NMBAQC

NE Atlantic Marine Biological Analytical Quality Control Scheme

Particle Size Report - PS65

Particle Size Component 2017/18

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BENCHMARK DATA– OVERVIEW

Table 1. Summary data for the benchmark replicates distributed as PS65.

	Method	% Gravel	% Sand	% Mud	Sediment Description (Post analysis)
BM REPLICATE 1	NMBAQC	50.00	48.91	1.10	Sandy Gravel
BM REPLICATE 2	NMBAQC	50.40	48.68	0.92	Sandy Gravel
BM REPLICATE 3	NMBAQC	50.22	48.83	0.95	Sandy Gravel
BM REPLICATE 4	NMBAQC	50.42	48.66	0.92	Sandy Gravel
BM REPLICATE 5	NMBAQC	50.25	48.89	0.85	Sandy Gravel
REP AVERAGE	NMBAQC	50.26	48.79	0.95	Sandy Gravel

BENCHMARK DATA – SIEVE

Table 2. Summary of sieve data for the benchmark replicates distributed as PS65.

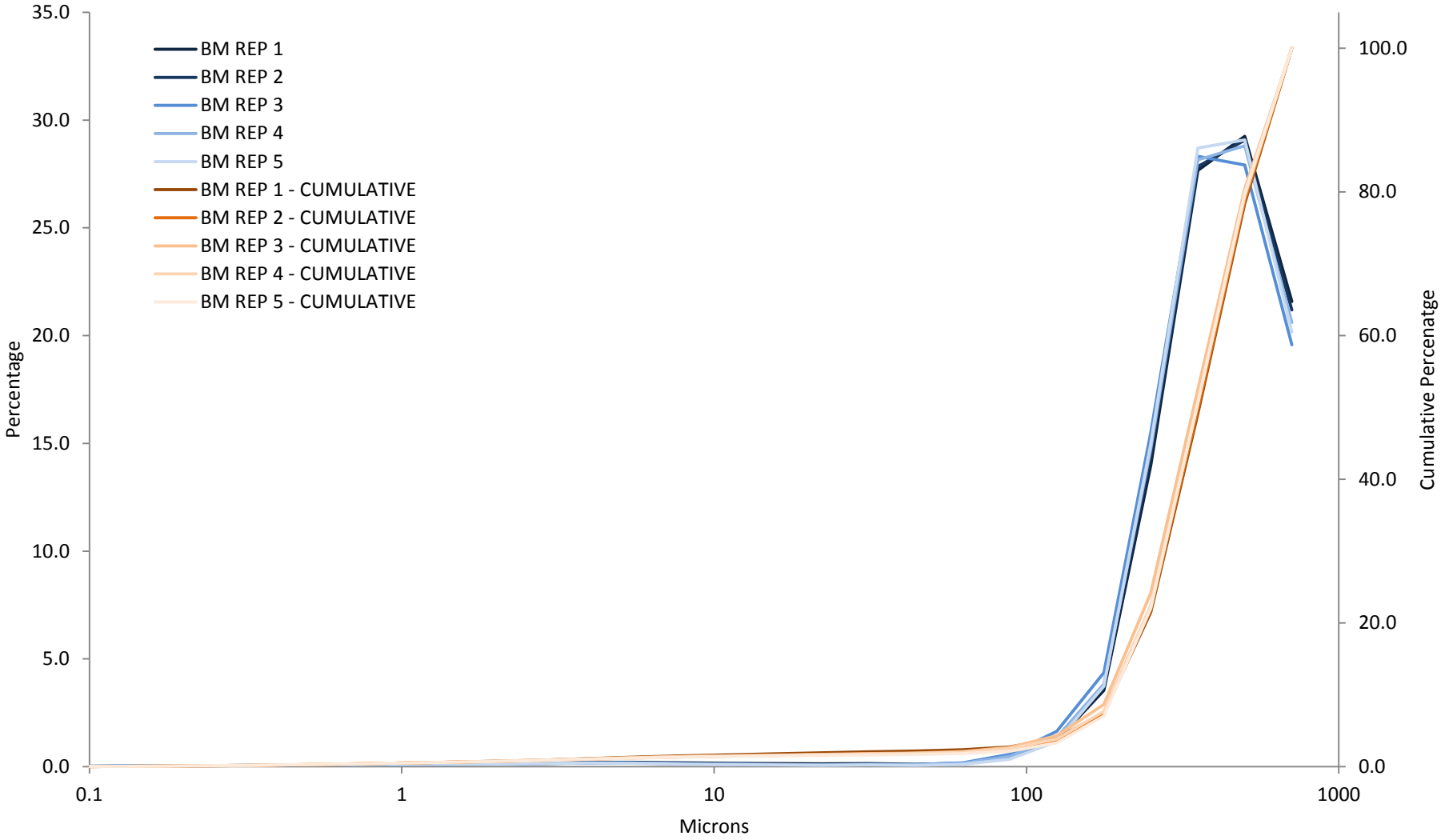
		BM REP 1	BM REP 2	BM REP 3	BM REP 4	BM REP 5
Sieves used		☑	☑	☑	☑	☑
Phi interval; mm		**Weight in grams**				
-6.50 to -6.00; 63 mm		0.00	0.00	0.00	0.00	0.00
-6.00 to -5.50; 45 mm		0.00	0.00	0.00	0.00	0.00
-5.50 to -5.00; 31.5 mm		0.00	0.00	0.00	0.00	0.00
-5.00 to -4.50; 22.4 mm		0.00	0.00	0.00	0.00	0.00
-4.50 to -4.00; 16 mm		10.18	10.08	9.37	10.89	8.68
-4.00 to -3.50; 11.2 mm		0.00	0.00	0.00	0.00	0.00
-3.50 to -3.00; 8 mm		32.62	32.31	30.34	35.35	26.87
-3.00 to -2.50; 5.6 mm		219.76	232.36	234.06	225.74	232.06
-2.50 to -2.00; 4 mm		83.12	77.51	69.00	75.62	78.48
-2.00 to -1.50; 2.8 mm		0.25	0.36	0.04	0.15	0.45
-1.50 to -1.00; 2 mm		0.07	0.03	0.02	0.02	0.03
-1.00 to -0.50; 1.4 mm		0.03	0.02	0.01	0.01	0.02
-0.50 to 0.00; 1 mm		0.02	0.01	0.01	0.01	0.01
Weight (g) < 0.00; >1 mm		346.05	352.68	342.85	347.79	346.60
Weight (g) > 0.00; <1 mm	Base Pan	1.41	0.65	0.49	0.74	1.49
	Oven Dried	344.58	346.32	339.34	341.19	341.54
Total Weight (g)		692.04	699.65	682.68	689.72	689.63

BENCHMARK DATA – LASER

Table 3. Summary of final laser data for the benchmark replicates distributed as PS65.

	BM REP 1	BM REP 2	BM REP 3	BM REP 4	BM REP 5
0.00 to 0.50; (707 µm)	21.59	21.19	19.58	20.60	20.17
0.50 to 1.00; (500 µm)	29.25	29.07	27.92	28.81	29.09
1.00 to 1.50; (353.6 µm)	27.67	27.85	28.33	28.15	28.70
1.50 to 2.00; (250 µm)	13.97	14.43	15.50	14.74	14.98
2.00 to 2.50; (176.8 µm)	3.55	3.73	4.36	3.84	3.74
2.50 to 3.00; (125 µm)	1.21	1.29	1.64	1.36	1.17
3.00 to 3.50; (88.39 µm)	0.41	0.44	0.58	0.48	0.34
3.50 to 4.00; (62.5 µm)	0.16	0.15	0.19	0.16	0.10
4.00 to 4.50; (44.19 µm)	0.11	0.09	0.10	0.08	0.06
4.50 to 5.00; (31.25 µm)	0.15	0.10	0.11	0.10	0.08
5.00 to 5.50; (22.097 µm)	0.13	0.09	0.08	0.08	0.07
5.50 to 6.00; (15.625 µm)	0.14	0.10	0.10	0.09	0.08
6.00 to 6.50; (11.049 µm)	0.16	0.12	0.13	0.11	0.10
6.50 to 7.00; (7.813 µm)	0.18	0.14	0.15	0.14	0.13
7.00 to 7.50; (5.524 µm)	0.20	0.17	0.18	0.17	0.16
7.50 to 8.00; (3.906 µm)	0.20	0.17	0.18	0.18	0.17
8.00 to 8.50; (2.762 µm)	0.17	0.14	0.15	0.15	0.14
8.50 to 9.00; (1.953 µm)	0.13	0.12	0.12	0.13	0.12
9.00 to 9.50; (1.381 µm)	0.12	0.11	0.12	0.12	0.11
9.50 to 10.00; (0.977 µm)	0.12	0.11	0.11	0.12	0.11
10.00 to 10.50; (0.691 µm)	0.10	0.10	0.10	0.10	0.10
10.50 to 11.00; (0.488 µm)	0.08	0.08	0.08	0.08	0.08
11.00 to 11.50; (0.345 µm)	0.06	0.07	0.07	0.07	0.07
11.50 to 12.00; (0.244 µm)	0.05	0.05	0.05	0.05	0.05
12.00 to 12.50; (0.173 µm)	0.03	0.04	0.04	0.04	0.04
12.50 to 13.00; (0.122 µm)	0.03	0.03	0.03	0.03	0.03
13.00 to 13.50; (0.086 µm)	0.02	0.02	0.02	0.02	0.02
Total	100.00	100.00	100.00	100.00	100.00

Figure 1. Particle size distribution curves resulting from final laser analysis of 5 replicate samples of sediment distibuted as PS65 (Benchmark Data).



BENCHMARK DATA

Table 4. Sample statistics for laser replicates and Coefficient of Variance for PS65.

	Replicate Sample 1											
	Rep 1			Rep 2			Rep 3					
	Run a	Run b	Run c	Run a	Run b	Run c	Run a	Run b	Run c	Mean	St.Dev	COV
d10	266.17	265.14	264.21	267.08	267.18	266.85	265.49	265.52	264.93	265.84	1.04	0.39
d50	509.83	509.05	507.23	503.79	504.74	506.93	500.15	501.62	501.43	504.97	3.49	0.69
d90	855.24	854.78	852.02	849.95	852.82	855.11	846.47	848.87	848.74	851.56	3.20	0.38
Mean	497.58	496.61	494.61	493.47	494.78	496.22	490.01	491.10	490.71	493.90	2.76	0.56

	Replicate Sample 2											
	Rep 1			Rep 2			Rep 3					
	Run a	Run b	Run c	Run a	Run b	Run c	Run a	Run b	Run c	Mean	St.Dev	COV
d10	268.16	267.85	268.05	262.10	261.29	261.28	268.27	268.02	267.67	265.86	3.24	1.22
d50	503.07	505.25	505.72	496.88	493.31	495.90	505.88	503.25	504.50	501.53	4.81	0.96
d90	848.97	851.69	850.02	845.11	843.35	846.48	853.00	850.08	852.39	849.01	3.36	0.40
mean	493.56	494.89	494.85	485.51	483.12	485.18	495.66	493.56	494.68	491.22	5.05	1.03

	Replicate Sample 3											
	Rep 1			Rep 2			Rep 3					
	Run a	Run b	Run c	Run a	Run b	Run c	Run a	Run b	Run c	Mean	St.Dev	COV
d10	261.20	260.72	261.10	255.11	255.17	254.92	256.98	256.21	256.58	258.39	4.50	1.74
d50	488.52	488.08	488.99	481.57	483.53	482.79	483.80	482.95	483.94	486.51	6.64	1.37
d90	839.43	837.91	838.11	835.84	838.77	836.44	838.21	837.83	836.69	838.74	3.92	0.47
mean	479.86	478.95	479.67	472.22	473.84	472.75	474.89	474.01	474.26	477.12	6.67	1.40

	Replicate Sample 4											
	Rep 1			Rep 2			Rep 3					
	Run a	Run b	Run c	Run a	Run b	Run c	Run a	Run b	Run c	Mean	St.Dev	COV
d10	268.69	267.90	268.17	262.31	262.71	261.93	261.87	261.20	261.20	264.00	3.23	1.22
d50	502.96	501.27	501.87	491.26	492.81	491.78	495.35	494.78	495.37	496.38	4.50	0.91
d90	848.87	846.17	848.06	839.50	840.68	841.12	846.65	846.58	847.71	845.04	3.58	0.42
mean	493.54	491.57	492.62	481.72	483.10	482.21	485.24	484.67	485.44	486.68	4.63	0.95

	Replicate Sample 5											
	Rep 1			Rep 2			Rep 3					
	Run a	Run b	Run c	Run a	Run b	Run c	Run a	Run b	Run c	Mean	St.Dev	COV
d10	269.36	268.29	267.77	264.30	263.60	263.25	271.67	270.62	270.19	267.67	3.20	1.19
d50	497.88	495.26	494.65	490.33	487.81	487.21	503.78	502.54	500.83	495.59	6.20	1.25
d90	842.07	841.42	842.35	838.42	835.01	835.73	848.77	847.91	845.72	841.93	4.95	0.59
mean	489.38	487.52	487.26	481.91	479.47	479.35	495.23	493.89	492.25	487.36	6.01	1.23

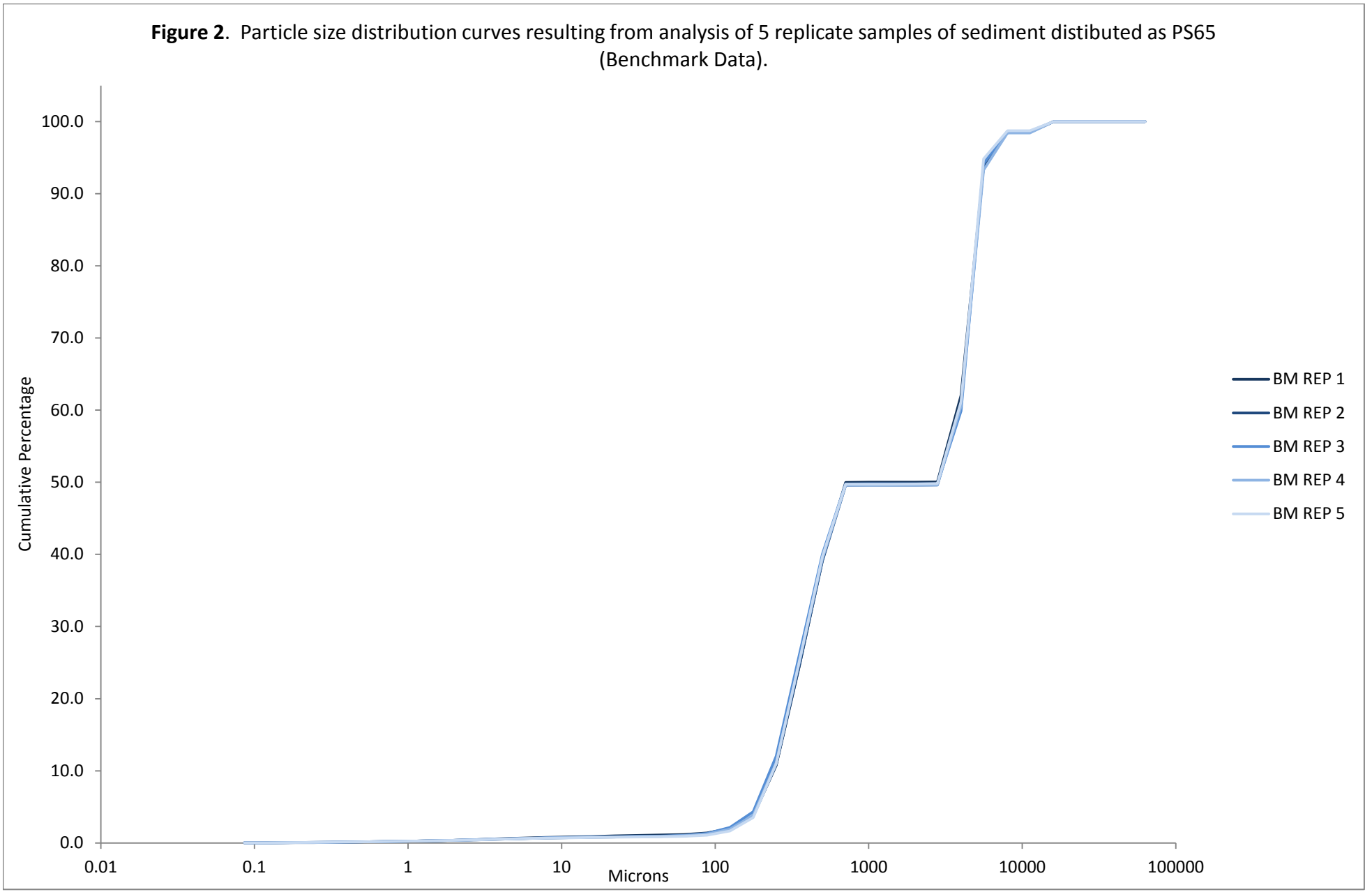
$$COV = \left(\frac{StDev}{Mean}\right)*100$$

Good reproducibility when: COV is <3% for D50
COV is <5% for D10 and D90
All limits double when the D50 is <10microns.

All Benchmark laser replicates distributed as PS64 show a COV <3% for the D50 and <5% for the D10 and D90.

The laser replicates show good reproducibility.

Figure 2. Particle size distribution curves resulting from analysis of 5 replicate samples of sediment distibuted as PS65 (Benchmark Data).



PARTICIPANT DATA

Table 5. Summary of equipment and methods used by participants and sample summary data for PS65.

Lab	Equipment Used		Method Used	Chemical Dispersant Used	Peroxide pre-treatment Used	Summary Data			Sediment Description (Post Analysis)
	Sieves	Laser				% Gravel	% Sand	% Mud	
Benchmark Average	YES	YES	NMBAQC	NO	NO	50.26	48.79	0.95	Sandy Gravel
PSA_2401	YES	YES	NMBAQC	NO	NO	50.13	49.78	0.09	Sandy Gravel
PSA_2402	YES	YES	NMBAQC	NO	NO	49.9	48.8	1.3	Sandy Gravel
PSA_2403	YES	YES	NMBAQC	NO	NO	49.43	50.00	0.57	Sandy Fine Gravel
PSA_2404	YES	YES	NMBAQC	NO	NO	49.6	50.1	0.3	Sandy Gravel
PSA_2405	YES	YES	NMBAQC	NO	NO	50	47	3	Sandy Gravel
PSA_2406	YES	YES	NMBAQC	NO	NO	49.36	48.67	1.97	Sandy Gravel
PSA_2407	YES	YES	NMBAQC	NO	NO	49.97	49.11	0.92	Sandy Gravel
PSA_2408	YES	NO	OTHER	NO	NO	50.2	49.7	0.1	Sandy Gravel
PSA_2409	YES	NO	OTHER	NO	NO	50.2	49.7	0.1	Sandy Gravel
PSA_2410	YES	YES	NMBAQC	NO	NO	55.1	44.9	0.0	Sandy Gravel
PSA_2411	YES	YES	NMBAQC	NO	NO	50.13	48.98	0.89	Sandy Gravel
PSA_2412	YES	YES	NMBAQC	NO	NO	47.68	52.32	0.00	Sandy Gravel
PSA_2413	YES	YES	NMBAQC	NO	NO	49.1	48.4	2.5	Sandy Gravel
PSA_2414	YES	YES	NMBAQC	NO	NO	49.8	48.7	1.5	Sandy Gravel
PSA_2415	NO	YES	NMBAQC	NO	NO	n/a*	98.08*	1.92*	Sand
PSA_2416	YES	YES	NMBAQC	NO	NO	50.06	49.38	0.56	Very Fine Gravel

NB: Decimal places as supplied by participant.

* Participant only analyses <1mm fraction.

PARTICIPANT DATA

Table 6. Raw sieve data (weight in grams) provided by participants for PS65.

		Participant																
Phi interval (explicit) + sieve mesh		Benchmark Average	PSA_2401	PSA_2402	PSA_2403	PSA_2404	PSA_2405	PSA_2406	PSA_2407	PSA_2408	PSA_2409	PSA_2410	PSA_2411	PSA_2412	PSA_2413	PSA_2414	PSA_2415	PSA_2416
-6.50 to -6.00; 63 mm		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/p	0.00
-6.00 to -5.50; 45 mm		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/p	0.00
-5.50 to -5.00; 31.5 mm		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/p	0.00
-5.00 to -4.50; 22.4 mm		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/p	0.00
-4.50 to -4.00; 16 mm		9.84	8.60	8.70	11.13	9.18	11.03	8.71	10.34	10.15	10.18	9.34	8.98	10.11	0.00	10.94	n/p	9.20
-4.00 to -3.50; 11.2 mm		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/p	0.00
-3.50 to -3.00; 8 mm		31.50	22.58	18.07	3.25	28.98	18.82	24.91	28.09	25.68	27.58	16.33	27.97	11.29	15.72	26.65	n/p	25.15
-3.00 to -2.50; 5.6 mm		228.80	254.91	194.93	248.39	244.66	289.87	222.05	246.24	287.03	276.76	258.80	233.43	214.29	241.81	249.88	n/p	278.08
-2.50 to -2.00; 4 mm		76.75	65.55	73.91	81.73	73.43	78.18	69.83	85.06	74.40	82.51	112.10	72.98	71.84	74.47	82.98	n/p	84.31
-2.00 to -1.50; 2.8 mm		0.25	0.10	0.13	0.70	0.07	0.13	0.28	0.45	0.00	0.00	0.00	0.37	0.40	0.00	0.01	n/p	0.28
-1.50 to -1.00; 2 mm		0.03	0.01	0.06	0.01	0.09	0.00	0.00	0.07	0.00	0.05	0.00	0.01	0.01	0.00	0.01	n/p	0.01
-1.00 to -0.50; 1.4 mm		0.02	0.01	0.01	0.00	0.07	0.00	0.02	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.01	n/p	0.01
-0.50 to 0.00; 1 mm		0.01	0.07	0.02	0.06	0.03	0.03	0.03	0.01	0.14	0.06	0.03	0.01	0.03	0.19	0.01	n/p	0.04
Total		347.19	351.83	295.83	345.27	356.51	398.06	325.83	370.28	397.40	397.15	396.60	343.76	307.97	332.19	370.49	n/p	397.08
Summary Data																		
< 0.00; >1 mm		347.48	351.83	295.83	345.27	356.51	398.06	325.83	370.28	397.40	397.15	396.60	343.76	307.97	332.19	370.49	n/p	397.08
> 0.00; <1 mm	Base pan	0.84	1.01	0.07	4.36	0.57	0.79	0.91	0.52	0.74	-	0.62	0.87	0.86	29.93	0.38	n/p	23.52
	Oven dried	341.54	348.82	296.70	348.81	-	398.11	333.22	370.15	393.20	394.11	322.80	341.12	336.97	314.03	381.49	n/p	396.16
Total Sample Weight		690.42	701.66	889.23	698.44	357.08	796.96	659.96	740.95	791.34	791.26	720.02	685.75	645.80	676.15	752.36	n/p	816.76

- no data submitted.

n/p - not participating in sieve analysis.

PARTICIPANT DATA

Table 7. Summary of final laser data for the participants for sediment distributed as PS65.

	BM Average	PSA_2401	PSA_2402	PSA_2403	PSA_2404	PSA_2405	PSA_2406	PSA_2407	PSA_2408	PSA_2409	PSA_2410	PSA_2411	PSA_2412	PSA_2413	PSA_2414	PSA_2415	PSA_2416
0.00 to 0.50; (707 µm)	20.63	24.56	16.28	16.75	0.00	11.93	17.37	20.13	-	-	37.12	19.65	19.64	12.93	12.94	15.80	14.47
0.50 to 1.00; (500 µm)	28.83	33.29	26.69	27.55	3.94	26.74	24.85	28.66	-	-	37.27	28.38	28.41	24.89	25.38	25.63	24.75
1.00 to 1.50; (353.6 µm)	28.14	27.16	27.99	28.99	14.64	29.81	28.73	28.35	-	-	20.72	28.63	28.26	28.41	29.21	27.82	27.80
1.50 to 2.00; (250 µm)	14.73	12.69	18.81	18.59	25.12	19.15	16.78	15.00	-	-	4.87	15.34	17.83	19.67	20.45	19.17	20.26
2.00 to 2.50; (176.8 µm)	3.84	2.14	7.06	6.20	27.50	6.22	5.28	4.02	-	-	0.02	4.10	5.68	7.55	7.38	7.82	8.93
2.50 to 3.00; (125 µm)	1.33	0.00	0.65	0.48	18.94	0.38	2.00	1.37	-	-	0.00	1.46	0.17	1.09	1.10	1.32	1.95
3.00 to 3.50; (88.39 µm)	0.45	0.00	0.00	0.00	7.46	0.00	0.76	0.48	-	-	0.00	0.49	0.00	0.07	0.07	0.06	0.20
3.50 to 4.00; (62.5 µm)	0.15	0.00	0.00	0.32	1.18	0.57	0.33	0.15	-	-	0.00	0.16	0.00	0.48	0.50	0.46	0.51
4.00 to 4.50; (44.19 µm)	0.09	0.00	0.00	0.50	0.09	0.85	0.20	0.08	-	-	0.00	0.08	0.00	0.48	0.45	0.45	0.47
4.50 to 5.00; (31.25 µm)	0.11	0.00	0.00	0.13	0.51	0.51	0.14	0.09	-	-	0.00	0.10	0.00	0.18	0.18	0.08	0.09
5.00 to 5.50; (22.097 µm)	0.09	0.00	0.00	0.00	0.37	0.34	0.15	0.09	-	-	0.00	0.07	0.00	0.08	0.06	0.00	0.00
5.50 to 6.00; (15.625 µm)	0.11	0.01	0.05	0.00	0.02	0.44	0.17	0.10	-	-	0.00	0.09	0.00	0.25	0.29	0.01	0.01
6.00 to 6.50; (11.049 µm)	0.12	0.03	0.25	0.08	0.00	0.58	0.26	0.12	-	-	0.00	0.11	0.00	0.40	0.38	0.18	0.10
6.50 to 7.00; (7.813 µm)	0.15	0.03	0.34	0.12	0.00	0.59	0.29	0.15	-	-	0.00	0.13	0.00	0.51	0.42	0.26	0.22
7.00 to 7.50; (5.524 µm)	0.17	0.03	0.39	0.13	0.03	0.51	0.35	0.17	-	-	0.00	0.16	0.00	0.60	0.46	0.29	0.21
7.50 to 8.00; (3.906 µm)	0.18	0.03	0.42	0.12	0.04	0.43	0.37	0.17	-	-	0.00	0.17	0.00	0.63	0.45	0.29	0.04
8.00 to 8.50; (2.762 µm)	0.15	0.03	0.41	0.04	0.05	0.36	0.33	0.14	-	-	0.00	0.14	0.00	0.58	0.27	0.26	0.00
8.50 to 9.00; (1.953 µm)	0.12	0.02	0.35	0.00	0.06	0.28	0.31	0.12	-	-	0.00	0.12	0.00	0.41	0.00	0.09	0.00
9.00 to 9.50; (1.381 µm)	0.12	0.00	0.25	0.00	0.05	0.21	0.30	0.11	-	-	0.00	0.11	0.00	0.10	0.00	0.00	0.00
9.50 to 10.00; (0.977 µm)	0.11	0.00	0.07	0.00	0.00	0.09	0.26	0.11	-	-	0.00	0.11	0.00	0.00	0.00	0.00	0.00
10.00 to 10.50; (0.691 µm)	0.10	0.00	0.00	0.00	0.00	0.00	0.21	0.10	-	-	0.00	0.10	0.00	0.12	0.00	0.00	0.00
10.50 to 11.00; (0.488 µm)	0.08	0.00	0.00	0.00	0.00	0.00	0.16	0.08	-	-	0.00	0.08	0.00	0.27	0.00	0.00	0.00
11.00 to 11.50; (0.345 µm)	0.07	0.00	0.00	0.00	0.00	0.00	0.12	0.07	-	-	0.00	0.07	0.00	0.21	0.00	0.00	0.00
11.50 to 12.00; (0.244 µm)	0.05	0.00	0.00	0.00	0.00	0.00	0.09	0.05	-	-	0.00	0.05	0.00	0.11	0.00	0.00	0.00
12.00 to 12.50; (0.173 µm)	0.04	0.00	0.00	0.00	0.00	0.00	0.07	0.04	-	-	0.00	0.04	0.00	0.00	0.00	0.00	0.00
12.50 to 13.00; (0.122 µm)	0.03	0.00	0.00	0.00	0.00	0.00	0.05	0.03	-	-	0.00	0.03	0.00	0.00	0.00	0.00	0.00
13.00 to 13.50; (0.086 µm)	0.02	0.00	0.00	0.00	0.00	0.00	0.05	0.02	-	-	0.00	0.02	0.00	0.00	0.00	0.00	0.00
Total	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	-	-	100.000	100.000	100.000	100.000	100.000	99.999	100.000

Figure 3. Particle size distribution curves from all participating laboratories and the Benchmark Average for sediment distributed as PS65.

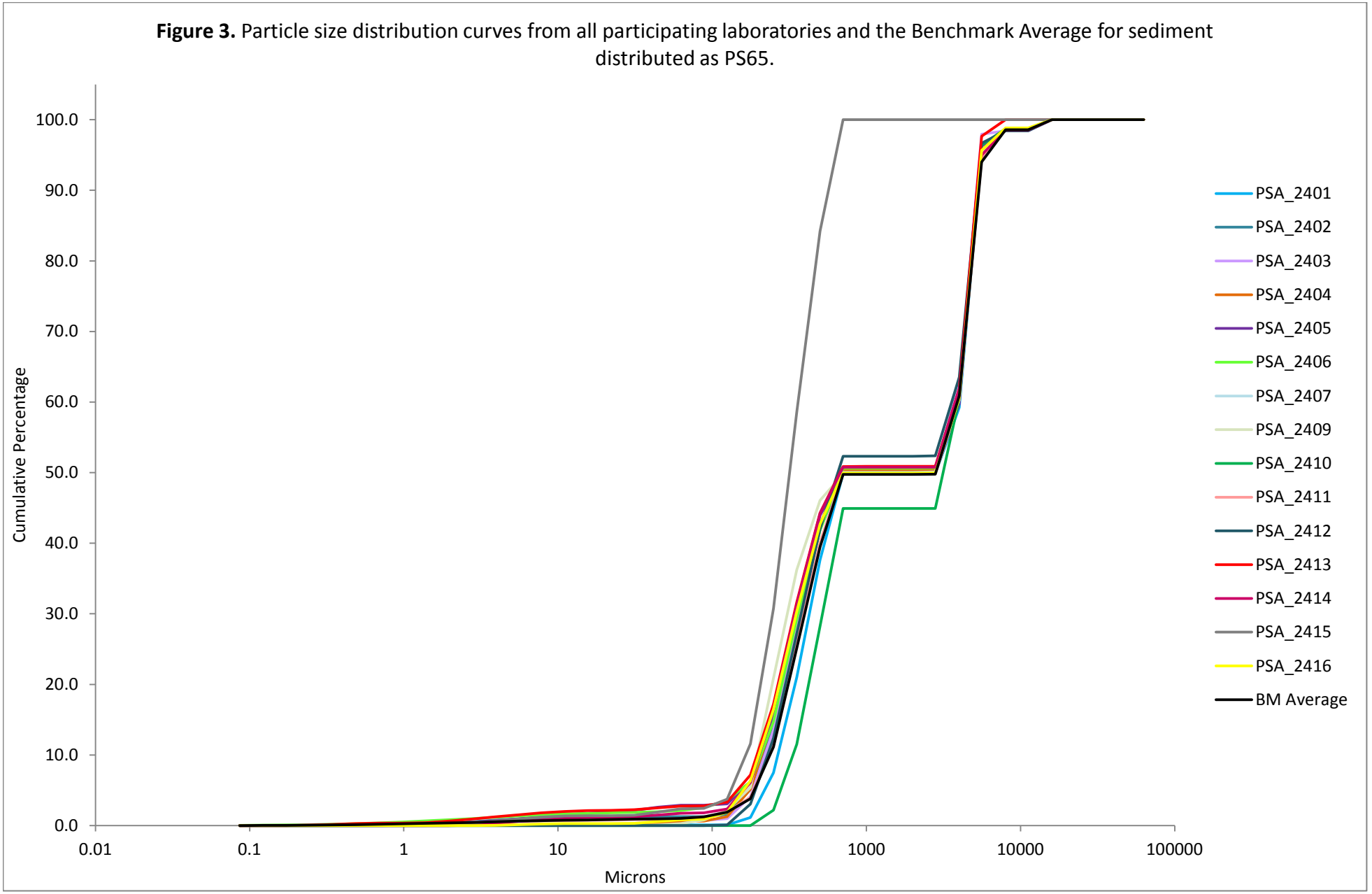


Figure 4. Bar chart showing the percentage gravel, sand, silt and clay recorded by each participating laboratory and the benchmark average for P65.

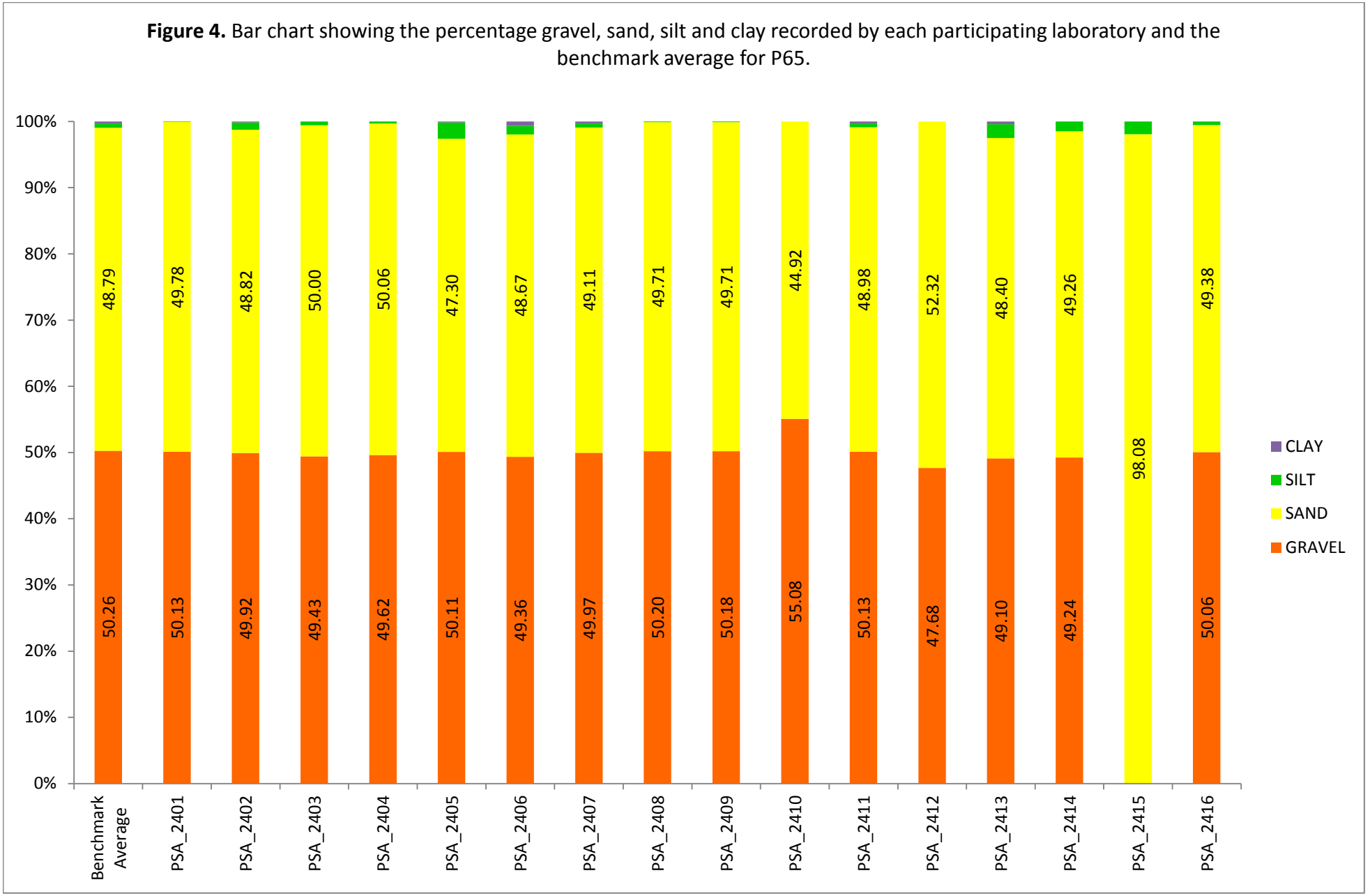
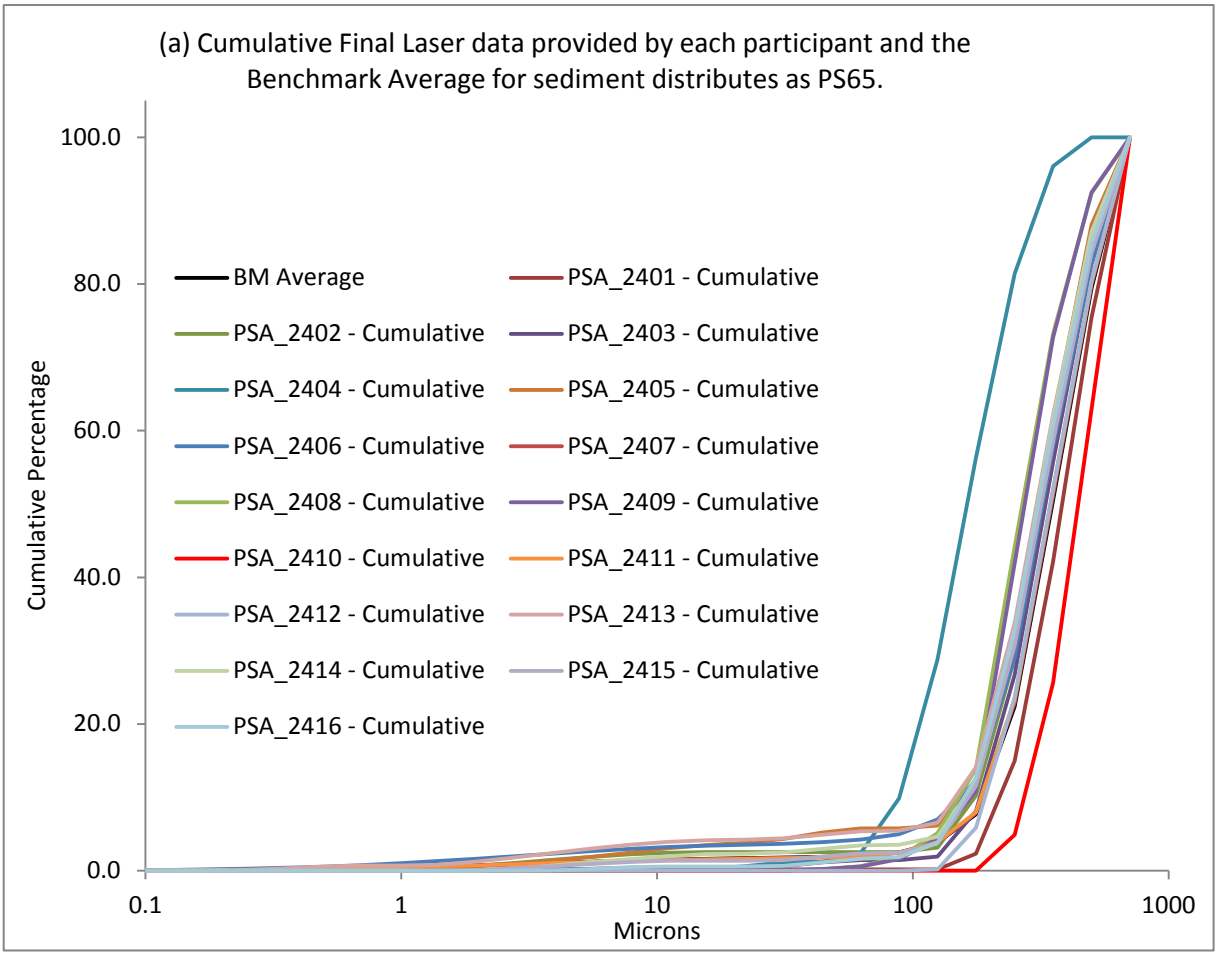
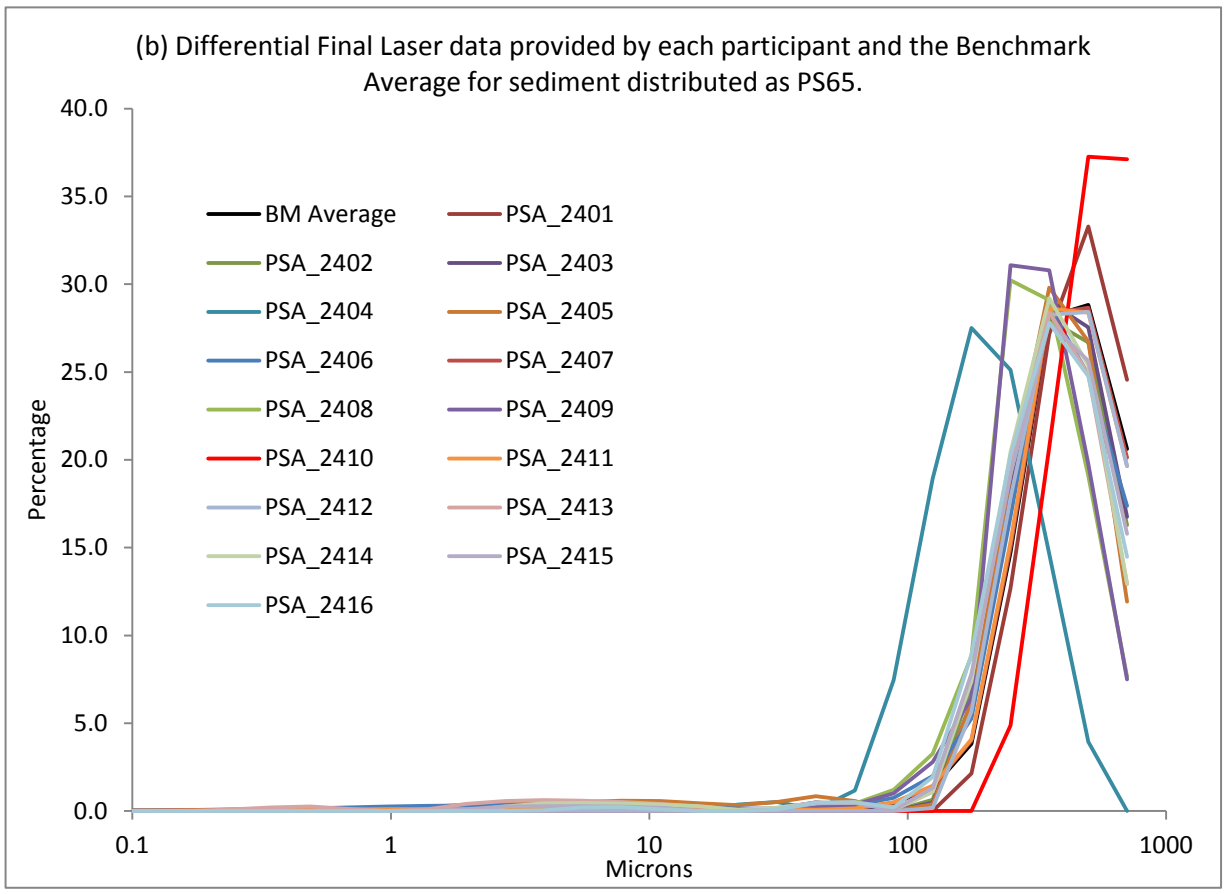


Figure 5. Final laser data provided by each participant and the Benchmark Average for sediment distributed as PS65, shown as (a) cumulative and (b) differential.





APPENDICES

APPENDIX 1. Gradistat output of size categories based on final merged data provided by each participant and the Benchmark Average for sediment distributed as PS65 (used to create Figure 4).

	BM Average	PSA_2401	PSA_2402	PSA_2403	PSA_2404	PSA_2405	PSA_2406	PSA_2407	PSA_2408	PSA_2409	PSA_2410	PSA_2411	PSA_2412	PSA_2413	PSA_2414	PSA_2415	PSA_2416
VERY COARSE GRAVEL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COARSE GRAVEL	1.42	1.23	1.47	1.59	1.28	1.39	1.32	1.40	1.28	1.29	1.30	1.31	1.57	0.00	1.45	0.00	1.16
MEDIUM GRAVEL	4.56	3.22	3.05	0.47	4.03	2.37	3.77	3.79	3.24	3.49	2.27	4.08	1.75	2.32	3.54	0.00	3.17
FINE GRAVEL	44.23	45.67	45.37	47.27	44.28	46.34	44.23	44.71	45.67	45.40	51.51	44.68	44.31	46.78	44.24	0.00	45.69
VERY FINE GRAVEL	0.04	0.02	0.03	0.10	0.02	0.02	0.04	0.07	0.00	0.01	0.00	0.06	0.06	0.00	0.00	0.00	0.04
VERY COARSE SAND	0.00	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.02	0.01	0.00	0.00	0.00	0.03	0.00	0.00	0.01
COARSE SAND	24.60	28.84	21.52	22.40	20.85	19.29	21.38	24.41	13.31	13.58	33.41	23.95	25.12	19.24	19.45	41.43	19.59
MEDIUM SAND	21.32	19.87	23.44	24.06	24.35	24.43	23.04	21.69	29.53	30.82	11.50	21.93	24.13	24.46	25.20	46.99	24.00
FINE SAND	2.57	1.07	3.86	3.38	4.53	3.30	3.69	2.69	6.03	4.61	0.01	2.77	3.06	4.40	4.31	9.14	5.43
VERY FINE SAND	0.30	0.00	0.00	0.16	0.31	0.28	0.55	0.32	0.82	0.68	0.00	0.33	0.00	0.28	0.29	0.52	0.35
VERY COARSE SILT	0.10	0.00	0.00	0.32	0.20	0.68	0.17	0.09	0.09	0.11	0.00	0.09	0.00	0.34	0.32	0.53	0.28
COARSE SILT	0.10	0.01	0.03	0.00	0.00	0.39	0.16	0.09	0.00	0.00	0.00	0.08	0.00	0.16	0.18	0.01	0.00
MEDIUM SILT	0.13	0.03	0.29	0.10	0.04	0.58	0.28	0.14	0.00	0.00	0.00	0.12	0.00	0.47	0.41	0.45	0.16
FINE SILT	0.18	0.03	0.41	0.13	0.06	0.47	0.36	0.17	0.00	0.00	0.00	0.16	0.00	0.62	0.46	0.58	0.12
VERY FINE SILT	0.14	0.02	0.38	0.02	0.03	0.32	0.33	0.13	0.00	0.00	0.00	0.13	0.00	0.50	0.14	0.35	0.00
CLAY	0.30	0.00	0.16	0.00	0.00	0.15	0.67	0.30	0.00	0.00	0.00	0.31	0.00	0.41	0.00	0.00	0.00

GRAVEL	50.26	50.13	49.92	49.43	49.62	50.11	49.36	49.97	50.20	50.18	55.08	50.13	47.68	49.10	49.24	0.00	50.06
SAND	48.79	49.78	48.82	50.00	50.06	47.30	48.67	49.11	49.71	49.71	44.92	48.98	52.32	48.40	49.26	98.08	49.38
SILT	0.64	0.09	1.11	0.57	0.33	2.44	1.30	0.62	0.09	0.11	0.00	0.59	0.00	2.09	1.50	1.92	0.56
CLAY	0.30	0.00	0.16	0.00	0.00	0.15	0.67	0.30	0.00	0.00	0.00	0.31	0.00	0.41	0.00	0.00	0.00

APPENDIX 2. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmerk Replicates for sediment distributed as PS65.

Exercise Code:	PS65
LabCode:	PSA_2401
Sample Code:	PS652401

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material or not analysed)	Grams (mark as "0" for no material or not analysed)
-6.50 to -6.00; 63 mm	0.0000	0.0000
-6.00 to -5.50; 45 mm	0.0000	0.0000
-5.50 to -5.00; 31.5 mm	0.0000	0.0000
-5.00 to -4.50; 22.4 mm	0.0000	0.0000
-4.50 to -4.00; 16 mm	1.2257	8.6000
-4.00 to -3.50; 11.2 mm	0.0000	0.0000
-3.50 to -3.00; 8 mm	3.2181	22.5800
-3.00 to -2.50; 5.6 mm	36.3296	254.9100
-2.50 to -2.00; 4 mm	9.3421	65.5500
-2.00 to -1.50; 2.8 mm	0.0143	0.1000
-1.50 to -1.00; 2 mm	0.0014	0.0100
-1.00 to -0.50; 1.4 mm	0.0014	0.0100
-0.50 to 0.00; 1 mm	0.0100	0.0700
0.00 to 0.50; (707 µm)	12.2437	85.9092
0.50 to 1.00; (500 µm)	16.5960	116.4476
1.00 to 1.50; (353.6 µm)	13.5396	95.0017
1.50 to 2.00; (250 µm)	6.3256	44.3845
2.00 to 2.50; (176.8 µm)	1.0655	7.4761
2.50 to 3.00; (125 µm)	0.0000	0.0000
3.00 to 3.50; (88.39 µm)	0.0000	0.0000
3.50 to 4.00; (62.5 µm)	0.0000	0.0000
4.00 to 4.50; (44.19 µm)	0.0000	0.0000
4.50 to 5.00; (31.25 µm)	0.0000	0.0000
5.00 to 5.50; (22.097 µm)	0.0000	0.0000
5.50 to 6.00; (15.625 µm)	0.0062	0.0438
6.00 to 6.50; (11.049 µm)	0.0132	0.0924
6.50 to 7.00; (7.813 µm)	0.0141	0.0990
7.00 to 7.50; (5.524 µm)	0.0146	0.1025
7.50 to 8.00; (3.906 µm)	0.0149	0.1046
8.00 to 8.50; (2.762 µm)	0.0137	0.0959
8.50 to 9.00; (1.953 µm)	0.0104	0.0728
9.00 to 9.50; (1.381 µm)	0.0000	0.0000
9.50 to 10.00; (0.977 µm)	0.0000	0.0000
10.00 to 10.50; (0.691 µm)	0.0000	0.0000
10.50 to 11.00; (0.488 µm)	0.0000	0.0000
11.00 to 11.50; (0.345 µm)	0.0000	0.0000
11.50 to 12.00; (0.244 µm)	0.0000	0.0000
12.00 to 12.50; (0.173 µm)	0.0000	0.0000
12.50 to 13.00; (0.122 µm)	0.0000	0.0000
13.00 to 13.50; (0.086 µm)	0.0000	0.0000
TOTAL	100.0001	701.6601

Notes:

APPENDIX 2. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmerk Replicates for sediment distributed as PS65.

Exercise Code:	PS65
LabCode:	PSA_2402
Sample Code:	PS652402

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material or not analysed)	Grams
-6.50 to -6.00; 63 mm	0.0000	
-6.00 to -5.50; 45 mm	0.0000	
-5.50 to -5.00; 31.5 mm	0.0000	
-5.00 to -4.50; 22.4 mm	0.0000	
-4.50 to -4.00; 16 mm	1.4681	
-4.00 to -3.50; 11.2 mm	0.0000	
-3.50 to -3.00; 8 mm	3.0493	
-3.00 to -2.50; 5.6 mm	32.8940	
-2.50 to -2.00; 4 mm	12.4722	
-2.00 to -1.50; 2.8 mm	0.0219	
-1.50 to -1.00; 2 mm	0.0101	
-1.00 to -0.50; 1.4 mm	0.0017	
-0.50 to 0.00; 1 mm	0.0034	
0.00 to 0.50; (707 µm)	8.1532	
0.50 to 1.00; (500 µm)	13.3656	
1.00 to 1.50; (353.6 µm)	14.0177	
1.50 to 2.00; (250 µm)	9.4214	
2.00 to 2.50; (176.8 µm)	3.5339	
2.50 to 3.00; (125 µm)	0.3236	
3.00 to 3.50; (88.39 µm)	0.0000	
3.50 to 4.00; (62.5 µm)	0.0000	
4.00 to 4.50; (44.19 µm)	0.0000	
4.50 to 5.00; (31.25 µm)	0.0000	
5.00 to 5.50; (22.097 µm)	0.0000	
5.50 to 6.00; (15.625 µm)	0.0261	
6.00 to 6.50; (11.049 µm)	0.1259	
6.50 to 7.00; (7.813 µm)	0.1685	
7.00 to 7.50; (5.524 µm)	0.1947	
7.50 to 8.00; (3.906 µm)	0.2110	
8.00 to 8.50; (2.762 µm)	0.2063	
8.50 to 9.00; (1.953 µm)	0.1734	
9.00 to 9.50; (1.381 µm)	0.1235	
9.50 to 10.00; (0.977 µm)	0.0346	
10.00 to 10.50; (0.691 µm)	0.0000	
10.50 to 11.00; (0.488 µm)	0.0000	
11.00 to 11.50; (0.345 µm)	0.0000	
11.50 to 12.00; (0.244 µm)	0.0000	
12.00 to 12.50; (0.173 µm)	0.0000	
12.50 to 13.00; (0.122 µm)	0.0000	
13.00 to 13.50; (0.086 µm)	0.0000	
TOTAL	100.0000	0.0000

Notes: Fit assessment (weighted residual) of 1.872 is high. Altering the refractive index and absorption values had little or no effect on the Fit values or particle distribution.

APPENDIX 2. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmerk Replicates for sediment distributed as PS65.

Exercise Code:	PS65
LabCode:	PSA_2403
Sample Code:	PS652403

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material or not analysed)	Grams
-6.50 to -6.00; 63 mm	0.0000	
-6.00 to -5.50; 45 mm	0.0000	
-5.50 to -5.00; 31.5 mm	0.0000	
-5.00 to -4.50; 22.4 mm	0.0000	
-4.50 to -4.00; 16 mm	1.5936	
-4.00 to -3.50; 11.2 mm	0.0000	
-3.50 to -3.00; 8 mm	0.4653	
-3.00 to -2.50; 5.6 mm	35.5635	
-2.50 to -2.00; 4 mm	11.7018	
-2.00 to -1.50; 2.8 mm	0.1002	
-1.50 to -1.00; 2 mm	0.0014	
-1.00 to -0.50; 1.4 mm	0.0000	
-0.50 to 0.00; 1 mm	0.0086	
0.00 to 0.50; (707 µm)	8.4695	
0.50 to 1.00; (500 µm)	13.9303	
1.00 to 1.50; (353.6 µm)	14.6578	
1.50 to 2.00; (250 µm)	9.3983	
2.00 to 2.50; (176.8 µm)	3.1363	
2.50 to 3.00; (125 µm)	0.2407	
3.00 to 3.50; (88.39 µm)	0.0000	
3.50 to 4.00; (62.5 µm)	0.1613	
4.00 to 4.50; (44.19 µm)	0.2549	
4.50 to 5.00; (31.25 µm)	0.0679	
5.00 to 5.50; (22.097 µm)	0.0000	
5.50 to 6.00; (15.625 µm)	0.0004	
6.00 to 6.50; (11.049 µm)	0.0393	
6.50 to 7.00; (7.813 µm)	0.0626	
7.00 to 7.50; (5.524 µm)	0.0664	
7.50 to 8.00; (3.906 µm)	0.0591	
8.00 to 8.50; (2.762 µm)	0.0207	
8.50 to 9.00; (1.953 µm)	0.0000	
9.00 to 9.50; (1.381 µm)	0.0000	
9.50 to 10.00; (0.977 µm)	0.0000	
10.00 to 10.50; (0.691 µm)	0.0000	
10.50 to 11.00; (0.488 µm)	0.0000	
11.00 to 11.50; (0.345 µm)	0.0000	
11.50 to 12.00; (0.244 µm)	0.0000	
12.00 to 12.50; (0.173 µm)	0.0000	
12.50 to 13.00; (0.122 µm)	0.0000	
13.00 to 13.50; (0.086 µm)	0.0000	
TOTAL	100.0000	0.0000

Notes:

APPENDIX 2. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmerk Replicates for sediment distributed as PS65.

Exercise Code:	PS65
LabCode:	PSA_2404
Sample Code:	PS652404

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material or not analysed)	Grams
-6.50 to -6.00; 63 mm	0.0000	
-6.00 to -5.50; 45 mm	0.0000	
-5.50 to -5.00; 31.5 mm	0.0000	
-5.00 to -4.50; 22.4 mm	0.0000	
-4.50 to -4.00; 16 mm	1.2779	
-4.00 to -3.50; 11.2 mm	0.0000	
-3.50 to -3.00; 8 mm	4.0342	
-3.00 to -2.50; 5.6 mm	34.0586	
-2.50 to -2.00; 4 mm	10.2220	
-2.00 to -1.50; 2.8 mm	0.0097	
-1.50 to -1.00; 2 mm	0.0125	
-1.00 to -0.50; 1.4 mm	0.0097	
-0.50 to 0.00; 1 mm	0.0042	
0.00 to 0.50; (707 µm)	7.6768	
0.50 to 1.00; (500 µm)	13.1722	
1.00 to 1.50; (353.6 µm)	14.4202	
1.50 to 2.00; (250 µm)	9.9316	
2.00 to 2.50; (176.8 µm)	3.9118	
2.50 to 3.00; (125 µm)	0.6188	
3.00 to 3.50; (88.39 µm)	0.0472	
3.50 to 4.00; (62.5 µm)	0.2674	
4.00 to 4.50; (44.19 µm)	0.1940	
4.50 to 5.00; (31.25 µm)	0.0105	
5.00 to 5.50; (22.097 µm)	0.0000	
5.50 to 6.00; (15.625 µm)	0.0000	
6.00 to 6.50; (11.049 µm)	0.0157	
6.50 to 7.00; (7.813 µm)	0.0210	
7.00 to 7.50; (5.524 µm)	0.0262	
7.50 to 8.00; (3.906 µm)	0.0315	
8.00 to 8.50; (2.762 µm)	0.0262	
8.50 to 9.00; (1.953 µm)	0.0000	
9.00 to 9.50; (1.381 µm)	0.0000	
9.50 to 10.00; (0.977 µm)	0.0000	
10.00 to 10.50; (0.691 µm)	0.0000	
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)		
TOTAL	100.0000	0.0000

Notes:

APPENDIX 2. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmerk Replicates for sediment distributed as PS65.

Exercise Code:	PS65
LabCode:	PSA_2405
Sample Code:	PS652405

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material or not analysed)	Grams (mark as "0" for no material or not analysed)
-6.50 to -6.00; 63 mm	0.0000	0.0000
-6.00 to -5.50; 45 mm	0.0000	0.0000
-5.50 to -5.00; 31.5 mm	0.0000	0.0000
-5.00 to -4.50; 22.4 mm	0.0000	0.0000
-4.50 to -4.00; 16 mm	1.3886	11.0300
-4.00 to -3.50; 11.2 mm	0.0000	0.0000
-3.50 to -3.00; 8 mm	2.3694	18.8200
-3.00 to -2.50; 5.6 mm	36.4933	289.8700
-2.50 to -2.00; 4 mm	9.8425	78.1800
-2.00 to -1.50; 2.8 mm	0.0164	0.1300
-1.50 to -1.00; 2 mm	0.0000	0.0000
-1.00 to -0.50; 1.4 mm	0.0000	0.0000
-0.50 to 0.00; 1 mm	0.0038	0.0300
0.00 to 0.50; (707 µm)	5.9506	47.2659
0.50 to 1.00; (500 µm)	13.3383	105.9471
1.00 to 1.50; (353.6 µm)	14.8723	118.1318
1.50 to 2.00; (250 µm)	9.5538	75.8866
2.00 to 2.50; (176.8 µm)	3.1050	24.6633
2.50 to 3.00; (125 µm)	0.1914	1.5205
3.00 to 3.50; (88.39 µm)	0.0022	0.0177
3.50 to 4.00; (62.5 µm)	0.2819	2.2390
4.00 to 4.50; (44.19 µm)	0.4239	3.3672
4.50 to 5.00; (31.25 µm)	0.2568	2.0397
5.00 to 5.50; (22.097 µm)	0.1688	1.3408
5.50 to 6.00; (15.625 µm)	0.2206	1.7525
6.00 to 6.50; (11.049 µm)	0.2869	2.2791
6.50 to 7.00; (7.813 µm)	0.2925	2.3234
7.00 to 7.50; (5.524 µm)	0.2569	2.0403
7.50 to 8.00; (3.906 µm)	0.2151	1.7083
8.00 to 8.50; (2.762 µm)	0.1794	1.4251
8.50 to 9.00; (1.953 µm)	0.1410	1.1198
9.00 to 9.50; (1.381 µm)	0.1059	0.8410
9.50 to 10.00; (0.977 µm)	0.0429	0.3407
10.00 to 10.50; (0.691 µm)	0.0000	0.0000
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)		
TOTAL	100.0000	794.3100

Notes:

APPENDIX 2. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmerk Replicates for sediment distributed as PS65.

Exercise Code:	PS65
LabCode:	PSA_2406
Sample Code:	PS652406

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material or not analysed)	Grams (mark as "0" for no material or not analysed)
-6.50 to -6.00; 63 mm	0.00	0.00
-6.00 to -5.50; 45 mm	0.00	0.00
-5.50 to -5.00; 31.5 mm	0.00	0.00
-5.00 to -4.50; 22.4 mm	0.00	0.00
-4.50 to -4.00; 16 mm	1.32	8.71
-4.00 to -3.50; 11.2 mm	0.00	0.00
-3.50 to -3.00; 8 mm	3.77	24.91
-3.00 to -2.50; 5.6 mm	33.65	222.05
-2.50 to -2.00; 4 mm	10.58	69.83
-2.00 to -1.50; 2.8 mm	0.04	0.28
-1.50 to -1.00; 2 mm	0.00	0.00
-1.00 to -0.50; 1.4 mm	0.00	0.02
-0.50 to 0.00; 1 mm	0.00	0.03
0.00 to 0.50; (707 µm)	8.80	58.05
0.50 to 1.00; (500 µm)	12.58	83.03
1.00 to 1.50; (353.6 µm)	14.55	96.00
1.50 to 2.00; (250 µm)	8.49	56.06
2.00 to 2.50; (176.8 µm)	2.67	17.63
2.50 to 3.00; (125 µm)	1.01	6.69
3.00 to 3.50; (88.39 µm)	0.39	2.55
3.50 to 4.00; (62.5 µm)	0.17	1.11
4.00 to 4.50; (44.19 µm)	0.10	0.66
4.50 to 5.00; (31.25 µm)	0.07	0.47
5.00 to 5.50; (22.097 µm)	0.08	0.50
5.50 to 6.00; (15.625 µm)	0.09	0.57
6.00 to 6.50; (11.049 µm)	0.13	0.88
6.50 to 7.00; (7.813 µm)	0.15	0.96
7.00 to 7.50; (5.524 µm)	0.18	1.17
7.50 to 8.00; (3.906 µm)	0.19	1.24
8.00 to 8.50; (2.762 µm)	0.17	1.11
8.50 to 9.00; (1.953 µm)	0.16	1.05
9.00 to 9.50; (1.381 µm)	0.15	1.01
9.50 to 10.00; (0.977 µm)	0.13	0.87
10.00 to 10.50; (0.691 µm)	0.11	0.69
10.50 to 11.00; (0.488 µm)	0.08	0.54
11.00 to 11.50; (0.345 µm)	0.06	0.41
11.50 to 12.00; (0.244 µm)	0.05	0.32
12.00 to 12.50; (0.173 µm)	0.04	0.23
12.50 to 13.00; (0.122 µm)	0.03	0.17
13.00 to 13.50; (0.086 µm)	0.03	0.17
TOTAL	100.0000	659.9600

Notes:

APPENDIX 2. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmerk Replicates for sediment distributed as PS65.

Exercise Code:	PS65
LabCode:	PSA_2407
Sample Code:	PS652407

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material or not analysed)	Grams (mark as "0" for no material or not analysed)
-6.50 to -6.00; 63 mm	0.0000	0.0000
-6.00 to -5.50; 45 mm	0.0000	0.0000
-5.50 to -5.00; 31.5 mm	0.0000	0.0000
-5.00 to -4.50; 22.4 mm	0.0000	0.0000
-4.50 to -4.00; 16 mm	1.3955	10.3400
-4.00 to -3.50; 11.2 mm	0.0000	0.0000
-3.50 to -3.00; 8 mm	3.7911	28.0900
-3.00 to -2.50; 5.6 mm	33.2330	246.2400
-2.50 to -2.00; 4 mm	11.4799	85.0600
-2.00 to -1.50; 2.8 mm	0.0607	0.4500
-1.50 to -1.00; 2 mm	0.0094	0.0700
-1.00 to -0.50; 1.4 mm	0.0027	0.0200
-0.50 to 0.00; 1 mm	0.0013	0.0100
0.00 to 0.50; (707 µm)	10.0687	74.6042
0.50 to 1.00; (500 µm)	14.3383	106.2399
1.00 to 1.50; (353.6 µm)	14.1834	105.0919
1.50 to 2.00; (250 µm)	7.5035	55.5970
2.00 to 2.50; (176.8 µm)	2.0099	14.8923
2.50 to 3.00; (125 µm)	0.6841	5.0685
3.00 to 3.50; (88.39 µm)	0.2407	1.7834
3.50 to 4.00; (62.5 µm)	0.0772	0.5720
4.00 to 4.50; (44.19 µm)	0.0404	0.2991
4.50 to 5.00; (31.25 µm)	0.0454	0.3367
5.00 to 5.50; (22.097 µm)	0.0429	0.3178
5.50 to 6.00; (15.625 µm)	0.0488	0.3619
6.00 to 6.50; (11.049 µm)	0.0617	0.4569
6.50 to 7.00; (7.813 µm)	0.0746	0.5527
7.00 to 7.50; (5.524 µm)	0.0866	0.6417
7.50 to 8.00; (3.906 µm)	0.0868	0.6430
8.00 to 8.50; (2.762 µm)	0.0718	0.5321
8.50 to 9.00; (1.953 µm)	0.0585	0.4336
9.00 to 9.50; (1.381 µm)	0.0549	0.4069
9.50 to 10.00; (0.977 µm)	0.0534	0.3957
10.00 to 10.50; (0.691 µm)	0.0482	0.3573
10.50 to 11.00; (0.488 µm)	0.0411	0.3044
11.00 to 11.50; (0.345 µm)	0.0336	0.2490
11.50 to 12.00; (0.244 µm)	0.0267	0.1982
12.00 to 12.50; (0.173 µm)	0.0201	0.1488
12.50 to 13.00; (0.122 µm)	0.0151	0.1117
13.00 to 13.50; (0.086 µm)	0.0099	0.0735
TOTAL	100.0000	740.9500

Notes:

APPENDIX 2. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmerk Replicates for sediment distributed as PS65.

Exercise Code:	PS65
LabCode:	PSA_2408
Sample Code:	PS652408

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material or not analysed)	Grams (mark as "0" for no material or not analysed)
-6.50 to -6.00; 63 mm	0.0000	0.0000
-6.00 to -5.50; 45 mm	0.0000	0.0000
-5.50 to -5.00; 31.5 mm	0.0000	0.0000
-5.00 to -4.50; 22.4 mm	0.0000	0.0000
-4.50 to -4.00; 16 mm	1.2831	10.1540
-4.00 to -3.50; 11.2 mm	0.0000	0.0000
-3.50 to -3.00; 8 mm	3.2449	25.6780
-3.00 to -2.50; 5.6 mm	36.2711	287.0280
-2.50 to -2.00; 4 mm	9.4021	74.4030
-2.00 to -1.50; 2.8 mm	0.0000	0.0000
-1.50 to -1.00; 2 mm	0.0000	0.0000
-1.00 to -0.50; 1.4 mm	0.0000	0.0000
-0.50 to 0.00; 1 mm	0.0172	0.1360
0.00 to 0.50; (707 µm)	3.8109	30.1570
0.50 to 1.00; (500 µm)	9.5031	75.2020
1.00 to 1.50; (353.6 µm)	14.4834	114.6130
1.50 to 2.00; (250 µm)	15.0469	119.0720
2.00 to 2.50; (176.8 µm)	4.3967	34.7930
2.50 to 3.00; (125 µm)	1.6295	12.8950
3.00 to 3.50; (88.39 µm)	0.6071	4.8040
3.50 to 4.00; (62.5 µm)	0.2107	1.6670
4.00 to 4.50; (44.19 µm)	0.0934	0.7390
4.50 to 5.00; (31.25 µm)		
5.00 to 5.50; (22.097 µm)		
5.50 to 6.00; (15.625 µm)		
6.00 to 6.50; (11.049 µm)		
6.50 to 7.00; (7.813 µm)		
7.00 to 7.50; (5.524 µm)		
7.50 to 8.00; (3.906 µm)		
8.00 to 8.50; (2.762 µm)		
8.50 to 9.00; (1.953 µm)		
9.00 to 9.50; (1.381 µm)		
9.50 to 10.00; (0.977 µm)		
10.00 to 10.50; (0.691 µm)		
10.50 to 11.00; (0.488 µm)		
11.00 to 11.50; (0.345 µm)		
11.50 to 12.00; (0.244 µm)		
12.00 to 12.50; (0.173 µm)		
12.50 to 13.00; (0.122 µm)		
13.00 to 13.50; (0.086 µm)		
TOTAL	100.0000	791.3410

Notes: Red text calculated by APEM for the report.

APPENDIX 2. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmerk Replicates for sediment distributed as PS65.

Exercise Code:	PS65
LabCode:	PSA_2409
Sample Code:	PS652409

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material or not analysed)	Grams (mark as "0" for no material or not analysed)
-6.50 to -6.00; 63 mm	0.0000	0.0000
-6.00 to -5.50; 45 mm	0.0000	0.0000
-5.50 to -5.00; 31.5 mm	0.0000	0.0000
-5.00 to -4.50; 22.4 mm	0.0000	0.0000
-4.50 to -4.00; 16 mm	1.2866	10.1800
-4.00 to -3.50; 11.2 mm	0.0000	0.0000
-3.50 to -3.00; 8 mm	3.4856	27.5800
-3.00 to -2.50; 5.6 mm	34.9771	276.7600
-2.50 to -2.00; 4 mm	10.4277	82.5100
-2.00 to -1.50; 2.8 mm	0.0000	0.0000
-1.50 to -1.00; 2 mm	0.0063	0.0500
-1.00 to -0.50; 1.4 mm	0.0013	0.0100
-0.50 to 0.00; 1 mm	0.0076	0.0600
0.00 to 0.50; (707 µm)	3.7383	29.5800
0.50 to 1.00; (500 µm)	9.8463	77.9100
1.00 to 1.50; (353.6 µm)	15.3414	121.3900
1.50 to 2.00; (250 µm)	15.4816	122.5000
2.00 to 2.50; (176.8 µm)	3.2088	25.3900
2.50 to 3.00; (125 µm)	1.3978	11.0600
3.00 to 3.50; (88.39 µm)	0.4992	3.9500
3.50 to 4.00; (62.5 µm)	0.1858	1.4700
4.00 to 4.50; (44.19 µm)	0.1087	0.8600
4.50 to 5.00; (31.25 µm)	0.0000	0.0000
5.00 to 5.50; (22.097 µm)	0.0000	0.0000
5.50 to 6.00; (15.625 µm)	0.0000	0.0000
6.00 to 6.50; (11.049 µm)	0.0000	0.0000
6.50 to 7.00; (7.813 µm)	0.0000	0.0000
7.00 to 7.50; (5.524 µm)	0.0000	0.0000
7.50 to 8.00; (3.906 µm)	0.0000	0.0000
8.00 to 8.50; (2.762 µm)	0.0000	0.0000
8.50 to 9.00; (1.953 µm)	0.0000	0.0000
9.00 to 9.50; (1.381 µm)	0.0000	0.0000
9.50 to 10.00; (0.977 µm)	0.0000	0.0000
10.00 to 10.50; (0.691 µm)	0.0000	0.0000
10.50 to 11.00; (0.488 µm)	0.0000	0.0000
11.00 to 11.50; (0.345 µm)	0.0000	0.0000
11.50 to 12.00; (0.244 µm)	0.0000	0.0000
12.00 to 12.50; (0.173 µm)	0.0000	0.0000
12.50 to 13.00; (0.122 µm)	0.0000	0.0000
13.00 to 13.50; (0.086 µm)	0.0000	0.0000
TOTAL	100.0000	791.2600

Notes: Red text calculated by APEM for the report.

APPENDIX 2. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmerk Replicates for sediment distributed as PS65.

Exercise Code:	PS65
LabCode:	PSA_2410
Sample Code:	PS652410

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material or not analysed)	Grams (mark as "0" for no material or not analysed)
-6.50 to -6.00; 63 mm	0.0000	0.0000
-6.00 to -5.50; 45 mm	0.0000	0.0000
-5.50 to -5.00; 31.5 mm	0.0000	0.0000
-5.00 to -4.50; 22.4 mm	0.0000	0.0000
-4.50 to -4.00; 16 mm	1.2972	9.3400
-4.00 to -3.50; 11.2 mm	0.0000	0.0000
-3.50 to -3.00; 8 mm	2.2680	16.3300
-3.00 to -2.50; 5.6 mm	35.9434	258.8000
-2.50 to -2.00; 4 mm	15.5690	112.1000
-2.00 to -1.50; 2.8 mm	0.0000	0.0000
-1.50 to -1.00; 2 mm	0.0000	0.0000
-1.00 to -0.50; 1.4 mm	0.0000	0.0000
-0.50 to 0.00; 1 mm	0.0042	0.0300
0.00 to 0.50; (707 µm)	16.6740	120.0560
0.50 to 1.00; (500 µm)	16.7389	120.5234
1.00 to 1.50; (353.6 µm)	9.3081	67.0205
1.50 to 2.00; (250 µm)	2.1893	15.7633
2.00 to 2.50; (176.8 µm)	0.0079	0.0567
2.50 to 3.00; (125 µm)	0.0000	0.0000
3.00 to 3.50; (88.39 µm)	0.0000	0.0000
3.50 to 4.00; (62.5 µm)	0.0000	0.0000
4.00 to 4.50; (44.19 µm)	0.0000	0.0000
4.50 to 5.00; (31.25 µm)	0.0000	0.0000
5.00 to 5.50; (22.097 µm)	0.0000	0.0000
5.50 to 6.00; (15.625 µm)	0.0000	0.0000
6.00 to 6.50; (11.049 µm)	0.0000	0.0000
6.50 to 7.00; (7.813 µm)	0.0000	0.0000
7.00 to 7.50; (5.524 µm)	0.0000	0.0000
7.50 to 8.00; (3.906 µm)	0.0000	0.0000
8.00 to 8.50; (2.762 µm)	0.0000	0.0000
8.50 to 9.00; (1.953 µm)	0.0000	0.0000
9.00 to 9.50; (1.381 µm)	0.0000	0.0000
9.50 to 10.00; (0.977 µm)	0.0000	0.0000
10.00 to 10.50; (0.691 µm)	0.0000	0.0000
10.50 to 11.00; (0.488 µm)	0.0000	0.0000
11.00 to 11.50; (0.345 µm)	0.0000	0.0000
11.50 to 12.00; (0.244 µm)	0.0000	0.0000
12.00 to 12.50; (0.173 µm)	0.0000	0.0000
12.50 to 13.00; (0.122 µm)	0.0000	0.0000
13.00 to 13.50; (0.086 µm)	0.0000	0.0000
TOTAL	100.0000	720.0200

Notes:

APPENDIX 2. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmerk Replicates for sediment distributed as PS65.

Exercise Code:	PS65
LabCode:	PSA_2411
Sample Code:	PS652411

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material or not analysed)	Grams (mark as "0" for no material or not analysed)
-6.50 to -6.00; 63 mm	0.0000	0.0000
-6.00 to -5.50; 45 mm	0.0000	0.0000
-5.50 to -5.00; 31.5 mm	0.0000	0.0000
-5.00 to -4.50; 22.4 mm	0.0000	0.0000
-4.50 to -4.00; 16 mm	1.3095	8.9800
-4.00 to -3.50; 11.2 mm	0.0000	0.0000
-3.50 to -3.00; 8 mm	4.0787	27.9700
-3.00 to -2.50; 5.6 mm	34.0401	233.4300
-2.50 to -2.00; 4 mm	10.6424	72.9800
-2.00 to -1.50; 2.8 mm	0.0540	0.3700
-1.50 to -1.00; 2 mm	0.0015	0.0100
-1.00 to -0.50; 1.4 mm	0.0015	0.0100
-0.50 to 0.00; 1 mm	0.0015	0.0100
0.00 to 0.50; (707 µm)	9.8012	67.2116
0.50 to 1.00; (500 µm)	14.1522	97.0484
1.00 to 1.50; (353.6 µm)	14.2761	97.8983
1.50 to 2.00; (250 µm)	7.6518	52.4725
2.00 to 2.50; (176.8 µm)	2.0435	14.0133
2.50 to 3.00; (125 µm)	0.7262	4.9798
3.00 to 3.50; (88.39 µm)	0.2467	1.6916
3.50 to 4.00; (62.5 µm)	0.0805	0.5522
4.00 to 4.50; (44.19 µm)	0.0389	0.2666
4.50 to 5.00; (31.25 µm)	0.0478	0.3277
5.00 to 5.50; (22.097 µm)	0.0371	0.2546
5.50 to 6.00; (15.625 µm)	0.0456	0.3124
6.00 to 6.50; (11.049 µm)	0.0569	0.3900
6.50 to 7.00; (7.813 µm)	0.0672	0.4610
7.00 to 7.50; (5.524 µm)	0.0801	0.5490
7.50 to 8.00; (3.906 µm)	0.0831	0.5700
8.00 to 8.50; (2.762 µm)	0.0708	0.4854
8.50 to 9.00; (1.953 µm)	0.0592	0.4057
9.00 to 9.50; (1.381 µm)	0.0564	0.3865
9.50 to 10.00; (0.977 µm)	0.0548	0.3761
10.00 to 10.50; (0.691 µm)	0.0492	0.3374
10.50 to 11.00; (0.488 µm)	0.0415	0.2848
11.00 to 11.50; (0.345 µm)	0.0337	0.2308
11.50 to 12.00; (0.244 µm)	0.0266	0.1821
12.00 to 12.50; (0.173 µm)	0.0197	0.1354
12.50 to 13.00; (0.122 µm)	0.0147	0.1010
13.00 to 13.50; (0.086 µm)	0.0096	0.0660
TOTAL	100.0000	685.7500

Notes:

APPENDIX 2. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmerk Replicates for sediment distributed as PS65.

Exercise Code:	PS65
LabCode:	PSA_2412
Sample Code:	PS652412

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material or not analysed)	Grams (mark as "0" for no material or not analysed)
-6.50 to -6.00; 63 mm	0.0000	0.0000
-6.00 to -5.50; 45 mm	0.0000	0.0000
-5.50 to -5.00; 31.5 mm	0.0000	0.0000
-5.00 to -4.50; 22.4 mm	0.0000	0.0000
-4.50 to -4.00; 16 mm	1.5652	10.1080
-4.00 to -3.50; 11.2 mm	0.0000	0.0000
-3.50 to -3.00; 8 mm	1.7481	11.2890
-3.00 to -2.50; 5.6 mm	33.1822	214.2910
-2.50 to -2.00; 4 mm	11.1242	71.8400
-2.00 to -1.50; 2.8 mm	0.0618	0.3990
-1.50 to -1.00; 2 mm	0.0022	0.0140
-1.00 to -0.50; 1.4 mm	0.0000	0.0000
-0.50 to 0.00; 1 mm	0.0046	0.0300
0.00 to 0.50; (707 µm)	10.2580	66.2465
0.50 to 1.00; (500 µm)	14.8640	95.9921
1.00 to 1.50; (353.6 µm)	14.7962	95.5537
1.50 to 2.00; (250 µm)	9.3339	60.2786
2.00 to 2.50; (176.8 µm)	2.9692	19.1749
2.50 to 3.00; (125 µm)	0.0905	0.5842
3.00 to 3.50; (88.39 µm)	0.0000	0.0000
3.50 to 4.00; (62.5 µm)	0.0000	0.0000
4.00 to 4.50; (44.19 µm)	0.0000	0.0000
4.50 to 5.00; (31.25 µm)	0.0000	0.0000
5.00 to 5.50; (22.097 µm)	0.0000	0.0000
5.50 to 6.00; (15.625 µm)	0.0000	0.0000
6.00 to 6.50; (11.049 µm)	0.0000	0.0000
6.50 to 7.00; (7.813 µm)	0.0000	0.0000
7.00 to 7.50; (5.524 µm)	0.0000	0.0000
7.50 to 8.00; (3.906 µm)	0.0000	0.0000
8.00 to 8.50; (2.762 µm)	0.0000	0.0000
8.50 to 9.00; (1.953 µm)	0.0000	0.0000
9.00 to 9.50; (1.381 µm)	0.0000	0.0000
9.50 to 10.00; (0.977 µm)	0.0000	0.0000
10.00 to 10.50; (0.691 µm)	0.0000	0.0000
10.50 to 11.00; (0.488 µm)	0.0000	0.0000
11.00 to 11.50; (0.345 µm)	0.0000	0.0000
11.50 to 12.00; (0.244 µm)	0.0000	0.0000
12.00 to 12.50; (0.173 µm)	0.0000	0.0000
12.50 to 13.00; (0.122 µm)	0.0000	0.0000
13.00 to 13.50; (0.086 µm)	0.0000	0.0000
TOTAL	100.0000	645.8010

Notes:

APPENDIX 2. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmerk Replicates for sediment distributed as PS65.

Exercise Code:	PS65
LabCode:	PSA_2413
Sample Code:	PS652413

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material or not analysed)	Grams
-6.50 to -6.00; 63 mm	0.0000	
-6.00 to -5.50; 45 mm	0.0000	
-5.50 to -5.00; 31.5 mm	0.0000	
-5.00 to -4.50; 22.4 mm	0.0000	
-4.50 to -4.00; 16 mm	0.0000	
-4.00 to -3.50; 11.2 mm	0.0000	
-3.50 to -3.00; 8 mm	2.3249	
-3.00 to -2.50; 5.6 mm	35.7628	
-2.50 to -2.00; 4 mm	11.0138	
-2.00 to -1.50; 2.8 mm	0.0000	
-1.50 to -1.00; 2 mm	0.0000	
-1.00 to -0.50; 1.4 mm	0.0000	
-0.50 to 0.00; 1 mm	0.0281	
0.00 to 0.50; (707 µm)	6.5779	
0.50 to 1.00; (500 µm)	12.6609	
1.00 to 1.50; (353.6 µm)	14.4500	
1.50 to 2.00; (250 µm)	10.0059	
2.00 to 2.50; (176.8 µm)	3.8397	
2.50 to 3.00; (125 µm)	0.5565	
3.00 to 3.50; (88.39 µm)	0.0345	
3.50 to 4.00; (62.5 µm)	0.2467	
4.00 to 4.50; (44.19 µm)	0.2426	
4.50 to 5.00; (31.25 µm)	0.0931	
5.00 to 5.50; (22.097 µm)	0.0385	
5.50 to 6.00; (15.625 µm)	0.1253	
6.00 to 6.50; (11.049 µm)	0.2046	
6.50 to 7.00; (7.813 µm)	0.2604	
7.00 to 7.50; (5.524 µm)	0.3035	
7.50 to 8.00; (3.906 µm)	0.3190	
8.00 to 8.50; (2.762 µm)	0.2931	
8.50 to 9.00; (1.953 µm)	0.2069	
9.00 to 9.50; (1.381 µm)	0.0494	
9.50 to 10.00; (0.977 µm)	0.0000	
10.00 to 10.50; (0.691 µm)	0.0632	
10.50 to 11.00; (0.488 µm)	0.1356	
11.00 to 11.50; (0.345 µm)	0.1081	
11.50 to 12.00; (0.244 µm)	0.0552	
12.00 to 12.50; (0.173 µm)	0.0000	
12.50 to 13.00; (0.122 µm)	0.0000	
13.00 to 13.50; (0.086 µm)	0.0000	
TOTAL	100.0000	0.0000

Notes:

APPENDIX 2. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmerk Replicates for sediment distributed as PS65.

Exercise Code:	PS65
LabCode:	PSA_2414
Sample Code:	PS652414

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material or not analysed)	Grams (mark as "0" for no material or not analysed)
-6.50 to -6.00; 63 mm	0.0000	0.0000
-6.00 to -5.50; 45 mm	0.0000	0.0000
-5.50 to -5.00; 31.5 mm	0.0000	0.0000
-5.00 to -4.50; 22.4 mm	0.0000	0.0000
-4.50 to -4.00; 16 mm	1.4541	10.9400
-4.00 to -3.50; 11.2 mm	0.0000	0.0000
-3.50 to -3.00; 8 mm	3.5422	26.6500
-3.00 to -2.50; 5.6 mm	33.2128	249.8800
-2.50 to -2.00; 4 mm	11.0293	82.9800
-2.00 to -1.50; 2.8 mm	0.0013	0.0100
-1.50 to -1.00; 2 mm	0.0013	0.0100
-1.00 to -0.50; 1.4 mm	0.0013	0.0100
-0.50 to 0.00; 1 mm	0.0013	0.0100
0.00 to 0.50; (707 µm)	6.5692	49.4242
0.50 to 1.00; (500 µm)	12.8814	96.9146
1.00 to 1.50; (353.6 µm)	14.8274	111.5553
1.50 to 2.00; (250 µm)	10.3772	78.0737
2.00 to 2.50; (176.8 µm)	3.7481	28.1991
2.50 to 3.00; (125 µm)	0.5576	4.1954
3.00 to 3.50; (88.39 µm)	0.0372	0.2800
3.50 to 4.00; (62.5 µm)	0.2562	1.9279
4.00 to 4.50; (44.19 µm)	0.2289	1.7218
4.50 to 5.00; (31.25 µm)	0.0930	0.6996
5.00 to 5.50; (22.097 µm)	0.0317	0.2382
5.50 to 6.00; (15.625 µm)	0.1471	1.1067
6.00 to 6.50; (11.049 µm)	0.1938	1.4582
6.50 to 7.00; (7.813 µm)	0.2128	1.6008
7.00 to 7.50; (5.524 µm)	0.2321	1.7461
7.50 to 8.00; (3.906 µm)	0.2267	1.7056
8.00 to 8.50; (2.762 µm)	0.1347	1.0134
8.50 to 9.00; (1.953 µm)	0.0013	0.0094
9.00 to 9.50; (1.381 µm)	0.0000	0.0000
9.50 to 10.00; (0.977 µm)	0.0000	0.0000
10.00 to 10.50; (0.691 µm)	0.0000	0.0000
10.50 to 11.00; (0.488 µm)	0.0000	0.0000
11.00 to 11.50; (0.345 µm)	0.0000	0.0000
11.50 to 12.00; (0.244 µm)	0.0000	0.0000
12.00 to 12.50; (0.173 µm)	0.0000	0.0000
12.50 to 13.00; (0.122 µm)	0.0000	0.0000
13.00 to 13.50; (0.086 µm)	0.0000	0.0000
TOTAL	100.0000	752.3600

Notes: There appeared to be small pieces of organic (leaf) material which broke up during processing.

APPENDIX 2. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmerk Replicates for sediment distributed as PS65.

Exercise Code:	PS65
LabCode:	PSA_2415
Sample Code:	PS652415

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material or not analysed)	Grams
-6.50 to -6.00; 63 mm	0.0000	
-6.00 to -5.50; 45 mm	0.0000	
-5.50 to -5.00; 31.5 mm	0.0000	
-5.00 to -4.50; 22.4 mm	0.0000	
-4.50 to -4.00; 16 mm	0.0000	
-4.00 to -3.50; 11.2 mm	0.0000	
-3.50 to -3.00; 8 mm	0.0000	
-3.00 to -2.50; 5.6 mm	0.0000	
-2.50 to -2.00; 4 mm	0.0000	
-2.00 to -1.50; 2.8 mm	0.0000	
-1.50 to -1.00; 2 mm	0.0000	
-1.00 to -0.50; 1.4 mm	0.0000	
-0.50 to 0.00; 1 mm	0.0000	
0.00 to 0.50; (707 µm)	15.7982	
0.50 to 1.00; (500 µm)	25.6342	
1.00 to 1.50; (353.6 µm)	27.8162	
1.50 to 2.00; (250 µm)	19.1718	
2.00 to 2.50; (176.8 µm)	7.8227	
2.50 to 3.00; (125 µm)	1.3201	
3.00 to 3.50; (88.39 µm)	0.0564	
3.50 to 4.00; (62.5 µm)	0.4616	
4.00 to 4.50; (44.19 µm)	0.4496	
4.50 to 5.00; (31.25 µm)	0.0805	
5.00 to 5.50; (22.097 µm)	0.0000	
5.50 to 6.00; (15.625 µm)	0.0127	
6.00 to 6.50; (11.049 µm)	0.1827	
6.50 to 7.00; (7.813 µm)	0.2623	
7.00 to 7.50; (5.524 µm)	0.2895	
7.50 to 8.00; (3.906 µm)	0.2904	
8.00 to 8.50; (2.762 µm)	0.2573	
8.50 to 9.00; (1.953 µm)	0.0924	
9.00 to 9.50; (1.381 µm)	0.0000	
9.50 to 10.00; (0.977 µm)	0.0000	
10.00 to 10.50; (0.691 µm)	0.0000	
10.50 to 11.00; (0.488 µm)	0.0000	
11.00 to 11.50; (0.345 µm)	0.0000	
11.50 to 12.00; (0.244 µm)	0.0000	
12.00 to 12.50; (0.173 µm)	0.0000	
12.50 to 13.00; (0.122 µm)	0.0000	
13.00 to 13.50; (0.086 µm)	0.0000	
TOTAL	99.9986	0.0000

Notes: only measured the <1 mm fraction by laser.

APPENDIX 2. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmerk Replicates for sediment distributed as PS65.

Exercise Code:	PS65
LabCode:	PSA_2416
Sample Code:	PS652416

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material or not analysed)	Grams
-6.50 to -6.00; 63 mm	0.0000	0.0000
-6.00 to -5.50; 45 mm	0.0000	0.0000
-5.50 to -5.00; 31.5 mm	0.0000	0.0000
-5.00 to -4.50; 22.4 mm	0.0000	0.0000
-4.50 to -4.00; 16 mm	1.1600	9.2000
-4.00 to -3.50; 11.2 mm	0.0000	0.0000
-3.50 to -3.00; 8 mm	3.1700	25.1500
-3.00 to -2.50; 5.6 mm	35.0600	278.0800
-2.50 to -2.00; 4 mm	10.6300	84.3100
-2.00 to -1.50; 2.8 mm	0.0400	0.2800
-1.50 to -1.00; 2 mm	0.0000	0.0100
-1.00 to -0.50; 1.4 mm	0.0000	0.0100
-0.50 to 0.00; 1 mm	0.0100	0.0400
0.00 to 0.50; (707 µm)	7.2300	
0.50 to 1.00; (500 µm)	12.3600	
1.00 to 1.50; (353.6 µm)	13.8800	
1.50 to 2.00; (250 µm)	10.1200	
2.00 to 2.50; (176.8 µm)	4.4600	
2.50 to 3.00; (125 µm)	0.9700	
3.00 to 3.50; (88.39 µm)	0.1000	
3.50 to 4.00; (62.5 µm)	0.2500	
4.00 to 4.50; (44.19 µm)	0.2400	
4.50 to 5.00; (31.25 µm)	0.0400	
5.00 to 5.50; (22.097 µm)	0.0000	
5.50 to 6.00; (15.625 µm)	0.0000	
6.00 to 6.50; (11.049 µm)	0.0500	
6.50 to 7.00; (7.813 µm)	0.1100	
7.00 to 7.50; (5.524 µm)	0.1000	
7.50 to 8.00; (3.906 µm)	0.0200	
8.00 to 8.50; (2.762 µm)	0.0000	
8.50 to 9.00; (1.953 µm)	0.0000	
9.00 to 9.50; (1.381 µm)	0.0000	
9.50 to 10.00; (0.977 µm)	0.0000	
10.00 to 10.50; (0.691 µm)	0.0000	
10.50 to 11.00; (0.488 µm)	0.0000	
11.00 to 11.50; (0.345 µm)	0.0000	
11.50 to 12.00; (0.244 µm)	0.0000	
12.00 to 12.50; (0.173 µm)	0.0000	
12.50 to 13.00; (0.122 µm)	0.0000	
13.00 to 13.50; (0.086 µm)	0.0000	
TOTAL	100.0000	397.0800

Notes:

APPENDIX 2. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmerk Replicates for sediment distributed as PS65.

Exercise Code:	PS65
LabCode:	PSA_2426
Sample Code:	Benchmark Replicate 1

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material or not analysed)	Grams
-6.50 to -6.00; 63 mm	0.0000	0.0000
-6.00 to -5.50; 45 mm	0.0000	0.0000
-5.50 to -5.00; 31.5 mm	0.0000	0.0000
-5.00 to -4.50; 22.4 mm	0.0000	0.0000
-4.50 to -4.00; 16 mm	1.4710	10.1800
-4.00 to -3.50; 11.2 mm	0.0000	0.0000
-3.50 to -3.00; 8 mm	4.7136	32.6200
-3.00 to -2.50; 5.6 mm	31.7554	219.7600
-2.50 to -2.00; 4 mm	12.0109	83.1200
-2.00 to -1.50; 2.8 mm	0.0361	0.2500
-1.50 to -1.00; 2 mm	0.0101	0.0700
-1.00 to -0.50; 1.4 mm	0.0043	0.0300
-0.50 to 0.00; 1 mm	0.0029	0.0200
0.00 to 0.50; (707 µm)	10.7925	74.6882
0.50 to 1.00; (500 µm)	14.6234	101.1997
1.00 to 1.50; (353.6 µm)	13.8318	95.7218
1.50 to 2.00; (250 µm)	6.9869	48.3521
2.00 to 2.50; (176.8 µm)	1.7728	12.2688
2.50 to 3.00; (125 µm)	0.6057	4.1915
3.00 to 3.50; (88.39 µm)	0.2051	1.4195
3.50 to 4.00; (62.5 µm)	0.0813	0.5625
4.00 to 4.50; (44.19 µm)	0.0554	0.3837
4.50 to 5.00; (31.25 µm)	0.0743	0.5140
5.00 to 5.50; (22.097 µm)	0.0664	0.4593
5.50 to 6.00; (15.625 µm)	0.0719	0.4979
6.00 to 6.50; (11.049 µm)	0.0790	0.5466
6.50 to 7.00; (7.813 µm)	0.0879	0.6085
7.00 to 7.50; (5.524 µm)	0.1011	0.6996
7.50 to 8.00; (3.906 µm)	0.1025	0.7091
8.00 to 8.50; (2.762 µm)	0.0840	0.5810
8.50 to 9.00; (1.953 µm)	0.0668	0.4622
9.00 to 9.50; (1.381 µm)	0.0616	0.4260
9.50 to 10.00; (0.977 µm)	0.0584	0.4045
10.00 to 10.50; (0.691 µm)	0.0508	0.3518
10.50 to 11.00; (0.488 µm)	0.0413	0.2860
11.00 to 11.50; (0.345 µm)	0.0322	0.2225
11.50 to 12.00; (0.244 µm)	0.0244	0.1685
12.00 to 12.50; (0.173 µm)	0.0175	0.1208
12.50 to 13.00; (0.122 µm)	0.0127	0.0876
13.00 to 13.50; (0.086 µm)	0.0081	0.0562
TOTAL	100.0000	692.0400

Notes:

APPENDIX 2. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmerk Replicates for sediment distributed as PS65.

Exercise Code:	PS65
LabCode:	PSA_2427
Sample Code:	Benchmark Replicate 2

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material or not analysed)	Grams (mark as "0" for no material or not analysed)
-6.50 to -6.00; 63 mm	0.0000	0.0000
-6.00 to -5.50; 45 mm	0.0000	0.0000
-5.50 to -5.00; 31.5 mm	0.0000	0.0000
-5.00 to -4.50; 22.4 mm	0.0000	0.0000
-4.50 to -4.00; 16 mm	1.4407	10.0800
-4.00 to -3.50; 11.2 mm	0.0000	0.0000
-3.50 to -3.00; 8 mm	4.6180	32.3100
-3.00 to -2.50; 5.6 mm	33.2109	232.3600
-2.50 to -2.00; 4 mm	11.0784	77.5100
-2.00 to -1.50; 2.8 mm	0.0515	0.3600
-1.50 to -1.00; 2 mm	0.0043	0.0300
-1.00 to -0.50; 1.4 mm	0.0029	0.0200
-0.50 to 0.00; 1 mm	0.0014	0.0100
0.00 to 0.50; (707 µm)	10.5098	73.5320
0.50 to 1.00; (500 µm)	14.4188	100.8812
1.00 to 1.50; (353.6 µm)	13.8094	96.6178
1.50 to 2.00; (250 µm)	7.1576	50.0779
2.00 to 2.50; (176.8 µm)	1.8475	12.9262
2.50 to 3.00; (125 µm)	0.6385	4.4669
3.00 to 3.50; (88.39 µm)	0.2176	1.5228
3.50 to 4.00; (62.5 µm)	0.0742	0.5193
4.00 to 4.50; (44.19 µm)	0.0423	0.2960
4.50 to 5.00; (31.25 µm)	0.0512	0.3584
5.00 to 5.50; (22.097 µm)	0.0447	0.3126
5.50 to 6.00; (15.625 µm)	0.0500	0.3501
6.00 to 6.50; (11.049 µm)	0.0596	0.4168
6.50 to 7.00; (7.813 µm)	0.0701	0.4908
7.00 to 7.50; (5.524 µm)	0.0829	0.5797
7.50 to 8.00; (3.906 µm)	0.0852	0.5960
8.00 to 8.50; (2.762 µm)	0.0715	0.5006
8.50 to 9.00; (1.953 µm)	0.0591	0.4137
9.00 to 9.50; (1.381 µm)	0.0564	0.3945
9.50 to 10.00; (0.977 µm)	0.0549	0.3844
10.00 to 10.50; (0.691 µm)	0.0490	0.3431
10.50 to 11.00; (0.488 µm)	0.0410	0.2869
11.00 to 11.50; (0.345 µm)	0.0329	0.2299
11.50 to 12.00; (0.244 µm)	0.0256	0.1793
12.00 to 12.50; (0.173 µm)	0.0189	0.1319
12.50 to 13.00; (0.122 µm)	0.0140	0.0977
13.00 to 13.50; (0.086 µm)	0.0091	0.0635
TOTAL	100.0000	699.6500

Notes:

APPENDIX 2. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmerk Replicates for sediment distributed as PS65.

Exercise Code:	PS65
LabCode:	PSA_2428
Sample Code:	Benchmark Replicate 3

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material or not analysed)	Grams
-6.50 to -6.00; 63 mm	0.0000	0.0000
-6.00 to -5.50; 45 mm	0.0000	0.0000
-5.50 to -5.00; 31.5 mm	0.0000	0.0000
-5.00 to -4.50; 22.4 mm	0.0000	0.0000
-4.50 to -4.00; 16 mm	1.3725	9.3700
-4.00 to -3.50; 11.2 mm	0.0000	0.0000
-3.50 to -3.00; 8 mm	4.4442	30.3400
-3.00 to -2.50; 5.6 mm	34.2855	234.0600
-2.50 to -2.00; 4 mm	10.1072	69.0000
-2.00 to -1.50; 2.8 mm	0.0059	0.0400
-1.50 to -1.00; 2 mm	0.0029	0.0200
-1.00 to -0.50; 1.4 mm	0.0015	0.0100
-0.50 to 0.00; 1 mm	0.0015	0.0100
0.00 to 0.50; (707 µm)	9.7459	66.5331
0.50 to 1.00; (500 µm)	13.8965	94.8684
1.00 to 1.50; (353.6 µm)	14.1005	96.2610
1.50 to 2.00; (250 µm)	7.7173	52.6846
2.00 to 2.50; (176.8 µm)	2.1714	14.8237
2.50 to 3.00; (125 µm)	0.8164	5.5731
3.00 to 3.50; (88.39 µm)	0.2863	1.9549
3.50 to 4.00; (62.5 µm)	0.0927	0.6328
4.00 to 4.50; (44.19 µm)	0.0475	0.3242
4.50 to 5.00; (31.25 µm)	0.0534	0.3646
5.00 to 5.50; (22.097 µm)	0.0417	0.2850
5.50 to 6.00; (15.625 µm)	0.0515	0.3515
6.00 to 6.50; (11.049 µm)	0.0634	0.4326
6.50 to 7.00; (7.813 µm)	0.0743	0.5070
7.00 to 7.50; (5.524 µm)	0.0874	0.5965
7.50 to 8.00; (3.906 µm)	0.0893	0.6094
8.00 to 8.50; (2.762 µm)	0.0744	0.5079
8.50 to 9.00; (1.953 µm)	0.0612	0.4181
9.00 to 9.50; (1.381 µm)	0.0583	0.3983
9.50 to 10.00; (0.977 µm)	0.0567	0.3872
10.00 to 10.50; (0.691 µm)	0.0504	0.3438
10.50 to 11.00; (0.488 µm)	0.0418	0.2856
11.00 to 11.50; (0.345 µm)	0.0333	0.2273
11.50 to 12.00; (0.244 µm)	0.0258	0.1759
12.00 to 12.50; (0.173 µm)	0.0188	0.1283
12.50 to 13.00; (0.122 µm)	0.0138	0.0944
13.00 to 13.50; (0.086 µm)	0.0089	0.0611
TOTAL	100.0000	682.6800

Notes:

APPENDIX 2. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmerk Replicates for sediment distributed as PS65.

Exercise Code:	PS65
LabCode:	PSA_2429
Sample Code:	Benchmark Replicate 4

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material or not analysed)	Grams
-6.50 to -6.00; 63 mm	0.0000	0.0000
-6.00 to -5.50; 45 mm	0.0000	0.0000
-5.50 to -5.00; 31.5 mm	0.0000	0.0000
-5.00 to -4.50; 22.4 mm	0.0000	0.0000
-4.50 to -4.00; 16 mm	1.5789	10.8900
-4.00 to -3.50; 11.2 mm	0.0000	0.0000
-3.50 to -3.00; 8 mm	5.1253	35.3500
-3.00 to -2.50; 5.6 mm	32.7292	225.7400
-2.50 to -2.00; 4 mm	10.9639	75.6200
-2.00 to -1.50; 2.8 mm	0.0217	0.1500
-1.50 to -1.00; 2 mm	0.0029	0.0200
-1.00 to -0.50; 1.4 mm	0.0014	0.0100
-0.50 to 0.00; 1 mm	0.0014	0.0100
0.00 to 0.50; (707 µm)	10.2141	70.4486
0.50 to 1.00; (500 µm)	14.2816	98.5030
1.00 to 1.50; (353.6 µm)	13.9561	96.2580
1.50 to 2.00; (250 µm)	7.3088	50.4100
2.00 to 2.50; (176.8 µm)	1.9042	13.1338
2.50 to 3.00; (125 µm)	0.6730	4.6419
3.00 to 3.50; (88.39 µm)	0.2374	1.6372
3.50 to 4.00; (62.5 µm)	0.0797	0.5498
4.00 to 4.50; (44.19 µm)	0.0417	0.2877
4.50 to 5.00; (31.25 µm)	0.0489	0.3371
5.00 to 5.50; (22.097 µm)	0.0415	0.2862
5.50 to 6.00; (15.625 µm)	0.0467	0.3224
6.00 to 6.50; (11.049 µm)	0.0555	0.3825
6.50 to 7.00; (7.813 µm)	0.0678	0.4673
7.00 to 7.50; (5.524 µm)	0.0841	0.5803
7.50 to 8.00; (3.906 µm)	0.0894	0.6167
8.00 to 8.50; (2.762 µm)	0.0763	0.5266
8.50 to 9.00; (1.953 µm)	0.0633	0.4365
9.00 to 9.50; (1.381 µm)	0.0596	0.4114
9.50 to 10.00; (0.977 µm)	0.0571	0.3940
10.00 to 10.50; (0.691 µm)	0.0501	0.3455
10.50 to 11.00; (0.488 µm)	0.0412	0.2839
11.00 to 11.50; (0.345 µm)	0.0324	0.2237
11.50 to 12.00; (0.244 µm)	0.0249	0.1717
12.00 to 12.50; (0.173 µm)	0.0180	0.1244
12.50 to 13.00; (0.122 µm)	0.0132	0.0911
13.00 to 13.50; (0.086 µm)	0.0085	0.0588
TOTAL	100.0000	689.7200

Notes:

APPENDIX 2. Final Merged Data sheets (with comments) as supplied by participating laboratories (arranged by LabCode) and the Benchmerk Replicates for sediment distributed as PS65.

Exercise Code:	PS65
LabCode:	PSA_2430
Sample Code:	Benchmark Replicate 5

Phi interval (explicit) + sieve mesh (theoretical sieves shown in brackets)	Percentage (mark as "0" for no material or not analysed)	Grams (mark as "0" for no material or not analysed)
-6.50 to -6.00; 63 mm	0.0000	0.0000
-6.00 to -5.50; 45 mm	0.0000	0.0000
-5.50 to -5.00; 31.5 mm	0.0000	0.0000
-5.00 to -4.50; 22.4 mm	0.0000	0.0000
-4.50 to -4.00; 16 mm	1.2586	8.6800
-4.00 to -3.50; 11.2 mm	0.0000	0.0000
-3.50 to -3.00; 8 mm	3.8963	26.8700
-3.00 to -2.50; 5.6 mm	33.6499	232.0600
-2.50 to -2.00; 4 mm	11.3800	78.4800
-2.00 to -1.50; 2.8 mm	0.0653	0.4500
-1.50 to -1.00; 2 mm	0.0044	0.0300
-1.00 to -0.50; 1.4 mm	0.0029	0.0200
-0.50 to 0.00; 1 mm	0.0015	0.0100
0.00 to 0.50; (707 µm)	10.0334	69.1933
0.50 to 1.00; (500 µm)	14.4676	99.7730
1.00 to 1.50; (353.6 µm)	14.2778	98.4638
1.50 to 2.00; (250 µm)	7.4488	51.3692
2.00 to 2.50; (176.8 µm)	1.8592	12.8219
2.50 to 3.00; (125 µm)	0.5808	4.0054
3.00 to 3.50; (88.39 µm)	0.1706	1.1766
3.50 to 4.00; (62.5 µm)	0.0519	0.3576
4.00 to 4.50; (44.19 µm)	0.0299	0.2060
4.50 to 5.00; (31.25 µm)	0.0400	0.2762
5.00 to 5.50; (22.097 µm)	0.0338	0.2329
5.50 to 6.00; (15.625 µm)	0.0410	0.2830
6.00 to 6.50; (11.049 µm)	0.0502	0.3459
6.50 to 7.00; (7.813 µm)	0.0628	0.4333
7.00 to 7.50; (5.524 µm)	0.0782	0.5390
7.50 to 8.00; (3.906 µm)	0.0826	0.5696
8.00 to 8.50; (2.762 µm)	0.0709	0.4891
8.50 to 9.00; (1.953 µm)	0.0590	0.4069
9.00 to 9.50; (1.381 µm)	0.0554	0.3819
9.50 to 10.00; (0.977 µm)	0.0535	0.3687
10.00 to 10.50; (0.691 µm)	0.0481	0.3316
10.50 to 11.00; (0.488 µm)	0.0409	0.2820
11.00 to 11.50; (0.345 µm)	0.0335	0.2307
11.50 to 12.00; (0.244 µm)	0.0266	0.1837
12.00 to 12.50; (0.173 µm)	0.0200	0.1377
12.50 to 13.00; (0.122 µm)	0.0150	0.1033
13.00 to 13.50; (0.086 µm)	0.0098	0.0679
TOTAL	100.0000	689.6300

Notes:

APPENDIX 3. Laser Metadata and sample notes provided by the Benchmark Lab.

	REP 1	REP 2	REP 3	REP 4	REP 5
If laser used, provide manufacturer/model:	Beckman Coulter LS 13 320				
Dispersion unit:	Aqueous Liquid Module (ALM)				
Analysis model:	Mie theory				
Dispersant used:	Water RI - 1.33				
Particle Refractive Index:	1.55				
Particle Absorption Index:	0.1				
Fines extension	PIDS system				
Obscuration (average):	10				
Pump speed (% or rpm)	80%				
Stirrer speed (% or rpm)	n/a				
Ultrasonic duration (seconds)	20 secs before, then during runs				
Ultrasonic level (eg %, unit as described by instrument manual	Level 2 (lowest level)				
Fit assessment (weighted residual (%)):	0.86	0.95	0.85	1.28	1.10
Background duration (seconds)	60				
Measurement duration (seconds)	60				
Measurement time delay (seconds)	20				
Number of runs	3 x 3				
In-house reference standards completed:	Yes				
If Yes, frequency of use of in-house reference standards:	Weekly				
Certified reference standards completed:	Yes				
If Yes, frequency of use of certified reference standards:	3 Monthly				

Benchmark Notes

Sample was left to settle for 48 hours, and approximately 160 ml of clear water syringed from the surface before thorough mixing and homogenisation. The laser subsample was then taken. A test portion was taken from the laser subsample, dispersed on a watch glass using a few drops of water and a rubber-tipped glass stirring rod, washed into a beaker and to ensure complete dispersion placed in a ultrasonic bath for 20 seconds. The whole test portion was then washed into the LS13320 to achieve between 8 and 12 % obscuration. The sample was immediately run 3 times with ultra-sonication in the chamber turned on.

The remaining bulk sample was then wet separated through a 1 mm sieve, and the >1 mm and <1 mm fractions dried and weighed. The >1 mm fraction was sieved at half phi intervals.