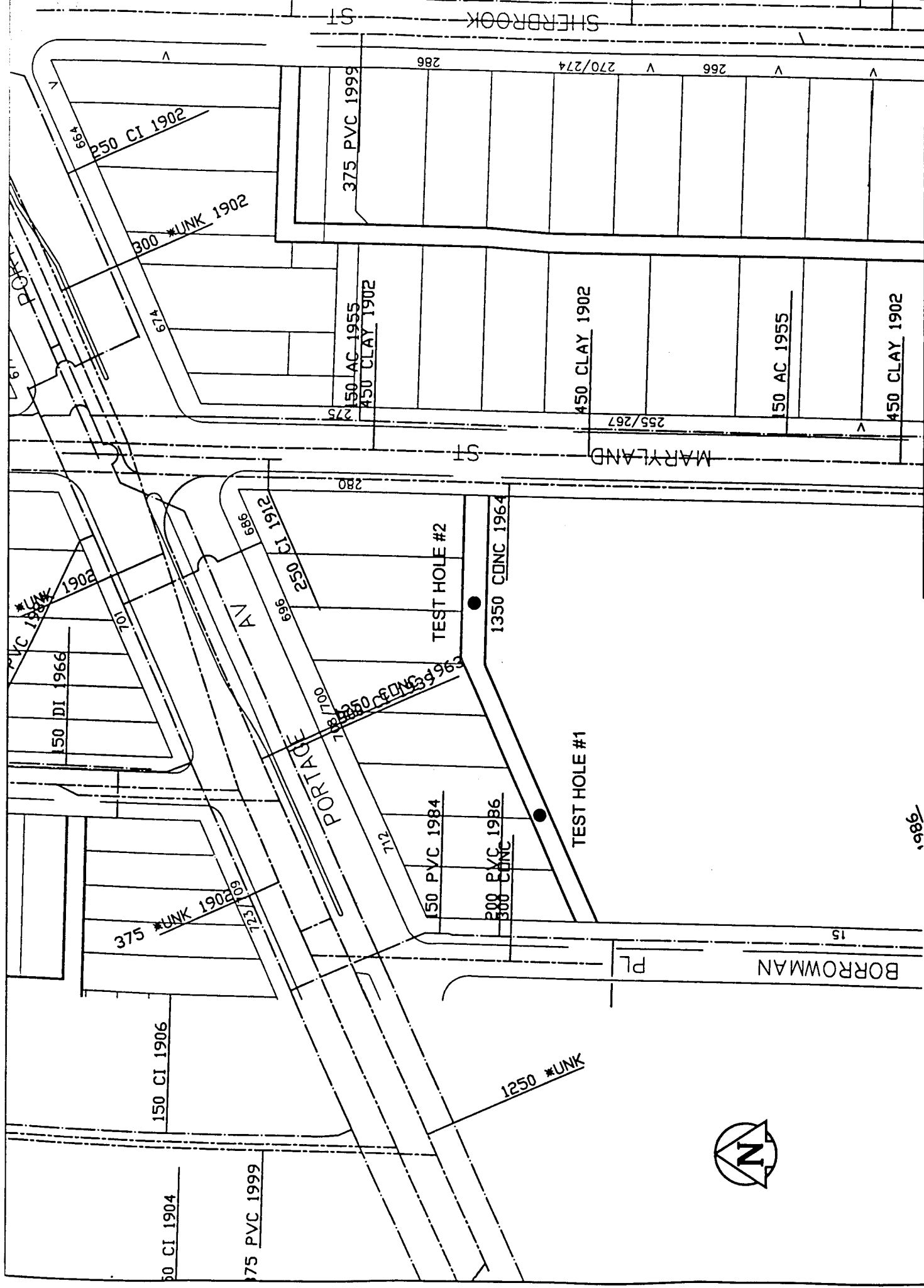


APPENDIX A- TEST LOGS

- Location
- Summary of Results
- Test Log



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2004 LANE RENEWAL PROGRAM
 TESTHOLE LOCATION SKETCH - PORTAGE AV SOUTH LANE
 (BORROWMAN PL - MARYLAND ST)

SEWER
 WATER

1986

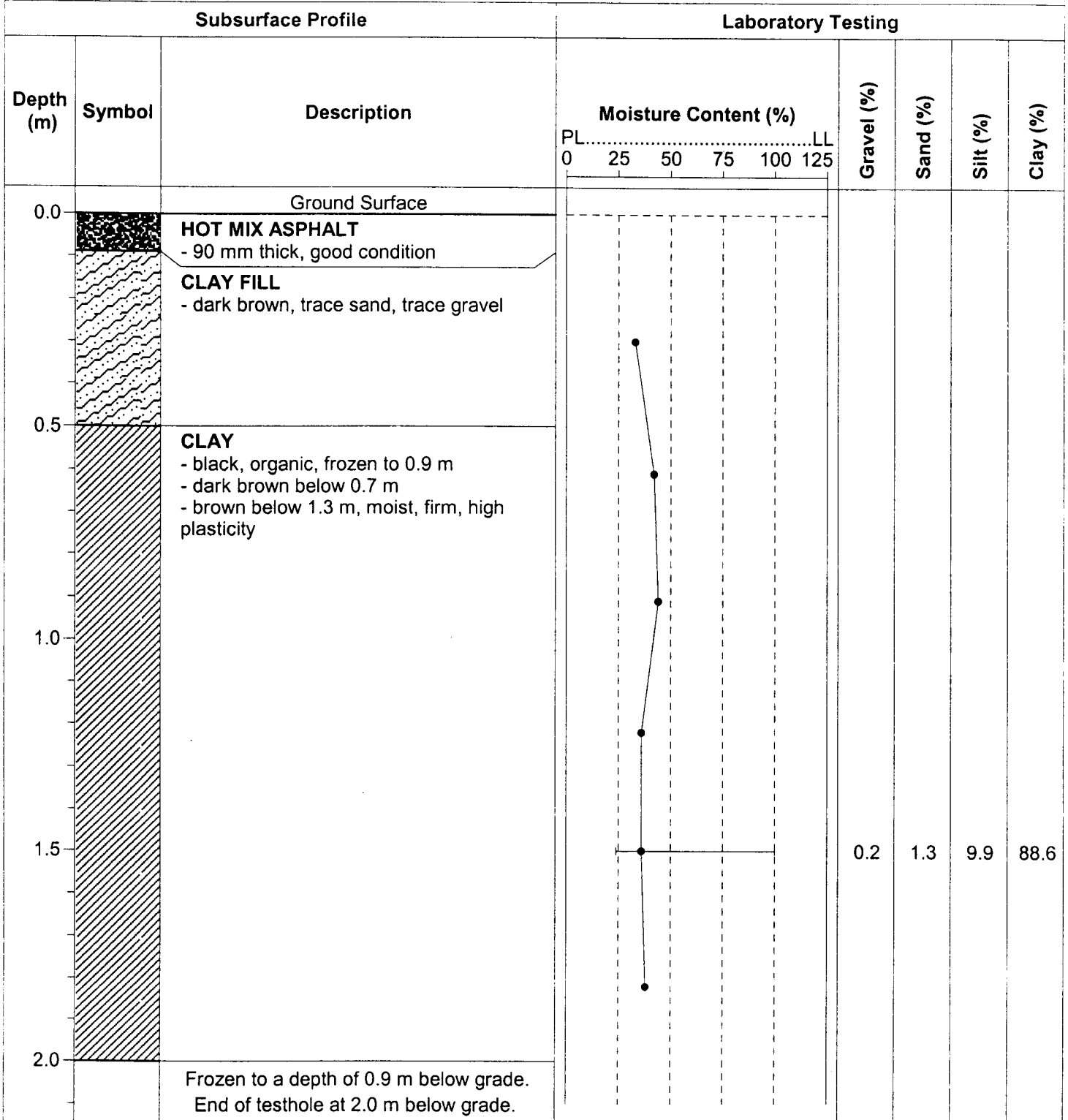


TESTHOLE 127-1



Project Name: 2004 City of Winnipeg Street Renewal Program
 Client: UMA Engineering Ltd.
 Site: Portage Avenue South Lane
 Testhole Location: 9.5 m N, 7 m E of NW corner of Gordon Bell High School

Date Drilled: January 21, 2004
 Depth of Testhole: 2.0 m
 Logged by: Robert Hochkievich

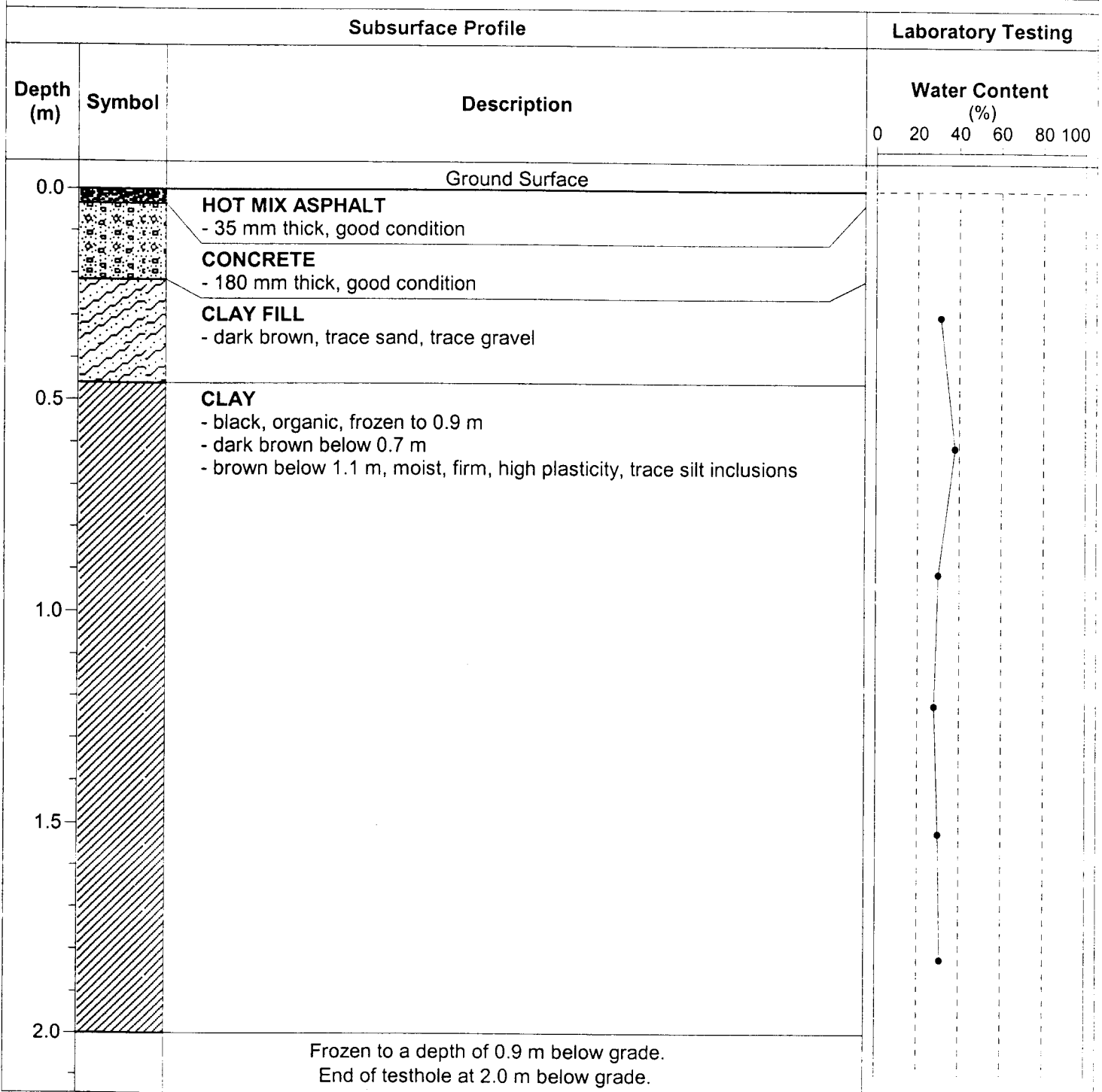


TESTHOLE 127-2



Project Name: 2004 City of Winnipeg Street Renewal Program
 Client: UMA Engineering Ltd.
 Site: Portage Avenue South Lane
 Testhole Location: 6 m E, 3 m S of 686 Portage Ave southwest corner

Date Drilled: January 21, 2004
 Depth of Testhole: 2.0 m
 Logged by: Robert Hochkievich



KGS Group
2004 Street Renewal Program
Geotechnical Investigation

Testhole No.	Testhole Location	Pavement Surface		Pavement Structure Material		Sample Description	Sample Depth (m)	Moisture Content (%)	Particle Size Analysis			Atterberg Limits			
		Type	Thickness (mm)	Type	Thickness (mm)				Gravel (%)	Sand (%)	Silt (%)	Clay (%)	Liquid Limit	Plastic Limit	Plasticity Index
1	Broadway/Knappen Lane	Asphalt	49	Granular	300										
2	Broadway/Knappen Lane	Asphalt	36	Granular	200	Silt	2.1	24.7	0.4	4.7	65.6	29.3	30	16	14
3	Broadway/Knappen Lane	Asphalt	38	Granular	50										
4	Broadway/Knappen Lane	Asphalt/Concrete	21/90	N/A	N/A	Clay	1.5	30.3	0.0	5.2	8.0	86.8	97	26	71

TESTHOLE TH1



Project Name: 2004 City of Winnipeg Street Renewal Program

Date Drilled: May 4, 2004

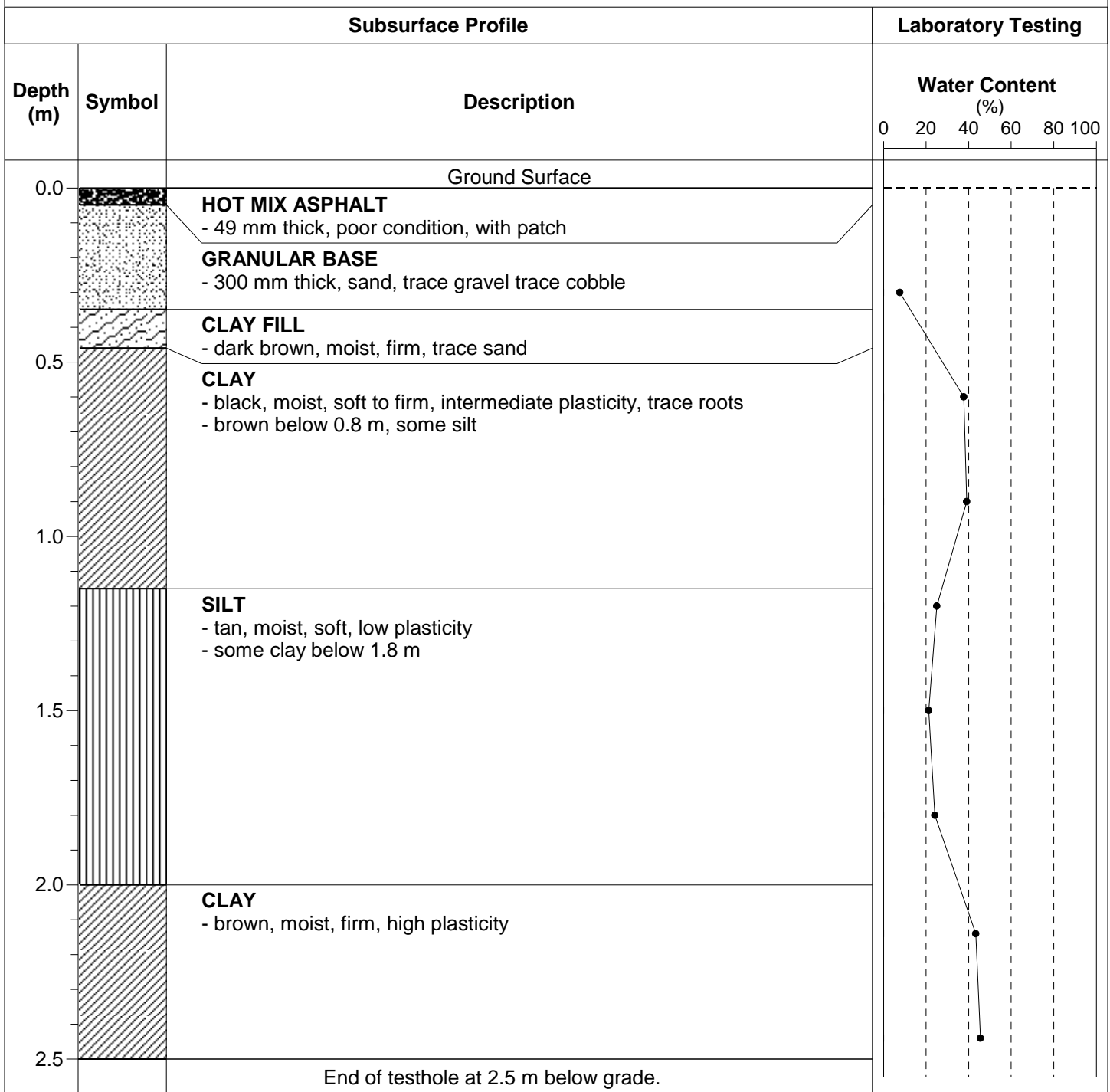
Client: KGS Group

Depth of Testhole: 2.5 m

Site: Broadway/Knappen Lane

Logged by: Robert Hochkievich

Testhole Location: 1.5 m S, 2 m W of SE corner of 730 Broadway property



TESTHOLE TH2



Project Name: 2004 City of Winnipeg Street Renewal Program

Date Drilled: May 4, 2004

Client: KGS Group

Depth of Testhole: 2.5 m

Site: Broadway/Knappen Lane

Logged by: Robert Hochkievich

Testhole Location: 1.5 m S, 3 m W of SE corner of 748 Broadway property

Subsurface Profile			Laboratory Testing							
Depth (m)	Symbol	Description	Moisture Content (%)				Gravel (%)	Sand (%)	Silt (%)	Clay (%)
			PL	LL	0	25				
0.0		Ground Surface								
		HOT MIX ASPHALT - 36 mm thick, poor condition								
		GRANULAR BASE - 200 mm thick, sand, with gravel								
		CLAY FILL - dark brown, moist, firm, with sand, with gravel								
0.5		CLAY - dark brown, moist, firm, high plasticity								
1.0										
1.5										
2.0		SILT - tan, moist, soft, low plasticity, with clay								
2.5		End of testhole at 2.5 m below grade.					0.4	4.7	65.6	29.3

TESTHOLE TH3



Project Name: 2004 City of Winnipeg Street Renewal Program

Date Drilled: May 4, 2004

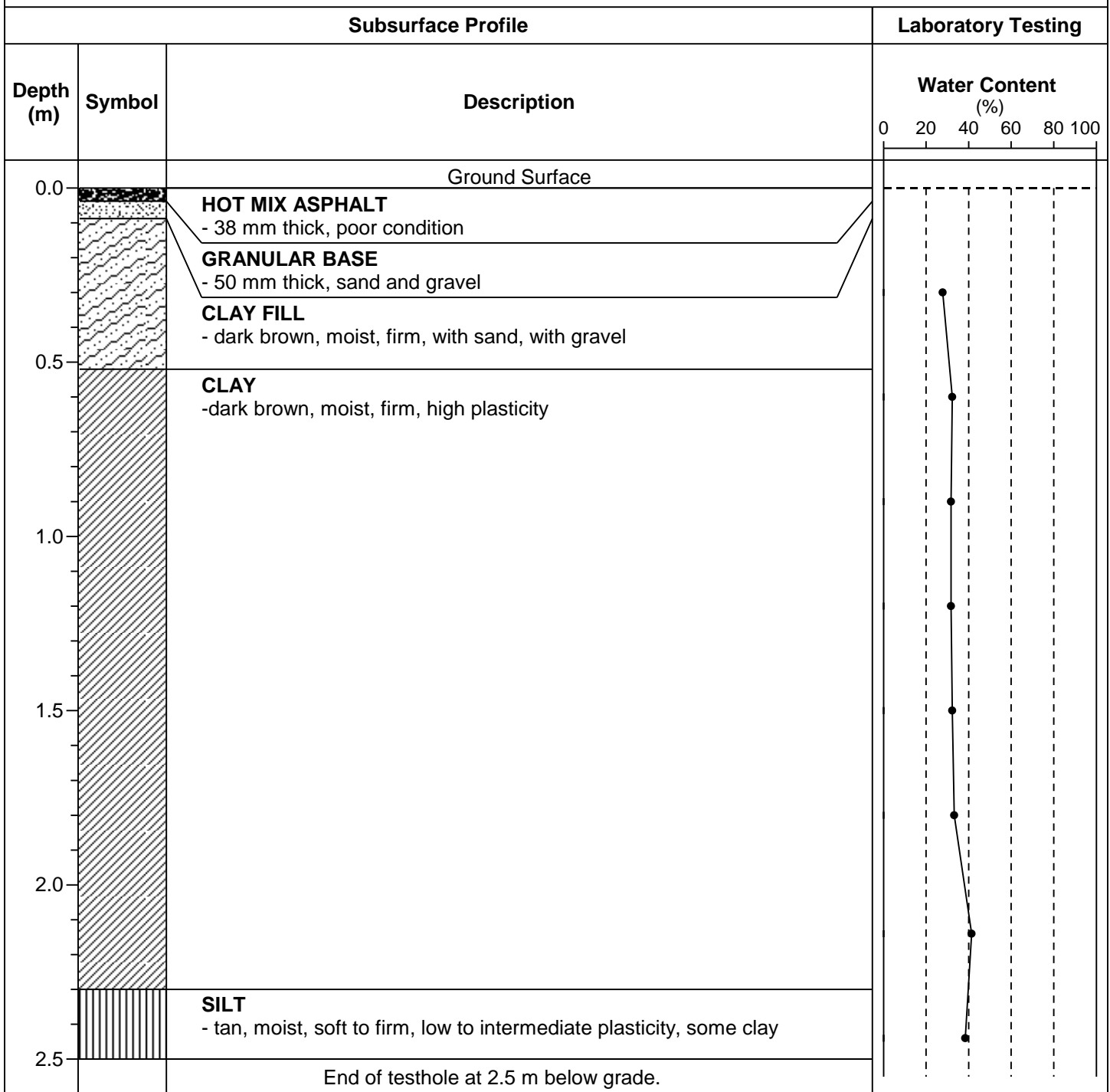
Client: KGS Group

Depth of Testhole: 2.5 m

Site: Broadway/Knappen Lane

Logged by: Robert Hochkievich

Testhole Location: 1.5 m S of SE corner of 760 Broadway property



TESTHOLE TH4



Project Name: 2004 City of Winnipeg Street Renewal Program

Date Drilled: May 4, 2004

Client: KGS Group

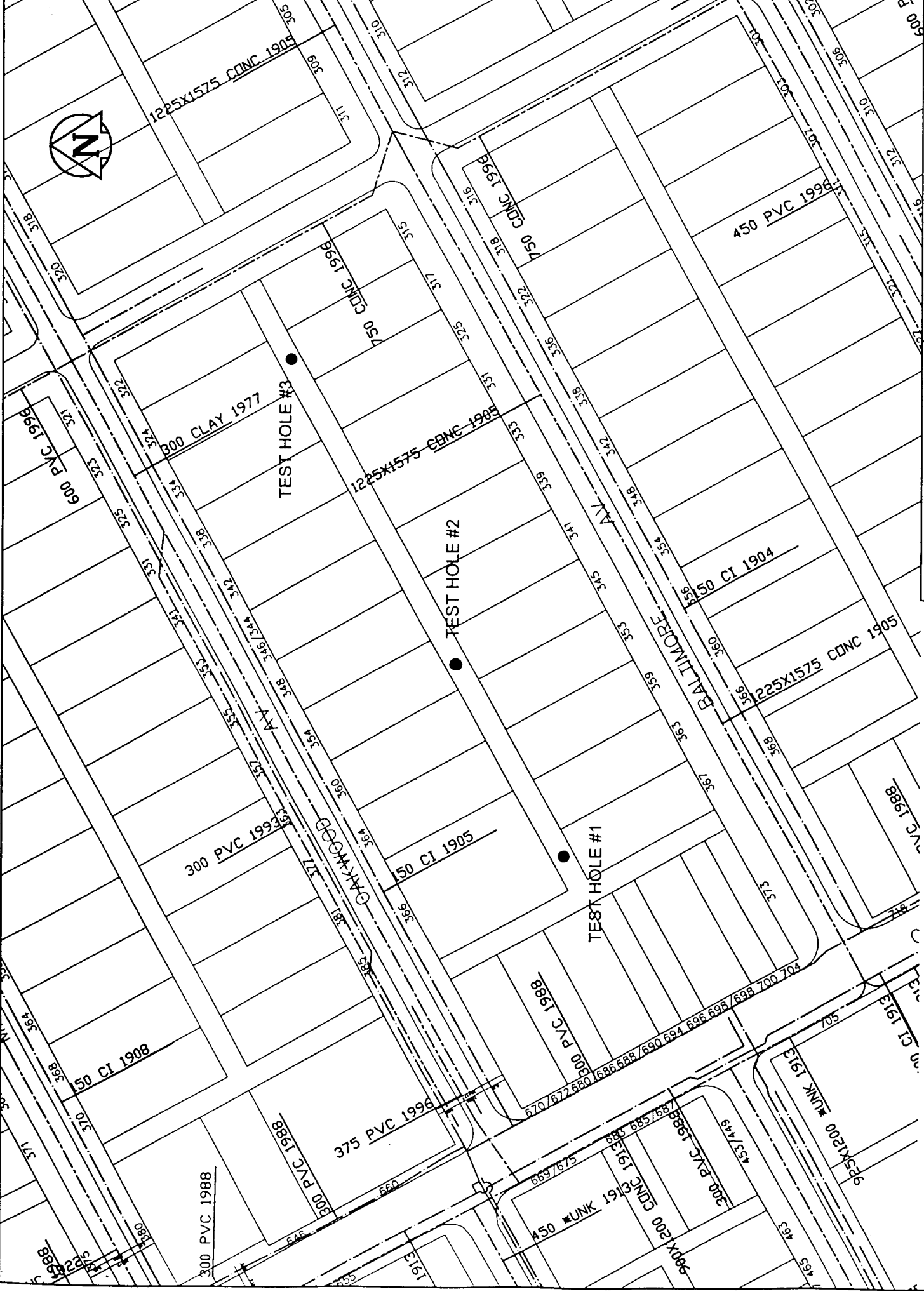
Depth of Testhole: 2.5 m

Site: Broadway/Knappen Lane

Logged by: Robert Hochkievich

Testhole Location: 1.0 m S, 4 m W of SW corner of 762 Broadway property

Subsurface Profile			Laboratory Testing					
Depth (m)	Symbol	Description	Moisture Content (%)		Gravel (%)	Sand (%)	Silt (%)	Clay (%)
			PL	LL				
0.0		Ground Surface						
		HOT MIX ASPHALT - 21 mm thick, patch, poor condition						
		20 mm GRANULAR BASE - 50 mm thick, gravel and sand						
		CONCRETE - 100 mm thick, poor condition						
0.5		CLAY FILL - dark brown, moist, firm, some sand, some gravel						
		CLAY - dark brown, moist, firm, high plasticity - 100 mm thick silt seam at 2.3 m - brown below 2.3 m, some silt						
1.0								
1.5					0.0	5.2	8.0	86.8
2.0								
2.5		End of testhole at 2.5 m below grade.						



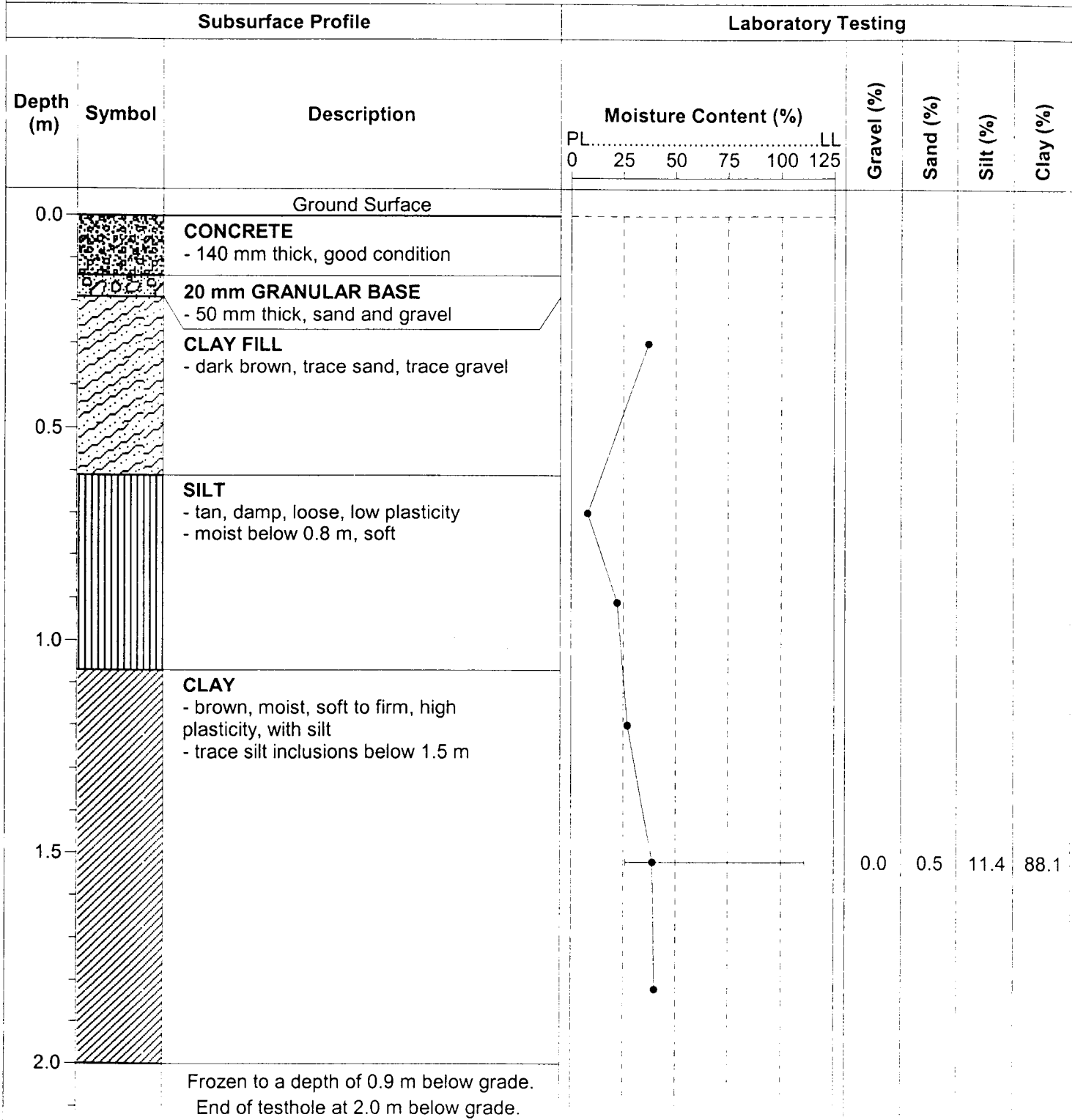
SEWER
 WATER

TESTHOLE 140-2



Project Name: 2004 City of Winnipeg Street Renewal Program
 Client: UMA Engineering Ltd.
 Site: Baltimore/Oakwood Lane
 Testhole Location: 2 m W of 354 Oakwood Rd. east garage line, 4 m S of power post

Date Drilled: January 20, 2004
 Depth of Testhole: 2.0 m
 Logged by: Robert Hochkievich



TESTHOLE 140-3



Project Name: 2004 City of Winnipeg Street Renewal Program

Date Drilled: January 20, 2004

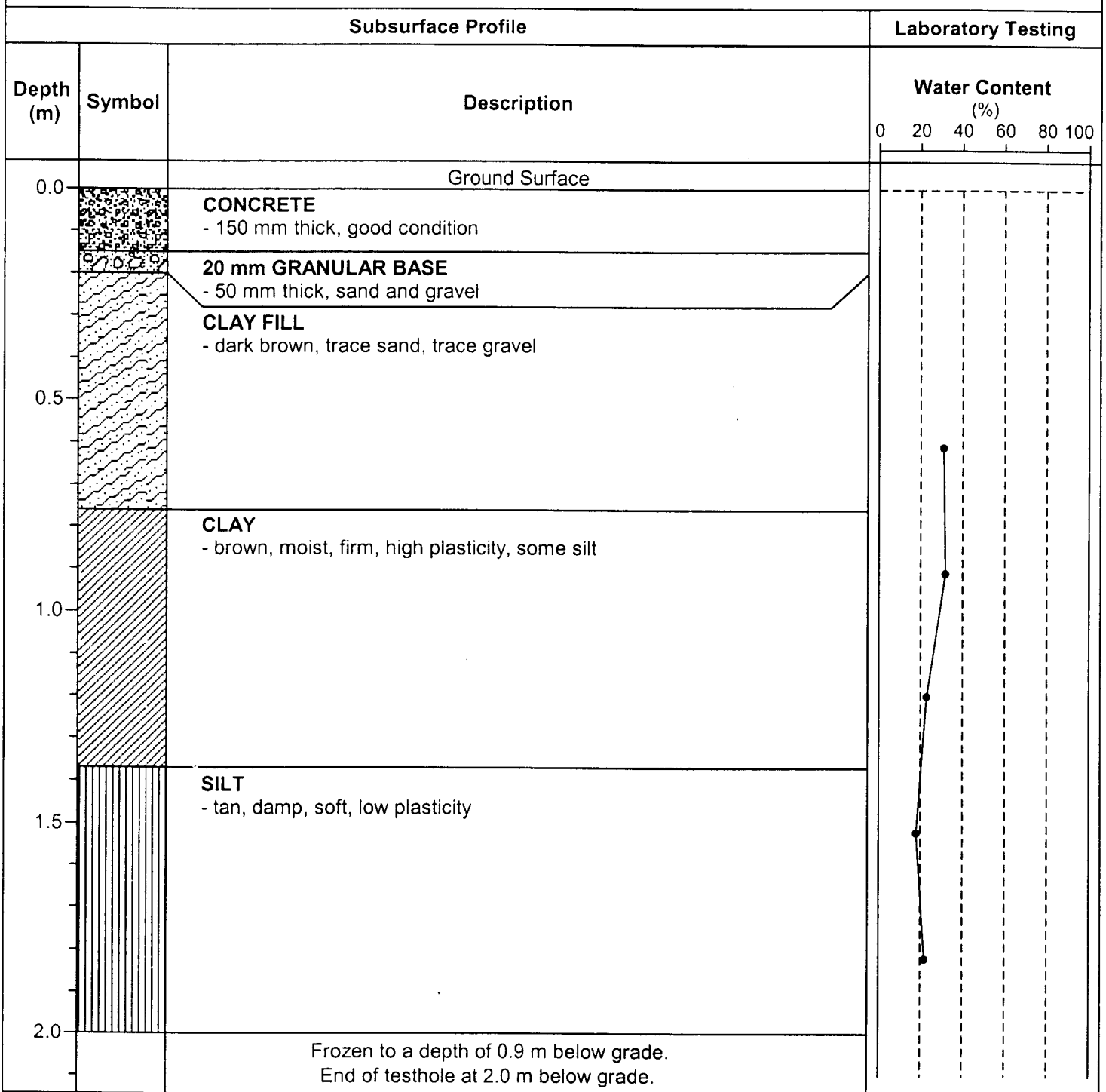
Client: UMA Engineering Ltd.

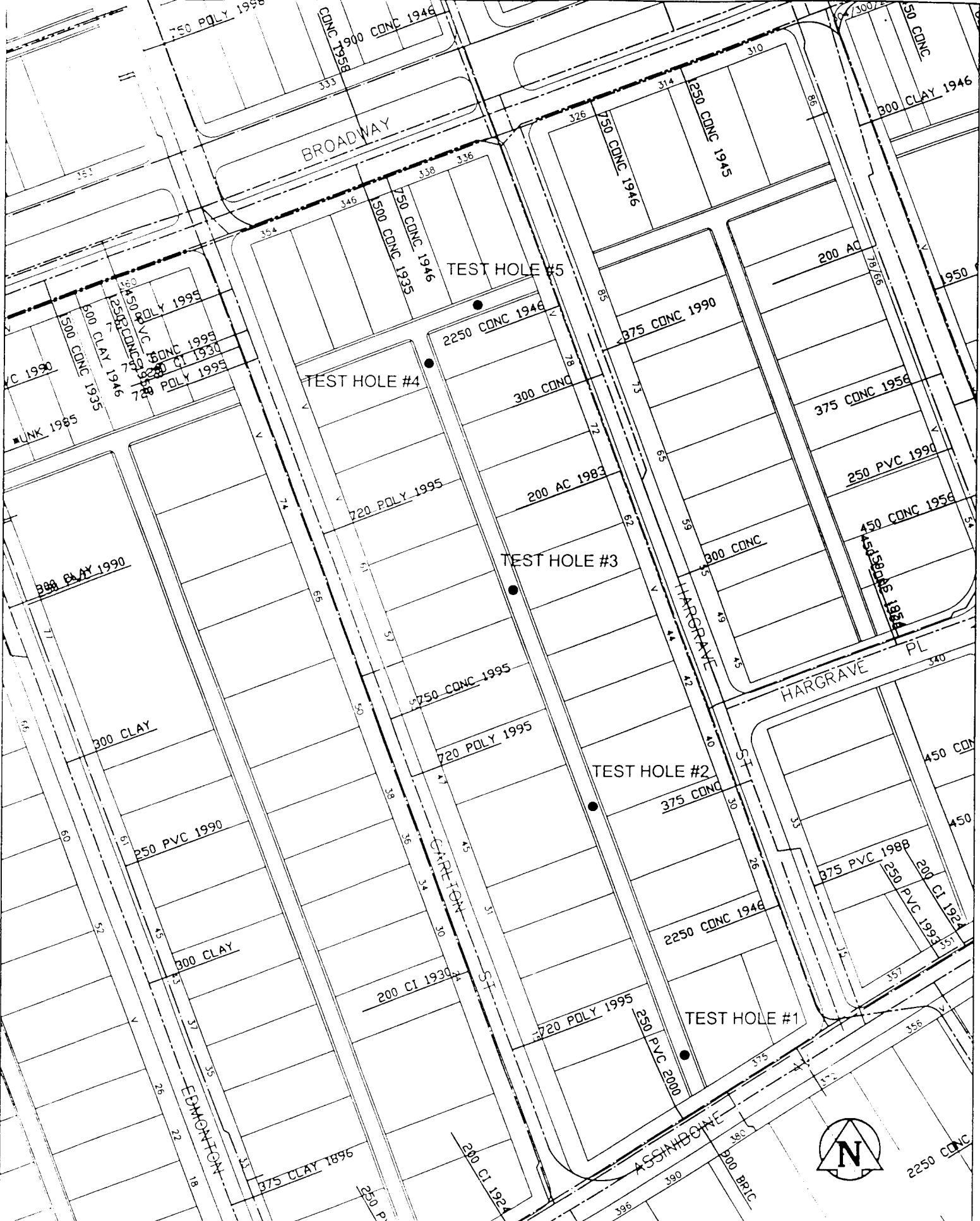
Depth of Testhole: 2.0 m



Site: Baltimore/Oakwood Lane

Logged by: Robert Hochkievich

Testhole Location: In line with west garage line of 324 Oakwood Rd., 3 m S of power post





SEWER 
 WATER 

2004 LANE RENEWAL PROGRAM
 TEST HOLE LOCATION SKETCH - BROADWAY SOUTH LANE
 (CARLTON ST - HARGRAVE ST)



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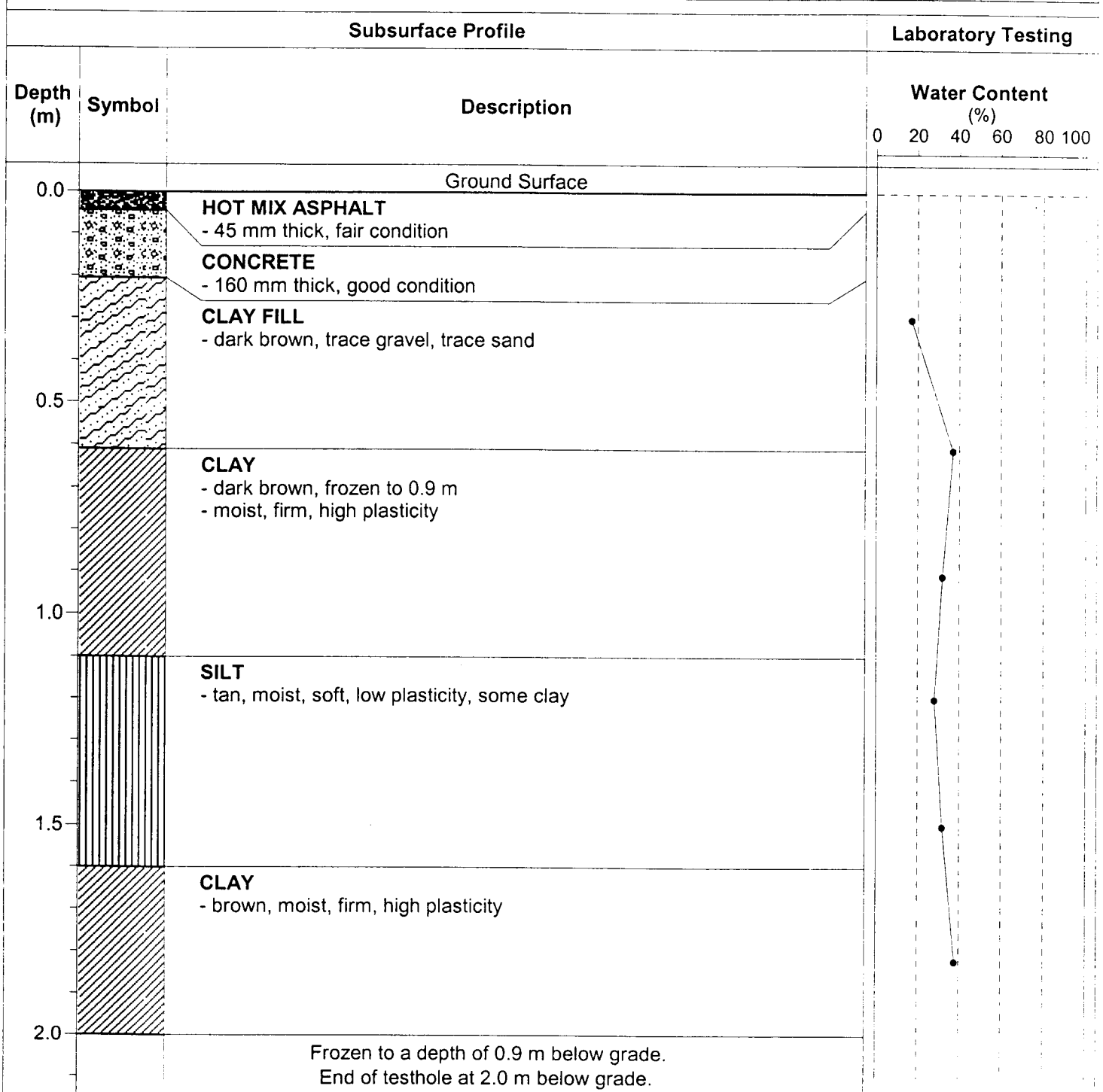


TESTHOLE 126-5

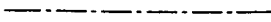



Project Name: 2004 City of Winnipeg Street Renewal Program
 Client: UMA Engineering Ltd.
 Site: Broadway South Lane
 Testhole Location: 1 m W, 2 m S of 338 Broadway southeast column

Date Drilled: January 19, 2004
 Depth of Testhole: 2.0 m
 Logged by: Robert Hochkievich





SEWER 
 WATER 

2004 LANE RENEWAL PROGRAM
 TESTHOLE LOCATION SKETCH - BROADWAY SOUTH LANE
 (CARLTON ST - HARGRAVE ST)



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City of Winnipeg
2004 Street Renewal Program
Geotechnical Investigation

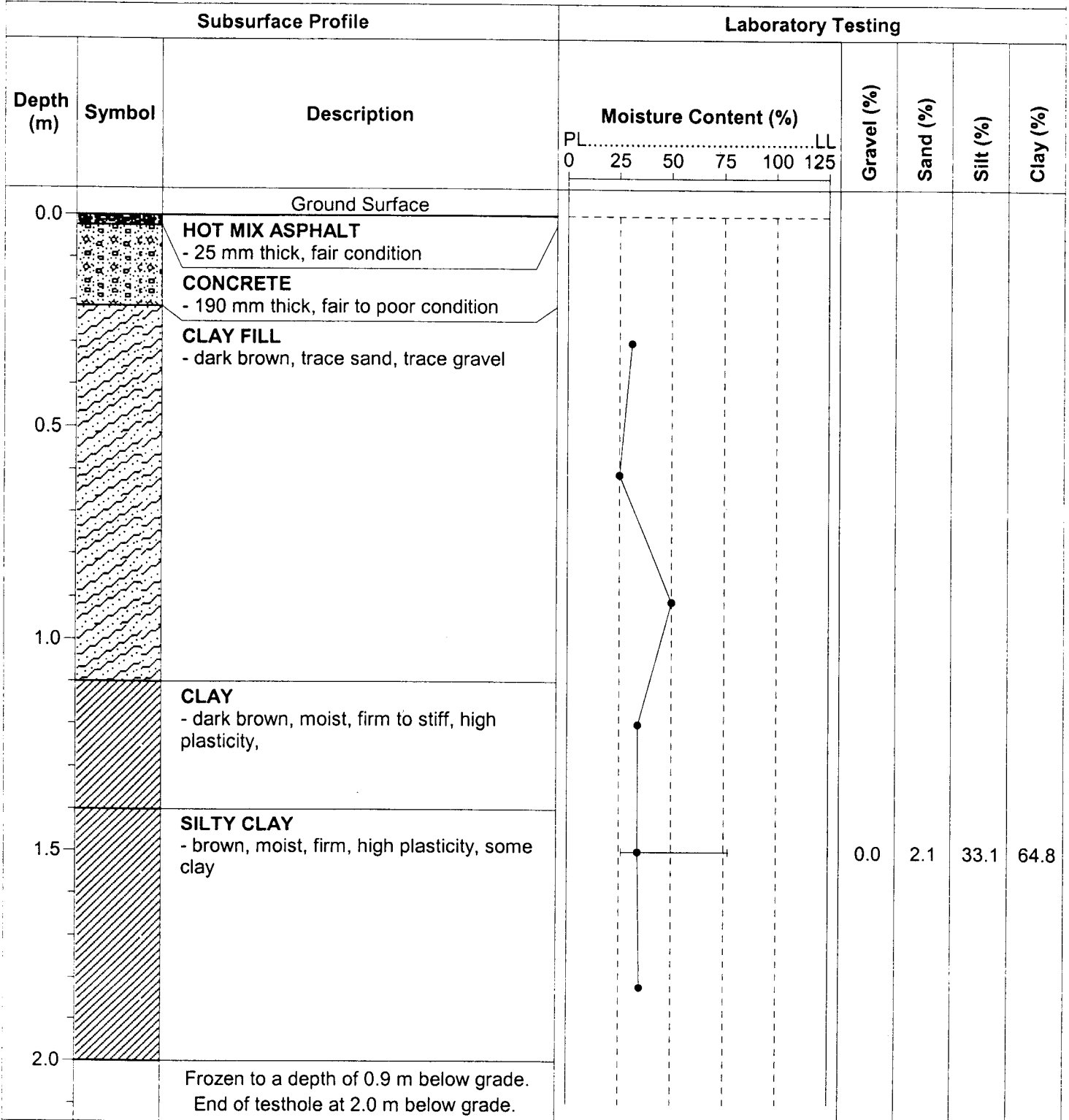
Testhole No.	Testhole Location	Pavement Surface		Pavement Structure Material		Sample Description	Sample Depth (m)	Moisture Content (%)	Particle Size Analysis			Atterberg Limits			
		Type	Thickness (mm)	Type	Thickness (mm)				Gravel (%)	Sand (%)	Silt (%)	Clay (%)	Liquid Limit	Plastic Limit	Plasticity Limit
1	Carlton/Hargrave Lane	Asphalt/Concrete	25/190	N/A	N/A	Silty clay	1.5	33.6	0.0	2.1	33.1	64.8	77	26	51
2	Carlton/Hargrave Lane	Asphalt/Concrete	30/140	N/A	N/A										
3	Carlton/Hargrave Lane	Asphalt/Concrete	10/200	N/A	N/A										
4	Carlton/Hargrave Lane	Concrete	200	N/A	N/A	Silt	1.8	23.7	0.1	6.3	70.3	23.3	26	16	10

TESTHOLE 126-1



Project Name: 2004 City of Winnipeg Street Renewal Program
 Client: UMA Engineering Ltd.
 Site: Carlton/Hargrave Lane
 Testhole Location: 5 m N, 16 m E of 15 Carlton Street southeast corner

Date Drilled: January 7, 2004
 Depth of Testhole: 2.0 m
 Logged by: Robert Hochkievich

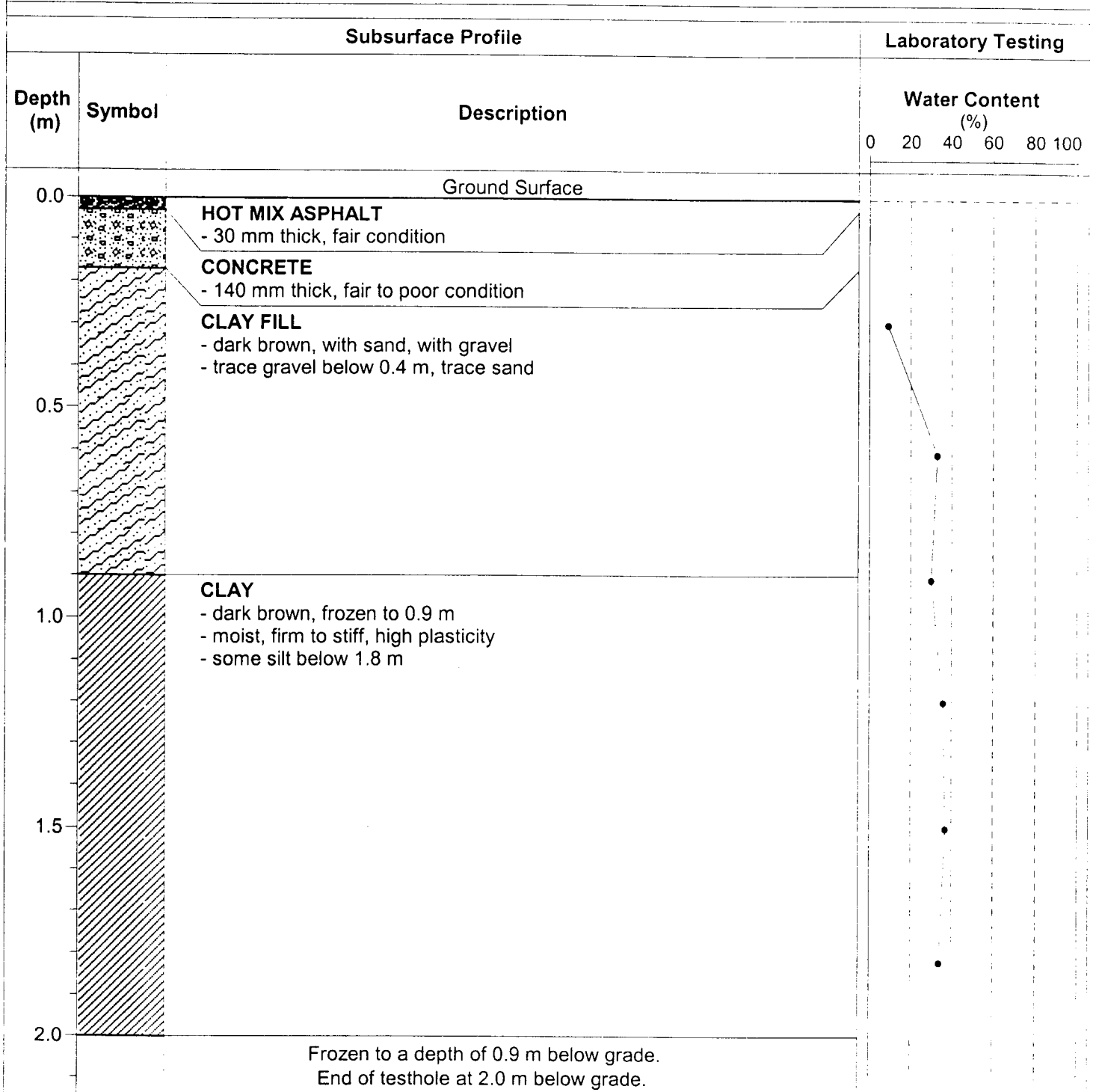


TESTHOLE 126-2



Project Name: 2004 City of Winnipeg Street Renewal Program
 Client: UMA Engineering Ltd.
 Site: Carlton/Hargrave Lane
 Testhole Location: 10 m W, 1 m N of 26 Hargrave St. southwest corner

Date Drilled: January 7, 2004
 Depth of Testhole: 2.0 m
 Logged by: Robert Hochkievich

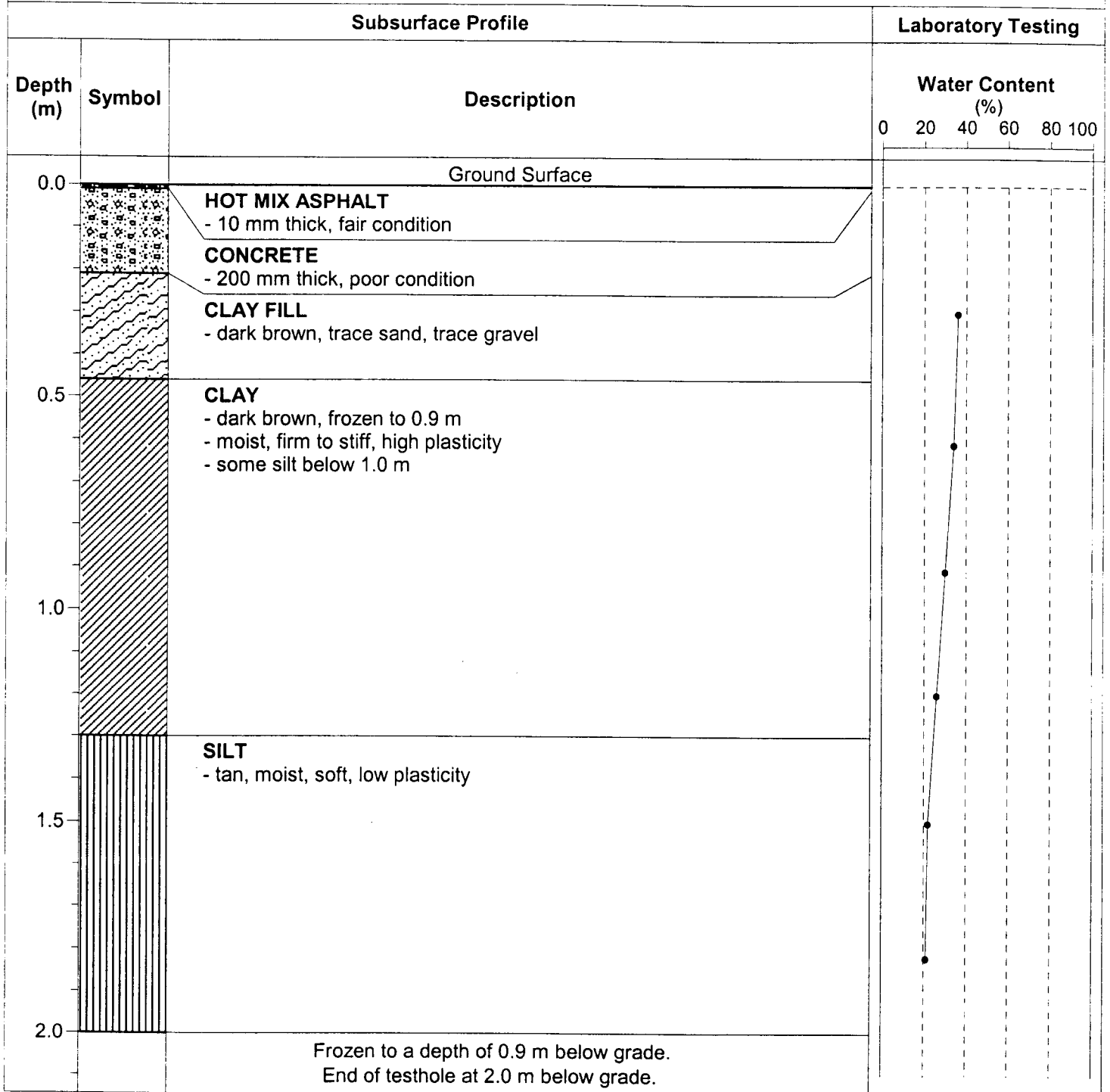


TESTHOLE 126-3



Project Name: 2004 City of Winnipeg Street Renewal Program
 Client: UMA Engineering Ltd.
 Site: Carlton/Hargrave Lane
 Testhole Location: 15 m S of Broadway south lane centre line

Date Drilled: January 7, 2004
 Depth of Testhole: 2.0 m
 Logged by: Robert Hochkievich

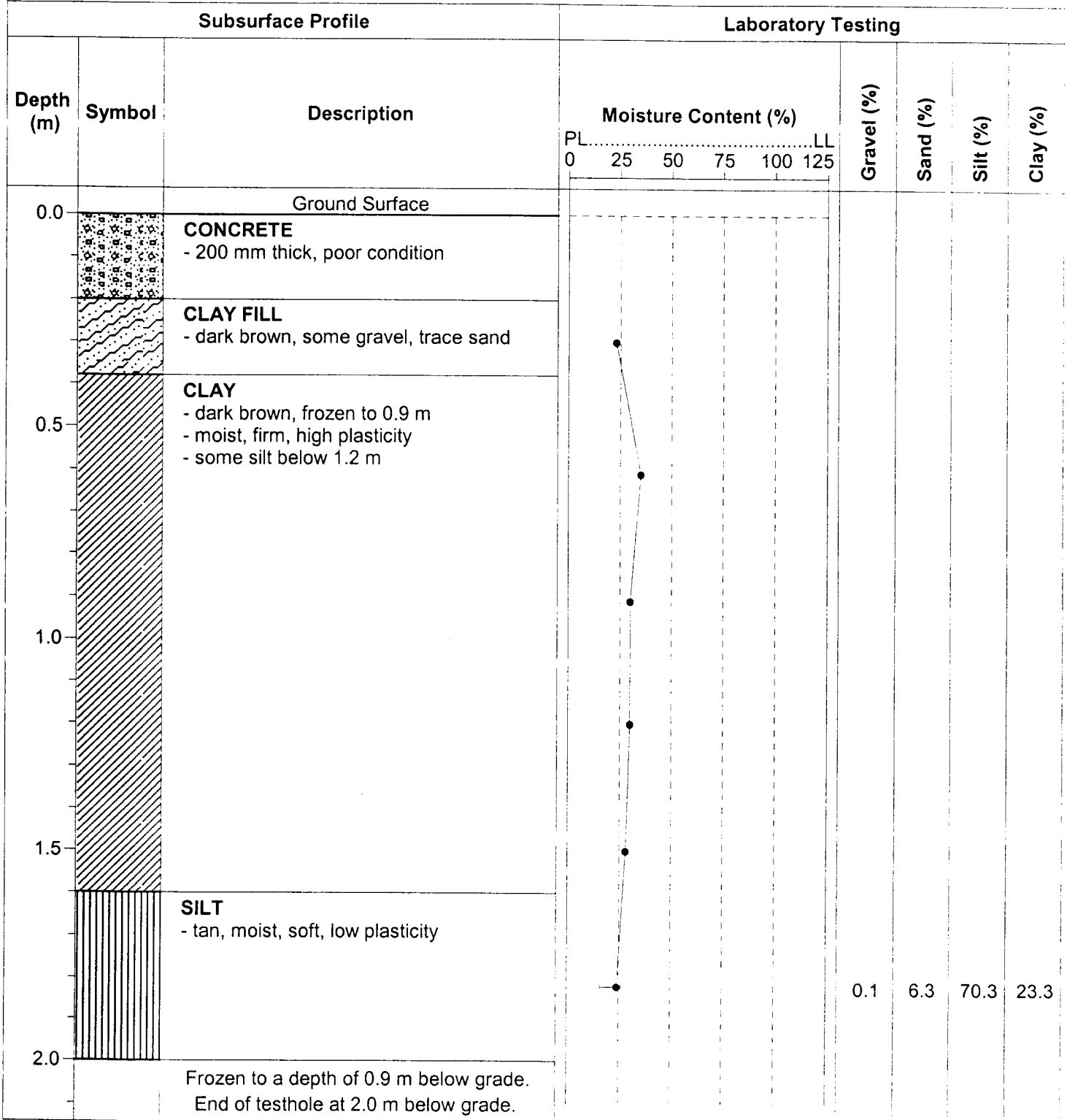


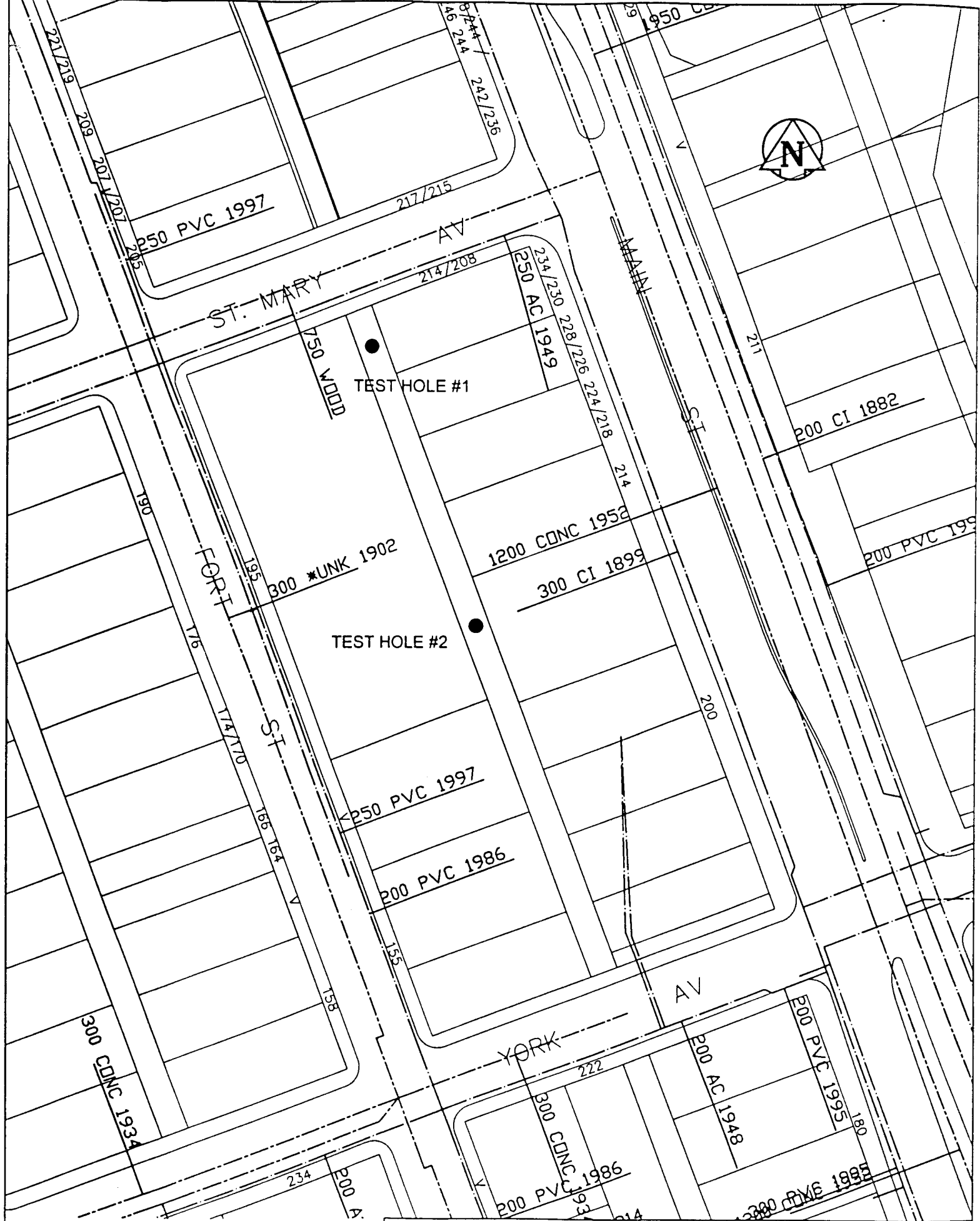
TESTHOLE 126-4





Project Name: 2004 City of Winnipeg Street Renewal Program
 Client: UMA Engineering Ltd.
 Site: Carlton/Hargrave Lane
 Testhole Location: centre of lane, 2 m S of 72 Hargrave St. north building line

Date Drilled: January 7, 2004
 Depth of Testhole: 2.0 m
 Logged by: Robert Hochkievich





SEWER 
 WATER 

2004 LANE RENEWAL PROGRAM
 TEST HOLE LOCATION SKETCH - FORT ST EAST LANE
 (ST MARY AV - 70M SOUTH OF ST MARY AV)



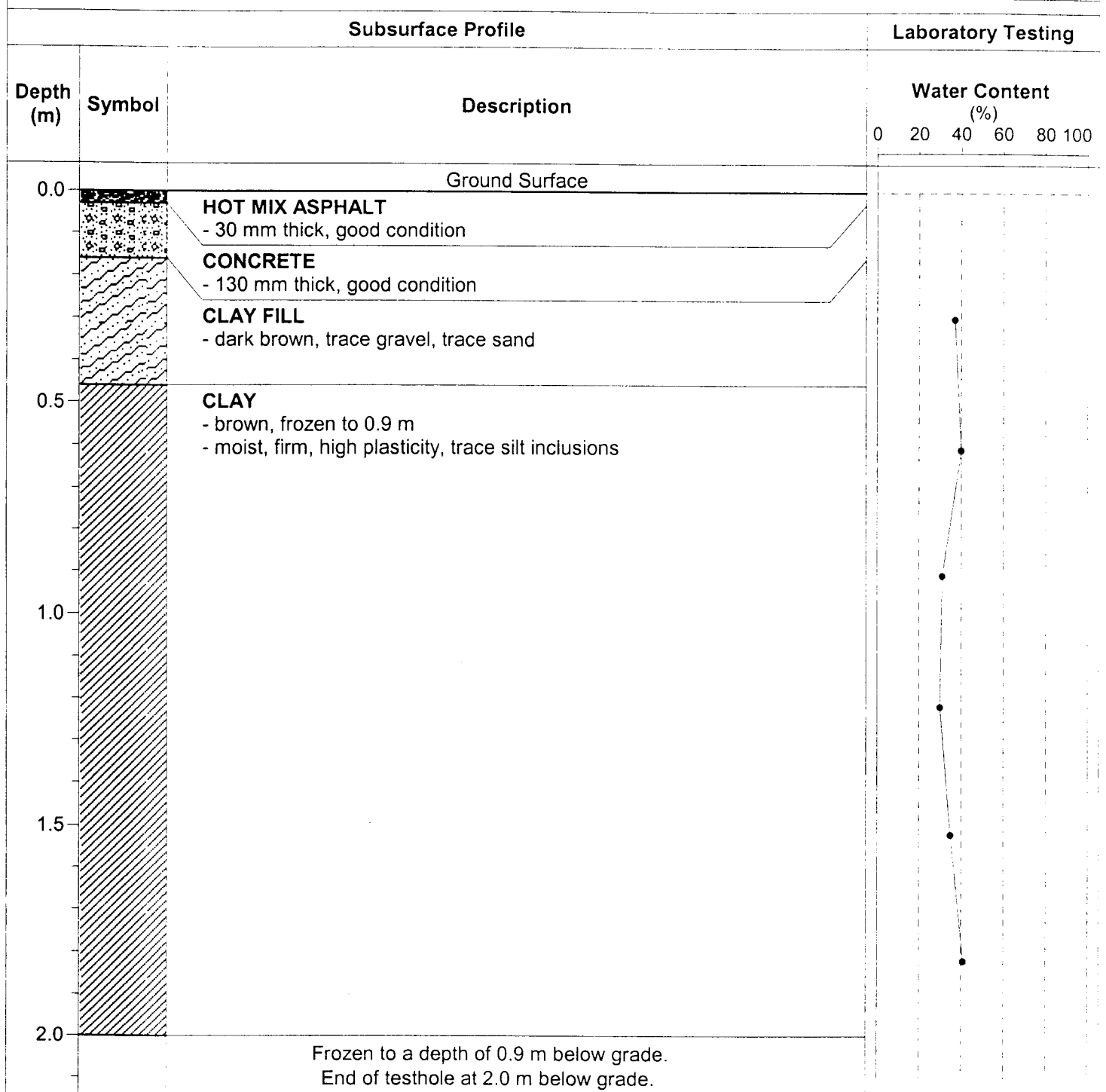
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TESTHOLE 125-1



Project Name: 2004 City of Winnipeg Street Renewal Program
 Client: UMA Engineering Ltd.
 Site: Fort Street East Lane
 Testhole Location: 7.5 m S, 3 m E of 195 Fort Street NE corner

Date Drilled: January 21, 2004
 Depth of Testhole: 2.0 m
 Logged by: Robert Hochkievich



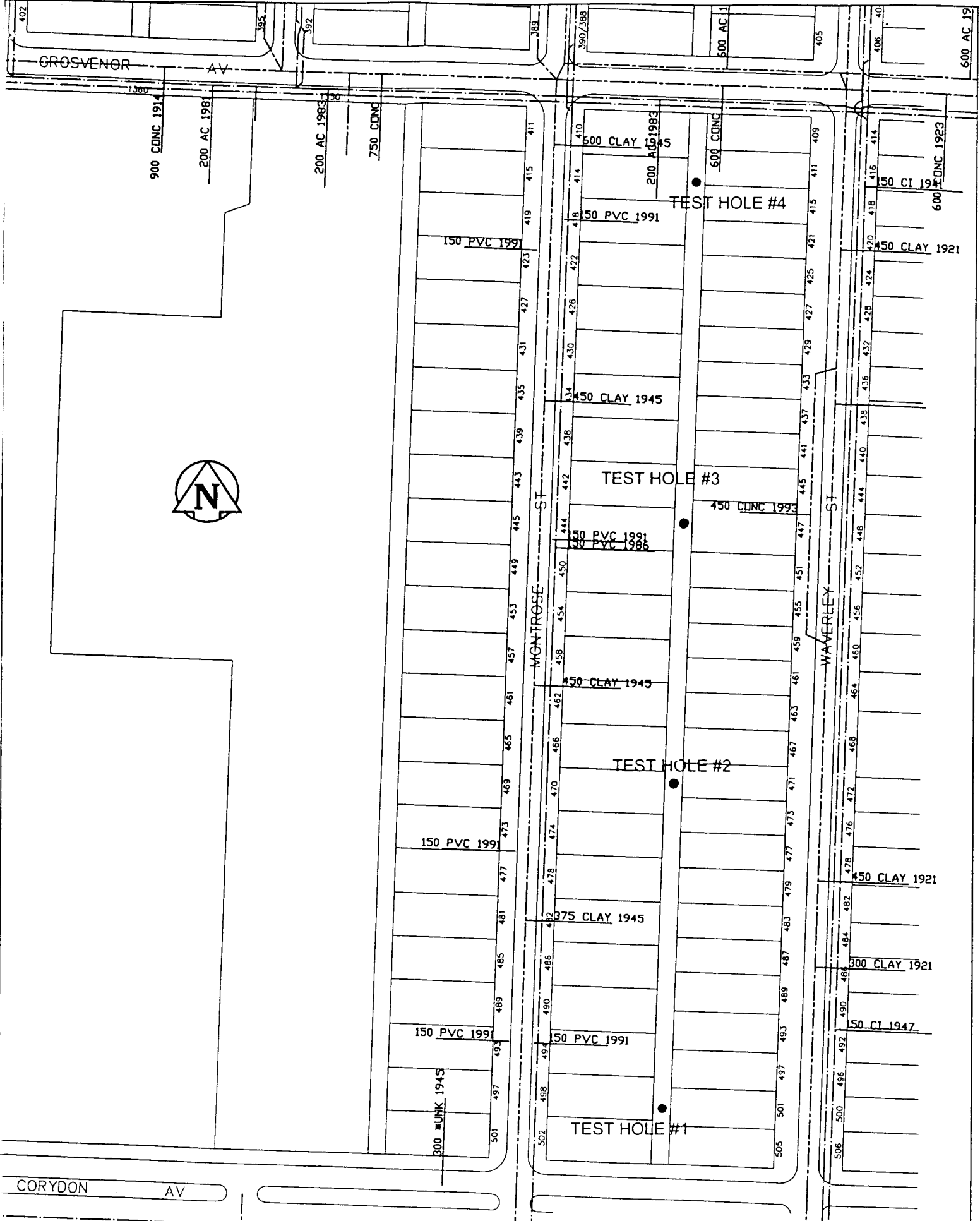
TESTHOLE 125-2





Project Name: 2004 City of Winnipeg Street Renewal Program
 Client: UMA Engineering Ltd.
 Site: Fort Street East Lane
 Testhole Location: 2 m W, 15 m S of 200 Main Street northwest property line

Date Drilled: January 21, 2004
 Depth of Testhole: 2.0 m
 Logged by: Robert Hochkievich

Subsurface Profile			Laboratory Testing					
Depth (m)	Symbol	Description	Moisture Content (%)		Gravel (%)	Sand (%)	Silt (%)	Clay (%)
			PL	LL				
0.0		Ground Surface						
		CONCRETE - 160 mm thick, good condition						
		20 mm CRUSHED LIMESTONE BASE - 250 mm thick						
0.5		CLAY FILL - dark brown, trace gravel, trace sand						
1.0		CLAY - brown, moist, firm, high plasticity, trace silt inclusions						
1.5					0.4	1.0	12.0	86.6
2.0		Frozen to a depth of 0.9 m below grade. End of testhole at 2.0 m below grade.						



SEWER 
 WATER 

2004 LANE RENEWAL PROGRAM
 TESTHOLE LOCATION SKETCH - MONTROSE / WAVERLEY LANE
 (CORYDON AV - GROSVENOR AV)



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**City of Winnipeg
2004 Street Renewal Program
Geotechnical Investigation**

Testhole No.	Testhole Location	Pavement Surface		Pavement Structure Material		Sample Description	Sample Depth (m)	Moisture Content (%)	Particle Size Analysis				Atterberg Limits			
		Type	Thickness (mm)	Type	Thickness (mm)				Gravel (%)	Sand (%)	Silt (%)	Clay (%)	Liquid Limit	Plastic Limit	Plasticity Limit	
1	Montrose/Waverley Lane	Asphalt/Concrete	10/175	N/A	N/A											
2	Montrose/Waverley Lane	Asphalt/Concrete	35/125	N/A	N/A	Silty clay	1.5	39.6	0.0	0.5	49.2	50.3	45	21	24	
3	Montrose/Waverley Lane	Concrete	160	N/A	N/A											
4	Montrose/Waverley Lane	Asphalt/Concrete	25/140	N/A	N/A	Clay	1.5	38.7	0.2	1.2	11.0	87.6	107	24	83	

TESTHOLE 135-1



Project Name: 2004 City of Winnipeg Street Renewal Program

Date Drilled: January 7, 2004

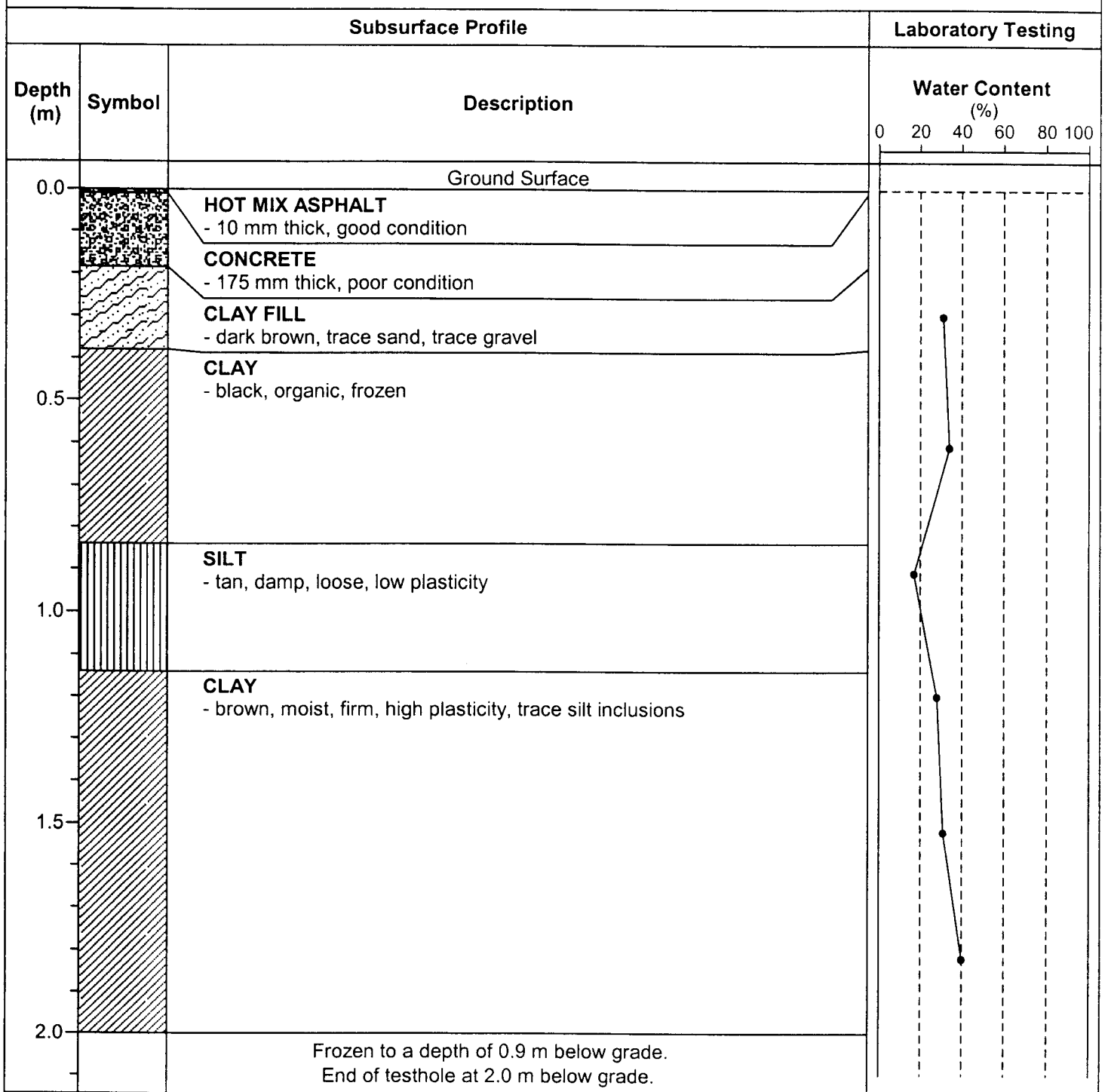
Client: UMA Engineering Ltd.

Depth of Testhole: 2.0 m

Site: Montrose/Waverley Lane

Logged by: Robert Hochkievich

Testhole Location: 4 m W of 501 Waverley St. property line, 1 m S of north garage line



TESTHOLE 135-3



Project Name: 2004 City of Winnipeg Street Renewal Program

Date Drilled: January 7, 2004

Client: UMA Engineering Ltd.

Depth of Testhole: 2.0 m

Site: Montrose/Waverley Lane

Logged by: Robert Hochkievich

Testhole Location: 4 m W of 447 Waverley St. property line, 4 m S of north building line

