NMBAQC

NE Atlantic Marine Biological Analytical Quality Control Scheme

Particle Size Report - PS72

Particle Size Component 2019/20

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APEM

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BENCHMARK DATA

Table 1. Summary data for the benchmark replicates distributed as PS72.

	Method	% Gravel	% Sand	% Mud	Sediment Description (Post analysis)
PSA_2630 BM REP 1	NMBAQC	0.00	30.91	69.09	Sandy Mud
PSA_2631 BM REP 2	NMBAQC	0.00	29.05	70.95	Sandy Mud
PSA_2632 BM REP 3	NMBAQC	0.00	29.48	70.52	Sandy Mud
PSA_2633 BM REP 4	NMBAQC	0.00	30.29	69.71	Sandy Mud
PSA_2634 BM REP 5	NMBAQC	0.00	30.98	69.02	Sandy Mud
BM REP AVERAGE	NMBAQC	0.00	30.14	69.86	Sandy Mud

Table 2. Summary of sieve data for the benchmark replicates distributed as PS72.

	PSA_2630 BM REP 1	PSA_2631 BM REP 2	PSA_2632 BM REP 3	PSA_2633 BM REP 4	PSA_2634 BM REP 5	BM Average
Sieves used	☐	☐	☐	☐	☐	☐
Phi interval; mm	**Weight in grams**					
-6.50 to -6.00; 63 mm						
-6.00 to -5.50; 45 mm						
-5.50 to -5.00; 31.5 mm						
-5.00 to -4.50; 22.4 mm		No sieve data as no sediment greater than 1mm present.				
-4.50 to -4.00; 16 mm						
-4.00 to -3.50; 11.2 mm						
-3.50 to -3.00; 8 mm						
-3.00 to -2.50; 5.6 mm						
-2.50 to -2.00; 4 mm						
-2.00 to -1.50; 2.8 mm						
-1.50 to -1.00; 2 mm						
-1.00 to -0.50; 1.4 mm						
-0.50 to 0.00; 1.0 mm						
>1.0 mm						
<1.0 mm Base Pan						
<1.0 mm Oven Dried						
Total Weight (g)						

BENCHMARK DATA

Table 3. Summary of final laser data for the benchmark replicates distributed as PS72.

	PSA_2630 BM REP 1	PSA_2631 BM REP 2	PSA_2632 BM REP 3	PSA_2633 BM REP 4	PSA_2634 BM REP 5	BM AVERAGE
0.00 to 0.50; (707 µm)	0.45	0.39	0.32	0.59	0.39	0.43
0.50 to 1.00; (500 µm)	1.25	1.18	1.10	1.52	1.37	1.28
1.00 to 1.50; (353.6 µm)	1.75	1.81	1.83	2.05	2.09	1.91
1.50 to 2.00; (250 µm)	1.77	1.74	1.63	1.61	1.79	1.71
2.00 to 2.50; (176.8 µm)	2.66	2.57	2.48	2.61	2.70	2.60
2.50 to 3.00; (125 µm)	3.58	3.45	3.46	3.50	3.65	3.53
3.00 to 3.50; (88.39 µm)	7.38	6.78	7.08	6.94	7.23	7.08
3.50 to 4.00; (62.5 µm)	12.06	11.14	11.59	11.48	11.78	11.61
4.00 to 4.50; (44.19 µm)	12.25	11.66	11.97	11.79	12.04	11.94
4.50 to 5.00; (31.25 µm)	8.74	8.63	8.69	8.65	8.68	8.68
5.00 to 5.50; (22.097 µm)	5.84	5.98	5.95	5.96	5.90	5.93
5.50 to 6.00; (15.625 µm)	4.64	4.86	4.74	4.78	4.70	4.75
6.00 to 6.50; (11.049 µm)	4.42	4.74	4.56	4.54	4.48	4.55
6.50 to 7.00; (7.813 µm)	4.40	4.81	4.62	4.49	4.43	4.55
7.00 to 7.50; (5.524 µm)	4.58	5.01	4.85	4.69	4.63	4.75
7.50 to 8.00; (3.906 µm)	4.51	4.87	4.76	4.66	4.58	4.68
8.00 to 8.50; (2.762 µm)	3.91	4.14	4.07	4.04	3.97	4.03
8.50 to 9.00; (1.953 µm)	3.16	3.26	3.23	3.26	3.18	3.22
9.00 to 9.50; (1.381 µm)	2.50	2.53	2.54	2.57	2.49	2.53
9.50 to 10.00; (0.977 µm)	1.92	1.94	1.96	1.95	1.88	1.93
10.00 to 10.50; (0.691 µm)	1.55	1.57	1.59	1.54	1.49	1.55
10.50 to 11.00; (0.488 µm)	1.41	1.45	1.48	1.41	1.37	1.42
11.00 to 11.50; (0.345 µm)	1.37	1.43	1.45	1.40	1.35	1.40
11.50 to 12.00; (0.244 µm)	1.28	1.34	1.36	1.33	1.27	1.31
12.00 to 12.50; (0.173 µm)	1.05	1.10	1.10	1.09	1.05	1.08
12.50 to 13.00; (0.122 µm)	0.81	0.84	0.83	0.82	0.80	0.82
13.00 to 13.50; (0.086 µm)	0.52	0.53	0.52	0.51	0.50	0.52
13.50 to 14.00; (0.061 µm)	0.20	0.21	0.20	0.20	0.20	0.20
14.00 to 14.50; (0.043 µm)	0.03	0.03	0.03	0.03	0.03	0.03
>14.50; (0.01 µm)	0.00	0.00	0.00	0.00	0.00	0.00
Total	100.00	100.00	100.00	100.00	100.00	100.00

BENCHMARK DATA

Table 4. Summary of Coefficient of Variation for Benchmark laser replicates for PS72.

		PSA_2630 BM REP 1	PSA_2631 BM REP 2	PSA_2632 BM REP 3	PSA_2633 BM REP 4	PSA_2634 BM REP 5
D_{10}	Subsample 1	1.33	1.70	3.69	1.84	1.55
	Subsample 2	1.60	1.44	6.34	4.04	1.28
	Subsample 3	2.81	1.49	1.55	1.66	4.78
D_{50}	Subsample 1	0.76	1.59	1.04	0.85	0.88
	Subsample 2	0.49	0.99	2.08	1.36	0.42
	Subsample 3	1.45	1.13	0.86	0.40	0.99
D_{90}	Subsample 1	2.09	3.07	1.63	1.11	0.81
	Subsample 2	2.55	2.19	0.57	3.22	2.72
	Subsample 3	3.32	0.51	0.74	1.08	2.24

$$COV = \left(\frac{StDev}{Mean}\right) * 100$$

ISO 133020 defines good reproducibility when: COV is <3% for D50
COV is <5% for D10 and D90

All limits double when the D50 is <10microns.

In reality 3% and 5% are low and greater variability is expected for natural sediment samples therefore a maximum of 20% (based on three replicates being measured) will be used as a guide.

The Benchmark replicates show good reproducibility

Table 5. Laser metadata for Benchmark replicates for PS72.

If laser used, provide manufacturer/model:	Beckman Coulter LS 13320
Dispersion unit:	Aqueous Liquid Module (ALM)
Analysis model:	Mie
Dispersant used:	Water (RI - 1.33)
Particle Refractive Index:	1.55
Particle Absorption Index:	0.1
Fines extension	PIDS system
Obscuration (average):	8 – 12%
Pump speed (% or rpm)	80
Stirrer speed (% or rpm)	n/a
Ultrasonic duration (seconds)	20 plus during run
Ultrasonic level (eg %, unit as described by instrument manual)	2

Figure 1. Graphical presentations of (a) sieve data and (b) laser data produced by the benchmark lab for sediment distributed as PS72.

Figure 1a. Percentage bar charts resulting from final sieve analysis of 5 replicate samples of sediment distibuted as PS72 (Benchmark Data).

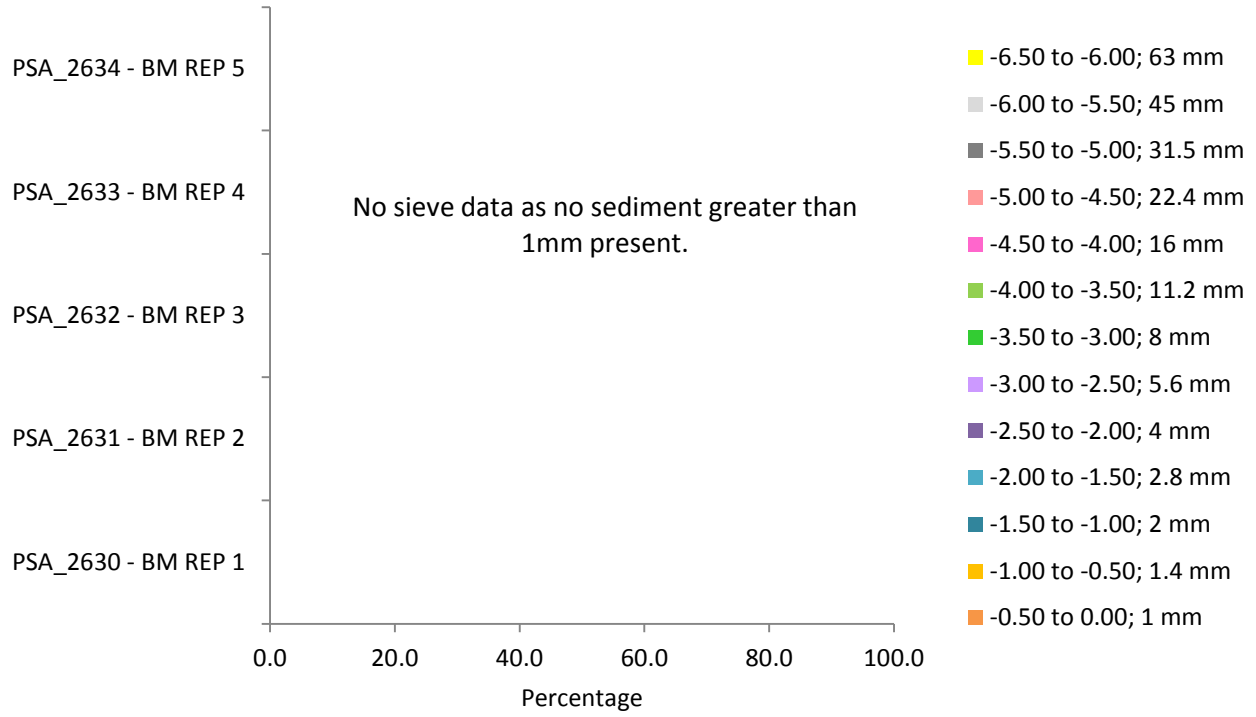


Figure 1b. Particle size distribution curves resulting from final laser analysis of 5 replicate samples of sediment distibuted as PS72 (Benchmark Data).

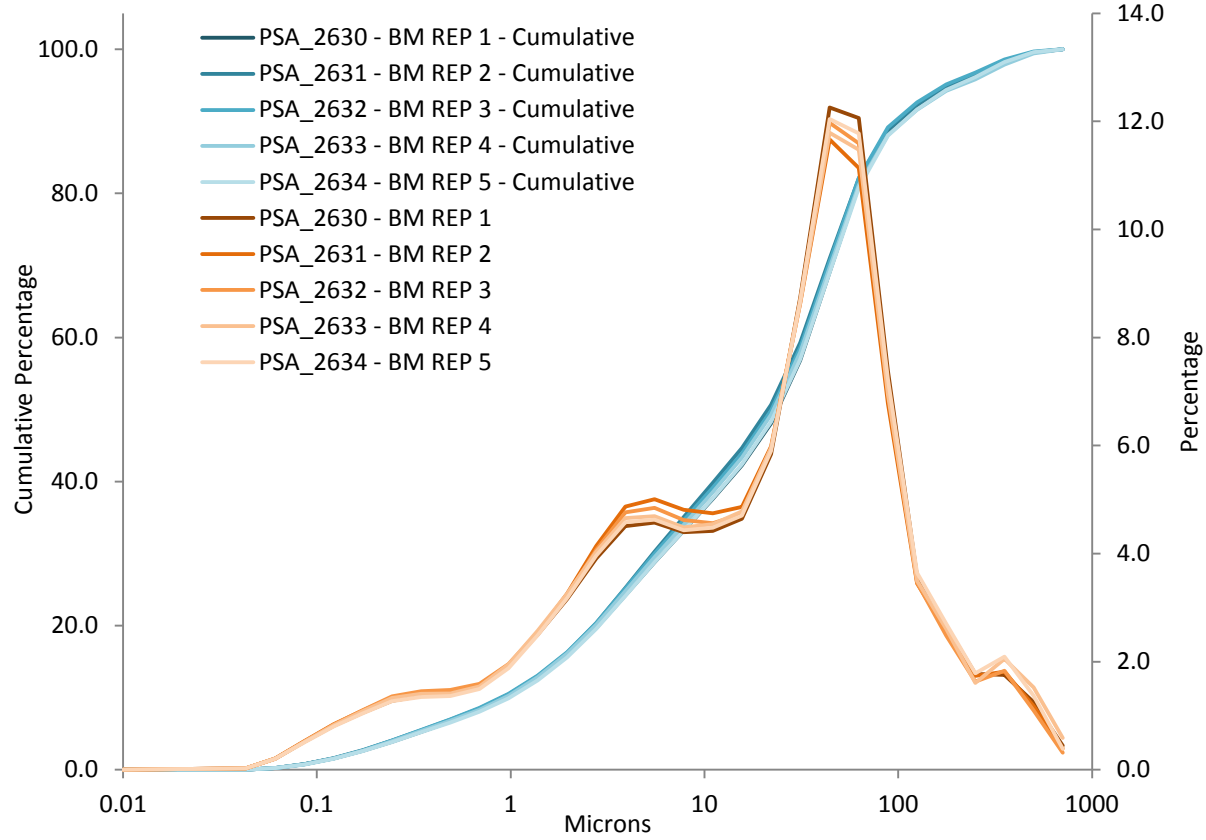
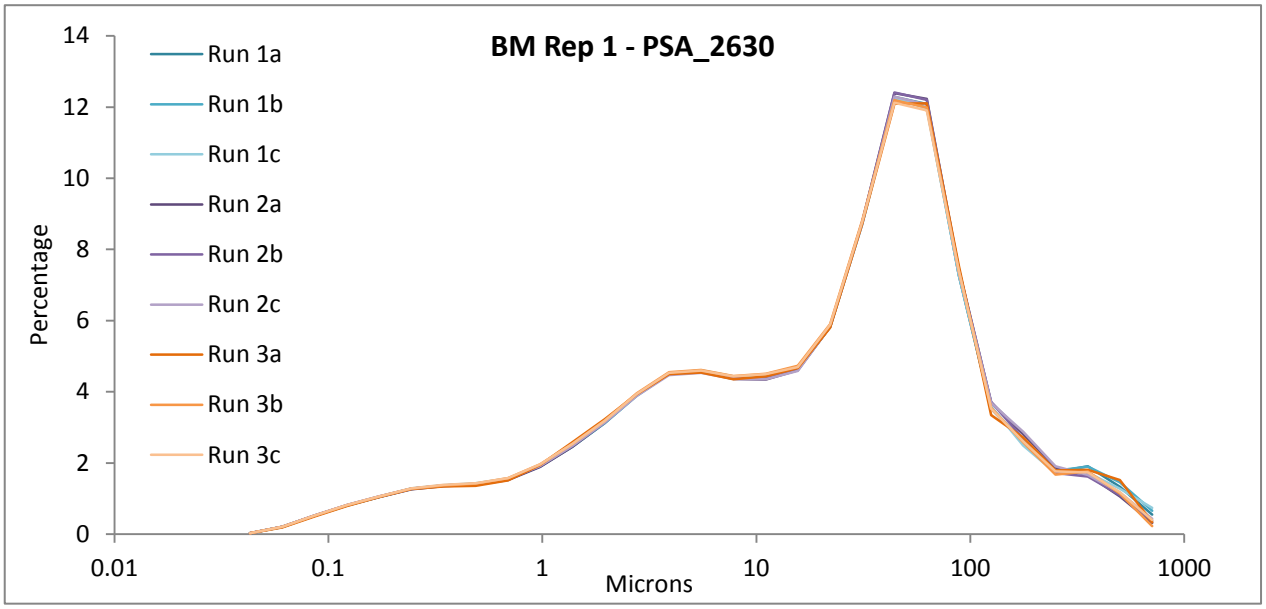
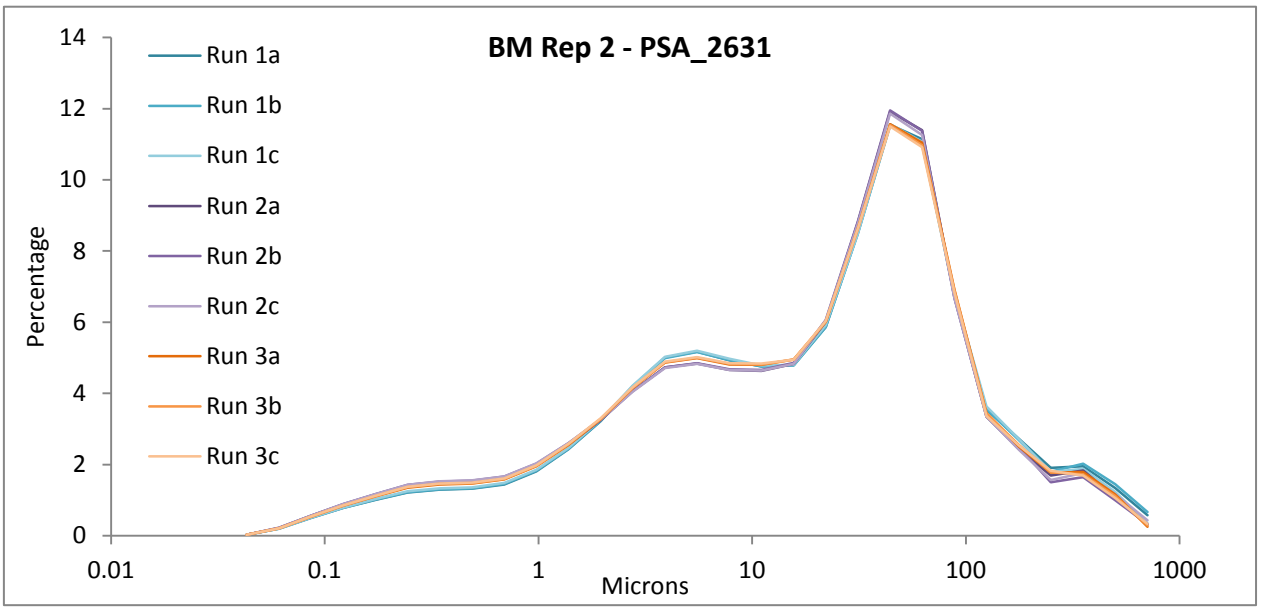


Figure 2. Particle size distribution curves resulting from laser analysis of five replicate samples of sediment distributed as PS72.





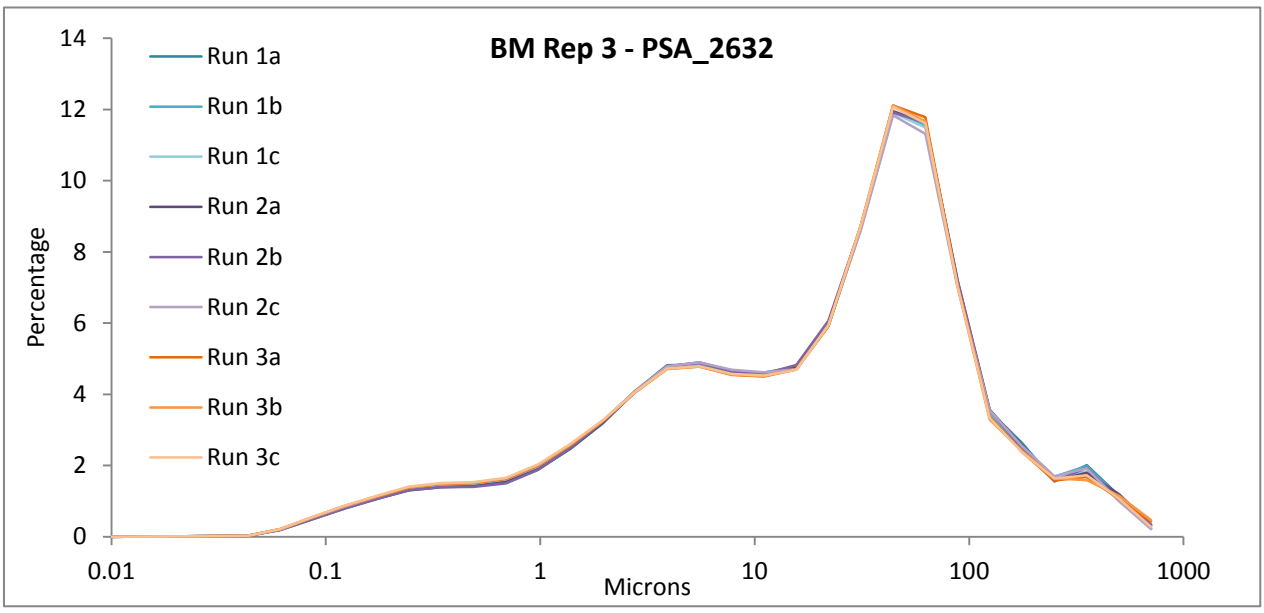
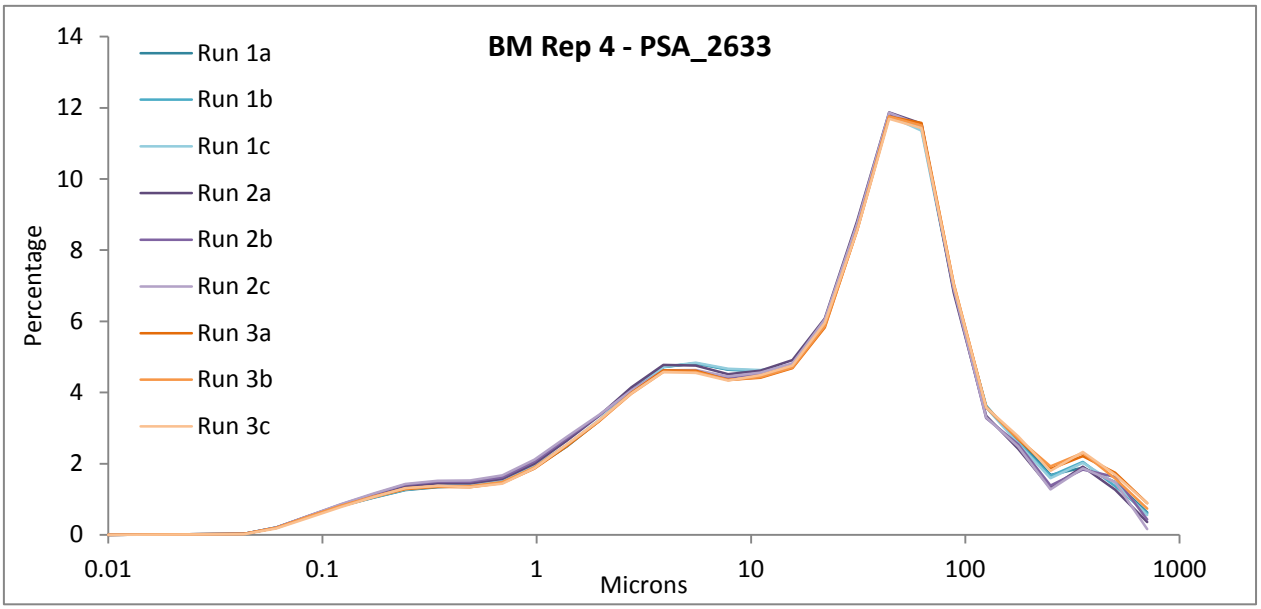


Figure 2. Particle size distribution curves resulting from laser analysis of five replicate samples of sediment distributed as PS72.



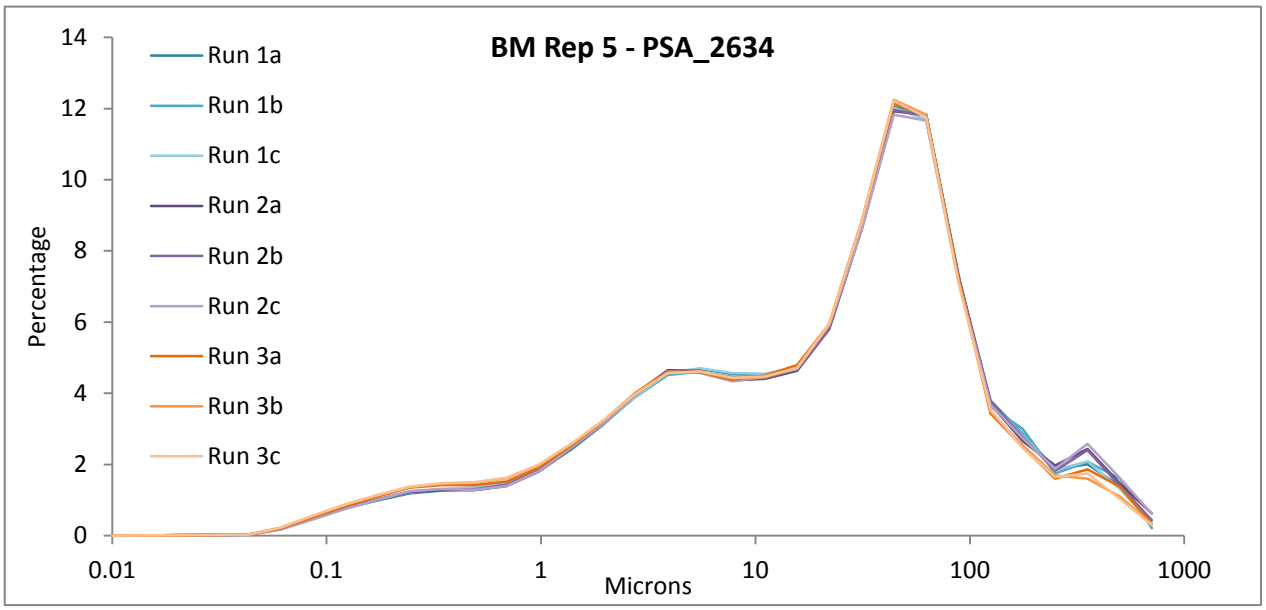
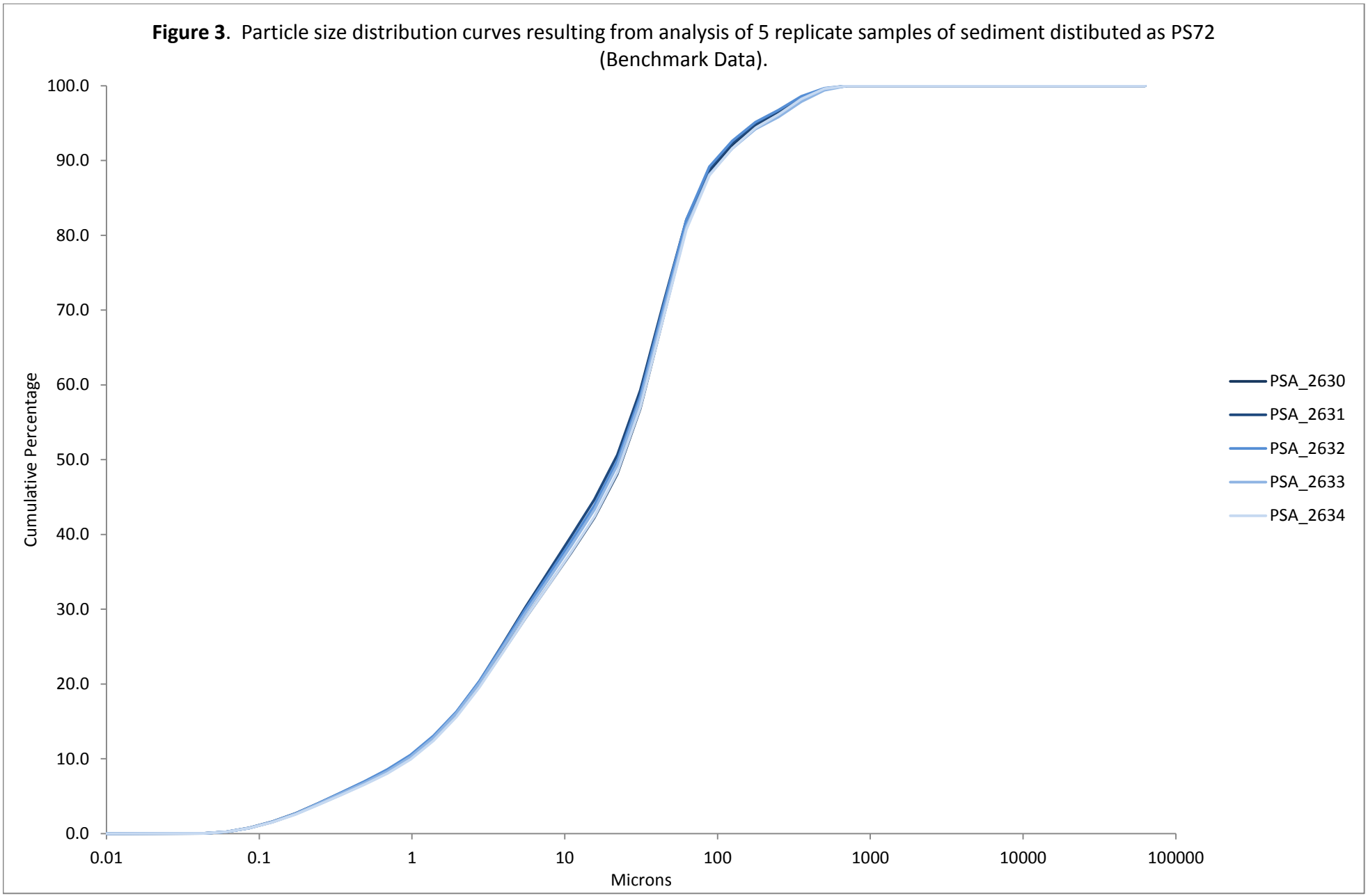


Figure 3. Particle size distribution curves resulting from analysis of 5 replicate samples of sediment distibuted as PS72 (Benchmark Data).



PARTICIPANT DATA

Table 6. Summary of equipment and methods used by participants and sample summary data provided by participants for sediment distributed as PS72.

Lab	Equipment Used		Method Used	Chemical Dispersant Used	Peroxide pre-treatment Used	Summary Data			Sediment Description (Post Analysis)	Sediment Description* Gradistat Textural Group
	Sieves	Laser				% Gravel	% Sand	% Mud		
Benchmark Average	NO	YES	NMBAQC	NO	NO	0.00	30.14	69.86	Sandy Mud	Sandy Mud
PSA_2601	YES	NO	OTHER (sieve & Pipette)	YES	NO	0.0	15.4	84.6	Sandy Mud	Sandy Mud
PSA_2602	NO	YES	OTHER	NO	NO	-	-	-	Mud	Sandy Mud
PSA_2603	YES	YES	OTHER	NO	NO	0.00	25.99	74.01	Sandy Mud	Sandy Mud
PSA_2604	NO	YES	NMBAQC	NO	NO	0	34	66	Sandy Mud	Sandy Mud
PSA_2605	NO	YES	NMBAQC	NO	NO	0.0	40.7	59.3	Sandy Mud	Sandy Mud
PSA_2606	NO	YES	NMBAQC	NO	NO	0.0	25.1	74.9	Very Fine Sandy Very Coarse Silt	Sandy Mud
PSA_2607	NO	YES	NMBAQC	NO	NO	0	31	69	Sandy Mud	Sandy Mud
PSA_2608	YES	YES	NMBAQC	NO	NO	0	32.36	67.64	Sandy Mud	Sandy Mud
PSA_2609	NO	YES	NMBAQC	NO	NO	0	39	61	Sandy Mud	Sandy Mud
PSA_2610	YES	YES	NMBAQC	NO	NO	0.0	31.1	68.9	Sandy Mud	Sandy Mud
PSA_2611	NO	YES	NMBAQC	NO	NO	0.00	32.25	67.75	Sandy Mud	Sandy Mud
PSA_2612	NO	YES	NMBAQC	NO	NO	0.0	30.32	69.68	Sandy Mud	Sandy Mud
PSA_2613	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p
PSA_2614	NO	YES	NMBAQC	NO	NO	0.00	26.27	73.73	Sandy Mud	Sandy Mud
PSA_2615	NO	YES	NMBAQC	NO	NO	0.0	32.9	67.1	Sandy Mud	Sandy Mud
PSA_2616	NO	YES	NMBAQC	NO	NO	0.0	25.9	74.1	Sandy Mud	Sandy Mud
PSA_2617	YES	YES	NMBAQC	NO	NO	0.0	31.1	68.9	Slightly Gravelly Sandy Mud	Slightly Gravelly Sandy Mud
PSA_2618	NO	YES	NMBAQC	NO	NO	0.00	29.86	70.14	Sandy Mud	Sandy Mud
PSA_2619	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p

NB: Decimal places as supplied by participant.
n/p - not participating in this exercise.
* Sediment description from Gradistat textural group based on final data supplied by participant.

PARTICIPANT DATA

Table 7. Raw sieve data (weight in grams) provided by participants for sediment distributed as PS72.

		Participant									
Phi interval (explicit) + sieve mesh		Benchmark Average	PSA_2601	PSA_2602	PSA_2603	PSA_2604	PSA_2605	PSA_2606	PSA_2607	PSA_2608	PSA_2609	PSA_2610
-6.50 to -6.00; 63 mm		0.00	0.00	-	0.00	-	-	-	-	0.00	-	0.00
-6.00 to -5.50; 45 mm		0.00	0.00	-	0.00	-	-	-	-	0.00	-	0.00
-5.50 to -5.00; 31.5 mm		0.00	0.00	-	0.00	-	-	-	-	0.00	-	0.00
-5.00 to -4.50; 22.4 mm		0.00	0.00	-	0.00	-	-	-	-	0.00	-	0.00
-4.50 to -4.00; 16 mm		0.00	0.00	-	0.00	-	-	-	-	0.00	-	0.00
-4.00 to -3.50; 11.2 mm		0.00	0.00	-	0.00	-	-	-	-	0.00	-	0.00
-3.50 to -3.00; 8 mm		0.00	0.00	-	0.00	-	-	-	-	0.00	-	0.00
-3.00 to -2.50; 5.6 mm		0.00	0.00	-	0.00	-	-	-	-	0.00	-	0.00
-2.50 to -2.00; 4 mm		0.00	0.00	-	0.00	-	-	-	-	0.00	-	0.00
-2.00 to -1.50; 2.8 mm		0.00	0.00	-	0.00	-	-	-	-	0.00	-	0.00
-1.50 to -1.00; 2 mm		0.00	0.00	-	0.00	-	-	-	-	0.00	-	0.00
-1.00 to -0.50; 1.4 mm		0.00	0.00	-	0.00	-	-	-	-	0.00	-	0.00
-0.50 to 0.00; 1 mm		0.00	0.00	-	0.00	-	-	-	-	0.00	-	0.00
Total		0.00	0.00	-	0.00	-	-	-	-	0.00	-	0.00
Summary Data												
< 0.00; >1 mm		0.00	0.00	-	0.00	-	-	-	-	0.00	-	0.00
> 0.00; <1 mm	Base pan	0.00	2.21	-	0.00	-	-	-	-	0.00	-	0.01
	Oven dried	0.00	102.04	-	102.90	-	-	-	-	94.67	-	78.62
Total Sample Weight		0.00	104.25	-	102.90	-	-	-	-	94.67	-	78.63

- No data provided.

'n/p - not participating in this exercise

PARTICIPANT DATA

Table 7. Raw sieve data (weight in grams) provided by participants for sediment distributed as PS72.

		Participant								
Phi interval (explicit) + sieve mesh		Benchmark Average	PSA_2611	PSA_2612	PSA_2613	PSA_2614	PSA_2615	PSA_2616	PSA_2617	PSA_2618	PSA_2619
-6.50 to -6.00; 63 mm		0.00	-	-	n/p	-	-	-	0.00	-	n/p
-6.00 to -5.50; 45 mm		0.00	-	-	n/p	-	-	-	0.00	-	n/p
-5.50 to -5.00; 31.5 mm		0.00	-	-	n/p	-	-	-	0.00	-	n/p
-5.00 to -4.50; 22.4 mm		0.00	-	-	n/p	-	-	-	0.00	-	n/p
-4.50 to -4.00; 16 mm		0.00	-	-	n/p	-	-	-	0.00	-	n/p
-4.00 to -3.50; 11.2 mm		0.00	-	-	n/p	-	-	-	0.00	-	n/p
-3.50 to -3.00; 8 mm		0.00	-	-	n/p	-	-	-	0.00	-	n/p
-3.00 to -2.50; 5.6 mm		0.00	-	-	n/p	-	-	-	0.00	-	n/p
-2.50 to -2.00; 4 mm		0.00	-	-	n/p	-	-	-	0.00	-	n/p
-2.00 to -1.50; 2.8 mm		0.00	-	-	n/p	-	-	-	0.01	-	n/p
-1.50 to -1.00; 2 mm		0.00	-	-	n/p	-	-	-	0.00	-	n/p
-1.00 to -0.50; 1.4 mm		0.00	-	-	n/p	-	-	-	0.00	-	n/p
-0.50 to 0.00; 1 mm		0.00	-	-	n/p	-	-	-	0.00	-	n/p
Total		0.00	-	-	n/p	-	-	-	0.01	-	n/p
Summary Data											
< 0.00; >1 mm		0.00	-	-	n/p	0.00	-	-	0.01	-	n/p
> 0.00; <1 mm	Base pan	0.00	-	-	n/p	0.00	-	-	0.00	-	n/p
	Oven dried	0.00	-	-	n/p	83.59	-	-	82.33	-	n/p
Total Sample Weight		0.00	-	-	n/p	83.59	-	-	82.34	-	n/p

- No data provided.
n/p - not participating in this exercise

PARTICIPANT DATA

Table 8. Summary of final laser data for the participants for sediment distributed as PS72.

Microns	BM Average	PSA_2601*	PSA_2602	PSA_2603	PSA_2604	PSA_2605	PSA_2606	PSA_2607	PSA_2608	PSA_2609	PSA_2610	PSA_2611	PSA_2612	PSA_2613	PSA_2614	PSA_2615	PSA_2616	PSA_2617	PSA_2618	PSA_2619
707	0.43	0.00	0.00	0.00	0.09	0.11	0.07	1.62	0.64	1.59	0.00	0.07	0.09	n/p	0.00	0.00	0.01	0.14	0.44	n/p
500	1.28	0.00	0.20	0.00	1.11	1.17	1.64	1.72	1.34	2.67	0.66	0.88	1.08	n/p	0.15	0.23	0.45	1.07	1.38	n/p
353.6	1.91	0.18	0.82	0.00	2.46	2.20	3.43	1.31	1.83	2.53	2.18	2.14	2.30	n/p	0.20	0.86	1.32	2.01	1.82	n/p
250	1.71	0.67	1.08	0.57	2.77	2.01	1.93	1.48	1.85	2.45	2.58	2.54	2.58	n/p	0.41	1.05	1.12	2.16	1.78	n/p
176.8	2.60	0.93	1.44	1.94	2.77	0.92	0.28	1.96	2.16	3.77	2.35	2.61	2.61	n/p	2.49	1.51	0.83	2.22	2.56	n/p
125	3.53	1.09	3.52	4.29	4.34	11.00	0.77	4.10	4.22	6.60	3.89	4.23	3.94	n/p	3.14	4.27	2.79	3.95	3.37	n/p
88.39	7.08	2.64	7.74	7.33	8.23	9.33	5.55	7.18	8.26	9.32	7.85	8.03	7.13	n/p	6.91	9.76	7.45	7.93	6.95	n/p
62.5	11.61	9.70	11.86	11.85	12.07	13.97	11.06	11.60	12.06	10.05	11.56	11.76	10.58	n/p	12.98	14.86	11.91	11.77	11.55	n/p
44.19	11.94	20.84	12.94	12.98	12.79	0.01	12.72	12.15	12.82	8.66	12.09	12.34	11.62	n/p	13.51	15.97	12.98	12.33	11.87	n/p
31.25	8.68	5.45	10.60	9.82	10.26	10.23	11.67	11.07	10.25	6.89	9.54	9.70	9.75	n/p	9.69	12.93	10.55	9.55	8.69	n/p
22.097	5.93	9.44	7.30	7.20	6.88	7.17	8.24	7.44	6.80	6.26	6.53	6.53	6.98	n/p	6.61	8.73	7.28	6.36	5.87	n/p
15.625	4.75	8.10	5.28	4.95	5.04	5.00	5.14	5.63	4.69	6.78	4.96	4.92	5.26	n/p	5.06	5.81	5.29	4.84	4.75	n/p
11.049	4.55	11.01	4.84	4.59	4.77	5.14	2.91	5.20	4.20	7.41	4.76	4.83	4.83	n/p	4.54	4.48	4.82	4.51	4.55	n/p
7.813	4.55	6.64	5.02	4.75	5.26	5.05	3.73	5.58	4.47	7.23	5.01	5.23	4.95	n/p	4.51	3.92	5.04	4.94	4.55	n/p
5.524	4.75	5.64	5.13	5.11	5.54	4.92	3.93	5.96	4.79	6.07	5.39	5.53	5.16	n/p	4.40	3.49	5.30	5.19	4.77	n/p
3.906	4.68	2.19	5.00	5.10	5.11	4.51	4.33	5.69	4.78	4.33	5.32	4.94	4.70	n/p	4.06	3.03	5.34	5.23	4.74	n/p
2.762	4.03	5.37	4.57	4.67	4.28	3.63	4.53	4.77	4.27	2.74	4.82	3.60	3.64	n/p	3.60	2.55	5.03	4.94	4.10	n/p
1.953	3.22	5.14	3.79	4.10	2.91	2.70	4.07	3.33	3.38	1.64	3.56	1.91	2.23	n/p	3.23	2.02	4.26	3.83	3.27	n/p
1.381	2.53	4.97	2.82	3.40	1.25	2.13	3.03	1.67	2.43	1.14	2.07	0.94	1.36	n/p	2.76	1.48	3.15	2.30	2.55	n/p
0.977	1.93	0.00	2.19	2.54	0.38	1.76	1.97	0.30	1.80	0.99	1.70	1.13	1.55	n/p	2.21	1.14	2.18	1.78	1.94	n/p
0.691	1.55	0.00	1.96	2.39	0.62	1.50	1.03	0.00	1.47	0.71	2.15	2.10	2.62	n/p	1.81	0.99	1.58	2.10	1.56	n/p
0.488	1.42	0.00	1.48	1.67	0.74	1.33	1.22	0.00	1.08	0.16	0.98	2.33	2.86	n/p	1.70	0.75	1.03	0.85	1.44	n/p
0.345	1.40	0.00	0.40	0.76	0.31	1.20	1.40	0.00	0.40	0.00	0.03	1.39	1.74	n/p	1.67	0.18	0.28	0.01	1.42	n/p
0.244	1.31	0.00	0.00	0.00	0.00	1.04	1.65	0.00	0.00	0.00	0.00	0.32	0.43	n/p	1.53	0.00	0.00	0.00	1.33	n/p
0.173	1.08	0.00	0.00	0.00	0.00	0.82	1.71	0.00	0.00	0.00	0.00	0.00	0.00	n/p	1.21	0.00	0.00	0.00	1.10	n/p
0.122	0.82	0.00	0.00	0.00	0.00	0.62	1.34	0.00	0.00	0.00	0.00	0.00	0.00	n/p	0.87	0.00	0.00	0.00	0.85	n/p
0.086	0.52	0.00	0.00	0.00	0.00	0.39	0.62	0.00	0.00	0.00	0.00	0.00	0.00	n/p	0.52	0.00	0.00	0.00	0.54	n/p
0.061	0.20	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/p	0.20	0.00	0.00	0.00	0.21	n/p
0.043	0.03	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/p	0.03	0.00	0.00	0.00	0.03	n/p
0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/p	0.00	0.00	0.00	0.00	0.00	n/p
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.76	100.00	100.00	100.00	100.00	100.00	n/p	100.00	100.00	100.00	100.00	100.00	n/p

* Participant does not have a laser; sieve weights have been converted to percentages for comparison.

n/p - not participating in this exercise

Figure 4. Final sieve data (in percentages) provided by each participant for sediment distributed as PS72.

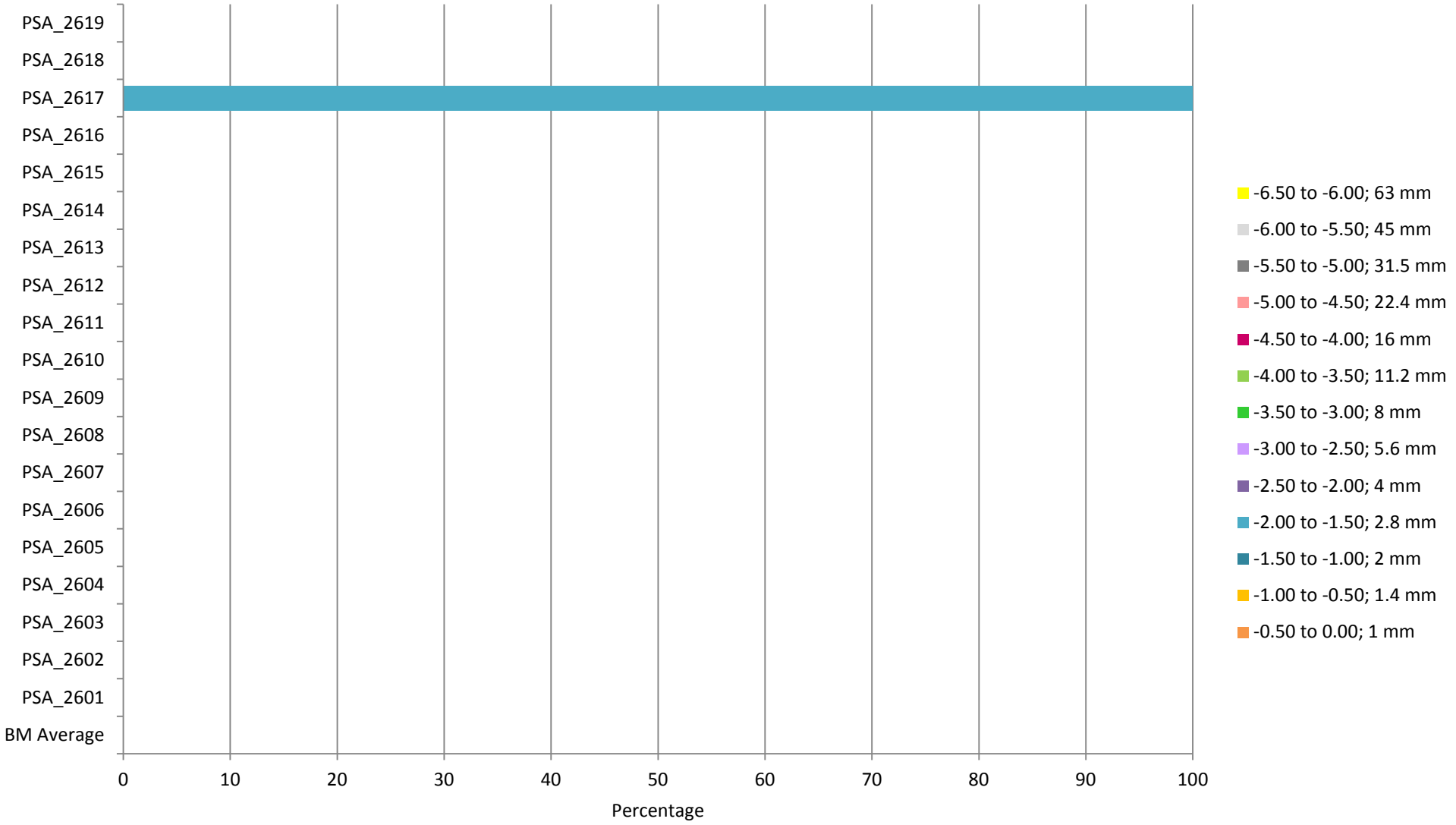


Figure 5. Final laser data provided by each participant and the Benchmark Average for sediment distributed as PS72, shown as (a) cumulative and (b) differential.

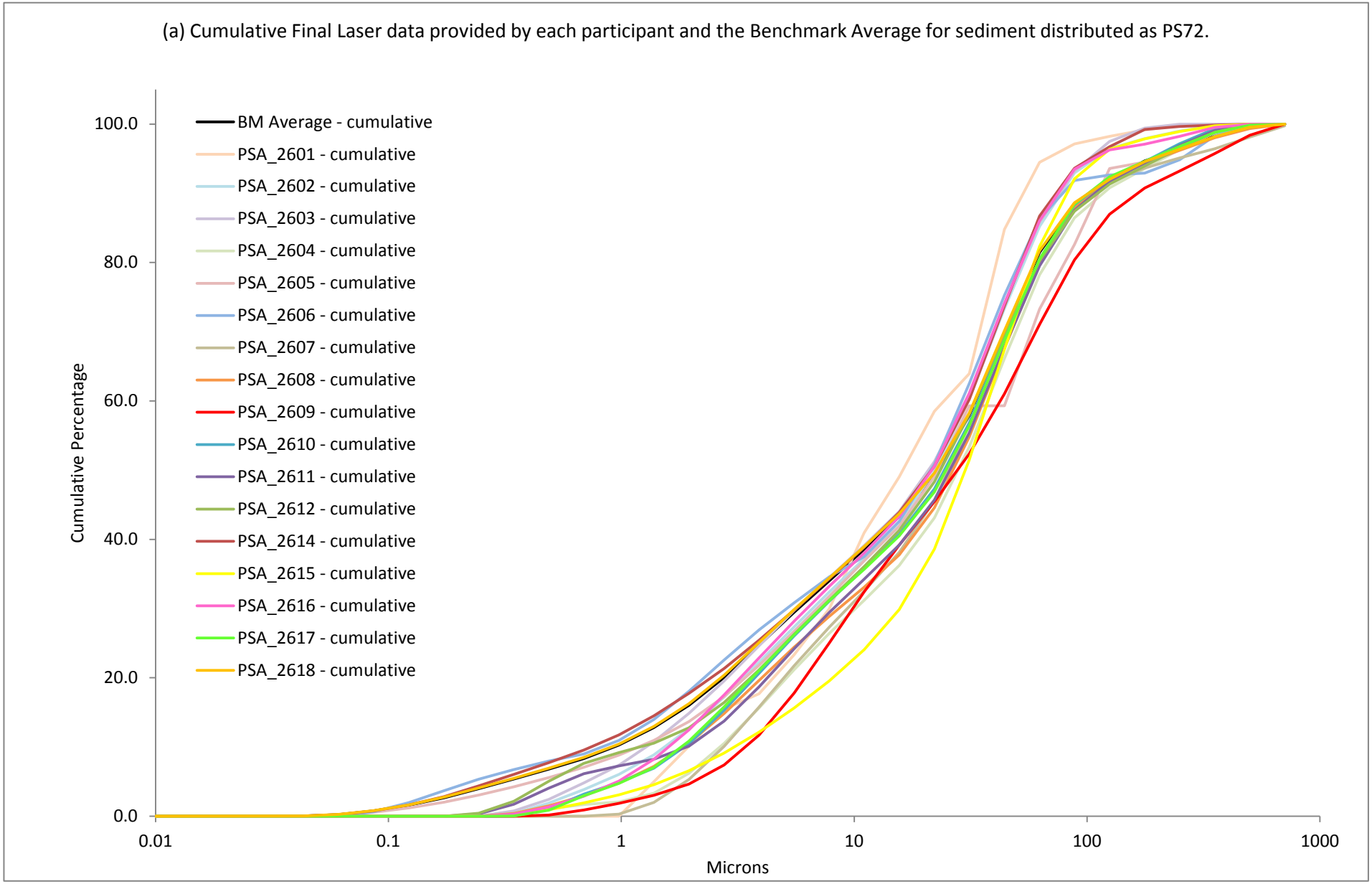
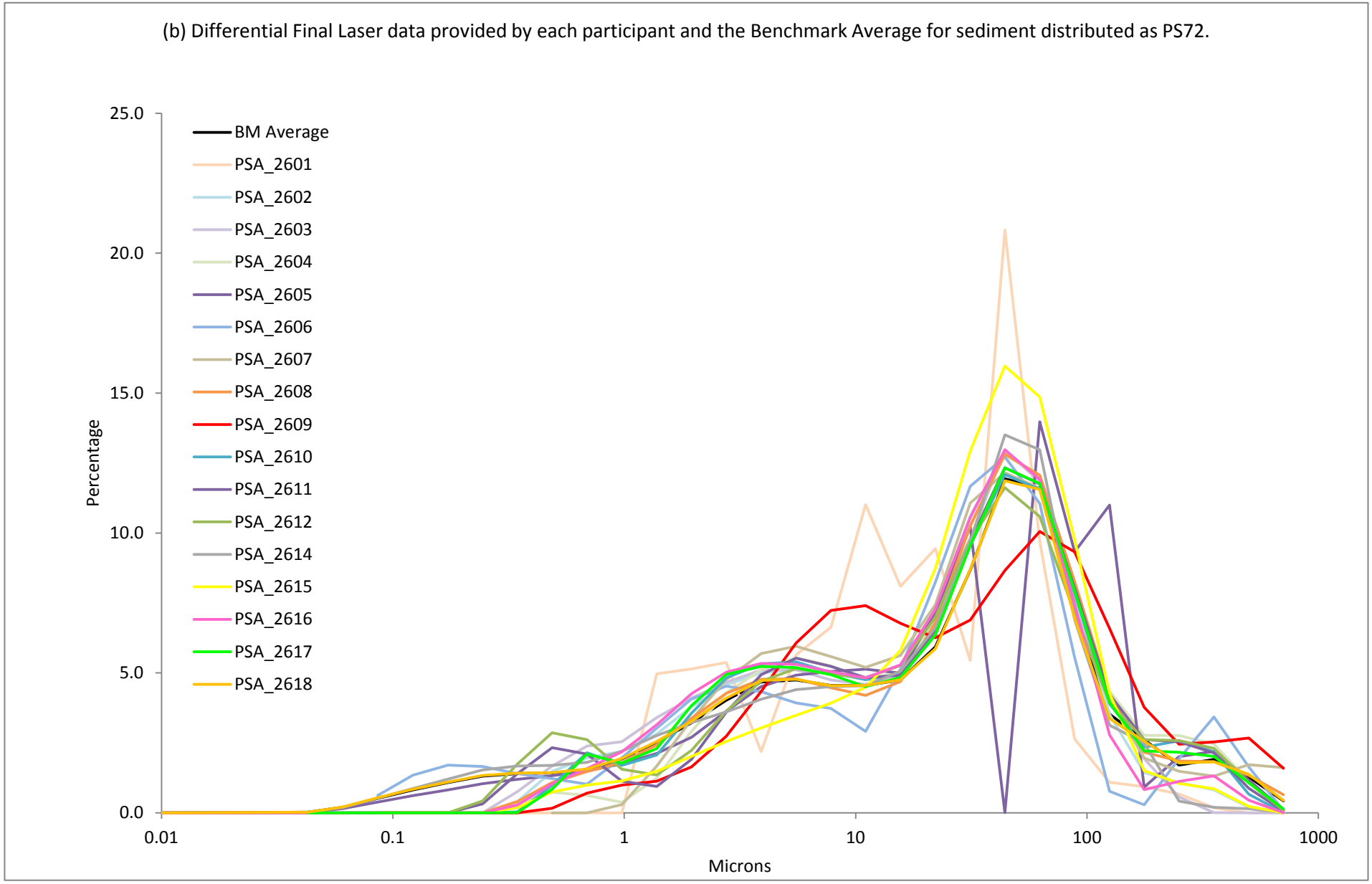


Figure 5. Final laser data provided by each participant and the Benchmark Average for sediment distributed as PS72, shown as (a) cumulative and (b) differential.



NMBAQC Particle Size Analysis
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Figure 6. Particle size distribution curves from all participating laboratories and the Benchmark Average for sediment distributed as PS72.

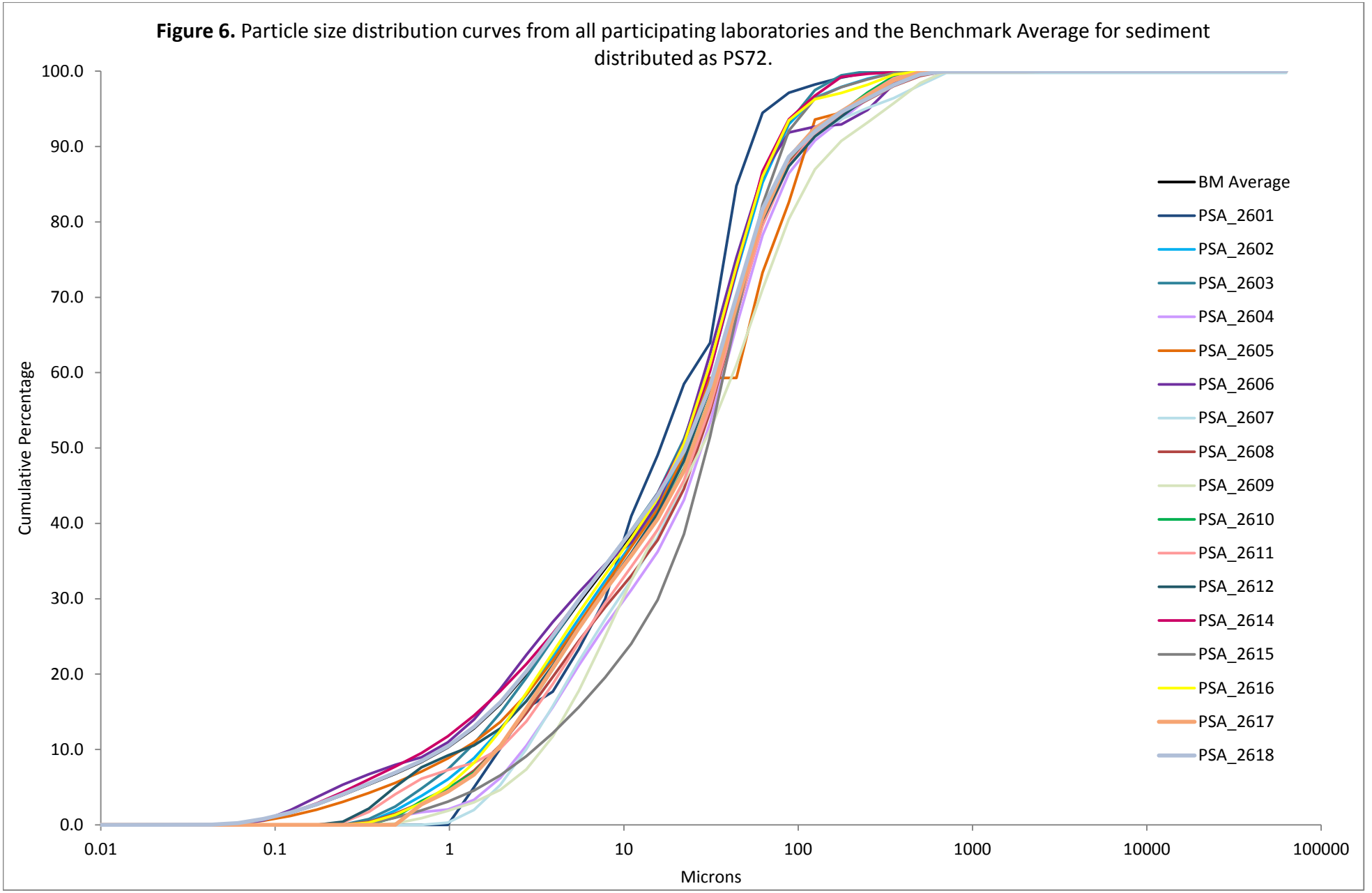
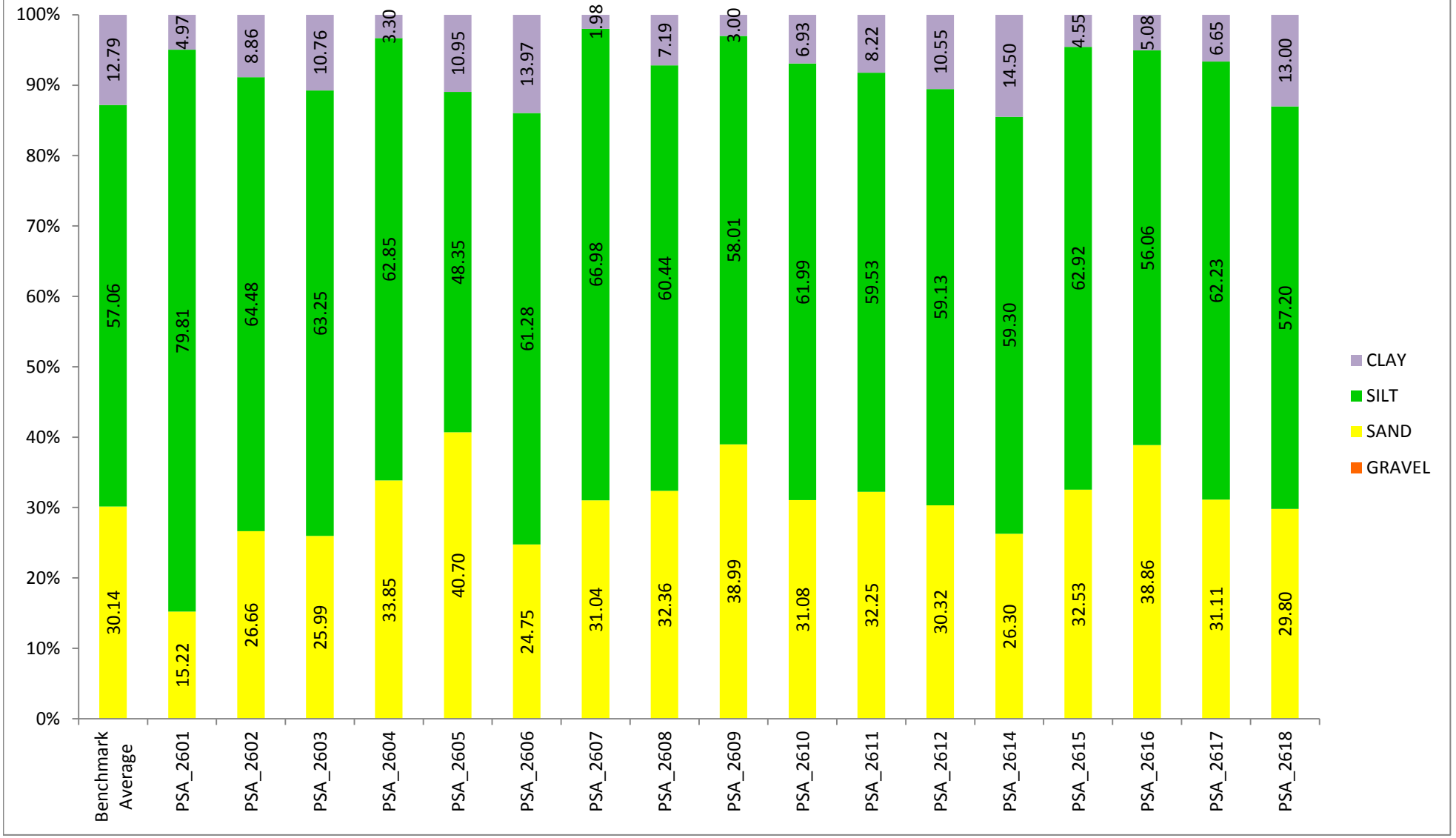


Figure 7. Bar chart showing the percentage gravel, sand, silt and clay recorded by each participating laboratory and the Benchmark Average for PS72.



APPENDICES

APPENDIX 1. Benchmark laser replicate data for sediment distributed as PS72.

	Replicate Sample 1								
	Subsample 1			Subsample 2			Subsample 3		
	Run 1a	Run 1b	Run 1c	Run 2a	Run 2b	Run 2c	Run 3a	Run 3b	Run 3c
0.00 to 0.50; (707 µm)	0.55	0.66	0.74	0.31	0.37	0.43	0.34	0.23	0.40
0.50 to 1.00; (500 µm)	1.33	1.46	1.28	1.07	1.10	1.17	1.52	1.15	1.18
1.00 to 1.50; (353.6 µm)	1.91	1.90	1.72	1.67	1.62	1.66	1.81	1.76	1.73
1.50 to 2.00; (250 µm)	1.75	1.78	1.72	1.87	1.72	1.91	1.79	1.67	1.76
2.00 to 2.50; (176.8 µm)	2.59	2.59	2.49	2.82	2.69	2.88	2.72	2.58	2.61
2.50 to 3.00; (125 µm)	3.53	3.56	3.59	3.70	3.71	3.69	3.35	3.56	3.53
3.00 to 3.50; (88.39 µm)	7.27	7.28	7.29	7.46	7.43	7.37	7.54	7.41	7.40
3.50 to 4.00; (62.5 µm)	12.08	11.98	11.96	12.23	12.21	12.07	12.10	11.99	11.91
4.00 to 4.50; (44.19 µm)	12.28	12.22	12.26	12.39	12.41	12.29	12.10	12.20	12.13
4.50 to 5.00; (31.25 µm)	8.74	8.70	8.72	8.75	8.77	8.71	8.72	8.80	8.77
5.00 to 5.50; (22.097 µm)	5.82	5.82	5.86	5.82	5.85	5.82	5.80	5.90	5.88
5.50 to 6.00; (15.625 µm)	4.64	4.61	4.63	4.61	4.62	4.59	4.66	4.73	4.70
6.00 to 6.50; (11.049 µm)	4.41	4.40	4.43	4.35	4.37	4.35	4.44	4.51	4.50
6.50 to 7.00; (7.813 µm)	4.41	4.40	4.43	4.36	4.38	4.36	4.36	4.44	4.44
7.00 to 7.50; (5.524 µm)	4.59	4.58	4.60	4.56	4.56	4.54	4.54	4.61	4.60
7.50 to 8.00; (3.906 µm)	4.52	4.50	4.52	4.51	4.50	4.47	4.50	4.55	4.54
8.00 to 8.50; (2.762 µm)	3.90	3.88	3.90	3.91	3.91	3.88	3.93	3.95	3.94
8.50 to 9.00; (1.953 µm)	3.13	3.12	3.14	3.14	3.15	3.14	3.23	3.20	3.19
9.00 to 9.50; (1.381 µm)	2.46	2.46	2.49	2.46	2.48	2.48	2.58	2.54	2.54
9.50 to 10.00; (0.977 µm)	1.89	1.91	1.94	1.89	1.91	1.92	1.95	1.96	1.96
10.00 to 10.50; (0.691 µm)	1.54	1.55	1.57	1.52	1.55	1.55	1.51	1.57	1.58
10.50 to 11.00; (0.488 µm)	1.40	1.41	1.43	1.39	1.41	1.42	1.36	1.42	1.43
11.00 to 11.50; (0.345 µm)	1.36	1.36	1.38	1.35	1.36	1.37	1.34	1.37	1.38
11.50 to 12.00; (0.244 µm)	1.27	1.27	1.29	1.26	1.28	1.28	1.27	1.28	1.29
12.00 to 12.50; (0.173 µm)	1.05	1.05	1.06	1.05	1.06	1.06	1.04	1.06	1.06
12.50 to 13.00; (0.122 µm)	0.81	0.81	0.81	0.81	0.82	0.82	0.79	0.81	0.82
13.00 to 13.50; (0.086 µm)	0.51	0.51	0.52	0.52	0.52	0.52	0.50	0.52	0.52
13.50 to 14.00; (0.061 µm)	0.20	0.20	0.20	0.21	0.21	0.21	0.19	0.20	0.21
14.00 to 14.50; (0.043 µm)	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.03	0.03

d10	1.36	1.36	1.33	1.38	1.34	1.34	1.39	1.33	1.31
d50	33.88	34.03	33.53	34.18	33.85	34.08	33.82	32.95	33.03
d90	147.13	151.12	145.06	142.97	139.94	147.21	146.46	137.15	140.70

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	1.35	0.02	1.33	1.35	0.02	1.60	1.34	0.04	2.81
d50	33.81	0.26	0.76	34.04	0.17	0.49	33.27	0.48	1.45
d90	147.77	3.08	2.09	143.38	3.65	2.55	141.44	4.70	3.32

APPENDIX 1. Benchmark laser replicate data for sediment distributed as PS72.

	Replicate Sample 2								
	Subsample 1			Subsample 2			Subsample 3		
	Run 1a	Run 1b	Run 1c	Run 2a	Run 2b	Run 2c	Run 3a	Run 3b	Run 3c
0.00 to 0.50; (707 µm)	0.57	0.67	0.35	0.31	0.32	0.43	0.26	0.29	0.34
0.50 to 1.00; (500 µm)	1.34	1.45	1.24	1.08	1.00	1.17	1.17	1.11	1.06
1.00 to 1.50; (353.6 µm)	1.95	2.03	1.88	1.83	1.65	1.77	1.79	1.73	1.69
1.50 to 2.00; (250 µm)	1.91	1.80	1.79	1.69	1.50	1.56	1.77	1.78	1.82
2.00 to 2.50; (176.8 µm)	2.73	2.69	2.72	2.44	2.50	2.42	2.51	2.56	2.54
2.50 to 3.00; (125 µm)	3.54	3.56	3.64	3.34	3.36	3.36	3.45	3.44	3.37
3.00 to 3.50; (88.39 µm)	6.79	6.74	6.79	6.70	6.68	6.67	6.92	6.89	6.83
3.50 to 4.00; (62.5 µm)	11.14	11.04	11.07	11.40	11.38	11.26	11.05	10.97	10.92
4.00 to 4.50; (44.19 µm)	11.55	11.52	11.56	11.91	11.95	11.86	11.57	11.54	11.50
4.50 to 5.00; (31.25 µm)	8.50	8.48	8.48	8.79	8.82	8.76	8.63	8.61	8.62
5.00 to 5.50; (22.097 µm)	5.87	5.87	5.92	6.02	6.06	6.04	6.00	6.02	6.04
5.50 to 6.00; (15.625 µm)	4.80	4.78	4.80	4.83	4.86	4.83	4.95	4.95	4.95
6.00 to 6.50; (11.049 µm)	4.75	4.76	4.79	4.63	4.66	4.64	4.81	4.81	4.83
6.50 to 7.00; (7.813 µm)	4.93	4.94	4.97	4.66	4.68	4.66	4.81	4.83	4.85
7.00 to 7.50; (5.524 µm)	5.17	5.16	5.20	4.84	4.85	4.83	4.99	5.00	5.02
7.50 to 8.00; (3.906 µm)	5.01	4.99	5.03	4.73	4.74	4.71	4.87	4.87	4.89
8.00 to 8.50; (2.762 µm)	4.20	4.19	4.22	4.06	4.07	4.05	4.15	4.15	4.17
8.50 to 9.00; (1.953 µm)	3.22	3.23	3.25	3.25	3.27	3.26	3.28	3.29	3.30
9.00 to 9.50; (1.381 µm)	2.42	2.44	2.47	2.56	2.60	2.60	2.55	2.57	2.58
9.50 to 10.00; (0.977 µm)	1.81	1.82	1.85	1.99	2.03	2.03	1.95	1.97	1.98
10.00 to 10.50; (0.691 µm)	1.44	1.46	1.48	1.63	1.66	1.67	1.58	1.59	1.61
10.50 to 11.00; (0.488 µm)	1.32	1.34	1.36	1.53	1.55	1.55	1.46	1.48	1.49
11.00 to 11.50; (0.345 µm)	1.29	1.30	1.33	1.51	1.52	1.53	1.44	1.45	1.47
11.50 to 12.00; (0.244 µm)	1.22	1.22	1.25	1.41	1.43	1.43	1.35	1.36	1.37
12.00 to 12.50; (0.173 µm)	1.01	1.02	1.03	1.16	1.17	1.17	1.11	1.12	1.12
12.50 to 13.00; (0.122 µm)	0.78	0.78	0.80	0.88	0.89	0.89	0.84	0.85	0.85
13.00 to 13.50; (0.086 µm)	0.50	0.50	0.51	0.55	0.56	0.56	0.53	0.54	0.54
13.50 to 14.00; (0.061 µm)	0.20	0.20	0.20	0.22	0.22	0.22	0.21	0.21	0.21
14.00 to 14.50; (0.043 µm)	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03

d10	1.46	1.45	1.41	1.18	1.15	1.15	1.26	1.24	1.23
d50	31.28	31.20	30.39	30.37	29.79	29.96	29.65	29.35	28.99
d90	152.59	154.67	145.80	134.38	129.40	134.48	137.28	136.84	135.93

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	1.44	0.02	1.70	1.16	0.02	1.44	1.24	0.02	1.49
d50	30.96	0.49	1.59	30.04	0.30	0.99	29.33	0.33	1.13
d90	151.02	4.64	3.07	132.75	2.91	2.19	136.68	0.69	0.51

APPENDIX 1. Benchmark laser replicate data for sediment distributed as PS72.

	Replicate Sample 3								
	Subsample 1			Subsample 2			Subsample 3		
	Run 1a	Run 1b	Run 1c	Run 2a	Run 2b	Run 2c	Run 3a	Run 3b	Run 3c
0.00 to 0.50; (707 µm)	0.30	0.24	0.24	0.33	0.34	0.22	0.43	0.47	0.28
0.50 to 1.00; (500 µm)	1.15	1.11	1.08	1.20	1.03	1.00	1.06	1.15	1.07
1.00 to 1.50; (353.6 µm)	2.02	1.98	1.83	1.80	1.94	1.92	1.68	1.59	1.73
1.50 to 2.00; (250 µm)	1.58	1.69	1.69	1.59	1.55	1.70	1.59	1.64	1.64
2.00 to 2.50; (176.8 µm)	2.64	2.44	2.53	2.55	2.49	2.55	2.38	2.41	2.37
2.50 to 3.00; (125 µm)	3.52	3.48	3.52	3.57	3.55	3.55	3.37	3.29	3.33
3.00 to 3.50; (88.39 µm)	7.09	7.10	7.04	7.17	7.19	6.99	7.05	7.01	7.02
3.50 to 4.00; (62.5 µm)	11.63	11.56	11.50	11.63	11.63	11.32	11.78	11.67	11.62
4.00 to 4.50; (44.19 µm)	11.89	11.93	11.91	11.95	11.92	11.84	12.12	12.11	12.07
4.50 to 5.00; (31.25 µm)	8.67	8.65	8.64	8.71	8.72	8.60	8.74	8.74	8.73
5.00 to 5.50; (22.097 µm)	5.94	5.91	5.93	5.97	6.07	5.95	5.91	5.92	5.94
5.50 to 6.00; (15.625 µm)	4.78	4.73	4.73	4.76	4.83	4.71	4.70	4.70	4.69
6.00 to 6.50; (11.049 µm)	4.61	4.58	4.60	4.52	4.58	4.62	4.50	4.51	4.53
6.50 to 7.00; (7.813 µm)	4.59	4.65	4.67	4.66	4.65	4.70	4.55	4.55	4.57
7.00 to 7.50; (5.524 µm)	4.85	4.87	4.88	4.90	4.88	4.90	4.78	4.78	4.79
7.50 to 8.00; (3.906 µm)	4.82	4.76	4.77	4.78	4.79	4.79	4.72	4.71	4.72
8.00 to 8.50; (2.762 µm)	4.09	4.06	4.07	4.06	4.09	4.09	4.06	4.05	4.06
8.50 to 9.00; (1.953 µm)	3.19	3.22	3.24	3.20	3.23	3.26	3.25	3.26	3.27
9.00 to 9.50; (1.381 µm)	2.47	2.53	2.55	2.48	2.50	2.58	2.57	2.59	2.61
9.50 to 10.00; (0.977 µm)	1.88	1.96	1.97	1.90	1.88	2.00	2.00	2.01	2.03
10.00 to 10.50; (0.691 µm)	1.53	1.59	1.61	1.54	1.50	1.63	1.63	1.64	1.66
10.50 to 11.00; (0.488 µm)	1.44	1.47	1.49	1.42	1.40	1.51	1.51	1.52	1.54
11.00 to 11.50; (0.345 µm)	1.44	1.44	1.46	1.39	1.39	1.48	1.48	1.49	1.51
11.50 to 12.00; (0.244 µm)	1.34	1.35	1.36	1.30	1.31	1.38	1.38	1.39	1.41
12.00 to 12.50; (0.173 µm)	1.07	1.10	1.11	1.07	1.06	1.12	1.13	1.14	1.15
12.50 to 13.00; (0.122 µm)	0.79	0.83	0.84	0.82	0.79	0.85	0.86	0.86	0.87
13.00 to 13.50; (0.086 µm)	0.48	0.52	0.53	0.52	0.49	0.53	0.54	0.54	0.54
13.50 to 14.00; (0.061 µm)	0.18	0.20	0.21	0.20	0.19	0.21	0.21	0.21	0.21
14.00 to 14.50; (0.043 µm)	0.02	0.03	0.03	0.03	0.02	0.03	0.03	0.03	0.03

d10	1.33	1.26	1.24	1.34	1.37	1.22	1.21	1.19	1.17
d50	31.86	31.48	31.20	31.88	31.71	30.67	31.50	31.35	30.98
d90	140.64	137.15	136.45	138.12	136.63	136.92	131.75	132.48	130.54

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	1.28	0.05	3.69	1.31	0.08	6.34	1.19	0.02	1.55
d50	31.51	0.33	1.04	31.42	0.65	2.08	31.28	0.27	0.86
d90	138.08	2.25	1.63	137.22	0.79	0.57	131.59	0.98	0.74

APPENDIX 1. Benchmark laser replicate data for sediment distributed as PS72.

	Replicate Sample 4								
	Subsample 1			Subsample 2			Subsample 3		
	Run 1a	Run 1b	Run 1c	Run 2a	Run 2b	Run 2c	Run 3a	Run 3b	Run 3c
0.00 to 0.50; (707 µm)	0.63	0.60	0.56	0.36	0.43	0.16	0.90	0.74	0.89
0.50 to 1.00; (500 µm)	1.49	1.37	1.45	1.27	1.63	1.49	1.74	1.58	1.69
1.00 to 1.50; (353.6 µm)	1.89	2.05	2.02	1.92	1.84	1.88	2.21	2.31	2.33
1.50 to 2.00; (250 µm)	1.69	1.65	1.59	1.32	1.39	1.28	1.85	1.93	1.80
2.00 to 2.50; (176.8 µm)	2.71	2.59	2.56	2.42	2.55	2.48	2.69	2.71	2.77
2.50 to 3.00; (125 µm)	3.59	3.64	3.58	3.34	3.28	3.30	3.59	3.59	3.58
3.00 to 3.50; (88.39 µm)	6.94	6.90	6.86	6.80	6.90	6.92	7.04	7.06	7.01
3.50 to 4.00; (62.5 µm)	11.46	11.41	11.36	11.55	11.51	11.50	11.57	11.50	11.43
4.00 to 4.50; (44.19 µm)	11.78	11.79	11.77	11.87	11.83	11.87	11.75	11.75	11.69
4.50 to 5.00; (31.25 µm)	8.63	8.62	8.63	8.81	8.71	8.74	8.56	8.56	8.55
5.00 to 5.50; (22.097 µm)	5.93	5.96	5.98	6.08	5.99	6.05	5.82	5.86	5.95
5.50 to 6.00; (15.625 µm)	4.78	4.78	4.78	4.91	4.79	4.82	4.69	4.71	4.76
6.00 to 6.50; (11.049 µm)	4.60	4.62	4.64	4.61	4.52	4.56	4.41	4.44	4.49
6.50 to 7.00; (7.813 µm)	4.64	4.65	4.67	4.52	4.42	4.45	4.36	4.35	4.34
7.00 to 7.50; (5.524 µm)	4.82	4.82	4.84	4.76	4.61	4.63	4.61	4.58	4.55
7.50 to 8.00; (3.906 µm)	4.72	4.71	4.72	4.77	4.62	4.63	4.62	4.58	4.57
8.00 to 8.50; (2.762 µm)	4.05	4.04	4.05	4.15	4.06	4.06	4.00	3.97	3.98
8.50 to 9.00; (1.953 µm)	3.20	3.21	3.23	3.34	3.36	3.37	3.19	3.20	3.22
9.00 to 9.50; (1.381 µm)	2.48	2.50	2.53	2.65	2.71	2.75	2.49	2.53	2.53
9.50 to 10.00; (0.977 µm)	1.89	1.91	1.94	2.00	2.06	2.12	1.86	1.90	1.87
10.00 to 10.50; (0.691 µm)	1.51	1.54	1.56	1.58	1.62	1.67	1.46	1.49	1.44
10.50 to 11.00; (0.488 µm)	1.38	1.40	1.41	1.45	1.49	1.53	1.34	1.37	1.34
11.00 to 11.50; (0.345 µm)	1.34	1.36	1.37	1.45	1.50	1.52	1.35	1.37	1.38
11.50 to 12.00; (0.244 µm)	1.26	1.27	1.28	1.37	1.41	1.43	1.29	1.31	1.32
12.00 to 12.50; (0.173 µm)	1.04	1.05	1.06	1.12	1.15	1.16	1.06	1.08	1.06
12.50 to 13.00; (0.122 µm)	0.81	0.81	0.82	0.84	0.86	0.87	0.81	0.82	0.78
13.00 to 13.50; (0.086 µm)	0.52	0.52	0.52	0.52	0.53	0.53	0.51	0.51	0.47
13.50 to 14.00; (0.061 µm)	0.21	0.21	0.21	0.20	0.20	0.21	0.20	0.20	0.18
14.00 to 14.50; (0.043 µm)	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02

d10	1.39	1.36	1.34	1.26	1.20	1.16	1.40	1.36	1.40
d50	32.28	32.03	31.73	30.67	31.34	30.56	33.75	33.51	33.54
d90	151.61	149.77	148.28	133.42	140.68	132.86	166.67	164.66	168.26

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	1.36	0.03	1.84	1.20	0.05	4.04	1.39	0.02	1.66
d50	32.02	0.27	0.85	30.86	0.42	1.36	33.60	0.13	0.40
d90	149.89	1.67	1.11	135.65	4.36	3.22	166.53	1.80	1.08

APPENDIX 1. Benchmark laser replicate data for sediment distributed as PS72.

	Replicate Sample 5								
	Subsample 1			Subsample 2			Subsample 3		
	Run 1a	Run 1b	Run 1c	Run 2a	Run 2b	Run 2c	Run 3a	Run 3b	Run 3c
0.00 to 0.50; (707 µm)	0.33	0.21	0.33	0.62	0.43	0.62	0.33	0.33	0.30
0.50 to 1.00; (500 µm)	1.39	1.60	1.31	1.47	1.41	1.62	1.37	1.10	1.04
1.00 to 1.50; (353.6 µm)	2.01	2.07	2.09	2.44	2.40	2.58	1.86	1.60	1.75
1.50 to 2.00; (250 µm)	1.87	1.75	1.84	1.97	1.82	1.88	1.60	1.70	1.65
2.00 to 2.50; (176.8 µm)	2.86	2.99	2.82	2.66	2.77	2.73	2.49	2.54	2.45
2.50 to 3.00; (125 µm)	3.80	3.63	3.75	3.70	3.78	3.68	3.44	3.49	3.54
3.00 to 3.50; (88.39 µm)	7.25	7.34	7.16	7.28	7.28	7.18	7.26	7.16	7.11
3.50 to 4.00; (62.5 µm)	11.82	11.84	11.68	11.83	11.80	11.67	11.79	11.83	11.76
4.00 to 4.50; (44.19 µm)	12.05	12.00	12.03	11.92	11.96	11.82	12.14	12.24	12.22
4.50 to 5.00; (31.25 µm)	8.66	8.59	8.64	8.59	8.62	8.57	8.82	8.81	8.80
5.00 to 5.50; (22.097 µm)	5.89	5.91	5.94	5.80	5.82	5.91	5.94	5.93	5.95
5.50 to 6.00; (15.625 µm)	4.72	4.69	4.72	4.63	4.67	4.69	4.79	4.72	4.71
6.00 to 6.50; (11.049 µm)	4.52	4.50	4.55	4.40	4.43	4.47	4.50	4.46	4.47
6.50 to 7.00; (7.813 µm)	4.54	4.47	4.57	4.36	4.36	4.33	4.38	4.42	4.44
7.00 to 7.50; (5.524 µm)	4.68	4.61	4.70	4.63	4.61	4.57	4.59	4.61	4.62
7.50 to 8.00; (3.906 µm)	4.55	4.51	4.57	4.65	4.61	4.61	4.61	4.57	4.57
8.00 to 8.50; (2.762 µm)	3.92	3.90	3.92	4.00	3.97	3.98	4.02	3.99	3.99
8.50 to 9.00; (1.953 µm)	3.12	3.16	3.13	3.16	3.17	3.17	3.23	3.23	3.24
9.00 to 9.50; (1.381 µm)	2.42	2.51	2.45	2.44	2.47	2.46	2.52	2.56	2.58
9.50 to 10.00; (0.977 µm)	1.84	1.89	1.87	1.80	1.84	1.81	1.90	1.98	2.00
10.00 to 10.50; (0.691 µm)	1.47	1.47	1.50	1.40	1.43	1.39	1.52	1.61	1.63
10.50 to 11.00; (0.488 µm)	1.32	1.33	1.36	1.28	1.30	1.29	1.42	1.49	1.50
11.00 to 11.50; (0.345 µm)	1.27	1.30	1.31	1.28	1.30	1.31	1.43	1.46	1.47
11.50 to 12.00; (0.244 µm)	1.19	1.23	1.22	1.22	1.24	1.25	1.35	1.37	1.38
12.00 to 12.50; (0.173 µm)	0.99	1.01	1.01	1.01	1.02	1.01	1.10	1.13	1.14
12.50 to 13.00; (0.122 µm)	0.77	0.77	0.79	0.77	0.78	0.74	0.82	0.87	0.88
13.00 to 13.50; (0.086 µm)	0.50	0.48	0.51	0.48	0.49	0.45	0.51	0.55	0.56
13.50 to 14.00; (0.061 µm)	0.20	0.19	0.20	0.19	0.19	0.17	0.20	0.22	0.22
14.00 to 14.50; (0.043 µm)	0.03	0.02	0.03	0.02	0.02	0.02	0.03	0.03	0.03

d10	1.47	1.44	1.42	1.49	1.46	1.49	1.31	1.22	1.20
d50	33.91	33.91	33.40	34.52	34.23	34.38	32.65	32.24	32.02
d90	153.67	155.04	152.54	163.26	158.85	167.71	139.69	134.69	134.17

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	1.44	0.02	1.55	1.48	0.02	1.28	1.24	0.06	4.78
d50	33.74	0.30	0.88	34.38	0.14	0.42	32.30	0.32	0.99
d90	153.75	1.25	0.81	163.27	4.43	2.72	136.18	3.05	2.24

APPENDIX 2. Gradistat output of size categories based on final merged data provided by each participant and the Benchmark Average for sediment distributed as PS72 (used to create Figure 7).

	BM Average	PSA_2601	PSA_2602	PSA_2603	PSA_2604	PSA_2605	PSA_2606	PSA_2607	PSA_2608	PSA_2609	PSA_2610
VERY COARSE GRAVEL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COARSE GRAVEL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEDIUM GRAVEL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FINE GRAVEL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VERY FINE GRAVEL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VERY COARSE SAND	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COARSE SAND	1.71	0.00	0.20	0.00	1.19	1.28	1.72	3.34	1.98	4.27	0.67
MEDIUM SAND	3.61	0.85	1.90	0.57	5.23	4.21	5.36	2.80	3.68	4.98	4.76
FINE SAND	6.13	2.02	4.96	6.23	7.12	11.92	1.06	6.07	6.39	10.37	6.24
VERY FINE SAND	18.69	12.34	19.60	19.19	20.31	23.30	16.61	18.83	20.32	19.38	19.41
VERY COARSE SILT	20.62	26.28	23.55	22.79	23.05	10.24	24.39	23.28	23.07	15.55	21.63
COARSE SILT	10.67	17.54	12.58	12.15	11.92	12.17	13.38	13.10	11.49	13.04	11.50
MEDIUM SILT	9.10	17.65	9.86	9.34	10.03	10.19	6.65	10.81	8.67	14.64	9.77
FINE SILT	9.43	7.83	10.13	10.20	10.65	9.43	8.26	11.67	9.56	10.40	10.71
VERY FINE SILT	7.24	10.51	8.37	8.77	7.20	6.33	8.60	8.12	7.65	4.38	8.39
CLAY	12.79	4.97	8.86	10.76	3.30	10.95	13.97	1.98	7.19	3.00	6.93

GRAVEL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SAND	30.14	15.22	26.66	25.99	33.85	40.70	24.75	31.04	32.36	38.99	31.08
SILT	57.06	79.81	64.48	63.25	62.85	48.35	61.28	66.98	60.44	58.01	61.99
CLAY	12.79	4.97	8.86	10.76	3.30	10.95	13.97	1.98	7.19	3.00	6.93

n/p - not participating in this exercise.

APPENDIX 2. Gradistat output of size categories based on final merged data provided by each participant and the Benchmark Average for sediment distributed as PS72 (used to create Figure 7).

	BM Average	PSA_2611	PSA_2612	PSA_2613	PSA_2614	PSA_2615	PSA_2616	PSA_2617	PSA_2618	PSA_2619
VERY COARSE GRAVEL	0.00	0.00	0.00	n/p	0.00	0.00	0.00	0.00	0.00	n/p
COARSE GRAVEL	0.00	0.00	0.00	n/p	0.00	0.00	0.00	0.00	0.00	n/p
MEDIUM GRAVEL	0.00	0.00	0.00	n/p	0.00	0.00	0.00	0.00	0.00	n/p
FINE GRAVEL	0.00	0.00	0.00	n/p	0.00	0.00	0.00	0.00	0.00	n/p
VERY FINE GRAVEL	0.00	0.00	0.00	n/p	0.00	0.00	0.00	0.01	0.00	n/p
VERY COARSE SAND	0.00	0.00	0.00	n/p	0.00	0.00	0.01	0.00	0.00	n/p
COARSE SAND	1.71	0.95	1.16	n/p	0.20	0.23	1.77	1.20	1.80	n/p
MEDIUM SAND	3.61	4.68	4.88	n/p	0.60	1.91	1.95	4.15	3.60	n/p
FINE SAND	6.13	6.84	6.55	n/p	5.60	5.78	10.23	6.12	5.90	n/p
VERY FINE SAND	18.69	19.78	17.72	n/p	19.90	24.62	24.89	19.64	18.50	n/p
VERY COARSE SILT	20.62	22.04	21.37	n/p	23.20	28.89	17.83	21.91	20.60	n/p
COARSE SILT	10.67	11.45	12.25	n/p	11.70	14.54	10.11	11.25	10.60	n/p
MEDIUM SILT	9.10	10.06	9.78	n/p	9.10	8.40	10.35	9.63	9.10	n/p
FINE SILT	9.43	10.46	9.86	n/p	8.50	6.52	10.37	10.64	9.50	n/p
VERY FINE SILT	7.24	5.51	5.87	n/p	6.80	4.57	7.40	8.81	7.40	n/p
CLAY	12.79	8.22	10.55	n/p	14.50	4.55	5.08	6.65	13.00	n/p

GRAVEL	0.00	0.00	0.00	n/p	0.00	0.00	0.00	0.01	0.00	n/p
SAND	30.14	32.25	30.32	n/p	26.30	32.53	38.86	31.11	29.80	n/p
SILT	57.06	59.53	59.13	n/p	59.30	62.92	56.06	62.23	57.20	n/p
CLAY	12.79	8.22	10.55	n/p	14.50	4.55	5.08	6.65	13.00	n/p

n/p - not participating in this exercise.

APPENDIX 3. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS72.

Exercise Code:	PS72
LabCode:	PSA_2601
Sample Code:	PS722601

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material & leave blank for not analysed)	Grams (mark as "0" for no material & leave blank for not analysed)
-6.50 to -6.00; 63 mm	0.00	0.00
-6.00 to -5.50; 45 mm	0.00	0.00
-5.50 to -5.00; 31.5 mm	0.00	0.00
-5.00 to -4.50; 22.4 mm	0.00	0.00
-4.50 to -4.00; 16 mm	0.00	0.00
-4.00 to -3.50; 11.2 mm	0.00	0.00
-3.50 to -3.00; 8 mm	0.00	0.00
-3.00 to -2.50; 5.6 mm	0.00	0.00
-2.50 to -2.00; 4 mm	0.00	0.00
-2.00 to -1.50; 2.8 mm	0.00	0.00
-1.50 to -1.00; 2 mm	0.00	0.00
-1.00 to -0.50; 1.4 mm	0.00	0.00
-0.50 to 0.00; 1 mm	0.00	0.00
0.00 to 0.50; (707 µm)	0.00	0.00
0.50 to 1.00; (500 µm)	0.00	0.00
1.00 to 1.50; (353.6 µm)	0.18	0.19
1.50 to 2.00; (250 µm)	0.67	0.70
2.00 to 2.50; (176.8 µm)	0.93	0.97
2.50 to 3.00; (125 µm)	1.09	1.14
3.00 to 3.50; (88.39 µm)	2.64	2.76
3.50 to 4.00; (62.5 µm)	9.70	10.11
4.00 to 4.50; (44.19 µm)	20.84	21.72
4.50 to 5.00; (31.25 µm)	5.45	5.68
5.00 to 5.50; (22.097 µm)	9.44	9.84
5.50 to 6.00; (15.625 µm)	8.10	8.44
6.00 to 6.50; (11.049 µm)	11.01	11.48
6.50 to 7.00; (7.813 µm)	6.64	6.92
7.00 to 7.50; (5.524 µm)	5.64	5.88
7.50 to 8.00; (3.906 µm)	2.19	2.28
8.00 to 8.50; (2.762 µm)	5.37	5.60
8.50 to 9.00; (1.953 µm)	5.14	5.36
9.00 to 9.50; (1.381 µm)	4.97	5.18
9.50 to 10.00; (0.977 µm)	0.00	0.00
10.00 to 10.50; (0.691 µm)	0.00	0.00
10.50 to 11.00; (0.488 µm)	0.00	0.00
11.00 to 11.50; (0.345 µm)	0.00	0.00
11.50 to 12.00; (0.244 µm)	0.00	0.00
12.00 to 12.50; (0.173 µm)	0.00	0.00
12.50 to 13.00; (0.122 µm)	0.00	0.00
13.00 to 13.50; (0.086 µm)	0.00	0.00
13.50 to 14.00; (0.061µm)	0.00	0.00
14.00 to 14.50; (0.043µm)	0.00	0.00
TOTAL	100.00	104.25

Notes: Red text calculated by APEM.

APPENDIX 3. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS72.

Exercise Code:	PS72
LabCode:	PSA_2602
Sample Code:	PS722602

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material & leave blank for not analysed)	Grams
-6.50 to -6.00; 63 mm		
-6.00 to -5.50; 45 mm		
-5.50 to -5.00; 31.5 mm		
-5.00 to -4.50; 22.4 mm		
-4.50 to -4.00; 16 mm		
-4.00 to -3.50; 11.2 mm		
-3.50 to -3.00; 8 mm		
-3.00 to -2.50; 5.6 mm		
-2.50 to -2.00; 4 mm		
-2.00 to -1.50; 2.8 mm		
-1.50 to -1.00; 2 mm		
-1.00 to -0.50; 1.4 mm		
-0.50 to 0.00; 1 mm		
0.00 to 0.50; (707 µm)	0.00	
0.50 to 1.00; (500 µm)	0.20	
1.00 to 1.50; (353.6 µm)	0.82	
1.50 to 2.00; (250 µm)	1.08	
2.00 to 2.50; (176.8 µm)	1.44	
2.50 to 3.00; (125 µm)	3.52	
3.00 to 3.50; (88.39 µm)	7.74	
3.50 to 4.00; (62.5 µm)	11.86	
4.00 to 4.50; (44.19 µm)	12.94	
4.50 to 5.00; (31.25 µm)	10.60	
5.00 to 5.50; (22.097 µm)	7.30	
5.50 to 6.00; (15.625 µm)	5.28	
6.00 to 6.50; (11.049 µm)	4.84	
6.50 to 7.00; (7.813 µm)	5.02	
7.00 to 7.50; (5.524 µm)	5.13	
7.50 to 8.00; (3.906 µm)	5.00	
8.00 to 8.50; (2.762 µm)	4.57	
8.50 to 9.00; (1.953 µm)	3.79	
9.00 to 9.50; (1.381 µm)	2.82	
9.50 to 10.00; (0.977 µm)	2.19	
10.00 to 10.50; (0.691 µm)	1.96	
10.50 to 11.00; (0.488 µm)	1.48	
11.00 to 11.50; (0.345 µm)	0.40	
11.50 to 12.00; (0.244 µm)	0.00	
12.00 to 12.50; (0.173 µm)	0.00	
12.50 to 13.00; (0.122 µm)	0.00	
13.00 to 13.50; (0.086 µm)	0.00	
13.50 to 14.00; (0.061µm)	0.00	
14.00 to 14.50; (0.043µm)	0.00	
TOTAL	100.00	

Notes:

Participant notes: Sediment sample was not wet sieved over a 1 mm sieve before analysis, as this is not our usual procedure. First visual inspection did not show any large particles, so it was decided to measure without sieving. First measurement however did show a small peak above 1000 um. The results of the PS_Final Laser data is an average of the five replicates without a peak above 1000 um.

APPENDIX 3. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS72.

Exercise Code:	PS72
LabCode:	PSA_2603
Sample Code:	PS722603

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material & leave blank for not analysed)	Grams
-6.50 to -6.00; 63 mm	0.00	
-6.00 to -5.50; 45 mm	0.00	
-5.50 to -5.00; 31.5 mm	0.00	
-5.00 to -4.50; 22.4 mm	0.00	
-4.50 to -4.00; 16 mm	0.00	
-4.00 to -3.50; 11.2 mm	0.00	
-3.50 to -3.00; 8 mm	0.00	
-3.00 to -2.50; 5.6 mm	0.00	
-2.50 to -2.00; 4 mm	0.00	
-2.00 to -1.50; 2.8 mm	0.00	
-1.50 to -1.00; 2 mm	0.00	
-1.00 to -0.50; 1.4 mm	0.00	
-0.50 to 0.00; 1 mm	0.00	
0.00 to 0.50; (707 µm)	0.00	
0.50 to 1.00; (500 µm)	0.00	
1.00 to 1.50; (353.6 µm)	0.00	
1.50 to 2.00; (250 µm)	0.57	
2.00 to 2.50; (176.8 µm)	1.94	
2.50 to 3.00; (125 µm)	4.29	
3.00 to 3.50; (88.39 µm)	7.33	
3.50 to 4.00; (62.5 µm)	11.85	
4.00 to 4.50; (44.19 µm)	12.98	
4.50 to 5.00; (31.25 µm)	9.82	
5.00 to 5.50; (22.097 µm)	7.20	
5.50 to 6.00; (15.625 µm)	4.95	
6.00 to 6.50; (11.049 µm)	4.59	
6.50 to 7.00; (7.813 µm)	4.75	
7.00 to 7.50; (5.524 µm)	5.11	
7.50 to 8.00; (3.906 µm)	5.10	
8.00 to 8.50; (2.762 µm)	4.67	
8.50 to 9.00; (1.953 µm)	4.10	
9.00 to 9.50; (1.381 µm)	3.40	
9.50 to 10.00; (0.977 µm)	2.54	
10.00 to 10.50; (0.691 µm)	2.39	
10.50 to 11.00; (0.488 µm)	1.67	
11.00 to 11.50; (0.345 µm)	0.76	
11.50 to 12.00; (0.244 µm)	0.00	
12.00 to 12.50; (0.173 µm)	0.00	
12.50 to 13.00; (0.122 µm)	0.00	
13.00 to 13.50; (0.086 µm)	0.00	
13.50 to 14.00; (0.061µm)		
14.00 to 14.50; (0.043µm)		
TOTAL	100.00	

Notes:

APPENDIX 3. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS72.

Exercise Code:	PS72
LabCode:	PSA_2604
Sample Code:	PS722604

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material & leave blank for not analysed)	Grams (mark as "0" for no material & leave blank for not analysed)
-6.50 to -6.00; 63 mm		
-6.00 to -5.50; 45 mm		
-5.50 to -5.00; 31.5 mm		
-5.00 to -4.50; 22.4 mm		
-4.50 to -4.00; 16 mm		
-4.00 to -3.50; 11.2 mm		
-3.50 to -3.00; 8 mm		
-3.00 to -2.50; 5.6 mm		
-2.50 to -2.00; 4 mm		
-2.00 to -1.50; 2.8 mm		
-1.50 to -1.00; 2 mm		
-1.00 to -0.50; 1.4 mm		
-0.50 to 0.00; 1 mm		
0.00 to 0.50; (707 µm)	0.09	0.00
0.50 to 1.00; (500 µm)	1.11	0.01
1.00 to 1.50; (353.6 µm)	2.46	0.02
1.50 to 2.00; (250 µm)	2.77	0.03
2.00 to 2.50; (176.8 µm)	2.77	0.03
2.50 to 3.00; (125 µm)	4.34	0.04
3.00 to 3.50; (88.39 µm)	8.23	0.08
3.50 to 4.00; (62.5 µm)	12.07	0.12
4.00 to 4.50; (44.19 µm)	12.79	0.13
4.50 to 5.00; (31.25 µm)	10.26	0.10
5.00 to 5.50; (22.097 µm)	6.88	0.07
5.50 to 6.00; (15.625 µm)	5.04	0.05
6.00 to 6.50; (11.049 µm)	4.77	0.05
6.50 to 7.00; (7.813 µm)	5.26	0.05
7.00 to 7.50; (5.524 µm)	5.54	0.06
7.50 to 8.00; (3.906 µm)	5.11	0.05
8.00 to 8.50; (2.762 µm)	4.28	0.04
8.50 to 9.00; (1.953 µm)	2.91	0.03
9.00 to 9.50; (1.381 µm)	1.25	0.01
9.50 to 10.00; (0.977 µm)	0.38	0.00
10.00 to 10.50; (0.691 µm)	0.62	0.01
10.50 to 11.00; (0.488 µm)	0.74	0.01
11.00 to 11.50; (0.345 µm)	0.31	0.00
11.50 to 12.00; (0.244 µm)	0.00	0.00
12.00 to 12.50; (0.173 µm)	0.00	0.00
12.50 to 13.00; (0.122 µm)	0.00	0.00
13.00 to 13.50; (0.086 µm)	0.00	0.00
13.50 to 14.00; (0.061µm)	0.00	0.00
14.00 to 14.50; (0.043µm)	0.00	0.00
TOTAL	100.00	1.00

Notes:

APPENDIX 3. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS72.

Exercise Code:	PS72
LabCode:	PSA_2605
Sample Code:	PS722605

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material & leave blank for not analysed)	Grams
-6.50 to -6.00; 63 mm		
-6.00 to -5.50; 45 mm		
-5.50 to -5.00; 31.5 mm		
-5.00 to -4.50; 22.4 mm		
-4.50 to -4.00; 16 mm		
-4.00 to -3.50; 11.2 mm		
-3.50 to -3.00; 8 mm		
-3.00 to -2.50; 5.6 mm		
-2.50 to -2.00; 4 mm		
-2.00 to -1.50; 2.8 mm		
-1.50 to -1.00; 2 mm		
-1.00 to -0.50; 1.4 mm		
-0.50 to 0.00; 1 mm		
0.00 to 0.50; (707 µm)	0.11	
0.50 to 1.00; (500 µm)	1.17	
1.00 to 1.50; (353.6 µm)	2.20	
1.50 to 2.00; (250 µm)	2.01	
2.00 to 2.50; (176.8 µm)	0.92	
2.50 to 3.00; (125 µm)	11.00	
3.00 to 3.50; (88.39 µm)	9.33	
3.50 to 4.00; (62.5 µm)	13.97	
4.00 to 4.50; (44.19 µm)	0.01	
4.50 to 5.00; (31.25 µm)	10.23	
5.00 to 5.50; (22.097 µm)	7.17	
5.50 to 6.00; (15.625 µm)	5.00	
6.00 to 6.50; (11.049 µm)	5.14	
6.50 to 7.00; (7.813 µm)	5.05	
7.00 to 7.50; (5.524 µm)	4.92	
7.50 to 8.00; (3.906 µm)	4.51	
8.00 to 8.50; (2.762 µm)	3.63	
8.50 to 9.00; (1.953 µm)	2.70	
9.00 to 9.50; (1.381 µm)	2.13	
9.50 to 10.00; (0.977 µm)	1.76	
10.00 to 10.50; (0.691 µm)	1.50	
10.50 to 11.00; (0.488 µm)	1.33	
11.00 to 11.50; (0.345 µm)	1.20	
11.50 to 12.00; (0.244 µm)	1.04	
12.00 to 12.50; (0.173 µm)	0.82	
12.50 to 13.00; (0.122 µm)	0.62	
13.00 to 13.50; (0.086 µm)	0.39	
13.50 to 14.00; (0.061µm)	0.15	
14.00 to 14.50; (0.043µm)	0.02	
TOTAL	100.00	

Notes:

APPENDIX 3. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS72.

Exercise Code:	PS72
LabCode:	PSA_2606
Sample Code:	PS722606

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage **(mark as "0" for no material & leave blank for not analysed)**	Grams
-6.50 to -6.00; 63 mm	0.00	
-6.00 to -5.50; 45 mm	0.00	
-5.50 to -5.00; 31.5 mm	0.00	
-5.00 to -4.50; 22.4 mm	0.00	
-4.50 to -4.00; 16 mm	0.00	
-4.00 to -3.50; 11.2 mm	0.00	
-3.50 to -3.00; 8 mm	0.00	
-3.00 to -2.50; 5.6 mm	0.00	
-2.50 to -2.00; 4 mm	0.00	
-2.00 to -1.50; 2.8 mm	0.00	
-1.50 to -1.00; 2 mm	0.00	
-1.00 to -0.50; 1.4 mm	0.00	
-0.50 to 0.00; 1 mm	0.00	
0.00 to 0.50; (707 µm)	0.07	
0.50 to 1.00; (500 µm)	1.64	
1.00 to 1.50; (353.6 µm)	3.43	
1.50 to 2.00; (250 µm)	1.93	
2.00 to 2.50; (176.8 µm)	0.28	
2.50 to 3.00; (125 µm)	0.77	
3.00 to 3.50; (88.39 µm)	5.55	
3.50 to 4.00; (62.5 µm)	11.06	
4.00 to 4.50; (44.19 µm)	12.72	
4.50 to 5.00; (31.25 µm)	11.67	
5.00 to 5.50; (22.097 µm)	8.24	
5.50 to 6.00; (15.625 µm)	5.14	
6.00 to 6.50; (11.049 µm)	2.91	
6.50 to 7.00; (7.813 µm)	3.73	
7.00 to 7.50; (5.524 µm)	3.93	
7.50 to 8.00; (3.906 µm)	4.33	
8.00 to 8.50; (2.762 µm)	4.53	
8.50 to 9.00; (1.953 µm)	4.07	
9.00 to 9.50; (1.381 µm)	3.03	
9.50 to 10.00; (0.977 µm)	1.97	
10.00 to 10.50; (0.691 µm)	1.03	
10.50 to 11.00; (0.488 µm)	1.22	
11.00 to 11.50; (0.345 µm)	1.40	
11.50 to 12.00; (0.244 µm)	1.65	
12.00 to 12.50; (0.173 µm)	1.71	
12.50 to 13.00; (0.122 µm)	1.34	
13.00 to 13.50; (0.086 µm)	0.62	
13.50 to 14.00; (0.061µm)		
14.00 to 14.50; (0.043µm)		
TOTAL	100.00	

Notes:

APPENDIX 3. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS72.

Exercise Code:	PS72
LabCode:	PSA_2607
Sample Code:	PS722607

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material & leave blank for not analysed)	Grams
-6.50 to -6.00; 63 mm		
-6.00 to -5.50; 45 mm		
-5.50 to -5.00; 31.5 mm		
-5.00 to -4.50; 22.4 mm		
-4.50 to -4.00; 16 mm		
-4.00 to -3.50; 11.2 mm		
-3.50 to -3.00; 8 mm		
-3.00 to -2.50; 5.6 mm		
-2.50 to -2.00; 4 mm		
-2.00 to -1.50; 2.8 mm		
-1.50 to -1.00; 2 mm		
-1.00 to -0.50; 1.4 mm		
-0.50 to 0.00; 1 mm	0.00	
0.00 to 0.50; (707 µm)	1.62	
0.50 to 1.00; (500 µm)	1.72	
1.00 to 1.50; (353.6 µm)	1.31	
1.50 to 2.00; (250 µm)	1.48	
2.00 to 2.50; (176.8 µm)	1.96	
2.50 to 3.00; (125 µm)	4.10	
3.00 to 3.50; (88.39 µm)	7.18	
3.50 to 4.00; (62.5 µm)	11.60	
4.00 to 4.50; (44.19 µm)	12.15	
4.50 to 5.00; (31.25 µm)	11.07	
5.00 to 5.50; (22.097 µm)	7.44	
5.50 to 6.00; (15.625 µm)	5.63	
6.00 to 6.50; (11.049 µm)	5.20	
6.50 to 7.00; (7.813 µm)	5.58	
7.00 to 7.50; (5.524 µm)	5.96	
7.50 to 8.00; (3.906 µm)	5.69	
8.00 to 8.50; (2.762 µm)	4.77	
8.50 to 9.00; (1.953 µm)	3.33	
9.00 to 9.50; (1.381 µm)	1.67	
9.50 to 10.00; (0.977 µm)	0.30	
10.00 to 10.50; (0.691 µm)		
10.50 to 11.00; (0.488 µm)		
11.00 to 11.50; (0.345 µm)		
11.50 to 12.00; (0.244 µm)		
12.00 to 12.50; (0.173 µm)		
12.50 to 13.00; (0.122 µm)		
13.00 to 13.50; (0.086 µm)		
13.50 to 14.00; (0.061µm)		
14.00 to 14.50; (0.043µm)		
TOTAL	99.76	

Notes:
Participant notes: The sample was not dried as all subsamples for laser analysis went through the 1mm wet sieve entirely. Out mastersizer 3000 does not have the blue laser and so cannot analyse the finest fractions.

APPENDIX 3. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS72.

Exercise Code:	PS72
LabCode:	PSA_2608
Sample Code:	PS722608

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material & leave blank for not analysed)	Grams (mark as "0" for no material & leave blank for not analysed)
-6.50 to -6.00; 63 mm	0.00	0.00
-6.00 to -5.50; 45 mm	0.00	0.00
-5.50 to -5.00; 31.5 mm	0.00	0.00
-5.00 to -4.50; 22.4 mm	0.00	0.00
-4.50 to -4.00; 16 mm	0.00	0.00
-4.00 to -3.50; 11.2 mm	0.00	0.00
-3.50 to -3.00; 8 mm	0.00	0.00
-3.00 to -2.50; 5.6 mm	0.00	0.00
-2.50 to -2.00; 4 mm	0.00	0.00
-2.00 to -1.50; 2.8 mm	0.00	0.00
-1.50 to -1.00; 2 mm	0.00	0.00
-1.00 to -0.50; 1.4 mm	0.00	0.00
-0.50 to 0.00; 1 mm	0.00	0.00
0.00 to 0.50; (707 µm)	0.64	0.61
0.50 to 1.00; (500 µm)	1.34	1.26
1.00 to 1.50; (353.6 µm)	1.83	1.73
1.50 to 2.00; (250 µm)	1.85	1.75
2.00 to 2.50; (176.8 µm)	2.16	2.05
2.50 to 3.00; (125 µm)	4.22	4.00
3.00 to 3.50; (88.39 µm)	8.26	7.82
3.50 to 4.00; (62.5 µm)	12.06	11.42
4.00 to 4.50; (44.19 µm)	12.82	12.14
4.50 to 5.00; (31.25 µm)	10.25	9.70
5.00 to 5.50; (22.097 µm)	6.80	6.44
5.50 to 6.00; (15.625 µm)	4.69	4.44
6.00 to 6.50; (11.049 µm)	4.20	3.97
6.50 to 7.00; (7.813 µm)	4.47	4.23
7.00 to 7.50; (5.524 µm)	4.79	4.53
7.50 to 8.00; (3.906 µm)	4.78	4.52
8.00 to 8.50; (2.762 µm)	4.27	4.05
8.50 to 9.00; (1.953 µm)	3.38	3.20
9.00 to 9.50; (1.381 µm)	2.43	2.30
9.50 to 10.00; (0.977 µm)	1.80	1.70
10.00 to 10.50; (0.691 µm)	1.47	1.39
10.50 to 11.00; (0.488 µm)	1.08	1.02
11.00 to 11.50; (0.345 µm)	0.40	0.38
11.50 to 12.00; (0.244 µm)	0.00	0.00
12.00 to 12.50; (0.173 µm)	0.00	0.00
12.50 to 13.00; (0.122 µm)	0.00	0.00
13.00 to 13.50; (0.086 µm)	0.00	0.00
13.50 to 14.00; (0.061µm)	0.0000	0.00
14.00 to 14.50; (0.043µm)	0.0000	0.00
TOTAL	100.00	94.67

Notes:
Participant notes: NMBAQC PSA SOP for supporting biological data - incorporating BS1377: Parts 1: 2016 and 2: 1990 (dry sieving) and BS13320: 2009 (laser diffraction).

APPENDIX 3. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS72.

Exercise Code:	PS72
LabCode:	PSA_2609
Sample Code:	PS722609

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material & leave blank for not analysed)	Grams (mark as "0" for no material & leave blank for not analysed)
-6.50 to -6.00; 63 mm	0.00	0.00
-6.00 to -5.50; 45 mm	0.00	0.00
-5.50 to -5.00; 31.5 mm	0.00	0.00
-5.00 to -4.50; 22.4 mm	0.00	0.00
-4.50 to -4.00; 16 mm	0.00	0.00
-4.00 to -3.50; 11.2 mm	0.00	0.00
-3.50 to -3.00; 8 mm	0.00	0.00
-3.00 to -2.50; 5.6 mm	0.00	0.00
-2.50 to -2.00; 4 mm	0.00	0.00
-2.00 to -1.50; 2.8 mm	0.00	0.00
-1.50 to -1.00; 2 mm	0.00	0.00
-1.00 to -0.50; 1.4 mm	0.00	0.00
-0.50 to 0.00; 1 mm	0.00	0.00
0.00 to 0.50; (707 µm)	1.59	1.59
0.50 to 1.00; (500 µm)	2.67	2.67
1.00 to 1.50; (353.6 µm)	2.53	2.53
1.50 to 2.00; (250 µm)	2.45	2.45
2.00 to 2.50; (176.8 µm)	3.77	3.77
2.50 to 3.00; (125 µm)	6.60	6.60
3.00 to 3.50; (88.39 µm)	9.32	9.32
3.50 to 4.00; (62.5 µm)	10.05	10.05
4.00 to 4.50; (44.19 µm)	8.66	8.66
4.50 to 5.00; (31.25 µm)	6.89	6.89
5.00 to 5.50; (22.097 µm)	6.26	6.26
5.50 to 6.00; (15.625 µm)	6.78	6.78
6.00 to 6.50; (11.049 µm)	7.41	7.41
6.50 to 7.00; (7.813 µm)	7.23	7.23
7.00 to 7.50; (5.524 µm)	6.07	6.07
7.50 to 8.00; (3.906 µm)	4.33	4.33
8.00 to 8.50; (2.762 µm)	2.74	2.74
8.50 to 9.00; (1.953 µm)	1.64	1.64
9.00 to 9.50; (1.381 µm)	1.14	1.14
9.50 to 10.00; (0.977 µm)	0.99	0.99
10.00 to 10.50; (0.691 µm)	0.71	0.71
10.50 to 11.00; (0.488 µm)	0.16	0.16
11.00 to 11.50; (0.345 µm)	0.00	0.00
11.50 to 12.00; (0.244 µm)	0.00	0.00
12.00 to 12.50; (0.173 µm)	0.00	0.00
12.50 to 13.00; (0.122 µm)	0.00	0.00
13.00 to 13.50; (0.086 µm)	0.00	0.00
13.50 to 14.00; (0.061µm)		
14.00 to 14.50; (0.043µm)		
TOTAL	100.00	100.00

Notes:

APPENDIX 3. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS72.

Exercise Code:	PS72
LabCode:	PSA_2610
Sample Code:	PS722610

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material & leave blank for not analysed)	Grams (mark as "0" for no material & leave blank for not analysed)
-6.50 to -6.00; 63 mm	0.00	0.00
-6.00 to -5.50; 45 mm	0.00	0.00
-5.50 to -5.00; 31.5 mm	0.00	0.00
-5.00 to -4.50; 22.4 mm	0.00	0.00
-4.50 to -4.00; 16 mm	0.00	0.00
-4.00 to -3.50; 11.2 mm	0.00	0.00
-3.50 to -3.00; 8 mm	0.00	0.00
-3.00 to -2.50; 5.6 mm	0.00	0.00
-2.50 to -2.00; 4 mm	0.00	0.00
-2.00 to -1.50; 2.8 mm	0.00	0.00
-1.50 to -1.00; 2 mm	0.00	0.00
-1.00 to -0.50; 1.4 mm	0.00	0.00
-0.50 to 0.00; 1 mm	0.00	0.00
0.00 to 0.50; (707 µm)	0.00	0.00
0.50 to 1.00; (500 µm)	0.66	0.52
1.00 to 1.50; (353.6 µm)	2.18	1.71
1.50 to 2.00; (250 µm)	2.58	2.03
2.00 to 2.50; (176.8 µm)	2.35	1.85
2.50 to 3.00; (125 µm)	3.89	3.06
3.00 to 3.50; (88.39 µm)	7.85	6.17
3.50 to 4.00; (62.5 µm)	11.56	9.09
4.00 to 4.50; (44.19 µm)	12.09	9.50
4.50 to 5.00; (31.25 µm)	9.54	7.51
5.00 to 5.50; (22.097 µm)	6.53	5.14
5.50 to 6.00; (15.625 µm)	4.96	3.90
6.00 to 6.50; (11.049 µm)	4.76	3.74
6.50 to 7.00; (7.813 µm)	5.01	3.94
7.00 to 7.50; (5.524 µm)	5.39	4.24
7.50 to 8.00; (3.906 µm)	5.32	4.18
8.00 to 8.50; (2.762 µm)	4.82	3.79
8.50 to 9.00; (1.953 µm)	3.56	2.80
9.00 to 9.50; (1.381 µm)	2.07	1.63
9.50 to 10.00; (0.977 µm)	1.70	1.33
10.00 to 10.50; (0.691 µm)	2.15	1.69
10.50 to 11.00; (0.488 µm)	0.98	0.77
11.00 to 11.50; (0.345 µm)	0.03	0.03
11.50 to 12.00; (0.244 µm)	0.00	0.00
12.00 to 12.50; (0.173 µm)	0.00	0.00
12.50 to 13.00; (0.122 µm)	0.00	0.00
13.00 to 13.50; (0.086 µm)	0.00	0.00
13.50 to 14.00; (0.061µm)	0.00	0.00
14.00 to 14.50; (0.043µm)	0.00	0.00
TOTAL	100.00	78.63

Notes:

APPENDIX 3. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS72.

Exercise Code:	PS72
LabCode:	PSA_2611
Sample Code:	PS722611

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material & leave blank for not analysed)	Grams
-6.50 to -6.00; 63 mm	0.00	
-6.00 to -5.50; 45 mm	0.00	
-5.50 to -5.00; 31.5 mm	0.00	
-5.00 to -4.50; 22.4 mm	0.00	
-4.50 to -4.00; 16 mm	0.00	
-4.00 to -3.50; 11.2 mm	0.00	
-3.50 to -3.00; 8 mm	0.00	
-3.00 to -2.50; 5.6 mm	0.00	
-2.50 to -2.00; 4 mm	0.00	
-2.00 to -1.50; 2.8 mm	0.00	
-1.50 to -1.00; 2 mm	0.00	
-1.00 to -0.50; 1.4 mm	0.00	
-0.50 to 0.00; 1 mm	0.00	
0.00 to 0.50; (707 µm)	0.07	
0.50 to 1.00; (500 µm)	0.88	
1.00 to 1.50; (353.6 µm)	2.14	
1.50 to 2.00; (250 µm)	2.54	
2.00 to 2.50; (176.8 µm)	2.61	
2.50 to 3.00; (125 µm)	4.23	
3.00 to 3.50; (88.39 µm)	8.03	
3.50 to 4.00; (62.5 µm)	11.76	
4.00 to 4.50; (44.19 µm)	12.34	
4.50 to 5.00; (31.25 µm)	9.70	
5.00 to 5.50; (22.097 µm)	6.53	
5.50 to 6.00; (15.625 µm)	4.92	
6.00 to 6.50; (11.049 µm)	4.83	
6.50 to 7.00; (7.813 µm)	5.23	
7.00 to 7.50; (5.524 µm)	5.53	
7.50 to 8.00; (3.906 µm)	4.94	
8.00 to 8.50; (2.762 µm)	3.60	
8.50 to 9.00; (1.953 µm)	1.91	
9.00 to 9.50; (1.381 µm)	0.94	
9.50 to 10.00; (0.977 µm)	1.13	
10.00 to 10.50; (0.691 µm)	2.10	
10.50 to 11.00; (0.488 µm)	2.33	
11.00 to 11.50; (0.345 µm)	1.39	
11.50 to 12.00; (0.244 µm)	0.32	
12.00 to 12.50; (0.173 µm)	0.00	
12.50 to 13.00; (0.122 µm)	0.00	
13.00 to 13.50; (0.086 µm)	0.00	
13.50 to 14.00; (0.061µm)	0.00	
14.00 to 14.50; (0.043µm)	0.00	
TOTAL	100.00	

Notes: APEM - PS Method Summary table entered as 'sieves only' when data includes entries for laser data and metadata but no sieve data. Assumed to be a transcription error

APPENDIX 3. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS72.

Exercise Code:	PS72
LabCode:	PSA_2612
Sample Code:	PS722612

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material & leave blank for not analysed)	Grams
-6.50 to -6.00; 63 mm		
-6.00 to -5.50; 45 mm		
-5.50 to -5.00; 31.5 mm		
-5.00 to -4.50; 22.4 mm		
-4.50 to -4.00; 16 mm		
-4.00 to -3.50; 11.2 mm		
-3.50 to -3.00; 8 mm		
-3.00 to -2.50; 5.6 mm		
-2.50 to -2.00; 4 mm		
-2.00 to -1.50; 2.8 mm		
-1.50 to -1.00; 2 mm		
-1.00 to -0.50; 1.4 mm		
-0.50 to 0.00; 1 mm	0.00	
0.00 to 0.50; (707 µm)	0.09	
0.50 to 1.00; (500 µm)	1.08	
1.00 to 1.50; (353.6 µm)	2.30	
1.50 to 2.00; (250 µm)	2.58	
2.00 to 2.50; (176.8 µm)	2.61	
2.50 to 3.00; (125 µm)	3.94	
3.00 to 3.50; (88.39 µm)	7.13	
3.50 to 4.00; (62.5 µm)	10.58	
4.00 to 4.50; (44.19 µm)	11.62	
4.50 to 5.00; (31.25 µm)	9.75	
5.00 to 5.50; (22.097 µm)	6.98	
5.50 to 6.00; (15.625 µm)	5.26	
6.00 to 6.50; (11.049 µm)	4.83	
6.50 to 7.00; (7.813 µm)	4.95	
7.00 to 7.50; (5.524 µm)	5.16	
7.50 to 8.00; (3.906 µm)	4.70	
8.00 to 8.50; (2.762 µm)	3.64	
8.50 to 9.00; (1.953 µm)	2.23	
9.00 to 9.50; (1.381 µm)	1.36	
9.50 to 10.00; (0.977 µm)	1.55	
10.00 to 10.50; (0.691 µm)	2.62	
10.50 to 11.00; (0.488 µm)	2.86	
11.00 to 11.50; (0.345 µm)	1.74	
11.50 to 12.00; (0.244 µm)	0.43	
12.00 to 12.50; (0.173 µm)	0.00	
12.50 to 13.00; (0.122 µm)	0.00	
13.00 to 13.50; (0.086 µm)	0.00	
13.50 to 14.00; (0.061µm)	0.00	
14.00 to 14.50; (0.043µm)	0.00	
TOTAL	100.00	

Notes:

APPENDIX 3. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS72.

Exercise Code:	PS72
LabCode:	PSA_2614
Sample Code:	PS722614

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material & leave blank for not analysed)	Grams (mark as "0" for no material & leave blank for not analysed)
-6.50 to -6.00; 63 mm	0.00	0.00
-6.00 to -5.50; 45 mm	0.00	0.00
-5.50 to -5.00; 31.5 mm	0.00	0.00
-5.00 to -4.50; 22.4 mm	0.00	0.00
-4.50 to -4.00; 16 mm	0.00	0.00
-4.00 to -3.50; 11.2 mm	0.00	0.00
-3.50 to -3.00; 8 mm	0.00	0.00
-3.00 to -2.50; 5.6 mm	0.00	0.00
-2.50 to -2.00; 4 mm	0.00	0.00
-2.00 to -1.50; 2.8 mm	0.00	0.00
-1.50 to -1.00; 2 mm	0.00	0.00
-1.00 to -0.50; 1.4 mm	0.00	0.00
-0.50 to 0.00; 1 mm	0.00	0.00
0.00 to 0.50; (707 µm)	0.00	0.00
0.50 to 1.00; (500 µm)	0.15	0.12
1.00 to 1.50; (353.6 µm)	0.20	0.16
1.50 to 2.00; (250 µm)	0.41	0.35
2.00 to 2.50; (176.8 µm)	2.49	2.08
2.50 to 3.00; (125 µm)	3.14	2.62
3.00 to 3.50; (88.39 µm)	6.91	5.78
3.50 to 4.00; (62.5 µm)	12.98	10.85
4.00 to 4.50; (44.19 µm)	13.51	11.29
4.50 to 5.00; (31.25 µm)	9.69	8.10
5.00 to 5.50; (22.097 µm)	6.61	5.53
5.50 to 6.00; (15.625 µm)	5.06	4.23
6.00 to 6.50; (11.049 µm)	4.54	3.80
6.50 to 7.00; (7.813 µm)	4.51	3.77
7.00 to 7.50; (5.524 µm)	4.40	3.68
7.50 to 8.00; (3.906 µm)	4.06	3.39
8.00 to 8.50; (2.762 µm)	3.60	3.01
8.50 to 9.00; (1.953 µm)	3.23	2.70
9.00 to 9.50; (1.381 µm)	2.76	2.31
9.50 to 10.00; (0.977 µm)	2.21	1.84
10.00 to 10.50; (0.691 µm)	1.81	1.51
10.50 to 11.00; (0.488 µm)	1.70	1.42
11.00 to 11.50; (0.345 µm)	1.67	1.40
11.50 to 12.00; (0.244 µm)	1.53	1.28
12.00 to 12.50; (0.173 µm)	1.21	1.01
12.50 to 13.00; (0.122 µm)	0.87	0.73
13.00 to 13.50; (0.086 µm)	0.52	0.44
13.50 to 14.00; (0.061µm)	0.20	0.17
14.00 to 14.50; (0.043µm)	0.03	0.02
TOTAL	100.00	83.59

Notes:

Participant notes: For ring test samples, 5 separate subsample runs completed (Rep 3,4 and 5 with 3 runs) by 2 analysts. For ring test assessment of PS72, all rep1s except 1 have been included in Laser Reps 1-3 Data. These have been averaged for final laser data

APPENDIX 3. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS72.

Exercise Code:	PS72
LabCode:	PSA_2615
Sample Code:	PS722615

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material & leave blank for not analysed)	Grams
-6.50 to -6.00; 63 mm		
-6.00 to -5.50; 45 mm		
-5.50 to -5.00; 31.5 mm		
-5.00 to -4.50; 22.4 mm		
-4.50 to -4.00; 16 mm		
-4.00 to -3.50; 11.2 mm		
-3.50 to -3.00; 8 mm		
-3.00 to -2.50; 5.6 mm		
-2.50 to -2.00; 4 mm		
-2.00 to -1.50; 2.8 mm		
-1.50 to -1.00; 2 mm		
-1.00 to -0.50; 1.4 mm	0.00	
-0.50 to 0.00; 1 mm	0.00	
0.00 to 0.50; (707 µm)	0.00	
0.50 to 1.00; (500 µm)	0.23	
1.00 to 1.50; (353.6 µm)	0.86	
1.50 to 2.00; (250 µm)	1.05	
2.00 to 2.50; (176.8 µm)	1.51	
2.50 to 3.00; (125 µm)	4.27	
3.00 to 3.50; (88.39 µm)	9.76	
3.50 to 4.00; (62.5 µm)	14.86	
4.00 to 4.50; (44.19 µm)	15.97	
4.50 to 5.00; (31.25 µm)	12.93	
5.00 to 5.50; (22.097 µm)	8.73	
5.50 to 6.00; (15.625 µm)	5.81	
6.00 to 6.50; (11.049 µm)	4.48	
6.50 to 7.00; (7.813 µm)	3.92	
7.00 to 7.50; (5.524 µm)	3.49	
7.50 to 8.00; (3.906 µm)	3.03	
8.00 to 8.50; (2.762 µm)	2.55	
8.50 to 9.00; (1.953 µm)	2.02	
9.00 to 9.50; (1.381 µm)	1.48	
9.50 to 10.00; (0.977 µm)	1.14	
10.00 to 10.50; (0.691 µm)	0.99	
10.50 to 11.00; (0.488 µm)	0.75	
11.00 to 11.50; (0.345 µm)	0.18	
11.50 to 12.00; (0.244 µm)	0.00	
12.00 to 12.50; (0.173 µm)	0.00	
12.50 to 13.00; (0.122 µm)	0.00	
13.00 to 13.50; (0.086 µm)	0.00	
13.50 to 14.00; (0.061µm)		
14.00 to 14.50; (0.043µm)		
TOTAL	100.00	

Notes: APEM - 'PS_Final_Merged_Data' tab not completed. Data taken from 'PS_Final_Laser_Data' as there was no sieve data

APPENDIX 3. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS72.

Exercise Code:	PS72
LabCode:	PSA_2616
Sample Code:	PS722616

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material & leave blank for not analysed)	Grams
-6.50 to -6.00; 63 mm	0.00	
-6.00 to -5.50; 45 mm	0.00	
-5.50 to -5.00; 31.5 mm	0.00	
-5.00 to -4.50; 22.4 mm	0.00	
-4.50 to -4.00; 16 mm	0.00	
-4.00 to -3.50; 11.2 mm	0.00	
-3.50 to -3.00; 8 mm	0.00	
-3.00 to -2.50; 5.6 mm	0.00	
-2.50 to -2.00; 4 mm	0.00	
-2.00 to -1.50; 2.8 mm	0.00	
-1.50 to -1.00; 2 mm	0.00	
-1.00 to -0.50; 1.4 mm	0.00	
-0.50 to 0.00; 1 mm	0.00	
0.00 to 0.50; (707 µm)	0.01	
0.50 to 1.00; (500 µm)	0.45	
1.00 to 1.50; (353.6 µm)	1.32	
1.50 to 2.00; (250 µm)	1.12	
2.00 to 2.50; (176.8 µm)	0.83	
2.50 to 3.00; (125 µm)	2.79	
3.00 to 3.50; (88.39 µm)	7.45	
3.50 to 4.00; (62.5 µm)	11.91	
4.00 to 4.50; (44.19 µm)	12.98	
4.50 to 5.00; (31.25 µm)	10.55	
5.00 to 5.50; (22.097 µm)	7.28	
5.50 to 6.00; (15.625 µm)	5.29	
6.00 to 6.50; (11.049 µm)	4.82	
6.50 to 7.00; (7.813 µm)	5.04	
7.00 to 7.50; (5.524 µm)	5.30	
7.50 to 8.00; (3.906 µm)	5.34	
8.00 to 8.50; (2.762 µm)	5.03	
8.50 to 9.00; (1.953 µm)	4.26	
9.00 to 9.50; (1.381 µm)	3.15	
9.50 to 10.00; (0.977 µm)	2.18	
10.00 to 10.50; (0.691 µm)	1.58	
10.50 to 11.00; (0.488 µm)	1.03	
11.00 to 11.50; (0.345 µm)	0.28	
11.50 to 12.00; (0.244 µm)	0.00	
12.00 to 12.50; (0.173 µm)	0.00	
12.50 to 13.00; (0.122 µm)	0.00	
13.00 to 13.50; (0.086 µm)	0.00	
13.50 to 14.00; (0.061µm)	0.00	
14.00 to 14.50; (0.043µm)	0.00	
TOTAL	100.00	

Notes:

APPENDIX 3. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS72.

Exercise Code:	PS72
LabCode:	PSA_2617
Sample Code:	PS722617

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material & leave blank for not analysed)	Grams
-6.50 to -6.00; 63 mm	0.00	
-6.00 to -5.50; 45 mm	0.00	
-5.50 to -5.00; 31.5 mm	0.00	
-5.00 to -4.50; 22.4 mm	0.00	
-4.50 to -4.00; 16 mm	0.00	
-4.00 to -3.50; 11.2 mm	0.00	
-3.50 to -3.00; 8 mm	0.00	
-3.00 to -2.50; 5.6 mm	0.00	
-2.50 to -2.00; 4 mm	0.00	
-2.00 to -1.50; 2.8 mm	0.01	
-1.50 to -1.00; 2 mm	0.00	
-1.00 to -0.50; 1.4 mm	0.00	
-0.50 to 0.00; 1 mm	0.00	
0.00 to 0.50; (707 µm)	0.13	
0.50 to 1.00; (500 µm)	1.07	
1.00 to 1.50; (353.6 µm)	1.99	
1.50 to 2.00; (250 µm)	2.16	
2.00 to 2.50; (176.8 µm)	2.21	
2.50 to 3.00; (125 µm)	3.91	
3.00 to 3.50; (88.39 µm)	7.89	
3.50 to 4.00; (62.5 µm)	11.75	
4.00 to 4.50; (44.19 µm)	12.34	
4.50 to 5.00; (31.25 µm)	9.57	
5.00 to 5.50; (22.097 µm)	6.37	
5.50 to 6.00; (15.625 µm)	4.88	
6.00 to 6.50; (11.049 µm)	4.58	
6.50 to 7.00; (7.813 µm)	5.05	
7.00 to 7.50; (5.524 µm)	5.31	
7.50 to 8.00; (3.906 µm)	5.33	
8.00 to 8.50; (2.762 µm)	5.00	
8.50 to 9.00; (1.953 µm)	3.81	
9.00 to 9.50; (1.381 µm)	2.23	
9.50 to 10.00; (0.977 µm)	1.71	
10.00 to 10.50; (0.691 µm)	2.71	
10.50 to 11.00; (0.488 µm)		
11.00 to 11.50; (0.345 µm)		
11.50 to 12.00; (0.244 µm)		
12.00 to 12.50; (0.173 µm)		
12.50 to 13.00; (0.122 µm)		
13.00 to 13.50; (0.086 µm)		
13.50 to 14.00; (0.061µm)		
14.00 to 14.50; (0.043µm)		
TOTAL	100.00	

Notes:

APPENDIX 3. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS72.

Exercise Code:	PS72
LabCode:	PSA_2618
Sample Code:	PS722618

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material & leave blank for not analysed)	Grams
-6.50 to -6.00; 63 mm	0.00	
-6.00 to -5.50; 45 mm	0.00	
-5.50 to -5.00; 31.5 mm	0.00	
-5.00 to -4.50; 22.4 mm	0.00	
-4.50 to -4.00; 16 mm	0.00	
-4.00 to -3.50; 11.2 mm	0.00	
-3.50 to -3.00; 8 mm	0.00	
-3.00 to -2.50; 5.6 mm	0.00	
-2.50 to -2.00; 4 mm	0.00	
-2.00 to -1.50; 2.8 mm	0.00	
-1.50 to -1.00; 2 mm	0.00	
-1.00 to -0.50; 1.4 mm	0.00	
-0.50 to 0.00; 1 mm	0.00	
0.00 to 0.50; (707 µm)	0.44	
0.50 to 1.00; (500 µm)	1.38	
1.00 to 1.50; (353.6 µm)	1.82	
1.50 to 2.00; (250 µm)	1.78	
2.00 to 2.50; (176.8 µm)	2.56	
2.50 to 3.00; (125 µm)	3.37	
3.00 to 3.50; (88.39 µm)	6.95	
3.50 to 4.00; (62.5 µm)	11.55	
4.00 to 4.50; (44.19 µm)	11.87	
4.50 to 5.00; (31.25 µm)	8.69	
5.00 to 5.50; (22.097 µm)	5.87	
5.50 to 6.00; (15.625 µm)	4.75	
6.00 to 6.50; (11.049 µm)	4.55	
6.50 to 7.00; (7.813 µm)	4.55	
7.00 to 7.50; (5.524 µm)	4.77	
7.50 to 8.00; (3.906 µm)	4.74	
8.00 to 8.50; (2.762 µm)	4.10	
8.50 to 9.00; (1.953 µm)	3.27	
9.00 to 9.50; (1.381 µm)	2.55	
9.50 to 10.00; (0.977 µm)	1.94	
10.00 to 10.50; (0.691 µm)	1.56	
10.50 to 11.00; (0.488 µm)	1.44	
11.00 to 11.50; (0.345 µm)	1.42	
11.50 to 12.00; (0.244 µm)	1.33	
12.00 to 12.50; (0.173 µm)	1.10	
12.50 to 13.00; (0.122 µm)	0.85	
13.00 to 13.50; (0.086 µm)	0.54	
13.50 to 14.00; (0.061µm)	0.21	
14.00 to 14.50; (0.043µm)	0.03	
TOTAL	100.00	

Notes:

APPENDIX 3. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS72.

Exercise Code:	PS72
LabCode:	PSA_2630
Sample Code:	Benchmark Replicate 1

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material & leave blank for not analysed)	Grams
-6.50 to -6.00; 63 mm	0.00	
-6.00 to -5.50; 45 mm	0.00	
-5.50 to -5.00; 31.5 mm	0.00	
-5.00 to -4.50; 22.4 mm	0.00	
-4.50 to -4.00; 16 mm	0.00	
-4.00 to -3.50; 11.2 mm	0.00	
-3.50 to -3.00; 8 mm	0.00	
-3.00 to -2.50; 5.6 mm	0.00	
-2.50 to -2.00; 4 mm	0.00	
-2.00 to -1.50; 2.8 mm	0.00	
-1.50 to -1.00; 2 mm	0.00	
-1.00 to -0.50; 1.4 mm	0.00	
-0.50 to 0.00; 1 mm	0.00	
0.00 to 0.50; (707 µm)	0.45	
0.50 to 1.00; (500 µm)	1.25	
1.00 to 1.50; (353.6 µm)	1.75	
1.50 to 2.00; (250 µm)	1.77	
2.00 to 2.50; (176.8 µm)	2.66	
2.50 to 3.00; (125 µm)	3.58	
3.00 to 3.50; (88.39 µm)	7.38	
3.50 to 4.00; (62.5 µm)	12.06	
4.00 to 4.50; (44.19 µm)	12.25	
4.50 to 5.00; (31.25 µm)	8.74	
5.00 to 5.50; (22.097 µm)	5.84	
5.50 to 6.00; (15.625 µm)	4.64	
6.00 to 6.50; (11.049 µm)	4.42	
6.50 to 7.00; (7.813 µm)	4.40	
7.00 to 7.50; (5.524 µm)	4.58	
7.50 to 8.00; (3.906 µm)	4.51	
8.00 to 8.50; (2.762 µm)	3.91	
8.50 to 9.00; (1.953 µm)	3.16	
9.00 to 9.50; (1.381 µm)	2.50	
9.50 to 10.00; (0.977 µm)	1.92	
10.00 to 10.50; (0.691 µm)	1.55	
10.50 to 11.00; (0.488 µm)	1.41	
11.00 to 11.50; (0.345 µm)	1.37	
11.50 to 12.00; (0.244 µm)	1.28	
12.00 to 12.50; (0.173 µm)	1.05	
12.50 to 13.00; (0.122 µm)	0.81	
13.00 to 13.50; (0.086 µm)	0.52	
13.50 to 14.00; (0.061µm)	0.20	
14.00 to 14.50; (0.043µm)	0.03	
>14.5; (0.01)	0.00	
TOTAL	100.00	

Notes:

APPENDIX 3. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS72.

Exercise Code:	PS72
LabCode:	PSA_2631
Sample Code:	Benchmark Replicate 2

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material & leave blank for not analysed)	Grams
-6.50 to -6.00; 63 mm	0.00	
-6.00 to -5.50; 45 mm	0.00	
-5.50 to -5.00; 31.5 mm	0.00	
-5.00 to -4.50; 22.4 mm	0.00	
-4.50 to -4.00; 16 mm	0.00	
-4.00 to -3.50; 11.2 mm	0.00	
-3.50 to -3.00; 8 mm	0.00	
-3.00 to -2.50; 5.6 mm	0.00	
-2.50 to -2.00; 4 mm	0.00	
-2.00 to -1.50; 2.8 mm	0.00	
-1.50 to -1.00; 2 mm	0.00	
-1.00 to -0.50; 1.4 mm	0.00	
-0.50 to 0.00; 1 mm	0.00	
0.00 to 0.50; (707 µm)	0.39	
0.50 to 1.00; (500 µm)	1.18	
1.00 to 1.50; (353.6 µm)	1.81	
1.50 to 2.00; (250 µm)	1.74	
2.00 to 2.50; (176.8 µm)	2.57	
2.50 to 3.00; (125 µm)	3.45	
3.00 to 3.50; (88.39 µm)	6.78	
3.50 to 4.00; (62.5 µm)	11.14	
4.00 to 4.50; (44.19 µm)	11.66	
4.50 to 5.00; (31.25 µm)	8.63	
5.00 to 5.50; (22.097 µm)	5.98	
5.50 to 6.00; (15.625 µm)	4.86	
6.00 to 6.50; (11.049 µm)	4.74	
6.50 to 7.00; (7.813 µm)	4.81	
7.00 to 7.50; (5.524 µm)	5.01	
7.50 to 8.00; (3.906 µm)	4.87	
8.00 to 8.50; (2.762 µm)	4.14	
8.50 to 9.00; (1.953 µm)	3.26	
9.00 to 9.50; (1.381 µm)	2.53	
9.50 to 10.00; (0.977 µm)	1.94	
10.00 to 10.50; (0.691 µm)	1.57	
10.50 to 11.00; (0.488 µm)	1.45	
11.00 to 11.50; (0.345 µm)	1.43	
11.50 to 12.00; (0.244 µm)	1.34	
12.00 to 12.50; (0.173 µm)	1.10	
12.50 to 13.00; (0.122 µm)	0.84	
13.00 to 13.50; (0.086 µm)	0.53	
13.50 to 14.00; (0.061µm)	0.21	
14.00 to 14.50; (0.043µm)	0.03	
>14.5; (0.01)	0.00	
TOTAL	100.00	

Notes:

APPENDIX 3. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS72.

Exercise Code:	PS72
LabCode:	PSA_2632
Sample Code:	Benchmark Replicate 3

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material & leave blank for not analysed)	Grams
-6.50 to -6.00; 63 mm	0.00	
-6.00 to -5.50; 45 mm	0.00	
-5.50 to -5.00; 31.5 mm	0.00	
-5.00 to -4.50; 22.4 mm	0.00	
-4.50 to -4.00; 16 mm	0.00	
-4.00 to -3.50; 11.2 mm	0.00	
-3.50 to -3.00; 8 mm	0.00	
-3.00 to -2.50; 5.6 mm	0.00	
-2.50 to -2.00; 4 mm	0.00	
-2.00 to -1.50; 2.8 mm	0.00	
-1.50 to -1.00; 2 mm	0.00	
-1.00 to -0.50; 1.4 mm	0.00	
-0.50 to 0.00; 1 mm	0.00	
0.00 to 0.50; (707 µm)	0.32	
0.50 to 1.00; (500 µm)	1.10	
1.00 to 1.50; (353.6 µm)	1.83	
1.50 to 2.00; (250 µm)	1.63	
2.00 to 2.50; (176.8 µm)	2.48	
2.50 to 3.00; (125 µm)	3.46	
3.00 to 3.50; (88.39 µm)	7.08	
3.50 to 4.00; (62.5 µm)	11.59	
4.00 to 4.50; (44.19 µm)	11.97	
4.50 to 5.00; (31.25 µm)	8.69	
5.00 to 5.50; (22.097 µm)	5.95	
5.50 to 6.00; (15.625 µm)	4.74	
6.00 to 6.50; (11.049 µm)	4.56	
6.50 to 7.00; (7.813 µm)	4.62	
7.00 to 7.50; (5.524 µm)	4.85	
7.50 to 8.00; (3.906 µm)	4.76	
8.00 to 8.50; (2.762 µm)	4.07	
8.50 to 9.00; (1.953 µm)	3.23	
9.00 to 9.50; (1.381 µm)	2.54	
9.50 to 10.00; (0.977 µm)	1.96	
10.00 to 10.50; (0.691 µm)	1.59	
10.50 to 11.00; (0.488 µm)	1.48	
11.00 to 11.50; (0.345 µm)	1.45	
11.50 to 12.00; (0.244 µm)	1.36	
12.00 to 12.50; (0.173 µm)	1.10	
12.50 to 13.00; (0.122 µm)	0.83	
13.00 to 13.50; (0.086 µm)	0.52	
13.50 to 14.00; (0.061µm)	0.20	
14.00 to 14.50; (0.043µm)	0.03	
>14.5; (0.01)	0.00	
TOTAL	100.00	

Notes:

APPENDIX 3. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS72.

Exercise Code:	PS72
LabCode:	PSA_2633
Sample Code:	Benchmark Replicate 4

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material & leave blank for not analysed)	Grams
-6.50 to -6.00; 63 mm	0.00	
-6.00 to -5.50; 45 mm	0.00	
-5.50 to -5.00; 31.5 mm	0.00	
-5.00 to -4.50; 22.4 mm	0.00	
-4.50 to -4.00; 16 mm	0.00	
-4.00 to -3.50; 11.2 mm	0.00	
-3.50 to -3.00; 8 mm	0.00	
-3.00 to -2.50; 5.6 mm	0.00	
-2.50 to -2.00; 4 mm	0.00	
-2.00 to -1.50; 2.8 mm	0.00	
-1.50 to -1.00; 2 mm	0.00	
-1.00 to -0.50; 1.4 mm	0.00	
-0.50 to 0.00; 1 mm	0.00	
0.00 to 0.50; (707 µm)	0.59	
0.50 to 1.00; (500 µm)	1.52	
1.00 to 1.50; (353.6 µm)	2.05	
1.50 to 2.00; (250 µm)	1.61	
2.00 to 2.50; (176.8 µm)	2.61	
2.50 to 3.00; (125 µm)	3.50	
3.00 to 3.50; (88.39 µm)	6.94	
3.50 to 4.00; (62.5 µm)	11.48	
4.00 to 4.50; (44.19 µm)	11.79	
4.50 to 5.00; (31.25 µm)	8.65	
5.00 to 5.50; (22.097 µm)	5.96	
5.50 to 6.00; (15.625 µm)	4.78	
6.00 to 6.50; (11.049 µm)	4.54	
6.50 to 7.00; (7.813 µm)	4.49	
7.00 to 7.50; (5.524 µm)	4.69	
7.50 to 8.00; (3.906 µm)	4.66	
8.00 to 8.50; (2.762 µm)	4.04	
8.50 to 9.00; (1.953 µm)	3.26	
9.00 to 9.50; (1.381 µm)	2.57	
9.50 to 10.00; (0.977 µm)	1.95	
10.00 to 10.50; (0.691 µm)	1.54	
10.50 to 11.00; (0.488 µm)	1.41	
11.00 to 11.50; (0.345 µm)	1.40	
11.50 to 12.00; (0.244 µm)	1.33	
12.00 to 12.50; (0.173 µm)	1.09	
12.50 to 13.00; (0.122 µm)	0.82	
13.00 to 13.50; (0.086 µm)	0.51	
13.50 to 14.00; (0.061µm)	0.20	
14.00 to 14.50; (0.043µm)	0.03	
>14.5; (0.01)	0.00	
TOTAL	100.00	

Notes:

APPENDIX 3. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS72.

Exercise Code:	PS72
LabCode:	PSA_2634
Sample Code:	Benchmark Replicate 5

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material & leave blank for not analysed)	Grams
-6.50 to -6.00; 63 mm	0.00	
-6.00 to -5.50; 45 mm	0.00	
-5.50 to -5.00; 31.5 mm	0.00	
-5.00 to -4.50; 22.4 mm	0.00	
-4.50 to -4.00; 16 mm	0.00	
-4.00 to -3.50; 11.2 mm	0.00	
-3.50 to -3.00; 8 mm	0.00	
-3.00 to -2.50; 5.6 mm	0.00	
-2.50 to -2.00; 4 mm	0.00	
-2.00 to -1.50; 2.8 mm	0.00	
-1.50 to -1.00; 2 mm	0.00	
-1.00 to -0.50; 1.4 mm	0.00	
-0.50 to 0.00; 1 mm	0.00	
0.00 to 0.50; (707 µm)	0.39	
0.50 to 1.00; (500 µm)	1.37	
1.00 to 1.50; (353.6 µm)	2.09	
1.50 to 2.00; (250 µm)	1.79	
2.00 to 2.50; (176.8 µm)	2.70	
2.50 to 3.00; (125 µm)	3.65	
3.00 to 3.50; (88.39 µm)	7.23	
3.50 to 4.00; (62.5 µm)	11.78	
4.00 to 4.50; (44.19 µm)	12.04	
4.50 to 5.00; (31.25 µm)	8.68	
5.00 to 5.50; (22.097 µm)	5.90	
5.50 to 6.00; (15.625 µm)	4.70	
6.00 to 6.50; (11.049 µm)	4.48	
6.50 to 7.00; (7.813 µm)	4.43	
7.00 to 7.50; (5.524 µm)	4.63	
7.50 to 8.00; (3.906 µm)	4.58	
8.00 to 8.50; (2.762 µm)	3.97	
8.50 to 9.00; (1.953 µm)	3.18	
9.00 to 9.50; (1.381 µm)	2.49	
9.50 to 10.00; (0.977 µm)	1.88	
10.00 to 10.50; (0.691 µm)	1.49	
10.50 to 11.00; (0.488 µm)	1.37	
11.00 to 11.50; (0.345 µm)	1.35	
11.50 to 12.00; (0.244 µm)	1.27	
12.00 to 12.50; (0.173 µm)	1.05	
12.50 to 13.00; (0.122 µm)	0.80	
13.00 to 13.50; (0.086 µm)	0.50	
13.50 to 14.00; (0.061µm)	0.20	
14.00 to 14.50; (0.043µm)	0.03	
>14.5; (0.01)	0.00	
TOTAL	100.00	

Notes: