

# RECORD OF BOREHOLE No 2004-1

1 OF 1

METRIC

W.P. 5005-A-000433 Assign 5 LOCATION MTM N 5041259.4 E 320212.7 ORIGINATED BY A.F.  
 DIST Huntsville HWY BOREHOLE TYPE Hollow Stem Auger COMPILED BY T.G.  
 DATUM Geodetic DATE 17.12.04 CHECKED BY R.C.

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W <sub>p</sub>	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W <sub>L</sub>	UNIT WEIGHT γ kN/m <sup>3</sup>	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES			20 40 60 80 100	20 40 60 80 100					
332.4 0.0	FILL - SAND - trace gravel, trace silt, brown		1	SS	26		332							Water level @ 3.7m on December 22, 2004. Cave @ 3.3m on completion.
			2	SS	42		331							
			3	SS	25		330							
			4	SS	31		329							
			5	SS	21		328							
326.0 6.4	SAND & SILT - layered, grey, compact		6	SS	23		326							0 63 (37)
							325							
							324							
							323							
							322							
323.3 9.1	SAND - Silty, grey/brown, loose to compact		7	SS	4		323							0 76 (24)  Well installed to 4.9m. Stickup Steel protector cemented in. Grout 0.3 - 2.0m. Holeplug 2.0 - 3.0m. Sand Pack 3.0 - 4.9m. Screen/sock 3.4 - 4.9m.
							322							
							321							
			8	SS	10		320							
							319							
316.6 15.8	End of Borehole @ 15.8m.		9	SS	13		317							

ONTARIO MOT - NE TG04314-LOGS.GPJ ONTARIO MOT GDT 24/01/05

# RECORD OF BOREHOLE No 2004-2

1 OF 1

METRIC

W.P. 5005-A-000433 Assign 5 LOCATION MTM N 5041291.5 E 320209.3  
 DIST Huntsville HWY BOREHOLE TYPE Hollow Stem Auger  
 DATUM Geodetic DATE 19.12.04  
 ORIGINATED BY A.F.  
 COMPILED BY T.G.  
 CHECKED BY R.C.

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT	PLASTIC LIMIT W <sub>p</sub>	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W <sub>L</sub>	UNIT WEIGHT γ	REMARKS & GRAIN SIZE DISTRIBUTION (%)
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES								
332.8 0.0	FILL - SAND - trace silt, brown, compact to dense		1	SS	20		332						Water level @ 4.1m on December 22, 2004. Cave @ 4.1m on completion. 25mm dia. standpipe installed to 4.6m, 1.5m North of borehole. Water level @ 4.1m on December 22, 2004.
	- trace gravel		2	SS	32		331						
			3	SS	23		330						
			4	SS	31		329						
327.4 5.2	SILT - Sandy, trace gravel, grey, loose to compact		5	SS	56		328						1 28 (71)
			6	SS	24		327						
325.0 7.6	SAND & SILT - grey/brown, loose						326						0 49 (51)
							325						
322.8 9.8	SAND - some silt, grey, compact		7	SS	8		324						Well installed to 11.6m. Stickup Steel protector cemented in. Grout 0.3 - 9.0m. Holeplug 9.0 - 9.9m. Sand Pack 9.9 - 11.6m. Screen/sock 10.1 - 11.6m.
							323						
			8	SS	17		322						
							321						
316.8 15.8	End of Borehole @ 15.8m.		9	SS	13		320						
							319						
							318						
							317						

ONTARIO MOT - NE TG04314-LOGS.GPJ, ONTARIO MOT GDT 25/01/05

# RECORD OF BOREHOLE No 2004-3

1 OF 1

METRIC

W.P. 5005-A-000433 Assign 5 LOCATION MTM N 5041273.9 E 320186 ORIGINATED BY A.F.  
 DIST Huntsville HWY BOREHOLE TYPE Hollow Stem Auger COMPILED BY T.G.  
 DATUM Geodetic DATE 17.12.04 CHECKED BY R.C.

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT	PLASTIC LIMIT W <sub>p</sub>	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W <sub>L</sub>	UNIT WEIGHT γ	REMARKS & GRAIN SIZE DISTRIBUTION (%)
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES								
332.7 0.0	FILL - SAND - brown, compact to dense		1	SS	21		332						Dry on completion. Cave @ 3.8m on completion.  0 92 (8)          0 43 (57)
			2	SS	31		331						
			3	SS	26		330						
			4	SS	30		329						
			5	SS	25		328						
326.4 6.3	SILT - grey, compact		6	SS	11		327						
325.2 7.5	SAND & SILT - brown, loose						326						
			7	SS	5		325						
							324						
			8	SS	7		323						
322.0 10.7	SAND - brown, loose to compact						322						
							321						
			9	SS	18		320						
							319						
316.9 15.8	End of Borehole @ 15.8m.		10	SS	8		318						
							317						

ONTARIO MOT - NE TG04314-LOGS.GPJ ONTARIO MOT GDT 24/01/05

# RECORD OF BOREHOLE No 2004-4

1 OF 1

METRIC

W.P. 5005-A-000433 Assign 5 LOCATION MTM N 5041346.5 E 320156.3 ORIGINATED BY A.F.  
DIST Huntsville HWY BOREHOLE TYPE Hollow Stem Auger COMPILED BY T.G.  
DATUM Geodetic DATE 18.12.04 CHECKED BY R.C.

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT			PLASTIC LIMIT W <sub>p</sub>	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W <sub>L</sub>	UNIT WEIGHT γ kN/m <sup>3</sup>	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL			
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES			SHEAR STRENGTH kPa								WATER CONTENT (%)		
								20 40 60 80 100	20 40 60 80 100	10 20 30								

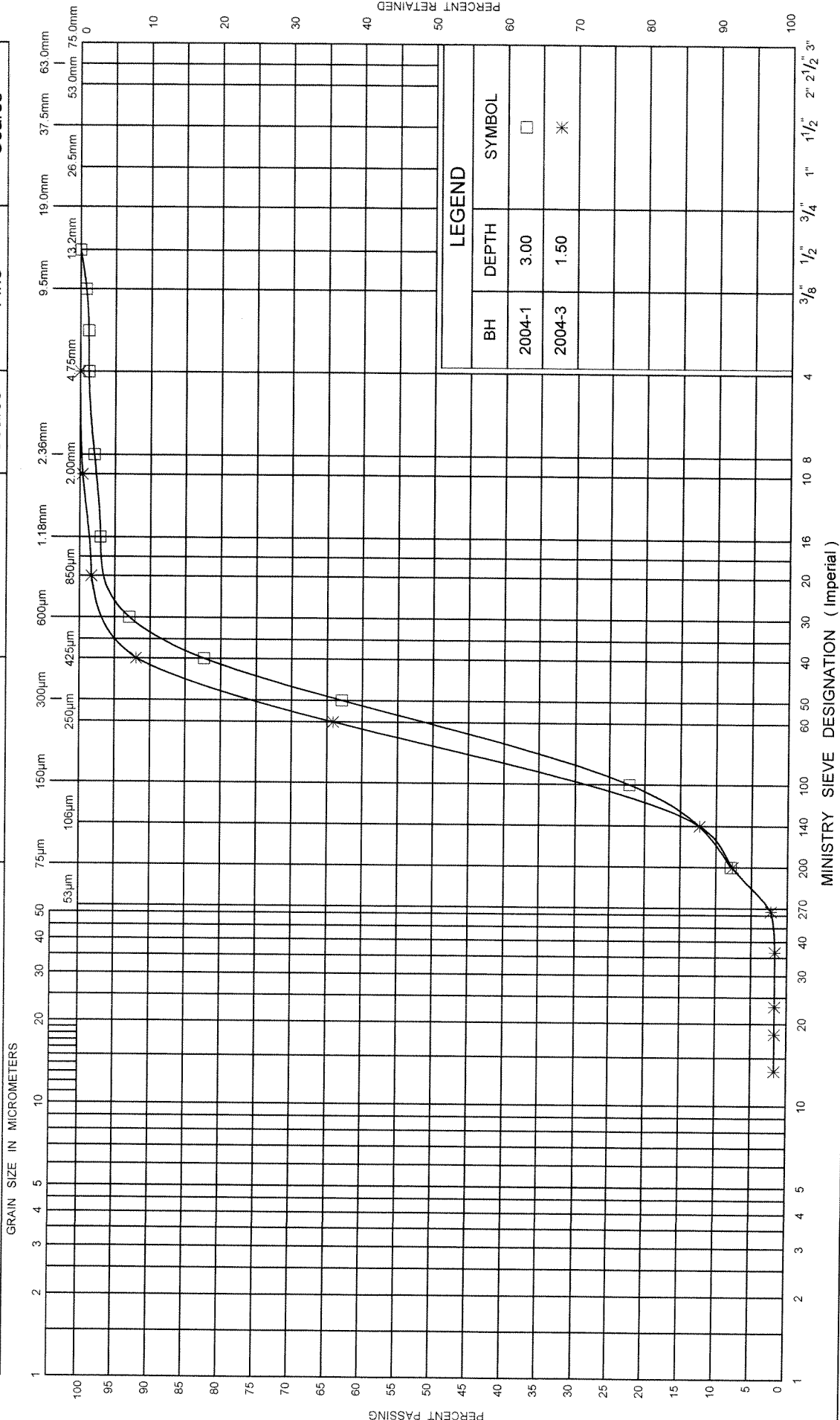
332.7	0.0	FILL - SAND - trace silt, trace gravel, brown, compact					332								Water level @ 4.1m on December 21, 2004. Cave @ 4.1m on completion.
		----- - SAND & GRAVEL - brown, dense	1	SS	28		331								
		----- - SAND - trace silt, dense	2	SS			330								
			3	SS	32		329								
			4	SS	40		328								
	327.6	----- - some silt, trace organics, grey	5	SS	34		327							0 88 (11)	
	5.1	SAND - some silt, trace gravel, grey/brown, loose					326							1 86 (13)	
			6	SS	7		325								
	324.5		7	SS	6										
	8.2	End of Borehole @ 8.2m.												Well installed to 5.0m. Steel protector cemented in. Grout 0 - 2.0m. Holeplug 2.0 - 3.2m Sand Pack 3.2 - 5.0m. Screen/sock 3.5 - 5.0m.	

✕<sup>3</sup>, ★<sup>3</sup> Numbers refer to Sensitivity ○ 3% STRAIN AT FAILURE

ENCLOSURE 6

UNIFIED SOIL CLASSIFICATION SYSTEM

CLAY & SILT		SAND			GRAVEL	
		Fine	Medium	Coarse	Fine	Coarse



Ministry of  
Transportation



GRAIN SIZE DISTRIBUTION  
SAND - trace gravel, trace silt

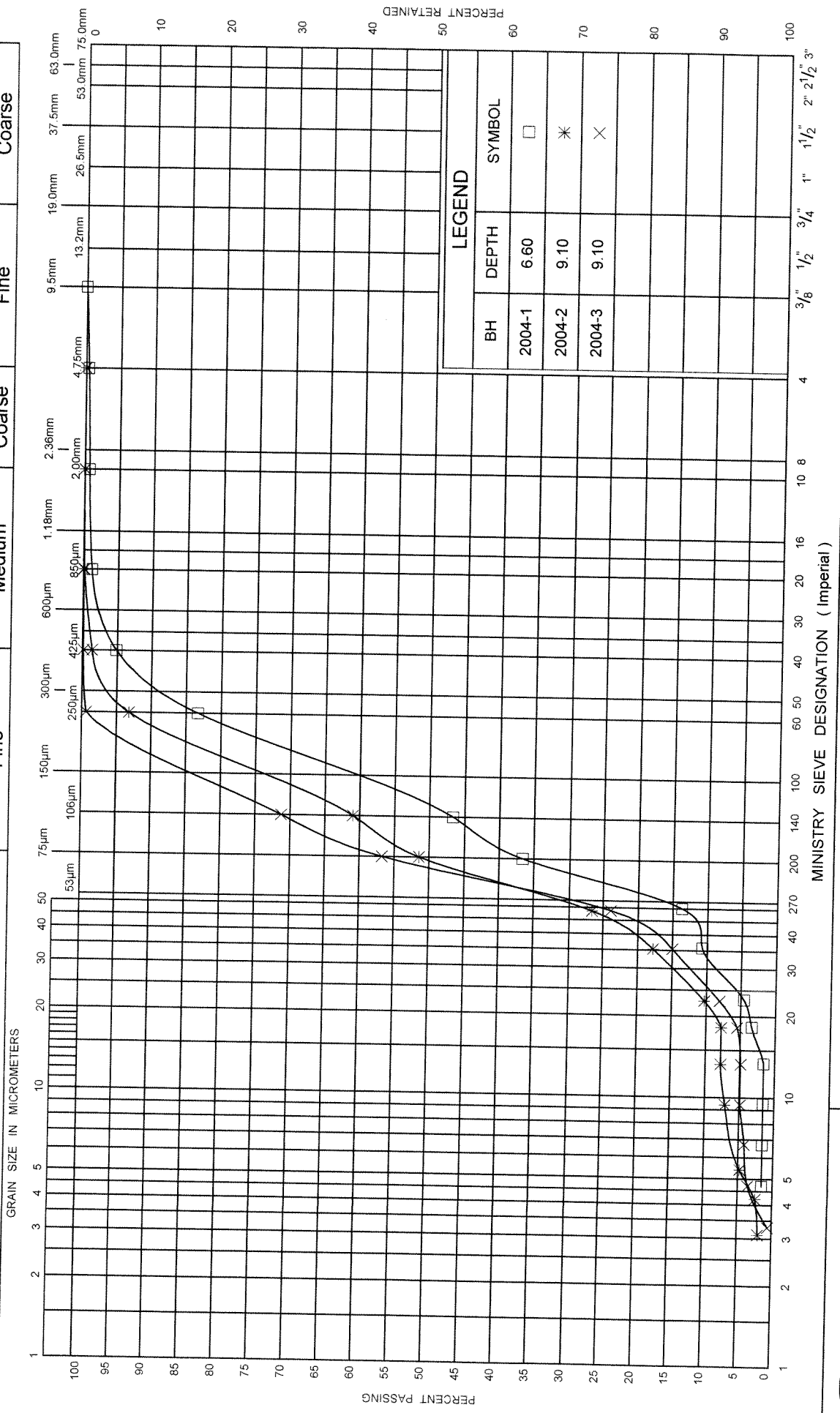
ENCLOSURE 7

W P 5005-A-000433 Assign 5

78 12 M

UNIFIED SOIL CLASSIFICATION SYSTEM

CLAY & SILT		SAND			GRAVEL	
		Fine	Medium	Coarse	Fine	Coarse



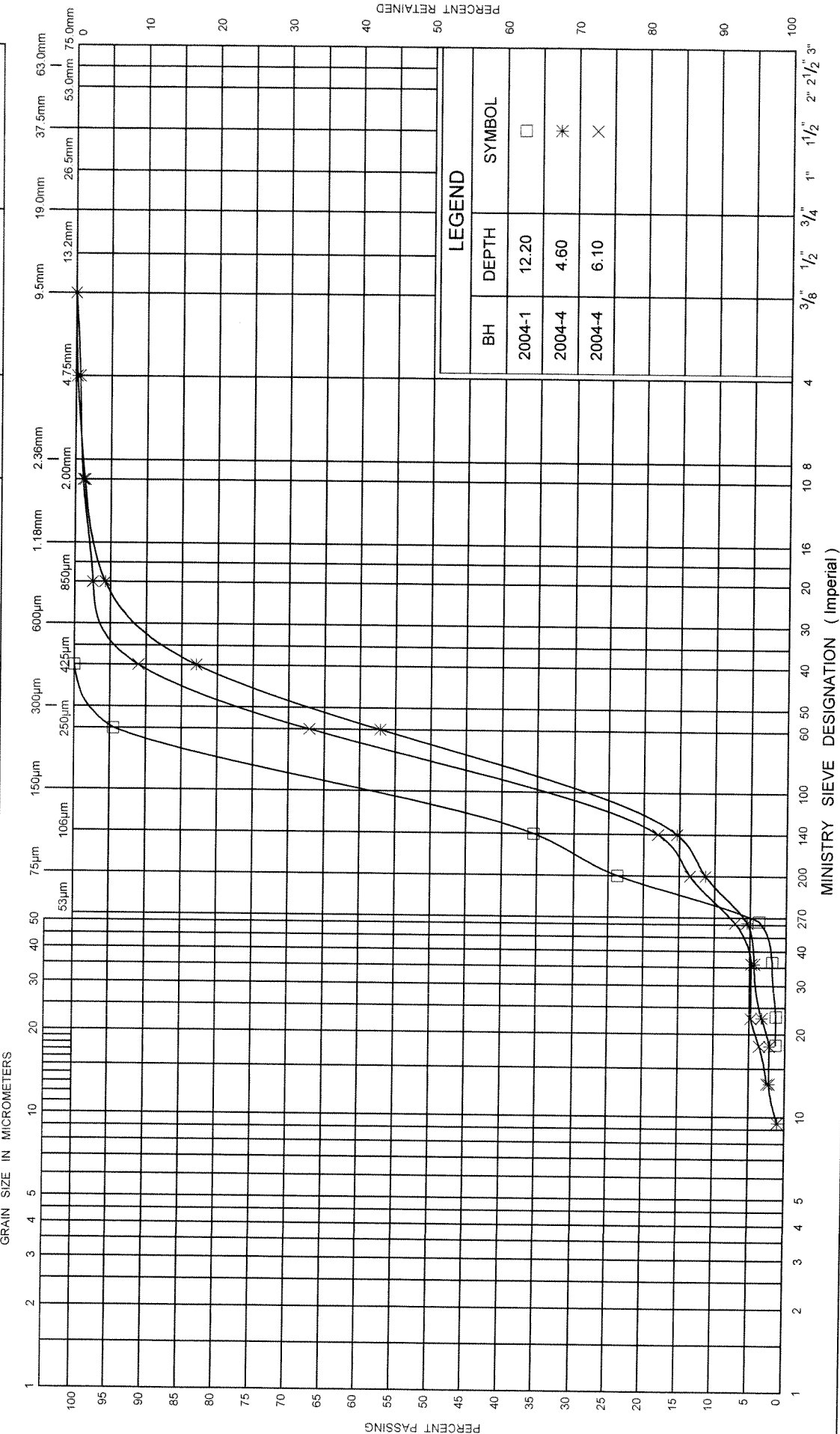
GRAIN SIZE DISTRIBUTION  
SAND & SILT

ENCLOSURE 8

WP 5005-A-000433 Assign 5

UNIFIED SOIL CLASSIFICATION SYSTEM

CLAY & SILT		SAND			GRAVEL	
		Fine	Medium	Coarse	Fine	Coarse



UNIFIED SOIL CLASSIFICATION SYSTEM

CLAY & SILT

SAND

GRAVEL

Fine

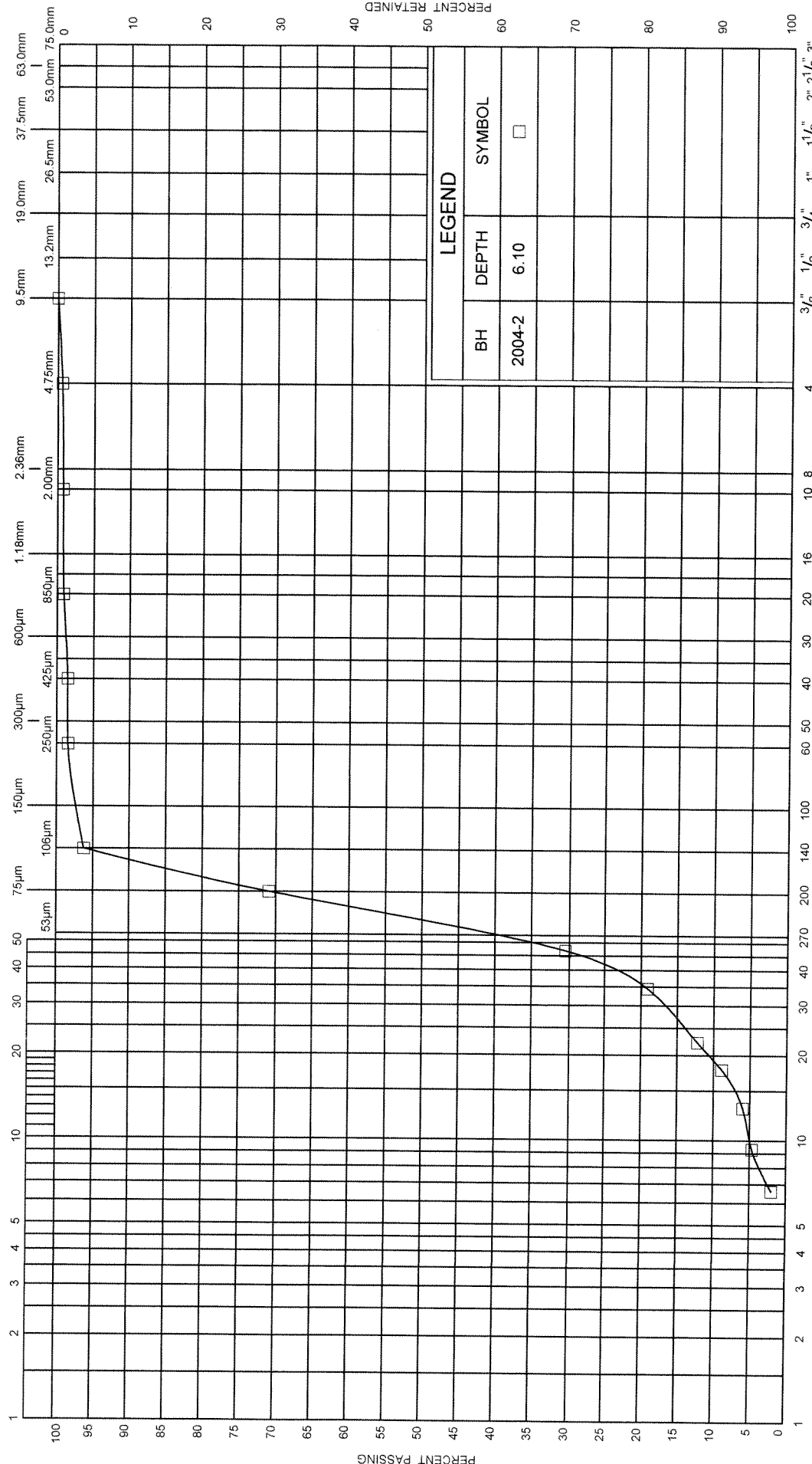
Medium

Coarse

Fine

Coarse

GRAIN SIZE IN MICROMETERS



LEGEND

BH DEPTH SYMBOL

2004-2 6.10 □

MINISTRY SIEVE DESIGNATION ( Imperial )

Ministry of Transportation



GRAIN SIZE DISTRIBUTION  
SILT - Sandy, trace gravel

ENCLOSURE 10

W P 5005-A-000433 Assign 5