

# NMBAQC

NE Atlantic Marine Biological Analytical Quality Control Scheme

## Particle Size Report - PS76

Particle Size Component 2020/21

April 2021

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# BENCHMARK DATA

**Table 1.** Summary data for the benchmark replicates distributed as PS76.

	Method	% Gravel	% Sand	% Mud	Sediment Description (Post analysis)
PSA_2630 BM REP 1	NMBAQC	0.00	6.70	93.30	Mud
PSA_2631 BM REP 2	NMBAQC	0.00	7.44	92.56	Mud
PSA_2632 BM REP 3	NMBAQC	0.00	8.28	91.72	Mud
PSA_2633 BM REP 4	NMBAQC	0.00	7.51	92.49	Mud
PSA_2634 BM REP 5	NMBAQC	0.00	9.73	90.27	Mud
BM REP AVERAGE	NMBAQC	0.00	7.93	92.07	Mud

**Table 2.** Summary of sieve data for the benchmark replicates distributed as PS76.

	PSA_2730 BM REP 1	PSA_2731 BM REP 2	PSA_2732 BM REP 3	PSA_2733 BM REP 4	PSA_2734 BM REP 5	BM Average	
Was sediment >1mm detected?	NO	NO	NO	NO	NO	NO	
Phi interval; mm	<b>Weight in grams</b>						
-6.50 to -6.00; 63 mm							
-6.00 to -5.50; 45 mm							
-5.50 to -5.00; 31.5 mm							
-5.00 to -4.50; 22.4 mm							
-4.50 to -4.00; 16 mm							
-4.00 to -3.50; 11.2 mm							
-3.50 to -3.00; 8 mm							
-3.00 to -2.50; 5.6 mm							
-2.50 to -2.00; 4 mm							
-2.00 to -1.50; 2.8 mm							
-1.50 to -1.00; 2 mm							
-1.00 to -0.50; 1.4 mm							
-0.50 to 0.00; 1.0 mm							
>1.0 mm							
<1.0 mm							Base Pan
							Oven Dried
Total Weight (g)							

## BENCHMARK DATA

**Table 3.** Summary of final laser data for the benchmark replicates distributed as PS76.

	PSA_2730 BM REP 1	PSA_2731 BM REP 2	PSA_2732 BM REP 3	PSA_2733 BM REP 4	PSA_2734 BM REP 5	BM AVERAGE
0.00 to 0.50; (707 µm)	0.00	0.00	0.00	0.00	0.00	0.00
0.50 to 1.00; (500 µm)	0.00	0.00	0.00	0.00	0.00	0.00
1.00 to 1.50; (353.6 µm)	0.00	0.00	0.00	0.00	0.00	0.00
1.50 to 2.00; (250 µm)	0.00	0.00	0.00	0.00	0.01	0.00
2.00 to 2.50; (176.8 µm)	0.14	0.14	0.32	0.13	0.53	0.25
2.50 to 3.00; (125 µm)	1.32	1.41	1.83	1.44	2.12	1.62
3.00 to 3.50; (88.39 µm)	2.22	2.74	2.97	2.87	3.50	2.86
3.50 to 4.00; (62.5 µm)	3.02	3.15	3.15	3.06	3.57	3.19
4.00 to 4.50; (44.19 µm)	3.98	4.01	3.98	4.04	4.35	4.07
4.50 to 5.00; (31.25 µm)	5.74	5.50	5.69	5.34	5.73	5.60
5.00 to 5.50; (22.097 µm)	6.84	6.94	7.21	6.93	6.98	6.98
5.50 to 6.00; (15.625 µm)	9.12	9.11	9.39	8.90	8.97	9.10
6.00 to 6.50; (11.049 µm)	11.54	11.39	11.53	11.03	10.91	11.28
6.50 to 7.00; (7.813 µm)	11.58	11.49	11.48	11.20	10.85	11.32
7.00 to 7.50; (5.524 µm)	10.35	10.24	10.14	10.16	9.68	10.11
7.50 to 8.00; (3.906 µm)	8.38	8.25	8.09	8.35	7.86	8.18
8.00 to 8.50; (2.762 µm)	6.00	5.89	5.71	6.05	5.65	5.86
8.50 to 9.00; (1.953 µm)	4.00	3.91	3.76	4.07	3.75	3.90
9.00 to 9.50; (1.381 µm)	2.65	2.59	2.49	2.70	2.46	2.58
9.50 to 10.00; (0.977 µm)	1.89	1.89	1.81	1.92	1.75	1.85
10.00 to 10.50; (0.691 µm)	1.78	1.82	1.69	1.83	1.72	1.77
10.50 to 11.00; (0.488 µm)	2.11	2.13	1.93	2.19	2.11	2.10
11.00 to 11.50; (0.345 µm)	2.36	2.36	2.11	2.47	2.42	2.34
11.50 to 12.00; (0.244 µm)	2.14	2.13	1.92	2.26	2.21	2.13
12.00 to 12.50; (0.173 µm)	1.46	1.47	1.36	1.56	1.50	1.47
12.50 to 13.00; (0.122 µm)	0.85	0.87	0.84	0.92	0.86	0.87
13.00 to 13.50; (0.086 µm)	0.39	0.42	0.42	0.43	0.39	0.41
13.50 to 14.00; (0.061 µm)	0.11	0.13	0.14	0.13	0.11	0.13
14.00 to 14.50; (0.043 µm)	0.01	0.02	0.02	0.02	0.01	0.02
>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 Silt	Medium Silt	Medium Silt	Medium Silt	Medium Silt	Medium Silt
SORTING:	Very Poorly Sorted	Very Poorly Sorted	Very Poorly Sorted	Very Poorly Sorted	Very Poorly Sorted	Very Poorly Sorted
SKEWNESS:	Fine Skewed	Fine Skewed	Fine Skewed	Fine Skewed	Fine Skewed	Fine Skewed
KURTOSIS:	Leptokurtic	Leptokurtic	Leptokurtic	Leptokurtic	Leptokurtic	Leptokurtic
MODE:	Bimodal	Bimodal	Bimodal	Bimodal	Bimodal	Bimodal
MODE 1 (µm):	9.431	9.431	13.337	9.431	13.337	9.431
MODE 2 (µm):	0.4165	0.4165	0.4165	0.4165	0.4165	0.4165
MODE 3 (µm):	-	-	-	-	-	-

## BENCHMARK DATA

**Table 4.** Summary of Coefficient of Variation for Benchmark laser replicates for PS76.

		PSA_2730 BM REP 1	PSA_2731 BM REP 2	PSA_2732 BM REP 3	PSA_2733 BM REP 4	PSA_2734 BM REP 5
D <sub>10</sub>	Subsample 1	1.05	2.68	2.22	1.33	0.62
	Subsample 2	1.27	1.30	1.00	0.32	0.05
	Subsample 3	2.15	2.15	1.12	0.69	1.45
					n	
D <sub>50</sub>	Subsample 1	0.71	1.69	1.24	1.08	1.33
	Subsample 2	0.97	0.70	0.93	0.65	1.40
	Subsample 3	0.80	1.14	1.33	1.55	0.83
D <sub>90</sub>	Subsample 1	1.87	4.84	4.01	4.79	3.88
	Subsample 2	2.65	1.81	3.53	2.33	3.05
	Subsample 3	1.90	4.76	4.23	4.28	3.77

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

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 PS76.

If laser used, provide manufacturer/model:	Beckman Coulter LS 13320
Dispersion unit:	Universal Liquid Module
Analysis model:	Mie
Dispersant used:	Water (RI - 1.33)
Particle Refractive Index:	1.55
Particle Absorption Index:	0.1
Fines extension	PIDS system
Obscuration (average):	10%
Pump speed (% or rpm)	50%
Stirrer speed (% or rpm)	n/a
Ultrasonic duration (seconds)	30
Ultrasonic level (eg %, unit as described by instrument manual)	2
Pre-treatment or Chemical dispersant used:	Dispersed with a few drops of 3% sodium hexametaphosphate (calgon).

**Figure 1a.** Percentage bar charts resulting from final sieve analysis of 5 replicate samples of sediment distributed as PS76 (Benchmark Data).

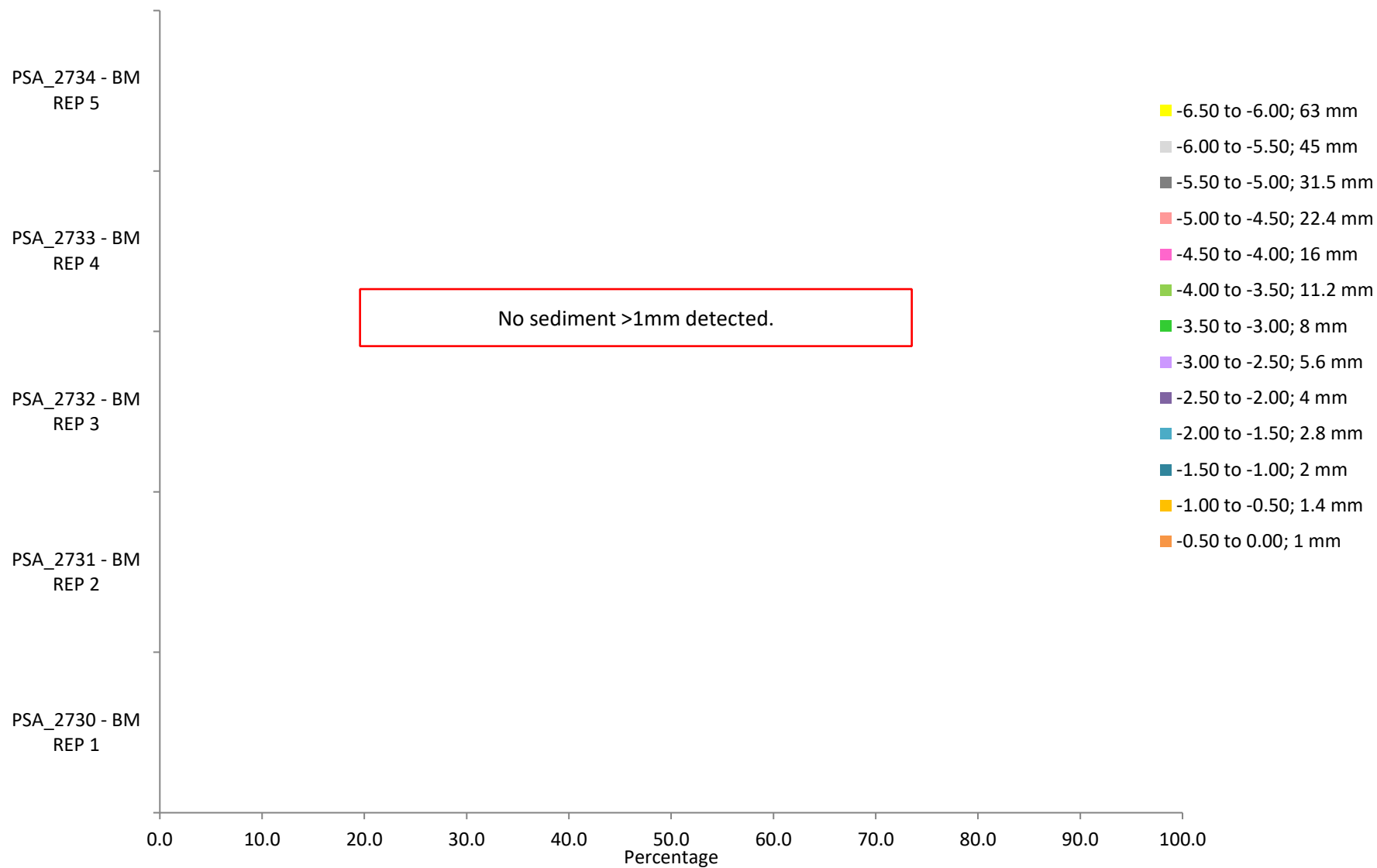
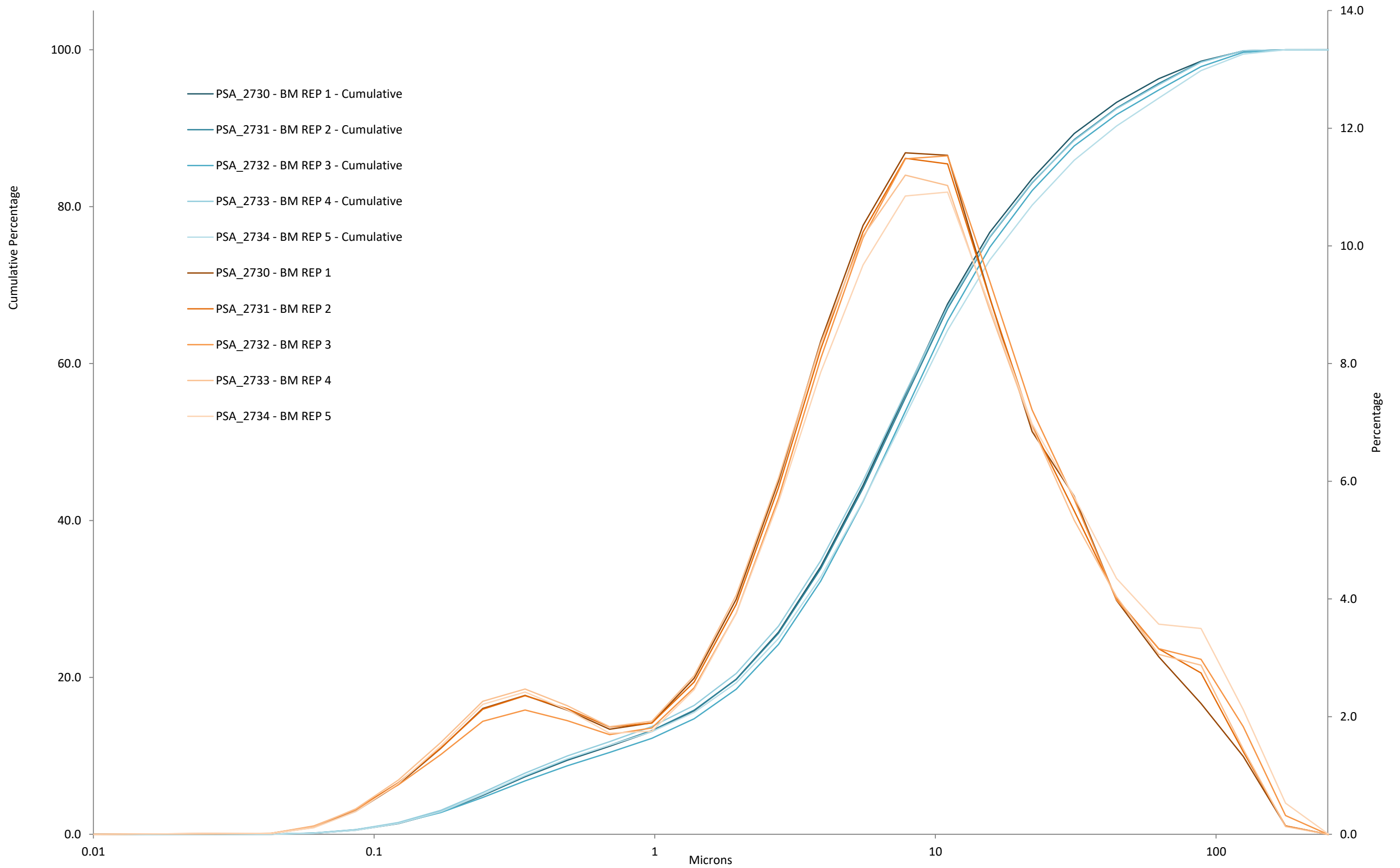
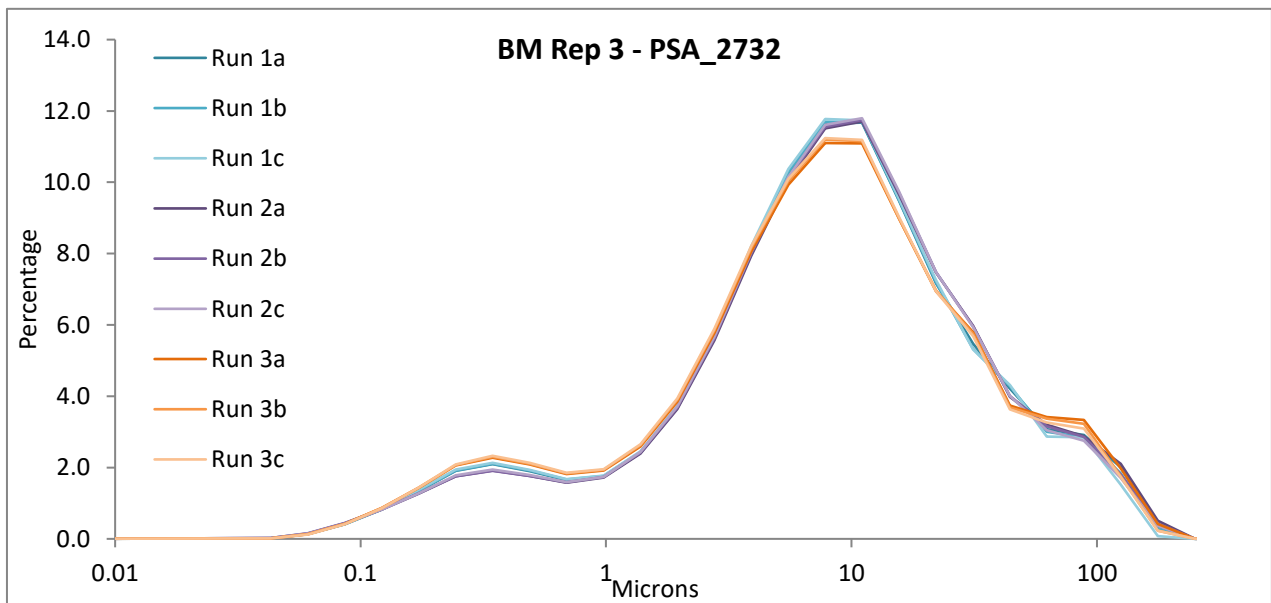
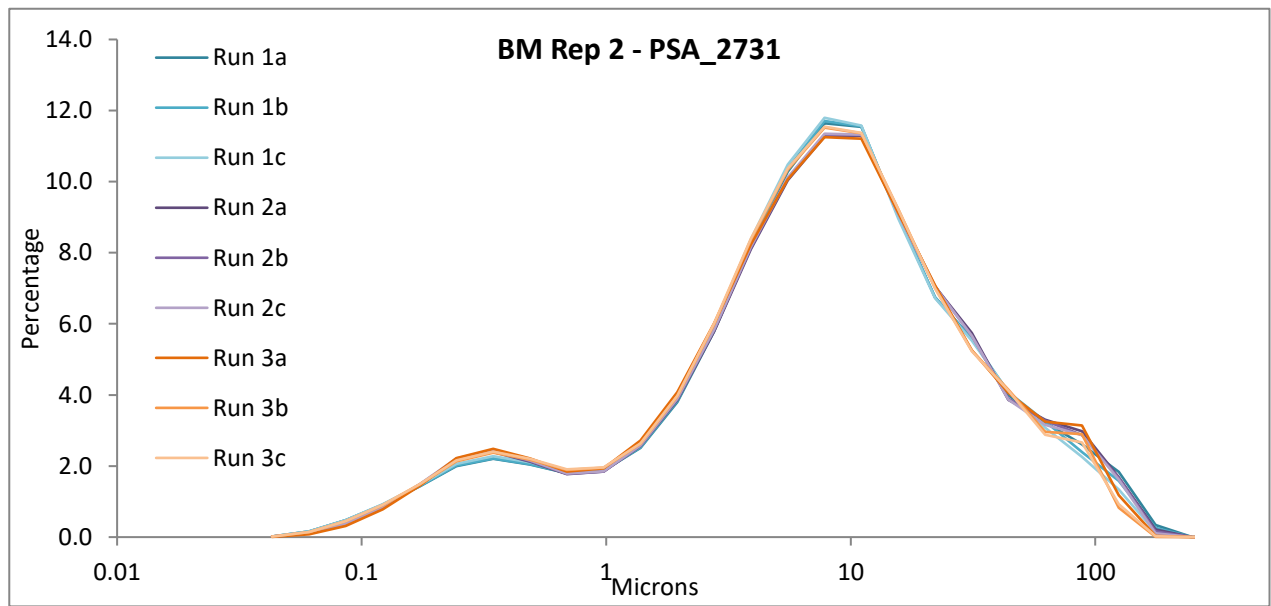
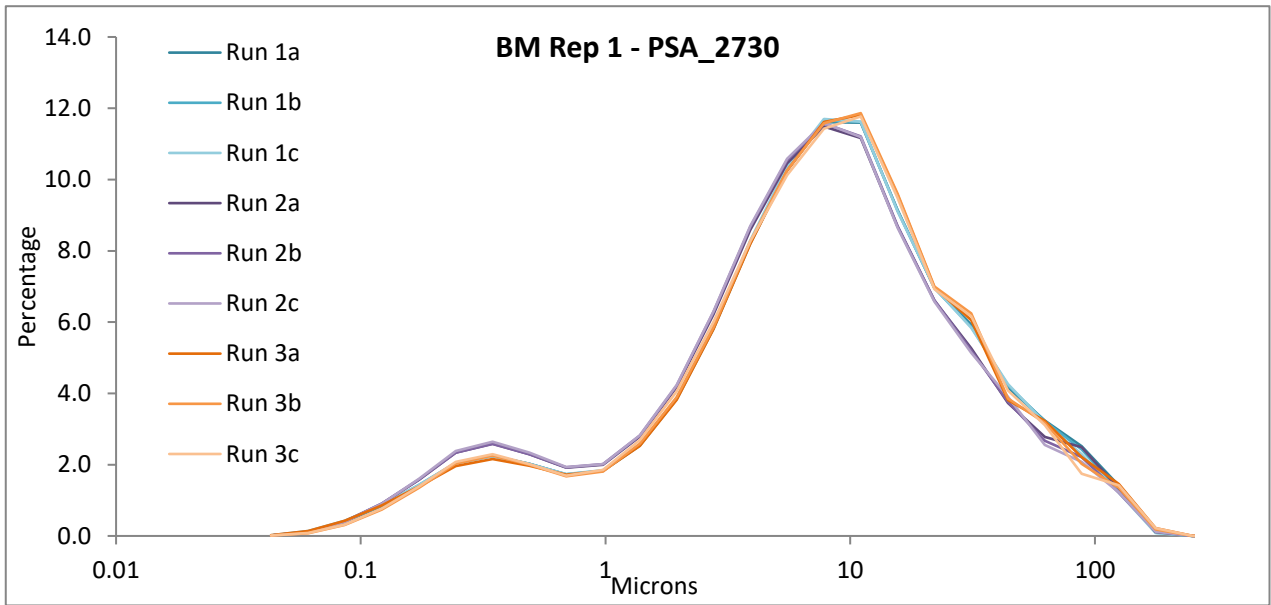


Figure 1b. Particle size distribution curves resulting from final laser analysis of 5 replicate samples of sediment distributed as PS76 (Benchmark Data).

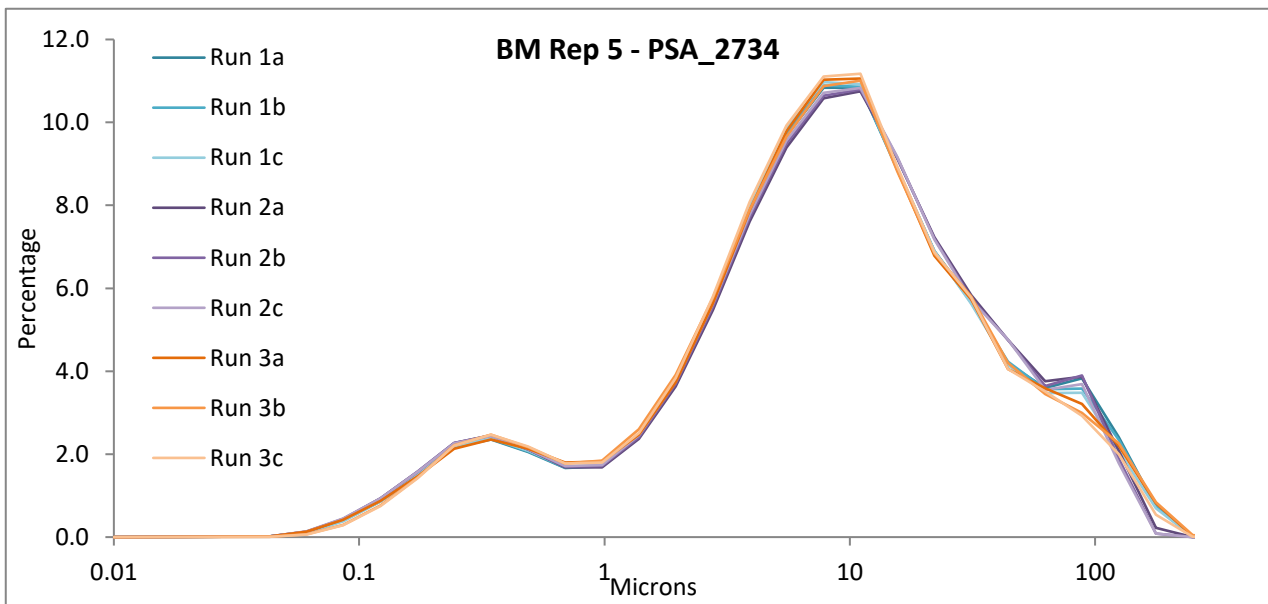
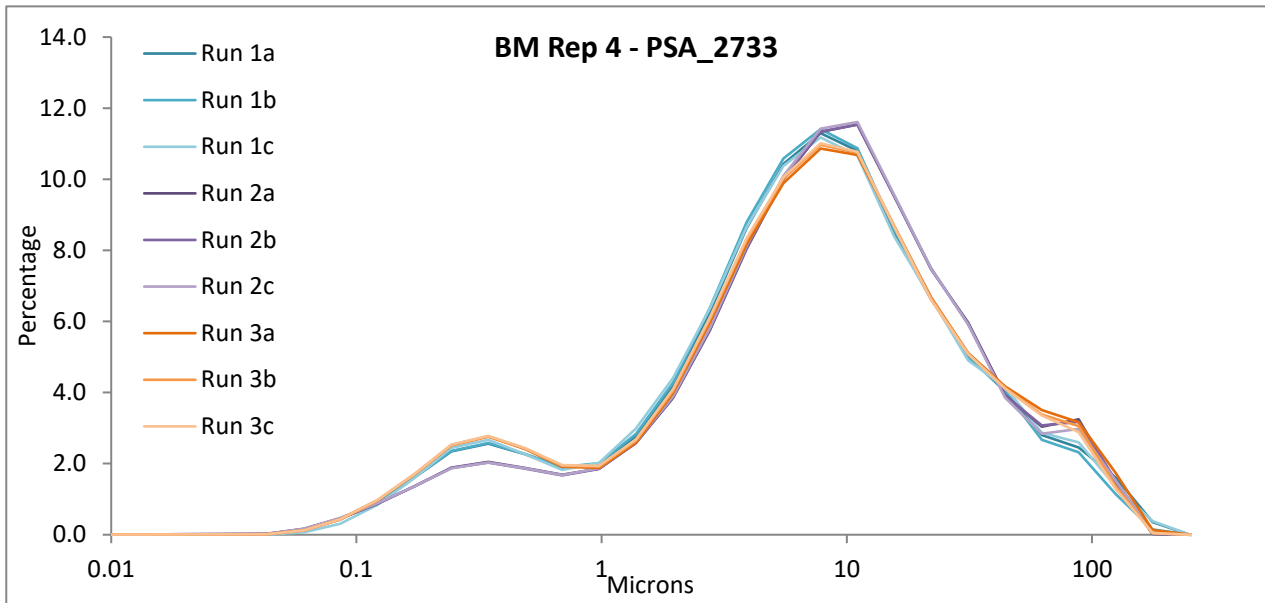




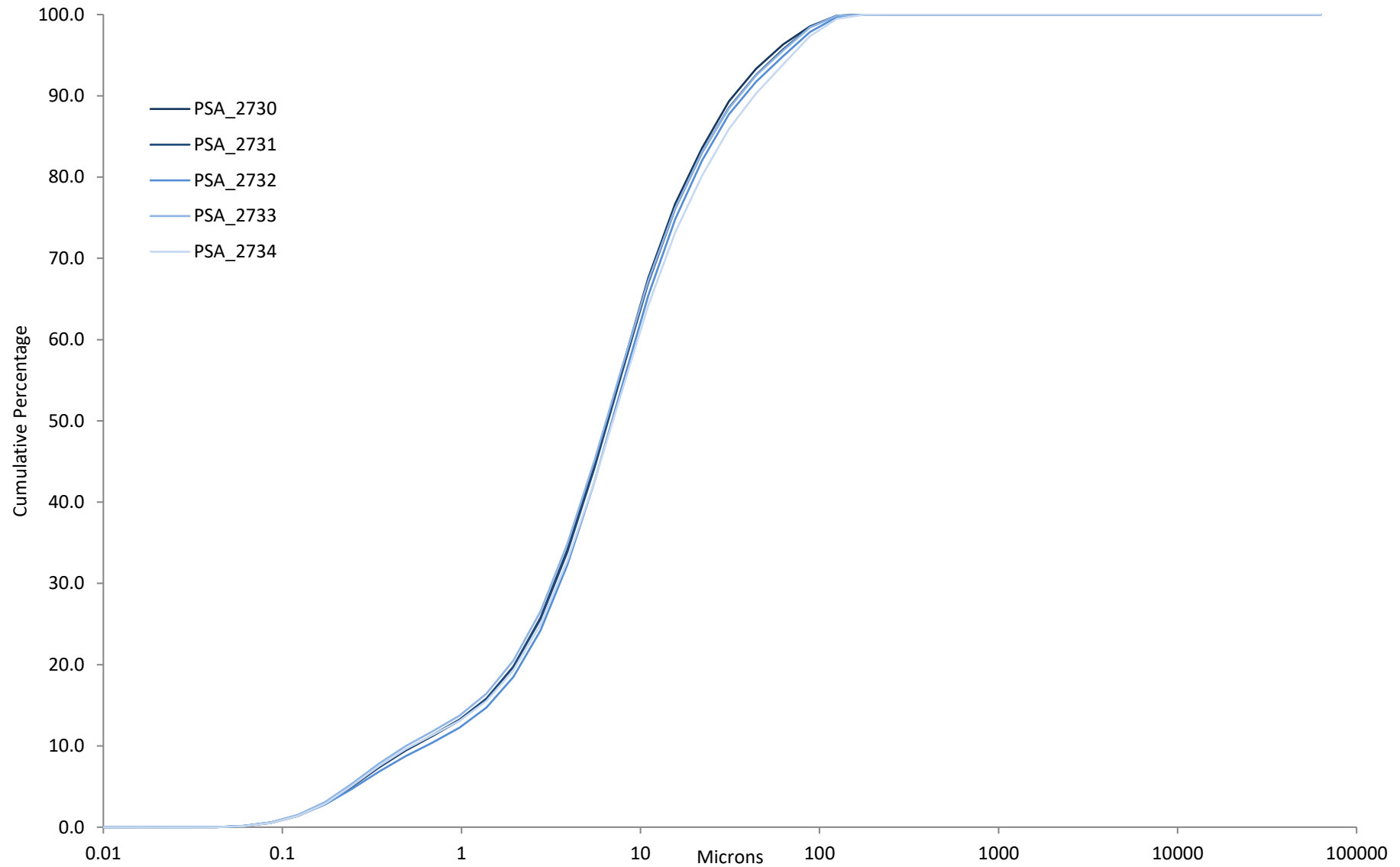
**Figure 2.** Particle size distribution curves resulting from laser analysis of five replicate samples of sediment distributed as PS76.



**Figure 2.** Particle size distribution curves resulting from laser analysis of five replicate samples of sediment distributed as PS76.



**Figure 3.** Particle size distribution curves resulting from analysis of 5 replicate samples of sediment distributed as PS76 (Benchmark Data).



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## PARTICIPANT DATA

**Table 6.** Summary of equipment and methods used by participants and sample summary data provided by participants for sediment distributed as PS76.

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		
<b>Benchmark Average</b>	No	Yes	NMBAQC	Yes	No	0.00	7.93	92.07	Mud	Mud
PSA_2701	No	Yes	NMBAQC	No	No	0.00	12.81	87.19	Sandy Mud	Sandy Mud
PSA_2702_v2	No	Yes	NMBAQC	No	No	0.0	13.7	86.3	Sandy Mud	Sandy Mud
PSA_2703	n/s	Yes	OTHER	No	No	0.00	3.68	96.32	-	Mud
PSA_2704	No	Yes	NMBAQC	No	No	0.00	9.03	90.97	Mud	Mud
PSA_2705	No	Yes	NMBAQC	No	No	0.0	12.8	87.2	Slightly Sandy Mud	Sandy Mud
PSA_2706	Yes	Yes	NMBAQC	No	No	0.00	13.15	86.85	Sandy Mud	Sandy Mud
PSA_2707	No	Yes	NMBAQC	No	No	0.00	1.28	98.72	Sandy Mud	Mud
PSA_2708	Yes	Yes	OTHER	No	No	0.00	5.15	94.85	Mud	Mud
PSA_2709	No	Yes	NMBAQC	Yes	No	0.00	6.07	93.93	Mud	Mud
PSA_2710	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p
PSA_2711	No	Yes	NMBAQC	No	No	0.0	7.4	92.6	Mud	Mud
PSA_2712	No	Yes	NMBAQC	No	No	0.0	13.5	86.5	Sandy Mud	Sandy Mud
PSA_2713_v2	No	Yes	NMBAQC	No	No	0.00	11.93	88.07	Sandy Mud	Sandy Mud
PSA_2714_v2	No	Yes	NMBAQC	No	No	0.00	17.60	82.40	Sandy Mud	Sandy Mud
PSA_2715	No	Yes	NMBAQC	Yes	No	0.00	7.29	92.71	Mud	Mud
PSA_2716	No	Yes	NMBAQC	No	No	0.00	12.64	87.36	Sandy Mud	Sandy Mud
PSA_2717	No	Yes	NMBAQC	No	No	0.00	13.03	86.97	Sandy Mud	Sandy Mud

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 PS76.

Phi interval (explicit) + sieve mesh	Benchmark Average	PSA_2701	PSA_2702_v2	PSA_2703	PSA_2704	PSA_2705	PSA_2706	PSA_2707	PSA_2708	PSA_2709
Was sediment >1mm detected?	No	No	No	n/p	No	No	Yes	No	No	No
-6.50 to -6.00; 63 mm	-	-	-	n/s	-	-	0.000	-	-	-
-6.00 to -5.50; 45 mm	-	-	-	n/s	-	-	0.000	-	-	-
-5.50 to -5.00; 31.5 mm	-	-	-	n/s	-	-	0.000	-	-	-
-5.00 to -4.50; 22.4 mm	-	-	-	n/s	-	-	0.000	-	-	-
-4.50 to -4.00; 16 mm	-	-	-	n/s	-	-	0.000	-	-	-
-4.00 to -3.50; 11.2 mm	-	-	-	n/s	-	-	0.000	-	-	-
-3.50 to -3.00; 8 mm	-	-	-	n/s	-	-	0.000	-	-	-
-3.00 to -2.50; 5.6 mm	-	-	-	n/s	-	-	0.000	-	-	-
-2.50 to -2.00; 4 mm	-	-	-	n/s	-	-	0.000	-	-	-
-2.00 to -1.50; 2.8 mm	-	-	-	n/s	-	-	0.000	-	-	-
-1.50 to -1.00; 2 mm	-	-	-	n/s	-	-	0.000	-	-	-
-1.00 to -0.50; 1.4 mm	-	-	-	n/s	-	-	0.007	-	-	-
-0.50 to 0.00; 1 mm	-	-	-	n/s	-	-	0.000	-	-	-
<i>Total*</i>	-	-	-	n/s	-	-	0.007	-	-	-
<b>Summary Data</b>										
< 0.00; >1 mm	-	-	-	n/s	-	-	0.007	-	-	-
> 0.00;	Base pan	-	-	n/s	-	-	0.005	-	-	-
<1 mm	Oven dried	-	-	n/s	-	-	51.360	-	-	-
Total Sample Weight		-	-	n/s	-	-	51.372	-	-	-

- No data provided.

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 PS76.

Phi interval (explicit) + sieve mesh	Benchmark Average	PSA_2710	PSA_2711	PSA_2712	PSA_2713_v2	PSA_2714_v2	PSA_2715	PSA_2716	PSA_2717
Was sediment >1mm detected?	No	n/p	No	No	-	No	No	No	No
-6.50 to -6.00; 63 mm	-	n/p	-	-	0.00	-	-	-	-
-6.00 to -5.50; 45 mm	-	n/p	-	-	0.00	-	-	-	-
-5.50 to -5.00; 31.5 mm	-	n/p	-	-	0.00	-	-	-	-
-5.00 to -4.50; 22.4 mm	-	n/p	-	-	0.00	-	-	-	-
-4.50 to -4.00; 16 mm	-	n/p	-	-	0.00	-	-	-	-
-4.00 to -3.50; 11.2 mm	-	n/p	-	-	0.00	-	-	-	-
-3.50 to -3.00; 8 mm	-	n/p	-	-	0.00	-	-	-	-
-3.00 to -2.50; 5.6 mm	-	n/p	-	-	0.00	-	-	-	-
-2.50 to -2.00; 4 mm	-	n/p	-	-	0.00	-	-	-	-
-2.00 to -1.50; 2.8 mm	-	n/p	-	-	0.00	-	-	-	-
-1.50 to -1.00; 2 mm	-	n/p	-	-	0.00	-	-	-	-
-1.00 to -0.50; 1.4 mm	-	n/p	-	-	0.00	-	-	-	-
-0.50 to 0.00; 1 mm	-	n/p	-	-	0.00	-	-	-	-
<i>Total</i>	-	n/p	-	-	0.00	-	-	-	-

### Summary Data

< 0.00; >1 mm	-	n/p	-	-	0.00	-	-	-	-
> 0.00;	Base pan	-	n/p	-	0.01	-	-	-	-
<1 mm	Oven dried	-	n/p	-	47.17	-	-	-	-
Total Sample Weight	-	n/p	-	-	47.18	-	-	-	-

- 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 PS76.

Microns	Benchmark Average	PSA_2701	PSA_2702_v2	PSA_2703	PSA_2704	PSA_2705	PSA_2706
707	0.00	0.00	0.00	0.00	0.00	0.00	0.01
500	0.00	0.05	0.20	0.01	0.00	0.01	0.16
353.6	0.00	0.39	0.57	0.05	0.00	0.11	0.38
250	0.00	0.89	0.89	0.15	0.14	0.50	0.64
176.8	0.25	1.43	1.55	0.28	0.87	1.30	1.34
125	1.62	2.27	2.60	0.41	4.24	2.69	2.49
88.39	2.86	3.38	3.59	0.74	3.43	3.52	3.64
62.5	3.19	4.40	4.31	2.05	0.35	4.68	4.48
44.19	4.07	5.34	5.11	5.43	3.95	5.17	5.24
31.25	5.60	6.69	6.46	10.19	6.55	7.07	6.30
22.097	6.98	8.66	8.43	13.48	7.78	9.04	7.78
15.625	9.10	10.66	10.55	13.55	8.91	11.18	9.33
11.049	11.28	12.10	12.05	11.58	9.70	12.31	10.42
7.813	11.32	12.34	12.15	9.44	10.81	12.10	10.65
5.524	10.11	11.03	10.58	7.96	10.63	10.71	9.91
3.906	8.18	8.50	7.92	6.93	8.83	8.45	8.34
2.762	5.86	5.97	5.12	5.82	6.05	5.91	6.30
1.953	3.90	3.50	3.02	4.36	3.76	3.55	4.30
1.381	2.58	1.15	1.75	2.82	2.58	1.55	2.80
0.977	1.85	0.06	1.21	1.91	2.12	0.15	2.04
0.691	1.77	0.47	1.06	1.60	1.93	0.00	1.74
0.488	2.10	0.59	0.73	1.08	1.81	0.00	1.29
0.345	2.34	0.13	0.15	0.16	1.66	0.00	0.43
0.244	2.13	0.00	0.00	0.00	1.41	0.00	0.00
0.173	1.47	0.00	0.00	0.00	1.06	0.00	0.00
0.122	0.87	0.00	0.00	0.00	0.77	0.00	0.00
0.086	0.41	0.00	0.00	0.00	0.47	0.00	0.00
0.061	0.13	0.00	0.00	0.00	0.18	0.00	0.00
0.043	0.02	0.00	0.00	0.00	0.02	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 Silt	Medium Silt	Medium Silt	Medium Silt	Medium Silt	Medium Silt	Medium Silt
SORTING:	Very Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Very Poorly Sorted	Poorly Sorted	Poorly Sorted
SKEWNESS:	Fine Skewed	Coarse Skewed	Coarse Skewed	Fine Skewed	Symmetrical	Coarse Skewed	Symmetrical
KURTOSIS:	Leptokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Leptokurtic	Mesokurtic	Mesokurtic
MODE:	Bimodal	Unimodal	Unimodal	Unimodal	Bimodal	Unimodal	Unimodal
MODE 1 (µm):	9.431	9.431	9.431	18.861	9.431	13.337	9.431
MODE 2 (µm):	0.4165	-	-	-	150.9	-	-
MODE 3 (µm):	-	-	-	-	-	-	-

## PARTICIPANT DATA

**Table 8.** Summary of final laser data for the participants for sediment distributed as PS76.

Microns	Benchmark Average	PSA_2707	PSA_2708	PSA_2709	PSA_2710	PSA_2711	PSA_2712
707	0.00	0.01	0.00	0.00	n/p	0.00	0.02
500	0.00	0.21	0.00	0.00	n/p	0.00	0.13
353.6	0.00	0.15	0.00	0.00	n/p	0.00	0.31
250	0.00	0.02	0.00	0.00	n/p	0.00	0.59
176.8	0.25	0.27	0.00	0.12	n/p	0.56	1.21
125	1.62	0.28	0.62	0.80	n/p	1.51	2.47
88.39	2.86	0.11	1.73	2.75	n/p	2.32	3.98
62.5	3.19	0.24	2.80	2.40	n/p	3.04	4.86
44.19	4.07	3.48	3.73	2.71	n/p	3.87	5.25
31.25	5.60	10.26	4.93	5.05	n/p	5.08	6.18
22.097	6.98	12.81	7.86	6.47	n/p	6.85	8.19
15.625	9.10	11.24	10.48	8.00	n/p	8.90	10.14
11.049	11.28	7.49	12.98	10.48	n/p	10.67	11.10
7.813	11.32	9.62	13.50	11.09	n/p	11.63	11.69
5.524	10.11	8.99	12.57	10.90	n/p	11.53	10.45
3.906	8.18	8.06	9.90	9.83	n/p	10.38	8.27
2.762	5.86	6.78	6.78	7.63	n/p	8.41	6.17
1.953	3.90	5.14	4.40	5.27	n/p	5.99	3.54
1.381	2.58	3.44	2.75	3.40	n/p	3.73	2.15
0.977	1.85	2.12	1.76	2.17	n/p	2.30	1.49
0.691	1.77	1.11	1.67	1.78	n/p	1.68	1.40
0.488	2.10	1.34	1.15	2.01	n/p	1.19	0.39
0.345	2.34	1.53	0.38	2.28	n/p	0.36	0.00
0.244	2.13	1.75	0.00	2.09	n/p	0.00	0.00
0.173	1.47	1.74	0.00	1.43	n/p	0.00	0.00
0.122	0.87	1.30	0.00	0.83	n/p	0.00	0.00
0.086	0.41	0.52	0.00	0.38	n/p	0.00	0.00
0.061	0.13	0.00	0.00	0.11	n/p	0.00	0.00
0.043	0.02	0.00	0.00	0.01	n/p	0.00	0.00
0.01	0.00	0.00	0.00	0.00	n/p	0.00	0.00
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>n/p</b>	<b>100.00</b>	<b>100.00</b>

### GRADISTAT OUTPUTS

MEAN:	Medium Silt	Medium Silt	Medium Silt	Fine Silt	n/p	Medium Silt	Medium Silt
SORTING:	Very Poorly Sorted	Very Poorly Sorted	Poorly Sorted	Very Poorly Sorted	n/p	Poorly Sorted	Poorly Sorted
SKEWNESS:	Fine Skewed	Fine Skewed	Symmetrical	Fine Skewed	n/p	Symmetrical	Symmetrical
KURTOSIS:	Leptokurtic	Mesokurtic	Leptokurtic	Leptokurtic	n/p	Mesokurtic	Mesokurtic
MODE:	Bimodal	Bimodal	Unimodal	Trimodal	n/p	Unimodal	Unimodal
MODE 1 (µm):	9.431	26.6735	9.431	9.431	n/p	9.431	9.431
MODE 2 (µm):	0.4165	9.431	-	106.695	n/p	-	-
MODE 3 (µm):	-	-	-	0.4165	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 PS76.

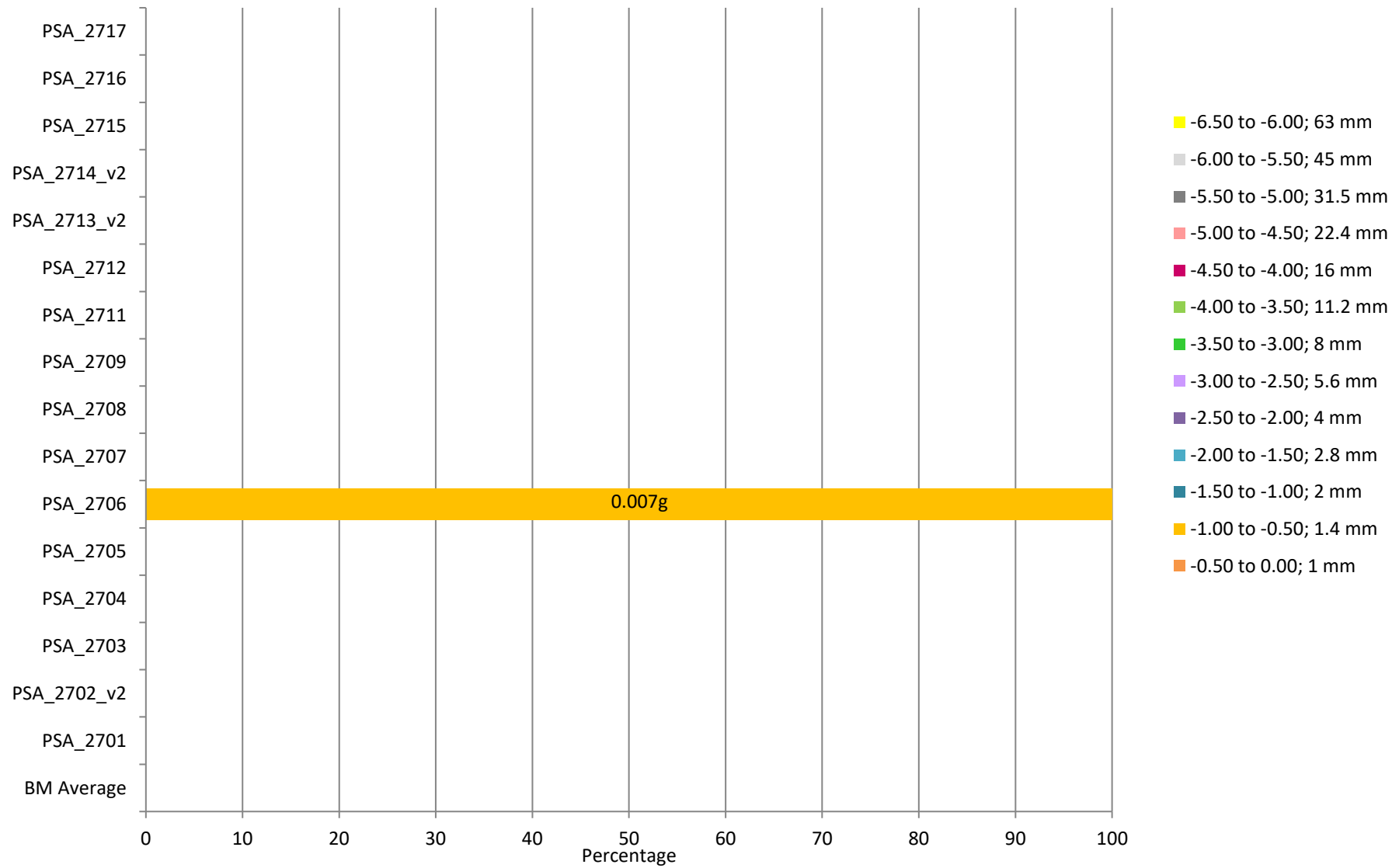
Microns	Benchmark Average	PSA_2713_v2	PSA_2714_v2	PSA_2715	PSA_2716	PSA_2717
707	0.00	0.00	0.00	0.00	0.00	0.00
500	0.00	0.00	0.04	0.00	0.00	0.07
353.6	0.00	0.00	0.08	0.00	0.11	0.35
250	0.00	0.00	0.46	0.01	0.77	0.63
176.8	0.25	0.70	1.20	0.40	1.48	1.27
125	1.62	3.26	2.56	1.46	2.61	2.44
88.39	2.86	3.98	5.15	2.64	3.25	3.68
62.5	3.19	3.99	8.11	2.78	4.40	4.59
44.19	4.07	4.10	9.93	3.56	4.80	5.25
31.25	5.60	4.01	10.14	5.50	6.87	6.31
22.097	6.98	7.53	9.52	6.83	8.85	8.43
15.625	9.10	6.45	8.82	8.99	11.09	10.69
11.049	11.28	6.98	8.19	11.35	12.41	12.04
7.813	11.32	9.73	7.47	11.53	12.65	11.67
5.524	10.11	10.03	6.67	10.34	11.75	10.35
3.906	8.18	8.53	5.84	8.38	9.65	8.04
2.762	5.86	6.53	4.93	6.02	6.17	5.70
1.953	3.90	5.00	3.81	4.00	2.51	3.51
1.381	2.58	3.86	2.62	2.66	0.60	1.87
0.977	1.85	2.96	1.80	1.95	0.00	1.33
0.691	1.77	2.47	1.41	1.88	0.00	1.36
0.488	2.10	2.36	0.98	2.17	0.00	0.41
0.345	2.34	2.31	0.27	2.37	0.00	0.00
0.244	2.13	2.03	0.00	2.14	0.00	0.00
0.173	1.47	1.47	0.00	1.50	0.00	0.00
0.122	0.87	0.98	0.00	0.92	0.00	0.00
0.086	0.41	0.54	0.00	0.46	0.00	0.00
0.061	0.13	0.20	0.00	0.15	0.00	0.00
0.043	0.02	0.02	0.00	0.02	0.00	0.00
0.01	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

### GRADISTAT OUTPUTS

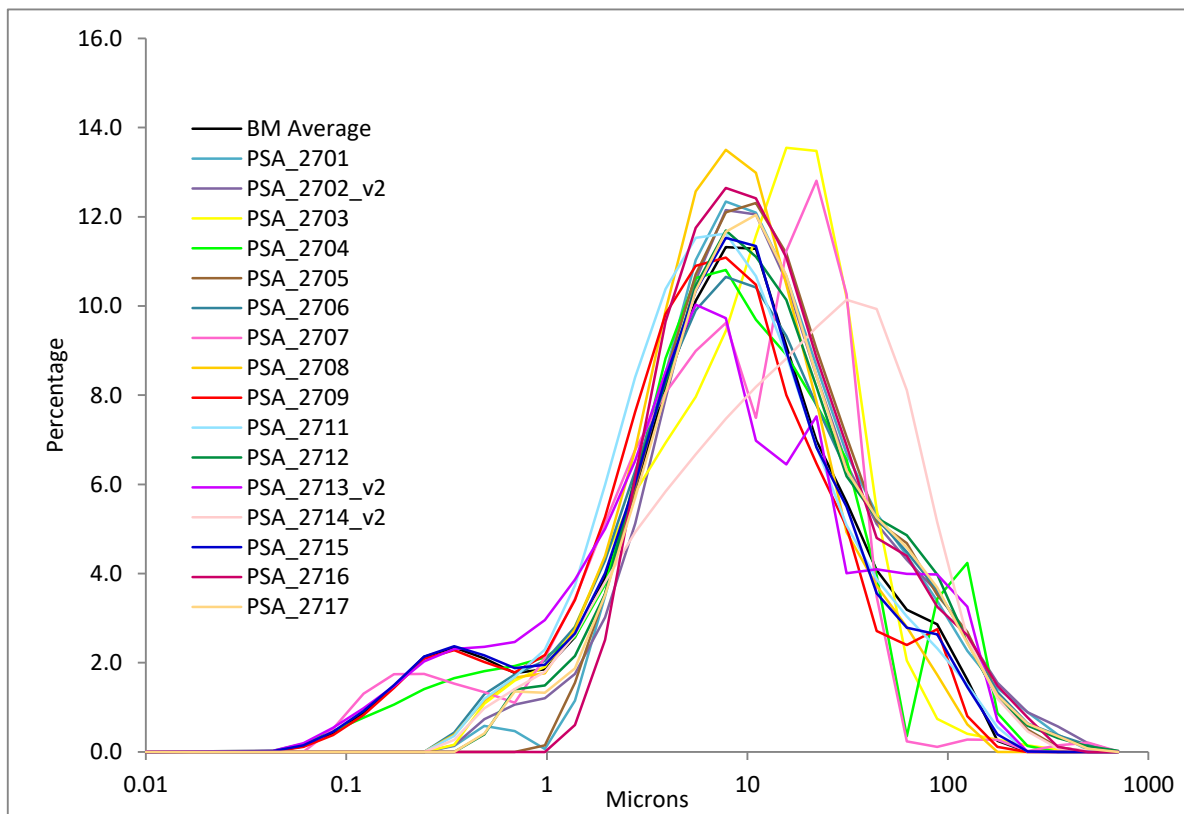
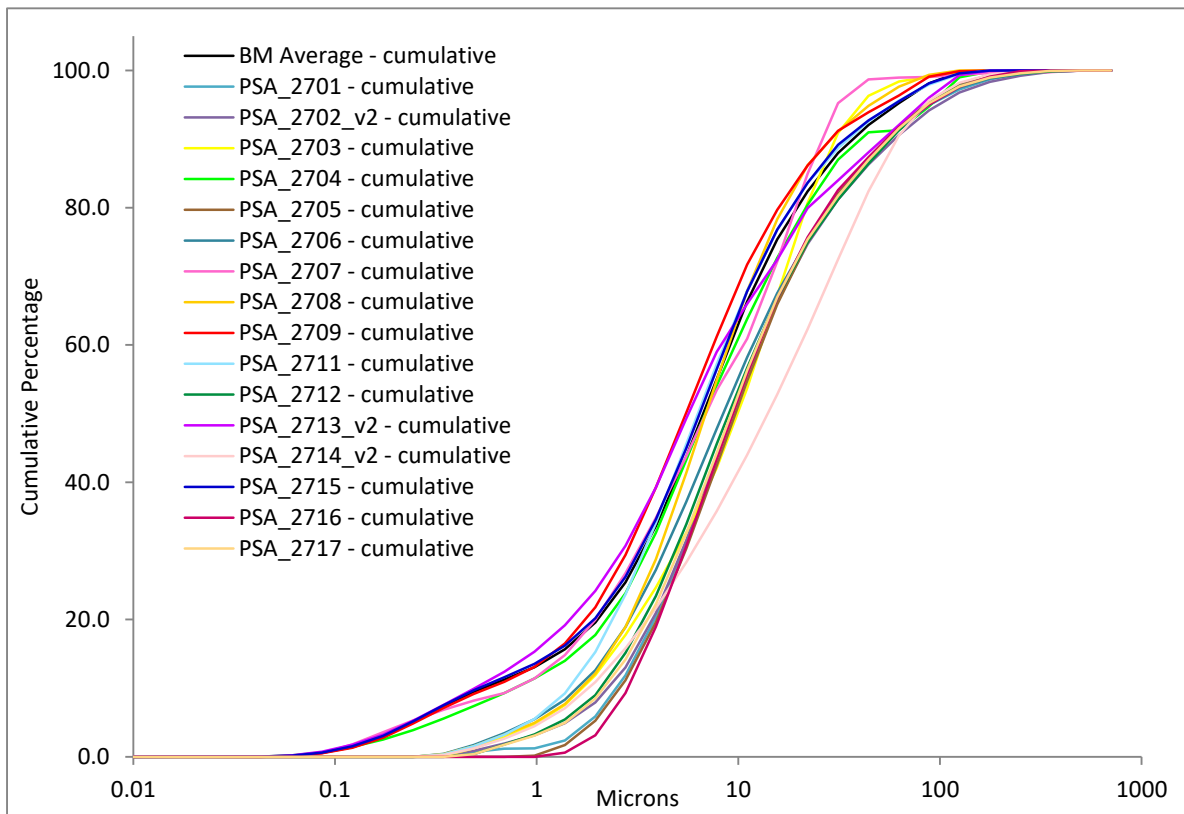
MEAN:	Medium Silt	Medium Silt	Coarse Silt	Medium Silt	Medium Silt	Medium Silt
SORTING:	Very Poorly Sorted	Very Poorly Sorted	Poorly Sorted	Very Poorly Sorted	Poorly Sorted	Poorly Sorted
SKEWNESS:	Fine Skewed	Symmetrical	Fine Skewed	Fine Skewed	Coarse Skewed	Symmetrical
KURTOSIS:	Leptokurtic	Leptokurtic	Mesokurtic	Leptokurtic	Mesokurtic	Mesokurtic
MODE:	Bimodal	Trimodal	Unimodal	Bimodal	Unimodal	Unimodal
MODE 1 (µm):	9.431	6.6685	37.72	9.431	9.431	13.337
MODE 2 (µm):	0.4165	26.6735	-	0.4165	-	-
MODE 3 (µm):	-	53.345	-	-	-	-

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

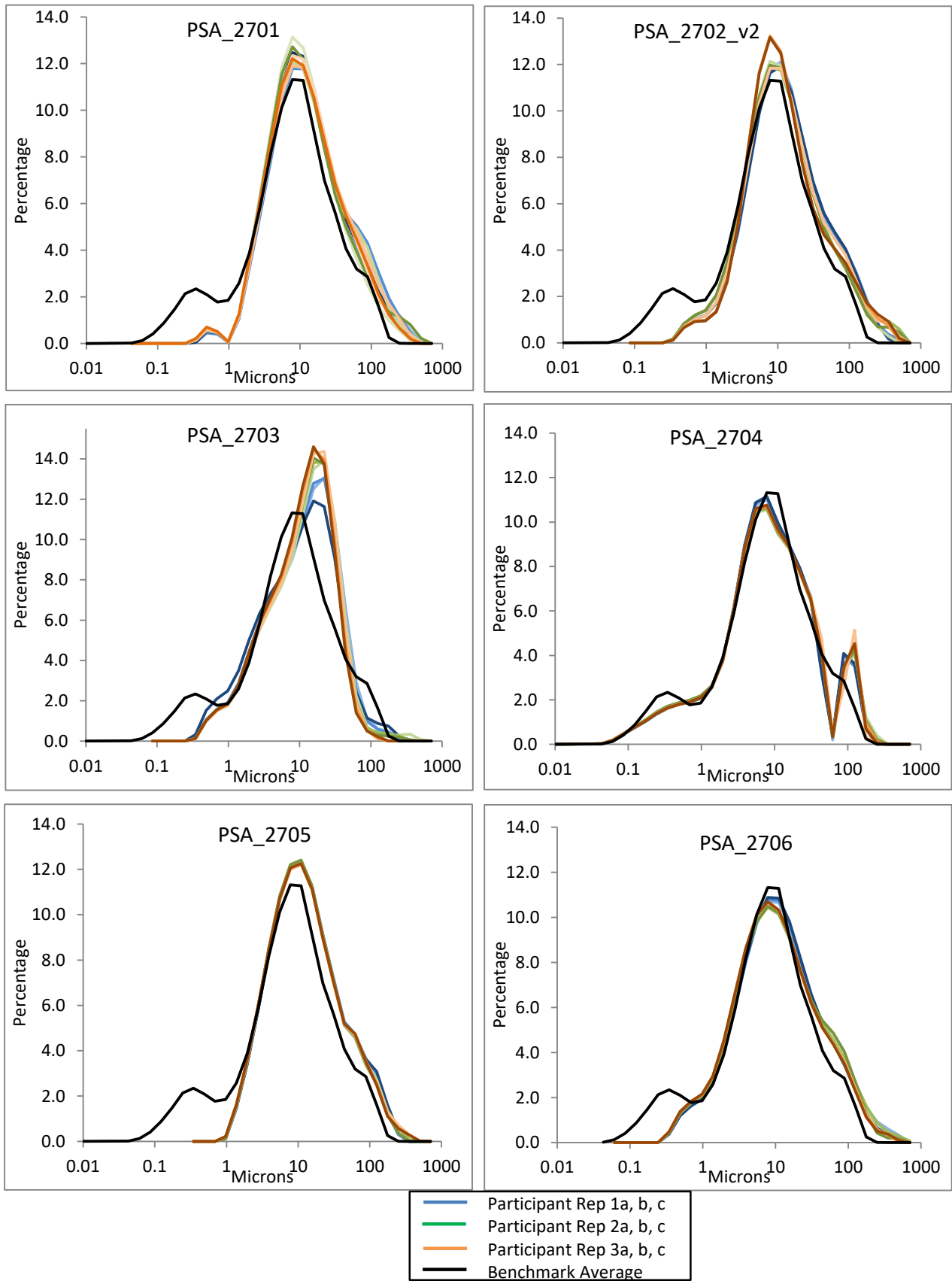
**Figure 4.** Final sieve data (in percentages) provided by each participant for sediment distributed as PS76.



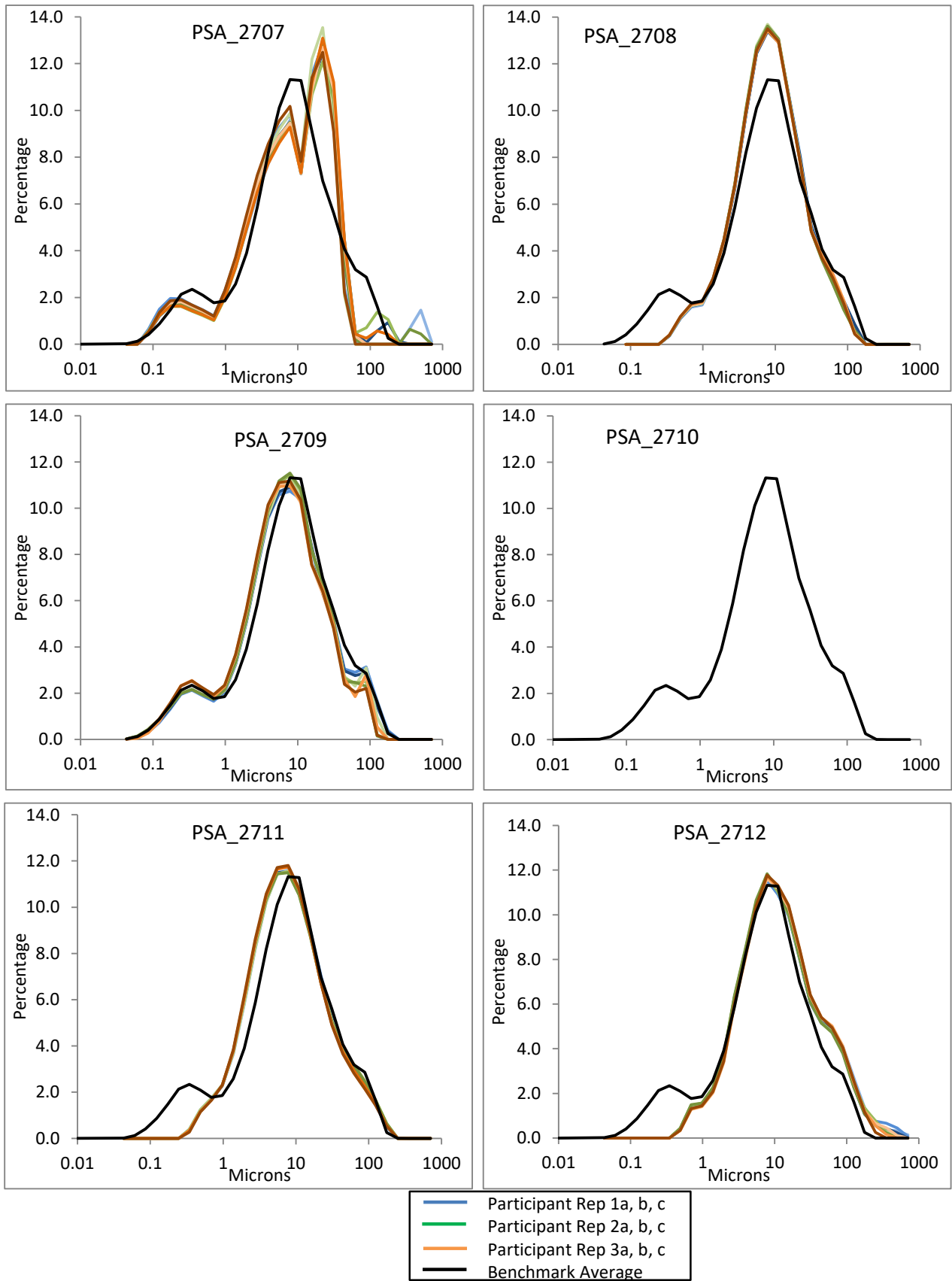
**Figure 5.** (a) Cumulative and (b) differential final laser data provided by each participant and the Benchmark Average for sediment distributed as PS76.



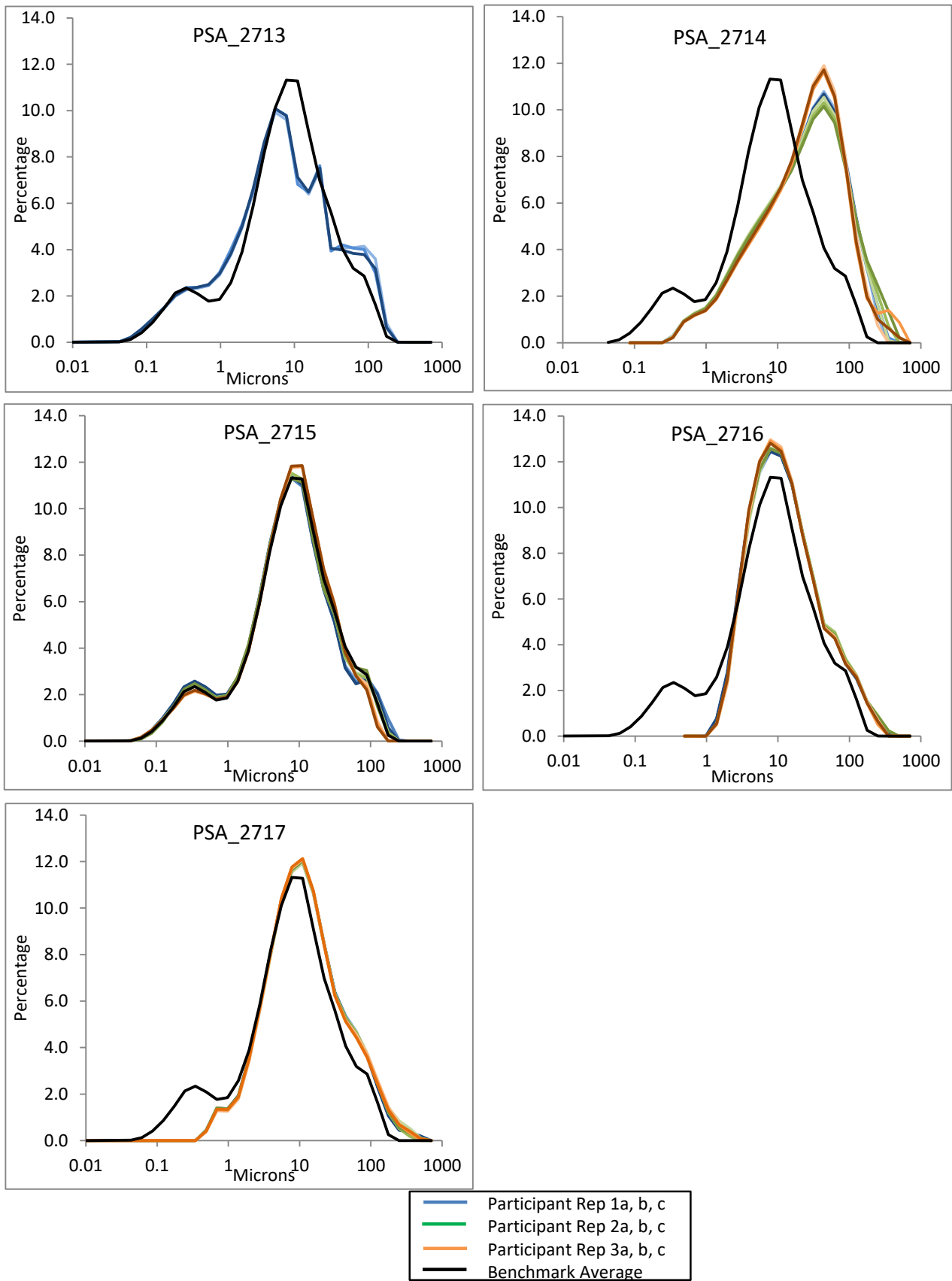
**Figure 5c.** Comparison of participant laser data with the Benchmark Average for sediment distributed as PS76.



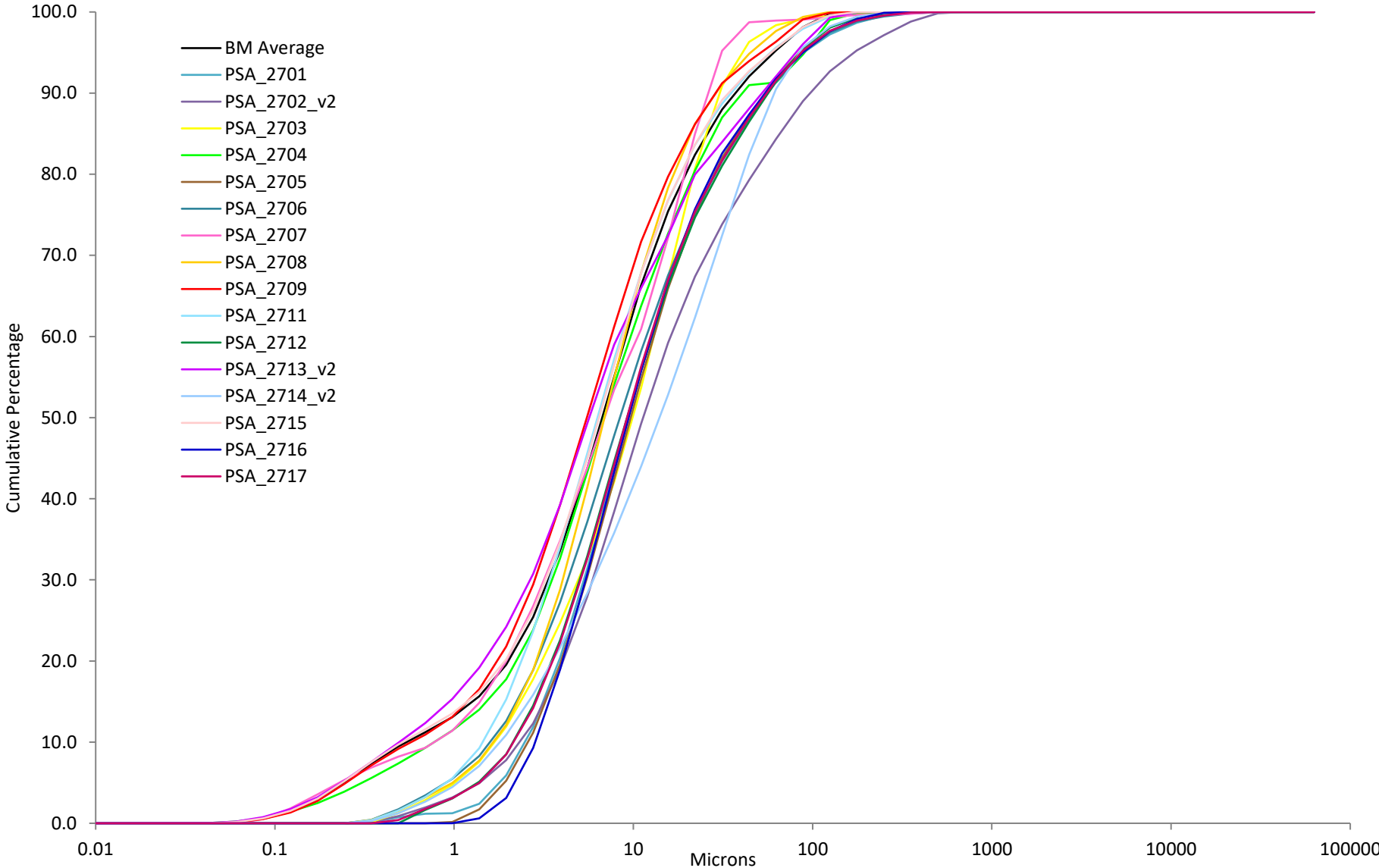
**Figure 5c.** Comparison of participant laser data with the Benchmark Average for sediment distributed as PS76.



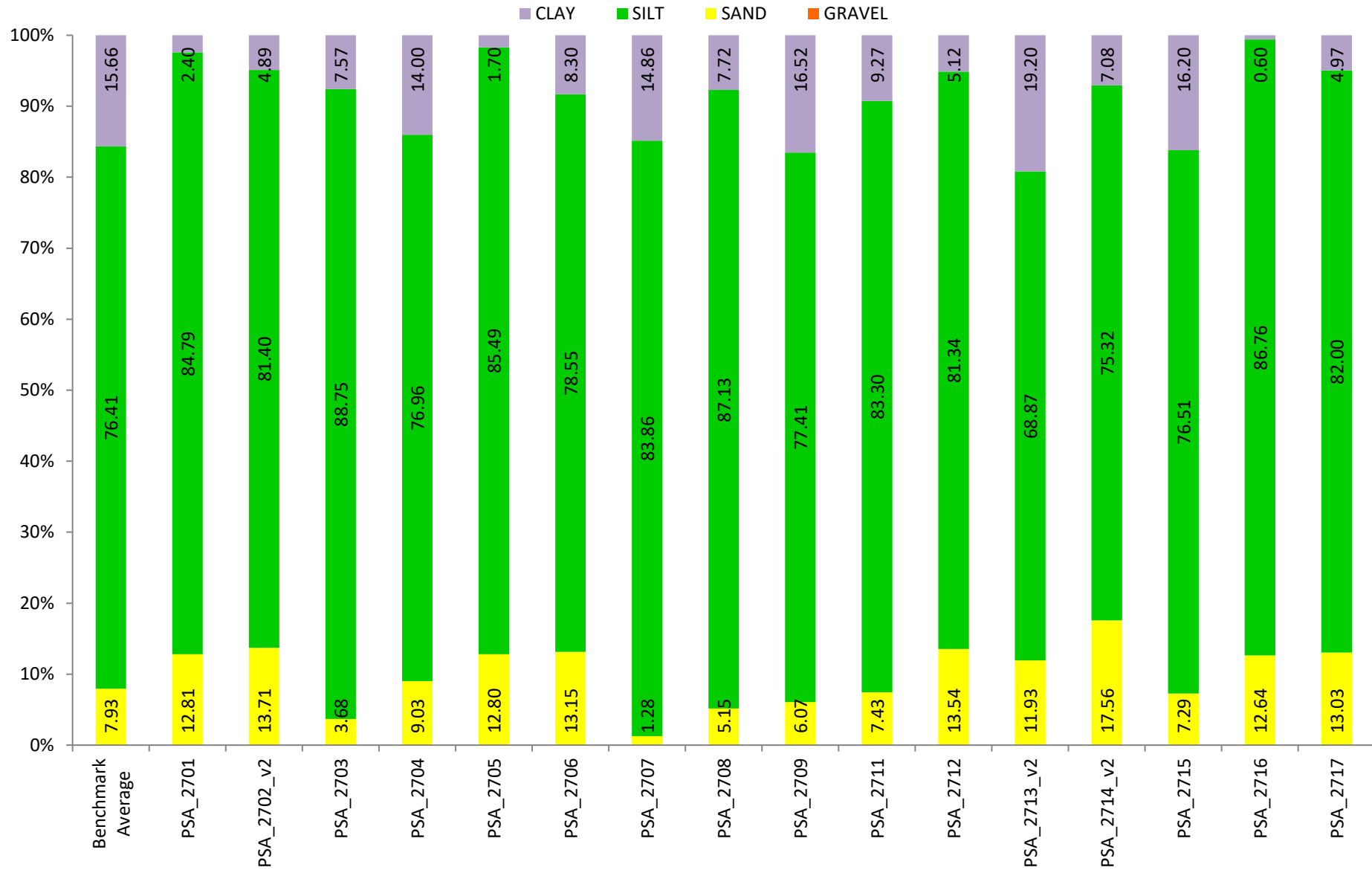
**Figure 5c.** Comparison of participant laser data with the Benchmark Average for sediment distributed as PS76.



**Figure 6.** Particle size distribution curves from all participating laboratories and the Benchmark Average for sediment distributed as PS76.



**Figure 7.** Bar chart showing the percentage gravel, sand, silt and clay recorded by each participating laboratory and the Benchmark Average for PS76.





## APPENDICES

**APPENDIX 1.** Benchmark laser replicate data for sediment distributed as PS76.

	Replicate Sample 1								
	Subsample 1			Subsample 2			Subsample 3		
	Run 1a	Run 1b	Run 1c	Run 2a	Run 2b	Run 2c	Run 3a	Run 3b	Run 3c
0.00 to 0.50; (707 µm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.50 to 1.00; (500 µm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00 to 1.50; (353.6 µm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.50 to 2.00; (250 µm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00 to 2.50; (176.8 µm)	0.11	0.09	0.08	0.11	0.13	0.12	0.22	0.18	0.22
2.50 to 3.00; (125 µm)	1.41	1.29	1.21	1.33	1.22	1.22	1.45	1.35	1.42
3.00 to 3.50; (88.39 µm)	2.52	2.43	2.29	2.50	2.22	2.08	2.21	2.02	1.75
3.50 to 4.00; (62.5 µm)	3.24	3.22	3.17	2.78	2.67	2.56	3.23	3.18	3.11
4.00 to 4.50; (44.19 µm)	4.16	4.22	4.26	3.73	3.76	3.90	3.81	3.86	4.08
4.50 to 5.00; (31.25 µm)	5.93	5.87	5.84	5.26	5.20	5.14	6.05	6.25	6.16
5.00 to 5.50; (22.097 µm)	6.97	6.95	6.98	6.61	6.62	6.58	6.98	7.00	6.93
5.50 to 6.00; (15.625 µm)	9.14	9.13	9.11	8.68	8.69	8.65	9.57	9.60	9.49
6.00 to 6.50; (11.049 µm)	11.60	11.61	11.63	11.17	11.21	11.19	11.81	11.86	11.77
6.50 to 7.00; (7.813 µm)	11.61	11.65	11.70	11.49	11.57	11.59	11.62	11.58	11.43
7.00 to 7.50; (5.524 µm)	10.26	10.31	10.36	10.45	10.55	10.58	10.25	10.26	10.12
7.50 to 8.00; (3.906 µm)	8.21	8.25	8.29	8.59	8.67	8.70	8.20	8.26	8.27
8.00 to 8.50; (2.762 µm)	5.82	5.84	5.87	6.22	6.28	6.30	5.80	5.86	6.00
8.50 to 9.00; (1.953 µm)	3.84	3.86	3.87	4.18	4.22	4.24	3.82	3.89	4.05
9.00 to 9.50; (1.381 µm)	2.53	2.55	2.56	2.79	2.81	2.82	2.52	2.59	2.69
9.50 to 10.00; (0.977 µm)	1.82	1.83	1.85	2.00	2.02	2.02	1.83	1.81	1.86
10.00 to 10.50; (0.691 µm)	1.73	1.73	1.74	1.91	1.93	1.94	1.72	1.68	1.69
10.50 to 11.00; (0.488 µm)	2.02	2.02	2.02	2.29	2.30	2.34	1.97	2.00	2.02
11.00 to 11.50; (0.345 µm)	2.25	2.25	2.24	2.59	2.58	2.64	2.16	2.26	2.29
11.50 to 12.00; (0.244 µm)	2.04	2.05	2.04	2.34	2.33	2.39	1.96	2.04	2.08
12.00 to 12.50; (0.173 µm)	1.41	1.43	1.43	1.58	1.58	1.60	1.39	1.35	1.38
12.50 to 13.00; (0.122 µm)	0.84	0.86	0.87	0.90	0.91	0.90	0.85	0.74	0.76
13.00 to 13.50; (0.086 µm)	0.40	0.42	0.43	0.40	0.41	0.39	0.43	0.31	0.32
13.50 to 14.00; (0.061 µm)	0.12	0.13	0.14	0.11	0.12	0.11	0.14	0.08	0.08
14.00 to 14.50; (0.043 µm)	0.02	0.02	0.02	0.01	0.01	0.01	0.02	0.01	0.01

d10	0.83	0.82	0.81	0.67	0.67	0.65	0.86	0.89	0.86
d50	9.54	9.47	9.41	8.72	8.62	8.55	9.61	9.60	9.48
d90	49.84	48.97	48.01	46.03	44.16	43.83	48.04	46.59	46.43

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	0.82	0.01	1.05	0.66	0.01	1.27	0.87	0.02	2.15
d50	9.47	0.07	0.71	8.63	0.08	0.97	9.56	0.08	0.80
d90	48.94	0.91	1.87	44.67	1.18	2.65	47.02	0.89	1.90

**APPENDIX 1.** Benchmark laser replicate data for sediment distributed as PS76.

	Replicate Sample 2								
	Subsample 1			Subsample 2			Subsample 3		
	Run 1a	Run 1b	Run 1c	Run 2a	Run 2b	Run 2c	Run 3a	Run 3b	Run 3c
0.00 to 0.50; (707 µm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.50 to 1.00; (500 µm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00 to 1.50; (353.6 µm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.50 to 2.00; (250 µm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00 to 2.50; (176.8 µm)	0.34	0.26	0.14	0.21	0.16	0.11	0.03	0.00	0.03
2.50 to 3.00; (125 µm)	1.83	1.59	1.34	1.68	1.66	1.62	1.17	0.83	0.93
3.00 to 3.50; (88.39 µm)	2.61	2.39	2.26	2.98	2.87	2.87	3.14	2.90	2.66
3.50 to 4.00; (62.5 µm)	3.23	3.25	3.08	3.30	3.27	3.16	3.24	2.96	2.88
4.00 to 4.50; (44.19 µm)	3.99	4.07	4.09	3.86	3.89	3.87	4.06	4.15	4.12
4.50 to 5.00; (31.25 µm)	5.59	5.57	5.53	5.74	5.66	5.66	5.25	5.25	5.23
5.00 to 5.50; (22.097 µm)	6.74	6.75	6.73	7.05	7.06	7.04	7.09	7.01	7.00
5.50 to 6.00; (15.625 µm)	9.05	9.02	8.97	9.14	9.12	9.10	9.13	9.23	9.23
6.00 to 6.50; (11.049 µm)	11.54	11.56	11.58	11.29	11.31	11.32	11.21	11.36	11.37
6.50 to 7.00; (7.813 µm)	11.64	11.71	11.80	11.27	11.31	11.35	11.25	11.52	11.55
7.00 to 7.50; (5.524 µm)	10.28	10.36	10.48	10.04	10.08	10.12	10.07	10.34	10.37
7.50 to 8.00; (3.906 µm)	8.19	8.27	8.38	8.10	8.14	8.17	8.24	8.36	8.40
8.00 to 8.50; (2.762 µm)	5.78	5.85	5.95	5.79	5.82	5.84	6.01	5.99	6.01
8.50 to 9.00; (1.953 µm)	3.79	3.83	3.90	3.86	3.88	3.89	4.07	3.96	3.98
9.00 to 9.50; (1.381 µm)	2.51	2.53	2.56	2.56	2.57	2.58	2.72	2.63	2.64
9.50 to 10.00; (0.977 µm)	1.87	1.87	1.90	1.84	1.85	1.85	1.93	1.95	1.96
10.00 to 10.50; (0.691 µm)	1.80	1.81	1.84	1.77	1.78	1.79	1.84	1.89	1.90
10.50 to 11.00; (0.488 µm)	2.04	2.05	2.10	2.12	2.14	2.16	2.21	2.18	2.20
11.00 to 11.50; (0.345 µm)	2.20	2.22	2.27	2.40	2.41	2.44	2.48	2.37	2.40
11.50 to 12.00; (0.244 µm)	1.99	2.01	2.06	2.17	2.18	2.21	2.22	2.13	2.16
12.00 to 12.50; (0.173 µm)	1.42	1.44	1.46	1.47	1.48	1.49	1.45	1.48	1.49
12.50 to 13.00; (0.122 µm)	0.91	0.91	0.92	0.85	0.85	0.85	0.78	0.90	0.91
13.00 to 13.50; (0.086 µm)	0.47	0.48	0.48	0.38	0.38	0.37	0.32	0.44	0.45
13.50 to 14.00; (0.061 µm)	0.16	0.16	0.16	0.11	0.11	0.10	0.08	0.14	0.14
14.00 to 14.50; (0.043 µm)	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.02	0.02

d10	0.80	0.79	0.76	0.76	0.75	0.74	0.75	0.73	0.72
d50	9.50	9.38	9.18	9.55	9.48	9.41	9.28	9.14	9.07
d90	52.56	50.50	47.72	53.02	52.13	51.13	50.89	47.41	46.54

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	0.79	0.02	2.68	0.75	0.01	1.30	0.74	0.02	2.15
d50	9.35	0.16	1.69	9.48	0.07	0.70	9.16	0.10	1.14
d90	50.26	2.43	4.84	52.09	0.94	1.81	48.28	2.30	4.76

**APPENDIX 1.** Benchmark laser replicate data for sediment distributed as PS76.

	Replicate Sample 3								
	Subsample 1			Subsample 2			Subsample 3		
	Run 1a	Run 1b	Run 1c	Run 2a	Run 2b	Run 2c	Run 3a	Run 3b	Run 3c
0.00 to 0.50; (707 µm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.50 to 1.00; (500 µm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00 to 1.50; (353.6 µm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.50 to 2.00; (250 µm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00 to 2.50; (176.8 µm)	0.35	0.28	0.07	0.51	0.43	0.36	0.42	0.23	0.22
2.50 to 3.00; (125 µm)	2.00	1.84	1.52	2.11	1.81	1.71	1.98	1.76	1.74
3.00 to 3.50; (88.39 µm)	2.91	2.85	2.85	2.88	2.86	2.75	3.34	3.23	3.09
3.50 to 4.00; (62.5 µm)	3.07	3.01	2.86	3.20	3.15	3.05	3.42	3.37	3.26
4.00 to 4.50; (44.19 µm)	4.22	4.27	4.31	3.98	4.01	4.01	3.74	3.69	3.63
4.50 to 5.00; (31.25 µm)	5.47	5.33	5.31	5.97	5.96	5.94	5.79	5.75	5.69
5.00 to 5.50; (22.097 µm)	7.17	7.20	7.25	7.48	7.48	7.48	6.95	6.97	6.94
5.50 to 6.00; (15.625 µm)	9.47	9.49	9.53	9.65	9.70	9.73	8.97	8.98	9.02
6.00 to 6.50; (11.049 µm)	11.67	11.69	11.74	11.70	11.75	11.80	11.09	11.15	11.19
6.50 to 7.00; (7.813 µm)	11.63	11.70	11.77	11.51	11.56	11.61	11.10	11.20	11.24
7.00 to 7.50; (5.524 µm)	10.21	10.29	10.37	10.04	10.10	10.16	9.93	10.04	10.09
7.50 to 8.00; (3.906 µm)	8.07	8.13	8.21	7.94	8.00	8.05	8.06	8.15	8.21
8.00 to 8.50; (2.762 µm)	5.64	5.68	5.73	5.57	5.62	5.66	5.77	5.85	5.89
8.50 to 9.00; (1.953 µm)	3.67	3.70	3.73	3.64	3.68	3.71	3.85	3.90	3.94
9.00 to 9.50; (1.381 µm)	2.41	2.43	2.45	2.39	2.42	2.43	2.59	2.63	2.65
9.50 to 10.00; (0.977 µm)	1.74	1.76	1.77	1.72	1.73	1.74	1.91	1.94	1.95
10.00 to 10.50; (0.691 µm)	1.65	1.66	1.67	1.58	1.58	1.60	1.82	1.84	1.85
10.50 to 11.00; (0.488 µm)	1.90	1.92	1.93	1.76	1.76	1.79	2.08	2.10	2.13
11.00 to 11.50; (0.345 µm)	2.09	2.11	2.13	1.91	1.91	1.94	2.28	2.30	2.33
11.50 to 12.00; (0.244 µm)	1.90	1.92	1.95	1.75	1.75	1.78	2.06	2.07	2.09
12.00 to 12.50; (0.173 µm)	1.34	1.35	1.38	1.27	1.28	1.28	1.43	1.44	1.44
12.50 to 13.00; (0.122 µm)	0.83	0.83	0.85	0.82	0.83	0.82	0.86	0.87	0.85
13.00 to 13.50; (0.086 µm)	0.41	0.41	0.42	0.43	0.45	0.43	0.42	0.42	0.40
13.50 to 14.00; (0.061 µm)	0.14	0.13	0.14	0.15	0.16	0.15	0.13	0.13	0.13
14.00 to 14.50; (0.043 µm)	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02

d10	0.92	0.91	0.88	1.04	1.03	1.02	0.79	0.78	0.78
d50	9.91	9.80	9.67	10.24	10.14	10.05	9.66	9.50	9.41
d90	54.52	53.03	50.35	55.80	53.72	52.00	57.80	54.69	53.22

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	0.90	0.02	2.22	1.03	0.01	1.00	0.78	0.01	1.12
d50	9.79	0.12	1.24	10.15	0.09	0.93	9.52	0.13	1.33
d90	52.63	2.11	4.01	53.84	1.90	3.53	55.23	2.34	4.23

**APPENDIX 1.** Benchmark laser replicate data for sediment distributed as PS76.

	Replicate Sample 4								
	Subsample 1			Subsample 2			Subsample 3		
	Run 1a	Run 1b	Run 1c	Run 2a	Run 2b	Run 2c	Run 3a	Run 3b	Run 3c
0.00 to 0.50; (707 µm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.50 to 1.00; (500 µm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00 to 1.50; (353.6 µm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.50 to 2.00; (250 µm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00 to 2.50; (176.8 µm)	0.35	0.15	0.38	0.02	0.03	0.05	0.13	0.04	0.05
2.50 to 3.00; (125 µm)	1.61	1.14	1.36	1.47	1.52	1.52	1.73	1.37	1.28
3.00 to 3.50; (88.39 µm)	2.45	2.32	2.60	3.25	3.17	2.97	3.16	3.06	2.88
3.50 to 4.00; (62.5 µm)	2.80	2.67	2.87	3.04	3.07	2.84	3.50	3.38	3.35
4.00 to 4.50; (44.19 µm)	4.03	4.04	4.16	3.93	3.92	3.85	4.17	4.13	4.11
4.50 to 5.00; (31.25 µm)	5.06	5.00	4.90	5.97	5.92	5.92	5.11	5.08	5.08
5.00 to 5.50; (22.097 µm)	6.62	6.68	6.67	7.47	7.49	7.48	6.67	6.66	6.61
5.50 to 6.00; (15.625 µm)	8.51	8.58	8.39	9.53	9.52	9.56	8.67	8.68	8.66
6.00 to 6.50; (11.049 µm)	10.80	10.88	10.66	11.54	11.54	11.61	10.69	10.75	10.77
6.50 to 7.00; (7.813 µm)	11.30	11.41	11.18	11.33	11.34	11.42	10.86	10.97	11.01
7.00 to 7.50; (5.524 µm)	10.43	10.58	10.37	10.00	10.02	10.10	9.89	10.01	10.07
7.50 to 8.00; (3.906 µm)	8.63	8.79	8.66	8.04	8.06	8.13	8.17	8.29	8.35
8.00 to 8.50; (2.762 µm)	6.25	6.38	6.36	5.75	5.77	5.82	5.97	6.06	6.11
8.50 to 9.00; (1.953 µm)	4.18	4.27	4.41	3.85	3.86	3.89	3.98	4.05	4.09
9.00 to 9.50; (1.381 µm)	2.77	2.83	2.99	2.58	2.58	2.61	2.59	2.65	2.68
9.50 to 10.00; (0.977 µm)	1.97	2.01	2.02	1.86	1.85	1.87	1.87	1.92	1.94
10.00 to 10.50; (0.691 µm)	1.88	1.90	1.82	1.68	1.67	1.68	1.92	1.94	1.96
10.50 to 11.00; (0.488 µm)	2.26	2.28	2.26	1.88	1.86	1.87	2.41	2.43	2.44
11.00 to 11.50; (0.345 µm)	2.56	2.58	2.67	2.05	2.03	2.03	2.76	2.77	2.78
11.50 to 12.00; (0.244 µm)	2.34	2.35	2.45	1.88	1.87	1.87	2.51	2.53	2.53
12.00 to 12.50; (0.173 µm)	1.62	1.62	1.60	1.36	1.37	1.37	1.69	1.70	1.71
12.50 to 13.00; (0.122 µm)	0.95	0.95	0.84	0.87	0.88	0.89	0.97	0.97	0.98
13.00 to 13.50; (0.086 µm)	0.45	0.44	0.31	0.46	0.47	0.47	0.43	0.43	0.44
13.50 to 14.00; (0.061 µm)	0.14	0.13	0.06	0.16	0.16	0.17	0.12	0.12	0.12
14.00 to 14.50; (0.043 µm)	0.02	0.02	0.01	0.02	0.02	0.02	0.01	0.01	0.01

d10	0.66	0.65	0.67	0.91	0.91	0.91	0.61	0.60	0.60
d50	8.71	8.52	8.62	9.84	9.83	9.73	9.08	8.90	8.81
d90	49.21	45.38	49.51	51.42	51.39	49.36	55.30	52.19	50.91

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	0.66	0.01	1.33	0.91	0.00	0.32	0.60	0.00	0.69
d50	8.62	0.09	1.08	9.80	0.06	0.65	8.93	0.14	1.55
d90	48.03	2.30	4.79	50.72	1.18	2.33	52.80	2.26	4.28

**APPENDIX 1.** Benchmark laser replicate data for sediment distributed as PS76.

	Replicate Sample 5								
	Subsample 1			Subsample 2			Subsample 3		
	Run 1a	Run 1b	Run 1c	Run 2a	Run 2b	Run 2c	Run 3a	Run 3b	Run 3c
0.00 to 0.50; (707 μm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.50 to 1.00; (500 μm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00 to 1.50; (353.6 μm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.50 to 2.00; (250 μm)	0.01	0.01	0.01	0.00	0.00	0.00	0.03	0.05	0.00
2.00 to 2.50; (176.8 μm)	0.74	0.74	0.69	0.22	0.09	0.08	0.82	0.84	0.54
2.50 to 3.00; (125 μm)	2.41	2.34	2.08	2.09	1.89	1.78	2.20	2.26	2.00
3.00 to 3.50; (88.39 μm)	3.83	3.58	3.48	3.87	3.90	3.69	3.21	2.99	2.93
3.50 to 4.00; (62.5 μm)	3.59	3.56	3.47	3.76	3.64	3.55	3.59	3.45	3.51
4.00 to 4.50; (44.19 μm)	4.19	4.23	4.15	4.75	4.75	4.76	4.06	4.20	4.05
4.50 to 5.00; (31.25 μm)	5.72	5.65	5.62	5.83	5.76	5.72	5.73	5.80	5.78
5.00 to 5.50; (22.097 μm)	6.90	6.89	6.90	7.23	7.20	7.17	6.79	6.83	6.87
5.50 to 6.00; (15.625 μm)	8.89	8.86	8.89	9.13	9.16	9.17	8.86	8.82	8.94
6.00 to 6.50; (11.049 μm)	10.84	10.86	10.92	10.75	10.79	10.83	11.06	11.01	11.17
6.50 to 7.00; (7.813 μm)	10.84	10.89	10.97	10.58	10.65	10.71	11.03	10.87	11.11
7.00 to 7.50; (5.524 μm)	9.68	9.76	9.85	9.40	9.48	9.56	9.78	9.65	9.93
7.50 to 8.00; (3.906 μm)	7.84	7.91	8.01	7.61	7.70	7.78	7.88	7.89	8.08
8.00 to 8.50; (2.762 μm)	5.60	5.66	5.74	5.47	5.55	5.62	5.64	5.77	5.80
8.50 to 9.00; (1.953 μm)	3.70	3.74	3.79	3.64	3.70	3.75	3.73	3.91	3.83
9.00 to 9.50; (1.381 μm)	2.40	2.44	2.47	2.37	2.41	2.45	2.47	2.60	2.51
9.50 to 10.00; (0.977 μm)	1.70	1.72	1.74	1.68	1.71	1.74	1.82	1.84	1.80
10.00 to 10.50; (0.691 μm)	1.67	1.68	1.69	1.68	1.69	1.71	1.80	1.77	1.78
10.50 to 11.00; (0.488 μm)	2.05	2.07	2.08	2.11	2.11	2.12	2.13	2.17	2.18
11.00 to 11.50; (0.345 μm)	2.36	2.37	2.39	2.45	2.45	2.44	2.36	2.47	2.47
11.50 to 12.00; (0.244 μm)	2.17	2.18	2.19	2.27	2.27	2.26	2.13	2.22	2.20
12.00 to 12.50; (0.173 μm)	1.49	1.49	1.49	1.58	1.58	1.57	1.47	1.44	1.42
12.50 to 13.00; (0.122 μm)	0.87	0.86	0.85	0.93	0.93	0.94	0.87	0.76	0.74
13.00 to 13.50; (0.086 μm)	0.40	0.39	0.38	0.43	0.44	0.44	0.42	0.30	0.28
13.50 to 14.00; (0.061 μm)	0.12	0.11	0.11	0.13	0.13	0.14	0.13	0.07	0.06
14.00 to 14.50; (0.043 μm)	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.01	0.01

d10	0.77	0.77	0.76	0.70	0.70	0.70	0.76	0.77	0.78
d50	10.07	9.95	9.81	10.23	10.08	9.95	9.85	9.81	9.69
d90	66.08	63.96	61.14	62.23	60.33	58.55	61.67	60.43	57.30

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	0.77	0.00	0.62	0.70	0.00	0.05	0.77	0.01	1.45
d50	9.95	0.13	1.33	10.08	0.14	1.40	9.78	0.08	0.83
d90	63.73	2.47	3.88	60.37	1.84	3.05	59.80	2.25	3.77

**APPENDIX 2.** Gradistat output of size categories based on final merged data provided by each participant and the Benchmark Average for sediment distributed as PS76 (used to create Figure 7).

	BM Average	PSA_2701	PSA_2702_v2	PSA_2703	PSA_2704	PSA_2705	PSA_2706	PSA_2707	PSA_2708	PSA_2709
VERY COARSE GRAVEL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COARSE GRAVEL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEDIUM GRAVEL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FINE GRAVEL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VERY FINE GRAVEL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VERY COARSE SAND	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
COARSE SAND	0.00	0.05	0.20	0.01	0.00	0.01	0.16	0.22	0.00	0.00
MEDIUM SAND	0.00	1.28	1.46	0.19	0.14	0.60	1.01	0.16	0.00	0.00
FINE SAND	1.88	3.70	4.15	0.69	5.11	3.99	3.83	0.55	0.62	0.92
VERY FINE SAND	6.05	7.79	7.90	2.79	3.79	8.20	8.12	0.35	4.53	5.15
VERY COARSE SILT	9.67	12.03	11.57	15.62	10.51	12.24	11.54	13.74	8.65	7.76
COARSE SILT	16.08	19.32	18.98	27.03	16.69	20.22	17.10	24.05	18.34	14.47
MEDIUM SILT	22.60	24.44	24.20	21.02	20.51	24.41	21.07	17.11	26.49	21.56
FINE SILT	18.29	19.53	18.50	14.89	19.45	19.16	18.24	17.04	22.47	20.73
VERY FINE SILT	9.76	9.47	8.14	10.18	9.81	9.46	10.60	11.91	11.18	12.89
CLAY	15.66	2.40	4.89	7.57	14.00	1.70	8.30	14.86	7.72	16.52
GRAVEL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SAND	7.93	12.81	13.71	3.68	9.03	12.80	13.15	1.28	5.15	6.07
SILT	76.41	84.79	81.40	88.75	76.96	85.49	78.55	83.86	87.13	77.41
CLAY	15.66	2.40	4.89	7.57	14.00	1.70	8.30	14.86	7.72	16.52

**APPENDIX 2.** Gradistat output of size categories based on final merged data provided by each participant and the Benchmark Average for sediment distributed as PS76 (used to create Figure 7).

	BM Average	PSA_2710	PSA_2711	PSA_2712	PSA_2713_v2	PSA_2714_v2	PSA_2715	PSA_2716	PSA_2717
VERY COARSE GRAVEL	0.00	n/p	0.00	0.00	0.00	0.00	0.00	n/p	0.00
COARSE GRAVEL	0.00	n/p	0.00	0.00	0.00	0.00	0.00	n/p	0.00
MEDIUM GRAVEL	0.00	n/p	0.00	0.00	0.00	0.00	0.00	n/p	0.00
FINE GRAVEL	0.00	n/p	0.00	0.00	0.00	0.00	0.00	n/p	0.00
VERY FINE GRAVEL	0.00	n/p	0.00	0.00	0.00	0.00	0.00	n/p	0.00
VERY COARSE SAND	0.00	n/p	0.00	0.00	0.00	0.00	0.00	n/p	0.00
COARSE SAND	0.00	n/p	0.00	0.04	0.00	0.00	0.00	n/p	0.07
MEDIUM SAND	0.00	n/p	0.00	0.69	0.00	0.54	0.01	n/p	0.98
FINE SAND	1.88	n/p	2.07	3.73	3.95	3.76	1.86	n/p	3.71
VERY FINE SAND	6.05	n/p	5.36	9.08	7.97	13.26	5.42	n/p	8.27
VERY COARSE SILT	9.67	n/p	8.95	11.79	8.10	20.07	9.06	n/p	11.57
COARSE SILT	16.08	n/p	15.75	18.81	13.98	18.34	15.82	n/p	19.12
MEDIUM SILT	22.60	n/p	22.29	22.95	16.71	15.66	22.88	n/p	23.71
FINE SILT	18.29	n/p	21.91	18.42	18.55	12.51	18.72	n/p	18.39
VERY FINE SILT	9.76	n/p	14.40	9.37	11.53	8.74	10.03	n/p	9.22
CLAY	15.66	n/p	9.27	5.12	19.20	7.08	16.20	n/p	4.97
GRAVEL	0.00	n/p	0.00	0.00	0.00	0.00	0.00	n/p	0.00
SAND	7.93	n/p	7.43	13.54	11.93	17.56	7.29	n/p	13.03
SILT	76.41	n/p	83.30	81.34	68.87	75.32	76.51	n/p	82.00
CLAY	15.66	n/p	9.27	5.12	19.20	7.08	16.20	n/p	4.97

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



**APPENDIX 3.** Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS76.

Exercise Code:	PS76	
LabCode:	PSA_2701	
Sample Code:	PS762701	
Phi interval (explicit)	Percentage	Grams
+ sieve mesh (theoretical sieves shown in brackets)	(mark as "0" for no material & leave blank for not analysed)	
-6.50 to -6.00; 63 mm		
-6.00 to -5.50; 45 mm		
-5.50 to -5.00; 31.5 mm		
-5.00 to -4.50; 22.4 mm		
-4.50 to -4.00; 16 mm		
-4.00 to -3.50; 11.2 mm		
-3.50 to -3.00; 8 mm		
-3.00 to -2.50; 5.6 mm		
-2.50 to -2.00; 4 mm		
-2.00 to -1.50; 2.8 mm		
-1.50 to -1.00; 2 mm		
-1.00 to -0.50; 1.4 mm		
-0.50 to 0.00; 1 mm		
0.00 to 0.50; (707 µm)	0.00	
0.50 to 1.00; (500 µm)	0.05	
1.00 to 1.50; (353.6 µm)	0.39	
1.50 to 2.00; (250 µm)	0.89	
2.00 to 2.50; (176.8 µm)	1.43	
2.50 to 3.00; (125 µm)	2.27	
3.00 to 3.50; (88.39 µm)	3.38	
3.50 to 4.00; (62.5 µm)	4.40	
4.00 to 4.50; (44.19 µm)	5.34	
4.50 to 5.00; (31.25 µm)	6.69	
5.00 to 5.50; (22.097 µm)	8.66	
5.50 to 6.00; (15.625 µm)	10.66	
6.00 to 6.50; (11.049 µm)	12.10	
6.50 to 7.00; (7.813 µm)	12.34	
7.00 to 7.50; (5.524 µm)	11.03	
7.50 to 8.00; (3.906 µm)	8.50	
8.00 to 8.50; (2.762 µm)	5.97	
8.50 to 9.00; (1.953 µm)	3.50	
9.00 to 9.50; (1.381 µm)	1.15	
9.50 to 10.00; (0.977 µm)	0.06	
10.00 to 10.50; (0.691 µm)	0.47	
10.50 to 11.00; (0.488 µm)	0.59	
11.00 to 11.50; (0.345 µm)	0.13	
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)		
<b>TOTAL</b>	<b>100.00</b>	
Notes:		

**APPENDIX 3.** Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS76.

Exercise Code:	PS76	
LabCode:	PSA_2702_v2	
Sample Code:	PS762_v2	
Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Original (%) (mark as "0" for no material & leave blank for not analysed)	Re-submitted (%)
-6.50 to -6.00; 63 mm	0.00	0.00
-6.00 to -5.50; 45 mm	0.00	0.00
-5.50 to -5.00; 31.5 mm	0.00	0.00
-5.00 to -4.50; 22.4 mm	0.00	0.00
-4.50 to -4.00; 16 mm	0.00	0.00
-4.00 to -3.50; 11.2 mm	0.00	0.00
-3.50 to -3.00; 8 mm	0.00	0.00
-3.00 to -2.50; 5.6 mm	0.00	0.00
-2.50 to -2.00; 4 mm	0.00	0.00
-2.00 to -1.50; 2.8 mm	0.00	0.00
-1.50 to -1.00; 2 mm	0.00	0.00
-1.00 to -0.50; 1.4 mm	0.00	0.00
-0.50 to 0.00; 1 mm	0.00	0.00
0.00 to 0.50; (707 µm)	0.18	0.00
0.50 to 1.00; (500 µm)	1.00	0.20
1.00 to 1.50; (353.6 µm)	1.67	0.57
1.50 to 2.00; (250 µm)	1.91	0.89
2.00 to 2.50; (176.8 µm)	2.55	1.55
2.50 to 3.00; (125 µm)	3.69	2.60
3.00 to 3.50; (88.39 µm)	4.66	3.59
3.50 to 4.00; (62.5 µm)	5.07	4.31
4.00 to 4.50; (44.19 µm)	5.44	5.11
4.50 to 5.00; (31.25 µm)	6.45	6.46
5.00 to 5.50; (22.097 µm)	8.19	8.43
5.50 to 6.00; (15.625 µm)	9.94	10.55
6.00 to 6.50; (11.049 µm)	10.85	12.05
6.50 to 7.00; (7.813 µm)	10.48	12.15
7.00 to 7.50; (5.524 µm)	8.91	10.58
7.50 to 8.00; (3.906 µm)	6.71	7.92
8.00 to 8.50; (2.762 µm)	4.52	5.12
8.50 to 9.00; (1.953 µm)	2.85	3.02
9.00 to 9.50; (1.381 µm)	1.76	1.75
9.50 to 10.00; (0.977 µm)	1.24	1.21
10.00 to 10.50; (0.691 µm)	1.06	1.06
10.50 to 11.00; (0.488 µm)	0.73	0.73
11.00 to 11.50; (0.345 µm)	0.15	0.15
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)		
<b>TOTAL</b>	<b>100.00</b>	<b>100.00</b>
<p>APEM Note: No data in the "Final Merged" tab therefore data copied from the "Final Laser" tab as no greater than 1mm sediment present.                  Right column is data re-submitted after the Interim Report.</p>		

**APPENDIX 3.** Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS76.

Exercise Code:	PS76	
LabCode:	PSA_2703	
Sample Code:	PS762703	
Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Original (%) (mark as "0" for no material & leave blank for not analysed)	Re-submitted (%)
-6.50 to -6.00; 63 mm		
-6.00 to -5.50; 45 mm		
-5.50 to -5.00; 31.5 mm		
-5.00 to -4.50; 22.4 mm		
-4.50 to -4.00; 16 mm		
-4.00 to -3.50; 11.2 mm		
-3.50 to -3.00; 8 mm		
-3.00 to -2.50; 5.6 mm		
-2.50 to -2.00; 4 mm		
-2.00 to -1.50; 2.8 mm		
-1.50 to -1.00; 2 mm		
-1.00 to -0.50; 1.4 mm		
-0.50 to 0.00; 1 mm		
0.00 to 0.50; (707 µm)	0.00	0.00
0.50 to 1.00; (500 µm)	0.00	0.01
1.00 to 1.50; (353.6 µm)	0.03	0.05
1.50 to 2.00; (250 µm)	0.08	0.15
2.00 to 2.50; (176.8 µm)	0.15	0.28
2.50 to 3.00; (125 µm)	0.22	0.41
3.00 to 3.50; (88.39 µm)	0.40	0.74
3.50 to 4.00; (62.5 µm)	1.10	2.05
4.00 to 4.50; (44.19 µm)	2.91	5.43
4.50 to 5.00; (31.25 µm)	5.46	10.19
5.00 to 5.50; (22.097 µm)	7.22	13.48
5.50 to 6.00; (15.625 µm)	7.26	13.55
6.00 to 6.50; (11.049 µm)	6.20	11.58
6.50 to 7.00; (7.813 µm)	5.06	9.44
7.00 to 7.50; (5.524 µm)	4.27	7.96
7.50 to 8.00; (3.906 µm)	3.71	6.93
8.00 to 8.50; (2.762 µm)	3.12	5.82
8.50 to 9.00; (1.953 µm)	2.33	4.36
9.00 to 9.50; (1.381 µm)	1.51	2.82
9.50 to 10.00; (0.977 µm)	1.02	1.91
10.00 to 10.50; (0.691 µm)	0.86	1.60
10.50 to 11.00; (0.488 µm)	0.58	1.08
11.00 to 11.50; (0.345 µm)	0.09	0.16
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
<b>TOTAL</b>	<b>53.57</b>	<b>100.00</b>
Notes: Right column is data re-submitted after the Interim Report.		

**APPENDIX 3.** Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS76.

Exercise Code:	PS76	
LabCode:	PSA_2704	
Sample Code:	PS762704	
Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material & leave blank for not analysed)	Grams
-6.50 to -6.00; 63 mm	0.00	
-6.00 to -5.50; 45 mm	0.00	
-5.50 to -5.00; 31.5 mm	0.00	
-5.00 to -4.50; 22.4 mm	0.00	
-4.50 to -4.00; 16 mm	0.00	
-4.00 to -3.50; 11.2 mm	0.00	
-3.50 to -3.00; 8 mm	0.00	
-3.00 to -2.50; 5.6 mm	0.00	
-2.50 to -2.00; 4 mm	0.00	
-2.00 to -1.50; 2.8 mm	0.00	
-1.50 to -1.00; 2 mm	0.00	
-1.00 to -0.50; 1.4 mm	0.00	
-0.50 to 0.00; 1 mm	0.00	
0.00 to 0.50; (707 µm)	0.00	
0.50 to 1.00; (500 µm)	0.00	
1.00 to 1.50; (353.6 µm)	0.00	
1.50 to 2.00; (250 µm)	0.14	
2.00 to 2.50; (176.8 µm)	0.87	
2.50 to 3.00; (125 µm)	4.24	
3.00 to 3.50; (88.39 µm)	3.43	
3.50 to 4.00; (62.5 µm)	0.35	
4.00 to 4.50; (44.19 µm)	3.95	
4.50 to 5.00; (31.25 µm)	6.55	
5.00 to 5.50; (22.097 µm)	7.78	
5.50 to 6.00; (15.625 µm)	8.91	
6.00 to 6.50; (11.049 µm)	9.70	
6.50 to 7.00; (7.813 µm)	10.81	
7.00 to 7.50; (5.524 µm)	10.63	
7.50 to 8.00; (3.906 µm)	8.83	
8.00 to 8.50; (2.762 µm)	6.05	
8.50 to 9.00; (1.953 µm)	3.76	
9.00 to 9.50; (1.381 µm)	2.58	
9.50 to 10.00; (0.977 µm)	2.12	
10.00 to 10.50; (0.691 µm)	1.93	
10.50 to 11.00; (0.488 µm)	1.81	
11.00 to 11.50; (0.345 µm)	1.66	
11.50 to 12.00; (0.244 µm)	1.41	
12.00 to 12.50; (0.173 µm)	1.06	
12.50 to 13.00; (0.122 µm)	0.77	
13.00 to 13.50; (0.086 µm)	0.47	
13.50 to 14.00; (0.061µm)	0.18	
14.00 to 14.50; (0.043µm)	0.02	
> 14.50; (0.01 µm)	0.00	
<b>TOTAL</b>	<b>100.00</b>	
Notes:		

**APPENDIX 3.** Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS76.

Exercise Code:	PS76	
LabCode:	PSA_2705	
Sample Code:	PS762705	
Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material & leave blank for not analysed)	Grams
-6.50 to -6.00; 63 mm	0.00	
-6.00 to -5.50; 45 mm	0.00	
-5.50 to -5.00; 31.5 mm	0.00	
-5.00 to -4.50; 22.4 mm	0.00	
-4.50 to -4.00; 16 mm	0.00	
-4.00 to -3.50; 11.2 mm	0.00	
-3.50 to -3.00; 8 mm	0.00	
-3.00 to -2.50; 5.6 mm	0.00	
-2.50 to -2.00; 4 mm	0.00	
-2.00 to -1.50; 2.8 mm	0.00	
-1.50 to -1.00; 2 mm	0.00	
-1.00 to -0.50; 1.4 mm	0.00	
-0.50 to 0.00; 1 mm	0.00	
0.00 to 0.50; (707 µm)	0.00	
0.50 to 1.00; (500 µm)	0.01	
1.00 to 1.50; (353.6 µm)	0.11	
1.50 to 2.00; (250 µm)	0.50	
2.00 to 2.50; (176.8 µm)	1.30	
2.50 to 3.00; (125 µm)	2.69	
3.00 to 3.50; (88.39 µm)	3.52	
3.50 to 4.00; (62.5 µm)	4.68	
4.00 to 4.50; (44.19 µm)	5.17	
4.50 to 5.00; (31.25 µm)	7.07	
5.00 to 5.50; (22.097 µm)	9.04	
5.50 to 6.00; (15.625 µm)	11.18	
6.00 to 6.50; (11.049 µm)	12.31	
6.50 to 7.00; (7.813 µm)	12.10	
7.00 to 7.50; (5.524 µm)	10.71	
7.50 to 8.00; (3.906 µm)	8.45	
8.00 to 8.50; (2.762 µm)	5.91	
8.50 to 9.00; (1.953 µm)	3.55	
9.00 to 9.50; (1.381 µm)	1.55	
9.50 to 10.00; (0.977 µm)	0.15	
10.00 to 10.50; (0.691 µm)	0.00	
10.50 to 11.00; (0.488 µm)	0.00	
11.00 to 11.50; (0.345 µm)	0.00	
11.50 to 12.00; (0.244 µm)		
12.00 to 12.50; (0.173 µm)		
12.50 to 13.00; (0.122 µm)		
13.00 to 13.50; (0.086 µm)		
13.50 to 14.00; (0.061µm)		
14.00 to 14.50; (0.043µm)		
> 14.50; (0.01 µm)		
<b>TOTAL</b>	<b>100.00</b>	
Notes:		

**APPENDIX 3.** Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS76.

Exercise Code:	PS76	
LabCode:	PSA_2706	
Sample Code:	PS762706	
Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material & leave blank for not analysed)	Grams
-6.50 to -6.00; 63 mm	0.00	0.00
-6.00 to -5.50; 45 mm	0.00	0.00
-5.50 to -5.00; 31.5 mm	0.00	0.00
-5.00 to -4.50; 22.4 mm	0.00	0.00
-4.50 to -4.00; 16 mm	0.00	0.00
-4.00 to -3.50; 11.2 mm	0.00	0.00
-3.50 to -3.00; 8 mm	0.00	0.00
-3.00 to -2.50; 5.6 mm	0.00	0.00
-2.50 to -2.00; 4 mm	0.00	0.00
-2.00 to -1.50; 2.8 mm	0.00	0.00
-1.50 to -1.00; 2 mm	0.00	0.00
-1.00 to -0.50; 1.4 mm	0.01	0.01
-0.50 to 0.00; 1 mm	0.00	0.00
0.00 to 0.50; (707 µm)	0.01	0.00
0.50 to 1.00; (500 µm)	0.16	0.08
1.00 to 1.50; (353.6 µm)	0.37	0.19
1.50 to 2.00; (250 µm)	0.64	0.33
2.00 to 2.50; (176.8 µm)	1.34	0.69
2.50 to 3.00; (125 µm)	2.49	1.28
3.00 to 3.50; (88.39 µm)	3.64	1.87
3.50 to 4.00; (62.5 µm)	4.48	2.30
4.00 to 4.50; (44.19 µm)	5.24	2.69
4.50 to 5.00; (31.25 µm)	6.30	3.24
5.00 to 5.50; (22.097 µm)	7.78	4.00
5.50 to 6.00; (15.625 µm)	9.32	4.79
6.00 to 6.50; (11.049 µm)	10.42	5.35
6.50 to 7.00; (7.813 µm)	10.65	5.47
7.00 to 7.50; (5.524 µm)	9.90	5.09
7.50 to 8.00; (3.906 µm)	8.34	4.28
8.00 to 8.50; (2.762 µm)	6.30	3.24
8.50 to 9.00; (1.953 µm)	4.30	2.21
9.00 to 9.50; (1.381 µm)	2.80	1.44
9.50 to 10.00; (0.977 µm)	2.04	1.05
10.00 to 10.50; (0.691 µm)	1.73	0.89
10.50 to 11.00; (0.488 µm)	1.29	0.66
11.00 to 11.50; (0.345 µm)	0.43	0.22
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)		
> 14.50; (0.01 µm)		
<b>TOTAL</b>	<b>100.00</b>	<b>51.37</b>
Notes:		

**APPENDIX 3.** Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS76.

Exercise Code:	PS76	
LabCode:	PSA_2707	
Sample Code:	PS762707	
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)	0.01	
0.50 to 1.00; (500 µm)	0.21	
1.00 to 1.50; (353.6 µm)	0.15	
1.50 to 2.00; (250 µm)	0.02	
2.00 to 2.50; (176.8 µm)	0.27	
2.50 to 3.00; (125 µm)	0.28	
3.00 to 3.50; (88.39 µm)	0.11	
3.50 to 4.00; (62.5 µm)	0.24	
4.00 to 4.50; (44.19 µm)	3.48	
4.50 to 5.00; (31.25 µm)	10.26	
5.00 to 5.50; (22.097 µm)	12.81	
5.50 to 6.00; (15.625 µm)	11.24	
6.00 to 6.50; (11.049 µm)	7.49	
6.50 to 7.00; (7.813 µm)	9.62	
7.00 to 7.50; (5.524 µm)	8.99	
7.50 to 8.00; (3.906 µm)	8.06	
8.00 to 8.50; (2.762 µm)	6.78	
8.50 to 9.00; (1.953 µm)	5.14	
9.00 to 9.50; (1.381 µm)	3.44	
9.50 to 10.00; (0.977 µm)	2.12	
10.00 to 10.50; (0.691 µm)	1.11	
10.50 to 11.00; (0.488 µm)	1.34	
11.00 to 11.50; (0.345 µm)	1.53	
11.50 to 12.00; (0.244 µm)	1.75	
12.00 to 12.50; (0.173 µm)	1.74	
12.50 to 13.00; (0.122 µm)	1.30	
13.00 to 13.50; (0.086 µm)	0.52	
13.50 to 14.00; (0.061µm)		
14.00 to 14.50; (0.043µm)		
> 14.50; (0.01 µm)		
<b>TOTAL</b>	<b>100.00</b>	
Notes:		

**APPENDIX 3.** Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS76.

Exercise Code:	PS76	
LabCode:	PSA_2708	
Sample Code:	PS762708	
Phi interval (explicit)	Percentage	Grams
+ sieve mesh (theoretical sieves shown in brackets)	(mark as "0" for no material & leave blank for not analysed)	
-6.50 to -6.00; 63 mm	0.00	
-6.00 to -5.50; 45 mm	0.00	
-5.50 to -5.00; 31.5 mm	0.00	
-5.00 to -4.50; 22.4 mm	0.00	
-4.50 to -4.00; 16 mm	0.00	
-4.00 to -3.50; 11.2 mm	0.00	
-3.50 to -3.00; 8 mm	0.00	
-3.00 to -2.50; 5.6 mm	0.00	
-2.50 to -2.00; 4 mm	0.00	
-2.00 to -1.50; 2.8 mm	0.00	
-1.50 to -1.00; 2 mm	0.00	
-1.00 to -0.50; 1.4 mm	0.00	
-0.50 to 0.00; 1 mm	0.00	
0.00 to 0.50; (707 µm)	0.00	
0.50 to 1.00; (500 µm)	0.00	
1.00 to 1.50; (353.6 µm)	0.00	
1.50 to 2.00; (250 µm)	0.00	
2.00 to 2.50; (176.8 µm)	0.00	
2.50 to 3.00; (125 µm)	0.62	
3.00 to 3.50; (88.39 µm)	1.73	
3.50 to 4.00; (62.5 µm)	2.80	
4.00 to 4.50; (44.19 µm)	3.73	
4.50 to 5.00; (31.25 µm)	4.93	
5.00 to 5.50; (22.097 µm)	7.86	
5.50 to 6.00; (15.625 µm)	10.48	
6.00 to 6.50; (11.049 µm)	12.98	
6.50 to 7.00; (7.813 µm)	13.50	
7.00 to 7.50; (5.524 µm)	12.57	
7.50 to 8.00; (3.906 µm)	9.90	
8.00 to 8.50; (2.762 µm)	6.78	
8.50 to 9.00; (1.953 µm)	4.40	
9.00 to 9.50; (1.381 µm)	2.75	
9.50 to 10.00; (0.977 µm)	1.76	
10.00 to 10.50; (0.691 µm)	1.67	
10.50 to 11.00; (0.488 µm)	1.15	
11.00 to 11.50; (0.345 µm)	0.38	
11.50 to 12.00; (0.244 µm)	0.00	
12.00 to 12.50; (0.173 µm)	0.00	
12.50 to 13.00; (0.122 µm)	0.00	
13.00 to 13.50; (0.086 µm)	0.00	
13.50 to 14.00; (0.061µm)		
14.00 to 14.50; (0.043µm)		
> 14.50; (0.01 µm)		
<b>TOTAL</b>	<b>100.00</b>	
Notes:		



**APPENDIX 3.** Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS76.

Exercise Code:	PS76	
LabCode:	PSA_2709	
Sample Code:	PS762709	
Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material & leave blank for not analysed)	Grams
-6.50 to -6.00; 63 mm		
-6.00 to -5.50; 45 mm		
-5.50 to -5.00; 31.5 mm		
-5.00 to -4.50; 22.4 mm		
-4.50 to -4.00; 16 mm		
-4.00 to -3.50; 11.2 mm		
-3.50 to -3.00; 8 mm		
-3.00 to -2.50; 5.6 mm		
-2.50 to -2.00; 4 mm		
-2.00 to -1.50; 2.8 mm		
-1.50 to -1.00; 2 mm		
-1.00 to -0.50; 1.4 mm		
-0.50 to 0.00; 1 mm		
0.00 to 0.50; (707 µm)	0.00	
0.50 to 1.00; (500 µm)	0.00	
1.00 to 1.50; (353.6 µm)	0.00	
1.50 to 2.00; (250 µm)	0.00	
2.00 to 2.50; (176.8 µm)	0.12	
2.50 to 3.00; (125 µm)	0.80	
3.00 to 3.50; (88.39 µm)	2.75	
3.50 to 4.00; (62.5 µm)	2.40	
4.00 to 4.50; (44.19 µm)	2.71	
4.50 to 5.00; (31.25 µm)	5.05	
5.00 to 5.50; (22.097 µm)	6.47	
5.50 to 6.00; (15.625 µm)	8.00	
6.00 to 6.50; (11.049 µm)	10.48	
6.50 to 7.00; (7.813 µm)	11.09	
7.00 to 7.50; (5.524 µm)	10.90	
7.50 to 8.00; (3.906 µm)	9.83	
8.00 to 8.50; (2.762 µm)	7.63	
8.50 to 9.00; (1.953 µm)	5.27	
9.00 to 9.50; (1.381 µm)	3.40	
9.50 to 10.00; (0.977 µm)	2.17	
10.00 to 10.50; (0.691 µm)	1.78	
10.50 to 11.00; (0.488 µm)	2.01	
11.00 to 11.50; (0.345 µm)	2.28	
11.50 to 12.00; (0.244 µm)	2.09	
12.00 to 12.50; (0.173 µm)	1.43	
12.50 to 13.00; (0.122 µm)	0.83	
13.00 to 13.50; (0.086 µm)	0.38	
13.50 to 14.00; (0.061µm)	0.11	
14.00 to 14.50; (0.043µm)	0.01	
> 14.50; (0.01 µm)	0.00	
<b>TOTAL</b>	<b>100.00</b>	
Notes: Dispersed with a few drops of 3% sodium hexametaphosphate (calgon), then 30 seconds ultrasonic treatment.		

**APPENDIX 3.** Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS76.

Exercise Code:	PS76	
LabCode:	PSA_2711	
Sample Code:	PS762711	
Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material & leave blank for not analysed)	Grams
-6.50 to -6.00; 63 mm		
-6.00 to -5.50; 45 mm		
-5.50 to -5.00; 31.5 mm		
-5.00 to -4.50; 22.4 mm		
-4.50 to -4.00; 16 mm		
-4.00 to -3.50; 11.2 mm		
-3.50 to -3.00; 8 mm		
-3.00 to -2.50; 5.6 mm		
-2.50 to -2.00; 4 mm		
-2.00 to -1.50; 2.8 mm		
-1.50 to -1.00; 2 mm		
-1.00 to -0.50; 1.4 mm		
-0.50 to 0.00; 1 mm		
0.00 to 0.50; (707 µm)	0.00	
0.50 to 1.00; (500 µm)	0.00	
1.00 to 1.50; (353.6 µm)	0.00	
1.50 to 2.00; (250 µm)	0.00	
2.00 to 2.50; (176.8 µm)	0.56	
2.50 to 3.00; (125 µm)	1.51	
3.00 to 3.50; (88.39 µm)	2.32	
3.50 to 4.00; (62.5 µm)	3.04	
4.00 to 4.50; (44.19 µm)	3.87	
4.50 to 5.00; (31.25 µm)	5.08	
5.00 to 5.50; (22.097 µm)	6.85	
5.50 to 6.00; (15.625 µm)	8.90	
6.00 to 6.50; (11.049 µm)	10.67	
6.50 to 7.00; (7.813 µm)	11.63	
7.00 to 7.50; (5.524 µm)	11.53	
7.50 to 8.00; (3.906 µm)	10.38	
8.00 to 8.50; (2.762 µm)	8.41	
8.50 to 9.00; (1.953 µm)	5.99	
9.00 to 9.50; (1.381 µm)	3.73	
9.50 to 10.00; (0.977 µm)	2.30	
10.00 to 10.50; (0.691 µm)	1.68	
10.50 to 11.00; (0.488 µm)	1.19	
11.00 to 11.50; (0.345 µm)	0.36	
11.50 to 12.00; (0.244 µm)	0.00	
12.00 to 12.50; (0.173 µm)	0.00	
12.50 to 13.00; (0.122 µm)	0.00	
13.00 to 13.50; (0.086 µm)	0.00	
13.50 to 14.00; (0.061µm)	0.00	
14.00 to 14.50; (0.043µm)	0.00	
> 14.50; (0.01 µm)	0.00	
<b>TOTAL</b>	<b>100.00</b>	
Notes:		

**APPENDIX 3.** Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS76.

Exercise Code:	PS76	
LabCode:	PSA_2712	
Sample Code:	PS762712	
Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage	Grams
	(mark as "0" for no material & leave blank for not analysed)	
-6.50 to -6.00; 63 mm	0.00	
-6.00 to -5.50; 45 mm	0.00	
-5.50 to -5.00; 31.5 mm	0.00	
-5.00 to -4.50; 22.4 mm	0.00	
-4.50 to -4.00; 16 mm	0.00	
-4.00 to -3.50; 11.2 mm	0.00	
-3.50 to -3.00; 8 mm	0.00	
-3.00 to -2.50; 5.6 mm	0.00	
-2.50 to -2.00; 4 mm	0.00	
-2.00 to -1.50; 2.8 mm	0.00	
-1.50 to -1.00; 2 mm	0.00	
-1.00 to -0.50; 1.4 mm	0.00	
-0.50 to 0.00; 1 mm	0.00	
0.00 to 0.50; (707 µm)	0.00	
0.50 to 1.00; (500 µm)	0.04	
1.00 to 1.50; (353.6 µm)	0.21	
1.50 to 2.00; (250 µm)	0.48	
2.00 to 2.50; (176.8 µm)	1.20	
2.50 to 3.00; (125 µm)	2.54	
3.00 to 3.50; (88.39 µm)	4.09	
3.50 to 4.00; (62.5 µm)	4.99	
4.00 to 4.50; (44.19 µm)	5.40	
4.50 to 5.00; (31.25 µm)	6.38	
5.00 to 5.50; (22.097 µm)	8.44	
5.50 to 6.00; (15.625 µm)	10.37	
6.00 to 6.50; (11.049 µm)	11.25	
6.50 to 7.00; (7.813 µm)	11.70	
7.00 to 7.50; (5.524 µm)	10.33	
7.50 to 8.00; (3.906 µm)	8.09	
8.00 to 8.50; (2.762 µm)	5.97	
8.50 to 9.00; (1.953 µm)	3.40	
9.00 to 9.50; (1.381 µm)	2.05	
9.50 to 10.00; (0.977 µm)	1.42	
10.00 to 10.50; (0.691 µm)	1.64	
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)		
<b>TOTAL</b>	<b>100.00</b>	
Notes:		

**APPENDIX 3.** Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS76.

Exercise Code:	PS76	
LabCode:	PSA_2713_v2	
Sample Code:	PS763_v2	
Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material & leave blank for not analysed)	Grams
-6.50 to -6.00; 63 mm	0.00	0.00
-6.00 to -5.50; 45 mm	0.00	0.00
-5.50 to -5.00; 31.5 mm	0.00	0.00
-5.00 to -4.50; 22.4 mm	0.00	0.00
-4.50 to -4.00; 16 mm	0.00	0.00
-4.00 to -3.50; 11.2 mm	0.00	0.00
-3.50 to -3.00; 8 mm	0.00	0.00
-3.00 to -2.50; 5.6 mm	0.00	0.00
-2.50 to -2.00; 4 mm	0.00	0.00
-2.00 to -1.50; 2.8 mm	0.00	0.00
-1.50 to -1.00; 2 mm	0.00	0.00
-1.00 to -0.50; 1.4 mm	0.00	0.00
-0.50 to 0.00; 1 mm	0.00	0.00
0.00 to 0.50; (707 µm)	0.00	0.00
0.50 to 1.00; (500 µm)	0.00	0.00
1.00 to 1.50; (353.6 µm)	0.00	0.00
1.50 to 2.00; (250 µm)	0.00	0.00
2.00 to 2.50; (176.8 µm)	0.70	0.33
2.50 to 3.00; (125 µm)	3.26	1.54
3.00 to 3.50; (88.39 µm)	3.98	1.88
3.50 to 4.00; (62.5 µm)	3.99	1.88
4.00 to 4.50; (44.19 µm)	4.10	1.93
4.50 to 5.00; (31.25 µm)	4.01	1.89
5.00 to 5.50; (22.097 µm)	7.53	3.55
5.50 to 6.00; (15.625 µm)	6.45	3.04
6.00 to 6.50; (11.049 µm)	6.98	3.29
6.50 to 7.00; (7.813 µm)	9.73	4.59
7.00 to 7.50; (5.524 µm)	10.03	4.73
7.50 to 8.00; (3.906 µm)	8.53	4.02
8.00 to 8.50; (2.762 µm)	6.53	3.08
8.50 to 9.00; (1.953 µm)	5.00	2.36
9.00 to 9.50; (1.381 µm)	3.86	1.82
9.50 to 10.00; (0.977 µm)	2.96	1.39
10.00 to 10.50; (0.691 µm)	2.47	1.16
10.50 to 11.00; (0.488 µm)	2.36	1.11
11.00 to 11.50; (0.345 µm)	2.31	1.09
11.50 to 12.00; (0.244 µm)	2.03	0.96
12.00 to 12.50; (0.173 µm)	1.47	0.70
12.50 to 13.00; (0.122 µm)	0.98	0.46
13.00 to 13.50; (0.086 µm)	0.54	0.26
13.50 to 14.00; (0.061µm)	0.20	0.09
14.00 to 14.50; (0.043µm)	0.02	0.01
> 14.50; (0.01 µm)	0.00	0.00
<b>TOTAL</b>	<b>100.00</b>	<b>47.18</b>
Notes: Data re-submitted after Interim report.		

**APPENDIX 3.** Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS76.

Exercise Code:	PS76	
LabCode:	PSA_2714_v2	
Sample Code:	PS764_v2	
Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Original (mark as "0" for no material & leave blank for not analysed)	Re-submitted
-6.50 to -6.00; 63 mm	0.00	
-6.00 to -5.50; 45 mm	0.00	
-5.50 to -5.00; 31.5 mm	0.00	
-5.00 to -4.50; 22.4 mm	0.00	
-4.50 to -4.00; 16 mm	0.00	
-4.00 to -3.50; 11.2 mm	0.00	
-3.50 to -3.00; 8 mm	0.00	
-3.00 to -2.50; 5.6 mm	0.00	
-2.50 to -2.00; 4 mm	0.00	
-2.00 to -1.50; 2.8 mm	0.00	
-1.50 to -1.00; 2 mm	0.00	
-1.00 to -0.50; 1.4 mm	0.00	
-0.50 to 0.00; 1 mm	0.00	
0.00 to 0.50; (707 µm)	0.00	0.00
0.50 to 1.00; (500 µm)	0.15	0.04
1.00 to 1.50; (353.6 µm)	0.49	0.08
1.50 to 2.00; (250 µm)	1.48	0.46
2.00 to 2.50; (176.8 µm)	2.89	1.20
2.50 to 3.00; (125 µm)	5.00	2.56
3.00 to 3.50; (88.39 µm)	7.74	5.15
3.50 to 4.00; (62.5 µm)	10.06	8.11
4.00 to 4.50; (44.19 µm)	10.93	9.93
4.50 to 5.00; (31.25 µm)	10.28	10.14
5.00 to 5.50; (22.097 µm)	8.90	9.52
5.50 to 6.00; (15.625 µm)	7.60	8.82
6.00 to 6.50; (11.049 µm)	6.65	8.19
6.50 to 7.00; (7.813 µm)	5.90	7.47
7.00 to 7.50; (5.524 µm)	5.18	6.67
7.50 to 8.00; (3.906 µm)	4.45	5.84
8.00 to 8.50; (2.762 µm)	3.68	4.93
8.50 to 9.00; (1.953 µm)	2.82	3.81
9.00 to 9.50; (1.381 µm)	1.98	2.62
9.50 to 10.00; (0.977 µm)	1.44	1.80
10.00 to 10.50; (0.691 µm)	1.23	1.41
10.50 to 11.00; (0.488 µm)	0.92	0.98
11.00 to 11.50; (0.345 µm)	0.25	0.27
11.50 to 12.00; (0.244 µm)	0.00	0.00
12.00 to 12.50; (0.173 µm)	0.00	
12.50 to 13.00; (0.122 µm)	0.00	
13.00 to 13.50; (0.086 µm)	0.00	
13.50 to 14.00; (0.061µm)		
14.00 to 14.50; (0.043µm)		
> 14.50; (0.01 µm)		
<b>TOTAL</b>	<b>100.00</b>	<b>100.00</b>
Notes: Right hand colon is re-submitted data after the Interim Report had been issued..		

**APPENDIX 3.** Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS76.

Exercise Code:	PS76	
LabCode:	PSA_2715	
Sample Code:	PS762715	
Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material & leave blank for not analysed)	Grams
-6.50 to -6.00; 63 mm		
-6.00 to -5.50; 45 mm		
-5.50 to -5.00; 31.5 mm		
-5.00 to -4.50; 22.4 mm		
-4.50 to -4.00; 16 mm		
-4.00 to -3.50; 11.2 mm		
-3.50 to -3.00; 8 mm		
-3.00 to -2.50; 5.6 mm		
-2.50 to -2.00; 4 mm		
-2.00 to -1.50; 2.8 mm		
-1.50 to -1.00; 2 mm		
-1.00 to -0.50; 1.4 mm		
-0.50 to 0.00; 1 mm		
0.00 to 0.50; (707 µm)	0.00	
0.50 to 1.00; (500 µm)	0.00	
1.00 to 1.50; (353.6 µm)	0.00	
1.50 to 2.00; (250 µm)	0.01	
2.00 to 2.50; (176.8 µm)	0.40	
2.50 to 3.00; (125 µm)	1.46	
3.00 to 3.50; (88.39 µm)	2.64	
3.50 to 4.00; (62.5 µm)	2.78	
4.00 to 4.50; (44.19 µm)	3.56	
4.50 to 5.00; (31.25 µm)	5.50	
5.00 to 5.50; (22.097 µm)	6.83	
5.50 to 6.00; (15.625 µm)	8.99	
6.00 to 6.50; (11.049 µm)	11.35	
6.50 to 7.00; (7.813 µm)	11.53	
7.00 to 7.50; (5.524 µm)	10.34	
7.50 to 8.00; (3.906 µm)	8.38	
8.00 to 8.50; (2.762 µm)	6.02	
8.50 to 9.00; (1.953 µm)	4.00	
9.00 to 9.50; (1.381 µm)	2.66	
9.50 to 10.00; (0.977 µm)	1.95	
10.00 to 10.50; (0.691 µm)	1.88	
10.50 to 11.00; (0.488 µm)	2.17	
11.00 to 11.50; (0.345 µm)	2.37	
11.50 to 12.00; (0.244 µm)	2.14	
12.00 to 12.50; (0.173 µm)	1.50	
12.50 to 13.00; (0.122 µm)	0.92	
13.00 to 13.50; (0.086 µm)	0.46	
13.50 to 14.00; (0.061µm)	0.15	
14.00 to 14.50; (0.043µm)	0.02	
> 14.50; (0.01 µm)	0.00	
<b>TOTAL</b>	<b>100.00</b>	
Notes: Dispersed with a few drops of 3% sodium hexametaphosphate (calgon), then 30 seconds ultrasonic treatment.		

**APPENDIX 3.** Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS76.

Exercise Code:	PS76	
LabCode:	PSA_2716	
Sample Code:	PS762716	
Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material & leave blank for not analysed)	Grams
-6.50 to -6.00; 63 mm		
-6.00 to -5.50; 45 mm		
-5.50 to -5.00; 31.5 mm		
-5.00 to -4.50; 22.4 mm		
-4.50 to -4.00; 16 mm		
-4.00 to -3.50; 11.2 mm		
-3.50 to -3.00; 8 mm		
-3.00 to -2.50; 5.6 mm		
-2.50 to -2.00; 4 mm		
-2.00 to -1.50; 2.8 mm		
-1.50 to -1.00; 2 mm		
-1.00 to -0.50; 1.4 mm		
-0.50 to 0.00; 1 mm		
0.00 to 0.50; (707 µm)	0.00	
0.50 to 1.00; (500 µm)	0.00	
1.00 to 1.50; (353.6 µm)	0.11	
1.50 to 2.00; (250 µm)	0.77	
2.00 to 2.50; (176.8 µm)	1.48	
2.50 to 3.00; (125 µm)	2.61	
3.00 to 3.50; (88.39 µm)	3.25	
3.50 to 4.00; (62.5 µm)	4.40	
4.00 to 4.50; (44.19 µm)	4.80	
4.50 to 5.00; (31.25 µm)	6.87	
5.00 to 5.50; (22.097 µm)	8.85	
5.50 to 6.00; (15.625 µm)	11.09	
6.00 to 6.50; (11.049 µm)	12.41	
6.50 to 7.00; (7.813 µm)	12.65	
7.00 to 7.50; (5.524 µm)	11.75	
7.50 to 8.00; (3.906 µm)	9.65	
8.00 to 8.50; (2.762 µm)	6.17	
8.50 to 9.00; (1.953 µm)	2.51	
9.00 to 9.50; (1.381 µm)	0.60	
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)		
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)		
<b>TOTAL</b>	<b>100.00</b>	
Notes:		

**APPENDIX 3.** Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS76.

Exercise Code:	PS76	
LabCode:	PSA_2717	
Sample Code:	PS762717	
Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage	Grams
	(mark as "0" for no material & leave blank for not analysed)	
-6.50 to -6.00; 63 mm		
-6.00 to -5.50; 45 mm		
-5.50 to -5.00; 31.5 mm		
-5.00 to -4.50; 22.4 mm		
-4.50 to -4.00; 16 mm		
-4.00 to -3.50; 11.2 mm		
-3.50 to -3.00; 8 mm		
-3.00 to -2.50; 5.6 mm		
-2.50 to -2.00; 4 mm		
-2.00 to -1.50; 2.8 mm		
-1.50 to -1.00; 2 mm		
-1.00 to -0.50; 1.4 mm		
-0.50 to 0.00; 1 mm		
0.00 to 0.50; (707 µm)	0.00	
0.50 to 1.00; (500 µm)	0.07	
1.00 to 1.50; (353.6 µm)	0.35	
1.50 to 2.00; (250 µm)	0.63	
2.00 to 2.50; (176.8 µm)	1.27	
2.50 to 3.00; (125 µm)	2.44	
3.00 to 3.50; (88.39 µm)	3.68	
3.50 to 4.00; (62.5 µm)	4.59	
4.00 to 4.50; (44.19 µm)	5.25	
4.50 to 5.00; (31.25 µm)	6.31	
5.00 to 5.50; (22.097 µm)	8.43	
5.50 to 6.00; (15.625 µm)	10.69	
6.00 to 6.50; (11.049 µm)	12.04	
6.50 to 7.00; (7.813 µm)	11.67	
7.00 to 7.50; (5.524 µm)	10.35	
7.50 to 8.00; (3.906 µm)	8.04	
8.00 to 8.50; (2.762 µm)	5.70	
8.50 to 9.00; (1.953 µm)	3.51	
9.00 to 9.50; (1.381 µm)	1.87	
9.50 to 10.00; (0.977 µm)	1.33	
10.00 to 10.50; (0.691 µm)	1.36	
10.50 to 11.00; (0.488 µm)	0.41	
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	
<b>TOTAL</b>	<b>100.00</b>	
Notes:		



**APPENDIX 3.** Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS76.

Exercise Code:	PS76	
LabCode:	PSA_2730	
Sample Code:	Benchmark Replicate 1	
Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage	Grams
	(mark as "0" for no material & leave blank for not analysed)	
-6.50 to -6.00; 63 mm	0.00	
-6.00 to -5.50; 45 mm	0.00	
-5.50 to -5.00; 31.5 mm	0.00	
-5.00 to -4.50; 22.4 mm	0.00	
-4.50 to -4.00; 16 mm	0.00	
-4.00 to -3.50; 11.2 mm	0.00	
-3.50 to -3.00; 8 mm	0.00	
-3.00 to -2.50; 5.6 mm	0.00	
-2.50 to -2.00; 4 mm	0.00	
-2.00 to -1.50; 2.8 mm	0.00	
-1.50 to -1.00; 2 mm	0.00	
-1.00 to -0.50; 1.4 mm	0.00	
-0.50 to 0.00; 1 mm	0.00	
0.00 to 0.50; (707 µm)	0.00	
0.50 to 1.00; (500 µm)	0.00	
1.00 to 1.50; (353.6 µm)	0.00	
1.50 to 2.00; (250 µm)	0.00	
2.00 to 2.50; (176.8 µm)	0.14	
2.50 to 3.00; (125 µm)	1.32	
3.00 to 3.50; (88.39 µm)	2.22	
3.50 to 4.00; (62.5 µm)	3.02	
4.00 to 4.50; (44.19 µm)	3.98	
4.50 to 5.00; (31.25 µm)	5.74	
5.00 to 5.50; (22.097 µm)	6.84	
5.50 to 6.00; (15.625 µm)	9.12	
6.00 to 6.50; (11.049 µm)	11.54	
6.50 to 7.00; (7.813 µm)	11.58	
7.00 to 7.50; (5.524 µm)	10.35	
7.50 to 8.00; (3.906 µm)	8.38	
8.00 to 8.50; (2.762 µm)	6.00	
8.50 to 9.00; (1.953 µm)	4.00	
9.00 to 9.50; (1.381 µm)	2.65	
9.50 to 10.00; (0.977 µm)	1.89	
10.00 to 10.50; (0.691 µm)	1.78	
10.50 to 11.00; (0.488 µm)	2.11	
11.00 to 11.50; (0.345 µm)	2.36	
11.50 to 12.00; (0.244 µm)	2.14	
12.00 to 12.50; (0.173 µm)	1.46	
12.50 to 13.00; (0.122 µm)	0.85	
13.00 to 13.50; (0.086 µm)	0.39	
13.50 to 14.00; (0.061µm)	0.11	
14.00 to 14.50; (0.043µm)	0.01	
>14.5; (0.01µm)	0.00	
<b>TOTAL</b>	<b>100.00</b>	
Notes: Dispersed with a few drops of 3% sodium hexametaphosphate (calgon), then 30 seconds ultrasonic treatment.		

**APPENDIX 3.** Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS76.

Exercise Code:	PS76	
LabCode:	PSA_2731	
Sample Code:	Benchmark Replicate 2	
Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage	Grams
	(mark as "0" for no material & leave blank for not analysed)	
-6.50 to -6.00; 63 mm	0.00	
-6.00 to -5.50; 45 mm	0.00	
-5.50 to -5.00; 31.5 mm	0.00	
-5.00 to -4.50; 22.4 mm	0.00	
-4.50 to -4.00; 16 mm	0.00	
-4.00 to -3.50; 11.2 mm	0.00	
-3.50 to -3.00; 8 mm	0.00	
-3.00 to -2.50; 5.6 mm	0.00	
-2.50 to -2.00; 4 mm	0.00	
-2.00 to -1.50; 2.8 mm	0.00	
-1.50 to -1.00; 2 mm	0.00	
-1.00 to -0.50; 1.4 mm	0.00	
-0.50 to 0.00; 1 mm	0.00	
0.00 to 0.50; (707 µm)	0.00	
0.50 to 1.00; (500 µm)	0.00	
1.00 to 1.50; (353.6 µm)	0.00	
1.50 to 2.00; (250 µm)	0.00	
2.00 to 2.50; (176.8 µm)	0.14	
2.50 to 3.00; (125 µm)	1.41	
3.00 to 3.50; (88.39 µm)	2.74	
3.50 to 4.00; (62.5 µm)	3.15	
4.00 to 4.50; (44.19 µm)	4.01	
4.50 to 5.00; (31.25 µm)	5.50	
5.00 to 5.50; (22.097 µm)	6.94	
5.50 to 6.00; (15.625 µm)	9.11	
6.00 to 6.50; (11.049 µm)	11.39	
6.50 to 7.00; (7.813 µm)	11.49	
7.00 to 7.50; (5.524 µm)	10.24	
7.50 to 8.00; (3.906 µm)	8.25	
8.00 to 8.50; (2.762 µm)	5.89	
8.50 to 9.00; (1.953 µm)	3.91	
9.00 to 9.50; (1.381 µm)	2.59	
9.50 to 10.00; (0.977 µm)	1.89	
10.00 to 10.50; (0.691 µm)	1.82	
10.50 to 11.00; (0.488 µm)	2.13	
11.00 to 11.50; (0.345 µm)	2.36	
11.50 to 12.00; (0.244 µm)	2.13	
12.00 to 12.50; (0.173 µm)	1.47	
12.50 to 13.00; (0.122 µm)	0.87	
13.00 to 13.50; (0.086 µm)	0.42	
13.50 to 14.00; (0.061µm)	0.13	
14.00 to 14.50; (0.043µm)	0.02	
>14.5; (0.01µm)	0.00	
<b>TOTAL</b>	<b>100.00</b>	
Notes: Dispersed with a few drops of 3% sodium hexametaphosphate (calgon), then 30 seconds ultrasonic treatment.		

**APPENDIX 3.** Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS76.

Exercise Code:	PS76	
LabCode:	PSA_2732	
Sample Code:	Benchmark Replicate 3	
Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage	Grams
	(mark as "0" for no material & leave blank for not analysed)	
-6.50 to -6.00; 63 mm	0.00	
-6.00 to -5.50; 45 mm	0.00	
-5.50 to -5.00; 31.5 mm	0.00	
-5.00 to -4.50; 22.4 mm	0.00	
-4.50 to -4.00; 16 mm	0.00	
-4.00 to -3.50; 11.2 mm	0.00	
-3.50 to -3.00; 8 mm	0.00	
-3.00 to -2.50; 5.6 mm	0.00	
-2.50 to -2.00; 4 mm	0.00	
-2.00 to -1.50; 2.8 mm	0.00	
-1.50 to -1.00; 2 mm	0.00	
-1.00 to -0.50; 1.4 mm	0.00	
-0.50 to 0.00; 1 mm	0.00	
0.00 to 0.50; (707 µm)	0.00	
0.50 to 1.00; (500 µm)	0.00	
1.00 to 1.50; (353.6 µm)	0.00	
1.50 to 2.00; (250 µm)	0.00	
2.00 to 2.50; (176.8 µm)	0.32	
2.50 to 3.00; (125 µm)	1.83	
3.00 to 3.50; (88.39 µm)	2.97	
3.50 to 4.00; (62.5 µm)	3.15	
4.00 to 4.50; (44.19 µm)	3.98	
4.50 to 5.00; (31.25 µm)	5.69	
5.00 to 5.50; (22.097 µm)	7.21	
5.50 to 6.00; (15.625 µm)	9.39	
6.00 to 6.50; (11.049 µm)	11.53	
6.50 to 7.00; (7.813 µm)	11.48	
7.00 to 7.50; (5.524 µm)	10.14	
7.50 to 8.00; (3.906 µm)	8.09	
8.00 to 8.50; (2.762 µm)	5.71	
8.50 to 9.00; (1.953 µm)	3.76	
9.00 to 9.50; (1.381 µm)	2.49	
9.50 to 10.00; (0.977 µm)	1.81	
10.00 to 10.50; (0.691 µm)	1.69	
10.50 to 11.00; (0.488 µm)	1.93	
11.00 to 11.50; (0.345 µm)	2.11	
11.50 to 12.00; (0.244 µm)	1.92	
12.00 to 12.50; (0.173 µm)	1.36	
12.50 to 13.00; (0.122 µm)	0.84	
13.00 to 13.50; (0.086 µm)	0.42	
13.50 to 14.00; (0.061µm)	0.14	
14.00 to 14.50; (0.043µm)	0.02	
>14.5; (0.01µm)	0.00	
<b>TOTAL</b>	<b>100.00</b>	
Notes: Dispersed with a few drops of 3% sodium hexametaphosphate (calgon), then 30 seconds ultrasonic treatment.		

**APPENDIX 3.** Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS76.

Exercise Code:	PS76	
LabCode:	PSA_2733	
Sample Code:	Benchmark Replicate 4	
Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material & leave blank for not analysed)	Grams
-6.50 to -6.00; 63 mm	0.00	
-6.00 to -5.50; 45 mm	0.00	
-5.50 to -5.00; 31.5 mm	0.00	
-5.00 to -4.50; 22.4 mm	0.00	
-4.50 to -4.00; 16 mm	0.00	
-4.00 to -3.50; 11.2 mm	0.00	
-3.50 to -3.00; 8 mm	0.00	
-3.00 to -2.50; 5.6 mm	0.00	
-2.50 to -2.00; 4 mm	0.00	
-2.00 to -1.50; 2.8 mm	0.00	
-1.50 to -1.00; 2 mm	0.00	
-1.00 to -0.50; 1.4 mm	0.00	
-0.50 to 0.00; 1 mm	0.00	
0.00 to 0.50; (707 µm)	0.00	
0.50 to 1.00; (500 µm)	0.00	
1.00 to 1.50; (353.6 µm)	0.00	
1.50 to 2.00; (250 µm)	0.00	
2.00 to 2.50; (176.8 µm)	0.13	
2.50 to 3.00; (125 µm)	1.44	
3.00 to 3.50; (88.39 µm)	2.87	
3.50 to 4.00; (62.5 µm)	3.06	
4.00 to 4.50; (44.19 µm)	4.04	
4.50 to 5.00; (31.25 µm)	5.34	
5.00 to 5.50; (22.097 µm)	6.93	
5.50 to 6.00; (15.625 µm)	8.90	
6.00 to 6.50; (11.049 µm)	11.03	
6.50 to 7.00; (7.813 µm)	11.20	
7.00 to 7.50; (5.524 µm)	10.16	
7.50 to 8.00; (3.906 µm)	8.35	
8.00 to 8.50; (2.762 µm)	6.05	
8.50 to 9.00; (1.953 µm)	4.07	
9.00 to 9.50; (1.381 µm)	2.70	
9.50 to 10.00; (0.977 µm)	1.92	
10.00 to 10.50; (0.691 µm)	1.83	
10.50 to 11.00; (0.488 µm)	2.19	
11.00 to 11.50; (0.345 µm)	2.47	
11.50 to 12.00; (0.244 µm)	2.26	
12.00 to 12.50; (0.173 µm)	1.56	
12.50 to 13.00; (0.122 µm)	0.92	
13.00 to 13.50; (0.086 µm)	0.43	
13.50 to 14.00; (0.061µm)	0.13	
14.00 to 14.50; (0.043µm)	0.02	
>14.5; (0.01µm)	0.00	
<b>TOTAL</b>	<b>100.00</b>	
Notes: Dispersed with a few drops of 3% sodium hexametaphosphate (calgon), then 30 seconds ultrasonic treatment.		

**APPENDIX 3.** Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmark Replicates for sediment distributed as PS76.

Exercise Code:	PS76	
LabCode:	PSA_2734	
Sample Code:	Benchmark Replicate 5	
Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material & leave blank for not analysed)	Grams
-6.50 to -6.00; 63 mm	0.00	
-6.00 to -5.50; 45 mm	0.00	
-5.50 to -5.00; 31.5 mm	0.00	
-5.00 to -4.50; 22.4 mm	0.00	
-4.50 to -4.00; 16 mm	0.00	
-4.00 to -3.50; 11.2 mm	0.00	
-3.50 to -3.00; 8 mm	0.00	
-3.00 to -2.50; 5.6 mm	0.00	
-2.50 to -2.00; 4 mm	0.00	
-2.00 to -1.50; 2.8 mm	0.00	
-1.50 to -1.00; 2 mm	0.00	
-1.00 to -0.50; 1.4 mm	0.00	
-0.50 to 0.00; 1 mm	0.00	
0.00 to 0.50; (707 µm)	0.00	
0.50 to 1.00; (500 µm)	0.00	
1.00 to 1.50; (353.6 µm)	0.00	
1.50 to 2.00; (250 µm)	0.01	
2.00 to 2.50; (176.8 µm)	0.53	
2.50 to 3.00; (125 µm)	2.12	
3.00 to 3.50; (88.39 µm)	3.50	
3.50 to 4.00; (62.5 µm)	3.57	
4.00 to 4.50; (44.19 µm)	4.35	
4.50 to 5.00; (31.25 µm)	5.73	
5.00 to 5.50; (22.097 µm)	6.98	
5.50 to 6.00; (15.625 µm)	8.97	
6.00 to 6.50; (11.049 µm)	10.91	
6.50 to 7.00; (7.813 µm)	10.85	
7.00 to 7.50; (5.524 µm)	9.68	
7.50 to 8.00; (3.906 µm)	7.86	
8.00 to 8.50; (2.762 µm)	5.65	
8.50 to 9.00; (1.953 µm)	3.75	
9.00 to 9.50; (1.381 µm)	2.46	
9.50 to 10.00; (0.977 µm)	1.75	
10.00 to 10.50; (0.691 µm)	1.72	
10.50 to 11.00; (0.488 µm)	2.11	
11.00 to 11.50; (0.345 µm)	2.42	
11.50 to 12.00; (0.244 µm)	2.21	
12.00 to 12.50; (0.173 µm)	1.50	
12.50 to 13.00; (0.122 µm)	0.86	
13.00 to 13.50; (0.086 µm)	0.39	
13.50 to 14.00; (0.061µm)	0.11	
14.00 to 14.50; (0.043µm)	0.01	
>14.5; (0.01µm)	0.00	
<b>TOTAL</b>	<b>100.00</b>	
Notes: Dispersed with a few drops of 3% sodium hexametaphosphate (calgon), then 30 seconds ultrasonic treatment.		

**APPENDIX 4.** Participant laser replicate data for sediment distributed as PS76.

**PSA\_2701 LASER DATA**

Microns	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
707	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
500	0.06	0.04	0.03	0.00	0.06	0.22	0.00	0.01	0.00
353.6	0.57	0.46	0.31	0.14	0.42	0.81	0.20	0.36	0.21
250	1.21	1.14	0.80	0.55	0.81	1.15	0.68	1.05	0.66
176.8	1.66	1.94	1.37	0.98	1.51	1.34	1.19	1.69	1.22
125	2.22	3.09	2.23	1.59	2.76	1.87	1.97	2.54	2.14
88.39	3.13	4.31	3.35	2.52	4.11	2.86	3.12	3.72	3.35
62.5	4.17	5.04	4.35	3.62	4.91	3.95	4.35	4.80	4.47
44.19	5.23	5.57	5.31	4.83	5.43	4.99	5.54	5.70	5.48
31.25	6.64	6.70	6.75	6.47	6.48	6.36	7.04	6.93	6.82
22.097	8.64	8.63	8.83	8.71	8.35	8.34	9.01	8.74	8.68
15.625	10.69	10.55	10.89	10.97	10.35	10.47	10.89	10.57	10.55
11.049	12.18	11.78	12.32	12.68	11.79	12.19	12.20	11.81	11.91
7.813	12.42	11.79	12.48	13.13	12.07	12.73	12.35	11.92	12.21
5.524	11.03	10.35	11.05	11.84	10.83	11.54	11.01	10.58	11.06
3.906	8.44	7.88	8.43	9.16	8.39	8.93	8.50	8.13	8.67
2.762	5.89	5.52	5.88	6.42	5.92	6.23	5.98	5.72	6.17
1.953	3.46	3.23	3.43	3.75	3.47	3.60	3.51	3.36	3.65
1.381	1.15	1.04	1.11	1.24	1.14	1.15	1.16	1.11	1.25
0.977	0.06	0.05	0.06	0.07	0.06	0.06	0.06	0.06	0.08
0.691	0.46	0.40	0.44	0.50	0.46	0.48	0.48	0.48	0.51
0.488	0.57	0.45	0.53	0.66	0.56	0.60	0.61	0.59	0.70
0.345	0.14	0.05	0.06	0.17	0.13	0.14	0.15	0.14	0.21
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	3.53	3.73	3.58	3.36	3.53	3.44	3.49	3.57	3.38
d50	13.25	14.50	13.28	12.01	13.57	12.57	13.17	13.93	12.96
d90	80.21	95.53	75.91	59.86	86.36	75.77	70.48	84.41	73.26

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	3.61	0.11	2.92	3.44	0.09	2.49	3.48	0.10	2.79
d50	13.68	0.71	5.21	12.72	0.79	6.19	13.36	0.51	3.83
d90	83.88	10.32	12.30	74.00	13.33	18.02	76.05	7.37	9.69

**APPENDIX 4.** Participant laser replicate data for sediment distributed as PS76.

**PSA\_2702\_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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
500	0.00	0.13	0.00	0.01	0.60	0.45	0.28	0.11	0.20
353.6	0.16	0.37	0.18	0.29	0.94	0.68	0.86	0.74	0.92
250	0.86	0.79	0.80	0.69	0.94	0.70	0.95	1.07	1.23
176.8	1.84	1.60	1.74	1.39	1.33	1.21	1.52	1.63	1.72
125	3.04	2.75	2.98	2.33	2.23	2.24	2.70	2.57	2.58
88.39	4.04	3.85	4.06	3.22	3.19	3.25	3.80	3.46	3.45
62.5	4.65	4.69	4.78	4.02	4.01	4.03	4.47	4.04	4.05
44.19	5.38	5.59	5.57	5.03	4.96	4.96	5.17	4.65	4.67
31.25	6.79	6.98	6.94	6.52	6.42	6.44	6.49	5.79	5.79
22.097	8.88	8.89	8.87	8.47	8.37	8.41	8.45	7.78	7.74
15.625	10.95	10.82	10.80	10.49	10.36	10.43	10.49	10.34	10.27
11.049	12.12	11.97	11.93	11.96	11.75	11.84	11.84	12.57	12.49
7.813	11.78	11.70	11.64	12.13	11.89	11.98	11.84	13.23	13.17
5.524	9.92	9.96	9.91	10.72	10.51	10.60	10.33	11.68	11.63
3.906	7.27	7.38	7.35	8.20	8.09	8.18	7.82	8.51	8.47
2.762	4.70	4.81	4.80	5.49	5.46	5.54	5.14	5.10	5.05
1.953	2.84	2.91	2.91	3.38	3.39	3.45	3.06	2.65	2.60
1.381	1.70	1.73	1.72	2.02	2.03	2.07	1.75	1.38	1.34
0.977	1.19	1.19	1.18	1.40	1.39	1.40	1.18	0.98	0.95
0.691	1.03	1.03	1.02	1.21	1.18	1.18	1.02	0.94	0.92
0.488	0.71	0.71	0.70	0.84	0.81	0.81	0.71	0.67	0.65
0.345	0.14	0.14	0.14	0.18	0.17	0.17	0.14	0.12	0.12
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	3.29	3.26	3.27	2.94	2.95	2.92	3.19	3.45	3.49
d50	14.17	14.11	14.20	12.56	12.84	12.65	13.57	12.59	12.73
d90	88.00	85.15	86.81	73.98	82.66	77.82	89.17	85.25	89.26

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	3.27	0.02	0.54	2.94	0.01	0.43	3.38	0.16	4.82
d50	14.16	0.05	0.35	12.68	0.14	1.12	12.96	0.53	4.07
d90	86.65	1.43	1.65	78.15	4.35	5.56	87.90	2.29	2.61

**APPENDIX 4.** Participant laser replicate data for sediment distributed as PS76.

**PSA\_2703 LASER DATA**

Microns	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
707	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
500	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00
353.6	0.00	0.00	0.00	0.34	0.02	0.08	0.00	0.00	0.00
250	0.17	0.13	0.25	0.31	0.25	0.20	0.00	0.00	0.00
176.8	0.48	0.42	0.74	0.27	0.37	0.24	0.00	0.00	0.00
125	0.61	0.58	0.87	0.34	0.43	0.30	0.22	0.13	0.22
88.39	1.10	0.98	1.15	0.70	0.64	0.52	0.54	0.53	0.50
62.5	2.91	2.49	2.41	2.24	1.91	1.67	1.82	1.60	1.41
44.19	6.62	5.96	5.32	6.01	5.41	4.97	5.46	4.77	4.37
31.25	10.87	10.37	9.06	10.94	10.43	9.98	10.75	9.88	9.42
22.097	13.08	13.03	11.63	13.93	13.87	13.73	14.37	13.96	13.74
15.625	12.50	12.79	11.91	13.50	13.82	14.05	14.26	14.50	14.60
11.049	10.69	11.03	10.71	11.25	11.64	11.99	11.88	12.39	12.64
7.813	9.00	9.26	9.24	9.10	9.38	9.66	9.44	9.86	10.08
5.524	7.79	8.00	8.14	7.66	7.86	8.05	7.82	8.10	8.25
3.906	6.82	7.02	7.31	6.64	6.83	6.99	6.74	6.96	7.09
2.762	5.71	5.90	6.35	5.54	5.71	5.86	5.60	5.81	5.93
1.953	4.27	4.42	5.00	4.11	4.24	4.35	4.13	4.30	4.39
1.381	2.77	2.87	3.49	2.62	2.70	2.77	2.62	2.72	2.78
0.977	1.86	1.92	2.49	1.77	1.81	1.86	1.76	1.82	1.86
0.691	1.53	1.58	2.10	1.51	1.54	1.57	1.50	1.54	1.56
0.488	1.04	1.07	1.52	1.00	1.02	1.04	0.98	1.01	1.03
0.345	0.18	0.19	0.32	0.13	0.14	0.14	0.12	0.13	0.13
0.244	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.173	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.122	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.086	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.061	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.043	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
d10	2.42	2.35	1.97	2.51	2.45	2.41	2.52	2.44	2.41
d50	14.81	14.11	12.60	15.00	14.35	13.81	14.49	13.72	13.35
d90	48.76	45.66	46.38	44.96	42.78	41.18	41.47	39.81	38.85

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	2.24	0.24	10.86	2.46	0.05	2.07	2.45	0.06	2.29
d50	13.84	1.13	8.16	14.39	0.59	4.13	13.85	0.58	4.20
d90	46.93	1.62	3.46	42.98	1.90	4.42	40.04	1.33	3.31



**APPENDIX 4.** Participant laser replicate data for sediment distributed as PS76.

**PSA\_2704 LASER DATA**

Microns	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
707	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
353.6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
250	0.25	0.03	0.02	0.39	0.14	0.21	0.00	0.13	0.07
176.8	1.19	0.77	0.69	1.23	0.88	1.08	0.35	0.98	0.70
125	4.13	3.50	3.62	4.15	4.26	4.26	5.13	4.53	4.53
88.39	3.22	4.02	4.09	3.36	3.40	3.37	2.57	3.42	3.46
62.5	0.19	0.37	0.36	0.37	0.36	0.31	0.49	0.37	0.34
44.19	3.71	3.26	3.20	4.21	4.19	4.00	4.75	4.17	4.08
31.25	6.70	6.56	6.58	6.49	6.48	6.47	6.64	6.51	6.55
22.097	7.76	7.93	7.94	7.71	7.72	7.74	7.72	7.73	7.79
15.625	8.92	8.99	8.99	8.79	8.88	8.88	8.92	8.88	8.92
11.049	9.84	9.97	9.98	9.46	9.54	9.54	9.63	9.63	9.68
7.813	11.01	11.14	11.15	10.55	10.61	10.64	10.71	10.70	10.76
5.524	10.75	10.86	10.87	10.43	10.49	10.52	10.58	10.53	10.60
3.906	8.85	8.95	8.95	8.71	8.77	8.79	8.82	8.78	8.83
2.762	6.04	6.12	6.11	5.99	6.04	6.04	6.03	6.04	6.06
1.953	3.72	3.78	3.77	3.76	3.79	3.78	3.73	3.75	3.75
1.381	2.52	2.55	2.55	2.63	2.64	2.63	2.55	2.57	2.56
0.977	2.06	2.08	2.07	2.18	2.18	2.18	2.10	2.09	2.10
0.691	1.89	1.91	1.89	1.98	1.99	1.99	1.92	1.90	1.91
0.488	1.78	1.79	1.78	1.86	1.87	1.87	1.81	1.78	1.79
0.345	1.63	1.63	1.61	1.70	1.71	1.71	1.65	1.63	1.64
0.244	1.38	1.38	1.36	1.45	1.46	1.45	1.41	1.39	1.40
0.173	1.04	1.04	1.03	1.10	1.10	1.09	1.06	1.05	1.05
0.122	0.75	0.75	0.74	0.79	0.79	0.78	0.77	0.76	0.76
0.086	0.46	0.46	0.45	0.48	0.48	0.47	0.46	0.46	0.46
0.061	0.18	0.18	0.18	0.19	0.19	0.18	0.18	0.18	0.18
0.043	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
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	1.13	1.13	1.14	1.04	1.04	1.05	1.10	1.12	1.11
d50	9.71	9.57	9.60	9.74	9.65	9.65	9.77	9.82	9.75
d90	56.84	54.32	54.76	60.00	57.76	58.45	56.19	59.61	57.89

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	1.13	0.01	0.68	1.04	0.00	0.30	1.11	0.01	0.74
d50	9.63	0.08	0.80	9.68	0.05	0.54	9.78	0.03	0.34
d90	55.31	1.35	2.44	58.74	1.15	1.95	57.89	1.71	2.95

**APPENDIX 4.** Participant laser replicate data for sediment distributed as PS76.

**PSA\_2705 LASER DATA**

Microns	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
707	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
500	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.02
353.6	0.00	0.00	0.00	0.00	0.09	0.00	0.30	0.28	0.29
250	0.35	0.30	0.41	0.51	0.66	0.37	0.72	0.58	0.57
176.8	1.45	1.26	1.60	1.35	1.32	1.16	1.29	1.14	1.11
125	2.98	2.74	3.09	2.73	2.55	2.55	2.58	2.54	2.49
88.39	3.67	3.56	3.63	3.50	3.37	3.43	3.48	3.56	3.51
62.5	4.72	4.73	4.62	4.64	4.57	4.64	4.68	4.75	4.74
44.19	5.19	5.27	5.12	5.14	5.13	5.18	5.16	5.15	5.19
31.25	7.12	7.19	7.07	7.06	7.06	7.10	7.03	6.97	7.03
22.097	9.08	9.12	9.06	9.04	9.05	9.09	8.98	8.94	8.97
15.625	11.21	11.25	11.20	11.19	11.22	11.26	11.10	11.12	11.11
11.049	12.30	12.36	12.30	12.32	12.36	12.41	12.20	12.27	12.26
7.813	12.07	12.14	12.06	12.13	12.16	12.21	12.00	12.06	12.07
5.524	10.66	10.73	10.65	10.75	10.78	10.82	10.64	10.69	10.70
3.906	8.37	8.43	8.37	8.49	8.51	8.54	8.43	8.47	8.47
2.762	5.80	5.84	5.80	5.93	5.95	5.97	5.96	5.99	5.99
1.953	3.44	3.47	3.45	3.55	3.56	3.57	3.62	3.64	3.64
1.381	1.47	1.49	1.48	1.54	1.55	1.56	1.62	1.63	1.63
0.977	0.12	0.12	0.12	0.13	0.13	0.13	0.21	0.21	0.21
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	3.72	3.70	3.71	3.65	3.64	3.64	3.60	3.59	3.59
d50	13.87	13.74	13.88	13.64	13.58	13.51	13.68	13.58	13.58
d90	78.90	75.55	80.34	76.66	75.86	73.40	78.45	77.01	76.35

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	3.71	0.01	0.25	3.65	0.01	0.21	3.59	0.01	0.19
d50	13.83	0.08	0.54	13.58	0.07	0.48	13.62	0.06	0.43
d90	78.27	2.46	3.14	75.31	1.70	2.26	77.27	1.07	1.39

**APPENDIX 4.** Participant laser replicate data for sediment distributed as PS76.

**PSA\_2706 LASER DATA**

Microns	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
707	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00
500	0.32	0.22	0.11	0.09	0.28	0.18	0.11	0.01	0.09
353.6	0.60	0.35	0.36	0.26	0.47	0.20	0.38	0.36	0.38
250	0.93	0.63	0.65	0.58	0.87	0.42	0.57	0.57	0.52
176.8	1.56	1.37	1.29	1.39	1.62	1.29	1.24	1.21	1.12
125	2.51	2.53	2.33	2.61	2.67	2.71	2.42	2.36	2.29
88.39	3.52	3.65	3.45	3.78	3.71	4.04	3.60	3.53	3.50
62.5	4.39	4.47	4.38	4.61	4.53	4.86	4.41	4.36	4.36
44.19	5.26	5.29	5.31	5.31	5.25	5.42	5.09	5.10	5.11
31.25	6.46	6.50	6.56	6.28	6.22	6.27	6.10	6.18	6.18
22.097	8.03	8.12	8.19	7.65	7.57	7.61	7.56	7.64	7.64
15.625	9.62	9.74	9.82	9.14	9.04	9.11	9.12	9.17	9.17
11.049	10.65	10.76	10.85	10.25	10.14	10.20	10.29	10.30	10.32
7.813	10.69	10.77	10.88	10.55	10.45	10.49	10.68	10.67	10.69
5.524	9.71	9.77	9.86	9.91	9.80	9.83	10.09	10.09	10.10
3.906	7.99	8.03	8.10	8.42	8.32	8.34	8.61	8.62	8.63
2.762	5.94	5.97	6.02	6.40	6.32	6.34	6.56	6.58	6.59
1.953	4.02	4.05	4.07	4.36	4.32	4.33	4.49	4.51	4.52
1.381	2.63	2.64	2.65	2.83	2.82	2.82	2.92	2.94	2.95
0.977	1.93	1.93	1.93	2.06	2.05	2.06	2.12	2.14	2.15
0.691	1.63	1.63	1.63	1.76	1.75	1.75	1.81	1.82	1.83
0.488	1.20	1.20	1.19	1.31	1.30	1.30	1.36	1.37	1.38
0.345	0.39	0.38	0.38	0.44	0.43	0.43	0.48	0.48	0.48
0.244	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.173	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.122	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.086	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.061	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.043	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
d10	2.36	2.36	2.36	2.22	2.23	2.23	2.16	2.15	2.14
d50	12.53	12.42	12.27	11.80	12.01	11.95	11.38	11.34	11.30
d90	84.62	80.17	76.60	80.20	86.35	81.41	77.46	75.56	74.76

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	2.36	0.00	0.08	2.22	0.01	0.30	2.15	0.01	0.49
d50	12.41	0.13	1.03	11.92	0.11	0.89	11.34	0.04	0.37
d90	80.47	4.02	4.99	82.65	3.26	3.94	75.93	1.38	1.82

**APPENDIX 4.** Participant laser replicate data for sediment distributed as PS76.

**PSA\_2707 LASER DATA**

Microns	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
707	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
500	1.46	0.00	0.00	0.00	0.00	0.44	0.00	0.00	0.00
353.6	0.68	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.00
250	0.00	0.00	0.12	0.00	0.03	0.01	0.00	0.00	0.00
176.8	0.00	0.00	0.93	0.00	1.06	0.00	0.00	0.42	0.00
125	0.00	0.00	0.57	0.00	1.37	0.00	0.00	0.57	0.00
88.39	0.00	0.00	0.07	0.00	0.70	0.00	0.00	0.25	0.00
62.5	0.17	0.03	0.49	0.00	0.48	0.19	0.35	0.43	0.00
44.19	3.50	2.40	4.45	2.08	4.40	3.60	4.22	4.46	2.22
31.25	10.57	9.41	10.77	9.35	10.45	10.68	10.87	11.20	9.08
22.097	12.96	12.83	12.55	13.54	12.08	13.03	12.71	13.09	12.49
15.625	11.23	11.54	10.84	12.19	10.68	11.18	10.89	11.17	11.41
11.049	7.46	7.67	7.29	7.86	7.30	7.39	7.30	7.33	7.82
7.813	9.57	9.83	9.49	9.88	9.42	9.49	9.46	9.28	10.18
5.524	8.78	9.26	8.93	9.18	8.80	8.89	8.91	8.61	9.55
3.906	7.71	8.37	7.95	8.26	7.88	7.98	8.07	7.73	8.57
2.762	6.41	7.03	6.60	7.00	6.60	6.74	6.87	6.52	7.23
1.953	4.87	5.34	4.97	5.31	4.94	5.11	5.23	4.94	5.52
1.381	3.29	3.63	3.31	3.55	3.25	3.40	3.50	3.28	3.72
0.977	2.05	2.29	2.03	2.18	1.96	2.09	2.16	2.00	2.29
0.691	1.08	1.21	1.04	1.14	1.01	1.09	1.14	1.04	1.20
0.488	1.32	1.47	1.25	1.38	1.22	1.31	1.40	1.25	1.46
0.345	1.51	1.68	1.43	1.57	1.40	1.49	1.60	1.42	1.67
0.244	1.74	1.94	1.64	1.81	1.62	1.71	1.81	1.63	1.90
0.173	1.73	1.96	1.62	1.80	1.62	1.71	1.77	1.62	1.86
0.122	1.29	1.49	1.20	1.36	1.22	1.30	1.29	1.23	1.36
0.086	0.51	0.64	0.47	0.57	0.51	0.55	0.47	0.52	0.49
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	99.99	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	1.12	0.88	1.23	1.04	1.25	1.13	1.06	1.22	0.99
d50	10.33	8.90	10.30	9.28	10.48	9.96	9.66	10.62	8.71
d90	38.64	33.43	39.65	32.95	41.42	37.42	37.16	39.21	32.84

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	1.08	0.18	16.84	1.14	0.11	9.48	1.09	0.12	10.88
d50	9.84	0.82	8.29	9.90	0.60	6.08	9.66	0.95	9.88
d90	37.24	3.34	8.96	37.26	4.24	11.37	36.40	3.25	8.94

**APPENDIX 4.** Participant laser replicate data for sediment distributed as PS76.

**PSA\_2708 LASER DATA**

Microns	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
707	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
353.6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
250	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
176.8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
125	0.83	0.79	0.86	0.54	0.57	0.59	0.47	0.48	0.44
88.39	1.87	1.83	1.86	1.50	1.54	1.49	1.89	1.87	1.75
62.5	2.85	2.81	2.82	2.61	2.67	2.57	3.01	2.99	2.84
44.19	3.81	3.77	3.77	3.64	3.68	3.61	3.79	3.81	3.69
31.25	5.08	5.05	5.04	4.87	4.88	4.84	4.86	4.89	4.83
22.097	8.04	8.00	7.98	7.81	7.82	7.80	7.77	7.76	7.76
15.625	10.57	10.54	10.51	10.48	10.47	10.49	10.45	10.39	10.43
11.049	12.96	12.95	12.92	13.08	13.03	13.06	12.98	12.91	12.97
7.813	13.41	13.41	13.39	13.69	13.59	13.62	13.49	13.43	13.50
5.524	12.47	12.47	12.44	12.79	12.68	12.70	12.54	12.51	12.57
3.906	9.79	9.81	9.78	10.06	9.99	10.01	9.87	9.86	9.92
2.762	6.66	6.71	6.69	6.85	6.85	6.88	6.76	6.78	6.83
1.953	4.28	4.34	4.35	4.41	4.44	4.48	4.39	4.43	4.47
1.381	2.64	2.70	2.73	2.73	2.78	2.82	2.75	2.80	2.84
0.977	1.68	1.72	1.74	1.74	1.78	1.80	1.77	1.81	1.84
0.691	1.60	1.63	1.64	1.66	1.68	1.70	1.68	1.71	1.74
0.488	1.10	1.12	1.12	1.14	1.16	1.17	1.16	1.18	1.19
0.345	0.36	0.37	0.37	0.39	0.39	0.39	0.40	0.40	0.40
0.244	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.173	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.122	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.086	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.061	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.043	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
d10	2.41	2.38	2.37	2.35	2.32	2.30	2.33	2.30	2.28
d50	9.97	9.90	9.90	9.62	9.64	9.59	9.77	9.74	9.64
d90	42.30	41.83	42.14	39.14	39.58	39.01	41.60	41.62	40.28

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	2.39	0.03	1.08	2.32	0.02	0.99	2.30	0.03	1.16
d50	9.92	0.04	0.41	9.62	0.02	0.26	9.72	0.07	0.67
d90	42.09	0.24	0.57	39.24	0.30	0.76	41.16	0.77	1.87

**APPENDIX 4.** Participant laser replicate data for sediment distributed as PS76.

**PSA\_2709 LASER DATA**

Microns	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
707	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
353.6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
250	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
176.8	0.35	0.38	0.31	0.00	0.00	0.00	0.00	0.00	0.00
125	1.69	1.58	1.43	0.97	0.20	0.15	0.51	0.54	0.18
88.39	3.08	3.14	2.88	3.10	2.51	2.30	2.72	2.82	2.21
62.5	2.90	2.90	2.75	2.30	2.43	2.47	1.93	1.85	2.05
44.19	2.96	3.04	2.97	2.73	2.65	2.51	2.52	2.62	2.39
31.25	5.07	5.19	5.01	5.14	5.19	5.17	4.90	4.97	4.81
22.097	6.30	6.40	6.31	6.59	6.68	6.75	6.29	6.49	6.40
15.625	8.17	8.29	8.34	8.19	8.21	8.18	7.52	7.55	7.57
11.049	10.32	10.40	10.43	10.62	10.78	10.84	10.23	10.30	10.36
7.813	10.82	10.74	10.91	11.20	11.43	11.52	11.02	10.96	11.18
5.524	10.61	10.59	10.71	10.90	11.10	11.18	11.00	10.94	11.11
3.906	9.52	9.61	9.61	9.69	9.85	9.89	10.06	10.06	10.15
2.762	7.36	7.41	7.43	7.45	7.57	7.60	7.92	7.91	8.01
1.953	5.05	5.04	5.10	5.10	5.19	5.21	5.53	5.56	5.62
1.381	3.25	3.23	3.28	3.27	3.33	3.36	3.60	3.66	3.67
0.977	2.09	2.03	2.09	2.10	2.13	2.15	2.31	2.28	2.34
0.691	1.72	1.65	1.72	1.74	1.75	1.75	1.93	1.85	1.94
0.488	1.91	1.88	1.93	1.93	1.94	1.93	2.22	2.18	2.22
0.345	2.13	2.14	2.16	2.16	2.17	2.15	2.53	2.55	2.53
0.244	1.96	1.95	1.98	1.98	2.00	1.99	2.32	2.33	2.31
0.173	1.37	1.30	1.36	1.40	1.42	1.42	1.57	1.50	1.56
0.122	0.83	0.72	0.80	0.86	0.88	0.88	0.89	0.77	0.88
0.086	0.40	0.30	0.37	0.42	0.44	0.44	0.39	0.27	0.39
0.061	0.13	0.08	0.11	0.14	0.14	0.14	0.11	0.05	0.11
0.043	0.02	0.01	0.01	0.02	0.02	0.02	0.01	0.00	0.01
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
d10	0.89	0.97	0.90	0.86	0.84	0.85	0.69	0.74	0.69
d50	8.24	8.35	8.16	8.02	7.83	7.79	7.25	7.35	7.15
d90	49.54	49.77	46.06	41.60	38.13	37.18	37.46	37.98	35.15

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	0.92	0.04	4.85	0.85	0.01	1.06	0.70	0.03	4.03
d50	8.25	0.10	1.18	7.88	0.12	1.57	7.25	0.10	1.43
d90	48.46	2.08	4.29	38.97	2.33	5.97	36.87	1.50	4.08

**PSA\_2711 LASER DATA**

**APPENDIX 4.** Participant laser replicate data for sediment distributed as PS76.

Microns	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
707	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
353.6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
250	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
176.8	0.52	0.49	0.51	0.60	0.64	0.63	0.53	0.55	0.53
125	1.48	1.43	1.45	1.62	1.64	1.63	1.45	1.49	1.42
88.39	2.30	2.29	2.26	2.48	2.47	2.47	2.21	2.26	2.14
62.5	3.04	3.09	3.00	3.20	3.19	3.18	2.91	2.95	2.82
44.19	3.95	3.98	3.89	3.97	3.95	3.93	3.74	3.74	3.65
31.25	5.27	5.26	5.20	5.11	5.07	5.06	4.95	4.94	4.90
22.097	7.08	7.01	6.98	6.83	6.77	6.75	6.76	6.73	6.74
15.625	9.07	8.97	8.95	8.88	8.79	8.77	8.91	8.88	8.92
11.049	10.73	10.63	10.62	10.64	10.55	10.52	10.78	10.74	10.79
7.813	11.61	11.55	11.55	11.57	11.52	11.49	11.78	11.74	11.81
5.524	11.45	11.47	11.50	11.43	11.45	11.44	11.68	11.65	11.72
3.906	10.22	10.33	10.40	10.22	10.32	10.36	10.50	10.49	10.57
2.762	8.19	8.35	8.46	8.22	8.37	8.45	8.50	8.52	8.62
1.953	5.80	5.93	6.03	5.83	5.96	6.04	6.05	6.08	6.17
1.381	3.64	3.69	3.74	3.67	3.72	3.76	3.76	3.78	3.84
0.977	2.30	2.28	2.28	2.32	2.30	2.30	2.30	2.30	2.31
0.691	1.73	1.68	1.66	1.74	1.70	1.67	1.67	1.65	1.65
0.488	1.24	1.20	1.17	1.25	1.21	1.18	1.18	1.16	1.15
0.345	0.39	0.37	0.35	0.40	0.38	0.36	0.35	0.34	0.27
0.244	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.173	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.122	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.086	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.061	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.043	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
d10	2.04	2.04	2.04	2.03	2.03	2.04	2.04	2.04	2.04
d50	9.08	9.00	8.92	9.05	8.97	8.93	8.79	8.80	8.71
d90	49.47	49.40	48.78	52.09	52.19	51.97	47.72	48.48	46.59

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	2.04	0.00	0.24	2.03	0.01	0.25	2.04	0.00	0.08
d50	9.00	0.08	0.90	8.99	0.06	0.69	8.77	0.05	0.56
d90	49.22	0.38	0.77	52.09	0.11	0.22	47.60	0.95	2.00

**APPENDIX 4.** Participant laser replicate data for sediment distributed as PS76.

**PSA\_2712 LASER DATA**

Microns	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
707	0.14	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00
500	0.33	0.45	0.23	0.02	0.00	0.00	0.11	0.00	0.00
353.6	0.36	0.66	0.43	0.29	0.25	0.22	0.46	0.16	0.00
250	0.60	0.76	0.57	0.60	0.77	0.56	0.65	0.55	0.25
176.8	1.37	1.25	1.07	1.17	1.35	1.08	1.21	1.21	1.17
125	2.71	2.49	2.30	2.38	2.45	2.27	2.54	2.50	2.57
88.39	4.13	4.01	3.88	3.88	3.87	3.79	4.14	4.07	4.06
62.5	4.87	4.83	4.83	4.77	4.75	4.72	5.03	5.00	4.95
44.19	5.18	5.14	5.20	5.17	5.16	5.15	5.40	5.40	5.41
31.25	6.07	6.04	6.09	6.12	6.08	6.09	6.36	6.37	6.42
22.097	8.02	8.02	8.10	8.11	8.04	8.10	8.39	8.44	8.48
15.625	9.93	9.95	10.09	10.06	9.99	10.09	10.31	10.38	10.43
11.049	10.92	10.92	11.09	11.09	11.03	11.14	11.17	11.26	11.32
7.813	11.55	11.55	11.71	11.76	11.72	11.84	11.62	11.71	11.78
5.524	10.38	10.38	10.53	10.57	10.54	10.65	10.26	10.34	10.40
3.906	8.27	8.27	8.40	8.40	8.38	8.48	8.02	8.10	8.14
2.762	6.19	6.20	6.29	6.30	6.29	6.37	5.92	5.98	6.02
1.953	3.54	3.55	3.61	3.64	3.64	3.69	3.36	3.41	3.43
1.381	2.14	2.16	2.19	2.23	2.23	2.26	2.02	2.06	2.08
0.977	1.49	1.50	1.53	1.54	1.55	1.57	1.40	1.42	1.44
0.691	1.41	1.42	1.45	1.46	1.47	1.49	1.28	1.30	1.32
0.488	0.40	0.40	0.41	0.43	0.43	0.44	0.34	0.34	0.35
0.345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.244	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.173	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.122	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.086	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.061	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.043	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
d10	2.92	2.92	2.89	2.87	2.87	2.85	3.03	3.01	2.99
d50	12.80	12.78	12.47	12.39	12.43	12.21	13.22	13.02	12.90
d90	86.15	86.38	79.26	78.35	80.34	75.87	83.14	79.61	77.10

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	2.91	0.02	0.65	2.86	0.01	0.46	3.01	0.02	0.71
d50	12.68	0.18	1.43	12.34	0.12	0.95	13.05	0.16	1.24
d90	83.93	4.05	4.82	78.19	2.24	2.86	79.95	3.03	3.80



**APPENDIX 4.** Participant laser replicate data for sediment distributed as PS76.

**PSA\_2713\_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	0.00	0.00	0.00						
500	0.00	0.00	0.00						
353.6	0.00	0.00	0.00						
250	0.01	0.00	0.00						
176.8	0.81	0.66	0.63						
125	3.60	2.99	3.18						
88.39	4.15	4.01	3.79						
62.5	4.09	4.06	3.84						
44.19	4.08	4.22	3.99						
31.25	4.03	3.94	4.05						
22.097	7.44	7.63	7.52						
15.625	6.39	6.47	6.49						
11.049	7.00	6.82	7.12						
7.813	9.61	9.80	9.78						
5.524	9.93	10.07	10.09						
3.906	8.50	8.44	8.63						
2.762	6.52	6.46	6.60						
1.953	4.93	5.09	4.99						
1.381	3.77	4.00	3.82						
0.977	2.90	3.01	2.95						
0.691	2.44	2.46	2.50						
0.488	2.33	2.37	2.38						
0.345	2.26	2.36	2.30						
0.244	1.98	2.08	2.02						
0.173	1.46	1.47	1.49						
0.122	0.99	0.93	1.02						
0.086	0.56	0.48	0.58						
0.061	0.21	0.16	0.22						
0.043	0.03	0.02	0.03						
Total	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	0.71	0.70	0.69						
d50	8.16	7.98	7.92						
d90	78.21	72.38	71.15						

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	0.70	0.01	1.53						
d50	8.02	0.12	1.56						
d90	73.91	3.77	5.11						

**APPENDIX 4.** Participant laser replicate data for sediment distributed as PS76.

**PSA\_2714 LASER DATA**

Microns	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
707	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
500	0.00	0.00	0.00	0.00	0.01	0.21	0.00	0.87	0.22
353.6	0.01	0.21	0.07	0.09	0.71	1.34	0.00	1.39	0.62
250	1.11	1.60	1.52	1.59	2.08	2.44	0.72	1.26	1.00
176.8	3.23	3.18	3.27	3.23	3.44	3.54	2.26	1.90	1.99
125	5.41	5.24	5.37	5.23	5.31	5.24	4.64	4.19	4.36
88.39	7.95	7.77	7.85	7.69	7.67	7.52	7.95	7.59	7.71
62.5	10.06	9.89	9.92	9.76	9.62	9.44	10.80	10.50	10.57
44.19	10.79	10.68	10.68	10.54	10.32	10.15	11.90	11.63	11.72
31.25	10.09	10.06	10.03	9.95	9.75	9.60	11.10	10.88	11.02
22.097	8.76	8.78	8.73	8.74	8.58	8.48	9.41	9.22	9.39
15.625	7.55	7.56	7.53	7.60	7.48	7.40	7.79	7.65	7.81
11.049	6.68	6.67	6.67	6.74	6.65	6.58	6.64	6.54	6.66
7.813	5.98	5.96	5.97	6.03	5.96	5.90	5.77	5.69	5.80
5.524	5.29	5.27	5.28	5.34	5.27	5.22	5.00	4.93	5.04
3.906	4.56	4.55	4.55	4.62	4.56	4.51	4.25	4.19	4.29
2.762	3.76	3.76	3.76	3.83	3.77	3.73	3.50	3.45	3.52
1.953	2.88	2.87	2.87	2.94	2.90	2.86	2.69	2.64	2.70
1.381	2.02	2.01	2.01	2.07	2.03	2.01	1.89	1.85	1.89
0.977	1.47	1.47	1.46	1.50	1.48	1.46	1.38	1.36	1.38
0.691	1.24	1.25	1.24	1.27	1.25	1.23	1.19	1.17	1.19
0.488	0.93	0.93	0.93	0.95	0.93	0.92	0.90	0.88	0.90
0.345	0.23	0.29	0.29	0.29	0.23	0.22	0.22	0.22	0.22
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	3.09	3.08	3.09	3.02	3.08	3.12	3.28	3.34	3.27
d50	29.62	29.60	29.69	28.96	29.90	30.59	30.53	31.46	30.35
d90	123.70	126.92	126.87	126.17	138.31	150.14	112.68	122.79	115.23

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	3.09	0.01	0.23	3.07	0.05	1.62	3.30	0.04	1.08
d50	29.64	0.04	0.15	29.82	0.82	2.75	30.78	0.59	1.93
d90	125.83	1.84	1.47	138.21	11.99	8.67	116.90	5.26	4.50

**APPENDIX 4.** Participant laser replicate data for sediment distributed as PS76.

**PSA\_2715 LASER DATA**

Microns	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
707	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
353.6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
250	0.07	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
176.8	0.98	0.94	0.58	0.37	0.37	0.29	0.01	0.01	0.01
125	2.01	2.09	2.02	1.71	1.63	1.50	0.86	0.73	0.61
88.39	2.79	2.76	2.63	2.80	2.72	3.04	2.47	2.30	2.21
62.5	2.61	2.53	2.47	2.95	2.89	3.16	2.82	2.82	2.81
44.19	3.26	3.21	3.14	3.58	3.60	3.70	3.86	3.83	3.84
31.25	5.12	5.13	5.13	5.46	5.46	5.47	5.94	5.91	5.89
22.097	6.54	6.49	6.52	6.61	6.55	6.58	7.39	7.41	7.39
15.625	8.58	8.55	8.60	8.83	8.81	8.71	9.59	9.61	9.61
11.049	10.95	10.96	11.04	11.27	11.27	11.15	11.80	11.83	11.85
7.813	11.30	11.33	11.41	11.50	11.53	11.30	11.75	11.80	11.83
5.524	10.28	10.30	10.39	10.36	10.39	10.19	10.34	10.39	10.43
3.906	8.41	8.45	8.52	8.41	8.44	8.39	8.23	8.28	8.32
2.762	6.09	6.12	6.17	6.03	6.06	6.14	5.83	5.87	5.90
1.953	4.07	4.09	4.12	3.99	4.01	4.16	3.84	3.86	3.88
1.381	2.72	2.72	2.74	2.65	2.66	2.77	2.55	2.55	2.57
0.977	2.01	2.01	2.02	1.95	1.96	1.97	1.89	1.89	1.89
0.691	1.96	1.95	1.98	1.88	1.89	1.85	1.79	1.79	1.80
0.488	2.29	2.29	2.33	2.16	2.17	2.21	2.00	2.02	2.04
0.345	2.51	2.52	2.58	2.35	2.37	2.48	2.14	2.17	2.19
0.244	2.27	2.29	2.34	2.11	2.15	2.22	1.94	1.96	1.98
0.173	1.58	1.60	1.62	1.48	1.50	1.47	1.39	1.40	1.41
0.122	0.96	0.97	0.98	0.91	0.93	0.81	0.89	0.90	0.90
0.086	0.48	0.48	0.48	0.46	0.46	0.34	0.47	0.47	0.47
0.061	0.15	0.15	0.15	0.15	0.15	0.09	0.16	0.16	0.16
0.043	0.02	0.02	0.02	0.02	0.02	0.01	0.02	0.02	0.02
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	0.66	0.66	0.64	0.74	0.72	0.74	0.83	0.82	0.81
d50	8.89	8.84	8.70	9.10	9.04	9.08	9.46	9.39	9.33
d90	53.02	52.33	48.55	50.66	49.70	51.77	44.26	43.40	42.83

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	0.65	0.01	1.70	0.73	0.01	1.34	0.82	0.01	1.42
d50	8.81	0.09	1.07	9.07	0.04	0.39	9.39	0.07	0.72
d90	51.30	2.41	4.69	50.71	1.04	2.05	43.50	0.72	1.65

**APPENDIX 4.** Participant laser replicate data for sediment distributed as PS76.

**PSA\_2716 LASER DATA**

Microns	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
707	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
353.6	0.13	0.08	0.12	0.24	0.24	0.22	0.00	0.00	0.00
250	0.85	0.77	0.81	0.92	0.87	0.88	0.71	0.51	0.64
176.8	1.51	1.48	1.45	1.54	1.48	1.52	1.50	1.43	1.45
125	2.64	2.58	2.51	2.68	2.65	2.63	2.63	2.62	2.57
88.39	3.31	3.21	3.15	3.37	3.37	3.28	3.23	3.20	3.16
62.5	4.47	4.35	4.31	4.56	4.52	4.41	4.36	4.30	4.27
44.19	4.87	4.79	4.75	4.92	4.86	4.80	4.77	4.73	4.71
31.25	6.92	6.89	6.86	6.96	6.91	6.89	6.83	6.81	6.80
22.097	8.86	8.84	8.84	8.92	8.88	8.89	8.81	8.79	8.78
15.625	11.04	11.03	11.01	11.17	11.11	11.11	11.17	11.10	11.05
11.049	12.29	12.28	12.24	12.48	12.40	12.37	12.66	12.55	12.46
7.813	12.43	12.48	12.45	12.61	12.58	12.57	12.97	12.92	12.82
5.524	11.52	11.65	11.69	11.56	11.64	11.70	11.96	12.04	12.02
3.906	9.51	9.70	9.79	9.35	9.52	9.62	9.64	9.84	9.90
2.762	6.20	6.36	6.44	5.88	6.03	6.14	5.98	6.20	6.31
1.953	2.69	2.76	2.80	2.32	2.39	2.45	2.29	2.42	2.50
1.381	0.75	0.76	0.76	0.52	0.53	0.54	0.48	0.52	0.55
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	3.96	3.92	3.90	4.10	4.06	4.03	4.08	4.03	3.99
d50	13.42	13.20	13.12	13.70	13.55	13.44	13.26	13.06	13.02
d90	78.36	76.09	75.55	80.37	79.52	78.70	75.88	73.81	74.10

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	3.93	0.03	0.69	4.06	0.03	0.80	4.03	0.05	1.14
d50	13.25	0.16	1.19	13.56	0.13	0.98	13.11	0.13	1.00
d90	76.67	1.49	1.95	79.53	0.83	1.05	74.60	1.12	1.50

**APPENDIX 4.** Participant laser replicate data for sediment distributed as PS76.

**PSA\_2717 LASER DATA**

Microns	Run 1 - a	Run 1 - b	Run 1 - c	Run 2 - a	Run 2 - b	Run 2 - c	Run 3 - a	Run 3 - b	Run 3 - c
707	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
500	0.09	0.02	0.20	0.11	0.00	0.09	0.02	0.02	0.09
353.6	0.43	0.30	0.36	0.52	0.18	0.31	0.37	0.32	0.40
250	0.70	0.50	0.44	0.85	0.51	0.55	0.74	0.68	0.69
176.8	1.26	1.11	1.06	1.42	1.21	1.25	1.46	1.37	1.31
125	2.40	2.32	2.28	2.52	2.43	2.46	2.60	2.51	2.40
88.39	3.71	3.67	3.62	3.76	3.72	3.70	3.75	3.65	3.57
62.5	4.69	4.65	4.59	4.67	4.64	4.58	4.56	4.47	4.43
44.19	5.38	5.33	5.31	5.30	5.30	5.24	5.18	5.13	5.12
31.25	6.38	6.38	6.37	6.31	6.35	6.30	6.25	6.25	6.23
22.097	8.42	8.47	8.46	8.38	8.48	8.42	8.41	8.43	8.41
15.625	10.62	10.70	10.68	10.60	10.73	10.68	10.70	10.73	10.73
11.049	11.95	12.04	12.03	11.93	12.07	12.03	12.09	12.12	12.13
7.813	11.58	11.67	11.66	11.55	11.67	11.64	11.72	11.75	11.76
5.524	10.30	10.36	10.36	10.24	10.34	10.32	10.39	10.41	10.42
3.906	8.02	8.08	8.08	7.94	8.05	8.03	8.03	8.07	8.08
2.762	5.68	5.76	5.77	5.61	5.72	5.72	5.63	5.70	5.72
1.953	3.49	3.57	3.59	3.44	3.54	3.56	3.41	3.50	3.53
1.381	1.85	1.91	1.94	1.82	1.90	1.92	1.78	1.85	1.88
0.977	1.30	1.35	1.37	1.29	1.35	1.37	1.26	1.31	1.34
0.691	1.33	1.38	1.40	1.33	1.39	1.41	1.28	1.33	1.35
0.488	0.41	0.43	0.43	0.41	0.43	0.44	0.37	0.39	0.40
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	3.05	3.00	2.98	3.07	3.00	2.99	3.10	3.05	3.02
d50	13.16	12.94	12.91	13.29	12.98	12.98	13.17	13.00	12.93
d90	79.65	75.70	75.77	83.17	76.40	78.06	81.55	79.00	78.36

	Subsample 1			Subsample 2			Subsample 3		
	Mean	StDev	COV	Mean	StDev	COV	Mean	StDev	COV
d10	3.01	0.04	1.18	3.02	0.04	1.42	3.06	0.04	1.35
d50	13.00	0.14	1.06	13.09	0.18	1.38	13.03	0.12	0.94
d90	77.04	2.26	2.93	79.21	3.53	4.45	79.64	1.69	2.12

**APPENDIX 5.** Comparison of sample PS76 analysed with and without a chemical dispersant (Calgon).

**Differential size listings for sample PSA\_2731 re-run.**

Percent Retained	PS76_2731 run with 3% calgon (21/01/2021)					PS76_2731 run with no dispersant (21/01/2021)				
	Rep4 Run1	Rep4 Run2	Rep4 Run3	Rep4 Run4	Rep4 Run5	Rep5 Run1	Rep5 Run2	Rep5 Run3	Rep5 Run4	Rep5 Run5
707.1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
353.6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
250	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
176.8	0.01	0.01	0.00	0.00	0.00	0.27	0.21	0.17	0.16	0.06
125	0.86	0.79	0.57	0.66	0.41	1.92	1.71	1.50	1.45	1.15
88.39	2.89	2.81	2.77	2.77	2.71	2.99	2.84	2.78	2.79	2.68
62.5	3.18	3.09	3.03	2.96	2.95	3.08	3.04	3.04	2.96	2.94
44.19	4.04	3.96	3.93	3.96	3.98	3.48	3.48	3.47	3.35	3.43
31.25	5.78	5.70	5.58	5.57	5.59	5.21	5.27	5.29	5.26	5.30
22.097	7.13	7.01	6.97	6.97	6.94	6.57	6.62	6.66	6.68	6.70
15.625	9.20	9.07	9.02	9.00	9.07	8.46	8.51	8.54	8.58	8.63
11.049	11.29	11.19	11.12	11.10	11.15	10.77	10.84	10.88	10.91	10.98
7.813	11.45	11.56	11.61	11.60	11.62	11.43	11.47	11.49	11.51	11.56
5.524	10.59	10.92	11.14	11.18	11.22	10.89	10.90	10.91	10.92	10.95
3.906	8.90	9.34	9.63	9.71	9.77	9.25	9.28	9.30	9.30	9.34
2.762	6.48	6.80	7.02	7.08	7.15	6.72	6.78	6.82	6.83	6.87
1.953	4.14	4.23	4.28	4.30	4.33	4.32	4.38	4.42	4.45	4.48
1.381	2.48	2.41	2.33	2.31	2.30	2.66	2.70	2.74	2.77	2.79
0.977	1.61	1.50	1.40	1.36	1.34	1.77	1.80	1.82	1.84	1.85
0.691	1.51	1.41	1.34	1.33	1.29	1.59	1.61	1.62	1.62	1.63
0.488	1.84	1.75	1.72	1.71	1.67	1.82	1.84	1.85	1.83	1.85
0.345	2.10	2.01	2.00	2.00	1.97	2.02	2.03	2.05	2.02	2.04
0.244	1.92	1.85	1.86	1.85	1.84	1.87	1.87	1.88	1.87	1.89
0.173	1.32	1.29	1.32	1.29	1.31	1.37	1.35	1.34	1.36	1.37
0.122	0.78	0.78	0.81	0.77	0.82	0.88	0.85	0.84	0.88	0.87
0.086	0.37	0.38	0.40	0.37	0.41	0.47	0.44	0.43	0.46	0.45
0.061	0.11	0.12	0.13	0.12	0.14	0.16	0.15	0.15	0.16	0.15
0.043	0.01	0.01	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.02
0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**APPENDIX 5.** Comparison of sample PS76 analysed with and without a chemical dispersant (Calgon).

**Original Runs of PS76\_2731 dispersed with a few drops of 3% calgon (16-17/11/2020)**

	Original Runs of PS76_2731 dispersed with a few drops of 3% calgon (16-17/11/2020)										Mean	S.D.	Max	Min
	Rep1 Run1	Rep1 Run2	Rep1 Run3	Rep2 Run1	Rep2 Run2	Rep2 Run3	Rep3 Run1	Rep3 Run2	Rep3 Run3					
D10	0.80	0.79	0.76	0.76	0.75	0.74	0.75	0.73	0.72		0.75	0.03	0.80	0.72
D50	9.52	9.41	9.21	9.57	9.51	9.44	9.31	9.16	9.09		9.36	0.17	9.57	9.09
D90	51.80	50.00	47.30	52.10	51.40	50.40	50.40	47.10	46.30		49.64	2.18	52.10	46.30
% Sand	8.01	7.50	6.82	8.17	7.96	7.76	7.59	6.69	6.49		7.44	0.62	8.17	6.49
% Mud	91.99	92.50	93.18	91.83	92.04	92.24	92.41	93.31	93.51		92.56	0.62	93.51	91.83
% Silt	76.60	77.01	77.39	76.14	76.27	76.37	76.37	77.17	77.24		76.73	0.47	77.39	76.14
% Clay	15.40	15.50	15.79	15.69	15.76	15.87	16.03	16.14	16.26		15.83	0.28	16.26	15.40

**PS76\_2731 run with 3% calgon (21/01/2021)**

	PS76_2731 run with 3% calgon (21/01/2021)					Mean	S.D.	Max	Min
	Rep4 Run1	Rep4 Run2	Rep4 Run3	Rep4 Run4	Rep4 Run5				
D10	0.98	1.08	1.09	1.14	1.14	1.09	0.06	1.14	0.98
D50	9.34	9.13	8.96	8.96	8.91	9.06	0.18	9.34	8.91
D90	47.50	46.40	45.20	45.40	44.40	45.78	1.20	47.50	44.40
% Sand	6.93	6.70	6.37	6.39	6.08	6.50	0.33	6.93	6.08
% Mud	93.07	93.30	93.63	93.61	93.92	93.50	0.33	93.92	93.07
% Silt	79.00	79.77	80.30	80.49	80.81	80.08	0.71	80.81	79.00
% Clay	14.07	13.52	13.33	13.12	13.11	13.43	0.40	14.07	13.11

**PS76\_2731 run with no dispersant (21/01/2021)**

	PS76_2731 run with no dispersant (21/01/2021)					Mean	S.D.	Max	Min
	Rep5 Run1	Rep5 Run2	Rep5 Run3	Rep5 Run4	Rep5 Run5				
D10	0.93	0.94	0.94	0.93	0.92	0.93	0.01	0.94	0.92
D50	8.86	8.81	8.77	8.73	8.67	8.77	0.07	8.86	8.67
D90	51.80	49.50	47.90	47.00	45.30	48.30	2.48	51.80	45.30
% Sand	8.26	7.80	7.48	7.36	6.84	7.55	0.53	8.26	6.84
% Mud	91.74	92.20	92.52	92.64	93.16	92.45	0.53	93.16	91.74
% Silt	77.09	77.55	77.78	77.81	78.25	77.70	0.42	78.25	77.09
% Clay	14.65	14.66	14.74	14.83	14.91	14.76	0.11	14.91	14.65

**APPENDIX 5.** Comparison of sample PS76 analysed with and without a chemical dispersant (Calgon).

**Sample PS76 all samples comparison**

	Original data with calgon (16-17/11/2020)										With calgon (21/01/2021)		Without calgon (21/01/2021)	
	2730		2731		2732		2733		2734		2731		2731	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
D10	0.78	0.09	0.75	0.03	0.90	0.11	0.72	0.14	0.74	0.03	1.09	0.06	0.93	0.01
D50	9.25	0.46	9.36	0.17	9.85	0.30	9.13	0.54	9.96	0.18	9.06	0.18	8.77	0.07
D90	46.49	1.83	49.64	2.18	53.08	2.10	50.07	2.64	61.11	2.88	45.78	1.20	48.30	2.48
% Sand	6.70	0.42	7.44	0.62	8.28	0.53	7.51	0.62	9.73	0.51	6.50	0.33	7.55	0.53
% Mud	93.30	0.42	92.56	0.62	91.72	0.53	92.49	0.62	90.27	0.51	93.50	0.33	92.45	0.53
% Silt	77.53	0.71	76.73	0.47	76.99	1.10	76.06	1.32	74.73	0.41	80.08	0.71	77.70	0.42
% Clay	15.77	0.96	15.83	0.28	14.73	0.81	16.43	1.23	15.55	0.20	13.43	0.40	14.76	0.11



APPENDIX 5. Comparison of sample PS76 analysed with and without a chemical dispersant (Calgon).

