (e.g. laser model and range):	Mastersizer 2000 with Hydro2000G
Method used:	NMBAQC PSA SOP for supporting biological data*
Peroxide pre-treatment used:	NO*
Chemical dispersant used:	NO*
% <63µm	0
Median particle diameter (phi):	-
Mean particle diameter (phi):	-
Sorting Coefficient:	-
Inclusive Graphic Skewness (SKi):	-
Visual Sediment Description Pre-analysis (e.g. sandy mud):	Muddy Sand
Sediment Description Post-analysis (Folk Triangle)#:	Sand

Phi interval (explicit)	Volume/ Weight (%/g) (Mark as"-" for not analysed; "0" for no material)
-6.50 to -6.00	
-6.00 to -5.50	
-5.50 to -5.00	
-5.00 to -4.50	
-4.50 to -4.00	
-4.00 to -3.50	
-3.50 to -3.00	
-3.00 to -2.50	
-2.50 to -2.00	
-2.00 to -1.50	
-1.50 to -1.00	
-1.00 to -0.50	
-0.50 to 0.00	
0.00 to 0.50	6.1111
0.50 to 1.00	28.7118
1.00 to 1.50	41.1930
1.50 to 2.00	21.2719
2.00 to 2.50	2.5193
2.50 to 3.00	0.0000
3.00 to 3.50	0.0000
3.50 to 4.00	0.0000
4.00 to 4.50	0.0000
4.50 to 5.00	0.0000
5.00 to 5.50	0.0000
5.50 to 6.00	0.0000
6.00 to 6.50	0.0000
6.50 to 7.00	0.0000
7.00 to 7.50	0.0000
7.50 to 8.00	0.0000
8.00 to 8.50	0.0000
8.50 to 9.00	0.0000
9.00 to 9.50	0.0000
9.50 to 10.00	0.0000
10.00 to 10.50	0.0000
10.50 to 11.00	0.0000
11.00 to 11.50	0.0000
11.50 to 12.00	0.0000
12.00 to 12.50	0.0000
12.50 to 13.00	0.0000
13.00 to 13.50	0.0000

† Blott, S.J. and Pye, K. (2001). GRADISTAT: a grain size distribution and statistics package for the analysis of unconsolidated sediments. Earth Surface Processes and Landforms 26, 1237-1248.

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NMBAQCS - PS Exercise Record Sheet

Return to Unicomarine Ltd. by 29-10-10

Exercise Code:	**PS37**
LabCode:	**LB1712 Re-submitted**
Sample Code:	**PS371712**
Equipment used (e.g. laser model and range):	Malvern Mastersizer 2000 with HydroG dispersion unit
Method used:	NMBAQC PSA SOP for supporting biological data*
Peroxide pre-treatment used:	NO*
Chemical dispersant used:	NO*
% <63µm	0.00
Median particle diameter (phi):	1.491
Mean particle diameter (phi):	1.485
Sorting Coefficient:	0.524
Inclusive Graphic Skewness (SKi):	-0.072
Visual Sediment Description Pre-analysis (e.g. sandy mud):	Sand
Sediment Description Post-analysis (Folk Triangle)#:	Sand

Phi interval (explicit)	Volume/ Weight (%/g) (Mark as"-" for not analysed; "0" for no material)
-6.50 to -6.00	
-6.00 to -5.50	
-5.50 to -5.00	
-5.00 to -4.50	
-4.50 to -4.00	
-4.00 to -3.50	
-3.50 to -3.00	
-3.00 to -2.50	
-2.50 to -2.00	
-2.00 to -1.50	
-1.50 to -1.00	
-1.00 to -0.50	
-0.50 to 0.00	0
0.00 to 0.50	2.538
0.50 to 1.00	15.152
1.00 to 1.50	32.53
1.50 to 2.00	33.068
2.00 to 2.50	14.984
2.50 to 3.00	1.71
3.00 to 3.50	0
3.50 to 4.00	0
4.00 to 4.50	0
4.50 to 5.00	0
5.00 to 5.50	0
5.50 to 6.00	0
6.00 to 6.50	0
6.50 to 7.00	0
7.00 to 7.50	0
7.50 to 8.00	0
8.00 to 8.50	0
8.50 to 9.00	0
9.00 to 9.50	0
9.50 to 10.00	0
10.00 to 10.50	0
10.50 to 11.00	0
11.00 to 11.50	
11.50 to 12.00	
12.00 to 12.50	
12.50 to 13.00	
13.00 to 13.50	

[!] Blott, S.J. and Pye, K. (2001). GRADISTAT: a grain size distribution and statistics package for the analysis of unconsolidated sediments. Earth Surface Processes and Landforms 26, 1237-1248.

[#] The Folk Sediment Description Triangle can be found on the British Geological Surveys web site or Folk, R. L. (1974) The Petrology of Sedimentary Rocks. Hemphill Publishing Co.

Appendix 2. Z-score calculations.

	-6.50 to -6.00	-6.00 to -5.50	-5.50 to -5.00	-5.00 to -4.50	-4.50 to -4.00	-4.00 to -3.50	-3.50 to -3.00	-3.00 to -2.50	-2.50 to -2.00	-2.00 to -1.50	z-score	-1.50 to -1.00	z-score	-1.00 to -0.50	z-score
LB1701	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	-0.27	0.0035	0.29	0.0069	0.49
LB1702	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0200	3.47	0.0100	2.01	0.0300	3.34
LB1703	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	-0.27	0.0000	-0.63	0.0000	-0.37
LB1705	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	-0.27	0.0000	-0.63	0.0000	-0.37
LB1707	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	-0.27	0.0045	0.57	0.0000	-0.37
LB1707*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	-0.27	0.0052	0.73	0.0000	-0.37
LB1712	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	-0.27	0.0000	-0.63	0.0000	-0.37
LB1713	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	-0.27	0.0000	-0.63	0.0000	-0.37
LB1714	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	-0.27	0.0000	-0.63	0.0000	-0.37
LB1715	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	-0.27	0.0103	2.10	0.0052	0.27
LB1716	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	-0.27	0.0000	-0.63	0.0000	-0.37
LB1726	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	-0.27	0.0000	-0.63	0.0000	-0.37
LB1728	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	-0.27	0.0000	-0.63	0.0000	-0.37
BENCHMARK	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	-0.27	0.0000	-0.63	0.0000	-0.37
MEAN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.001		0.002		0.003	
STDEV	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.005		0.004		0.008	

	-0.50 to 0.00	z-score	0.00 to 0.50	z-score	0.50 to 1.00	z-score	1.00 to 1.50	z-score	1.50 to 2.00	z-score	2.00 to 2.50	z-score	2.50 to 3.00	z-score
LB1701	0.0069	-0.48	2.1381	0.28	14.5091	0.39	31.9735	0.34	34.1925	-0.36	15.0844	-0.35	2.0851	0.08
LB1702	0.1100	1.52	0.5500	-0.88	12.2100	0.04	34.6900	0.67	37.3900	0.09	13.7600	-0.52	1.2300	-1.08
LB1703	0.0235	-0.16	1.0580	-0.51	3.5148	-1.28	33.8192	0.56	42.4356	0.81	15.1992	-0.34	2.2687	0.33
LB1705	0.1800	2.87	1.6978	-0.04	13.8633	0.29	31.6289	0.30	34.6100	-0.30	15.8089	-0.26	2.3889	0.49
LB1707	0.0207	-0.22	0.9925	-0.56	4.2466	-1.17	14.1976	-1.81	44.8112	1.14	31.8691	1.77	2.1268	0.13
LB1707*	0.0074	-0.47	1.1087	-0.47	3.7566	-1.24	13.2249	-1.93	42.2112	0.77	35.3609	2.21	2.6120	0.79
LB1712	0.0000	-0.62	2.5380	0.57	15.1520	0.48	32.5300	0.41	33.0680	-0.52	14.9840	-0.36	1.7100	-0.43
LB1713	0.0000	-0.62	0.7767	-0.71	11.5444	-0.06	31.2233	0.25	35.8067	-0.13	18.0889	0.03	2.5589	0.72
LB1714	0.0300	-0.04	1.1779	-0.42	13.7362	0.27	31.7262	0.31	34.1648	-0.36	16.7656	-0.14	2.4297	0.54
LB1715	0.0387	0.13	1.2631	-0.36	4.8437	-1.08	16.7711	-1.50	51.8908	2.14	22.4190	0.58	2.2736	0.33
LB1716	0.0000	-0.62	1.7500	0.00	14.8300	0.44	33.2700	0.50	33.6500	-0.44	14.9100	-0.37	1.5900	-0.59
LB1726	0.0000	-0.62	6.1111	3.19	28.7118	2.54	41.1930	1.45	21.2719	-2.19	2.5193	-1.94	0.0000	-2.73
LB1728	0.0000	-0.62	1.4597	-0.21	12.6044	0.10	30.1322	0.12	34.7141	-0.29	17.0477	-0.10	3.0562	1.39
BENCHMARK	0.0282	-0.07	1.9036	0.11	13.8711	0.29	31.9429	0.34	34.0447	-0.38	16.1599	-0.21	2.0498	0.03
MEAN	0.032		1.752		11.957		29.166		36.733		17.855		2.027	
STDEV	0.052		1.368		6.595		8.275		7.069		7.924		0.741	

z-score = 0

Appendix 2. Z-score calculations.

	3.00 to 3.50	z-score	3.50 to 4.00	z-score	4.00 to 4.50	z-score	4.50 to 5.00	z-score	5.00 to 5.50	z-score	5.50 to 6.00	z-score	6.00 to 6.50	z-score
LB1701	0.0000	-0.60	0.0000	-0.55	0.0000	-0.44	0.0000	-0.39	0.0000	-0.48	0.0000	-0.39	0.0000	-0.57
LB1702	0.0000	-0.60	0.0000	-0.55	0.0000	-0.44	0.0000	-0.39	0.0000	-0.48	0.0000	-0.39	0.0000	-0.57
LB1703	0.2586	0.98	0.0470	0.08	0.2351	3.06	0.0000	-0.39	0.1528	2.66	0.0000	-0.39	0.1646	2.46
LB1705	0.0000	-0.60	0.0000	-0.55	0.0000	-0.44	0.0000	-0.39	0.0000	-0.48	0.0000	-0.39	0.0000	-0.57
LB1707	0.3951	1.81	0.1835	1.91	0.0845	0.82	0.0909	2.21	0.0831	1.23	0.0807	2.34	0.0885	1.06
LB1707*	0.3804	1.72	0.1988	2.11	0.0927	0.94	0.1015	2.51	0.0905	1.38	0.0817	2.38	0.0836	0.97
LB1712	0.0000	-0.60	0.0000	-0.55	0.0000	-0.44	0.0000	-0.39	0.0000	-0.48	0.0000	-0.39	0.0000	-0.57
LB1713	0.0000	-0.60	0.0000	-0.55	0.0000	-0.44	0.0000	-0.39	0.0000	-0.48	0.0000	-0.39	0.0000	-0.57
LB1714	0.0000	-0.60	0.0000	-0.55	0.0000	-0.44	0.0000	-0.39	0.0000	-0.48	0.0000	-0.39	0.0000	-0.57
LB1715	0.3403	1.48	0.1444	1.38	0.0000	-0.44	0.0000	-0.39	0.0000	-0.48	0.0000	-0.39	0.0000	-0.57
LB1716	0.0000	-0.60	0.0000	-0.55	0.0000	-0.44	0.0000	-0.39	0.0000	-0.48	0.0000	-0.39	0.0000	-0.57
LB1726	0.0000	-0.60	0.0000	-0.55	0.0000	-0.44	0.0000	-0.39	0.0000	-0.48	0.0000	-0.39	0.0000	-0.57
LB1728	0.0000	-0.60	0.0000	-0.55	0.0000	-0.44	0.0000	-0.39	0.0000	-0.48	0.0000	-0.39	0.0998	1.26
BENCHMARK	0.0000	-0.60	0.0000	-0.55	0.0000	-0.44	0.0000	-0.39	0.0000	-0.48	0.0000	-0.39	0.0000	-0.57
MEAN	0.098		0.041		0.029		0.014		0.023		0.012		0.031	
STDEV	0.164		0.075		0.067		0.035		0.049		0.029		0.054	

	6.50 to 7.00	z-score	7.00 to 7.50	z-score	7.50 to 8.00	z-score	8.00 to 8.50	z-score	8.50 to 9.00	z-score	9.00 to 9.50	z-score	9.50 to 10.00	z-score
LB1701	0.0000	-0.43	0.0000	-0.53	0.0000	-0.46	0.0000	-0.36	0.0000	-0.50	0.0000	-0.39	0.0000	-0.39
LB1702	0.0000	-0.43	0.0000	-0.53	0.0000	-0.46	0.0000	-0.36	0.0000	-0.50	0.0000	-0.39	0.0000	-0.39
LB1703	0.0000	-0.43	0.2704	2.09	0.0000	-0.46	0.5525	3.38	0.0000	-0.50	0.0000	-0.39	0.0000	-0.39
LB1705	0.0000	-0.43	0.0000	-0.53	0.0000	-0.46	0.0000	-0.36	0.0000	-0.50	0.0000	-0.39	0.0000	-0.39
LB1707	0.1003	0.82	0.1086	0.52	0.1086	1.20	0.0995	0.31	0.0835	1.81	0.0631	2.41	0.0520	2.42
LB1707*	0.0921	0.72	0.0994	0.43	0.1004	1.07	0.0931	0.27	0.0789	1.68	0.0608	2.31	0.0499	2.30
LB1712	0.0000	-0.43	0.0000	-0.53	0.0000	-0.46	0.0000	-0.36	0.0000	-0.50	0.0000	-0.39	0.0000	-0.39
LB1713	0.0000	-0.43	0.0000	-0.53	0.0000	-0.46	0.0000	-0.36	0.0000	-0.50	0.0000	-0.39	0.0000	-0.39
LB1714	0.0000	-0.43	0.0000	-0.53	0.0000	-0.46	0.0000	-0.36	0.0000	-0.50	0.0000	-0.39	0.0000	-0.39
LB1715	0.0000	-0.43	0.0000	-0.53	0.0000	-0.46	0.0000	-0.36	0.0000	-0.50	0.0000	-0.39	0.0000	-0.39
LB1716	0.0000	-0.43	0.0000	-0.53	0.0000	-0.46	0.0000	-0.36	0.0000	-0.50	0.0000	-0.39	0.0000	-0.39
LB1726	0.0000	-0.43	0.0000	-0.53	0.0000	-0.46	0.0000	-0.36	0.0000	-0.50	0.0000	-0.39	0.0000	-0.39
LB1728	0.2854	3.13	0.2938	2.31	0.2153	2.83	0.0000	-0.36	0.0916	2.03	0.0000	-0.39	0.0000	-0.39
BENCHMARK	0.0000	-0.43	0.0000	-0.53	0.0000	-0.46	0.0000	-0.36	0.0000	-0.50	0.0000	-0.39	0.0000	-0.39
MEAN	0.034		0.055		0.030		0.053		0.018		0.009		0.007	
STDEV	0.080		0.103		0.065		0.148		0.036		0.023		0.019	

z-score = 0

Appendix 2. Z-score calculations.

	10.00 to 10.50	z-score	10.50 to 11.00	z-score	11.00 to 11.50	z-score	11.50 to 12.00	z-score	12.00 to 12.50	12.50 to 13.00	13.00 to 13.50
LB1701	0.0000	-0.39	0.0000	-0.39	0.0000	-0.39	0.0000	-0.39	0.00	0.00	0.00
LB1702	0.0000	-0.39	0.0000	-0.39	0.0000	-0.39	0.0000	-0.39	0.00	0.00	0.00
LB1703	0.0000	-0.39	0.0000	-0.39	0.0000	-0.39	0.0000	-0.39	0.00	0.00	0.00
LB1705	0.0000	-0.39	0.0000	-0.39	0.0000	-0.39	0.0000	-0.39	0.00	0.00	0.00
LB1707	0.0469	2.39	0.0381	2.34	0.0215	2.31	0.0026	2.25	0.00	0.00	0.00
LB1707*	0.0458	2.33	0.0385	2.38	0.0223	2.41	0.0028	2.46	0.00	0.00	0.00
LB1712	0.0000	-0.39	0.0000	-0.39	0.0000	-0.39	0.0000	-0.39	0.00	0.00	0.00
LB1713	0.0000	-0.39	0.0000	-0.39	0.0000	-0.39	0.0000	-0.39	0.00	0.00	0.00
LB1714	0.0000	-0.39	0.0000	-0.39	0.0000	-0.39	0.0000	-0.39	0.00	0.00	0.00
LB1715	0.0000	-0.39	0.0000	-0.39	0.0000	-0.39	0.0000	-0.39	0.00	0.00	0.00
LB1716	0.0000	-0.39	0.0000	-0.39	0.0000	-0.39	0.0000	-0.39	0.00	0.00	0.00
LB1726	0.0000	-0.39	0.0000	-0.39	0.0000	-0.39	0.0000	-0.39	0.00	0.00	0.00
LB1728	0.0000	-0.39	0.0000	-0.39	0.0000	-0.39	0.0000	-0.39	0.00	0.00	0.00
BENCHMARK	0.0000	-0.39	0.0000	-0.39	0.0000	-0.39	0.0000	-0.39	0.00	0.00	0.00
MEAN	0.007		0.005		0.003		0.000		0.000	0.000	0.000
STDEV	0.017		0.014		0.008		0.001		0.000	0.000	0.000

z-score = 0