

Table 9.1. A summary of the number of geotechnical tests conducted for each core separated by test type.

Region	Core number	Core Length (cm)	Water Contents	Atterberg Limits	Grain Size	Triaxial	Consolidation
1	20148040029pc	375	9	5	5	1	1
	2013HEALY0001pc	1412.5	26	9	8	1	1
	2013HEALY0003pc	1643.5	0	0	13	0	0
	2013004PGC0066gc	387	10	3	1	3	3
2	20148040012pc	485.5	15	5	4	1	1
	20148040016pc	338	10	8	6	1	1
	20148040019pc	296	9	3	0	1	2
	20148040024pc	334.5	9	5	4	1	1
	20098040013pc	307	11	4	3	1	1
	20098040019pc	415	14	4	3	1	1
	20098040026pc	590	20	7	5	1	1
	20098040036pc	721	23	8	6	2	2
	20098040040pc	198	8	3	3	0	0
	*2012004PGC0025pc	501	0	2	0	0	1
*2012004PGC0026pc	493	0	1	0	0	2	
3	20108040019pc	327	8	4	5	0	0
	20108040024pc	440	11	5	4	1	2
	20108040036pc	725	19	7	4	1	1
	20108040056pc	619	18	6	7	1	1
	20108040069pc	441	13	4	4	1	1
	20108040070pc	420	12	4	3	1	1
4	20168050013pc	152	2	1	0	1	1
	20148040006pc	395	8	5	5	1	1
	20148040011pc	515.5	15	6	5	1	1
Total			270	109	98	22	27

*no MSCL bulk density profile or physical property data available

Table 9.2. Summary of Atterberg limit results for cores in Region 1.

Core	Depth (cm)	w _n (%)	LL (%)	PL (%)	PI (%)	LI	Classification	Zone
20148040029pc	13-23	125.7	85.5	43.2	42.3	1.95	MV	
	50-60	64.5	46.6	29.8	16.8	2.06	MI	
	110-120	78.2	66.1	30.1	36.0	1.34	CH	
	207-217	83.7	80.7	33.5	47.1	1.06	CV	
	317-342	59.0	55.3	29.3	26.1	1.14	CH/MH	
2013HEALY0001pc	143-153	100.6	78.7	36.2	42.5	1.51	CV/MV	
	283-293	83.6	69.9	34.0	35.9	1.38	MH/MV	
	475-485	73.7	65.6	31.4	34.2	1.24	CH	
	680-690	67.2	51.4	27.0	24.5	1.64	CH	
	827-837	56.4	47.4	25.8	21.5	1.42	CI	
	964-974	68.8	53.7	28.7	25.0	1.6	CH	
	1112-1122	59.3	44.4	25.2	19.2	1.77	CI	
	1234-1244	56.1	50.3	26.0	24.3	1.24	CH	
	1340-1350	57.9	44.5	26.7	17.8	1.75	CI/MI	
2013004PGC0066gc	110-118	93.8	78.7	33.3	45.4	0.96	CV	
	188-195	88.9	87.6	38.7	48.8	1.03	MV	
	360-365	64.7	57.9	30.1	27.8	1.24	MH	

Table 9.3. Summary of consolidation test results for cores in Region 1.

Cruise	Station	Depth (cm)	ρ_{sat} (g/cm ³)	γ_b (kN/m ³)	w_n (%)	C_c	C_r	P'_c (kPa)	OCR	k (cm/sec)	Classification
2014804	0029pc	330-332.5	1.72	16.84	58.2	0.39	0.077	34	1.70	3.72E-08	CH
2013HEALY	0001pc	1340-1342.5	1.72	16.86	51.5	0.53	0.068	45	0.54	7.89E-08	CI/MI
2013004PGC	0066gc	116-118.5	1.55	15.16	76.8	0.85	0.089	22	2.14	2.65E-07	CV
2013004PGC	0066gc	188-190.5	1.50	14.67	104.8	0.89	0.129	23	1.85	1.16E-07	MV
2013004PGC	0066gc	362-364.5	1.66	16.26	64.6	0.53	0.107	21	1.05	1.92E-07	MH

Table 9.4. Summary of triaxial test results for cores in Region 1. Initial Young's modulus (ϵ_i) is calculated for the present-day effective overburden stress.

Cruise	Station	Depth (cm)	e	W_n (%)	Φ' (°)	c' (kPa)	S	A_f	ϵ_i (MPa)	t' (kPa)	Classification
2014804	0029pc	318-330	1.731	65.0	23.3	0	0.28	0.54	1.85	7.55	CH
2013HEALY	0001pc	1344-1356	1.427	54.8	26.7	0	0.28	0.73	13.81	30.53	CI/MI
2013004PGC	0066pc	100-108	2.511	93.84	25.28	0	0.27	0.78	1.19	2.89	CH
2013004PGC	0066pc	191-203	2.446	88.94	20.69	0.63	0.22	0.34	1.5	4.52	MV
2013004PGC	0066pc	366-374	1.753	64.72	21.45	0	0.2	0.72	4.31	8.7	MH

Table 9.5. Summary of FS results for cores in Region 1.

Core	Depth (cm)	MST Effective Overburden Pressure (kPa)	MV Shear Strength (kPa)	Slope Angle (°)	Critical Angle (°)	Critical Acceleration Coefficient, k_{min} (g)	Critical Height (m)	Critical Height at 5° slope (m)	Minimum FS
20148040029pc	300	16.97	4.54	3.4	16.2	0.08	27.1	18.4	4.5
2013HEALY0001pc	1250	76.91	7.20	0.3	5.4	0.04	219.9	26.9	20.8
2013004PGC0066gc	235	10.62	4.62	0.7	30.3	0.15	55.2	23.5	36.0

Table 9.6. Summary of Atterberg limit results for cores in Region 2.

Core	Depth (cm)	w _n (%)	LL (%)	PL (%)	PI (%)	LI	Classification	Zone
20148040012pc	63-73	115.0	79.1	36.4	42.7	1.84	MV	
	168-178	74.7	70.9	35.4	35.5	1.11	MV	
	309-319	67.9	70.0	35.5	34.6	0.94	MV	
	425-430	63.5	65.7	35.6	30.1	0.93	MH	
	432-444	63.5	66.9	32.2	35.7	0.90	CH	
20148040016pc	15-25	122.5	93.4	36.6	56.9	1.51	CE	
	65-75	78.3	68.1	30.6	37.4	1.27	CH	
	160-170	65.6	63.3	28.7	34.5	1.07	CH	
	189-199	35.7	46.2	22.9	23.4	0.55	CI	
	201-206	55.3	62.7	28.2	34.5	0.79	CH	
	208-220	51.2	57.8	32.8	25.0	0.74	MH	
	258-268	35.5	54.3	24.9	29.4	0.36	CH	
	311-321	47.5	63.1	30.0	33.1	0.53	CH	
20148040019pc	90-115	66.3	58.9	32.9	26.0	1.28	MH	
	200-202	60.4	59.0	31.2	27.8	1.05	MH	
	210-222	60.4	58.7	32.1	26.6	1.06	MH	
20148040024pc	1-11	140.9	93.6	41.5	52.1	1.91	ME	
	50-60	81.7	74.8	33.1	41.7	1.16	CV	
	150-160	65.7	71.2	34.7	36.4	0.85	MV	
	267-275	51.4	59.3	31.1	28.1	0.72	MH	
	275-291	45.4	59.0	32.9	26.1	0.48	MH	
20098040013pc	5-15	91.8	87.0	35.0	52.0	1.09	CV	
	55-65	75.0	78.5	31.6	46.9	0.92	CV	
	108-120	75.2	71.4	34.5	36.9	1.10	MV	
	270-280	41.5	38.9	21.4	17.6	1.15	CI	B

Core	Depth (cm)	w _n (%)	LL (%)	PL (%)	PI (%)	LI	Classification	Zone
20098040019pc	40-50	71.6	63.3	25.6	37.6	1.22	CH	
	145-155	72.4	66.5	32.4	34.1	1.18	CH	
	212-237	66.1	62.6	28.4	34.2	1.10	CH	
	370-380	59.8	60.9	30.2	30.7	0.96	CH	
20098040026pc	0-10	127.1	79.9	33.9	45.9	2.03	CV	
	40-50	106.4	84.7	36.5	48.2	1.45	CV	
	105-115	88.6	71.8	32.8	39.0	1.43	CV	
	229-244	68.8	63.5	31.5	32.0	1.16	CH	
	328-338	64.5	65.7	30.5	35.1	0.97	CH	
	458-468	63.4	69.9	33.3	36.6	0.82	MV	
	531-546	54.9	62.4	29.7	32.7	0.77	CH	
20098040036pc	0-10	125.6	74.7	33.4	41.3	2.23	CH	
	40-50	105.5	82.3	33.2	49.1	1.47	CV	
	107-117	86.8	76.6	31.3	45.2	1.23	CV	
	229-233	81.9	74.8	34.5	40.3	1.18	MV	
	335-345	75.4	76.0	35.3	40.7	0.98	MV	
	409-419	75.6	69.6	21.9	47.7	1.12	CV	
	552.5-562.5	75.3	67.4	32.5	34.9	1.23	CH	
	701-711	70.2	71.8	33.2	38.6	0.96	CV	
20098040040pc	8-18	86.3	85.9	32.9	53.1	1.01	CH	
	95-105	76.9	75.8	34.1	41.7	1.03	CH	
	165-175	26.0	38.0	23.7	14.3	0.16	CI	B
2012004PGC0025pc	175-187	72.3	59.0	26.7	32.2	1.42	CH	
	367-381	62.0	60.1	28.4	31.8	1.06	CH	
2012004PGC0026pc	314-321	61.7	60.1	26.2	33.9	1.05	CH	

Table 9.7. Summary of consolidation test results for cores in Region 2.

Cruise	Station	Depth (cm)	ρ_{sat} (g/cm ³)	γ_b (kN/m ³)	w_n (%)	C_c	C_r	P'_c (kPa)	OCR	k (cm/sec)	Classification
2014804	0012pc	425-427.5	1.68	16.46	67.3	0.42	0.146	16.9	0.71	4.43E-08	MH
2014804	0016pc	201-202.5	1.73	16.93	55.3	0.44	0.101	22	1.79	3.06E-08	CV
2014804	0019pc	92-94.5	1.67	16.33	66.3	0.59	0.09	30	5.34	1.16E-07	MH
2014804	0019pc	200-202.5	1.72	16.89	64.7	0.58	0.089	34	2.72	1.42E-07	MH
2014804	0024pc	267-269.5	1.79	17.58	53.7	0.44	0.087	46	2.26	1.04E-07	MH
2009804	0013pc	127-129.5	1.55	15.23	80.4	0.73	0.074	18	2.81	1.59E-07	MV
2009804	0019pc	227-229.5	1.63	15.98	62.0	0.6	0.093	27	2.01	6.41E-07	CH
2009804	0026pc	252-254.5	1.63	16.02	64.0	0.59	0.036	29	2.25	1.46E-04	CH
2009804	0036pc	230-232.5	1.54	15.14	83.7	0.77	0.054	12.5	1.21	4.65E-07	MV
2009804	0036pc	701-703.5	1.61	15.79	70.9	0.67	0.085	45	1.29	1.25E-07	CV
2012004PGC	0025pc	384-386.5	1.68	16.51	62.2	0.42	0.093	14.8	0.61	9.70E-08	CH
2012004PGC	0026pc	133-135.5	1.64	16.09	72.6	0.5	0.107	9.7	0.34	1.06E-07	CH
2012004PGC	0026pc	315-317.5	1.64	16.11	68.2	0.47	0.087	13	1.47	6.74E-08	CH

Table 9.8. Summary of triaxial test results for cores in Region 2. Initial Young's modulus (ϵ_i) is calculated for the present-day effective overburden stress.

Cruise	Station	Depth (cm)	e	W_n (%)	Φ' (°)	c' (kPa)	S	A_f	ϵ_i (MPa)	t' (kPa)	Classification
2014804	0012pc	432-444	1.604	62	20.21	3.21	0.27	0.51	4.1	10.59	CH
2014804	0016pc	208-220	1.411	54.21	15.93	3.85	0.22	0.57	4.59	8.02	MH
2014804	0019pc	210-222	1.663	66.3	24.58	0	0.26	0.73	1.4	5.62	MH
2014804	0024pc	277-289	1.354	44.64	19.12	4.05	0.26	0.53	4.56	7.99	MH
2009804	0013pc	108-120	2.249	82.18	18.8	1.96	0.23	0.52	2.33	5.66	CH
2009804	0019pc	212-224	1.749	64.27	26.93	1.29	0.29	0.46	3.4	9.07	CH
2009804	0026pc	232-244	1.753	65.61	23.61	0.21	0.29	0.55	1.71	4.76	CH
2009804	0036pc	241-253	2.281	87.39	20.64	0.59	0.22	0.61	2.76	4.86	MV
2009804	0036pc	688-700	1.937	72.08	21.31	3.61	0.24	0.78	11.65	13.79	CV

Table 9.9. Summary of FS results for cores in Region 2.

Core	Depth (cm)	MST Effective Overburden Pressure (kPa)	MV Shear Strength (kPa)	Slope Angle (°)	Critical Angle (°)	Critical Acceleration Coefficient, k_{min} (g)	Critical Height (m)	Critical Height at 5° slope (m)	Minimum FS
20148040012pc	340	18.2	11.85	2.1	26.7	0.14	37.9	50.8	10.8
20148040016pc	280	19.01	7.90	0.9	28.1	0.18	52.0	26.7	25.2
20148040019pc	235	14.85	6.76	2.7	32.8	0.17	32.8	24.5	9.6
20148040024pc	240	14.01	10.63	1.2	>45	0.30	62.9	41.8	36.5
20098040013pc	288	12.44	7.88	0.2	>45	0.27	520.3	41.9	149.4
20098040019pc	370	21.22	8.64	3.3	27.3	0.13	27.7	34.6	7.2
20098040026pc	400	20.57	7.64	2.5	24.0	0.13	23.4	34.1	8.6
20098040036pc	555	24.52	7.31	2.5	18.3	0.09	28.2	38.0	6.7
20098040040pc	126	4.68	3.99	0.1	>45	0.30	966.0	24.7	421.2

Table 9.10. Summary of Atterberg limit results for cores in Region 3.

Core	Depth (cm)	w _n (%)	LL (%)	PL (%)	PI (%)	LI	Classification	Zone
20108040019pc	10-20	98.8	86.1	25.7	60.4	1.21	CV	
	70-80	58.2	56.2	27.9	28.3	1.07	CH	
	130-140	72.4	62.7	30.2	32.4	1.30	CH	
	200-210	37.8	46.1	24.3	21.8	0.62	CI	
20108040024pc	70-72	63.4	69.2	26.4	42.8	0.86	CH	
	72.5-92.5	57.8	54.0	28.0	26.0	1.14	CH	
	160-170	51.6	49.3	25.6	23.7	1.09	CI	
	261.5-273.5	34.6	43.4	22.8	20.6	0.57	CI	
	370-380	44.4	49.6	25.0	24.6	0.79	CI	
20108040036pc	95-105	79.5	68.6	30.6	38.0	1.29	CH	
	250-260	69.9	63.9	30.0	33.8	1.18	CH	
	389-391	75.7	63.0	33.7	29.3	1.43	MH	
	397-412	61.5	62.9	29.2	33.7	1.38	CH	
	550-560	66.4	64.0	31.3	32.7	1.07	CH	
	686-697	65.6	61.5	28.2	33.3	1.12	CH	
	720-735	68.9	63.8	32.1	31.7	1.16	MH	
20108040056pc	110-120	79.7	65.1	28.6	36.4	1.40	CH	
	200-210	57.5	47.8	24.2	23.7	1.41	CI	
	260-270	73.3	68.4	30.3	38.1	1.13	CH	
	409-421	64.6	63.5	31.1	32.4	1.03	CH	
	505-515	64.8	63.4	27.7	35.7	1.04	CH	
	600-610	69.9	67.2	29.7	37.5	1.07	CH	
20108040069pc	89-114	98.3	69.7	33.6	36.1	1.80	CH	
	180-190	83.5	75.2	31.8	43.4	1.19	CV	
	320-330	72.1	67.8	29.4	38.4	1.11	CH	
	406-415	63.0	54.2	27.0	27.2	1.14	CH	

Core	Depth (cm)	w_n (%)	LL (%)	PL (%)	PI (%)	LI	Classification	Zone
20108040070pc	105-115	84.9	63.3	31.5	31.9	1.68	CH	
	220-225	71.2	57.8	27.3	30.5	1.44	CH	
	295-305	75.7	64.4	29.6	34.8	1.32	CH	
	395-402	73.4	62.3	28.9	33.4	1.33	CH	

Table 9.11. Summary of consolidation test results for cores in Region 3.

Cruise	Station	Depth (cm)	ρ_{sat} (g/cm ³)	γ_b (kN/m ³)	w_n (%)	C_c	C_r	P'_c (kPa)	OCR	k (cm/sec)	Classification
2010804	0024pc	70-72.5	1.65	16.20	61.98	0.51	0.082	25	5.7	5.26E-08	CH
2010804	0024pc	255-257.5	1.87	18.31	34.59	0.36	0.057	56	3.0	5.36E-07	CI
2010804	0036pc	389-391.5	1.57	15.42	75.69	0.67	0.079	27	1.3	6.79E-08	MH
2010804	0056pc	427-429.5	1.63	16.01	64.57	0.57	0.076	35	1.6	1.03E-07	CH
2010804	0069pc	410-412.5	1.72	16.87	63.04	0.37	0.052	27	1.1	1.77E-06	CH
2010804	0070pc	220-222.5	1.63	15.99	34.47	0.55	0.049	22	2.0	5.55E-08	CH

Table 9.12. Summary of triaxial test results for cores in Region 3. Initial Young's modulus (ϵ_i) is calculated for the present-day effective overburden stress.

Cruise	Station	Depth (cm)	e	W_n (%)	Φ' (°)	c' (kPa)	S	A_f	ϵ_i (MPa)	t' (kPa)	Classification
2010804	0024pc	261-273	0.898	34.63	23.6	5.93	0.34	0.37	6.5	15.76	CI
2010804	0036pc	698-710	1.797	66.09	22.67	2.45	0.26	0.70	7.94	16.45	CH
2010804	0056pc	409-421	1.665	62.61	19.26	2.26	0.22	0.65	6.64	10.29	CH
2010804	0069pc	392-400	1.688	59.72	25.9	0	0.27	0.87	3.51	5.59	CH
2010804	0070pc	225-233	1.779	68.42	23.48	0	0.27	0.67	3.35	6.69	CH

Table 9.13. Summary of FS results for cores in Region 3.

Core	Depth (cm)	MST Effective Overburden Pressure (kPa)	MV Shear Strength (kPa)	Slope Angle (°)	Critical Angle (°)	Critical Acceleration Coefficient, k_{min} (g)	Critical Height (m)	Critical Height at 5° slope (m)	Minimum FS
20108040019pc	220	16.1	5.80	0.2	23.1	0.18	273.9	18.2	100.7
20108040024pc	380	28.85	16.78	2.8	>45	0.26	33.2	50.7	12.0
20108040036pc	430	28.58	1.57	0.9	3.2	0.02	29.8	5.4	3.5
20108040056pc	270	16.99	6.09	2.1	22.9	0.09	23.3	22.2	9.7
20108040069pc	430	25.57	4.98	2.0	11.5	0.07	34.1	19.2	5.5
20108040070pc	370	17.7	4.43	0.7	15.0	0.08	104.9	21.3	20.5

Table 9.14. Summary of Atterberg limit results for cores in Region 4.

Core	Depth (cm)	w _n (%)	LL (%)	PL (%)	PI (%)	LI	Classification	Zone
20148040006pc	60-70	72.1	57.9	25.2	32.8	1.43	CI	
	160-170	42.6	48.8	21.9	37.4	0.55	CH	
	250-260	37.7	46.8	22.6	24.2	0.63	CI	
	356-361	35.4	44.5	20.9	23.6	0.61	CI	
	362-374	34.4	41.5	20.2	21.3	0.67	CI	
20148040011pc	50-60	50.8	38.8	20.0	18.8	1.64	CI	B
	100-110	48.2	37.9	19.4	18.5	1.55	CI	B
	160-170	55.7	54.7	24.5	30.2	1.58	CH	
	200-210	47.4	44.1	21.2	22.9	1.14	CI	
	298-303	65.1	61.8	27.6	34.2	1.1	CH	
	350-360	46.2	39.2	19.4	19.7	1.36	CI	
20168050013pc	114-116	27.65	37.3	20.35	16.96	0.43	CI	B

Table 9.15. Summary of consolidation test results for cores in Region 4.

Cruise	Station	Depth (cm)	ρ_{sat} (g/cm ³)	γ_b (kN/m ³)	w_n (%)	C_c	C_r	P'_c (kPa)	OCR	k (cm/sec)	Classification
2014804	0006pc	357-359.5	1.954	19.169	35.23	0.19	0.055	27.5	0.97	2.17E-08	CI
2014804	0011pc	304-306.5	1.575	15.451	65.12	0.63	0.100	18	0.81	4.86E-08	CH
2016805	0013pc	114-116.5	2.075	20.356	27.65	0.191	0.051	94	7.85	3.92E-08	CI

Table 9.16. Summary of triaxial test results for cores in Region 4. Initial Young's modulus (ϵ_i) is calculated for the present-day effective overburden stress.

Cruise	Station	Depth (cm)	e	W_n (%)	Φ' (°)	c' (kPa)	S	A_f	t' (kPa)	Classification
2014804	0006pc	362-374	0.892	32.42	20.36	8.02	0.3	0.42	21.26	CI
2014804	0011pc	308-316	1.893	72.25	28.52	0	0.38	0.61	10.15	CH
2016805	0013pc	120-132	0.703	26.74	24.21	20.43	0.35	0.19	34.64	CI

Table 9.17. Summary of FS results for cores in Region 4.

Core	Depth (cm)	MST Effective Overburden Pressure (kPa)	MV Shear Strength (kPa)	Slope Angle (°)	Critical Angle (°)	Critical Acceleration Coefficient, k_{min} (g)	Critical Height (m)	Critical Height at 5° slope (m)	Minimum FS
20148040006pc	160	10.08	4.54	1.5	32.2	0.18	39.8	16.5	17.1
20148040011pc	290	21.09	5.10	0.4	14.5	0.08	128.3	16.1	34.6
20168050013pc	80	7.46	18.72	1.1	>45	2.49	186.3	40.9	131.2

Table 10.1. Summary of shear wave velocities, minimum horizontal acceleration coefficients, S values, and weight ratios for each core.

Region	Core	Slope Angle (°)	V _{s30} (m/s)	k _{min} (g)	S	γ'/γ
Region 1 - Western	2013HEALY0001pc	0.3	147.2	0.04	0.28	0.38
	2013004PGC0066gc	0.7	116.4	0.15	0.23	0.34
	20148040029pc	3.4	105.5	0.08	0.27	0.37
Region 2 - Central	20148040012pc	2.1	114.5	0.14	0.27	0.36
	20148040016pc	0.9	133.3	0.18	0.22	0.41
	20148040019pc	2.7	104.3	0.17	0.26	0.39
	20148040024pc	1.2	121.9	0.30	0.26	0.37
	20098040013pc	0.2	185.8	0.27	0.23	0.35
	20098040019pc	3.3	119.7	0.13	0.29	0.38
	20098040026pc	2.5	113.1	0.13	0.29	0.36
	20098040036pc	2.5	101.5	0.09	0.23	0.32
	20098040040pc	0.1	N/A	0.30	N/A	0.35
	2012004PGC0025pc	1.7	N/A	N/A	N/A	N/A
2012004PGC0026pc	2.2	N/A	N/A	N/A	N/A	
Region 3 - Eastern	20108040019pc	0.2	N/A	0.18	N/A	0.47
	20108040024pc	2.8	227.2	0.26	0.34	0.47
	20108040036pc	0.9	210.3	0.02	0.26	0.45
	20108040056pc	2.1	172.6	0.09	0.22	0.40
	20108040069pc	2.0	186.4	0.07	0.27	0.41
	20108040070pc	0.7	148.3	0.08	0.27	0.32
Region 4 - Banks Island	20168050013pc	1.1	154.2	1.20	0.38	0.50
	20148040006pc	1.5	115.2	0.18	0.30	0.43
	20148040011pc	0.4	N/A	0.08	0.38	0.42

Table 10.2. Regional summaries of average, minimum, and maximum shear wave velocities averaged for the upper 30 m, S values, and weight ratios.

Region	Avg/Min/Max	V_{s30} (m/s)	S	ν'/ν
Region 1 - Western	avg	126.37	0.26	0.36
	min	105.51	0.23	0.34
	max	147.24	0.28	0.38
Region 2 - Central	avg	124.3	0.26	0.37
	min	101.5	0.22	0.32
	max	185.8	0.29	0.41
Region 3 - Eastern	avg	189.0	0.27	0.42
	min	148.3	0.22	0.32
	max	227.2	0.34	0.47
Region 4 - Banks Island	avg	134.7	0.35	0.45
	min	115.2	0.30	0.42
	max	154.2	0.38	0.50

Table 10.3. Estimating the distance required for a set magnitude earthquake to trigger slope failure at various slope angles using average k_{min} , V_{s30} , S , and γ'/γ values for cores in the various regions. Boore et al's 1997 GMPEs were used to relate earthquake magnitude to distance.

Region	Slope Angle (°)	$k_{min,avg}$ (g)	Distance (km) M = 4	Distance (km) M = 4.5	Distance (km) M = 5	Distance (km) M = 5.5	Distance (km) M = 6	Distance (km) M = 6.5
Region 1 - Western	0	0.094	11.0	16.4	23.6	33.6	47.5	66.8
	2	0.082	13.7	20.0	28.6	40.6	57.2	80.4
	4	0.070	17.4	25.1	35.6	50.2	70.7	99.3
	6	0.057	22.8	32.4	45.8	64.5	90.7	127.4
	8	0.045	31.3	44.2	62.3	87.5	122.9	172.6
	10	0.033	46.7	65.8	92.5	129.8	182.3	255.8
Region 2 - Central	0	0.094	11.3	16.7	24.1	34.3	48.4	68.1
	2	0.081	14.1	20.5	29.3	41.5	58.4	82.2
	4	0.069	17.9	25.7	36.5	51.5	72.5	101.9
	6	0.056	23.5	33.5	47.3	66.6	93.6	131.4
	8	0.044	32.6	46.0	64.8	91.1	128.0	179.7
	10	0.032	49.4	69.6	97.8	137.3	192.7	270.4
Region 3 - Eastern	0	0.114	5.7	9.7	14.7	21.3	30.4	43.0
	2	0.100	7.7	12.1	17.9	25.6	36.4	51.4
	4	0.085	10.2	15.3	22.1	31.5	44.6	62.8
	6	0.071	13.5	19.7	28.2	40.0	56.3	79.2
	8	0.057	18.5	26.5	37.6	53.0	74.5	104.7
	10	0.044	26.8	38.0	53.7	75.5	106.0	148.9
Region 4 - Banks Island	0	0.173	2.1	6.2	10.3	15.5	22.4	31.9
	2	0.157	3.7	7.6	12.0	17.7	25.4	36.1
	4	0.142	5.2	9.2	14.0	20.4	29.1	41.2
	6	0.127	6.8	11.0	16.4	23.7	33.7	47.6
	8	0.113	8.6	13.3	19.5	27.8	39.5	55.6
	10	0.099	10.9	16.2	23.4	33.3	47.0	66.2

*using average V_{s30} , S , and γ'/γ

Table 10.4. Estimating the distance required for a set magnitude earthquake to trigger slope failure at various slope angles using minimum k_{min} , V_{s30} , S , and γ'/γ values for cores in the various regions. Boore et al's 1997 GMPEs were used to relate earthquake magnitude to distance.

Region	Slope Angle (°)	$k_{min,min}$ (g)	Distance (km) M = 4	Distance (km) M = 4.5	Distance (km) M = 5	Distance (km) M = 5.5	Distance (km) M = 6	Distance (km) M = 6.5
Region 1 - Western	0	0.078	16.2	23.4	33.3	47.0	66.2	93.0
	2	0.066	20.4	29.1	41.2	58.1	81.7	114.8
	4	0.055	26.5	37.6	53.0	74.6	104.8	147.1
	6	0.043	36.2	51.1	71.9	101.0	141.8	199.0
	8	0.032	53.8	75.8	106.4	149.4	209.7	294.3
	10	0.021	94.6	132.8	186.4	261.6	367.1	515.1
Region 2 - Central	0	0.070	19.2	27.5	38.9	54.9	77.3	108.5
	2	0.059	24.3	34.5	48.7	68.6	96.4	135.3
	4	0.048	31.9	45.1	63.5	89.3	125.4	176.0
	6	0.038	44.5	62.7	88.1	123.7	173.7	243.7
	8	0.027	68.9	96.8	135.9	190.8	267.7	375.7
	10	0.016	132.3	185.7	260.7	365.8	513.3	720.2
Region 3 - Eastern	0	0.070	15.7	22.7	32.4	45.7	64.4	90.5
	2	0.059	20.0	28.6	40.5	57.2	80.4	112.9
	4	0.048	26.4	37.5	52.9	74.4	104.6	146.8
	6	0.038	37.0	52.2	73.5	103.2	144.9	203.4
	8	0.027	57.4	80.7	113.4	159.2	223.4	313.6
	10	0.016	110.4	155.0	217.6	305.3	428.4	601.1
Region 4 - Banks Island	0	0.126	6.9	11.2	16.6	24.0	34.1	48.1
	2	0.111	8.8	13.5	19.7	28.2	40.0	56.4
	4	0.097	11.1	16.5	23.8	33.9	47.8	67.3
	6	0.083	14.1	20.5	29.3	41.5	58.5	82.3
	8	0.069	18.3	26.3	37.3	52.6	74.0	104.0
	10	0.056	24.7	35.1	49.6	69.8	98.0	137.7

*using minimum V_{s30} , S , and γ'/γ

Table 10.5. Estimating the distance required for a set magnitude earthquake to trigger slope failure at various slope angles using maximum k_{min} , V_{s30} , S , and γ'/γ values for cores in the various regions. V_{s30} , S , and γ'/γ values. Boore et al's 1997 GMPEs were used to relate earthquake magnitude to distance.

Region	Slope Angle (°)	$k_{min,max}$ (g)	Distance (km) M = 4	Distance (km) M = 4.5	Distance (km) M = 5	Distance (km) M = 5.5	Distance (km) M = 6	Distance (km) M = 6.5
Region 1 - Western	0	0.106	8.1	12.6	18.6	26.6	37.7	53.2
	2	0.093	10.2	15.4	22.3	31.7	44.8	63.2
	4	0.080	13.0	19.0	27.2	38.6	54.4	76.6
	6	0.068	16.7	24.1	34.2	48.4	68.1	95.7
	8	0.055	22.2	31.7	44.8	63.1	88.7	124.6
	10	0.043	31.3	44.3	62.4	87.7	123.2	173.0
Region 2 - Central	0	0.119	5.2	9.2	14.0	20.3	29.1	41.2
	2	0.105	7.1	11.3	16.8	24.2	34.4	48.6
	4	0.091	9.3	14.1	20.5	29.3	41.5	58.5
	6	0.077	12.1	17.8	25.6	36.4	51.3	72.2
	8	0.064	16.1	23.3	33.1	46.8	65.9	92.6
	10	0.050	22.4	31.9	45.1	63.5	89.3	125.4
Region 3 - Eastern	0	0.160	N/A	3.6	7.5	11.9	17.5	25.2
	2	0.144	N/A	5.2	9.2	14.0	20.4	29.1
	4	0.128	3.0	6.9	11.1	16.6	23.9	34.0
	6	0.112	5.0	8.9	13.6	19.9	28.4	40.3
	8	0.097	7.1	11.4	16.9	24.3	34.5	48.8
	10	0.082	9.7	14.7	21.3	30.4	43.1	60.7
Region 4 - Banks Island	0	0.235	N/A	0.6	5.6	9.5	14.5	21.0
	2	0.218	N/A	2.7	6.6	10.8	16.1	23.3
	4	0.201	N/A	4.0	7.8	12.3	18.1	25.9
	6	0.185	N/A	5.2	9.1	13.9	20.3	29.0
	8	0.169	2.5	6.5	10.6	15.9	22.9	32.6
	10	0.154	4.0	7.9	12.3	18.1	26.0	37.0

Table 10.6. Summary of minimum excess pore pressures calculated at the minimum FS depth for each core with triaxial data.

Region	Core number	σ_t (kPa)	σ' (kPa)	Min FS Depth (m)	Min Excess Pore Pressure (kPa)
Region 1 - Western	20148040029pc	47.11	16.97	3.00	44.7
	2013HEALY0001pc	202.54	76.97	12.50	199.8
	2013004PGC0066gc	34.22	10.62	2.35	34.4
Region 2 - Central	20148040012pc	52.35	18.20	3.40	59.2
	20148040016pc	47.17	19.01	2.80	59.5
	20148040019pc	38.46	14.85	2.35	36.9
	20148040024pc	38.12	14.01	2.40	48.9
	20098040013pc	41.37	12.44	2.88	47.0
	20098040019pc	58.39	21.22	3.70	58.3
	20098040026pc	60.75	20.57	4.00	59.1
	20098040036pc	80.27	24.52	5.55	82.9
Region 3 - Eastern	20108040024pc	67.02	28.85	3.80	77.4
	20108040036pc	71.78	28.58	4.30	76.6
	20108040056pc	44.11	16.99	2.70	48.8
	20108040069pc	68.77	25.57	4.30	66.9
	20108040070pc	54.87	17.70	3.70	54.4
Region 4 - Banks Island	20168050013pc	15.50	7.46	0.8	37.3
	20148040006pc	26.15	10.08	1.60	47.0
	20148040011pc	50.22	21.09	2.90	50.0

Table 11.1. Summary of consolidation and CIU triaxial test results.

		C_c	C_r	Φ' (°)	c' (kPa)	S	A_f
Region 1	Average	0.64	0.09	23.49	0.13	0.25	0.62
	Minimum	0.39	0.07	20.7	0.00	0.20	0.34
	Maximum	0.89	0.13	26.7	0.63	0.28	0.78
Region 2	Average	0.56	0.09	21.24	2.09	0.25	0.58
	Minimum	0.42	0.04	15.93	0.00	0.22	0.46
	Maximum	0.77	0.15	26.93	4.05	0.29	0.78
Region 3	Average	0.50	0.07	22.98	0.57	0.27	0.65
	Minimum	0.36	0.05	19.26	0.00	0.22	0.37
	Maximum	0.67	0.08	25.90	2.09	0.34	0.87
Region 4	Average	0.34	0.07	24.36	9.48	0.34	0.41
	Minimum	0.19	0.05	20.36	0.00	0.30	0.19
	Maximum	0.63	0.10	28.52	20.43	0.38	0.61

Table 11.2. Summary of consolidation test results for underconsolidated sediments.

Cruise	Station	Core Depth (cm)	ρ_{sat} (g/cm ³)	w_n (%)	C_c	C_r	OCR	Classification	Region	Comments
2013HEALY	0001pc	1340-1342.5	1.72	51.5	0.53	0.07	0.54	CI/MI	1	Near base of long core
2014804	0012pc	425-427.5	1.68	67.3	0.42	0.15	0.71	MH	2	Disturbed - In failure
2012004PGC	0025pc	384-386.5	1.68	62.2	0.42	0.09	0.61	CH	2	Disturbed - head scrape
2012004PGC	0026pc	133-135.5	1.64	72.6	0.50	0.11	0.34	CH	2	Disturbed - head scrape
2014804	0011pc	304-306.5	1.58	65.1	0.63	0.10	0.81	CH	4	Undisturbed