Project Name: murmansk

Pile Name: 9.10

Testing Date:2018-03-18

RCAPWAP RESULTS

Soil Segment No.	Depth Below Gages (m)	Depth Below Grade (m)	Activated Resistance R (kN)	Sum Down of R (kN)	Sum UP of R (kN)	Unit Resistance (Depth) (kN/m)	Unit Resistance (Area) (kPa)
1	1.35	1.05	100	100	11136	95	21
2	2.39	2.09	100	200	11036	96	22
3	3.44	3.14	200	400	10936	190	43
4	4.48	4.18	200	600	10736	192	43
5	5.53	5.23	200	800	10536	190	43
6	6.58	6.28	200	1000	10336	190	43
7	7.62	7.32	200	1200	10136	192	43
8	8.67	8.37	200	1400	9936	190	43
9	9.72	9.42	200	1600	9736	190	43
10	10.76	10.46	100	1700	9536	96	22
11	11.81	11.51	100	1800	9436	95	21
12	12.85	12.55	100	1900	9336	96	22
13	13.90	13.60	100	2000	9236	95	21
14	14.95	14.65	100	2100	9136	95	21
15	15.99	15.69	100	2200	9036	96	22
16	17.04	16.74	100	2300	8936	95	21
17	18.08	17.78	100	2400	8836	96	22
18	19.13	18.83	200	2600	8736	190	43
19	20.18	19.88	200	2800	8536	190	43
20	21.22	20.92	200	3000	8336	192	43
21	22.27	21.97	300	3300	8136	286	64
22	23.32	23.02	600	3900	7836	571	128
23	24.36	24.06	600	4500	7236	577	129
24	25.41	25.11	600	5100	6636	571	128
25	26.45	26.15	535	5635	6036	514	115
26	27.50	27.20	535	6170	5501	510	114
27	28.55	28.25	550	6720	4966	524	117
28	29.59	29.29	535	7255	4416	514	115
29	30.64	30.34	401	7656	3881	382	86
30	31.68	31.38	134	7790	3480	129	29
31	32.73	32.43	130	7920	3346	124	28
32	33.78	33.48	130	8050	3216	124	28
33	34.82	34.52	134	8184	3086	129	29
34	35.87	35.57	134	8318	2952	128	29
35	36.92	36.62	134	8452	2818	128	29
36	37.96	37.66	134	8586	2684	129	29
37	39.01	38.71	100	8686	2550	95	21
38	40.05	39.75	100	8786	2450	96	22
39	41.10	40.80	100	8886	2350	95	21
40	42.15	41.85	100	8986	2250	95	21
41	43.19	42.89	100	9086	2150	96	22
42	44.24	43.94	100	9186	2050	95	21
43	45.28	44.98	50	9236	1950	48	11

44	46.33	46.03	50	9286	1900	48	11
45	47.38	47.08	50	9336	1850	48	11
46	48.42	48.12	50	9386	1800	48	11
47	49.47	49.17	50	9436	1750	48	11
48	50.52	50.22	50	9486	1700	48	11
49	51.56	51.26	50	9536	1650	48	11
50	52.61	52.31	50	9586	1600	48	11
51	53.65	53.35	50	9636	1550	48	11
52	54.70	54.40	50	9686	1500	48	11
53	55.75	55.45	50	9736	1450	48	11
54	56.79	56.49	50	9786	1400	48	11
55	57.84	57.54	50	9836	1350	48	11
56	58.88	58.58	50	9886	1300	48	11
57	59.93	59.63	50	9936	1250	48	11
58	60.98	60.68	50	9986	1200	48	11
59	62.02	61.72	50	10036	1150	48	11
60	63.07	62.77	50	10086	1100	48	11
61	64.12	63.82	50	10136	1050	48	11
62	65.16	64.86	50	10186	1000	48	11
63	66.21	65.91	50	10236	950	48	11
64	67.25	66.95	50	10286	900	48	11
65	68.30	68.00	50	10336	850	48	11
Toe	68.30	68.00	800	11136	800	506	506
Total RCAPWAP Capacity : 11136kN Skin Friction : 10336kN Pile Base : 800kN							
Pile Displacement Measurement : 34.05mm Blow Count = 29b/m							
Pile Displacement Match : 40.63mm Blow Count = 25b/m							
Match Quality : 6.33%							

Soil Model Parameters (basic parameters)	Symbol	Shaft	Toe
Case Damping Factor	JS/JT	0.85	0.02
Smith Damping Factor(s/m)	SS/ST	0.17	0.10
Quake(mm)	QS/QT	0.1	2.54
Unloading Quake(% of loading quake)	CS/CT	0.19	0.2
Unloading Level(% of Ru)	UN	1	-
Soil mass(kg)	PL	-	500

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EXTREMA TABLE

Pile Segment No.	Depth Below Gages (m)	max. Force (kN)	min. Force (kN)	max. Comp. Stress (MPa)	max. Tension Stress (MPa)	max. Trnsfd. Energy (kJ)	max. Velocity (ms)	max. Displ. (mm)
1	1.3	18823	-2986	213.9	-33.9	666	4.4	43.251
2	2.4	18851	-2885	214.2	-32.8	659	4.3	42.998
3	3.4	18747	-2649	213.0	-30.1	648	4.3	42.743
4	4.5	18491	-2459	210.1	-27.9	633	4.2	42.484
5	5.5	17910	-2353	203.5	-26.7	610	4.2	42.240
6	6.6	17455	-2147	198.3	-24.4	581	4.2	42.001
7	7.6	17141	-1980	194.8	-22.5	562	4.1	41.769
8	8.7	16970	-1959	192.8	-22.3	553	4.1	41.546
9	9.7	16755	-1731	190.4	-19.7	541	4.1	41.322
10	10.8	16569	-1671	188.3	-19.0	532	4.1	41.104
11	11.8	16473	-1569	187.2	-17.8	528	4.1	40.894
12	12.9	16480	-1457	187.3	-16.6	523	4.1	40.683
13	13.9	16842	-1448	191.4	-16.5	519	4.1	40.474
14	14.9	17210	-1355	195.6	-15.4	515	4.0	40.265
15	16.0	17562	-1370	199.6	-15.6	511	4.0	40.060
16	17.0	17804	-1295	202.3	-14.7	506	3.9	39.855
17	18.1	17873	-1263	203.1	-14.3	502	3.8	39.662
18	19.1	17795	-1222	202.2	-13.9	493	3.6	39.477
19	20.2	17543	-1062	199.3	-12.1	481	3.5	39.309
20	21.2	17209	-1108	195.6	-12.6	467	3.4	39.194
21	22.3	16741	-884	190.2	-10.0	450	3.2	39.120
22	23.3	16268	-803	184.9	-9.1	426	3.1	39.048
23	24.4	15758	-702	179.1	-8.0	396	2.9	38.991
24	25.4	14869	-827	169.0	-9.4	360	2.8	38.922
25	26.4	13989	-917	159.0	-10.4	326	2.7	38.861
26	27.5	13126	-1491	149.2	-16.9	293	2.6	38.845
27	28.5	12104	-1922	137.5	-21.8	257	2.5	38.832
28	29.6	11051	-2570	125.6	-29.2	221	2.5	38.817
29	30.6	10131	-3004	115.1	-34.1	189	2.5	38.787
30	31.7	9669	-3172	109.9	-36.0	171	2.6	38.781
31	32.7	9587	-3105	108.9	-35.3	165	2.7	38.769
32	33.8	9518	-2875	108.2	-32.7	159	2.7	38.819
33	34.8	9419	-2827	107.0	-32.1	151	2.7	38.969
34	35.9	9326	-2999	106.0	-34.1	145	2.6	39.122
35	36.9	9180	-3130	104.3	-35.6	137	2.7	39.283
36	38.0	8981	-3262	102.1	-37.1	127	2.7	39.454
37	39.0	8794	-3359	99.9	-38.2	119	2.7	39.628
38	40.0	8626	-3381	98.0	-38.4	111	2.8	39.801
39	41.1	8497	-3436	96.6	-39.0	106	2.9	39.983
40	42.1	8422	-3277	95.7	-37.2	102	3.0	40.167
41	43.2	8347	-3109	94.9	-35.3	97	3.0	40.341
42	44.2	8271	-2881	94.0	-32.7	93	3.0	40.506
43	45.3	8221	-2600	93.4	-29.5	90	3.1	40.651

44	46.3	8196	-2343	93.1	-26.6	88	3.0	40.769
45	47.4	8171	-2001	92.8	-22.7	86	3.0	40.870
46	48.4	8145	-1906	92.6	-21.7	84	3.0	40.956
47	49.5	8121	-1945	92.3	-22.1	81	3.1	41.023
48	50.5	8095	-1799	92.0	-20.4	79	3.1	41.077
49	51.6	8070	-1861	91.7	-21.1	77	3.0	41.119
50	52.6	8045	-1507	91.4	-17.1	75	3.0	41.155
51	53.6	8019	-1526	91.1	-17.3	73	2.9	41.184
52	54.7	7994	-1648	90.8	-18.7	71	2.8	41.209
53	55.8	7969	-1956	90.6	-22.2	68	2.8	41.219
54	56.8	7944	-1789	90.3	-20.3	66	2.8	41.215
55	57.8	7919	-1494	90.0	-17.0	64	2.9	41.203
56	58.9	7893	-1309	89.7	-14.9	62	3.1	41.183
57	59.9	7868	-1290	89.4	-14.7	60	3.3	41.164
58	61.0	7841	-1225	89.1	-13.9	58	3.5	41.143
59	62.0	7825	-1025	88.9	-11.6	55	3.5	41.115
60	63.1	7739	-1281	87.9	-14.6	53	3.4	41.081
61	64.1	7635	-1494	86.8	-17.0	51	3.3	41.039
62	65.2	7229	-1327	82.1	-15.1	49	3.2	40.991
63	66.2	6135	-1079	69.7	-12.3	47	3.2	40.944
64	67.2	4657	-917	52.9	-10.4	45	3.2	40.918
65	68.3	3200	-564	36.4	-6.4	42	3.5	40.894

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CASE RESULTS

JC	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
RSP	16962	15620	14278	12936	11594	10252	8910	7568	6226	4884	3542
RSU	21209	20292	19375	18457	17540	16623	15706	14788	13871	12954	12037
RMX	16962	15620	14278	12936	11594	10252	8910	7568	6226	4884	4654
RCAPWAP = 11136.00 kN Jc(RSP) = 0.43 Jc(RSU) = 0.61 Jc(RMX) =0.43											
VMX (m/s)	TVP (ms)	VT1*Z (kN)	FT1 (kN)	FMX (kN)	DMX (mm)	DFN (mm)	SET (mm)	EMX (KJ)			
4.72	50.9	15133	15248	19449	77.4	32.4	34.05	700			

PILE MODEL

Segment (NO.)	Length (m)	Area (cm2)	Modulus (kPa)	Spec.Weight (kN/m3)	Perimeter (m)	Impedance (kN/m/s)	Z-Change (%)
1	0	880	208345	78.50	4.46	3595	100
65	0	880	208345	78.50	4.46	3595	100
Toe	0	880					
Wave Speed : 5100m/s Overall : 5100m/s Pile Damping : 0.00% Time Increment : 0.392ms							

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