NMBAQC

NE Atlantic Marine Biological Analytical Quality Control Scheme

Particle Size Report - PS75

Particle Size Component 2019/20

April 2020

Soren Pears, Lydia McIntyre-Brown & David Hall
nmbaqc@apemltd.co.uk

APEM

CONTENTS

BENCHMARK DATA

Table 1. Summary data for the benchmark replicates distributed as PS75.

	Method	% Gravel	% Sand	% Mud	Sediment Description (Post analysis)
PSA_2630 BM REP 1	NMBAQC	96.92	3.02	0.05	Gravel
PSA_2631 BM REP 2	NMBAQC	96.95	3.01	0.05	Gravel
PSA_2632 BM REP 3	NMBAQC	97.04	2.91	0.05	Gravel
PSA_2633 BM REP 4	NMBAQC	97.02	2.93	0.05	Gravel
PSA_2634 BM REP 5	NMBAQC	97.09	2.86	0.05	Gravel
BM REP AVERAGE	NMBAQC	97.00	2.95	0.05	Gravel

Table 2. Summary of sieve data for the benchmark replicates distributed as PS75.

		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		0.00	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	0.00
-5.50 to -5.00; 31.5 mm		0.00	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	0.00
-4.50 to -4.00; 16 mm		0.00	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	0.00
-3.50 to -3.00; 8 mm		341.58	350.27	357.37	339.67	339.09	345.60
-3.00 to -2.50; 5.6 mm		372.89	353.07	351.82	368.86	370.96	363.52
-2.50 to -2.00; 4 mm		291.26	300.20	298.88	299.72	291.57	296.33
-2.00 to -1.50; 2.8 mm		57.37	58.95	59.30	58.14	62.73	59.30
-1.50 to -1.00; 2 mm		39.89	40.20	39.97	40.38	40.55	40.20
-1.00 to -0.50; 1.4 mm		28.55	28.08	27.63	27.76	27.09	27.82
-0.50 to 0.00; 1.0 mm		5.63	5.93	5.42	5.46	5.28	5.54
>1.0 mm		1137.17	1136.70	1140.39	1139.99	1137.27	1138.30
<1.0 mm	Base Pan	0.82	0.73	0.77	0.73	0.73	0.76
	Oven Dried	0.00	0.00	0.00	0.00	0.00	0.00
Total Weight (g)		1137.99	1137.43	1141.16	1140.72	1138.00	1139.06

BENCHMARK DATA

Table 3. Summary of final laser data for the benchmark replicates distributed as PS75.

	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)	0.04	0.03	0.03	3.53	0.04	0.73
0.50 to 1.00; (500 µm)	3.19	2.34	2.33	3.29	3.05	2.84
1.00 to 1.50; (353.6 µm)	4.27	3.66	3.35	2.99	4.55	3.76
1.50 to 2.00; (250 µm)	3.13	3.10	2.42	2.80	3.14	2.92
2.00 to 2.50; (176.8 µm)	3.92	4.27	3.42	3.80	3.58	3.80
2.50 to 3.00; (125 µm)	4.30	4.58	5.08	4.84	4.21	4.60
3.00 to 3.50; (88.39 µm)	4.18	4.01	5.01	4.75	3.64	4.32
3.50 to 4.00; (62.5 µm)	4.13	3.37	3.70	3.51	2.97	3.54
4.00 to 4.50; (44.19 µm)	4.52	4.37	4.34	4.23	4.09	4.31
4.50 to 5.00; (31.25 µm)	6.23	6.28	6.01	5.94	6.03	6.10
5.00 to 5.50; (22.097 µm)	6.13	6.06	5.66	5.65	5.78	5.86
5.50 to 6.00; (15.625 µm)	5.61	5.66	5.37	5.38	5.55	5.51
6.00 to 6.50; (11.049 µm)	5.28	5.30	5.06	5.03	5.27	5.19
6.50 to 7.00; (7.813 µm)	4.61	4.72	4.56	4.41	4.80	4.62
7.00 to 7.50; (5.524 µm)	5.00	4.92	5.00	4.76	5.16	4.97
7.50 to 8.00; (3.906 µm)	5.48	5.19	5.54	5.17	5.53	5.38
8.00 to 8.50; (2.762 µm)	5.04	4.87	5.30	4.76	5.18	5.03
8.50 to 9.00; (1.953 µm)	4.93	5.02	5.45	4.75	5.20	5.07
9.00 to 9.50; (1.381 µm)	5.19	5.50	5.87	5.16	5.54	5.45
9.50 to 10.00; (0.977 µm)	4.79	5.21	5.45	4.86	5.18	5.10
10.00 to 10.50; (0.691 µm)	3.71	4.12	4.21	3.82	4.09	3.99
10.50 to 11.00; (0.488 µm)	2.57	2.92	2.89	2.67	2.90	2.79
11.00 to 11.50; (0.345 µm)	1.66	1.93	1.83	1.73	1.92	1.81
11.50 to 12.00; (0.244 µm)	1.00	1.20	1.08	1.05	1.20	1.11
12.00 to 12.50; (0.173 µm)	0.56	0.69	0.56	0.58	0.69	0.62
12.50 to 13.00; (0.122 µm)	0.31	0.40	0.30	0.32	0.41	0.35
13.00 to 13.50; (0.086 µm)	0.16	0.21	0.14	0.16	0.21	0.17
13.50 to 14.00; (0.061 µm)	0.05	0.07	0.04	0.05	0.07	0.06
14.00 to 14.50; (0.043 µm)	0.01	0.01	0.00	0.01	0.01	0.01
>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 PS75.

		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	1.94	9.16	3.13	7.47	1.89
	Subsample 2	1.94	9.16	3.13	7.47	1.89
	Subsample 3	1.94	9.16	3.13	7.47	1.89
D_{50}	Subsample 1	1.51	8.22	2.81	10.53	1.61
	Subsample 2	1.51	8.22	2.81	10.53	1.61
	Subsample 3	1.51	8.22	2.81	10.53	1.61
D_{90}	Subsample 1	5.71	4.54	1.17	26.01	2.01
	Subsample 2	5.71	4.54	1.17	26.01	2.01
	Subsample 3	5.71	4.54	1.17	26.01	2.01

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

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 PS75.

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)	10 seconds before run, and 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 PS75.

Figure 1a. Percentage bar charts resulting from final sieve analysis of 5 replicate samples of sediment distributed as PS75 (Benchmark Data).

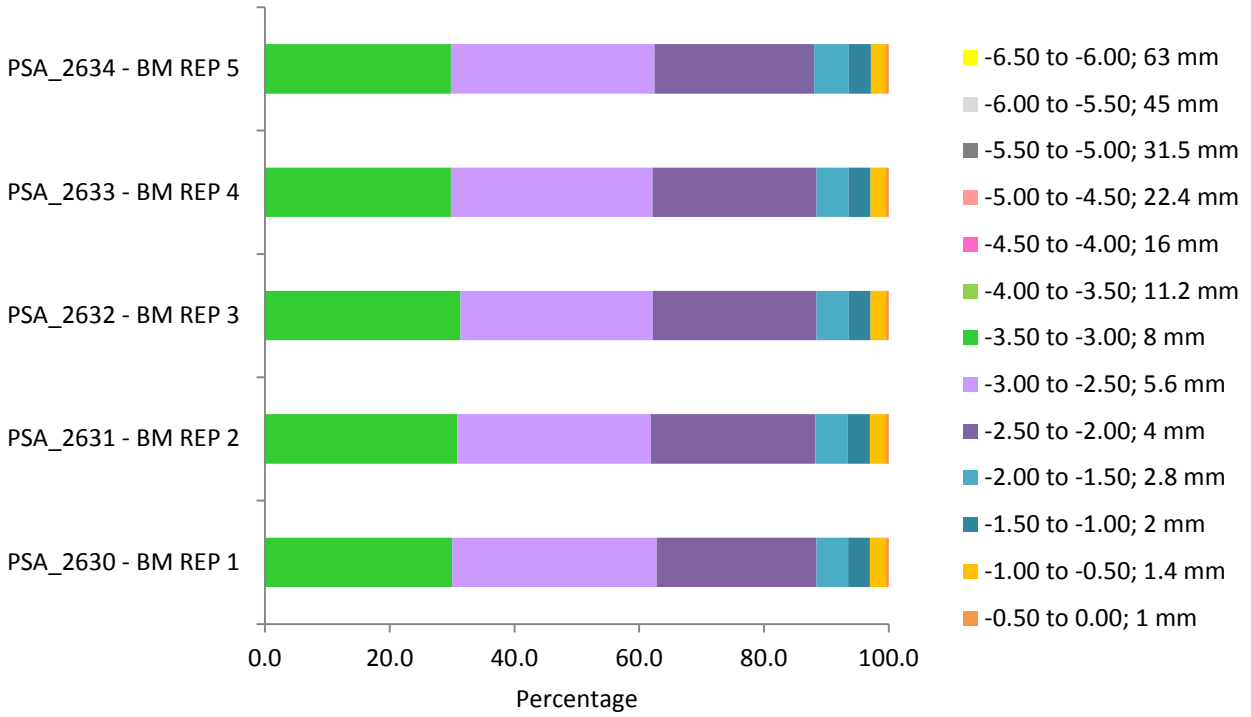


Figure 1b. Particle size distribution curves resulting from final laser analysis of 5 replicate samples of sediment distibuted as PS75 (Benchmark Data).

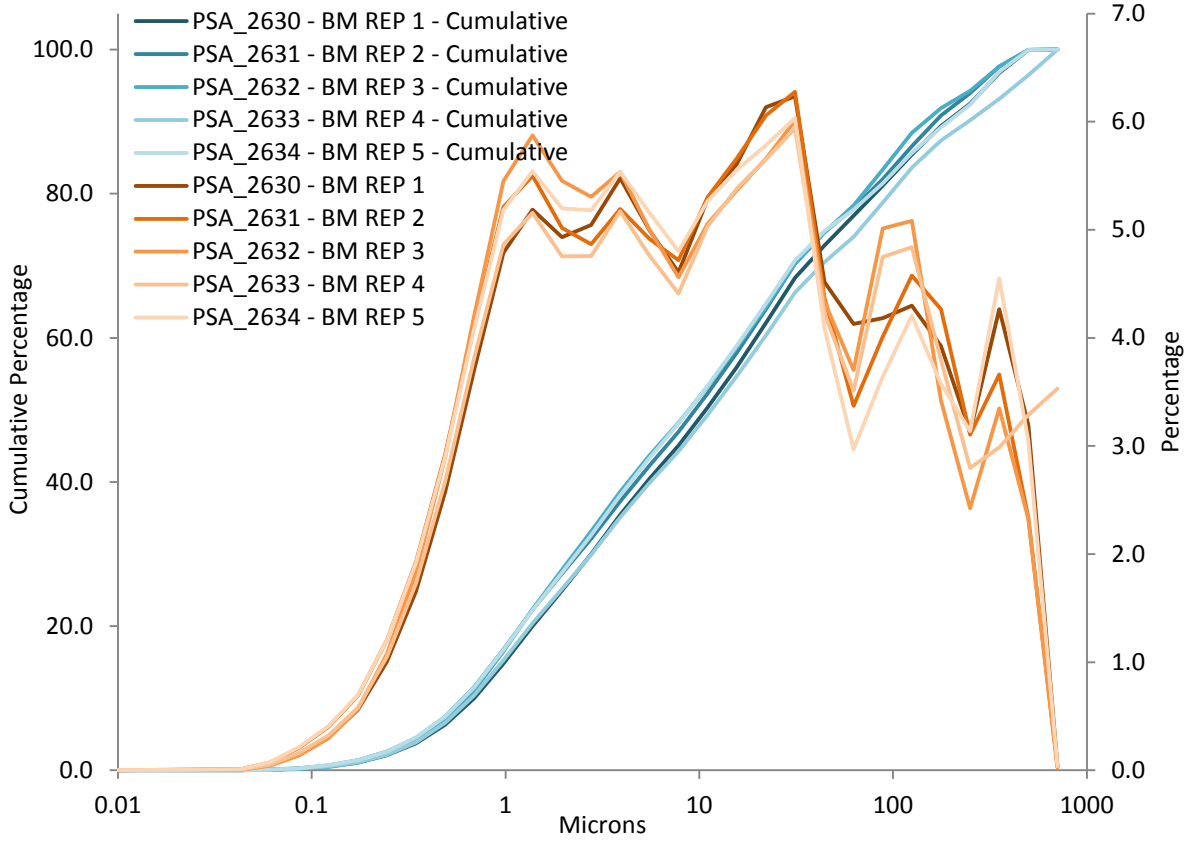
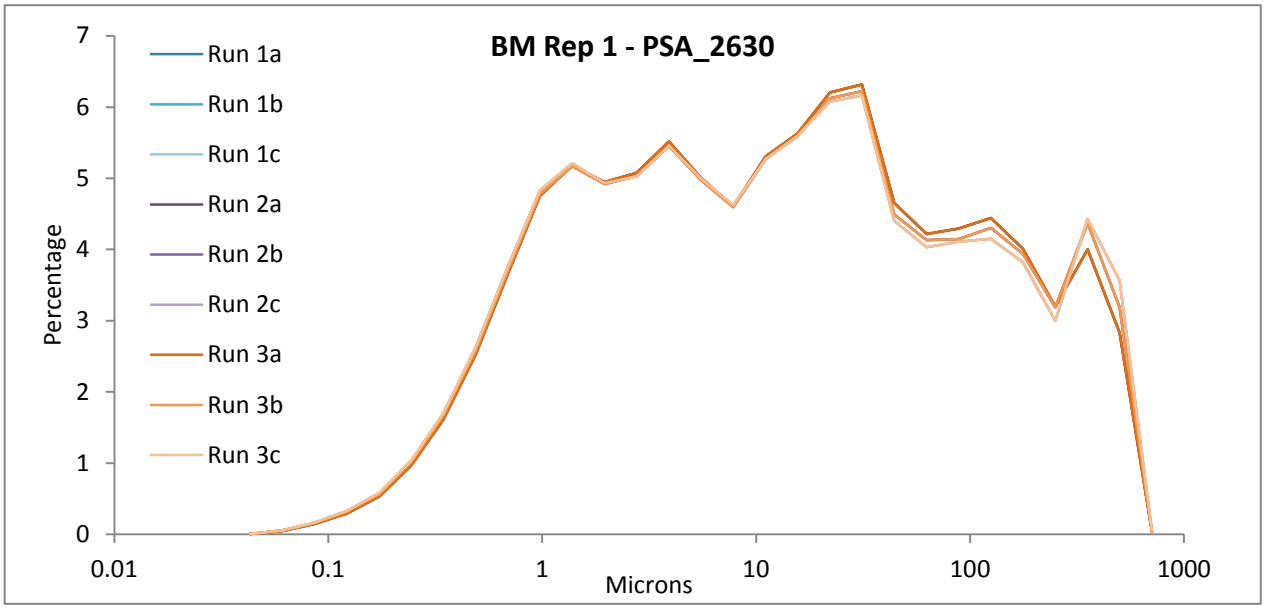
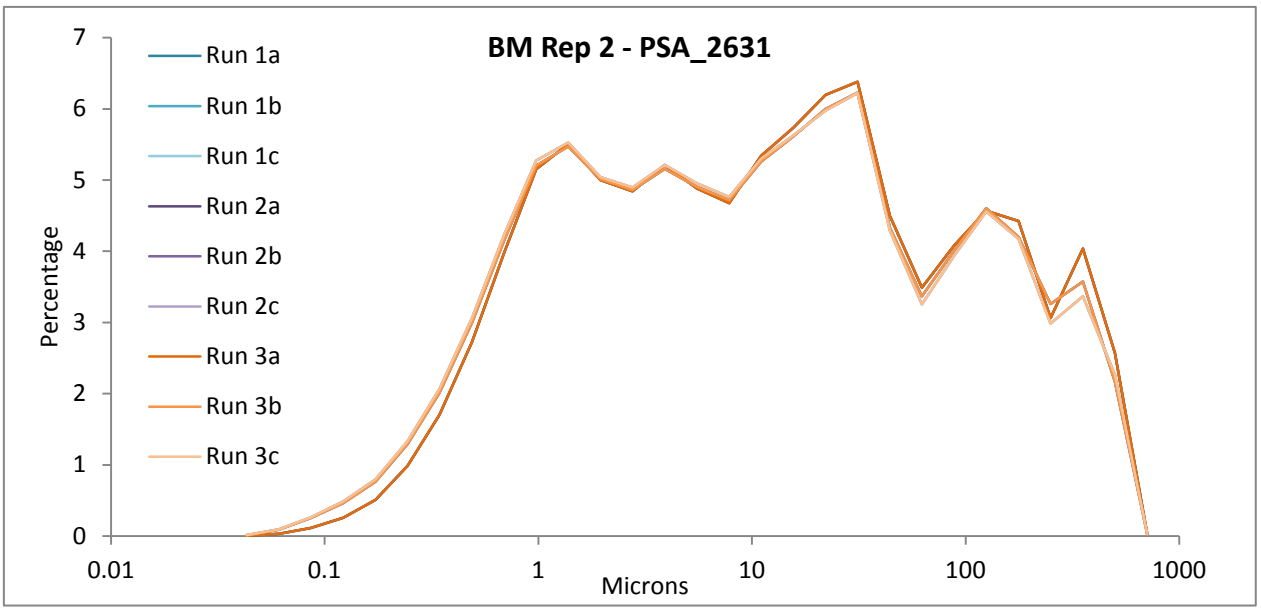


Figure 2. Particle size distribution curves resulting from laser analysis of five replicate samples of sediment distributed as PS75.





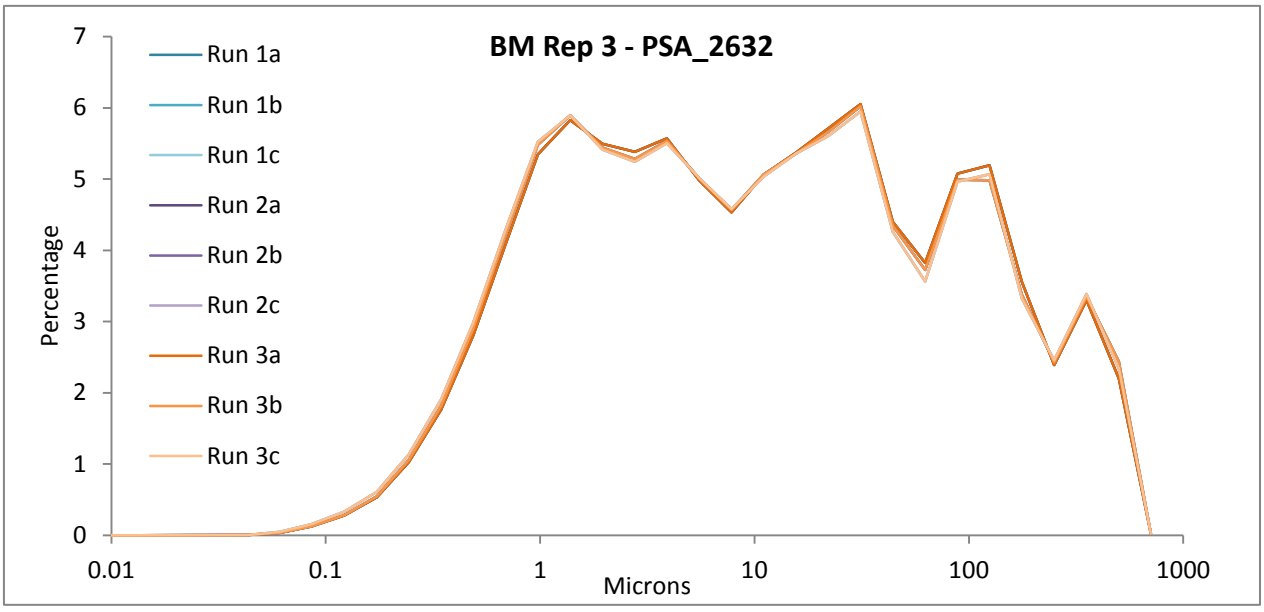
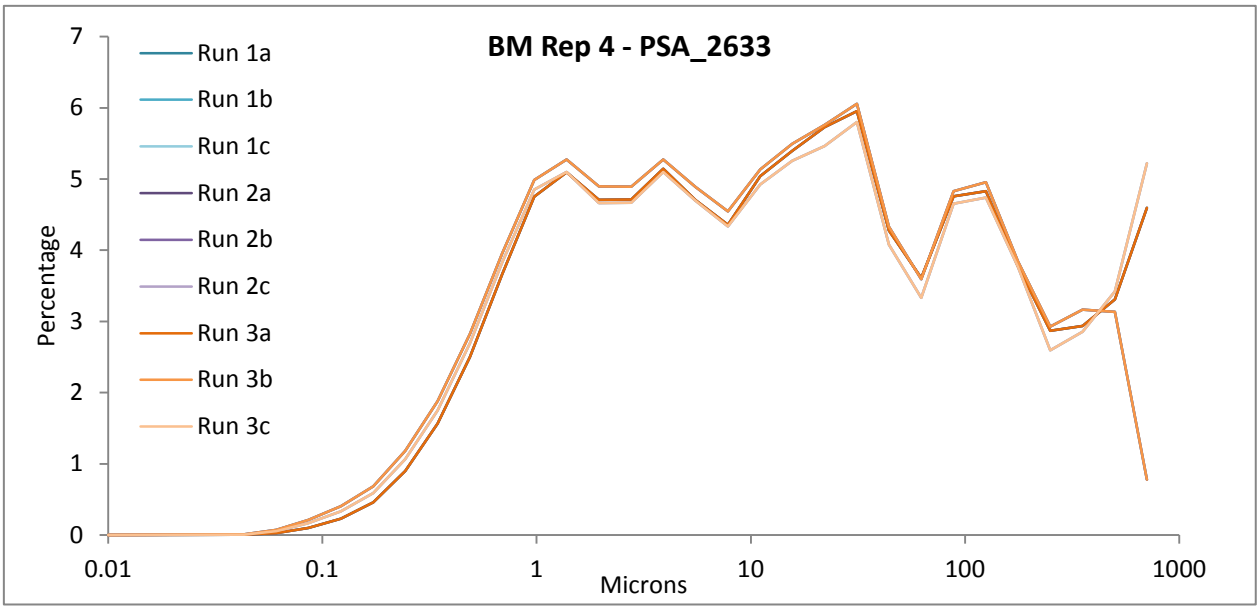


Figure 2. Particle size distribution curves resulting from laser analysis of five replicate samples of sediment distributed as PS75.



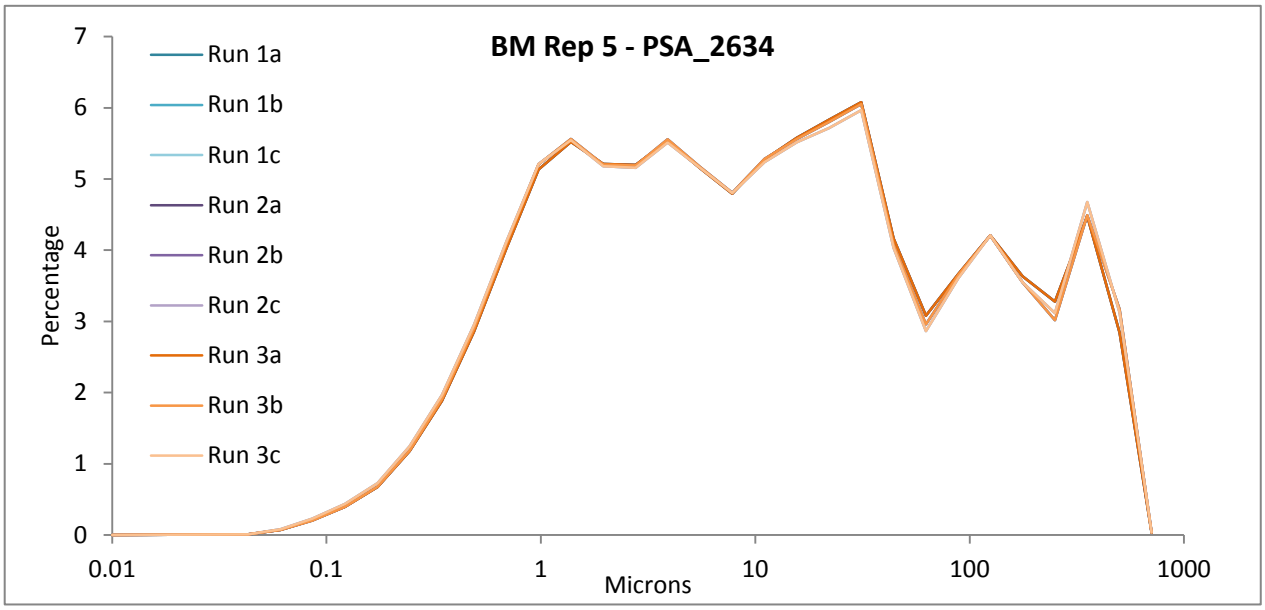
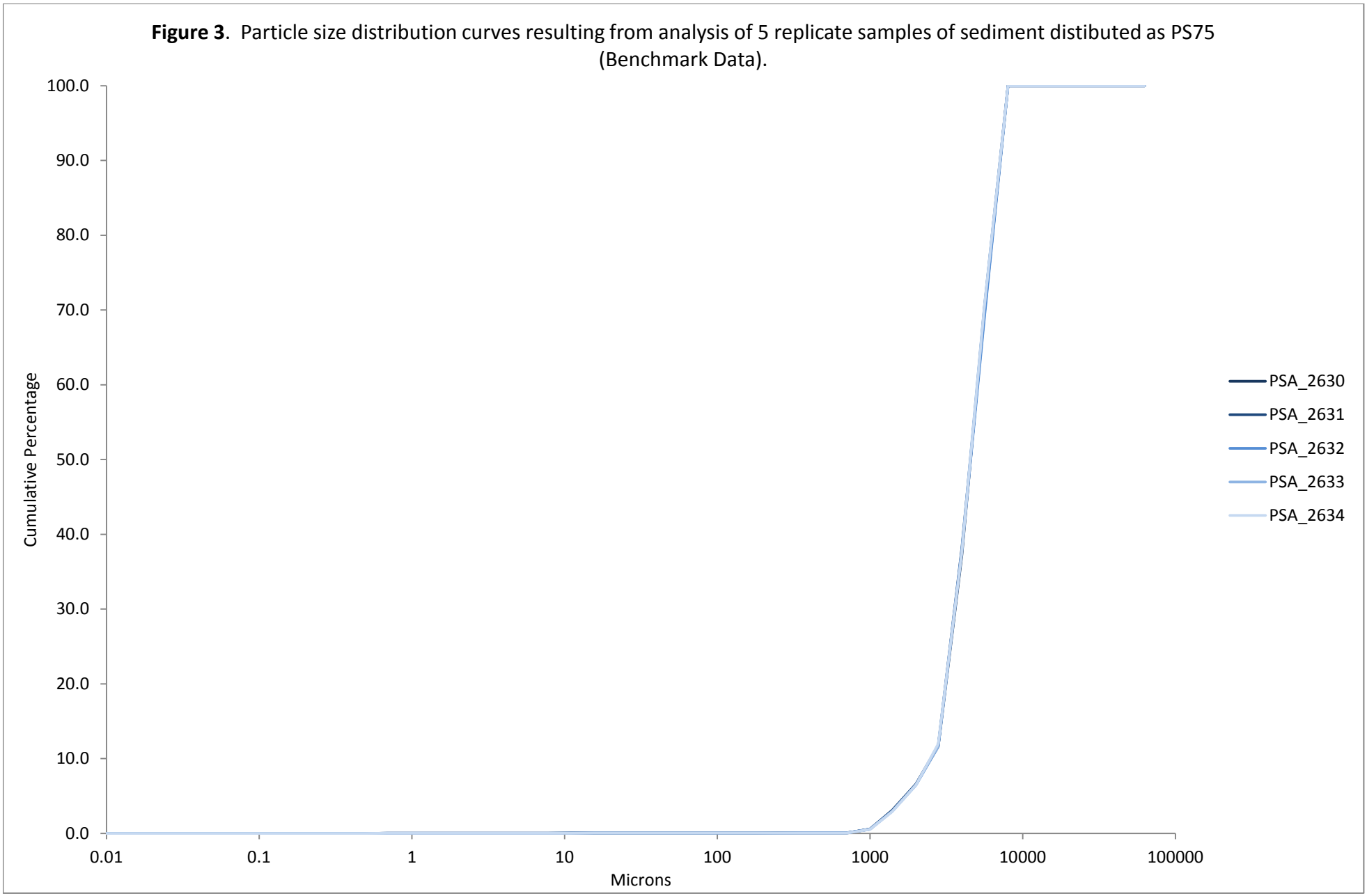


Figure 3. Particle size distribution curves resulting from analysis of 5 replicate samples of sediment distibuted as PS75 (Benchmark Data).



PARTICIPANT DATA

Table 6. Summary of equipment and methods used by participants and sample summary data for sediment distributed as PS75.

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	YES	YES	NMBAQC	NO	NO	97.00	2.95	0.05	Gravel	Gravel
PSA_2601	YES	NO	OTHER	NO	NO	96.92	3.08	0.00	Gravel	Gravel
PSA_2602	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p
PSA_2603	YES	YES	OTHER	NO	NO	96.92	3.06	0.02	Gravel	Gravel
PSA_2604	YES	NO	NMBAQC	NO	NO	97.05	2.76	0.00	Gravel	Gravel
PSA_2605	YES	NO	NMBAQC	NO	NO	100.0	0.0	0.0	Gravel	Gravel
PSA_2606	YES	YES	NMBAQC	NO	NO	96.36	3.11	0.54	Gravel	Gravel
PSA_2607	YES	NO	NMBAQC	NO	NO	97	3	0	Gravel	Gravel
PSA_2608	YES	NO	NMBAQC	NO	NO	97.00	3.00	0	Gravel	Gravel
PSA_2609	YES	NO	NMBAQC	NO	NO	97.25	2.75	0.00	Gravel	Gravel
PSA_2610	YES	NO	NMBAQC	NO	NO	97.3	2.7	0.0	Gravel	Gravel
PSA_2611	YES	NO	NMBAQC	-	NO	97.02	2.98	0.00	Gravel	Gravel
PSA_2612	YES	NO	NMBAQC	NO	NO	97.1	2.9	0.0	Gravel	Gravel
PSA_2613	YES	YES	NMBAQC	NO	NO	96.88	2.98	0.13	Gravel	Gravel
PSA_2614	YES	NO	NMBAQC	NO	NO	96.64	3.36	0.00	G	Gravel
PSA_2615	YES	NO	NMBAQC	NO	NO	97	3	0	G	Gravel
PSA_2616	YES	NO	NMBAQC	NO	NO	96.8	3.2	0.0	Gravel	Gravel
PSA_2617	YES	YES	NMBAQC	NO	NO	97.5	2.2	0.3	Gravel	Gravel
PSA_2618	YES	YES	NMBAQC	NO	NO	96.98	2.99	0.04	Gravel	Gravel
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 PS75.

		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	n/p	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-6.00 to -5.50; 45 mm		0.00	0.00	n/p	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-5.50 to -5.00; 31.5 mm		0.00	0.00	n/p	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-5.00 to -4.50; 22.4 mm		0.00	0.00	n/p	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-4.50 to -4.00; 16 mm		0.00	0.00	n/p	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-4.00 to -3.50; 11.2 mm		0.00	5.36	n/p	1.70	2.15	18.86	4.82	0.00	5.20	36.91	14.48
-3.50 to -3.00; 8 mm		345.60	332.46	n/p	306.40	360.42	307.76	309.22	325.69	307.83	317.28	302.20
-3.00 to -2.50; 5.6 mm		363.52	392.96	n/p	393.33	376.19	391.57	406.02	388.00	416.63	381.90	395.09
-2.50 to -2.00; 4 mm		296.33	272.77	n/p	274.30	262.92	282.92	278.00	299.69	274.08	283.60	257.04
-2.00 to -1.50; 2.8 mm		59.30	53.76	n/p	75.23	65.29	56.58	55.14	63.97	56.42	57.70	54.98
-1.50 to -1.00; 2 mm		40.20	40.96	n/p	41.37	40.93	41.20	40.07	40.13	40.46	40.60	39.31
-1.00 to -0.50; 1.4 mm		27.82	29.05	n/p	28.10	27.39	29.11	28.61	27.56	28.37	27.10	24.35
-0.50 to 0.00; 1 mm		5.54	5.44	n/p	5.30	4.16	6.27	6.58	7.05	5.68	4.50	5.08
Total		1138.30	1132.75	n/p	1125.73	1139.45	1134.27	1128.46	1152.09	1134.67	1149.59	1092.53
Summary Data												
< 0.00; >1 mm		1138.30	1132.75	n/p	1125.73	1139.45	1134.27	1128.46	1152.09	1134.67	1149.59	1092.53
> 0.00; <1 mm	Base pan	0.76	0.03	n/p	0.00	0.85	0.00	0.49	0.00	0.59	0.10	0.65
	Oven dried	0.00	0.43	n/p	1.33	1.28	0.00	5.67	0.00	0.00	0.00	1.10
Total Sample Weight		1139.06	1133.20	n/p	1127.06	1141.58	1134.27	1134.62	1152.09	1135.27	1149.69	1094.28

n/p - not participating in this exercise

PARTICIPANT DATA

Table 7. Raw sieve data (weight in grams) provided by participants for sediment distributed as PS75.

		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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/p
-6.00 to -5.50; 45 mm		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/p
-5.50 to -5.00; 31.5 mm		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/p
-5.00 to -4.50; 22.4 mm		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/p
-4.50 to -4.00; 16 mm		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/p
-4.00 to -3.50; 11.2 mm		0.00	0.00	0.00	0.00	0.00	15.43	0.32	1.85	0.00	n/p
-3.50 to -3.00; 8 mm		345.60	331.79	322.36	350.21	324.44	309.92	26.09	319.33	333.28	n/p
-3.00 to -2.50; 5.6 mm		363.52	384.44	407.62	371.51	388.57	407.49	34.03	384.98	366.47	n/p
-2.50 to -2.00; 4 mm		296.33	287.65	276.88	278.10	281.68	273.29	26.96	273.54	302.71	n/p
-2.00 to -1.50; 2.8 mm		59.30	71.12	66.21	61.44	58.08	52.58	5.66	58.00	58.38	n/p
-1.50 to -1.00; 2 mm		40.20	41.63	42.67	41.00	42.21	44.89	3.79	40.77	41.37	n/p
-1.00 to -0.50; 1.4 mm		27.82	28.15	27.62	28.26	29.90	27.92	2.64	20.57	28.18	n/p
-0.50 to 0.00; 1 mm		5.54	5.75	5.45	5.67	5.71	5.88	0.52	3.47	5.49	n/p
Total		1138.30	1150.53	1148.81	1136.19	1130.59	1137.40	100.00	1102.51	1135.88	n/p
Summary Data											
< 0.00; >1 mm		1138.30	1150.53	1148.81	1136.19	1130.59	1137.40	100.00	1103.76	1135.88	n/p
> 0.00; <1 mm	Base pan	0.76	0.35	0.30	0.39	0.90	0.25	0.00	1.25	0.69	n/p
	Oven dried	0.00	0.00	0.00	1.12	1.51	0.00	0.00	2.36	0.00	n/p
Total Sample Weight		1139.06	1150.88	1149.11	1137.70	1133.00	1137.65	100.00	1107.37	1136.57	n/p

n/p - not participating in this exercise

PARTICIPANT DATA

Table 8. Summary of final laser data for the participants for sediment distributed as PS75.

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	0.73	72.28	n/p	10.73	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.11	n/p
500	2.84	3.10	n/p	14.71	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.69	n/p
353.6	3.76	2.88	n/p	15.29	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.13	n/p
250	2.92	3.55	n/p	14.20	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	0.00	2.97	n/p
176.8	3.80	2.88	n/p	10.41	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	3.65	n/p
125	4.60	3.99	n/p	7.95	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.43	4.16	n/p
88.39	4.32	2.66	n/p	4.74	0.00	0.00	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.69	4.36	n/p
62.5	3.54	2.88	n/p	3.53	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	3.78	n/p
44.19	4.31	5.76	n/p	2.51	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.81	4.09	n/p
31.25	6.10	0.00	n/p	1.81	0.00	0.00	0.85	0.00	0.00	0.00	0.00	0.00	0.00	1.43	0.00	0.00	0.00	1.69	5.23	n/p
22.097	5.86	0.00	n/p	1.66	0.00	0.00	2.77	0.00	0.00	0.00	0.00	0.00	0.00	2.23	0.00	0.00	0.00	3.26	4.98	n/p
15.625	5.51	0.00	n/p	1.46	0.00	0.00	4.24	0.00	0.00	0.00	0.00	0.00	0.00	2.83	0.00	0.00	0.00	4.96	4.84	n/p
11.049	5.19	0.00	n/p	1.41	0.00	0.00	3.43	0.00	0.00	0.00	0.00	0.00	0.00	4.49	0.00	0.00	0.00	6.12	4.53	n/p
7.813	4.62	0.00	n/p	1.33	0.00	0.00	4.38	0.00	0.00	0.00	0.00	0.00	0.00	5.10	0.00	0.00	0.00	7.50	4.08	n/p
5.524	4.97	0.00	n/p	1.33	0.00	0.00	4.40	0.00	0.00	0.00	0.00	0.00	0.00	7.60	0.00	0.00	0.00	8.71	4.23	n/p
3.906	5.38	0.00	n/p	1.31	0.00	0.00	5.65	0.00	0.00	0.00	0.00	0.00	0.00	9.94	0.00	0.00	0.00	9.87	4.38	n/p
2.762	5.03	0.00	n/p	1.23	0.00	0.00	7.74	0.00	0.00	0.00	0.00	0.00	0.00	10.01	0.00	0.00	0.00	11.06	3.99	n/p
1.953	5.07	0.00	n/p	1.11	0.00	0.00	9.18	0.00	0.00	0.00	0.00	0.00	0.00	10.90	0.00	0.00	0.00	11.23	3.97	n/p
1.381	5.45	0.00	n/p	0.94	0.00	0.00	9.15	0.00	0.00	0.00	0.00	0.00	0.00	12.15	0.00	0.00	0.00	9.61	4.29	n/p
0.977	5.10	0.00	n/p	0.73	0.00	0.00	8.18	0.00	0.00	0.00	0.00	0.00	0.00	11.13	0.00	0.00	0.00	9.19	4.08	n/p
0.691	3.99	0.00	n/p	0.75	0.00	0.00	5.53	0.00	0.00	0.00	0.00	0.00	0.00	8.32	0.00	0.00	0.00	9.90	3.27	n/p
0.488	2.79	0.00	n/p	0.57	0.00	0.00	7.12	0.00	0.00	0.00	0.00	0.00	0.00	5.55	0.00	0.00	0.00	4.18	2.36	n/p
0.345	1.81	0.00	n/p	0.28	0.00	0.00	7.30	0.00	0.00	0.00	0.00	0.00	0.00	3.50	0.00	0.00	0.00	0.15	1.59	n/p
0.244	1.11	0.00	n/p	0.00	0.00	0.00	7.25	0.00	0.00	0.00	0.00	0.00	0.00	2.15	0.00	0.00	0.00	0.00	1.02	n/p
0.173	0.62	0.00	n/p	0.00	0.00	0.00	6.35	0.00	0.00	0.00	0.00	0.00	0.00	1.25	0.00	0.00	0.00	0.00	0.60	n/p
0.122	0.35	0.00	n/p	0.00	0.00	0.00	4.20	0.00	0.00	0.00	0.00	0.00	0.00	0.76	0.00	0.00	0.00	0.00	0.37	n/p
0.086	0.17	0.00	n/p	0.00	0.00	0.00	1.40	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.00	0.00	0.20	n/p
0.061	0.06	0.00	n/p	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.07	n/p
0.043	0.01	0.00	n/p	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.01	n/p
0.01	0.00	0.00	n/p	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	0.00	0.00	0.00	n/p
Total	100.00	100.00	n/p	100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	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 and the Benchmark Average for sediment distributed as PS75.

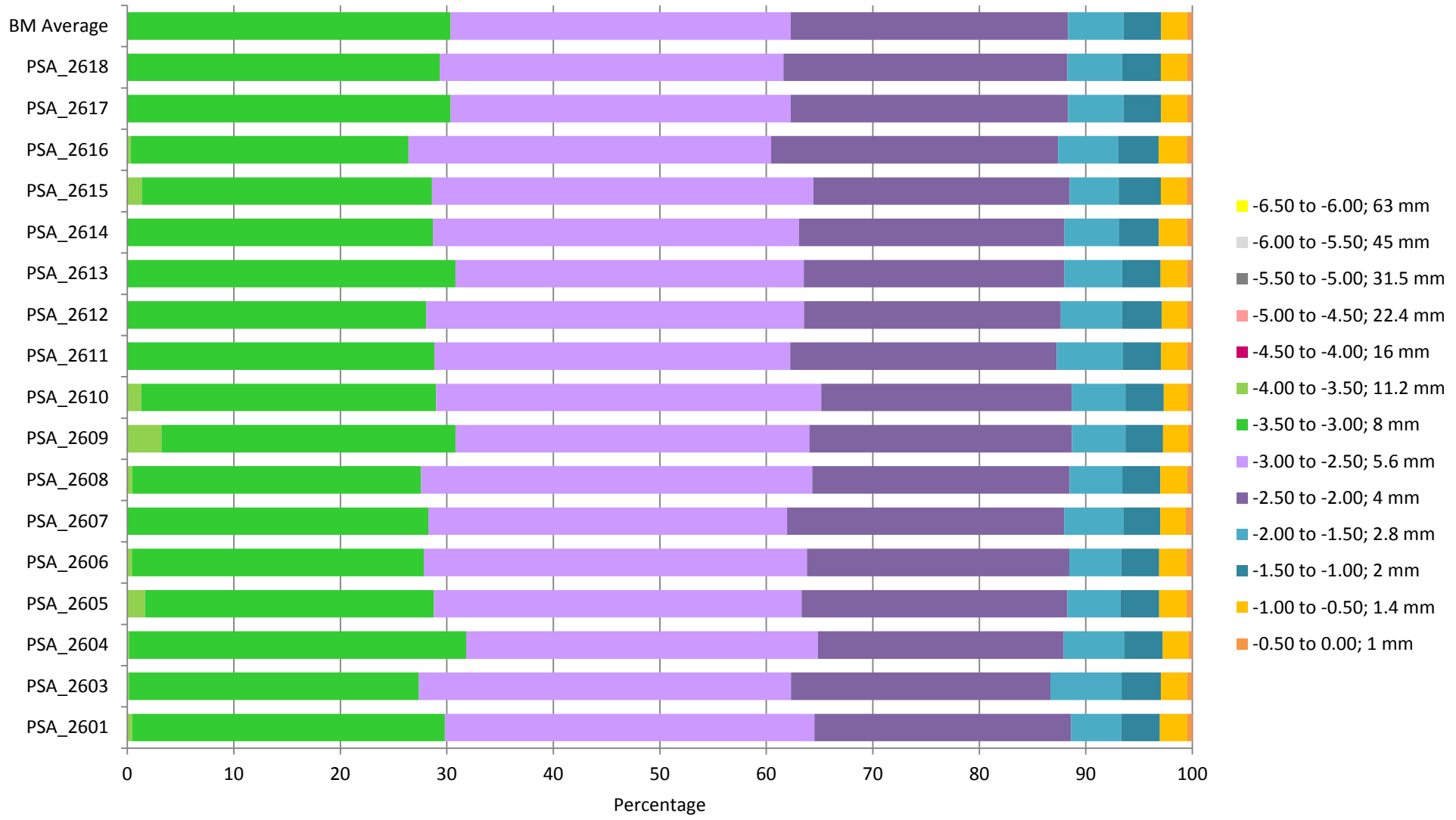


Figure 5. Final laser data provided by participants that carried out laser analysis and the Benchmark Average for sediment distributed as PS75, shown as (a) cumulative and (b) differential.

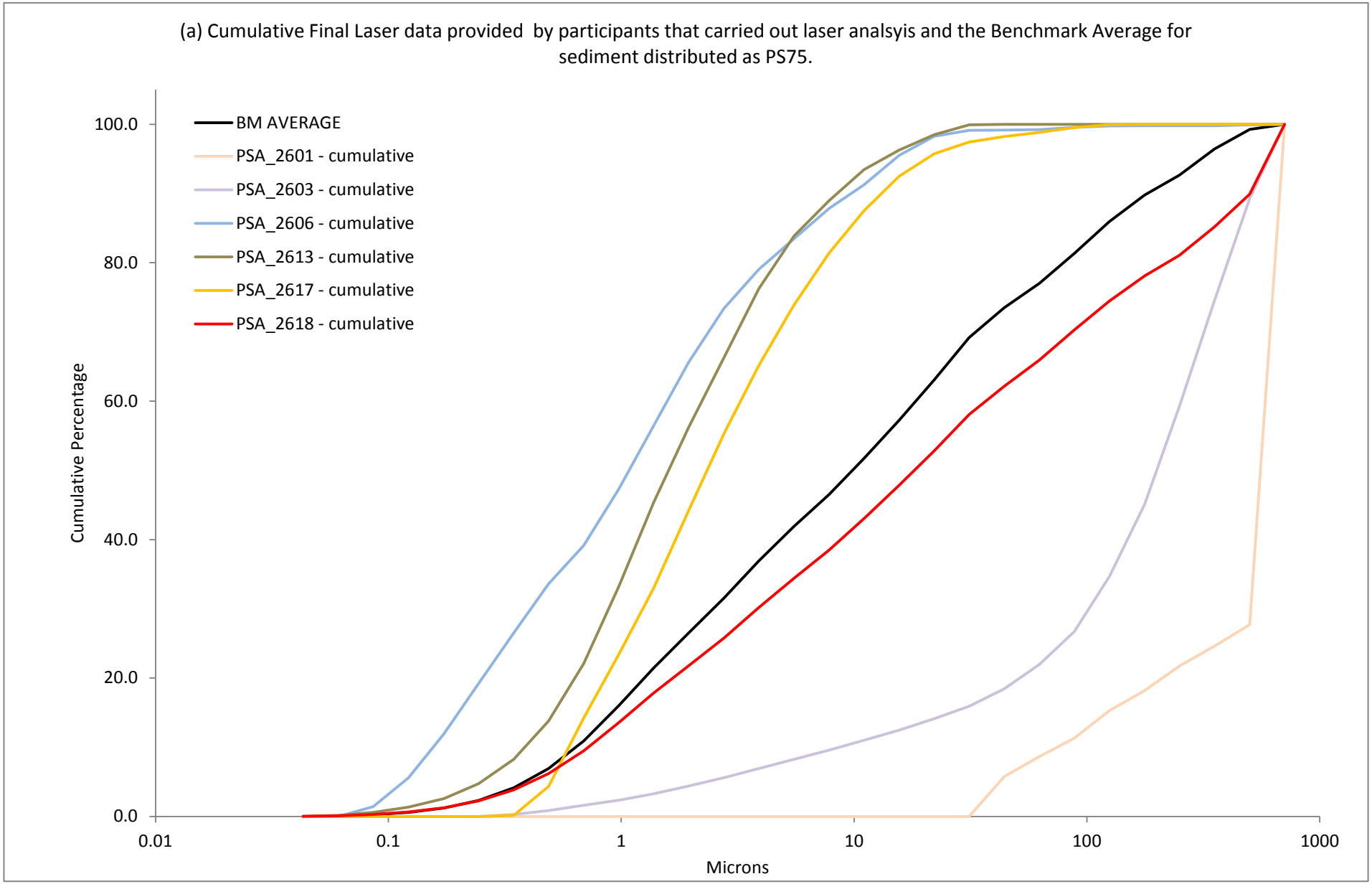
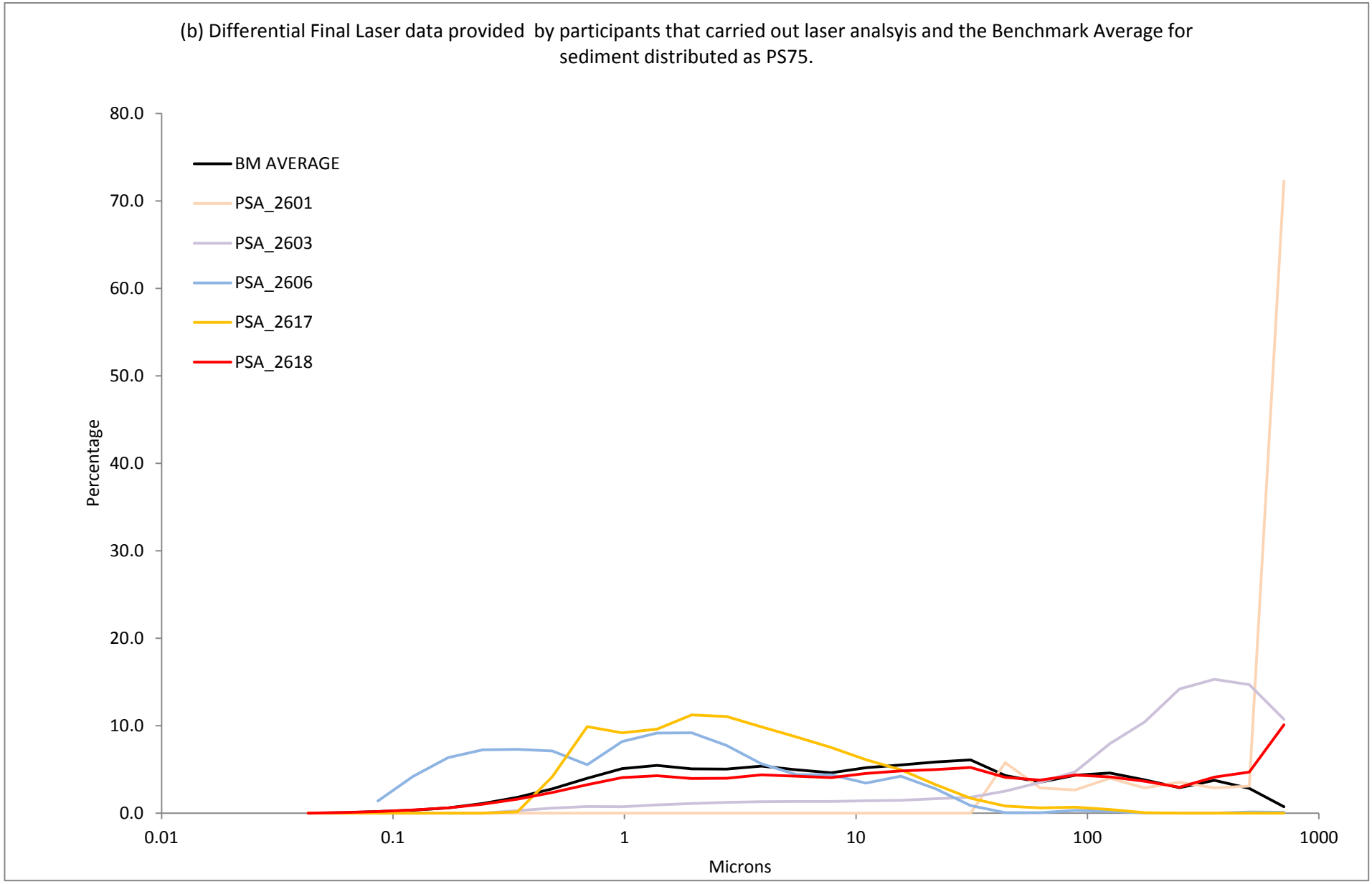


Figure 5. Final laser data provided by participants that carried out laser analysis and the Benchmark Average for sediment distributed as PS75, shown as (a) cumulative and (b) differential.



NMBAQC Particle Size Analysis
2019/20 - PS75

Figure 6. Particle size distribution curves from all participating laboratories and the Benchmark Average for sediment distributed as PS75.

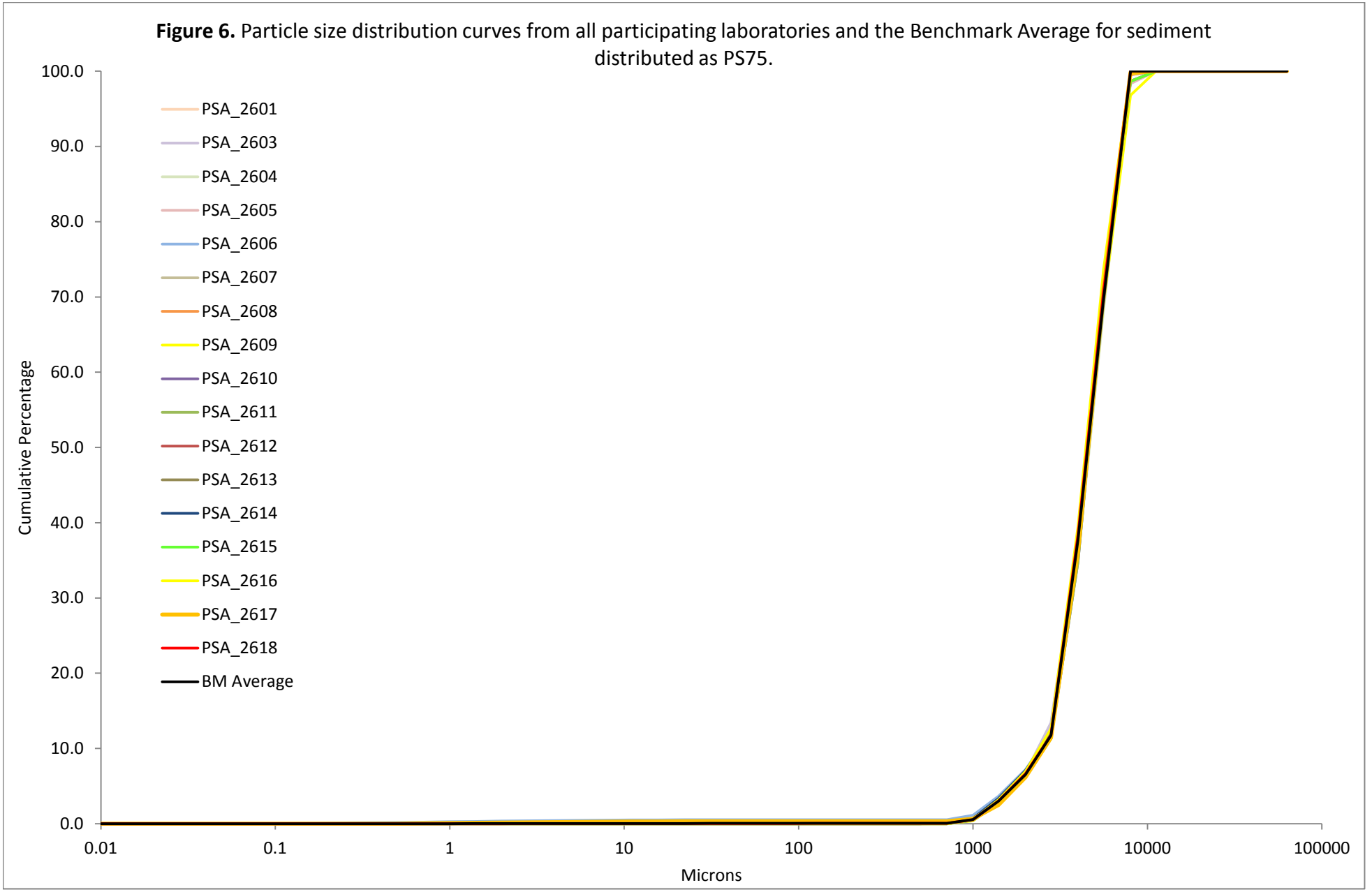
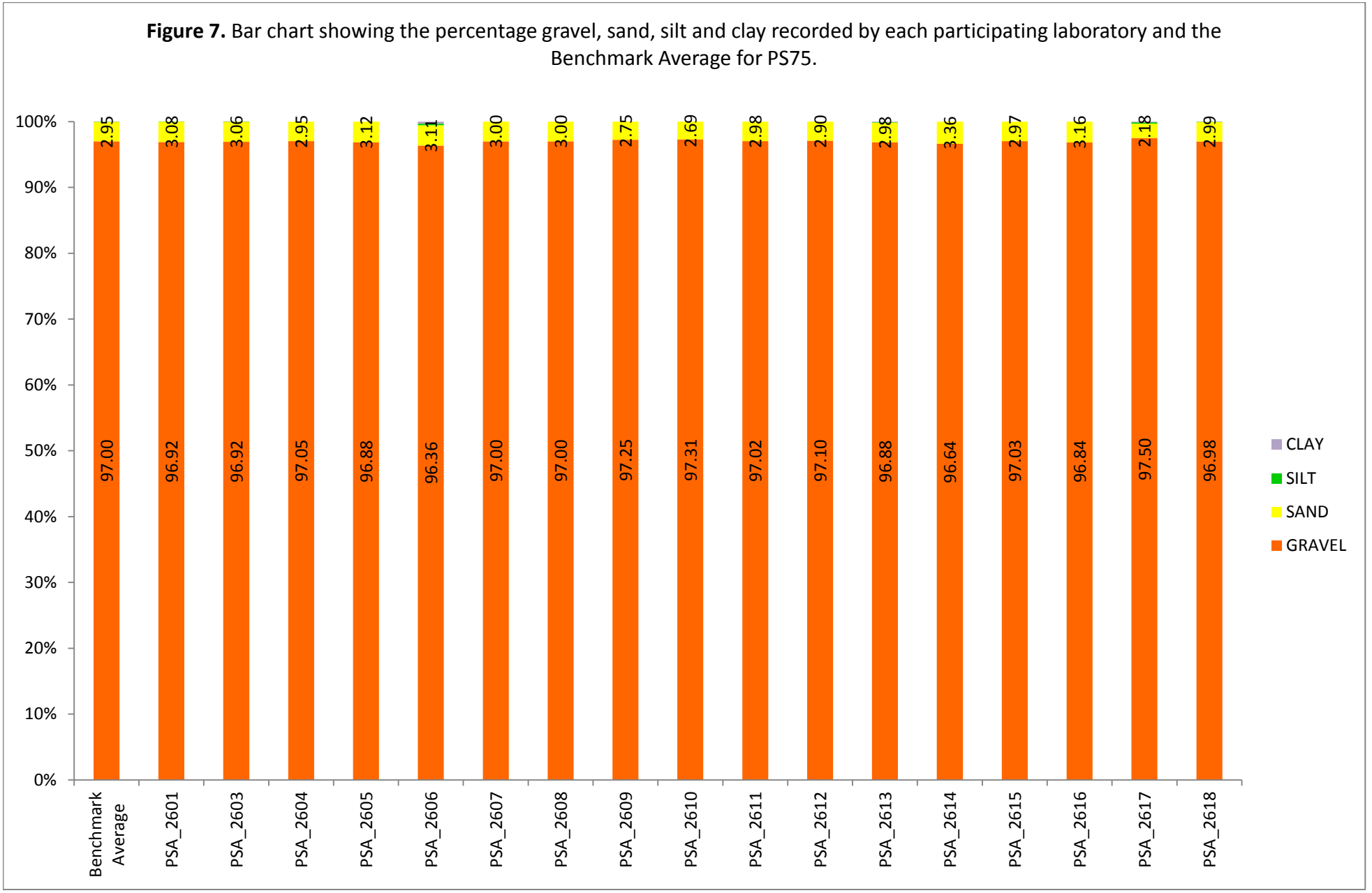


Figure 7. Bar chart showing the percentage gravel, sand, silt and clay recorded by each participating laboratory and the Benchmark Average for PS75.



APPENDICES

APPENDIX 1. Benchmark laser replicate data for sediment distributed as PS75.

	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)	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
0.50 to 1.00; (500 µm)	2.83	3.19	3.57	2.83	3.19	3.57	2.83	3.19	3.57
1.00 to 1.50; (353.6 µm)	4.00	4.37	4.43	4.00	4.37	4.43	4.00	4.37	4.43
1.50 to 2.00; (250 µm)	3.20	3.19	3.00	3.20	3.19	3.00	3.20	3.19	3.00
2.00 to 2.50; (176.8 µm)	4.01	3.94	3.82	4.01	3.94	3.82	4.01	3.94	3.82
2.50 to 3.00; (125 µm)	4.44	4.30	4.15	4.44	4.30	4.15	4.44	4.30	4.15
3.00 to 3.50; (88.39 µm)	4.29	4.15	4.11	4.29	4.15	4.11	4.29	4.15	4.11
3.50 to 4.00; (62.5 µm)	4.22	4.13	4.03	4.22	4.13	4.03	4.22	4.13	4.03
4.00 to 4.50; (44.19 µm)	4.65	4.49	4.40	4.65	4.49	4.40	4.65	4.49	4.40
4.50 to 5.00; (31.25 µm)	6.32	6.22	6.16	6.32	6.22	6.16	6.32	6.22	6.16
5.00 to 5.50; (22.097 µm)	6.20	6.12	6.08	6.20	6.12	6.08	6.20	6.12	6.08
5.50 to 6.00; (15.625 µm)	5.63	5.59	5.60	5.63	5.59	5.60	5.63	5.59	5.60
6.00 to 6.50; (11.049 µm)	5.31	5.27	5.27	5.31	5.27	5.27	5.31	5.27	5.27
6.50 to 7.00; (7.813 µm)	4.60	4.60	4.62	4.60	4.60	4.62	4.60	4.60	4.62
7.00 to 7.50; (5.524 µm)	5.01	4.98	5.00	5.01	4.98	5.00	5.01	4.98	5.00
7.50 to 8.00; (3.906 µm)	5.52	5.46	5.46	5.52	5.46	5.46	5.52	5.46	5.46
8.00 to 8.50; (2.762 µm)	5.07	5.03	5.03	5.07	5.03	5.03	5.07	5.03	5.03
8.50 to 9.00; (1.953 µm)	4.94	4.92	4.93	4.94	4.92	4.93	4.94	4.92	4.93
9.00 to 9.50; (1.381 µm)	5.18	5.17	5.21	5.18	5.17	5.21	5.18	5.17	5.21
9.50 to 10.00; (0.977 µm)	4.75	4.78	4.83	4.75	4.78	4.83	4.75	4.78	4.83
10.00 to 10.50; (0.691 µm)	3.66	3.71	3.76	3.66	3.71	3.76	3.66	3.71	3.76
10.50 to 11.00; (0.488 µm)	2.52	2.58	2.62	2.52	2.58	2.62	2.52	2.58	2.62
11.00 to 11.50; (0.345 µm)	1.61	1.66	1.70	1.61	1.66	1.70	1.61	1.66	1.70
11.50 to 12.00; (0.244 µm)	0.97	1.01	1.03	0.97	1.01	1.03	0.97	1.01	1.03
12.00 to 12.50; (0.173 µm)	0.53	0.56	0.58	0.53	0.56	0.58	0.53	0.56	0.58
12.50 to 13.00; (0.122 µm)	0.29	0.32	0.33	0.29	0.32	0.33	0.29	0.32	0.33
13.00 to 13.50; (0.086 µm)	0.14	0.16	0.16	0.14	0.16	0.16	0.14	0.16	0.16
13.50 to 14.00; (0.061 µm)	0.05	0.05	0.06	0.05	0.05	0.06	0.05	0.05	0.06
14.00 to 14.50; (0.043 µm)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01

d10	0.99	0.97	0.96	0.99	0.97	0.96	0.99	0.97	0.96
d50	15.45	15.36	15.02	15.45	15.36	15.02	15.45	15.36	15.02
d90	251.79	272.28	281.83	251.79	272.28	281.83	251.79	272.28	281.83

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	0.97	0.02	1.94	0.97	0.02	1.94	0.97	0.02	1.94
d50	15.28	0.23	1.51	15.28	0.23	1.51	15.28	0.23	1.51
d90	268.63	15.35	5.71	268.63	15.35	5.71	268.63	15.35	5.71

APPENDIX 1. Benchmark laser replicate data for sediment distributed as PS75.

	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)	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.50 to 1.00; (500 µm)	2.57	2.17	2.27	2.57	2.17	2.27	2.57	2.17	2.27
1.00 to 1.50; (353.6 µm)	4.04	3.58	3.37	4.04	3.58	3.37	4.04	3.58	3.37
1.50 to 2.00; (250 µm)	3.06	3.26	2.99	3.06	3.26	2.99	3.06	3.26	2.99
2.00 to 2.50; (176.8 µm)	4.42	4.20	4.17	4.42	4.20	4.17	4.42	4.20	4.17
2.50 to 3.00; (125 µm)	4.57	4.60	4.56	4.57	4.60	4.56	4.57	4.60	4.56
3.00 to 3.50; (88.39 µm)	4.08	4.01	3.94	4.08	4.01	3.94	4.08	4.01	3.94
3.50 to 4.00; (62.5 µm)	3.49	3.37	3.26	3.49	3.37	3.26	3.49	3.37	3.26
4.00 to 4.50; (44.19 µm)	4.50	4.33	4.29	4.50	4.33	4.29	4.50	4.33	4.29
4.50 to 5.00; (31.25 µm)	6.38	6.23	6.22	6.38	6.23	6.22	6.38	6.23	6.22
5.00 to 5.50; (22.097 µm)	6.20	6.00	5.97	6.20	6.00	5.97	6.20	6.00	5.97
5.50 to 6.00; (15.625 µm)	5.74	5.62	5.63	5.74	5.62	5.63	5.74	5.62	5.63
6.00 to 6.50; (11.049 µm)	5.34	5.26	5.30	5.34	5.26	5.30	5.34	5.26	5.30
6.50 to 7.00; (7.813 µm)	4.67	4.72	4.76	4.67	4.72	4.76	4.67	4.72	4.76
7.00 to 7.50; (5.524 µm)	4.88	4.91	4.96	4.88	4.91	4.96	4.88	4.91	4.96
7.50 to 8.00; (3.906 µm)	5.21	5.16	5.21	5.21	5.16	5.21	5.21	5.16	5.21
8.00 to 8.50; (2.762 µm)	4.84	4.86	4.90	4.84	4.86	4.90	4.84	4.86	4.90
8.50 to 9.00; (1.953 µm)	5.00	5.01	5.04	5.00	5.01	5.04	5.00	5.01	5.04
9.00 to 9.50; (1.381 µm)	5.50	5.47	5.52	5.50	5.47	5.52	5.50	5.47	5.52
9.50 to 10.00; (0.977 µm)	5.15	5.20	5.27	5.15	5.20	5.27	5.15	5.20	5.27
10.00 to 10.50; (0.691 µm)	3.98	4.15	4.23	3.98	4.15	4.23	3.98	4.15	4.23
10.50 to 11.00; (0.488 µm)	2.72	2.99	3.06	2.72	2.99	3.06	2.72	2.99	3.06
11.00 to 11.50; (0.345 µm)	1.70	2.02	2.07	1.70	2.02	2.07	1.70	2.02	2.07
11.50 to 12.00; (0.244 µm)	0.99	1.29	1.33	0.99	1.29	1.33	0.99	1.29	1.33
12.00 to 12.50; (0.173 µm)	0.51	0.77	0.79	0.51	0.77	0.79	0.51	0.77	0.79
12.50 to 13.00; (0.122 µm)	0.26	0.47	0.49	0.26	0.47	0.49	0.26	0.47	0.49
13.00 to 13.50; (0.086 µm)	0.11	0.25	0.26	0.11	0.25	0.26	0.11	0.25	0.26
13.50 to 14.00; (0.061 µm)	0.03	0.09	0.09	0.03	0.09	0.09	0.03	0.09	0.09
14.00 to 14.50; (0.043 µm)	0.00	0.01	0.01	0.00	0.01	0.01	0.00	0.01	0.01

d10	0.95	0.82	0.81	0.95	0.82	0.81	0.95	0.82	0.81
d50	14.72	13.15	12.59	14.72	13.15	12.59	14.72	13.15	12.59
d90	244.29	230.70	223.49	244.29	230.70	223.49	244.29	230.70	223.49

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	0.86	0.08	9.16	0.86	0.08	9.16	0.86	0.08	9.16
d50	13.49	1.11	8.22	13.49	1.11	8.22	13.49	1.11	8.22
d90	232.83	10.56	4.54	232.83	10.56	4.54	232.83	10.56	4.54

APPENDIX 1. Benchmark laser replicate data for sediment distributed as PS75.

	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)	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.50 to 1.00; (500 µm)	2.20	2.44	2.34	2.20	2.44	2.34	2.20	2.44	2.34
1.00 to 1.50; (353.6 µm)	3.30	3.35	3.39	3.30	3.35	3.39	3.30	3.35	3.39
1.50 to 2.00; (250 µm)	2.39	2.43	2.46	2.39	2.43	2.46	2.39	2.43	2.46
2.00 to 2.50; (176.8 µm)	3.56	3.38	3.32	3.56	3.38	3.32	3.56	3.38	3.32
2.50 to 3.00; (125 µm)	5.20	4.98	5.07	5.20	4.98	5.07	5.20	4.98	5.07
3.00 to 3.50; (88.39 µm)	5.08	4.99	4.97	5.08	4.99	4.97	5.08	4.99	4.97
3.50 to 4.00; (62.5 µm)	3.82	3.72	3.56	3.82	3.72	3.56	3.82	3.72	3.56
4.00 to 4.50; (44.19 µm)	4.40	4.34	4.26	4.40	4.34	4.26	4.40	4.34	4.26
4.50 to 5.00; (31.25 µm)	6.05	6.02	5.95	6.05	6.02	5.95	6.05	6.02	5.95
5.00 to 5.50; (22.097 µm)	5.71	5.66	5.60	5.71	5.66	5.60	5.71	5.66	5.60
5.50 to 6.00; (15.625 µm)	5.38	5.36	5.36	5.38	5.36	5.36	5.38	5.36	5.36
6.00 to 6.50; (11.049 µm)	5.06	5.07	5.04	5.06	5.07	5.04	5.06	5.07	5.04
6.50 to 7.00; (7.813 µm)	4.54	4.57	4.58	4.54	4.57	4.58	4.54	4.57	4.58
7.00 to 7.50; (5.524 µm)	4.98	5.01	5.01	4.98	5.01	5.01	4.98	5.01	5.01
7.50 to 8.00; (3.906 µm)	5.57	5.53	5.50	5.57	5.53	5.50	5.57	5.53	5.50
8.00 to 8.50; (2.762 µm)	5.39	5.28	5.24	5.39	5.28	5.24	5.39	5.28	5.24
8.50 to 9.00; (1.953 µm)	5.50	5.44	5.41	5.50	5.44	5.41	5.50	5.44	5.41
9.00 to 9.50; (1.381 µm)	5.83	5.89	5.89	5.83	5.89	5.89	5.83	5.89	5.89
9.50 to 10.00; (0.977 µm)	5.35	5.48	5.52	5.35	5.48	5.52	5.35	5.48	5.52
10.00 to 10.50; (0.691 µm)	4.10	4.23	4.30	4.10	4.23	4.30	4.10	4.23	4.30
10.50 to 11.00; (0.488 µm)	2.80	2.90	2.98	2.80	2.90	2.98	2.80	2.90	2.98
11.00 to 11.50; (0.345 µm)	1.76	1.82	1.91	1.76	1.82	1.91	1.76	1.82	1.91
11.50 to 12.00; (0.244 µm)	1.03	1.06	1.14	1.03	1.06	1.14	1.03	1.06	1.14
12.00 to 12.50; (0.173 µm)	0.54	0.55	0.61	0.54	0.55	0.61	0.54	0.55	0.61
12.50 to 13.00; (0.122 µm)	0.28	0.28	0.33	0.28	0.28	0.33	0.28	0.28	0.33
13.00 to 13.50; (0.086 µm)	0.13	0.13	0.16	0.13	0.13	0.16	0.13	0.13	0.16
13.50 to 14.00; (0.061 µm)	0.04	0.04	0.05	0.04	0.04	0.05	0.04	0.04	0.05
14.00 to 14.50; (0.043 µm)	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.01

d10	0.92	0.90	0.87	0.92	0.90	0.87	0.92	0.90	0.87
d50	12.82	12.48	12.12	12.82	12.48	12.12	12.82	12.48	12.12
d90	204.13	208.84	207.49	204.13	208.84	207.49	204.13	208.84	207.49

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	0.90	0.03	3.13	0.90	0.03	3.13	0.90	0.03	3.13
d50	12.48	0.35	2.81	12.48	0.35	2.81	12.48	0.35	2.81
d90	206.82	2.42	1.17	206.82	2.42	1.17	206.82	2.42	1.17

APPENDIX 1. Benchmark laser replicate data for sediment distributed as PS75.

	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)	4.60	0.78	5.22	4.60	0.78	5.22	4.60	0.78	5.22
0.50 to 1.00; (500 µm)	3.31	3.13	3.42	3.31	3.13	3.42	3.31	3.13	3.42
1.00 to 1.50; (353.6 µm)	2.94	3.17	2.85	2.94	3.17	2.85	2.94	3.17	2.85
1.50 to 2.00; (250 µm)	2.87	2.93	2.60	2.87	2.93	2.60	2.87	2.93	2.60
2.00 to 2.50; (176.8 µm)	3.78	3.84	3.77	3.78	3.84	3.77	3.78	3.84	3.77
2.50 to 3.00; (125 µm)	4.83	4.95	4.74	4.83	4.95	4.74	4.83	4.95	4.74
3.00 to 3.50; (88.39 µm)	4.76	4.83	4.65	4.76	4.83	4.65	4.76	4.83	4.65
3.50 to 4.00; (62.5 µm)	3.61	3.59	3.33	3.61	3.59	3.33	3.61	3.59	3.33
4.00 to 4.50; (44.19 µm)	4.28	4.33	4.08	4.28	4.33	4.08	4.28	4.33	4.08
4.50 to 5.00; (31.25 µm)	5.95	6.06	5.80	5.95	6.06	5.80	5.95	6.06	5.80
5.00 to 5.50; (22.097 µm)	5.73	5.76	5.46	5.73	5.76	5.46	5.73	5.76	5.46
5.50 to 6.00; (15.625 µm)	5.40	5.49	5.25	5.40	5.49	5.25	5.40	5.49	5.25
6.00 to 6.50; (11.049 µm)	5.04	5.14	4.93	5.04	5.14	4.93	5.04	5.14	4.93
6.50 to 7.00; (7.813 µm)	4.36	4.55	4.33	4.36	4.55	4.33	4.36	4.55	4.33
7.00 to 7.50; (5.524 µm)	4.70	4.89	4.69	4.70	4.89	4.69	4.70	4.89	4.69
7.50 to 8.00; (3.906 µm)	5.14	5.27	5.10	5.14	5.27	5.10	5.14	5.27	5.10
8.00 to 8.50; (2.762 µm)	4.71	4.89	4.67	4.71	4.89	4.67	4.71	4.89	4.67
8.50 to 9.00; (1.953 µm)	4.71	4.90	4.66	4.71	4.90	4.66	4.71	4.90	4.66
9.00 to 9.50; (1.381 µm)	5.09	5.28	5.10	5.09	5.28	5.10	5.09	5.28	5.10
9.50 to 10.00; (0.977 µm)	4.75	4.99	4.85	4.75	4.99	4.85	4.75	4.99	4.85
10.00 to 10.50; (0.691 µm)	3.66	3.96	3.83	3.66	3.96	3.83	3.66	3.96	3.83
10.50 to 11.00; (0.488 µm)	2.50	2.83	2.69	2.50	2.83	2.69	2.50	2.83	2.69
11.00 to 11.50; (0.345 µm)	1.56	1.88	1.75	1.56	1.88	1.75	1.56	1.88	1.75
11.50 to 12.00; (0.244 µm)	0.90	1.18	1.07	0.90	1.18	1.07	0.90	1.18	1.07
12.00 to 12.50; (0.173 µm)	0.46	0.69	0.59	0.46	0.69	0.59	0.46	0.69	0.59
12.50 to 13.00; (0.122 µm)	0.23	0.41	0.33	0.23	0.41	0.33	0.23	0.41	0.33
13.00 to 13.50; (0.086 µm)	0.10	0.21	0.16	0.10	0.21	0.16	0.10	0.21	0.16
13.50 to 14.00; (0.061 µm)	0.03	0.07	0.05	0.03	0.07	0.05	0.03	0.07	0.05
14.00 to 14.50; (0.043 µm)	0.00	0.01	0.01	0.00	0.01	0.01	0.00	0.01	0.01

d10	1.02	0.88	0.94	1.02	0.88	0.94	1.02	0.88	0.94
d50	17.81	14.47	16.90	17.81	14.47	16.90	17.81	14.47	16.90
d90	390.56	250.10	424.13	390.56	250.10	424.13	390.56	250.10	424.13

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	0.94	0.07	7.47	0.94	0.07	7.47	0.94	0.07	7.47
d50	16.39	1.73	10.53	16.39	1.73	10.53	16.39	1.73	10.53
d90	354.93	92.33	26.01	354.93	92.33	26.01	354.93	92.33	26.01

APPENDIX 1. Benchmark laser replicate data for sediment distributed as PS75.

	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)	0.03	0.04	0.04	0.03	0.04	0.04	0.03	0.04	0.04
0.50 to 1.00; (500 µm)	2.84	3.17	3.12	2.84	3.17	3.12	2.84	3.17	3.12
1.00 to 1.50; (353.6 µm)	4.48	4.49	4.68	4.48	4.49	4.68	4.48	4.49	4.68
1.50 to 2.00; (250 µm)	3.28	3.02	3.12	3.28	3.02	3.12	3.28	3.02	3.12
2.00 to 2.50; (176.8 µm)	3.63	3.55	3.55	3.63	3.55	3.55	3.63	3.55	3.55
2.50 to 3.00; (125 µm)	4.21	4.20	4.21	4.21	4.20	4.21	4.21	4.20	4.21
3.00 to 3.50; (88.39 µm)	3.67	3.65	3.61	3.67	3.65	3.61	3.67	3.65	3.61
3.50 to 4.00; (62.5 µm)	3.08	2.96	2.87	3.08	2.96	2.87	3.08	2.96	2.87
4.00 to 4.50; (44.19 µm)	4.17	4.08	4.03	4.17	4.08	4.03	4.17	4.08	4.03
4.50 to 5.00; (31.25 µm)	6.08	6.05	5.97	6.08	6.05	5.97	6.08	6.05	5.97
5.00 to 5.50; (22.097 µm)	5.83	5.80	5.72	5.83	5.80	5.72	5.83	5.80	5.72
5.50 to 6.00; (15.625 µm)	5.58	5.56	5.52	5.58	5.56	5.52	5.58	5.56	5.52
6.00 to 6.50; (11.049 µm)	5.28	5.28	5.24	5.28	5.28	5.24	5.28	5.28	5.24
6.50 to 7.00; (7.813 µm)	4.80	4.81	4.80	4.80	4.81	4.80	4.80	4.81	4.80
7.00 to 7.50; (5.524 µm)	5.15	5.17	5.16	5.15	5.17	5.16	5.15	5.17	5.16
7.50 to 8.00; (3.906 µm)	5.53	5.56	5.51	5.53	5.56	5.51	5.53	5.56	5.51
8.00 to 8.50; (2.762 µm)	5.20	5.19	5.16	5.20	5.19	5.16	5.20	5.19	5.16
8.50 to 9.00; (1.953 µm)	5.21	5.20	5.18	5.21	5.20	5.18	5.21	5.20	5.18
9.00 to 9.50; (1.381 µm)	5.52	5.56	5.54	5.52	5.56	5.54	5.52	5.56	5.54
9.50 to 10.00; (0.977 µm)	5.13	5.21	5.21	5.13	5.21	5.21	5.13	5.21	5.21
10.00 to 10.50; (0.691 µm)	4.03	4.10	4.13	4.03	4.10	4.13	4.03	4.10	4.13
10.50 to 11.00; (0.488 µm)	2.85	2.90	2.95	2.85	2.90	2.95	2.85	2.90	2.95
11.00 to 11.50; (0.345 µm)	1.88	1.91	1.97	1.88	1.91	1.97	1.88	1.91	1.97
11.50 to 12.00; (0.244 µm)	1.18	1.19	1.25	1.18	1.19	1.25	1.18	1.19	1.25
12.00 to 12.50; (0.173 µm)	0.68	0.68	0.73	0.68	0.68	0.73	0.68	0.68	0.73
12.50 to 13.00; (0.122 µm)	0.40	0.40	0.44	0.40	0.40	0.44	0.40	0.40	0.44
13.00 to 13.50; (0.086 µm)	0.21	0.20	0.23	0.21	0.20	0.23	0.21	0.20	0.23
13.50 to 14.00; (0.061 µm)	0.07	0.07	0.08	0.07	0.07	0.08	0.07	0.07	0.08
14.00 to 14.50; (0.043 µm)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01

d10	0.87	0.86	0.84	0.87	0.86	0.84	0.87	0.86	0.84
d50	12.73	12.47	12.33	12.73	12.47	12.33	12.73	12.47	12.33
d90	267.23	271.40	278.07	267.23	271.40	278.07	267.23	271.40	278.07

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	0.86	0.02	1.89	0.86	0.02	1.89	0.86	0.02	1.89
d50	12.51	0.20	1.61	12.51	0.20	1.61	12.51	0.20	1.61
d90	272.23	5.47	2.01	272.23	5.47	2.01	272.23	5.47	2.01

APPENDIX 2. Gradistat output of size categories based on final merged data provided by each participant and the Benchmark Average for sediment distributed as PS75 (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	n/p	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COARSE GRAVEL	0.00	0.00	n/p	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEDIUM GRAVEL	30.34	29.81	n/p	27.34	31.76	28.80	27.68	28.27	27.59	30.81	28.99
FINE GRAVEL	57.93	58.75	n/p	59.24	55.98	59.46	60.29	59.69	60.87	57.89	59.69
VERY FINE GRAVEL	8.73	8.36	n/p	10.35	9.30	8.62	8.39	9.04	8.54	8.55	8.63
VERY COARSE SAND	2.93	3.04	n/p	2.96	2.76	3.12	3.10	3.00	3.00	2.75	2.69
COARSE SAND	0.00	0.03	n/p	0.03	0.19	0.00	0.00	0.00	0.00	0.00	0.00
MEDIUM SAND	0.00	0.00	n/p	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FINE SAND	0.01	0.00	n/p	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VERY FINE SAND	0.01	0.00	n/p	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VERY COARSE SILT	0.01	0.00	n/p	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COARSE SILT	0.01	0.00	n/p	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00
MEDIUM SILT	0.01	0.00	n/p	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00
FINE SILT	0.01	0.00	n/p	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00
VERY FINE SILT	0.01	0.00	n/p	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00
CLAY	0.01	0.00	n/p	0.00	0.00	0.00	0.31	0.00	0.00	0.00	0.00
GRAVEL	97.00	96.92	n/p	96.92	97.05	96.88	96.36	97.00	97.00	97.25	97.31
SAND	2.95	3.08	n/p	3.06	2.95	3.12	3.11	3.00	3.00	2.75	2.69
SILT	0.03	0.00	n/p	0.02	0.00	0.00	0.23	0.00	0.00	0.00	0.00
CLAY	0.01	0.00	n/p	0.00	0.00	0.00	0.31	0.00	0.00	0.00	0.00

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 PS75 (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	0.00	0.00	0.00	0.00	0.00	0.00	n/p
COARSE GRAVEL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/p
MEDIUM GRAVEL	30.34	28.83	28.05	30.78	28.64	28.60	26.41	29.04	29.32	n/p
FINE GRAVEL	57.93	58.40	59.57	57.10	59.16	59.85	60.99	59.53	58.88	n/p
VERY FINE GRAVEL	8.73	9.80	9.48	9.00	8.85	8.57	9.44	8.93	8.78	n/p
VERY COARSE SAND	2.93	2.95	2.88	2.98	3.14	2.97	3.16	2.17	2.96	n/p
COARSE SAND	0.00	0.03	0.03	0.00	0.21	0.00	0.00	0.00	0.01	n/p
MEDIUM SAND	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/p
FINE SAND	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/p
VERY FINE SAND	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/p
VERY COARSE SILT	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	n/p
COARSE SILT	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.03	0.01	n/p
MEDIUM SILT	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.04	0.01	n/p
FINE SILT	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.06	0.01	n/p
VERY FINE SILT	0.01	0.00	0.00	0.03	0.00	0.00	0.00	0.08	0.00	n/p
CLAY	0.01	0.00	0.00	0.06	0.00	0.00	0.00	0.11	0.01	n/p
GRAVEL	97.00	97.02	97.10	96.88	96.64	97.03	96.84	97.50	96.98	n/p
SAND	2.95	2.98	2.90	2.98	3.36	2.97	3.16	2.18	2.99	n/p
SILT	0.03	0.00	0.00	0.07	0.00	0.00	0.00	0.21	0.03	n/p
CLAY	0.01	0.00	0.00	0.06	0.00	0.00	0.00	0.11	0.01	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 PS75.

Exercise Code:	PS75
LabCode:	PSA_2601
Sample Code:	PS752601

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	0.47	5.36
-3.50 to -3.00; 8 mm	29.34	332.46
-3.00 to -2.50; 5.6 mm	34.68	392.96
-2.50 to -2.00; 4 mm	24.07	272.77
-2.00 to -1.50; 2.8 mm	4.74	53.76
-1.50 to -1.00; 2 mm	3.61	40.96
-1.00 to -0.50; 1.4 mm	2.56	29.05
-0.50 to 0.00; 1 mm	0.48	5.44
0.00 to 0.50; (707 µm)	0.03	0.33
0.50 to 1.00; (500 µm)	0.00	0.01
1.00 to 1.50; (353.6 µm)	0.00	0.01
1.50 to 2.00; (250 µm)	0.00	0.02
2.00 to 2.50; (176.8 µm)	0.00	0.01
2.50 to 3.00; (125 µm)	0.00	0.02
3.00 to 3.50; (88.39 µm)	0.00	0.01
3.50 to 4.00; (62.5 µm)	0.00	0.01
4.00 to 4.50; (44.19 µm)	0.00	0.03
4.50 to 5.00; (31.25 µm)	0.00	0.00
5.00 to 5.50; (22.097 µm)	0.00	0.00
5.50 to 6.00; (15.625 µm)	0.00	0.00
6.00 to 6.50; (11.049 µm)	0.00	0.00
6.50 to 7.00; (7.813 µm)	0.00	0.00
7.00 to 7.50; (5.524 µm)	0.00	0.00
7.50 to 8.00; (3.906 µm)	0.00	0.00
8.00 to 8.50; (2.762 µm)	0.00	0.00
8.50 to 9.00; (1.953 µm)	0.00	0.00
9.00 to 9.50; (1.381 µm)	0.00	0.00
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	1133.20

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 PS75.

Exercise Code:	PS75
LabCode:	PSA_2603
Sample Code:	PS752603

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	0.15	1.70
-3.50 to -3.00; 8 mm	27.19	306.40
-3.00 to -2.50; 5.6 mm	34.90	393.33
-2.50 to -2.00; 4 mm	24.34	274.30
-2.00 to -1.50; 2.8 mm	6.68	75.23
-1.50 to -1.00; 2 mm	3.67	41.37
-1.00 to -0.50; 1.4 mm	2.49	28.10
-0.50 to 0.00; 1 mm	0.47	5.30
0.00 to 0.50; (707 µm)	0.01	0.14
0.50 to 1.00; (500 µm)	0.02	0.19
1.00 to 1.50; (353.6 µm)	0.02	0.20
1.50 to 2.00; (250 µm)	0.02	0.18
2.00 to 2.50; (176.8 µm)	0.01	0.14
2.50 to 3.00; (125 µm)	0.01	0.10
3.00 to 3.50; (88.39 µm)	0.01	0.06
3.50 to 4.00; (62.5 µm)	0.00	0.05
4.00 to 4.50; (44.19 µm)	0.00	0.03
4.50 to 5.00; (31.25 µm)	0.00	0.02
5.00 to 5.50; (22.097 µm)	0.00	0.02
5.50 to 6.00; (15.625 µm)	0.00	0.02
6.00 to 6.50; (11.049 µm)	0.00	0.02
6.50 to 7.00; (7.813 µm)	0.00	0.02
7.00 to 7.50; (5.524 µm)	0.00	0.02
7.50 to 8.00; (3.906 µm)	0.00	0.02
8.00 to 8.50; (2.762 µm)	0.00	0.02
8.50 to 9.00; (1.953 µm)	0.00	0.01
9.00 to 9.50; (1.381 µm)	0.00	0.01
9.50 to 10.00; (0.977 µm)	0.00	0.01
10.00 to 10.50; (0.691 µm)	0.00	0.01
10.50 to 11.00; (0.488 µm)	0.00	0.01
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	1127.03

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 PS75.

Exercise Code:	PS75
LabCode:	PSA_2604
Sample Code:	PS752604

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	0.19	2.15
-3.50 to -3.00; 8 mm	31.57	360.42
-3.00 to -2.50; 5.6 mm	32.95	376.19
-2.50 to -2.00; 4 mm	23.03	262.92
-2.00 to -1.50; 2.8 mm	5.72	65.29
-1.50 to -1.00; 2 mm	3.59	40.93
-1.00 to -0.50; 1.4 mm	2.40	27.39
-0.50 to 0.00; 1 mm	0.36	4.16
0.00 to 0.50; (707 µm)	0.19	2.13
0.50 to 1.00; (500 µm)		
1.00 to 1.50; (353.6 µm)		
1.50 to 2.00; (250 µm)		
2.00 to 2.50; (176.8 µm)		
2.50 to 3.00; (125 µm)		
3.00 to 3.50; (88.39 µm)		
3.50 to 4.00; (62.5 µm)		
4.00 to 4.50; (44.19 µm)		
4.50 to 5.00; (31.25 µm)		
5.00 to 5.50; (22.097 µm)		
5.50 to 6.00; (15.625 µm)		
6.00 to 6.50; (11.049 µm)		
6.50 to 7.00; (7.813 µm)		
7.00 to 7.50; (5.524 µm)		
7.50 to 8.00; (3.906 µm)		
8.00 to 8.50; (2.762 µm)		
8.50 to 9.00; (1.953 µm)		
9.00 to 9.50; (1.381 µm)		
9.50 to 10.00; (0.977 µm)		
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	100.00	1141.58

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 PS75.

Exercise Code:	PS75
LabCode:	PSA_2605
Sample Code:	PS752605

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	1.66	
-3.50 to -3.00; 8 mm	27.13	
-3.00 to -2.50; 5.6 mm	34.52	
-2.50 to -2.00; 4 mm	24.94	
-2.00 to -1.50; 2.8 mm	4.99	
-1.50 to -1.00; 2 mm	3.63	
-1.00 to -0.50; 1.4 mm	2.57	
-0.50 to 0.00; 1 mm	0.55	
0.00 to 0.50; (707 µm)		
0.50 to 1.00; (500 µm)		
1.00 to 1.50; (353.6 µm)		
1.50 to 2.00; (250 µm)		
2.00 to 2.50; (176.8 µm)		
2.50 to 3.00; (125 µm)		
3.00 to 3.50; (88.39 µm)		
3.50 to 4.00; (62.5 µm)		
4.00 to 4.50; (44.19 µm)		
4.50 to 5.00; (31.25 µm)		
5.00 to 5.50; (22.097 µm)		
5.50 to 6.00; (15.625 µm)		
6.00 to 6.50; (11.049 µm)		
6.50 to 7.00; (7.813 µm)		
7.00 to 7.50; (5.524 µm)		
7.50 to 8.00; (3.906 µm)		
8.00 to 8.50; (2.762 µm)		
8.50 to 9.00; (1.953 µm)		
9.00 to 9.50; (1.381 µm)		
9.50 to 10.00; (0.977 µm)		
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	100.00	

Notes:
Participant Notes: Sample dried and sieved only. No laser analysis required.

APPENDIX 3. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS75.

Exercise Code:	PS75
LabCode:	PSA_2606
Sample Code:	PS752606

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	0.42	
-3.50 to -3.00; 8 mm	27.25	
-3.00 to -2.50; 5.6 mm	35.78	
-2.50 to -2.00; 4 mm	24.50	
-2.00 to -1.50; 2.8 mm	4.86	
-1.50 to -1.00; 2 mm	3.53	
-1.00 to -0.50; 1.4 mm	2.52	
-0.50 to 0.00; 1 mm	0.58	
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)	0.00	
2.00 to 2.50; (176.8 µm)	0.00	
2.50 to 3.00; (125 µm)	0.00	
3.00 to 3.50; (88.39 µm)	0.00	
3.50 to 4.00; (62.5 µm)	0.00	
4.00 to 4.50; (44.19 µm)	0.00	
4.50 to 5.00; (31.25 µm)	0.00	
5.00 to 5.50; (22.097 µm)	0.02	
5.50 to 6.00; (15.625 µm)	0.02	
6.00 to 6.50; (11.049 µm)	0.02	
6.50 to 7.00; (7.813 µm)	0.02	
7.00 to 7.50; (5.524 µm)	0.02	
7.50 to 8.00; (3.906 µm)	0.03	
8.00 to 8.50; (2.762 µm)	0.04	
8.50 to 9.00; (1.953 µm)	0.05	
9.00 to 9.50; (1.381 µm)	0.05	
9.50 to 10.00; (0.977 µm)	0.04	
10.00 to 10.50; (0.691 µm)	0.03	
10.50 to 11.00; (0.488 µm)	0.04	
11.00 to 11.50; (0.345 µm)	0.04	
11.50 to 12.00; (0.244 µm)	0.04	
12.00 to 12.50; (0.173 µm)	0.03	
12.50 to 13.00; (0.122 µm)	0.02	
13.00 to 13.50; (0.086 µm)	0.01	
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 PS75.

Exercise Code:	PS75
LabCode:	PSA_2607
Sample Code:	PS752607

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	28.26	
-3.00 to -2.50; 5.6 mm	33.67	
-2.50 to -2.00; 4 mm	26.00	
-2.00 to -1.50; 2.8 mm	5.55	
-1.50 to -1.00; 2 mm	3.48	
-1.00 to -0.50; 1.4 mm	2.39	
-0.50 to 0.00; 1 mm	0.61	
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)	0.00	
2.00 to 2.50; (176.8 µm)	0.00	
2.50 to 3.00; (125 µm)	0.00	
3.00 to 3.50; (88.39 µm)	0.00	
3.50 to 4.00; (62.5 µm)	0.00	
4.00 to 4.50; (44.19 µm)	0.00	
4.50 to 5.00; (31.25 µm)	0.00	
5.00 to 5.50; (22.097 µm)	0.00	
5.50 to 6.00; (15.625 µm)	0.00	
6.00 to 6.50; (11.049 µm)	0.00	
6.50 to 7.00; (7.813 µm)	0.00	
7.00 to 7.50; (5.524 µm)	0.00	
7.50 to 8.00; (3.906 µm)	0.00	
8.00 to 8.50; (2.762 µm)	0.00	
8.50 to 9.00; (1.953 µm)	0.00	
9.00 to 9.50; (1.381 µm)	0.00	
9.50 to 10.00; (0.977 µm)	0.00	
10.00 to 10.50; (0.691 µm)	0.00	
10.50 to 11.00; (0.488 µm)	0.00	
11.00 to 11.50; (0.345 µm)	0.00	
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	99.96	

Notes:
Participant notes: Laser analysis was not undertaken, sieving only

APPENDIX 3. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS75.

Exercise Code:	PS75
LabCode:	PSA_2608
Sample Code:	PS752608

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	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	0.46	5.20
-3.50 to -3.00; 8 mm	27.13	307.83
-3.00 to -2.50; 5.6 mm	36.72	416.63
-2.50 to -2.00; 4 mm	24.15	274.08
-2.00 to -1.50; 2.8 mm	4.97	56.42
-1.50 to -1.00; 2 mm	3.57	40.46
-1.00 to -0.50; 1.4 mm	2.50	28.37
-0.50 to 0.00; 1 mm	0.50	5.68
0.00 to 0.50; (707 µm)		
0.50 to 1.00; (500 µm)		
1.00 to 1.50; (353.6 µm)		
1.50 to 2.00; (250 µm)		
2.00 to 2.50; (176.8 µm)		
2.50 to 3.00; (125 µm)		
3.00 to 3.50; (88.39 µm)		
3.50 to 4.00; (62.5 µm)		
4.00 to 4.50; (44.19 µm)		
4.50 to 5.00; (31.25 µm)		
5.00 to 5.50; (22.097 µm)		
5.50 to 6.00; (15.625 µm)		
6.00 to 6.50; (11.049 µm)		
6.50 to 7.00; (7.813 µm)		
7.00 to 7.50; (5.524 µm)		
7.50 to 8.00; (3.906 µm)		
8.00 to 8.50; (2.762 µm)		
8.50 to 9.00; (1.953 µm)		
9.00 to 9.50; (1.381 µm)		
9.50 to 10.00; (0.977 µm)		
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	100.00	1134.67

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

APPENDIX 3. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS75.

Exercise Code:	PS75
LabCode:	PSA_2609
Sample Code:	PS752609

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	3.21	36.91
-3.50 to -3.00; 8 mm	27.60	317.28
-3.00 to -2.50; 5.6 mm	33.22	381.90
-2.50 to -2.00; 4 mm	24.67	283.60
-2.00 to -1.50; 2.8 mm	5.02	57.70
-1.50 to -1.00; 2 mm	3.53	40.60
-1.00 to -0.50; 1.4 mm	2.36	27.10
-0.50 to 0.00; 1 mm	0.39	4.50
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)	0.00	0.00
1.50 to 2.00; (250 µm)	0.00	0.00
2.00 to 2.50; (176.8 µm)	0.00	0.00
2.50 to 3.00; (125 µm)	0.00	0.00
3.00 to 3.50; (88.39 µm)	0.00	0.00
3.50 to 4.00; (62.5 µm)	0.00	0.00
4.00 to 4.50; (44.19 µm)	0.00	0.00
4.50 to 5.00; (31.25 µm)	0.00	0.00
5.00 to 5.50; (22.097 µm)	0.00	0.00
5.50 to 6.00; (15.625 µm)	0.00	0.00
6.00 to 6.50; (11.049 µm)	0.00	0.00
6.50 to 7.00; (7.813 µm)	0.00	0.00
7.00 to 7.50; (5.524 µm)	0.00	0.00
7.50 to 8.00; (3.906 µm)	0.00	0.00
8.00 to 8.50; (2.762 µm)	0.00	0.00
8.50 to 9.00; (1.953 µm)	0.00	0.00
9.00 to 9.50; (1.381 µm)	0.00	0.00
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)		
14.00 to 14.50; (0.043µm)		
TOTAL	100.00	1149.59

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 PS75.

Exercise Code:	PS75
LabCode:	PSA_2610
Sample Code:	PS752610

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	1.33	14.48
-3.50 to -3.00; 8 mm	27.66	302.20
-3.00 to -2.50; 5.6 mm	36.16	395.09
-2.50 to -2.00; 4 mm	23.53	257.04
-2.00 to -1.50; 2.8 mm	5.03	54.98
-1.50 to -1.00; 2 mm	3.60	39.31
-1.00 to -0.50; 1.4 mm	2.23	24.35
-0.50 to 0.00; 1 mm	0.46	5.08
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)	0.00	0.00
1.50 to 2.00; (250 µm)	0.00	0.00
2.00 to 2.50; (176.8 µm)	0.00	0.00
2.50 to 3.00; (125 µm)	0.00	0.00
3.00 to 3.50; (88.39 µm)	0.00	0.00
3.50 to 4.00; (62.5 µm)	0.00	0.00
4.00 to 4.50; (44.19 µm)	0.00	0.00
4.50 to 5.00; (31.25 µm)	0.00	0.00
5.00 to 5.50; (22.097 µm)	0.00	0.00
5.50 to 6.00; (15.625 µm)	0.00	0.00
6.00 to 6.50; (11.049 µm)	0.00	0.00
6.50 to 7.00; (7.813 µm)	0.00	0.00
7.00 to 7.50; (5.524 µm)	0.00	0.00
7.50 to 8.00; (3.906 µm)	0.00	0.00
8.00 to 8.50; (2.762 µm)	0.00	0.00
8.50 to 9.00; (1.953 µm)	0.00	0.00
9.00 to 9.50; (1.381 µm)	0.00	0.00
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	1092.53

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 PS75.

Exercise Code:	PS75
LabCode:	PSA_2611
Sample Code:	PS752611

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	28.83	331.79
-3.00 to -2.50; 5.6 mm	33.40	384.44
-2.50 to -2.00; 4 mm	24.99	287.65
-2.00 to -1.50; 2.8 mm	6.18	71.12
-1.50 to -1.00; 2 mm	3.62	41.63
-1.00 to -0.50; 1.4 mm	2.45	28.15
-0.50 to 0.00; 1 mm	0.50	5.75
0.00 to 0.50; (707 µm)	0.03	0.35
0.50 to 1.00; (500 µm)		
1.00 to 1.50; (353.6 µm)		
1.50 to 2.00; (250 µm)		
2.00 to 2.50; (176.8 µm)		
2.50 to 3.00; (125 µm)		
3.00 to 3.50; (88.39 µm)		
3.50 to 4.00; (62.5 µm)		
4.00 to 4.50; (44.19 µm)		
4.50 to 5.00; (31.25 µm)		
5.00 to 5.50; (22.097 µm)		
5.50 to 6.00; (15.625 µm)		
6.00 to 6.50; (11.049 µm)		
6.50 to 7.00; (7.813 µm)		
7.00 to 7.50; (5.524 µm)		
7.50 to 8.00; (3.906 µm)		
8.00 to 8.50; (2.762 µm)		
8.50 to 9.00; (1.953 µm)		
9.00 to 9.50; (1.381 µm)		
9.50 to 10.00; (0.977 µm)		
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	100.00	1150.88

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 PS75.

Exercise Code:	PS75
LabCode:	PSA_2612
Sample Code:	PS752612

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		0.0000
-6.00 to -5.50; 45 mm		0.0000
-5.50 to -5.00; 31.5 mm		0.0000
-5.00 to -4.50; 22.4 mm		0.0000
-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	28.05	322.36
-3.00 to -2.50; 5.6 mm	35.47	407.62
-2.50 to -2.00; 4 mm	24.10	276.88
-2.00 to -1.50; 2.8 mm	5.76	66.21
-1.50 to -1.00; 2 mm	3.71	42.67
-1.00 to -0.50; 1.4 mm	2.40	27.62
-0.50 to 0.00; 1 mm	0.47	5.45
0.00 to 0.50; (707 µm)	0.03	0.30
0.50 to 1.00; (500 µm)		
1.00 to 1.50; (353.6 µm)		
1.50 to 2.00; (250 µm)		
2.00 to 2.50; (176.8 µm)		
2.50 to 3.00; (125 µm)		
3.00 to 3.50; (88.39 µm)		
3.50 to 4.00; (62.5 µm)		
4.00 to 4.50; (44.19 µm)		
4.50 to 5.00; (31.25 µm)		
5.00 to 5.50; (22.097 µm)		
5.50 to 6.00; (15.625 µm)		
6.00 to 6.50; (11.049 µm)		
6.50 to 7.00; (7.813 µm)		
7.00 to 7.50; (5.524 µm)		
7.50 to 8.00; (3.906 µm)		
8.00 to 8.50; (2.762 µm)		
8.50 to 9.00; (1.953 µm)		
9.00 to 9.50; (1.381 µm)		
9.50 to 10.00; (0.977 µm)		
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	100.00	1149.11

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 PS75.

Exercise Code:	PS75
LabCode:	PSA_2613
Sample Code:	PS752613

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	30.78	350.21
-3.00 to -2.50; 5.6 mm	32.65	371.51
-2.50 to -2.00; 4 mm	24.44	278.10
-2.00 to -1.50; 2.8 mm	5.40	61.44
-1.50 to -1.00; 2 mm	3.60	41.00
-1.00 to -0.50; 1.4 mm	2.48	28.26
-0.50 to 0.00; 1 mm	0.50	5.67
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)	0.00	0.00
1.50 to 2.00; (250 µm)	0.00	0.00
2.00 to 2.50; (176.8 µm)	0.00	0.00
2.50 to 3.00; (125 µm)	0.00	0.00
3.00 to 3.50; (88.39 µm)	0.00	0.00
3.50 to 4.00; (62.5 µm)	0.00	0.00
4.00 to 4.50; (44.19 µm)	0.00	0.00
4.50 to 5.00; (31.25 µm)	0.00	0.02
5.00 to 5.50; (22.097 µm)	0.00	0.03
5.50 to 6.00; (15.625 µm)	0.00	0.04
6.00 to 6.50; (11.049 µm)	0.01	0.07
6.50 to 7.00; (7.813 µm)	0.01	0.08
7.00 to 7.50; (5.524 µm)	0.01	0.11
7.50 to 8.00; (3.906 µm)	0.01	0.15
8.00 to 8.50; (2.762 µm)	0.01	0.15
8.50 to 9.00; (1.953 µm)	0.01	0.16
9.00 to 9.50; (1.381 µm)	0.02	0.18
9.50 to 10.00; (0.977 µm)	0.01	0.17
10.00 to 10.50; (0.691 µm)	0.01	0.13
10.50 to 11.00; (0.488 µm)	0.01	0.08
11.00 to 11.50; (0.345 µm)	0.00	0.05
11.50 to 12.00; (0.244 µm)	0.00	0.03
12.00 to 12.50; (0.173 µm)	0.00	0.02
12.50 to 13.00; (0.122 µm)	0.00	0.01
13.00 to 13.50; (0.086 µm)	0.00	0.01
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	1137.70

Notes:

Participant notes: This sample contained mostly gravel with very little visible sand or mud. It was wet separated through a 1 mm sieve, and a small amount of muddy sediment was washed from the gravel. This was dried and then analysed by 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 PS75.

Exercise Code:	PS75
LabCode:	PSA_2614
Sample Code:	PS752614

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	0.0000
-6.00 to -5.50; 45 mm	0.00	0.0000
-5.50 to -5.00; 31.5 mm	0.00	0.0000
-5.00 to -4.50; 22.4 mm	0.00	0.0000
-4.50 to -4.00; 16 mm	0.00	0.0000
-4.00 to -3.50; 11.2 mm	0.00	0.0000
-3.50 to -3.00; 8 mm	28.64	324.4400
-3.00 to -2.50; 5.6 mm	34.30	388.5700
-2.50 to -2.00; 4 mm	24.86	281.6800
-2.00 to -1.50; 2.8 mm	5.13	58.0800
-1.50 to -1.00; 2 mm	3.73	42.2100
-1.00 to -0.50; 1.4 mm	2.64	29.9000
-0.50 to 0.00; 1 mm	0.50	5.7100
0.00 to 0.50; (707 µm)	0.21	2.4100
0.50 to 1.00; (500 µm)	0.00	0.0000
1.00 to 1.50; (353.6 µm)	0.00	0.0000
1.50 to 2.00; (250 µm)	0.00	0.0000
2.00 to 2.50; (176.8 µm)	0.00	0.0000
2.50 to 3.00; (125 µm)	0.00	0.0000
3.00 to 3.50; (88.39 µm)	0.00	0.0000
3.50 to 4.00; (62.5 µm)	0.00	0.0000
4.00 to 4.50; (44.19 µm)	0.00	0.0000
4.50 to 5.00; (31.25 µm)	0.00	0.0000
5.00 to 5.50; (22.097 µm)	0.00	0.0000
5.50 to 6.00; (15.625 µm)	0.00	0.0000
6.00 to 6.50; (11.049 µm)	0.00	0.0000
6.50 to 7.00; (7.813 µm)	0.00	0.0000
7.00 to 7.50; (5.524 µm)	0.00	0.0000
7.50 to 8.00; (3.906 µm)	0.00	0.0000
8.00 to 8.50; (2.762 µm)	0.00	0.0000
8.50 to 9.00; (1.953 µm)	0.00	0.0000
9.00 to 9.50; (1.381 µm)	0.00	0.0000
9.50 to 10.00; (0.977 µm)	0.00	0.0000
10.00 to 10.50; (0.691 µm)	0.00	0.0000
10.50 to 11.00; (0.488 µm)	0.00	0.0000
11.00 to 11.50; (0.345 µm)	0.00	0.0000
11.50 to 12.00; (0.244 µm)	0.00	0.0000
12.00 to 12.50; (0.173 µm)	0.00	0.0000
12.50 to 13.00; (0.122 µm)	0.00	0.0000
13.00 to 13.50; (0.086 µm)	0.00	0.0000
13.50 to 14.00; (0.061µm)	0.0000	0.0000
14.00 to 14.50; (0.043µm)	0.0000	0.0000
TOTAL	100.00	1133.00

Notes:
Participant notes - Note that the sediment in %sand is actually %sand and %silt/clay combined.

APPENDIX 3. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS75.

Exercise Code:	PS75
LabCode:	PSA_2615
Sample Code:	PS752615

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	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	1.36	15.43
-3.50 to -3.00; 8 mm	27.25	309.92
-3.00 to -2.50; 5.6 mm	35.83	407.49
-2.50 to -2.00; 4 mm	24.03	273.29
-2.00 to -1.50; 2.8 mm	4.62	52.58
-1.50 to -1.00; 2 mm	3.95	44.89
-1.00 to -0.50; 1.4 mm	2.45	27.92
-0.50 to 0.00; 1 mm	0.52	5.88
0.00 to 0.50; (707 µm)		
0.50 to 1.00; (500 µm)		
1.00 to 1.50; (353.6 µm)		
1.50 to 2.00; (250 µm)		
2.00 to 2.50; (176.8 µm)		
2.50 to 3.00; (125 µm)		
3.00 to 3.50; (88.39 µm)		
3.50 to 4.00; (62.5 µm)		
4.00 to 4.50; (44.19 µm)		
4.50 to 5.00; (31.25 µm)		
5.00 to 5.50; (22.097 µm)		
5.50 to 6.00; (15.625 µm)		
6.00 to 6.50; (11.049 µm)		
6.50 to 7.00; (7.813 µm)		
7.00 to 7.50; (5.524 µm)		
7.50 to 8.00; (3.906 µm)		
8.00 to 8.50; (2.762 µm)		
8.50 to 9.00; (1.953 µm)		
9.00 to 9.50; (1.381 µm)		
9.50 to 10.00; (0.977 µm)		
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	100.00	1137.40

Notes:
Participant notes - Gravel sample significantly heavier than samples we would routinely sieve.

APPENDIX 3. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS75.

Exercise Code:	PS75
LabCode:	PSA_2616
Sample Code:	PS752616

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	0.32	
-3.50 to -3.00; 8 mm	26.09	
-3.00 to -2.50; 5.6 mm	34.03	
-2.50 to -2.00; 4 mm	26.96	
-2.00 to -1.50; 2.8 mm	5.66	
-1.50 to -1.00; 2 mm	3.79	
-1.00 to -0.50; 1.4 mm	2.64	
-0.50 to 0.00; 1 mm	0.52	
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)	0.00	
2.00 to 2.50; (176.8 µm)	0.00	
2.50 to 3.00; (125 µm)	0.00	
3.00 to 3.50; (88.39 µm)	0.00	
3.50 to 4.00; (62.5 µm)	0.00	
4.00 to 4.50; (44.19 µm)	0.00	
4.50 to 5.00; (31.25 µm)	0.00	
5.00 to 5.50; (22.097 µm)	0.00	
5.50 to 6.00; (15.625 µm)	0.00	
6.00 to 6.50; (11.049 µm)	0.00	
6.50 to 7.00; (7.813 µm)	0.00	
7.00 to 7.50; (5.524 µm)	0.00	
7.50 to 8.00; (3.906 µm)	0.00	
8.00 to 8.50; (2.762 µm)	0.00	
8.50 to 9.00; (1.953 µm)	0.00	
9.00 to 9.50; (1.381 µm)	0.00	
9.50 to 10.00; (0.977 µm)	0.00	
10.00 to 10.50; (0.691 µm)	0.00	
10.50 to 11.00; (0.488 µm)	0.00	
11.00 to 11.50; (0.345 µm)	0.00	
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 - After sieving the sample, a small amount of pan material was recorded and attributed to dust from the bulk sample. The weight of this material was 0.973g equivalent to 0.08% of the total sample weight. Not enough material was present in this fraction to accurately measure its distribution using laser analysis; it was therefore omitted from the data set and the % fractions re calculated. Gradistat was used to compare the data which excluded this fraction to data which included this <1mm fraction. No significant difference in any of the statistics is noted between the two

APPENDIX 3. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS75.

Exercise Code:	PS75
LabCode:	PSA_2617
Sample Code:	PS752617

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	0.17	
-3.50 to -3.00; 8 mm	28.87	
-3.00 to -2.50; 5.6 mm	34.80	
-2.50 to -2.00; 4 mm	24.73	
-2.00 to -1.50; 2.8 mm	5.24	
-1.50 to -1.00; 2 mm	3.69	
-1.00 to -0.50; 1.4 mm	1.86	
-0.50 to 0.00; 1 mm	0.31	
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)	0.00	
2.00 to 2.50; (176.8 µm)	0.00	
2.50 to 3.00; (125 µm)	0.00	
3.00 to 3.50; (88.39 µm)	0.00	
3.50 to 4.00; (62.5 µm)	0.00	
4.00 to 4.50; (44.19 µm)	0.00	
4.50 to 5.00; (31.25 µm)	0.01	
5.00 to 5.50; (22.097 µm)	0.01	
5.50 to 6.00; (15.625 µm)	0.02	
6.00 to 6.50; (11.049 µm)	0.02	
6.50 to 7.00; (7.813 µm)	0.02	
7.00 to 7.50; (5.524 µm)	0.03	
7.50 to 8.00; (3.906 µm)	0.03	
8.00 to 8.50; (2.762 µm)	0.04	
8.50 to 9.00; (1.953 µm)	0.04	
9.00 to 9.50; (1.381 µm)	0.03	
9.50 to 10.00; (0.977 µm)	0.03	
10.00 to 10.50; (0.691 µm)	0.05	
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 PS75.

Exercise Code:	PS75
LabCode:	PSA_2618
Sample Code:	PS752618

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	29.32	333.28
-3.00 to -2.50; 5.6 mm	32.24	366.47
-2.50 to -2.00; 4 mm	26.63	302.71
-2.00 to -1.50; 2.8 mm	5.14	58.38
-1.50 to -1.00; 2 mm	3.64	41.37
-1.00 to -0.50; 1.4 mm	2.48	28.18
-0.50 to 0.00; 1 mm	0.48	5.49
0.00 to 0.50; (707 µm)	0.01	0.07
0.50 to 1.00; (500 µm)	0.00	0.03
1.00 to 1.50; (353.6 µm)	0.00	0.03
1.50 to 2.00; (250 µm)	0.00	0.02
2.00 to 2.50; (176.8 µm)	0.00	0.03
2.50 to 3.00; (125 µm)	0.00	0.03
3.00 to 3.50; (88.39 µm)	0.00	0.03
3.50 to 4.00; (62.5 µm)	0.00	0.03
4.00 to 4.50; (44.19 µm)	0.00	0.03
4.50 to 5.00; (31.25 µm)	0.00	0.04
5.00 to 5.50; (22.097 µm)	0.00	0.03
5.50 to 6.00; (15.625 µm)	0.00	0.03
6.00 to 6.50; (11.049 µm)	0.00	0.03
6.50 to 7.00; (7.813 µm)	0.00	0.03
7.00 to 7.50; (5.524 µm)	0.00	0.03
7.50 to 8.00; (3.906 µm)	0.00	0.03
8.00 to 8.50; (2.762 µm)	0.00	0.03
8.50 to 9.00; (1.953 µm)	0.00	0.03
9.00 to 9.50; (1.381 µm)	0.00	0.03
9.50 to 10.00; (0.977 µm)	0.00	0.03
10.00 to 10.50; (0.691 µm)	0.00	0.02
10.50 to 11.00; (0.488 µm)	0.00	0.02
11.00 to 11.50; (0.345 µm)	0.00	0.01
11.50 to 12.00; (0.244 µm)	0.00	0.01
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	1136.57

Participant Notes: This sample contained mostly gravel with very little visible sand or mud. It was dried in the oven for 30 minutes, then sieved at half phi intervals. There was a small amount (<1.00 g, constituting <0.1% of the sample) of material retained in the pan (<1mm) which was largely a rock flour material, possibly dirt from the surface of the gravel, or chipped off the gravel particles in collisions during sieving. Usually in an analysis of this kind this sediment can be ignored, and the weights above 1 mm rescaled to total 100%. However, for completeness, and to ensure this spreadsheet totals 100%, this tiny amount of material was analysed by laser diffraction and entered into the laser sheet. There was insufficient material for repeat analyses, so a single laser subsample, run three times, has been entered for each rep.

APPENDIX 3. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS75.

Exercise Code:	PS75
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 (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	30.02	341.58
-3.00 to -2.50; 5.6 mm	32.77	372.89
-2.50 to -2.00; 4 mm	25.59	291.26
-2.00 to -1.50; 2.8 mm	5.04	57.37
-1.50 to -1.00; 2 mm	3.51	39.89
-1.00 to -0.50; 1.4 mm	2.51	28.55
-0.50 to 0.00; 1 mm	0.49	5.63
0.00 to 0.50; (707 µm)	0.00	0.00
0.50 to 1.00; (500 µm)	0.00	0.03
1.00 to 1.50; (353.6 µm)	0.00	0.03
1.50 to 2.00; (250 µm)	0.00	0.03
2.00 to 2.50; (176.8 µm)	0.00	0.03
2.50 to 3.00; (125 µm)	0.00	0.04
3.00 to 3.50; (88.39 µm)	0.00	0.03
3.50 to 4.00; (62.5 µm)	0.00	0.03
4.00 to 4.50; (44.19 µm)	0.00	0.04
4.50 to 5.00; (31.25 µm)	0.00	0.05
5.00 to 5.50; (22.097 µm)	0.00	0.05
5.50 to 6.00; (15.625 µm)	0.00	0.05
6.00 to 6.50; (11.049 µm)	0.00	0.04
6.50 to 7.00; (7.813 µm)	0.00	0.04
7.00 to 7.50; (5.524 µm)	0.00	0.04
7.50 to 8.00; (3.906 µm)	0.00	0.04
8.00 to 8.50; (2.762 µm)	0.00	0.04
8.50 to 9.00; (1.953 µm)	0.00	0.04
9.00 to 9.50; (1.381 µm)	0.00	0.04
9.50 to 10.00; (0.977 µm)	0.00	0.04
10.00 to 10.50; (0.691 µm)	0.00	0.03
10.50 to 11.00; (0.488 µm)	0.00	0.02
11.00 to 11.50; (0.345 µm)	0.00	0.01
11.50 to 12.00; (0.244 µm)	0.00	0.01
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
>14.5;(0.01µm)	0.00	0.00
TOTAL	100.00	1137.99

Notes: This sample contained mostly gravel with very little visible sand or mud. It was dried in the oven for 30 minutes, then sieved at half phi intervals. There was a small amount (<1.00 g, constituting <0.1% of the sample) of material retained in the pan (<1mm) which was largely a rock flour material, possibly dirt from the surface of the gravel, or chipped off the gravel particles in collisions during sieving. Usually in an analysis of this kind this sediment can be ignored, and the weights above 1 mm rescaled to total 100%. However, for completeness, and to ensure this spreadsheet totals 100%, this tiny amount of material was analysed by laser diffraction and entered into the laser sheet. There was insufficient material for repeat analyses, so a single laser subsample, run three times, has been entered for each rep.

APPENDIX 3. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS75.

Exercise Code:	PS75
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 (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	30.79	350.27
-3.00 to -2.50; 5.6 mm	31.04	353.07
-2.50 to -2.00; 4 mm	26.39	300.20
-2.00 to -1.50; 2.8 mm	5.18	58.95
-1.50 to -1.00; 2 mm	3.53	40.20
-1.00 to -0.50; 1.4 mm	2.47	28.08
-0.50 to 0.00; 1 mm	0.52	5.93
0.00 to 0.50; (707 µm)	0.00	0.00
0.50 to 1.00; (500 µm)	0.00	0.02
1.00 to 1.50; (353.6 µm)	0.00	0.03
1.50 to 2.00; (250 µm)	0.00	0.02
2.00 to 2.50; (176.8 µm)	0.00	0.03
2.50 to 3.00; (125 µm)	0.00	0.03
3.00 to 3.50; (88.39 µm)	0.00	0.03
3.50 to 4.00; (62.5 µm)	0.00	0.02
4.00 to 4.50; (44.19 µm)	0.00	0.03
4.50 to 5.00; (31.25 µm)	0.00	0.05
5.00 to 5.50; (22.097 µm)	0.00	0.04
5.50 to 6.00; (15.625 µm)	0.00	0.04
6.00 to 6.50; (11.049 µm)	0.00	0.04
6.50 to 7.00; (7.813 µm)	0.00	0.03
7.00 to 7.50; (5.524 µm)	0.00	0.04
7.50 to 8.00; (3.906 µm)	0.00	0.04
8.00 to 8.50; (2.762 µm)	0.00	0.04
8.50 to 9.00; (1.953 µm)	0.00	0.04
9.00 to 9.50; (1.381 µm)	0.00	0.04
9.50 to 10.00; (0.977 µm)	0.00	0.04
10.00 to 10.50; (0.691 µm)	0.00	0.03
10.50 to 11.00; (0.488 µm)	0.00	0.02
11.00 to 11.50; (0.345 µm)	0.00	0.01
11.50 to 12.00; (0.244 µm)	0.00	0.01
12.00 to 12.50; (0.173 µm)	0.00	0.01
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
>14.5;(0.01µm)	0.00	0.00
TOTAL	100.00	1137.43

Notes: This sample contained mostly gravel with very little visible sand or mud. It was dried in the oven for 30 minutes, then sieved at half phi intervals. There was a small amount (<1.00 g, constituting <0.1% of the sample) of material retained in the pan (<1mm) which was largely a rock flour material, possibly dirt from the surface of the gravel, or chipped off the gravel particles in collisions during sieving. Usually in an analysis of this kind this sediment can be ignored, and the weights above 1 mm rescaled to total 100%. However, for completeness, and to ensure this spreadsheet totals 100%, this tiny amount of material was analysed by laser diffraction and entered into the laser sheet. There was insufficient material for repeat analyses, so a single laser subsample, run three times, has been entered for each rep.

APPENDIX 3. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS75.

Exercise Code:	PS75
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 (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	31.32	357.37
-3.00 to -2.50; 5.6 mm	30.83	351.82
-2.50 to -2.00; 4 mm	26.19	298.88
-2.00 to -1.50; 2.8 mm	5.20	59.30
-1.50 to -1.00; 2 mm	3.50	39.97
-1.00 to -0.50; 1.4 mm	2.42	27.63
-0.50 to 0.00; 1 mm	0.47	5.42
0.00 to 0.50; (707 µm)	0.00	0.00
0.50 to 1.00; (500 µm)	0.00	0.02
1.00 to 1.50; (353.6 µm)	0.00	0.03
1.50 to 2.00; (250 µm)	0.00	0.02
2.00 to 2.50; (176.8 µm)	0.00	0.03
2.50 to 3.00; (125 µm)	0.00	0.04
3.00 to 3.50; (88.39 µm)	0.00	0.04
3.50 to 4.00; (62.5 µm)	0.00	0.03
4.00 to 4.50; (44.19 µm)	0.00	0.03
4.50 to 5.00; (31.25 µm)	0.00	0.05
5.00 to 5.50; (22.097 µm)	0.00	0.04
5.50 to 6.00; (15.625 µm)	0.00	0.04
6.00 to 6.50; (11.049 µm)	0.00	0.04
6.50 to 7.00; (7.813 µm)	0.00	0.04
7.00 to 7.50; (5.524 µm)	0.00	0.04
7.50 to 8.00; (3.906 µm)	0.00	0.04
8.00 to 8.50; (2.762 µm)	0.00	0.04
8.50 to 9.00; (1.953 µm)	0.00	0.04
9.00 to 9.50; (1.381 µm)	0.00	0.05
9.50 to 10.00; (0.977 µm)	0.00	0.04
10.00 to 10.50; (0.691 µm)	0.00	0.03
10.50 to 11.00; (0.488 µm)	0.00	0.02
11.00 to 11.50; (0.345 µm)	0.00	0.01
11.50 to 12.00; (0.244 µm)	0.00	0.01
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
>14.5;(0.01µm)	0.00	0.00
TOTAL	100.00	1141.16

Notes: This sample contained mostly gravel with very little visible sand or mud. It was dried in the oven for 30 minutes, then sieved at half phi intervals. There was a small amount (<1.00 g, constituting <0.1% of the sample) of material retained in the pan (<1mm) which was largely a rock flour material, possibly dirt from the surface of the gravel, or chipped off the gravel particles in collisions during sieving. Usually in an analysis of this kind this sediment can be ignored, and the weights above 1 mm rescaled to total 100%. However, for completeness, and to ensure this spreadsheet totals 100%, this tiny amount of material was analysed by laser diffraction and entered into the laser sheet. There was insufficient material for repeat analyses, so a single laser subsample, run three times, has been entered for each rep.

APPENDIX 3. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS75.

Exercise Code:	PS75
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 (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	29.78	339.67
-3.00 to -2.50; 5.6 mm	32.34	368.86
-2.50 to -2.00; 4 mm	26.27	299.72
-2.00 to -1.50; 2.8 mm	5.10	58.14
-1.50 to -1.00; 2 mm	3.54	40.38
-1.00 to -0.50; 1.4 mm	2.43	27.76
-0.50 to 0.00; 1 mm	0.48	5.46
0.00 to 0.50; (707 µm)	0.00	0.03
0.50 to 1.00; (500 µm)	0.00	0.02
1.00 to 1.50; (353.6 µm)	0.00	0.02
1.50 to 2.00; (250 µm)	0.00	0.02
2.00 to 2.50; (176.8 µm)	0.00	0.03
2.50 to 3.00; (125 µm)	0.00	0.04
3.00 to 3.50; (88.39 µm)	0.00	0.03
3.50 to 4.00; (62.5 µm)	0.00	0.03
4.00 to 4.50; (44.19 µm)	0.00	0.03
4.50 to 5.00; (31.25 µm)	0.00	0.04
5.00 to 5.50; (22.097 µm)	0.00	0.04
5.50 to 6.00; (15.625 µm)	0.00	0.04
6.00 to 6.50; (11.049 µm)	0.00	0.04
6.50 to 7.00; (7.813 µm)	0.00	0.03
7.00 to 7.50; (5.524 µm)	0.00	0.03
7.50 to 8.00; (3.906 µm)	0.00	0.04
8.00 to 8.50; (2.762 µm)	0.00	0.03
8.50 to 9.00; (1.953 µm)	0.00	0.03
9.00 to 9.50; (1.381 µm)	0.00	0.04
9.50 to 10.00; (0.977 µm)	0.00	0.04
10.00 to 10.50; (0.691 µm)	0.00	0.03
10.50 to 11.00; (0.488 µm)	0.00	0.02
11.00 to 11.50; (0.345 µm)	0.00	0.01
11.50 to 12.00; (0.244 µm)	0.00	0.01
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
>14.5;(0.01µm)	0.00	0.00
TOTAL	100.00	1140.72

Notes: This sample contained mostly gravel with very little visible sand or mud. It was dried in the oven for 30 minutes, then sieved at half phi intervals. There was a small amount (<1.00 g, constituting <0.1% of the sample) of material retained in the pan (<1mm) which was largely a rock flour material, possibly dirt from the surface of the gravel, or chipped off the gravel particles in collisions during sieving. Usually in an analysis of this kind this sediment can be ignored, and the weights above 1 mm rescaled to total 100%. However, for completeness, and to ensure this spreadsheet totals 100%, this tiny amount of material was analysed by laser diffraction and entered into the laser sheet. There was insufficient material for repeat analyses, so a single laser subsample, run three times, has been entered for each rep.

APPENDIX 3. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS75.

Exercise Code:	PS75
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 (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	29.80	339.09
-3.00 to -2.50; 5.6 mm	32.60	370.96
-2.50 to -2.00; 4 mm	25.62	291.57
-2.00 to -1.50; 2.8 mm	5.51	62.73
-1.50 to -1.00; 2 mm	3.56	40.55
-1.00 to -0.50; 1.4 mm	2.38	27.09
-0.50 to 0.00; 1 mm	0.46	5.28
0.00 to 0.50; (707 µm)	0.00	0.00
0.50 to 1.00; (500 µm)	0.00	0.02
1.00 to 1.50; (353.6 µm)	0.00	0.03
1.50 to 2.00; (250 µm)	0.00	0.02
2.00 to 2.50; (176.8 µm)	0.00	0.03
2.50 to 3.00; (125 µm)	0.00	0.03
3.00 to 3.50; (88.39 µm)	0.00	0.03
3.50 to 4.00; (62.5 µm)	0.00	0.02
4.00 to 4.50; (44.19 µm)	0.00	0.03
4.50 to 5.00; (31.25 µm)	0.00	0.04
5.00 to 5.50; (22.097 µm)	0.00	0.04
5.50 to 6.00; (15.625 µm)	0.00	0.04
6.00 to 6.50; (11.049 µm)	0.00	0.04
6.50 to 7.00; (7.813 µm)	0.00	0.04
7.00 to 7.50; (5.524 µm)	0.00	0.04
7.50 to 8.00; (3.906 µm)	0.00	0.04
8.00 to 8.50; (2.762 µm)	0.00	0.04
8.50 to 9.00; (1.953 µm)	0.00	0.04
9.00 to 9.50; (1.381 µm)	0.00	0.04
9.50 to 10.00; (0.977 µm)	0.00	0.04
10.00 to 10.50; (0.691 µm)	0.00	0.03
10.50 to 11.00; (0.488 µm)	0.00	0.02
11.00 to 11.50; (0.345 µm)	0.00	0.01
11.50 to 12.00; (0.244 µm)	0.00	0.01
12.00 to 12.50; (0.173 µm)	0.00	0.01
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
>14.5;(0.01µm)	0.00	0.00
TOTAL	100.00	1138.00

Notes: This sample contained mostly gravel with very little visible sand or mud. It was dried in the oven for 30 minutes, then sieved at half phi intervals. There was a small amount (<1.00 g, constituting <0.1% of the sample) of material retained in the pan (<1mm) which was largely a rock flour material, possibly dirt from the surface of the gravel, or chipped off the gravel particles in collisions during sieving. Usually in an analysis of this kind this sediment can be ignored, and the weights above 1 mm rescaled to total 100%. However, for completeness, and to ensure this spreadsheet totals 100%, this tiny amount of material was analysed by laser diffraction and entered into the laser sheet. There was insufficient material for repeat analyses, so a single laser subsample, run three times, has been entered for each rep.