# **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 Ferrier Street**

### **Test Hole Locations**



### **Summary of Core Samples**

Depth		Мо	isture Co	ntent, % (/	ASTM D22	216)		
(m)	TH 1	TH 2	TH 3	TH 4	TH 5	TH 6	TH 7	
0.3	9.9	8.6	5.2	8.1	10.0	4.9	6.2	
0.7	32.3	31.1	4.9	40.1	40.6	4.6	7.3	
1.0	27.8	36.9	4.1	39.0	28.2	31.5	28.1	
1.3	27.9	33.2	3.0	21.4	33.3	36.4	22.7	
1.6	25.1	26.4	27.1	22.7	21.6	37.0	17.1	
1.9	21.7	26.0	24.5	24.5	23.4	31.9	25.5	
2.2	25.2	25.2	20.6	32.8	30.9	26.7	19.9	
2.5	24.1	24.6	20.4	24.4	31.8	21.5	42.5	
2.8	21.7	20.9	23.1	25.4	42.8	22.6	33.6	
3.1	23.6	36.0	23.1	34.0	47.3	31.7	45.6	
3.4	41.1	-	-	-	-	5 <del></del>	-	

Depth	Moisture Content, % (ASTM D2216)														
(m)	TH 8	TH 9	TH 10	TH 11	TH 12	TH 13	TH 14								
0.3	4.0	6.2	4.7	19.9	16.8	18.9	4.2								
0.7	4.8	8.0	42.5	29.0	38.4	42.3	26.1								
1.0	38.1	22.7	39.1	34.3	46.7	42.1	39.1								
1.3	36.5	41.5	41.4	39.4	33.5	30.7	38.6								
1.6	27.0	33.9	31.3	34.4	31.9	22.7	29.1								
1.9	24.7	24.6	24.1	35.3	26.8	34.7	25.5								
2.2	22.5	20.3	21.4	24.1	24.2	38.1	24.1								
2.5	28.3	22.3	32.6	24.8	24.5	34.3	24.7								
2.8	33.8	32.8	23.8	23.8	24.2	25.0	23.4								
3.1	44.8	49.8	24.3	-	24.1	25.3	22.3								

Test Hole	Depth	Atterk	erg Limits (ASTN	1 D4318)
No.	(m)	Liquid Limit	Plastic Limit	Plasticity Index
10	0.70	65	24	40
4	1.0	63	23	40

		Partic	le Size Ana	alysis (AST	M D422)	
Test Hole	Depth (m)	Soil	Р	ercent Cor	nposition	
No.		Classification	Gravel	Sand	Silt	Clay
10	0.7	Clay	0.0	2.4	15.6	82.0
4	1.0	Clay	0.0	1.0	27.0	72.0
9	1.9	Silt	0.0	7.9	73.1	19.0
6	2.5	Silt	0.2	4.4	84.5	11.0
13	2.5	Silty Clay	0	2.2	35.6	62

John From LL     John From From From From From From From From	C		EF. No.: 09-637 IT: Dillion ECT: Geotechnical Invest TION: Ferrier Street - Ter Winnipeg,Manitoba	nple	tion etor	h Av	enue	e to M	urra	ay	Avenue	E	EQUI DIAM DATE	IPME IETE E: 20	E ELE ENT: 3 ER: 12 010 Ja OMPA	SS A 25 m anua	luger m ry 11		illing	
ASPHALT TAR & GRAVEL CLAY - black - dark grey - dark	-		SOIL PROFILE		S	AMPL	ES	œ			CPT (kPa)	-	-				NAT	R4		REMARKS
Image: Answer of the second	DEPTH	ELEV.	DESCRIPTION	STRAT PLOT	% RECOVERY	TYPE	"N" VALUES	GROUND WATEI CONDITIONS	DEPTH SCALE		K FIELD SHE	EAR (	kPa)⊗l	Lab Sh DCPT	(kPa) near (kPa	WP WA	CONT W TER CO		LIMIT WL A T (%)	GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
TAR & GRAVEL       As         CLAY - black       As         - dark grey       - dark grey         - dark grey       - dark grey         - dark grey										Ħ			1	1						Dry on completion.
CLAY - black       AS        dark grey       AS        dark grey      dark grey        dark grey      dark grey        dark grey      dark grey        d			TAR & GRAVEL	20		AS				-						-				
1			CLAY - black	V//	$\square$	AS		1		Ш							•			
Silty, frace gravel, dark   - Silty, frace gravel, dark   As	-					AS		-	1	-										
a       a	1					110		1		H										
2     - <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0</td> <td></td> <td></td> <td></td>										-							0			
2       -			DIOWIT			AS	-			Ш										
2 - AS						AS				-							0			
TBT Engineering Limited 110 Paramount Road       AS       Auger Sample       RC       Rock Core         Winnipeg, Manitoba R2X 2W3 PH: 204-633-6620 Email: tote@tbte.ca       SAMPLE TYPE LEGEND       ENCLOSUR         TW       70mm Thin Wall Tube       SD       Side Sample       PAGE 1 OF 1	3		CLAY - brown			AS AS AS		-	3								0	•		
Web: www.tbte.ca CC Concrete/Asphalt Core	TBT BOREHOLE 09-637 FERRIER ST.G		110 Paramount F Winnipeg, Manitoba F PH: 204-633-60 FX: 204-633-60	Road R2X 008 S20 e.ca	1			SS TW	Aug Spli 70n	ger it S mm	Sample Spoon Sampl Thin Wall T	e ube	R P S	C S	Rock ( Ponar	Samp				ENCLOSURE 1 PAGE 1 OF 1

C	LIEN RO.	REF. No.: 09-637 NT: Dillion ECT: Geotechnical Invest TION: Ferrier Street - Ter Winnipeg,Manitob	npl	tion eton A	venue	e to M	lurra	ay Avenue	EQUIPI DIAME DATE:	MENT: S TER: 12 2010 Jai	V.: metres SS Auger 5 mm nuary 11 NY: Active Drilli	ng
		SOIL PROFILE		SAM	PLES	œ		CPT (kPa)	>		PLASTIC NATURAL LIC	REMARKS
DEPTH	ELEV.	DESCRIPTION	STRAT PLOT	% RECOVERY TYPE	"N" VALUES	GROUND WATER CONDITIONS	DEPTH SCALE	300 600 X FIELD SHEA SPT (N) 0 20 40	900 1200 R (kPa)9 Lab	) 1500 (kPa) Shear (kPa PT	W <sub>P</sub> W 1	MIT GRAIN SIZE WL DISTRIBUTION ▲ (%)
		ASPHALT									0	
		FILL - GRAVEL		A	5			-				
-		CLAY - black		A	3			-				
1 -		- dark brown		A		-	1	-			•	
		SILT - Clayey	ĬI-	A	3	1					•	
2		SILT & CLAY - layers, mottled	լինել է ներել երել երել երել երել երել երել երե		6		2	-			0	
	1	Ford of Deservation (20.0) and		A	s	1					0	_
	-	End of Borehole @ 3.2 m.					4	-				
FER	1											
39-63		TPT Engineering I	init			-	5	SAMPLE TY	PELEG	END	· · · · · · · · · · · · · · · · · · ·	
		TBT Engineering L 110 Paramount F	Road			AS	Aug	ger Sample	RC	Rock Co	ore	
EHC .		Winnipeg, Manitoba I PH: 204-633-60	208	2W3		SS	Spli	t Spoon Sample	PS	Ponar S	Sample	ENCLOSURE 2
BO		FX: 204-633-60	520			тw	70n	nm Thin Wall Tul	be SD	Side Sa	ample	
181		Email: tbte@tbte Web: www.tbte				cc	Cor	ncrete/Asphalt Co	re			PAGE 1 OF 1

C	ROJ	REF. No.: 09-637 NT: Dillion IECT: Geotechnical Inves TION: Ferrier Street - Ter Winnipeg,Manitob	mple	tion eton	Aven	ue to N	lurra	ay Avenue	EQUIPMEN DIAMETER: DATE: 2010	125 mm	ng
		SOIL PROFILE		SA	MPLES	<u>۲</u>		CPT (kPa)	$\geq$	PLASTIC NATURAL LIC	REMARKS
DEPTH	ELEV.	DESCRIPTION	STRAT PLOT	% RECOVERY	TYPE	GROUND WATER CONDITIONS	DEPTH SCALE	300 600 ★ FIELD SHEAU ■ SPT (N) 0 20 40	900 1200 1500 (k R (kPa)9 Lab Shear OCPT 60 80 100	Pa) WATER CONTENT (3	MIT GRAIN SIZE WL DISTRIBUTION ▲ (%)
		CONCRETE	$(j, \eta) = (j, \eta)$								
-		LIMESTONE - crushed	000 °0		AS	_		-		•	
1 -			00000		AS AS		1	-		•	
		CLAY & SILT - layered, mottled, dark brown	A		AS			-		•	
2		SILT - Clayey, brown			AS AS AS	_	2	-		•	
3	-	CLAY - Silty, some sand, silt layers			AS AS		3	-		•	
WTBT BOREHOLE 09-637 FERRIER ST.GPU TBL.GDT 10/2/23	-	End of Borehole @ 3.4 m.					4				
37 FEF											
9-60	1	TBT Engineering L	Limite	ed		AS		SAMPLE TY ger Sample	PE LEGEND RC R0	ck Core	
EHOLE		110 Paramount I Winnipeg, Manitoba	R2X	2W3		SS		lit Spoon Sample		nar Sample	ENCLOSURE 3
IT BOR	11	PH: 204-633-6 FX: 204-633-6 Email: tbte@tbt	620			тw		mm Thin Wall Tu		le Sample	PAGE 1 OF 1
N TB		Web: www.tbte				CC	Co	ncrete/Asphalt Co	ore		LAGE FOR T

CI	LIEN	REF. No.: 09-637 IT: Dillion ECT: Geotechnical Invest TION: Ferrier Street - Ter Winnipeg,Manitob	npl	tion eton /	Avenue	e to N	lurra	ay Avenue	SURFAC EQUIPME DIAMETE DATE: 20 DRILL CO	ENT: <b>SS</b> / ER: <b>125</b> m )10 Janua	Auger nm	ng
		SOIL PROFILE		SAM	MPLES	ж.,		CPT (kPa)	>	PLAST	NATURAL LIC	REMARKS
DEPTH	ELEV.	DESCRIPTION	STRAT PLOT	% RECOVERY	"N" VALUES	GROUND WATER CONDITIONS	DEPTH SCALE	300 600 × FIELD SHEA SPT (N) 0 20 40	DCPT	(kPa) W₂ hear (kPa W/	CONTENT V	MIT GRAIN SIZE WL DISTRIBUTION ▲ (%)
		FILL - SAND & GRAVEL - trace silt										
-		trace sit			AS			-				
				ť	10							
		TOPSOIL - organic clay, black			AS			-				
		CLAY - dark grey	1			1		-				
1 -					AS		1	_			• • •	0 1 27 72
ĺ.,		SILT - some sand & gravel	Í					_				
				$\vdash$	AS			-				
				$\vdash$	AS	-					•	
1	1											
-					AS			-			•	
2 -							2	-				
					AS			-			0	
		CLAY						-				
		SILT - some gravel & sand	Ш		AS	-		-				
	1			$\square$	40	-					0	
	1	CLAY	W		AS			-				
3 -	-	10.427 (2.14)			AS		3	-			•	
	{	End of Borehole @ 3.1 m.						-				
	1							-				
8	1											
4	1						4					
en.								-				
2								_				
L GP												
IERS												
FERR	1							-				
19-637		TBT Engineering L	imite			_	5	SAMPLE TY	PELEGEN	VD		
OLE		110 Paramount F	Road			AS	001005	ger Sample	RC	Rock Core		
DREH	-	Winnipeg, Manitoba I PH: 204-633-60	800	2110		SS	15	it Spoon Sample	PS	Ponar Samp		ENCLOSURE 4
	1	FX: 204-633-66 Email: tbte@tbte Web: www.tbte	e.ca			TW CC		nm Thin Wall Tu ncrete/Asphalt Co		Side Sample	9	PAGE 1 OF 1

C	LIEN	REF. No.: 09-637 IT: Dillion ECT: Geotechnical Invest TION: Ferrier Street - Ten Winnipeg,Manitoba	nplet	on ton Av	enue	e to M	urra	ay Avenue	EQUII DIAMI DATE	ACE ELE PMENT: 12 ETER: 12 2010 Ja COMPA	SS Auge 25 mm anuary 5	r	ing
		SOIL PROFILE		SAMPL	.ES	ж.		CPT (kPa)	>		PLASTIC NA	TURAL U	REMARKS
DEPTH	ELEV.	DESCRIPTION	STRAT PLOT	% RECOVERY TYPE	"N" VALUES	GROUND WATER CONDITIONS	DEPTH SCALE	300 60 <b>X</b> FIELD SHE SPT (N) 0 20 4	AR (kPa)9 L	200 1500 (kPa) ab Shear (kPa DCPT 30 100	W <sub>P</sub>	NTENT	LIMIT GRAIN SIZE W <sub>L</sub> DISTRIBUTION ▲ (%)
		FILL - gravel & sand											
	_			AS		-		-			0		
1	1	CLAY - organic, black	Ø.	AS									
1.		CLAY - trace silt, grey		AS			1	-			•		
				AS	-								
	-	SILT - some gravel & sand		AS				-			•		
2		CLAY - dark grey	₩				2	_					
				AS AS AS		-	3	-			0	•	
3		End of Borehole @ 3.1 m.		AS	-	_	3						-
W TET BOREHOLE 09-637 FERRIER ST.GFU TB1.GUT 10/223		End of Borenole @ 3.1 m.					4			2END			
160	II.	TBT Engineering Li	imited	1		AS		SAMPLE T er Sample	RC RC		Core		
OREHOLE		110 Paramount R Winnipeg, Manitoba R PH: 204-633-60 FX: 204-633-66	R2X 2V 08	WЗ		SS	Split	t Spoon Sampl	e PS	Ponar	Sample		ENCLOSURE 5
		Email: tbte@tbte Web: www.tbte.	.ca			TW CC		nm Thin Wall T crete/Asphalt (		Side Si	ampie		PAGE 1 OF 1

C	RO.	REF. No.: 09-637 NT: Dillion JECT: Geotechnical Invest NTION: Ferrier Street - Ten Winnipeg,Manitoba	nple	tion eton /	Avenu	e to N	lurra	ay Avenue	EQUIPA DIAMET DATE: 2	AENT: S ER: 12! 2010 Jan		ing
		SOIL PROFILE		SAM	MPLES	с.		CPT (kPa)	>		NATURAL II	REMARKS
DEPTH	ELEV.	DESCRIPTION	STRAT PLOT	% RECOVERY	"N" VALUES	GROUND WATER CONDITIONS	DEPTH SCALE	300 600 ★ FIELD SHEAI ■ SPT (N) 0 20 40		1500 (kPa) Shear (kPa	UMIT CONTENT	UMIT GRAIN SIZE WL DISTRIBUTION ▲ (%)
		FILL - GRAVEL & SAND			AS	_		-			0	
1		CLAY - organic, black		- /	45	-	1	-			0	
2 (X) (X)		CLAY - grey			45	-		-			•	
2		- Silty SILT - some gravel & sand			45		2	-			0	
2					45	-		-			•	0 4 84 11
3		CLAY End of Borehole @ 3.1 m.		-	\ <u>\$</u>		3	-			•	_
4							4	-				
4	-							-				
1-03/ FERNIER O								SAMPLE TYP	PELEGF	ND		
		TBT Engineering Li 110 Paramount Re	oad			AS		er Sample	RC	Rock Co	re	
		Winnipeg, Manitoba R PH: 204-633-600	08	2W3		SS	Split	t Spoon Sample	PS	Ponar Sa	ample	ENCLOSURE 6
	1	FX: 204-633-662 Email: tbte@lbte. Web: www.tbte.c	ca			TW CC		nm Thin Wall Tub hcrete/Asphalt Cor		Side Sar	mple	PAGE 1 OF 1

CL PR	IEN	REF. No.: 09-637 IT: Dillion ECT: Geotechnical Invest TION: Ferrier Street - Ten Winnipeg,Manitoba	nple	tion eton	Aven	ue to N	lurra	ay Avenue	SURFACE EL EQUIPMENT: DIAMETER: 1; DATE: 2010 Ja DRILL COMPA	SS Auger 25 mm	ng
		SOIL PROFILE		SA	MPLES	<u>۲</u>	u	CPT (kPa)	2	PLASTIC NATURAL LIC	REMARKS
DEPTH	ELEV.	DESCRIPTION	STRAT PLOT	% RECOVERY	TYPE	GROUND WATER CONDITIONS	DEPTH SCALE	300 600 X FIELD SHEAS SPT (N) 0 20 40	900 1200 1500 (kPa R (kPa)9 Lab Shear (kPa • DCPT 60 80 100		Mit GRAIN SIZE w <sub>t</sub> DISTRIBUTION ▲ (%)
-		FILL - SAND & GRAVEL			AS	_		-		0	
- 1 -		CLAY - trace sand & gravel, dark grey			AS	_	1	-		0	
		SILT - Clayey			AS AS			-		•	
-		CLAY - brown			AS			-		0	
2 -		SILT - Clayey, trace sand & gravel			AS		2	-		•	
		CLAY - dark grey			AS			-		•	
3 -		End of Borehole @ 3.1 m.			AS	_	3	-		•	_
							4				
CE 09-0	I	TBT Engineering Li 110 Paramount R	load			AS		SAMPLE TYP Jer Sample	PE LEGEND RC Rock C	Core	
BOREHO		Winnipeg, Manitoba R PH: 204-633-60 FX: 204-633-66	2X 2 08 20			SS TW		t Spoon Sample nm Thin Wall Tub		Sample ample	ENCLOSURE 7
N IEI		Email: tbte@tbte Web: www.tbte.				сс		ncrete/Asphalt Co			PAGE 1 OF 1

C	TBT REF. No.: 09-637       SURFACE ELEV.: metres         CLIENT: Dillion       EQUIPMENT: SS Auger         PROJECT: Geotechnical Investigation       DIAMETER: 125 mm         LOCATION: Ferrier Street - Templeton Avenue to Murray Avenue       DATE: 2010 January 5         Winnipeg,Manitoba       DRILL COMPANY: Active Drilling												illing							
SOIL PROFILE SAM						AMPLES			CPT (kPa)			>			PLASTIC NATURAL LI				REMARKS	
DEPTH	ELEV.	DESCRIPTION	STRAT PLOT	% RECOVERY	TYPE	"N" VALUES	GROUND WATER CONDITIONS	DEPTH SCALE		300 X FIEL SPT 20	D SHE (N)	AR (kF	Pa)⊗ La ♦ D	ab Shea CPT	(kPa) ar (kPa	WP WA	CON TER CO		UQUID LIMIT WL A T (%)	GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
		FILL - GRAVEL & SAND							Ħ											
	_				AS				-							6 0				
~	-	CLAY - grey							-											
1 -					AS		-	1	-											
	4						1		-											
		- some silt			AS				_								0			
		SILT - some gravel & sand	Í		AS				-											
2								2	-											
					AS												•			
	_				AS				-								•			
	-						1		-											
		CLAY - grey			AS				_								•	9		
3								3	_											
3		End of Borehole @ 3.1 m.		1	AS			-	Н					-		-	-	•		-
									-											
	-								-											
	-								-											
4	-							4	-											
									-											
2																				
29	1																			
N N	1								-							1				
03-03/ FENRIER SI. 6PJ 161.001 10/2/2	-								-											
120-								5	L SA	MPL	ET	(PE	LEG	SENI	)	1			1	
27 11		TBT Engineering L 110 Paramount F	imite Road	ed I			AS	_		Samp!			RC		lock C	Core				
		Winnipeg, Manitoba I PH: 204-633-60	R2X				SS	Spli	t S	poon S	Sample	9	PS	Р	onar S	Samp!	е			ENCLOSURE 8
	U	FX: 204-633-66 Email: tbte@tbte	620			2	тw	70n	nm	Thin V	Vall Tu	ube	SD	S	ide Sa	ample				DAGE L OF L
Web: www.lble.ca							сс	Con	ncri	ete/As	halt C	ore	e					PAGE 1 OF 1		

C	TBT REF. No.: 09-637       SURFACE ELEV.: metres         CLIENT: Dillion       EQUIPMENT: SS Auger         PROJECT: Geotechnical Investigation       DIAMETER: 125 mm         LOCATION: Ferrier Street - Templeton Avenue to Murray Avenue       DATE: 2010 January 5         Winnipeg,Manitoba       DRILL COMPANY: Active Drilling																						
	SOIL PROFILE SAM						ER (	ū	CPT (	kPa)		$\geq$			PLASTIC	MOIS	JRAL	LIQUID	RE	MAF			
DEPTH	ELEV.	DESCRIPTION	STRAT PLOT	% RECOVERY	TYPE	"N" VALUES	GROUND WATER CONDITIONS	DEPTH SCALE	X FI	00 60 ELD SHE T (N) 20 40	AR (kP	a)@ La ♦ D(	b Shea CPT	00 (kPa) r (kPa	UMIT ₩₽ ♦	CONN V ER CO				DIST	TRIBI (%	SIZE	N
-		LIMESTONE - crushed	000000		AS				-						0								
-		SILT & CLAY - layered, mottled	0		AS			1	-						Ū	•							
		CLAY - dark brown CLAY - Silty, brown			AS			90 10	-							•	•						
2 -		SILT - Clayey			AS			2	-							0				0	8	73	19
2		CLAY - silt layered			AS		-	2	-							D							
3 -	-	- dark brown End of Borehole @ 3.1 m.			AS		-	3	-							•	0		_				
W TBT BOREHOLE 09-637 FERRIER ST.GPU TBT.GDT 10/2/23		End of Borenoie (@ 3.1 m.						4															
09-637 FERRIER SI		TBT Engineering L	imite	d	1			-	- SAMP		YPE I			-									
	HIP Engineering Limited 110 Paramount Road Winnipeg, Manitoba R2X 2W3 PH: 204-633-6008 FX: 204-633-6620 Email: lbte@tble.ca Web: www.lbte.ca					AS Auger Sample SS Split Spoon Sample TW 70mm Thin Wall Tube CC Concrete/Asphalt Corr				ube							ENCLOSURE 9						

C	TBT REF. No.: 09-637       SURFACE ELEV.: metres         CLIENT: Dillion       EQUIPMENT: SS Auger         PROJECT: Geotechnical Investigation       DIAMETER: 125 mm         LOCATION: Ferrier Street - Templeton Avenue to Murray Avenue       DATE: 2010 January 5         Winnipeg,Manitoba       DRILL COMPANY: Active Drilling													
SOIL PROFILE SAMPLES						с.		CPT (kPa)	>		PLASTIC NATURAL UC	REMARKS		
DEPTH	ELEV.	DESCRIPTION	STRAT PLOT	% RECOVERY TYPE	*N" VALUES	GROUND WATER CONDITIONS	DEPTH SCALE	300 600 X FIELD SHEA SPT (N) 0 20 40		) 1500 (kPa) Shear (kPa PT	UMIT CONTENT L WP W 1	MIT GRAIN SIZE WL DISTRIBUTION ▲ (%)		
-		FILL - GRAVEL & SAND	*											
-		CLAY - organic, black		AS				-			e ,∆	0 2 15 82		
- 1 -				AS			1	-			•			
2		SILT - some gravel & sand		AS AS AS		-	2	-			0			
3	-	CLAY - grey SILT		AS AS AS AS			3	-			0			
2	-	End of Borehole @ 3.1 m.						-						
V TET BOREHOLE 09-637 FERRIER ST.GPJ TBT.GDT 10/2/23							4	-						
10-637		TOT Contact 11	mile			1		SAMPLE TY	PELEG	END		[ '		
		TBT Engineering Lir 110 Paramount Ro Winnipeg, Manitoba Ri	oad			AS		ger Sample	RC	Rock C				
HENO		PH: 204-633-600	08			SS		it Spoon Sample	PS	Ponar S		ENCLOSURE 10		
TBT B	FX: 204-633-6620 Email: tble@tbte.ca Web: www.tbte.ca					TW		nm Thin Wall Tu ncrete/Asphalt Co		Side Sa	ample	PAGE 1 OF 1		

C	TBT REF. No.: 09-637       SURFACE ELEV.: metres         CLIENT: Dillion       EQUIPMENT: SS Auger         PROJECT: Geotechnical Investigation       DIAMETER: 125 mm         LOCATION: Murray Avenue - Ferrier St East to the Rail Line       DATE: 2010 January 5         Winnipeg,Manitoba       DRILL COMPANY: Active Drilling													
SOIL PROFILE SAM					MPLE	S 🧝		CPT (kPa)	$\geq$		PLASTIC NATURAL L	REMARKS		
DEPTH	E EV		STRAT PLOT	% RECOVERY	TYPE	"N" VALUES 0	DEPTH SCALE	300 600 X FIELD SHEAF ■ SPT (N) 0 20 40		(kPa) (kPa) Shear (kPa)	WATER CONTENT 20 40 60	LIMT GRAIN SIZE WL DISTRIBUTION		
	┢	FILL - SAND & GRAVEL	1		+		-							
		CLAY - organic, black			AS			-			•			
1 -		CLAY - brown SILT - trace gravel & sand			AS AS AS AS AS AS		1	-			0			
3	-	End of Borehole @ 3.1 m.			AS AS AS		3				0			
W TBT BOREHOLE 09-537 MJRRAY AVE.GPJ TBT.GDT 10/2/19	-						4							
03-63	-	TBT Engineering I	Limite	ed	T			SAMPLE TY						
OLE		110 Paramount Winnipeg, Manitoba	Road	1		AS		ger Sample	RC	Rock Co		ENCLOSUBE 44		
SOREH		PH: 204-633-6 FX: 204-633-6	008			SS		lit Spoon Sample	PS SD	Ponar Si Side Sar		ENCLOSURE 11		
V TBT E		Email: tbte@tbt Web: www.tbte	e.ca			TW		mm Thin Wall Tube ncrete/Asphalt Cor		olde oar	inp.e	PAGE 1 OF 1		

#### **Pavement Core Photos**



Ferrier Street TH #1

0 mm to 102 mm Asphalt

Ferrier Street TH #3

0 mm to 220 mm Concrete