KGS GROUP

SUMMARY LOG

HOLE NO. **TH25**

CLIENT CITY OF WINNIPEG

PROJECT COMMUNITY RING DIKE PROJECT

SITE SCOTIA STREET

LOCATION Top of Bank, East of #211 Scotia Street, See Dwg. 99-107-05 32

DRILLING METHOD 180 mm Hollow Stem Auger to 7.6 m, 125 mm Solid Stem Auger below

JOB NO. **99-107-05**
GROUND ELEV. **226.04 m, Geodetic**
TOP OF PIPE ELEV.
WATER ELEV. **221.62 m (See Note 1)**
DATE DRILLED **29-02-00**
UTM N **5,532,152.5**
E **635,565.7**

ELEV. (m)	DEPTH (m)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY %
	0		ALLUVIAL SILTY CLAY (CI-CH) Mottled dark brown, intermediate to high plasticity, blocky structure, trace fine to medium grained sand, trace organic matter to 2.15 m depth, frozen to 1.5 m depth.		1	50
	1		-trace fine to coarse grained sand between 0.91 and 2.13 m		2	25
	2		-mottled grey and brown between 1.52 and 3.35 m -trace oxidation between 1.52 and 5.18 m -firm, trace fine grained sand lensing between 1.52 and 2.13 m -moist below 1.5 m -soft to firm between 2.13 and 5.79 m -intermediate plasticity between 2.13 and 4.11 m -some fine grained sand, trace silt inclusions (<3 mm ø) between 2.13 and 2.74 m		3	25
	3		-silty sand seam (4 mm thick), brown, wet, compact, fine grained at 2.29 m -trace fine to medium grained sand between 2.74 and 3.35 m -silty sand layer (25 mm thick), brown, wet, loose, trace oxidation from 2.87 to 2.9 m -silty sand lens, rusty colour, moist, fine grained at 2.97 m -brownish grey between 3.35 and 4.05 m -trace fine grained sand below 3.35 m		4	83
	4		-silty sand seam (10 mm thick), brown, wet, compact, trace oxidation at 3.45 m -grey, soft between 4.05 and 4.11 m		5	75
▼			-mottled brown and grey, intermediate to high plasticity, firm, trace fine grained sand, trace organic matter between 4.11 and 4.5 m -mottled black and dark grey below 4.5 m -soft to firm, low to intermediate plasticity between 4.5 and 5.79 m		6	12
	5		-soft, intermediate plasticity between 5.18 and 5.64 m		7	79
	6		-firm below 5.64 m -silty sand seam, grey, wet at 5.79 m -intermediate to high plasticity below 5.8 m		8	83
219.64			SILTY SAND (SM) - Grey, wet, loose, poorly graded, fine grained.		9	79
	7				10	100
218.67			ALLUVIAL SILTY CLAY (CI) Mottled black and dark grey, moist, soft, intermediate plasticity, trace fine grained sand. -sand blew up HSA 1.5 m, drilled with SSA below 7.6 m -dark grey, wet, low plasticity, and fine grained sand below 7.6 m		11	87
	8				12	67
217.50			SILTY SAND (SM)- Grey, wet, fine to coarse grained, with fine grained gravel, some silt and clay.		13	
	9		-Grain Size Distribution: 31% gravel, 56% sand, 7% silt, 6% clay at 9.6 m		14	

Cu from Uncon. Comp. Test (kPa) ◇
Cu Torvane (kPa) ◆
PL MC LL
% - (kPa)
20 40 60 80 kPa

<20

SAMPLE TYPE ▮ Split Barrel ▨ Shelby ▦ Auger Grab

CONTRACTOR Paddock Drilling Ltd.
INSPECTOR A. PROSKIN
APPROVED _____ DATE 24-03-04

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KGS GROUP

SUMMARY LOG

HOLE NO.
TH25

ELEV. (m)	DEPTH (m)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY %	Cu from Uncon. Comp. Test (kPa) ◇ / Cu Torvane (kPa) ◆ / PL MC LL / % - (kPa)
215.37	11		**SILTY CLAY TILL**- Tan, moist, soft to firm, low plasticity, trace fine to coarse grained sand, trace fine grained gravel.				
	12				15		
213.23	13		**AUGER REFUSAL @ 12.8 m**				
	14		Notes: 1. Water level measured at end of drilling and may not be static. Test hole caved in below 4.55 m depth. 2. Test hole backfilled with auger cuttings and bentonite plug at bottom and top.				
	15						
	16						
	17						
	18						
	19						
	20						
	21						

20 40 60 80 kPa

SAMPLE TYPE ▮ Split Barrel ▨ Shelby ⊞ Auger Grab

CONTRACTOR Paddock Drilling Ltd.

INSPECTOR A. PROSKIN

APPROVED _____ DATE 24-03-04

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KGS GROUP

SUMMARY LOG

HOLE NO. **TH26**

CLIENT	CITY OF WINNIPEG
PROJECT	COMMUNITY RING DIKE PROJECT
SITE	SCOTIA STREET
LOCATION	Top of Bank, East of #261 Scotia Street, See Dwg. 99-107-05 32
DRILLING METHOD	180 mm Hollow Stem Auger

JOB NO. **99-107-05**
GROUND ELEV. **225.91 m, Geodetic**
TOP OF PIPE ELEV.
WATER ELEV. **221.03 m (See Note 1)**
DATE DRILLED **01-03-00**
UTM N **5,532,515.5**
E **635,528.0**

ELEV. (m)	DEPTH (m)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY %
	1		**ALLUVIAL SILTY CLAY (CI-CH)** Dark brown, intermediate to high plasticity, blocky structure, trace fine to medium grained sand, trace organic matter throughout the layer, frozen to 2.1 m depth.		1	8
	2		-mottled grey and dark brown, trace silt inclusions (<1 mm ø) between 1.52 and 2.13 m -trace fine grained sand between 1.52 and 4.16 m -trace oxidation between 1.52 and 4.16 m -mottled dark brown, hard, blocky structure, intermediate plasticity between 2.13 and 2.74 m		2	25
	3		-firm to stiff between 2.74 and 4.57 m -mottled brown and dark grey, intermediate to high plasticity, some oxidation between 2.74 and 3.35 m		3	4
	4		-mottled black and dark grey, intermediate to high plasticity between 3.35 and 3.96 m -layer of silty clay intermediate plasticity, some fine grained sand between 3.65 and 3.78 m -greyish brown, intermediate to high plasticity between 3.96 and 4.16 m -mottled black and dark grey below 4.16 m -soft to firm, low plasticity, some fine grained sand between 4.16 and 4.57 m -high plasticity, trace fine grained sand below 4.57 m		4	71
	5				5	83
					6	75
▼ 220.73	5				7	75
220.12			**SILTY SAND (SM)**- Grey, wet, compact, poorly graded, fine grained.		8	58
	6		**ALLUVIAL SILTY CLAY (CI)** Mottled black and dark grey, moist, soft, intermediate plasticity, trace fine grained sand, trace organic matter.		9	83
219.51			**SILTY SAND (SM)**- Grey, wet, compact, poorly graded, fine grained, trace shells.		10	17
	7				11	50
218.59			**INTERLAYERED SILTY CLAY AND SAND** Mottled black and dark grey silty clay, moist, soft, intermediate plasticity, trace fine grained sand between 7.3 and 7.4 m -silty clay and fine grained sand, grey, moist, soft, low plasticity, trace shells		12	33
217.68	8		~~below clay 7 grey to 7.62 m~~ firm, high plasticity, trace silt inclusions (<5 mm ø) between 7.62 and 7.82 m -sand, grey, fine grained below 7.82 m		13	58
	9		**LACUSTRINE SILTY CLAY (CH)** Mottled dark grey and brown, moist, soft, high plasticity, trace silt inclusions (<3 mm ø), massive structure. -dark grey, firm below 8.84 m -trace fine grained sand between 8.84 and 9.45 m -silt inclusions <4 mm ø between 8.84 and 11.28 m -trace fine to medium grained sand between 9.45 and 10.67 m -slickensided surface between 9.5 and 10.1 m		14	83
					15	79

Cu from Uncon. Comp. Test (kPa) ◇
Cu Torvane (kPa) ◆
PL MC LL
% - (kPa)
20 40 60 80 kPa

SAMPLE TYPE ▮ Split Barrel ▨ Shelby ☒ Split Spoon

CONTRACTOR Paddock Drilling Ltd.
INSPECTOR A. PROSKIN
APPROVED
DATE 24-03-04

KGS GROUP

SUMMARY LOG

HOLE NO.
TH26

ELEV. (m)	DEPTH (m)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY %
	11		-trace coarse grained gravel, one slickenside surface at 0° from horizontal between 10.06 and 10.67 m		16	83
			-trace fine grained gravel, one slickenside surface between 10.67 and 11.28 m -trace fine to coarse grained sand below 10.67 m		17	83
	12		-trace silt inclusions <10 mm ø below 11.28 m -3 partial slickensides at 45 ° from horizontal between 11.3 and 11.9 m -1 partial slickenside at 0 ° from horizontal between 11.9 and 12.5 m		18	83
			-trace fine grained gravel between 12.5 and 13.1 m		19	100
	13		-trace coarse grained gravel below 13.1 m		20	17
212.19					21	
	14		**CLAYEY SILT TILL**- Tan, moist, soft to firm, low plasticity, trace fine to coarse grained sand, trace fine to coarse grained gravel.		22	17
			-soft, trace fine grained gravel below 14.17 m -SPT count per 0.15 m: 5/6/4/6 between 14.17 and 14.78 m		23	83
	15					
	16					
209.14			**AUGER REFUSAL @ 16.76 m**			
	17		Notes: 1. Water level measured at end of drilling and may not be static. 2. Test hole caved in below 5.8 m depth.			
	18					
	19					
	20					
	21					

Cu from Uncon. Comp. Test (kPa) ◇
Cu Torvane (kPa) ◆
PL MC LL
% - (kPa)
20 40 60 80 kPa

SAMPLE TYPE ▮ Split Barrel ▨ Shelby ☒ Split Spoon

CONTRACTOR Paddock Drilling Ltd.
INSPECTOR A. PROSKIN
APPROVED
DATE 24-03-04

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KGS GROUP

SUMMARY LOG

HOLE NO. **TH27**

CLIENT	CITY OF WINNIPEG
PROJECT	COMMUNITY RING DIKE PROJECT
SITE	SCOTIA STREET
LOCATION	Top of Bank, East of #307 Scotia Street, See Dwg. 99-107-05 32
DRILLING METHOD	180 mm Hollow Stem Auger

JOB NO. 99-107-05
GROUND ELEV. 226.02 m, Geodetic
TOP OF PIPE ELEV.
WATER ELEV. -226.02
DATE DRILLED 29-02-00
UTM N 5,532,847.0
E 635,443.5

ELEV. (m)	DEPTH (m)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY %
			ALLUVIAL SILTY CLAY (CI-CH) Dark brown, moist, intermediate to high plasticity, blocky structure, trace fine to medium grained sand, trace organic matter, frozen to 1.5 m.		1	
	1		-mottled black and dark brown between 0.91 and 1.52 m		2	58
			-dark brown between 1.52 and 3.35 m -intermediate plasticity between 1.52 and 2.74 m -trace fine to coarse grained sand between 1.52 and 2.13 m		3	12
	2		-trace fine grained sand between 2.13 and 5.56 m -stiff between 2.13 and 3.96 m		4	8
			-intermediate to high plasticity between 2.74 and 5.56 m -trace oxidation between 2.74 and 3.35 m -Grain Size Distribution: 5% sand, 62.9% silt, 32.1% clay at 3 m		5	42
	3		-mottled dark grey and dark brown between 3.35 and 3.96 m		6	12
			-firm between 3.96 and 5.18 m -mottled black and dark grey between 3.96 and 5.79 m -trace organic matter between 3.96 and 8.0 m		7	71
	4				8	100
	5		-soft to firm between 5.18 and 7.62 m		9	71
			-intermediate plasticity between 5.56 and 7.62 m -some fine grained sand between 5.56 and 6.4 m -dark grey between 5.79 and 7.0 m -trace silt inclusions (<3 mm thick) between 5.79 and 6.4 m		10	83
	6		-trace fine grained sand below 6.4 m -blocky, organics, rootlets		11	58
	7		-mottled black and dark grey between 7.0 and 8.23 m -silty sand seam (5 mm thick), black and grey, moist, compact at 7.01 m -silty sand seam (8 mm thick), black and grey, moist, compact at 7.06 m		12	46
			-stiff, intermediate to high plasticity, trace silt inclusions (<2 mm thick) between 7.62 and 8.23 m -some organics and rootlets, blocky structure		13	33
217.82	8		LACUSTRINE SILTY CLAY (CH) Dark grey, moist, firm, high plasticity, trace silt pockets (1-10 mm ø).		14	79
	9		-mottled brown and dark grey layer between 8.84 and 9.14 m		15	100
			-trace coarse grained sand between 9.45 and 9.75 m -mottled brown and dark grey layer between 9.75 and 10.05 m		16	100

Cu from Uncon. Comp. Test (kPa) ◇
Cu Torvane (kPa) ◆
PL MC LL
% - (kPa)
20 40 60 80 kPa

SAMPLE TYPE: Auger Grab | Split Barrel | Shelby

CONTRACTOR Paddock Drilling Ltd.
INSPECTOR A. PROSKIN
APPROVED _____ DATE 24-03-04

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KGS GROUP

SUMMARY LOG

HOLE NO. **TH27**

ELEV. (m)	DEPTH (m)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY %
	11		-stiff between 10 and 10.6 m		17	100
			-trace fine to coarse grained sand between 10.67 and 13.1 m -trace fine grained gravel between 10.67 and 12.5 m -1 partial slickensided surface between 11.2 and 11.8 m		18	79
					19	83
	12		-trace silt inclusions (<6 mm ø) between 11.89 and 13.1 m -firm below 11.89 m -2 partial slickensides between 11.8 and 12.4 m -4 slickensided surfaces at 0° from horizontal between 12.4 and 13.2 m		20	100
					21	100
	13		-trace fine to coarse grained gravel, trace silt inclusions (<3 mm ø) below 13.1 m		22	100
212.32						
	14		**SILT TILL** - Tan, moist, soft to firm, non plastic to low plasticity, some clay, trace fine to coarse grained sand. -trace fine grained gravel below 13.72 m		23	25
211.69			**AUGER REFUSAL @ 14.32 m**			
	15		Note: 1. No water infiltration observed in test hole at end of drilling.			
	16					
	17					
	18					
	19					
	20					
	21					

Cu from Uncon. Comp. Test (kPa) ◇
Cu Torvane (kPa) ◆
PL MC LL
% - (kPa)
20 40 60 80 kPa

SAMPLE TYPE Auger Grab Split Barrel Shelby

CONTRACTOR Paddock Drilling Ltd.

INSPECTOR A. PROSKIN

APPROVED _____ DATE 24-03-04