

# Norfolk Boreas Offshore Wind Farm

# Appendix 8.1

## Particle Size Characteristics

## Environmental Statement

## Volume 3

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*Photo: Ormonde Offshore Wind Farm*

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**Table 1 Particle size characteristics of seabed sediment samples in Norfolk Boreas (MESL, 2011; Fugro, 2018). Locations are shown in Figure 8.8 of Volume 2**

Station	Gravel (%)	Sand (%)	Mud (%)	d <sub>50</sub> (mm)	Reference
001A	1.2	96.8	2.0	0.18	MESL (2011)
002A	0.0	97.7	2.3	0.18	
003A	0.0	98.7	1.3	0.19	
004A	0.1	98.3	1.6	0.18	
005A	0.2	98.1	1.6	0.19	
006A	0.1	98.6	1.3	0.19	
007A	0.0	98.4	1.6	0.18	
009A	1.2	96.4	2.3	0.22	
010A	0.3	97.4	2.3	0.21	
011A	0.1	98.5	1.4	0.20	
012A	0.2	96.2	3.6	0.18	
013A	0.3	97.3	2.4	0.23	
014A	0.2	97.8	2.0	0.22	
015A	0.2	98.2	1.6	0.21	
016A	0.2	96.4	3.4	0.19	
018A	0.8	97.6	1.6	0.30	
019A	0.3	97.0	2.7	0.23	
020A	2.7	93.6	3.7	0.21	
021A	0.2	98.5	1.4	0.23	
022A	0.5	97.5	2.0	0.20	
023A	1.0	97.1	1.9	0.25	
024A	0.1	97.7	2.3	0.20	
025A	0.9	97.3	1.8	0.24	
026A	1.8	97.0	1.3	0.25	
027A	0.4	97.4	2.2	0.22	
028A	0.1	98.9	1.0	0.23	
029A	1.3	97.1	1.6	0.23	
030A	0.3	96.4	3.3	0.24	
031A	0.9	86.7	12.4	0.18	
032A	0.4	98.3	1.3	0.23	
033A	1.8	96.6	1.6	0.23	
034A	0.3	97.2	2.5	0.26	
035A	0.0	98.3	1.7	0.22	
036A	0.3	97.7	2.0	0.19	
037A	2.2	94.7	3.1	0.21	
038A	0.2	97.2	2.6	0.18	
039A	0.1	98.9	1.0	0.22	

Station	Gravel (%)	Sand (%)	Mud (%)	d <sub>50</sub> (mm)	Reference
040A	1.1	96.0	2.9	0.28	
041A	1.7	94.9	3.4	0.20	
042A	0.7	97.9	1.4	0.19	
043A	0.1	97.8	2.1	0.18	
044A	2.5	94.4	3.1	0.22	
045A	0.3	98.1	1.5	0.21	
047A	0.3	98.1	1.6	0.23	
048A	0.5	98.1	1.4	0.23	
049A	0.7	96.2	3.2	0.20	
050A	0.3	85.7	14.0	0.17	
051A	0.0	98.5	1.5	0.21	
052A	0.4	98.5	1.2	0.24	
053A	2.8	94.0	3.2	0.23	
054A	1.4	96.0	2.6	0.21	
056A	0.0	98.6	1.4	0.19	
057A	5.5	92.1	2.4	0.24	
058A	0.2	98.0	1.8	0.19	
059A	0.2	98.2	1.5	0.27	
060A	2.6	96.1	1.4	0.31	
061A	2.2	72.7	25.1	0.19	
062A	1.5	96.0	2.5	0.21	
063A	2.6	75.3	22.1	0.17	
064A	0.7	97.5	1.7	0.20	
065A	0.9	97.8	1.4	0.23	
066A	8.6	84.8	6.5	0.23	
067A	0.9	91.2	7.8	0.18	
068A	0.5	98.3	1.3	0.21	
069A	0.0	98.5	1.5	0.19	
070A	6.0	75.0	19.0	0.17	
071A	0.4	96.0	3.7	0.18	
072A	0.8	97.9	1.4	0.32	
073A	0.7	97.8	1.5	0.30	
074A	1.0	96.0	3.0	0.22	
075A	1.1	90.0	8.9	0.21	
076A	0.4	96.7	2.9	0.18	
077A	0.2	98.5	1.3	0.21	
078A	0.7	97.8	1.5	0.25	
079A	2.0	95.8	2.2	0.22	

Station	Gravel (%)	Sand (%)	Mud (%)	d <sub>50</sub> (mm)	Reference
080A	1.7	96.4	1.9	0.25	
081A	0.1	98.4	1.4	0.26	
082A	4.9	93.5	1.6	0.21	
083A	0.2	98.8	1.1	0.22	
084A	14.4	76.1	9.5	0.19	
085A	0.2	97.1	2.6	0.18	
086A	2.1	95.2	2.7	0.22	
087A	16.7	81.3	1.9	0.30	
088A	0.9	95.2	3.9	0.20	
089A	0.1	99.0	0.9	0.33	
090A	0.0	98.1	1.8	0.19	
091A	1.8	96.6	1.6	0.22	
092A	5.2	75.3	19.4	0.18	
094A	1.1	96.6	2.4	0.22	
095A	0.4	98.6	1.0	0.31	
096A	6.2	92.3	1.5	0.23	
097A	0.2	98.8	1.0	0.26	
101A	4.4	94.1	1.5	0.29	
102A	0.3	98.2	1.5	0.30	
108A	2.1	95.8	2.1	0.28	
818X	1.3	96.9	1.8	0.22	
819X	5.2	74.8	20.0	0.19	
820X	3.4	76.1	20.5	0.18	
821X	4.8	64.5	30.7	0.15	
822X	15.4	64.5	20.1	0.19	
823X	8.7	90.1	1.2	0.41	
ST01	4.04	95.96	0	0.39	
ST02	3.69	90.02	6.29	0.31	
ST03	5.67	85.63	8.7	0.28	
ST04	0.02	99.98	0	0.30	
ST05	7.29	79.24	13.47	0.25	
ST06	1.62	98.38	0	0.25	
ST07	3.51	96.49	0	0.32	
ST08	5.85	94.15	0	0.32	
ST09	2.67	89.41	7.91	0.29	
ST10	0.84	99.16	0	0.28	
ST11	3.03	76.13	20.84	0.22	
ST12	0.53	99.47	0	0.28	

Fugro (2018)

Station	Gravel (%)	Sand (%)	Mud (%)	d <sub>50</sub> (mm)	Reference
ST13	0.73	99.27	0	0.32	
ST14	6.07	88.65	5.28	0.30	
ST15	0.91	99.09	0	0.28	
ST16	6.03	83.81	10.16	0.28	
ST17	2.33	96.77	0.9	0.27	
ST18	5.69	94.31	0	0.36	
ST19	4.95	88.22	6.83	0.27	
ST20	1.91	98.09	0	0.32	
ST21	0.1	99.9	0	0.31	
ST22	0.03	99.97	0	0.28	
ST23	0.3	90.7	9	0.26	
ST24	0.44	99.56	0	0.33	
ST25	0.05	99.95	0	0.28	
ST26	3.84	78.98	17.19	0.21	
ST27	0.08	99.34	0.58	0.29	
ST28	0.26	99.74	0	0.31	
ST29	0.19	99.81	0	0.29	
ST30	0.22	97.46	2.32	0.24	
ST31	4.88	93.53	1.59	0.30	
ST32	6.56	73.21	20.23	0.27	
ST33	0.22	99.78	0	0.31	
ST34	0.43	99.57	0	0.27	
ST35	0.54	91.11	8.36	0.24	

**Table 2 Particle size characteristics of seabed sediment samples in the offshore cable corridor (MESL, 2011; Fugro, 2017c). Locations are shown in Figure 8.9 of Volume 2**

Station	Gravel (%)	Sand (%)	Mud (%)	d <sub>50</sub> (mm)	Reference
277B	7.6	90.6	1.8	0.36	MESL (2011)
286B	15.6	62.0	22.4	0.32	
287B	1.5	94.7	3.8	0.30	
288B	3.5	94.5	2.0	0.31	
290B	0.0	98.0	2.0	0.13	
293B	1.9	97.0	1.2	0.33	
294B	9.6	88.1	2.3	0.31	
297B	1.4	97.2	1.4	0.29	
298B	3.3	95.1	1.6	0.37	
299B	0.0	98.1	1.9	0.11	
300B	5.3	73.2	21.6	0.28	
788X	7.8	72.5	19.6	0.25	
789X	4.8	86.1	9.1	0.28	
797X	8.8	84.0	7.2	0.34	
25CR	9.5	87.9	2.6	0.25	Fugro (2017c)
27CR	61.1	38.1	0.9	6.44	
29CR	56.8	42.1	1.1	9.61	
30CR	63.1	30.7	6.2	7.43	
31CR	50.8	44.2	5	2.37	
32CR	86	12.9	1.1	24.56	
33CR	48	48.6	3.4	1.21	
35CR	0.7	99.3	0	0.39	
36CR	0.2	99.8	0	0.29	
37CR	0	100	0	0.36	
38CR	2.6	97.4	0	0.46	
39CR	0.1	99.9	0	0.53	
40CR	3.4	93.7	2.9	0.40	
41CR	0	100	0	0.47	
42CR	0	100	0	0.36	
43CR	35.7	63.4	0.9	0.98	
44CR	0	100	0	0.29	
45CR	5.3	94.7	0	0.32	
46CR	0.5	37.6	61.9	0.03	
48CR	29.7	51.1	19.2	0.42	
49CR	1.4	98.6	0	0.39	
50CR	16.6	62.4	21	0.30	
52CR	24.4	54.4	21.2	0.37	

Station	Gravel (%)	Sand (%)	Mud (%)	d <sub>50</sub> (mm)	Reference
53CR	12.5	64.1	23.4	0.32	
54CR	13	85.8	1.2	0.41	
57CR	1	99	0	0.36	
58CR	2.1	37.7	60.2	0.03	
60CR	0.1	99.9	0	0.36	
61CR	1.9	67.7	30.3	0.22	
62CR	9	65.7	25.3	0.24	
64CR	8.5	84.9	6.6	0.35	
65CR	12.5	79.9	7.7	0.36	
66CR	5.4	94.6	0	0.35	



**Table 3 Particle size characteristics of seabed sediment samples in the Project Interconnector cable search area in the southern half of Norfolk Vanguard West (MESL, 2011; Fugro, 2017c). Locations are shown in Figure 8.8 of Volume 2**

Station	Gravel (%)	Sand (%)	Mud (%)	d <sub>50</sub> (mm)	Reference
229B	1.8	96.5	1.7	0.34	MESL (2011)
230B	2.7	96.2	1.1	0.35	
235B	0.5	98.4	1.1	0.34	
236B	2.9	95.6	1.5	0.34	
237B	1.7	96.5	1.9	0.31	
242B	3.7	70.6	25.7	0.27	
243B	2.6	93.1	4.3	0.35	
244B	3.1	94	2.9	0.36	
251B	0.9	97.5	1.6	0.33	
252B	4.9	93.6	1.6	0.38	
253B	9.2	87.7	3.1	0.36	
260B	7.3	47.7	44.9	0.18	
261B	0.7	96.8	2.5	0.32	
262B	1.6	97	1.4	0.32	
269B	2.9	95.1	1.9	0.36	
270B	3	82	15	0.25	
03MS	5.6	93.4	1	0.40	Fugro (2017c)
04MS	2.6	97.4	0	0.45	

**Table 4 Particle size characteristics of seabed sediment samples in the Project Interconnector cable search area in the north-west part of Norfolk Vanguard East (MESL, 2011; Fugro, 2017c). Locations are shown in Figure 8.8 of Volume 2**

Station	Gravel (%)	Sand (%)	Mud (%)	d <sub>50</sub> (mm)	Reference
103A	4.28	82.76	12.96	0.2	MESL (2011)
104A	0.46	98.11	1.42	0.21	
109A	0.03	98.12	1.85	0.3	
110A	0.12	98.71	1.17	0.25	
111A	0.48	98.18	1.34	0.24	
115A	0.76	96.4	2.84	0.24	
116A	0.42	96.83	2.74	0.21	
117A	1.03	96.21	2.76	0.24	
122A	1.32	97.58	1.09	0.37	
123A	0.3	98.59	1.11	0.25	
124A	0.17	98.11	1.72	0.21	
128A	0.16	98.32	1.53	0.23	
129A	0.14	98.25	1.61	0.24	
135A	6.46	92.53	1.01	0.32	
811X	6.4	88.9	4	0.33	
16MS	0.3	99.7	0	0.34	
17MS	0.7	94	5.3	0.31	
18MS	0.1	99.9	0	0.34	