

APPENDIX 'A'

GEOTECHNICAL REPORT

APPENDIX 'A' - GEOTECHNICAL REPORT

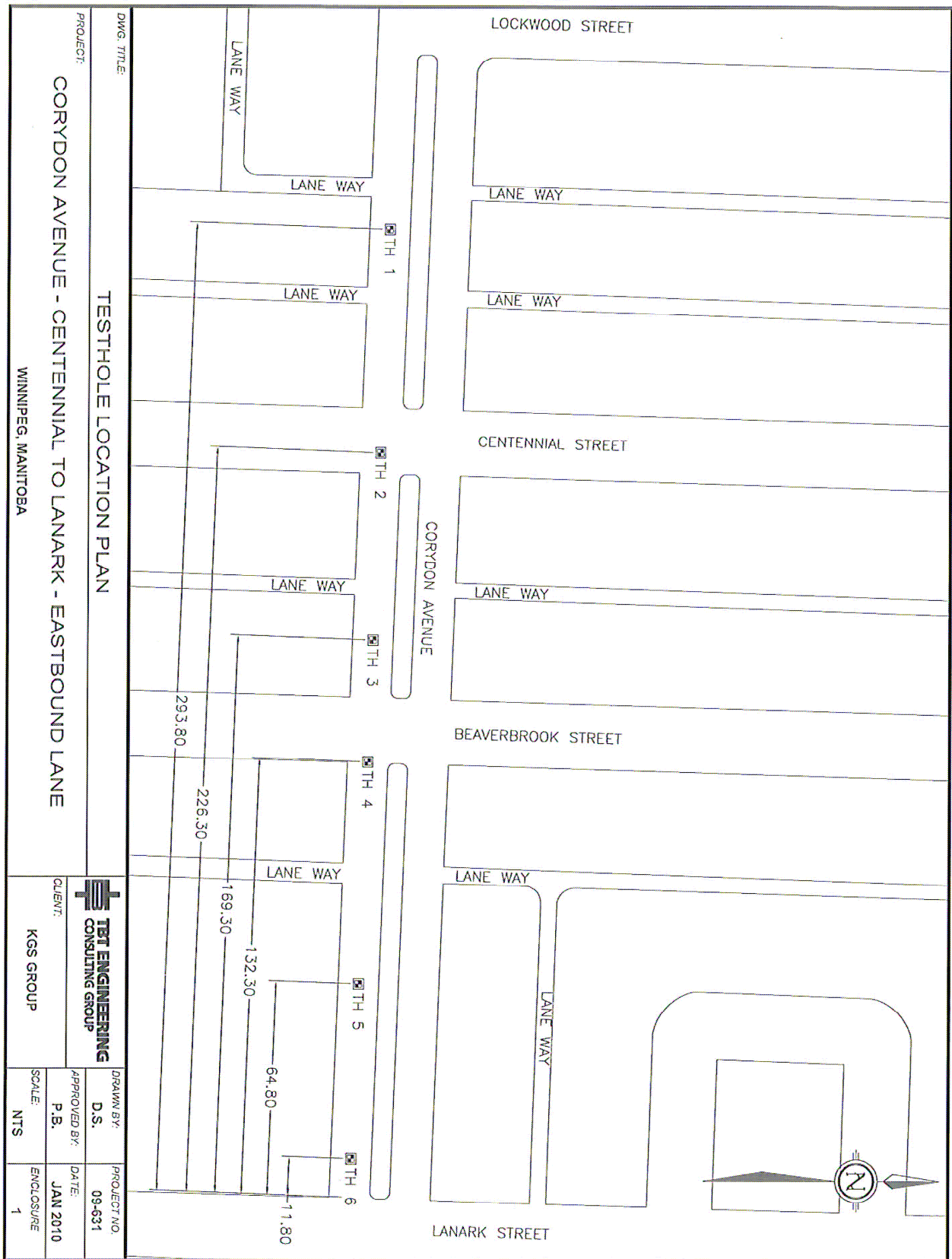
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The geotechnical report is provided to aid in the Contractor's evaluation of the existing pavement structure and/or soil conditions. The information presented is considered accurate at the locations shown on the Drawings and at the time of drilling. However, variations in pavement structure and/or soil 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 may not become evident until construction commences.

Geotechnical Report for Corydon Avenue Eastbound

Test Hole Locations



Summary of Core Samples

Depth (m)	Moisture Content (%)					
	TH 1	TH 2	TH 3	TH 4	TH 5	TH 6
0.40	-	29.60	7.02	23.45	32.01	-
0.70	31.77	29.01	30.96	31.36	29.46	36.46
1.0	32.96	20.08	30.65	27.48	31.87	30.84
1.3	17.59	28.08	30.39	30.60	34.90	29.19
1.6	24.27	29.88	34.79	32.55	37.31	28.97
1.9	26.03	34.02	36.61	41.16	38.98	35.66
2.2	32.52	32.65	41.45	44.32	39.71	38.79
2.5	34.76	39.01	46.95	48.21	41.59	39.90

Test Hole Log #1 for Corydon Avenue

SOIL PROFILE				SAMPLES		GROUND WATER CONDITIONS	DEPTH SCALE	CPT (kPa)			PLASTIC LIMIT	NATURAL MOISTURE CONTENT	LIQUID LIMIT	REMARKS
DEPTH	ELEV.	DESCRIPTION	STRAT PLOT	% RECOVERY	TYPE			"N" VALUES	0	300				
		ASPHALT - 180mm			CC									Dry Upon Completion.
		CONCRETE PAVEMENT - 300mm			CC									
		FILL - CLAY - trace sand & gravel, trace silt, grey			AS									
1		CLAY - black			AS									
		CLAY - Silty, brown			AS									
		- trace sand & gravel			AS									
2					AS									
					AS									
		End of Borehole @ 2.5 m.			AS									
3														
4														



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SAMPLE TYPE LEGEND

- | | | | |
|----|-----------------------|----|--------------|
| AS | Auger Sample | RC | Rock Core |
| SS | Split Spoon Sample | PS | Ponar Sample |
| TW | 70mm Thin Wall Tube | SD | Side Sample |
| CC | Concrete/Asphalt Core | | |

ENCLOSURE 2

Test Hole Log #2 for Corydon Avenue

SOIL PROFILE				SAMPLES		GROUND WATER CONDITIONS	DEPTH SCALE	CPT (kPa)		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	REMARKS	
DEPTH	ELEV.	DESCRIPTION	STRAT PLOT	% RECOVERY	TYPE			"N" VALUES	FIELD SHEAR (kPa) X					Lab Shear (kPa) ⊗
													GR SA SI CL	
		ASPHALT - 40mm			CC								Dry Upon Completion.	
		CONCRETE - 160mm			CC									
		CLAY - Silty, trace sand & gravel, grey/brown			AS									
					AS									
1		CLAY - trace sand & gravel, grey			AS									0 5 46 49
					AS									
		----- - brown			AS									
2		- grey			AS									
		End of Borehole @ 2.2 m.			AS									
3														
4														



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SAMPLE TYPE LEGEND

- AS Auger Sample
- SS Split Spoon Sample
- TW 70mm Thin Wall Tube
- CC Concrete/Asphalt Core
- RC Rock Core
- PS Ponar Sample
- SD Side Sample

ENCLOSURE 3

Test Hole Log #3 for Corydon Avenue

SOIL PROFILE				SAMPLES		GROUND WATER CONDITIONS	DEPTH SCALE	CPT (kPa)		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	REMARKS
DEPTH	ELEV.	DESCRIPTION	STRAT PLOT	% RECOVERY	TYPE			"N" VALUES	FIELD SHEAR (kPa)				
		ASPHALT - 80mm			CC								Dry Upon Completion.
		CONCRETE - 230mm			CC								
		FILL - Gravel, brown			AS								
		CLAY - trace sand & gravel, trace silt, grey			AS								
1					AS								
		----- - Silty, brown			AS								
					AS								
2					AS								
					AS								
		End of Borehole @ 2.5 m.			AS								
3													
4													



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SAMPLE TYPE LEGEND

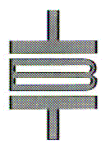
- | | | | |
|----|-----------------------|----|--------------|
| AS | Auger Sample | RC | Rock Core |
| SS | Split Spoon Sample | PS | Ponar Sample |
| TW | 70mm Thin Wall Tube | SD | Side Sample |
| CC | Concrete/Asphalt Core | | |

ENCLOSURE 4

Template Version: C420091214 - RW

Test Hole Log #4 for Corydon Avenue

SOIL PROFILE				SAMPLES		GROUND WATER CONDITIONS	DEPTH SCALE	CPT (kPa)		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	REMARKS
DEPTH	ELEV.	DESCRIPTION	STRAT PLOT	% RECOVERY	TYPE			"N" VALUES	FIELD SHEAR (kPa)				
		ASPHALT - 90mm			CC								Dry Upon Completion. 0 5 17 78
		CONCRETE - 210mm			CC								
		CLAY - trace sand & gravel, grey ----- - brown			AS								
1						AS							
						AS							
						AS							
						AS							
						AS							
2						AS							
						AS							
		End of Borchole @ 2.5 m.											
3													
4													



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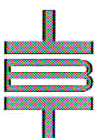
SAMPLE TYPE LEGEND

AS	Auger Sample	RC	Rock Core
SS	Split Spoon Sample	PS	Ponar Sample
TW	70mm Thin Wall Tube	SD	Side Sample
CC	Concrete/Asphalt Core		

ENCLOSURE 5

Test Hole Log #5 for Corydon Avenue

SOIL PROFILE				SAMPLES		GROUND WATER CONDITIONS	DEPTH SCALE	CPT (kPa)			PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	REMARKS
DEPTH	ELEV.	DESCRIPTION	STRAT PLOT	% RECOVERY	TYPE			"N" VALUES	FIELD SHEAR (kPa)	Lab Shear (kPa)				
		ASPHALT - 60mm CONCRETE - 240mm			CC									Dry Upon Completion.
		FILL - CLAY - trace sand & gravel, grey			AS									
1					AS									
		CLAY - trace sand & gravel, brown			AS									
					AS									
2					AS									
					AS									
					AS									
		End of Borehole @ 2.5 m.												
3														
4														



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SAMPLE TYPE LEGEND

- AS Auger Sample
- SS Split Spoon Sample
- TW 70mm Thin Wall Tube
- CC Concrete/Asphalt Core
- RC Rock Core
- PS Ponar Sample
- SD Side Sample

ENCLOSURE 6

Template Version: C420091214 - RW

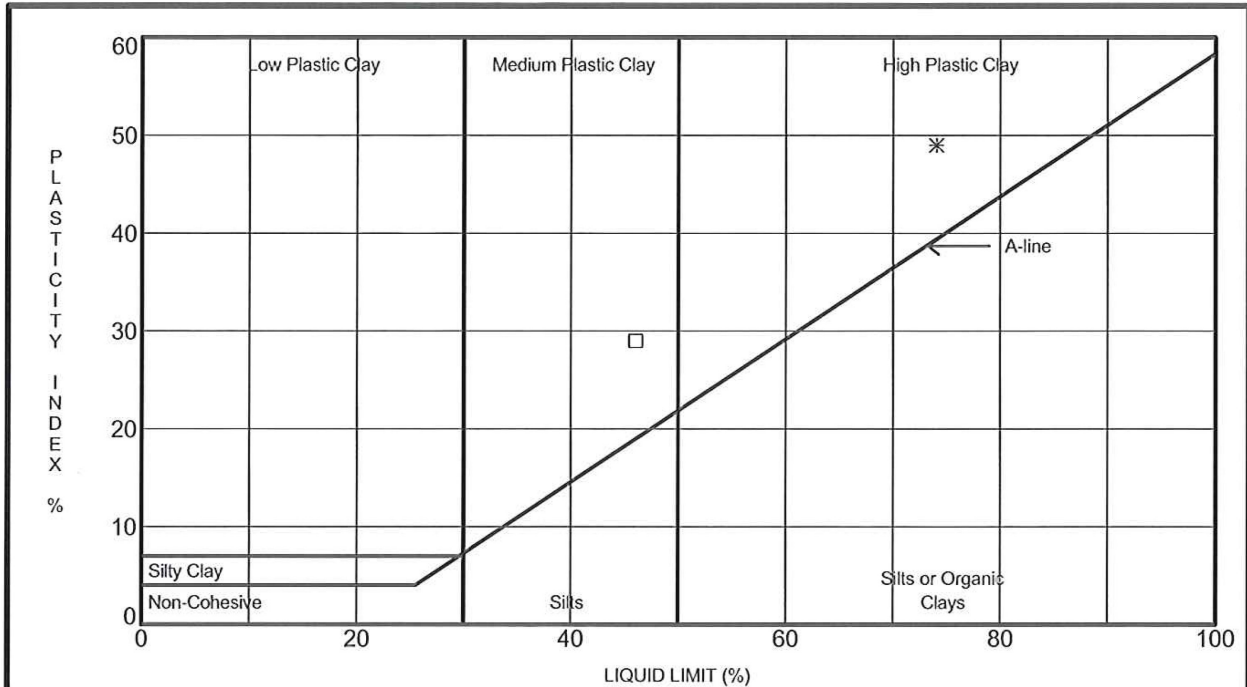
Test Hole Log #6 for Corydon Avenue

TBT REF. No.: 09-631 CLIENT: KGS Group Inc. PROJECT: Corydon Avenue Pavement Investigation LOCATION: Corydon Avenue Winnipeg, Manitoba	SURFACE ELEV.: metres EQUIPMENT: HS Auger DIAMETER: 125mm DATE: 2009 December 17 DRILL COMPANY: Active Drilling
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DEPTH ELEV.	SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	DEPTH SCALE	CPT (kPa)		WATER CONTENT (%)			REMARKS
	DESCRIPTION	STRAT PLOT	% RECOVERY	TYPE	"N" VALUES			FIELD SHEAR (kPa) \times	Lab Shear (kPa) \diamond	PLASTIC LIMIT w_p	NATURAL MOISTURE CONTENT w	LIQUID LIMIT w_L	
	ASPHALT - 65mm CONCRETE - 275mm			CC									Dry Upon Completion.
	FILL - CLAY - trace sand & gravel, grey			AS									
1				AS									
				AS									
				AS									
				AS									
2	CLAY - trace sand & gravel, brown			AS									
				AS									
				AS									
	End of Borchole @ 2.5 m.												
3													
4													

	TBT Engineering Ltd. 110 Paramount Road Winnipeg, Manitoba R2X 2W3 PH: 204-633-6008 FX: 204-633-6620 Email: tbte@tbte.ca Web: www.tbte.ca	SAMPLE TYPE LEGEND		ENCLOSURE 7 PAGE 1 OF 1
	AS	Auger Sample	RC	
SS	Split Spoon Sample	PS	Ponar Sample	
TW	70mm Thin Wall Tube	SD	Side Sample	
CC	Concrete/Asphalt Core			

Atterberg Limit Results



Testhole No.	Sample No.	Depth (m)	LL%	PL%	PI%	M/C%
□ 2		0.68	46	17	29	
* 4		0.68	74	25	49	



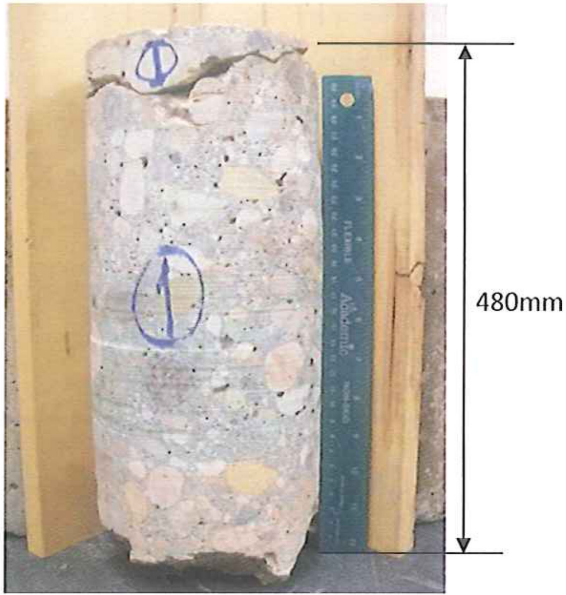
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ATTERBERG LIMIT RESULTS

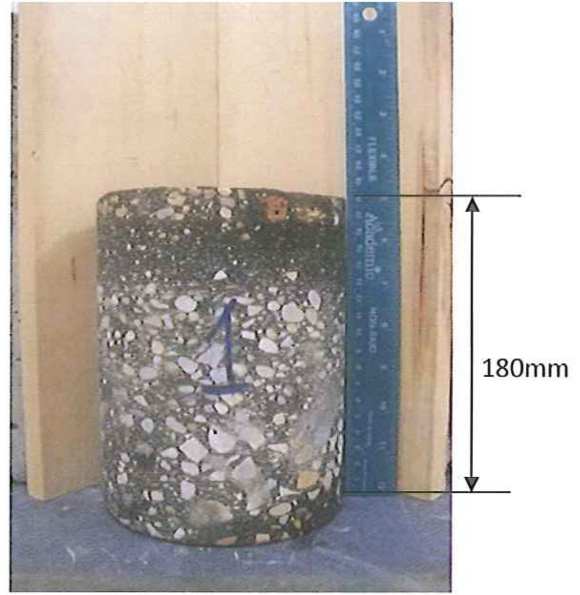
Project: Pavement Investigation
 Location: Corydon Avenue
 Number: 09-631

ENCLOSURE 9

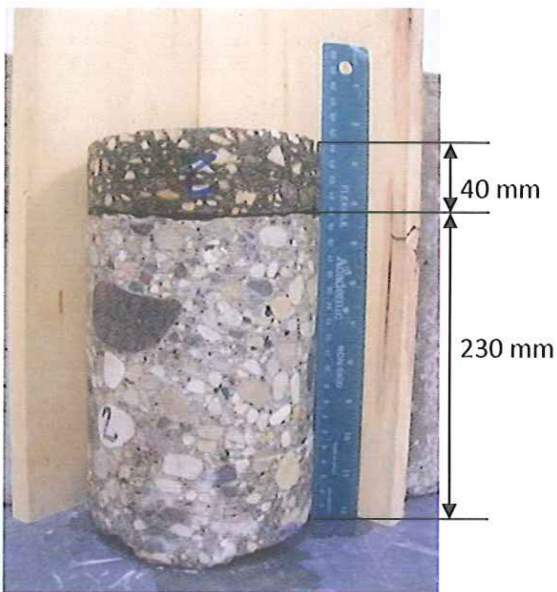
Pavement Core Photos



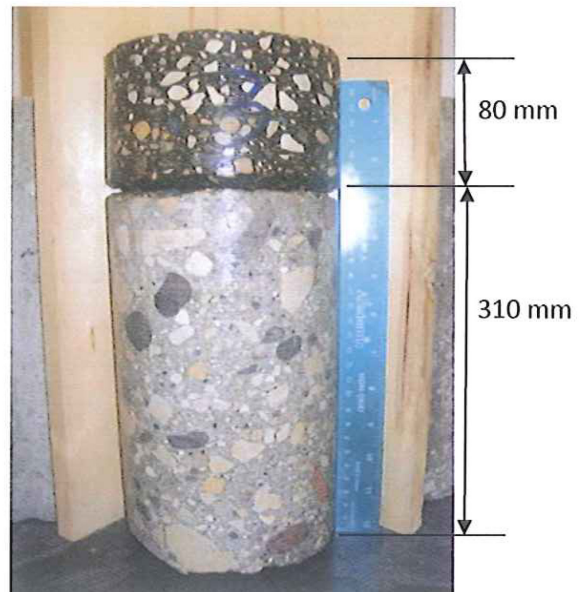
TEST HOLE 1 (CONCRETE ONLY)



TEST HOLE 1 (ASPHALT)

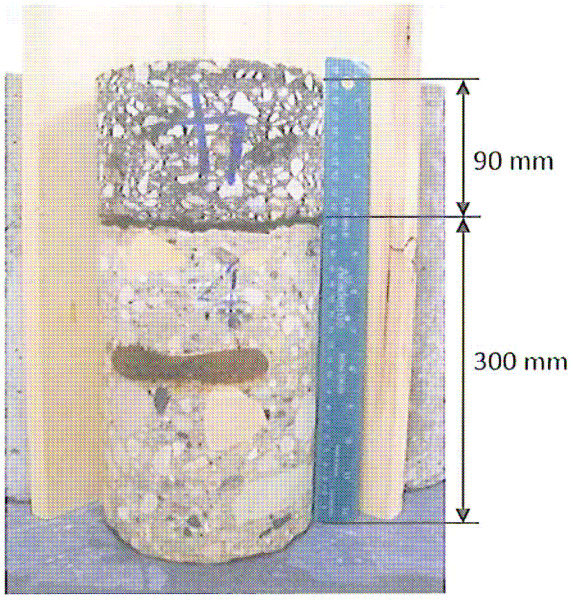


TEST HOLE 2

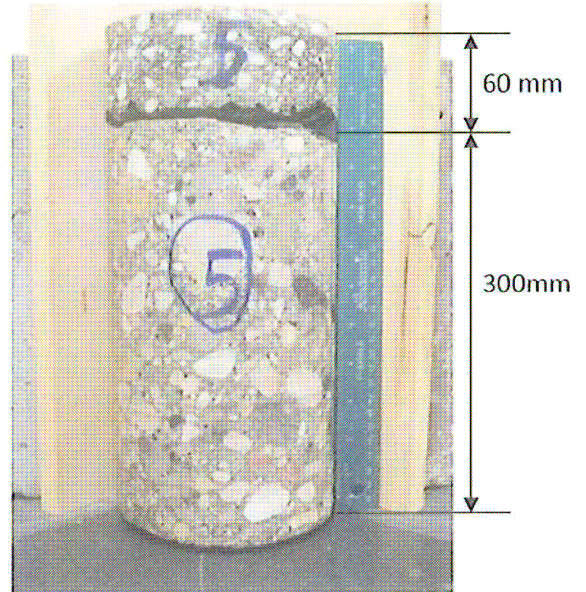


TEST HOLE 3

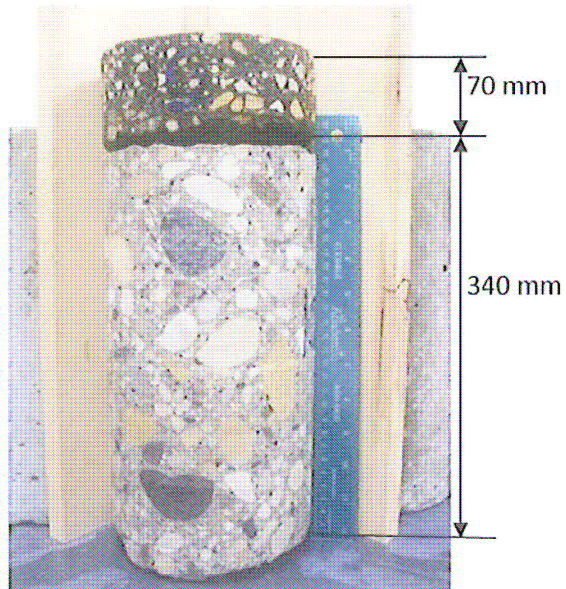
Pavement Core Photos



TEST HOLE 4



TEST HOLE 5



TEST HOLE 6