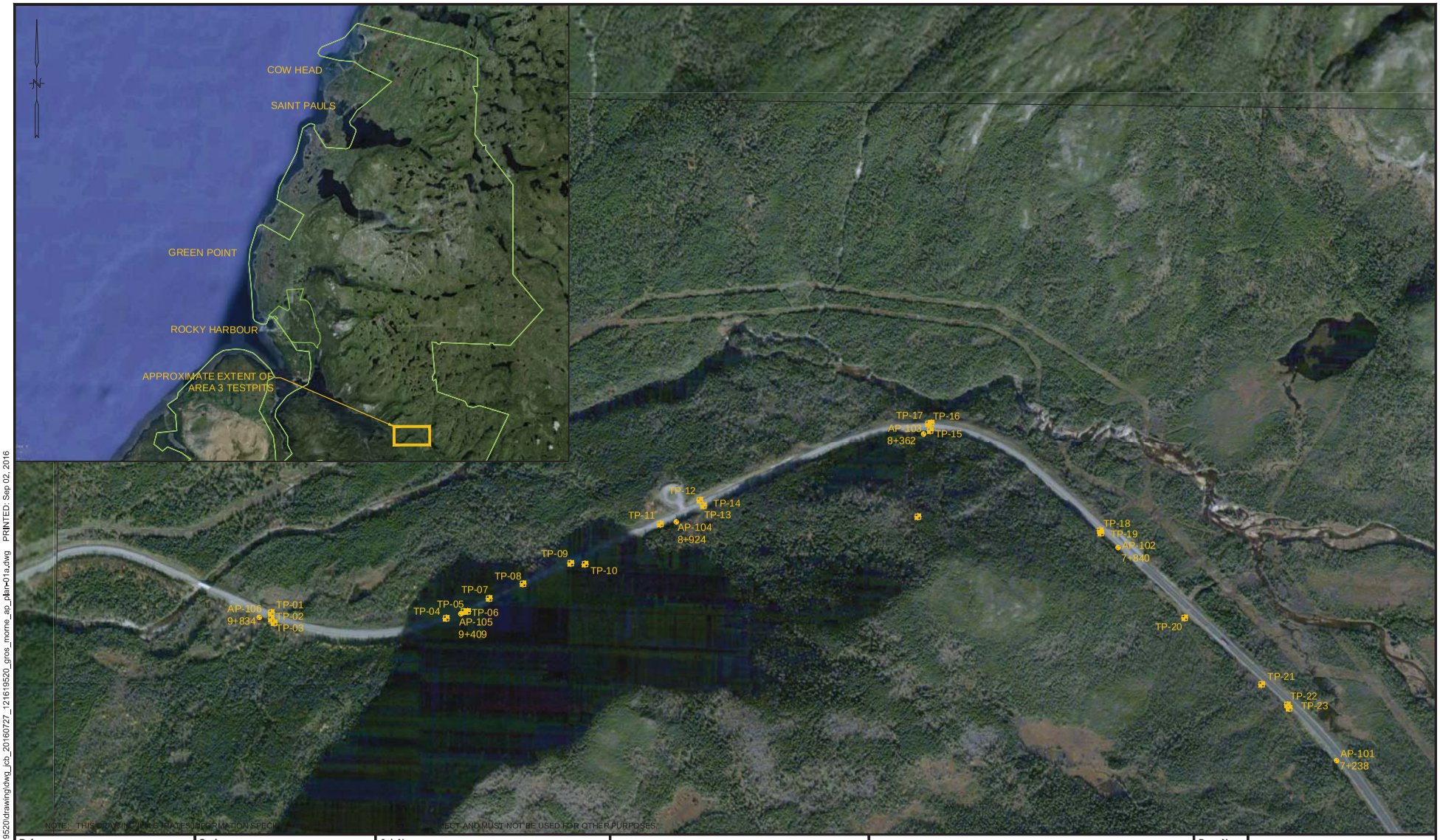

Reference: MAP DATA: GOOGLE, CNES/SPOT IMAGE, DIGITALGLOBE, DATASIO, NOAA, U.S. NAVY, NGA, GEBCO, LANDSAT	**Scale:** 1:7,500 **Date:** 2016 07 27 **Dwn. By:** JCB **App'd By:** PMW	**Job No.:** 121619520 **Client:** CRANDALL ENGINEERING LIMITED -	HIGHWAYS 430/431 RECONSTRUCTION GROS MORNE NATIONAL PARK NEWFOUNDLAND	TEST PIT AND AUGER PROBE LOCATION PLAN - PROJECT 3	**Dwg. No.:** 06

V:\01216\active\121619520\drawing\dwg_jcb_20160727_121619520_gros_morne_ap_plan-01a.dwg PRINTED: Sep 02, 2016

AUGER PROBE RECORD

AP-101 (7+238)

CLIENT **Crandall Engineering Ltd.**

PROJECT No. **121619520**

LOCATION **Highway 430: Km 7.2 to Km 9.7 Gros Morne National Park, NL**

BOREHOLE No. **AP-101 (7+238)**

DATES: BORING **2016/07/27**

WATER LEVEL **Not Measured**

DATUM

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SAMPLES N-VALUE OR RQD
							mm	
0		ASPHALT (243mm)						
		GRANULAR BASE / SUBBASE: Compact, brown, well-graded gravel with sand (GW)			AU	S2		
		SUBGRADE: Compact, brown silty sand with gravel (SM) - dry						
1					AU	S4		
		- dense						
		Auger Hole terminated due to refusal on probable boulder or bedrock End of Auger Hole						
2								

Undrained Shear Strength - kPa

20 40 60 80

Water Content & Atterberg Limits W_P W W_L

Dynamic Penetration Test, blows/0.3m ★

Standard Penetration Test, blows/0.3m ●

10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test

□ Field Vane Test ■ Remoulded

✖ Fall Cone

Stantec

AUGER PROBE RECORD

AP-102 (7+840)

CLIENT **Crandall Engineering Ltd.**

PROJECT No. **121619520**

LOCATION **Highway 430: Km 7.2 to Km 9.7 Gros Morne National Park, NL**

BOREHOLE No. **AP-102 (7+840)**

DATES: BORING **2016/07/27**

WATER LEVEL **Not Measured**

DATUM

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SAMPLES N-VALUE OR RQD
							mm	
0		ASPHALT (204mm)						
		GRANULAR BASE / SUBBASE: Compact, brown, well-graded gravel with silt and sand (GW-GM)			AU	S2		
		SUBGRADE: Compact, brown silty sand with gravel (SM) - dry						
		- dense, possible cobble			AU	S4		
1		- very dense						
		Auger Hole terminaed due to refusal on probable bedrock End of Auger Hole						
2								

Undrained Shear Strength - kPa

20 40 60 80

Water Content & Atterberg Limits W_P W W_L

Dynamic Penetration Test, blows/0.3m ★

Standard Penetration Test, blows/0.3m ●

10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test

□ Field Vane Test ■ Remoulded

✖ Fall Cone

Stantec

AUGER PROBE RECORD

AP-103 (8+362)

CLIENT **Crandall Engineering Ltd.**

PROJECT No. **121619520**

LOCATION **Highway 430: Km 7.2 to Km 9.7 Gros Morne National Park, NL**

BOREHOLE No. **AP-103 (8+362)**

DATES: BORING **2016/07/27**

WATER LEVEL **Not Measured**

DATUM

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SAMPLES N-VALUE OR RQD
							mm	
0		ASPHALT (253mm)						
		GRANULAR BASE / SUBBASE: Compact, brown, well-graded gravel with silt and sand (GW-GM)			AU	S2		
		SUBGRADE: Compact, brown silty sand with gravel (SM)						
1		- dense, possible cobbles or boulders						
		End of Auger Hole						
2								

Undrained Shear Strength - kPa

20 40 60 80

Water Content & Atterberg Limits W_P W W_L

Dynamic Penetration Test, blows/0.3m ★

Standard Penetration Test, blows/0.3m ●

10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test

□ Field Vane Test ■ Remoulded

✖ Fall Cone

AUGER PROBE RECORD

AP-104 (8+924)

CLIENT **Crandall Engineering Ltd.**

PROJECT No. **121619520**

LOCATION **Highway 430: Km 7.2 to Km 9.7 Gros Morne National Park, NL**

BOREHOLE No. **AP-104 (8+924)**

DATES: BORING **2016/07/27**

WATER LEVEL **Not Measured**

DATUM

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SAMPLES N-VALUE OR RQD
							mm	
0		ASPHALT (206mm)						
		GRANULAR BASE / SUBBASE: Compact, brown, well-graded gravel with sand (GW)			AU	S2		
		SUBGRADE: Compact, brown, silty sand (SM) - dry						
1					AU	S4		
		End of Auger Hole						
2								

Undrained Shear Strength - kPa

20 40 60 80

Water Content & Atterberg Limits W_P W W_L

Dynamic Penetration Test, blows/0.3m ★

Standard Penetration Test, blows/0.3m ●

10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test

□ Field Vane Test ■ Remoulded

✖ Fall Cone

AUGER PROBE RECORD

AP-105 (9+409)

CLIENT **Crandall Engineering Ltd.**

PROJECT No. **121619520**

LOCATION **Highway 430: Km 7.2 to Km 9.7 Gros Morne National Park, NL**

BOREHOLE No. **AP-105 (9+409)**

DATES: BORING **2016/07/27**

WATER LEVEL **Not Measured**

DATUM

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SAMPLES N-VALUE OR RQD
							mm	
0		ASPHALT (200mm)						
		GRANULAR BASE / SUBBASE: Compact, brown, well-graded gravel with sand (GW)			AU	S2		
		SUBGRADE: Compact, brown silty sand with gravel (SM) - dry						
1		- some grey						
		End of Auger Hole						
2								

Undrained Shear Strength - kPa

20 40 60 80

Water Content & Atterberg Limits W_P W W_L

Dynamic Penetration Test, blows/0.3m ★

Standard Penetration Test, blows/0.3m ●

10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test

□ Field Vane Test ■ Remoulded

✖ Fall Cone

Stantec

AUGER PROBE RECORD

AP-106 (9+834)

CLIENT **Crandall Engineering Ltd.**

PROJECT No. **121619520**

LOCATION **Highway 430: Km 7.2 to Km 9.7 Gros Morne National Park, NL**

BOREHOLE No. **AP-106 (9+834)**

DATES: BORING **2016/07/27**

WATER LEVEL **Not Measured**

DATUM

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SAMPLES N-VALUE OR RQD
							mm	
0		ASPHALT (195mm)						
		GRANULAR BASE / SUBBASE: Compact, medium brown, well-graded gravel with sand (GW)			AU	S2		
		SUBGRADE: Silty sand with gravel (SM) - dry			AU	S4		
1								
		End of Auger Hole						
2								

Undrained Shear Strength - kPa

20 40 60 80

Water Content & Atterberg Limits W_P W W_L

Dynamic Penetration Test, blows/0.3m ★

Standard Penetration Test, blows/0.3m ●

10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test

□ Field Vane Test ■ Remoulded

✖ Fall Cone

Stantec

AUGER PROBE RECORD

TP-01 (0+100)

CLIENT **Crandall Engineering Ltd.**

PROJECT No. **121619520**

LOCATION **Highway 430: Climbing Lane, Km 7.2 to Km 9.7 Gros Morne National Park, NL**

BOREHOLE No. **TP-01 (0+100)**

DATES: BORING **2016/07/27**

WATER LEVEL **2.2m (Slow seepage)**

DATUM

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SAMPLES N-VALUE OR RQD
		SHOULDER: Offset from CL - 6.2m					mm	
0		GRANULAR BASE: Compact, light-grey, well-graded sand with gravel						
		GRANULAR SUBBASE: Compact to dense, brown, silty sand with gravel						
		FILL: Compact to dense, brown, silty sand with gravel - dry - occasional debris (wood, stumps, cobbles)						
1								
2				▽	BS	01		
		TILL: Dense, grey, silty sand with gravel - dry to wet						
		End of Test Pit						
3								
4								
5								

Undrained Shear Strength - kPa

20 40 60 80

Water Content & Atterberg Limits W_P W W_L

Dynamic Penetration Test, blows/0.3m ★

Standard Penetration Test, blows/0.3m ●

10 20 30 40 50 60 70 80 90

Chainage from Southeast Brook Bridge, 0+000 (m)

△ Unconfined Compression Test

□ Field Vane Test ■ Remoulded

✖ Fall Cone

Stantec

AUGER PROBE RECORD

TP-02 (0+100)

CLIENT **Crandall Engineering Ltd.**

PROJECT No. **121619520**

LOCATION **Highway 430: Climbing Lane, Km 7.2 to Km 9.7 Gros Morne National Park, NL**

BOREHOLE No. **TP-02 (0+100)**

DATES: BORING **2016/07/27**

WATER LEVEL **2.7m (Slow seepage)**

DATUM

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SAMPLES N-VALUE OR RQD
							mm	
0		FORESLOPE: Offset from CL - 8.5m						
		ROOTMAT						
		GRANULAR SUBBASE: Compact, brown, well-graded sand with silt and gravel						
		FILL: Compact, brown, well-graded sand with silt and gravel - dry to moist						
1								
		TILL: Compact to dense dark grey silty sand with gravel - moist to wet - occasional sub-round cobbles - occasional sub-rounded boulders			BS	01		
2								
3				▽				
		End of Test Pit						
4								
5								

Undrained Shear Strength - kPa

20 40 60 80

Water Content & Atterberg Limits W_P W W_L

Dynamic Penetration Test, blows/0.3m ★

Standard Penetration Test, blows/0.3m ●

10 20 30 40 50 60 70 80 90

Chainage from Southeast Brook Bridge, 0+000 (m)

△ Unconfined Compression Test

□ Field Vane Test ■ Remoulded

✖ Fall Cone

Stantec

AUGER PROBE RECORD

TP-03 (0+100)

CLIENT **Crandall Engineering Ltd.**

PROJECT No. **121619520**

LOCATION **Highway 430: Climbing Lane, Km 7.2 to Km 9.7 Gros Morne National Park, NL**

BOREHOLE No. **TP-03 (0+100)**

DATES: BORING **2016/07/27**

WATER LEVEL **2.5m (Moderate to fast)**

DATUM

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SAMPLES N-VALUE OR RQD
		BACKSLOPE: Offset from CL - 16.6m					mm	
0		ROOTMAT						
		TOPSOIL: Loose to compact brown silty sand - occasional organics - occasional rootlets						
1		TILL: Compact brown silty sand with gravel - dry - occasional cobbles - weathered						
2		Compact to dense, grey silty sand with gravel - dry to wet - occasional to some cobbles - terminated due to excessive water seepage and water in test pit		▽				
3		End of Test Pit						
4								
5		Chainage from Southeast Brook Bridge, 0+000 (m)						

Undrained Shear Strength - kPa

20 40 60 80

Water Content & Atterberg Limits W_P W W_L

Dynamic Penetration Test, blows/0.3m ★

Standard Penetration Test, blows/0.3m ●

10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test

□ Field Vane Test ■ Remoulded

✖ Fall Cone

Stantec

AUGER PROBE RECORD

TP-04 (0+500)

CLIENT **Crandall Engineering Ltd.**

PROJECT No. **121619520**

LOCATION **Highway 430: Climbing Lane, Km 7.2 to Km 9.7 Gros Morne National Park, NL**

BOREHOLE No. **TP-04 (0+500)**

DATES: BORING **2016/07/27**

WATER LEVEL **Noted as Dry**

DATUM

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SAMPLES N-VALUE OR RQD
		BACKSLOPE: Offset from CL - 12.0m					mm	
0		BEDROCK: Compact to very dense, dark grey to black, highly weathered, highly fractured						
					BS	01		
2		Test pit terminated due to refusal on Bedrock End of Test Pit						
3								
4								
5		Chainage from Southeast Brook Bridge, 0+000 (m)						

Undrained Shear Strength - kPa

20 40 60 80

Water Content & Atterberg Limits W_P W W_L

Dynamic Penetration Test, blows/0.3m ★

Standard Penetration Test, blows/0.3m ●

10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test

□ Field Vane Test ■ Remoulded

✖ Fall Cone

Stantec

AUGER PROBE RECORD

TP-05 (0+540)

CLIENT **Crandall Engineering Ltd.**

PROJECT No. **121619520**

LOCATION **Highway 430: Climbing Lane, Km 7.2 to Km 9.7 Gros Morne National Park, NL**

BOREHOLE No. **TP-05 (0+540)**

DATES: BORING **2016/07/27**

WATER LEVEL **Noted as Dry**

DATUM

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SAMPLES N-VALUE OR RQD
		SHOULDER: Offset from CL - 6.8m					mm	
0		GRANULAR BASE: Compact, grey, well-graded gravel with sand						
		GRANULAR SUBBASE: Compact brown well-graded sand with silt and gravel						
		FILL: Compact brown well-graded sand with silt and gravel						
1		BEDROCK: Compact to dense, dark grey to black, highly weathered and fractured						
2								
		Test pit terminated due to refusal on Bedrock End of Test Pit						
3								
4								
5								

Undrained Shear Strength - kPa

20 40 60 80

Water Content & Atterberg Limits W_P W W_L

Dynamic Penetration Test, blows/0.3m ★

Standard Penetration Test, blows/0.3m ●

10 20 30 40 50 60 70 80 90

Chainage from Southeast Brook Bridge, 0+000 (m)

△ Unconfined Compression Test

□ Field Vane Test ■ Remoulded

✖ Fall Cone

AUGER PROBE RECORD

TP-06 (0+540)

CLIENT **Crandall Engineering Ltd.**

PROJECT No. **121619520**

LOCATION **Highway 430: Climbing Lane, Km 7.2 to Km 9.7 Gros Morne National Park, NL**

BOREHOLE No. **TP-06 (0+540)**

DATES: BORING **2016/07/27**

WATER LEVEL **Noted as Dry**

DATUM

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SAMPLES N-VALUE OR RQD
							mm	
0		FORESLOPE: Offset from CL - 8.8m						
		ROOTMAT						
		GRANULAR BASE: Compact to brown well-graded sand with silt and gravel						
		GRANULAR SUBBASE: Compact to brown well-graded sand with silt and gravel						
1		BEDROCK: Compact to dense, dark grey to black highly weathered and fractured						
2		Test pit terminated due to refusal on Bedrock End of Test Pit						
3								
4								
5								

Undrained Shear Strength - kPa

20 40 60 80

Water Content & Atterberg Limits W_P W W_L

Dynamic Penetration Test, blows/0.3m ★

Standard Penetration Test, blows/0.3m ●

10 20 30 40 50 60 70 80 90

Chainage from Southeast Brook Bridge, 0+000 (m)

△ Unconfined Compression Test

□ Field Vane Test ■ Remoulded

✖ Fall Cone

Stantec

AUGER PROBE RECORD

TP-07 (0+580)

CLIENT **Crandall Engineering Ltd.**

PROJECT No. **121619520**

LOCATION **Highway 430: Climbing Lane, Km 7.2 to Km 9.7 Gros Morne National Park, NL**

BOREHOLE No. **TP-07 (0+580)**

DATES: BORING **2016/07/27**

WATER LEVEL **1.0m (Moderate seepage)**

DATUM

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SAMPLES N-VALUE OR RQD
		BACKSLOPE: Offset from CL - 12.1m					mm	
0		BEDROCK: Compact to dense dark grey to black, highly weathered and fractured		▽				
2		Test pit terminated due to refusal on Bedrock End of Test Pit						
5		Chainage from Southeast Brook Bridge, 0+000 (m)						

Undrained Shear Strength - kPa

20 40 60 80

Water Content & Atterberg Limits W_P W W_L

Dynamic Penetration Test, blows/0.3m ★

Standard Penetration Test, blows/0.3m ●

10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test

□ Field Vane Test ■ Remoulded

✖ Fall Cone

Stantec

AUGER PROBE RECORD

TP-08 (0+660)

CLIENT **Crandall Engineering Ltd.**

PROJECT No. **121619520**

LOCATION **Highway 430: Climbing Lane, Km 7.2 to Km 9.7 Gros Morne National Park, NL**

BOREHOLE No. **TP-08 (0+660)**

DATES: BORING **2016/07/27**

WATER LEVEL **Noted as Dry**

DATUM

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SAMPLES N-VALUE OR RQD
		BACKSLOPE: Offset from CL - 12.1m					mm	
0		TOPSOIL: Compact brown silty SAND with gravel - occasional rootlets						
1		BEDROCK Test pit terminated due to refusal on Bedrock End of Test Pit						
2								
3								
4								
5								

Undrained Shear Strength - kPa

20 40 60 80

Water Content & Atterberg Limits W_P W W_L

Dynamic Penetration Test, blows/0.3m ★

Standard Penetration Test, blows/0.3m ●

10 20 30 40 50 60 70 80 90

Chainage from Southeast Brook Bridge, 0+000 (m)

△ Unconfined Compression Test

□ Field Vane Test ■ Remoulded

✖ Fall Cone

Stantec

AUGER PROBE RECORD

TP-09 (0+770)

CLIENT **Crandall Engineering Ltd.**

PROJECT No. **121619520**

LOCATION **Highway 430: Climbing Lane, Km 7.2 to Km 9.7 Gros Morne National Park, NL**

BOREHOLE No. **TP-09 (0+770)**

DATES: BORING **2016/07/27**

WATER LEVEL **Noted as Dry**

DATUM

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SAMPLES N-VALUE OR RQD
		BACKSLOPE: Offset from CL - 12.6m					mm	
0		TOPSOIL: Compact brown silty sand with gravel - occasional rootlets						
		BEDROCK: Compact to dense, dark grey to black, highly weathered and fractured						
1								
2		Test pit terminated due to refusal on Bedrock End of Test Pit						
3								
4								
5								

Undrained Shear Strength - kPa

20 40 60 80

Water Content & Atterberg Limits W_P W W_L

Dynamic Penetration Test, blows/0.3m ★

Standard Penetration Test, blows/0.3m ●

10 20 30 40 50 60 70 80 90

Chainage from Southeast Brook Bridge, 0+000 (m)

△ Unconfined Compression Test

□ Field Vane Test ■ Remoulded

✖ Fall Cone

Stantec

AUGER PROBE RECORD

TP-10 (0+820)

CLIENT **Crandall Engineering Ltd.**

PROJECT No. **121619520**

LOCATION **Highway 430: Climbing Lane, Km 7.2 to Km 9.7 Gros Morne National Park, NL**

BOREHOLE No. **TP-10 (0+820)**

DATES: BORING **2016/07/27**

WATER LEVEL **1.9m (Slow seepage)**

DATUM

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SAMPLES N-VALUE OR RQD
		BACKSLOPE: Offset from CL - 14.1m					mm	
0		ROOTMAT						
		TILL: Compact, light brown, silty sand with gravel - dry - weathered						
		BEDROCK: Compact to dense, dark grey to black, highly weathered and fractured		▽				
1								
2								
		Test pit terminated due to refusal on Bedrock End of Test Pit						
3								
4								
5								

Undrained Shear Strength - kPa

20 40 60 80

Water Content & Atterberg Limits W_P W W_L

Dynamic Penetration Test, blows/0.3m ★

Standard Penetration Test, blows/0.3m ●

10 20 30 40 50 60 70 80 90

Chainage from Southeast Brook Bridge, 0+000 (m)

△ Unconfined Compression Test

□ Field Vane Test ■ Remoulded

✖ Fall Cone

AUGER PROBE RECORD

TP-11 (0+940)

CLIENT **Crandall Engineering Ltd.**

PROJECT No. **121619520**

LOCATION **Highway 430: Climbing Lane, Km 7.2 to Km 9.7 Gros Morne National Park, NL**

BOREHOLE No. **TP-11 (0+940)**

DATES: BORING **2016/07/27**

WATER LEVEL **1.8m (Slow seepage)**

DATUM

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SAMPLES N-VALUE OR RQD
		BACKSLOPE: Offset from CL - 15.6m					mm	
0		ROOTMAT						
		BEDROCK: Compact to dense, dark grey to black, highly weathered and fractured		▽				
1								
2		Test pit terminated due to refusal on Bedrock End of Test Pit						
3								
4								
5								

Undrained Shear Strength - kPa

20 40 60 80

Water Content & Atterberg Limits W_P W W_L

Dynamic Penetration Test, blows/0.3m ★

Standard Penetration Test, blows/0.3m ●

10 20 30 40 50 60 70 80 90

Chainage from Southeast Brook Bridge, 0+000 (m)

△ Unconfined Compression Test

□ Field Vane Test ■ Remoulded

✖ Fall Cone

Stantec

AUGER PROBE RECORD

TP-12 (1+040)

CLIENT **Crandall Engineering Ltd.**

PROJECT No. **121619520**

LOCATION **Highway 430: Climbing Lane, Km 7.2 to Km 9.7 Gros Morne National Park, NL**

BOREHOLE No. **TP-12 (1+040)**

DATES: BORING **2016/07/27**

WATER LEVEL **Noted as Dry**

DATUM

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SAMPLES N-VALUE OR RQD
		SHOULDER: Offset from CL - 7.0m					mm	
0		GRANULAR BASE: Compact, grey, well-graded sand with gravel						
		GRANULAR SUBBASE: Compact, grey, well-graded sand with gravel						
		FILL: Compact, brown silty sand with gravel - occasional cobbles						
1					BS	01		
		BEDROCK: Dense, black to grey, highly weathered, highly fractured						
2		Test pit terminated due to refusal on Bedrock End of Test Pit						
3								
4								
5								

Undrained Shear Strength - kPa

20 40 60 80

Water Content & Atterberg Limits W_P W W_L

Dynamic Penetration Test, blows/0.3m ★

Standard Penetration Test, blows/0.3m ●

10 20 30 40 50 60 70 80 90

Chainage from Southeast Brook Bridge, 0+000 (m)

△ Unconfined Compression Test

□ Field Vane Test ■ Remoulded

✖ Fall Cone

AUGER PROBE RECORD

TP-13 (1+040)

CLIENT **Crandall Engineering Ltd.** PROJECT No. **121619520**

LOCATION **Highway 430: Climbing Lane, Km 7.2 to Km 9.7 Gros Morne National Park, NL** BOREHOLE No. **TP-13 (1+040)**

DATES: BORING **2016/07/27** WATER LEVEL **Noted as Dry** DATUM

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SAMPLES N-VALUE OR RQD
		FORESLOPE: Offset from CL - 10.8m					mm	
0		TILL: Compact to dense, grey silty sand with gravel - occasional cobbles			BS	01		
		BEDROCK: Dense, black to grey, highly weathered, fractured						
		Test pit terminated due to refusal on Bedrock End of Test Pit						
1								
2								
3								
4								
5								

Undrained Shear Strength - kPa

20 40 60 80

Water Content & Atterberg Limits W_P W W_L

Dynamic Penetration Test, blows/0.3m ★

Standard Penetration Test, blows/0.3m ●

10 20 30 40 50 60 70 80 90

Chainage from Southeast Brook Bridge, 0+000 (m)

△ Unconfined Compression Test

□ Field Vane Test ■ Remoulded

✖ Fall Cone

Stantec

AUGER PROBE RECORD

TP-14 (1+040)

CLIENT **Crandall Engineering Ltd.**

PROJECT No. **121619520**

LOCATION **Highway 430: Climbing Lane, Km 7.2 to Km 9.7 Gros Morne National Park, NL**

BOREHOLE No. **TP-14 (1+040)**

DATES: BORING **2016/07/27**

WATER LEVEL **Noted as Dry**

DATUM

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SAMPLES N-VALUE OR RQD
		BACKSLOPE: Offset from CL - 15.7m					mm	
0		ROOTMAT						
		TOPSOIL: Loose to compact brown silty sand - dry - occasional organics - occasional rootlets - occasional cobbles						
1		BEDROCK: Compact to dense, dark grey, highly weathered and fractured						
		Test pit terminated due to refusal on Bedrock End of Test Pit						
2								
3								
4								
5								

Undrained Shear Strength - kPa

20 40 60 80

Water Content & Atterberg Limits W_P W W_L

Dynamic Penetration Test, blows/0.3m ★

Standard Penetration Test, blows/0.3m ●

10 20 30 40 50 60 70 80 90

Chainage from Southeast Brook Bridge, 0+000 (m)

△ Unconfined Compression Test

□ Field Vane Test ■ Remoulded

✖ Fall Cone

Stantec

AUGER PROBE RECORD

TP-15 (1+460)

CLIENT **Crandall Engineering Ltd.**

PROJECT No. **121619520**

LOCATION **Highway 430: Climbing Lane, Km 7.2 to Km 9.7 Gros Morne National Park, NL**

BOREHOLE No. **TP-15 (1+460)**

DATES: BORING **2016/07/28**

WATER LEVEL **Noted as Dry**

DATUM

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SAMPLES N-VALUE OR RQD
		BACKSLOPE: Offset from CL - 15.4m					mm	
0		ROOTMAT - boulders noted at the surface						
		TILL: Compact brown silty sand - dry - occasional cobbles			BS	01		
1		Test pit terminated due to refusal on Inferred Bedrock End of Test Pit						
2								
3								
4								
5								

Undrained Shear Strength - kPa

20 40 60 80

Water Content & Atterberg Limits W_P W W_L

Dynamic Penetration Test, blows/0.3m ★

Standard Penetration Test, blows/0.3m ●

10 20 30 40 50 60 70 80 90

Chainage from Southeast Brook Bridge, 0+000 (m)

△ Unconfined Compression Test

□ Field Vane Test ■ Remoulded

✖ Fall Cone

Stantec

AUGER PROBE RECORD

TP-16 (1+600)

CLIENT **Crandall Engineering Ltd.**

PROJECT No. **121619520**

LOCATION **Highway 430: Climbing Lane, Km 7.2 to Km 9.7 Gros Morne National Park, NL**

BOREHOLE No. **TP-16 (1+600)**

DATES: BORING **2016/07/28**

WATER LEVEL **3.5m (Slow seepage)**

DATUM

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SAMPLES N-VALUE OR RQD
							mm	
0		SHOULDER: Offset from CL - 7.1m						
		GRANULAR BASE: Compact, light grey well-graded sand with gravel						
		GRANULAR SUBBASE: Compact, brown, well-graded sand with silt and gravel						
		FILL: Compact, brown, well-graded sand with silt and gravel - dry - occasional to some cobbles - occasional boulders						
1								
2					BS	01		
				▽				
3		TILL: Compact to dense, grey, silty sand with gravel - moist to wet - occasional cobbles - occasional boulders			BS	02		
4		End of Test Pit						
5								

Undrained Shear Strength - kPa

20 40 60 80

Water Content & Atterberg Limits W_P W W_L

Dynamic Penetration Test, blows/0.3m ★

Standard Penetration Test, blows/0.3m ●

10 20 30 40 50 60 70 80 90

Chainage from Southeast Brook Bridge, 0+000 (m)

△ Unconfined Compression Test

□ Field Vane Test ■ Remoulded

✖ Fall Cone

Stantec

AUGER PROBE RECORD

TP-17 (1+600)

CLIENT **Crandall Engineering Ltd.**

PROJECT No. **121619520**

LOCATION **Highway 430: Climbing Lane, Km 7.2 to Km 9.7 Gros Morne National Park, NL**

BOREHOLE No. **TP-17 (1+600)**

DATES: BORING **2016/07/28**

WATER LEVEL **0.3m (Slow seepage)**

DATUM

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SAMPLES N-VALUE OR RQD
							mm	
0		FORESLOPE: Offset from CL - 10.2m						
		SOD						
		TOPSOIL: Compact, dark brown, well-graded SAND with silt and gravel - moist - occasional to some cobbles - occasional to some boulders		▽	BS	01		
1		TILL: Compact to dense, grey, silty sand with gravel - moist to wet - occasional cobbles						
		Test pit terminated due to refusal on Inferred Bedrock End of Test Pit						
2								
3								
4								
5								

Undrained Shear Strength - kPa

20 40 60 80

Water Content & Atterberg Limits W_P W W_L

Dynamic Penetration Test, blows/0.3m ★

Standard Penetration Test, blows/0.3m ●

10 20 30 40 50 60 70 80 90

Chainage from Southeast Brook Bridge, 0+000 (m)

△ Unconfined Compression Test

□ Field Vane Test ■ Remoulded

✖ Fall Cone

Stantec

AUGER PROBE RECORD

TP-18 (2+040)

CLIENT **Crandall Engineering Ltd.**

PROJECT No. **121619520**

LOCATION **Highway 430: Climbing Lane, Km 7.2 to Km 9.7 Gros Morne National Park, NL**

BOREHOLE No. **TP-18 (2+040)**

DATES: BORING **2016/07/28**

WATER LEVEL **Noted as Dry**

DATUM

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SAMPLES N-VALUE OR RQD
		SHOULDER: Offset from CL - 7.9m					mm	
0		SOD						
		GRANULAR BASE / SUBBASE: Compact, brown, well-graded sand with silt and gravel						
		FILL: Compact, brown, well-graded sand with silt and gravel - dry - occasional rootlets - occasional cobbles						
1		TILL: Compact to dense, grey, silty sand with gravel - moist - occasional cobbles			BS	01		
2		Test pit terminated due to refusal on Bedrock End of Test Pit						
3								
4								
5								

Undrained Shear Strength - kPa

20 40 60 80

Water Content & Atterberg Limits W_P W W_L

Dynamic Penetration Test, blows/0.3m ★

Standard Penetration Test, blows/0.3m ●

10 20 30 40 50 60 70 80 90

Chainage from Southeast Brook Bridge, 0+000 (m)

△ Unconfined Compression Test

□ Field Vane Test ■ Remoulded

✖ Fall Cone

Stantec

AUGER PROBE RECORD

TP-19 (2+040)

CLIENT **Crandall Engineering Ltd.**

PROJECT No. **121619520**

LOCATION **Highway 430: Climbing Lane, Km 7.2 to Km 9.7 Gros Morne National Park, NL**

BOREHOLE No. **TP-19 (2+040)**

DATES: BORING **2016/07/28**

WATER LEVEL **0.3m (Slow seepage)**

DATUM

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SAMPLES N-VALUE OR RQD
		FORESLOPE: Offset from CL - 9.7m					mm	
0		SOD						
		TOPSOIL: Compact, brown, well-graded sand with silt and gravel - moist - occasional cobbles - occasional boulders - occasional rootlets		▽				
1		TILL: Compact to dense, grey, silty sand with gravel - moist - occasional cobbles						
		Test pit terminated due to refusal on Bedrock End of Test Pit						
2								
3								
4								
5								

Undrained Shear Strength - kPa

20 40 60 80

Water Content & Atterberg Limits W_P W W_L

Dynamic Penetration Test, blows/0.3m ★

Standard Penetration Test, blows/0.3m ●

10 20 30 40 50 60 70 80 90

Chainage from Southeast Brook Bridge, 0+000 (m)

△ Unconfined Compression Test

□ Field Vane Test ■ Remoulded

✖ Fall Cone

Stantec

AUGER PROBE RECORD

TP-20 (2+300)

CLIENT **Crandall Engineering Ltd.**

PROJECT No. **121619520**

LOCATION **Highway 430: Climbing Lane, Km 7.2 to Km 9.7 Gros Morne National Park, NL**

BOREHOLE No. **TP-20 (2+300)**

DATES: BORING **2016/07/28**

WATER LEVEL **2.1m (Fast seepage)**

DATUM

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SAMPLES N-VALUE OR RQD
		BACKSLOPE: Offset from CL - 12.5m					mm	
0		PEAT: Loose, dark brown to black organic soil - frequent rootlets - wet - frequent organics						
1		TILL: Compact, grey, silty sand with gravel - dry to wet						
2				▽	BS	01		
3		End of Test Pit						
4								
5		Chainage from Southeast Brook Bridge, 0+000 (m)						

Undrained Shear Strength - kPa

20 40 60 80

Water Content & Atterberg Limits W_P W W_L

Dynamic Penetration Test, blows/0.3m ★

Standard Penetration Test, blows/0.3m ●

10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test

□ Field Vane Test ■ Remoulded

✖ Fall Cone

Stantec

AUGER PROBE RECORD

TP-21 (2+520)

CLIENT **Crandall Engineering Ltd.**

PROJECT No. **121619520**

LOCATION **Highway 430: Climbing Lane, Km 7.2 to Km 9.7 Gros Morne National Park, NL**

BOREHOLE No. **TP-21 (2+520)**

DATES: BORING **2016/07/28**

WATER LEVEL **Noted as Dry**

DATUM

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SAMPLES N-VALUE OR RQD
		BACKSLOPE: Offset from CL - 13.8m					mm	
0		TOPSOIL: Loose to compact, dark brown to black, silty sand with gravel - dry - occasional rootlets - occasional cobbles						
		TILL: Compact to dense, grey, silty sand with gravel - dry - some cobbles - occasional boulders						
1								
2					BS	01		
		End of Test Pit						
3								
4								
5								

Undrained Shear Strength - kPa

20 40 60 80

Water Content & Atterberg Limits W_P W W_L

Dynamic Penetration Test, blows/0.3m ★

Standard Penetration Test, blows/0.3m ●

10 20 30 40 50 60 70 80 90

Chainage from Southeast Brook Bridge, 0+000 (m)

△ Unconfined Compression Test

□ Field Vane Test ■ Remoulded

✖ Fall Cone

Stantec

AUGER PROBE RECORD

TP-22 (2+580)

CLIENT: Crandall Engineering Ltd.

PROJECT No.: 121619520

LOCATION: Highway 430: Climbing Lane, Km 7.2 to Km 9.7 Gros Morne National Park, NL

BOREHOLE No.: TP-22 (2+580)

DATES: BORING: 2016/07/28

WATER LEVEL: 2.1m (Slow Seepage)

DATUM:

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SAMPLES N-VALUE OR RQD
							mm	
0		SHOULDER: Offset from CL - 8.3m						
		GRANULAR BASE / SUBBASE: Compact, grey, well-graded sand with gravel						
		FILL: Compact, brown, well-graded sand with silt and gravel - moist - occasional cobbles						
1								
					BS	01		
2		TILL: Compact to dense, brown to grey silty sand with gravel - moist - occasional cobbles - occasional boulders		▽				
3		Test pit terminated due to refusal on Inferred Bedrock End of Test Pit						
4								
5								

Chainage from Southeast Brook Bridge, 0+000 (m)

Undrained Shear Strength - kPa

20 40 60 80

Water Content & Atterberg Limits: W_P W W_L

Dynamic Penetration Test, blows/0.3m: ★

Standard Penetration Test, blows/0.3m: ●

10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test

□ Field Vane Test ■ Remoulded

✖ Fall Cone

Stantec

AUGER PROBE RECORD

TP-23 (2+580)

CLIENT **Crandall Engineering Ltd.**

PROJECT No. **121619520**

LOCATION **Highway 430: Climbing Lane, Km 7.2 to Km 9.7 Gros Morne National Park, NL**

BOREHOLE No. **TP-23 (2+580)**

DATES: BORING **2016/07/28**

WATER LEVEL **1.9m (Slow seepage)**

DATUM

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SAMPLES N-VALUE OR RQD
		FORESLOPE: Offset from CL - 9.9m					mm	
0		GRANULAR BASE / SUBBASE: Compact, brown, well-graded sand with silt and gravel						
		FILL: Compact, brown, well-graded sand with silt and gravel - moist - occasional cobbles						
1								
		TILL: Compact to dense, silty sand with gravel - moist - occasional to some cobbles - some boulders		▽				
2								
		Test pit terminated due to refusal on Bedrock End of Test Pit						
3								
4								
5		Chainage from Southeast Brook Bridge, 0+000 (m)						

Undrained Shear Strength - kPa

20 40 60 80

Water Content & Atterberg Limits W_P W W_L

Dynamic Penetration Test, blows/0.3m ★

Standard Penetration Test, blows/0.3m ●

10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test

□ Field Vane Test ■ Remoulded

✖ Fall Cone