



AQUIND Limited

AQUIND INTERCONNECTOR

Environmental Statement – Volume 3 – Appendix 6.3 Grain Size Statistics

The Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations
2009 – Regulation 5(2)(a)

The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

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**Environmental Statement – Volume 3 –
Appendix 6.3 Grain Size Statistics**

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GRAIN SIZE STATISTICS

- 1.1.1.1. Summary grain size statistics for all samples analysed for their particle size distribution by MMT UK Ltd. (2018/2019) are presented in Table 1. In addition, Table 2 displays the grain size distributions and summarises textural information and grain size statistics for the surficial samples collected by Natural Power (2017/2018).

Table 1 - Grain size statistics from samples collected from various depth within each borehole along the Marine Cable Corridor. Source: MMT (2018/2019)

Vibracore ID	Approx. Kilometre Point ('KP')	Depth		Sediment Fraction (%)				
		Top (m)	Base (m)	Clay	Silt	Total Fines	Sand	Gravel
735-VC-B01-001	0.74	1.00	2.36	-	-	1	14	85
735-VC-B01-002	1.72	0.37	0.89	30	55	85	9	6
735-VC-B01-002	1.72	0.89	1.50	37	36	73	27	-
735-VC-B01-003	2.09	0.33	0.66	-	-	3	11	86
735-VC-B01-003	2.09	1.00	2.00	16	28	44	56	-
735-VC-B01-003	2.09	2.45	3.70	16	22	38	62	
735-VC-B01-004	2.98	0.31	1.53	-	-	3	70	27
735-VC-B01-004	2.98	1.53	2.00	-	-	7	32	61
735-VC-B01-004	2.98	2.00	2.52	-	-	3	12	85
735-VC-B01-004	2.98	2.52	3.00	-	-	-	99	1
735-VC-B01-005	3.91	0.73	1.56	-	-	4	85	11
735-VC-B01-005	3.91	1.75	3.00	-	-	-	99	1

Vibracore ID	Approx. Kilometre Point ('KP')	Depth		Sediment Fraction (%)				
		Top (m)	Base (m)	Clay	Silt	Total Fines	Sand	Gravel
735-VC-B01-006	5.04	0.00	0.86	16	14	30	70	-
735-VC-B01-006	5.04	1.00	1.50	17	19	36	64	-
735-VC-B01-007	6.14	0.00	0.41	-	-	3	79	18
735-VC-B01-007	6.14	1.00	1.50	14	18	32	68	-
735-VC-B01-008	7.00	0.00	0.38	-	-	4	90	6
735-VC-B01-008	7.00	1.00	2.00	-	-	2	94	4
735-VC-B01-009	8.00	0.00	0.68	-	-	4	90	6
735-VC-B01-009	8.00	0.68	1.00	-	-	9	79	12
735-VC-B02-010	9.00	0.00	1.00	32	44	76	23	1
735-VC-B02-010	9.00	1.40	1.84	40	51	91	9	-
735-VC-B02-012	10.97	0.00	1.00	37	62	99	1	-
735-VC-B02-012	10.97	1.40	2.29	42	57	99	1	-
735-VC-B02-013	12.00	0.00	0.34	-	-	9	33	58
735-VC-B02-013A	11.99	0.00	0.23	8	12	20	22	58

Vibracore ID	Approx. Kilometre Point ('KP')	Depth		Sediment Fraction (%)				
		Top (m)	Base (m)	Clay	Silt	Total Fines	Sand	Gravel
735-VC-B02-013A	11.99	0.23	1.00	33	47	80	14	6
735-VC-B02-013A	11.99	1.40	2.00	40	56	96	4	-
735-VC-B02-014	13.00	0.00	1.00	4	19	23	77	-
735-VC-B02-014	13.00	1.00	2.13	-	-	2	98	-
735-VC-B02-014	13.00	2.13	3.33	-	-	8	91	1
735-VC-B02-016	15.00	0.00	1.00	43	54	97	3	-
735-VC-B02-016	15.00	1.40	2.50	45	52	97	3	-
735-VC-B02-017	16.00	0.00	0.72	-	-	4	25	71
735-VC-B02-017	16.00	0.72	1.60	42	49	91	8	1
735-VC-B02-018	17.00	0.56	1.49	-	-	6	80	14
735-VC-B02-018	17.00	1.49	2.56	-	-	6	42	52
735-VC-B02-018	17.00	3.54	4.00	30	44	74	24	2
735-VC-B02-019A	18.06	0.00	0.42	-	3	3	63	34
735-VC-B02-019A	18.06	0.42	1.00	-	-	4	28	68

Vibracore ID	Approx. Kilometre Point ('KP')	Depth		Sediment Fraction (%)				
		Top (m)	Base (m)	Clay	Silt	Total Fines	Sand	Gravel
735-VC-B02-019A	18.06	2.37	3.43	32	41	73	14	13
735-VC-B02-020	19.00	1.00	2.00	-	-	8	56	36
735-VC-B02-022	21.00	0.00	1.00	-	-	1	30	69
735-VC-B02-022	21.00	1.00	2.00	-	-	3	34	63
735-VC-B02-022	21.00	2.60	3.54	-	-	5	44	51
735-VC-B02-023	22.00	0.00	1.49	-	-	9	42	49
735-VC-B02-023	22.00	1.49	2.00	39	45	84	14	2
735-VC-B02-025	24.00	1.00	2.00	-	-	2	17	81
735-VC-B02-026	24.97	0.00	0.24	-	-	6	26	68
735-VC-B02-026	24.97	0.24	0.67	28	39	67	25	8
735-VC-B02-027	26.05	0.08	0.95	32	41	73	21	6
735-VC-B02-028	27.05	0.00	0.80	-	-	5	36	59
735-VC-B02-028	27.05	0.80	1.65	14	18	32	60	8
735-VC-B02-030	29.00	0.00	0.66	-	-	5	92	3

Vibracore ID	Approx. Kilometre Point ('KP')	Depth		Sediment Fraction (%)				
		Top (m)	Base (m)	Clay	Silt	Total Fines	Sand	Gravel
735-VC-B02-030	29.00	0.66	1.48	-	-	1	28	71
735-VC-B02-034	32.99	0.00	0.80	-	-	4	18	78
735-VC-B02-034	32.99	0.80	2.00	-	-	8	38	54
735-VC-B02-036	34.99	1.00	2.00	-	-	9	43	48
735-VC-B02-038	36.96	0.00	0.44	-	-	8	14	78
735-VC-B02-038	36.96	0.44	1.00	21	32	53	26	21
735-VC-B02-040	38.99	0.00	0.41	-	-	4	31	65
735-VC-B02-040	38.99	0.41	1.00	30	39	69	25	6
735-VC-B02-041	39.99	1.00	2.00	-	-	1	42	57
735-VC-B02-041	39.99	2.71	4.00	-	-	0	25	75
735-VC-B02-043	42.00	0.00	1.00	13	19	32	64	4
735-VC-B02-043	42.00	2.00	2.64	25	36	61	39	-
735-VC-B02-044	42.99	0.00	1.07	18	26	44	54	2
735-VC-B02-045A	44.00	0.29	0.76	23	30	53	36	11

Vibracore ID	Approx. Kilometre Point ('KP')	Depth		Sediment Fraction (%)				
		Top (m)	Base (m)	Clay	Silt	Total Fines	Sand	Gravel
735-VC-B02-045A	44.00	0.76	1.90	39	48	87	13	-
735-VC-B02-045A	44.00	1.90	3.00	40	45	85	15	-
735-VC-B02-046	45.00	0.42	1.00	46	52	98	2	-
735-VC-B02-046	45.00	2.68	3.17	28	60	88	12	-
735-VC-B03-047	45.89	0.00	1.00	11	18	29	69	2
735-VC-B03-047	45.89	2.00	3.05	4	21	25	72	3
735-VC-B03-048	46.38	0.00	1.00	1	31	32	66	2
735-VC-B03-049A	46.99	0.00	1.10	27	39	66	34	-
735-VC-B03-050	48.00	0.00	0.95	-	-	5	87	8
735-VC-B03-050	48.00	0.95	2.00	-	-	3	45	52
735-VC-B03-051	49.00	1.00	2.00	-	-	3	89	8
735-VC-B03-051	49.00	2.73	3.58	17	21	38	49	13
735-VC-B03-052	49.98	0.00	1.00	-	-	3	95	2
735-VC-B03-052	49.98	2.16	2.40	-	-	9	77	14

Vibracore ID	Approx. Kilometre Point ('KP')	Depth		Sediment Fraction (%)				
		Top (m)	Base (m)	Clay	Silt	Total Fines	Sand	Gravel
735-VC-B03-052	49.98	2.58	3.80	-	-	4	89	7
735-VC-B03-053	51.00	1.00	2.00	-	-	7	91	2
735-VC-B03-054	52.00	0.00	0.36	-	-	7	17	76
735-VC-B03-054	52.00	0.36	1.60	37	48	85	15	-
735-VC-B03-055	53.00	1.40	2.00	26	37	63	37	-
735-VC-B03-057	55.03	0.00	1.00	-	-	2	98	-
735-VC-B03-057	55.03	1.87	2.26	-	-	1	18	81
735-VC-B03-057	55.03	2.26	2.60	22	31	53	38	9
735-VC-B03-058	56.02	1.00	2.30	-	-	1	72	27
735-VC-B03-058	56.02	2.30	3.32	-	-	2	48	50
735-VC-B03-059	57.00	0.00	1.49	-	-	3	76	21
735-VC-B03-059	57.00	1.49	2.30	-	-	1	28	71
735-VC-B03-059	57.00	2.30	3.07	-	-	7	59	34
735-VC-B03-060A	58.00	0.00	1.05	-	-	3	34	63

Vibracore ID	Approx. Kilometre Point ('KP')	Depth		Sediment Fraction (%)				
		Top (m)	Base (m)	Clay	Silt	Total Fines	Sand	Gravel
735-VC-B03-060A	58.00	1.05	1.60	19	27	46	54	0
735-VC-B03-061	58.98	0.00	1.00	-	-	1	90	9
735-VC-B03-061	58.98	1.00	2.00	-	-	3	87	10
735-VC-B03-063	61.00	0.00	1.00	-	-	6	91	3
735-VC-B03-063	61.00	1.62	3.00	-	-	2	75	23
735-VC-B03-064	61.99	1.00	2.44	-	-	6	78	16
735-VC-B03-064	61.99	2.44	3.00	-	-	2	96	2
735-VC-B03-066	64.00	0.00	0.68	-	-	0	56	44
735-VC-B03-066	64.00	1.00	2.20	-	-	4	78	18
735-VC-B03-066	64.00	2.20	3.00	-	-	1	98	1
735-VC-B03-067	64.99	0.00	0.71	-	-	6	19	75
735-VC-B03-067	64.99	0.71	1.15	35	51	86	14	0
735-VC-B03-068	66.00	0.00	1.00	-	-	5	78	17
735-VC-B03-068	66.00	2.99	4.00	-	-	1	94	5

Vibracore ID	Approx. Kilometre Point ('KP')	Depth		Sediment Fraction (%)				
		Top (m)	Base (m)	Clay	Silt	Total Fines	Sand	Gravel
735-VC-B03-070	68.00	1.00	2.00	-	-	7	92	1
735-VC-B03-070	68.00	2.90	3.51	-	-	9	61	30
735-VC-B03-070	68.00	3.51	4.00	-	-	5	93	2
735-VC-B03-072	70.00	0.00	0.58	-	-	6	74	20
735-VC-B03-072	70.00	0.58	0.95	-	-	2	25	73
735-VC-B03-073	70.95	0.52	1.36	-	-	1	15	84
735-VC-B03-073	70.95	1.36	2.29	-	-	1	53	46
735-VC-B03-073	70.95	2.29	3.32	3	17	20	72	8
735-VC-B03-073	70.95	3.32	4.46	16	30	46	54	0
735-VC-B03-074	72.00	0.00	1.00	-	-	3	91	6
735-VC-B03-075	73.00	0.00	1.00	-	-	8	91	1
735-VC-B03-076A	74.00	0.00	0.65	-	-	2	32	66
735-VC-B03-076A	74.00	1.00	2.00	1	25	26	72	2
735-VC-B03-077	75.00	0.00	1.00	-	-	1	75	24

Vibracore ID	Approx. Kilometre Point ('KP')	Depth		Sediment Fraction (%)				
		Top (m)	Base (m)	Clay	Silt	Total Fines	Sand	Gravel
735-VC-B03-077	75.00	1.85	3.00	2	12	14	83	3
735-VC-B03-078	75.99	0.00	0.78	-	-	5	34	61
735-VC-B03-078	75.99	1.28	2.77	3	24	27	68	5
735-VC-B03-079	76.99	0.00	0.48	-	-	2	50	48
735-VC-B03-079	76.99	0.48	0.73	-	-	2	87	11
735-VC-B03-079	76.99	0.73	1.69	-	-	8	91	1
735-VC-B03-079	76.99	1.69	3.05	-	-	9	90	1
735-VC-B03-081	78.99	0.00	1.34	-	-	1	69	30
735-VC-B03-081	78.99	1.73	2.56	8	20	28	66	6
735-VC-B03-081	78.99	3.02	4.00	9	16	25	74	1
735-VC-B03-082	79.99	0.00	0.91	-	-	3	91	6
735-VC-B03-082	79.99	0.91	1.81	-	-	1	28	71
735-VC-B03-082	79.99	1.81	3.42	-	-	1	13	86
735-VC-B03-084	81.95	0.00	0.75	-	-	7	42	51

Vibracore ID	Approx. Kilometre Point ('KP')	Depth		Sediment Fraction (%)				
		Top (m)	Base (m)	Clay	Silt	Total Fines	Sand	Gravel
735-VC-B03-084	81.95	0.75	1.40	-	-	8	89	3
735-VC-B03-085	83.00	0.00	1.00	-	-	2	49	49
735-VC-B03-085	83.00	1.82	2.00	8	18	26	65	9
735-VC-B03-087	84.92	0.00	1.00	-	-	3	37	60
735-VC-B03-087	84.92	1.43	2.90	-	-	6	68	26
735-VC-B03-089	87.00	0.00	1.00	-	-	2	96	2
735-VC-B03-089	87.00	1.00	2.00	-	-	2	88	10
735-VC-B03-089	87.00	2.00	2.69	-	-	1	61	38
735-VC-B03-091	88.78	0.00	1.00	-	-	6	38	56
735-VC-B03-091	88.78	2.00	3.00	-	-	0	44	56
735-VC-B03-092A	90.00	0.00	1.00	-	-	3	34	63
735-VC-B03-092A	90.00	1.00	2.00	-	-	1	53	46
735-VC-B03-093	91.00	0.00	1.00	-	-	1	84	15
735-VC-B03-093	91.00	1.00	2.00	-	-	5	49	46

Vibracore ID	Approx. Kilometre Point ('KP')	Depth		Sediment Fraction (%)				
		Top (m)	Base (m)	Clay	Silt	Total Fines	Sand	Gravel
735-VC-B03-094	92.00	0.00	1.52	-	-	7	64	29
735-VC-B03-094	92.00	1.52	3.00	-	-	2	18	80
735-VC-B03-095	93.00	0.00	1.00	-	-	4	96	0
735-VC-B03-095	93.00	2.10	3.24	-	-	3	42	55
735-VC-B03-096	94.00	0.00	1.00	-	-	3	37	60
735-VC-B03-097	94.96	0.00	0.90	-	-	4	36	60
735-VC-B03-097	94.96	0.90	2.00	-	-	1	21	78
735-VC-B03-097	94.96	2.70	3.10	-	-	9	79	12
735-VC-B03-098A	96.00	0.00	1.00	-	-	5	30	65
735-VC-B03-098A	96.00	1.00	2.00	-	-	2	34	64
735-VC-B03-099	97.00	0.00	1.00	-	-	2	19	79
735-VC-B03-099	97.00	2.00	2.99	-	-	2	32	66
735-VC-B03-100	98.26	0.00	0.76	7	9	16	24	60
735-VC-B03-100	98.26	0.76	1.00	35	38	73	25	2

Vibracore ID	Approx. Kilometre Point ('KP')	Depth		Sediment Fraction (%)				
		Top (m)	Base (m)	Clay	Silt	Total Fines	Sand	Gravel
735-VC-B03-101	99.00	0.00	1.00	-	-	4	26	70
735-VC-B03-101	99.00	1.00	2.00	-	-	5	61	34
735-VC-B03-101	99.00	2.77	3.48	-	-	5	88	7
735-VC-B03-102	100.00	0.00	1.00	-	-	3	43	54
735-VC-B03-102	100.00	1.94	2.65	-	-	4	85	11
735-VC-B03-104	102.00	0.00	0.51	-	-	3	16	81
735-VC-B03-104	102.00	0.51	1.17	2	19	21	62	17
735-VC-B03-104	102.00	1.17	1.79	3	21	24	63	13
735-VC-B03-105	103.00	0.00	0.75	-	-	9	65	26
735-VC-B03-105	103.00	1.58	3.00	-	-	8	92	0
735-VC-B03-106	104.00	0.00	0.97	-	-	3	97	0
735-VC-B03-106	104.00	1.50	2.68	-	-	4	14	82
735-VC-B03-107	105.00	0.00	0.98	-	-	6	47	47
735-VC-B03-107	105.00	0.98	2.00	-	-	3	88	9

Vibracore ID	Approx. Kilometre Point ('KP')	Depth		Sediment Fraction (%)				
		Top (m)	Base (m)	Clay	Silt	Total Fines	Sand	Gravel
735-VC-B03-108	106.00	0.00	1.26	-	-	3	34	63
735-VC-B03-108	106.00	1.26	1.74	-	-	2	18	80
735-VC-B03-108	106.00	1.74	2.68	2	24	26	74	0
735-VC-B03-109	107.00	0.00	0.95	-	-	8	90	2
735-VC-B03-109	107.00	0.95	1.66	-	-	3	15	82
735-VC-B03-109	107.00	1.66	2.72	-	-	9	77	14
735-VC-B03-110	108.00	0.00	0.81	-	-	6	70	24
735-VC-B03-110	108.00	0.81	2.88	-	-	3	7	90

Table 2 - Grain size statistics from surficial samples collected along the Marine Cable Corridor. Source: Natural Power (2017/2018)

Sample	Approx. Kilometre Point ('KP')	Textural Group	% very coarse gravel	% coarse gravel	% medium gravel	% fine Gravel	% very fine gravel	% very coarse sand	% coarse sand	% medium sand	% fine sand	% very fine sand	% silt	% clay
1	1.0	Very Fine Gravel	0.000	8.779	14.352	16.799	11.258	6.022	2.892	18.039	18.691	1.017	1.514	0.638
2	2.2	Fine Sand	0.000	0.000	1.281	0.183	0.402	0.498	0.417	36.301	59.000	1.919	0.000	0.000
3	5.0	Very Fine Sand	0.000	0.000	6.005	10.792	3.307	1.267	12.274	0.000	1.033	4.968	50.376	9.978
4	8.1	Very Fine Gravel	26.090	24.436	8.234	1.534	1.338	1.617	1.683	1.153	9.857	6.687	13.627	3.745
5	15.0	Coarse Sand	0.000	11.455	19.791	8.118	3.267	2.834	1.899	10.363	20.252	6.771	11.278	3.972
6	21.0	Very Fine Gravel	0.000	6.121	27.290	20.524	14.148	5.547	11.433	10.757	1.465	0.582	1.820	0.313

Sample	Approx. Kilometre Point ('KP')	Textural Group	% very coarse gravel	% coarse gravel	% medium gravel	% fine Gravel	% very fine gravel	% very coarse sand	% coarse sand	% medium sand	% fine sand	% very fine sand	% silt	% clay
7	29.5	Very Fine Gravel	0.000	0.000	27.201	29.220	10.441	5.804	3.292	9.541	9.573	1.615	2.603	0.710
8	No Data													
9	39.5	Very Fine Gravel	0.000	13.424	9.595	15.573	10.491	5.011	5.121	21.871	13.755	0.513	3.291	1.354
10	42.2	Very Fine Gravel	0.000	0.000	28.056	18.422	8.950	8.901	5.847	11.430	9.483	2.161	5.295	1.454
11	47.8	Coarse Sand	0.000	0.000	3.611	9.309	5.114	2.770	6.032	39.764	17.623	2.057	11.208	2.513
12	56.0	Very Coarse Sand	0.000	0.000	4.672	17.367	14.914	12.050	18.398	25.758	4.589	0.033	1.757	0.462
13	66.0	Very Fine Gravel	0.000	8.391	10.520	21.515	10.825	9.328	15.201	15.322	4.792	0.633	2.648	0.824

Sample	Approx. Kilometre Point ('KP')	Textural Group	% very coarse gravel	% coarse gravel	% medium gravel	% fine Gravel	% very fine gravel	% very coarse sand	% coarse sand	% medium sand	% fine sand	% very fine sand	% silt	% clay
14	72.0	Very Coarse Sand	0.000	0.000	3.082	24.431	14.120	10.543	21.839	19.320	2.879	0.731	2.386	0.668
15	75.0	Very Coarse Sand	0.000	0.000	5.280	17.794	12.191	7.792	15.960	28.718	4.821	0.196	5.039	2.210
16	79.2	Very Coarse Sand	0.000	0.000	3.982	22.960	10.224	8.776	12.692	28.505	7.135	0.242	3.866	1.620
17	83.3	Very Coarse Sand	2.297	6.229	6.165	12.250	11.872	9.989	21.223	20.198	4.107	2.026	2.838	0.807
18	86.8	Very Coarse Sand	1.820	0.963	7.403	21.821	13.238	10.619	20.763	18.902	2.536	0.781	0.850	0.303
19	92.0	Very Coarse Sand	0.000	2.416	5.194	17.140	12.994	11.991	23.096	21.332	2.962	0.928	1.464	0.485

Sample	Approx. Kilometre Point ('KP')	Textural Group	% very coarse gravel	% coarse gravel	% medium gravel	% fine Gravel	% very fine gravel	% very coarse sand	% coarse sand	% medium sand	% fine sand	% very fine sand	% silt	% clay
20	98.0	Very Coarse Sand	0.000	5.534	11.612	16.429	10.258	9.982	21.300	20.454	2.501	0.634	0.941	0.354
21	110.5	Very Fine Gravel	2.792	0.000	6.977	24.826	15.229	11.042	18.838	16.068	2.014	0.889	1.005	0.320

REFERENCES

MMT (2018/2019). Aquind interconnector Geotechnical Survey. Field report and appendices. Report no: 102735-AQU-MMT-SUR-REP-FRGTECNE.

Natural Power (2019). Benthic Ecology Survey Report. Document Ref: 6.3.8.1