

**APPENDIX A**  
**TEST HOLE LOGS**

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The following test hole logs are provided to aid in the Contractor's evaluation of site conditions. The information presented is considered accurate at the locations shown on the Drawings and at the time of drilling. However, variations in soils conditions may exist between test holes and fluctuations in groundwater levels can be expected seasonally and may occur as a result of construction activities. The nature and extent of variations in soil conditions and variations in groundwater levels may not become evident until construction.



RIVERWOOD AVENUE  
WOODGROVE STREET TO WICKLOW STREET

2004 STREET RENEWAL PROGRAM

GEOTECHNICAL INVESTIGATION

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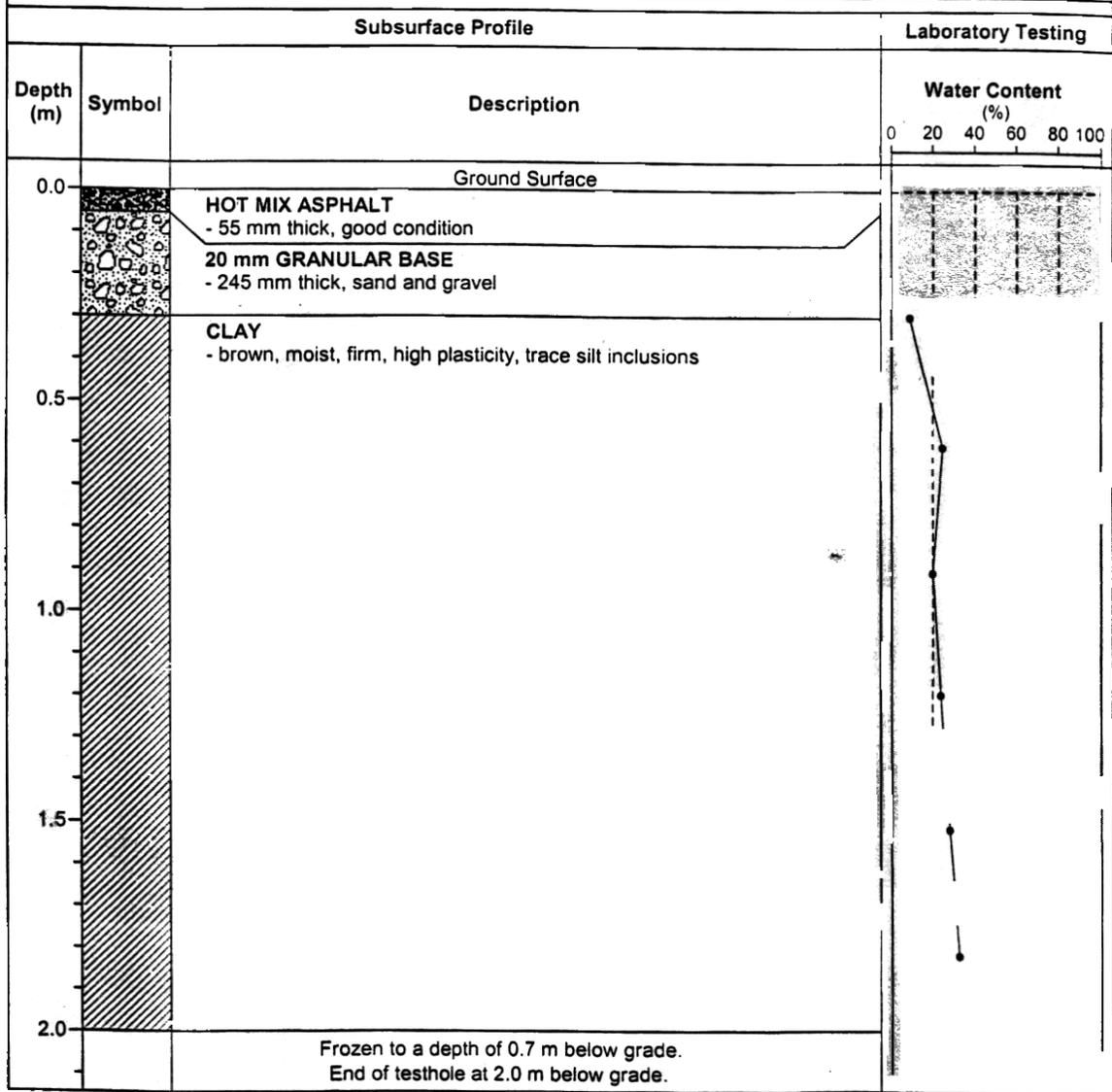
City of Winnipeg  
2004 Street Renewal Program  
Geotechnical Investigation

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	Riverwood Ave.	Asphalt	55	Granular	245											
2	Riverwood Ave.	Asphalt	74	Granular	373											
3	Riverwood Ave.	Asphalt	74	Granular	306	Clay	1.5	42.2	0.0	0.5	10.4	89.1	107	27	80	

# TESTHOLE 144-1



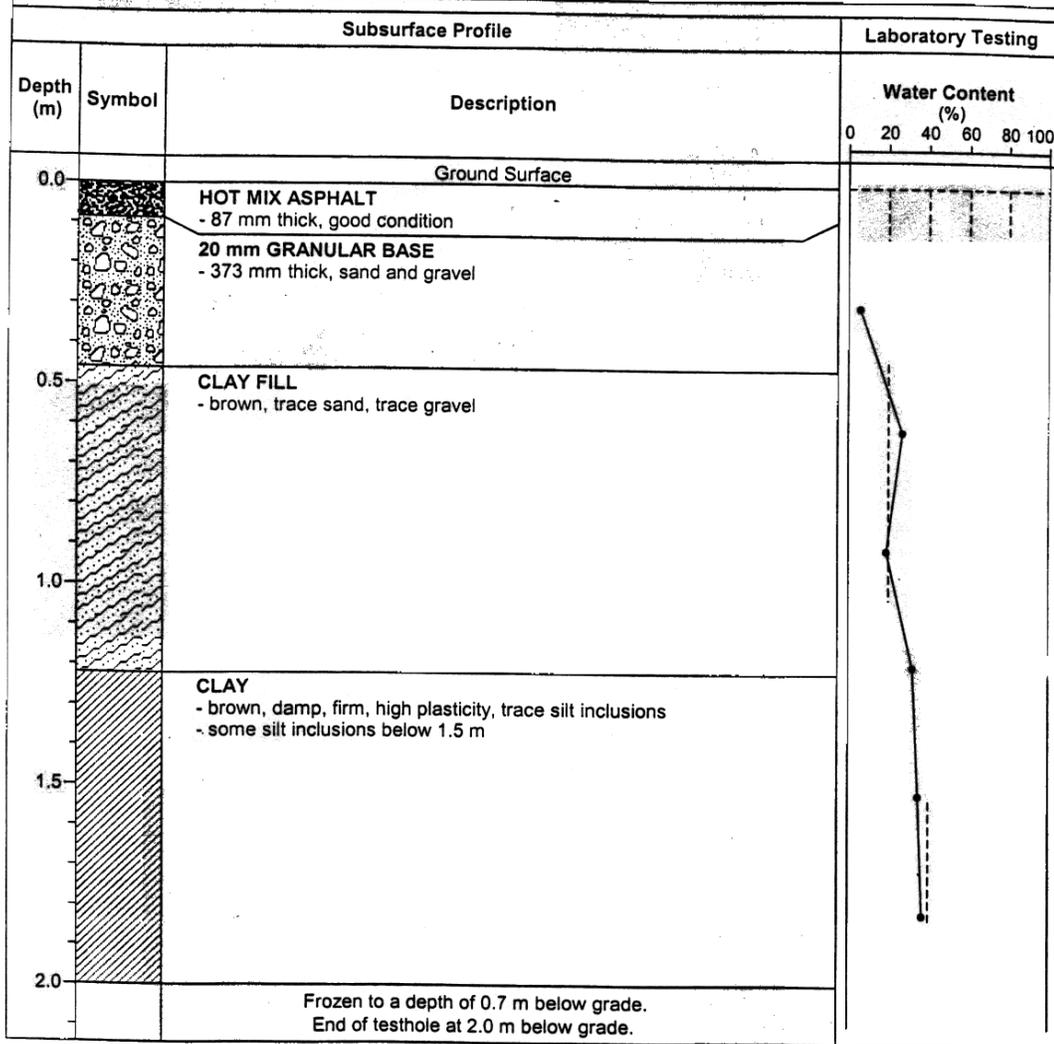
**Project Name:** 2004 City of Winnipeg Street Renewal Program    **Date Drilled:** December 19, 2003  
**Client:** UMA Engineering Ltd.    **Depth of Testhole:** 2.0 m  
**Site:** Riverwood Avenue    **Logged by:** Robert Hochkievich  
**Testhole Location:** 1.75 N of curb, 1 m W of 854 Riverwood Ave. property line



# TESTHOLE 144-2



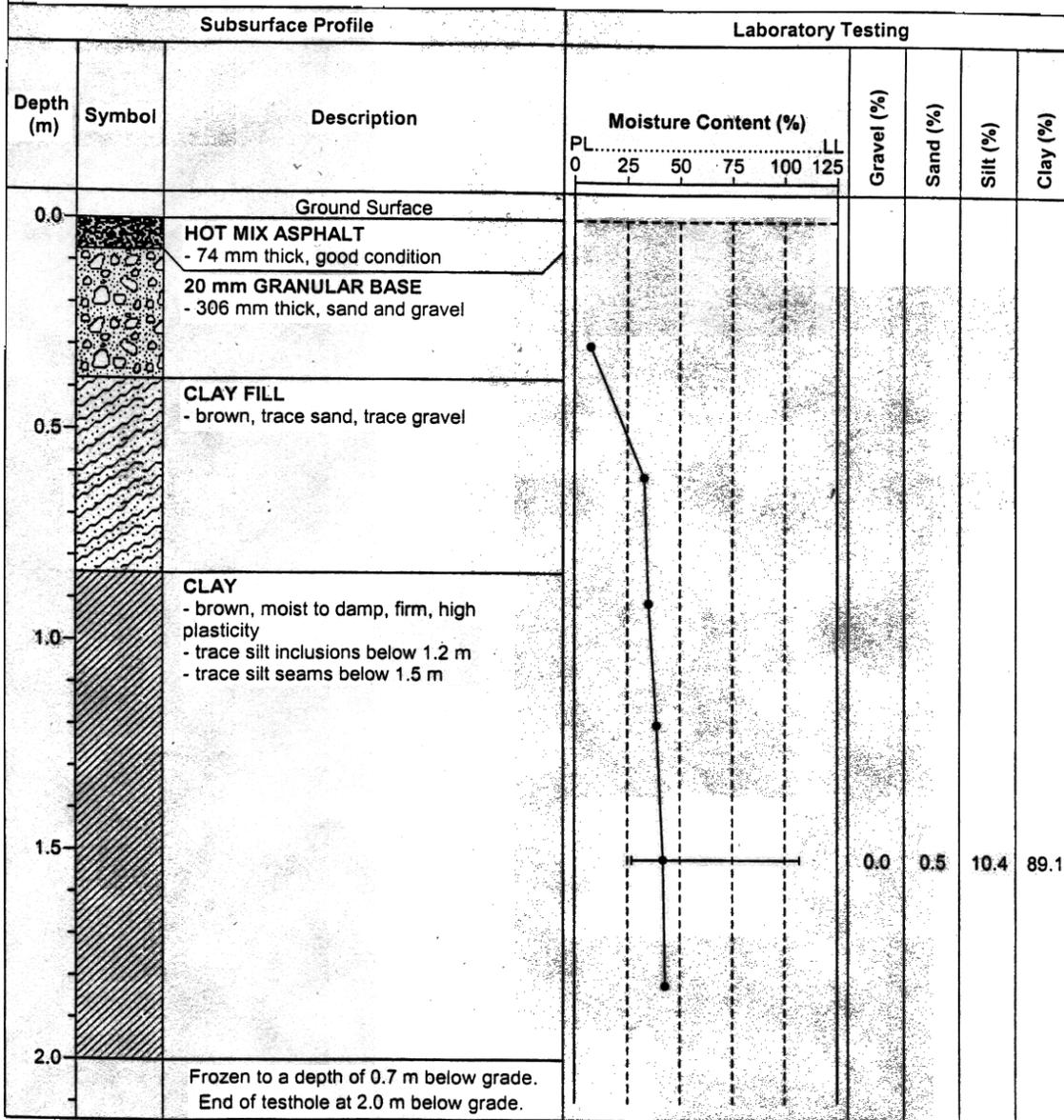
**Project Name:** 2004 City of Winnipeg Street Renewal Program    **Date Drilled:** December 19, 2003  
**Client:** UMA Engineering Ltd.    **Depth of Testhole:** 2.0 m  
**Site:** Riverwood Avenue    **Logged by:** Robert Hochkivich  
**Testhole Location:** 1.5 S of curb, on E property line of 831 Riverwood Ave.

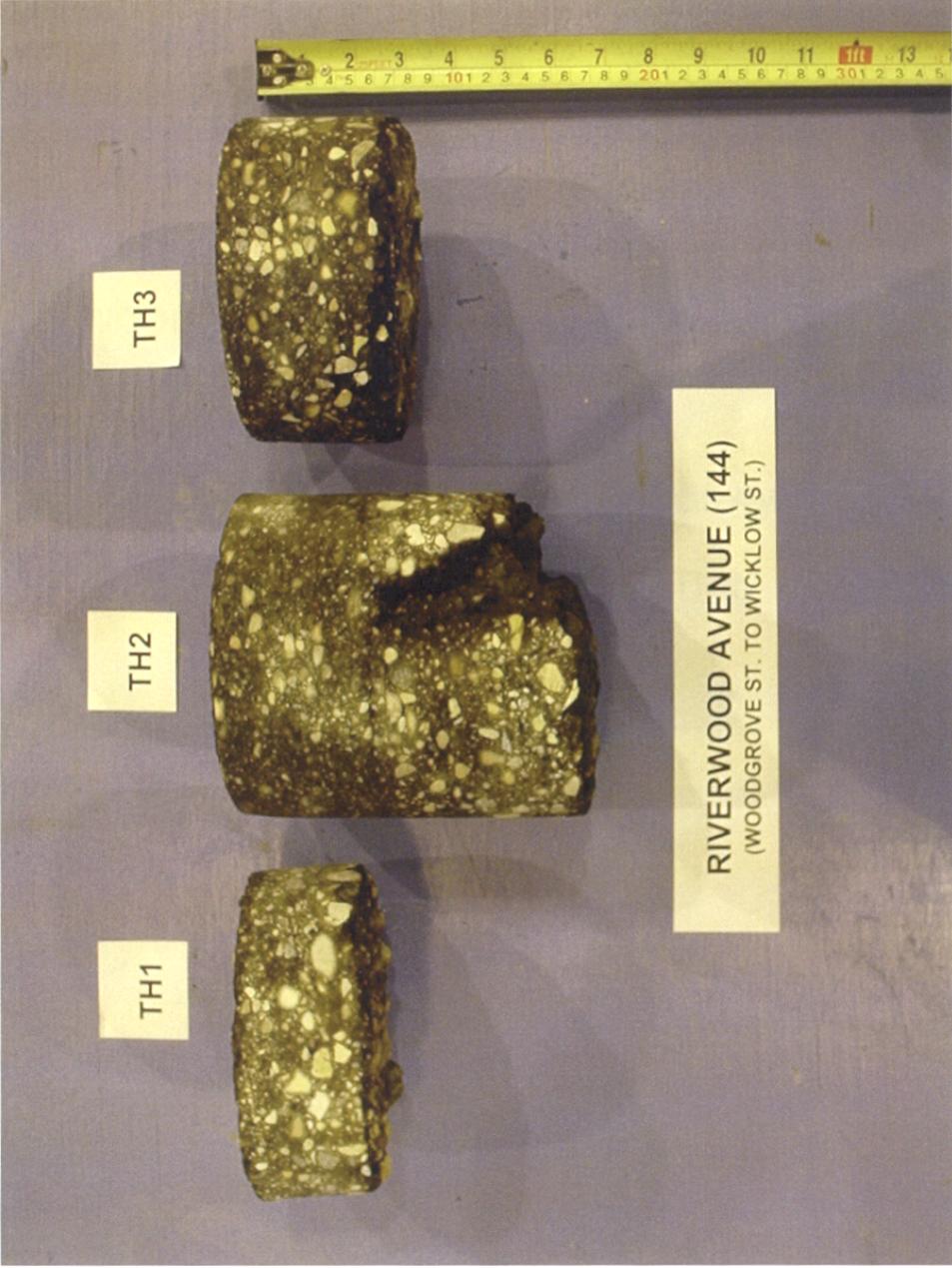


# TESTHOLE 144-3



**Project Name:** 2004 City of Winnipeg Street Renewal Program    **Date Drilled:** December 19, 2003  
**Client:** UMA Engineering Ltd.    **Depth of Testhole:** 2.0 m  
**Site:** Riverwood Avenue    **Logged by:** Robert Hochkievich  
**Testhole Location:** 1.5 N of curb, 3 m E of 804 Riverwood Ave. west building line





TH3

TH2

TH1

RIVERWOOD AVENUE (144)  
(WOODGROVE ST. TO WICKLOW ST.)



**RIVERSIDE DRIVE**  
**CALROSSIE BOULEVARD TO SOMERSET BOULEVARD**

**2004 STREET RENEWAL PROGRAM**  
**GEOTECHNICAL INVESTIGATION**

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SEWER ———  
 WATER ———

2004 RESIDENTIAL STREET RENEWAL PROGRAM  
 TEST HOLE LOCATION SKETCH - RIVERSIDE DR  
 (ACCESSIBLE BY - SOMERSET BLVD)



THE CITY OF WINNIPEG  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION  
 TECHNOLOGY SERVICES BRANCH  
 104 - 1155 PACIFIC AVE

TRIGIS MAPS MISC BOREHOLE

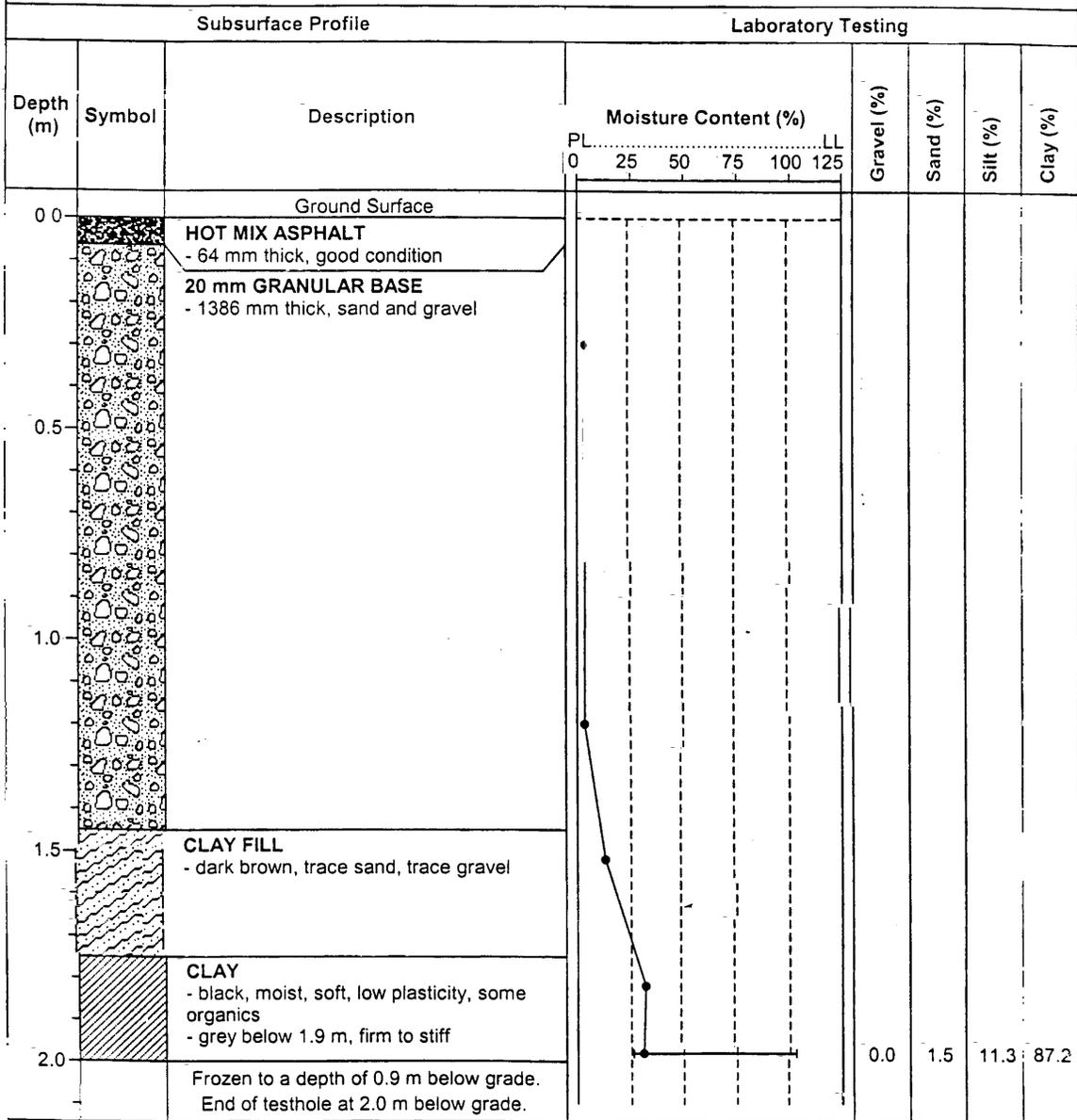


# TESTHOLE 142-1



Project Name: 2004 City of Winnipeg Street Renewal Program  
 Client: UMA Engineering Ltd.  
 Site: Riverside Drive  
 Testhole Location: 1.1 m W of curb, 7 m S of Lot 44

Date Drilled: December 19, 2003  
 Depth of Testhole: 2.0 m  
 Logged by: Robert Hochkievich



# TESTHOLE 142-2



Project Name: 2004 City of Winnipeg Street Renewal Program    Date Drilled: December 19, 2003  
 Client: UMA Engineering Ltd.    Depth of Testhole: 2.0 m  
 Site: Riverside Drive    Logged by: Robert Hochkievich  
 Testhole Location: 1.5 m W of curb, in line with N property line of 56 Riverside Dr.

Subsurface Profile			Laboratory Testing					
Depth (m)	Symbol	Description	Moisture Content (%)		Gravel (%)	Sand (%)	Silt (%)	Clay (%)
			PL	LL				
0.0		Ground Surface						
		<b>HOT MIX ASPHALT</b> - 58 mm thick, good condition						
		<b>20 mm GRANULAR BASE</b> - 242 mm thick, sand and gravel						
0.5		<b>CLAY FILL</b> - dark brown, trace sand, trace gravel						
1.0		<b>CLAY</b> - brown, damp, firm to stiff, high plasticity						
1.5								
2.0		<b>SILT</b> - tan, moist, soft, low plasticity						
		Frozen to a depth of 0.9 m below grade. End of testhole at 2.0 m below grade.			0.0	2.9	82.8	14.3

# TESTHOLE 142-3



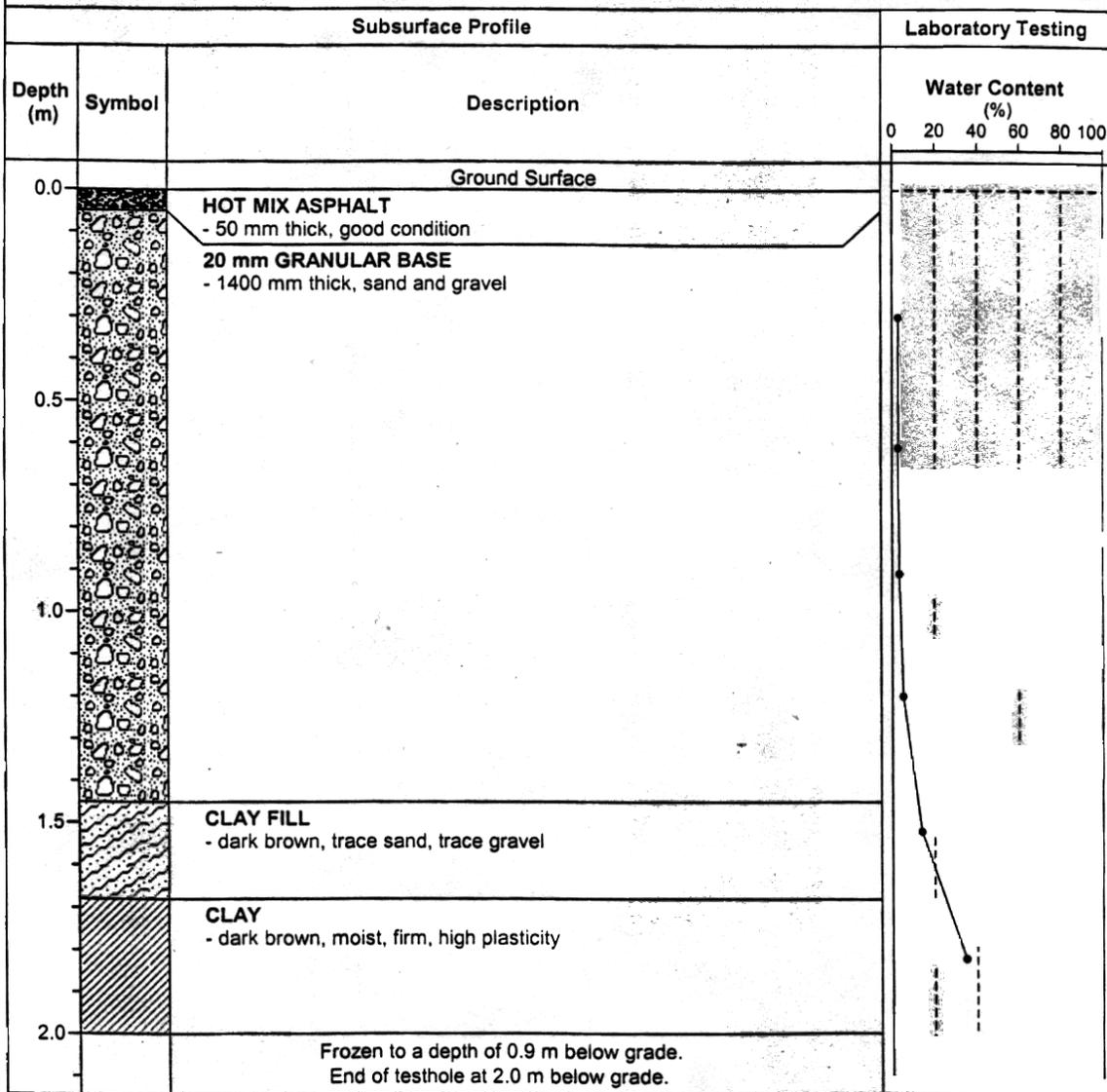
**Project Name:** 2004 City of Winnipeg Street Renewal Program    **Date Drilled:** December 19, 2003  
**Client:** UMA Engineering Ltd.    **Depth of Testhole:** 2.0 m  
**Site:** Riverside Drive    **Logged by:** Robert Hochkievich  
**Testhole Location:** 1.5 m W of curb, 3.5 m S of 64 Riverside Dr. property line

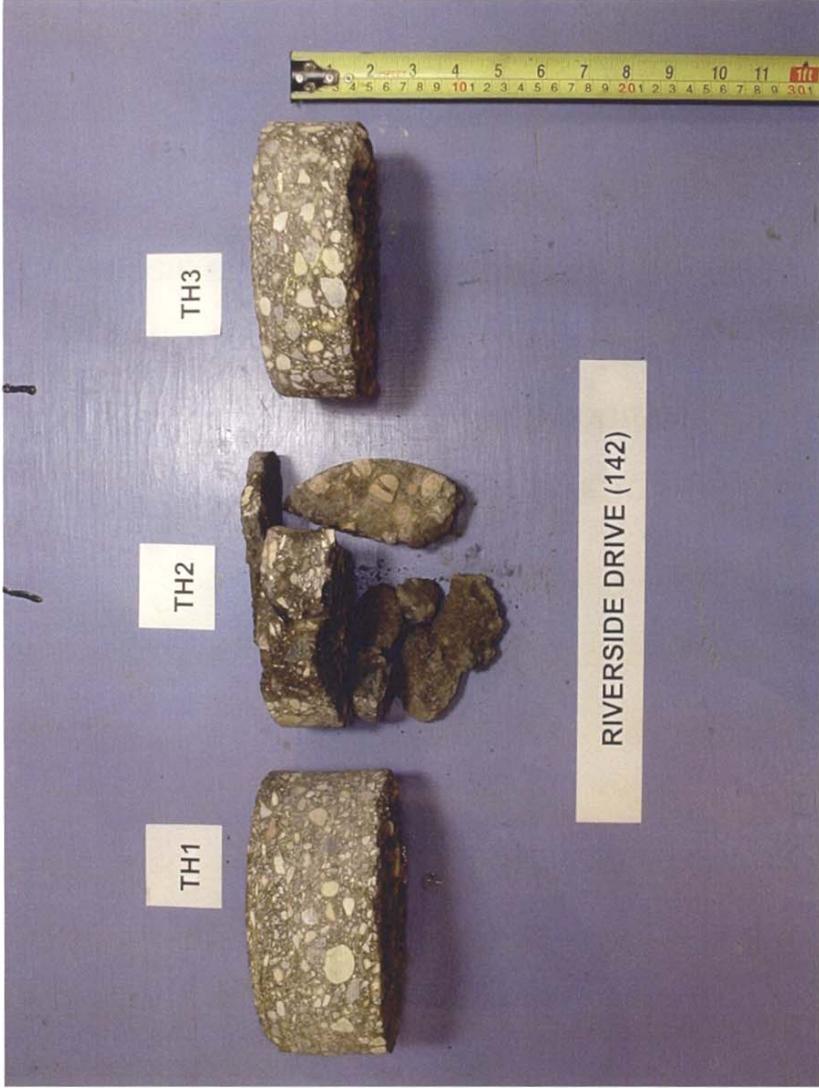
Subsurface Profile			Laboratory Testing
Depth (m)	Symbol	Description	Water Content (%)
0.0		Ground Surface	
0.0 - 0.327		<b>HOT MIX ASPHALT</b> - 53 mm thick, good condition	
0.327 - 0.45		<b>20 mm GRANULAR BASE</b> - 327 mm thick, sand and gravel	
0.45 - 2.0		<b>CLAY</b> - brown, damp, firm to stiff, high plasticity, trace silt inclusions - and silt seams below 1.2 m	
Frozen to a depth of 0.9 m below grade. End of testhole at 2.0 m below grade.			

# TESTHOLE 142-4



**Project Name:** 2004 City of Winnipeg Street Renewal Program    **Date Drilled:** December 19, 2003  
**Client:** UMA Engineering Ltd.    **Depth of Testhole:** 2.0 m  
**Site:** Riverside Drive    **Logged by:** Robert Hochkievich  
**Testhole Location:** On centerline of 44 Riverside Dr. south property line





TH3

TH2

TH1

RIVERSIDE DRIVE (142)