NMBAQC

NE Atlantic Marine Biological Analytical Quality Control Scheme

Particle Size Report - PS80

Particle Size Component 2021/22

January 2022

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

APEM

CONTENTS

APPENDICES

BENCHMARK DATA

Table 1. Summary data for the benchmark replicates distributed as PS80.

	Method	% Gravel	% Sand	% Mud	Sediment Description (Post analysis)
PSA_2830 BM REP 1	NMBAQC	0.00	53.92	46.08	Muddy sand
PSA_2831 BM REP 2	NMBAQC	0.00	54.91	45.09	Muddy sand
PSA_2832 BM REP 3	NMBAQC	0.00	55.70	44.30	Muddy sand
PSA_2833 BM REP 4	NMBAQC	0.00	55.40	44.60	Muddy sand
PSA_2834 BM REP 5	NMBAQC	0.00	55.30	44.70	Muddy sand
BM REP AVERAGE	NMBAQC	0.00	55.05	44.95	Muddy sand

Table 2. Summary of sieve data for the benchmark replicates distributed as PS80.

	PSA_2830 BM REP 1	PSA_2831 BM REP 2	PSA_2832 BM REP 3	PSA_2833 BM REP 4	PSA_2834 BM REP 5	BM Average
Sieves used	NO	NO	NO	NO	NO	NO
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						
-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 PS80.

	PSA_2830 BM REP 1	PSA_2831 BM REP 2	PSA_2832 BM REP 3	PSA_2833 BM REP 4	PSA_2834 BM REP 5	BM AVERAGE
0.00 to 0.50; (707 µm)	0.47	0.80	0.76	0.48	0.55	0.61
0.50 to 1.00; (500 µm)	1.03	1.39	1.55	1.51	1.54	1.41
1.00 to 1.50; (353.6 µm)	1.80	2.01	2.33	2.21	2.22	2.11
1.50 to 2.00; (250 µm)	1.28	1.55	1.69	1.60	1.48	1.52
2.00 to 2.50; (176.8 µm)	3.39	3.44	3.61	3.70	3.56	3.54
2.50 to 3.00; (125 µm)	11.59	11.52	11.78	11.81	11.82	11.70
3.00 to 3.50; (88.39 µm)	18.08	18.12	18.07	18.09	18.16	18.10
3.50 to 4.00; (62.5 µm)	16.28	16.08	15.90	15.99	15.99	16.05
4.00 to 4.50; (44.19 µm)	11.58	11.59	11.57	11.63	11.64	11.60
4.50 to 5.00; (31.25 µm)	7.73	7.52	7.40	7.43	7.48	7.51
5.00 to 5.50; (22.097 µm)	4.69	4.50	4.37	4.40	4.40	4.47
5.50 to 6.00; (15.625 µm)	3.11	3.03	3.00	3.02	3.03	3.04
6.00 to 6.50; (11.049 µm)	2.68	2.59	2.54	2.53	2.54	2.57
6.50 to 7.00; (7.813 µm)	2.42	2.36	2.28	2.27	2.27	2.32
7.00 to 7.50; (5.524 µm)	2.31	2.25	2.18	2.17	2.17	2.22
7.50 to 8.00; (3.906 µm)	2.16	2.10	2.05	2.03	2.04	2.07
8.00 to 8.50; (2.762 µm)	1.85	1.80	1.76	1.74	1.76	1.78
8.50 to 9.00; (1.953 µm)	1.52	1.48	1.45	1.44	1.46	1.47
9.00 to 9.50; (1.381 µm)	1.26	1.23	1.19	1.20	1.21	1.22
9.50 to 10.00; (0.977 µm)	1.02	1.00	0.96	0.99	0.99	0.99
10.00 to 10.50; (0.691 µm)	0.83	0.81	0.78	0.82	0.81	0.81
10.50 to 11.00; (0.488 µm)	0.70	0.68	0.66	0.70	0.69	0.69
11.00 to 11.50; (0.345 µm)	0.61	0.59	0.58	0.61	0.61	0.60
11.50 to 12.00; (0.244 µm)	0.53	0.51	0.50	0.53	0.53	0.52
12.00 to 12.50; (0.173 µm)	0.43	0.41	0.41	0.43	0.43	0.42
12.50 to 13.00; (0.122 µm)	0.33	0.32	0.32	0.33	0.33	0.33
13.00 to 13.50; (0.086 µm)	0.22	0.21	0.21	0.21	0.22	0.21
13.50 to 14.00; (0.061 µm)	0.09	0.09	0.09	0.09	0.09	0.09
14.00 to 14.50; (0.043 µm)	0.01	0.01	0.01	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
MEAN:	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt
SORTING:	Very Poorly Sorted	Very Poorly Sorted	Very Poorly Sorted	Very Poorly Sorted	Very Poorly Sorted	Very Poorly Sorted
SKEWNESS:	Very Fine Skewed	Very Fine Skewed	Very Fine Skewed	Very Fine Skewed	Very Fine Skewed	Very Fine Skewed
KURTOSIS:	Leptokurtic	Very Leptokurtic	Very Leptokurtic	Very Leptokurtic	Very Leptokurtic	Very Leptokurtic
MODE:	Unimodal	Unimodal	Unimodal	Unimodal	Unimodal	Unimodal
MODE 1 (µm):	106.695	106.695	106.695	106.695	106.695	106.695
MODE 2 (µm):	0	0	0	0	0	0
MODE 3 (µm):	0	0	0	0	0	0

BENCHMARK DATA

Table 4. Summary of Coefficient of Variation for Benchmark laser replicates for PS80.

		PSA_2830 BM REP 1	PSA_2831 BM REP 2	PSA_2832 BM REP 3	PSA_2833 BM REP 4	PSA_2834 BM REP 5
D_{10}	Subsample 1	1.44	2.05	1.34	1.65	2.01
	Subsample 2	1.99	1.18	2.43	0.94	1.49
	Subsample 3	1.65	1.03	1.31	1.10	0.88
					n	
D_{50}	Subsample 1	0.15	0.43	0.44	0.40	0.21
	Subsample 2	0.24	0.58	1.03	0.35	0.50
	Subsample 3	0.38	0.43	0.32	0.43	0.18
D_{90}	Subsample 1	0.11	1.03	2.20	0.50	0.49
	Subsample 2	0.38	1.03	3.76	0.68	0.93
	Subsample 3	0.21	1.80	0.28	0.72	0.35

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

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.

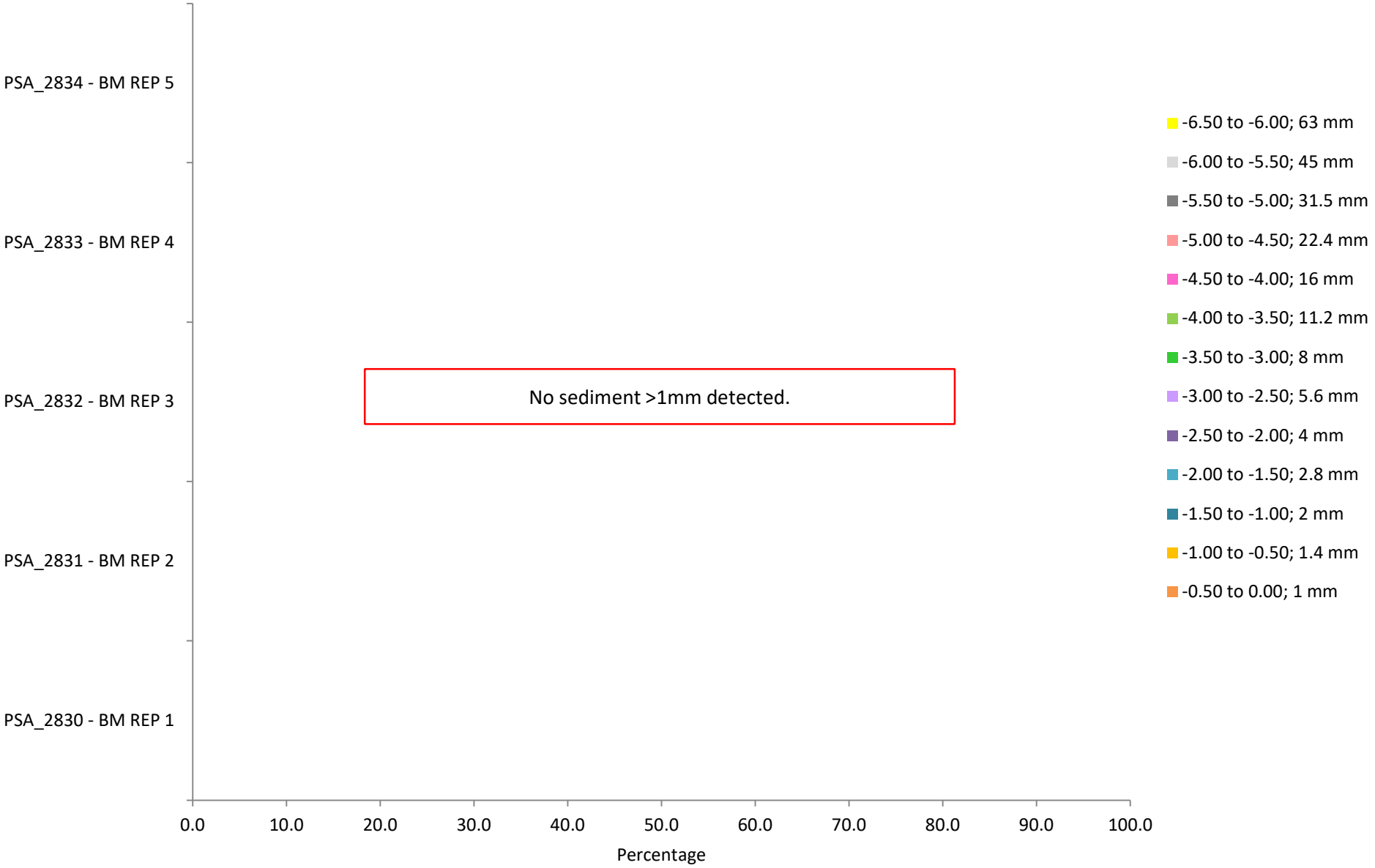
In reality 3% and 5% are low and greater variability is expected for natural sediment samples therefore a maximum of 20% (based on three replicates being measured) will be used as a guide.

The Benchmark replicates show good reproducibility

Table 5. Laser metadata for Benchmark replicates for PS80.

If laser used, provide manufacturer/model:	Beckman Coulter LS 13320
Dispersion unit:	Universal Liquid Module
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):	10%
Pump speed (% or rpm)	80%
Stirrer speed (% or rpm)	n/a
Ultrasonic duration (seconds)	20
Ultrasonic level (eg %, unit as described by instrument manual)	2

Figure 1a. Percentage bar charts resulting from final sieve analysis of 5 replicate samples of sediment distibuted as PS80 (Benchmark Data).



NMBAQC Particle Size Analysis
2021/22 - PS80

Figure 1b. Particle size distribution curves resulting from final laser analysis of 5 replicate samples of sediment distibuted as PS80 (Benchmark Data).

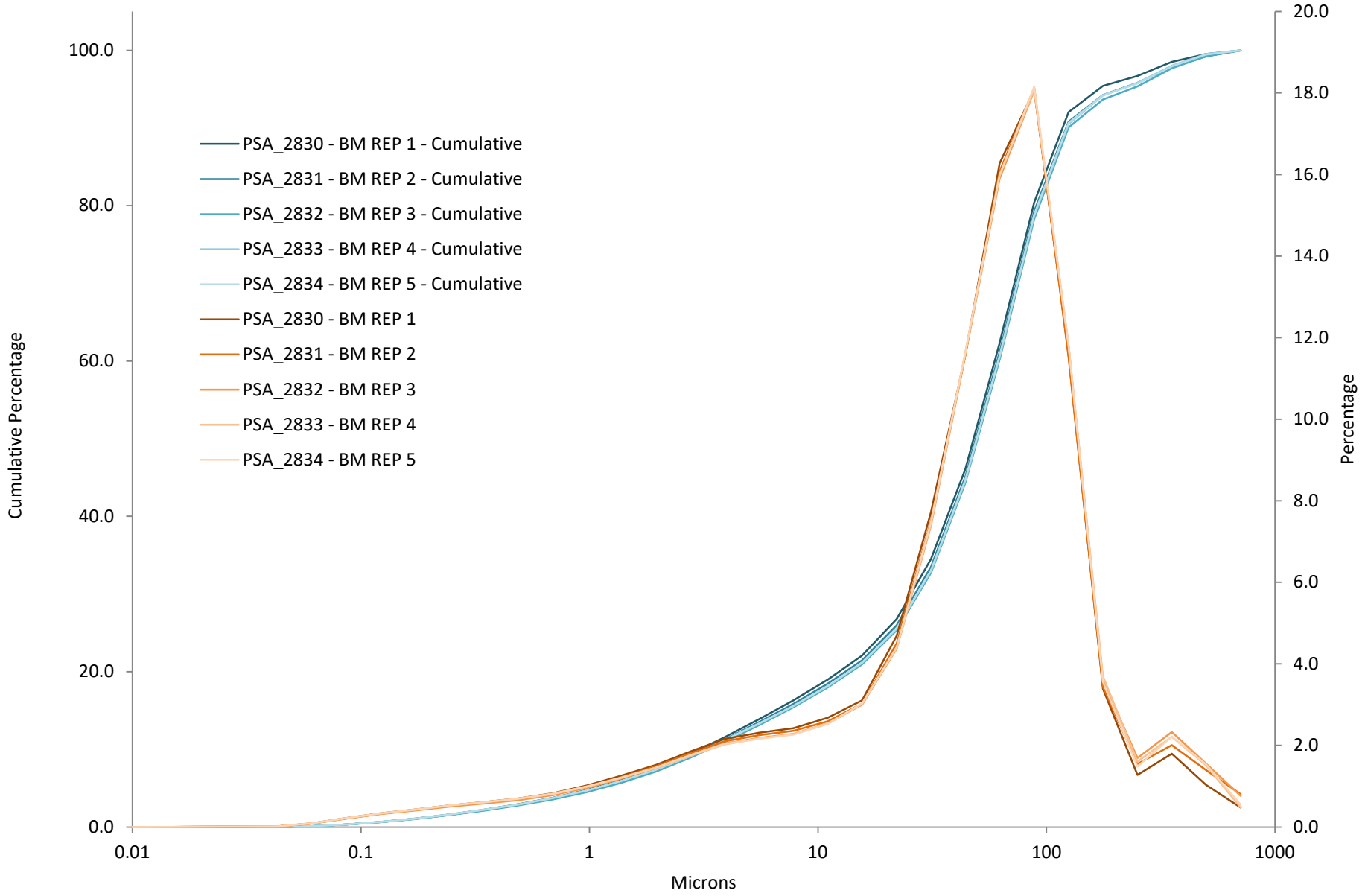
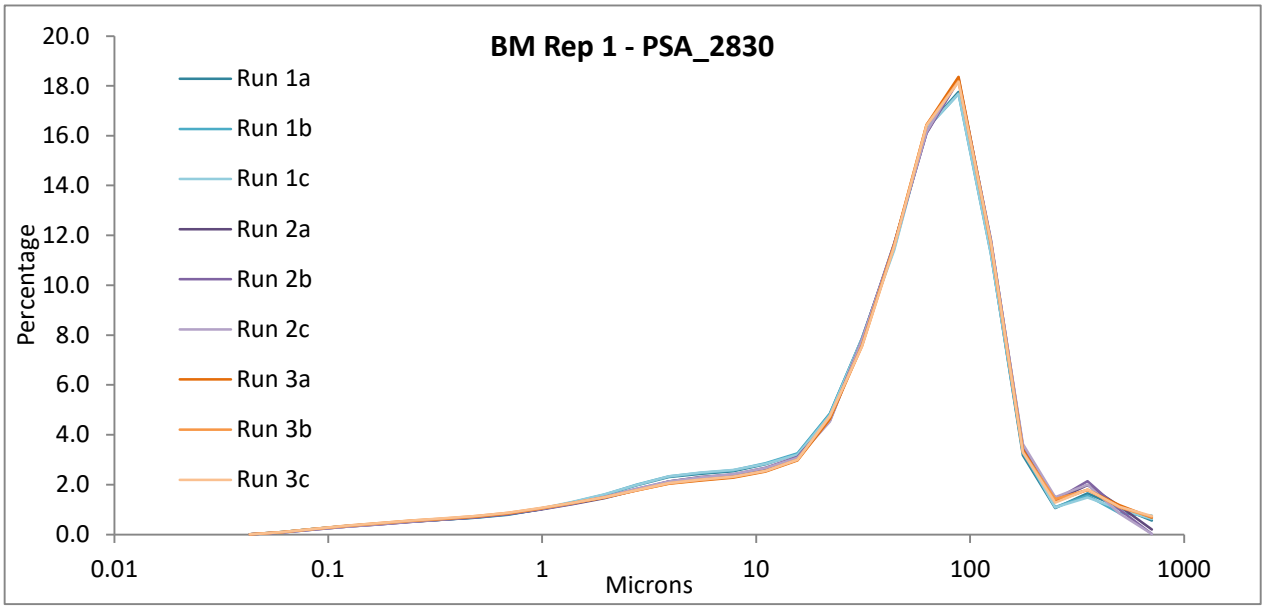
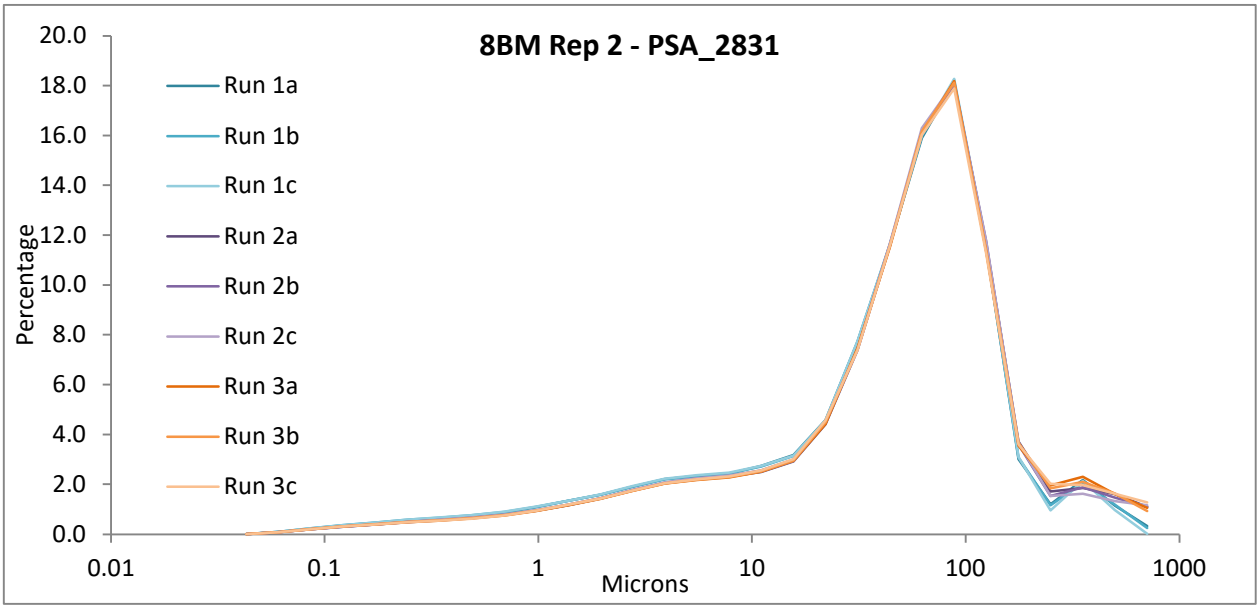


Figure 2. Particle size distribution curves resulting from laser analysis of five replicate samples of sediment distributed as PS80.





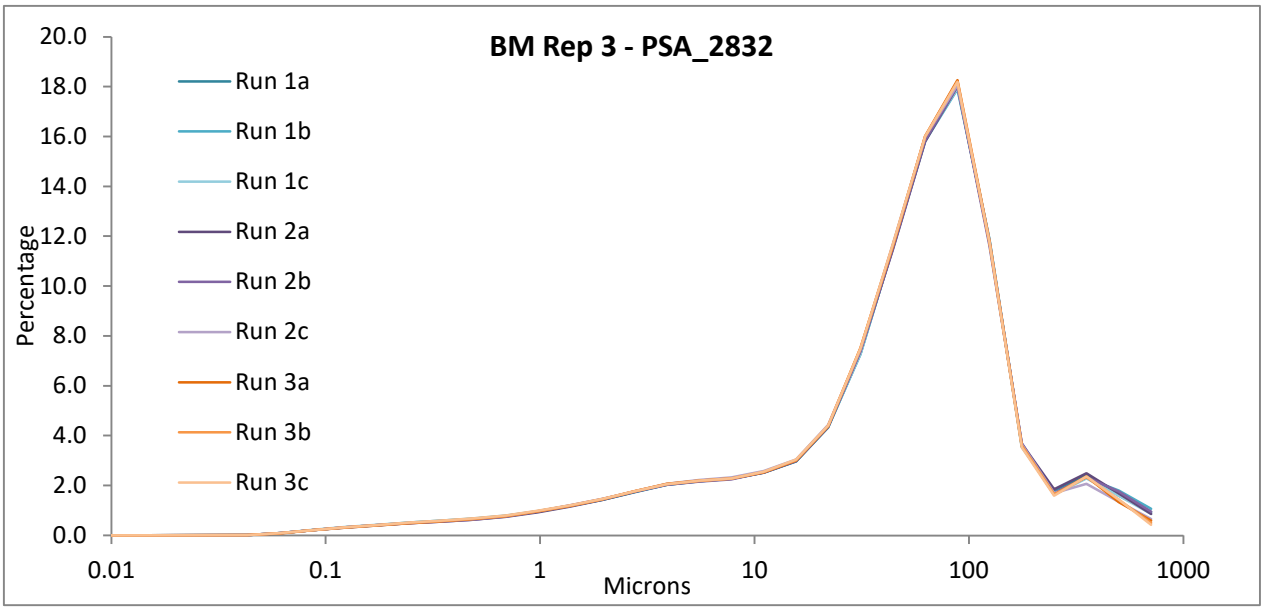
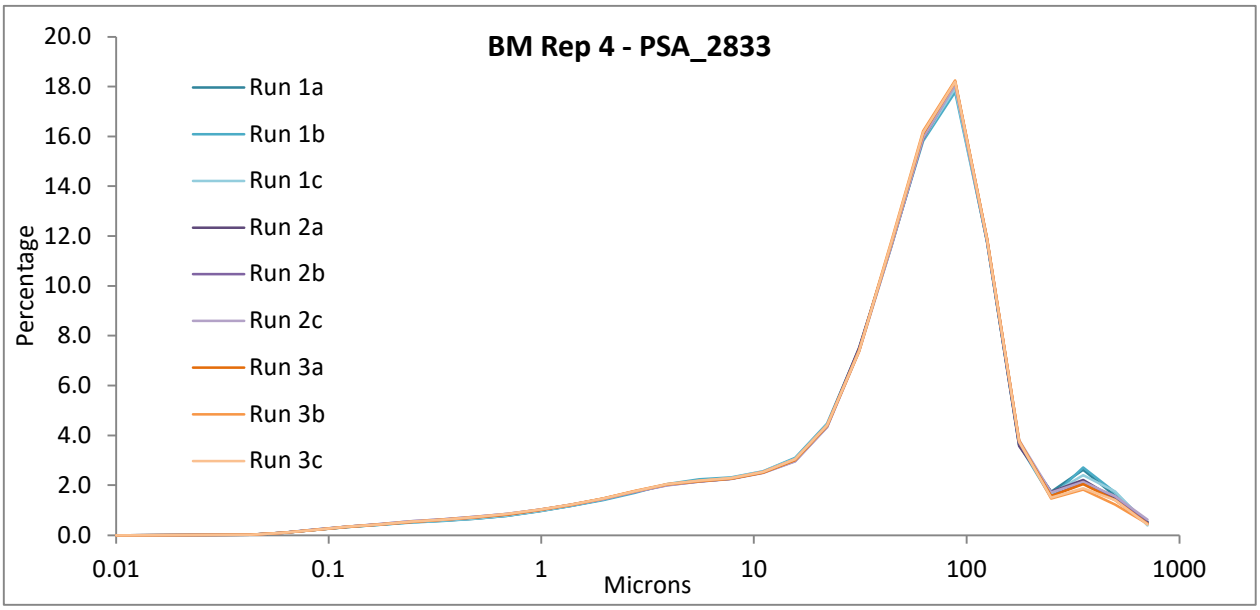


Figure 2. Particle size distribution curves resulting from laser analysis of five replicate samples of sediment distributed as PS80.



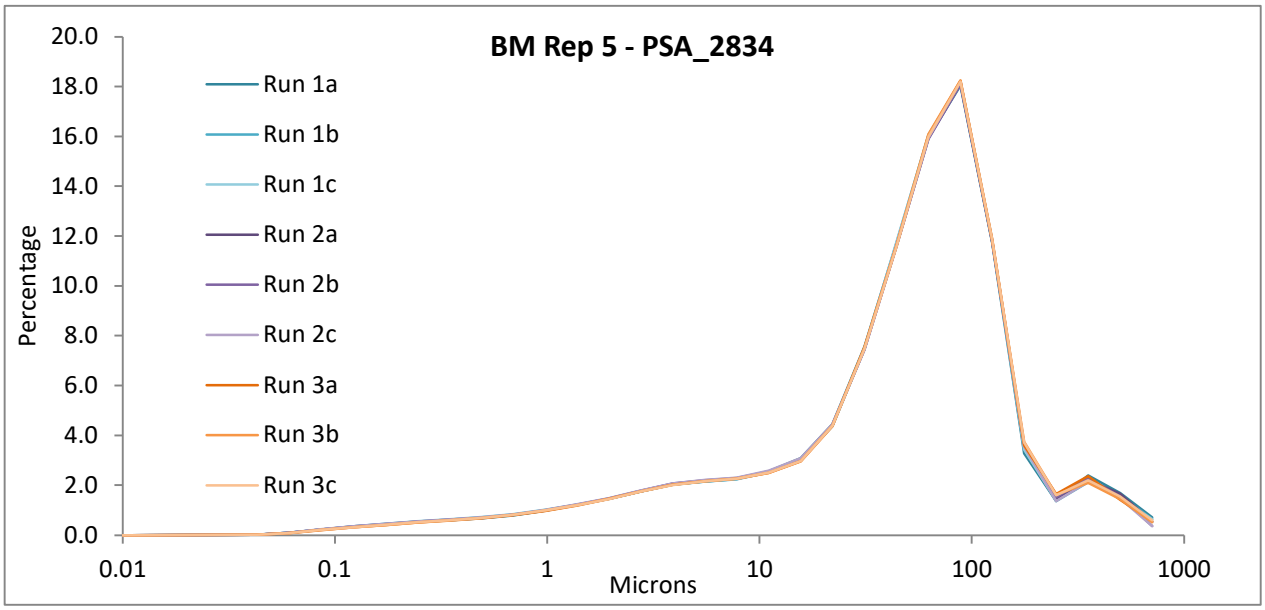
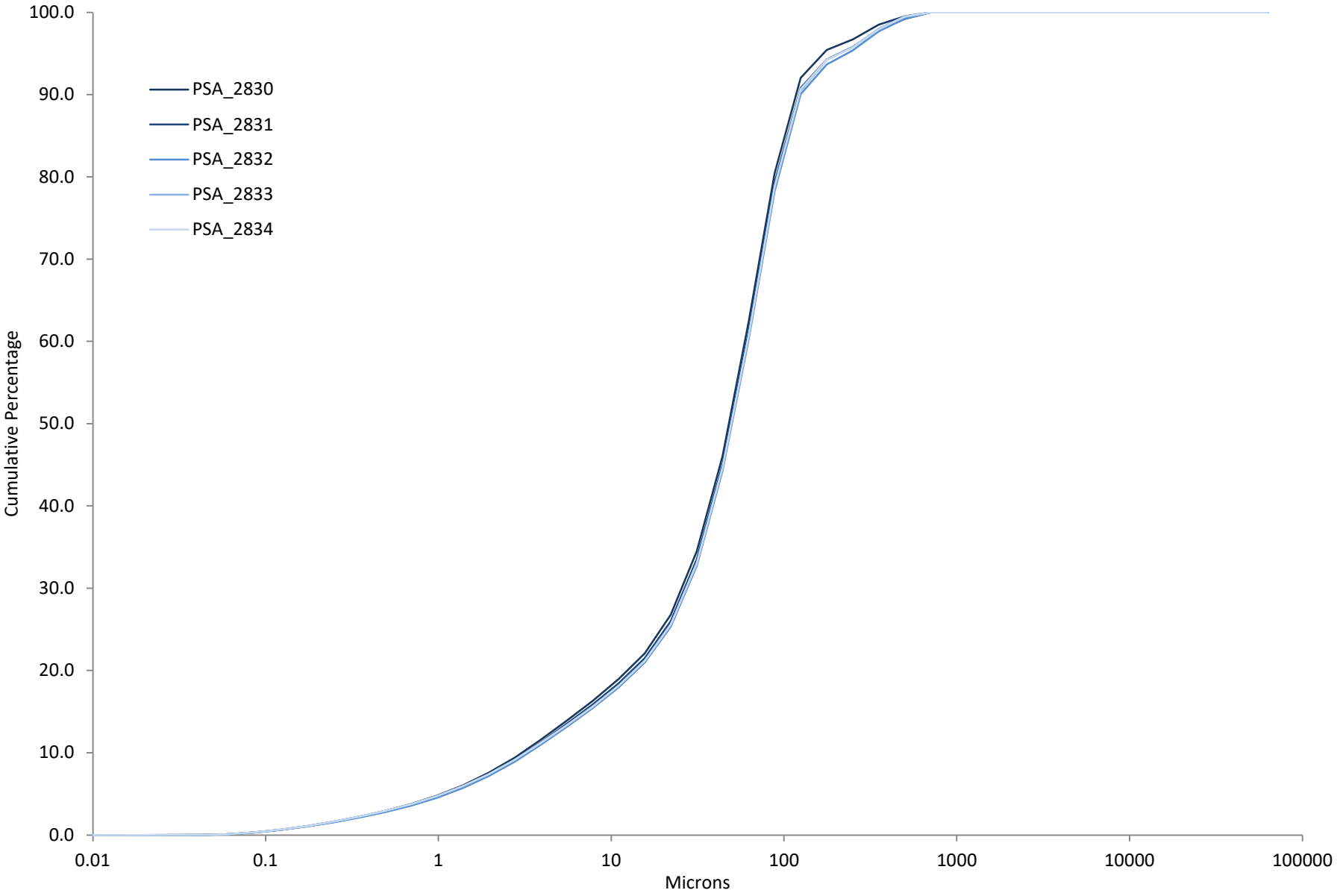


Figure 3. Particle size distribution curves resulting from analysis of 5 replicate samples of sediment distibuted as PS80 (Benchmark Data).



PARTICIPANT DATA

Table 6. Summary of equipment and methods used by participants and sample summary data provided by participants for sediment distributed as PS80.

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	55.05	44.95	Muddy sand	Muddy Sand
PSA_2801	No	Yes	NMBAQC	No	No	0	62.7	37.3	muddy Sand	Muddy Sand
PSA_2802	No	Yes	NMBAQC	No	No	0	52.73	47.27	mud and sandy mud	Muddy Sand
PSA_2803	No	Yes	NMBAQC	No	No	0	56.12	43.88	Muddy Sand	Muddy Sand
PSA_2804	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p
PSA_2805	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p
PSA_2806	No	Yes	NMBAQC	No	No	0	51	49	Muddy Sand	Muddy Sand
PSA_2807	No	Yes	NMBAQC	No	No	0	58.04	41.96	Muddy Sand	Muddy Sand
PSA_2808	No	Yes	NMBAQC	No	No	0	55.47	44.53	Muddy sand	Muddy Sand
PSA_2809	No	Yes	OTHER	No	No	0	50.78	49.22	Muddy sand	Muddy Sand
PSA_2810	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p
PSA_2811	No	Yes	NMBAQC	No	No	0	56.04	43.95	Muddy sand	Muddy Sand
PSA_2812	No	Yes	NMBAQC	No	No	0	66.89	33.11	Muddy Sand	Muddy Sand
PSA_2813	No	Yes	OTHER	No	No	0	45.13	54.87	Muddy sand	Muddy Sand
PSA_2814	Yes	Yes	NMBAQC	No	No	0	57.42	42.58	muddy Sand	Muddy Sand
PSA_2815	No	Yes	NMBAQC	No	No	0	53.29	46.71	Muddy Sand	Muddy Sand
PSA_2818	No	Yes	NMBAQC	No	No	0	56.25	43.75	Muddy Sand	Muddy Sand
PSA_2829	No	Yes	OTHER	No	No	0	60.40	39.60	Muddy sand	Muddy Sand
PSA_2835	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.

* Sediment description from Gradistat textural group based on final data supplied by participant.
n/p - not participating in this exercise at current time.

PARTICIPANT DATA

Table 7. Raw sieve data (weight in grams) provided by participants for sediment distributed as PS80.

		Participant									
Phi interval (explicit) + sieve mesh		Benchmark Average	PSA_2801	PSA_2802	PSA_2803	PSA_2804	PSA_2805	PSA_2806	PSA_2807	PSA_2808	PSA_2809	PSA_2810
Sieves Used		NO	NO	NO	NO	0.00	n/p	NO	NO	NO	NO	0.00
-6.50 to -6.00; 63 mm		-	-	-	-	n/p	n/p	-	-	-	-	n/p
-6.00 to -5.50; 45 mm		-	-	-	-	n/p	n/p	-	-	-	-	n/p
-5.50 to -5.00; 31.5 mm		-	-	-	-	n/p	n/p	-	-	-	-	n/p
-5.00 to -4.50; 22.4 mm		-	-	-	-	n/p	n/p	-	-	-	-	n/p
-4.50 to -4.00; 16 mm		-	-	-	-	n/p	n/p	-	-	-	-	n/p
-4.00 to -3.50; 11.2 mm		-	-	-	-	n/p	n/p	-	-	-	-	n/p
-3.50 to -3.00; 8 mm		-	-	-	-	n/p	n/p	-	-	-	-	n/p
-3.00 to -2.50; 5.6 mm		-	-	-	-	n/p	n/p	-	-	-	-	n/p
-2.50 to -2.00; 4 mm		-	-	-	-	n/p	n/p	-	-	-	-	n/p
-2.00 to -1.50; 2.8 mm		-	-	-	-	n/p	n/p	-	-	-	-	n/p
-1.50 to -1.00; 2 mm		-	-	-	-	n/p	n/p	-	-	-	-	n/p
-1.00 to -0.50; 1.4 mm		-	-	-	-	n/p	n/p	-	-	-	-	n/p
-0.50 to 0.00; 1 mm		-	-	-	-	n/p	n/p	-	-	-	-	n/p
*Total **		-	-	-	-	n/p	n/p	-	-	-	-	n/p
Summary Data												
< 0.00; >1 mm		-	-	0.00	-	n/p	n/p	-	-	-	0.00	n/p
> 0.00; <1 mm	Base pan	-	-	0.00	-	n/p	n/p	-	-	-	136.80	n/p
	Oven dried	-	149.62	113.23	146.27	n/p	n/p	-	111.08	-	136.80	n/p
Total Sample Weight		-	149.62	113.23	146.27	n/p	n/p	-	111.08	-	136.80	n/p

- No data provided.

n/p - not participating in this exercise at current time.

PARTICIPANT DATA

Table 7. Raw sieve data (weight in grams) provided by participants for sediment distributed as PS80.

		Participant								
Phi interval (explicit) + sieve mesh		Benchmark Average	PSA_2811	PSA_2812	PSA_2813	PSA_2814	PSA_2815	PSA_2818	PSA_2829	PSA_2835
Sieves Used		NO	NO	NO	NO	YES	NO	NO	NO	0
-6.50 to -6.00; 63 mm		-	-	-	-	0.00	-	-	-	n/p
-6.00 to -5.50; 45 mm		-	-	-	-	0.00	-	-	-	n/p
-5.50 to -5.00; 31.5 mm		-	-	-	-	0.00	-	-	-	n/p
-5.00 to -4.50; 22.4 mm		-	-	-	-	0.00	-	-	-	n/p
-4.50 to -4.00; 16 mm		-	-	-	-	0.00	-	-	-	n/p
-4.00 to -3.50; 11.2 mm		-	-	-	-	0.00	-	-	-	n/p
-3.50 to -3.00; 8 mm		-	-	-	-	0.00	-	-	-	n/p
-3.00 to -2.50; 5.6 mm		-	-	-	-	0.00	-	-	-	n/p
-2.50 to -2.00; 4 mm		-	-	-	-	0.00	-	-	-	n/p
-2.00 to -1.50; 2.8 mm		-	-	-	-	0.00	-	-	-	n/p
-1.50 to -1.00; 2 mm		-	-	-	-	0.00	-	-	-	n/p
-1.00 to -0.50; 1.4 mm		-	-	-	-	0.00	-	-	-	n/p
-0.50 to 0.00; 1 mm		-	-	-	-	0.00	-	-	-	n/p
*Total**		-	-	-	-	0.00	-	-	-	n/p
Summary Data										
< 0.00; >1 mm		-	-	-	0.00	0.00	-	-	-	n/p
> 0.00; <1 mm	Base pan	-	-	-	214.89	0.07	-	-	-	n/p
	Oven dried	-	1.00	-	363.72	137.57	-	-	-	n/p
Total Sample Weight		-	1.00	-	578.61	137.64	-	-	-	n/p

- No data provided.

n/p - not participating in this exercise at current time.

PARTICIPANT DATA

Table 8. Summary of final laser data for the participants for sediment distributed as PS80 with Gradistat output.

Microns	Benchmark Average	PSA_2801	PSA_2802	PSA_2803	PSA_2804	PSA_2805	PSA_2806
707	0.61	0.00	0.39	0.24	n/p	n/p	0.00
500	1.41	0.98	0.69	0.26	n/p	n/p	0.42
353.6	2.11	2.09	0.73	1.75	n/p	n/p	0.61
250	1.52	2.23	0.49	1.65	n/p	n/p	0.82
176.8	3.54	5.65	3.36	4.99	n/p	n/p	3.97
125	11.70	13.06	11.30	12.49	n/p	n/p	10.48
88.39	18.10	19.29	18.57	18.04	n/p	n/p	16.65
62.5	16.05	19.07	17.22	16.68	n/p	n/p	18.06
44.19	11.60	13.34	12.38	11.87	n/p	n/p	14.41
31.25	7.51	7.07	7.72	7.52	n/p	n/p	9.00
22.097	4.47	3.46	4.88	4.86	n/p	n/p	5.00
15.625	3.04	2.30	2.83	2.83	n/p	n/p	3.21
11.049	2.57	2.07	2.32	2.28	n/p	n/p	2.85
7.813	2.32	1.88	2.54	2.38	n/p	n/p	2.94
5.524	2.22	1.62	2.53	2.36	n/p	n/p	2.96
3.906	2.07	1.40	2.27	2.10	n/p	n/p	2.77
2.762	1.78	1.22	1.92	1.65	n/p	n/p	2.38
1.953	1.47	1.00	1.60	1.23	n/p	n/p	1.80
1.381	1.22	0.76	1.31	0.98	n/p	n/p	1.11
0.977	0.99	0.60	1.05	0.83	n/p	n/p	0.50
0.691	0.81	0.51	0.85	0.71	n/p	n/p	0.06
0.488	0.69	0.36	0.72	0.61	n/p	n/p	0.00
0.345	0.60	0.08	0.64	0.51	n/p	n/p	0.00
0.244	0.52	0.00	0.56	0.42	n/p	n/p	0.00
0.173	0.42	0.00	0.46	0.32	n/p	n/p	0.00
0.122	0.33	0.00	0.36	0.24	n/p	n/p	0.00
0.086	0.21	0.00	0.23	0.15	n/p	n/p	0.00
0.061	0.09	0.00	0.10	0.06	n/p	n/p	0.00
0.043	0.01	0.00	0.01	0.01	n/p	n/p	0.00
0.01	0.00	0.00	0.00	0.00	n/p	n/p	0.00
Total	100.00	100.00	100.00	100.00	0.00	0.00	100.00
GRADISTAT OUTPUTS							
MEAN:	Very Coarse Silt	Very Fine Sand	Very Coarse Silt	Very Coarse Silt	n/p	n/p	Very Coarse Silt
SORTING:	Very Poorly Sorted	Poorly Sorted	Very Poorly Sorted	Poorly Sorted	n/p	n/p	Poorly Sorted
SKEWNESS:	Very Fine Skewed	Very Fine Skewed	Very Fine Skewed	Very Fine Skewed	n/p	n/p	Very Fine Skewed
KURTOSIS:	Very Leptokurtic	Very Leptokurtic	Leptokurtic	Leptokurtic	n/p	n/p	Leptokurtic
MODE:	Unimodal	Unimodal	Unimodal	Unimodal	n/p	n/p	Bimodal
MODE 1 (µm):	106.695	106.695	106.695	106.695	n/p	n/p	75.445
MODE 2 (µm):	-	-	-	-	n/p	n/p	6.6685
MODE 3 (µm):	-	-	-	-	n/p	n/p	-

n/p - not participating in this exercise at current time.

PARTICIPANT DATA

Table 8. Summary of final laser data for the participants for sediment distributed as PS80 with Gradistat output.

Microns	BM Average	PSA_2807	PSA_2808	PSA_2809	PSA_2810	PSA_2811	PSA_2812
707	0.61	0.54	0.74	0.22	n/p	0.37	1.01
500	1.41	1.64	1.56	0.81	n/p	1.27	1.21
353.6	2.11	1.81	2.09	0.75	n/p	1.43	0.80
250	1.52	1.97	1.63	1.22	n/p	1.56	1.84
176.8	3.54	5.14	3.68	4.11	n/p	4.88	7.03
125	11.70	11.92	11.68	11.05	n/p	11.74	15.26
88.39	18.10	17.64	18.12	15.18	n/p	17.52	20.67
62.5	16.05	17.28	15.96	17.44	n/p	17.27	19.06
44.19	11.60	12.31	11.62	13.79	n/p	12.57	12.76
31.25	7.51	7.10	7.52	8.14	n/p	7.48	6.72
22.097	4.47	4.09	4.40	5.07	n/p	4.34	3.42
15.625	3.04	2.88	3.02	3.20	n/p	3.06	2.25
11.049	2.57	2.40	2.53	2.76	n/p	2.60	1.85
7.813	2.32	2.41	2.26	2.59	n/p	2.44	1.53
5.524	2.22	2.41	2.17	2.56	n/p	2.39	1.21
3.906	2.07	2.27	2.04	2.43	n/p	2.26	0.94
2.762	1.78	2.08	1.77	2.15	n/p	2.04	0.72
1.953	1.47	1.40	1.46	1.85	n/p	1.57	0.55
1.381	1.22	0.95	1.20	1.52	n/p	0.97	0.41
0.977	0.99	0.78	0.97	1.13	n/p	0.84	0.33
0.691	0.81	0.81	0.79	1.05	n/p	1.02	0.29
0.488	0.69	0.19	0.67	0.71	n/p	0.36	0.14
0.345	0.60	0.00	0.58	0.26	n/p	0.00	0.00
0.244	0.52	0.00	0.51	0.00	n/p	0.00	0.00
0.173	0.42	0.00	0.41	0.00	n/p	0.00	0.00
0.122	0.33	0.00	0.32	0.00	n/p	0.00	0.00
0.086	0.21	0.00	0.21	0.00	n/p	0.00	0.00
0.061	0.09	0.00	0.09	0.00	n/p	0.00	0.00
0.043	0.01	0.00	0.01	0.00	n/p	0.00	0.00
0.01	0.00	0.00	0.00	0.00	n/p	0.00	0.00
Total	100.00	100.00	100.00	100.00	0.00	100.00	100.00
GRADISTAT OUTPUTS							
MEAN:	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	n/p	Very Coarse Silt	Very Fine Sand
SORTING:	Very Poorly Sorted	Poorly Sorted	Very Poorly Sorted	Poorly Sorted	n/p	Poorly Sorted	Poorly Sorted
SKEWNESS:	Very Fine Skewed	Very Fine Skewed	Very Fine Skewed	Very Fine Skewed	n/p	Very Fine Skewed	Fine Skewed
KURTOSIS:	Very Leptokurtic	Very Leptokurtic	Very Leptokurtic	Leptokurtic	n/p	Leptokurtic	Leptokurtic
MODE:	Unimodal	Unimodal	Unimodal	Unimodal	n/p	Unimodal	Unimodal
MODE 1 (µm):	106.695	106.695	106.695	75.445	n/p	106.695	106.695
MODE 2 (µm):	-	-	-	-	n/p	-	-
MODE 3 (µm):	-	-	-	-	n/p	-	-

n/p - not participating in this exercise at current time.

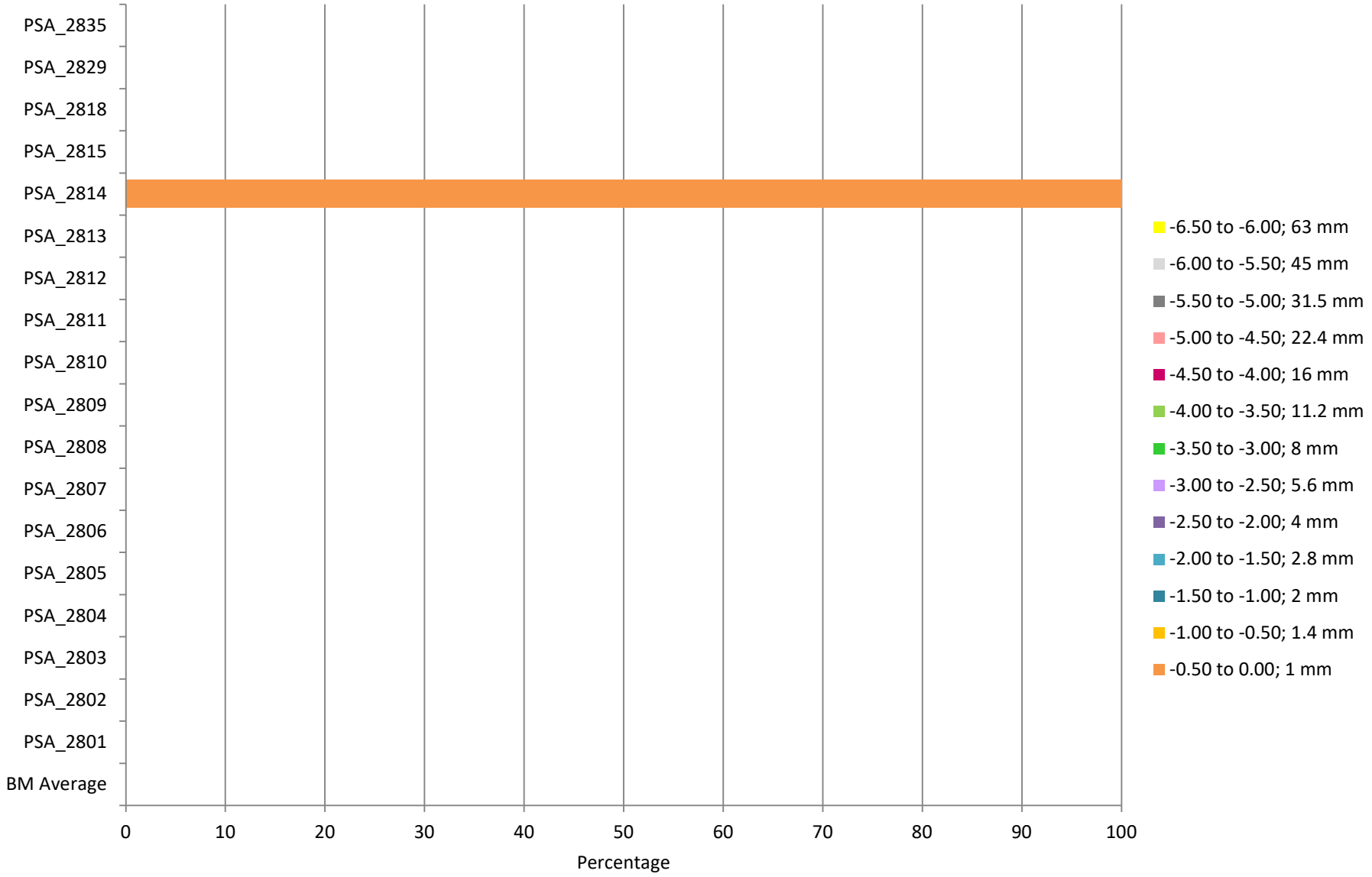
PARTICIPANT DATA

Table 8. Summary of final laser data for the participants for sediment distributed as PS80 with Gradistat output.

Microns	BM Average	PSA_2813	PSA_2814	PSA_2815	PSA_2818	PSA_2829	PSA_2835
707	0.61	0.00	0.87	0.59	0.13	0.00	n/p
500	1.41	0.00	1.46	6.10	0.97	0.00	n/p
353.6	2.11	0.18	1.43	5.25	1.49	0.00	n/p
250	1.52	3.27	2.09	0.44	1.94	3.11	n/p
176.8	3.54	9.80	5.69	2.65	5.15	10.38	n/p
125	11.70	15.54	12.02	7.29	11.77	16.15	n/p
88.39	18.10	16.34	17.01	15.42	17.42	17.08	n/p
62.5	16.05	12.80	16.85	15.55	17.38	13.68	n/p
44.19	11.60	8.58	12.43	11.95	12.78	9.27	n/p
31.25	7.51	6.14	7.39	8.48	7.58	6.25	n/p
22.097	4.47	5.27	4.19	5.11	4.38	4.76	n/p
15.625	3.04	4.80	2.87	2.93	3.10	3.99	n/p
11.049	2.57	4.11	2.52	1.57	2.66	3.41	n/p
7.813	2.32	3.34	2.43	1.91	2.45	2.91	n/p
5.524	2.22	2.71	2.39	1.89	2.44	2.49	n/p
3.906	2.07	2.19	2.27	2.00	2.29	2.05	n/p
2.762	1.78	1.68	1.95	2.07	2.00	1.57	n/p
1.953	1.47	1.31	1.46	1.89	1.48	1.10	n/p
1.381	1.22	1.15	0.99	1.46	0.91	0.79	n/p
0.977	0.99	0.63	0.70	1.00	0.71	0.62	n/p
0.691	0.81	0.17	0.55	0.55	0.74	0.40	n/p
0.488	0.69	0.00	0.36	0.64	0.23	0.00	n/p
0.345	0.60	0.00	0.07	0.68	0.00	0.00	n/p
0.244	0.52	0.00	0.00	0.77	0.00	0.00	n/p
0.173	0.42	0.00	0.00	0.80	0.00	0.00	n/p
0.122	0.33	0.00	0.00	0.66	0.00	0.00	n/p
0.086	0.21	0.00	0.00	0.37	0.00	0.00	n/p
0.061	0.09	0.00	0.00	0.00	0.00	0.00	n/p
0.043	0.01	0.00	0.00	0.00	0.00	0.00	n/p
0.01	0.00	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	0.00
GRADISTAT OUTPUTS							
MEAN:	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	n/p
SORTING:	Very Poorly Sorted	Poorly Sorted	Poorly Sorted	Very Poorly Sorted	Poorly Sorted	Poorly Sorted	n/p
SKEWNESS:	Very Fine Skewed	Very Fine Skewed	Very Fine Skewed	Very Fine Skewed	Very Fine Skewed	Very Fine Skewed	n/p
KURTOSIS:	Very Leptokurtic	Mesokurtic	Leptokurtic	Very Leptokurtic	Leptokurtic	Leptokurtic	n/p
MODE:	Unimodal	Unimodal	Unimodal	Bimodal	Unimodal	Unimodal	n/p
MODE 1 (µm):	106.695	106.695	106.695	75.445	106.695	106.695	n/p
MODE 2 (µm):	-	-	-	603.5	-	-	n/p
MODE 3 (µm):	-	-	-	-	-	-	n/p

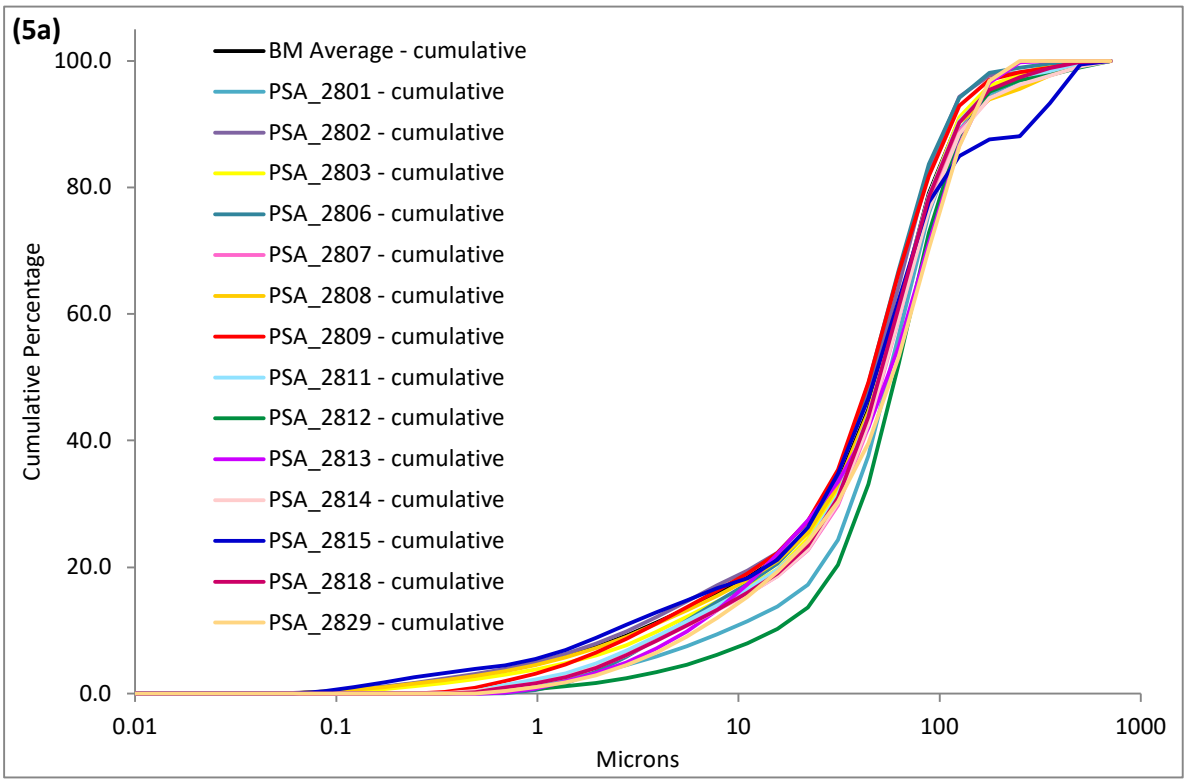
n/p - not participating in this exercise at current time.

Figure 4. Final sieve data (in percentages) provided by each participant for sediment distributed as PS80.



NMBAQC Particle Size Analysis
2021/22 - PS80

Figure 5. (a) Cumulative and (b) Differential final laser data provided by the participants and Benchmark average for sediment distributed as PS80.



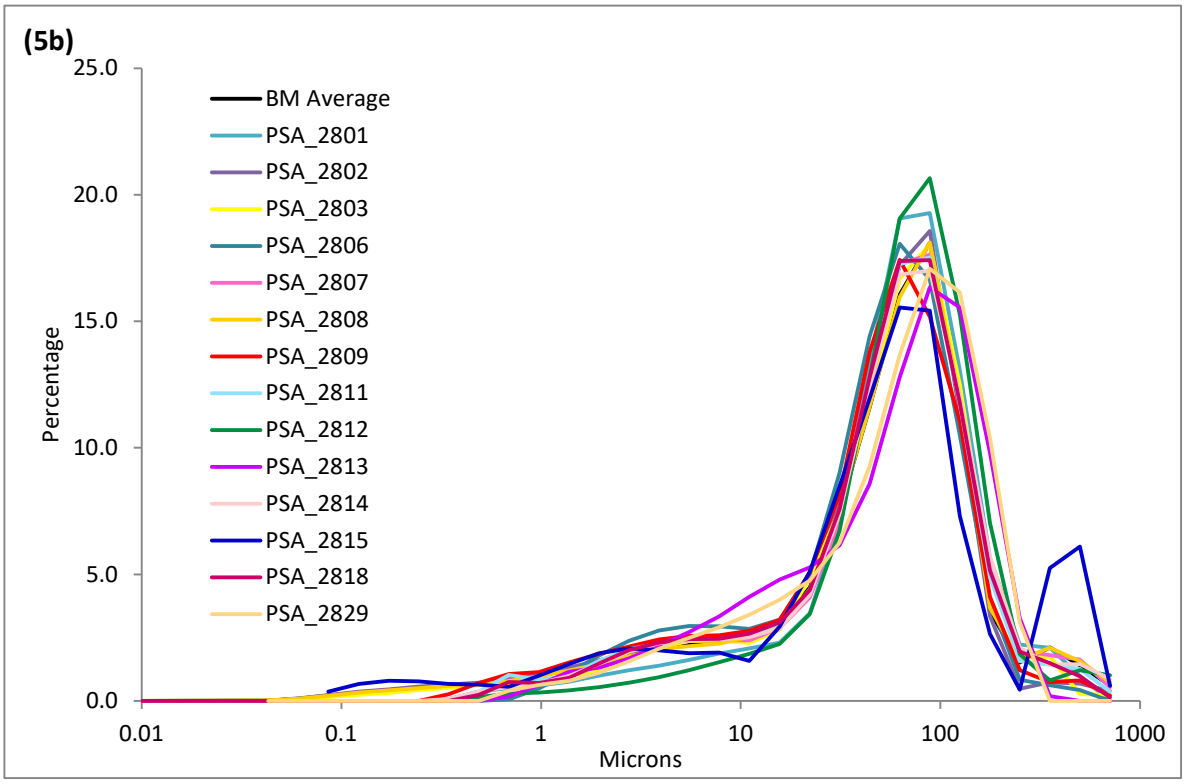


Figure 6. Particle size distribution curves from all participating laboratories and the Benchmark Average for sediment distributed as PS80.

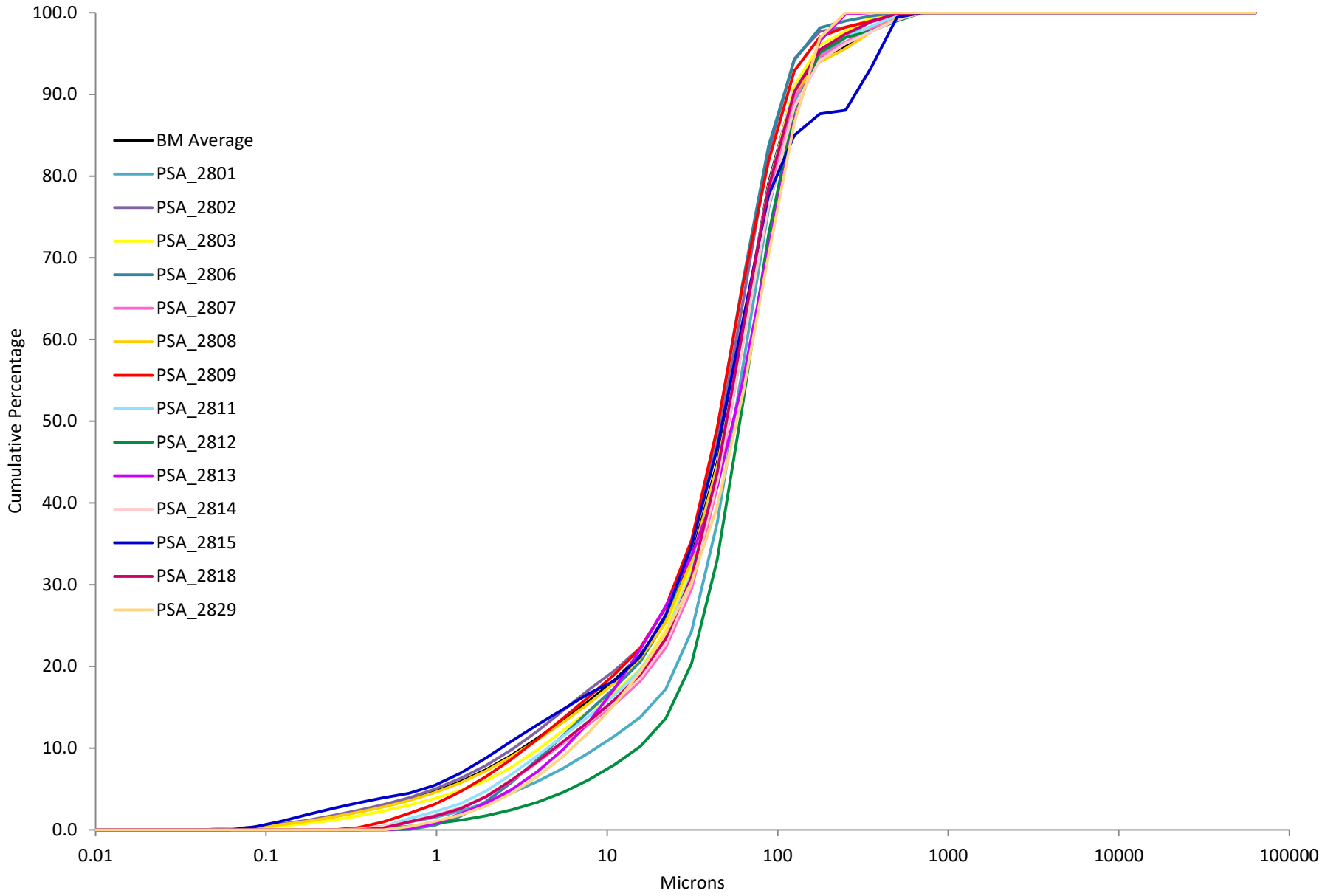
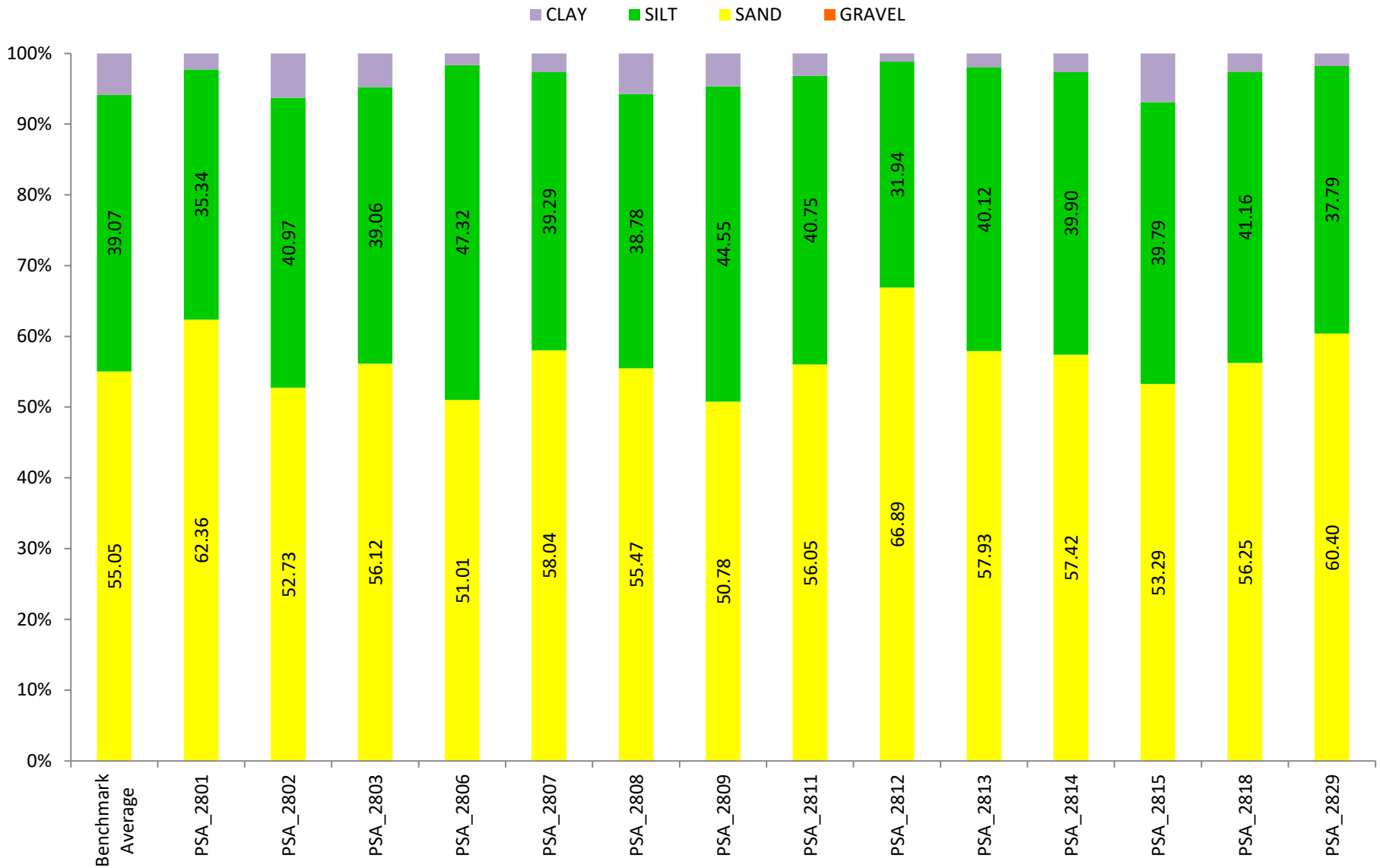


Figure 7. Bar chart showing the percentage gravel, sand, silt and clay recorded by each participating laboratory and the Benchmark Average for PS80.



NMBAQC Particle Size Analysis
2021/22 - PS80

Figure 8. Comparison of participant laser replicate data with the Benchmark Average for sediment distributed as PS80.

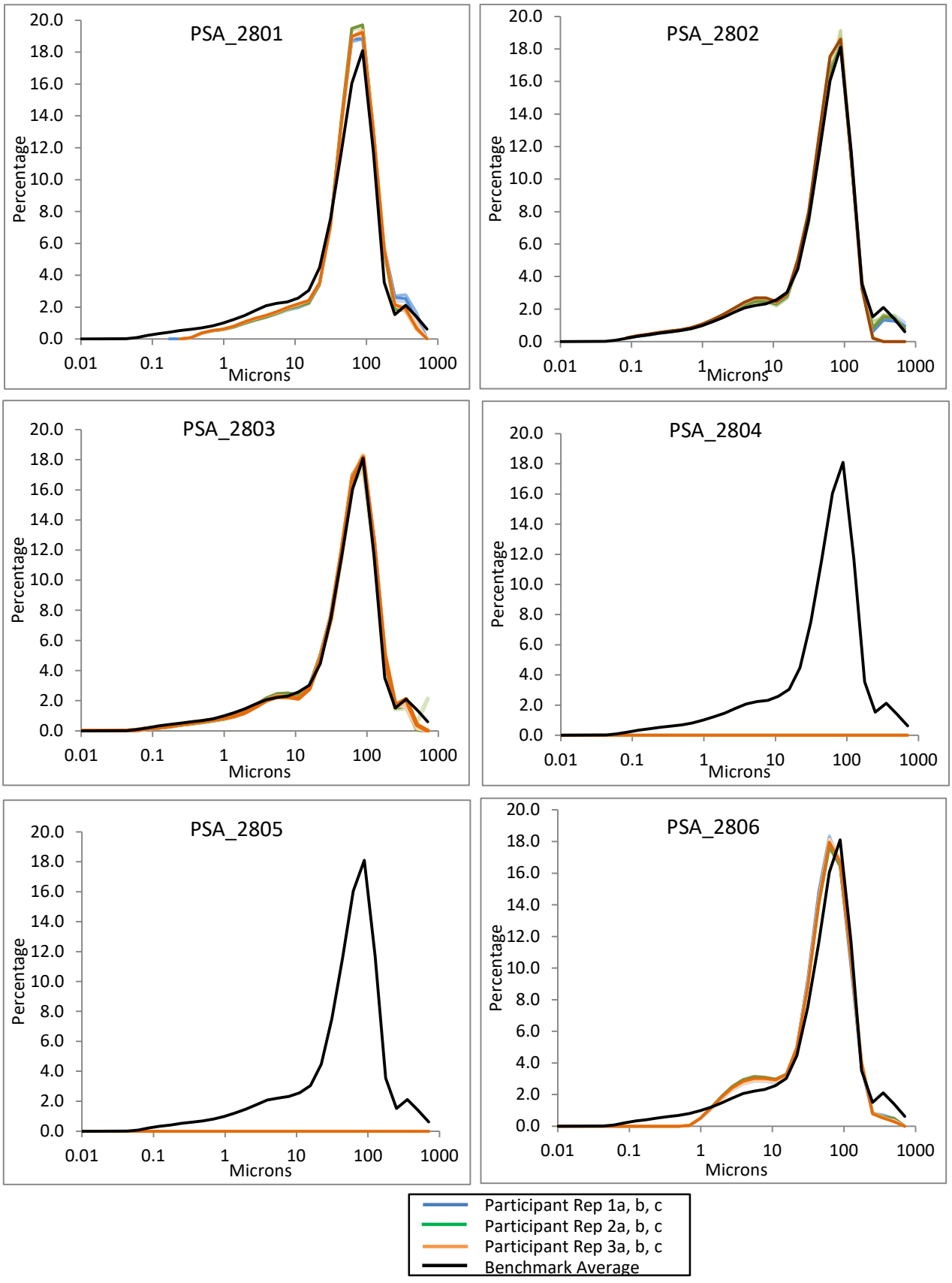


Figure 8. Comparison of participant laser replicate data with the Benchmark Average for sediment distributed as PS80.

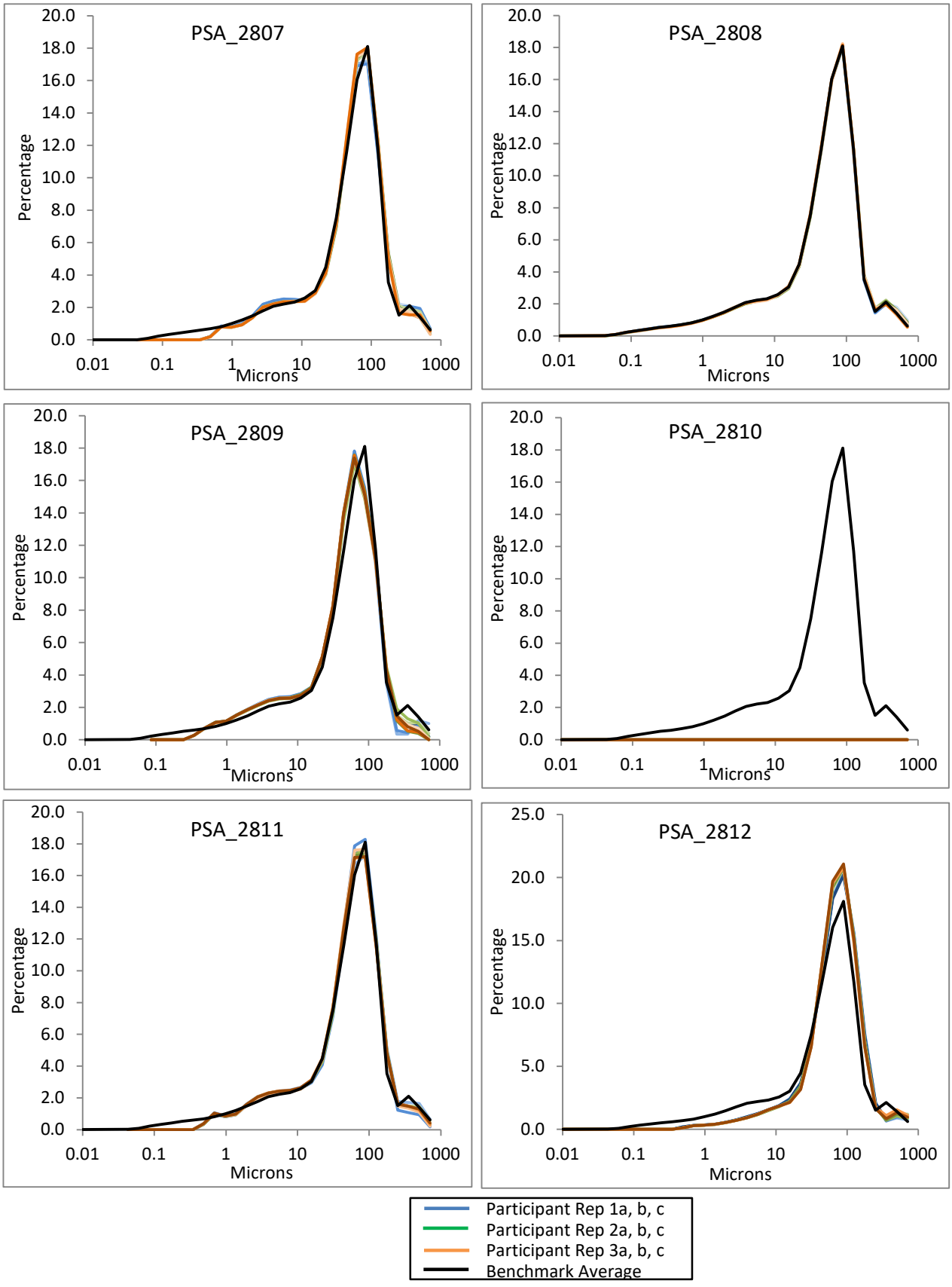
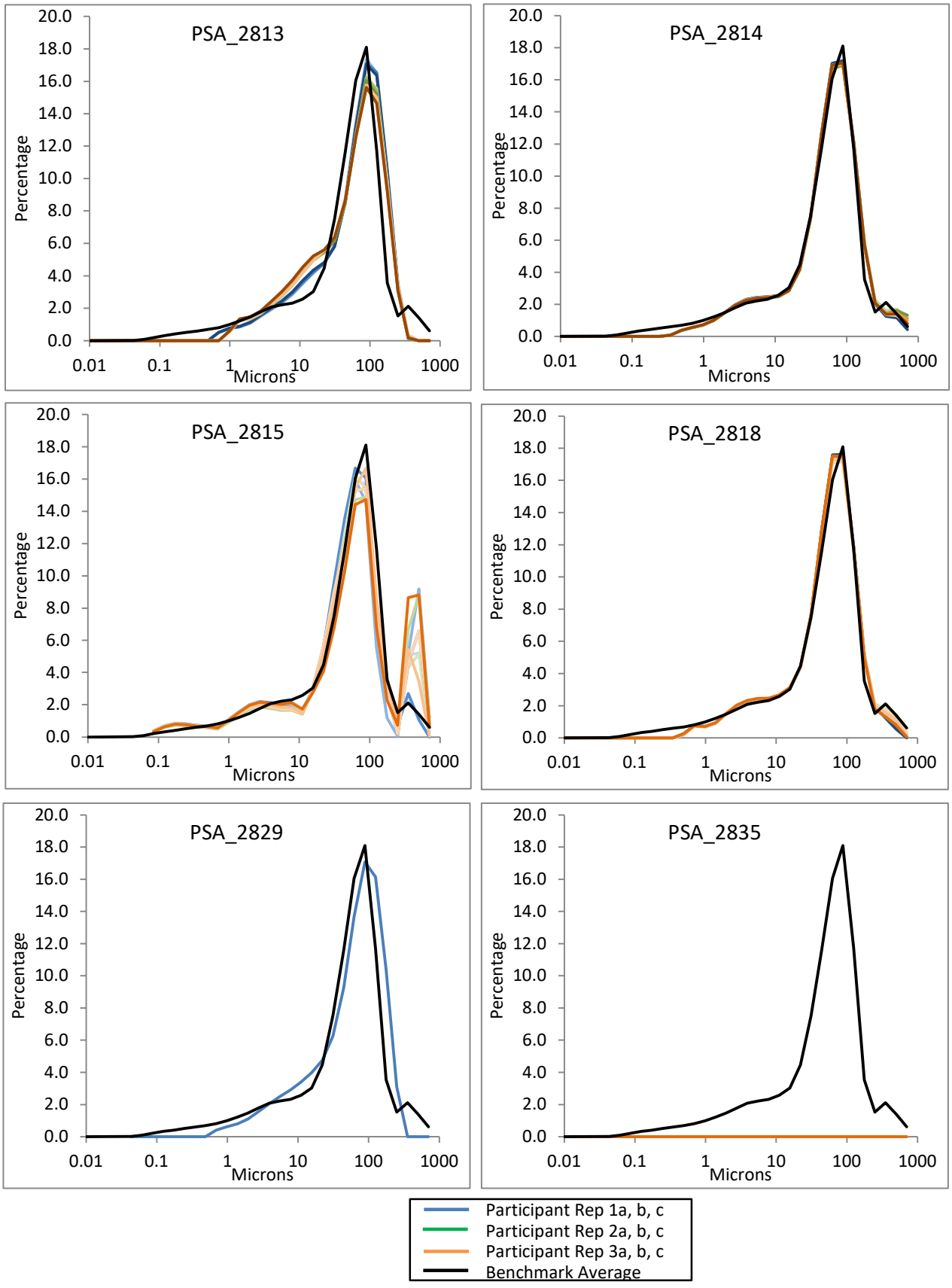


Figure 8. Comparison of participant laser replicate data with the Benchmark Average for sediment distributed as PS80.



APPENDICES

APPENDIX 1. Benchmark laser replicate data for sediment distributed as PS80.

	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	0.75	0.62	0.20	0.02	0.02	0.67	0.69	0.74
0.50 to 1.00; (500 µm)	1.09	0.85	1.02	1.14	1.00	0.84	1.18	1.09	1.11
1.00 to 1.50; (353.6 µm)	1.65	1.55	1.48	1.98	2.14	1.99	1.79	1.79	1.80
1.50 to 2.00; (250 µm)	1.06	1.10	1.09	1.36	1.38	1.49	1.32	1.42	1.27
2.00 to 2.50; (176.8 µm)	3.18	3.28	3.40	3.54	3.49	3.63	3.40	3.31	3.29
2.50 to 3.00; (125 µm)	11.32	11.28	11.25	11.78	11.83	11.76	11.70	11.64	11.73
3.00 to 3.50; (88.39 µm)	17.77	17.69	17.69	18.28	18.23	18.34	18.36	18.19	18.16
3.50 to 4.00; (62.5 µm)	16.30	16.28	16.29	16.12	16.10	16.15	16.44	16.43	16.41
4.00 to 4.50; (44.19 µm)	11.58	11.48	11.41	11.67	11.66	11.62	11.63	11.59	11.55
4.50 to 5.00; (31.25 µm)	7.85	7.86	7.84	7.77	7.79	7.79	7.57	7.55	7.53
5.00 to 5.50; (22.097 µm)	4.84	4.85	4.79	4.57	4.58	4.53	4.62	4.72	4.75
5.50 to 6.00; (15.625 µm)	3.23	3.25	3.21	3.10	3.12	3.08	2.97	2.99	3.00
6.00 to 6.50; (11.049 µm)	2.82	2.86	2.83	2.63	2.68	2.66	2.52	2.54	2.55
6.50 to 7.00; (7.813 µm)	2.53	2.57	2.59	2.40	2.40	2.42	2.28	2.31	2.32
7.00 to 7.50; (5.524 µm)	2.43	2.47	2.48	2.31	2.28	2.29	2.17	2.19	2.20
7.50 to 8.00; (3.906 µm)	2.30	2.33	2.33	2.12	2.12	2.12	2.03	2.05	2.06
8.00 to 8.50; (2.762 µm)	1.96	1.99	1.99	1.78	1.82	1.83	1.76	1.77	1.78
8.50 to 9.00; (1.953 µm)	1.58	1.60	1.61	1.45	1.50	1.50	1.48	1.49	1.49
9.00 to 9.50; (1.381 µm)	1.27	1.29	1.30	1.21	1.23	1.24	1.25	1.26	1.27
9.50 to 10.00; (0.977 µm)	1.00	1.01	1.03	0.99	1.00	1.01	1.03	1.05	1.05
10.00 to 10.50; (0.691 µm)	0.79	0.80	0.82	0.82	0.82	0.83	0.84	0.86	0.87
10.50 to 11.00; (0.488 µm)	0.67	0.67	0.69	0.69	0.69	0.71	0.72	0.73	0.74
11.00 to 11.50; (0.345 µm)	0.59	0.59	0.61	0.59	0.59	0.61	0.63	0.64	0.64
11.50 to 12.00; (0.244 µm)	0.52	0.52	0.53	0.51	0.51	0.52	0.54	0.56	0.56
12.00 to 12.50; (0.173 µm)	0.43	0.43	0.43	0.40	0.41	0.41	0.44	0.45	0.45
12.50 to 13.00; (0.122 µm)	0.34	0.34	0.34	0.31	0.31	0.32	0.34	0.35	0.35
13.00 to 13.50; (0.086 µm)	0.22	0.22	0.22	0.20	0.20	0.21	0.22	0.23	0.23
13.50 to 14.00; (0.061 µm)	0.09	0.09	0.09	0.08	0.08	0.08	0.09	0.09	0.09
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	4.22	4.18	4.10	4.57	4.47	4.39	4.36	4.26	4.22
d50	66.51	66.32	66.40	68.69	68.41	68.41	69.23	68.84	68.75
d90	163.96	163.91	164.24	167.77	166.91	166.51	168.39	168.14	167.70

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	4.16	0.06	1.44	4.48	0.09	1.99	4.28	0.07	1.65
d50	66.41	0.10	0.15	68.50	0.16	0.24	68.94	0.26	0.38
d90	164.04	0.18	0.11	167.06	0.64	0.38	168.08	0.35	0.21

APPENDIX 1. Benchmark laser replicate data for sediment distributed as PS80.

	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)	0.33	0.25	0.02	1.10	1.09	1.16	1.06	0.93	1.27
0.50 to 1.00; (500 µm)	1.14	1.18	0.97	1.61	1.46	1.32	1.61	1.63	1.62
1.00 to 1.50; (353.6 µm)	2.17	2.06	2.14	1.86	1.87	1.63	2.30	2.10	1.97
1.50 to 2.00; (250 µm)	1.20	1.16	0.96	1.71	1.54	1.53	1.96	1.84	2.02
2.00 to 2.50; (176.8 µm)	3.01	3.08	3.09	3.71	3.60	3.66	3.55	3.66	3.60
2.50 to 3.00; (125 µm)	11.49	11.47	11.60	11.66	11.75	11.76	11.34	11.37	11.26
3.00 to 3.50; (88.39 µm)	18.16	18.23	18.27	18.10	18.02	18.12	18.18	18.12	17.89
3.50 to 4.00; (62.5 µm)	15.89	15.97	16.02	16.17	16.12	16.29	16.08	16.16	16.02
4.00 to 4.50; (44.19 µm)	11.61	11.60	11.63	11.56	11.62	11.65	11.51	11.56	11.56
4.50 to 5.00; (31.25 µm)	7.72	7.70	7.75	7.39	7.42	7.39	7.47	7.42	7.39
5.00 to 5.50; (22.097 µm)	4.58	4.53	4.56	4.41	4.51	4.48	4.42	4.49	4.56
5.50 to 6.00; (15.625 µm)	3.18	3.13	3.15	2.92	3.00	2.95	2.95	2.96	3.00
6.00 to 6.50; (11.049 µm)	2.74	2.71	2.73	2.49	2.56	2.53	2.50	2.52	2.56
6.50 to 7.00; (7.813 µm)	2.43	2.44	2.46	2.31	2.35	2.35	2.27	2.29	2.31
7.00 to 7.50; (5.524 µm)	2.33	2.34	2.36	2.20	2.23	2.24	2.17	2.19	2.20
7.50 to 8.00; (3.906 µm)	2.21	2.20	2.23	2.04	2.07	2.06	2.03	2.03	2.05
8.00 to 8.50; (2.762 µm)	1.90	1.90	1.92	1.75	1.77	1.77	1.74	1.74	1.75
8.50 to 9.00; (1.953 µm)	1.58	1.58	1.60	1.43	1.45	1.45	1.42	1.42	1.43
9.00 to 9.50; (1.381 µm)	1.33	1.33	1.34	1.16	1.18	1.18	1.15	1.17	1.18
9.50 to 10.00; (0.977 µm)	1.08	1.10	1.11	0.95	0.96	0.96	0.93	0.94	0.95
10.00 to 10.50; (0.691 µm)	0.87	0.89	0.90	0.78	0.77	0.79	0.75	0.76	0.75
10.50 to 11.00; (0.488 µm)	0.73	0.76	0.77	0.66	0.65	0.67	0.63	0.64	0.62
11.00 to 11.50; (0.345 µm)	0.64	0.66	0.67	0.57	0.56	0.58	0.55	0.56	0.55
11.50 to 12.00; (0.244 µm)	0.56	0.58	0.58	0.49	0.48	0.49	0.48	0.49	0.48
12.00 to 12.50; (0.173 µm)	0.45	0.46	0.47	0.39	0.39	0.40	0.39	0.39	0.39
12.50 to 13.00; (0.122 µm)	0.35	0.36	0.36	0.30	0.30	0.31	0.30	0.31	0.31
13.00 to 13.50; (0.086 µm)	0.22	0.23	0.23	0.20	0.20	0.20	0.20	0.20	0.20
13.50 to 14.00; (0.061 µm)	0.09	0.09	0.10	0.08	0.08	0.08	0.08	0.08	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	4.02	3.93	3.86	4.82	4.78	4.71	4.95	4.85	4.87
d50	67.28	67.27	66.78	70.95	70.27	70.20	71.23	70.80	70.64
d90	165.65	165.07	162.48	176.71	174.51	173.14	185.19	179.52	185.25

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	3.93	0.08	2.05	4.77	0.06	1.18	4.89	0.05	1.03
d50	67.11	0.29	0.43	70.47	0.41	0.58	70.89	0.31	0.43
d90	164.40	1.69	1.03	174.79	1.80	1.03	183.32	3.29	1.80

APPENDIX 1. Benchmark laser replicate data for sediment distributed as PS80.

	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)	0.94	1.07	0.86	0.86	0.95	0.65	0.59	0.50	0.43
0.50 to 1.00; (500 µm)	1.60	1.80	1.60	1.68	1.76	1.35	1.33	1.42	1.43
1.00 to 1.50; (353.6 µm)	2.45	2.29	2.29	2.50	2.34	2.06	2.37	2.33	2.36
1.50 to 2.00; (250 µm)	1.77	1.71	1.63	1.85	1.70	1.70	1.63	1.65	1.59
2.00 to 2.50; (176.8 µm)	3.59	3.55	3.59	3.68	3.70	3.65	3.58	3.61	3.54
2.50 to 3.00; (125 µm)	11.87	11.82	11.88	11.75	11.61	11.83	11.81	11.73	11.76
3.00 to 3.50; (88.39 µm)	17.97	17.90	17.95	18.02	18.03	18.07	18.26	18.21	18.18
3.50 to 4.00; (62.5 µm)	15.85	15.81	15.87	15.80	15.84	15.98	16.00	15.99	15.99
4.00 to 4.50; (44.19 µm)	11.52	11.53	11.60	11.45	11.49	11.67	11.59	11.63	11.66
4.50 to 5.00; (31.25 µm)	7.30	7.26	7.26	7.39	7.38	7.45	7.52	7.51	7.49
5.00 to 5.50; (22.097 µm)	4.33	4.35	4.38	4.35	4.36	4.43	4.38	4.39	4.40
5.50 to 6.00; (15.625 µm)	2.97	2.98	3.00	2.98	2.99	3.04	3.00	3.02	3.04
6.00 to 6.50; (11.049 µm)	2.52	2.52	2.55	2.52	2.53	2.58	2.53	2.54	2.55
6.50 to 7.00; (7.813 µm)	2.27	2.28	2.30	2.28	2.25	2.33	2.28	2.28	2.29
7.00 to 7.50; (5.524 µm)	2.17	2.18	2.19	2.18	2.16	2.22	2.19	2.18	2.19
7.50 to 8.00; (3.906 µm)	2.03	2.03	2.05	2.04	2.03	2.07	2.06	2.05	2.06
8.00 to 8.50; (2.762 µm)	1.74	1.74	1.76	1.75	1.76	1.77	1.77	1.77	1.77
8.50 to 9.00; (1.953 µm)	1.43	1.43	1.44	1.42	1.46	1.45	1.45	1.45	1.46
9.00 to 9.50; (1.381 µm)	1.18	1.18	1.19	1.15	1.21	1.19	1.19	1.20	1.21
9.50 to 10.00; (0.977 µm)	0.96	0.96	0.97	0.92	0.97	0.96	0.96	0.97	0.98
10.00 to 10.50; (0.691 µm)	0.78	0.78	0.79	0.75	0.76	0.78	0.78	0.79	0.80
10.50 to 11.00; (0.488 µm)	0.66	0.67	0.67	0.63	0.64	0.66	0.65	0.67	0.68
11.00 to 11.50; (0.345 µm)	0.58	0.59	0.59	0.55	0.56	0.58	0.57	0.58	0.59
11.50 to 12.00; (0.244 µm)	0.50	0.51	0.52	0.48	0.49	0.50	0.49	0.50	0.51
12.00 to 12.50; (0.173 µm)	0.41	0.42	0.42	0.39	0.40	0.41	0.40	0.41	0.41
12.50 to 13.00; (0.122 µm)	0.32	0.33	0.33	0.31	0.32	0.32	0.31	0.32	0.32
13.00 to 13.50; (0.086 µm)	0.21	0.21	0.21	0.20	0.21	0.21	0.20	0.21	0.21
13.50 to 14.00; (0.061 µm)	0.09	0.09	0.09	0.08	0.09	0.09	0.08	0.08	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	4.75	4.69	4.62	4.90	4.72	4.68	4.73	4.66	4.60
d50	71.31	71.20	70.73	71.51	71.16	70.11	70.53	70.33	70.08
d90	182.75	184.16	176.65	186.53	184.39	173.79	174.25	174.26	173.42

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	4.69	0.06	1.34	4.77	0.12	2.43	4.66	0.06	1.31
d50	71.08	0.31	0.44	70.93	0.73	1.03	70.31	0.23	0.32
d90	181.19	3.99	2.20	181.57	6.82	3.76	173.98	0.48	0.28

APPENDIX 1. Benchmark laser replicate data for sediment distributed as PS80.

	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)	0.53	0.45	0.39	0.52	0.46	0.62	0.45	0.46	0.43
0.50 to 1.00; (500 µm)	1.57	1.71	1.75	1.46	1.55	1.55	1.40	1.22	1.40
1.00 to 1.50; (353.6 µm)	2.62	2.72	2.41	2.22	2.08	2.14	2.05	1.82	1.88
1.50 to 2.00; (250 µm)	1.73	1.51	1.63	1.74	1.57	1.71	1.58	1.46	1.51
2.00 to 2.50; (176.8 µm)	3.61	3.62	3.66	3.57	3.71	3.80	3.77	3.79	3.75
2.50 to 3.00; (125 µm)	11.73	11.78	11.77	11.77	11.86	11.81	11.89	11.87	11.83
3.00 to 3.50; (88.39 µm)	18.05	17.79	17.92	18.14	18.20	18.07	18.19	18.25	18.20
3.50 to 4.00; (62.5 µm)	15.93	15.82	15.90	15.91	15.99	15.94	16.11	16.21	16.15
4.00 to 4.50; (44.19 µm)	11.55	11.61	11.63	11.60	11.62	11.55	11.68	11.76	11.71
4.50 to 5.00; (31.25 µm)	7.48	7.48	7.42	7.51	7.44	7.37	7.38	7.41	7.37
5.00 to 5.50; (22.097 µm)	4.39	4.48	4.43	4.40	4.34	4.33	4.38	4.41	4.41
5.50 to 6.00; (15.625 µm)	3.01	3.10	3.05	3.02	2.97	2.96	3.01	3.03	3.04
6.00 to 6.50; (11.049 µm)	2.53	2.56	2.56	2.54	2.50	2.50	2.51	2.53	2.54
6.50 to 7.00; (7.813 µm)	2.26	2.32	2.29	2.26	2.26	2.26	2.26	2.28	2.28
7.00 to 7.50; (5.524 µm)	2.16	2.24	2.18	2.16	2.15	2.14	2.16	2.18	2.18
7.50 to 8.00; (3.906 µm)	2.02	2.04	2.03	2.02	2.01	2.00	2.03	2.04	2.04
8.00 to 8.50; (2.762 µm)	1.73	1.70	1.74	1.75	1.74	1.73	1.76	1.77	1.77
8.50 to 9.00; (1.953 µm)	1.42	1.40	1.43	1.45	1.45	1.44	1.46	1.47	1.47
9.00 to 9.50; (1.381 µm)	1.17	1.18	1.19	1.22	1.22	1.21	1.21	1.22	1.23
9.50 to 10.00; (0.977 µm)	0.95	0.96	0.97	1.01	1.01	1.01	1.00	1.01	1.02
10.00 to 10.50; (0.691 µm)	0.77	0.78	0.79	0.83	0.85	0.85	0.83	0.84	0.84
10.50 to 11.00; (0.488 µm)	0.66	0.65	0.67	0.71	0.73	0.73	0.71	0.72	0.72
11.00 to 11.50; (0.345 µm)	0.58	0.57	0.59	0.62	0.64	0.64	0.61	0.62	0.62
11.50 to 12.00; (0.244 µm)	0.51	0.50	0.52	0.53	0.55	0.55	0.53	0.53	0.54
12.00 to 12.50; (0.173 µm)	0.42	0.41	0.42	0.43	0.44	0.44	0.42	0.43	0.43
12.50 to 13.00; (0.122 µm)	0.33	0.32	0.33	0.33	0.34	0.34	0.33	0.33	0.33
13.00 to 13.50; (0.086 µm)	0.21	0.21	0.22	0.21	0.22	0.22	0.21	0.21	0.21
13.50 to 14.00; (0.061 µm)	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
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	4.76	4.80	4.65	4.50	4.42	4.44	4.51	4.43	4.42
d50	70.83	70.34	70.35	70.18	70.30	70.65	70.25	69.68	69.81
d90	177.71	176.97	175.94	174.22	173.61	175.91	172.96	170.50	171.52

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	4.74	0.08	1.65	4.45	0.04	0.94	4.45	0.05	1.10
d50	70.51	0.28	0.40	70.38	0.25	0.35	69.91	0.30	0.43
d90	176.87	0.89	0.50	174.58	1.19	0.68	171.66	1.24	0.72

APPENDIX 1. Benchmark laser replicate data for sediment distributed as PS80.

	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)	0.71	0.65	0.63	0.53	0.36	0.37	0.55	0.52	0.60
0.50 to 1.00; (500 µm)	1.69	1.58	1.48	1.66	1.55	1.47	1.41	1.45	1.54
1.00 to 1.50; (353.6 µm)	2.39	2.12	2.18	2.20	2.28	2.13	2.37	2.09	2.20
1.50 to 2.00; (250 µm)	1.36	1.37	1.39	1.47	1.51	1.37	1.65	1.62	1.59
2.00 to 2.50; (176.8 µm)	3.28	3.46	3.43	3.63	3.63	3.54	3.60	3.74	3.72
2.50 to 3.00; (125 µm)	11.74	11.81	11.81	11.77	11.81	11.81	11.88	11.84	11.87
3.00 to 3.50; (88.39 µm)	18.04	18.19	18.09	18.11	18.09	18.21	18.24	18.25	18.19
3.50 to 4.00; (62.5 µm)	15.95	16.06	16.03	15.92	15.89	15.94	16.03	16.09	15.98
4.00 to 4.50; (44.19 µm)	11.69	11.72	11.76	11.57	11.58	11.64	11.59	11.62	11.57
4.50 to 5.00; (31.25 µm)	7.56	7.48	7.47	7.45	7.44	7.46	7.52	7.51	7.47
5.00 to 5.50; (22.097 µm)	4.44	4.37	4.39	4.41	4.43	4.45	4.38	4.39	4.38
5.50 to 6.00; (15.625 µm)	3.09	3.03	3.06	3.04	3.06	3.09	2.95	2.97	2.97
6.00 to 6.50; (11.049 µm)	2.56	2.52	2.54	2.55	2.56	2.58	2.49	2.50	2.50
6.50 to 7.00; (7.813 µm)	2.25	2.24	2.26	2.28	2.29	2.30	2.26	2.26	2.26
7.00 to 7.50; (5.524 µm)	2.15	2.14	2.16	2.19	2.19	2.21	2.16	2.16	2.15
7.50 to 8.00; (3.906 µm)	2.03	2.02	2.03	2.06	2.06	2.08	2.02	2.02	2.01
8.00 to 8.50; (2.762 µm)	1.75	1.74	1.75	1.77	1.78	1.79	1.75	1.75	1.74
8.50 to 9.00; (1.953 µm)	1.46	1.45	1.46	1.47	1.47	1.48	1.45	1.45	1.45
9.00 to 9.50; (1.381 µm)	1.21	1.21	1.22	1.21	1.22	1.23	1.19	1.20	1.20
9.50 to 10.00; (0.977 µm)	0.98	1.00	1.01	0.99	1.00	1.01	0.97	0.98	0.99
10.00 to 10.50; (0.691 µm)	0.79	0.82	0.83	0.81	0.82	0.83	0.79	0.80	0.81
10.50 to 11.00; (0.488 µm)	0.67	0.71	0.71	0.69	0.70	0.71	0.67	0.68	0.69
11.00 to 11.50; (0.345 µm)	0.59	0.62	0.63	0.61	0.62	0.62	0.58	0.59	0.59
11.50 to 12.00; (0.244 µm)	0.52	0.55	0.55	0.53	0.54	0.55	0.50	0.51	0.51
12.00 to 12.50; (0.173 µm)	0.43	0.45	0.45	0.43	0.44	0.45	0.40	0.41	0.41
12.50 to 13.00; (0.122 µm)	0.34	0.35	0.35	0.34	0.35	0.35	0.31	0.31	0.32
13.00 to 13.50; (0.086 µm)	0.22	0.23	0.23	0.22	0.23	0.23	0.20	0.20	0.20
13.50 to 14.00; (0.061 µm)	0.09	0.09	0.09	0.09	0.09	0.09	0.08	0.08	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	4.58	4.45	4.40	4.49	4.42	4.36	4.72	4.65	4.64
d50	69.90	69.97	69.69	70.14	69.87	69.44	70.75	70.50	70.71
d90	173.83	172.58	172.22	174.17	173.32	171.07	174.68	173.81	174.99

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	4.48	0.09	2.01	4.42	0.07	1.49	4.67	0.04	0.88
d50	69.86	0.15	0.21	69.81	0.35	0.50	70.65	0.13	0.18
d90	172.88	0.84	0.49	172.86	1.60	0.93	174.49	0.61	0.35

APPENDIX 2. Gradistat output of size categories based on final merged data provided by each participant and the Benchmark Average for sediment distributed as PS80 (used to create Figure 7).

	BM Average	PSA_2801	PSA_2802	PSA_2803	PSA_2804	PSA_2805	PSA_2806	PSA_2807	PSA_2808	PSA_2809	PSA_2810
VERY COARSE GRAVEL	0.00	0.00	0.00	0.00	n/p	n/p	0.00	0.00	0.00	0.00	n/p
COARSE GRAVEL	0.00	0.00	0.00	0.00	n/p	n/p	0.00	0.00	0.00	0.00	n/p
MEDIUM GRAVEL	0.00	0.00	0.00	0.00	n/p	n/p	0.00	0.00	0.00	0.00	n/p
FINE GRAVEL	0.00	0.00	0.00	0.00	n/p	n/p	0.00	0.00	0.00	0.00	n/p
VERY FINE GRAVEL	0.00	0.00	0.00	0.00	n/p	n/p	0.00	0.00	0.00	0.00	n/p
VERY COARSE SAND	0.00	0.00	0.00	0.06	n/p	n/p	0.00	0.00	0.00	0.00	n/p
COARSE SAND	2.02	0.98	1.08	0.50	n/p	n/p	0.42	1.97	2.30	1.03	n/p
MEDIUM SAND	3.63	4.32	1.21	3.39	n/p	n/p	1.44	3.41	3.73	1.97	n/p
FINE SAND	15.24	18.71	14.66	17.47	n/p	n/p	14.45	17.15	15.36	15.17	n/p
VERY FINE SAND	34.15	38.35	35.79	34.70	n/p	n/p	34.71	35.51	34.07	32.62	n/p
VERY COARSE SILT	19.11	20.41	20.10	19.39	n/p	n/p	23.41	19.66	19.14	21.93	n/p
COARSE SILT	7.51	5.76	7.70	7.68	n/p	n/p	8.21	6.97	7.41	8.27	n/p
MEDIUM SILT	4.90	3.94	4.86	4.66	n/p	n/p	5.80	4.74	4.79	5.35	n/p
FINE SILT	4.29	3.01	4.80	4.46	n/p	n/p	5.73	4.55	4.21	4.99	n/p
VERY FINE SILT	3.26	2.22	3.52	2.88	n/p	n/p	4.18	3.37	3.22	4.00	n/p
CLAY	5.89	2.30	6.30	4.82	n/p	n/p	1.66	2.67	5.75	4.67	n/p

GRAVEL	0.00	0.00	0.00	0.00	n/p	n/p	0.00	0.00	0.00	0.00	n/p
SAND	55.05	62.36	52.73	56.12	n/p	n/p	51.01	58.04	55.47	50.78	n/p
SILT	39.07	35.34	40.97	39.06	n/p	n/p	47.32	39.29	38.78	44.55	n/p
CLAY	5.89	2.30	6.30	4.82	n/p	n/p	1.66	2.67	5.75	4.67	n/p

n/p - not participating in this exercise at current time.

APPENDIX 2. Gradistat output of size categories based on final merged data provided by each participant and the Benchmark Average for sediment distributed as PS80 (used to create Figure 7).

	BM Average	PSA_2811	PSA_2812	PSA_2813	PSA_2814	PSA_2815	PSA_2818	PSA_2829	PSA_2835
VERY COARSE GRAVEL	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	n/p
MEDIUM GRAVEL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/p
FINE GRAVEL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/p
VERY FINE GRAVEL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/p
VERY COARSE SAND	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/p
COARSE SAND	2.02	1.63	2.22	0.00	2.33	6.68	1.10	0.00	n/p
MEDIUM SAND	3.63	2.99	2.64	3.45	3.51	5.69	3.44	3.11	n/p
FINE SAND	15.24	16.62	22.29	25.34	17.72	9.94	16.91	26.53	n/p
VERY FINE SAND	34.15	34.80	39.73	29.14	33.86	30.97	34.80	30.76	n/p
VERY COARSE SILT	19.11	20.04	19.48	14.71	19.82	20.42	20.36	15.51	n/p
COARSE SILT	7.51	7.40	5.67	10.07	7.06	8.04	7.47	8.75	n/p
MEDIUM SILT	4.90	5.04	3.38	7.45	4.95	3.49	5.11	6.32	n/p
FINE SILT	4.29	4.65	2.15	4.90	4.66	3.89	4.73	4.54	n/p
VERY FINE SILT	3.26	3.61	1.27	2.99	3.41	3.95	3.49	2.67	n/p
CLAY	5.89	3.20	1.17	1.95	2.68	6.92	2.59	1.81	n/p

GRAVEL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/p
SAND	55.05	56.05	66.89	57.93	57.42	53.29	56.25	60.40	n/p
SILT	39.07	40.75	31.94	40.12	39.90	39.79	41.16	37.79	n/p
CLAY	5.89	3.20	1.17	1.95	2.68	6.92	2.59	1.81	n/p

n/p - not participating in this exercise at current time.

APPENDIX 3. Participant laser replicate data for sediment distributed as PS80.

PSA_2801 LASER DATA

Microns	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
707	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
500	1.26	1.65	1.22	0.68	0.85	0.85	1.05	0.58	0.68
353.6	2.34	2.77	2.53	1.95	1.79	1.79	2.04	1.71	1.89
250	2.39	2.70	2.60	2.22	1.85	1.85	2.16	2.16	2.14
176.8	5.70	5.78	5.69	5.67	5.44	5.44	5.64	5.84	5.63
125	13.01	12.82	12.74	13.17	13.20	13.20	13.05	13.30	13.05
88.39	19.14	18.83	18.85	19.55	19.71	19.71	19.17	19.38	19.25
62.5	18.90	18.67	18.82	19.37	19.50	19.50	18.87	18.98	19.00
44.19	13.25	13.16	13.37	13.51	13.57	13.57	13.17	13.19	13.28
31.25	7.05	7.03	7.19	7.07	7.09	7.09	7.01	7.00	7.07
22.097	3.46	3.42	3.51	3.39	3.41	3.41	3.51	3.51	3.53
15.625	2.26	2.21	2.26	2.23	2.26	2.26	2.39	2.40	2.41
11.049	2.02	1.96	2.00	2.02	2.05	2.05	2.16	2.17	2.19
7.813	1.83	1.79	1.83	1.83	1.86	1.86	1.95	1.95	1.98
5.524	1.58	1.55	1.59	1.57	1.59	1.59	1.68	1.68	1.71
3.906	1.38	1.34	1.38	1.35	1.37	1.37	1.46	1.46	1.48
2.762	1.20	1.17	1.19	1.18	1.19	1.19	1.27	1.28	1.29
1.953	0.98	0.96	0.98	0.98	0.98	0.98	1.05	1.05	1.06
1.381	0.75	0.73	0.74	0.74	0.75	0.75	0.79	0.79	0.79
0.977	0.59	0.57	0.59	0.59	0.59	0.59	0.61	0.61	0.62
0.691	0.50	0.49	0.50	0.50	0.51	0.51	0.52	0.52	0.52
0.488	0.35	0.34	0.35	0.36	0.36	0.36	0.36	0.36	0.37
0.345	0.07	0.07	0.07	0.08	0.08	0.08	0.08	0.08	0.08
0.244	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.173	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.122	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.086	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.061	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.043	0.00	0.00	0.00	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	100.00	100.00	100.00

	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
d10	12.61	13.16	12.65	12.72	12.48	12.48	11.46	11.44	11.23
d50	78.94	79.88	78.61	78.31	77.83	77.83	77.89	77.74	77.27
d90	195.91	210.35	200.18	182.50	176.48	176.48	186.75	179.87	180.52

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	12.81	0.31	2.42	12.56	0.14	1.11	11.38	0.13	1.14
d50	79.14	0.66	0.83	77.99	0.28	0.36	77.63	0.32	0.42
d90	202.15	7.42	3.67	178.48	3.48	1.95	182.38	3.80	2.08

APPENDIX 3. Participant laser replicate data for sediment distributed as PS80.

PSA_2802 LASER DATA

Microns	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
707	1.19	0.99	0.96	0.68	0.74	0.82	0.00	0.00	0.00
500	1.65	1.46	1.27	1.64	1.49	1.46	0.00	0.00	0.00
353.6	1.34	1.34	1.33	1.47	1.64	1.51	0.00	0.00	0.00
250	0.63	0.73	0.61	1.26	0.89	0.83	0.27	0.22	0.22
176.8	3.56	3.62	3.53	3.17	3.71	3.68	3.63	3.30	3.24
125	11.28	11.22	11.25	11.54	11.28	11.20	11.66	11.38	11.24
88.39	18.12	18.17	18.28	19.13	18.17	18.16	18.63	18.66	18.59
62.5	16.70	16.76	16.83	16.37	16.57	16.62	17.39	17.51	17.54
44.19	11.89	11.95	11.98	11.60	11.83	11.86	12.64	12.73	12.76
31.25	7.36	7.39	7.43	7.26	7.45	7.47	7.87	7.95	7.99
22.097	4.71	4.74	4.77	4.68	4.73	4.75	4.97	5.04	5.06
15.625	2.69	2.69	2.70	2.69	2.76	2.79	2.91	2.94	2.95
11.049	2.22	2.22	2.22	2.21	2.29	2.31	2.42	2.44	2.46
7.813	2.52	2.54	2.55	2.45	2.48	2.49	2.66	2.69	2.70
5.524	2.55	2.57	2.58	2.42	2.46	2.47	2.65	2.68	2.70
3.906	2.29	2.31	2.32	2.15	2.21	2.22	2.38	2.41	2.43
2.762	1.90	1.91	1.92	1.81	1.85	1.86	2.00	2.02	2.03
1.953	1.54	1.55	1.56	1.52	1.52	1.53	1.64	1.66	1.67
1.381	1.24	1.25	1.26	1.26	1.24	1.24	1.33	1.34	1.35
0.977	0.98	0.99	1.00	1.00	0.99	1.00	1.05	1.07	1.07
0.691	0.79	0.80	0.80	0.79	0.80	0.81	0.85	0.86	0.87
0.488	0.67	0.67	0.68	0.67	0.69	0.69	0.72	0.73	0.74
0.345	0.59	0.59	0.60	0.60	0.61	0.61	0.64	0.64	0.65
0.244	0.51	0.51	0.52	0.53	0.53	0.53	0.56	0.56	0.57
0.173	0.42	0.41	0.42	0.44	0.43	0.43	0.45	0.46	0.46
0.122	0.32	0.32	0.33	0.34	0.34	0.34	0.36	0.36	0.36
0.086	0.21	0.21	0.21	0.22	0.22	0.22	0.23	0.23	0.24
0.061	0.09	0.08	0.09	0.09	0.09	0.09	0.10	0.10	0.10
0.043	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
d10	4.35	4.33	4.27	4.39	4.36	4.31	3.95	3.87	3.82
d50	68.57	68.30	67.93	69.87	68.67	68.34	64.49	63.83	63.53
d90	168.11	166.90	164.64	167.60	168.71	167.75	147.46	145.13	144.49

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	4.31	0.04	0.99	4.35	0.04	0.86	3.88	0.06	1.61
d50	68.27	0.32	0.47	68.96	0.81	1.17	63.95	0.49	0.77
d90	166.55	1.76	1.06	168.02	0.60	0.36	145.69	1.56	1.07

APPENDIX 3. Participant laser replicate data for sediment distributed as PS80.

PSA_2803 LASER DATA

Microns	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
707	0.00	0.00	0.00	2.13	0.00	0.00	0.00	0.00	0.00
500	0.20	0.16	0.25	0.54	0.13	0.09	0.19	0.41	0.39
353.6	1.59	1.62	1.71	1.50	2.01	1.65	1.61	1.93	2.11
250	1.74	1.78	1.56	1.44	1.72	1.55	1.75	1.57	1.71
176.8	5.01	4.95	5.05	5.01	4.75	4.83	5.20	5.07	5.04
125	12.62	12.60	12.68	11.94	12.47	12.41	12.55	12.59	12.47
88.39	18.01	17.98	17.98	17.46	18.02	18.14	18.24	18.28	18.16
62.5	16.53	16.57	16.51	16.37	16.73	16.95	16.83	16.80	16.77
44.19	11.88	11.91	11.84	11.59	11.87	11.95	11.95	11.91	11.90
31.25	7.58	7.59	7.58	7.36	7.55	7.56	7.52	7.47	7.47
22.097	4.89	4.90	4.90	4.80	4.91	4.94	4.81	4.77	4.77
15.625	2.86	2.87	2.87	2.77	2.85	2.86	2.80	2.78	2.78
11.049	2.35	2.35	2.35	2.29	2.35	2.36	2.17	2.15	2.15
7.813	2.45	2.44	2.45	2.41	2.46	2.47	2.26	2.24	2.24
5.524	2.41	2.41	2.41	2.38	2.42	2.43	2.28	2.26	2.26
3.906	2.13	2.13	2.13	2.09	2.14	2.14	2.05	2.03	2.03
2.762	1.67	1.67	1.67	1.63	1.67	1.68	1.61	1.60	1.60
1.953	1.25	1.25	1.25	1.21	1.24	1.25	1.22	1.21	1.21
1.381	0.98	0.98	0.98	0.94	0.98	0.98	0.98	0.98	0.98
0.977	0.82	0.83	0.83	0.78	0.81	0.82	0.84	0.84	0.84
0.691	0.71	0.71	0.71	0.67	0.69	0.69	0.73	0.73	0.73
0.488	0.61	0.61	0.61	0.57	0.59	0.59	0.63	0.63	0.63
0.345	0.51	0.52	0.51	0.48	0.49	0.50	0.53	0.53	0.53
0.244	0.42	0.42	0.42	0.39	0.40	0.40	0.44	0.43	0.43
0.173	0.32	0.32	0.32	0.30	0.31	0.31	0.33	0.32	0.33
0.122	0.24	0.24	0.24	0.23	0.23	0.23	0.25	0.24	0.24
0.086	0.15	0.15	0.15	0.14	0.15	0.15	0.15	0.15	0.15
0.061	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
0.043	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Total	100.00	100.00	100.00	99.50	100.00	100.00	100.00	100.00	100.00

	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
d10	5.62	5.62	5.63	5.89	5.72	5.67	5.67	5.72	5.72
d50	70.43	70.35	70.51	71.95	70.52	70.12	71.27	71.68	71.70
d90	169.87	169.69	170.04	185.28	170.10	167.76	170.83	171.86	173.14

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	5.62	0.00	0.06	5.76	0.12	2.04	5.70	0.03	0.54
d50	70.43	0.08	0.11	70.86	0.96	1.36	71.55	0.24	0.34
d90	169.87	0.18	0.10	174.38	9.51	5.45	171.94	1.16	0.67

APPENDIX 3. Participant laser replicate data for sediment distributed as PS80.

PSA_2804 LASER DATA

Microns	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
707	-	-	-	-	-	-	-	-	-
500	-	-	-	-	-	-	-	-	-
353.6	-	-	-	-	-	-	-	-	-
250	-	-	-	-	-	-	-	-	-
176.8	-	-	-	-	-	-	-	-	-
125	-	-	-	-	-	-	-	-	-
88.39	-	-	-	-	-	-	-	-	-
62.5	-	-	-	-	-	-	-	-	-
44.19	-	-	-	-	-	-	-	-	-
31.25	-	-	-	-	-	-	-	-	-
22.097	-	-	-	-	-	-	-	-	-
15.625	-	-	-	-	-	-	-	-	-
11.049	-	-	-	-	-	-	-	-	-
7.813	-	-	-	-	-	-	-	-	-
5.524	-	-	-	-	-	-	-	-	-
3.906	-	-	-	-	-	-	-	-	-
2.762	-	-	-	-	-	-	-	-	-
1.953	-	-	-	-	-	-	-	-	-
1.381	-	-	-	-	-	-	-	-	-
0.977	-	-	-	-	-	-	-	-	-
0.691	-	-	-	-	-	-	-	-	-
0.488	-	-	-	-	-	-	-	-	-
0.345	-	-	-	-	-	-	-	-	-
0.244	-	-	-	-	-	-	-	-	-
0.173	-	-	-	-	-	-	-	-	-
0.122	-	-	-	-	-	-	-	-	-
0.086	-	-	-	-	-	-	-	-	-
0.061	-	-	-	-	-	-	-	-	-
0.043	-	-	-	-	-	-	-	-	-
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
d10	-	-	-	-	-	-	-	-	-
d50	-	-	-	-	-	-	-	-	-
d90	-	-	-	-	-	-	-	-	-

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
d50	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
d90	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

APPENDIX 3. Participant laser replicate data for sediment distributed as PS80.

PSA_2806 LASER DATA

Microns	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
707	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
500	0.44	0.51	0.45	0.44	0.47	0.50	0.37	0.30	0.28
353.6	0.67	0.72	0.66	0.64	0.64	0.61	0.51	0.56	0.52
250	0.86	0.82	0.81	0.88	0.83	0.84	0.76	0.82	0.79
176.8	3.86	3.70	3.78	4.11	4.02	4.06	4.07	4.04	4.04
125	10.32	10.07	10.20	10.68	10.56	10.50	10.77	10.61	10.63
88.39	16.67	16.45	16.52	16.76	16.63	16.43	16.94	16.71	16.72
62.5	18.39	18.28	18.21	18.01	17.92	17.64	18.18	17.99	17.95
44.19	14.85	14.84	14.68	14.29	14.25	14.01	14.36	14.27	14.17
31.25	9.25	9.29	9.16	8.93	8.93	8.80	8.92	8.92	8.83
22.097	4.99	5.05	5.00	5.00	5.01	4.99	4.96	5.01	4.96
15.625	3.09	3.15	3.17	3.21	3.24	3.30	3.20	3.26	3.27
11.049	2.73	2.79	2.84	2.82	2.86	2.99	2.83	2.90	2.94
7.813	2.82	2.91	2.95	2.87	2.93	3.11	2.88	2.97	3.02
5.524	2.83	2.93	2.97	2.89	2.97	3.14	2.87	2.98	3.03
3.906	2.64	2.75	2.78	2.72	2.80	2.95	2.69	2.79	2.84
2.762	2.26	2.35	2.38	2.34	2.42	2.53	2.30	2.39	2.44
1.953	1.71	1.77	1.80	1.77	1.83	1.90	1.74	1.81	1.84
1.381	1.05	1.09	1.10	1.09	1.12	1.16	1.08	1.12	1.14
0.977	0.48	0.48	0.48	0.49	0.50	0.50	0.50	0.51	0.51
0.691	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
0.488	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.244	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.173	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.122	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.086	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.061	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.043	0.00	0.00	0.00	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	100.00	100.00	100.00

	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
d10	2.43	2.33	2.30	2.35	2.26	2.16	2.37	2.28	2.23
d50	22.61	22.33	22.36	22.75	22.56	22.35	22.78	22.54	22.50
d90	54.35	53.99	54.02	55.01	54.73	54.78	54.44	54.33	54.21

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	2.35	0.07	2.93	2.26	0.09	4.18	2.29	0.07	3.17
d50	22.43	0.16	0.69	22.55	0.20	0.89	22.61	0.15	0.68
d90	54.12	0.20	0.37	54.84	0.15	0.27	54.33	0.12	0.21

APPENDIX 3. Participant laser replicate data for sediment distributed as PS80.

PSA_2807 LASER DATA

Microns	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
707	0.68	0.53	0.69	0.57	0.60	0.36	0.56	0.33	0.54
500	1.85	1.64	1.95	1.72	1.75	1.36	1.57	1.35	1.55
353.6	2.07	1.89	2.07	1.87	1.90	1.61	1.72	1.59	1.54
250	2.20	2.05	2.03	2.00	2.09	2.00	1.93	1.81	1.63
176.8	5.11	5.03	4.93	5.24	5.32	5.39	5.18	5.08	4.97
125	11.53	11.55	11.42	12.14	12.12	12.29	12.08	12.04	12.10
88.39	17.09	17.20	17.04	17.85	17.78	17.97	17.86	17.93	18.05
62.5	16.90	17.04	16.91	17.30	17.25	17.39	17.47	17.61	17.63
44.19	12.19	12.34	12.26	12.16	12.13	12.22	12.41	12.57	12.49
31.25	7.12	7.24	7.21	6.93	6.90	6.97	7.11	7.24	7.17
22.097	4.11	4.18	4.18	4.01	3.99	4.05	4.06	4.13	4.11
15.625	2.89	2.91	2.92	2.86	2.85	2.90	2.85	2.88	2.89
11.049	2.43	2.44	2.44	2.37	2.37	2.40	2.36	2.38	2.38
7.813	2.48	2.50	2.49	2.36	2.35	2.38	2.35	2.38	2.36
5.524	2.51	2.53	2.52	2.36	2.35	2.37	2.33	2.36	2.34
3.906	2.38	2.40	2.40	2.22	2.21	2.24	2.19	2.22	2.20
2.762	2.18	2.19	2.19	2.03	2.02	2.04	2.00	2.03	2.01
1.953	1.46	1.48	1.48	1.37	1.36	1.38	1.35	1.37	1.36
1.381	0.98	0.99	1.00	0.92	0.92	0.93	0.92	0.93	0.93
0.977	0.80	0.81	0.82	0.76	0.76	0.77	0.76	0.77	0.77
0.691	0.84	0.85	0.86	0.78	0.79	0.80	0.78	0.80	0.80
0.488	0.20	0.21	0.21	0.18	0.19	0.19	0.18	0.19	0.19
0.345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.244	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.173	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.122	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.086	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.061	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.043	0.00	0.00	0.00	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	100.00	100.00	100.00

	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
d10	6.48	6.40	6.38	7.13	7.15	7.03	7.24	7.08	7.15
d50	72.79	71.96	72.19	74.39	74.60	73.84	73.78	72.79	73.15
d90	201.24	191.24	198.79	193.95	196.98	185.16	188.50	178.75	179.64

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	6.42	0.06	0.90	7.11	0.06	0.89	7.16	0.08	1.15
d50	72.31	0.43	0.59	74.28	0.39	0.53	73.24	0.50	0.68
d90	197.09	5.21	2.64	192.03	6.14	3.20	182.30	5.39	2.96

APPENDIX 3. Participant laser replicate data for sediment distributed as PS80.

PSA_2808 LASER DATA

Microns	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
707	0.98	0.79	0.71	0.76	0.74	0.86	0.76	0.52	0.55
500	1.79	1.56	1.58	1.62	1.61	1.64	1.61	1.29	1.36
353.6	2.07	2.18	1.98	2.18	2.24	2.18	2.03	2.02	1.96
250	1.62	1.63	1.44	1.69	1.74	1.64	1.69	1.64	1.63
176.8	3.64	3.51	3.47	3.85	3.84	3.80	3.80	3.63	3.61
125	11.42	11.56	11.69	11.79	11.79	11.75	11.59	11.77	11.78
88.39	18.03	18.03	18.01	18.14	18.12	18.08	18.21	18.26	18.16
62.5	15.88	15.94	16.01	15.99	15.96	15.93	15.88	16.03	16.00
44.19	11.55	11.62	11.73	11.54	11.54	11.56	11.56	11.72	11.76
31.25	7.54	7.55	7.54	7.46	7.43	7.43	7.58	7.60	7.57
22.097	4.40	4.41	4.44	4.34	4.33	4.34	4.39	4.46	4.47
15.625	3.03	3.05	3.08	2.94	2.95	2.96	3.01	3.06	3.08
11.049	2.54	2.56	2.58	2.47	2.48	2.49	2.53	2.56	2.57
7.813	2.24	2.29	2.30	2.25	2.25	2.26	2.21	2.29	2.29
5.524	2.16	2.19	2.20	2.16	2.15	2.15	2.12	2.18	2.19
3.906	2.05	2.06	2.07	2.02	2.01	2.01	2.05	2.05	2.05
2.762	1.78	1.77	1.78	1.74	1.74	1.74	1.81	1.77	1.77
1.953	1.48	1.45	1.46	1.43	1.43	1.44	1.50	1.45	1.45
1.381	1.23	1.20	1.21	1.17	1.18	1.18	1.22	1.19	1.20
0.977	0.99	0.97	0.98	0.95	0.96	0.97	0.97	0.96	0.97
0.691	0.78	0.79	0.81	0.78	0.79	0.80	0.76	0.78	0.79
0.488	0.66	0.68	0.69	0.66	0.67	0.68	0.64	0.66	0.67
0.345	0.58	0.60	0.61	0.57	0.58	0.59	0.56	0.58	0.58
0.244	0.51	0.52	0.53	0.49	0.50	0.51	0.50	0.50	0.51
0.173	0.42	0.43	0.43	0.39	0.40	0.40	0.41	0.41	0.41
0.122	0.33	0.33	0.34	0.30	0.31	0.31	0.32	0.32	0.32
0.086	0.21	0.22	0.22	0.20	0.20	0.20	0.21	0.21	0.21
0.061	0.09	0.09	0.09	0.08	0.08	0.08	0.09	0.09	0.09
0.043	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
d10	4.57	4.57	4.49	4.81	4.76	4.70	4.63	4.68	4.64
d50	70.36	70.01	69.47	71.22	71.24	71.03	70.58	69.86	69.71
d90	178.39	175.12	172.56	178.52	179.34	178.71	176.19	172.12	172.23

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	4.55	0.05	1.03	4.76	0.06	1.18	4.65	0.02	0.51
d50	69.95	0.45	0.64	71.16	0.12	0.16	70.05	0.46	0.66
d90	175.35	2.93	1.67	178.86	0.43	0.24	173.52	2.32	1.34

APPENDIX 3. Participant laser replicate data for sediment distributed as PS80.

PSA_2809 LASER DATA

Microns	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
707	0.99	0.18	0.19	0.39	0.16	0.00	0.06	0.00	0.00
500	1.20	0.91	1.02	1.04	1.02	0.38	0.71	0.45	0.52
353.6	0.34	0.43	0.87	1.02	1.29	0.52	0.92	0.54	0.80
250	0.35	0.56	1.27	1.51	1.90	1.17	1.47	1.24	1.47
176.8	3.44	3.68	4.17	4.31	4.48	4.18	4.22	4.24	4.31
125	10.81	11.10	11.14	11.12	11.00	11.21	10.93	11.13	11.06
88.39	15.32	15.55	15.21	15.07	14.86	15.36	14.99	15.21	15.08
62.5	17.67	17.82	17.36	17.19	17.03	17.58	17.35	17.55	17.40
44.19	13.94	13.96	13.63	13.53	13.47	13.87	13.88	14.00	13.87
31.25	8.18	8.15	8.00	7.98	7.97	8.18	8.25	8.30	8.24
22.097	5.09	5.06	4.98	4.99	5.00	5.13	5.11	5.14	5.12
15.625	3.25	3.24	3.18	3.16	3.16	3.25	3.17	3.19	3.19
11.049	2.84	2.83	2.76	2.72	2.72	2.79	2.72	2.74	2.73
7.813	2.67	2.66	2.60	2.55	2.54	2.61	2.58	2.58	2.57
5.524	2.63	2.62	2.56	2.52	2.51	2.57	2.57	2.56	2.54
3.906	2.49	2.48	2.43	2.39	2.38	2.43	2.44	2.43	2.41
2.762	2.19	2.19	2.15	2.12	2.11	2.16	2.17	2.16	2.14
1.953	1.87	1.87	1.84	1.82	1.82	1.86	1.85	1.85	1.84
1.381	1.53	1.53	1.51	1.49	1.49	1.54	1.51	1.52	1.52
0.977	1.14	1.15	1.13	1.11	1.12	1.16	1.12	1.13	1.14
0.691	1.07	1.07	1.05	1.03	1.04	1.08	1.04	1.06	1.06
0.488	0.71	0.71	0.70	0.69	0.69	0.72	0.70	0.71	0.71
0.345	0.27	0.26	0.26	0.25	0.26	0.26	0.26	0.26	0.27
0.244	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.173	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.122	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.086	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.061	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.043	0.00	0.00	0.00	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	100.00	100.00	100.00

	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
d10	4.62	4.63	4.75	4.85	4.85	4.65	4.73	4.71	4.72
d50	62.65	62.77	64.06	64.62	64.76	62.99	63.31	62.95	63.30
d90	157.13	154.84	163.71	167.55	170.56	157.44	162.70	158.44	161.43

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	4.67	0.07	1.54	4.78	0.11	2.39	4.72	0.01	0.29
d50	63.16	0.78	1.24	64.12	0.98	1.54	63.19	0.21	0.33
d90	158.56	4.61	2.91	165.18	6.87	4.16	160.86	2.19	1.36

APPENDIX 3. Participant laser replicate data for sediment distributed as PS80.

PSA_2811 LASER DATA

Microns	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
707	0.65	0.18	0.23	0.54	0.38	0.35	0.22	0.34	0.41
500	1.65	0.94	1.17	1.47	1.27	1.29	1.11	1.23	1.29
353.6	1.70	1.07	1.49	1.49	1.39	1.46	1.35	1.48	1.46
250	1.78	1.23	1.66	1.54	1.54	1.55	1.49	1.65	1.61
176.8	5.10	4.81	4.95	4.95	4.94	4.79	4.76	4.82	4.82
125	11.81	12.16	11.80	11.89	11.88	11.55	11.68	11.45	11.47
88.39	17.24	18.29	17.59	17.60	17.66	17.33	17.66	17.16	17.19
62.5	16.69	17.86	17.36	17.16	17.30	17.26	17.59	17.11	17.14
44.19	11.96	12.67	12.65	12.35	12.47	12.75	12.90	12.69	12.66
31.25	7.11	7.24	7.53	7.33	7.35	7.69	7.69	7.73	7.64
22.097	4.24	4.09	4.34	4.31	4.26	4.42	4.41	4.51	4.45
15.625	3.11	2.96	3.04	3.09	3.04	3.04	3.04	3.13	3.13
11.049	2.67	2.58	2.56	2.61	2.60	2.56	2.54	2.62	2.64
7.813	2.50	2.43	2.42	2.42	2.45	2.44	2.37	2.48	2.48
5.524	2.43	2.36	2.37	2.36	2.40	2.42	2.31	2.44	2.42
3.906	2.30	2.24	2.24	2.23	2.28	2.30	2.19	2.31	2.29
2.762	2.09	2.04	2.01	2.00	2.05	2.07	1.98	2.08	2.07
1.953	1.62	1.58	1.54	1.53	1.57	1.58	1.53	1.59	1.59
1.381	1.01	0.99	0.94	0.95	0.97	0.97	0.96	0.98	0.98
0.977	0.87	0.85	0.82	0.82	0.84	0.84	0.84	0.85	0.85
0.691	1.07	1.05	0.98	1.00	1.01	1.01	1.03	1.03	1.04
0.488	0.40	0.38	0.33	0.35	0.35	0.35	0.37	0.36	0.37
0.345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.244	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.173	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.122	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.086	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.061	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.043	0.00	0.00	0.00	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	100.00	100.00	100.00

	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
d10	6.05	6.27	6.52	6.52	6.32	6.28	6.51	6.20	6.20
d50	71.71	70.96	70.77	71.48	70.99	69.91	70.12	69.49	69.70
d90	187.64	168.12	174.12	176.80	174.35	173.84	171.23	174.22	174.64

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	6.28	0.23	3.74	6.37	0.13	2.01	6.31	0.18	2.86
d50	71.15	0.50	0.70	70.80	0.80	1.13	69.77	0.32	0.46
d90	176.63	10.00	5.66	175.00	1.58	0.90	173.36	1.86	1.07

APPENDIX 3. Participant laser replicate data for sediment distributed as PS80.

PSA_2812 LASER DATA

Microns	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
707	0.77	0.93	1.15	1.20	0.85	1.08	1.06	1.10	0.96
500	0.91	0.98	1.18	1.24	1.05	1.19	1.50	1.56	1.32
353.6	0.67	0.64	0.79	0.74	0.70	0.72	1.03	1.08	0.85
250	2.09	2.07	2.06	1.77	1.75	1.71	1.74	1.74	1.64
176.8	7.59	7.59	7.44	7.05	6.99	6.91	6.62	6.51	6.61
125	15.63	15.58	15.41	15.33	15.34	15.23	14.96	14.80	15.06
88.39	20.39	20.31	20.19	20.71	20.85	20.77	20.88	20.81	21.07
62.5	18.43	18.39	18.33	19.09	19.28	19.24	19.54	19.58	19.70
44.19	12.39	12.40	12.36	12.82	12.93	12.91	12.96	13.02	13.02
31.25	6.80	6.81	6.79	6.78	6.81	6.80	6.57	6.59	6.55
22.097	3.67	3.66	3.66	3.42	3.43	3.42	3.18	3.18	3.17
15.625	2.41	2.40	2.39	2.19	2.22	2.22	2.12	2.13	2.13
11.049	1.90	1.89	1.89	1.78	1.82	1.81	1.83	1.85	1.85
7.813	1.56	1.55	1.55	1.47	1.50	1.50	1.53	1.55	1.55
5.524	1.25	1.25	1.25	1.17	1.18	1.18	1.20	1.20	1.20
3.906	0.99	0.98	0.99	0.91	0.92	0.92	0.91	0.92	0.92
2.762	0.75	0.75	0.75	0.70	0.71	0.71	0.70	0.70	0.71
1.953	0.56	0.56	0.56	0.53	0.54	0.54	0.54	0.54	0.54
1.381	0.41	0.42	0.42	0.39	0.40	0.40	0.40	0.41	0.41
0.977	0.34	0.34	0.34	0.32	0.32	0.33	0.32	0.33	0.33
0.691	0.30	0.30	0.30	0.28	0.28	0.28	0.28	0.28	0.28
0.488	0.19	0.19	0.19	0.12	0.12	0.12	0.12	0.12	0.12
0.345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.244	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.173	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.122	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.086	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.061	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.043	0.00	0.00	0.00	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	100.00	100.00	100.00

	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
d10	20.04	20.17	20.14	22.44	22.04	22.07	22.21	21.98	21.91
d50	85.18	85.30	85.47	85.30	84.55	84.67	85.00	84.72	84.60
d90	193.86	195.59	199.80	195.07	188.88	191.70	195.83	196.60	190.10

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	20.12	0.07	0.34	22.18	0.22	1.00	22.03	0.16	0.71
d50	85.32	0.15	0.17	84.84	0.40	0.47	84.78	0.21	0.24
d90	196.42	3.05	1.55	191.88	3.10	1.62	194.17	3.55	1.83

APPENDIX 3. Participant laser replicate data for sediment distributed as PS80.

PSA_2813 LASER DATA

Microns	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
707	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
353.6	0.16	0.17	0.13	0.17	0.12	0.16	0.33	0.20	0.19
250	3.34	3.53	3.36	3.27	3.05	3.11	3.45	3.22	3.11
176.8	10.31	10.55	10.34	9.86	9.61	9.50	9.61	9.26	9.16
125	16.52	16.52	16.36	15.56	15.41	15.21	14.99	14.68	14.63
88.39	17.35	17.12	17.04	16.22	16.23	16.07	15.77	15.64	15.62
62.5	13.43	13.15	13.11	12.61	12.69	12.59	12.54	12.53	12.52
44.19	8.74	8.55	8.50	8.49	8.51	8.46	8.67	8.65	8.63
31.25	5.91	5.82	5.81	6.20	6.19	6.16	6.41	6.38	6.35
22.097	4.77	4.77	4.83	5.42	5.44	5.47	5.55	5.60	5.60
15.625	4.18	4.22	4.35	4.93	5.01	5.09	5.00	5.18	5.22
11.049	3.52	3.58	3.72	4.19	4.29	4.40	4.25	4.48	4.55
7.813	2.85	2.90	3.02	3.38	3.48	3.58	3.46	3.67	3.74
5.524	2.33	2.37	2.46	2.73	2.81	2.88	2.82	2.98	3.03
3.906	1.92	1.96	2.03	2.19	2.24	2.30	2.26	2.38	2.42
2.762	1.51	1.54	1.59	1.67	1.71	1.76	1.71	1.81	1.84
1.953	1.09	1.11	1.15	1.34	1.38	1.41	1.37	1.44	1.47
1.381	0.84	0.86	0.89	1.24	1.27	1.30	1.26	1.33	1.35
0.977	0.75	0.76	0.78	0.54	0.56	0.57	0.55	0.58	0.59
0.691	0.50	0.51	0.52	0.00	0.00	0.00	0.00	0.00	0.00
0.488	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
0.345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.244	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.173	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.122	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.086	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.061	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.043	0.00	0.00	0.00	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	100.00	100.00	100.00

	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
d10	8.90	8.69	8.34	8.05	7.84	7.61	7.84	7.36	7.22
d50	83.25	83.62	82.16	77.18	75.91	75.02	75.20	72.81	72.22
d90	200.93	203.30	201.00	198.46	195.48	195.58	199.83	195.43	193.98

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	8.64	0.28	3.29	7.83	0.22	2.77	7.47	0.33	4.39
d50	83.01	0.76	0.92	76.04	1.08	1.42	73.41	1.58	2.15
d90	201.75	1.35	0.67	196.51	1.69	0.86	196.41	3.04	1.55

APPENDIX 3. Participant laser replicate data for sediment distributed as PS80.

PSA_2814 LASER DATA

Microns	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
707	0.57	0.62	0.42	1.18	1.13	1.33	0.74	1.00	0.80
500	1.37	1.49	1.16	1.70	1.63	1.61	1.29	1.48	1.40
353.6	1.42	1.52	1.25	1.62	1.46	1.40	1.36	1.43	1.38
250	2.07	2.09	2.03	2.29	2.03	2.05	2.10	2.07	2.08
176.8	5.68	5.60	5.75	5.87	5.61	5.67	5.70	5.61	5.73
125	12.06	11.95	12.17	12.09	11.96	11.97	12.02	11.92	12.09
88.39	17.09	17.00	17.19	16.89	16.94	16.90	17.04	16.95	17.08
62.5	16.93	16.88	17.02	16.63	16.80	16.74	16.93	16.86	16.90
44.19	12.48	12.46	12.54	12.21	12.39	12.35	12.50	12.46	12.46
31.25	7.41	7.42	7.46	7.24	7.38	7.36	7.45	7.42	7.40
22.097	4.20	4.22	4.24	4.09	4.18	4.17	4.22	4.20	4.18
15.625	2.89	2.91	2.91	2.82	2.86	2.85	2.89	2.88	2.86
11.049	2.54	2.55	2.55	2.47	2.50	2.49	2.53	2.52	2.50
7.813	2.47	2.46	2.46	2.39	2.42	2.41	2.44	2.43	2.41
5.524	2.43	2.42	2.42	2.35	2.38	2.37	2.40	2.38	2.37
3.906	2.31	2.30	2.30	2.23	2.26	2.26	2.27	2.26	2.25
2.762	1.97	1.97	1.97	1.91	1.94	1.94	1.95	1.94	1.94
1.953	1.47	1.47	1.48	1.43	1.45	1.46	1.47	1.47	1.46
1.381	0.99	1.00	1.00	0.97	0.99	0.99	1.00	1.00	1.00
0.977	0.69	0.70	0.70	0.68	0.70	0.70	0.71	0.71	0.71
0.691	0.54	0.55	0.55	0.54	0.55	0.55	0.56	0.56	0.56
0.488	0.36	0.36	0.37	0.35	0.37	0.37	0.37	0.37	0.37
0.345	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
0.244	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.173	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.122	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.086	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.061	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.043	0.00	0.00	0.00	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	100.00	100.00	100.00

	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
d10	6.94	6.92	6.91	7.23	7.05	7.05	6.96	6.99	7.03
d50	72.39	72.37	72.05	74.25	73.04	73.24	72.39	72.66	72.84
d90	189.09	191.73	183.27	206.78	198.27	200.45	190.11	195.05	192.38

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	6.92	0.02	0.24	7.11	0.11	1.49	6.99	0.03	0.50
d50	72.27	0.19	0.27	73.51	0.65	0.88	72.63	0.23	0.31
d90	188.03	4.33	2.30	201.83	4.42	2.19	192.51	2.48	1.29

APPENDIX 3. Participant laser replicate data for sediment distributed as PS80.

PSA_2815 LASER DATA

Microns	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
707	0.26	1.20	0.00	0.49	1.03	0.82	0.82	0.06	0.60
500	5.22	9.19	1.06	5.16	8.80	6.58	6.58	3.46	8.81
353.6	5.07	5.21	2.70	4.32	6.67	4.62	4.62	5.42	8.65
250	0.40	0.05	0.74	0.40	0.33	0.19	0.19	0.93	0.73
176.8	2.52	1.17	3.66	2.45	2.64	2.79	2.79	3.54	2.28
125	7.23	5.53	8.19	6.98	7.21	7.53	7.53	8.62	6.81
88.39	15.64	14.57	16.07	15.43	14.87	15.42	15.42	16.67	14.72
62.5	15.93	15.95	16.68	16.19	14.71	15.30	15.30	15.46	14.41
44.19	11.98	12.30	13.55	12.61	11.31	12.03	12.03	11.41	10.30
31.25	8.11	8.48	9.60	8.73	8.24	9.01	9.01	8.35	6.76
22.097	4.75	5.01	5.55	5.10	5.07	5.62	5.62	5.24	4.08
15.625	2.91	2.91	3.00	2.94	2.84	3.04	3.04	2.93	2.75
11.049	1.76	1.61	1.61	1.66	1.41	1.44	1.44	1.49	1.72
7.813	2.19	1.98	2.02	2.06	1.66	1.69	1.69	1.82	2.12
5.524	2.07	1.95	2.03	2.02	1.66	1.72	1.72	1.84	2.03
3.906	2.14	2.02	2.13	2.10	1.78	1.86	1.86	1.97	2.11
2.762	2.23	2.08	2.18	2.16	1.85	1.94	1.94	2.05	2.16
1.953	2.04	1.90	1.98	1.97	1.69	1.78	1.78	1.87	1.96
1.381	1.57	1.48	1.52	1.52	1.30	1.38	1.38	1.44	1.51
0.977	1.08	1.01	1.05	1.05	0.89	0.96	0.96	0.99	1.03
0.691	0.60	0.55	0.58	0.58	0.49	0.52	0.52	0.54	0.56
0.488	0.70	0.63	0.68	0.67	0.58	0.60	0.60	0.62	0.65
0.345	0.74	0.67	0.73	0.71	0.62	0.64	0.64	0.66	0.69
0.244	0.84	0.76	0.82	0.81	0.70	0.73	0.73	0.75	0.77
0.173	0.87	0.80	0.84	0.83	0.73	0.77	0.77	0.79	0.80
0.122	0.73	0.66	0.68	0.69	0.60	0.65	0.65	0.67	0.65
0.086	0.41	0.36	0.36	0.38	0.33	0.38	0.38	0.38	0.35
0.061	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.043	0.00	0.00	0.00	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	100.00	100.00	100.00

	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
d10	2.95	3.37	3.12	3.14	4.08	3.67	3.67	3.43	3.26
d50	65.67	66.51	61.08	64.42	72.43	67.27	67.27	68.62	73.98
d90	367.22	507.45	163.58	344.73	495.77	411.28	411.28	246.85	488.21

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	3.15	0.21	6.74	3.63	0.47	13.05	3.45	0.21	6.00
d50	64.42	2.92	4.54	68.04	4.06	5.97	69.96	3.55	5.08
d90	346.09	172.91	49.96	417.26	75.70	18.14	382.11	123.29	32.27

APPENDIX 3. Participant laser replicate data for sediment distributed as PS80.

PSA_2818 LASER DATA

Microns	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
707	0.07	0.00	0.00	0.28	0.21	0.07	0.32	0.17	0.06
500	0.93	0.54	0.56	1.39	1.21	0.81	1.40	1.10	0.80
353.6	1.56	1.23	1.26	1.82	1.67	1.30	1.71	1.58	1.32
250	2.04	1.94	1.93	2.14	1.98	1.82	1.96	1.93	1.76
176.8	5.22	5.22	5.20	5.26	5.12	5.10	5.11	5.08	5.00
125	11.84	11.89	11.88	11.71	11.70	11.79	11.66	11.68	11.74
88.39	17.50	17.62	17.61	17.16	17.33	17.50	17.22	17.32	17.51
62.5	17.42	17.58	17.58	17.07	17.27	17.50	17.15	17.30	17.52
44.19	12.75	12.90	12.91	12.56	12.69	12.89	12.63	12.76	12.92
31.25	7.52	7.62	7.63	7.47	7.52	7.65	7.51	7.60	7.68
22.097	4.33	4.39	4.40	4.32	4.35	4.40	4.36	4.40	4.44
15.625	3.07	3.11	3.10	3.06	3.08	3.11	3.09	3.11	3.13
11.049	2.64	2.67	2.66	2.63	2.64	2.67	2.66	2.67	2.68
7.813	2.44	2.46	2.45	2.45	2.44	2.46	2.46	2.46	2.47
5.524	2.40	2.43	2.42	2.44	2.43	2.45	2.45	2.45	2.46
3.906	2.25	2.28	2.27	2.29	2.29	2.31	2.31	2.31	2.32
2.762	1.97	1.99	1.99	2.00	2.00	2.02	2.02	2.02	2.03
1.953	1.46	1.48	1.48	1.47	1.48	1.50	1.48	1.49	1.51
1.381	0.90	0.91	0.92	0.89	0.91	0.92	0.89	0.91	0.92
0.977	0.70	0.72	0.72	0.68	0.70	0.71	0.69	0.71	0.72
0.691	0.74	0.76	0.76	0.72	0.73	0.75	0.71	0.74	0.76
0.488	0.25	0.26	0.26	0.19	0.25	0.26	0.19	0.19	0.26
0.345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.244	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.173	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.122	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.086	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.061	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.043	0.00	0.00	0.00	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	100.00	100.00	100.00

	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
d10	7.09	6.94	6.95	7.09	6.98	6.86	7.03	6.96	6.81
d50	71.24	70.38	70.38	71.80	71.19	70.24	71.33	70.72	69.98
d90	175.87	171.37	171.47	187.47	179.09	172.19	182.92	176.08	171.34

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	6.99	0.09	1.23	6.98	0.12	1.69	6.93	0.11	1.66
d50	70.67	0.50	0.70	71.08	0.79	1.10	70.68	0.68	0.96
d90	172.90	2.57	1.49	179.58	7.66	4.26	176.78	5.82	3.29

APPENDIX 3. Participant laser replicate data for sediment distributed as PS80.

PSA_2829 LASER DATA

Microns	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
707	0.00	-	-	-	-	-	-	-	-
500	0.00	-	-	-	-	-	-	-	-
353.6	0.00	-	-	-	-	-	-	-	-
250	3.11	-	-	-	-	-	-	-	-
176.8	10.38	-	-	-	-	-	-	-	-
125	16.15	-	-	-	-	-	-	-	-
88.39	17.08	-	-	-	-	-	-	-	-
62.5	13.68	-	-	-	-	-	-	-	-
44.19	9.27	-	-	-	-	-	-	-	-
31.25	6.25	-	-	-	-	-	-	-	-
22.097	4.76	-	-	-	-	-	-	-	-
15.625	3.99	-	-	-	-	-	-	-	-
11.049	3.41	-	-	-	-	-	-	-	-
7.813	2.91	-	-	-	-	-	-	-	-
5.524	2.49	-	-	-	-	-	-	-	-
3.906	2.05	-	-	-	-	-	-	-	-
2.762	1.57	-	-	-	-	-	-	-	-
1.953	1.10	-	-	-	-	-	-	-	-
1.381	0.79	-	-	-	-	-	-	-	-
0.977	0.62	-	-	-	-	-	-	-	-
0.691	0.40	-	-	-	-	-	-	-	-
0.488	0.00	-	-	-	-	-	-	-	-
0.345	0.00	-	-	-	-	-	-	-	-
0.244	0.00	-	-	-	-	-	-	-	-
0.173	0.00	-	-	-	-	-	-	-	-
0.122	0.00	-	-	-	-	-	-	-	-
0.086	0.00	-	-	-	-	-	-	-	-
0.061	0.00	-	-	-	-	-	-	-	-
0.043	0.00	-	-	-	-	-	-	-	-
Total	100.00	-	-	-	-	-	-	-	-

	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
d10	8.78	-	-	-	-	-	-	-	-
d50	81.34	-	-	-	-	-	-	-	-
d90	198.66	-	-	-	-	-	-	-	-

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	8.78	-	-	-	-	-	-	-	-
d50	81.34	-	-	-	-	-	-	-	-
d90	198.66	-	-	-	-	-	-	-	-

APPENDIX 4. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS80.

Exercise Code:	PS80
LabCode:	PSA_2801
Sample Code:	PS802801

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)	0.98	
1.00 to 1.50; (353.6 µm)	2.09	
1.50 to 2.00; (250 µm)	2.23	
2.00 to 2.50; (176.8 µm)	5.65	
2.50 to 3.00; (125 µm)	13.06	
3.00 to 3.50; (88.39 µm)	19.29	
3.50 to 4.00; (62.5 µm)	19.07	
4.00 to 4.50; (44.19 µm)	13.34	
4.50 to 5.00; (31.25 µm)	7.07	
5.00 to 5.50; (22.097 µm)	3.46	
5.50 to 6.00; (15.625 µm)	2.30	
6.00 to 6.50; (11.049 µm)	2.07	
6.50 to 7.00; (7.813 µm)	1.88	
7.00 to 7.50; (5.524 µm)	1.62	
7.50 to 8.00; (3.906 µm)	1.40	
8.00 to 8.50; (2.762 µm)	1.22	
8.50 to 9.00; (1.953 µm)	1.00	
9.00 to 9.50; (1.381 µm)	0.76	
9.50 to 10.00; (0.977 µm)	0.60	
10.00 to 10.50; (0.691 µm)	0.51	
10.50 to 11.00; (0.488 µm)	0.36	
11.00 to 11.50; (0.345 µm)	0.08	
11.50 to 12.00; (0.244 µm)	0.00	
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)		
> 14.50; (0.01 µm)		
TOTAL	100.00	

Notes:

APPENDIX 4. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS80.

Exercise Code:	PS80
LabCode:	PSA_2802
Sample Code:	PS802802

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	0.00	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)	0.39	0.44
0.50 to 1.00; (500 µm)	0.69	0.78
1.00 to 1.50; (353.6 µm)	0.73	0.82
1.50 to 2.00; (250 µm)	0.49	0.55
2.00 to 2.50; (176.8 µm)	3.36	3.80
2.50 to 3.00; (125 µm)	11.30	12.80
3.00 to 3.50; (88.39 µm)	18.57	21.02
3.50 to 4.00; (62.5 µm)	17.22	19.50
4.00 to 4.50; (44.19 µm)	12.38	14.02
4.50 to 5.00; (31.25 µm)	7.72	8.74
5.00 to 5.50; (22.097 µm)	4.88	5.52
5.50 to 6.00; (15.625 µm)	2.83	3.20
6.00 to 6.50; (11.049 µm)	2.32	2.62
6.50 to 7.00; (7.813 µm)	2.54	2.87
7.00 to 7.50; (5.524 µm)	2.53	2.86
7.50 to 8.00; (3.906 µm)	2.27	2.57
8.00 to 8.50; (2.762 µm)	1.92	2.17
8.50 to 9.00; (1.953 µm)	1.60	1.81
9.00 to 9.50; (1.381 µm)	1.31	1.49
9.50 to 10.00; (0.977 µm)	1.05	1.19
10.00 to 10.50; (0.691 µm)	0.85	0.96
10.50 to 11.00; (0.488 µm)	0.72	0.82
11.00 to 11.50; (0.345 µm)	0.64	0.73
11.50 to 12.00; (0.244 µm)	0.56	0.64
12.00 to 12.50; (0.173 µm)	0.46	0.52
12.50 to 13.00; (0.122 µm)	0.36	0.41
13.00 to 13.50; (0.086 µm)	0.23	0.26
13.50 to 14.00; (0.061µm)	0.10	0.11
14.00 to 14.50; (0.043µm)	0.01	0.01
> 14.50; (0.01 µm)	0.00	0.00
TOTAL	100.00	113.23

Notes:

APPENDIX 4. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS80.

Exercise Code:	PS80
LabCode:	PSA_2803
Sample Code:	PS802803

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	0.06	
0.00 to 0.50; (707 µm)	0.24	
0.50 to 1.00; (500 µm)	0.26	
1.00 to 1.50; (353.6 µm)	1.75	
1.50 to 2.00; (250 µm)	1.65	
2.00 to 2.50; (176.8 µm)	4.99	
2.50 to 3.00; (125 µm)	12.48	
3.00 to 3.50; (88.39 µm)	18.03	
3.50 to 4.00; (62.5 µm)	16.67	
4.00 to 4.50; (44.19 µm)	11.87	
4.50 to 5.00; (31.25 µm)	7.52	
5.00 to 5.50; (22.097 µm)	4.85	
5.50 to 6.00; (15.625 µm)	2.83	
6.00 to 6.50; (11.049 µm)	2.28	
6.50 to 7.00; (7.813 µm)	2.38	
7.00 to 7.50; (5.524 µm)	2.36	
7.50 to 8.00; (3.906 µm)	2.10	
8.00 to 8.50; (2.762 µm)	1.64	
8.50 to 9.00; (1.953 µm)	1.23	
9.00 to 9.50; (1.381 µm)	0.98	
9.50 to 10.00; (0.977 µm)	0.82	
10.00 to 10.50; (0.691 µm)	0.71	
10.50 to 11.00; (0.488 µm)	0.61	
11.00 to 11.50; (0.345 µm)	0.51	
11.50 to 12.00; (0.244 µm)	0.42	
12.00 to 12.50; (0.173 µm)	0.32	
12.50 to 13.00; (0.122 µm)	0.24	
13.00 to 13.50; (0.086 µm)	0.15	
13.50 to 14.00; (0.061µm)	0.06	
14.00 to 14.50; (0.043µm)	0.01	
> 14.50; (0.01 µm)	0.00	
TOTAL	100.00	

Notes:

APPENDIX 4. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS80.

Exercise Code:	PS80
LabCode:	PSA_2804
Sample Code:	PS802804

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)		
0.50 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)		
> 14.50; (0.01 µm)		
TOTAL		

Notes:
Not participating in current exercise

APPENDIX 4. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS80.

Exercise Code:	PS80
LabCode:	PSA_2805
Sample Code:	PS802805

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)		
0.50 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)		
> 14.50; (0.01 µm)		
TOTAL		

Notes:
Not participating in current exercise

APPENDIX 4. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS80.

Exercise Code:	PS80
LabCode:	PSA_2806
Sample Code:	PS802806

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)	0.42	
1.00 to 1.50; (353.6 µm)	0.61	
1.50 to 2.00; (250 µm)	0.82	
2.00 to 2.50; (176.8 µm)	3.97	
2.50 to 3.00; (125 µm)	10.48	
3.00 to 3.50; (88.39 µm)	16.65	
3.50 to 4.00; (62.5 µm)	18.06	
4.00 to 4.50; (44.19 µm)	14.41	
4.50 to 5.00; (31.25 µm)	9.00	
5.00 to 5.50; (22.097 µm)	5.00	
5.50 to 6.00; (15.625 µm)	3.21	
6.00 to 6.50; (11.049 µm)	2.85	
6.50 to 7.00; (7.813 µm)	2.94	
7.00 to 7.50; (5.524 µm)	2.96	
7.50 to 8.00; (3.906 µm)	2.77	
8.00 to 8.50; (2.762 µm)	2.38	
8.50 to 9.00; (1.953 µm)	1.80	
9.00 to 9.50; (1.381 µm)	1.11	
9.50 to 10.00; (0.977 µm)	0.50	
10.00 to 10.50; (0.691 µm)	0.06	
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	
> 14.50; (0.01 µm)	0.00	
TOTAL	100.00	

Notes:

APPENDIX 4. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS80.

Exercise Code:	PS80
LabCode:	PSA_2807
Sample Code:	PS802807

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)	0.48	
0.50 to 1.00; (500 µm)	1.49	
1.00 to 1.50; (353.6 µm)	1.62	
1.50 to 2.00; (250 µm)	1.79	
2.00 to 2.50; (176.8 µm)	5.08	
2.50 to 3.00; (125 µm)	12.07	
3.00 to 3.50; (88.39 µm)	17.95	
3.50 to 4.00; (62.5 µm)	17.57	
4.00 to 4.50; (44.19 µm)	12.49	
4.50 to 5.00; (31.25 µm)	7.17	
5.00 to 5.50; (22.097 µm)	4.10	
5.50 to 6.00; (15.625 µm)	2.87	
6.00 to 6.50; (11.049 µm)	2.37	
6.50 to 7.00; (7.813 µm)	2.36	
7.00 to 7.50; (5.524 µm)	2.34	
7.50 to 8.00; (3.906 µm)	2.20	
8.00 to 8.50; (2.762 µm)	2.01	
8.50 to 9.00; (1.953 µm)	1.36	
9.00 to 9.50; (1.381 µm)	0.93	
9.50 to 10.00; (0.977 µm)	0.77	
10.00 to 10.50; (0.691 µm)	0.98	
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)		
> 14.50; (0.01 µm)		
TOTAL		

Notes:

APPENDIX 4. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS80.

Exercise Code:	PS80
LabCode:	PSA_2808
Sample Code:	PS802808

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)	0.74	
0.50 to 1.00; (500 µm)	1.56	
1.00 to 1.50; (353.6 µm)	2.09	
1.50 to 2.00; (250 µm)	1.63	
2.00 to 2.50; (176.8 µm)	3.68	
2.50 to 3.00; (125 µm)	11.68	
3.00 to 3.50; (88.39 µm)	18.12	
3.50 to 4.00; (62.5 µm)	15.96	
4.00 to 4.50; (44.19 µm)	11.62	
4.50 to 5.00; (31.25 µm)	7.52	
5.00 to 5.50; (22.097 µm)	4.40	
5.50 to 6.00; (15.625 µm)	3.02	
6.00 to 6.50; (11.049 µm)	2.53	
6.50 to 7.00; (7.813 µm)	2.26	
7.00 to 7.50; (5.524 µm)	2.17	
7.50 to 8.00; (3.906 µm)	2.04	
8.00 to 8.50; (2.762 µm)	1.77	
8.50 to 9.00; (1.953 µm)	1.46	
9.00 to 9.50; (1.381 µm)	1.20	
9.50 to 10.00; (0.977 µm)	0.97	
10.00 to 10.50; (0.691 µm)	0.79	
10.50 to 11.00; (0.488 µm)	0.67	
11.00 to 11.50; (0.345 µm)	0.58	
11.50 to 12.00; (0.244 µm)	0.51	
12.00 to 12.50; (0.173 µm)	0.41	
12.50 to 13.00; (0.122 µm)	0.32	
13.00 to 13.50; (0.086 µm)	0.21	
13.50 to 14.00; (0.061µm)	0.09	
14.00 to 14.50; (0.043µm)	0.01	
> 14.50; (0.01 µm)	0.00	
TOTAL	100.00	

Notes:

For consistency with previous ring tests, laser data >1mm have been removed and the data recalculated to 100% ('normalised') before entering into this spreadsheet

APPENDIX 4. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS80.

Exercise Code:	PS80
LabCode:	PSA_2809
Sample Code:	PS802809

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)	0.22	0.30
0.50 to 1.00; (500 µm)	0.81	1.10
1.00 to 1.50; (353.6 µm)	0.75	1.02
1.50 to 2.00; (250 µm)	1.22	1.67
2.00 to 2.50; (176.8 µm)	4.11	5.63
2.50 to 3.00; (125 µm)	11.05	15.12
3.00 to 3.50; (88.39 µm)	15.18	20.77
3.50 to 4.00; (62.5 µm)	17.44	23.86
4.00 to 4.50; (44.19 µm)	13.79	18.87
4.50 to 5.00; (31.25 µm)	8.14	11.13
5.00 to 5.50; (22.097 µm)	5.07	6.94
5.50 to 6.00; (15.625 µm)	3.20	4.37
6.00 to 6.50; (11.049 µm)	2.76	3.78
6.50 to 7.00; (7.813 µm)	2.59	3.55
7.00 to 7.50; (5.524 µm)	2.56	3.51
7.50 to 8.00; (3.906 µm)	2.43	3.33
8.00 to 8.50; (2.762 µm)	2.15	2.95
8.50 to 9.00; (1.953 µm)	1.85	2.53
9.00 to 9.50; (1.381 µm)	1.52	2.07
9.50 to 10.00; (0.977 µm)	1.13	1.55
10.00 to 10.50; (0.691 µm)	1.05	1.44
10.50 to 11.00; (0.488 µm)	0.71	0.96
11.00 to 11.50; (0.345 µm)	0.26	0.36
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)		
> 14.50; (0.01 µm)		
TOTAL	100.00	136.80

Notes:

APPENDIX 4. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS80.

Exercise Code:	PS80
LabCode:	PSA_2810
Sample Code:	PS802810

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)		
0.50 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)		
> 14.50; (0.01 µm)		
TOTAL		

Notes:
Not participating in current exercise

APPENDIX 4. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS80.

Exercise Code:	PS80
LabCode:	PSA_2811
Sample Code:	PS802811

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)	0.37	0.00
0.50 to 1.00; (500 µm)	1.27	0.01
1.00 to 1.50; (353.6 µm)	1.43	0.01
1.50 to 2.00; (250 µm)	1.56	0.02
2.00 to 2.50; (176.8 µm)	4.88	0.05
2.50 to 3.00; (125 µm)	11.74	0.12
3.00 to 3.50; (88.39 µm)	17.52	0.18
3.50 to 4.00; (62.5 µm)	17.27	0.17
4.00 to 4.50; (44.19 µm)	12.57	0.13
4.50 to 5.00; (31.25 µm)	7.48	0.07
5.00 to 5.50; (22.097 µm)	4.34	0.04
5.50 to 6.00; (15.625 µm)	3.06	0.03
6.00 to 6.50; (11.049 µm)	2.60	0.03
6.50 to 7.00; (7.813 µm)	2.44	0.02
7.00 to 7.50; (5.524 µm)	2.39	0.02
7.50 to 8.00; (3.906 µm)	2.26	0.02
8.00 to 8.50; (2.762 µm)	2.04	0.02
8.50 to 9.00; (1.953 µm)	1.57	0.02
9.00 to 9.50; (1.381 µm)	0.97	0.01
9.50 to 10.00; (0.977 µm)	0.84	0.01
10.00 to 10.50; (0.691 µm)	1.02	0.01
10.50 to 11.00; (0.488 µm)	0.36	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
> 14.50; (0.01 µm)		
TOTAL	100.00	1.00

Notes:

APPENDIX 4. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS80.

Exercise Code:	PS80
LabCode:	PSA_2812
Sample Code:	PS802812

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)	1.01	
0.50 to 1.00; (500 µm)	1.21	
1.00 to 1.50; (353.6 µm)	0.80	
1.50 to 2.00; (250 µm)	1.84	
2.00 to 2.50; (176.8 µm)	7.03	
2.50 to 3.00; (125 µm)	15.26	
3.00 to 3.50; (88.39 µm)	20.67	
3.50 to 4.00; (62.5 µm)	19.06	
4.00 to 4.50; (44.19 µm)	12.76	
4.50 to 5.00; (31.25 µm)	6.72	
5.00 to 5.50; (22.097 µm)	3.42	
5.50 to 6.00; (15.625 µm)	2.25	
6.00 to 6.50; (11.049 µm)	1.85	
6.50 to 7.00; (7.813 µm)	1.53	
7.00 to 7.50; (5.524 µm)	1.21	
7.50 to 8.00; (3.906 µm)	0.94	
8.00 to 8.50; (2.762 µm)	0.72	
8.50 to 9.00; (1.953 µm)	0.55	
9.00 to 9.50; (1.381 µm)	0.41	
9.50 to 10.00; (0.977 µm)	0.33	
10.00 to 10.50; (0.691 µm)	0.29	
10.50 to 11.00; (0.488 µm)	0.14	
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	
> 14.50; (0.01 µm)	0.00	
TOTAL	100.00	

Notes:

APPENDIX 4. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS80.

Exercise Code:	PS80
LabCode:	PSA_2813
Sample Code:	PS802813

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)	0.18	
1.50 to 2.00; (250 µm)	3.27	
2.00 to 2.50; (176.8 µm)	9.80	
2.50 to 3.00; (125 µm)	15.54	
3.00 to 3.50; (88.39 µm)	16.34	
3.50 to 4.00; (62.5 µm)	12.80	
4.00 to 4.50; (44.19 µm)	8.58	
4.50 to 5.00; (31.25 µm)	6.14	
5.00 to 5.50; (22.097 µm)	5.27	
5.50 to 6.00; (15.625 µm)	4.80	
6.00 to 6.50; (11.049 µm)	4.11	
6.50 to 7.00; (7.813 µm)	3.34	
7.00 to 7.50; (5.524 µm)	2.71	
7.50 to 8.00; (3.906 µm)	2.19	
8.00 to 8.50; (2.762 µm)	1.68	
8.50 to 9.00; (1.953 µm)	1.31	
9.00 to 9.50; (1.381 µm)	1.15	
9.50 to 10.00; (0.977 µm)	0.63	
10.00 to 10.50; (0.691 µm)	0.17	
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	
> 14.50; (0.01 µm)	0.00	
TOTAL	100.00	

Notes:
Participant's standard method involves sieving samples over a 2 mm sieve and measuring material less than 2 mm using laser diffraction

APPENDIX 4. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS80.

Exercise Code:	PS80
LabCode:	PSA_2814
Sample Code:	PS802814

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	0.00	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)	0.87	1.20
0.50 to 1.00; (500 µm)	1.46	2.01
1.00 to 1.50; (353.6 µm)	1.43	1.96
1.50 to 2.00; (250 µm)	2.09	2.87
2.00 to 2.50; (176.8 µm)	5.69	7.83
2.50 to 3.00; (125 µm)	12.02	16.55
3.00 to 3.50; (88.39 µm)	17.01	23.41
3.50 to 4.00; (62.5 µm)	16.85	23.20
4.00 to 4.50; (44.19 µm)	12.43	17.10
4.50 to 5.00; (31.25 µm)	7.39	10.18
5.00 to 5.50; (22.097 µm)	4.19	5.76
5.50 to 6.00; (15.625 µm)	2.87	3.96
6.00 to 6.50; (11.049 µm)	2.52	3.46
6.50 to 7.00; (7.813 µm)	2.43	3.35
7.00 to 7.50; (5.524 µm)	2.39	3.29
7.50 to 8.00; (3.906 µm)	2.27	3.12
8.00 to 8.50; (2.762 µm)	1.95	2.68
8.50 to 9.00; (1.953 µm)	1.46	2.01
9.00 to 9.50; (1.381 µm)	0.99	1.36
9.50 to 10.00; (0.977 µm)	0.70	0.97
10.00 to 10.50; (0.691 µm)	0.55	0.76
10.50 to 11.00; (0.488 µm)	0.36	0.50
11.00 to 11.50; (0.345 µm)	0.07	0.10
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
> 14.50; (0.01 µm)	0.00	0.00
TOTAL	100.00	137.64

Notes:

APPENDIX 4. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS80.

Exercise Code:	PS80
LabCode:	PSA_2815
Sample Code:	PS802815

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)	0.59	
0.50 to 1.00; (500 µm)	6.10	
1.00 to 1.50; (353.6 µm)	5.25	
1.50 to 2.00; (250 µm)	0.44	
2.00 to 2.50; (176.8 µm)	2.65	
2.50 to 3.00; (125 µm)	7.29	
3.00 to 3.50; (88.39 µm)	15.42	
3.50 to 4.00; (62.5 µm)	15.55	
4.00 to 4.50; (44.19 µm)	11.95	
4.50 to 5.00; (31.25 µm)	8.48	
5.00 to 5.50; (22.097 µm)	5.11	
5.50 to 6.00; (15.625 µm)	2.93	
6.00 to 6.50; (11.049 µm)	1.57	
6.50 to 7.00; (7.813 µm)	1.91	
7.00 to 7.50; (5.524 µm)	1.89	
7.50 to 8.00; (3.906 µm)	2.00	
8.00 to 8.50; (2.762 µm)	2.07	
8.50 to 9.00; (1.953 µm)	1.89	
9.00 to 9.50; (1.381 µm)	1.46	
9.50 to 10.00; (0.977 µm)	1.00	
10.00 to 10.50; (0.691 µm)	0.55	
10.50 to 11.00; (0.488 µm)	0.64	
11.00 to 11.50; (0.345 µm)	0.68	
11.50 to 12.00; (0.244 µm)	0.77	
12.00 to 12.50; (0.173 µm)	0.80	
12.50 to 13.00; (0.122 µm)	0.66	
13.00 to 13.50; (0.086 µm)	0.37	
13.50 to 14.00; (0.061µm)		
14.00 to 14.50; (0.043µm)		
> 14.50; (0.01 µm)		
TOTAL	100.00	

Notes:

APPENDIX 4. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS80.

Exercise Code:	PS80
LabCode:	PSA_2818
Sample Code:	PS802818

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)	0.13	
0.50 to 1.00; (500 µm)	0.97	
1.00 to 1.50; (353.6 µm)	1.49	
1.50 to 2.00; (250 µm)	1.94	
2.00 to 2.50; (176.8 µm)	5.15	
2.50 to 3.00; (125 µm)	11.77	
3.00 to 3.50; (88.39 µm)	17.42	
3.50 to 4.00; (62.5 µm)	17.38	
4.00 to 4.50; (44.19 µm)	12.78	
4.50 to 5.00; (31.25 µm)	7.58	
5.00 to 5.50; (22.097 µm)	4.38	
5.50 to 6.00; (15.625 µm)	3.10	
6.00 to 6.50; (11.049 µm)	2.66	
6.50 to 7.00; (7.813 µm)	2.45	
7.00 to 7.50; (5.524 µm)	2.44	
7.50 to 8.00; (3.906 µm)	2.29	
8.00 to 8.50; (2.762 µm)	2.00	
8.50 to 9.00; (1.953 µm)	1.48	
9.00 to 9.50; (1.381 µm)	0.91	
9.50 to 10.00; (0.977 µm)	0.71	
10.00 to 10.50; (0.691 µm)	0.74	
10.50 to 11.00; (0.488 µm)	0.23	
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	
> 14.50; (0.01 µm)	0.00	
TOTAL	100.00	

Notes:

APPENDIX 4. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS80.

Exercise Code:	PS80
LabCode:	PSA_2829
Sample Code:	PS802829

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)	0.00	
1.00 to 1.50; (353.6 µm)	0.00	
1.50 to 2.00; (250 µm)	3.11	
2.00 to 2.50; (176.8 µm)	10.38	
2.50 to 3.00; (125 µm)	16.15	
3.00 to 3.50; (88.39 µm)	17.08	
3.50 to 4.00; (62.5 µm)	13.68	
4.00 to 4.50; (44.19 µm)	9.27	
4.50 to 5.00; (31.25 µm)	6.25	
5.00 to 5.50; (22.097 µm)	4.76	
5.50 to 6.00; (15.625 µm)	3.99	
6.00 to 6.50; (11.049 µm)	3.41	
6.50 to 7.00; (7.813 µm)	2.91	
7.00 to 7.50; (5.524 µm)	2.49	
7.50 to 8.00; (3.906 µm)	2.05	
8.00 to 8.50; (2.762 µm)	1.57	
8.50 to 9.00; (1.953 µm)	1.10	
9.00 to 9.50; (1.381 µm)	0.79	
9.50 to 10.00; (0.977 µm)	0.62	
10.00 to 10.50; (0.691 µm)	0.40	
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	
> 14.50; (0.01 µm)		
TOTAL	100.00	

Notes:
The samples are oven-dried before they are sieved => Base pan and oven dried values are not applicable

APPENDIX 4. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS80.

Exercise Code:	PS80
LabCode:	PSA_2835
Sample Code:	PS802835

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)		
0.50 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)		
>14.5; (0.01)		
TOTAL		

Notes:
Not participating in current exercise

APPENDIX 4. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS80.

Exercise Code:	PS80
LabCode:	PSA_2830
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)	0.47	
0.50 to 1.00; (500 µm)	1.03	
1.00 to 1.50; (353.6 µm)	1.80	
1.50 to 2.00; (250 µm)	1.28	
2.00 to 2.50; (176.8 µm)	3.39	
2.50 to 3.00; (125 µm)	11.59	
3.00 to 3.50; (88.39 µm)	18.08	
3.50 to 4.00; (62.5 µm)	16.28	
4.00 to 4.50; (44.19 µm)	11.58	
4.50 to 5.00; (31.25 µm)	7.73	
5.00 to 5.50; (22.097 µm)	4.69	
5.50 to 6.00; (15.625 µm)	3.11	
6.00 to 6.50; (11.049 µm)	2.68	
6.50 to 7.00; (7.813 µm)	2.42	
7.00 to 7.50; (5.524 µm)	2.31	
7.50 to 8.00; (3.906 µm)	2.16	
8.00 to 8.50; (2.762 µm)	1.85	
8.50 to 9.00; (1.953 µm)	1.52	
9.00 to 9.50; (1.381 µm)	1.26	
9.50 to 10.00; (0.977 µm)	1.02	
10.00 to 10.50; (0.691 µm)	0.83	
10.50 to 11.00; (0.488 µm)	0.70	
11.00 to 11.50; (0.345 µm)	0.61	
11.50 to 12.00; (0.244 µm)	0.53	
12.00 to 12.50; (0.173 µm)	0.43	
12.50 to 13.00; (0.122 µm)	0.33	
13.00 to 13.50; (0.086 µm)	0.22	
13.50 to 14.00; (0.061µm)	0.09	
14.00 to 14.50; (0.043µm)	0.01	
>14.5; (0.01)	0.00	
TOTAL	100.00	

Notes:

This sample visually contained no particles >1 mm. The laser analyses showed a tiny amount of material >1 mm. Sample PS80_2830 was wet separated at 1 mm to check and nothing was retained on the 1 mm sieve. However, during wet separation it was evident that the sample contained a number of organic fibres approximately 1-2 mm long, which washed easily through the 1 mm sieve but would have been visible to the laser and therefore recorded as >1 mm.
For consistency with previous ring tests, laser data >1mm were removed and the data recalculated to 100% ('normalised') before entering into analysis spreadsheet

APPENDIX 4. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS80.

Exercise Code:	PS80
LabCode:	PSA_2831
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)	0.80	
0.50 to 1.00; (500 µm)	1.39	
1.00 to 1.50; (353.6 µm)	2.01	
1.50 to 2.00; (250 µm)	1.55	
2.00 to 2.50; (176.8 µm)	3.44	
2.50 to 3.00; (125 µm)	11.52	
3.00 to 3.50; (88.39 µm)	18.12	
3.50 to 4.00; (62.5 µm)	16.08	
4.00 to 4.50; (44.19 µm)	11.59	
4.50 to 5.00; (31.25 µm)	7.52	
5.00 to 5.50; (22.097 µm)	4.50	
5.50 to 6.00; (15.625 µm)	3.03	
6.00 to 6.50; (11.049 µm)	2.59	
6.50 to 7.00; (7.813 µm)	2.36	
7.00 to 7.50; (5.524 µm)	2.25	
7.50 to 8.00; (3.906 µm)	2.10	
8.00 to 8.50; (2.762 µm)	1.80	
8.50 to 9.00; (1.953 µm)	1.48	
9.00 to 9.50; (1.381 µm)	1.23	
9.50 to 10.00; (0.977 µm)	1.00	
10.00 to 10.50; (0.691 µm)	0.81	
10.50 to 11.00; (0.488 µm)	0.68	
11.00 to 11.50; (0.345 µm)	0.59	
11.50 to 12.00; (0.244 µm)	0.51	
12.00 to 12.50; (0.173 µm)	0.41	
12.50 to 13.00; (0.122 µm)	0.32	
13.00 to 13.50; (0.086 µm)	0.21	
13.50 to 14.00; (0.061µm)	0.09	
14.00 to 14.50; (0.043µm)	0.01	
>14.5; (0.01)	0.00	
TOTAL	100.00	

Notes:

This sample visually contained no particles >1 mm. The laser analyses showed a tiny amount of material >1 mm. Sample PS80_2830 was wet separated at 1 mm to check and nothing was retained on the 1 mm sieve. However, during wet separation it was evident that the sample contained a number of organic fibres approximately 1-2 mm long, which washed easily through the 1 mm sieve but would have been visible to the laser and therefore recorded as >1 mm.
For consistency with previous ring tests, laser data >1mm were removed and the data recalculated to 100% ('normalised') before entering into analysis spreadsheet

APPENDIX 4. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS80.

Exercise Code:	PS80
LabCode:	PSA_2832
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)	0.76	
0.50 to 1.00; (500 µm)	1.55	
1.00 to 1.50; (353.6 µm)	2.33	
1.50 to 2.00; (250 µm)	1.69	
2.00 to 2.50; (176.8 µm)	3.61	
2.50 to 3.00; (125 µm)	11.78	
3.00 to 3.50; (88.39 µm)	18.07	
3.50 to 4.00; (62.5 µm)	15.90	
4.00 to 4.50; (44.19 µm)	11.57	
4.50 to 5.00; (31.25 µm)	7.40	
5.00 to 5.50; (22.097 µm)	4.37	
5.50 to 6.00; (15.625 µm)	3.00	
6.00 to 6.50; (11.049 µm)	2.54	
6.50 to 7.00; (7.813 µm)	2.28	
7.00 to 7.50; (5.524 µm)	2.18	
7.50 to 8.00; (3.906 µm)	2.05	
8.00 to 8.50; (2.762 µm)	1.76	
8.50 to 9.00; (1.953 µm)	1.45	
9.00 to 9.50; (1.381 µm)	1.19	
9.50 to 10.00; (0.977 µm)	0.96	
10.00 to 10.50; (0.691 µm)	0.78	
10.50 to 11.00; (0.488 µm)	0.66	
11.00 to 11.50; (0.345 µm)	0.58	
11.50 to 12.00; (0.244 µm)	0.50	
12.00 to 12.50; (0.173 µm)	0.41	
12.50 to 13.00; (0.122 µm)	0.32	
13.00 to 13.50; (0.086 µm)	0.21	
13.50 to 14.00; (0.061µm)	0.09	
14.00 to 14.50; (0.043µm)	0.01	
>14.5; (0.01)	0.00	
TOTAL	100.00	

Notes:

This sample visually contained no particles >1 mm. The laser analyses showed a tiny amount of material >1 mm. Sample PS80_2830 was wet separated at 1 mm to check and nothing was retained on the 1 mm sieve. However, during wet separation it was evident that the sample contained a number of organic fibres approximately 1-2 mm long, which washed easily through the 1 mm sieve but would have been visible to the laser and therefore recorded as >1 mm.
For consistency with previous ring tests, laser data >1mm were removed and the data recalculated to 100% ('normalised') before entering into analysis spreadsheet

APPENDIX 4. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS80.

Exercise Code:	PS80
LabCode:	PSA_2833
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)	0.48	
0.50 to 1.00; (500 µm)	1.51	
1.00 to 1.50; (353.6 µm)	2.21	
1.50 to 2.00; (250 µm)	1.60	
2.00 to 2.50; (176.8 µm)	3.70	
2.50 to 3.00; (125 µm)	11.81	
3.00 to 3.50; (88.39 µm)	18.09	
3.50 to 4.00; (62.5 µm)	15.99	
4.00 to 4.50; (44.19 µm)	11.63	
4.50 to 5.00; (31.25 µm)	7.43	
5.00 to 5.50; (22.097 µm)	4.40	
5.50 to 6.00; (15.625 µm)	3.02	
6.00 to 6.50; (11.049 µm)	2.53	
6.50 to 7.00; (7.813 µm)	2.27	
7.00 to 7.50; (5.524 µm)	2.17	
7.50 to 8.00; (3.906 µm)	2.03	
8.00 to 8.50; (2.762 µm)	1.74	
8.50 to 9.00; (1.953 µm)	1.44	
9.00 to 9.50; (1.381 µm)	1.20	
9.50 to 10.00; (0.977 µm)	0.99	
10.00 to 10.50; (0.691 µm)	0.82	
10.50 to 11.00; (0.488 µm)	0.70	
11.00 to 11.50; (0.345 µm)	0.61	
11.50 to 12.00; (0.244 µm)	0.53	
12.00 to 12.50; (0.173 µm)	0.43	
12.50 to 13.00; (0.122 µm)	0.33	
13.00 to 13.50; (0.086 µm)	0.21	
13.50 to 14.00; (0.061µm)	0.09	
14.00 to 14.50; (0.043µm)	0.01	
>14.5; (0.01)	0.00	
TOTAL	100.00	

Notes:

This sample visually contained no particles >1 mm. The laser analyses showed a tiny amount of material >1 mm. Sample PS80_2830 was wet separated at 1 mm to check and nothing was retained on the 1 mm sieve. However, during wet separation it was evident that the sample contained a number of organic fibres approximately 1-2 mm long, which washed easily through the 1 mm sieve but would have been visible to the laser and therefore recorded as >1 mm.
For consistency with previous ring tests, laser data >1mm were removed and the data recalculated to 100% ('normalised') before entering into analysis spreadsheet

APPENDIX 4. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS80.

Exercise Code:	PS80
LabCode:	PSA_2834
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)	0.55	
0.50 to 1.00; (500 µm)	1.54	
1.00 to 1.50; (353.6 µm)	2.22	
1.50 to 2.00; (250 µm)	1.48	
2.00 to 2.50; (176.8 µm)	3.56	
2.50 to 3.00; (125 µm)	11.82	
3.00 to 3.50; (88.39 µm)	18.16	
3.50 to 4.00; (62.5 µm)	15.99	
4.00 to 4.50; (44.19 µm)	11.64	
4.50 to 5.00; (31.25 µm)	7.48	
5.00 to 5.50; (22.097 µm)	4.40	
5.50 to 6.00; (15.625 µm)	3.03	
6.00 to 6.50; (11.049 µm)	2.54	
6.50 to 7.00; (7.813 µm)	2.27	
7.00 to 7.50; (5.524 µm)	2.17	
7.50 to 8.00; (3.906 µm)	2.04	
8.00 to 8.50; (2.762 µm)	1.76	
8.50 to 9.00; (1.953 µm)	1.46	
9.00 to 9.50; (1.381 µm)	1.21	
9.50 to 10.00; (0.977 µm)	0.99	
10.00 to 10.50; (0.691 µm)	0.81	
10.50 to 11.00; (0.488 µm)	0.69	
11.00 to 11.50; (0.345 µm)	0.61	
11.50 to 12.00; (0.244 µm)	0.53	
12.00 to 12.50; (0.173 µm)	0.43	
12.50 to 13.00; (0.122 µm)	0.33	
13.00 to 13.50; (0.086 µm)	0.22	
13.50 to 14.00; (0.061µm)	0.09	
14.00 to 14.50; (0.043µm)	0.01	
>14.5; (0.01)	0.00	
TOTAL	100.00	

Notes:

This sample visually contained no particles >1 mm. The laser analyses showed a tiny amount of material >1 mm. Sample PS80_2830 was wet separated at 1 mm to check and nothing was retained on the 1 mm sieve. However, during wet separation it was evident that the sample contained a number of organic fibres approximately 1-2 mm long, which washed easily through the 1 mm sieve but would have been visible to the laser and therefore recorded as >1 mm.
For consistency with previous ring tests, laser data >1mm were removed and the data recalculated to 100% ('normalised') before entering into analysis spreadsheet