

Km 1691.7 to 1717.3 Alaska Highway #1

J.R. Paine & Associates (Rob Williamson) August 2004

FIELD LOGS

1. Auger Drilling R.O.W. (CME75 Drill)

Testholes 30000 to 30070
 30082 to 30136
 30148 to 30176

* NOTE: There are no Testhole 30048, 30060 & 30071.

2. Rock Drilling R.O.W. (Reverse Circulation Air Rotary)

Testholes 30084 R to 30093 R
 30096 R to 30097 R
 30100 R to 30107 R
 30111 R to 30118 R
 30121 R to 30122 R
 30126 R to 30127 R
 30129 R
 30131 R to 30136 R
 30149R to 30151 R
 30153 R to 30159 R

3. 1699+700 LHS Alaska Highway (Cat 318C Excavator)

Test Pits 30177 to 30179

4. 1706+200 LHS Alaska Highway (Soldiers Summit Slide) (Hitachi 450EX Excavator)

Test Pits 30072 to 30081

5. 1712+900 LHS Alaska Highway (Williscroft) (Hitachi 450EX Excavator / CME75 Drill)
Pit ID# 115 G-12

Test Pits 30137 to 30147

Testholes 30142D, 30146D, & 654-2763D

Km 1691.7 to 1717.3 Alaska Highway #1

August 2004

J. R. Paine & Associates

Auger Hole Field Logs
(CME75 Drill)

Testholes	30000 to 30070
	30082 to 30136
	30148 to 30176

* NOTE: There are no Testhole 30048, 30060 & 30071.



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6768001

Easting: 643667

Project No: 8002-318 Test Hole No: # 30002

Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W.

Date: Aug 16 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	0.075mm	0.002mm
GRAVEL	SAND	SILT	CLAY	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
 DENSITY - loose, medium dense, dense
 GRADATION - poorly or well graded
 SIZE RANGE - coarse, medium, fine
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
 CONSISTENCY - soft, firm, stiff, hard
 PLASTICITY - low, medium, high
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Sandy Gravel trace silt - dry, medium dense brown					
0.4	so	Silty Sand to Sand, fine silt - damp, medium dense brown	356	0.4-0.7			
0.7	so	Sandy Gravel - damp, dense brown	357	0.7-2.7			
		E.O.T. @ 3.0m					



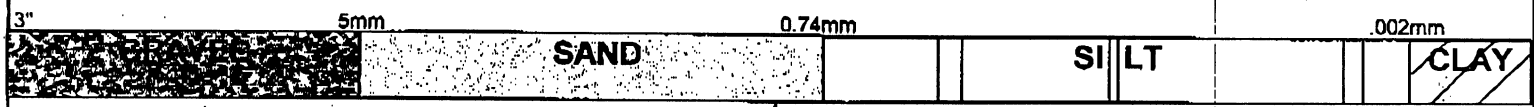
HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6768019
Easting: CA8266

Project No: 8002-318 Test Hole No: #: 30005 Elev. _____
 Client: YTG - Highways & Public Works
 Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1
 Location: _____
 Log By: R.W. Date: JULY 13 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

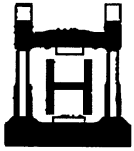


MOISTURE CONTENT - dry, damp, moist, wet
 DENSITY - loose, medium dense, dense
 GRADATION - poorly or well graded
 SIZE RANGE - coarse, medium, fine
 COLOR - _____
 INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
 CONSISTENCY - soft, firm, stiff, hard
 PLASTICITY - low, medium, high
 COLOR - _____
 INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay COBBLE - 3" - 8" BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Sandy GRAVEL - dry, medium dense, brown	364 ✓	0.3-0.9			
1.2	da	SANDY GRAVEL, trace silt - damp, medium dense, brown	365 ✓	1.0-2.4			
			366 ✓	3.4-4.0			
		C.O.H. @ 4.0m - REFUSAL					



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TEST HOLE LOG

Northing: 6768040

Easting: 642066

Project No: 8002-318 Test Hole No: #: 30010

Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W.

Date: Aug. 18

2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	.002mm
	SAND	SILT	CLAY

- MOISTURE CONTENT - dry, damp, moist, wet
- DENSITY - loose, medium dense, dense
- GRADATION - poorly or well graded
- SIZE RANGE - coarse, medium, fine
- COLOR -
- INTRUSIONS - oxides, coal lumps, etc.

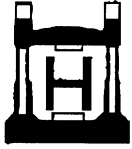
- MOISTURE CONTENT - dry, damp, moist, wet
- CONSISTENCY - soft, firm, stiff, hard
- PLASTICITY - low, medium, high
- COLOR -
- INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Sandy Gravel/Gravelly Sand + trace silt = dry to damp, medium dense, brown	378 ✓	0.3-0.5			
			379 ✓	2.1-2.7			
		E.O.T. @ 3.0m					
		Note: Less Gravel Recovery w/ depth.					



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TEST HOLE LOG

Northing: 6768036

Easting: 641286

Project No: 8002-318 Test Hole No: # 30014

Elev.

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location:

Log By: R.W. Date: Aug 18 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

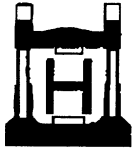
3" GRAVEL	5mm SAND	0.74mm SILT	.002mm CLAY
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MOISTURE CONTENT - dry, damp, moist, wet
 DENSITY - loose, medium dense, dense
 GRADATION - poorly or well graded
 SIZE RANGE - coarse, medium, fine
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
 CONSISTENCY - soft, firm, stiff, hard
 PLASTICITY - low, medium, high
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay COBBLE - 3" - 8" BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Sandy Gravel - damp medium grade brown	385	0.3-0.9			
			386	1.8-2.4			
		E.O.D. @ 3.0m					



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TEST HOLE LOG

Northing: 6767935

Easting: 441051

Project No: 8002-318 Test Hole No: # 30015

Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W.

Date: Aug. 18

2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	.002mm
	SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
 DENSITY - loose, medium dense, dense
 GRADATION - poorly or well graded
 SIZE RANGE - coarse, medium, fine
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

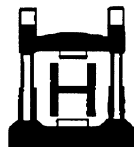
MOISTURE CONTENT - dry, damp, moist, wet
 CONSISTENCY - soft, firm, stiff, hard
 PLASTICITY - low, medium, high
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSP
0		GRAVELLY SAND - damp to moist, medium dense, brown					
0.3	50	Silt, some sand to sandy - moist, soft, grey - organics noted	387 ✓	0.3-0.8			
0.6	12	SANDY GRAVEL - damp to moist, medium dense, brown	388 ✓	1.8-2.4			
0.8	27	Sandy Silt - some gravel - damp to moist, soft, grey/brown					
		E.O.H. @ 3.0m					
Note: Plotter location Plot: GPS location Note THE SAME. POSITIONED HOLE @ SOUTH INVERT, LYS							



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TEST HOLE LOG

Northings: 6767834

Easting: 640871

Project No: 8002-318 Test Hole No: # 30017

Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

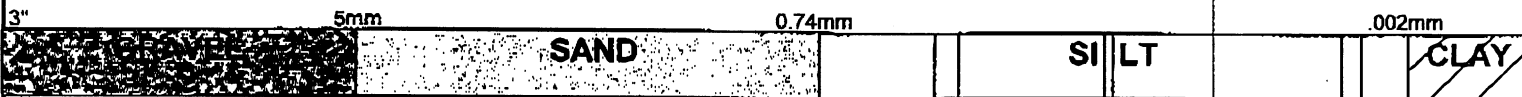
Location: _____

Log By: R.W.

Date: Aug. 18

2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION



MOISTURE CONTENT - dry, damp, moist, wet
 DENSITY - loose, medium dense, dense
 GRADATION - poorly or well graded
 SIZE RANGE - coarse, medium, fine
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
 CONSISTENCY - soft, firm, stiff, hard
 PLASTICITY - low, medium, high
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

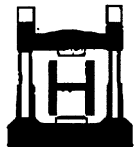
TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
6		Sandy Gravel - dry to damp, medium dense, brown	391 /	0.2-0.9			
			392 /	1.8-2.4			

Note: Within 5' of end of hole



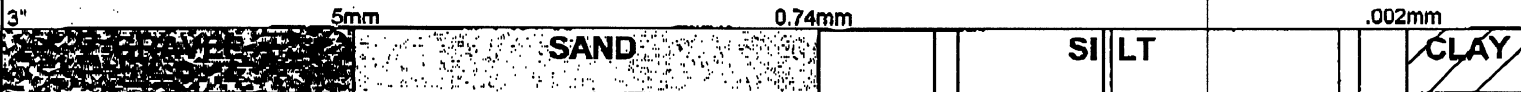
HOGGAN ENGINEERING & TESTING (1980) LTD.
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TEST HOLE LOG

Northing: 6767452
Easting: 640350

Project No: 8002-318 Test Hole No: # 30020 Elev. _____
Client: YTG - Highways & Public Works
Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1
Location: _____
Log By: R.W. Date: Aug. 18 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION



MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

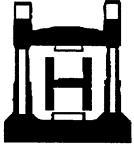
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Sandy Gravel / Gravely Sand - damp to moist, medium dense, brown	397	0.3-0.9			
0.9	dc	Sandy Gravel - wet to sat, red - pea gravels					
1.5	dc	Silt, some sand - moist to wet, firm, grey - significant organic throughout (decomposed rootlets/grasses)	398	1.8-2.4			
		11.04 e 3.07					



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TEST HOLE LOG

Northing: 6767341

Easting: 640193

Project No: 8002-318 Test Hole No: #: 30021

Elev.

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1




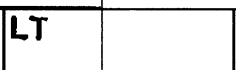
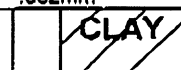
Location:

Log By: R.W.

Date: Aug 18

2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm			.002mm
					
	SAND		SILT		CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

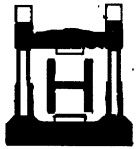
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Silty Sand / Sandy Silt - damp to moist, medium dense, brown - variable silt & sand some intermixed - organics noted throughout.	399 /	0.3-0.9			
1.4	SO	Silt, some sand - moist to hard, soft to firm, grey - increase silt w/ depth - some interbedded organics	400 /	2.1-2.7			
		END @ 3.0m					



**HOGGAN ENGINEERING &
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TEST HOLE LOG

Northings: 6767232
Easting: 640041

Project No: 8002-318 Test Hole No: #: 30022

Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1



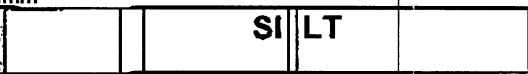
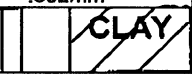
Location: _____

Log By: R.W.

Date: AUG 18

2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3" 	5mm 	0.74mm 	.002mm 
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MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Silt, some sand to sandy - moist to wet, soft to firm, brown - most sand present in seams to 75mm thick - organics noted throughout	401 ✓	0.5-1.0			
1.5	sk	Sandy, trace to some silt, trace gravel - wet, medium dense, brown	402 ✓	1.5-2.1			
2.4	so	Silt, some clay - moist, firm, grey w/ blue hue - low plastic	403 ✓	2.4-2.9			
		E.O.d. @ 3.0m					



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TEST HOLE LOG

Northing: 676785
Easting: 639890

Project No: 8002-318 Test Hole No: # 30023 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug. 18 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

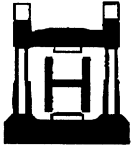
3"	5mm	0.74mm	.002mm
	SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay COBBLE - 3" - 8" BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Silty Sand / Silty Silt - damp to moist, medium dense, brown - organics noted throughout	404 ✓	0.3 - 0.9			
1.2	sa	Silt, trace to some sand - damp to moist, firm, brown w/ some grey seams	405 ✓	1.2 - 1.8			
2.1	cl	Sand, trace to some silt - saturated, medium dense, brown					
2.7	cl	Silt, some clay - damp to moist, firm, grey w/ blue hue - low plastic					
		E.O.4 @ 3.0m					



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TEST HOLE LOG

Northing: 676983
Easting: 639687

Project No: 8002-318 Test Hole No: # 30024 Elev. _____
 Client: YTG - Highways & Public Works
 Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1
 Location: _____
 Log By: R.W. Date: Aug 18 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	SAND	0.74mm	SILT	.002mm	CLAY
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MOISTURE CONTENT - dry, damp, moist, wet
 DENSITY - loose, medium dense, dense
 GRADATION - poorly or well graded
 SIZE RANGE - coarse, medium, fine
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
 CONSISTENCY - soft, firm, stiff, hard
 PLASTICITY - low, medium, high
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay COBBLE - 3" - 8" BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSP
0		Silt, some sand - moist, soft to firm, brown	406	0.3-0.9			
0.8	30	Gravelly Sand - wet, medium dense, brown					
1.1	30	Silt, some sand - moist, soft to firm, brown					
1.5	30	Gravelly Sand - saturated, medium dense, brown	407	1.5-2.1			
2.1	30	Sandy Silt - wet, soft to firm, grey/brown	408	2.1-2.7			
		F.04 @ 3.0m					



HOGGAN ENGINEERING & TESTING (1980) LTD.
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TEST HOLE LOG

Northing: 6766765

Easting: 139356

Project No: 8002-318

Test Hole No: # 30026

Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

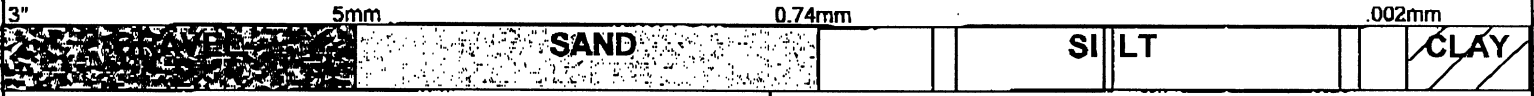
Location: _____

Log By: R.W.

Date: Aug. 16

2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION



MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
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COLOR -
INTRUSIONS - oxides, coal lumps, etc.

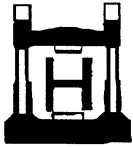
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Sandy Gravel, trace silt - clay to damp, medium dense, brown	411 ✓	0.3-0.9			
1.5	02	Sandy Silts / Silty Sand - dry, medium dense, light brown / gray - somewhat plastic	412 ✓	2.1-2.7			
		End of Log					



HOGGAN ENGINEERING & TESTING (1980) LTD.
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TEST HOLE LOG

Northing: 6766735
Easting: 639213

Project No: 8002-318 Test Hole No: # 30027 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: AUG. 19 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	0.002mm
SAND	SILT	CLAY	

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		SANDY GRAVEL / GRAVELLY SAND - saturated, medium dense, brown	413	0.1 - 0.6			
1.2	so	Silty Sand / Silty Silt - saturated, soft, grey					
1.8	dc	Silt - moist, firm, brown w/ some black organic seams - some organic silts	414	1.0 - 2.4			
2.7	so	Silty Gravelly Sand - saturated, medium dense, brown					
		E.O.V. @ 3.0m					



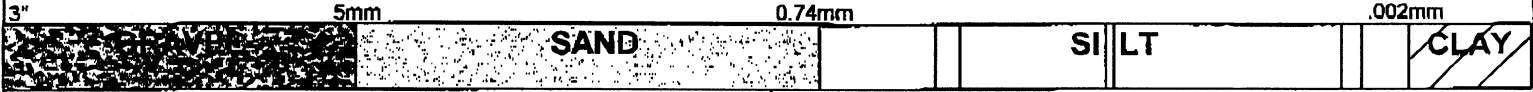
HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6761453
Easting: 639106

Project No: 8002-318 Test Hole No: # 30029 Elev. _____
Client: YTG - Highways & Public Works
Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1
Location: _____
Log By: R.W. Date: Aug. 19 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

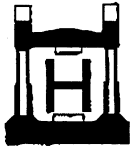


MOISTURE CONTENT - dry, damp, moist, wet
 DENSITY - loose, medium dense, dense
 GRADATION - poorly or well graded
 SIZE RANGE - coarse, medium, fine
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
 CONSISTENCY - soft, firm, stiff, hard
 PLASTICITY - low, medium, high
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay COBBLE - 3" - 8" BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Sandy Gravel <i>- dry to damp, medium dense, brown</i>	417 ✓	0.3-0.9			
2.1	SO	Coarse Sand / fine silt <i>- dry, dense, light brown</i>	418 ✓	2.4-2.9		Slow Gravel 2.1m	Drumlin &
		E.O.H. @ 3.0m - REFUSAL					
		REFUSAL @ 2.9m - move North 2m					
		REFUSAL @ 3.0m					



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TEST HOLE LOG

Northing: 6766525
Easting: 638926

Project No: 8002-318 Test Hole No: #: 3003 Elev. _____


Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug. 19 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

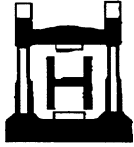
3"	5mm	0.74mm	.002mm
	SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay COBBLE - 3" - 8" BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Sandy Gravel, trace silt - damp medium dense, brown	421 ✓	0.3-0.5			
1.2	30	Sandy Sand - damp medium dense, brown - some decomposed wood	422 ✓	1.2-1.5			
2.1	00	Sandy Gravel, trace silt - moist medium dense, brown	423 ✓	2.1-2.9			
		2.04. e 30m					
		Test hole in. Silt Bed (dry)					



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TEST HOLE LOG

Northing: 6765969
Easting: 637902

Project No: 8002-318 Test Hole No: #: 30037 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug 19 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

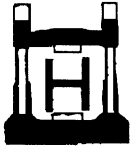
3"	5mm	0.74mm	.002mm
SAND	SI	LT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay COBBLE - 3" - 8" BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Silt some sand to sandy trace gravel - wet soft, dark brown - some organic silt to 0.6m depth.	435	0.3-0.9			
1.5	da	GRAVELLY SILTY SAND - wet soft to firm gray	436 X	2.1-2.7			Sandy Gravelly Silt
			437 X	3.4-4.0			
		REFUSAL @ 4.0m - REFUSAL					
		REFUSAL @ 4.0m - MORE 2m NORTH					
		REFUSAL @ 4.0m - E.O.M.					



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TEST HOLE LOG

Northing: 676920
Easting: 637704

Project No: 8002-318 Test Hole No: # 30036 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug. 19 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	.002mm
GRAVEL	SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

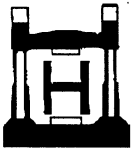
TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Sand, some silt, trace gravel - damp, medium dense, brown	438 ✓	0.3-0.9			
1.2	dc	GRAVELLY SAND / SANDY GRAVEL, trace silt - damp, medium dense, brown	439 ✓	1.8-2.4			SANDY DENSURE @ 1.2m
3.0	so	SANDY GRAVEL / GRAVELLY SAND - saturated, medium dense, brown - pea gravels	440 ✓	3.2-3.6			
		E.O.D. @ 4.0m					

T.H.
76.00
08/18/04



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TEST HOLE LOG

Northing: 6765818
Easting: 637562

Project No: 8002-318 Test Hole No: # 30039 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug. 19 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	SAND	0.74mm	SI	LT	.002mm	CLAY
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MOISTURE CONTENT - dry, damp, moist, wet
 DENSITY - loose, medium dense, dense
 GRADATION - poorly or well graded
 SIZE RANGE - coarse, medium, fine
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

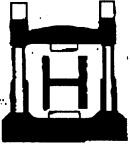
MOISTURE CONTENT - dry, damp, moist, wet
 CONSISTENCY - soft, firm, stiff, hard
 PLASTICITY - low, medium, high
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Silty CLAYEY SAND - damp, medium dense, brown	441 ✓	0.3-0.9			
			442 ✓	1.8-2.4			
		E.O.N. @ 2.4m - REFUSAL					
		REFUSAL @ 2.4m - MORE WASH 2m					
		REFUSAL @ 2.4m - E.O.N.					



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TEST HOLE LOG

Northing: 6765452
Easting: 637428

Project No: 8002-318 Test Hole No: # 30041 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: AUG. 20 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3" GRAVEL	5mm	0.74mm		.002mm
	SAND		SILT	CLAY
MOISTURE CONTENT - dry, damp, moist, wet DENSITY - loose, medium dense, dense GRADATION - poorly or well graded SIZE RANGE - coarse, medium, fine COLOR - INTRUSIONS - oxides, coal lumps, etc.			MOISTURE CONTENT - dry, damp, moist, wet CONSISTENCY - soft, firm, stiff, hard PLASTICITY - low, medium, high COLOR - INTRUSIONS - oxides, coal lumps, etc.	

TILL - heterogeneous mixture of gravel, sand, silt, and clay COBBLE - 3" - 8" BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		SANDY GRAVEL / GRAVELLY SAND - dry to damp, medium dense, broken - 15, 26 - REFUSE @ 10"	447	1.4m	SET		17.2 Pocket #1
		± 0.4 @ 2m - REFUSE					
		AUGER REFUSE @ 2.4m - MORE 2m NORTH					
		" " @ 1.5m - " "					
		" " @ 1.8m - " "					



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TEST HOLE LOG

Northing: 6765198

Easting: 637411

Project No: 8002-318 Test Hole No: # 30042 Elev.

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location:

Log By: R.W.

Date: AUG 20

2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	0.0075mm	0.002mm
GRAVEL	SAND	SILT	CLAY	

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

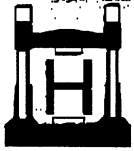
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		SAND - saturated, medium dense, brown - 6, 9, 9 - ROCK IN END OF BARREL 7" RECOVERY	448	1.4m			1 Photo
2.9		SILTY SAND/SANDY SILT - saturated, medium dense, grey/brown - 3, 3, 4 - 15" RECOVERY (-3" SLURRY)	449	2.9m			1 Photo
		SILTY SAND - saturated, medium dense, grey/brown - 1, 5, 2, 5, 3 - RECOVERY UNKNOWN DUE TO DIFFICULTY RECOVERING SAMPLE FROM BAR	450	4.4m			2 Photos
		SILTY SAND - saturated, medium dense, brown - 11, 8, 7 - RECOVERY 15" - (-6" SLURRY) SEE PHOTO	451	5.9			2 Photos
		SILTY SAND/SANDY SILT - saturated, medium dense, brown - 2, 3, 4 - RECOVERY 8" - (REST OF SAMPLE LIQUID)	452	7.5			1 Photo
		SILTY SAND/SANDY SILT, SOME GRAVEL - damp to moist, dense, brown - SOME AXICLES - 14, 23, 27 - RECOVERY	453	9.0			2 Photos



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TEST HOLE LOG

Northing: 6764763
Easting: 636826

Project No: 8002-318 Test Hole No: # 30043 PGM Elev. _____
Client: YTG - Highways & Public Works
Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1
Location: _____
Log By: R.W. Date: Aug. 24 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	.002mm
	SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay COBBLE - 3" - 8" BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Silty Sandy Gravel to Silty Gravelly Sand - saturated, medium dense brown - 10, 24, 25 - 7" RECOVERY - Lots of Gravel in Sample	454	1.4 m			1 Photo
		Silty Sand - saturated, medium dense, brown/grey - 2, 7, 9 - 7" RECOVERY	455	2.9 m			1 Photo WRECKED BASKET
		Silt, trace to some clay - saturated, soft, grey - low to non plastic - 6, 2, 1 - 18" RECOVERY (-3" SLURRY)	456	4.4			1 Photo
		Clayey Silt, some sand - saturated, soft, grey - 1, 2, 2 - 10" RECOVERY (0-remainder is liquid) - WEIGHT OF HAMMER PROVIDED 5" - non to low plastic - Bottom 4" was Silty Silt	457	5.9			No Photo
		Silty Silt - saturated, soft, grey 5, 7, 7 - 24" RECOVERY (-3" SLURRY) Full Recovery	458	7.5			1 Photo



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TEST HOLE LOG

Northing: _____
Easting: _____

Project No: 8002-318 Test Hole No: # 300A3 Pg. 2 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug-21 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

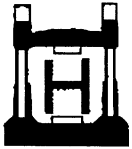
3"	5mm	0.74mm	.002mm
GRAVEL	SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay COBBLE - 3" - 8" BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
		CLAYEY SILT - saturated, soft, grey - low plastic - WEIGHT OF HANMER PUSHER FULL SPEED (NO BLUZZ) - 15" RECOVERY	459	9.3			12400
		CLAYEY SILT / SILTY CLAY - saturated, soft, grey - low plastic - WEIGHT OF HANMER PUSHER FULL SPEED (NO BLUZZ) - Full Recovery 24" - 100mm thick decomposed organic layer (black/dark grey)	460	10.5			12400
		5.04 e 11m					



HOGGAN ENGINEERING & TESTING (1980) LTD.
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TEST HOLE LOG

Northing: 6764727
Easting: 136668

Project No: 8002-318 Test Hole No: # 30044 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug. 21 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

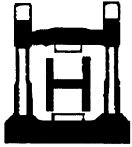
3"	5mm	0.74mm	.002mm
GRAVEL	SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay COBBLE - 3" - 8" BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Sandy, trace silt - saturated, medium dense, grey	461 ✓	0.3-0.9			
1.2	dc	Silty GRAVELLY SAND to Silty SANDY GRAVEL - saturated, medium dense, brown	462 ✓	1.5-2.1			
2.4	sn	Silt trace to some clay - wet, soft to firm, grey - in dr. low plastic	463 ✓	2.4-2.9			
4.0	dc	Silty SAND, trace to some gravel - saturated, medium dense, grey	464 ✓	4.1-4.4			
		END @ 4.6m					



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TEST HOLE LOG

Northing: 6764640

Easting: 636398

Project No: 8002-318 Test Hole No: # 30045 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug 21 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	SAND	0.74mm	SI LT	.002mm	CLAY
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MOISTURE CONTENT - dry, damp, moist, wet
 DENSITY - loose, medium dense, dense
 GRADATION - poorly or well graded
 SIZE RANGE - coarse, medium, fine
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
 CONSISTENCY - soft, firm, stiff, hard
 PLASTICITY - low, medium, high
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Sand - saturated, medium dense, grey					
0.3	so	Gravelly Sand, some silt to Silty - saturated, medium dense, brown / grey	465 ✓	0.3-0.9			
1.5	dc	Sand, trace silt - saturated, medium dense, grey	466 ✓	1.5-2.7			
			467 ✓	4.0-4.4			
		E.O.D. @ 4.6					



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TEST HOLE LOG

Northing: 6764571

Easting: 624229

Project No: 8002-318 Test Hole No: # 30046

Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W.

Date: Aug. 21

2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	.002mm
GRAVEL	SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
 DENSITY - loose, medium dense, dense
 GRADATION - poorly or well graded
 SIZE RANGE - coarse, medium, fine
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

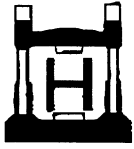
MOISTURE CONTENT - dry, damp, moist, wet
 CONSISTENCY - soft, firm, stiff, hard
 PLASTICITY - low, medium, high
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Sandy Gravel, some silt to silty - saturated, medium dense, gray/brown - 21, 21, 21 - 6" recovery	468	1.4m			1 photo
		Silt, trace to some sand - wet; soft to firm, gray L.B.11 - 15" recovery (-3" slumped)	469	2.7			1 photo
		Sand, some silt to silty - wet, medium dense, brown/gray 2.24 - 6" recovery (Remainder of Sample liquid)	470	4.4			1 photo
		Sand, some silt to silty - wet, medium dense, gray - 3, 7, 5 - 16" recovery (Remainder of Sample liquid)	471	5.9			1 photo
		E.O.M. @ 6.6m					



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TEST HOLE LOG

Northing: 6764453
Easting: 635652

Project No: 8002-318 Test Hole No: # 3004A Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: AUG. 21 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	0.02mm
	SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

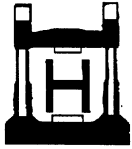
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Silt - moist to wet, soft to firm, brown - decomposed organic to 0.3					
0.6	so	CLAYEY SILT - moist to wet, soft to firm, grey - low plastic	475 ✓	0.6-1.2			
1.5	dc	Silt, some sand to sandy - wet, soft to firm, grey - fine grained sands	476 ✓	1.5-2.4			
2.5	so	CLAYEY SILT - wet, firm, grey - low plastic	477 ✓	2.6-2.9			
3.2	dc	Silt, some sand to sandy - moist to wet, firm, grey	478 ✓	4.0-4.4			
		E.O.N. 2-6					



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TEST HOLE LOG

Northing: 6764514
Easting: 635461

Project No: 8002-318 Test Hole No: # 36050 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug. 21, 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	.002mm
GRAVEL	SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Silty Sand / Silty Surf - damp, medium dense, brown - organics noted to 0.3m (reeds / grasses)					
0.4	so	Silt, trace to some clay - moist to wet, soft to firm, grey	439 ✓	0.6-1.2			
			480 ✓	2.1-2.9			
3.0	sc	Silt, some sand to sand - moist, soft to firm, grey - fine grained sands	481 ✓	3.2-3.6			
3.6	dc	Silt, some clay to clayey - wet, soft, grey	482 ✓	4.0-4.4			
		E.O.P. @ 4.6m					



HOGGAN ENGINEERING &
TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6764643
Easting: 635300

Project No: 8002-318 Test Hole No: # 30651 Elev. _____


Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug. 27 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	.002mm
	SAND	SI	LT
			CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

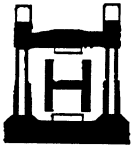
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		SANDY SILT - saturated, grey - 4.5, 4 - 14" RECOVERY	483	1.4			1 photo
		SANDY SAND - saturated, grey - 1.2, 4 - 10" RECOVERY (REST OF SAMPLE IS LIQUEFIED)	484	2.9			2 photos 1 with 483 bag in photo
		SANDY SAND - saturated, grey - Recovered in 4" limit weight of sampler - weight +1, 2, 3 - 8" RECOVERY (REMAINDER LIQUEFIED)	485	4.4			1 photo
		SANDY SAND - saturated, grey 1.1, 1 - 8" RECOVERY (REMAINDER LIQUEFIED)	486	5.9			1 photo
		2.0, 4.0 - 6.4 m					



**HOGGAN ENGINEERING &
TESTING (1980) LTD.**
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6764793

Easting: 635196

Project No: 8002-318

Test Hole No: # 30052
~~30052~~

Elev. RECORDING TO GPS

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1


Location: _____

Log By: R.W.

Date: Aug. 25

2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	0.02mm
	SAND	SI	LT
			CLAY

MOISTURE CONTENT - dry, damp, moist, wet
 DENSITY - loose, medium dense, dense
 GRADATION - poorly or well graded
 SIZE RANGE - coarse, medium, fine
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

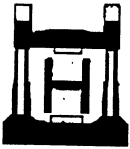
MOISTURE CONTENT - dry, damp, moist, wet
 CONSISTENCY - soft, firm, stiff, hard
 PLASTICITY - low, medium, high
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Surf Sand	487	1.4m			1 Photo
		- saturated, grey					
		3.410 - Full Recovery					
		No Sample from 2.9m - Hole Filled = 1.0m					
		No Sample from 4.4m - Hole Filled w/ Silt #1.0m					
		E.O.4. e 4.4m					
		Attempt #1 - E.O.4. e 2.5m - 1.0m of Silt w/ Down					
		- moia 4m HOLE					
		Attempt #2 - E.O.4. e 4.4m - 1.0m of Silt w/ Down					
		at 2.5m i 4.4m - E.O.4.					



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6765115

Easting: 632941

Project No: 8002-318

Test Hole No: # 30054

Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W.

Date: Aug. 26

2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	.002mm
SAND	SI	LT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Silt, some sand - moist to wet, soft to firm, brown - organics noted to 0.6m	491	0.2-0.8			
0.9	ds	Sand, some silt - saturated, medium dense, brown/gray	492	1.8-2.4			
			493	3.7-4.3			
			494	4.8-5.5			
0.7	ds	Silty Sand - saturated, medium dense, brown/gray	495	6.7-7.1			
7.9	ds	Silty Sand w/2 Silt some to 0.3m thickness - saturated, soft, gray/brown	496	7.9-8.5			
7.1	ds	Silty Sand to Sand, some silt - saturated, medium dense, gray/brown	497	9.5-10.0			
		E.O.4. @ 10.5m					




HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6765279
Easting: 634837

Project No: 8002-318 Test Hole No: # 30055 PG#1 Elev. _____
Client: YTG - Highways & Public Works
Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1
Location: _____
Log By: R.W. Date: Aug 26 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	0.075mm	0.002mm
	SAND	SI	LT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

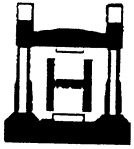
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Silt, some sand - moist to wet, soft to firm, brown w/ some grey seams - organic noted to 0.9m	498	0.3-0.9			
1.2	dc	Silt - wet to saturated, soft, grey	499	2.1-2.7			
2.9	so	Silty Sand / Silty Silt - saturated, soft, grey/brown - very soupy	500	3.7-4.3			
1.9	dc	Silty Sand / Silty Silt - saturated, soft, grey/brown - 0.2mm thick silt seam @ 5.2m - firm low plastic	501	4.9-5.5			
6.7	dc	Silty Sand - saturated, medium dense, brown/grey	502	6.7-7.3			
			503	7.9-8.5			
0:0	dc	Silty Sand to Sand, some silt - saturated, medium dense, brown/grey - silt seam noted @ 11.0m = 0.2m thick - soft low plastic	504	10.0-10.5			
			505	11.3-11.7			



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6765296

Easting: 634756

Project No: 8002-318

Test Hole No: # 30056

Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W.

Date: Aug. 27 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3" GRAVEL	5mm SAND	0.74mm SILT	.002mm CLAY
--------------	-------------	----------------	----------------

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

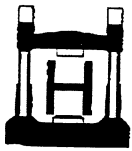
TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Sandy Silty Silt - saturated, medium dense, brown	528	0.3-0.9			
1.6	so	Sand, trace to some silt - saturated, medium dense, brown	529	2.1-2.7			
			530	3.7-4.3			
			531	4.9-5.5			
6.4	dg	Sandy Silt / Silty Sand - saturated, soft, brown - some seams of silt to 30mm thick - soft, grey	532	6.7-7.3			
			533	7.9-8.5			
9.1	dg	Sand, some silt - saturated, medium dense, brown	534	9.8-10.4			
			535	11.0-11.6			
12.5	dg	Silty Sand - saturated, medium dense, brown - some silt seams to 200mm thick - soft, grey	536	12.8-13.4			
			537	14.0-14.6			
3.9	dg	Sand, trace to some silt - saturated, medium dense, brown					

Depth 15.2 m



HOGGAN ENGINEERING & TESTING (1980) LTD.
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TEST HOLE LOG

Northing: 6765406
Easting: 634728

Project No: 8002-318 Test Hole No: # 30057 Pg. 1 Elev. _____

Client: YTG - Highways & Public Works

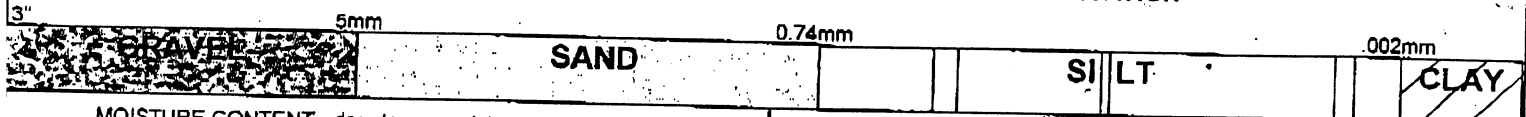
Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W.

Date: Aug 26 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION



MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

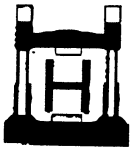
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Silt, some sand - saturated, soft, brown/grey - organic to 0.2m	S08	0.3-0.9			
1.2	da	Sand, some silt to silty - saturated, medium dense, brown/grey	S09	2.1-2.7			
			S10	3.7-4.3			
5.7	ds	Silt - saturated, soft, grey	S11	5.2-5.8			
			S12	6.7-7.3			
			S13	7.7-8.5			
8.8	da	Sand, some silt - saturated, medium dense, brown/grey - silt seam @ 10.3m ≈ 0.3m thick - soft, grey, low plastic	S14	9.7-10.4			
11.0	da	Sandy silt - saturated, soft, brown/grey - very fine grained sands	S15	11.0-11.6			



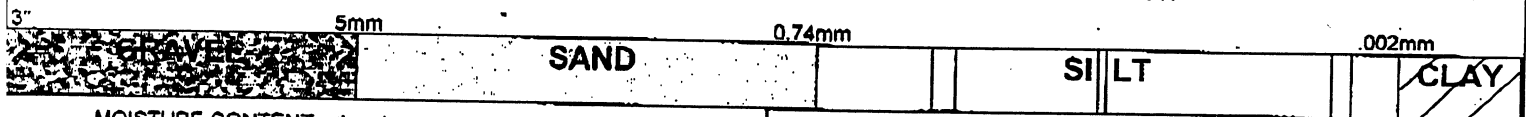
HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6765406
Easting: 634728

Project No: 8002-318 Test Hole No: # 30057 PG 2 Elev. _____
Client: YTG - Highways & Public Works
Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1
Location: _____
Log By: R.W. Date: Aug-26 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

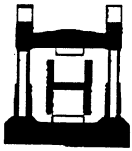


MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay
COBBLE - 3" - 8"
BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
12.8	da	Sand, some silt to Surf. (fine sample) - saturated, medium dense, brown grey	516	12.8-13.4			
			517	14.0-14.6			
			518	15.9-16.5			
						END OF LOG (16.8m)	
						- BEGIN LOG/17	
			519	17.1-17.7			
			520	18.9-19.5			
			521	20.0-20.7			
12	sa	Silt - saturated, soft, grey - low to med plastic	522	21.9-22.6			
			523	23.2-23.8			
30	da	Sand - saturated, soft to firm, grey - low plastic	524	25-25.4			
			525	26.2-26.8			
			526	28.0-28.7			
			527	29.3-29.9			
		End of 30.3m					



HOGGAN ENGINEERING &
TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6765412
Easting: 634679

Project No: 8002-318 Test Hole No: # 3005B Pe.1 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug. 27/28 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3" GRAVEL	5mm SAND	0.74mm SI	LT	.002mm CLAY
--------------	-------------	--------------	----	----------------

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

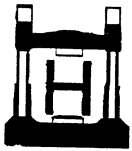
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Silt, some sand - wet, soft to firm, grey/brown - begins to 0.6m depth	538	0.3-0.9			
1.2	sa	Silty Gravel some sand - saturated, soft, grey/brown - grainy drilling	539	1.6-2.1			
2.1	da	Sand, trace silt - saturated, medium dense, brown	540	3.7-4.3			
4.9	da	Silt, some clay - saturated, soft to firm, grey - low plastic to non plastic	541	5.2-5.8			
					END	08/27 (S.F.M)	
5.7	da	Sand, trace silt - saturated, medium dense, brown	542	6.7-7.3	BEGIN	08/28	
			543	7.7-8.5			
			544	9.8-10.4			
			545	11.0-11.6			



HOGGAN ENGINEERING &
TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6765412

Easting: 634679

Project No: 8002-318

Test Hole No: # 30058 R02 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W.

Date: Aug. 27/28 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3" GRAVEL	5mm SAND	0.74mm	SI LT	.002mm CLAY
--------------	-------------	--------	---------	----------------

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

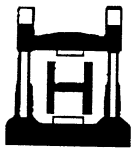
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
11.6	ds	Silty Sand/Sandy Silt - saturated, soft, brown/grey	546	12.8-13.4			
13.7	ds	Silt, trace to some sand, trace to some clay - saturated, soft, brown/grey - low to low plastic	547	14.0-14.4			
15.4	ds	Sandy, some silt to silty - saturated, medium dense, brown - some silt scars = 200mm thick between 15.4 & 16.5m	548	15.9-16.5			
17.4	ds	Sand, trace to some silt - saturated, medium dense, brown	549	17.4-18.0			
			550	18.9-19.5			
			551	20.0-20.7			
22.9	ds	Silt - saturated, soft, grey - low to low plastic	552	23.8-24.1			
24.4		Silt, trace to some clay - saturated, soft to firm, grey - low plastic	552	25.0-25.6			



HOGGAN ENGINEERING &
TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6765412
Easting: 634679

Project No: 8002-318 Test Hole No: #: 30058 RE.#3 Elev.

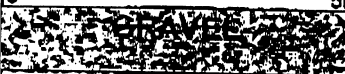

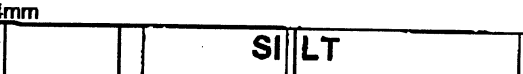
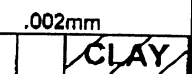
Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location:

Log By: R.W. Date: AUG. 27/28 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3" 	5mm 	0.74mm 	.002mm 
SAND	SI	LT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

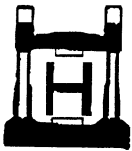
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSP
25.9	dc	Clayey Silty	554	26.2 - 26.8			
		- wet to saturated, soft to firm, grey					
		- low plastic	555	28.0 - 28.7			
			556	29.3 - 29.9			
		E.O.L. @ 30.5m					



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 0765507

Easting: 634609

Project No: 8002-318

Test Hole No: # 30059 PG. 11 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W.

Date: Aug. 28 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	.002mm
GRAVEL	SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
 DENSITY - loose, medium dense, dense
 GRADATION - poorly or well graded
 SIZE RANGE - coarse, medium, fine
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

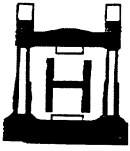
MOISTURE CONTENT - dry, damp, moist, wet
 CONSISTENCY - soft, firm, stiff, hard
 PLASTICITY - low, medium, high
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Sand, silt - dry to damp, medium dense, light brown - boulders in fill - organics throughout - very grainy due to boulder fill	557	0.2-0.9			✓
1.0	da	Silt, some sand - wet to saturated, soft, brown/gray	558	1.5-2.1			
2.7	da	Sand, trace to some silt - saturated, medium dense, brown/gray	559	3.4-4.0			
4.6	da	Silt - saturated, soft, gray	560	4.9-5.5			
7.1	da	Sand - saturated, medium dense, brown - auger flights washed clean. minimal sample.	561	7.4-8.8			
			562	9.8-10.4			
2.7	da	Silt, trace to some clay - saturated, soft, gray - dense to low plastic	563	11.0-11.6			



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6765507

Easting: 634609

Project No: 8002-318

Test Hole No: # 30059-PS-12

Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

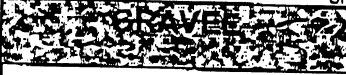
Location: _____

Log By: R.W.

Date: Aug 28

2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	.002mm
	SAND	SI	LT
			CLAY

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

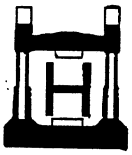
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
12.2	ds	SAND, trace to some silt - saturated, medium dense, brown/grey - sample silt removed due to washed fragments	564	12.8-13.4			
			565	14.0-14.6			
			566	15.9-16.5			
			567	17.1-17.7			
			568	18.9-19.5			
20.1	ds	Silty Sand / Silty Silt - saturated, medium dense, brown/grey - more silt w/ depth	569	20.8-20.7			
			570	21.9-22.6			
22.9	ds	Silt - saturated, soft, grey	571	23.2-23.8			
24.4	ds	Silt - saturated, soft to firm, grey	572	25.0-25.6			
			573	26.2-26.8			
			574	28.0-28.7			
			575	29.5-29.9			
E.O.H. @ 30.3							



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 676522
Easting: 634610


Project No: 8002-318 Test Hole No: # 3006 PE. #1 Elev. ACCORDING TO GPS

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____
Log By: R.W. Date: Aug 29 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	.002mm
	SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

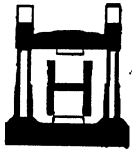
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		SANDY SILT / CRUMBLY SAND, trace to some silt - damp to moist, medium dense, brown	576	0.3-0.6			
0.6	SO	SILT, some sand to sandy - moist to wet, soft, brown/grey	577	0.6-1.2			
2.1	SO	SAND, trace to some silt - saturated, medium dense, brown	578	2.1-2.9			
			579	3.7-4.3			
			580	4.9-5.5			
6.1	dc	SAND, some silt - saturated, medium dense, brown - fine graded sand	581	6.7-7.3			
			582	7.9-8.5			
			583	9.5-10.1			
10.1	dc	SILT - saturated, soft, grey - trace to low plastic	584	11.0-11.6			
2.2	dc	SAND, some silt - saturated, medium dense, brown - fine graded sand	585	12.8-13.4			
			586	14.0-14.6			



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6765562
Easting: 634610

Project No: 8002-318 Test Hole No: # 30061 R-22 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W.

Date: Aug. 25 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	.002mm
GRAVEL	SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
			587	15.6-16.5			
			588	17.1-17.7			
			589	18.9-19.5			
17.8	da	Silt, trace to some clay - wet to saturated, soft, grey	590	20.1-20.7			
			591	21.9-22.6			
23.2	da	Sandy silt / Silty sand - saturated, soft, brown/grey - various silt / sand seams intermixed	592	23.2-23.6			
25.0	da	Silt, trace to some clay - wet to saturated, soft to firm, grey	593	25.0-25.6			
			594	26.2-26.8			
28.0	da	Sandy silt - saturated, soft, grey/brown	595	28.0-28.7			
28.7	da	Silt, trace to some clay - wet to saturated, soft to firm, grey	596	28.3-28.9			

end of 30.3



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6765721
Easting: 634494

Project No: 8002-318 Test Hole No: # 30062 (6.8.01) Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug. 29 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

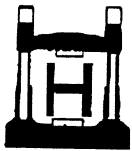
3" 5mm	SAND	0.74mm	SILT	0.002mm CLAY
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MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay
COBBLE - 3" - 8"
BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
		Sand, some silt to silty - damp to moist, medium dense, brown	597	0.3-0.6			
0.6	so	Silt, some sand to sandy - damp, soft to firm, light brown					
1.5	do	As above - wet to saturated - sand seam = 200mm thick noted @ 2.1m -	598	1.6-2.1			
2.4	do	Silt - saturated, soft, grey					
3.0	do	Sandy, trace silt - saturated, medium dense, brown - silt seam ~300mm thick @ 5.5m - soft, grey	599	3.7-4.3			
			600	4.8-5.3			
6.1	do	Silt - saturated, soft grey	601	6.7-7.3			
7.6	do	Sandy, trace silt - saturated, medium dense, brown	602	7.6-8.2			



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 676572
Easting: 634494

Project No: 8002-318 Test Hole No: # 30062 Pen 12 Elev. _____

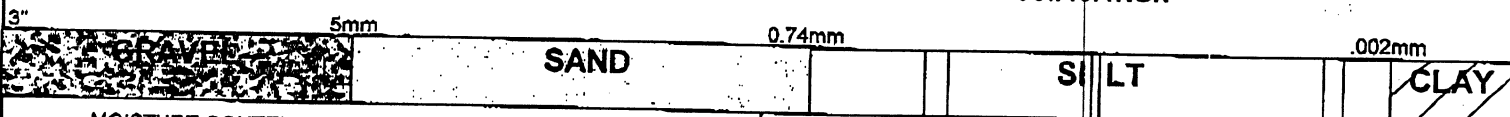
Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug 29 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION



MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

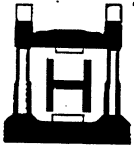
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0.2	dt	Silty Sand / Silty Silt - saturated, soft, brown/grey - variable silt: sand seams	603	9.8-10.4			
11.0	dt	Sand, trace to some silt - saturated, medium dense, brown	604	11.0-11.6			
12.2	dt	Sand, some silt to silty - saturated, medium dense, brown	605	12.2-13.4			
			606	14.0-14.6			
		E.O.4. & 15.1m					



HOGGAN ENGINEERING & TESTING (1980) LTD.
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TEST HOLE LOG

Northing: 6765883
Easting: 634375

Project No: 8002-318 Test Hole No: # 30063 P.G.W. Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug. 29 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	0.02mm
GRAVEL	SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

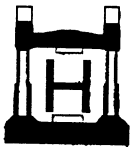
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Sand, some silt to silty - damp, medium dense, brown					
0.5	sa	Silt, some sand wet to saturated, soft to firm, brown	607	0.5-1.2			
1.8	da	Sand, trace silt - saturated, medium dense, brown	608	1.0-2.4			
			609	3.7-4.3			
			()				
			610	4.9-5.5			
5.5	da	Silt - saturated, soft, gray	611	6.7-7.3			
7.6	da	Silty Sand - saturated, medium dense, brown/gray	612	7.9-8.5			
8.8	da	Silt - saturated, soft, gray	613	9.8-10.4			
9.5	da	Silty Sand - saturated, medium dense, brown/gray	614	11.0-11.6			
			615	12.8-13.4			



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6766041
Easting: 634253

Project No: 8002-318 Test Hole No: # 30064 Elev. _____

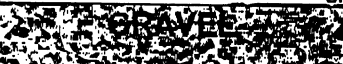
Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: AUG 29 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	.002mm
	SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

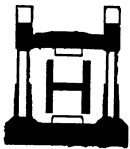
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Sand, fine silt - damp, medium dense, brown					
0.5	so	Silt, coarse sand - moist to wet, silt to fine, brown	617	0.5-1.2			
2.1	cs	Sandy, coarse silt - soft to medium dense, brown - decomposing organic seam @ 3.6m (~200mm thick) dark grey - fine sands @ 6.5m	618	2.1-2.7			
			619	4.0-4.4			
			620	4.9-5.5			
			621	6.7-7.3			
			622	7.7-8.5			
			623	9.9-10.4			
		Eq. 4. @ 10.5m					



HOGGAN ENGINEERING & TESTING (1980) LTD.
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TEST HOLE LOG

Northing: 6766211

Easting: 634121

Project No: 8002-318

Test Hole No: # 30065

Elev. _____

Client: YTG - Highways & Public Works

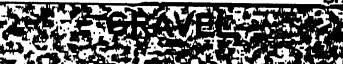

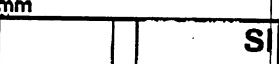
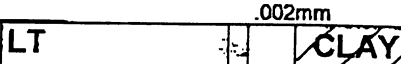
Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W.

Date: Aug. 30, 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3" 	5mm 	0.74mm 	.002mm 
GRAVEL	SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

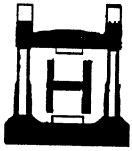
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Sand, some gravel, some silt to Silty - damp, medium dense, brown					
0.4	so	Silt trace to some sand - moist to wet, soft to firm, brown	624	0.6-1.2			
1.2	da	Sand, trace silt - moist, medium dense, brown	625	1.8-2.4			
			620	3.7-4.3			
1.6	da	Sand, trace to some silt - saturated, medium dense, brown	627	4.9-5.5			
			628	6.7-7.3			
2.6	da	Silty Sand / Silty Silt - saturated, medium dense, brown / grey - variable amounts of sand & silt	629	7.9-8.5			
2.1	da	Silt - saturated, soft, grey E.O.N. @ 10.5m	630	9.8-10.4			
		E.O.N. @ 10.5m					



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6766381

Easting: 633992

Elev. _____

Project No: 8002-318

Test Hole No: # 3006

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W.

Date: Aug. 30

2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	.002mm
GRAVEL	SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

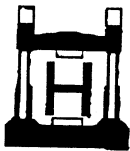
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Sand, some gravel, some silt - damp, medium dense, brown					
0.3	sa	Silt, trace to some sand - damp to moist, soft to firm, brown	631	0.6-1.2			
1.2	da	Silt - moist to wet, soft to firm, grey	632	1.5-2.1			
2.4	da	Sand, trace silt - saturated, medium dense, brown/grey	633	3.7-4.3			
4.4	su	Silt, some sand - saturated, soft, grey	634	4.6-5.2			
5.3	ds	Sand, trace silt - saturated, medium dense, brown/grey	635	6.7-7.3			
7.6	dc	Silt, trace to some clay - saturated, soft, grey	636	7.9-8.5			
			637	9.8-10.4			
E.O.4. e 10.5m							



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Project No: 8002-318 Test Hole No: # 30067 Northing: 6766554
 Client: YTG - Highways & Public Works Easting: 633087
 Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1 Elev. _____
 Location: _____
 Log By: R.W. Date: Aug. 30 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3" GRAVEL	5mm SAND	0.74mm SILT	.002mm CLAY
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MOISTURE CONTENT - dry, damp, moist, wet
 DENSITY - loose, medium dense, dense
 GRADATION - poorly or well graded
 SIZE RANGE - coarse, medium, fine
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

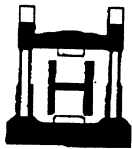
MOISTURE CONTENT - dry, damp, moist, wet
 CONSISTENCY - soft, firm, stiff, hard
 PLASTICITY - low, medium, high
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Silt, trace to some sand - moist firm, brown	638	0.6-1.2			
1.2	so	Silty Sand - damp, medium dense, brown					
1.8	so	Silt trace clay - moist to wet, silt to firm, grey					
2.1	sm	Sand, trace silt - moist to wet, medium dense, brown	639	2.4-2.9			
3.0	cl	Sand, some silt to silt - saturated, medium dense, brown/grey - fine grained sands	640	3.7-4.3			
			641	4.4-5.5			
		END OF LOG 5.9m					



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6766741
Easting: 633841

Project No: 8002-318 Test Hole No: # 30008 Elev. _____

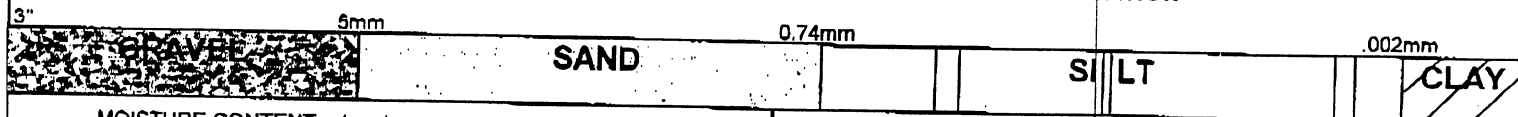
Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug. 30 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION



MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

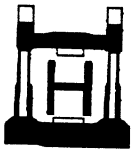
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Silt trace to some sand - damp to moist, soft to firm, brown	642	0.6-1.2			
1.2	so	SANDY SILT - damp to moist, medium dense, brown - fine grained sands	643				
1.8	so	Sand, trace silt - moist to wet, medium dense, brown	643	2.4-3.0			
3.0	so	Sand, some silt - saturated, medium dense, brown/gray - fine grained sands	644	3.4-4.0			
5.0	so	Silt - saturated, soft, gray	645	5.0-5.5			
		5.04. e 5.9 m					



HOGGAN ENGINEERING &
TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6766937

Easting: 633865

Project No: 8002-318

Test Hole No: # 30069

Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

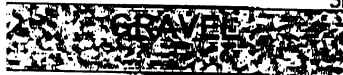
Location: _____

Log By: R.W.

Date: Aug 30

2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	.002mm
 GRAVEL	SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

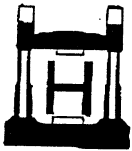
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Silt - damp to moist, firm, grey					
2.4	50	Sand, trace silt - damp to moist, medium dense, brown	646	0.4-1.3			
1.2	50	Silt - moist, soft to firm, grey					
7	50	Sand, trace to some silt - saturated, medium dense, brown	647	1.8-2.4			
			648	3.7-4.3			
			649	4.9-5.5			
		5.04. e 5.9m					



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6276 7128
Easting: 633921

Project No: 8002-318 Test Hole No: # 30070 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug 30 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3" GRAVEL	5mm SAND	0.74mm SI	LT	.002mm CLAY
--------------	-------------	--------------	----	----------------

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

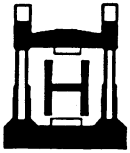
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Silt - some sand - damp to moist, soft to firm, brown - organics mixed to 0.2m	650	0.6-1.2			
1.2	30	Gravel - some sand, trace to some silt - saturated, medium dense, brown - sandy drilling - silt contamination from side walls in sample #651 - broken rock - angular pieces to 40mm dia	651	2.1-2.7			
2.8	40	Sandy Silt/Glue - saturated, medium dense, brown/gray	652	3.7-4.3			
			653	4.9-5.5			
		E.O.D. @ 5.9m					



HOGGAN ENGINEERING & TESTING (1980) LTD.
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TEST HOLE LOG

Northing: 6768923
Easting: 635759

Project No: 8002-318 Test Hole No: # 30082 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug 15 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	0.02mm
GRAVEL	SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

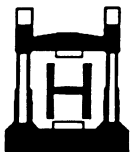
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Silty Sand, - damp, medium dense, brown w/ orange hue - organics to 0.2m					
0.3	30	Sandy Gravel, trace silt - dry to damp, coarse, brown/grey	348 ✓	0.6-1.2		Very Crumbly 0.3m	Downing e
1.8	40	Gravelly Sand, some silt to silty - damp to moist, dense, brown	349 ✓	1.8-2.4		Sand Gravel 1.8m	Downing e
			350 ✓	3.4-4.0			
			351 ✓	4.6-5.5			
		E.O.T. @ 6.9m					
		Refusal @ 6.6m - make 2m East					



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TEST HOLE LOG

Northing: 6769100
Easting: 635169

Project No: 8002-318 Test Hole No: # 30083 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug. 15 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	.002mm
GRAVEL	SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

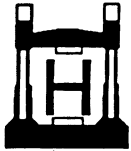
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		ORGANIC SILTS					
0.3	sa	Silty SANDY GRAVEL - damp, medium dense, brown w/ some black organic silt - organic silts intermixed	344 ✓	0.6-1.2		Grainy Drains @ 0.3m-3.2	
1.5	dc	SANDY GRAVEL, some silt - moist, dense, brown	345 ✓	1.8-2.4			
3.2	dc	Silt, some sand to SANDY - wet, soft, brown	346 ✓	3.4-4.0			
16'	dc	Silty GRAVELLY SANDS to Silty SANDY GRAVEL - saturated, dense, brown - possible silt contamination in sample from above	347 ✓	4.9-5.5			
		E.O.4 & 7.0 - REFUSAL					
		REFUSAL @ 7.0 - E.O.4 (No indication)					
		No Second Attempt					



HOGGAN ENGINEERING & TESTING (1980) LTD.
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TEST HOLE LOG

Northing: 6769233
Easting: 635162

Project No: 8002-318 Test Hole No: # 30084 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug 15 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	.002mm
GRAVEL	SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

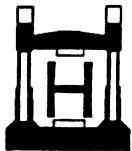
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Silty Sand, - damp, medium dense, brown w/ orange hue - organics to 0.3m					
0.6	so	Sandy Gravel/Gravelly Sand, some silt to Silty - damp, medium dense, brown	338 ✓	0.6-1.2			
			339 ✓	1.8-2.4			
3.0	so	Sandy Silty/Silty Sand, some gravel to Gravelly - damp, dense, brown	340 x	3.4-4.0			Sand, some silt, trace gravel
			341 x	4.9-5.5			
20'	dc	Gravelly Silty Sand - damp, dense, brown	342 x	6.4-7.0			Gravelly Sand, some silt
			343 x	7.6-8.1			
		E.O.H. e B.2 - REFUSAL					
		REFUSAL e B.2 - E.O.H. - no 2nd ATTEMPT.					



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TEST HOLE LOG

Northing: 6769371
Easting: 635155

Project No: 8002-318 Test Hole No: # 30085 Elev. _____

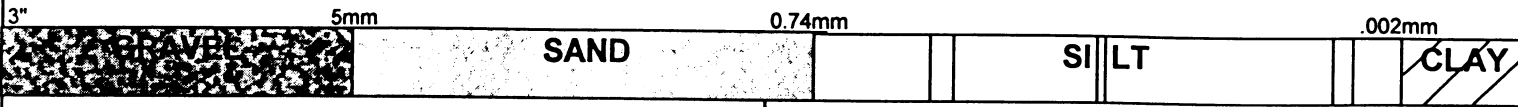
Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug. 15 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION



MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

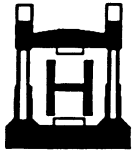
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Sandy SILT / Silty SAND - damp, medium dense, brown w/ orange hue - organics noted throughout					
0.6	so	Sandy Gravel / Gravelly Sand, some silt to Silty - damp, medium dense, brown	334 ✓	0.6-1.2			
			335 ✓	1.2-2.4			
			336 ✓	3.4-4.0			
4.9	da	Silty SAND, trace gravel - dry, dense, light grey w/ green hue - significant rock powder in sample.	337 ✓	4.9-5.5		VERY Gummy 2.1.9	Small Drums
		E.O.T. @ 5.5' - REFUSAL					
		No - 2nd attempt.					



HOGGAN ENGINEERING & TESTING (1980) LTD.
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TEST HOLE LOG

Northing: 6769425
Easting: 635131

Project No: 8002-318 Test Hole No: # 30086 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug 15 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	.002mm
GRAVEL	SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

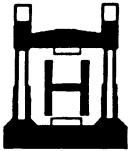
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		ORGANIC SILTS					
0.3	so	Silty Sand, some gravel to Gravelly - damp, medium dense, brown	329 ✓	0.6-1.2			
1.8	dc	Gravelly Sand, some silt to Silty - frozen, no visible ice - brown	330 ✓	1.8-2.4		Slow Gravel 1.8m	Denial 2
3.0	dc	Sandy Gravel / Gravelly Sand, some silt to Silty - frozen, no visible ice	331 ✓	3.4-4.0			
4.5	dc	AS ABOVE - very close - Almost refusal 2 times between 4.6-7.6 a poor sample - minimal mat'l on flights.	332 ✓	4.9-5.5		Very Slow Gravelly Denial 2 4.5m	
			333 ✓	6.7-7.3			
		E.O.H. 11.0 - Refusal (No Indication)					
		Refusal 11.0 - E.O.H.					
		* No 2nd Attempt - To Dense					



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TEST HOLE LOG

Northing: 6769468
Easting: 635121

Project No: 8002-318 Test Hole No: # 30087 Elev. _____
 Client: YTG - Highways & Public Works
 Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1
 Location: _____
 Log By: R.W. Date: AUG. 15 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm		.002mm
GRAVEL	SAND		SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
 DENSITY - loose, medium dense, dense
 GRADATION - poorly or well graded
 SIZE RANGE - coarse, medium, fine
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

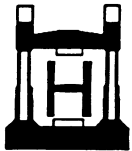
MOISTURE CONTENT - dry, damp, moist, wet
 CONSISTENCY - soft, firm, stiff, hard
 PLASTICITY - low, medium, high
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Sandy Silt / Silty Sand - damp to moist, medium dense, brown/grey					
0.6	30	Sandy, some silt to silty trace to some gravel - damp, medium dense, brown	325 ✓	0.6-1.2			
			326 ✓	1.8-2.4			
3.0	40	Gravelly Sand, some silt to silty damp, dense, brown	327 ✓	3.4-4.0		Very Slow @ 3.0m	Grainy Penning
			328 ✓	4.9-5.5			
		EQ. 4. & 4.4 - REFUSAL					
		REFUSAL @ 6.2 - - NOISE 2m Sound					
		REFUSAL @ 6.4 - EQ. 4					



HOGGAN ENGINEERING & TESTING (1980) LTD.
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TEST HOLE LOG

Northing: 6769516
Easting: 635104

Project No: 8002-318 Test Hole No: #: 30088 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug 15 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	.002mm
GRAVEL	SAND	SI	LT
			CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

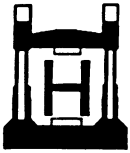
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSP
0		Silty Sand / Sandy Silt - damp, loose, brown w/ orange base - organic to 0.2m					
0.9	50	Gravelly Sand, trace to some silt - damp, medium dense, brown	322 ✓	0.9-1.2		Grubby Drums @ 0.9m	
			323 ✓	1.8-2.4			
			324 ✓	3.1-4.0		Slow Grubby Drums @ 4.0	
		E.O.H. E.S.2 - REFUSAL					
		REFUSAL @ 5.0 - more 2m Sand					
		REFUSAL @ 8.2 - E.O.H.					
		(No indication)					



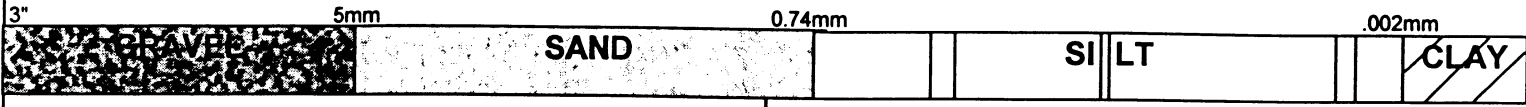
HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6769606
Easting: 635078

Project No: 8002-318 Test Hole No: # 30089 Elev. _____
 Client: YTG - Highways & Public Works
 Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1
 Location: _____
 Log By: R.W. Date: Aug. 15 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

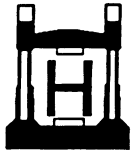


MOISTURE CONTENT - dry, damp, moist, wet
 DENSITY - loose, medium dense, dense
 GRADATION - poorly or well graded
 SIZE RANGE - coarse, medium, fine
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
 CONSISTENCY - soft, firm, stiff, hard
 PLASTICITY - low, medium, high
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay COBBLE - 3" - 8" BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Sandy Silt/Silty Sand - dry to comp. loose, brown w/ orange hue - organics noted to 0.2m	321 ✓	0. - 0.6			
		E.O.H. @ 0.6m - Refusal					
		Refusal @ 0.6m - more Sand 3m					
		Refusal @ 0.6m - E.O.H.					
		Probed twice at each location = 3m Apart (No indication)					



HOGGAN ENGINEERING & TESTING (1980) LTD.
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TEST HOLE LOG

Northing: 6767660
Easting: 635060

Project No: 8002-318 Test Hole No: # 30090 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug-15 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	.002mm
GRAVEL	SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

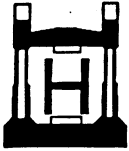
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		ORGANIC SILTS					
0.2	so	Silty SAND - damp, medium dense, brown					
0.4	so	GRAVELLY SAND, some silt to silty - damp, medium dense, brown	319 /	0.5-1.0		Grindy Drills @ 0.4m	
1.2	so	GRAVELLY SAND, trace to some silt (Rock) - dry, dense, brown/gray - some rock powder in sample	320 /	1.2-1.5		Very Grind @ 1.2m	Swab Drills
		REFUSAL @ 0.4 & 1.5m - REFUSAL					
		REFUSAL @ 1.5m - MORE 2m SOUTH					
		REFUSAL @ 0.9m - @ 0.4					



HOGGAN ENGINEERING & TESTING (1980) LTD.
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TEST HOLE LOG

Northing: 6769764
Easting: 635000

Project No: 8002-318 Test Hole No: # 80092 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug. 15 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	.002mm
GRAVEL	SAND	SI LT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		ORGANIC SILT					
0.4	so	GRAVELLY SILTY SAND - damp, medium dense, dark brown	315 x	0.4-1.0			Silty Sand
1.8	so	SANDY SILT, trace gravel - frozen, no visible ice - brown/grey	316 x	1.8-2.4		Grainy Drains @ 1.8m Silty Sand, some gravel	
3.7	sa	SANDY SILT, some gravel - frozen, no visible ice - brown	317	3.7-4.3		Slow Grainy Drains @ 3.7 Sand, some gravel, some silt to silty	
		E.O.H. @ 5.0 - REFUSAL					
		REFUSAL @ 4.7 - more sand 2m					
		REFUSAL @ 5.0 - END					
		(No Significant Indications)					



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 670900
Easting: 634600

Project No: 8002-318 Test Hole No: # 30093 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug 15 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	.002mm
GRAVEL	SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

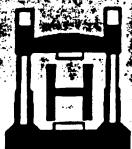
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		GRAVELLY SANDY SILT to GRAVELLY SILTY SAND - moist, medium dense, brown w/ black organic seams - organic silt seams throughout to 7.0m thickness	310 ✓	0.3-0.9			
1.8	ca	Silty Sand, some gravel to GRAVELLY - FROZEN, no visible ice - brown/grey	311 ✓	1.8-2.4		CLUMPY PENETRATION @ 1.8m	
			312 ✓	3.4-4.0			
			313 ✓	4.9-5.5			
			314 ✓	6.7-7.0			
		E.O.U. @ 7.0 - REFUSAL					
		REFUSAL @ 7.0 - MORE SAND 2m } REFUSAL @ 2m MORE SAND 2m } NO SIGNIFICANT INDICATION					



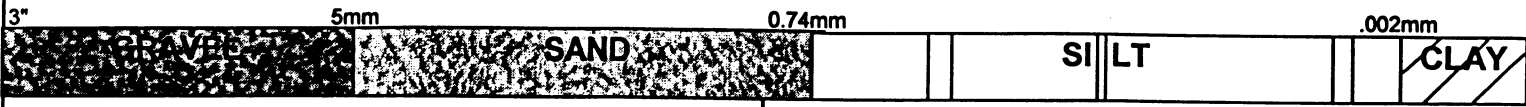
HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6769845
Easting: 67444

Project No: 8002-318 Test Hole No: # 30094 Elev. _____
Client: YTG - Highways & Public Works
Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1
Location: _____
Log By: R.W. Date: Aug 15 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

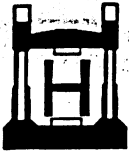


MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay COBBLE - 3" - 8" BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Pad Fill					
0.4	so	ORGANIC SILTS					
0.8	so	SANDY GRAVEL / GRAVELLY SAND trace silt - damp, medium dense, brown	306 ✓	0.8-1.3			
1.8	so	Silty Sandy GRAVEL - damp, medium dense, brown w/ black organic seams - some organic silts throughout (seams to 75mm)	307 ✓	1.8-2.4			
3.0	dg	Silty Sandy GRAVEL to Silty GRAVELLY SAND - damp to moist, dense, brown	308 ✓	3.0-4.0			
5.2	dg	As Above - increase moisture / increase silt.	309 ✓	5.3-5.8			
		E.O.T. @ 5.8					



HOGGAN ENGINEERING & TESTING (1980) LTD.
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TEST HOLE LOG

Northing: 6769885
Easting: 634904

Project No: 8002-318 Test Hole No: # 30095 Elev. _____

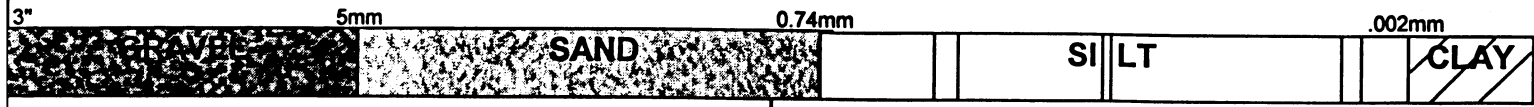
Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug. 15 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION



MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

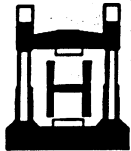
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		ORGANIC SILT					
0.3	so	SANDY SILT, some gravel - damp to moist, firm, brown	302 ✓	0.3-0.9			
1.2	dc	GRAVELLY SAND/SANDY GRAVEL, trace to some silt - damp, medium dense, brown	303 ✓	2.1-2.4			
3.0	dc	GRAVELLY SAND/SANDY GRAVEL, trace silt - moist to wet, dense, brown	304 ✓	3.4-4.0			
			305 ✓	4.9-5.5			
		E.O.T. @ 5.9					



**HOGGAN ENGINEERING &
TESTING (1980) LTD.**
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6769974

Easting: 634848

Project No: 8002-318 Test Hole No: # 30096 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug. 14 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm			.002mm
GRAVEL	SAND		SI	LT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
 DENSITY - loose, medium dense, dense
 GRADATION - poorly or well graded
 SIZE RANGE - coarse, medium, fine
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
 CONSISTENCY - soft, firm, stiff, hard
 PLASTICITY - low, medium, high
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Organic Silts					
0.6	so	Gravelly Silty Sand - moist to wet, medium dense, brown					
1.0	so	As Above - Frozen - brown	295 ✓	1.0-1.3			
1.8	so	Gravelly Sand, some silt to silty - Frozen - brown	296 ✓	1.8-2.4			
			297 ✓	3.7-4.3			
			298 ✓	4.9-5.5			
			299 ✓	7.0-7.6			
			300 ✓	9.1-9.6			
		E.O.4 @ 11.3m - Refusal	301 ✓	10.4-11.0			
		Refusal @ 8.7 - Move Sand 2m					



**HOGGAN ENGINEERING &
TESTING (1980) LTD.**
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6770135
Easting: 634800

Project No: 8002-318 Test Hole No: # 30097 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: AUG. 14 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	.002mm
GRAVEL	SAND	SI LT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

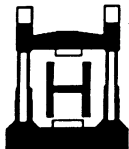
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		ORGANIC SILT					
0.3	20	Sandy Gravel, some silt - moist to wet, medium dense, brown	293 ✓	0.6-1.2			
1.8	20	Silty Sandy Gravel / Silty Gravely Sand - Frozen, no visible ice - brown	294 ✓	1.8-2.4		Difficult Density @ 1.8m	
		E.O.4.e 3.4					
		REFUSAL @ 3.4 - more 2m S&T					
		REFUSAL @ 3.2' - @ 0.4.					



**HOGGAN ENGINEERING &
TESTING (1980) LTD.**
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6770392
Easting: 634666

Project No: 8002-318 Test Hole No: # 3009A Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug 14 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	.002mm
GRAVEL	SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

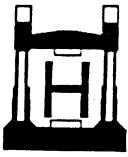
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		SANDY GRAVEL, some silt - damp, medium dense, brown - organics noted to 0.3	286 ✓	0.3-0.9			
0.9	do	As Above moist to wet					
1.8	do	GRAVELLY SAND, trace silt - saturated, medium dense, brown	287 ✓	1.8-2.4			
3.0	so	ORGANIC SILTS - saturated, soft, black/brown	288 ✓	3.0-3.7			
3.7	do	Silty SANDY GRAVEL # poor sample - saturated, medium dense, brown	289 ✓	4.1-4.4			
		E.O.H. c 4 Am					



HOGGAN ENGINEERING &
TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6770537

Easting: 634635

Project No: 8002-318

Test Hole No: # 30100

Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1


Location: _____

Log By: R.W.

Date: Aug. 14

2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"  GRAVEL	5mm SAND	0.74mm SILT	.002mm CLAY
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MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

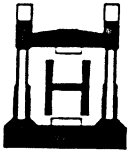
TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Sandy Gravel, trace to some silt - damp, dense, brown - boulders to 0.5m dia noted on surface nearby	279 ✓	0.6-1.2			
1.8	da	Sandy Gravel, some silt - damp to moist, dense, brown	280 ✓	1.8-2.4			
2.7	sa	ORGANIC SILTS - damp, firm, dark brown					
3.0	sa	Sandy Gravel, trace to some silt - damp, dense, brown	281 ✓	3.4-4.3			
4.9	da	Silty SANDY GRAVEL TO SILTY GRAVELLY SAND - wet, dense, brown	282 ✓	4.9-5.5			
		* poor sample	283 ✓	6.4-7.3			
9	da	Sandy SILT, some gravel - moist to wet, dense, grey w/ bluish hue	284 ✓	8.2-8.8			
4	da	Silty SAND, trace gravel - moist, dense, purple	285 ✓	9.4-10.1			

E.O.U. 210.1- REFUSAL



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6770680

Easting: 634680

Project No: 8002-318 Test Hole No: # 30101 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug 14 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	.002mm
GRAVEL	SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

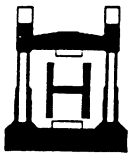
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Silty Sand - damp, medium dense, brown - organics to 0.3m					
0.4	da	GRAVELLY Silty Sand - damp, medium dense, brown	277*	0.4-1.0		GRAVELLY SAND, trace to some silt	
1.8	da	GRAVELLY Silty Sand - damp, dense, brown	278*	1.8-2.4		GRAVELLY DENSING e 1.8m GRAVELLY SAND, some silt to silty	
		E.O.4. @ 3.2 - REFUSAL					
		REFUSAL @ 3.0m - MORE 2m EAST (NO INDICATION)					
		REFUSAL @ 3.2 - E.O.4					



HOGGAN ENGINEERING &
TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6770753

Easting: 634670

Project No: 8002-318

Test Hole No: # 30102

Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W.

Date: Aug. 14

2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	.002mm
GRAVEL	SAND	SI LT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

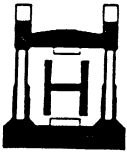
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Sandy Silt / Silty Sand - damp, medium dense, brown w/ orange hue - organics to 0.3m noted	275				
2.6	dc	Sandy Silt, trace gravel - damp, medium dense, brown	275	0.6-1.2		Silty Sand, trace gravel	
5m	da	Silty Sand, trace gravel - dry, dense, light grey - significant rock powder in sample	276 ✓	2.4-3.0m		Very Grindy Drums @ 1.5m	
		E.O.D. @ 3.0m - Refusal					
		REFUSAL @ 3.0m - MOVE HOLE 2m					
		REFUSAL @ 3.0m - E.O.D.					



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6770855

Easting: 634651

Project No: 8002-318

Test Hole No: # 30103

Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1



Location: _____

Log By: R.W.

Date: Aug 14

2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"  GRAVEL	5mm SAND	0.74mm  SILT	.002mm CLAY
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MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

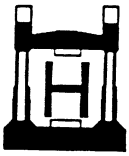
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Silty Sand/Sandy Silt - damp, medium dense, brown - organics noted to 0.2m depth					
0.6	da	Coarsely Sandy, some silt to Silty - damp, medium dense, brown	272 ✓	0.6-1.2			
1.0	ca	Gravelly Sand, some silt to Silty - dry to damp, dense, light brown	273 ✓	2.1-2.9			Very Grainy Denudation @ 2.0m
1.1	da	Silty Sand, trace to some gravel - dry, dense, light grey - significant rock powder in sample	274 ✓	3.7-4.3			
		E.O.4 @ 4.3 - REFUSAL					
		REFUSAL @ 4.3 - MOVE SOUTH 2 METERS					
		REFUSAL @ 2.4m - E.O.4					



**HOGGAN ENGINEERING &
TESTING (1980) LTD.**
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6770965

Easting: 634613

Project No: 8002-318

Test Hole No: # 30104

Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W.

Date: Aug 13

2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3" GRAVEL	5mm SAND	0.74mm SILT	0.002mm CLAY
---------------------	--------------------	-----------------------	------------------------

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

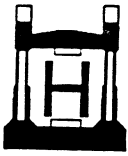
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
6		Sand, some silt to silty - damp, loose, brown	268 ✓	0.3-0.7			
6.9	dg	CRACKLY SANDY SILT - damp, medium dense, brown	269 ✗	1.8-2.4		Silty Sand, trace to some gravel	
1.0		Silty Sand, trace to some gravel (Annex #1) Rock - dry, dense, light grey - significant rock powder on sample	270 ✓	3.4-3.7		DIFFICULT DRAWING @ 3.0m	
		Coarsely Sand, trace to some silt (Annex #2) - damp, dense, brown	271 ✓	3.7-4.3			
		①.0.4 @ 4.9m					
		Refusal @ 3.7 - move sand 2m					
		Refusal @ 4.9 - @ 0.1 (rock powder on bit... no sample)					



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6771005

Easting: 604671

Project No: 8002-318

Test Hole No: # 30105

Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W.

Date: Aug 13

2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	.002mm
GRAVEL	SAND	SI	LT
			CLAY

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

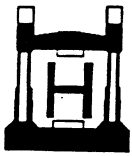
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Silty Sand / Silty Silt - damp, medium dense, brown					
0.9	ca	Gravelly Silty Sand - damp, medium dense, brown	262 ✓	0.9-1.2		Gravelly Sand, trace to some silt	
1.8	ca	Silty Silt, trace to some gravel - damp to moist, medium dense, brown	263 ✓	1.8-2.4			
3.0	ca	Sandy Gravel / Gravelly Sand, some silt - damp, dense, brown	264 ✓	3.0-4.0			
		E.O.H. @ 4.6m Refusal					
		Refusal @ 4.6m - more Sand 2m					
		Refusal @ 4.3m - E.O.H.					



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6771078

Easting: 634574

Project No: 8002-318

Test Hole No: # 30106

Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W.

Date: AUG. 13

2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	.002mm
GRAVEL	SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

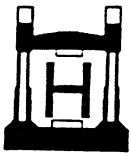
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Silty Gravelly Sand - dry to damp, loose, brown w/ orange hue - organics to 0.2m	266 ✓	0-0.6			
0.6	50	Silty Sand - dry to damp, dense, light grey - significant rock powder in sample	267 x	0.9-1.2		Very difficult to penetrate @ 0.9m Gravelly Sand, some silt	
		E.O.4. @ 0.9m - Refusal					
		Refusal @ 0.9m - move 2m south					
		Refusal @ 0.9m - E.O.4.					



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6771149

Easting: 634528

Project No: 8002-318

Test Hole No: # 30107

Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W.

Date: Aug. 13

2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	.002mm
GRAVEL	SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
 DENSITY - loose, medium dense, dense
 GRADATION - poorly or well graded
 SIZE RANGE - coarse, medium, fine
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

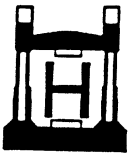
MOISTURE CONTENT - dry, damp, moist, wet
 CONSISTENCY - soft, firm, stiff, hard
 PLASTICITY - low, medium, high
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Oreotic Silt					
0.13	sa	Silty Sand / Silty Silt - damp, medium dense, brown					
1.9	sa	Sandy Gravel, some silt to silty - dry to damp, dense, light brown/grey - rock powder in sample	265 ✓	0.9-1.2		DIFFICULT DRILLING @ 0.9m	
		End @ 1.5m					
		REFUSAL @ 1.5m - MOVE SOUTH 2m					
		REFUSAL @ 1.5m - END					



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: _____
Easting: _____

Project No: 8002-318 Test Hole No: # 30108 Elev. _____

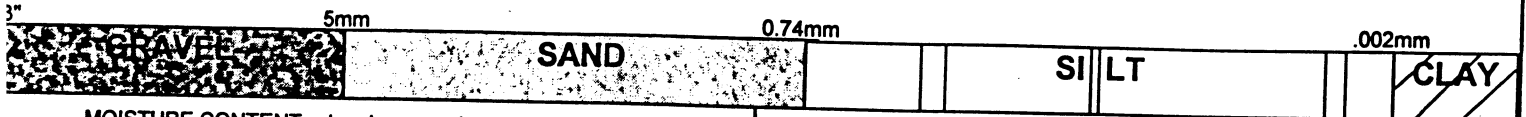
Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug 13 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION



MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

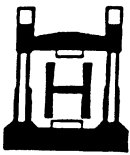
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Sandy Silt / Silty Sand, trace gravel - damp to moist, medium dense, brown	258 ✓	.4 - 1.2			
1.5	dn	Generally Sand, some silt to Silty - damp, medium dense, brown	259 ✓	1.5 - 2.1			
2.4	sn	Silty Sand, some gravel (possible rock) - dry, dense, light brown / grey - significant rock powder in sample	260 ✓	3.0 - 3.7		Difficult	Penetration 2.4
			261 ✓	4.9 - 5.5			
		E.O.4. @ 5.5' - Very Silty Drains					



HOGGAN ENGINEERING &
TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6771427

Easting: 634465

Project No: 8002-318

Test Hole No: # 30109

Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W.

Date: Aug 13

2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm GRAVEL	0.74mm SAND		SI	LT		.002mm CLAY
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MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

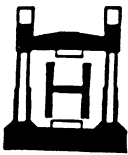
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	COBBLE - 3" - 8"		BOULDER - 8" and larger		
			Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Sandy Silt / Silty Sand - damp, medium dense, brown	255 ✓	0.6-1.2			
5	da	Gravelly Sand, some silt to silty - damp, dense, brown	256 ✓	1.8-2.4			
0	ca	Silty Sand, some gravel - dry to damp, dense, light brown/grey - rock particles in sample	257 ✓	3.4-4.0			Very Difficult Drilling @ 3.0m
		E.O.T. @ 4.0					
		Refusal @ 3.0m - over 2m Sand					
		Refusal @ 4.0 - E.O.T.					



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6771867
Easting: 634496

Project No: 8002-318 Test Hole No: # 30110 Elev. _____



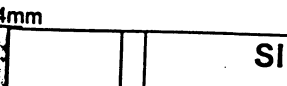
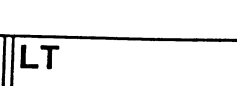
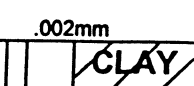
Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug. 13 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3" 	5mm 	0.74mm 		.002mm 
GRAVEL	SAND	SILT	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

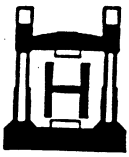
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	COBBLE - 3" - 8"		BOULDER - 8" and larger	
			Sample No.	Sample Depth	Sample Type	Standard Penetration
0		ORGANIC SILTS				
0.3	so	GRAVELLY SANDY SILT TO GRAVELLY SILTY SAND - FROZEN - brown	251	0.4-1.0		
			252	1.8-2.4		
			253	3.4-4.0		
5'	so	SAND, some silt, trace gravel (decomposed granite?) - dense comp, dense, brown w/ orange hue - more rock particles w/ depth (more intact w/ depth) E.O.T. @ 5.6m Very Slow	254	4.9-5.5		VERY DIFFICULT Drilling Slow
		REFUSAL @ 2.1m - MORE W/ST 2m (No indication/Powder)				



HOGGAN ENGINEERING & TESTING (1980) LTD.
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TEST HOLE LOG

Northing: 6776127

Easting: 634474

Project No: 8002-318

Test Hole No: # 3011

Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W.

Date: Aug. 13

2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm	0.74mm				.002mm
GRAVEL	SAND	SILT	CLAY		

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

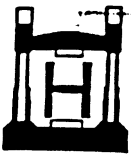
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Sandy, some silt to silty, trace to some gravel - damp, medium dense, brown - light regions to 0.2m	249	0.2-0.6			
0	SD	Coarsely Sand, some silt to silty - dry, name light brown/grey - rock powder in sample	250	1.5-1.8		Very Dense 2.12m	
		E.O.4 @ 1.8m - Refusal					
		Refusal @ 1.8m - Move test 1.5m					
		Refusal @ 1.8m - E.O.4					



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 677772
Easting: 634467

Project No: 8002-318 Test Hole No: # 30112 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug 13 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm GRAVEL	0.74mm SAND		SILT	CLAY	.002mm
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MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

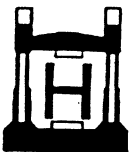
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSP
0		Oreank Silty					
1.5	20	Sandy Silty / Silty Sand, trace to some gravel - damp, medium dense, brown	246 ✓	0.5-0.8			
2	da	Gravelly Sand, some silt to Silty - damp, medium dense, brown	247 ✓	1.8-2.4			
		Silty Sand, trace gravel - dry to damp, dense, light brown/grey - rock powder in sample	248 ✓	3.0-3.4			DIFFICULT DRILLING @ 2.7m
		E.O.U. @ 3.4m - Refusal					
		Refusal @ 3.4m - Drive 1.5m below					
		Refusal @ 3.4m - E.O.U.					



TEST HOLE LOG

Northing: 6771879

Easting: 634435

Project No: 8002-318

Test Hole No: #: 30113

Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W.

Date: Aug. 12

2004

HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm

0.74mm

.002mm

SAND

SILT

CLAY

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

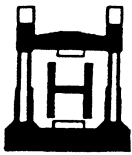
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

th	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
		ORGANIC SILTS					
6	so	GRAVELLY SANDY SILT - FROZEN - brown	244 ✓	.6-1.2			
	so	SAND, some gravel to GRAVELLY, trace to some silt - clay to damp, dense, brown	245 ✓	1.5-2.1		DIFFICULT DRILLING @ 1.5m	
		E.O.4 @ 2.4m - REFUSAL					
		REFUSAL @ 2.1m - MAKE SOUND 2m					
		REFUSAL @ 2.4m - E.O.4.					
		Red Powder on Br (Both Attempts)					



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6772019
Easting: 634385

Project No: 8002-318 Test Hole No: # 30114 Elev. _____
Client: YTG - Highways & Public Works
Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1
Location: _____
Log By: R.W. Date: Aug. 12 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

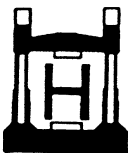
5mm	0.74mm			.002mm
GRAVEL	SAND		SILT	CLAY
MOISTURE CONTENT - dry, damp, moist, wet DENSITY - loose, medium dense, dense GRADATION - poorly or well graded SIZE RANGE - coarse, medium, fine COLOR - INTRUSIONS - oxides, coal lumps, etc.	MOISTURE CONTENT - dry, damp, moist, wet CONSISTENCY - soft, firm, stiff, hard PLASTICITY - low, medium, high COLOR - INTRUSIONS - oxides, coal lumps, etc.			

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Organic Silt					
30		Gravelly Sand, trace to some silt - dry to damp, medium dense, brown	242 ✓	0.6-1.2			
			243 ✓	1.8-2.4			
		E.O.H. @ 2.9m - REFUSAL					
		REFUSAL @ 1.8m MOVE 2m South					
		REFUSAL @ 2.9m - E.O.H.					



TEST HOLE LOG

Northing: 6772105
 Easting: 634338

Project No: 8002-318 Test Hole No: # 30115 Elev. _____
 Client: YTG - Highways & Public Works
 Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1
 Location: _____
 Log By: R.W. Date: Aug. 12 2004

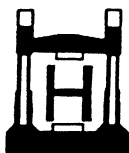
HOGGAN ENGINEERING & TESTING (1980) LTD.
 CONSULTING & TESTING ENGINEERS

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

	5mm	0.74mm	.002mm
GRAVEL	SAND	SILT	CLAY
MOISTURE CONTENT - dry, damp, moist, wet DENSITY - loose, medium dense, dense GRADATION - poorly or well graded SIZE RANGE - coarse, medium, fine COLOR - INTRUSIONS - oxides, coal lumps, etc.	MOISTURE CONTENT - dry, damp, moist, wet CONSISTENCY - soft, firm, stiff, hard PLASTICITY - low, medium, high COLOR - INTRUSIONS - oxides, coal lumps, etc.		

TILL - heterogeneous mixture of gravel, sand, silt, and clay COBBLE - 3" - 8" BOULDER - 8" and larger

Depth	Line Code	Classification	COBBLE - 3" - 8"		BOULDER - 8" and larger	
			Sample No.	Sample Depth	Sample Type	Standard Penetration
0		Sandy Gravel / Gravelly Sand, trace silt - damp to moist, medium dense, light brown - increases moisture w/ depth to wet @ 1.2m	238 ✓	0.3 - 0.9		
0.8	50	Silty Sand, trace gravel - dry to damp, dense, light brown - some Rock Boulder in Sample	239 ✓	1.6 - 2.4		Difficult Drilling @ 1.8m
			240 ✓	3.7 - 4.3		
		E.O.T @ 4.3				
		REFUSAL @ 3.7 - move 2m South				
		REFUSAL @ 4.3 - E.O.T.				



HOGGAN ENGINEERING &
TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6772111
Easting: 634312

Project No: 8002-318 Test Hole No: #: 30116 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug. 12 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

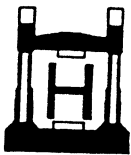
Gravel	Sand	Silt	Clay
5mm	0.74mm		.002mm
GRAVEL	SAND	SI LT	CLAY
MOISTURE CONTENT - dry, damp, moist, wet DENSITY - loose, medium dense, dense GRADATION - poorly or well graded SIZE RANGE - coarse, medium, fine COLOR - INTRUSIONS - oxides, coal lumps, etc.		MOISTURE CONTENT - dry, damp, moist, wet CONSISTENCY - soft, firm, stiff, hard PLASTICITY - low, medium, high COLOR - INTRUSIONS - oxides, coal lumps, etc.	

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		ORGANIC SILTS					
1.3	50	SANDY GRAVEL - some silt - damp, medium dense, brown	234 ✓	0.6 - 1.2			
	50	GRAVELLY SAND, some silt - dry to damp, dense, light brown - some Rock Powder in sample	235 ✓	2.1 - 2.7		Difficult Penetration @ 1.8m	
			236 ✓	3.4 - 4.0			
		Rock Powder Sample	257 ✓	4.6 - 5.2			
		E.O.H. @ 5.2 - REFUSAL					



**HOGGAN ENGINEERING &
TESTING (1980) LTD.**
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6772256

Easting: 634222

Project No: 8002-318

Test Hole No: # 30117

Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W.

Date: Aug 12 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

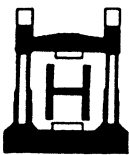
5mm	0.74mm			.002mm
SAND	SILT	CLAY		
MOISTURE CONTENT - dry, damp, moist, wet DENSITY - loose, medium dense, dense GRADATION - poorly or well graded SIZE RANGE - coarse, medium, fine COLOR - INTRUSIONS - oxides, coal lumps, etc.		MOISTURE CONTENT - dry, damp, moist, wet CONSISTENCY - soft, firm, stiff, hard PLASTICITY - low, medium, high COLOR - INTRUSIONS - oxides, coal lumps, etc.		

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
		Sandy SILT, trace gravel - damp to moist, medium dense, brown	232 ✓	0-0.6			
	SO	Organic SILT - damp to moist, firm, dark brown/black					
	SO	Silty SANDY GRAVEL - damp to moist, medium dense, brown	233 ✓	1.8-2.4			
	CL	As Above - wet	No Sample				
		E.O.4 & 3.7					
		REFUSAL 3.7 move South 2m					
		REFUSAL @ 2.1 - E.O.4.					



TEST HOLE LOG

Northing: 6772272

Easting: 634185

Project No: 8002-318

Test Hole No: # 30118

Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W.

Date: Aug. 12

2004

HOGGAN ENGINEERING & TESTING (1980) LTD.
INSULATING & TESTING ENGINEERS

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm

0.74mm

.002mm

GRAVEL	SAND	SILT	CLAY
--------	------	------	------

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

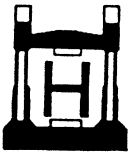
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSP
0		ORGANIC SILTS					
3	50	Silty Sand / Silty Silt - damp, medium dense, light brown					
2	50	Silty Sand / Silty Silt, trace to some gravel - damp, medium dense, brown	229 ✓	0.6-1.2			
	90	SANDY GRAVEL, some silt to silty - damp, dense, brown	230	1.8-2.4			
		Silty Sand - very dense, light brown - Pass Powder in Sample	231 ✓	3.0-3.4		Very Difficult Drive at 2.7m	
		E.O.T @ 3.7m					
		REFUSAL @ 3.7 move South 1.5m					
		REFUSAL @ 3.7 - @ 0.4					



TEST HOLE LOG

Northing: 6772380

Easting: 634108

Project No: 8002-318

Test Hole No: # 30119

Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W.

Date: Aug 12

2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm

0.74mm

.002mm



SAND

SILT

CLAY

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

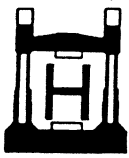
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

th	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		SANDY SILTY GRAVEL - saturated, medium dense, brown	226 ✓	0.1-0.6			
	so	ORGANIC SILT - wet, soft to firm, black/dark brown					
		GRAVELLY SAND/SANDY GRAVEL, trace to some silt - damp, medium dense, light brown	227 ✓	2.1-2.7			
	so	SAND, trace to some silt, trace gravel (Possible Rock) - moist to wet, dense, light brown - increase moisture from seepage	228 ✓	3.7-4.3		DIFFICULT DRIVING @ 7.0	
		E.O.4. e 4.6					
		REFUSAL @ 3.7 MOVE 2M NORTH					
		REFUSAL @ 4.6 - E.O.4.					



HOGGAN ENGINEERING &
TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6772396

Easting: 634076

Project No: 8002-318 Test Hole No: # 30120

Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W.

Date: Aug. 12

2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

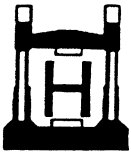
GRAVEL	SAND	SILT	CLAY
5mm	0.74mm	0.075mm	0.002mm
MOISTURE CONTENT - dry, damp, moist, wet DENSITY - loose, medium dense, dense GRADATION - poorly or well graded SIZE RANGE - coarse, medium, fine COLOR - INTRUSIONS - oxides, coal lumps, etc.			MOISTURE CONTENT - dry, damp, moist, wet CONSISTENCY - soft, firm, stiff, hard PLASTICITY - low, medium, high COLOR - INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	COBBLE - 3" - 8"		BOULDER - 8" and larger	
			Sample No.	Sample Depth	Sample Type	Standard Penetration
0		Organic Silt				
0.3	so	Silty SAND, some gravel to Gravelly - damp, medium dense, brown	222 ✓	0.3-0.9		
	sz	SAND, trace to some silt (Possible Rock) - damp, very dense, brown	223 ✓	2.1-2.4		Very Difficult Drilling @ 2.1m
	do	As Above - light brown (lighter w/ depth)	224 ✓	3.7-4.3		
		Some Rock Powder in Sample	225 ✓	4.9-5.3		
		E.O.F. @ 5.3				
		Refusal @ 2.4m - move north 2m				
		E.O.F. @ 5.3m - Very Slow Drilling				



HOGGAN ENGINEERING &
TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6772578

Easting: 633974

Project No: 8002-318

Test Hole No: # 30121

Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W.

Date: Aug 12

2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm

0.74mm

.002mm

GRAVEL	SAND	SILT	CLAY
--------	------	------	------

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

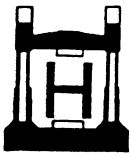
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

th	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
		ORGANIC SILTS					
3	so	GRAVELLY SAND / SANDY GRAVEL / some silt to silty - damp, medium dense, brown	219 ✓	0.6-1.2			
	do	As ABOVE - dense	220 ✓	1.5-2.1			
	so	POSSIBLE ROCK (ROCK BOUNDED SAMPLE) - dry, very dense, light brown	221 ✓	2.7-3.0		Very Difficult Drilling 2.7m	
		E.O.H. & B.P. - REFUSAL					
		REFUSAL @ 3.0m, MOVE 2m EAST					
		REFUSAL @ 3.2m - E.O.H.					



HOGGAN ENGINEERING &
TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6772688

Easting: 633916

Project No: 8002-318

Test Hole No: #: 30122

Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W.

Date: Aug. 12

2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

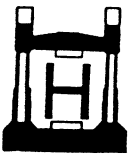
5mm	0.74mm	.002mm
GRAVEL	SAND	SILT
MOISTURE CONTENT - dry, damp, moist, wet DENSITY - loose, medium dense, dense GRADATION - poorly or well graded SIZE RANGE - coarse, medium, fine COLOR - INTRUSIONS - oxides, coal lumps, etc.	MOISTURE CONTENT - dry, damp, moist, wet CONSISTENCY - soft, firm, stiff, hard PLASTICITY - low, medium, high COLOR - INTRUSIONS - oxides, coal lumps, etc.	

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
		ORGANIC SILTS					
2.6	so	Silty Gravel some sand to Sand - Wet, medium dense, dark brown	215 ✓	0.6-1.2			
	dg	Silty Sand Gravel to Sand Silty Gravel - saturated, medium dense, dark brown	216 ✓	1.6-2.4			
		As Above - Poor sample recovery due to H ₂ O	217 ✓	3.4-4.0			
			218 ✓	4.4-5.2			
		E.O.H. < 5.2 REFUSAL					



HOGGAN ENGINEERING & TESTING (1980) LTD.
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TEST HOLE LOG

Northing: 6772714
Easting: 633862

Project No: 8002-318 Test Hole No: # 30123 Rev 1 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug. 11 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

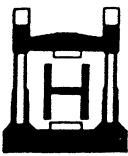
5mm GRAVEL	0.74mm SAND		SILT		.002mm CLAY
MOISTURE CONTENT - dry, damp, moist, wet DENSITY - loose, medium dense, dense GRADATION - poorly or well graded SIZE RANGE - coarse, medium, fine COLOR - INTRUSIONS - oxides, coal lumps, etc.	MOISTURE CONTENT - dry, damp, moist, wet CONSISTENCY - soft, firm, stiff, hard PLASTICITY - low, medium, high COLOR - INTRUSIONS - oxides, coal lumps, etc.				

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		SURFICIAL ORGANICS					
2.3	so	SAND, some silt to silty, some gravel - dense, medium dense, brown	205 ✓	1.6-1.2			
	da	GRAVELLY SAND, trace to some silt - friable, no visible ice - brown	206 ✓	1.8-2.4			
0	dc	SAND, some gravel to GRAVELLY, trace silt - friable, no visible ice - brown	207 ✓	3.4-4.0		DIFFICULT DOWNING @ 3.0m	
			208 ✓	5.2-5.8			
			209 ✓	6.4-7.0			
			210 ✓	7.9-8.5			
	da	GRAVELLY SAND, some silt Wet/saturated, some brown	211 ✓	9.4-10.1			
			212 ✓	11.0-11.6			



TEST HOLE LOG

Northing: 6772714

Easting: 633862

Project No: 8002-318

Test Hole No: # 30123 PEW2 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W.

Date: AUG 27 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm

0.74mm

.002mm



SAND

SI LT

CLAY

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

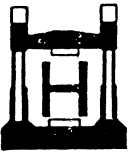
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

th	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSP
			213 ✓	13.1-13.7			
			214 ✓	14.3-14.6			
		E.O.4 @ 15.1m					
		REFUSAL @ 49m - MOVE HOLE 1.7m					
		E.O.4 @ 15.1m - APPROX 2.2					



TEST HOLE LOG

Northing: 6772908

Easting: 633827

Project No: 8002-318 Test Hole No: # 30124 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug. 11 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm

0.74mm

.002mm

GRAVEL	SAND	SILT	CLAY
--------	------	------	------

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

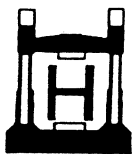
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
		ORGANIC SILTS					
6	so	Silty Sandy Gravel - moist, medium dense, brown	200 ✓	0.6-1.2			
	dc	Sandy Silt, some gravel - frozen - brown	201 ✓	1.0-2.4		Gravelly	Silty Sand
	dc	Silty Sand (decomposed bedrock - granite) - frozen - brown w/ orange hue	202 ✓	3.4-4.0			Difficult Drilling @ 3.0m
9	dc	Silty Sand (Rock more intact) - dry to damp, dense, light brown w/ orange hue	203 ✓	5.2-5.8			
	dc	Silty Sand (Rock more intact) - light brown, very dense	204 ✓	6.7-7.3			
		E.O.U. @ 7.5m - Refusal					



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6773058

Easting: 632772

Project No: 8002-318 Test Hole No: # 30125 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug-11 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm GRAVEL	0.74mm SAND		SI	LT		.002mm CLAY
----------------------	-----------------------	--	-----------	-----------	--	-----------------------

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

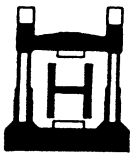
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

pth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
		Superficial Organics					
2-1	so	Sandy Gravel, trace silt - clay to damp, medium dense, light brown	193 ✓	0.3-0.9			
	ca	SANDY GRAVEL/GRAVELLY SAND, trace silt to silty - damp, medium dense, brown	194 ✓	1.8-2.4			
4	ca	SANDY GRAVEL/GRAVELLY SAND, SOME SILT - moist, medium dense, brown	195 ✓	3.4-4.0			
3	ca	Silty SANDY GRAVEL - moist to wet, medium dense, brown	196 ✓	4.9-5.5			
	ca	GRAVELLY Silty SAND - saturated, medium dense, brown	197 ✓	6.4-7.0			
	ca	Silty SAND (possible decomposed p. (rock)) - moist, medium dense, grey	198 ✓	7.9-8.5			
			199 ✓	10.4-10.7			VERY DIFFICULT DRILLING @ 9.1m
		E.O.4 & 10.7					



HOGGAN ENGINEERING &
TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6773199

Easting: 633699

Project No: 8002-318 Test Hole No: # 30126

Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W.

Date: Aug 10 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm

0.74mm

.002mm



SAND

SILT

CLAY

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

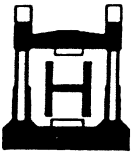
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	COBBLE - 3" - 8"		BOULDER - 8" and larger		
			Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
		Organic Silt					
1.4	so	Sandy Silt, trace to some gravel - damp to moist, medium dense, brown	191 ✓	0.5-0.8			
		Silty Sand, trace to some gravel - dry to damp, dense, light brown - rock powder in sample	192 ✓	1.5-1.8			
		Refusal @ 1.8m - Refusal					
		Refusal @ 1.8m - move South 2m					
		Refusal @ 1.8m - Refusal					



TEST HOLE LOG

Northing: 6773331

Easting: 633618

Project No: 8002-318

Test Hole No: # 30127

Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W.

Date: Aug 10

2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm

0.74mm

.002mm



SAND

SI LT

CLAY

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

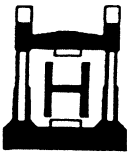
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSP
		ORGANIC SILTS					
3.3	so	GRAVELLY SAND, SOME SILT TO SILTY - FROZEN, NO VISIBLE ICE - brown	188 ✓	0.6-1.2			
			189 ✓	2.1-2.9			
0	dc	Silty Sand, trace gravel - dry to damp, dense, light brown - powder to sample	190 ✓	4.0-4.6		DIFFICULT TO PENETRATE 24 cm	
		E.O.H. e 4.6 REFUSAL					
		REFUSAL e 4.6 - MOVE EAST 2m					
		REFUSAL e 4.4 - E.O.H.					
		Box Powder on Bit (SAND)					



HOGGAN ENGINEERING &
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CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6773445

Easting: 633550

Project No: 8002-318

Test Hole No: # 30128

Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W.

Date: Aug 10 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

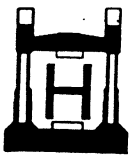
5mm	0.74mm	.002mm
GRAVEL	SAND	SILT
MOISTURE CONTENT - dry, damp, moist, wet DENSITY - loose, medium dense, dense GRADATION - poorly or well graded SIZE RANGE - coarse, medium, fine COLOR - INTRUSIONS - oxides, coal lumps, etc.	MOISTURE CONTENT - dry, damp, moist, wet CONSISTENCY - soft, firm, stiff, hard PLASTICITY - low, medium, high COLOR - INTRUSIONS - oxides, coal lumps, etc.	

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		ORGANIC SILTS					
2.3	so	Sandy, some gravel to Gravelly, some silt - dry to damp, medium dense, light brown	184 ✓	0.4-0.9			
5m	so	Sandy, some silt to Silty - moist, dense, light brown w/ odd yellow/green hor - 4.0 SPERASE AT 1.5m (APPROX.)	185 ✓	2.1-2.9		DIFFICULT	DRIVING @ 1.5m
			186 ✓	3.7-4.3			
6	so	Sandy Silty / Silty Sand - moist, dense, light brown w/ odd yellow/green hor	187 ✓	5.2-5.8			
		E.O.4, c 5.9					
NOTE: Standing Water at TH = 100m Below Surface Double Drums at 4.4 to 4.7							



HOGGAN ENGINEERING &
TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6773473

Easting: 633531

Project No: 8002-318

Test Hole No: # 30129

Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W.

Date: Aug 10

2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm

0.74mm

.002mm



SAND

SILT

CLAY

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

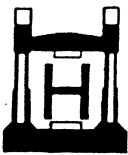
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	COBBLE - 3" - 8"		BOULDER - 8" and larger		
			Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0'		Organic Silts					
2'	SO	Sandy Silt - moist, soft to firm, brown w/ some black organic silts	181 ✓	0.6-1.2			
3'	SO	Silty Gravelly Sand to Silty Sandy Gravel - moist to wet, medium dense, brown	182 ✓	1.3-2.4			
4'		Gravelly Sand, some silt - damp, dense, brown	183 ✓	3.4-3.7			Difficult Drilled @ 3.0m
		E.O.4. @ 4.0m - Refusal					
		Refusal @ 3.7 - move South 1.5m					
		Refusal @ 4.0 - E.O.4					



TEST HOLE LOG

Northing: 6773537
 Easting: 633472

Project No: 8002-318 Test Hole No: # 30130 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug. 16 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm

0.74mm

.002mm



SAND

SILT

CLAY

MOISTURE CONTENT - dry, damp, moist, wet
 DENSITY - loose, medium dense, dense
 GRADATION - poorly or well graded
 SIZE RANGE - coarse, medium, fine
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

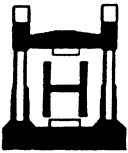
MOISTURE CONTENT - dry, damp, moist, wet
 CONSISTENCY - soft, firm, stiff, hard
 PLASTICITY - low, medium, high
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
		ORGANIC SILT					
16	sa	SANDY GRAVELLY SILT TO GRAVELLY SANDY SILT - FROZEN - brown - possible scrape zone 9-12'	176 ✓	1.6-1.2			
			177 ✓	1.8-2.4			
17	da	GRAVELLY SILTY SANDS - damp to moist, dense, brown	178 x	3.7-4.3		DIFFICULT DRAINAGE 3.7	SANDY SILT/ GRAVEL
19	da	Silty Sands, trace gravel - damp, dense, brown	179 ✓	4.9-5.5			
		Silty Sands - dry to damp, dense, light brown - powdery sample	180 ✓	7.0-7.6		VERY DIFFICULT DRAINAGE 5.8m	
		E.O.4. e 8.2 - REFUSAL					
		REFUSAL e 4.9 - MORE NORTH 2m					
		REFUSAL e 8.2 - E.O.4					
		NOTE: Visible 4.2 id hole was never withdrawn					
		No 4.2 noted in permit # 2					



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CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6773651
Easting: 633422

Project No: 8002-318 Test Hole No: # 30131 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug 10 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm GRAVEL	0.74mm SAND	SILT	.002mm CLAY
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MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

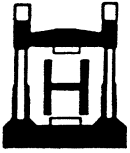
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
		Organic Silts					
2m	sa	Sandy Silts, trace gravel - FROZEN - brown	173X	.3-.9		Silty Sand, trace gravel	
5	da	Silty Sand, some gravel to gravelly - FROZEN - brown	174 ✓	1.8-2.4		DIFFICULT DRIVING @ 2.4m	
7m	da	Silty Sand, trace gravel - dry to damp, dense, light brown - rock powder in sample	175 ✓	3.4-3.7			
		E.O.4 @ 4.0m - REFUSAL					
		REFUSAL @ 4.0m - MOVE DOWN 2.5m					
		REFUSAL @ 4.0m - E.O.4					
		- Rock Powder on Bit @ REFUSAL - (BUT ATTEMPTS)					
		VISIBLE ROCK OUTCROPPING APPROX. 10m WEST OF TH					



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TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

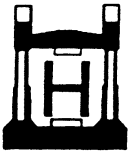
Northing: 6773786
Easting: 633337

Project No: 8002-318 Test Hole No: # 3032 Elev. _____
 Client: YTG - Highways & Public Works
 Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1
 Location: _____
 Log By: R.W. Date: Aug 9 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm	SAND	0.74mm	SILT	CLAY	.002mm
GRAVEL					
MOISTURE CONTENT - dry, damp, moist, wet DENSITY - loose, medium dense, dense GRADATION - poorly or well graded SIZE RANGE - coarse, medium, fine COLOR - INTRUSIONS - oxides, coal lumps, etc.			MOISTURE CONTENT - dry, damp, moist, wet CONSISTENCY - soft, firm, stiff, hard PLASTICITY - low, medium, high COLOR - INTRUSIONS - oxides, coal lumps, etc.		

Depth	Line Code	Classification	COBBLE - 3" - 8"		BOULDER - 8" and larger		
			Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
		Organic Silts					
9	20	Sand, some silt to silty, trace to some gravel - Finest - brown	170 ✓	0.9-1.2			
			171 ✓	2.1-2.7			
	20	As Above - unfined - dense, medium dense, brown	172 ✓	3.4-4.0			
		Refusal @ 4.0 - Refusal					
		Refusal @ 0.9m - Move Soil Forward					
		Refusal @ 4.0 - Refusal					
		- Place Powder on Bit (3rd Attempt)					



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TEST HOLE LOG

Northing: 6773901
Easting: 633261

Project No: 8002-318 Test Hole No: # 30133 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug 9 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

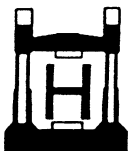
5mm GRAVEL	0.74mm SAND		0.075mm SILT		.002mm CLAY
MOISTURE CONTENT - dry, damp, moist, wet DENSITY - loose, medium dense, dense GRADATION - poorly or well graded SIZE RANGE - coarse, medium, fine COLOR - INTRUSIONS - oxides, coal lumps, etc.			MOISTURE CONTENT - dry, damp, moist, wet CONSISTENCY - soft, firm, stiff, hard PLASTICITY - low, medium, high COLOR - INTRUSIONS - oxides, coal lumps, etc.		

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
		ORGANIC SILTS					
6	80	Sandy Gravel, some silt to Silt - Frost - brown	168 ✓	0.9-1.2		Grainy Drilling @ 0.9m	
8	80	Sand, some silt to Silt, trace gravel - damp, brown clay	169 ✓	1.8-2.4		DIFFICULT DRILLING @ 1.8m	
		E.O.H. @ 2.7m					
		Revised @ 2.7m - more Sand 3m (Rock Powder on 2.7m)					
		Revised @ 2.6 - E.O.H. (Rock Powder on 2.7m)					



TEST HOLE LOG

Northing: 4774008
 Easting: 655158

Project No: 8002-318 Test Hole No: # 30134 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug 9 2004

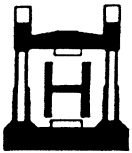
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 CONSULTING & TESTING ENGINEERS

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm	0.74mm	.002mm
GRAVEL	SAND	SILT
MOISTURE CONTENT - dry, damp, moist, wet DENSITY - loose, medium dense, dense GRADATION - poorly or well graded SIZE RANGE - coarse, medium, fine COLOR - INTRUSIONS - oxides, coal lumps, etc.	MOISTURE CONTENT - dry, damp, moist, wet CONSISTENCY - soft, firm, stiff, hard PLASTICITY - low, medium, high COLOR - INTRUSIONS - oxides, coal lumps, etc.	CLAY

TILL - heterogeneous mixture of gravel, sand, silt, and clay COBBLE - 3" - 8" BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
		<u>Surface Overlays / Slurs</u>					
<u>7</u>	<u>dc</u>	<u>Sandy Gravel, some silt to Silty</u> <u>- damp, medium dense, brown</u>	<u>166</u> ✓	<u>.9-1.2</u>		<u>Geology Drawing 80.9m</u>	
<u>8</u>	<u>dc</u>	<u>Silty Sand, trace gravel</u> <u>- clay to damp, dense, light brown</u> <u>- powder noted</u>	<u>167</u> ✓	<u>1.8-2.4</u>		<u>Drillcut Penetration 81.8m</u>	
		<u>E.O.4. @ 2.7m</u>					
		<u>Refusal @ 2.7m - Drive West 2m</u>					
		<u>Refusal @ 1.5m - E.O.4</u>					
		<u>NOTE: SIDE ROLLER ON BIT (3RD ATTEND)</u>					



TEST HOLE LOG

Northing: 6714137
 Easting: 633067

Project No: 8002-318 Test Hole No: # 30135 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug 9 2004

HOGGAN ENGINEERING &
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MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm GRAVEL	0.74mm SAND		.002mm SILT	CLAY
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MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

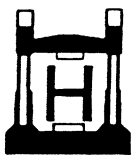
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Surface Organics/Silt - Frozen					
0.9	so	Silty Sand, some gravel to Gravelly - Frozen - brown	164 ✓	0.9-1.5		Very Difficult Drilling @ 0.9m	
2.1	so	Silty Sand - damp - light brown	165 ✓	2.1-3.0		Slow steady Drilling	
		E.O.L. @ 3.0m - Some Rock Pieces on Bit.					
		Refusal @ 1.5m - Move 2m South					
		Refusal @ 3.0m - E.O.L.					



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TEST HOLE LOG

Northing: 6774206

Easting: 633003

Project No: 8002-318 Test Hole No: # 30136 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug 9 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm GRAVEL	0.74mm SAND		SILT		.002mm CLAY
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MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

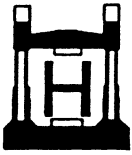
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
		<u>SURFACE ORGANICS</u>					
<u>7.6</u>	<u>SO</u>	<u>SAND, some gravel, some silt</u> <u>- FROZEN</u> <u>- brown</u>	<u>162</u> *	<u>.6-1.2</u>		<u>DIFFICULT DRILLING @ 1.5M</u> <u>Generally SAND, some silt</u>	
<u>5</u>	<u>MG</u>	<u>Silty SAND, trace gravel</u> <u>- FROZEN</u> <u>- brown</u>	<u>163</u> ✓	<u>1.5-2.1</u>		<u>POOR SAMPLE @ 163</u>	
		<u>E.O.T. @ 2.1m</u>					
		<u>REFUSE @ 2.1m - MOVE SAND 2m</u>					
		<u>REFUSE @ 2.1m - E.O.T.</u> <u>- No HORIZON</u>					



TEST HOLE LOG

Northing: 6775739
 Easting: 631923

Project No: 8002-318 Test Hole No: # 30150 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug 3 2004

**HOGGAN ENGINEERING &
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 CONSULTING & TESTING ENGINEERS

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm	0.74mm			.002mm
GRAVEL	SAND	SILT	CLAY	

MOISTURE CONTENT - dry, damp, moist, wet
 DENSITY - loose, medium dense, dense
 GRADATION - poorly or well graded
 SIZE RANGE - coarse, medium, fine
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

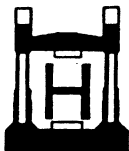
MOISTURE CONTENT - dry, damp, moist, wet
 CONSISTENCY - soft, firm, stiff, hard
 PLASTICITY - low, medium, high
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSP
		ORGANIC SILTS (ACCESS TRAIL)					
1.2	so	Silty Sand, trace to some gravel - frozen - brown/grey	147 ✓	0.9-1.2			
1.8	so	Silty Sand, trace gravel - frozen - brown	148 ✓	1.8-2.4		DIFFICULT DOWNING @ 1.8m Silty GRAYLY SAND	
3.7	so	Silty Sand - frozen - brown	149 ✓	3.7-4.3		Very Sand Drums @ 3.7m Sand, some silt, some gravel	
5.3		Rock Powder Sample & Recovery - dry to damp, light brown	150	5.3-5.5			
6.4		Silty Sand - damp, brown/grey	151 ✓	6.4-7.3	} Hole # 2, Attempt		
7.9		- lot of fractured gravel < 5mm	152 ✓	7.9-8.5			
9.4		e.o.t. @ 10.7m	153 ✓	9.4-10.1			
		1 Plot on Looking Lake & Drain					



TEST HOLE LOG

Northing: 6775939
 Easting: 631868

Project No: 8002-318 Test Hole No: # 3051 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug 3 2004

**HOGGAN ENGINEERING &
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 CONSULTING & TESTING ENGINEERS

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm	0.74mm				.002mm
SAND	SI	LT			CLAY

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

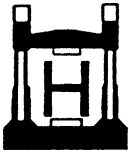
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
		ORGANIC SILTS (on access trail) -frozen					
	so	Silty Sand, possible trace gravels -frozen -brown	144 ✓	0.9-1.2			
			145 ✓	1.5-2.1		Difficult Drilling @ 2.1m	
		Rock Powder Sample @ 2.1m -damp, light brown	146	3.0-3.2			
		E.O.4 @ 4.0					
		Refusal @ 3.2m - MORE SAMPLE 2m - Refusal @ 4.0 - E.O.4					
		1 photo OVERLANDICE LAKE : Drill					



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TEST HOLE LOG

Northing: 6776010
Easting: 631728

Project No: 8002-318 Test Hole No: # 30153 Elev. _____


Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug 3 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm	0.74mm	.002mm
 GRAVEL	SAND	SILT CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

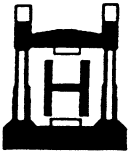
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
		Superficial Organics (Previously Covered)					
6"	so	Sandy Silt / Silty Sand, some gravel - moist, loose, brown - organics to 0.6	135 ✓	0.6-1.2			
1.2	so	Silty Sand, some gravel to Gravelly - frozen - brown	136 ✓	1.5-2.4			
2	cs	Silty Sand, some gravel - damp, dense, brown	137	3.4-4.0		DIFFICULT DRIVING 3.0	
5	so	Silty Sand, possible trace gravel - damp, medium dense, brown / dark grey - possible DRINKING WATER @ 1'	138 ✓	5.2-5.8			
		Rock Powder Sample @ Refusal - crystalline / light grey	139	7.3-7.6			
		2.0' @ 7.6m					
		Refusal @ 7.6m - Max 1m east					



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TEST HOLE LOG

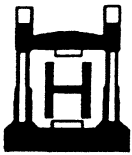
Northing: 6775613
Easting: 632037

Project No: 8002-318 Test Hole No: # 30148 Elev. _____
 Client: YTG - Highways & Public Works
 Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1
 Location: _____
 Log By: R.W. Date: Aug 3 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm	0.74mm	.002mm
SAND	SILT	CLAY
MOISTURE CONTENT - dry, damp, moist, wet DENSITY - loose, medium dense, dense GRADATION - poorly or well graded SIZE RANGE - coarse, medium, fine COLOR - INTRUSIONS - oxides, coal lumps, etc.	MOISTURE CONTENT - dry, damp, moist, wet CONSISTENCY - soft, firm, stiff, hard PLASTICITY - low, medium, high COLOR - INTRUSIONS - oxides, coal lumps, etc.	

Depth	Line Code	Classification	COBBLE - 3" - 8"		BOULDER - 8" and larger	
			Sample No.	Sample Depth	Sample Type	Standard Penetration
		ORGANIC SILTS				
29	30	Silty Sand/Sandy Silt - frozen - dark brown - some organic silt	158 ✓	0.9-1.5		
	30	Silty Sand, trace to some gravel - frozen - brown	159 ✓	2.1-2.7		
			160 ✓	3.7-4.3		
		Rock Powder Sample C REFUSAL	161	4.9-5.2		
		E.O.D. @ 5.2M - REFUSAL				
		REFUSAL @ 5.2m OVER NORTH 2m				
		REFUSAL @ 5.2m - E.O.D.				



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TEST HOLE LOG

Northing: 6775666

Easting: 631983

Project No: 8002-318 Test Hole No: # 30149 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Aug 3 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm

0.74mm

.002mm

SAND

SILT

CLAY

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

th	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
		ORGANIC SILTS (CLEARED ACCESS)					
	so	Sandy Gravel, some silt to silty - frozen - brown	154 ✓	0.9-1.4			
	dc	Sandy Gravel / Gravelly Sand, some silt to silty - frozen - brown	155 ✓	2.1-2.7		Difficult Drinking @ 6'	
	dc	Silty Sand, trace gravel - frozen - brown	156 ✓	4.0-4.6		Very Difficult Drinking @ 12'	
		Rock Powder Sample @ Refusal	157	5.3-5.5			
		E.0.4 to 5.5m - Try #2					
		Refusal @ 4.7m - move about 2m					
		Refusal @ 5.5m - E.0.4					



TEST HOLE LOG

Northing: 6776060

Easting: 631698

Project No: 8002-318 Test Hole No: # 30154 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: July 31 2004

HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm

0.74mm

.002mm

GRAVEL	SAND	SILT	CLAY
--------	------	------	------

MOISTURE CONTENT - dry, damp, moist, wet
 DENSITY - loose, medium dense, dense
 GRADATION - poorly or well graded
 SIZE RANGE - coarse, medium, fine
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

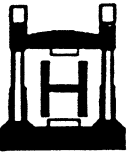
MOISTURE CONTENT - dry, damp, moist, wet
 CONSISTENCY - soft, firm, stiff, hard
 PLASTICITY - low, medium, high
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
		Surficial Organics					
13	so	Generally Silty Sand - Frozen - brown/grey	132 ✓	0.3-0.9			
5	so	Sandy Silty, some gravel - Frozen - brown	133 ✓	1.5-2.4			
	dc	GRAVELLY Silty Sand - frozen - brown	134 ✓	3.4-4.0			
		Refusal @ 5.3m - Refusal					
		Refusal @ 5.3m - Move 1 m east					
		Refusal @ 2.4m - 2.04					



TEST HOLE LOG

Northing: 6776117

Easting: 631693

Project No: 8002-318 Test Hole No: # 30155 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: July 31 2004

HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

PG # 1

5mm

0.74mm

.002mm

GRAVEL	SAND	SILT	CLAY
--------	------	------	------

MOISTURE CONTENT - dry, damp, moist, wet
 DENSITY - loose, medium dense, dense
 GRADATION - poorly or well graded
 SIZE RANGE - coarse, medium, fine
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
 CONSISTENCY - soft, firm, stiff, hard
 PLASTICITY - low, medium, high
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSP
0		SURFICIAL ORGANICS (Probably Carbon)					
1	so	ORGANIC SILT - damp, firm, dark brown					
1.8	so	Silty Sandy GRAVEL - damp to moist, medium dense, brown	127 ✓	0.8-1.2m			
1.5	ch	SAND some silt to silty, some gravel to gravelly - Frozen - brown	128 *	1.5-2.0		Very Grindy 7 blows @ 1.5m	
			129 *	2.4-2.9			
			130 *	3.4-4.0			
5.6	dc	Silty Gravelly Sand - Frozen - brown	131 *	5.2-5.8		Less Grindy Sandy Gravel some silt.	
		E.O. @ 7.0m - REFUSAL					
		REFUSAL @ 3.0m - move 1 m EAST					
		REFUSAL @ 7.0m - move 2 m EAST					



TEST HOLE LOG

Northing: 6776185

Easting: 631600

Project No: 8002-318 - Test Hole No: # 30156 REL Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: July 31 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm

0.74mm

.002mm

GRAVEL	SAND	SILT	CLAY
--------	------	------	------

MOISTURE CONTENT - dry, damp, moist, wet
 DENSITY - loose, medium dense, dense
 GRADATION - poorly or well graded
 SIZE RANGE - coarse, medium, fine
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

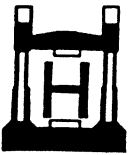
MOISTURE CONTENT - dry, damp, moist, wet
 CONSISTENCY - soft, firm, stiff, hard
 PLASTICITY - low, medium, high
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
		Fill - Access River Pad					
05	sa	Surficial Organics					
8	so	Silty Clayey Sand - damp, loose, brown w/ dark brown organics - some organic silt.	116 ✓	0.9-1.5		Sandy Silt, some gravel	
15	ga	SANDY GRAVEL / GRAVELLY SAND / SOME SILT to SILTY - damp to moist, medium dense, brown - minimal mat'l on flight 5-10'	117 ✓	1.5-2.4		Very Gravelly Drilling Below 1.5m	
		- minimal mat'l on flight 10-15'	118 ✓	3.0-4.0			
		Silty Gravelly Sand / Silty Sandy Gravel - moist, medium dense, brown	119 ✓	4.9-5.5			
4	st	Silty Sand, trace to some gravel - damp, medium dense, brown/gray	120 ✓	6.4-7.0			
			121 ✓	7.9-8.5			



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6776190

Easting: 621655

Project No: 8002-318 Test Hole No: # 30157 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: July 31 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm	0.74mm			.002mm
SAND	SILT	CLAY		

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

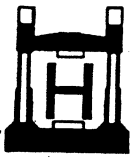
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSP
		SURFICIAL ORGANICS (PREVIOUSLY CLEARED ACCESS ROAD)					
2.1	SO	SANDY GRAVEL, SOME SILT TO SILTY - dense, medium dense, brown	111 ✓	0.3-0.9			
			112 ✓	1.5-2.1		VERY GRINDY DRINK	
			113 ✓	2.1-2.7		BELOW 1.5M	
		POOR SAMPLE #114 - MINIMAL MAT' on FINESTING	114 ✓	3.0-4.3			
		POOR SAMPLE #115 - MINIMAL MAT' on FINESTING	115 ✓	4.9-5.5			
		E.O.T. @ 5.8m					
		NOTE: TEST HOLE NOT MADE IN GROUND AS FINELY WAS TOO SIGNIFICANT DISTURBANCE CLEARING.					



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6776272
Easting: 631563

Project No: 8002-318 Test Hole No: # 30158 Elev. _____
Client: YTG - Highways & Public Works
Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1
Location: _____
Log By: R.W. Date: July 30 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

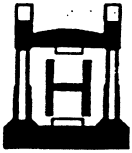
5mm	0.74mm	.002mm
SAND	SILT	CLAY
MOISTURE CONTENT - dry, damp, moist, wet DENSITY - loose, medium dense, dense GRADATION - poorly or well graded SIZE RANGE - coarse, medium, fine COLOR - INTRUSIONS - oxides, coal lumps, etc.	MOISTURE CONTENT - dry, damp, moist, wet CONSISTENCY - soft, firm, stiff, hard PLASTICITY - low, medium, high COLOR - INTRUSIONS - oxides, coal lumps, etc.	

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	COBBLE - 3" - 8"		BOULDER - 8" and larger		
			Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Fill materials (road construction)					
2.8	so	ORGANIC SILTS - Frozen, visible ice - black/dark brown	106 ✓	0.9-1.2			
5	so	Silty Gravelly Sand - Frozen - brown	107 *	1.5-2.4		VERY DIFFICULT DRILLING 1.5 TO 2.1	Sandy Gravel, some silt
	so	Gravelly Sand, some silt - Frozen - brown	108 ✓	2.7-3.4			
			109 ✓	3.7-4.3			
			110 ✓	4.6-5.2			
		REFUSE @ 6.2 - MOVE ABOUT 2m					
		REFUSE @ 1.8 - MOVE ABOUT 1m					
		REFUSE @ 1.5 - MOVE ABOUT 6m					
		REFUSE @ 4.0 - E.O.H					



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6776361
Easting: 631517

Project No: 8002-318 Test Hole No: # 30159 PG#1 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: July 30 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm

0.74mm

.002mm

GRAVEL	SAND	SILT	CLAY
--------	------	------	------

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

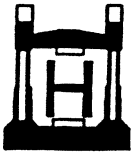
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSP
		Sandy Gravel trace to some silt - dry to damp, loose, light brown - organic material to 0.6 - some white con inclusions	93 ✓	0.3-0.9			
	ca	Sandy Gravel / Gravely Sand, trace silt - damp, medium dense, brown	94 ✓	1.5-2.1			
			95 ✓	3.0-3.7			
		Some gravel loss on samples 95+ due to auger action	96 ✓	4.6-5.2			
			97 ✓	5.2-5.8			
			98 ✓	6.7-7.3			
			99 ✓	7.9-8.5			
			100 ✓	9.4-10.1			
			101 ✓	10.2-11.0			
			102 ✓	11.3-11.9			



HOGGAN ENGINEERING &
TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6776361
Easting: 631517

Project No: 8002-318 Test Hole No: # 30159 PC#2 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: July 30 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm	0.75mm	0.075mm
SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

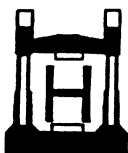
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
12.8	ca	Silty Sand, some gravel - moist, medium dense, brown	103 ^x	12.8-13.4	Not Accurate		
13.7	ca	SANDY GRAVEL / GRAVELLY SAND, trace to some silt. - damp, medium dense, brown	104 ^x	13.7-14.0		- DRAWING ACTION CHANGED AT 14.0 TO A FASTER ADVANCE.	
14.9			105 ^x	14.3-14.9		SOIL GRUBBY POSSIBLY DUE TO SURFACE MAT. 13.7 MAY NOT BE REPRESENTATIVE DUE TO REVERSE ACTION ON WITHDRAWAL. LAST 3.0m WERE REVERSED AS REQUIRED. CAUSING SAMPLE LOSS.	
		E.O.T. @ 14.9m					



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6776506
Easting: 631499

Project No: 8002-318 Test Hole No: # 30160 Elev. _____

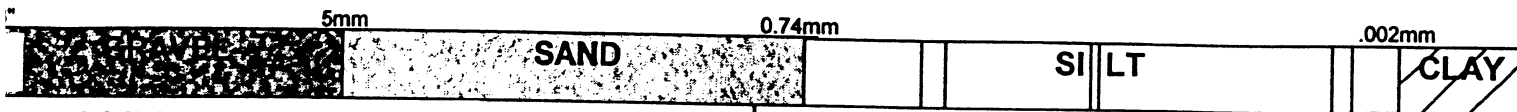
Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: July 29 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION



MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

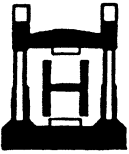
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	COBBLE - 3" - 8"		BOULDER - 8" and larger	
			Sample No.	Sample Depth	Sample Type	Standard Penetration
		Sandy GRAVEL / GRAVELLY SAND, trace silt - damp, loose, brown/grey	88 ✓	0.3-0.9		
7'	dc	Silty SAND, some gravel - wet, medium dense, brown/grey	89 ✓	1.8-2.1		
2.4'	dc	Organic Silts - moist, soft to firm, dark brown w/ black inclusions - increase moisture to wet/saturated @ 10'	90 ✓	2.4-2.9		
4'	dc	GRAVELLY SAND, trace to some silt - saturated, medium dense, brown/grey	91 ✓	3.4-4.0		
			92 ✓	4.9-5.5		
		E.O. @ 6.1m				



HOGGAN ENGINEERING &
TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6776711
Easting: 631517

Project No: 8002-318 Test Hole No: # 30161 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: July 29 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm

0.74mm

.002mm

SAND

SILT

CLAY

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Superficial Organics					
2	20	Sandy Gravel, trace to some silt - damp to moist, loose, brown	83 ✓	0.3-0.9			
0	da	As Above - medium dense	84 ✓	1.5-2.1			
			85 ✓	3.0-3.7			
0	da	Silty Sandy Gravel - moist, medium dense, brown	86 ✓	4.0-4.3			
4.4	da	Sandy Gravel, some silt - moist, medium dense, brown	87 ✓	4.9-5.5			
		E.O.H. E 5.8					



HOGGAN ENGINEERING &
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CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 16716914
Easting: 631538

Project No: 8002-318 Test Hole No: # 30162 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: July 29 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm GRAVEL	0.74mm SAND	SILT	.002mm CLAY
----------------------	-----------------------	-------------	-----------------------

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

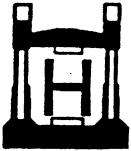
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
		Sandy Gravel, trace to some silt - damp to moist, loose, brown	77 ✓	0.3-0.6			
	dc	Generally Silty Sand - moist to wet, medium dense, brown	78 ✓	1.5-2.1			
24	30	Sandy Gravel, trace to some silt - moist, medium dense, brown	79 ✓	2.4-2.7			
			80 ✓	3.0-4.6			
6	dg	Silty Sandy Gravel - moist, medium dense, brown	81 ✓	4.6-5.2			
2	50	Sandy Gravel, trace to some silt - moist, medium dense, brown - possible some gravel loss on sample # 82	82 ✓	5.2-5.8			
		± 0.4. @ 5.8m					



HOGGAN ENGINEERING &
TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6776900

Easting: 631563

Project No: 8002-318 Test Hole No: # 30163 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: July 29 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm	0.74mm		SILT		0.02mm	CLAY
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MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

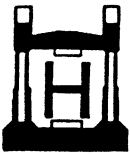
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
10		Sandy GRAVEL, some silt to SILTY - damp to moist, base, brown - silt seam between 0.6 - 0.8m	72 ✓	0.3-0.9			
15	SO	Gravelly SILTY SANDS - moist, soft, brown - some organics noted (rootlets)	73 ✓	1.5-2.1			
20	SO	Sandy GRAVEL, trace silt - moist, medium dense, brown - some oxidation on gravels	74 ✓	2.1-2.7			
			75 ✓	3.4-4.3			
2	OC	Sandy GRAVEL, trace to some silt - saturated, medium dense, brown	76 ✓	5.2-5.6			
		E.O.4. & 5.8					



TEST HOLE LOG

Northing: 6777031
 Easting: 631579

Project No: 8002-318 Test Hole No: # 30164 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: July 29 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm	0.74mm			.002mm
GRAVEL	SAND	SI	LT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
 DENSITY - loose, medium dense, dense
 GRADATION - poorly or well graded
 SIZE RANGE - coarse, medium, fine
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

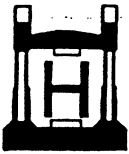
MOISTURE CONTENT - dry, damp, moist, wet
 CONSISTENCY - soft, firm, stiff, hard
 PLASTICITY - low, medium, high
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
		Sandy Gravel - damp to moist, loose, brown	66 ✓	0.2-0.6			
	so	Organic Silt - moist, soft, brown	67 ✓	0.8-1.2			
4	so	Sandy Gravel, trace to some silt - damp to moist, medium dense, brown	68 ✓	1.5-2.1			
	oa	Sandy Silt, trace gravel - damp to moist, soft to firm, brown w/ some black organic inclusions	69 ✓	2.4-2.7			
0	da	Sandy Gravel, trace to some silt - damp, medium dense, brown	70 ✓	3.4-4.0			
	oa	Silty Sandy Gravel - moist, medium dense, brown w/ black organics - some organic silts - some organic intrusions (rootlets etc.)	71 ✓	4.6-5.5			
		E.O.4 @ 5.9m					



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6777126
Easting: 631607

Project No: 8002-318 Test Hole No: # 30165 Elev. _____
Client: YTG - Highways & Public Works
Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1
Location: _____
Log By: R.W. Date: July 29 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

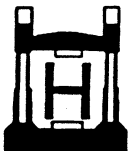
5mm	0.74mm	.002mm
GRAVEL	SAND	SI LT
CLAY		
MOISTURE CONTENT - dry, damp, moist, wet DENSITY - loose, medium dense, dense GRADATION - poorly or well graded SIZE RANGE - coarse, medium, fine COLOR - INTRUSIONS - oxides, coal lumps, etc.		MOISTURE CONTENT - dry, damp, moist, wet CONSISTENCY - soft, firm, stiff, hard PLASTICITY - low, medium, high COLOR - INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0'		Sandy Gravel, trace silt (Previously Gravelly Sand - Access 920)	61 ✓	0.3-0.9			
		- damp, base, brown					
2'	ca	Sandy Gravel / Gravelly Sand, trace silt	62 ✓	1.5-2.1			
		- dry to damp, medium dense, light brown					
		- possibly some gravel loss on sample 62					
4'	ca	Sandy Silt	63 x	3.4-4.0		Silty Sand	
		- damp, medium dense, brown					
11'	ca	Gravelly Silty Sand to Silty Sandy Gravel	64 ✓	4.1-4.4			
		- damp, medium dense, brown					
16'	ca	Sandy Silt, trace gravel	65 x	4.9-5.5		Silty Sandy Gravel	
		- moist to wet, medium dense, brown					
		- increase moisture to wet @ 5.5m					
		E.O.4 @ 5.8m					



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: _____
Easting: _____

Project No: 8002-318 Test Hole No: # 30166 Elev. _____


Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: July 28 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm	0.74mm	.002mm
 SAND	SI LT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

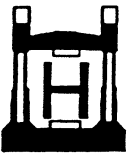
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Surficial Organics					
2.1	so	Sandy Gravel, trace silt - damp, medium dense, brown	56 ✓	0.3-0.9			
5	ds	Sandy Silt, trace gravel - damp, medium dense, brown	57 *	1.5-1.8		Silty Sand	
8	da	Sandy Gravel, some silt to Silty - damp to moist, medium dense, brown	58 ✓	2.1-2.7			
10	da	Silty Sandy Gravel - moist, medium dense, brown - Silty Stems throughout	59 ✓	3.4-4.0			
13	da	Sandy Gravel, some silt to Silty - moist, medium dense, brown	60 ✓	4.9-5.5			
		E.O.4 e 5.5					



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: _____

Easting: _____

Project No: 8002-318 Test Hole No: # 30167 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: July 28 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm

0.74mm

.002mm

GRAVEL	SAND	SILT	CLAY
--------	------	------	------

MOISTURE CONTENT - dry, damp, moist, wet
 DENSITY - loose, medium dense, dense
 GRADATION - poorly or well graded
 SIZE RANGE - coarse, medium, fine
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

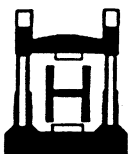
MOISTURE CONTENT - dry, damp, moist, wet
 CONSISTENCY - soft, firm, stiff, hard
 PLASTICITY - low, medium, high
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSP
0		Surficial Organics					
2.5	so	Silty Sand, some gravel - damp, loose, brown - some organics noted					
5	so	Sandy Gravel, trace silt - damp, medium dense, brown	51 ✓	0.6-1.2			
5	ds	Sandy Silty Gravel - moist, medium dense, brown	52 *	1.5-2.1		Silty Gravelly Sand	
	ds	Sandy Gravel, trace to some silt - damp, medium dense, brown	53 ✓	2.3-2.7			
	ds	Sandy Gravel, some silt to silty - damp to moist, medium dense, brown - some oxidation noted	54 ✓	3.4-4.3			
			55 ✓	4.9-5.5			
		E.O.V. 95.8					



TEST HOLE LOG

Northing: 6771587
 Easting: 631509

Project No: 8002-318 Test Hole No: # 30168 Elev. _____
 Client: YTG - Highways & Public Works
 Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1
 Location: _____
 Log By: R.W. Date: July 28 2004

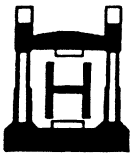
HOGGAN ENGINEERING & TESTING (1980) LTD.
 CONSULTING & TESTING ENGINEERS

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

	5mm	0.74mm		.002mm
	SAND		SILT	CLAY
MOISTURE CONTENT - dry, damp, moist, wet DENSITY - loose, medium dense, dense GRADATION - poorly or well graded SIZE RANGE - coarse, medium, fine COLOR - INTRUSIONS - oxides, coal lumps, etc.	MOISTURE CONTENT - dry, damp, moist, wet CONSISTENCY - soft, firm, stiff, hard PLASTICITY - low, medium, high COLOR - INTRUSIONS - oxides, coal lumps, etc.			

TILL - heterogeneous mixture of gravel, sand, silt, and clay COBBLE - 3" - 8" BOULDER - 8" and larger

pth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
		Surface Organics (Following Series)					
22	so	Silty Gravelly Sand - damp, loose, brown	45 *	0.2-0.6			Silty Sand some gravel to Gravelly
6	so	Sandy Gravel, trace silt - damp, medium dense, brown	46 ✓	0.6-1.2			
10	dc	Silty Gravelly Sand - moist, medium dense, brown	47 ✓	1.8-2.1			
27	dc	Sandy Gravel, some silt to Silty - damp, medium dense, brown	48 ✓	3.4-4.3			
			49 ✓	4.6-5.2			
7	so	Silty Gravelly Silt - moist, firm, light brown w/ some black organics - some gravel in sample from above e.04 e 5.8	50 *	5.5-5.8			Sandy Silt some gravel



TEST HOLE LOG

Northing: _____

Easting: _____

Project No: 8002-318 Test Hole No: # 30169 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: July 28 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm

0.74mm

.002mm

GRAVEL	SAND	SILT	CLAY
--------	------	------	------

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

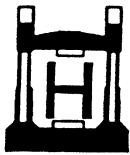
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

pth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		SURFICIAL ORGANIC (CLEARED DRAINAGE ACCESS PREP)					
32	so	SANDY GRAVEL, trace to some silt - FROZEN - brown	39 ✓	0.3-0.9			
			40 ✓	1.5-2.1			
			41 ✓	2.1-2.7			
			42 ✓	3.4-4.0			
0	oa	SANDY SILT, some gravel (MIXTURE OF MATERIALS) - FROZEN - brown / light brown, some black organics	43 ✓	4.3-4.9			
	da	Silty Sand, some gravel - FROZEN - brown	44 ✓	4.9-5.5		SANDY GRAVEL, some silt	
		E.O.D. @ 5.8m					



HOGGAN ENGINEERING &
TESTING (1980) LTD.
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TEST HOLE LOG

Northing: 6777845
Easting: 631413

Project No: 8002-318 Test Hole No: # 30170 Elev. _____
 Client: YTG - Highways & Public Works
 Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1
 Location: _____
 Log By: R.W. Date: July 28 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm	0.74mm			.002mm
SAND	SI	LT	CLAY	
MOISTURE CONTENT - dry, damp, moist, wet DENSITY - loose, medium dense, dense GRADATION - poorly or well graded SIZE RANGE - coarse, medium, fine COLOR - INTRUSIONS - oxides, coal lumps, etc.	MOISTURE CONTENT - dry, damp, moist, wet CONSISTENCY - soft, firm, stiff, hard PLASTICITY - low, medium, high COLOR - INTRUSIONS - oxides, coal lumps, etc.			

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

pth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
		Superficial Organics					
2	30	Gravelly Sand, fine silt to silty - frozen - brown - some oxidation on gravels noted	34	0.3-0.9		Sandy Gravel	trace silt
			35	1.5-2.1			
			36	2.9-3.4			
			37	3.7-4.3			
			38	4.9-5.5			
		E.O. 4 & 5.8					





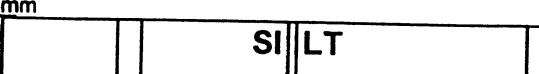
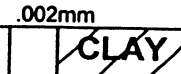
TEST HOLE LOG

Northing: 677798
 Easting: 631413

Project No: 8002-318 Test Hole No: # 30171 Elev. _____
 Client: YTG - Highways & Public Works
 Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1
 Location: _____
 Log By: R.W. Date: July 28 2004

HOGGAN ENGINEERING & TESTING (1980) LTD.
 CONSULTING & TESTING ENGINEERS

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm	0.74mm			.002mm
 SAND	 SILT		 CLAY	

MOISTURE CONTENT - dry, damp, moist, wet
 DENSITY - loose, medium dense, dense
 GRADATION - poorly or well graded
 SIZE RANGE - coarse, medium, fine
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

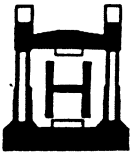
MOISTURE CONTENT - dry, damp, moist, wet
 CONSISTENCY - soft, firm, stiff, hard
 PLASTICITY - low, medium, high
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
		Suspect Organics					
		-					
2	30	Silty Gravelly Sand to Gravelly Silty Sand ✓ - Frozen	29 ✓	0.2-0.5			
		- medium dense, brown					
			30 ✓	0.6-1.2			
ca		Silty Sand - Frozen - medium dense, brown - some organic silts noted	31 X	1.8-2.4		Gravelly Silty Sand	
ca		Sandy Silt, some gravel - Frozen, visible ice crystals to 1cm in clusters (ice rich)	32 ✓	3.0-3.7			
ca		Sandy Silt, trace gravel - Frozen, no visible ice - brown & grey - some wood pieces noted	33 ✓	4.6-5.2			
		E. of e 58m					
		* Real Mixture of Various Soils (Possible Old Slide Area)					



TEST HOLE LOG

Northing: 6778136
 Easting: 631432

Project No: 8002-318 Test Hole No: # 30172 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

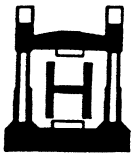
Log By: R.W. Date: July 28 2004

**HOGGAN ENGINEERING &
 TESTING (1980) LTD.**
 CONSULTING & TESTING ENGINEERS

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm	0.74mm	.002mm
GRAVEL	SAND	SILT
MOISTURE CONTENT - dry, damp, moist, wet DENSITY - loose, medium dense, dense GRADATION - poorly or well graded SIZE RANGE - coarse, medium, fine COLOR - INTRUSIONS - oxides, coal lumps, etc.	MOISTURE CONTENT - dry, damp, moist, wet CONSISTENCY - soft, firm, stiff, hard PLASTICITY - low, medium, high COLOR - INTRUSIONS - oxides, coal lumps, etc.	CLAY

Depth	Line Code	Classification	TILL - heterogeneous mixture of gravel, sand, silt, and clay		COBBLE - 3" - 8"		BOULDER - 8" and larger	
			Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF	
0		Superficial Organics						
0.2	so	Silty Gravelly Sand - moist to wet, loose, brown - organics noted throughout	23 ✓	0.3-0.9				
0.5	dc	Sandy Silt - saturated, medium dense, brown	24 *	1.5-1.8			Silty Sand	
			25 *	2.1-2.7				
1.0	dc	Silty Sand to Sand, some silt - saturated, medium dense, brown	26 ✓	3.4-4.3				
	dc	Gravelly Silty Sand - saturated, dense, grey w/ blue hue	27 ✓	4.9-5.2				
5	dc	Sandy Silt in Silt, some sand - moist, firm to stiff, grey w/ blue hue	28 ✓	5.5-5.9				
		E.O.4. @ 5.9m						



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: _____

Easting: _____

Project No: 8002-318 Test Hole No: # 30173 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: July 28 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm	0.74mm			.002mm
SAND	SILT	CLAY		

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
		Surface Oscillations					
0.2	so	Silt - saturated, soft, grey/brown - moderate organics	18 ✓	0.2-0.6			
0.8	so	Silt, some sand - Frozen, visible ice crystals to 3mm in clusters - soft, grey/brown w/ some black organic silt	19 ✓	0.8-1.2			
1.8	so	Sandy Silt - Frozen, no visible ice - medium dense, grey/brown	20 *	1.8-2.4			Sandy Gravely Silt
3.7	dc	Sandy Silt - Frozen - medium dense, light brown	21 ✓	3.7-4.3			
4.9	do	As Above - grey/brown	22 ✓	4.9-5.5			
		E.O.4 @ 5.9m					



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: _____

Easting: _____

Project No: 8002-318 Test Hole No: # 30174 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: July 20 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm	0.74mm	.002mm
GRAVEL	SAND	SILT CLAY

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

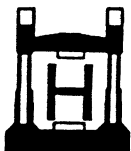
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

pth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
12		Silt, some sand - damp, firm, non plastic, grey - some oxidation - some organics throughout	12 ✓	0-0.6			
13	so	Organic Silt - saturated, soft, black/dark brown	13 ✓	0.6-1.2			
14	ca	Silty Gravelly Sand to Gravelly Silty Sand - saturated, medium dense, brown - some silt in sample 14 could be from top of hole	14 ✓	1.8-2.7	Not much sample on auger		
15	ca	Silty Sand - saturated, medium dense, grey	15 ✓	3.7-4.0			
16	so	Silt, trace to some sand - wet, firm, dark brown	16 ✓	4.0-4.4			
17	ca	Silt, some sand to Silty Silt - wet, firm, grey - odd interbedded gravels to 20mm - some organics noted - E.O.4. & 5.9m	17 ✓	4.9-5.5			
Testhole 12m From Direct Intercorator (STANDING WATER)							



HOGGAN ENGINEERING & TESTING (1980) LTD.
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TEST HOLE LOG

Northing: 6778568
Easting: 631597

Project No: 8002-318 Test Hole No: # 30175 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: July 28 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm	0.74mm			.002mm
GRAVEL	SAND	SILT	CLAY	CLAY

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

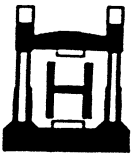
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSP
		SANDY GRAVEL, trace silt (EXISTING ROAD SHOULDER) - damp, loose, brown	7 ✓	3.0-3.9			
0	da	SANDY GRAVEL, trace to some silt - sat. retent. medium dense, brown	8 ✓	2.0-2.9			
10	da	GRAVELLY SAND, trace to some silt. - FROZEN - some decomposed organics noted between 3.0-4.6 (wood pieces)	9 ✓	3.0-3.7			
			10 ✓	3.7-4.3			
			11 ✓	4.9-5.5			
		E.O.T. @ 5.9m					



HOGGAN ENGINEERING & TESTING (1980) LTD.
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TEST HOLE LOG

Northing: 6778670
Easting: 631642

Project No: 8002-318 Test Hole No: # 30176 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: July 28 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm

0.74mm

.002mm

GRAVEL	SAND	SILT	CLAY
--------	------	------	------

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

pth	Line Code	Classification	COBBLE - 3" - 8"		BOULDER - 8" and larger	
			Sample No.	Sample Depth	Sample Type	Standard Penetration
0		SANDY GRAVEL, some silt (EXISTING ROAD SHOULDER) - damp to moist, loose, brown	1 ✓	.2 - .15'		
6	so	ORGANIC SILTS (ORIGINAL GRADE) - damp, soft, dark brown	2 ✓	.6 - 1.2		
5	so	Gravelly Sand, trace silt - moist to wet, medium dense, brown	3 ✓	1.5 - 2.1		
4	dc	Silty Sand, some gravel - wet, medium dense, brown - some sample contamination from gravel	4 ✓	2.4 - 2.9		
4	dc	Silty Gravelly Sand to Gravelly Silty Sand - Frozen - medium dense, brown	5 ✓	3.7 - 4.3		
			6 ✓	4.9 - 5.5		
		E.O.4 @ 5.8m				

Km 1691.7 to 1717.3 Alaska Highway #1

August 2004

J. R. Paine & Associates

Rock Drill Field Logs
(Reverse Circulation Air Rotary)

Testholes	30084 R to 30093 R
	30096 R to 30097 R
	30100 R to 30107 R
	30111 R to 30118 R
	30121 R to 30122 R
	30126 R to 30127 R
	30129 R
	30131 R to 30136 R
	30149R to 30151 R
	30153 R to 30159 R



HOGGAN ENGINEERING & TESTING (1980) LTD.
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TEST HOLE LOG

Northing: 6769273
Easting: 635179

Project No: 8002-318 Test Hole No: # 30084-Rock Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Sept. 22 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	.002mm
GRAVEL	SAND	SILT	CLAY

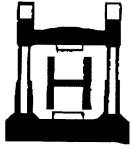
MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay COBBLE - 3" - 8" BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
		<i>As per Soil Log 30084</i>					
		<i>Sand, some silt & silt</i>		<i>1.8</i>			
		<i>- damp medium dense, brown</i>					
		<i>- some rock chips and some gravel to gravel</i>					
		<i>As above</i>		<i>3.4</i>			
		<i>- possibly denser @ 10'</i>					
				<i>6.5</i>			
<i>6.1</i>		<i>Medium Gravel</i>		<i>6.4</i>			
		<i>- dense</i>					
<i>6.9</i>	<i>so</i>	<i>Rock</i>	<i>25</i>	<i>7.3</i>	<i>Just</i>	<i>Below Due to Drilled</i>	<i>Soil Pocket</i>
		<i>- dark, light brown / grey</i>					
		<i>- finely powder</i>	<i>26</i>	<i>8.5</i>	<i>Grp</i>		
<i>~9.9</i>		<i>E.O.4. @ 9.9</i>					





HOGGAN ENGINEERING & TESTING (1980) LTD.
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TEST HOLE LOG

Northing: 6769366
Easting: 635154

Project No: 8002-318 Test Hole No: # 30085 R Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: SEPT. 22 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

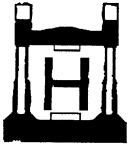
3" GRAVEL 5mm	SAND 0.74mm		SILT		CLAY .002mm
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MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay COBBLE - 3" - 8" BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		As per Sample Log 30085 Sandy, some silt & clay - damp, medium dense, brown - some rock chips (minimal)	R7	3.0			
3.0	so	Rock - dense, grey - rock chips to 20mm		4.3			
		As Above - rock chips to 15mm		5.2			
		As Above - rock chips to 5mm	R10	6.1			
		E.O.L. @ 7.0					
		NOISY SOUND OF 30085 DUE TO ALLOW LOCAL DRAINAGE					



HOGGAN ENGINEERING & TESTING (1980) LTD.
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TEST HOLE LOG

Northing: 6769428
Easting: 635135

Project No: 8002-318 Test Hole No: # 30086 v Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Sept 22 (23) 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	0.02mm
GRAVEL	SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

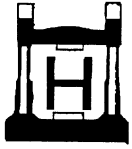
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
		As Per Soil Log 30086					
		Sand, some silt, some rock chips - damp medium dense, brown		1.5			
1.8		Sand, some silt to silty, rock chips - moist, dense - possibly frozen - not going through air to well, digging up		3.7			
		Sand, trace to some silt - moist, dense - slow going (possibly due to moisture)		5.2			
		As Above - trace silt, some rock chips		6.7			
7.6		Sand/silt (loose) - some rock chips - some rounded sand - light beige, dry		7.6	}		These 2 classes of Pockets Intermediate Fracturing
		As Above - dark grey		8.8			
				10.7			
12.5		Rock	R1B	12.5			



HOGGAN ENGINEERING & TESTING (1980) LTD.
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TEST HOLE LOG

Northing: 6769474
Easting: 635128

Project No: 8002-318 Test Hole No: # 30087 R Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Sept. 23 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3" GRAVEL 5mm	SAND 0.74mm		SILT		CLAY .002mm
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MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

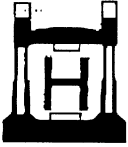
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
		As per Soil Log 30087					
		Sand, some silt, trace to some gravels - damp, brown	1025	2.4m			
		Sand, some gravel to gravelly, trace silt - damp, brown - some rock chips		5.2			
6.1	cc	Gravelly Sand, trace silt - damp, brown - rock chips	022	6.7			
			023	8.5			
9.8	so	Rock - dry, grey - mostly powder. Some chips	024	10.7			
			025	12.2			
		E.O.H. < 12.8					
		NOTE: When samples 7.3-10.4 Bored: H ₂ O / mud came out of core possible H ₂ O seam near 7.3					



HOGGAN ENGINEERING & TESTING (1980) LTD.
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TEST HOLE LOG

Northing: 6769513
Easting: 635110

Project No: 8002-318 Test Hole No: # 30088 R Elev. _____


Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: SEP 23, 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"  GRAVEL	5mm SAND	0.74mm SILT	.002mm CLAY
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MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

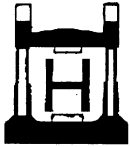
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
						No Sample	Top 3.0m
		As per Soils Log 30088				Returned	Penetration
		Sandy Gravel					
		- damp, brown					
		- rock chips					
			227	5.5			
6.7	so	Rock	228	7.3			
		- dry, grey					
		- rock chips					
			229	8.8			
		E.O.D. @ 9.8					



HOGGAN ENGINEERING & TESTING (1980) LTD.
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TEST HOLE LOG

Northing: 6769661
Easting: 635065

Project No: 8002-318 Test Hole No: # 30070 R Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Sept. 12 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	.002mm
GRAVEL	SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

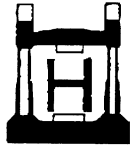
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		As per Soil Log 30070					
1.5	so	Rock - dry grey	R32	2.1m			SAMPLE FROM TOP OF HOLE CYLINDER OF SUBSTRATE
			R33	3.7m			
		E.O.L. 4.3					
		No CASING					



HOGGAN ENGINEERING & TESTING (1980) LTD.
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TEST HOLE LOG

Northing: 6769700
Easting: 635045

Project No: 8002-318 Test Hole No: # 30091 Q Elev. _____


Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Sept. 24 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	.002mm
 GRAVEL	SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

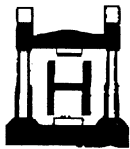
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		As per Soils Log 30091					
1.0	So	Rock - dry, grey	R34	1.5		Top of hole sample	
			R35	3.0		Top of hole sample	
		E.O.L. @ 4.0					
		No casing.					



HOGGAN ENGINEERING & TESTING (1980) LTD.
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TEST HOLE LOG

Northing: 6769812
Easting: 634965

Project No: 8002-318 Test Hole No: # 30093 R Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Sept 24 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	SAND	0.74mm	SI	LT	.002mm	CLAY
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MOISTURE CONTENT - dry, damp, moist, wet
 DENSITY - loose, medium dense, dense
 GRADATION - poorly or well graded
 SIZE RANGE - coarse, medium, fine
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
 CONSISTENCY - soft, firm, stiff, hard
 PLASTICITY - low, medium, high
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay COBBLE - 3" - 8" BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		As per Soils Log 30093					
		Sandy silt / Silty sand, some gravel - moist, brown		2.4m			
		Sandy, trace to some silt, some gravel - damp to moist, brown - some rock chips		7.6m			
7.6	SO	Possibly Rock - some rock chips, some sand, minimal powder/clast.					
8.5	SO	Rock - dry, grey	R40	8.8			
			R41	10.4			
		E.O.H. @ 10.7					



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 676986
Easting: 634847

Project No: 8002-318 Test Hole No: # 30096 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

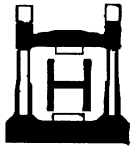
Log By: R.W. Date: Sept 24 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3" GRAVEL	5mm SAND	0.74mm SILT	0.02mm CLAY
MOISTURE CONTENT - dry, damp, moist, wet DENSITY - loose, medium dense, dense GRADATION - poorly or well graded SIZE RANGE - coarse, medium, fine COLOR - INTRUSIONS - oxides, coal lumps, etc.	MOISTURE CONTENT - dry, damp, moist, wet CONSISTENCY - soft, firm, stiff, hard PLASTICITY - low, medium, high COLOR - INTRUSIONS - oxides, coal lumps, etc.		

TILL - heterogeneous mixture of gravel, sand, silt, and clay COBBLE - 3" - 8" BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		As per Soils Log 30096					
						40 SAMPLE IN CORE	- DUCT/MLD.
		Gravelly Silty Sand - moist to wet, brown		7.0			
		Gravelly Sand, some silt - damp, brown		10.1			
10.7		Very Dense - Very Silty. No sand or gravel seen					
		Gravelly Silty Sand to Silty Gravelly Sand - damp to moist, brown	R44	12.5			
13.7		Possibly Rock or Gravelly/Glacial Silty - moist, brown - Bit fragments of (see blowcount) - some rounded stone (possibly for next bedrock) - minimal powder out core	R45	14.3			
		E.O.4. @ 14.3					



HOGGAN ENGINEERING & TESTING (1980) LTD.
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TEST HOLE LOG

Northing: 6710133
Easting: 634803

Project No: 8002-318 Test Hole No: # 30097 R Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Sept. 24 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3" GRAVEL	5mm SAND	0.74mm SILT	.002mm CLAY
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MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		As per Survey Log 30097				No Sample	Tip 6.7
		Rock found out to 10'-12'					due to plugged core
		GRAVELLY SANDY SILT TO GRAVELLY SILT SAND	R46	6.7			
		- wet brown					
		- some rock chips					
9.8	dg	GRAVELLY SAND, some silt to silty	R47	9.1			
		- damp to moist brown	R48	10.4			
12.5	dg	SAND, Gravel, trace to some silt	R49	12.8			
		- damp brown					
			R50	14.9			
		E.O.H.E 15.2					



HOGGAN ENGINEERING & TESTING (1980) LTD.
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TEST HOLE LOG

Northing: 6770540
Easting: 634627

Project No: 8002-318 Test Hole No: # 30100 R Elev. _____


Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Sept. 23 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3" 	5mm SAND	0.74mm	SI LT	.002mm CLAY
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MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

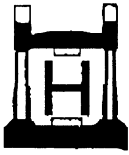
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		As per Soil Log 30100					
12.2	ca	Rock - soft, brown w/ purple hue	RS1	14.0			
14.9	ca	Rock - dry, grey w/ purple hue	RS2	15.8			
		E.O.T. @ 16.2					
		At base of hole @ 18.1m. Stripped to correct. At base. Broken section (Air Log).					



**HOGGAN ENGINEERING &
TESTING (1980) LTD.**
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6711014

Easting: 634672

Project No: 8002-318 Test Hole No: #: 30106 R Elev. _____

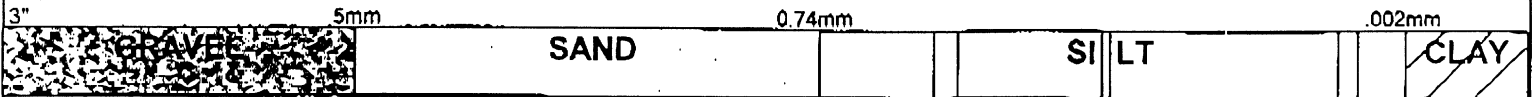
Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: SEP 26 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

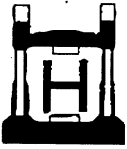


MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay COBBLE - 3" - 8" BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		As per SOIL LOG 30106					
1.2	20	Rock (possibly Fracture/Block in place) - dry, grey	R60	2.1		Core Sample	
			R61	3.7		Core Sample	
		E.O.H. C.A.G.					



HOGGAN ENGINEERING & TESTING (1980) LTD.
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TEST HOLE LOG

Northing: 677629
Easting: 634480

Project No: 8002-318 Test Hole No: # 301A R Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Sept. 26 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

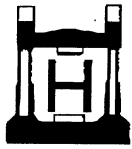
3"	5mm	0.74mm	.002mm
GRAVEL	SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
 DENSITY - loose, medium dense, dense
 GRADATION - poorly or well graded
 SIZE RANGE - coarse, medium, fine
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
 CONSISTENCY - soft, firm, stiff, hard
 PLASTICITY - low, medium, high
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay COBBLE - 3" - 8" BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0							
0.7		Rock	266	1.0			Top of clay
		very grey					
			267	3.4			Top of clay
		concrete					



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6772108

Easting: 634337

Project No: 8002-318 Test Hole No: # 3015 R Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W.

Date: SEPT 27 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	SAND	0.74mm	SILT	.002mm	CLAY
----	-----	-------------	--------	-------------	--------	-------------

MOISTURE CONTENT - dry, damp, moist, wet
 DENSITY - loose, medium dense, dense
 GRADATION - poorly or well graded
 SIZE RANGE - coarse, medium, fine
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
 CONSISTENCY - soft, firm, stiff, hard
 PLASTICITY - low, medium, high
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		As per Soil Log 3015					
1.8	so	Rock & Boulder / Cobble - light brown / dry					
3.4	so	Rock - some powder (not fine) - some sand in sample - water on stem when withdrawl - medium dark rock	273	3.7			
		E.O.M. & A.6					



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6772688
Easting: 633923

Project No: 8002-318 Test Hole No: # 30122 R Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Sept. 27 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3" GRAVEL	5mm SAND	0.74mm SILT	.002mm CLAY
---------------------	--------------------	-----------------------	-----------------------

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

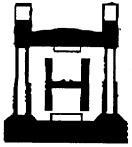
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		As per Soils Log 30122					
		Silty Sandy Gravel	R77	6.7		Top of hole Sample - 6.7m to 7.0m	
		EQM 27.6m No Rock					
		Rock 74 Approx. 1m diameter elevated dirt					
		Clear 100g binder. Set: 1.0m Gravelly (1.0m)					
		Soil 74 loose clast w/ sample					



HOGGAN ENGINEERING & TESTING (1980) LTD.
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TEST HOLE LOG

Northing: 6773655
Easting: 633418

Project No: 8002-318 Test Hole No: # 30131 R Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Sept 28 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

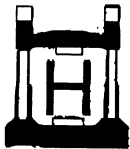
3"	5mm	0.74mm	.002mm
GRAVEL	SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay COBBLE - 3" - 8" BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		As per Spore Log 30131					
3.4	50	Rock - dry, gray - significant powder - mineral rock chips	284	4.0			
4.9		At Anchor - mineral rock chips	285	5.8			
		E.O.H. # 6.1					



HOGGAN ENGINEERING & TESTING (1980) LTD.
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TEST HOLE LOG

Northing: 6773786
Easting: 633333

Project No: 8002-318 Test Hole No: # 30132 R Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Sept. 28 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	.002mm
GRAVEL	SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

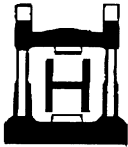
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		As per Soils Log 30132					
3.4	SO	Rock - (Possibly Franciscan) - clay, grey w/ odd brown spots					
4.6	SO	Rock (Unknown) - clay, grey - significant amount - rock chips	R82	4.6			
			R87	6.5			
		E.O.A. e 64					



HOGGAN ENGINEERING & TESTING (1980) LTD.
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TEST HOLE LOG

Northing: 6774140

Easting: 633064

Project No: 8002-318 Test Hole No: #: 30135 R Elev:

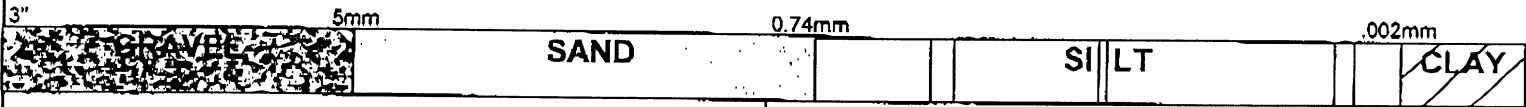
Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location:

Log By: R.W. Date: SEPT 28 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION



MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

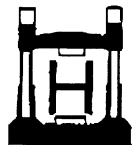
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		As per Soil Log 30135					
2.4	so	Rock - possibly fractured (some brownish sand/powder zones) - some powder					
3.7	sg	Rock - intact - powdery rock chips - dry, grey	251	40		Too up Hole	Same as - mostly clay
		E.O.L. 4.6					



**HOGGAN ENGINEERING &
TESTING (1980) LTD.**
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6774199Easting: 633004Project No: 8002-318Test Hole No: # 30136 R

Elev. _____

Client: YTG - Highways & Public WorksProject: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W.Date: Sept 28 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

	SAND		SILT		CLAY
3"	5mm	0.74mm		.002mm	

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

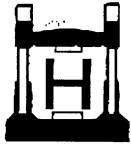
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		As per Soil Log 30136					
2.4	so	Rock - dry, grey - more interest w/ depth - significant fracture, rock chips	R92	3.0			
			R93	4.3			
		F.O.Y. R.4.6					



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6775744
Easting: 631923

Project No: 8002-318 Test Hole No: # 301502 Elev. _____

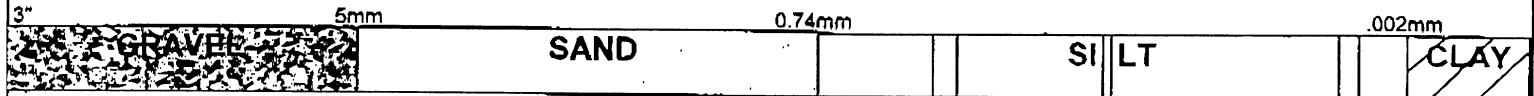
Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Sept. 30 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION



MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

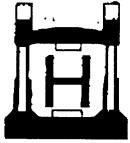
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		As Per Saw Log 30150					
11.3		Silty Sand, some gravel - dry to damp, grey/brown		11.6			
13.7		Silt, some sand (lumps) [possible rock] - dry, grey - steady drilling - minimal chips, dusty powder.	R122	13.7			
			R123	16.5			
		P.O.T. @ 16.8					



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6775818
Easting: 631865

Project No: 8002-318 Test Hole No: # 30151R Elev. _____

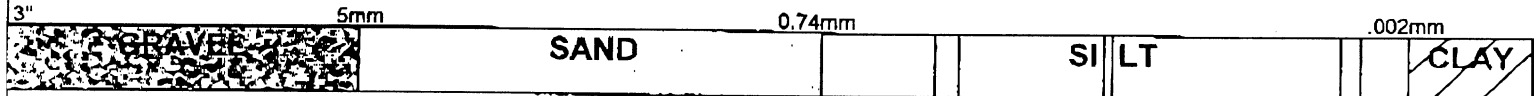
Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Sept 30 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION



MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		As Per Spec Log 30151					
4.3		Sand, some silt to silty, some gravel - damp, brown	R112	4.3			
5.2		Gravelly Sand, some silt - dry, brown					
6.1		Sand, some silt - dry to damp, brown	R113	6.1			
7.3		Sand, some gravel, some silt - dry to damp, brown	R114	7.3			
9.1		Sand, trace to some silt, trace gravel - damp, brown	R115	9.1			
10.4		Sand, gravel, trace silt - damp, brown					
11.3		Gravelly Sand, some silt to silty - damp, brown					



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6775818
Easting: 631865

Project No: 8002-318 Test Hole No: # 30151 R R-22 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

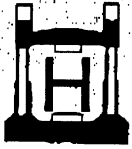
Location: _____

Log By: R.W. Date: 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	0.075mm	0.002mm
	SAND	SI	LT	CLAY
MOISTURE CONTENT - dry, damp, moist, wet DENSITY - loose, medium dense, dense GRADATION - poorly or well graded SIZE RANGE - coarse, medium, fine COLOR - INTRUSIONS - oxides, coal lumps, etc.		MOISTURE CONTENT - dry, damp, moist, wet CONSISTENCY - soft, firm, stiff, hard PLASTICITY - low, medium, high COLOR - INTRUSIONS - oxides, coal lumps, etc.		

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
11.3		Silty Sand / Sandy Silt - dry, brown - powdery	R116	11.9			
12.8		Silty fine silt to Silty (possibly the same as above but not pulverised and direct from compressor) - damp, dark brown	R117	13.1			
13.7		Silty Sand / Sandy Silt (possibly rock?) - <u>no</u> - dry, grey - minimal chips (if at all), almost pure silt / fine sand	R118	14.6			
14.9		Silty fine silt to Silty - dry to damp, grey	R119	15.2			
15.8		Silty Sand, fine gravel (cannot determine if rock) - dry, grey - some gravel, some rock chips - easy chipping, lots of discharge	R120	18.3			
E.O.4 e19.8							
NOTE STEPS WET BELOW 12.4' IN (WITHDRAWN)							



HOGGAN ENGINEERING & TESTING (1980) LTD.
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TEST HOLE LOG

Northing: 6776014
Easting: 631723

Project No: 8002-318 Test Hole No: # 30153 R Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: SEP. 30 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	.002mm
GRAVEL	SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

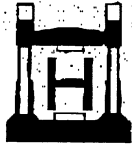
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSP
0		As per Soils Log 30153					
7.9		Sand, some silt - dry to damp, light brown	R106	8.2			
		Silty Sand - dry, light grey/brown - some powder, no chips	R109	10.1			
11.3		Silt, some sand - dry, dark brown - powdery - easy drilling	R110	12.2			
14.9		Rock - dry, grey - steady drilling - significant powder, rock chips	R111	15.2			
		e.o.f. e 14.2					



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: As per 30154 SW
Easting: _____

Project No: 8002-318 Test Hole No: # 30154 R Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W.

Date: SEPT. 29 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	SAND	0.74mm	SILT	.002mm	CLAY
----	-----	-------------	--------	-------------	--------	-------------

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

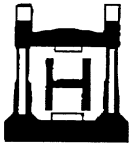
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		As per Soil Log 30154					
10.7		Silty Sand to Sand, some silt - dry to damp, brown - slow drilling	R105	11.0			
12.8	sn	Rock (Potentially Boulder / Fragments Below) - dry, grey - significant powder / chips - steady drilling	R106	13.1			
14.6	cs	Sand, some silt - dry + damp, brown	R07	14.6			
		E.O.4. E.152					



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6776114
Easting: 631648

Project No: 8002-318 Test Hole No: # 30155 R Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: _____

Log By: R.W. Date: Sept. 29 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

3"	5mm	0.74mm	.002mm
GRAVEL	SAND	SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

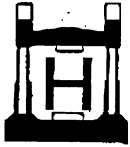
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSP
0		As per Soil Log 30155					
		Sandy Gravel trace to some silt - damp to moist, brown	R101	8.5			
10.4	dg	Gravelly Sand, some silt - damp, brown	R102	10.7			
11.4	dg	Sand, some silt to silty, some gravel - damp, brown (gray) - very slow drilling (hammer plugging)	R103	12.9			
14.6	dg	Sand, some silt to silty - damp, brown - very slow drilling (hammer plugging)	R104	15.2			
		E.O.M. @ 15.2					
		No INDICATION OF ROCK					



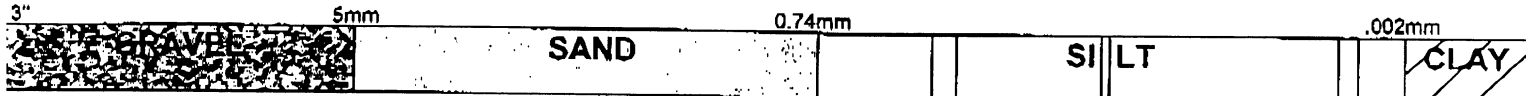
HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6776265
Easting: 631560

Project No: 8002-318 Test Hole No: # 3015B R Elev. _____
 Client: YTG - Highways & Public Works
 Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1
 Location: _____
 Log By: R.W. Date: Sept. 29 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION



MOISTURE CONTENT - dry, damp, moist, wet
 DENSITY - loose, medium dense, dense
 GRADATION - poorly or well graded
 SIZE RANGE - coarse, medium, fine
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
 CONSISTENCY - soft, firm, stiff, hard
 PLASTICITY - low, medium, high
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay COBBLE - 3" - 8" BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		As per Soil Log 3015B					
3.0		Coarsely Sand, trace silt - moist to wet (frozen), brown	R94	7.0			
			R95	9.1			
10.4	so	Sand, trace to some silt - dry to damp, brown - steady strilling	R96	11.3			
			R97	13.7			
		E.O.D. @ 13.7					

Km 1699+700 LHS Alaska Highway

August 2004

J. R. Paine & Associates

Test Pit Field Logs
(Car 318C Excavator)

Test Pits 30177 to 30179



TEST HOLE LOG

Northing: 6360614
 Easting: 630645

Project No: 8002-318 Test Hole No: # 30177 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: V99+700 L45

Log By: R.W. Date: Aug 10 2004

HOGGAN ENGINEERING &
 TESTING (1980) LTD.
 CONSULTING & TESTING ENGINEERS

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm	SAND	0.74mm	SILT	CLAY	.002mm
-----	------	--------	------	------	--------

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

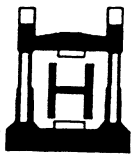
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSE
0		Sandy GRAVEL, trace to some silt	TP1 ✓	0.8-1.3			
		- damp, medium dense, brown					
		- cobbles: boulders 20-40% Vol					
		- boulders to 0.75m					
		- organics noted throughout					
			TP2 ✓	2.0-2.4			
			TP3 ✓	3.0-3.3			
			TP4 ✓	4.5-4.8			
		↑ mostly a concrete rock. Very sound.					
		White w/ Black spots					
		E. 0.4. & 4.8m					
		2 Photos of EXC Base					
		1 Photo SAMPLE PILES					
		2 rock Photos					



TEST HOLE LOG

Northing: 6764616

Easting: 636697

Project No: 8002-318

Test Hole No: # 30178

Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: Km 1699+700 L45

Log By: R.W.

Date: Aug. 10

2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm GRAVEL	0.74mm SAND	SILT	0.002mm CLAY
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MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

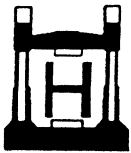
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Sandy GRAVEL, trace to some silt - damp, medium dense, brown - cobbles & boulders - 10-30% vol - boulders to 0.6m dia - organics noted throughout	TP5 ✓	0.8-1.3			
			TP6 ✓	2.2-2.5			
8	cb	As Above - damp.	TP7 ✓	3.0-3.5			
13	da	Sandy GRAVEL, some silt - damp, to moist, medium dense, brown - slight increase in fine sands & silts	TP8 ✓	4.3-4.8			
		EO4 @ 4.9m					
		2 photos exc. Base					
		1 photo Sample Pipe					



HOGGAN ENGINEERING &
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CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6764619
Easting: 636749

Project No: 8002-318 Test Hole No: # 30179 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: 1699+700 L4S

Log By: R.W. Date: Aug 10 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm GRAVEL	SAND	0.74mm	SI	LT	.002mm CLAY
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MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		Sandy GRAVEL, trace to some silt - damp, medium dense, brown - cobbles & boulders 10-30% Vol - boulders to 0.6m dia - organics noted throughout	TP9 ✓	0.5-1.0			
			TP10 ✓	1.8-2.3			
0	do	As Above - slight decrease silt (midway)	TP11 ✓	3.2-3.5			
			TP12 ✓	4.5-5.4			
		E.O.T. 2.50m					
		2 Photos of Exc. Base					
		1 Photo of Sample Piles					

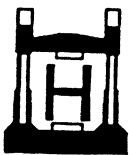
Km 1706+200 LHS Alaska Highway
(Soldier's Summit Slide)

August 2004

J. R. Paine & Associates

Test Pit Field Logs
(Hitachi 450EX Excavator)

Test Pits 30072 to 30081



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6768523
Easting: 635054

Project No: 8002-318 Test Hole No: # 30076 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: Soldier Summit

Log By: R.W. M.F. Date: July 29, 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

	5mm	0.74mm		.002mm
	SAND		SILT	CLAY

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

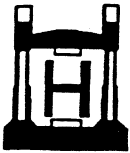
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	COBBLE - 3" - 8"		BOULDER - 8" and larger	
			Sample No.	Sample Depth	Sample Type	Standard Penetration
0		boulders - cobbles / some surficial organics				
3	so	boulders - cobbles / some sand and silt - boulders to 1.0m in dia. - boulders to 30-40% by vol.				
5	da	sandy gravel, trace to some silt - damp, dense, brown grey - boulders to 20-30% by vol.	SI	3.6-4.2		
4		E.O.H @ 5.4m				
		Photos ① 1.0m ② spill p. k ③ 3.0m ④ 5.4m				



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TESTING (1980) LTD.
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TEST HOLE LOG

Northing: 6768752
Easting: 635160

Project No: 8002-318 Test Hole No: # 30081 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: Soldier Summit

Log By: R.W. M.F. Date: July 31 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm	0.74mm			.002mm
SAND	SILT	CLAY		

MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

pth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		boulders-cobbles-surficial organics					
3	so	boulders-cobbles, some sand and silt - boulders to 60-70% by vol. - boulders to 1.0m dia.					
5	so	sandy silty gravels - some boulders/cobbles - boulders to 20-30% by vol.	S3	4.5-5.0			
0		E.O.H. @ 5.0m					
		Photos ① 1.0m					
		② 2.0m					
		③ 4.5m					
		④ spill pile					

Km 1712+900 LHS Alaska Highway
Pit ID# 115 G-12
(Williscroft Creek)

August 2004

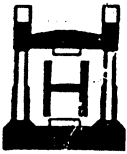
J. R. Paine & Associates

Test Pit Field Logs
(Hitachi 450EX Excavator)

Test Pits 30137 to 30147

Auger Hole Field Logs
(CME75 Drill)

Testholes 30142D, 30146D, & 654-2763D



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6715028
Easting: 632523

Project No: 8002-318 Test Hole No: # 20137 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: Williscroft Creek

Log By: R.W. Date: July 31 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm	0.74mm			.002mm
GRAVEL	SAND	SILT	CLAY	CLAY

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

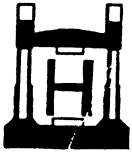
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
		Surficial Organics					
3	so	Sandy Gravel, trace to some silt - damp, medium dense, brown	W1 ✓	3-0.9			
0	do	As Above - Frozen	W2 ✓	2.0-2.4		VERY DIFFICULT DIGGING	
			W3 ✓	3.2-3.5			
			W4 ✓	4.2-4.4			
		E.O.T. 2.50m					
		1 photo: TP & DEPTH					



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TEST HOLE LOG

Northing: 6775066
Easting: 632578

Project No: 8002-318 Test Hole No: #: 30138 Elev. _____

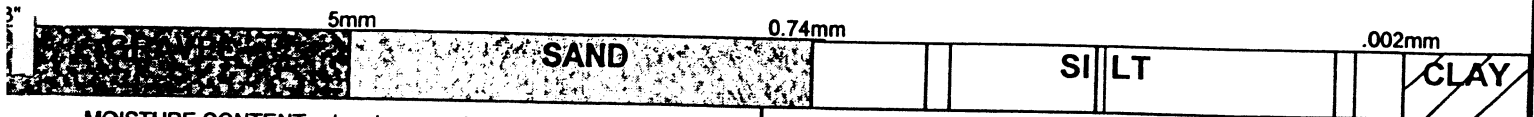
Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: WILSON CREEK

Log By: R.W. Date: Aug 1 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION



MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

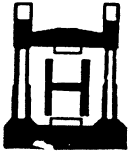
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
		Surface Organics					
3	so	SANDY GRAVEL - damp, base brown - roots: misc organics to 1m	W5 *	1.5-2.0			Silty SANDY GRAVEL
7	so	Sandy Gravel, trace silt - damp, medium dense, brown - boulders to 300mm 5-15% vol	W6 ✓	2.5-3.0			
			W7 ✓	3.0-4.2m			
			W8 ✓	4.8-5.3			
		E.O.H. & S.30					
		2 photos - 1 JPC note 1 sample pile					



TEST HOLE LOG

Northing: 6775122
 Easting: 632665

Project No: 8002-318 Test Hole No: # 30139 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: WILKSCROFT CREEK

Log By: R.W. Date: Aug 01 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm

0.74mm

.002mm

SAND

SILT

CLAY

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

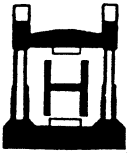
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSP
		Surface Organics					
	So	Sandy Gravel, trace silt - damp, base, brown - organics noted to 1.0m - some organic silt noted between 1.0-1.5m - boulders to 300mm 5-15% vol	W9 ✓	1.0-1.5			
			W10 ✓	2.0-2.5			
			W11 ✓	3.5-4.0			
			W12 ✓	5.0-5.5			
		E.O. & S.S.					
	2	Plots 1 @ EXE BASE - HOLE STOPPED IN 1 @ SAMPLE PILES					



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TEST HOLE LOG

Northing: 6715097

Easting: 632440

Project No: 8002-318

Test Hole No: # 30140

Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: WILKINSON CREEK

Log By: R.W.

Date: AUG 01

2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm

0.74mm

.002mm



SAND

SILT

CLAY

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

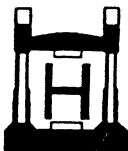
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
		Superficial Organics					
5	SO	Sandy Gravel, trace silt - damp base, brown - organics noted to 0.8m - boulders to 300mm 5-15% vol	W13 ✓	1.0-1.5			
			W14 ✓	2-2.5			
9	SO	Sandy Gravel, trace silt - Frozen - brown	W15 ✓	3.2-3.6			Difficult Digging
16	ds	Sandy Gravel, trace to some silt - frozen, some visible ice - brown	W16 ✓	4.8-5.1			Very Difficult Digging
		E.O.L. @ 5.1m					
		Photos - 1 @ Exc. Desc. 1 @ Sample Piles					



TEST HOLE LOG

Northing: 6775140

Easting: 632495

Project No: 8002-318

Test Hole No: # 30141

Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: Winnischoft Creek

Log By: R.W.

Date: Aug 01

2004

HOGGAN ENGINEERING & TESTING (1980) LTD.

CONSULTING & TESTING ENGINEERS

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm

0.74mm

.002mm



SAND

SILT

CLAY

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

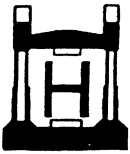
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
		Surficial Organics					
3	so	Sandy Gravel, trace silt - damp, base, brown - organics noted to 0.8m - boulders to 300mm 5-15% vol	W17 ✓	0.5-1.0			
	da	Sandy Gravel, trace silt - damp, medium dense, brown - boulders to 300mm 5-15% vol	W18 ✓	1.0-2.3			
2	sa	Sandy Gravel, trace to some silt - friable - brown	W19 ✓	3.2-3.6		Very Difficult Dig	
			W20 ✓	4.7-5.0			
		E.O.H. c 5.0m					
		Photos - 1 e ex. Base 1 e sample piles					



TEST HOLE LOG

Northing: 6715194

Easting: 632545

Project No: 8002-318

Test Hole No: # 30142

Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: WILLIS CREEK

Log By: R.W.

Date: Aug 01

2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm

0.74mm

.002mm



SAND

SI | LT

CLAY

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

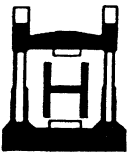
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		SURFICIAL ORGANICS					
3	so	Sandy GRAVEL, trace silt - damp, loose brown - organics to 0.4m - boulders to 300mm 5-15% VOL					
1m	dc	As Above - medium dense	W21 ✓	1.0-1.5			
			W22 ✓	2.5-3.0			
	dc	Sandy Gravel, trace to some silt - Frozen	W23 ✓	3.2-3.8			DIFFICULT DISSENT @ 3.2m
	dc	Sandy Gravel, some silt. to silty. - Frozen	W24 ✓	4.6-5.0			Very Difficult Dissent @ 3.8m ↳ Frozen Pieces (Higher Silt Content)
		End @ 5.0m					
		Plots - 1 @ ex. Bottom 1 @ Sample Piles					



TEST HOLE LOG

Northing: 6775245

Easting: 632619

Project No: 8002-318

Test Hole No: # 30143

Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: WILKINSON CREEK

Log By: R.W.

Date: Aug 01

2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm

0.74mm

.002mm



SAND

SILT

CLAY

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
		Surface Organics					
3	so	Sandy Gravel, trace silt - damp, loose, brown - organics to 0.5m - boulders to 30mm 5-15% Vol	W25 ✓	5-1.0			
	so	Gravelly Sand, trace silt - Frozen, white ice crystals to 5m in clusters - brown	W26 *	2.2-2.7		DIFFICULT DIGGING @ 2.0m	Silty Gravelly Sand
3m	so	Sandy Gravel, trace silt - moist, medium dense, brown	W27 ✓	3.6-3.9		NORMAL DIGGING @ 3.5m	
	sa	Gravelly Sand, trace to some silt - moist, medium dense, brown	W28 ✓	4.6-5.0			
		E-0.4 @ 5.0m					
		Plates					
		- 1 @ Frozen mat'd Sample W23					
		- 1 @ EX Base					
		1 @ Sample Piles					



TEST HOLE LOG

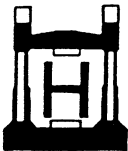
Northing: 6775254
 Easting: 632503

Project No: 8002-318 Test Hole No: # 30144 Elev. _____
 Client: YTG - Highways & Public Works
 Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1
 Location: WILKSCROFT CREEK
 Log By: R.W. Date: AUG 2 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm	0.74mm	.002mm
GRAVEL	SAND	SILT
MOISTURE CONTENT - dry, damp, moist, wet DENSITY - loose, medium dense, dense GRADATION - poorly or well graded SIZE RANGE - coarse, medium, fine COLOR - INTRUSIONS - oxides, coal lumps, etc.	MOISTURE CONTENT - dry, damp, moist, wet CONSISTENCY - soft, firm, stiff, hard PLASTICITY - low, medium, high COLOR - INTRUSIONS - oxides, coal lumps, etc.	

Depth	Line Code	Classification	COBBLE - 3" - 8"		BOULDER - 8" and larger	
			Sample No.	Sample Depth	Sample Type	Standard Penetration
		Surface Organics				
30		Sandy GRAVEL / Gravely Sand, trace to some silt - damp, loose, brown				
50		Sandy GRAVEL, trace to some silt - saturated, medium dense, brown	W29 ✓	1.4-1.8		H ₂ O SOURCE @ 1.4m
80		As Above - moist	W30 ✓	2.5-2.8		Very Difficult Digging
			W31 ✓	3.6-3.9		
			W32 ✓	4.8-5.0		
		2.04 @ 5.0				
		Photos				
		1 @ ex. Base				
		1 @ Sample Piles				



TEST HOLE LOG

Northing: 6775287
 Easting: 632345

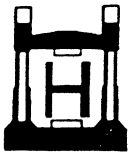
Project No: 8002-318 Test Hole No: # 3045 Elev. _____
 Client: YTG - Highways & Public Works
 Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1
 Location: WILKSCROFT CREEK
 Log By: R.W. Date: AUG 2 2004

HOGGAN ENGINEERING &
 TESTING (1980) LTD.
 CONSULTING & TESTING ENGINEERS

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm	0.74mm	.002mm
GRAVEL	SAND	SILT
MOISTURE CONTENT - dry, damp, moist, wet DENSITY - loose, medium dense, dense GRADATION - poorly or well graded SIZE RANGE - coarse, medium, fine COLOR - INTRUSIONS - oxides, coal lumps, etc.	MOISTURE CONTENT - dry, damp, moist, wet CONSISTENCY - soft, firm, stiff, hard PLASTICITY - low, medium, high COLOR - INTRUSIONS - oxides, coal lumps, etc.	CLAY

TILL - heterogeneous mixture of gravel, sand, silt, and clay		COBBLE - 3" - 8"		BOULDER - 8" and larger			
Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
		Surficial organics					
5	so	Gravelly Sand, fine silt - damp, base, brown - organics noted to 0.8m					
10	dc	Sandy Gravel, trace to some silt - damp, medium dense, brown - cobbles to 200mm 0-10%	W33 ✓	1.0-1.4			
	db	As above - Frozen	W34 ✓	2.0-2.3		Very Difficult Digging	2.9m
3	da	Sandy Gravel, some silt to silty - frozen - brown	W35 ✓	3.0-3.3			
			W36 ✓	4.0-4.0m			
		E.O.D. @ 4.8m					
		Photos					
		1 Photo @ Exc. Base					
		1 " SAMPLE PILES					



TEST HOLE LOG

Northing: 6775326
 Easting: 632400

Project No: 8002-318 Test Hole No: # 30146 Elev. _____

Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: Winnipeg Creek

Log By: R.W. Date: Aug 02 2004

HOGGAN ENGINEERING & TESTING (1980) LTD.
 CONSULTING & TESTING ENGINEERS

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm 0.74mm .002mm

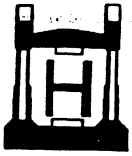
GRAVEL	SAND	SILT	CLAY
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MOISTURE CONTENT - dry, damp, moist, wet
 DENSITY - loose, medium dense, dense
 GRADATION - poorly or well graded
 SIZE RANGE - coarse, medium, fine
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

MOISTURE CONTENT - dry, damp, moist, wet 455
 CONSISTENCY - soft, firm, stiff, hard
 PLASTICITY - low, medium, high
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay COBBLE - 3" - 8" BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
		SURFICIAL ORGANICS					
4	so	Sandy Gravel, trace silt - damp base, brown, organics rotted to 0.8m - boulders to 300mm 5-10% vol					
0	do	As Above - medium dense	W37 ✓	1.0-1.5			
			W38 ✓	2.6-2.9		DIFFICULT DIGGING @ 2.3m	
	so	Sandy Gravel, some silt - Frozen - brown - cobbles to 200mm 5-10% vol	W39 ✓	3.5-3.8		Very Difficult Digging @ 3.3m	
			W40 ✓	4.5-4.8			
		E.O.L. @ 4.8m Pluton					
		- 1 @ OK Base					
		- 1 @ Snowy Piles					



HOGGAN ENGINEERING & TESTING (1980) LTD.
CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Northing: 6775365
Easting: 632400

Project No: 8002-318 Test Hole No: # 30147 Elev. _____

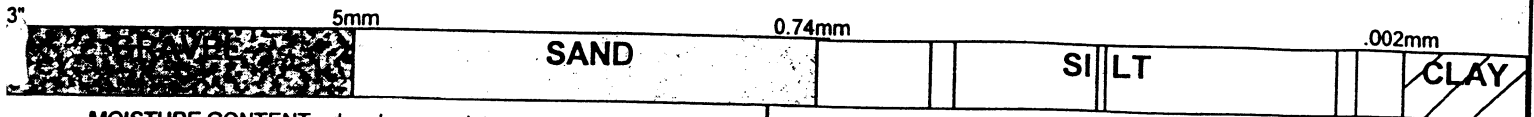
Client: YTG - Highways & Public Works

Project: Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1

Location: WILSON CREEK

Log By: R.W. Date: Aug 2 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION



MOISTURE CONTENT - dry, damp, moist, wet
DENSITY - loose, medium dense, dense
GRADATION - poorly or well graded
SIZE RANGE - coarse, medium, fine
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

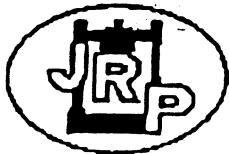
MOISTURE CONTENT - dry, damp, moist, wet
CONSISTENCY - soft, firm, stiff, hard
PLASTICITY - low, medium, high
COLOR -
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Depth	Line Code	Classification	Sample No.	Sample Depth	Sample Type	Standard Penetration	Pocket Penetration, TSF
0		SURFACE ORGANICS					
0.4	so	SANDY GRAVEL / GRAVELLY SAND, fine silt - damp, loose, brown	W41 ✓	0.6-1.1			
1.0	dc	As Above - medium dense - boulders to 300mm 0-10% vol	W42 ✓	2.3-2.8			
1.5	so	SANDY GRAVEL, some silt - frozen - brown - boulders to 300mm 0-10% vol	W43 ✓	3.7-4.1		Difficult to penetrate 3.0m	Very difficult to penetrate 3.5m
			W44 ✓	4.6-4.8			
		E.O.T. @ 4.8m					
		Place - top of base top of sample piles					



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CONSULTING & TESTING ENGINEERS

TEST HOLE LOG

Project No: 8002-318 Test Hole No: 30146 Diam. Elev. 807m
 Client: YTC - Highways : Public Works Trans. Eng. Branch
 Project: GEOTECHNICAL SERVICES KM 1691.7 to 1712.3 A/C 4/1/01
 Location: Whitcroft Canal
 Log By: EW Date: Nov. 1, 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm	0.75mm			.002mm
GRAVEL	SAND	SILT	CLAY	

MOISTURE CONTENT - dry, damp, moist, wet

DENSITY - loose, medium dense, dense

GRADATION - poorly or well graded

SIZE RANGE - coarse, medium, fine

COLOR -

INTRUSIONS - oxides, coal lumps, etc.

N: 6775322

E: 632406

MOISTURE CONTENT - dry, damp, moist, wet

CONSISTENCY - soft, firm, stiff, hard

PLASTICITY - low, medium, high

COLOR -

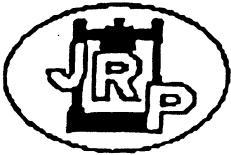
INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Zone	Group Symbol	Classification	Sample No.	Depth	Type	Standard Penetration	Pocket Penetration, TSF
1		Sandy GRAVEL, trace to some silt - damp, medium dense, dark brown - some wood pieces noted	W45	0.3-0.9			
2m	oa	Sandy GRAVEL, trace to some silt - damp, medium dense, brown - gravel loss due to auger grinding - some broken gravel - max size approx. 50mm	W46	1.8-2.1			3.0m Very dense Gravel Drawing Lots of Rock augered up.
3	so	Sandy GRAVEL, some silt (frozen) - damp to moist, dense to very dense, brown - max size approx. 60mm	W47	3.4-4.0			
			W48	5.2-5.8			
4	so	Very Sandy GRAVEL - damp to moist, dense, brown	W49	7.3-7.6			Blocked TRESTON AUGERS
5	da	Sandy GRAVEL / Gravely SAND, some silt to silty - dry to damp, dense, brown - possibly gravel loss due to auger action - gravel/sample loss 20-40' due to reverse action on pulling	W50	8.2-8.8			Gravelly Drawings
			W51	9.8-10.4			
			W52	11.0-11.6			



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TEST HOLE LOG

Project No: 0002-3B Test Hole No: 30146 Drill Elev. _____
 Client: YTE: HIGHWAYS: PUBLIC WORKS TRANS ENG. BRANCH PG # 2
 Project: GEOTECHNICAL SERVICES KM 161.7 to 171.3 AK Hwy # 1
 Location: WHISKY CREEK
 Log By: RW Date: Nov. 1, 2004

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm 	0.75mm SAND	SILT	.002mm CLAY
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MOISTURE CONTENT - dry, damp, moist, wet
 DENSITY - loose, medium dense, dense
 GRADATION - poorly or well graded
 SIZE RANGE - coarse, medium, fine
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

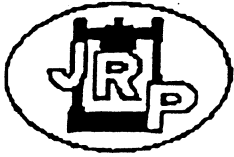
MOISTURE CONTENT - dry, damp, moist, wet
 CONSISTENCY - soft, firm, stiff, hard
 PLASTICITY - low, medium, high
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

Zone	Group Symbol	Classification	Sample No.	Depth	Type	Standard Penetration	Pocket Penetration, TSF
	dc	Gravelly SAND / Sandy Gravel, some silt to clay - dry to damp, dense, brown - difficult to obtain sample due to reverse auger action	WS3	12.8 - 13.4			
			WS4	14.1 - 14.6			
		E.O.P. @ 17.4m - Augers Bind / Too Much / Refusal - no sample due to auger binding					
		Augers Binding					



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TEST HOLE LOG

Project No: 8002-318 Test Hole No: 654-2763 Elev. 805
 Client: YR - Highway : PUBLIC WORKS, TRANS. ENG. BRANCH
 Project: GEOTECHNICAL SERVICES KM 161.7 to 171.3 AK 400g M 1
 Location: WILLIS CREEK
 Log By: EW Date: 11/01/04

MINIMUM REQUIREMENTS FOR A TEST HOLE LOG CLASSIFICATION

5mm 0.75mm .002mm

GRAVEL	SAND	SILT	CLAY
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MOISTURE CONTENT - dry, damp, moist, wet
 DENSITY - loose, medium dense, dense
 GRADATION - poorly or well graded
 SIZE RANGE - coarse, medium, fine
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

N: 6774951
 E: 632672

MOISTURE CONTENT - dry, damp, moist, wet
 CONSISTENCY - soft, firm, stiff, hard
 PLASTICITY - low, medium, high
 COLOR -
 INTRUSIONS - oxides, coal lumps, etc.

TILL - heterogeneous mixture of gravel, sand, silt, and clay

COBBLE - 3" - 8"

BOULDER - 8" and larger

ne	Group Symbol	Classification	Sample No.	Depth	Type	Standard Penetration	Pocket Penetration, TSF
		Sandy Gravel - dry, medium dense, brown - visible boulders to 400mm on surface.	W59	5-1.0			
			W60	18-2.4		Very dense Drumming @ 1.8m	
2	dg	Sandy Gravel / Gravelly Sand, trace to some silt - damp to dry, dense, brown - max size gravel - 50mm	W61	34-4.0			
			W62	5.2-5.8	ATEM # 2		
		E.O.H. @ 6.7m - REFUSAL					
		REFUSAL @ 5.2m - move 1m west					
		REFUSAL @ 4.9m - move 1m west					
		REFUSAL @ 6.7m - E.O.H.					