NMBAQC

NE Atlantic Marine Biological Analytical Quality Control Scheme

Particle Size Report - PS83

Particle Size Component 2021/22

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APEM

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APPENDICES

BENCHMARK DATA

Table 1. Summary data for the benchmark replicates distributed as PS83.

	Method	% Gravel	% Sand	% Mud	Sediment Description (Post analysis)
PSA_2830 BM REP 1	NMBAQC	0.58	0.41	0.01	Sandy Gravel
PSA_2831 BM REP 2	NMBAQC	0.58	0.42	0.01	Sandy Gravel
PSA_2832 BM REP 3	NMBAQC	0.58	0.41	0.01	Sandy Gravel
PSA_2833 BM REP 4	NMBAQC	0.58	0.41	0.01	Sandy Gravel
PSA_2834 BM REP 5	NMBAQC	0.58	0.42	0.01	Sandy Gravel
BM REP AVERAGE	NMBAQC	0.58	0.41	0.01	Sandy Gravel

Table 2. Summary of sieve data for the benchmark replicates distributed as PS83.

		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		Yes	Yes	Yes	Yes	Yes	Yes
Phi interval; mm		**Weight in grams**					
-6.50 to -6.00; 63 mm		0.00	0.00	0.00	0.00	0.00	0.00
-6.00 to -5.50; 45 mm		0.00	0.00	0.00	0.00	0.00	0.00
-5.50 to -5.00; 31.5 mm		0.00	0.00	0.00	0.00	0.00	0.00
-5.00 to -4.50; 22.4 mm		0.00	0.00	0.00	0.00	0.00	0.00
-4.50 to -4.00; 16 mm		0.00	0.00	0.00	0.00	0.00	0.00
-4.00 to -3.50; 11.2 mm		0.00	0.00	0.00	0.00	0.00	0.00
-3.50 to -3.00; 8 mm		62.45	54.90	49.53	41.94	49.39	51.64
-3.00 to -2.50; 5.6 mm		351.80	342.42	359.30	369.97	351.57	355.01
-2.50 to -2.00; 4 mm		101.25	115.79	109.90	105.99	103.82	107.35
-2.00 to -1.50; 2.8 mm		21.05	19.88	18.49	19.23	20.86	19.90
-1.50 to -1.00; 2 mm		24.25	22.84	23.20	23.62	23.71	23.52
-1.00 to -0.50; 1.4 mm		15.16	15.23	15.23	16.95	15.76	15.67
-0.50 to 0.00; 1.0 mm		15.62	16.40	15.47	15.62	16.69	15.96
>1.0 mm		591.58	587.46	591.12	593.32	581.80	589.06
<1.0 mm	Base Pan	0.21	0.23	0.26	0.30	0.27	0.25
	Oven Dried	373.63	374.74	367.78	369.72	368.82	370.94
Total Weight (g)		965.42	962.43	959.16	963.34	950.89	960.25

BENCHMARK DATA

Table 3. Summary of final laser data for the benchmark replicates distributed as PS83.

	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)	13.52	12.25	12.47	12.33	16.27	13.37
0.50 to 1.00; (500 µm)	20.58	19.24	19.44	19.06	22.34	20.13
1.00 to 1.50; (353.6 µm)	25.39	25.12	25.36	25.25	24.92	25.21
1.50 to 2.00; (250 µm)	22.93	24.00	23.88	24.07	21.14	23.20
2.00 to 2.50; (176.8 µm)	11.73	12.76	12.65	12.86	10.24	12.05
2.50 to 3.00; (125 µm)	3.16	3.58	3.50	3.63	2.67	3.31
3.00 to 3.50; (88.39 µm)	0.90	1.08	1.01	1.05	0.80	0.97
3.50 to 4.00; (62.5 µm)	0.30	0.32	0.32	0.32	0.25	0.30
4.00 to 4.50; (44.19 µm)	0.15	0.16	0.13	0.14	0.12	0.14
4.50 to 5.00; (31.25 µm)	0.11	0.11	0.10	0.10	0.09	0.10
5.00 to 5.50; (22.097 µm)	0.10	0.11	0.09	0.09	0.09	0.10
5.50 to 6.00; (15.625 µm)	0.08	0.09	0.08	0.08	0.07	0.08
6.00 to 6.50; (11.049 µm)	0.08	0.09	0.07	0.08	0.07	0.08
6.50 to 7.00; (7.813 µm)	0.09	0.09	0.07	0.08	0.08	0.08
7.00 to 7.50; (5.524 µm)	0.08	0.10	0.07	0.08	0.08	0.08
7.50 to 8.00; (3.906 µm)	0.07	0.09	0.06	0.07	0.07	0.07
8.00 to 8.50; (2.762 µm)	0.06	0.08	0.05	0.06	0.06	0.06
8.50 to 9.00; (1.953 µm)	0.07	0.08	0.06	0.06	0.06	0.07
9.00 to 9.50; (1.381 µm)	0.08	0.10	0.07	0.08	0.08	0.08
9.50 to 10.00; (0.977 µm)	0.09	0.11	0.09	0.09	0.09	0.09
10.00 to 10.50; (0.691 µm)	0.09	0.10	0.09	0.09	0.09	0.09
10.50 to 11.00; (0.488 µm)	0.08	0.09	0.08	0.08	0.08	0.08
11.00 to 11.50; (0.345 µm)	0.07	0.07	0.07	0.07	0.07	0.07
11.50 to 12.00; (0.244 µm)	0.06	0.06	0.06	0.06	0.06	0.06
12.00 to 12.50; (0.173 µm)	0.05	0.05	0.05	0.05	0.04	0.05
12.50 to 13.00; (0.122 µm)	0.04	0.03	0.04	0.04	0.03	0.04
13.00 to 13.50; (0.086 µm)	0.02	0.02	0.02	0.02	0.02	0.02
13.50 to 14.00; (0.061 µm)	0.01	0.01	0.01	0.01	0.01	0.01
14.00 to 14.50; (0.043 µm)	0.00	0.00	0.00	0.00	0.00	0.00
>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:	Medium Sand	Medium Sand	Medium Sand	Medium Sand	Medium Sand	Medium Sand
SORTING:	Moderately Sorted	Moderately Sorted	Moderately Sorted	Moderately Sorted	Moderately Sorted	Moderately Sorted
SKEWNESS:	Symmetrical	Symmetrical	Symmetrical	Symmetrical	Symmetrical	Symmetrical
KURTOSIS:	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic
MODE:	Unimodal	Unimodal	Unimodal	Unimodal	Unimodal	Unimodal
MODE 1 (µm):	426.8	426.8	426.8	426.8	426.8	426.8
MODE 2 (µm):	-	-	-	-	-	-
MODE 3 (µm):	-	-	-	-	-	-

BENCHMARK DATA

Table 4. Summary of Coefficient of Variation for Benchmark laser replicates for PS83.

		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	0.19	0.20	0.20	0.13	0.28
	Subsample 2	0.33	0.11	0.08	0.11	0.09
	Subsample 3	0.14	0.13	0.19	0.02	0.29
					n	
D_{50}	Subsample 1	0.27	0.36	0.30	0.15	0.44
	Subsample 2	0.36	0.07	0.08	0.30	0.26
	Subsample 3	0.17	0.38	0.43	0.26	0.18
D_{90}	Subsample 1	0.36	0.52	0.48	0.23	0.61
	Subsample 2	0.43	0.24	0.54	0.55	0.36
	Subsample 3	0.48	0.04	0.47	0.52	0.14

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

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 PS83.

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):	8-10%
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 PS83 (Benchmark Data).

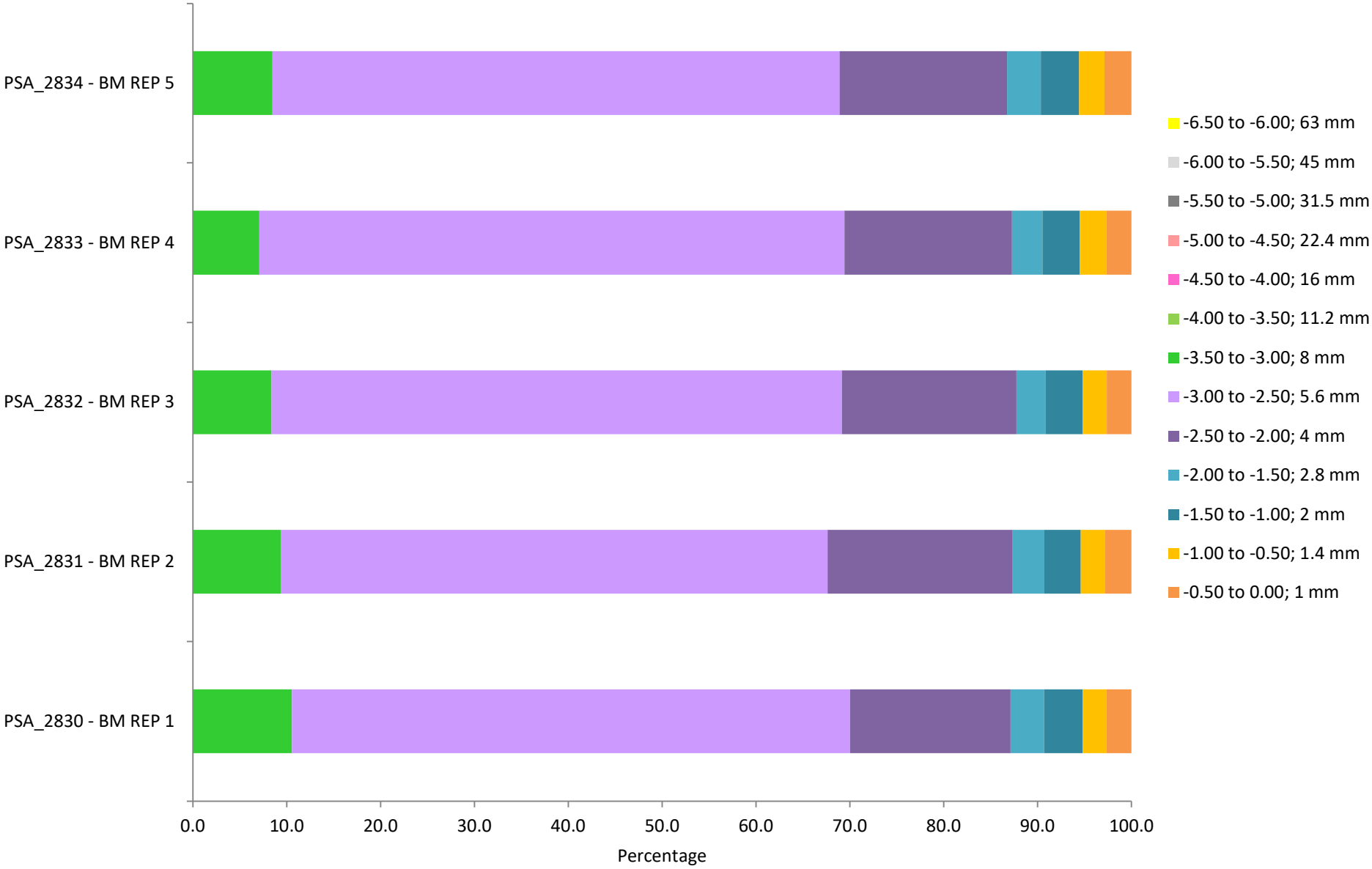

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Figure 1b. Particle size distribution curves resulting from final laser analysis of 5 replicate samples of sediment distibuted as PS83 (Benchmark Data).

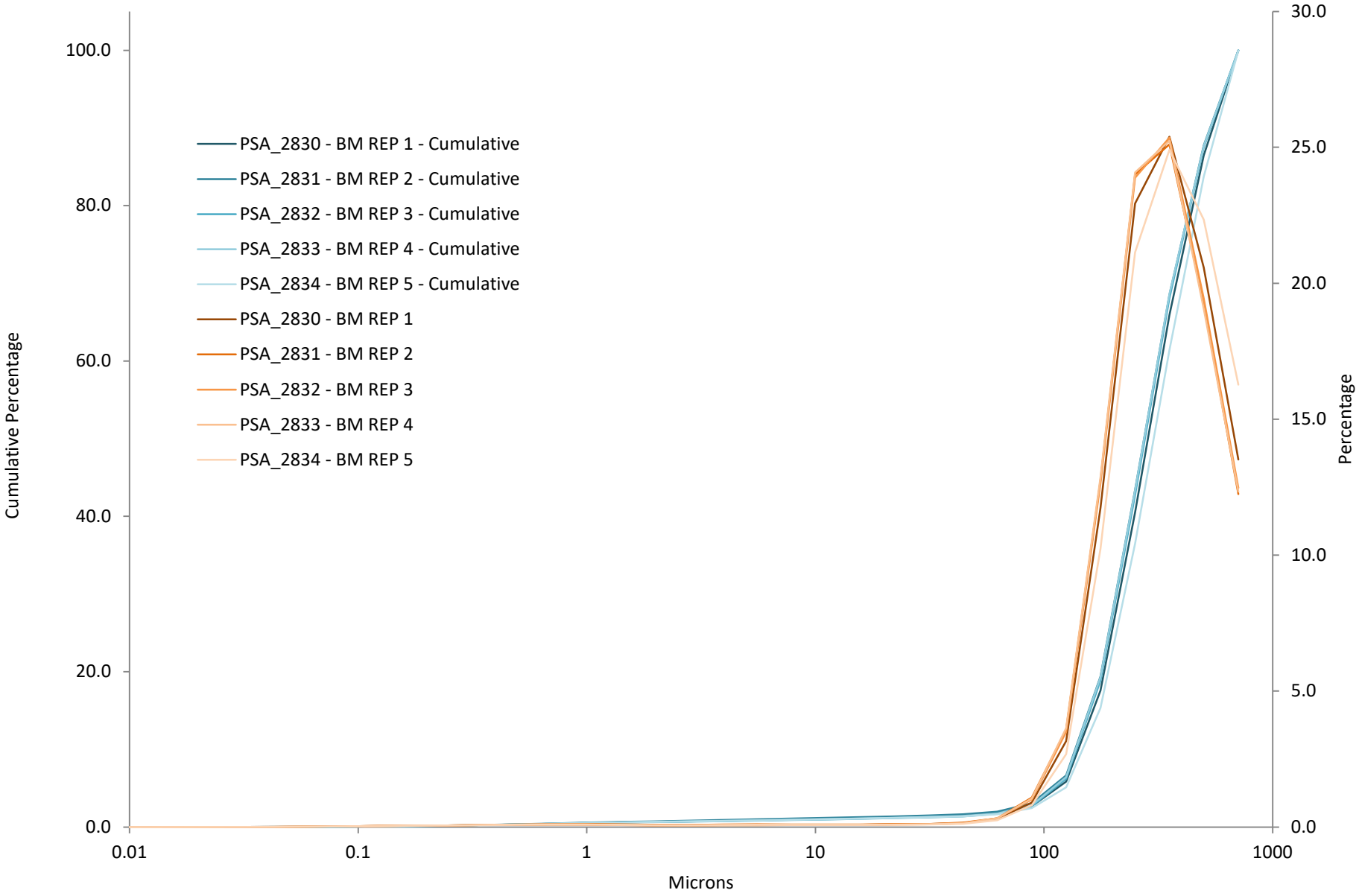
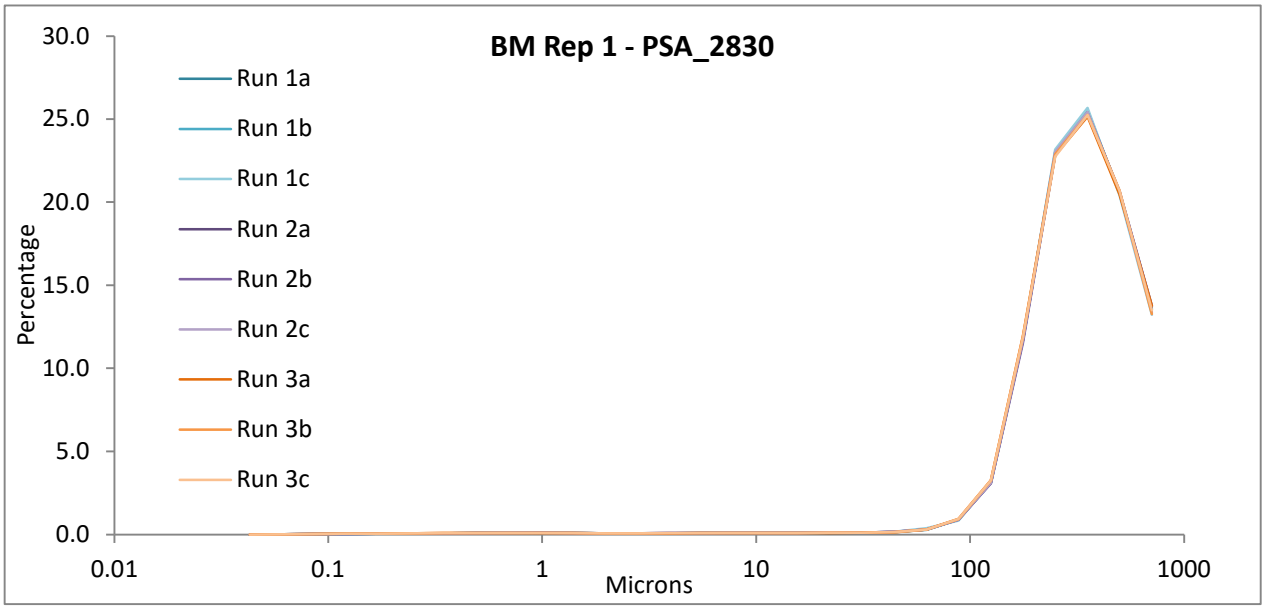
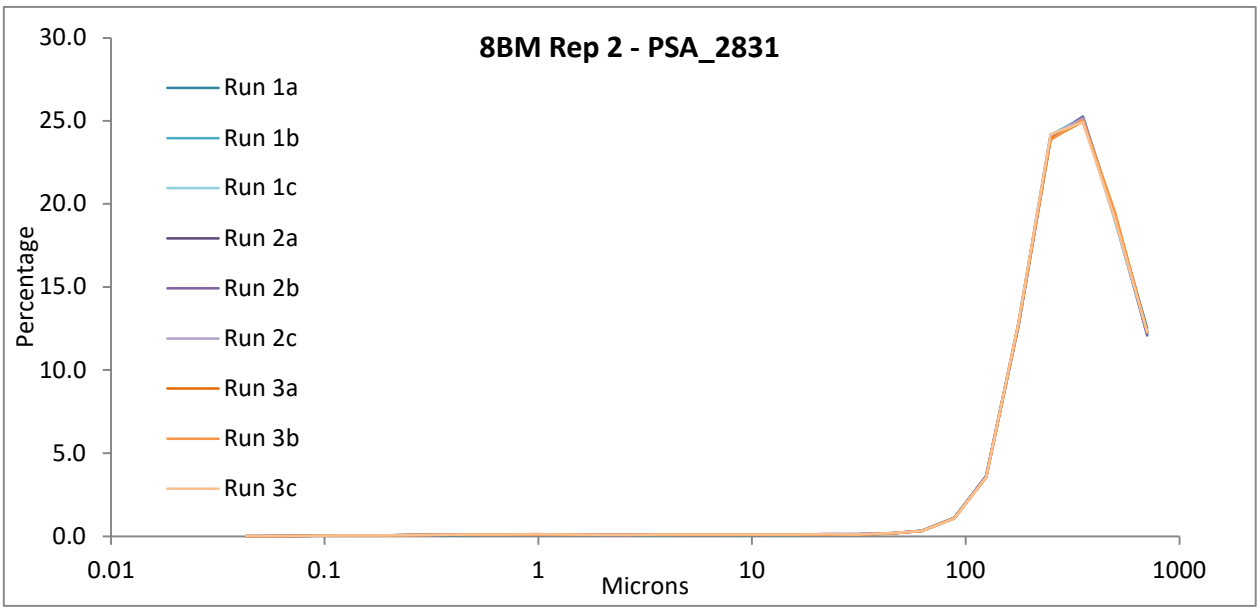


Figure 2. Particle size distribution curves resulting from laser analysis of five replicate samples of sediment distributed as PS83.





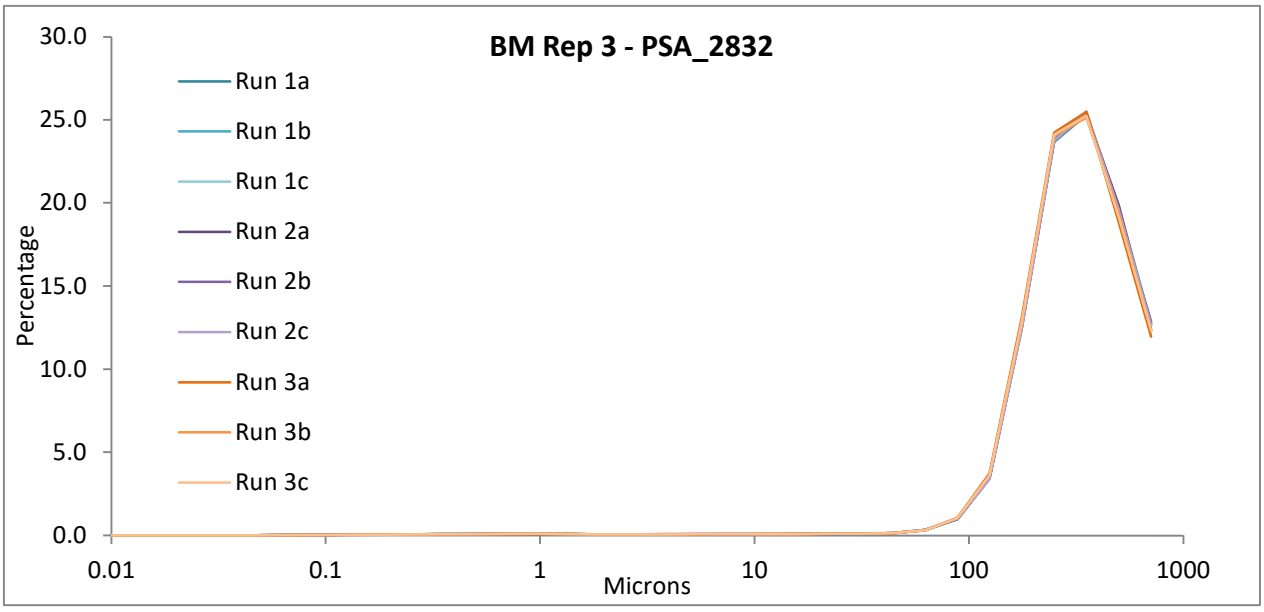
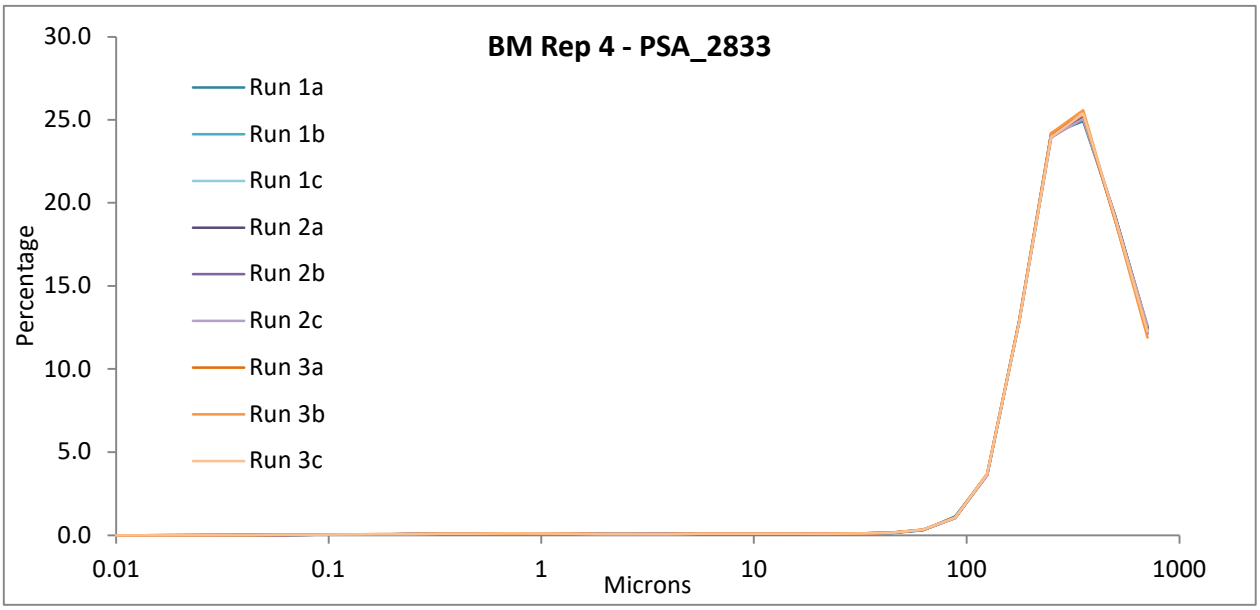


Figure 2. Particle size distribution curves resulting from laser analysis of five replicate samples of sediment distributed as PS83.



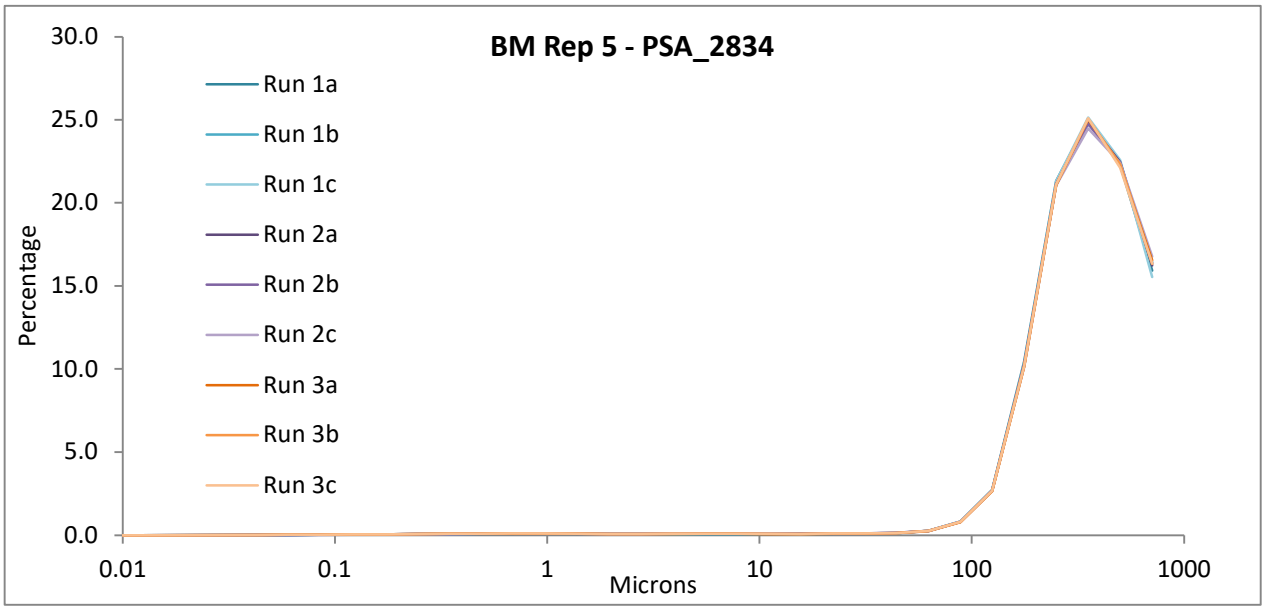
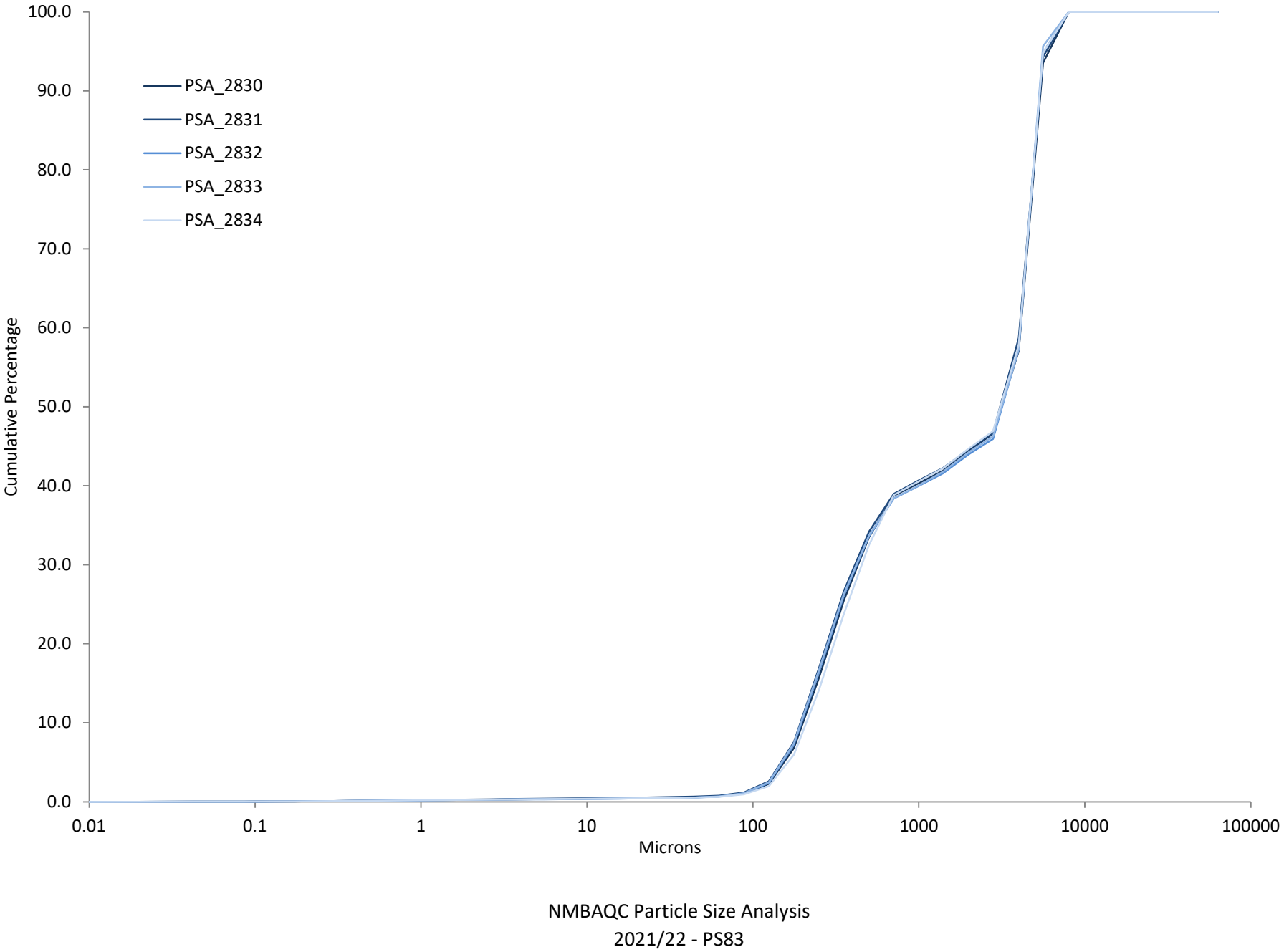


Figure 3. Particle size distribution curves resulting from analysis of 5 replicate samples of sediment distibuted as PS83 (Benchmark Data).



PARTICIPANT DATA

Table 6. Summary of equipment and methods used by participants and sample summary data provided by participants for sediment distributed as PS83.

Lab	Equipment Used		Method Used	Chemical Dispersant Used	Peroxide pre-treatment Used	Summary Data			Sediment Description (Post Analysis)	Sediment Description* Gradistat Textural Group
	Sieves	Laser				% Gravel	% Sand	% Mud		
Benchmark Average	Yes	Yes	NMBAQC	No	No	58.05	41.38	0.56	Sandy gravel	Sandy Gravel
PSA_2801	Yes	Yes	NMBAQC	No	No	58.1	41.9	0	Sandy Gravel	Sandy Gravel
PSA_2802	Yes	Yes	NMBAQC	No	No	58.32	40.77	0.90	coarse	Sandy Gravel
PSA_2803	Yes	Yes	NMBAQC	No	No	58.06	41.27	0.67	Sandy Gravel	Sandy Gravel
PSA_2804	Yes	Yes	NMBAQC	No	No	58.94	41.06	0.00	Sandy Gravel	Sandy Gravel
PSA_2805	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p
PSA_2806	Yes	Yes	NMBAQC	No	No	57.9	41.8	0.3	sandy gravel	Sandy Gravel
PSA_2807	Yes	Yes	NMBAQC	No	No	58.83	40.83	0.34	Sandy Gravel	Sandy Gravel
PSA_2808	Yes	Yes	NMBAQC	No	No	58.16	41.31	0.53	Sandy Gravel	Sandy Gravel
PSA_2809_v2	Yes	Yes	OTHER	No	No	58.23	41.56	0.22	Sandy Gravel	Sandy Gravel
PSA_2810	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p
PSA_2811	Yes	Yes	NMBAQC	No	No	59.64	39.96	0.23	Sandy Gravel	Sandy Gravel
PSA_2812	Yes	Yes	NMBAQC	No	No	58.66	41.34	0.00	Sandy Gravel	Sandy Gravel
PSA_2813	n/s	Yes	OTHER	No	No	-	-	-	-	-
PSA_2814	Yes	Yes	NMBAQC	No	No	61.62	38.13	0.25	sandy Gravel	Sandy Gravel
PSA_2815	Yes	Yes	NMBAQC	No	No	58.00	37.52	4.48	Muddy Sandy Gravel	Muddy Sandy Gravel
PSA_2818	Yes	Yes	NMBAQC	No	No	58.18	41.75	0.07	Sandy Gravel	Sandy Gravel
PSA_2829	Yes	Yes	OTHER	No	No	59.31	40.54	0.15	sandy gravel	Sandy Gravel
PSA_2835	Yes	Yes	NMBAQC	No	No	58.37	40.93	0.71	Sandy Gravel	Sandy Gravel

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.
n/s - not subscribed to this part of the exercise.

PARTICIPANT DATA

Table 7. Raw sieve data (weight in grams) provided by participants for sediment distributed as PS83.

		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_v2	PSA_2810
Sieves Used		Yes	Yes	Yes	Yes	Yes	n/p	Yes	Yes	Yes	Yes	n/p
-6.50 to -6.00; 63 mm		0.00	0.00	0.00	0.00	0.00	n/p	0.00	0.00	0.00	0.00	n/p
-6.00 to -5.50; 45 mm		0.00	0.00	0.00	0.00	0.00	n/p	0.00	0.00	0.00	0.00	n/p
-5.50 to -5.00; 31.5 mm		0.00	0.00	0.00	0.00	0.00	n/p	0.00	0.00	0.00	0.00	n/p
-5.00 to -4.50; 22.4 mm		0.00	0.00	0.00	0.00	0.00	n/p	0.00	0.00	0.00	0.00	n/p
-4.50 to -4.00; 16 mm		0.00	0.00	0.00	0.00	0.00	n/p	0.00	0.00	0.00	0.00	n/p
-4.00 to -3.50; 11.2 mm		0.00	0.00	0.00	0.00	0.00	n/p	0.00	0.00	0.00	0.00	n/p
-3.50 to -3.00; 8 mm		51.64	17.63	12.80	34.64	33.18	n/p	21.60	35.00	45.39	15.33	n/p
-3.00 to -2.50; 5.6 mm		355.01	447.84	386.85	390.19	351.10	n/p	402.72	396.67	360.83	433.57	n/p
-2.50 to -2.00; 4 mm		107.35	86.09	91.44	95.23	93.20	n/p	123.04	95.46	103.81	103.13	n/p
-2.00 to -1.50; 2.8 mm		19.90	20.00	19.80	20.83	17.46	n/p	24.18	21.85	20.24	25.43	n/p
-1.50 to -1.00; 2 mm		23.52	28.78	23.41	25.73	20.57	n/p	29.59	26.32	23.43	26.27	n/p
-1.00 to -0.50; 1.4 mm		15.67	14.67	15.24	16.51	14.43	n/p	18.99	16.57	14.63	17.57	n/p
-0.50 to 0.00; 1 mm		15.96	19.28	13.96	16.47	14.06	n/p	17.88	16.75	16.04	16.80	n/p
*Total **		589.06	634.29	563.50	599.61	544.00	n/p	637.98	608.62	584.37	638.10	n/p
Summary Data												
< 0.00; >1 mm		589.06	634.29	563.50	599.61	544.00	n/p	637.98	608.62	584.37	638.10	n/p
> 0.00; <1 mm	Base pan	0.25	0.71	5.87	4.63	0.48	n/p	0.59	3.06	0.19	0.00	n/p
	Oven dried	370.94	398.03	346.72	371.74	330.10	n/p	400.22	366.26	367.54	398.77	n/p
Total Sample Weight		960.25	1033.03	916.09	975.98	874.58	n/p	1038.79	977.94	952.10	1036.87	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 PS83.

		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		Yes	Yes	Yes	No	Yes	0	Yes	0	Yes
-6.50 to -6.00; 63 mm		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-6.00 to -5.50; 45 mm		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-5.50 to -5.00; 31.5 mm		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-5.00 to -4.50; 22.4 mm		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-4.50 to -4.00; 16 mm		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-4.00 to -3.50; 11.2 mm		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-3.50 to -3.00; 8 mm		51.64	47.53	46.55	0.00	19.68	34.51	38.63	0.00	51.88
-3.00 to -2.50; 5.6 mm		355.01	371.11	320.90	0.00	417.53	395.50	399.82	0.00	371.08
-2.50 to -2.00; 4 mm		107.35	78.54	71.33	0.00	112.53	78.45	109.69	0.00	85.99
-2.00 to -1.50; 2.8 mm		19.90	18.43	16.12	0.00	20.81	19.31	25.83	0.00	19.98
-1.50 to -1.00; 2 mm		23.52	23.50	19.35	976.37	26.77	25.32	27.36	613.89	23.59
-1.00 to -0.50; 1.4 mm		15.67	15.58	13.54	0.00	17.51	15.48	16.67	0.00	15.68
-0.50 to 0.00; 1 mm		15.96	12.45	12.57	0.00	19.67	16.47	17.45	22.94	17.40
*Total**		589.06	567.14	500.36	976.37	634.48	585.04	635.45	636.83	585.60
Summary Data										
< 0.00; >1 mm		589.06	567.14	500.36	976.37	634.48	585.04	635.45	-	585.60
> 0.00; <1 mm	Base pan	0.25	2.22	0.37	436.71	1.79	3.69	16.54	-	1.11
	Oven dried	370.94	334.63	307.70	52.89	333.03	364.86	381.64	-	359.91
Total Sample Weight		960.25	903.99	808.43	1465.97	969.30	953.59	1033.63	636.83	946.62

- 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 PS83 with Gradistat output.

Microns	Benchmark Average	PSA_2801	PSA_2802	PSA_2803	PSA_2804	PSA_2805	PSA_2806
707	13.37	7.46	13.32	7.78	11.68	n/p	9.13
500	20.13	20.06	18.19	15.80	21.37	n/p	18.88
353.6	25.21	27.80	24.89	25.41	26.69	n/p	25.59
250	23.20	25.25	24.07	27.06	23.16	n/p	24.15
176.8	12.05	14.69	12.53	16.04	13.11	n/p	15.22
125	3.31	4.54	3.22	4.45	3.85	n/p	5.57
88.39	0.97	0.20	1.04	1.20	0.13	n/p	0.58
62.5	0.30	0.00	0.39	0.52	0.00	n/p	0.00
44.19	0.14	0.00	0.21	0.17	0.00	n/p	0.15
31.25	0.10	0.00	0.13	0.15	0.00	n/p	0.18
22.097	0.10	0.00	0.18	0.10	0.00	n/p	0.09
15.625	0.08	0.00	0.12	0.07	0.00	n/p	0.03
11.049	0.08	0.00	0.11	0.11	0.00	n/p	0.06
7.813	0.08	0.00	0.17	0.13	0.00	n/p	0.10
5.524	0.08	0.00	0.18	0.12	0.00	n/p	0.10
3.906	0.07	0.00	0.16	0.10	0.00	n/p	0.09
2.762	0.06	0.00	0.14	0.07	0.00	n/p	0.05
1.953	0.07	0.00	0.14	0.07	0.00	n/p	0.01
1.381	0.08	0.00	0.15	0.08	0.00	n/p	0.00
0.977	0.09	0.00	0.15	0.09	0.00	n/p	0.00
0.691	0.09	0.00	0.13	0.09	0.00	n/p	0.00
0.488	0.08	0.00	0.11	0.09	0.00	n/p	0.00
0.345	0.07	0.00	0.09	0.08	0.00	n/p	0.00
0.244	0.06	0.00	0.07	0.07	0.00	n/p	0.00
0.173	0.05	0.00	0.05	0.06	0.00	n/p	0.00
0.122	0.04	0.00	0.04	0.05	0.00	n/p	0.00
0.086	0.02	0.00	0.03	0.03	0.00	n/p	0.00
0.061	0.01	0.00	0.01	0.02	0.00	n/p	0.00
0.043	0.00	0.00	0.00	0.00	0.00	n/p	0.00
0.01	0.00	0.00	0.00	0.00	0.00	n/p	0.00
Total	100.00	100.00	100.00	100.00	100.00	0.00	100.00
GRADISTAT OUTPUTS							
MEAN:	Medium Sand	Very Fine Gravel	Very Fine Gravel	Medium Sand	Medium Sand	n/p	Medium Sand
SORTING:	Moderately Sorted	Poorly Sorted	Poorly Sorted	Moderately Sorted	Moderately Sorted	n/p	Moderately Sorted
SKEWNESS:	Symmetrical	Very Fine Skewed	Very Fine Skewed	Symmetrical	Symmetrical	n/p	Symmetrical
KURTOSIS:	Mesokurtic	Very Platykurtic	Very Platykurtic	Mesokurtic	Mesokurtic	n/p	Mesokurtic
MODE:	Unimodal	Bimodal	Bimodal	Unimodal	Unimodal	n/p	Unimodal
MODE 1 (µm):	426.8	6800	6800	301.8	426.8	n/p	426.8
MODE 2 (µm):	-	426.8	426.8	-	-	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 PS83 with Gradistat output.

Microns	BM Average	PSA_2807	PSA_2808	PSA_2809_v2	PSA_2810	PSA_2811	PSA_2812
707	13.37	5.44	13.77	8.21	n/p	6.32	12.47
500	20.13	14.70	20.54	16.23	n/p	16.70	21.24
353.6	25.21	24.72	25.42	23.38	n/p	26.16	26.54
250	23.20	27.15	22.89	25.23	n/p	26.37	23.09
176.8	12.05	18.57	11.72	17.01	n/p	16.95	12.94
125	3.31	7.42	3.14	8.18	n/p	6.17	3.61
88.39	0.97	1.01	0.87	1.20	n/p	0.68	0.11
62.5	0.30	0.05	0.28	0.00	n/p	0.05	0.00
44.19	0.14	0.40	0.12	0.16	n/p	0.33	0.00
31.25	0.10	0.37	0.09	0.29	n/p	0.28	0.00
22.097	0.10	0.08	0.08	0.11	n/p	0.01	0.00
15.625	0.08	0.00	0.08	0.00	n/p	0.00	0.00
11.049	0.08	0.00	0.08	0.00	n/p	0.00	0.00
7.813	0.08	0.06	0.08	0.00	n/p	0.00	0.00
5.524	0.08	0.03	0.08	0.00	n/p	0.00	0.00
3.906	0.07	0.00	0.07	0.00	n/p	0.00	0.00
2.762	0.06	0.00	0.06	0.00	n/p	0.00	0.00
1.953	0.07	0.00	0.06	0.00	n/p	0.00	0.00
1.381	0.08	0.00	0.07	0.00	n/p	0.00	0.00
0.977	0.09	0.00	0.09	0.00	n/p	0.00	0.00
0.691	0.09	0.00	0.09	0.00	n/p	0.00	0.00
0.488	0.08	0.00	0.08	0.00	n/p	0.00	0.00
0.345	0.07	0.00	0.07	0.00	n/p	0.00	0.00
0.244	0.06	0.00	0.06	0.00	n/p	0.00	0.00
0.173	0.05	0.00	0.05	0.00	n/p	0.00	0.00
0.122	0.04	0.00	0.04	0.00	n/p	0.00	0.00
0.086	0.02	0.00	0.03	0.00	n/p	0.00	0.00
0.061	0.01	0.00	0.01	0.00	n/p	0.00	0.00
0.043	0.00	0.00	0.00	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:	Medium Sand	Medium Sand	Medium Sand	Medium Sand	n/p	Medium Sand	Very Fine Gravel
SORTING:	Moderately Sorted	Moderately Sorted	Moderately Sorted	Moderately Sorted	n/p	Moderately Sorted	Poorly Sorted
SKEWNESS:	Symmetrical	Symmetrical	Symmetrical	Symmetrical	n/p	Symmetrical	Very Fine Skewed
KURTOSIS:	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	n/p	Mesokurtic	Very Platykurtic
MODE:	Unimodal	Unimodal	Unimodal	Unimodal	n/p	Unimodal	Bimodal
MODE 1 (µm):	426.8	301.8	426.8	301.8	n/p	301.8	6800
MODE 2 (µm):	-	-	-	-	n/p	-	426.8
MODE 3 (µm):	-	-	-	-	n/p	-	-

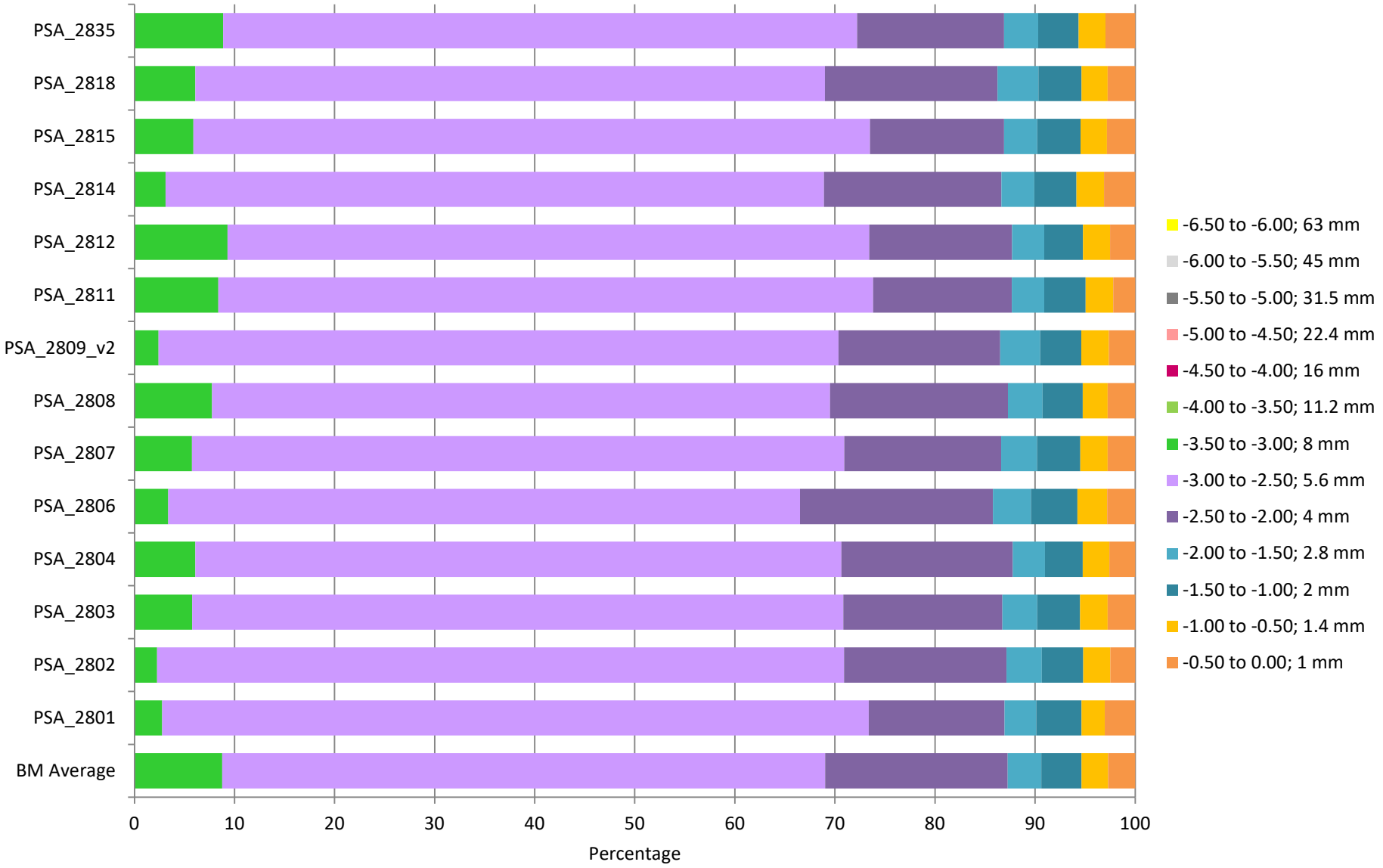
n/p - not participating in this exercise at current time.

PARTICIPANT DATA

Table 8. Summary of final laser data for the participants for sediment distributed as PS83 with Gradistat output.

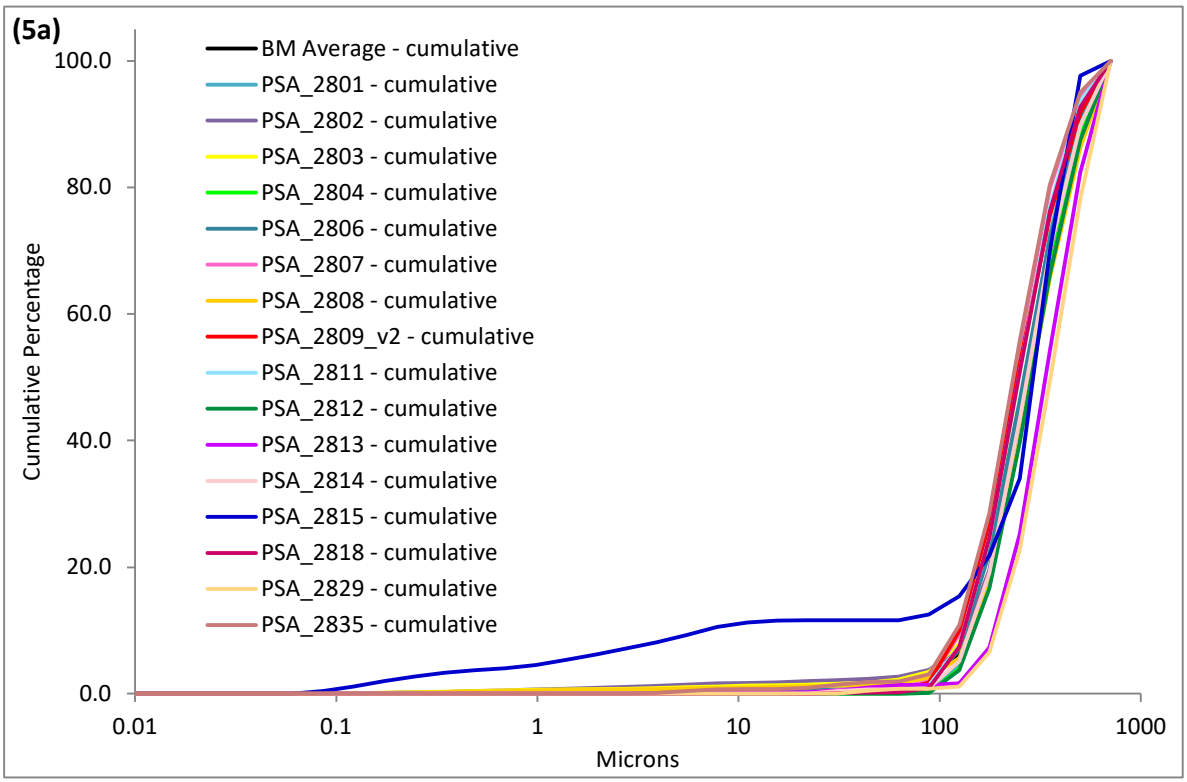
Microns	BM Average	PSA_2813	PSA_2814	PSA_2815	PSA_2818	PSA_2829	PSA_2835
707	13.37	17.60	10.19	2.36	7.30	21.85	4.96
500	20.13	28.21	19.76	27.63	16.48	28.82	14.55
353.6	25.21	28.94	26.67	35.99	25.29	26.61	24.67
250	23.20	17.95	24.27	12.21	26.30	16.15	27.25
176.8	12.05	5.64	14.00	6.39	17.27	5.42	17.71
125	3.31	0.31	4.20	2.88	6.46	0.33	7.79
88.39	0.97	0.00	0.19	0.91	0.71	0.00	1.12
62.5	0.30	0.34	0.00	0.02	0.01	0.36	0.10
44.19	0.14	0.57	0.32	0.00	0.10	0.41	0.41
31.25	0.10	0.21	0.35	0.00	0.09	0.05	0.49
22.097	0.10	0.00	0.04	0.01	0.00	0.00	0.20
15.625	0.08	0.01	0.00	0.29	0.00	0.00	0.03
11.049	0.08	0.09	0.00	0.73	0.00	0.00	0.08
7.813	0.08	0.11	0.00	1.33	0.00	0.00	0.26
5.524	0.08	0.03	0.00	1.15	0.00	0.00	0.25
3.906	0.07	0.00	0.00	0.95	0.00	0.00	0.12
2.762	0.06	0.00	0.00	0.93	0.00	0.00	0.02
1.953	0.07	0.00	0.00	0.90	0.00	0.00	0.00
1.381	0.08	0.00	0.00	0.75	0.00	0.00	0.00
0.977	0.09	0.00	0.00	0.53	0.00	0.00	0.00
0.691	0.09	0.00	0.00	0.30	0.00	0.00	0.00
0.488	0.08	0.00	0.00	0.41	0.00	0.00	0.00
0.345	0.07	0.00	0.00	0.56	0.00	0.00	0.00
0.244	0.06	0.00	0.00	0.75	0.00	0.00	0.00
0.173	0.05	0.00	0.00	0.85	0.00	0.00	0.00
0.122	0.04	0.00	0.00	0.73	0.00	0.00	0.00
0.086	0.02	0.00	0.00	0.40	0.00	0.00	0.00
0.061	0.01	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
0.01	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
GRADISTAT OUTPUTS							
MEAN:	Medium Sand	Medium Sand	Medium Sand	Medium Sand	Medium Sand	Medium Sand	Medium Sand
SORTING:	Moderately Sorted	Moderately Well Sorted	Moderately Sorted	Poorly Sorted	Moderately Sorted	Moderately Well Sorted	Moderately Sorted
SKEWNESS:	Symmetrical	Symmetrical	Symmetrical	Very Fine Skewed	Symmetrical	Fine Skewed	Symmetrical
KURTOSIS:	Mesokurtic	Mesokurtic	Mesokurtic	Extremely Leptokurtic	Mesokurtic	Mesokurtic	Mesokurtic
MODE:	Unimodal	Unimodal	Unimodal	Unimodal	Unimodal	Unimodal	Unimodal
MODE 1 (µm):	426.8	426.8	426.8	426.8	301.8	603.5	301.8
MODE 2 (µm):	-	-	-	-	-	-	-
MODE 3 (µm):	-	-	-	-	-	-	-

Figure 4. Final sieve data (in percentages) provided by each participant for sediment distributed as PS83.



NMBAQC Particle Size Analysis
2021/22 - PS83

Figure 5. (a) Cumulative and (b) Differential final laser data provided by the participants and Benchmark average for sediment distributed as PS83.



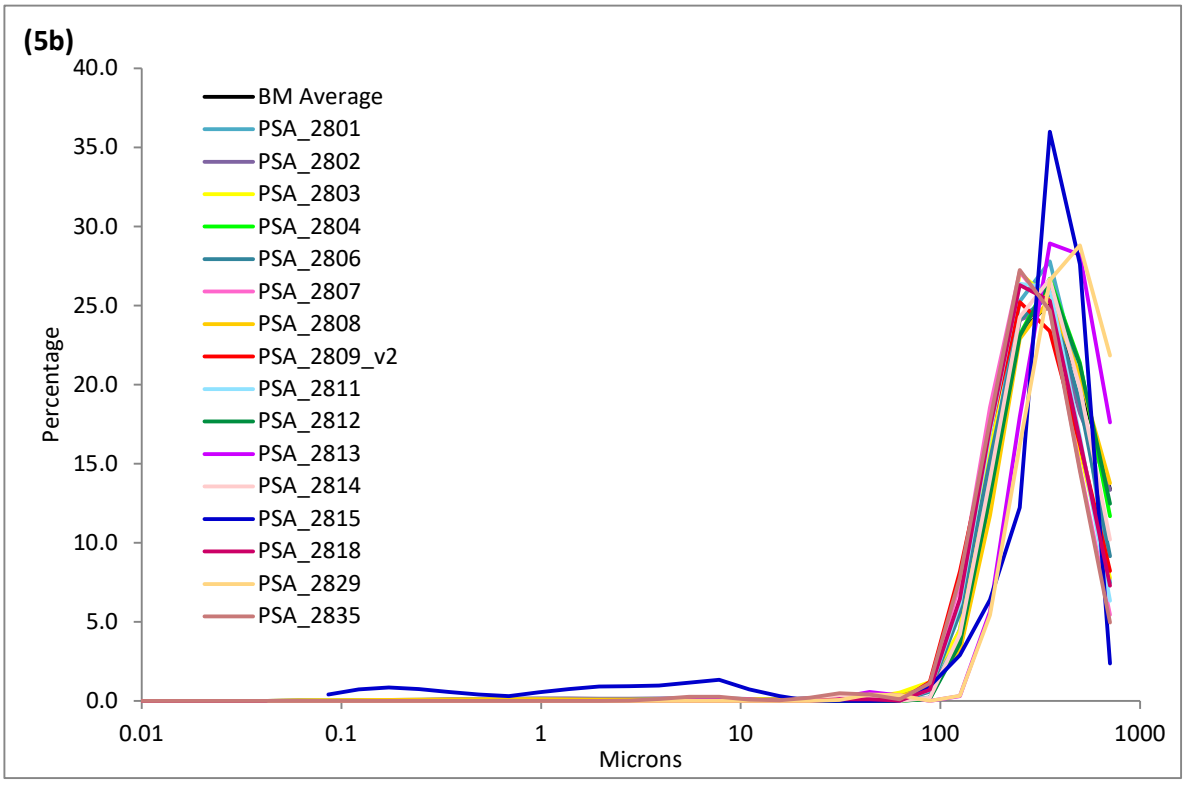


Figure 6. Particle size distribution curves from all participating laboratories and the Benchmark Average for sediment distributed as PS83.

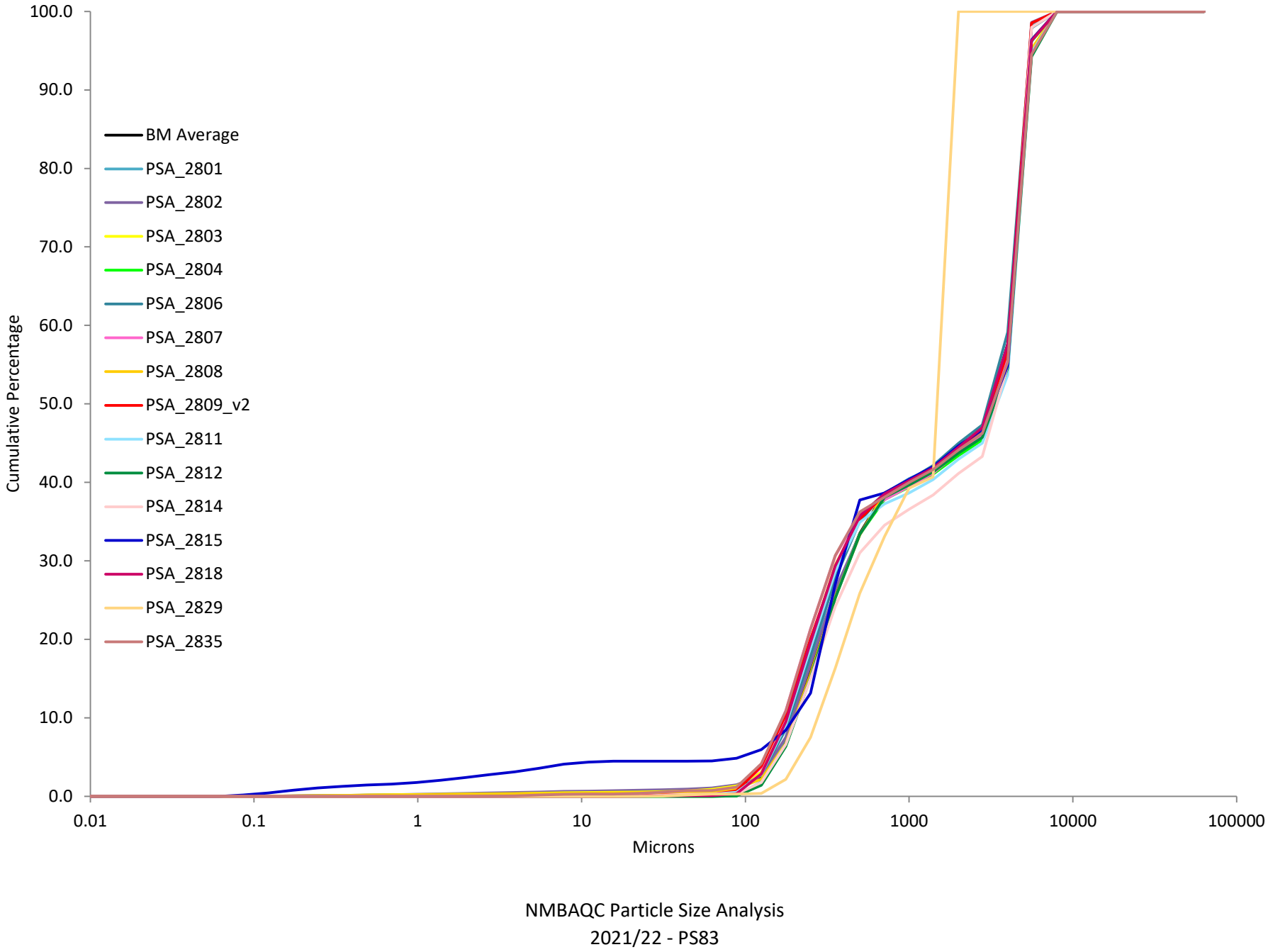
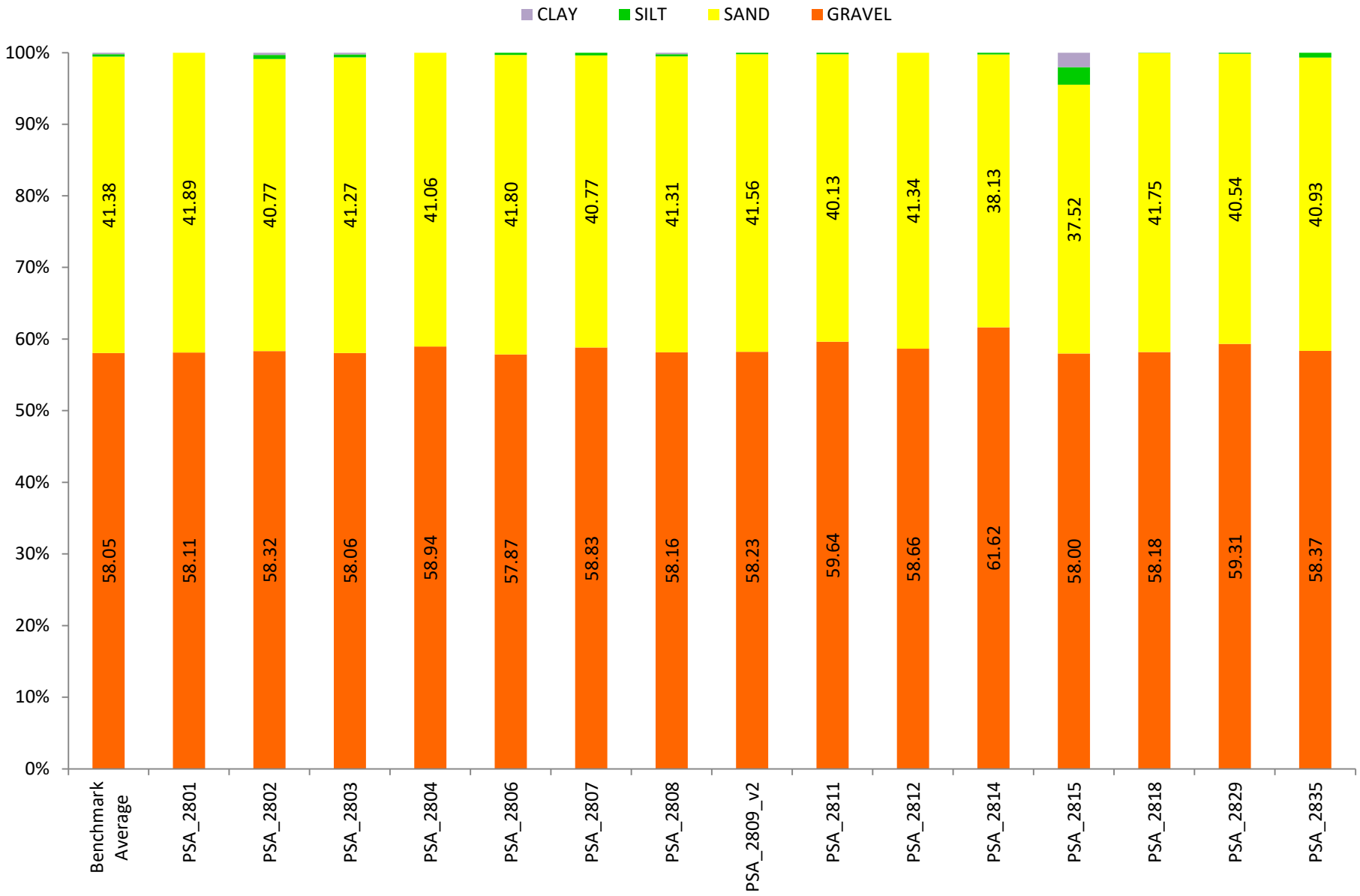


Figure 7. Bar chart showing the percentage gravel, sand, silt and clay recorded by each participating laboratory and the Benchmark Average for PS83.



NMBAQC Particle Size Analysis
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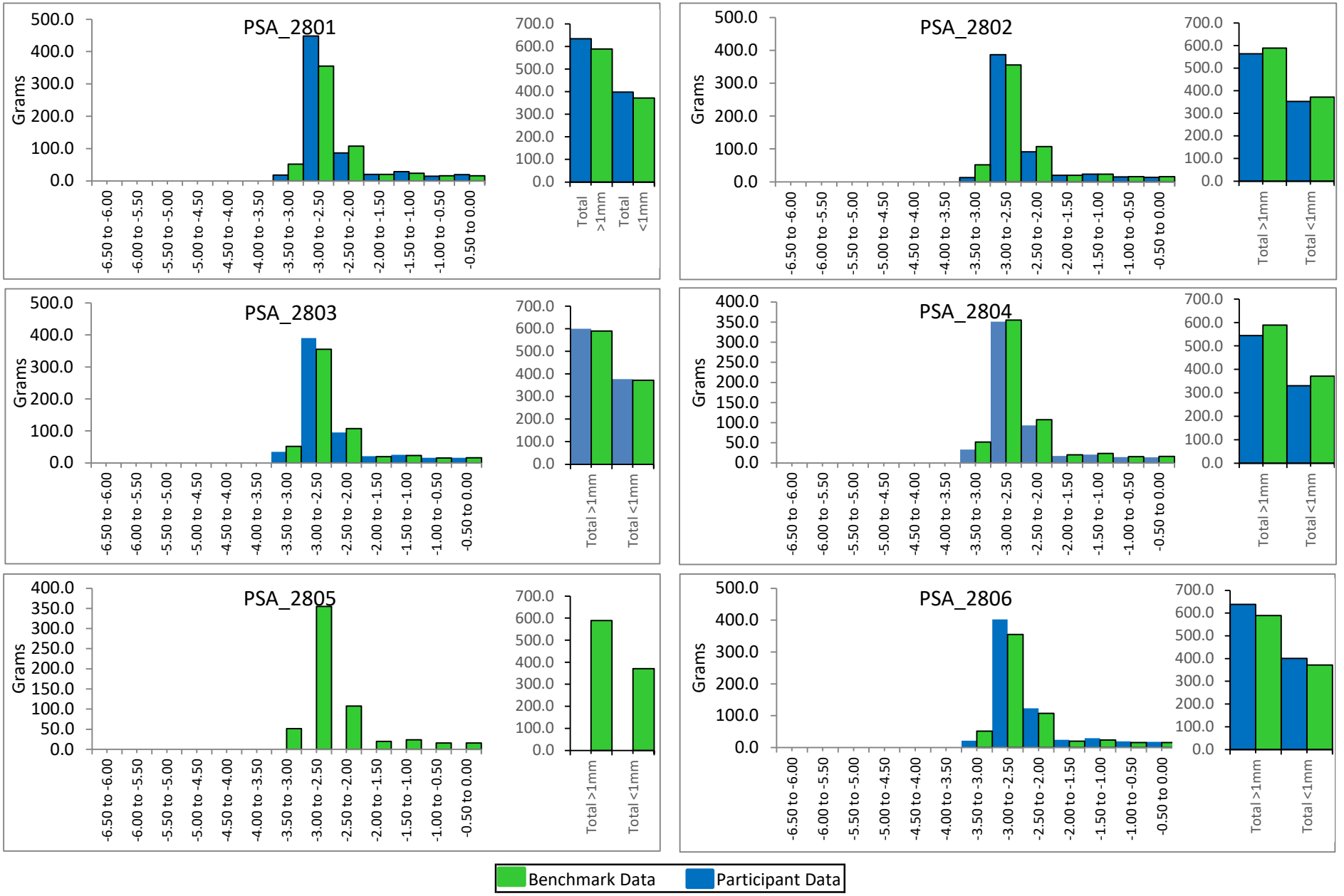
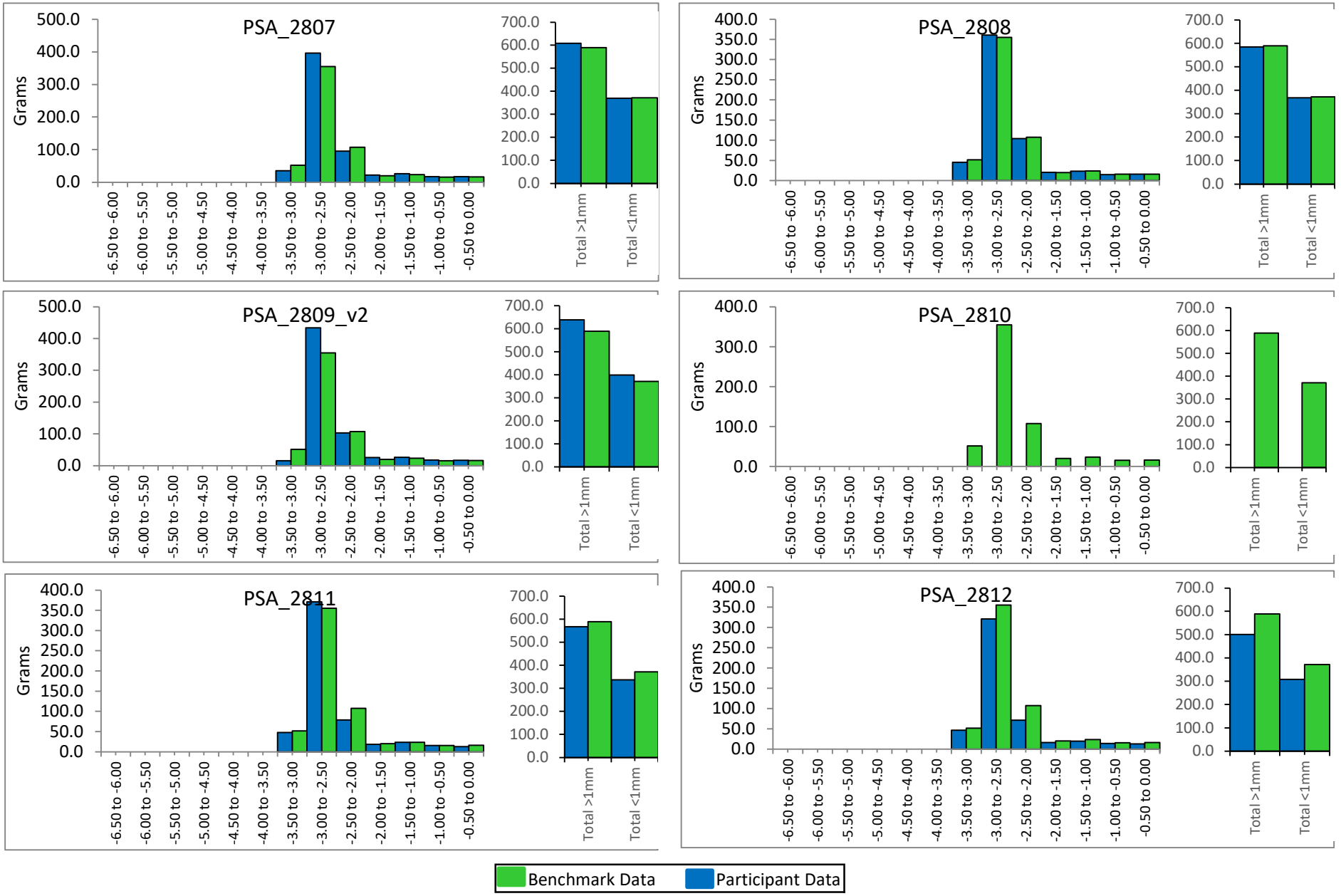
Figure 8. Individual comparisons of participant sieve data with the Benchmark Average for sediment distributed as PS83.



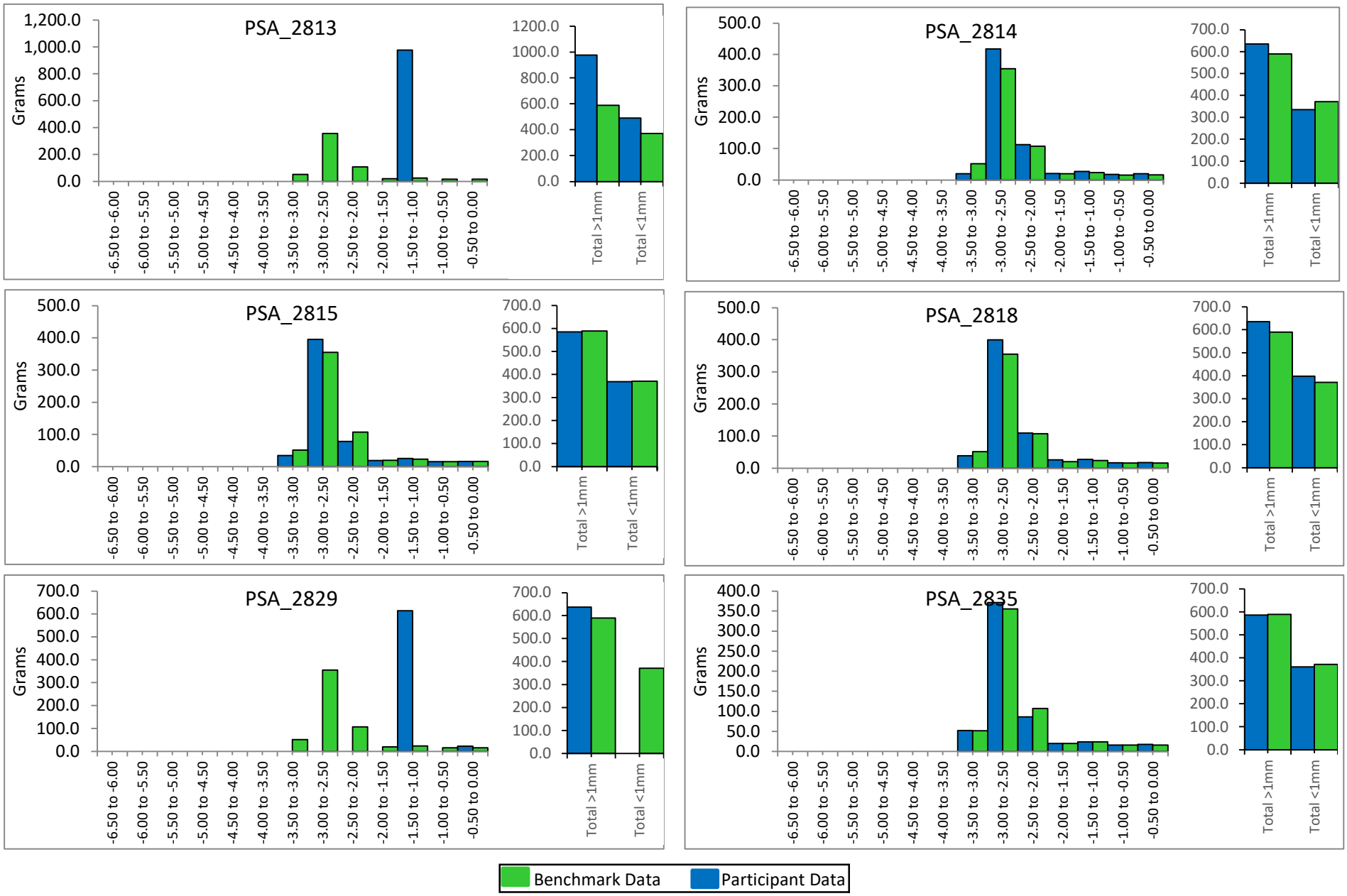
NMBAQC Particle Size Analysis
2021/22 - PS83

Figure 8. Individual comparisons of participant sieve data with the Benchmark Average for sediment distributed as PS83.



NMBAQC Particle Size Analysis
2021/22 - PS83

Figure 8. Individual comparisons of participant sieve data with the Benchmark Average for sediment distributed as PS83.



NMBAQC Particle Size Analysis
2021/22 - PS83

Figure 9. Comparison of participant laser replicate data with the Benchmark Average for sediment distributed as PS83.

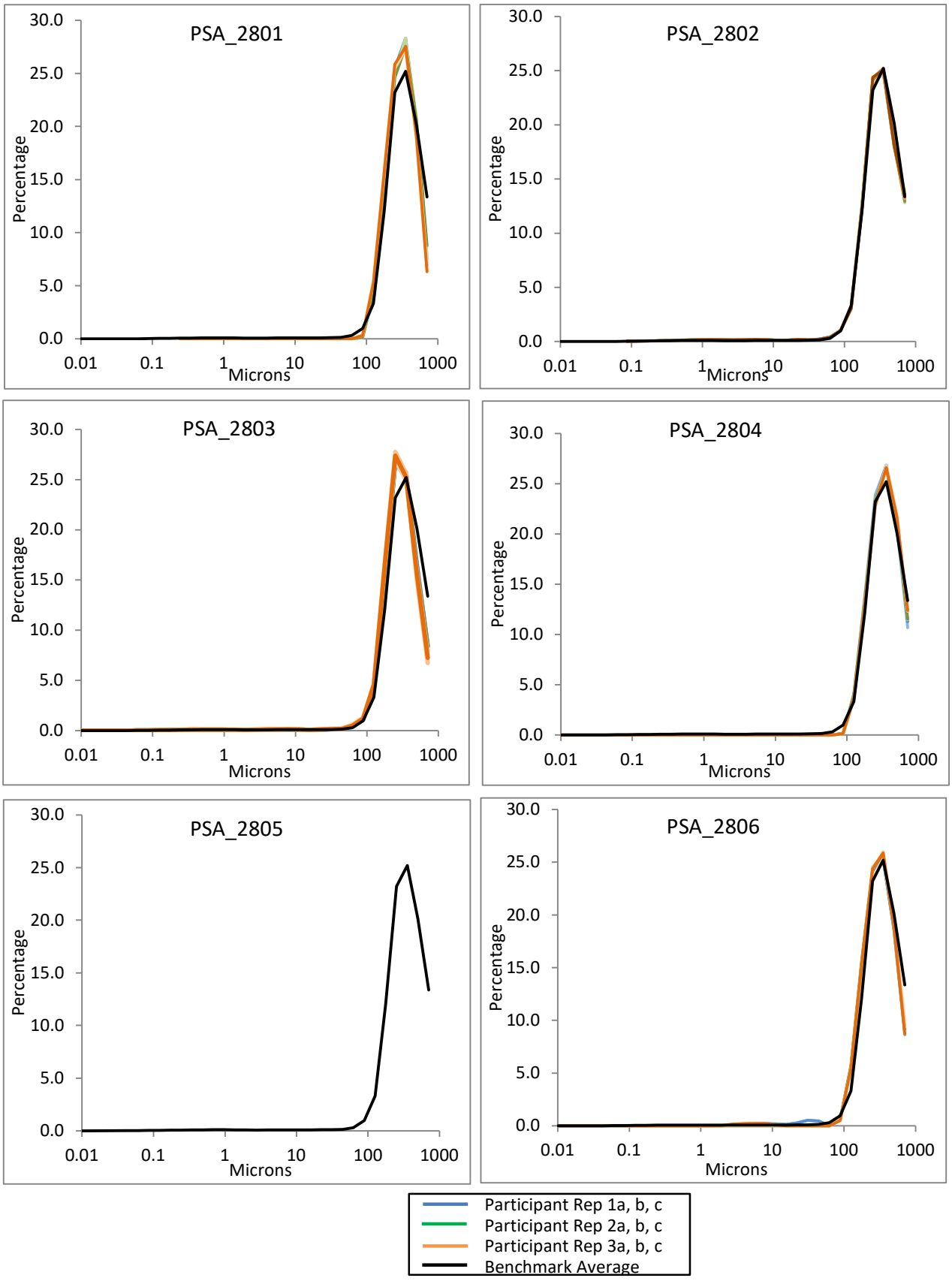


Figure 9. Comparison of participant laser replicate data with the Benchmark Average for sediment distributed as PS83.

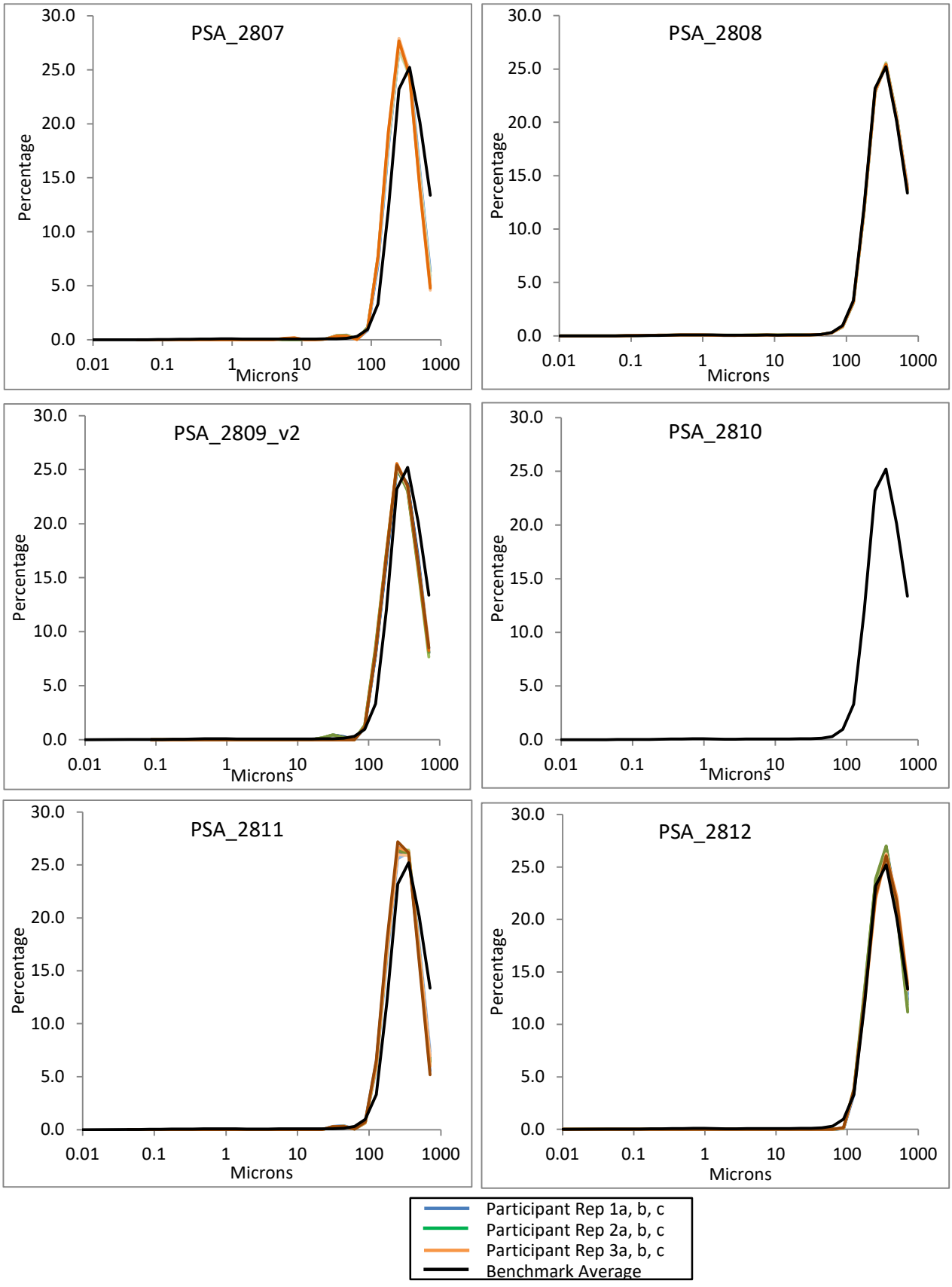
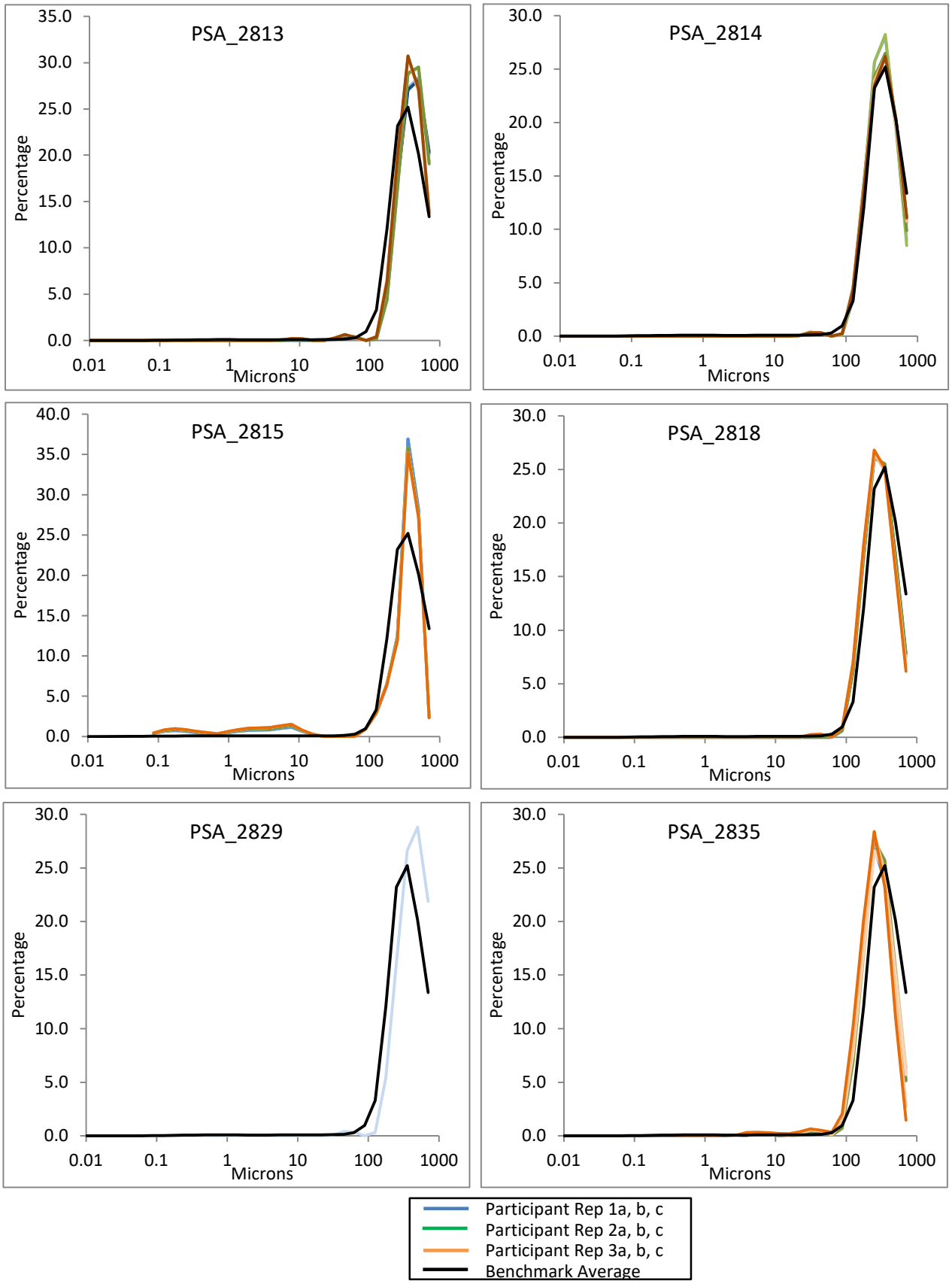


Figure 9. Comparison of participant laser replicate data with the Benchmark Average for sediment distributed as PS83.



APPENDICES

APPENDIX 1. Benchmark laser replicate data for sediment distributed as PS83.

	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)	13.51	13.58	13.23	13.70	13.77	13.35	13.76	13.25	13.50
0.50 to 1.00; (500 µm)	20.55	20.54	20.41	20.67	20.63	20.55	20.47	20.70	20.68
1.00 to 1.50; (353.6 µm)	25.54	25.48	25.68	25.35	25.41	25.42	25.16	25.26	25.25
1.50 to 2.00; (250 µm)	23.02	23.00	23.18	22.83	22.89	23.03	22.82	22.87	22.74
2.00 to 2.50; (176.8 µm)	11.69	11.67	11.69	11.66	11.51	11.72	11.89	11.93	11.84
2.50 to 3.00; (125 µm)	3.12	3.11	3.17	3.09	3.06	3.10	3.24	3.27	3.24
3.00 to 3.50; (88.39 µm)	0.90	0.89	0.83	0.89	0.89	0.90	0.92	0.93	0.92
3.50 to 4.00; (62.5 µm)	0.28	0.29	0.38	0.29	0.29	0.30	0.30	0.30	0.30
4.00 to 4.50; (44.19 µm)	0.13	0.14	0.16	0.15	0.16	0.17	0.13	0.13	0.14
4.50 to 5.00; (31.25 µm)	0.10	0.10	0.10	0.11	0.11	0.11	0.10	0.11	0.11
5.00 to 5.50; (22.097 µm)	0.10	0.10	0.10	0.11	0.11	0.12	0.09	0.10	0.10
5.50 to 6.00; (15.625 µm)	0.08	0.08	0.08	0.09	0.09	0.10	0.08	0.08	0.09
6.00 to 6.50; (11.049 µm)	0.08	0.08	0.08	0.09	0.09	0.10	0.08	0.08	0.08
6.50 to 7.00; (7.813 µm)	0.08	0.08	0.08	0.09	0.09	0.10	0.08	0.08	0.09
7.00 to 7.50; (5.524 µm)	0.08	0.08	0.08	0.09	0.09	0.09	0.08	0.08	0.08
7.50 to 8.00; (3.906 µm)	0.07	0.07	0.07	0.08	0.08	0.08	0.07	0.07	0.07
8.00 to 8.50; (2.762 µm)	0.06	0.06	0.06	0.06	0.07	0.07	0.06	0.06	0.06
8.50 to 9.00; (1.953 µm)	0.06	0.06	0.07	0.07	0.07	0.07	0.06	0.06	0.07
9.00 to 9.50; (1.381 µm)	0.08	0.08	0.08	0.08	0.08	0.09	0.08	0.08	0.08
9.50 to 10.00; (0.977 µm)	0.09	0.09	0.09	0.09	0.09	0.10	0.09	0.09	0.09
10.00 to 10.50; (0.691 µm)	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
10.50 to 11.00; (0.488 µm)	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.09	0.09
11.00 to 11.50; (0.345 µm)	0.07	0.07	0.06	0.07	0.07	0.07	0.07	0.08	0.08
11.50 to 12.00; (0.244 µm)	0.05	0.06	0.05	0.06	0.06	0.06	0.06	0.06	0.06
12.00 to 12.50; (0.173 µm)	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.05	0.05
12.50 to 13.00; (0.122 µm)	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04
13.00 to 13.50; (0.086 µm)	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03
13.50 to 14.00; (0.061 µm)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
14.00 to 14.50; (0.043 µm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

d10	200.88	200.67	200.15	200.38	200.71	199.45	199.21	198.67	198.82
d50	402.78	402.90	400.97	403.83	404.20	401.51	402.40	401.24	402.45
d90	773.59	774.62	769.44	776.45	777.42	771.27	777.25	769.83	773.47

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	200.57	0.37	0.19	200.18	0.65	0.33	198.90	0.28	0.14
d50	402.22	1.08	0.27	403.18	1.46	0.36	402.03	0.68	0.17
d90	772.55	2.74	0.36	775.04	3.31	0.43	773.52	3.71	0.48

APPENDIX 1. Benchmark laser replicate data for sediment distributed as PS83.

	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)	12.50	12.17	12.07	12.28	12.09	12.25	12.27	12.30	12.29
0.50 to 1.00; (500 µm)	19.25	19.02	19.20	19.19	19.32	19.12	19.43	19.53	19.09
1.00 to 1.50; (353.6 µm)	25.13	25.21	25.29	25.08	25.25	25.14	24.95	25.06	24.92
1.50 to 2.00; (250 µm)	23.89	24.12	23.98	24.07	23.91	24.09	23.94	23.84	24.19
2.00 to 2.50; (176.8 µm)	12.66	12.83	12.80	12.75	12.71	12.68	12.83	12.71	12.88
2.50 to 3.00; (125 µm)	3.60	3.62	3.61	3.58	3.62	3.58	3.56	3.54	3.54
3.00 to 3.50; (88.39 µm)	1.10	1.09	1.09	1.08	1.08	1.08	1.07	1.06	1.07
3.50 to 4.00; (62.5 µm)	0.33	0.33	0.32	0.32	0.32	0.32	0.32	0.32	0.31
4.00 to 4.50; (44.19 µm)	0.15	0.16	0.16	0.17	0.17	0.18	0.15	0.16	0.17
4.50 to 5.00; (31.25 µm)	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
5.00 to 5.50; (22.097 µm)	0.11	0.11	0.11	0.11	0.12	0.12	0.11	0.11	0.11
5.50 to 6.00; (15.625 µm)	0.08	0.09	0.09	0.09	0.10	0.10	0.09	0.09	0.10
6.00 to 6.50; (11.049 µm)	0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.09	0.09
6.50 to 7.00; (7.813 µm)	0.08	0.09	0.09	0.09	0.09	0.10	0.09	0.09	0.10
7.00 to 7.50; (5.524 µm)	0.09	0.09	0.09	0.10	0.10	0.10	0.10	0.10	0.10
7.50 to 8.00; (3.906 µm)	0.08	0.09	0.09	0.09	0.09	0.10	0.09	0.09	0.10
8.00 to 8.50; (2.762 µm)	0.07	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.08
8.50 to 9.00; (1.953 µm)	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
9.00 to 9.50; (1.381 µm)	0.10	0.09	0.09	0.10	0.10	0.10	0.10	0.10	0.10
9.50 to 10.00; (0.977 µm)	0.11	0.10	0.11	0.11	0.11	0.11	0.11	0.11	0.11
10.00 to 10.50; (0.691 µm)	0.10	0.10	0.10	0.10	0.10	0.11	0.10	0.10	0.11
10.50 to 11.00; (0.488 µm)	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
11.00 to 11.50; (0.345 µm)	0.07	0.07	0.08	0.07	0.07	0.08	0.08	0.08	0.08
11.50 to 12.00; (0.244 µm)	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
12.00 to 12.50; (0.173 µm)	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
12.50 to 13.00; (0.122 µm)	0.03	0.04	0.04	0.03	0.03	0.03	0.04	0.04	0.04
13.00 to 13.50; (0.086 µm)	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
13.50 to 14.00; (0.061 µm)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
14.00 to 14.50; (0.043 µm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

d10	194.26	193.58	193.57	193.74	193.34	193.44	193.87	194.13	193.61
d50	388.85	386.14	386.88	387.09	387.42	386.85	387.80	388.91	386.00
d90	757.85	752.13	750.39	753.98	750.68	753.57	753.80	754.39	754.19

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	193.80	0.40	0.20	193.51	0.21	0.11	193.87	0.26	0.13
d50	387.29	1.40	0.36	387.12	0.29	0.07	387.57	1.47	0.38
d90	753.46	3.90	0.52	752.75	1.80	0.24	754.13	0.30	0.04

APPENDIX 1. Benchmark laser replicate data for sediment distributed as PS83.

	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)	12.67	12.77	12.36	12.37	12.86	12.64	11.96	12.29	12.32
0.50 to 1.00; (500 µm)	19.50	19.75	19.59	19.85	19.31	19.60	18.83	19.36	19.13
1.00 to 1.50; (353.6 µm)	25.43	25.31	25.52	25.35	25.33	25.40	25.49	25.14	25.24
1.50 to 2.00; (250 µm)	23.79	23.64	23.82	23.74	23.80	23.74	24.23	24.04	24.11
2.00 to 2.50; (176.8 µm)	12.52	12.51	12.59	12.57	12.49	12.43	13.09	12.82	12.84
2.50 to 3.00; (125 µm)	3.47	3.42	3.46	3.43	3.43	3.40	3.71	3.61	3.60
3.00 to 3.50; (88.39 µm)	1.00	0.97	0.98	0.97	1.01	1.00	1.06	1.06	1.05
3.50 to 4.00; (62.5 µm)	0.32	0.32	0.33	0.32	0.33	0.32	0.32	0.31	0.32
4.00 to 4.50; (44.19 µm)	0.13	0.12	0.13	0.13	0.13	0.15	0.13	0.14	0.14
4.50 to 5.00; (31.25 µm)	0.09	0.09	0.09	0.09	0.09	0.10	0.10	0.11	0.10
5.00 to 5.50; (22.097 µm)	0.09	0.08	0.08	0.09	0.10	0.10	0.09	0.10	0.09
5.50 to 6.00; (15.625 µm)	0.07	0.07	0.07	0.08	0.08	0.08	0.07	0.09	0.08
6.00 to 6.50; (11.049 µm)	0.07	0.07	0.07	0.07	0.07	0.08	0.07	0.08	0.08
6.50 to 7.00; (7.813 µm)	0.07	0.07	0.07	0.07	0.07	0.08	0.07	0.07	0.07
7.00 to 7.50; (5.524 µm)	0.06	0.06	0.07	0.07	0.07	0.08	0.06	0.07	0.07
7.50 to 8.00; (3.906 µm)	0.06	0.06	0.06	0.06	0.07	0.07	0.06	0.06	0.06
8.00 to 8.50; (2.762 µm)	0.05	0.05	0.05	0.06	0.06	0.06	0.05	0.05	0.05
8.50 to 9.00; (1.953 µm)	0.05	0.05	0.06	0.06	0.06	0.07	0.06	0.06	0.06
9.00 to 9.50; (1.381 µm)	0.07	0.07	0.07	0.07	0.08	0.08	0.07	0.08	0.08
9.50 to 10.00; (0.977 µm)	0.08	0.08	0.09	0.09	0.09	0.10	0.09	0.09	0.09
10.00 to 10.50; (0.691 µm)	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.08	0.09
10.50 to 11.00; (0.488 µm)	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.07	0.08
11.00 to 11.50; (0.345 µm)	0.07	0.07	0.07	0.08	0.07	0.07	0.07	0.06	0.07
11.50 to 12.00; (0.244 µm)	0.06	0.06	0.06	0.07	0.06	0.06	0.06	0.05	0.06
12.00 to 12.50; (0.173 µm)	0.05	0.05	0.05	0.05	0.05	0.05	0.04	0.04	0.04
12.50 to 13.00; (0.122 µm)	0.04	0.04	0.04	0.04	0.04	0.04	0.03	0.03	0.03
13.00 to 13.50; (0.086 µm)	0.02	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02
13.50 to 14.00; (0.061 µm)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
14.00 to 14.50; (0.043 µm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

d10	197.06	197.44	196.67	196.74	196.46	196.67	194.48	195.12	195.11
d50	392.19	393.65	391.30	392.11	391.84	392.48	385.14	388.27	387.64
d90	760.64	762.27	755.32	755.55	763.71	760.13	748.43	754.22	754.74

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	197.05	0.39	0.20	196.62	0.15	0.08	194.90	0.36	0.19
d50	392.38	1.18	0.30	392.14	0.32	0.08	387.02	1.66	0.43
d90	759.41	3.64	0.48	759.80	4.09	0.54	752.46	3.50	0.47

APPENDIX 1. Benchmark laser replicate data for sediment distributed as PS83.

	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)	12.54	12.45	12.34	12.47	12.13	12.60	12.30	11.90	12.25
0.50 to 1.00; (500 µm)	19.22	19.08	18.93	19.19	19.01	19.10	18.95	18.95	19.13
1.00 to 1.50; (353.6 µm)	24.93	25.18	25.32	25.14	25.32	25.05	25.34	25.57	25.37
1.50 to 2.00; (250 µm)	24.14	24.10	24.15	23.94	24.19	23.96	24.05	24.18	23.95
2.00 to 2.50; (176.8 µm)	12.87	12.86	12.88	12.83	12.86	12.82	12.88	12.92	12.81
2.50 to 3.00; (125 µm)	3.62	3.62	3.62	3.62	3.62	3.59	3.69	3.67	3.66
3.00 to 3.50; (88.39 µm)	1.13	1.05	1.04	1.03	1.04	1.04	1.05	1.05	1.04
3.50 to 4.00; (62.5 µm)	0.29	0.31	0.32	0.31	0.31	0.31	0.33	0.34	0.34
4.00 to 4.50; (44.19 µm)	0.11	0.13	0.14	0.14	0.15	0.15	0.14	0.14	0.14
4.50 to 5.00; (31.25 µm)	0.08	0.09	0.10	0.10	0.11	0.11	0.10	0.10	0.10
5.00 to 5.50; (22.097 µm)	0.08	0.09	0.09	0.10	0.10	0.10	0.09	0.08	0.09
5.50 to 6.00; (15.625 µm)	0.07	0.08	0.08	0.08	0.09	0.09	0.08	0.08	0.08
6.00 to 6.50; (11.049 µm)	0.07	0.07	0.08	0.08	0.09	0.09	0.08	0.08	0.08
6.50 to 7.00; (7.813 µm)	0.07	0.07	0.08	0.08	0.09	0.09	0.08	0.08	0.08
7.00 to 7.50; (5.524 µm)	0.06	0.07	0.08	0.08	0.09	0.09	0.07	0.07	0.08
7.50 to 8.00; (3.906 µm)	0.06	0.06	0.07	0.07	0.08	0.08	0.06	0.07	0.07
8.00 to 8.50; (2.762 µm)	0.05	0.05	0.06	0.06	0.06	0.07	0.05	0.06	0.06
8.50 to 9.00; (1.953 µm)	0.06	0.06	0.06	0.06	0.07	0.07	0.06	0.06	0.06
9.00 to 9.50; (1.381 µm)	0.07	0.07	0.08	0.08	0.08	0.08	0.07	0.08	0.08
9.50 to 10.00; (0.977 µm)	0.09	0.09	0.09	0.09	0.09	0.10	0.09	0.09	0.09
10.00 to 10.50; (0.691 µm)	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
10.50 to 11.00; (0.488 µm)	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.09	0.09
11.00 to 11.50; (0.345 µm)	0.06	0.07	0.07	0.07	0.07	0.07	0.07	0.08	0.08
11.50 to 12.00; (0.244 µm)	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.07	0.07
12.00 to 12.50; (0.173 µm)	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
12.50 to 13.00; (0.122 µm)	0.03	0.04	0.04	0.03	0.04	0.04	0.04	0.04	0.04
13.00 to 13.50; (0.086 µm)	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03
13.50 to 14.00; (0.061 µm)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
14.00 to 14.50; (0.043 µm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

d10	195.38	195.15	194.86	194.74	194.35	194.46	194.36	194.29	194.35
d50	388.08	387.81	386.96	388.37	386.27	388.20	386.92	385.73	387.71
d90	758.49	756.96	755.09	757.29	751.39	759.39	754.43	747.17	753.47

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	195.13	0.26	0.13	194.52	0.20	0.11	194.33	0.03	0.02
d50	387.62	0.58	0.15	387.61	1.17	0.30	386.79	1.00	0.26
d90	756.84	1.70	0.23	756.02	4.15	0.55	751.69	3.95	0.52

APPENDIX 1. Benchmark laser replicate data for sediment distributed as PS83.

	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)	15.92	16.42	15.53	16.23	16.35	16.77	16.53	16.32	16.35
0.50 to 1.00; (500 µm)	22.29	22.37	22.56	22.45	22.37	22.39	22.23	22.32	22.11
1.00 to 1.50; (353.6 µm)	24.98	24.83	25.13	24.87	24.76	24.49	25.04	25.05	25.11
1.50 to 2.00; (250 µm)	21.31	21.13	21.30	21.09	21.13	21.03	21.07	21.08	21.11
2.00 to 2.50; (176.8 µm)	10.44	10.21	10.37	10.26	10.24	10.13	10.14	10.16	10.17
2.50 to 3.00; (125 µm)	2.72	2.67	2.69	2.67	2.69	2.67	2.63	2.65	2.67
3.00 to 3.50; (88.39 µm)	0.81	0.81	0.80	0.79	0.80	0.81	0.78	0.79	0.80
3.50 to 4.00; (62.5 µm)	0.25	0.25	0.25	0.24	0.24	0.25	0.24	0.24	0.25
4.00 to 4.50; (44.19 µm)	0.11	0.12	0.12	0.12	0.13	0.14	0.11	0.12	0.13
4.50 to 5.00; (31.25 µm)	0.09	0.09	0.09	0.09	0.10	0.10	0.08	0.09	0.09
5.00 to 5.50; (22.097 µm)	0.08	0.08	0.08	0.09	0.09	0.09	0.08	0.08	0.09
5.50 to 6.00; (15.625 µm)	0.07	0.07	0.07	0.08	0.08	0.08	0.06	0.07	0.07
6.00 to 6.50; (11.049 µm)	0.07	0.07	0.08	0.08	0.08	0.08	0.06	0.07	0.07
6.50 to 7.00; (7.813 µm)	0.07	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.08
7.00 to 7.50; (5.524 µm)	0.07	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.09
7.50 to 8.00; (3.906 µm)	0.06	0.07	0.07	0.07	0.08	0.08	0.07	0.07	0.08
8.00 to 8.50; (2.762 µm)	0.06	0.06	0.06	0.06	0.06	0.07	0.06	0.06	0.07
8.50 to 9.00; (1.953 µm)	0.06	0.06	0.06	0.06	0.07	0.07	0.06	0.06	0.07
9.00 to 9.50; (1.381 µm)	0.07	0.08	0.08	0.08	0.08	0.09	0.07	0.08	0.08
9.50 to 10.00; (0.977 µm)	0.09	0.09	0.09	0.09	0.09	0.10	0.09	0.09	0.09
10.00 to 10.50; (0.691 µm)	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
10.50 to 11.00; (0.488 µm)	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
11.00 to 11.50; (0.345 µm)	0.07	0.06	0.07	0.07	0.07	0.07	0.07	0.07	0.07
11.50 to 12.00; (0.244 µm)	0.06	0.05	0.06	0.06	0.06	0.05	0.06	0.06	0.06
12.00 to 12.50; (0.173 µm)	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.05	0.05
12.50 to 13.00; (0.122 µm)	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04
13.00 to 13.50; (0.086 µm)	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03
13.50 to 14.00; (0.061 µm)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
14.00 to 14.50; (0.043 µm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

d10	208.21	209.23	208.21	208.66	208.29	208.39	209.74	209.12	208.51
d50	424.52	427.63	424.30	427.06	426.96	428.90	427.96	427.30	426.40
d90	804.24	809.70	799.94	807.61	808.92	813.26	810.76	808.64	808.92

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	208.55	0.59	0.28	208.45	0.19	0.09	209.12	0.61	0.29
d50	425.48	1.86	0.44	427.64	1.09	0.26	427.22	0.78	0.18
d90	804.62	4.89	0.61	809.93	2.95	0.36	809.44	1.15	0.14

APPENDIX 2. Gradistat output of size categories based on final merged data provided by each participant and the Benchmark Average for sediment distributed as PS83 (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_v2	PSA_2810
VERY COARSE GRAVEL	0.00	0.00	0.00	0.00	0.00	n/p	0.00	0.00	0.00	0.00	n/p
COARSE GRAVEL	0.00	0.00	0.00	0.00	0.00	n/p	0.00	0.00	0.00	0.00	n/p
MEDIUM GRAVEL	5.38	1.71	1.40	3.55	3.79	n/p	2.08	3.58	4.77	1.48	n/p
FINE GRAVEL	48.15	51.69	52.21	49.74	50.80	n/p	50.61	50.32	48.80	51.76	n/p
VERY FINE GRAVEL	4.52	4.72	4.72	4.77	4.35	n/p	5.18	4.93	4.59	4.99	n/p
VERY COARSE SAND	3.29	3.29	3.19	3.38	3.26	n/p	3.55	3.41	3.22	3.31	n/p
COARSE SAND	12.95	10.62	12.13	9.09	12.49	n/p	10.81	7.15	13.25	9.40	n/p
MEDIUM SAND	18.71	20.47	18.85	20.23	18.85	n/p	19.19	19.73	18.66	18.69	n/p
FINE SAND	5.94	7.43	6.06	7.90	6.41	n/p	8.02	10.09	5.74	9.69	n/p
VERY FINE SAND	0.49	0.08	0.55	0.66	0.05	n/p	0.22	0.39	0.44	0.46	n/p
VERY COARSE SILT	0.09	0.00	0.13	0.12	0.00	n/p	0.13	0.27	0.08	0.17	n/p
COARSE SILT	0.07	0.00	0.11	0.07	0.00	n/p	0.05	0.03	0.06	0.04	n/p
MEDIUM SILT	0.06	0.00	0.11	0.09	0.00	n/p	0.07	0.07	0.06	0.00	n/p
FINE SILT	0.06	0.00	0.13	0.08	0.00	n/p	0.07	0.04	0.05	0.00	n/p
VERY FINE SILT	0.05	0.00	0.11	0.06	0.00	n/p	0.02	0.00	0.04	0.00	n/p
CLAY	0.23	0.00	0.32	0.26	0.00	n/p	0.00	0.00	0.23	0.00	n/p

GRAVEL	58.05	58.11	58.32	58.06	58.94	n/p	57.87	58.83	58.16	58.23	n/p
SAND	41.38	41.89	40.77	41.27	41.06	n/p	41.80	40.77	41.31	41.56	n/p
SILT	0.33	0.00	0.59	0.42	0.00	n/p	0.34	0.40	0.30	0.22	n/p
CLAY	0.23	0.00	0.32	0.26	0.00	n/p	0.00	0.00	0.23	0.00	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 PS83 (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	0.00
COARSE GRAVEL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEDIUM GRAVEL	5.38	5.26	5.76	0.00	2.03	3.62	3.74	0.00	5.48
FINE GRAVEL	48.15	49.74	48.52	0.00	54.68	49.70	49.29	0.00	48.28
VERY FINE GRAVEL	4.52	4.64	4.39	94.86	4.91	4.68	5.15	59.31	4.60
VERY COARSE SAND	3.29	3.10	3.23	0.45	3.83	3.35	3.30	7.59	3.49
COARSE SAND	12.95	8.58	12.85	2.15	10.35	11.59	9.16	16.77	7.44
MEDIUM SAND	18.71	19.57	18.91	2.20	17.59	18.63	19.87	14.15	19.80
FINE SAND	5.94	8.61	6.31	0.28	6.29	3.59	9.14	1.90	9.72
VERY FINE SAND	0.49	0.27	0.04	0.02	0.07	0.36	0.28	0.12	0.47
VERY COARSE SILT	0.09	0.23	0.00	0.04	0.23	0.00	0.07	0.15	0.34
COARSE SILT	0.07	0.00	0.00	0.00	0.01	0.12	0.00	0.00	0.09
MEDIUM SILT	0.06	0.00	0.00	0.01	0.00	0.79	0.00	0.00	0.13
FINE SILT	0.06	0.00	0.00	0.00	0.00	0.81	0.00	0.00	0.14
VERY FINE SILT	0.05	0.00	0.00	0.00	0.00	0.71	0.00	0.00	0.01
CLAY	0.23	0.00	0.00	0.00	0.00	2.05	0.00	0.00	0.00

GRAVEL	58.05	59.64	58.66	94.86	61.62	58.00	58.18	59.31	58.37
SAND	41.38	40.13	41.34	5.09	38.13	37.52	41.75	40.54	40.93
SILT	0.33	0.23	0.00	0.05	0.25	2.43	0.07	0.15	0.71
CLAY	0.23	0.00	0.00	0.00	0.00	2.05	0.00	0.00	0.00

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

APPENDIX 3. Participant laser replicate data for sediment distributed as PS83.

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	8.58	7.52	6.91	7.95	7.68	8.79	6.98	6.40	6.30
500	20.60	20.45	20.28	20.70	20.76	20.55	19.32	18.80	19.05
353.6	27.69	28.13	28.33	28.10	28.32	27.55	27.29	27.24	27.51
250	24.71	25.21	25.50	24.93	25.03	24.62	25.47	25.89	25.87
176.8	14.11	14.35	14.55	14.09	14.03	14.12	15.44	15.89	15.68
125	4.16	4.19	4.28	4.09	4.04	4.21	5.20	5.44	5.28
88.39	0.15	0.14	0.16	0.14	0.14	0.16	0.31	0.33	0.31
62.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22.097	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15.625	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11.049	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.813	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.524	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3.906	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.762	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.953	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.381	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.977	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.691	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	203.30	202.73	201.83	203.73	204.12	202.97	195.54	193.88	194.89
d50	385.35	381.21	378.27	384.28	384.08	385.59	370.06	364.77	366.57
d90	690.35	677.92	670.64	683.11	680.15	692.71	669.72	661.63	661.00

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	202.62	0.74	0.37	203.61	0.59	0.29	194.77	0.84	0.43
d50	381.61	3.56	0.93	384.65	0.82	0.21	367.13	2.69	0.73
d90	679.64	9.97	1.47	685.32	6.57	0.96	664.12	4.86	0.73

APPENDIX 3. Participant laser replicate data for sediment distributed as PS83.

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	13.63	13.35	13.48	12.77	13.27	12.95	13.87	13.17	13.51
500	18.17	18.36	18.00	18.13	17.96	18.19	18.18	18.04	18.06
353.6	24.72	24.77	24.80	25.13	24.81	24.98	24.77	25.25	25.06
250	24.07	24.07	24.09	24.39	24.34	24.15	23.80	24.32	24.39
176.8	12.50	12.42	12.36	12.69	12.62	12.58	12.34	12.44	12.23
125	3.19	3.14	3.14	3.22	3.18	3.17	3.36	3.11	3.03
88.39	1.05	1.06	1.06	1.06	1.08	1.07	1.05	1.01	0.99
62.5	0.42	0.41	0.43	0.39	0.39	0.40	0.38	0.38	0.38
44.19	0.22	0.25	0.25	0.20	0.21	0.22	0.20	0.20	0.21
31.25	0.13	0.11	0.15	0.13	0.14	0.14	0.12	0.13	0.13
22.097	0.16	0.21	0.20	0.15	0.17	0.19	0.17	0.17	0.17
15.625	0.11	0.13	0.14	0.11	0.11	0.12	0.11	0.11	0.12
11.049	0.10	0.10	0.13	0.11	0.11	0.11	0.09	0.10	0.11
7.813	0.16	0.17	0.19	0.15	0.17	0.18	0.16	0.16	0.16
5.524	0.17	0.18	0.21	0.17	0.18	0.19	0.18	0.17	0.17
3.906	0.15	0.16	0.18	0.15	0.16	0.17	0.15	0.15	0.16
2.762	0.13	0.14	0.15	0.13	0.14	0.15	0.13	0.13	0.14
1.953	0.13	0.14	0.15	0.13	0.14	0.15	0.14	0.14	0.14
1.381	0.14	0.15	0.16	0.14	0.15	0.16	0.15	0.15	0.15
0.977	0.14	0.15	0.16	0.14	0.15	0.16	0.15	0.15	0.15
0.691	0.13	0.13	0.14	0.13	0.13	0.14	0.13	0.13	0.13
0.488	0.11	0.11	0.12	0.11	0.11	0.12	0.10	0.11	0.11
0.345	0.09	0.09	0.10	0.09	0.09	0.10	0.08	0.09	0.09
0.244	0.07	0.07	0.08	0.07	0.07	0.08	0.06	0.07	0.07
0.173	0.05	0.05	0.06	0.05	0.05	0.06	0.05	0.05	0.05
0.122	0.04	0.04	0.04	0.04	0.04	0.04	0.03	0.04	0.04
0.086	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.03
0.061	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
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	192.57	191.98	190.87	192.47	191.95	191.25	192.13	193.37	193.89
d50	387.42	387.10	386.03	384.27	384.69	384.95	388.98	386.36	387.57
d90	775.39	771.26	773.14	762.26	770.06	765.06	778.85	768.48	773.71

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	191.81	0.86	0.45	191.89	0.61	0.32	193.13	0.90	0.47
d50	386.85	0.73	0.19	384.64	0.34	0.09	387.64	1.31	0.34
d90	773.26	2.07	0.27	765.79	3.95	0.52	773.68	5.19	0.67

APPENDIX 3. Participant laser replicate data for sediment distributed as PS83.

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	8.68	7.96	8.38	7.79	7.23	8.41	7.57	6.74	7.26
500	16.22	16.29	16.54	15.29	15.49	16.07	15.77	14.98	15.57
353.6	25.24	25.71	25.49	25.68	25.52	25.36	24.85	25.59	25.22
250	26.40	26.80	26.64	27.22	27.48	26.83	27.03	27.78	27.39
176.8	15.66	15.64	15.63	15.90	16.28	15.75	16.36	16.65	16.45
125	4.31	4.24	4.17	4.54	4.53	4.35	4.63	4.69	4.58
88.39	1.21	1.15	1.05	1.28	1.21	1.11	1.33	1.23	1.20
62.5	0.56	0.51	0.46	0.56	0.50	0.46	0.61	0.52	0.50
44.19	0.18	0.16	0.14	0.18	0.16	0.15	0.20	0.17	0.17
31.25	0.15	0.14	0.13	0.15	0.15	0.14	0.16	0.15	0.16
22.097	0.10	0.10	0.09	0.10	0.10	0.10	0.11	0.11	0.11
15.625	0.07	0.07	0.07	0.07	0.07	0.06	0.08	0.07	0.07
11.049	0.10	0.10	0.10	0.11	0.11	0.10	0.12	0.12	0.12
7.813	0.12	0.12	0.12	0.13	0.13	0.12	0.14	0.14	0.13
5.524	0.11	0.11	0.11	0.11	0.11	0.11	0.12	0.12	0.12
3.906	0.09	0.09	0.09	0.09	0.09	0.09	0.10	0.10	0.10
2.762	0.07	0.07	0.07	0.07	0.07	0.07	0.08	0.08	0.08
1.953	0.06	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
1.381	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
0.977	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
0.691	0.09	0.09	0.09	0.10	0.10	0.09	0.10	0.10	0.10
0.488	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
0.345	0.08	0.08	0.08	0.08	0.08	0.08	0.09	0.09	0.09
0.244	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
0.173	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
0.122	0.05	0.05	0.04	0.05	0.05	0.05	0.05	0.05	0.05
0.086	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.061	0.02	0.01	0.01	0.02	0.02	0.01	0.02	0.02	0.02
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	185.64	186.47	187.59	184.15	184.52	186.47	182.84	183.31	183.99
d50	354.30	353.47	355.56	348.03	345.85	352.87	345.51	341.93	345.00
d90	687.41	677.04	683.37	672.46	664.49	683.22	670.31	655.63	665.16

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	186.57	0.97	0.52	185.05	1.25	0.67	183.38	0.58	0.31
d50	354.44	1.05	0.30	348.91	3.59	1.03	344.14	1.94	0.56
d90	682.61	5.23	0.77	673.39	9.40	1.40	663.70	7.45	1.12

APPENDIX 3. Participant laser replicate data for sediment distributed as PS83.

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	11.16	10.65	11.27	12.12	11.45	11.52	12.31	12.30	12.37
500	20.96	20.73	21.27	21.72	21.05	21.17	22.02	21.70	21.70
353.6	26.66	26.86	26.81	26.59	26.62	26.61	26.80	26.69	26.61
250	23.48	23.85	23.34	22.77	23.36	23.27	22.67	22.91	22.81
176.8	13.50	13.70	13.25	12.85	13.37	13.31	12.53	12.74	12.75
125	4.08	4.07	3.92	3.81	4.00	3.98	3.56	3.56	3.64
88.39	0.16	0.15	0.14	0.14	0.15	0.15	0.11	0.09	0.11
62.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22.097	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15.625	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11.049	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.813	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.524	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3.906	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.762	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.953	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.381	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.977	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.691	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	204.95	204.67	206.51	208.10	205.75	206.01	210.62	210.12	209.52
d50	396.32	393.24	399.01	405.03	398.20	399.11	408.33	406.26	406.37
d90	732.93	722.13	735.08	751.15	738.81	740.04	754.55	754.42	755.64

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	205.37	0.99	0.48	206.62	1.29	0.62	210.09	0.55	0.26
d50	396.19	2.89	0.73	400.78	3.71	0.93	406.99	1.16	0.29
d90	730.05	6.94	0.95	743.33	6.80	0.91	754.87	0.67	0.09

APPENDIX 3. Participant laser replicate data for sediment distributed as PS83.

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	9.48	8.61	8.87	9.19	8.93	9.17	9.94	9.32	8.71
500	18.85	18.51	18.58	18.86	18.79	18.97	19.27	19.21	18.86
353.6	25.28	25.36	25.27	25.69	25.79	25.73	25.33	26.00	25.88
250	23.85	23.98	23.85	24.40	24.56	24.36	23.61	24.38	24.38
176.8	15.07	15.09	15.03	15.50	15.59	15.45	14.85	15.19	15.23
125	5.54	5.52	5.50	5.74	5.75	5.72	5.46	5.42	5.45
88.39	0.63	0.61	0.61	0.61	0.59	0.60	0.58	0.48	0.51
62.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44.19	0.45	0.46	0.44	0.00	0.00	0.00	0.00	0.00	0.00
31.25	0.54	0.55	0.54	0.00	0.00	0.00	0.00	0.00	0.00
22.097	0.28	0.28	0.28	0.00	0.00	0.00	0.00	0.00	0.00
15.625	0.01	0.14	0.15	0.00	0.00	0.00	0.00	0.00	0.00
11.049	0.00	0.19	0.19	0.00	0.00	0.00	0.10	0.00	0.11
7.813	0.00	0.24	0.24	0.00	0.00	0.00	0.22	0.00	0.23
5.524	0.00	0.23	0.23	0.00	0.00	0.00	0.23	0.00	0.24
3.906	0.00	0.18	0.18	0.00	0.00	0.00	0.20	0.00	0.21
2.762	0.00	0.05	0.05	0.00	0.00	0.00	0.17	0.00	0.17
1.953	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.03
1.381	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.977	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.691	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	187.45	183.20	183.43	191.81	191.78	192.00	189.62	194.15	189.56
d50	371.59	365.79	367.02	371.91	370.66	372.49	376.25	375.60	370.29
d90	700.33	688.87	692.20	696.55	693.13	696.38	706.21	698.43	690.45

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	184.69	2.39	1.29	191.86	0.11	0.06	191.11	2.63	1.38
d50	368.13	3.06	0.83	371.69	0.94	0.25	374.05	3.27	0.87
d90	693.80	5.89	0.85	695.36	1.93	0.28	698.37	7.88	1.13

APPENDIX 3. Participant laser replicate data for sediment distributed as PS83.

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	5.79	5.93	6.34	5.94	5.58	4.95	5.13	4.56	4.78
500	15.15	15.57	15.31	15.11	14.21	14.61	14.50	13.87	13.92
353.6	24.99	25.13	24.84	24.59	24.28	24.77	24.67	24.77	24.47
250	26.97	26.71	26.74	26.66	27.22	27.19	27.28	27.92	27.67
176.8	18.12	17.85	17.99	18.24	18.93	18.70	18.78	19.24	19.26
125	7.10	6.98	7.01	7.40	7.73	7.63	7.53	7.60	7.74
88.39	0.92	0.92	0.88	1.11	1.10	1.16	1.00	0.96	1.01
62.5	0.06	0.06	0.05	0.06	0.05	0.07	0.04	0.05	0.04
44.19	0.45	0.42	0.41	0.41	0.43	0.43	0.35	0.36	0.35
31.25	0.38	0.36	0.36	0.38	0.40	0.40	0.35	0.34	0.35
22.097	0.07	0.07	0.07	0.08	0.08	0.08	0.08	0.08	0.08
15.625	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11.049	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01
7.813	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.17	0.18
5.524	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.07	0.14
3.906	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.762	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.953	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.381	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.977	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.691	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	180.26	180.92	180.98	178.64	177.49	177.54	178.00	177.92	177.11
d50	335.56	338.46	337.84	334.11	327.86	328.94	328.91	324.95	324.60
d90	642.07	645.74	650.77	644.17	634.72	627.20	629.40	617.21	620.94

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	180.72	0.40	0.22	177.89	0.65	0.36	177.68	0.49	0.28
d50	337.29	1.53	0.45	330.31	3.34	1.01	326.15	2.39	0.73
d90	646.19	4.37	0.68	635.36	8.50	1.34	622.52	6.25	1.00

APPENDIX 3. Participant laser replicate data for sediment distributed as PS83.

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	13.54	13.76	14.13	13.77	13.53	13.74	13.76	13.98	13.72
500	20.69	20.66	20.40	20.66	20.54	20.68	20.61	20.26	20.32
353.6	25.54	25.44	25.29	25.41	25.61	25.43	25.34	25.29	25.43
250	22.92	22.87	22.92	22.84	22.94	22.81	22.86	22.93	22.96
176.8	11.77	11.71	11.62	11.62	11.68	11.62	11.80	11.83	11.81
125	3.14	3.12	3.12	3.13	3.11	3.10	3.17	3.17	3.18
88.39	0.85	0.86	0.86	0.86	0.85	0.85	0.89	0.89	0.90
62.5	0.27	0.28	0.27	0.28	0.28	0.27	0.28	0.28	0.29
44.19	0.11	0.11	0.13	0.13	0.13	0.13	0.12	0.12	0.13
31.25	0.09	0.09	0.10	0.10	0.10	0.10	0.09	0.09	0.09
22.097	0.07	0.08	0.09	0.09	0.09	0.09	0.07	0.08	0.08
15.625	0.07	0.07	0.08	0.09	0.08	0.08	0.07	0.07	0.08
11.049	0.07	0.07	0.08	0.09	0.08	0.09	0.07	0.08	0.08
7.813	0.07	0.08	0.08	0.09	0.09	0.09	0.07	0.08	0.08
5.524	0.07	0.07	0.08	0.08	0.08	0.09	0.07	0.07	0.08
3.906	0.06	0.06	0.07	0.07	0.07	0.08	0.06	0.06	0.07
2.762	0.05	0.05	0.05	0.06	0.06	0.06	0.05	0.05	0.06
1.953	0.05	0.06	0.06	0.06	0.06	0.07	0.05	0.06	0.06
1.381	0.07	0.07	0.07	0.08	0.08	0.08	0.07	0.07	0.07
0.977	0.08	0.08	0.09	0.09	0.09	0.09	0.08	0.08	0.09
0.691	0.08	0.08	0.09	0.09	0.09	0.09	0.08	0.09	0.09
0.488	0.08	0.08	0.08	0.08	0.08	0.09	0.08	0.08	0.08
0.345	0.07	0.07	0.07	0.07	0.08	0.08	0.07	0.07	0.07
0.244	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
0.173	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
0.122	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
0.086	0.03	0.03	0.02	0.02	0.03	0.03	0.03	0.03	0.03
0.061	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
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	201.59	201.57	201.37	200.95	200.85	200.82	200.99	200.54	200.17
d50	403.70	404.37	404.55	404.38	403.05	404.33	403.79	402.93	402.28
d90	774.13	777.23	782.43	777.43	773.91	776.91	777.22	780.36	776.64

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	201.51	0.12	0.06	200.88	0.07	0.03	200.57	0.41	0.21
d50	404.21	0.45	0.11	403.92	0.75	0.19	403.00	0.76	0.19
d90	777.93	4.19	0.54	776.08	1.90	0.24	778.07	2.01	0.26

APPENDIX 3. Participant laser replicate data for sediment distributed as PS83.

PSA_2809_v2 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	8.03	8.43	8.06	7.95	7.67	8.10	8.89	8.26	8.49
500	16.57	16.90	16.68	15.84	15.63	15.87	16.28	16.06	16.29
353.6	23.61	23.60	23.69	23.08	23.02	23.02	23.37	23.48	23.53
250	25.13	24.83	25.10	25.22	25.35	25.15	25.30	25.57	25.42
176.8	16.74	16.47	16.65	17.26	17.47	17.22	16.99	17.24	17.06
125	7.94	7.80	7.84	8.50	8.67	8.49	8.05	8.22	8.08
88.39	1.12	1.11	1.09	1.34	1.38	1.34	1.12	1.16	1.13
62.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44.19	0.27	0.27	0.28	0.20	0.21	0.21	0.00	0.00	0.00
31.25	0.42	0.42	0.43	0.43	0.44	0.44	0.00	0.00	0.00
22.097	0.16	0.16	0.17	0.17	0.18	0.17	0.00	0.00	0.00
15.625	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11.049	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.813	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.524	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3.906	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.762	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.953	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.381	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.977	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.691	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	177.08	177.64	177.48	172.16	170.80	172.23	179.83	179.00	179.65
d50	344.97	348.35	346.02	338.68	336.25	339.23	346.61	343.22	345.54
d90	678.46	684.62	679.02	676.01	671.46	678.25	690.54	680.96	684.72

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	177.40	0.29	0.16	171.73	0.80	0.47	179.50	0.43	0.24
d50	346.45	1.73	0.50	338.05	1.59	0.47	345.12	1.73	0.50
d90	680.70	3.41	0.50	675.24	3.46	0.51	685.41	4.83	0.70

APPENDIX 3. Participant laser replicate data for sediment distributed as PS83.

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	7.41	5.53	6.81	6.20	6.43	6.42	6.90	5.99	5.17
500	17.55	16.24	16.93	16.85	16.95	16.61	16.91	16.48	15.81
353.6	26.17	26.18	26.01	26.41	26.34	26.00	25.90	26.25	26.16
250	25.60	26.72	26.06	26.42	26.32	26.38	25.98	26.67	27.19
176.8	16.13	17.33	16.75	16.79	16.71	17.08	16.75	17.16	17.80
125	5.80	6.46	6.13	6.02	5.97	6.23	6.18	6.18	6.54
88.39	0.64	0.78	0.68	0.64	0.63	0.67	0.71	0.65	0.71
62.5	0.05	0.05	0.04	0.05	0.05	0.04	0.05	0.04	0.04
44.19	0.35	0.37	0.31	0.34	0.33	0.30	0.34	0.31	0.31
31.25	0.28	0.32	0.27	0.27	0.27	0.26	0.29	0.27	0.28
22.097	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15.625	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11.049	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.813	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.524	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3.906	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.762	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.953	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.381	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.977	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.691	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	188.01	184.02	186.42	186.85	187.19	185.96	185.94	186.11	184.24
d50	358.93	344.33	352.44	351.12	352.32	349.10	352.20	347.72	340.92
d90	671.73	642.75	662.35	653.92	657.31	656.12	663.49	649.77	636.03

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	186.15	2.01	1.08	186.67	0.63	0.34	185.43	1.03	0.56
d50	351.90	7.32	2.08	350.85	1.62	0.46	346.95	5.68	1.64
d90	658.94	14.79	2.24	655.78	1.72	0.26	649.77	13.73	2.11

APPENDIX 3. Participant laser replicate data for sediment distributed as PS83.

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	12.91	12.41	11.91	11.94	11.40	11.16	13.28	13.89	13.35
500	21.14	21.45	20.93	20.41	20.84	20.75	21.79	22.19	21.72
353.6	26.43	26.89	26.82	26.36	26.92	27.01	26.27	26.14	26.04
250	23.11	23.20	23.60	23.67	23.74	23.86	22.37	21.95	22.28
176.8	12.89	12.70	13.17	13.61	13.33	13.41	12.50	12.16	12.63
125	3.44	3.28	3.49	3.92	3.65	3.72	3.65	3.54	3.82
88.39	0.08	0.07	0.08	0.11	0.12	0.08	0.13	0.13	0.16
62.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22.097	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15.625	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11.049	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.813	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.524	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3.906	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.762	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.953	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.381	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.977	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.691	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	210.41	211.97	209.39	205.85	207.88	207.47	210.04	211.72	208.57
d50	405.65	406.13	400.59	396.43	397.86	396.45	410.65	415.75	409.91
d90	764.40	756.21	747.48	747.90	737.80	733.02	770.25	779.11	771.29

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	210.59	1.30	0.62	207.07	1.08	0.52	210.11	1.58	0.75
d50	404.12	3.07	0.76	396.92	0.82	0.21	412.10	3.18	0.77
d90	756.03	8.46	1.12	739.57	7.59	1.03	773.55	4.84	0.63

APPENDIX 3. Participant laser replicate data for sediment distributed as PS83.

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	20.00	20.46	20.28	19.09	19.29	19.08	13.51	14.04	13.75
500	28.43	28.20	28.06	29.34	29.48	29.53	26.77	27.20	27.15
353.6	27.26	27.00	27.13	28.92	28.76	28.85	30.67	30.55	30.74
250	17.04	17.00	17.13	16.82	16.49	16.50	20.31	19.81	19.93
176.8	5.88	5.92	5.93	4.59	4.42	4.36	6.72	6.36	6.35
125	0.36	0.37	0.36	0.15	0.14	0.13	0.47	0.40	0.39
88.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
62.5	0.38	0.37	0.40	0.34	0.36	0.38	0.22	0.31	0.33
44.19	0.50	0.51	0.53	0.56	0.55	0.57	0.61	0.62	0.63
31.25	0.16	0.16	0.17	0.20	0.20	0.21	0.27	0.26	0.26
22.097	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15.625	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01
11.049	0.00	0.00	0.00	0.00	0.11	0.17	0.16	0.16	0.17
7.813	0.00	0.00	0.00	0.00	0.20	0.21	0.19	0.19	0.20
5.524	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.08	0.09
3.906	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.762	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.953	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.381	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.977	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.691	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	264.25	263.92	263.51	272.39	272.05	271.73	255.42	257.10	256.94
d50	490.11	491.46	489.50	490.65	492.63	491.73	448.00	452.73	451.26
d90	840.82	844.12	842.83	833.91	835.47	833.82	773.59	781.17	777.05

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	263.89	0.37	0.14	272.05	0.33	0.12	256.49	0.93	0.36
d50	490.36	1.00	0.20	491.67	0.99	0.20	450.66	2.42	0.54
d90	842.59	1.66	0.20	834.40	0.92	0.11	777.27	3.79	0.49

APPENDIX 3. Participant laser replicate data for sediment distributed as PS83.

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	8.98	10.62	11.17	9.83	8.48	9.88	10.72	11.01	11.07
500	19.34	19.92	20.11	19.32	19.46	19.64	19.69	20.15	20.28
353.6	28.02	26.28	26.16	26.25	28.24	26.48	26.19	26.14	26.20
250	25.65	23.86	23.59	24.37	25.69	24.24	23.94	23.54	23.47
176.8	13.76	14.03	13.79	14.60	13.80	14.32	14.12	13.85	13.74
125	3.41	4.37	4.26	4.66	3.50	4.50	4.41	4.39	4.34
88.39	0.09	0.21	0.20	0.24	0.11	0.22	0.21	0.23	0.23
62.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44.19	0.31	0.34	0.33	0.33	0.29	0.33	0.34	0.32	0.32
31.25	0.39	0.35	0.34	0.36	0.38	0.35	0.34	0.33	0.33
22.097	0.05	0.04	0.04	0.04	0.05	0.04	0.04	0.04	0.04
15.625	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11.049	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.813	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.524	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3.906	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.762	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.953	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.381	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.977	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.691	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	204.32	198.58	199.60	196.10	203.81	197.46	198.20	198.84	199.30
d50	382.40	386.85	390.24	379.70	381.42	382.51	385.86	389.53	390.69
d90	694.14	721.50	733.13	704.80	688.07	705.53	723.72	729.91	731.06

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	200.83	3.06	1.52	199.12	4.11	2.07	198.78	0.55	0.28
d50	386.50	3.93	1.02	381.21	1.42	0.37	388.70	2.52	0.65
d90	716.25	20.01	2.79	699.47	9.87	1.41	728.23	3.95	0.54

APPENDIX 3. Participant laser replicate data for sediment distributed as PS83.

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	2.40	2.40	2.40	2.36	2.36	2.36	2.31	2.31	2.31
500	28.21	28.21	28.21	27.51	27.51	27.51	27.17	27.17	27.17
353.6	36.93	36.93	36.93	35.85	35.85	35.85	35.20	35.20	35.20
250	12.47	12.47	12.47	12.31	12.31	12.31	11.86	11.86	11.86
176.8	6.25	6.25	6.25	6.51	6.51	6.51	6.42	6.42	6.42
125	2.80	2.80	2.80	2.93	2.93	2.93	2.92	2.92	2.92
88.39	0.91	0.91	0.91	0.93	0.93	0.93	0.90	0.90	0.90
62.5	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.02
44.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22.097	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
15.625	0.27	0.27	0.27	0.30	0.30	0.30	0.31	0.31	0.31
11.049	0.64	0.64	0.64	0.73	0.73	0.73	0.80	0.80	0.80
7.813	1.15	1.15	1.15	1.32	1.32	1.32	1.51	1.51	1.51
5.524	0.99	0.99	0.99	1.14	1.14	1.14	1.33	1.33	1.33
3.906	0.82	0.82	0.82	0.94	0.94	0.94	1.11	1.11	1.11
2.762	0.80	0.80	0.80	0.92	0.92	0.92	1.07	1.07	1.07
1.953	0.77	0.77	0.77	0.90	0.90	0.90	1.03	1.03	1.03
1.381	0.64	0.64	0.64	0.75	0.75	0.75	0.86	0.86	0.86
0.977	0.45	0.45	0.45	0.54	0.54	0.54	0.62	0.62	0.62
0.691	0.25	0.25	0.25	0.30	0.30	0.30	0.36	0.36	0.36
0.488	0.34	0.34	0.34	0.41	0.41	0.41	0.48	0.48	0.48
0.345	0.46	0.46	0.46	0.57	0.57	0.57	0.65	0.65	0.65
0.244	0.63	0.63	0.63	0.77	0.77	0.77	0.85	0.85	0.85
0.173	0.74	0.74	0.74	0.87	0.87	0.87	0.96	0.96	0.96
0.122	0.65	0.65	0.65	0.73	0.73	0.73	0.82	0.82	0.82
0.086	0.37	0.37	0.37	0.37	0.37	0.37	0.44	0.44	0.44
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	29.06	29.06	29.06	9.61	9.61	9.61	6.72	6.72	6.72
d50	416.82	416.82	416.82	411.61	411.61	411.61	408.56	408.56	408.56
d90	643.97	643.97	643.97	642.18	642.18	642.18	640.99	640.99	640.99

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	29.06	0.00	0.00	9.61	0.00	0.00	6.72	0.00	0.00
d50	416.82	0.00	0.00	411.61	0.00	0.00	408.56	0.00	0.00
d90	643.97	0.00	0.00	642.18	0.00	0.00	640.99	0.00	0.00

APPENDIX 3. Participant laser replicate data for sediment distributed as PS83.

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	7.75	7.56	7.71	7.71	7.55	7.85	6.76	6.63	6.17
500	16.82	16.62	17.07	16.79	16.85	17.04	15.81	15.73	15.58
353.6	25.34	25.37	25.53	25.45	25.55	25.51	24.90	24.85	25.12
250	26.14	26.31	26.04	26.18	26.25	26.05	26.44	26.47	26.80
176.8	17.04	17.17	16.84	16.99	16.99	16.81	17.76	17.85	17.95
125	6.27	6.32	6.17	6.23	6.19	6.12	6.90	6.99	6.94
88.39	0.65	0.65	0.63	0.64	0.62	0.62	0.85	0.88	0.83
62.5	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.04
44.19	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.30	0.30
31.25	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.26	0.26
22.097	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
15.625	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11.049	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.813	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.524	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3.906	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.762	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.953	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.381	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.977	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.691	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	188.24	187.94	188.81	188.45	188.68	189.12	182.61	182.09	182.37
d50	353.14	351.51	355.09	353.38	353.36	355.58	342.04	340.89	339.54
d90	674.93	671.96	674.89	674.33	672.24	676.82	658.57	656.38	649.25

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	188.33	0.45	0.24	188.75	0.34	0.18	182.36	0.26	0.14
d50	353.25	1.79	0.51	354.11	1.28	0.36	340.83	1.25	0.37
d90	673.93	1.70	0.25	674.47	2.29	0.34	654.73	4.87	0.74

APPENDIX 3. Participant laser replicate data for sediment distributed as PS83.

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	21.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
500	28.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
353.6	26.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
250	16.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
176.8	5.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
125	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
88.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
62.5	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44.19	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31.25	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22.097	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15.625	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11.049	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.813	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.524	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3.906	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.762	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.953	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.381	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.977	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.691	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	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	269.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d50	504.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d90	853.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	89.71	155.38	173.21	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
d50	168.01	291.01	173.21	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
d90	284.43	492.65	173.21	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!

APPENDIX 3. Participant laser replicate data for sediment distributed as PS83.

PSA_2835 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	5.97	6.35	5.21	6.46	5.63	5.13	5.71	2.73	1.45
500	15.54	14.96	13.72	15.92	15.87	15.34	15.22	13.14	11.19
353.6	25.14	24.37	23.59	25.10	25.82	25.65	24.54	24.66	23.18
250	26.81	26.66	27.01	26.68	27.28	27.62	26.55	28.21	28.41
176.8	16.89	17.26	18.25	16.78	16.80	17.28	17.20	18.73	20.18
125	7.12	7.56	8.46	6.96	6.65	6.99	7.64	8.56	10.16
88.39	0.88	1.06	1.34	0.80	0.66	0.73	1.16	1.42	2.04
62.5	0.05	0.07	0.08	0.05	0.05	0.04	0.09	0.17	0.34
44.19	0.39	0.39	0.41	0.34	0.35	0.32	0.45	0.48	0.52
31.25	0.46	0.49	0.57	0.39	0.36	0.36	0.53	0.58	0.67
22.097	0.16	0.19	0.30	0.08	0.08	0.08	0.21	0.29	0.38
15.625	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.03	0.22
11.049	0.01	0.01	0.18	0.01	0.01	0.01	0.09	0.17	0.23
7.813	0.24	0.27	0.29	0.22	0.22	0.23	0.26	0.28	0.30
5.524	0.24	0.26	0.31	0.19	0.19	0.20	0.26	0.29	0.34
3.906	0.09	0.10	0.23	0.02	0.02	0.02	0.10	0.22	0.32
2.762	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.04	0.07
1.953	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.381	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.977	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.691	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	178.06	173.58	161.40	180.28	182.01	180.43	170.67	159.59	146.12
d50	338.60	334.28	321.23	342.23	341.78	336.79	333.32	314.77	297.43
d90	646.19	649.69	626.47	654.61	642.71	633.34	641.27	583.78	542.70

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	171.01	8.62	5.04	180.91	0.96	0.53	158.79	12.30	7.74
d50	331.37	9.04	2.73	340.26	3.02	0.89	315.17	17.95	5.69
d90	640.79	12.52	1.95	643.55	10.66	1.66	589.25	49.51	8.40

APPENDIX 4. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS83.

Exercise Code:	PS83
LabCode:	PSA_2801
Sample Code:	PS832801

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	1.71	17.63
-3.00 to -2.50; 5.6 mm	43.35	447.84
-2.50 to -2.00; 4 mm	8.33	86.09
-2.00 to -1.50; 2.8 mm	1.94	20.00
-1.50 to -1.00; 2 mm	2.79	28.78
-1.00 to -0.50; 1.4 mm	1.42	14.67
-0.50 to 0.00; 1 mm	1.87	19.28
0.00 to 0.50; (707 µm)	2.88	29.73
0.50 to 1.00; (500 µm)	7.74	79.97
1.00 to 1.50; (353.6 µm)	10.73	110.83
1.50 to 2.00; (250 µm)	9.75	100.67
2.00 to 2.50; (176.8 µm)	5.67	58.59
2.50 to 3.00; (125 µm)	1.75	18.12
3.00 to 3.50; (88.39 µm)	0.08	0.82
3.50 to 4.00; (62.5 µm)	0.00	0.00
4.00 to 4.50; (44.19 µm)	0.00	0.00
4.50 to 5.00; (31.25 µm)	0.00	0.00
5.00 to 5.50; (22.097 µm)	0.00	0.00
5.50 to 6.00; (15.625 µm)	0.00	0.00
6.00 to 6.50; (11.049 µm)	0.00	0.00
6.50 to 7.00; (7.813 µm)	0.00	0.00
7.00 to 7.50; (5.524 µm)	0.00	0.00
7.50 to 8.00; (3.906 µm)	0.00	0.00
8.00 to 8.50; (2.762 µm)	0.00	0.00
8.50 to 9.00; (1.953 µm)	0.00	0.00
9.00 to 9.50; (1.381 µm)	0.00	0.00
9.50 to 10.00; (0.977 µm)	0.00	0.00
10.00 to 10.50; (0.691 µm)	0.00	0.00
10.50 to 11.00; (0.488 µm)	0.00	0.00
11.00 to 11.50; (0.345 µm)		
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	100.00	1033.03

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 PS83.

Exercise Code:	PS83
LabCode:	PSA_2802
Sample Code:	PS832802

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material & leave blank for not analysed)	Grams (mark as "0" for no material & leave blank for not analysed)
-6.50 to -6.00; 63 mm	0.00	0.00
-6.00 to -5.50; 45 mm	0.00	0.00
-5.50 to -5.00; 31.5 mm	0.00	0.00
-5.00 to -4.50; 22.4 mm	0.00	0.00
-4.50 to -4.00; 16 mm	0.00	0.00
-4.00 to -3.50; 11.2 mm	0.00	0.00
-3.50 to -3.00; 8 mm	1.40	12.80
-3.00 to -2.50; 5.6 mm	42.23	386.85
-2.50 to -2.00; 4 mm	9.98	91.44
-2.00 to -1.50; 2.8 mm	2.16	19.80
-1.50 to -1.00; 2 mm	2.56	23.41
-1.00 to -0.50; 1.4 mm	1.66	15.24
-0.50 to 0.00; 1 mm	1.52	13.96
0.00 to 0.50; (707 µm)	5.13	46.97
0.50 to 1.00; (500 µm)	7.00	64.13
1.00 to 1.50; (353.6 µm)	9.58	87.77
1.50 to 2.00; (250 µm)	9.27	84.88
2.00 to 2.50; (176.8 µm)	4.82	44.17
2.50 to 3.00; (125 µm)	1.24	11.37
3.00 to 3.50; (88.39 µm)	0.40	3.65
3.50 to 4.00; (62.5 µm)	0.15	1.37
4.00 to 4.50; (44.19 µm)	0.08	0.74
4.50 to 5.00; (31.25 µm)	0.05	0.46
5.00 to 5.50; (22.097 µm)	0.07	0.63
5.50 to 6.00; (15.625 µm)	0.04	0.41
6.00 to 6.50; (11.049 µm)	0.04	0.38
6.50 to 7.00; (7.813 µm)	0.06	0.59
7.00 to 7.50; (5.524 µm)	0.07	0.64
7.50 to 8.00; (3.906 µm)	0.06	0.56
8.00 to 8.50; (2.762 µm)	0.05	0.48
8.50 to 9.00; (1.953 µm)	0.05	0.48
9.00 to 9.50; (1.381 µm)	0.06	0.52
9.50 to 10.00; (0.977 µm)	0.06	0.52
10.00 to 10.50; (0.691 µm)	0.05	0.46
10.50 to 11.00; (0.488 µm)	0.04	0.38
11.00 to 11.50; (0.345 µm)	0.03	0.31
11.50 to 12.00; (0.244 µm)	0.03	0.24
12.00 to 12.50; (0.173 µm)	0.02	0.18
12.50 to 13.00; (0.122 µm)	0.01	0.14
13.00 to 13.50; (0.086 µm)	0.01	0.09
13.50 to 14.00; (0.061µm)	0.00	0.04
14.00 to 14.50; (0.043µm)	0.00	0.01
> 14.50; (0.01 µm)	0.00	0.00
TOTAL	100.00	916.09

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 PS83.

Exercise Code:	PS83
LabCode:	PSA_2803
Sample Code:	PS832803

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	3.55	
-3.00 to -2.50; 5.6 mm	39.98	
-2.50 to -2.00; 4 mm	9.76	
-2.00 to -1.50; 2.8 mm	2.13	
-1.50 to -1.00; 2 mm	2.64	
-1.00 to -0.50; 1.4 mm	1.69	
-0.50 to 0.00; 1 mm	1.69	
0.00 to 0.50; (707 µm)	3.00	
0.50 to 1.00; (500 µm)	6.09	
1.00 to 1.50; (353.6 µm)	9.80	
1.50 to 2.00; (250 µm)	10.44	
2.00 to 2.50; (176.8 µm)	6.18	
2.50 to 3.00; (125 µm)	1.72	
3.00 to 3.50; (88.39 µm)	0.46	
3.50 to 4.00; (62.5 µm)	0.20	
4.00 to 4.50; (44.19 µm)	0.06	
4.50 to 5.00; (31.25 µm)	0.06	
5.00 to 5.50; (22.097 µm)	0.04	
5.50 to 6.00; (15.625 µm)	0.03	
6.00 to 6.50; (11.049 µm)	0.04	
6.50 to 7.00; (7.813 µm)	0.05	
7.00 to 7.50; (5.524 µm)	0.04	
7.50 to 8.00; (3.906 µm)	0.04	
8.00 to 8.50; (2.762 µm)	0.03	
8.50 to 9.00; (1.953 µm)	0.03	
9.00 to 9.50; (1.381 µm)	0.03	
9.50 to 10.00; (0.977 µm)	0.03	
10.00 to 10.50; (0.691 µm)	0.04	
10.50 to 11.00; (0.488 µm)	0.04	
11.00 to 11.50; (0.345 µm)	0.03	
11.50 to 12.00; (0.244 µm)	0.03	
12.00 to 12.50; (0.173 µm)	0.02	
12.50 to 13.00; (0.122 µm)	0.02	
13.00 to 13.50; (0.086 µm)	0.01	
13.50 to 14.00; (0.061µm)	0.01	
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 PS83.

Exercise Code:	PS83
LabCode:	PSA_2804
Sample Code:	PS832804

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	3.79	33.18
-3.00 to -2.50; 5.6 mm	40.14	351.10
-2.50 to -2.00; 4 mm	10.66	93.20
-2.00 to -1.50; 2.8 mm	2.00	17.46
-1.50 to -1.00; 2 mm	2.35	20.57
-1.00 to -0.50; 1.4 mm	1.65	14.43
-0.50 to 0.00; 1 mm	1.61	14.06
0.00 to 0.50; (707 µm)	4.42	38.62
0.50 to 1.00; (500 µm)	8.08	70.64
1.00 to 1.50; (353.6 µm)	10.09	88.25
1.50 to 2.00; (250 µm)	8.76	76.57
2.00 to 2.50; (176.8 µm)	4.96	43.34
2.50 to 3.00; (125 µm)	1.45	12.71
3.00 to 3.50; (88.39 µm)	0.05	0.45
3.50 to 4.00; (62.5 µm)	0.00	0.00
4.00 to 4.50; (44.19 µm)	0.00	0.00
4.50 to 5.00; (31.25 µm)	0.00	0.00
5.00 to 5.50; (22.097 µm)	0.00	0.00
5.50 to 6.00; (15.625 µm)	0.00	0.00
6.00 to 6.50; (11.049 µm)	0.00	0.00
6.50 to 7.00; (7.813 µm)	0.00	0.00
7.00 to 7.50; (5.524 µm)	0.00	0.00
7.50 to 8.00; (3.906 µm)	0.00	0.00
8.00 to 8.50; (2.762 µm)	0.00	0.00
8.50 to 9.00; (1.953 µm)	0.00	0.00
9.00 to 9.50; (1.381 µm)	0.00	0.00
9.50 to 10.00; (0.977 µm)	0.00	0.00
10.00 to 10.50; (0.691 µm)	0.00	0.00
10.50 to 11.00; (0.488 µm)	0.00	0.00
11.00 to 11.50; (0.345 µm)	0.00	0.00
11.50 to 12.00; (0.244 µm)	0.00	0.00
12.00 to 12.50; (0.173 µm)	0.00	0.00
12.50 to 13.00; (0.122 µm)	0.00	0.00
13.00 to 13.50; (0.086 µm)	0.00	0.00
13.50 to 14.00; (0.061µm)	0.00	0.00
14.00 to 14.50; (0.043µm)	0.00	0.00
> 14.50; (0.01 µm)	0.00	0.00
TOTAL	100.00	874.58

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 PS83.

Exercise Code:	PS83
LabCode:	PSA_2805
Sample Code:	PS832805

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 PS83.

Exercise Code:	PS83
LabCode:	PSA_2806
Sample Code:	PS832806

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	2.08	
-3.00 to -2.50; 5.6 mm	38.77	
-2.50 to -2.00; 4 mm	11.84	
-2.00 to -1.50; 2.8 mm	2.33	
-1.50 to -1.00; 2 mm	2.85	
-1.00 to -0.50; 1.4 mm	1.83	
-0.50 to 0.00; 1 mm	1.72	
0.00 to 0.50; (707 µm)	3.52	
0.50 to 1.00; (500 µm)	7.28	
1.00 to 1.50; (353.6 µm)	9.87	
1.50 to 2.00; (250 µm)	9.32	
2.00 to 2.50; (176.8 µm)	5.87	
2.50 to 3.00; (125 µm)	2.15	
3.00 to 3.50; (88.39 µm)	0.22	
3.50 to 4.00; (62.5 µm)	0.00	
4.00 to 4.50; (44.19 µm)	0.06	
4.50 to 5.00; (31.25 µm)	0.07	
5.00 to 5.50; (22.097 µm)	0.04	
5.50 to 6.00; (15.625 µm)	0.01	
6.00 to 6.50; (11.049 µm)	0.02	
6.50 to 7.00; (7.813 µm)	0.04	
7.00 to 7.50; (5.524 µm)	0.04	
7.50 to 8.00; (3.906 µm)	0.03	
8.00 to 8.50; (2.762 µm)	0.02	
8.50 to 9.00; (1.953 µm)	0.00	
9.00 to 9.50; (1.381 µm)	0.00	
9.50 to 10.00; (0.977 µm)	0.00	
10.00 to 10.50; (0.691 µm)	0.00	
10.50 to 11.00; (0.488 µm)	0.00	
11.00 to 11.50; (0.345 µm)	0.00	
11.50 to 12.00; (0.244 µm)	0.00	
12.00 to 12.50; (0.173 µm)	0.00	
12.50 to 13.00; (0.122 µm)	0.00	
13.00 to 13.50; (0.086 µm)	0.00	
13.50 to 14.00; (0.061µm)	0.00	
14.00 to 14.50; (0.043µm)	0.00	
> 14.50; (0.01 µm)	0.00	
TOTAL	100.00	

Notes:
PS83 weighted residual is a little high but changing the refractive index made no discernible difference

APPENDIX 4. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS83.

Exercise Code:	PS83
LabCode:	PSA_2807
Sample Code:	PS832807

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	3.58	
-3.00 to -2.50; 5.6 mm	40.56	
-2.50 to -2.00; 4 mm	9.76	
-2.00 to -1.50; 2.8 mm	2.23	
-1.50 to -1.00; 2 mm	2.69	
-1.00 to -0.50; 1.4 mm	1.69	
-0.50 to 0.00; 1 mm	1.71	
0.00 to 0.50; (707 µm)	1.82	
0.50 to 1.00; (500 µm)	5.32	
1.00 to 1.50; (353.6 µm)	9.30	
1.50 to 2.00; (250 µm)	10.43	
2.00 to 2.50; (176.8 µm)	7.21	
2.50 to 3.00; (125 µm)	2.88	
3.00 to 3.50; (88.39 µm)	0.37	
3.50 to 4.00; (62.5 µm)	0.02	
4.00 to 4.50; (44.19 µm)	0.13	
4.50 to 5.00; (31.25 µm)	0.13	
5.00 to 5.50; (22.097 µm)	0.03	
5.50 to 6.00; (15.625 µm)	0.00	
6.00 to 6.50; (11.049 µm)	0.00	
6.50 to 7.00; (7.813 µm)	0.07	
7.00 to 7.50; (5.524 µm)	0.04	
7.50 to 8.00; (3.906 µm)	0.00	
8.00 to 8.50; (2.762 µm)	0.00	
8.50 to 9.00; (1.953 µm)	0.00	
9.00 to 9.50; (1.381 µm)	0.00	
9.50 to 10.00; (0.977 µm)	0.00	
10.00 to 10.50; (0.691 µm)	0.00	
10.50 to 11.00; (0.488 µm)		
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	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 PS83.

Exercise Code:	PS83
LabCode:	PSA_2808
Sample Code:	PS832808

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	4.77	45.39
-3.00 to -2.50; 5.6 mm	37.90	360.83
-2.50 to -2.00; 4 mm	10.90	103.81
-2.00 to -1.50; 2.8 mm	2.13	20.24
-1.50 to -1.00; 2 mm	2.46	23.43
-1.00 to -0.50; 1.4 mm	1.54	14.63
-0.50 to 0.00; 1 mm	1.68	16.04
0.00 to 0.50; (707 µm)	5.32	50.63
0.50 to 1.00; (500 µm)	7.93	75.52
1.00 to 1.50; (353.6 µm)	9.82	93.47
1.50 to 2.00; (250 µm)	8.84	84.19
2.00 to 2.50; (176.8 µm)	4.53	43.09
2.50 to 3.00; (125 µm)	1.21	11.54
3.00 to 3.50; (88.39 µm)	0.34	3.19
3.50 to 4.00; (62.5 µm)	0.11	1.02
4.00 to 4.50; (44.19 µm)	0.05	0.45
4.50 to 5.00; (31.25 µm)	0.04	0.34
5.00 to 5.50; (22.097 µm)	0.03	0.30
5.50 to 6.00; (15.625 µm)	0.03	0.28
6.00 to 6.50; (11.049 µm)	0.03	0.29
6.50 to 7.00; (7.813 µm)	0.03	0.30
7.00 to 7.50; (5.524 µm)	0.03	0.28
7.50 to 8.00; (3.906 µm)	0.03	0.24
8.00 to 8.50; (2.762 µm)	0.02	0.21
8.50 to 9.00; (1.953 µm)	0.02	0.22
9.00 to 9.50; (1.381 µm)	0.03	0.27
9.50 to 10.00; (0.977 µm)	0.03	0.31
10.00 to 10.50; (0.691 µm)	0.03	0.32
10.50 to 11.00; (0.488 µm)	0.03	0.30
11.00 to 11.50; (0.345 µm)	0.03	0.27
11.50 to 12.00; (0.244 µm)	0.02	0.23
12.00 to 12.50; (0.173 µm)	0.02	0.18
12.50 to 13.00; (0.122 µm)	0.01	0.14
13.00 to 13.50; (0.086 µm)	0.01	0.10
13.50 to 14.00; (0.061µm)	0.00	0.05
14.00 to 14.50; (0.043µm)	0.00	0.01
> 14.50; (0.01 µm)	0.00	0.00
TOTAL	100.00	952.10

Notes:

There were no issues with analysing PS83, except that to achieve a homogenous mixture the sample needed to be removed into a bowl and thoroughly stirred for several minutes.

APPENDIX 4. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS83.

Exercise Code:	PS83
LabCode:	PSA_2809_v2
Sample Code:	PS83809_v2

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	1.48	15.33
-3.00 to -2.50; 5.6 mm	41.82	433.57
-2.50 to -2.00; 4 mm	9.95	103.13
-2.00 to -1.50; 2.8 mm	2.45	25.43
-1.50 to -1.00; 2 mm	2.53	26.27
-1.00 to -0.50; 1.4 mm	1.69	17.57
-0.50 to 0.00; 1 mm	1.62	16.80
0.00 to 0.50; (707 µm)	3.16	32.74
0.50 to 1.00; (500 µm)	6.24	64.74
1.00 to 1.50; (353.6 µm)	8.99	93.22
1.50 to 2.00; (250 µm)	9.70	100.61
2.00 to 2.50; (176.8 µm)	6.54	67.84
2.50 to 3.00; (125 µm)	3.15	32.61
3.00 to 3.50; (88.39 µm)	0.46	4.78
3.50 to 4.00; (62.5 µm)	0.00	0.00
4.00 to 4.50; (44.19 µm)	0.06	0.64
4.50 to 5.00; (31.25 µm)	0.11	1.15
5.00 to 5.50; (22.097 µm)	0.04	0.45
5.50 to 6.00; (15.625 µm)	0.00	0.00
6.00 to 6.50; (11.049 µm)	0.00	0.00
6.50 to 7.00; (7.813 µm)	0.00	0.00
7.00 to 7.50; (5.524 µm)	0.00	0.00
7.50 to 8.00; (3.906 µm)	0.00	0.00
8.00 to 8.50; (2.762 µm)	0.00	0.00
8.50 to 9.00; (1.953 µm)	0.00	0.00
9.00 to 9.50; (1.381 µm)	0.00	0.00
9.50 to 10.00; (0.977 µm)	0.00	0.00
10.00 to 10.50; (0.691 µm)	0.00	0.00
10.50 to 11.00; (0.488 µm)	0.00	0.00
11.00 to 11.50; (0.345 µm)	0.00	0.00
11.50 to 12.00; (0.244 µm)	0.00	0.00
12.00 to 12.50; (0.173 µm)	0.00	0.00
12.50 to 13.00; (0.122 µm)	0.00	0.00
13.00 to 13.50; (0.086 µm)	0.00	0.00
13.50 to 14.00; (0.061µm)		
14.00 to 14.50; (0.043µm)		
> 14.50; (0.01 µm)		
TOTAL	100.00	1036.87

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 PS83.

Exercise Code:	PS83
LabCode:	PSA_2810
Sample Code:	PS832810

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 PS83.

Exercise Code:	PS83
LabCode:	PSA_2811
Sample Code:	PS832811

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	5.26	47.53
-3.00 to -2.50; 5.6 mm	41.05	371.11
-2.50 to -2.00; 4 mm	8.69	78.54
-2.00 to -1.50; 2.8 mm	2.04	18.43
-1.50 to -1.00; 2 mm	2.60	23.50
-1.00 to -0.50; 1.4 mm	1.72	15.58
-0.50 to 0.00; 1 mm	1.38	12.45
0.00 to 0.50; (707 µm)	2.35	21.29
0.50 to 1.00; (500 µm)	6.22	56.26
1.00 to 1.50; (353.6 µm)	9.75	88.11
1.50 to 2.00; (250 µm)	9.83	88.83
2.00 to 2.50; (176.8 µm)	6.31	57.08
2.50 to 3.00; (125 µm)	2.30	20.77
3.00 to 3.50; (88.39 µm)	0.25	2.29
3.50 to 4.00; (62.5 µm)	0.02	0.16
4.00 to 4.50; (44.19 µm)	0.12	1.11
4.50 to 5.00; (31.25 µm)	0.10	0.94
5.00 to 5.50; (22.097 µm)	0.00	0.02
5.50 to 6.00; (15.625 µm)	0.00	0.00
6.00 to 6.50; (11.049 µm)	0.00	0.00
6.50 to 7.00; (7.813 µm)	0.00	0.00
7.00 to 7.50; (5.524 µm)	0.00	0.00
7.50 to 8.00; (3.906 µm)	0.00	0.00
8.00 to 8.50; (2.762 µm)	0.00	0.00
8.50 to 9.00; (1.953 µm)	0.00	0.00
9.00 to 9.50; (1.381 µm)	0.00	0.00
9.50 to 10.00; (0.977 µm)	0.00	0.00
10.00 to 10.50; (0.691 µm)	0.00	0.00
10.50 to 11.00; (0.488 µm)	0.00	0.00
11.00 to 11.50; (0.345 µm)	0.00	0.00
11.50 to 12.00; (0.244 µm)	0.00	0.00
12.00 to 12.50; (0.173 µm)	0.00	0.00
12.50 to 13.00; (0.122 µm)	0.00	0.00
13.00 to 13.50; (0.086 µm)	0.00	0.00
13.50 to 14.00; (0.061µm)	0.00	0.00
14.00 to 14.50; (0.043µm)	0.00	0.00
> 14.50; (0.01 µm)	0.00	0.00
TOTAL	100.00	903.99

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 PS83.

Exercise Code:	PS83
LabCode:	PSA_2812
Sample Code:	PS832812

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	5.76	46.55
-3.00 to -2.50; 5.6 mm	39.69	320.90
-2.50 to -2.00; 4 mm	8.82	71.33
-2.00 to -1.50; 2.8 mm	1.99	16.12
-1.50 to -1.00; 2 mm	2.39	19.35
-1.00 to -0.50; 1.4 mm	1.67	13.54
-0.50 to 0.00; 1 mm	1.55	12.57
0.00 to 0.50; (707 µm)	4.75	38.42
0.50 to 1.00; (500 µm)	8.10	65.45
1.00 to 1.50; (353.6 µm)	10.11	81.77
1.50 to 2.00; (250 µm)	8.80	71.12
2.00 to 2.50; (176.8 µm)	4.93	39.85
2.50 to 3.00; (125 µm)	1.38	11.13
3.00 to 3.50; (88.39 µm)	0.04	0.33
3.50 to 4.00; (62.5 µm)	0.00	0.00
4.00 to 4.50; (44.19 µm)	0.00	0.00
4.50 to 5.00; (31.25 µm)	0.00	0.00
5.00 to 5.50; (22.097 µm)	0.00	0.00
5.50 to 6.00; (15.625 µm)	0.00	0.00
6.00 to 6.50; (11.049 µm)	0.00	0.00
6.50 to 7.00; (7.813 µm)	0.00	0.00
7.00 to 7.50; (5.524 µm)	0.00	0.00
7.50 to 8.00; (3.906 µm)	0.00	0.00
8.00 to 8.50; (2.762 µm)	0.00	0.00
8.50 to 9.00; (1.953 µm)	0.00	0.00
9.00 to 9.50; (1.381 µm)	0.00	0.00
9.50 to 10.00; (0.977 µm)	0.00	0.00
10.00 to 10.50; (0.691 µm)	0.00	0.00
10.50 to 11.00; (0.488 µm)	0.00	0.00
11.00 to 11.50; (0.345 µm)	0.00	0.00
11.50 to 12.00; (0.244 µm)	0.00	0.00
12.00 to 12.50; (0.173 µm)	0.00	0.00
12.50 to 13.00; (0.122 µm)	0.00	0.00
13.00 to 13.50; (0.086 µm)	0.00	0.00
13.50 to 14.00; (0.061µm)	0.00	0.00
14.00 to 14.50; (0.043µm)	0.00	0.00
> 14.50; (0.01 µm)	0.00	0.00
TOTAL	100.00	808.43

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 PS83.

Exercise Code:	PS83
LabCode:	PSA_2813
Sample Code:	PS832813

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	94.86	
-1.00 to -0.50; 1.4 mm	0.11	
-0.50 to 0.00; 1 mm	0.34	
0.00 to 0.50; (707 µm)	0.83	
0.50 to 1.00; (500 µm)	1.32	
1.00 to 1.50; (353.6 µm)	1.36	
1.50 to 2.00; (250 µm)	0.84	
2.00 to 2.50; (176.8 µm)	0.26	
2.50 to 3.00; (125 µm)	0.01	
3.00 to 3.50; (88.39 µm)	0.00	
3.50 to 4.00; (62.5 µm)	0.02	
4.00 to 4.50; (44.19 µm)	0.03	
4.50 to 5.00; (31.25 µm)	0.01	
5.00 to 5.50; (22.097 µm)	0.00	
5.50 to 6.00; (15.625 µm)	0.00	
6.00 to 6.50; (11.049 µm)	0.00	
6.50 to 7.00; (7.813 µm)	0.01	
7.00 to 7.50; (5.524 µm)	0.00	
7.50 to 8.00; (3.906 µm)	0.00	
8.00 to 8.50; (2.762 µm)	0.00	
8.50 to 9.00; (1.953 µm)	0.00	
9.00 to 9.50; (1.381 µm)	0.00	
9.50 to 10.00; (0.977 µm)	0.00	
10.00 to 10.50; (0.691 µm)	0.00	
10.50 to 11.00; (0.488 µm)	0.00	
11.00 to 11.50; (0.345 µm)	0.00	
11.50 to 12.00; (0.244 µm)	0.00	
12.00 to 12.50; (0.173 µm)	0.00	
12.50 to 13.00; (0.122 µm)	0.00	
13.00 to 13.50; (0.086 µm)	0.00	
13.50 to 14.00; (0.061µm)	0.00	
14.00 to 14.50; (0.043µm)	0.00	
> 14.50; (0.01 µm)	0.00	
TOTAL	100.00	

Notes:
Participant does not carry out sieve analysis and only pre-sieve the sample with a 2 mm sieve

APPENDIX 4. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS83.

Exercise Code:	PS83
LabCode:	PSA_2814
Sample Code:	PS832814

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material & leave blank for not analysed)	Grams (mark as "0" for no material & leave blank for not analysed)
-6.50 to -6.00; 63 mm	0.00	0.00
-6.00 to -5.50; 45 mm	0.00	0.00
-5.50 to -5.00; 31.5 mm	0.00	0.00
-5.00 to -4.50; 22.4 mm	0.00	0.00
-4.50 to -4.00; 16 mm	0.00	0.00
-4.00 to -3.50; 11.2 mm	0.00	0.00
-3.50 to -3.00; 8 mm	2.03	19.68
-3.00 to -2.50; 5.6 mm	43.08	417.53
-2.50 to -2.00; 4 mm	11.61	112.53
-2.00 to -1.50; 2.8 mm	2.15	20.81
-1.50 to -1.00; 2 mm	2.76	26.77
-1.00 to -0.50; 1.4 mm	1.81	17.51
-0.50 to 0.00; 1 mm	2.03	19.67
0.00 to 0.50; (707 µm)	3.52	34.10
0.50 to 1.00; (500 µm)	6.83	66.17
1.00 to 1.50; (353.6 µm)	9.21	89.29
1.50 to 2.00; (250 µm)	8.38	81.25
2.00 to 2.50; (176.8 µm)	4.84	46.89
2.50 to 3.00; (125 µm)	1.45	14.07
3.00 to 3.50; (88.39 µm)	0.07	0.64
3.50 to 4.00; (62.5 µm)	0.00	0.00
4.00 to 4.50; (44.19 µm)	0.11	1.08
4.50 to 5.00; (31.25 µm)	0.12	1.18
5.00 to 5.50; (22.097 µm)	0.01	0.14
5.50 to 6.00; (15.625 µm)	0.00	0.00
6.00 to 6.50; (11.049 µm)	0.00	0.00
6.50 to 7.00; (7.813 µm)	0.00	0.00
7.00 to 7.50; (5.524 µm)	0.00	0.00
7.50 to 8.00; (3.906 µm)	0.00	0.00
8.00 to 8.50; (2.762 µm)	0.00	0.00
8.50 to 9.00; (1.953 µm)	0.00	0.00
9.00 to 9.50; (1.381 µm)	0.00	0.00
9.50 to 10.00; (0.977 µm)	0.00	0.00
10.00 to 10.50; (0.691 µm)	0.00	0.00
10.50 to 11.00; (0.488 µm)	0.00	0.00
11.00 to 11.50; (0.345 µm)	0.00	0.00
11.50 to 12.00; (0.244 µm)	0.00	0.00
12.00 to 12.50; (0.173 µm)	0.00	0.00
12.50 to 13.00; (0.122 µm)	0.00	0.00
13.00 to 13.50; (0.086 µm)	0.00	0.00
13.50 to 14.00; (0.061µm)	0.00	0.00
14.00 to 14.50; (0.043µm)	0.00	0.00
> 14.50; (0.01 µm)	0.00	0.00
TOTAL	100.00	969.30

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 PS83.

Exercise Code:	PS83
LabCode:	PSA_2815
Sample Code:	PS832815

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	3.62	34.51
-3.00 to -2.50; 5.6 mm	41.47	395.50
-2.50 to -2.00; 4 mm	8.23	78.45
-2.00 to -1.50; 2.8 mm	2.02	19.31
-1.50 to -1.00; 2 mm	2.66	25.32
-1.00 to -0.50; 1.4 mm	1.62	15.48
-0.50 to 0.00; 1 mm	1.73	16.47
0.00 to 0.50; (707 µm)	0.91	8.69
0.50 to 1.00; (500 µm)	10.68	101.82
1.00 to 1.50; (353.6 µm)	13.91	132.65
1.50 to 2.00; (250 µm)	4.72	45.01
2.00 to 2.50; (176.8 µm)	2.47	23.57
2.50 to 3.00; (125 µm)	1.11	10.63
3.00 to 3.50; (88.39 µm)	0.35	3.37
3.50 to 4.00; (62.5 µm)	0.01	0.09
4.00 to 4.50; (44.19 µm)	0.00	0.00
4.50 to 5.00; (31.25 µm)	0.00	0.00
5.00 to 5.50; (22.097 µm)	0.00	0.03
5.50 to 6.00; (15.625 µm)	0.11	1.08
6.00 to 6.50; (11.049 µm)	0.28	2.68
6.50 to 7.00; (7.813 µm)	0.51	4.89
7.00 to 7.50; (5.524 µm)	0.45	4.26
7.50 to 8.00; (3.906 µm)	0.37	3.52
8.00 to 8.50; (2.762 µm)	0.36	3.43
8.50 to 9.00; (1.953 µm)	0.35	3.32
9.00 to 9.50; (1.381 µm)	0.29	2.77
9.50 to 10.00; (0.977 µm)	0.21	1.97
10.00 to 10.50; (0.691 µm)	0.12	1.12
10.50 to 11.00; (0.488 µm)	0.16	1.52
11.00 to 11.50; (0.345 µm)	0.22	2.07
11.50 to 12.00; (0.244 µm)	0.29	2.77
12.00 to 12.50; (0.173 µm)	0.33	3.15
12.50 to 13.00; (0.122 µm)	0.28	2.71
13.00 to 13.50; (0.086 µm)	0.15	1.46
13.50 to 14.00; (0.061µm)		
14.00 to 14.50; (0.043µm)		
> 14.50; (0.01 µm)		
TOTAL	100.00	953.59

Notes:
This has been evaluated using our normal Laser calculation settings set to "Broad" resolution

APPENDIX 4. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS83.

Exercise Code:	PS83
LabCode:	PSA_2818
Sample Code:	PS832818

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	3.74	38.63
-3.00 to -2.50; 5.6 mm	38.68	399.82
-2.50 to -2.00; 4 mm	10.61	109.69
-2.00 to -1.50; 2.8 mm	2.50	25.83
-1.50 to -1.00; 2 mm	2.65	27.36
-1.00 to -0.50; 1.4 mm	1.61	16.67
-0.50 to 0.00; 1 mm	1.69	17.45
0.00 to 0.50; (707 µm)	2.81	29.06
0.50 to 1.00; (500 µm)	6.35	65.62
1.00 to 1.50; (353.6 µm)	9.74	100.70
1.50 to 2.00; (250 µm)	10.13	104.71
2.00 to 2.50; (176.8 µm)	6.65	68.75
2.50 to 3.00; (125 µm)	2.49	25.72
3.00 to 3.50; (88.39 µm)	0.27	2.81
3.50 to 4.00; (62.5 µm)	0.01	0.05
4.00 to 4.50; (44.19 µm)	0.04	0.39
4.50 to 5.00; (31.25 µm)	0.03	0.35
5.00 to 5.50; (22.097 µm)	0.00	0.01
5.50 to 6.00; (15.625 µm)	0.00	0.00
6.00 to 6.50; (11.049 µm)	0.00	0.00
6.50 to 7.00; (7.813 µm)	0.00	0.00
7.00 to 7.50; (5.524 µm)	0.00	0.00
7.50 to 8.00; (3.906 µm)	0.00	0.00
8.00 to 8.50; (2.762 µm)	0.00	0.00
8.50 to 9.00; (1.953 µm)	0.00	0.00
9.00 to 9.50; (1.381 µm)	0.00	0.00
9.50 to 10.00; (0.977 µm)	0.00	0.00
10.00 to 10.50; (0.691 µm)	0.00	0.00
10.50 to 11.00; (0.488 µm)	0.00	0.00
11.00 to 11.50; (0.345 µm)	0.00	0.00
11.50 to 12.00; (0.244 µm)	0.00	0.00
12.00 to 12.50; (0.173 µm)	0.00	0.00
12.50 to 13.00; (0.122 µm)	0.00	0.00
13.00 to 13.50; (0.086 µm)	0.00	0.00
13.50 to 14.00; (0.061µm)	0.00	0.00
14.00 to 14.50; (0.043µm)	0.00	0.00
> 14.50; (0.01 µm)	0.00	0.00
TOTAL	100.00	1033.63

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 PS83.

Exercise Code:	PS83
LabCode:	PSA_2829
Sample Code:	PS832829

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	59.31	
-1.00 to -0.50; 1.4 mm	1.44	
-0.50 to 0.00; 1 mm	6.15	
0.00 to 0.50; (707 µm)	7.23	
0.50 to 1.00; (500 µm)	9.54	
1.00 to 1.50; (353.6 µm)	8.81	
1.50 to 2.00; (250 µm)	5.35	
2.00 to 2.50; (176.8 µm)	1.79	
2.50 to 3.00; (125 µm)	0.11	
3.00 to 3.50; (88.39 µm)	0.00	
3.50 to 4.00; (62.5 µm)	0.12	
4.00 to 4.50; (44.19 µm)	0.13	
4.50 to 5.00; (31.25 µm)	0.02	
5.00 to 5.50; (22.097 µm)	0.00	
5.50 to 6.00; (15.625 µm)	0.00	
6.00 to 6.50; (11.049 µm)	0.00	
6.50 to 7.00; (7.813 µm)	0.00	
7.00 to 7.50; (5.524 µm)	0.00	
7.50 to 8.00; (3.906 µm)	0.00	
8.00 to 8.50; (2.762 µm)	0.00	
8.50 to 9.00; (1.953 µm)	0.00	
9.00 to 9.50; (1.381 µm)	0.00	
9.50 to 10.00; (0.977 µm)	0.00	
10.00 to 10.50; (0.691 µm)	0.00	
10.50 to 11.00; (0.488 µm)	0.00	
11.00 to 11.50; (0.345 µm)	0.00	
11.50 to 12.00; (0.244 µm)	0.00	
12.00 to 12.50; (0.173 µm)	0.00	
12.50 to 13.00; (0.122 µm)	0.00	
13.00 to 13.50; (0.086 µm)	0.00	
13.50 to 14.00; (0.061µm)	0.00	
14.00 to 14.50; (0.043µm)	0.00	
> 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 PS83.

Exercise Code:	PS83
LabCode:	PSA_2835
Sample Code:	PS832835

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material & leave blank for not analysed)	Grams (mark as "0" for no material & leave blank for not analysed)
-6.50 to -6.00; 63 mm	0.00	0.00
-6.00 to -5.50; 45 mm	0.00	0.00
-5.50 to -5.00; 31.5 mm	0.00	0.00
-5.00 to -4.50; 22.4 mm	0.00	0.00
-4.50 to -4.00; 16 mm	0.00	0.00
-4.00 to -3.50; 11.2 mm	0.00	0.00
-3.50 to -3.00; 8 mm	5.48	51.88
-3.00 to -2.50; 5.6 mm	39.20	371.08
-2.50 to -2.00; 4 mm	9.08	85.99
-2.00 to -1.50; 2.8 mm	2.11	19.98
-1.50 to -1.00; 2 mm	2.5	23.59
-1.00 to -0.50; 1.4 mm	1.7	15.68
-0.50 to 0.00; 1 mm	1.8	17.40
0.00 to 0.50; (707 µm)	1.9	17.91
0.50 to 1.00; (500 µm)	5.5	52.51
1.00 to 1.50; (353.6 µm)	9.4	89.08
1.50 to 2.00; (250 µm)	10.4	98.36
2.00 to 2.50; (176.8 µm)	6.8	63.93
2.50 to 3.00; (125 µm)	3.0	28.12
3.00 to 3.50; (88.39 µm)	0.4	4.04
3.50 to 4.00; (62.5 µm)	0.0	0.38
4.00 to 4.50; (44.19 µm)	0.2	1.47
4.50 to 5.00; (31.25 µm)	0.19	1.77
5.00 to 5.50; (22.097 µm)	0.08	0.71
5.50 to 6.00; (15.625 µm)	0.01	0.11
6.00 to 6.50; (11.049 µm)	0.03	0.29
6.50 to 7.00; (7.813 µm)	0.10	0.92
7.00 to 7.50; (5.524 µm)	0.10	0.91
7.50 to 8.00; (3.906 µm)	0.05	0.45
8.00 to 8.50; (2.762 µm)	0.01	0.06
8.50 to 9.00; (1.953 µm)	0.00	0.00
9.00 to 9.50; (1.381 µm)	0.00	0.00
9.50 to 10.00; (0.977 µm)	0.00	0.00
10.00 to 10.50; (0.691 µm)	0.00	0.00
10.50 to 11.00; (0.488 µm)	0.00	0.00
11.00 to 11.50; (0.345 µm)	0.00	0.00
11.50 to 12.00; (0.244 µm)	0.00	0.00
12.00 to 12.50; (0.173 µm)	0.00	0.00
12.50 to 13.00; (0.122 µm)	0.00	0.00
13.00 to 13.50; (0.086 µm)	0.00	0.00
13.50 to 14.00; (0.061µm)	0.00	0.00
14.00 to 14.50; (0.043µm)	0.00	0.00
>14.5; (0.01)	0.00	0.00
TOTAL	100.00	946.62

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 PS83.

Exercise Code:	PS83
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	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	6.47	62.45
-3.00 to -2.50; 5.6 mm	36.44	351.80
-2.50 to -2.00; 4 mm	10.49	101.25
-2.00 to -1.50; 2.8 mm	2.18	21.05
-1.50 to -1.00; 2 mm	2.51	24.25
-1.00 to -0.50; 1.4 mm	1.57	15.16
-0.50 to 0.00; 1 mm	1.62	15.62
0.00 to 0.50; (707 µm)	5.23	50.53
0.50 to 1.00; (500 µm)	7.97	76.93
1.00 to 1.50; (353.6 µm)	9.83	94.94
1.50 to 2.00; (250 µm)	8.88	85.73
2.00 to 2.50; (176.8 µm)	4.54	43.86
2.50 to 3.00; (125 µm)	1.22	11.80
3.00 to 3.50; (88.39 µm)	0.35	3.35
3.50 to 4.00; (62.5 µm)	0.12	1.14
4.00 to 4.50; (44.19 µm)	0.06	0.55
4.50 to 5.00; (31.25 µm)	0.04	0.40
5.00 to 5.50; (22.097 µm)	0.04	0.39
5.50 to 6.00; (15.625 µm)	0.03	0.32
6.00 to 6.50; (11.049 µm)	0.03	0.32
6.50 to 7.00; (7.813 µm)	0.03	0.32
7.00 to 7.50; (5.524 µm)	0.03	0.31
7.50 to 8.00; (3.906 µm)	0.03	0.27
8.00 to 8.50; (2.762 µm)	0.02	0.23
8.50 to 9.00; (1.953 µm)	0.03	0.25
9.00 to 9.50; (1.381 µm)	0.03	0.30
9.50 to 10.00; (0.977 µm)	0.04	0.34
10.00 to 10.50; (0.691 µm)	0.03	0.34
10.50 to 11.00; (0.488 µm)	0.03	0.30
11.00 to 11.50; (0.345 µm)	0.03	0.26
11.50 to 12.00; (0.244 µm)	0.02	0.22
12.00 to 12.50; (0.173 µm)	0.02	0.17
12.50 to 13.00; (0.122 µm)	0.01	0.13
13.00 to 13.50; (0.086 µm)	0.01	0.09
13.50 to 14.00; (0.061µm)	0.00	0.04
14.00 to 14.50; (0.043µm)	0.00	0.01
>14.5; (0.01)	0.00	0.00
TOTAL	100.00	965.42

Notes:
The sample required thorough mixing in a bowl to achieve homogenisation. Relatively large laser subsamples needed to be taken to allow sufficient sediment for three representative reps, hence the amount of sediment remaining for wet separation and sieving is a little variable across the benchmark samples.

APPENDIX 4. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS83.

Exercise Code:	PS83
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	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	5.70	54.90
-3.00 to -2.50; 5.6 mm	35.58	342.42
-2.50 to -2.00; 4 mm	12.03	115.79
-2.00 to -1.50; 2.8 mm	2.07	19.88
-1.50 to -1.00; 2 mm	2.37	22.84
-1.00 to -0.50; 1.4 mm	1.58	15.23
-0.50 to 0.00; 1 mm	1.70	16.40
0.00 to 0.50; (707 µm)	4.77	45.93
0.50 to 1.00; (500 µm)	7.50	72.15
1.00 to 1.50; (353.6 µm)	9.79	94.17
1.50 to 2.00; (250 µm)	9.35	90.00
2.00 to 2.50; (176.8 µm)	4.97	47.85
2.50 to 3.00; (125 µm)	1.40	13.44
3.00 to 3.50; (88.39 µm)	0.42	4.05
3.50 to 4.00; (62.5 µm)	0.13	1.20
4.00 to 4.50; (44.19 µm)	0.06	0.61
4.50 to 5.00; (31.25 µm)	0.04	0.41
5.00 to 5.50; (22.097 µm)	0.04	0.42
5.50 to 6.00; (15.625 µm)	0.04	0.34
6.00 to 6.50; (11.049 µm)	0.03	0.33
6.50 to 7.00; (7.813 µm)	0.04	0.34
7.00 to 7.50; (5.524 µm)	0.04	0.36
7.50 to 8.00; (3.906 µm)	0.04	0.34
8.00 to 8.50; (2.762 µm)	0.03	0.29
8.50 to 9.00; (1.953 µm)	0.03	0.30
9.00 to 9.50; (1.381 µm)	0.04	0.36
9.50 to 10.00; (0.977 µm)	0.04	0.41
10.00 to 10.50; (0.691 µm)	0.04	0.39
10.50 to 11.00; (0.488 µm)	0.04	0.34
11.00 to 11.50; (0.345 µm)	0.03	0.28
11.50 to 12.00; (0.244 µm)	0.02	0.22
12.00 to 12.50; (0.173 µm)	0.02	0.17
12.50 to 13.00; (0.122 µm)	0.01	0.13
13.00 to 13.50; (0.086 µm)	0.01	0.09
13.50 to 14.00; (0.061µm)	0.00	0.04
14.00 to 14.50; (0.043µm)	0.00	0.01
>14.5; (0.01)	0.00	0.00
TOTAL	100.00	962.43

Notes:

The sample required thorough mixing in a bowl to achieve homogenisation. Relatively large laser subsamples needed to be taken to allow sufficient sediment for three representative reps, hence the amount of sediment remaining for wet separation and sieving is a little variable across the benchmark samples.

APPENDIX 4. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS83.

Exercise Code:	PS83
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	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	5.16	49.53
-3.00 to -2.50; 5.6 mm	37.46	359.30
-2.50 to -2.00; 4 mm	11.46	109.90
-2.00 to -1.50; 2.8 mm	1.93	18.49
-1.50 to -1.00; 2 mm	2.42	23.20
-1.00 to -0.50; 1.4 mm	1.59	15.23
-0.50 to 0.00; 1 mm	1.61	15.47
0.00 to 0.50; (707 µm)	4.79	45.90
0.50 to 1.00; (500 µm)	7.46	71.54
1.00 to 1.50; (353.6 µm)	9.73	93.32
1.50 to 2.00; (250 µm)	9.16	87.88
2.00 to 2.50; (176.8 µm)	4.85	46.57
2.50 to 3.00; (125 µm)	1.34	12.90
3.00 to 3.50; (88.39 µm)	0.39	3.72
3.50 to 4.00; (62.5 µm)	0.12	1.18
4.00 to 4.50; (44.19 µm)	0.05	0.49
4.50 to 5.00; (31.25 µm)	0.04	0.36
5.00 to 5.50; (22.097 µm)	0.03	0.33
5.50 to 6.00; (15.625 µm)	0.03	0.28
6.00 to 6.50; (11.049 µm)	0.03	0.27
6.50 to 7.00; (7.813 µm)	0.03	0.26
7.00 to 7.50; (5.524 µm)	0.03	0.25
7.50 to 8.00; (3.906 µm)	0.02	0.23
8.00 to 8.50; (2.762 µm)	0.02	0.20
8.50 to 9.00; (1.953 µm)	0.02	0.22
9.00 to 9.50; (1.381 µm)	0.03	0.28
9.50 to 10.00; (0.977 µm)	0.03	0.32
10.00 to 10.50; (0.691 µm)	0.03	0.32
10.50 to 11.00; (0.488 µm)	0.03	0.30
11.00 to 11.50; (0.345 µm)	0.03	0.26
11.50 to 12.00; (0.244 µm)	0.02	0.22
12.00 to 12.50; (0.173 µm)	0.02	0.17
12.50 to 13.00; (0.122 µm)	0.01	0.13
13.00 to 13.50; (0.086 µm)	0.01	0.09
13.50 to 14.00; (0.061µm)	0.00	0.04
14.00 to 14.50; (0.043µm)	0.00	0.01
>14.5; (0.01)	0.00	0.00
TOTAL	100.00	959.16

Notes:

The sample required thorough mixing in a bowl to achieve homogenisation. Relatively large laser subsamples needed to be taken to allow sufficient sediment for three representative reps, hence the amount of sediment remaining for wet separation and sieving is a little variable across the benchmark samples.

APPENDIX 4. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS83.

Exercise Code:	PS83
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	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	4.35	41.94
-3.00 to -2.50; 5.6 mm	38.40	369.97
-2.50 to -2.00; 4 mm	11.00	105.99
-2.00 to -1.50; 2.8 mm	2.00	19.23
-1.50 to -1.00; 2 mm	2.45	23.62
-1.00 to -0.50; 1.4 mm	1.76	16.95
-0.50 to 0.00; 1 mm	1.62	15.62
0.00 to 0.50; (707 µm)	4.74	45.63
0.50 to 1.00; (500 µm)	7.32	70.53
1.00 to 1.50; (353.6 µm)	9.70	93.42
1.50 to 2.00; (250 µm)	9.25	89.08
2.00 to 2.50; (176.8 µm)	4.94	47.57
2.50 to 3.00; (125 µm)	1.40	13.45
3.00 to 3.50; (88.39 µm)	0.40	3.89
3.50 to 4.00; (62.5 µm)	0.12	1.18
4.00 to 4.50; (44.19 µm)	0.05	0.51
4.50 to 5.00; (31.25 µm)	0.04	0.37
5.00 to 5.50; (22.097 µm)	0.04	0.34
5.50 to 6.00; (15.625 µm)	0.03	0.30
6.00 to 6.50; (11.049 µm)	0.03	0.29
6.50 to 7.00; (7.813 µm)	0.03	0.30
7.00 to 7.50; (5.524 µm)	0.03	0.29
7.50 to 8.00; (3.906 µm)	0.03	0.25
8.00 to 8.50; (2.762 µm)	0.02	0.22
8.50 to 9.00; (1.953 µm)	0.02	0.23
9.00 to 9.50; (1.381 µm)	0.03	0.29
9.50 to 10.00; (0.977 µm)	0.03	0.33
10.00 to 10.50; (0.691 µm)	0.03	0.33
10.50 to 11.00; (0.488 µm)	0.03	0.30
11.00 to 11.50; (0.345 µm)	0.03	0.26
11.50 to 12.00; (0.244 µm)	0.02	0.22
12.00 to 12.50; (0.173 µm)	0.02	0.17
12.50 to 13.00; (0.122 µm)	0.01	0.13
13.00 to 13.50; (0.086 µm)	0.01	0.09
13.50 to 14.00; (0.061µm)	0.00	0.04
14.00 to 14.50; (0.043µm)	0.00	0.01
>14.5; (0.01)	0.00	0.00
TOTAL	100.00	963.34

Notes:

The sample required thorough mixing in a bowl to achieve homogenisation. Relatively large laser subsamples needed to be taken to allow sufficient sediment for three representative reps, hence the amount of sediment remaining for wet separation and sieving is a little variable across the benchmark samples.

APPENDIX 4. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS83.

Exercise Code:	PS83
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	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	5.19	49.39
-3.00 to -2.50; 5.6 mm	36.97	351.57
-2.50 to -2.00; 4 mm	10.92	103.82
-2.00 to -1.50; 2.8 mm	2.19	20.86
-1.50 to -1.00; 2 mm	2.49	23.71
-1.00 to -0.50; 1.4 mm	1.66	15.76
-0.50 to 0.00; 1 mm	1.76	16.69
0.00 to 0.50; (707 µm)	6.32	60.05
0.50 to 1.00; (500 µm)	8.67	82.46
1.00 to 1.50; (353.6 µm)	9.67	91.96
1.50 to 2.00; (250 µm)	8.21	78.02
2.00 to 2.50; (176.8 µm)	3.97	37.78
2.50 to 3.00; (125 µm)	1.04	9.87
3.00 to 3.50; (88.39 µm)	0.31	2.95
3.50 to 4.00; (62.5 µm)	0.10	0.91
4.00 to 4.50; (44.19 µm)	0.05	0.45
4.50 to 5.00; (31.25 µm)	0.04	0.34
5.00 to 5.50; (22.097 µm)	0.03	0.32
5.50 to 6.00; (15.625 µm)	0.03	0.27
6.00 to 6.50; (11.049 µm)	0.03	0.27
6.50 to 7.00; (7.813 µm)	0.03	0.29
7.00 to 7.50; (5.524 µm)	0.03	0.29
7.50 to 8.00; (3.906 µm)	0.03	0.27
8.00 to 8.50; (2.762 µm)	0.02	0.23
8.50 to 9.00; (1.953 µm)	0.03	0.24
9.00 to 9.50; (1.381 µm)	0.03	0.29
9.50 to 10.00; (0.977 µm)	0.04	0.33
10.00 to 10.50; (0.691 µm)	0.03	0.33
10.50 to 11.00; (0.488 µm)	0.03	0.30
11.00 to 11.50; (0.345 µm)	0.03	0.25
11.50 to 12.00; (0.244 µm)	0.02	0.21
12.00 to 12.50; (0.173 µm)	0.02	0.16
12.50 to 13.00; (0.122 µm)	0.01	0.13
13.00 to 13.50; (0.086 µm)	0.01	0.08
13.50 to 14.00; (0.061µm)	0.00	0.04
14.00 to 14.50; (0.043µm)	0.00	0.01
>14.5; (0.01)	0.00	0.00
TOTAL	100.00	950.89

Notes:

The sample required thorough mixing in a bowl to achieve homogenisation. Relatively large laser subsamples needed to be taken to allow sufficient sediment for three representative reps, hence the amount of sediment remaining for wet separation and sieving is a little variable across the benchmark samples. The laser distribution for 2834 was a little different from the other benchmark samples (the sand was a little coarser), and was consistently different across all reps and runs. Hence this is a true difference in the sample as supplied, and could indicate a slight difference in how this sample was prepared