

The National Marine Biological
Analytical Quality Control Scheme
www.nmbaqcs.org

Particle Size Results – PS35

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Contents

Tables

- Table 1. Summary of the particle size information received from participating laboratories and replicate analysis laboratories for the thirty-fifth particle size distribution – PS35.
- Table 2. Z-score results for the derived statistics supplied by participating laboratories for the particle size exercise – PS35.

Figures

- Figure 1. Particle size distribution curves resulting from analysis of fourteen replicate samples distributed as PS35.
- Figure 2. Particle size distribution curves from participating laboratories for sediment samples from PS35.
- Figure 3. Summary sediment composition data from participating laboratories for sediment samples from PS35.
- Figure 4. Z-scores for PS35 derived statistics.

Appendices

Data sheets supplied by participating laboratories (arranged by LabCode).

Table 1. Summary of the particle size information received from participating laboratories and replicate analysis laboratories for the thirty-fifth particle size distribution - PS35.

Replicate Sample Data

Sample	Method	% < 63 micron	Median (phi)	Mean (phi)	Sort	IGS (SKi)
PS35_42	L ¹	8.06	1.747	1.767	1.430	0.140
PS35_43	L ¹	8.79	1.779	1.804	1.478	0.158
PS35_44	L ¹	8.51	1.766	1.791	1.461	0.155
PS35_45	L ¹	8.26	1.785	1.811	1.427	0.149
PS35_46	L ¹	8.37	1.778	1.802	1.442	0.147
PS35_47	L ¹	8.38	1.762	1.786	1.439	0.154
PS35_48	L ¹	7.86	1.737	1.760	1.408	0.146
PS35_49	L ²	5.260	1.606	1.584	1.158	0.056
PS35_50	L ²	4.225	1.585	1.566	1.075	0.008
PS35_51	L ²	5.415	1.649	1.632	1.204	0.051
PS35_52	L ²	5.576	1.631	1.616	1.222	0.062
PS35_53	L ²	3.618	1.591	1.550	1.016	-0.077
PS35_54	L ²	3.635	1.596	1.565	1.005	-0.042
PS35_55	L ²	5.622	1.718	1.700	1.228	0.049
UM	Overall Average	6.54	1.695	1.695	1.285	0.083
UM	L¹RepAv	8.32	1.765	1.789	1.441	0.150
UM	L²RepAv	4.76	1.625	1.602	1.130	0.015

Participant Data

Lab	Method	%<63µm	Median	Mean	Sort	IGS (SKi)
LB1601	DS/L	12.67	1.85	2.02	1.77	0.33
LB1602	DS/L	19.36	2.2	2.76	1.90	0.56
LB1603	DS/L	7.9	1.3	1.25	1.51	0.07
LB1604	L	8.63	1.79	2.06	1.64	0.23
LB1605	L	8.51	1.89	1.97	1.3	0.26
LB1606	WS/DS/L	9.80	2.13	2.15	1.63	0.18
LB1611	-	-	-	-	-	-
LB1620	L	16.4	2.12	2.52	1.59	0.5
LB1623	L	9.32	1.88	1.73	1.36	-0.34
LB1625	WS/L	15.25	1.89	2.14	2.04	0.35
LB1627	L	10.82	1.83	1.91	1.701	0.247
LB1635	DS	2.6	1.899	1.892	1.118	-0.028

Key to methods:

L - Laser analysis DS - Dry sieve CC - Coulter counter
 S - Sieve WS - Wet sieve FD - Freeze dried
 P - Pipette

L¹ - Replicate analysis by Malvern Laser (MS-2000)

L² - Replicate analysis by Malvern Laser (MS-X, long bed)

L* - data for this laboratory not included in calculations (replicate data).

"-" - No data.

Shaded cells - maximum and minimum values for each derived statistic.

Table 2. Z-score results for the derived statistics supplied by participating laboratories for the particle size exercise - PS35.

PS35																
LabCode	%<63µm	z-score	Flag	Median	z-score	Flag	Mean	z-score	Flag	Sort	z-score	Flag	IGS (SKi)	z-score	Flag	Description: pre/post analysis
Laser ¹ RepAv	8.32	-0.56	PASS	1.76	-0.79	PASS	1.79	-0.78	PASS	1.44	-0.46	PASS	0.150	-0.38	PASS	- / Slightly Gravelly Sand
Laser ² RepAv	4.76	-1.61	PASS	1.63	-1.75	PASS	1.60	-1.53	PASS	1.13	-1.85	PASS	0.015	-1.25	PASS	Gravelly muddy fine sand / Slightly gravelly sand
LB1601	12.67	0.72	PASS	1.85	-0.20	PASS	2.02	0.16	PASS	1.77	1.02	PASS	0.330	0.78	PASS	sM+g / (g)mS
LB1602	19.36	2.70	Fail	2.2	2.21	Fail	2.76	3.16	Fail	1.90	1.60	PASS	0.56	2.26	Fail	Slightly Gravelly Muddy Sand / Muddy Sand (mS)
LB1603	7.90	-0.68	PASS	1.3	-3.99	Fail	1.25	-2.96	Fail	1.51	-0.15	PASS	0.070	-0.90	PASS	medium sand / medium sand
LB1604	8.63	-0.47	PASS	1.79	-0.61	PASS	2.06	0.32	PASS	1.64	0.44	PASS	0.230	0.13	PASS	Slightly muddy sand / Sand
LB1605	8.51	-0.50	PASS	1.89	0.08	PASS	1.97	-0.04	PASS	1.30	-1.09	PASS	0.260	0.33	PASS	Muddy sand / Sand
LB1606	9.80	-0.12	PASS	2.13	1.73	PASS	2.15	0.69	PASS	1.63	0.39	PASS	0.180	-0.19	PASS	Slightly Gravelly Sand / Slightly Gravelly Sand
LB1611	-	-	Deemed Fail	-	-	Deemed Fail	-	-	Deemed Fail	-	-	Deemed Fail	-	-	Deemed.Fail	-
LB1620	16.40	1.82	PASS	2.12	1.66	PASS	2.52	2.19	Fail	1.59	0.21	PASS	0.500	1.87	PASS	- / Muddy sand
LB1623	9.32	-0.26	PASS	1.88	0.01	PASS	1.73	-1.01	PASS	1.36	-0.82	PASS	-0.34	-3.54	Fail	Medium to fine sand / Medium sand
LB1625	15.25	1.48	PASS	1.89	0.08	PASS	2.14	0.65	PASS	2.04	2.23	Fail	0.350	0.91	PASS	Silty sands / Slightly shelly, silty sands
LB1627	10.82	0.18	PASS	1.83	-0.34	PASS	1.91	-0.28	PASS	1.70	0.71	PASS	0.247	0.24	PASS	Poorly sorted medium sand / Slightly gravelly muddy SAND
LB1635	2.6	-2.25	Fail	1.90	0.14	PASS	1.89	-0.36	PASS	1.118	-1.90	PASS	-0.028	-1.53	PASS	Slightly gravelly muddy sand / Slightly gravelly sand

"-" no return and/or data from laboratory.

Laser¹RepAv - Average of replicate analysis by Malvern Laser (Mastersizer2000)

Laser²RepAv - Average of replicate analysis by Malvern Laser (MastersizerX, long bed)

Figure 1. Particle size distribution curves resulting from analysis of fourteen replicate samples of sediment distributed as PS35. Seven samples analysed by Malvern Mastersizer 2000 and seven by Malvern Mastersizer X.

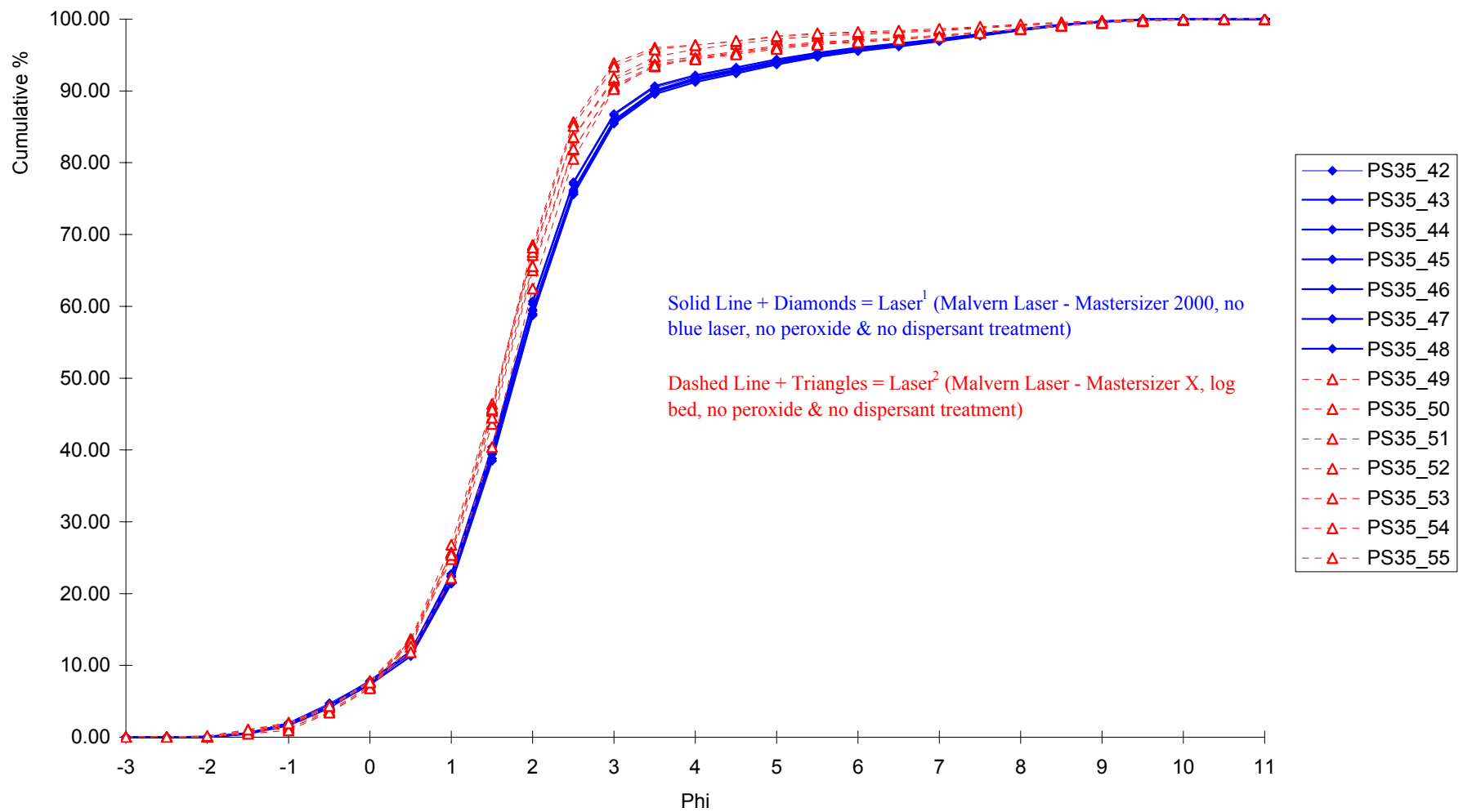


Figure 2. Particle size distribution curves from participating laboratories for sediment samples from PS35.

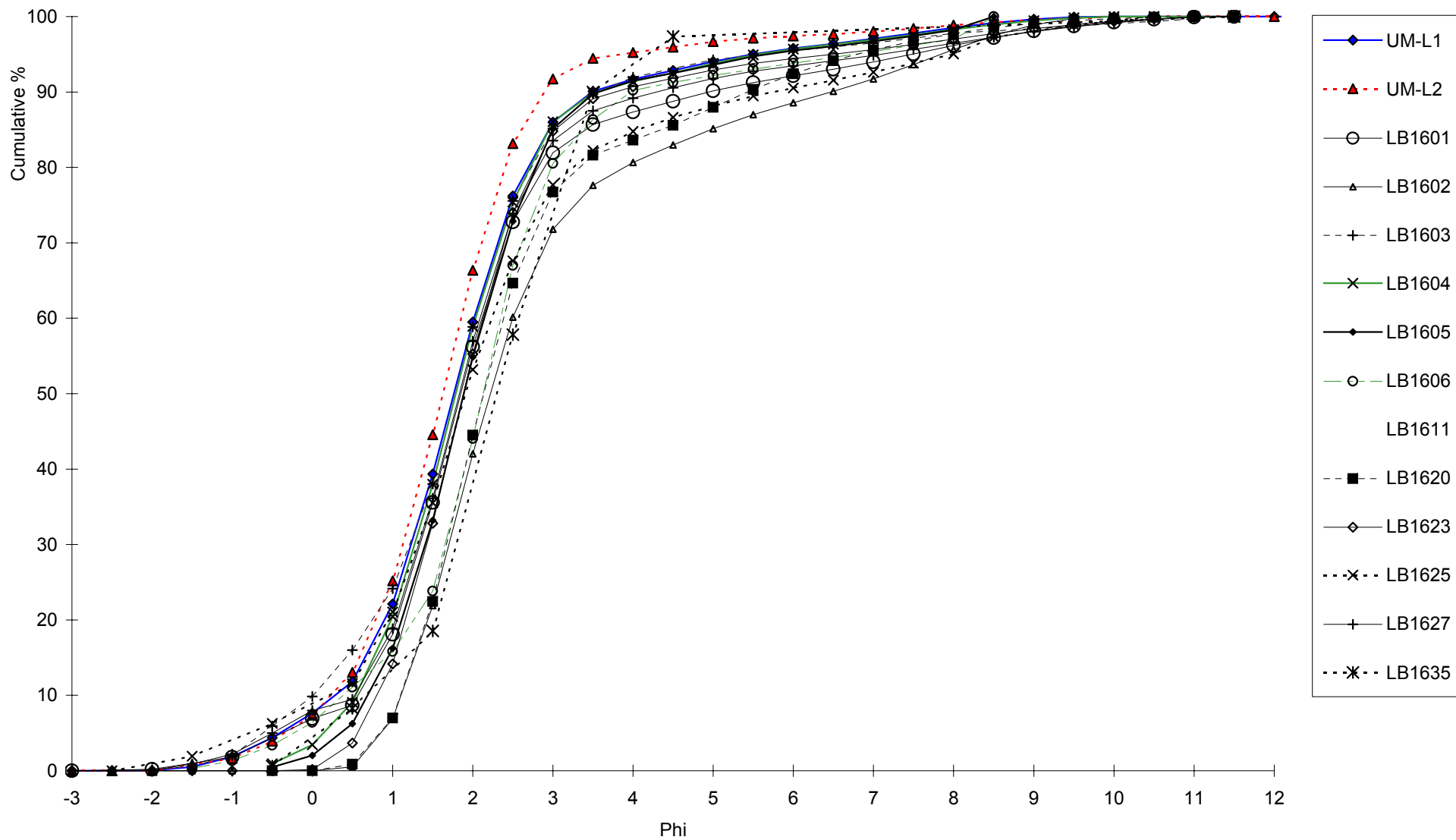


Figure 3. Summary sediment composition data from participating laboratories for sediment samples from PS35.

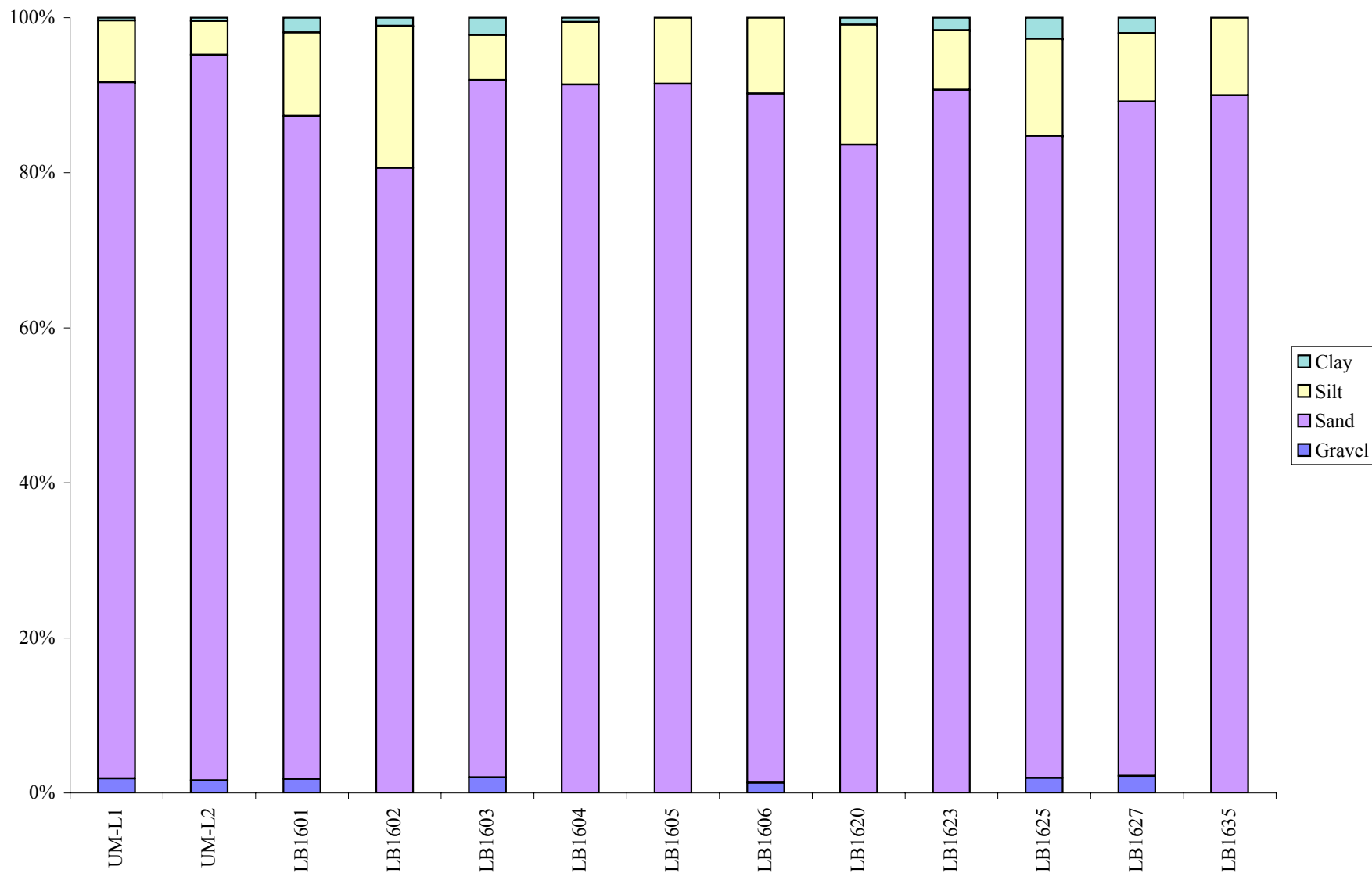
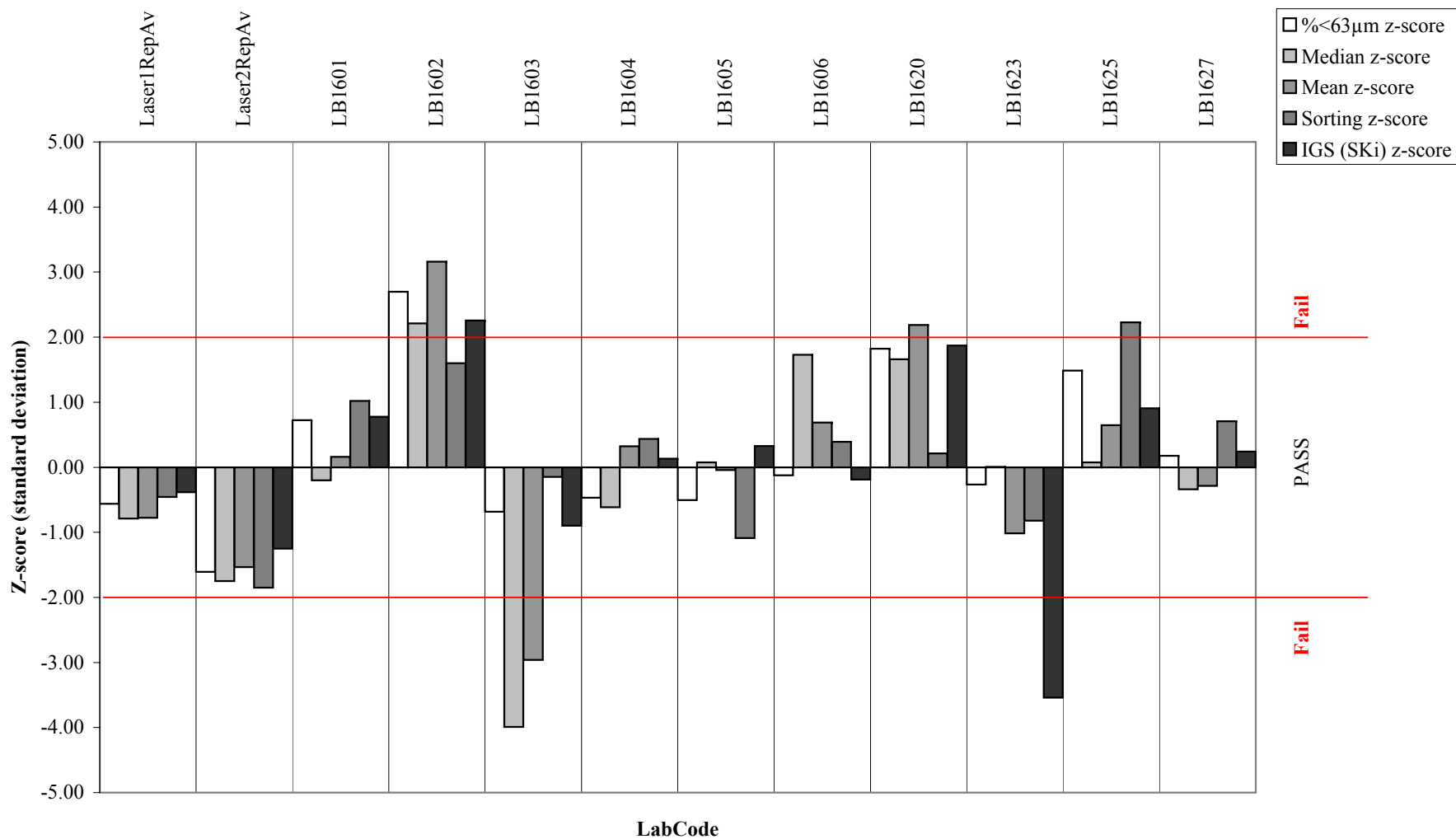


Figure 4. Z-scores for PS35 derived statistics.



Appendices

NMBAQCS - PS Exercise Record Sheet

Return to Unicomarine Ltd. by 05-02-10

Exercise Code:	PS35
LabCode:	LB1601
Sample Code:	PS351601
Method used:	Endecotts sieves/shaker + Laser
Equipment used:	<i>Dry sieves + Malvern 2000 (0.02 - 2000 u) Hydro G</i>
Peroxide treatment used:	no
Chemical dispersant used:	yes (calgon in hyro G + water)
% less than 63 micron:	<i>12.67%</i>
Median particle diameter (phi):	<i>1.85</i>
Mean particle diameter (phi):	<i>2.02</i>
Sorting Coefficient:	<i>1.77</i>
Inclusive Graphic Skewness (SKi):	<i>0.33</i>
Sediment Description Pre-analysis (e.g. sandy mud):	<i>sM+g</i>
Sediment Description Post-analysis (Folk Triangle) [†] :	<i>(g)mS</i>

(*deleted as applicable)

Phi interval (explicit)	Volume/Weight (%)
-3.50 to -3.00	0
-3.00 to -2.50	
-2.50 to -2.00	0.2
-2.00 to -1.50	
-1.50 to -1.00	1.6
-1.00 to -0.50	
-0.50 to 0.00	<i>5.12</i>
0.00 to 0.50	<i>1.76</i>
0.50 to 1.00	<i>9.4</i>
1.00 to 1.50	<i>17.48</i>
1.50 to 2.00	<i>20.63</i>
2.00 to 2.50	<i>16.56</i>
2.50 to 3.00	<i>9.18</i>
3.00 to 3.50	<i>3.71</i>
3.50 to 4.00	<i>1.68</i>
4.00 to 4.50	<i>1.44</i>
4.50 to 5.00	<i>1.37</i>
5.00 to 5.50	<i>1.1</i>
5.50 to 6.00	<i>0.88</i>
6.00 to 6.50	<i>0.88</i>
6.50 to 7.00	<i>0.97</i>
7.00 to 7.50	<i>1.07</i>
7.50 to 8.00	<i>1.11</i>
8.00 to 8.50	<i>1.05</i>
8.50 to 9.00	<i>0.88</i>
9.00 to 9.50	<i>0.67</i>
9.50 to 10.00	<i>0.49</i>
10.00 to 10.50	<i>0.4</i>
10.50 to 11.00	<i>0.28</i>
11.00 to 11.50	<i>0.07</i>

continue if necessary...

[†] 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.

Exercise Code:	PS35
LabCode:	LB1602
Sample Code:	PS351602
Method used:	<i><1mm LASER/>1mm MANUAL SIEVING</i>
Equipment used:	<i>Malvern Mastersizer2000, Hydro mu accessory unit, Sieve set and Shaker</i>
Peroxide treatment used:	no
Chemical dispersant used:	no
% less than 63 micron:	<i>19.36</i>
Median particle diameter (phi):	<i>2.2</i>
Mean particle diameter (phi):	<i>2.76</i>
Sorting Coefficient:	<i>1.9</i>
Inclusive Graphic Skewness (SKi):	<i>0.56</i>
Sediment Description Pre-analysis (e.g. sandy mud):	<i>Slightly Gravelly Muddy Sand</i>
Sediment Description Post-analysis (Folk Triangle)[†]:	<i>Muddy Sand (mS)</i>

(*deleted as applicable)

Phi interval (explicit)	Volume/Weight (%)
<i>-3.50 to -3.00</i>	0
<i>-3.00 to -2.50</i>	0
<i>-2.50 to -2.00</i>	0
<i>-2.00 to -1.50</i>	0
<i>-1.50 to -1.00</i>	0
<i>-1.00 to -0.50</i>	<i>0</i>
<i>-0.50 to 0.00</i>	<i>0</i>
<i>0.00 to 0.50</i>	<i>0.5</i>
<i>0.50 to 1.00</i>	<i>6.39</i>
<i>1.00 to 1.50</i>	<i>15</i>
<i>1.50 to 2.00</i>	<i>20.12</i>
<i>2.00 to 2.50</i>	<i>18.14</i>
<i>2.50 to 3.00</i>	<i>11.65</i>
<i>3.00 to 3.50</i>	<i>5.82</i>
<i>3.50 to 4.00</i>	<i>3.01</i>
<i>4.00 to 4.50</i>	<i>2.32</i>
<i>4.50 to 5.00</i>	<i>2.16</i>
<i>5.00 to 5.50</i>	<i>1.87</i>
<i>5.50 to 6.00</i>	<i>1.58</i>
<i>6.00 to 6.50</i>	<i>1.51</i>
<i>6.50 to 7.00</i>	<i>1.66</i>
<i>7.00 to 7.50</i>	<i>1.89</i>
<i>7.50 to 8.00</i>	<i>2</i>
<i>8.00 to 8.50</i>	<i>1.86</i>
<i>8.50 to 9.00</i>	<i>1.43</i>
<i>9.00 to 9.50</i>	<i>0.82</i>
<i>9.50 to 10.00</i>	<i>0.26</i>
<i>10.00 to 10.50</i>	<i>0</i>
<i>10.50 to 11.00</i>	<i>0</i>
<i>11.00 to 11.50</i>	<i>0</i>

continue if necessary...

[†] 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 05-02-10

Exercise Code:	PS35
LabCode:	LB1603
Sample Code:	PS351603
Method used:	<i>in-house</i>
Equipment used:	<i>sieve and malvern laser mam5004</i>
Peroxide treatment used:	yes
Chemical dispersant used:	no
% less than 63 micron:	<i>7.9</i>
Median particle diameter (phi):	<i>1.3</i>
Mean particle diameter (phi):	<i>1.25</i>
Sorting Coefficient:	<i>1.51</i>
Inclusive Graphic Skewness (SKi):	<i>0.07</i>
Sediment Description Pre-analysis (e.g. sandy mud):	<i>medium sand</i>
Sediment Description Post-analysis (Folk Triangle)[†]:	<i>medium sand</i>

(*deleted as applicable)

Phi interval (explicit)	Volume/Weight (%)
<i>-3.50 to -3.00</i>	
<i>-3.00 to -2.50</i>	0.1
<i>-2.50 to -2.00</i>	
<i>-2.00 to -1.50</i>	0.5
<i>-1.50 to -1.00</i>	1.4
<i>-1.00 to -0.50</i>	3.9
<i>-0.50 to 0.00</i>	3.9
<i>0.00 to 0.50</i>	6.1
<i>0.50 to 1.00</i>	8.1
<i>1.00 to 1.50</i>	13.8
<i>1.50 to 2.00</i>	20.7
<i>2.00 to 2.50</i>	16.6
<i>2.50 to 3.00</i>	9.5
<i>3.00 to 3.50</i>	4.6
<i>3.50 to 4.00</i>	2.2
<i>4.00 to 4.50</i>	
<i>4.50 to 5.00</i>	2.3
<i>5.00 to 5.50</i>	
<i>5.50 to 6.00</i>	1.2
<i>6.00 to 6.50</i>	
<i>6.50 to 7.00</i>	1.0
<i>7.00 to 7.50</i>	
<i>7.50 to 8.00</i>	1.3
<i>8.00 to 8.50</i>	
<i>8.50 to 9.00</i>	
<i>9.00 to 9.50</i>	
<i>9.50 to 10.00</i>	2.2
<i>10.00 to 10.50</i>	
<i>10.50 to 11.00</i>	
<i>11.00 to 11.50</i>	

continue if necessary...

[†] 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 Unicmarine Ltd. by 05-02-10

Exercise Code:	PS35
LabCode:	LB1604
Sample Code:	PS351604
Method used:	<i>Laser size</i>
Equipment used:	<i>Malvern Mastersizer2000</i>
Peroxide treatment used:	no
Chemical dispersant used:	no
% less than 63 micron:	8.63
Median particle diameter (phi):	1.79
Mean particle diameter (phi):	2.06
Sorting Coefficient:	1.64
Inclusive Graphic Skewness (SKi):	0.23
Sediment Description Pre-analysis (e.g. sandy mud):	<i>Slightly muddy sand</i>
Sediment Description Post-analysis (Folk Triangle) [†] :	<i>Sand</i>

(*deleted as applicable)

Phi interval (explicit)	Volume/Weight (%)
-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	0.93
-0.50 to 0.00	2.52
0.00 to 0.50	5.63
0.50 to 1.00	11.36
1.00 to 1.50	17.53
1.50 to 2.00	20.94
2.00 to 2.50	16.47
2.50 to 3.00	10.66
3.00 to 3.50	3.83
3.50 to 4.00	1.50
4.00 to 4.50	1.15
4.50 to 5.00	1.26
5.00 to 5.50	1.10
5.50 to 6.00	0.79
6.00 to 6.50	0.63
6.50 to 7.00	0.61
7.00 to 7.50	0.67
7.50 to 8.00	0.68
8.00 to 8.50	0.65
8.50 to 9.00	0.53
9.00 to 9.50	0.37
9.50 to 10.00	0.17
10.00 to 10.50	0.00
10.50 to 11.00	0.00
11.00 to 11.50	0.00

continue if necessary...

[†] 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 Unicmarine Ltd. by 05-02-10

Exercise Code:	PS35
LabCode:	LB1605
Sample Code:	PS351605
Method used:	<i>Laser Granulometry</i>
Equipment used:	<i>Malvern 2000</i>
Peroxide treatment used:	No
Chemical dispersant used:	No
% less than 63 micron:	8.51
Median particle diameter (phi):	1.89
Mean particle diameter (phi):	1.97
Sorting Coefficient:	1.3
Inclusive Graphic Skewness (SKi):	0.26
Sediment Description Pre-analysis (e.g. sandy mud):	<i>Muddy sand</i>
Sediment Description Post-analysis (Folk Triangle) [†] :	<i>Sand</i>

(*deleted as applicable)

Phi interval (explicit)	Volume/Weight (%)
-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	0.49
-0.50 to 0.00	1.54
0.00 to 0.50	4.2
0.50 to 1.00	9.98
1.00 to 1.50	16.99
1.50 to 2.00	21.66
2.00 to 2.50	17.97
2.50 to 3.00	12.28
3.00 to 3.50	4.64
3.50 to 4.00	1.72
4.00 to 4.50	1
4.50 to 5.00	1.12
5.00 to 5.50	1.11
5.50 to 6.00	0.76
6.00 to 6.50	0.6
6.50 to 7.00	0.63
7.00 to 7.50	0.71
7.50 to 8.00	0.8
8.00 to 8.50	1.78
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	

continue if necessary...

[†] 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 05-02-10

Particle Size Analysis:	PS35
Lab Code:	LB1606
Sample Code:	PS351606
Method used:	Wet Sieve, Dry Sieve and Laser Diffraction
Equipment used:	Wet Sieve at 63um. Dry Sieve >63um fraction. Laser Diffraction (Mastersizer Micro) a subsample of the wet <63um fraction.
Peroxide treatment used:	no
Chemical dispersant used:	no
% less than 63 micron:	9.80
Median particle diameter (phi):	2.13
Mean particle diameter (phi):	2.15
Sorting Coefficient:	1.63
Inclusive Graphic Skewness (SKi):	0.18
Sediment Description Pre-analysis (i.e. sandy mud):	Slightly Gravelly Sand
Sediment Description Post-analysis (Folk Triangle)[†]:	Slightly Gravelly Sand <i>(*deleted as applicable)</i>

Phi interval (explicit)	Volume/Weight (%)
-3.50 to 3.00	n/a
-3.00 to -2.50	n/a
-2.50 to -2.00	n/a
-2.00 to -1.50	0.316
-1.50 to -1.00	1.012
-1.00 to -0.50	2.062
-0.50 to 0.00	3.016
0.00 to 0.50	4.656
0.50 to 1.00	4.730
1.00 to 1.50	8.037
1.50 to 2.00	20.224
2.00 to 2.50	22.959
2.50 to 3.00	13.513
3.00 to 3.50	5.834
3.50 to 4.00	3.841
4.00 to 4.50	1.084
4.50 to 5.00	0.884
5.00 to 5.50	0.847
5.50 to 6.00	0.798
6.00 to 6.50	0.783
6.50 to 7.00	0.777
7.00 to 7.50	0.812
7.50 to 8.00	0.796
8.00 to 8.50	3.018
8.50 to 9.00	n/a
9.00 to 9.50	n/a
9.50 to 10.00	n/a
10.00 to 10.50	n/a
10.50 to 11.00	n/a
11.00 to 11.50	n/a

continue if necessary...

[†] 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 Unicmarine Ltd. by 05-02-10

Exercise Code:	PS35
LabCode:	LB1620
Sample Code:	PS351620
Method used:	<i>Laser Diffraction</i>
Equipment used:	<i>Malvern Mastersizer</i>
Peroxide treatment used:	No
Chemical dispersant used:	No
% less than 63 micron:	<i>16.4</i>
Median particle diameter (phi):	<i>2.12</i>
Mean particle diameter (phi):	<i>2.52</i>
Sorting Coefficient:	<i>1.59</i>
Inclusive Graphic Skewness (SKi):	<i>0.5</i>
Sediment Description Pre-analysis (e.g. sandy mud):	
Sediment Description Post-analysis (Folk Triangle) [†] :	<i>Muddy sand</i>

(*deleted as applicable)

Phi interval (explicit)	Volume/Weight (%)
-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	<i>0</i>
-0.50 to 0.00	<i>0</i>
0.00 to 0.50	<i>0.86</i>
0.50 to 1.00	<i>6.14</i>
1.00 to 1.50	<i>15.43</i>
1.50 to 2.00	<i>22.06</i>
2.00 to 2.50	<i>20.15</i>
2.50 to 3.00	<i>12.1</i>
3.00 to 3.50	<i>4.89</i>
3.50 to 4.00	<i>1.99</i>
4.00 to 4.50	<i>1.96</i>
4.50 to 5.00	<i>2.4</i>
5.00 to 5.50	<i>2.37</i>
5.50 to 6.00	<i>2.06</i>
6.00 to 6.50	<i>1.74</i>
6.50 to 7.00	<i>1.44</i>
7.00 to 7.50	<i>1.18</i>
7.50 to 8.00	<i>0.97</i>
8.00 to 8.50	<i>0.79</i>
8.50 to 9.00	<i>0.58</i>
9.00 to 9.50	<i>0.38</i>
9.50 to 10.00	<i>0.24</i>
10.00 to 10.50	<i>0.19</i>
10.50 to 11.00	<i>0.09</i>
11.00 to 11.50	<i>0</i>

continue if necessary...

[†] 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 Unicmarine Ltd. by 05-02-10

Exercise Code:	PS35
LabCode:	LB1623
Sample Code:	PS351623
Method used:	<i>Lasetr Diffraction</i>
Equipment used:	<i>Mastersizer 2000</i>
Peroxide treatment used:	No
Chemical dispersant used:	No
% less than 63 micron:	<i>9.32</i>
Median particle diameter (phi):	<i>1.88</i>
Mean particle diameter (phi):	<i>1.73</i>
Sorting Coefficient:	<i>1.36</i>
Inclusive Graphic Skewness (SKi):	<i>-0.34</i>
Sediment Description Pre-analysis (e.g. sandy mud):	<i>Medium to fine sand</i>
Sediment Description Post-analysis (Folk Triangle)[†]:	<i>Medium sand</i>

(*deleted as applicable)

Phi interval (explicit)	Volume/Weight (%)
<i>-3.50 to -3.00</i>	<i>0</i>
<i>-3.00 to -2.50</i>	<i>0</i>
<i>-2.50 to -2.00</i>	<i>0</i>
<i>-2.00 to -1.50</i>	<i>0</i>
<i>-1.50 to -1.00</i>	<i>0</i>
<i>-1.00 to -0.50</i>	<i>0</i>
<i>-0.50 to 0.00</i>	<i>0.16</i>
<i>0.00 to 0.50</i>	<i>3.52</i>
<i>0.50 to 1.00</i>	<i>10.5</i>
<i>1.00 to 1.50</i>	<i>18.62</i>
<i>1.50 to 2.00</i>	<i>22.45</i>
<i>2.00 to 2.50</i>	<i>18.78</i>
<i>2.50 to 3.00</i>	<i>10.8</i>
<i>3.00 to 3.50</i>	<i>4.31</i>
<i>3.50 to 4.00</i>	<i>1.57</i>
<i>4.00 to 4.50</i>	<i>1.12</i>
<i>4.50 to 5.00</i>	<i>1.09</i>
<i>5.00 to 5.50</i>	<i>0.88</i>
<i>5.50 to 6.00</i>	<i>0.65</i>
<i>6.00 to 6.50</i>	<i>0.57</i>
<i>6.50 to 7.00</i>	<i>0.62</i>
<i>7.00 to 7.50</i>	<i>0.68</i>
<i>7.50 to 8.00</i>	<i>0.72</i>
<i>8.00 to 8.50</i>	<i>0.72</i>
<i>8.50 to 9.00</i>	<i>0.66</i>
<i>9.00 to 9.50</i>	<i>0.53</i>
<i>9.50 to 10.00</i>	<i>0.41</i>
<i>10.00 to 10.50</i>	<i>0.34</i>
<i>10.50 to 11.00</i>	<i>0.25</i>
<i>11.00 to 11.50</i>	<i>0.07</i>

continue if necessary...

[†] 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 05-02-10

Exercise Code:	PS35
LabCode:	LB1625
Sample Code:	PS351625
Method used:	<i>West Sieve and Lazer Diffraction</i>
Equipment used:	<i>Sieves(Phi Scale) & Malvern Mastersizer</i>
Peroxide treatment used:	no
Chemical dispersant used:	no
% less than 63 micron:	15.25
Median particle diameter (phi):	1.89
Mean particle diameter (phi):	2.14
Sorting Coefficient:	2.04
Inclusive Graphic Skewness (SKi):	0.35
Sediment Description Pre-analysis (e.g. sandy mud):	<i>Silty sands</i>
Sediment Description Post-analysis (Folk Triangle) [†] :	<i>Slightly shelly, silty sands</i>

(*deleted as applicable)

Phi interval (explicit)	Volume/Weight (%)
-3.50 to -3.00	
-3.00 to -2.50	0.00
-2.50 to -2.00	
-2.00 to -1.50	1.94
-1.50 to -1.00	
-1.00 to -0.50	4.35
-0.50 to 0.00	
0.00 to 0.50	5.28
0.50 to 1.00	9.47
1.00 to 1.50	14.47
1.50 to 2.00	17.67
2.00 to 2.50	14.40
2.50 to 3.00	10.10
3.00 to 3.50	4.51
3.50 to 4.00	2.56
4.00 to 4.50	1.87
4.50 to 5.00	1.50
5.00 to 5.50	1.33
5.50 to 6.00	1.06
6.00 to 6.50	1.03
6.50 to 7.00	1.07
7.00 to 7.50	1.18
7.50 to 8.00	1.23
8.00 to 8.50	2.23
8.50 to 9.00	
9.00 to 9.50	1.58
9.50 to 10.00	
10.00 to 10.50	1.14
10.50 to 11.00	
11.00 to 11.50	

continue if necessary...

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NMBAQCS - PS Exercise Record Sheet

Return to Unicmarine Ltd. by 05-02-10

Exercise Code:	PS35
LabCode:	LB1627
Sample Code:	PS351627
Method used:	<i>Laser Diffraction</i>
Equipment used:	<i>Malvern Mastersizer 2000MU</i>
Peroxide treatment used:	no
Chemical dispersant used:	no
% less than 63 micron:	<i>10.82%</i>
Median particle diameter (phi):	<i>1.83</i>
Mean particle diameter (phi):	<i>1.91</i>
Sorting Coefficient:	<i>1.701</i>
Inclusive Graphic Skewness (SKi):	<i>0.247</i>
Sediment Description Pre-analysis (e.g. sandy mud):	<i>Poorly sorted medium sand</i>
Sediment Description Post-analysis (Folk Triangle)[†]:	<i>Slightly gravelly muddy SAND</i>

(*deleted as applicable)

Phi interval (explicit)	Volume/Weight (%)
-3.50 to -3.00	0.00
-3.00 to -2.50	0.00
-2.50 to -2.00	0.08
-2.00 to -1.50	0.81
-1.50 to -1.00	1.29
-1.00 to -0.50	2.82
-0.50 to 0.00	2.99
0.00 to 0.50	1.47
0.50 to 1.00	9.39
1.00 to 1.50	17.28
1.50 to 2.00	20.84
2.00 to 2.50	16.94
2.50 to 3.00	9.66
3.00 to 3.50	3.95
3.50 to 4.00	1.67
4.00 to 4.50	1.37
4.50 to 5.00	1.23
5.00 to 5.50	0.96
5.50 to 6.00	0.73
6.00 to 6.50	0.68
6.50 to 7.00	0.71
7.00 to 7.50	0.79
7.50 to 8.00	0.82
8.00 to 8.50	0.80
8.50 to 9.00	0.74
9.00 to 9.50	0.65
9.50 to 10.00	0.50
10.00 to 10.50	0.44
10.50 to 11.00	0.30
11.00 to 11.50	0.10

continue if necessary...

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NMBAQCS - PS Exercise Record Sheet

Return to Unicmarine Ltd. by 05-02-10

Exercise Code:	PS35
LabCode:	LB1635
Sample Code:	PS351635
Method used:	<i>Dry sieve</i>
Equipment used:	<i>Retsch AS200 sieve shaker</i>
Peroxide treatment used:	no
Chemical dispersant used:	no
% less than 63 micron:	2.6
Median particle diameter (phi):	1.899
Mean particle diameter (phi):	1.892
Sorting Coefficient:	1.118
Inclusive Graphic Skewness (SKi):	-0.028
Sediment Description Pre-analysis (e.g. sandy mud):	<i>Slightly gravelly muddy sand</i>
Sediment Description Post-analysis (Folk Triangle) [†] :	<i>Slightly gravelly sand.</i>

(*deleted as applicable)

Phi interval (explicit)	Volume/Weight (%)
-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	0.61
-0.50 to 0.00	
0.00 to 0.50	7.65
0.50 to 1.00	
1.00 to 1.50	10.29
1.50 to 2.00	
2.00 to 2.50	39.27
2.50 to 3.00	
3.00 to 3.50	32.16
3.50 to 4.00	
4.00 to 4.50	7.37
4.50 to 5.00	
<5.00	2.65

continue if necessary...

[†] 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.