



Government
of Canada

Gouvernement
du Canada

MEMORANDUM

NOTE DE SERVICE

JAN 4 1979

TO
A

Mr. G.D. Reid
Director, Transportation Program
Public Works Canada
OTTAWA, Ontario

FROM
DE

A. Puczko
Supervisor, Tech. Admin.
Design & Construction - Highways
Public Works Canada
Edmonton, Alberta

SECURITY CLASSIFICATION - DE SÉCURITÉ
OUR FILE - N./RÉFÉRENCE 890-4/51
YOUR FILE - V./RÉFÉRENCE 3/106-188/78
DATE December 28, 1978

SUBJECT
OBJET

PWC REPORT - LIARD GEOTECH
BORROW AND CENTRELINE TESTHOLES MILE 32 TO 67
APRIL 1978

Attached are six sets of corrections to the above report of which six copies were forwarded to you on April 13, 1978. Please discard the applicable pages and replace with these.

M. McDonald
for A. Puczko
Supervisor
Technical Administration

Attach.



D007794

DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA									
MACKENZIE HIGHWAY										TEST HOLE 1									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO		CHAINAGE		OFFSET		ELEV		MILE		B,C,S		NUMBER	
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION											
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS			
										CLAY %	SILT %	SAND %	GRAVEL %						
						OVERBURDEN REMOVED		Frozen											
2						BROWN			2										
						-CLAY-													
4						SILTY			4										
						SANDY													
6						PEBBLES			6										
					CL	W% BELOW P _L			8										
8																			
					CI	LOW - MEDIUM			10										
10						PLASTIC													
12									12										
14									14										
16									16										
18									18										
20						GREY			20										
						20'													
22						BOTTOM OF HOLE - 20'			22										
24									24										

LIARD HWY										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 7/10/19		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE 2												
CKD		TECH PRONICH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE		B,C,S		NUMBER								
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS								
										CLAY %	SILT %	SAND %	GRAVEL %											
						OVERBURDEN PRE-STRIPPED		FROZEN		○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)														
						CLAY - SILTY				20	40	60	80	100	100+									
2									2							60-34 6 WET								
4					CL	SANDY PEBBLES			4							56-37 7 Moist								
6						LOW PLASTIC			6							45-39 16 Moist								
8						W% BELOW R			8							42-31 27 Moist								
10					CI	MEDIUM PLASTIC			10							46-24 30 Moist								
12									12															
14									14							69-29 2 Moist								
16									16															
18									18															
20						W% @ R	20'		20							50-47 3 WET								
22						BOTTOM OF HOLE 20'			22															
24									24															

LIARD Hwy										DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 8/1/19		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE 3											
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV:		MILE B.C.S NUMBER											
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS							
										CLAY %	SILT %	SAND %	GRAVEL %										
						DVER BURDEN Pre-SILT STRIPPED - CLAY 2'		FROZEN															
2						GRAVEL - SAND MIXTURE			2					94-60	WET	Good BORROW							
4									4					5-28	67	MOIST							
6									6					7-60	33	MOIST							
8									8					7-44	49	DAMP							
10									10					17-61	22	MOIST							
12									12														
14						CLAY - SILTY SANDY PEBBLES 1/2% BELOW P _L			14					54-39	7	MOIST							
16									16														
18									18														
20						LOW - MEDIUM PLASTIC			20					63-31	6	MOIST							
22									22														
24									24					70-27	3	MOIST							

BOTTOM OF HOLE - 25'

DEPARTMENT OF PUBLIC WORKS, CANADA
MACKENZIE HIGHWAY

DWN		FIELD ENG		DATE DRILLED 12/19		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE 1				
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY	SILT	SAND	GRAVEL			
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						
										PLASTIC LIMIT LIQUID LIMIT						
										20 40 60 80 100 100+						
2						BORROW PIT #2			2							
4						HOLE 1-2-3-4-			4							
6						6 & 7			6							
8						GRAVEL FROM TOP SURFACE			8							
10						UNABLE TO PENETRATE			10							
12									12							
14									14							
16									16							
18									18							
20									20							
22									22							
24									24							

LIARD HILLY										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN		FIELD ENG.		DATE DRILLED 8/19		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE 5												
CKD		TECH PRONYCH		RIG 3-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B.C.S NUMBER												
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS		WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)											
										CLAY %	SILT %													
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)														
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+														
2						GW GRAVEL - SANDY			2	3	11	86	DAMP											
4						GH SAND - GRAVEL MIX SILTY			4	11	45	44	Moist											
6									6	26	41	33	Moist											
8						GW GRAVEL - SANDY			8	15	27	58	Moist											
10						GH			10	8	17	75	Moist											
12									12															
14									14															
16									16															
18									18															
20									20															
22									22															
24									24															
						13'																		
						BOTTOM OF HOLE - 13'																		

LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 8/19		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE 1																	
CKD		TECH Bouch		RIG B-50		SURFACE DRAINAGE		VEGETATION		ELEV		MILE B.C.S																	
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY %	SILT %	SAND %	GRAVEL %																
2					ML	SILT - CLAYEY		FROZEN	2					90	9	1													
4					GM	GRAVEL - SILTY - SANDY			4					15	11	74													
6									6					4	44	52													
8					Sp	SAND - GRAVELLY			8					8	65	27													
10									10					7	53	40													
12						BOTTOM OF HOLE - 12'			12																				
14									14																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

DEPARTMENT OF PUBLIC WORKS, CANADA
~~MACKENZIE HIGHWAY~~

NOTE

LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN		FIELD ENG		DATE DRILLED 8/01/19		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE 3																	
CKD		TECH PRONICH		RIG B-50		SURFACE DRAINAGE:		VEGETATION		ELEV		MILE B.C.S NUMBER																	
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	PLASTIC LIMIT 40 60 80 100 100+						GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS							
										O = WATER CONTENT (% OF DRY WEIGHT) Δ = ICE CONTENT (% OF SAMPLE VOLUME)						CLAY	SILT	SAND	GRAVEL										
																CLAY	SILT	SAND	GRAVEL										
2						ML SILT-CLAY 1'			2											9	62	29	DAMP						
4						SP SAND - GRAVELLY GRAVEL - SANDY			4										5	52	43	DAMP							
6									6										4	36	60	DAMP							
8									8										2	22	76	DAMP							
10									10										1	22	77	DAMP							
12						COBBLE & BOULDERS 13'			12										6	44	50	WET							
14						BOTTOM OF HOLE - 13'			14																				
16						FREE WATER ON AUGER			16																				
18									18																				
20									20																				
22									22																				
24									24																				

LIARD Hwy										DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~							
DWN		FIELD ENG.		DATE DRILLED 8/1/19		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE 4									
CKD		TECH Romych		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE		B.C.S		NUMBER					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)		GRAIN-SIZE ANALYSIS				WET DENSITY (p.c.f.)	DRY DENSITY (p.c.f.)	REMARKS			
										PLASTIC LIMIT	LIQUID LIMIT	CLAY %	SILT %	SAND %	GRAVEL %						
										20	40	60	80	100	100+						
						ML SILT-CLAY 1'			1							31	54	15	Moist		
2						SD SAND-GRAVELLY SILTY TO 5'			2							20	39	41	Moist		
4									4								10	60	30	Moist	
6									6												
8									8								4	85	11	Moist	
10									10												
12									12							6	81	13	Moist		
14						Bottom of Hole - 13'			14							14	63	23	WET		
16									16												
18									18												
20									20												
22									22												
24									24												

LIARD Hwy										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 8/19		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE 5												
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION		ELEV		MILE B.C.S NUMBER												
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						GRAIN SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS		
										PLASTIC LIMIT		LIQUID LIMIT		CLAY	SILT	SAND	GRAVEL							
									20	40	60	80	100	100+	%	%	%	%						
2						GRAVEL			2															
4						REFUSAL AT 1'			4															
6									6															
8									8															
10									10															
12									12															
14									14															
16									16															
18									18															
20									20															
22									22															
24									24															

DEPARTMENT OF PUBLIC WORKS, CANADA
~~MACKENZIE HIGHWAY~~

P9372

LIARD HWY										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 10/19		AIRPHOTO NO:		CHAINAGE		OFFSET		ELEV		TEST HOLE 7							
CKD		TECH BRONKH		RIG B-50		SURFACE DRAINAGE		VEGETATION						MILE B.C.S NUMBER							
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)		GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS			
										PLASTIC LIMIT	LIQUID LIMIT	CLAY %	SILT %	SAND %	GRAVEL %						
2						GP GRAVEL-SAND MIX.			2								MOIST				
						GRAVEL - SAND											MOIST				
4									4								MOIST				
						GW															
6									6												
									8								MOIST				
8																					
									10								MOIST				
10																					
									12												
12																					
									14								MOIST				
14																					
									16												
16																					
									18												
18																					
									20								MOIST				
20																					
									22												
22																					
									24												
24																					

LIARD Hwy.				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~														
OWN		FIELD ENG.		DATE DRILLED 7/21/19		AIRPHOTO NO:		CHAINAGE:				OFFSET		TEST HOLE 8								
CKD		TECH PRONCH		RIG B-50		SURFACE DRAINAGE:				VEGETATION:				ELEV								
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS
										PLASTIC LIMIT 20 40 60 80 100 100+ LIQUID LIMIT 80 100 100+						CLAY	SILT	SAND	GRAVEL			
										%	%	%	%									
						P ₁ ~~PRAT~~ 2" CLAY SILTY 1" GRAVEL - SANDY REFUSAL @ 1 1/2'																
2																						
4																						
6																						
8																						
10																						
12																						
14																						
16																						
18																						
20																						
22																						
24																						

LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE 9																	
CKD		TECH Pronych		RIG B-50		SURFACE DRAINAGE		VEGETATION		ELEV		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>MILE</td> <td>B,C,S</td> <td>NUMBER</td> </tr> <tr> <td>B.P.</td> <td></td> <td>3</td> </tr> </table>								MILE	B,C,S	NUMBER	B.P.		3				
MILE	B,C,S	NUMBER																											
B.P.		3																											
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS							
										PLASTIC LIMIT		LIQUID LIMIT		CLAY	SILT	SAND	GRAVEL												
										20	40	60	80	100	100+	%	%	%	%										
2						GRAVEL			2																				
4						REFUSAL @ 1"			4																				
6									6																				
8									8																				
10									10																				
12									12																				
14									14																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

~~MACKENZIE HIGHWAY~~

FIGURE 2

LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 10/19		AIRPHOTO NO:		CHAINAGE		OFFSET		ELEV		TEST HOLE 1															
CKD		TECH PRONCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION						MILE B.C.S NUMBER															
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY %	SILT %	SAND %	GRAVEL %																
						PEAT 3"		FROZEN	2					15	30	55	DAMP												
					CL CLAY SILTY 1'									42	45	13	MOIST												
2					GM GRAVEL - SANDY SILTY 2.5'									51	43	6	MOIST												
4					CLAY - SILTY SANDY									48	35	17	MOIST												
6					PEBBLES - GRAVELLY									55	39	6	MOIST												
8					CL LOW - MEDIUM PLASTIC									58	24	18	MOIST												
10					CI								58	34	8	MOIST													
12																													
14																													
16																													
18																													
20																													
22																													
24																													

LIARD Hwy						DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY							
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE 2					
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION		ELEV		MILE B.C.S NUMBER					
		RONYKH		B-50								B.P. 4					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS	
										CLAY %	SILT %	SAND %	GRAVEL %				
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)							
										PLASTIC LIMIT ——— LIQUID LIMIT 20 40 60 80 100 100+							
2						SILT SANDY GRAVEL @ 1'		FROZEN	2					-24-	17	59 DAMP 2 LARGE Rocks	
4						UNABLE TO PENETRATE			4								
6						GRAVEL LAYER			6								
8									8								
10									10								
12									12								
14									14								
16									16								
18									18								
20									20								
22									22								
24									24								

LIARD HWY										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY										
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE										
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION		ELEV		MILE B.C.S. NUMBER										
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	O = WATER CONTENT (% OF DRY WEIGHT) Δ = ICE CONTENT (% OF SAMPLE VOLUME)		GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS				
										PLASTIC LIMIT	LIQUID LIMIT	CLAY	SILT	SAND	GRAVEL							
										20	40	60	80	100	100+	%	%	%	%			
2						GRAVEL - SANDY			2													
4									4													
6									6													MOIST
8									8													
10									10													MOIST
12									12													
14									14													
16									16													MOIST
18									18													
20									20													WET
22								FROZEN	22													
24									24													

HL SAND-SILTY PERBBLES 26'

BOTTOM OF HOLE 26'

SAT.

LIRD Hwy										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 18/01/20		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE 2												
CKD		TECH PROMYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE		B.C.S		NUMBER								
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS		
										PLASTIC LIMIT ——— LIQUID LIMIT 20 40 60 80 100 100+						CLAY	SILT	SAND	GRAVEL					
										%	%	%	%	%	%	%	%							
2					ML	SILT - SANDY CLAYEY			2															
4									4															
6									6															
8									8															
10					SM	SAND - SILTY FEW PEBBLES			10															
12									12															
14								FROZEN	14															
16									16															
18									18															
20									20															
22									22															
24									24															

LIARD HILL										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 18/1/20		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE 3									
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B.C.S NUMBER									
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS					
										CLAY	SILT	SAND	GRAVEL								
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)											
										PLASTIC LIMIT 40 LIQUID LIMIT 80											
										20 40 60 80 100 100+											
2						Gr GRAVEL - SANDY			2												
4									4							DAMP					
6									6												
8									8												
10									10							DAMP					
12						Gm SILTY			12												
14									14							DAMP					
16									16												
18									18												
20									20							T-1 98 DRY					
22									22												
24						Gm SANDY			24							MOIST					

1073

Bottom of hole 32' Below

LIARD Hwy.				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 8/20/30		AIRPHOTO NO:		CHAINAGE		OFFSET							
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV							
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS	
										CLAY	SILT	SAND	GRAVEL				
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)							
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+							
2						GRAVEL - SANDY			2								
4									4								
6									6							DAMP	
8									8								
10						SP SAND-GRAVELLY			10							MOST	
12									12								
14									14								
16								FROZEN	16							WET	
18									18								
20						GP GRAVEL-SAND MIX			20							WET	
22									22								
24						BOTTOM OF HOLE - 21'			24								

LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 18 on 10		AIRPHOTO NO:		CHAINAGE		OFFSET		ELEV		TEST HOLE 5							
CKD		TECH PRONCH		RIG B-50		SURFACE DRAINAGE		VEGETATION						MILE B.C.S NUMBER							
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS					
										CLAY %	SILT %	SAND %	GRAVEL %								
						GRAVEL-SANDY															
2									2												
4									4												
6									6												
8									8												
10									10												
12									12												
14									14												
16									16												
18									18												
20									20												
22									22												
24									24												

PLASTIC LIMIT 20 40 60 80 100 100+
 LIQUID LIMIT 80 100 100+

O = WATER CONTENT (% OF DRY WEIGHT)
 Δ = ICE CONTENT (% OF SAMPLE VOLUME)

11-2564 DAMP
 5-1976 DAMP
 4-1086 DAMP
 3-1384 DAMP
 5-3956 DAMP

BOTTOM OF HOLE - 25'
 By LOG BOOK
 SAMPLES TAKEN @ 30'-31'

- 4-3363 moist

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
OWN		FIELD ENG.		DATE DRILLED <u>10/20</u>		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE <u>6</u>				
CKD		TECH <u>PRONYCH</u>		RIG <u>B-50</u>		SURFACE DRAINAGE:		VEGETATION		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						<u>Pl. Plast</u> <u>ML SILT</u> <u>1"</u> <u>1"</u>										
2						GRAVEL			2							
4						- SANDY			4	8	11	81				DAMP
6									6							
8									8							
10									10	3	29	68				DAMP
12									12							
14									14	4	24	72				DAMP
16									16							
18									18							
20									20	4	30	66				DAMP
22									22							
24									24	3	27	70				DAMP

BOTTOM OF HOLE - 25'

LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE		7															
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION		ELEV		MILE		B,C,S		NUMBER													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY	SILT	SAND	GRAVEL																
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)																			
										PLASTIC LIMIT 20 40 60 80 100 100+ LIQUID LIMIT 80 100 100+																			
2					Sp	SAND - GRAVEL MIX SILTY			2																				
4					Sp	SAND - GRAVELLY			4																				
6									6																				
8									8																				
10									10																				
12									12																				
14									14																				
16									16																				
18					SH	SILTY			18																				
20									20																				
22									22																				
24									24																				

DEPARTMENT OF PUBLIC WORKS, CANADA
~~MACKENZIE HIGHWAY~~

~~MACKENZIE HIGHWAY~~

1972

LIARD HWY										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE												
CKD		TECH		RIG		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B.C.S NUMBER												
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS								
									○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)				CLAY	SILT	SAND	GRAVEL								
									PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+				%	%	%	%								
2					CL	CLAY - SILT SANDY LOW PLASTIC			2	45	38	7				DAMP								
4					CL	GRAVELLY			4	45	47	8				DAMP								
6									6	39	37	24				Moist								
8					CL				8	54	32	14				Moist								
10					CL	PEBBLES			10															
12						Low-Med Plastic			12	61	33	6				Moist								
14						11% BELOW P _L			14															
16									16	57	33	10				Moist								
18									18															
20									20	62	34	3				Moist								
22									22															
24									24															

LIARD HWY				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO.		CHAINAGE				OFFSET		TEST HOLE			
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION				ELEV		MILE B.C.S. NUMBER			
		Pronch		B-50										3 BP 6			
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS	
										CLAY %	SILT %	SAND %	GRAVEL %				
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME) PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+							
2					ML	SILT - CLAY 14			2	98	2	0			DAMP		
4						CLAY - SILTY GRADUAL - SANDY PEBBLES			4	47	33	20			DAMP		
6									6	64	33	3			Moist		
8					CI	Low-Med. Plastic 14% AT & Below P _L		FROZEN	8	32	68	0			Moist		
10					CI			USABLE	10	41	59	0			Moist		
12									12								
14									14	64	30	6			DAMP		
16									16	66	31	3			DAMP		
18									18								
20						REFUSAL @ 17'			20								
22						CONCRETE OR BULDER			22								
24									24								

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG		DATE DRILLED <u>8/24</u>		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE <u>4</u>				
CKD		TECH <u>PRONYLY</u>		RIG <u>B-50</u>		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B.C.S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						<u>Pe</u> <u>Peet</u> <u>1"</u>										
2						<u>ML SILT-CLAY</u> <u>2'</u>			2							
4						<u>CLAY-SANDY SILTY GRAVELLY</u>			4							
6						<u>11% BELOW P_L</u>			6							
8						<u>CL</u> <u>LOW-MED. PLASTIC</u>			8							
10									10							
12									12							
14						<u>PEBBLES</u>			14							
16									16							
18									18							
20						<u>20'</u>			20							
22						<u>BOTTOM OF HOLE - 20'</u>			22							
24									24							

○ = WATER CONTENT (% OF DRY WEIGHT)
 △ = ICE CONTENT (% OF SAMPLE VOLUME)

PLASTIC LIMIT 20 40 60 80 100 100+
 LIQUID LIMIT 80 100 100+

CLAY	SILT	SAND	GRAVEL	WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)
91	9	0		Moist	
30	27	43		Moist	
54	33	13		Moist	
52	34	14		Moist	
47	22	31		Damp	
68	28	4		Damp	
74	20	6			

LIARD Hwy.				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~																	
DWN		FIELD ENG.		DATE DRILLED 18/01/21		AIRPHOTO NO:		CHAINAGE:		OFFSET		ELEV		TEST HOLE 1											
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:																	
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS			
										PLASTIC LIMIT ——— LIQUID LIMIT 20 40 60 80 100 100+						CLAY	SILT	SAND	GRAVEL						
										%	%	%	%												
2					ML	SILT-CLAYEY (CLAY-SILT)			2																
4					CL	SANDY-PEBBLES Few COBBLES			4																
6									6																
8									8																
10					SM	SAND-SILTY PEBBLES IVET			10																
12									12																
14									14																
16									16																
18									18																
20									20																
22									22																
24									24																

LIARD Hwy.				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG		DATE DRILLED 8/01/21		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE 2				
CKD		TECH PRONCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B.C.S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
					ML	SILT - CLAY				○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						
2									2							
4						SAND - SILTY FINE DAMP			4	NO SAMPLES TAKEN						
6					SM			6	GRAVEL SEARCH							
8								8								
10								10								
12								12								
14								14								
16								16								
18								18								
20								20								
22								22								
24								24								

LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY				
DWN		FIELD ENG.		DATE DRILLED 18/01/21		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE 1				
CKD		TECH PRONYCH		RIG B-5D		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						CL CLAY - SILTY BROWN										
2						ML SILT - CLAYEY			2							
4						CL CLAY - SILTY PEBBLES			4							
6									6							
8						CL CLAY - SILTY SANDY GRAVELLY			8							
10						G. CLAY - SAND - GRAVEL			10							
12									12							
14						SC SAND - SILTY - CLAYEY GRAVELLY			14							
16									16							
18						CL CLAY - SANDY			18							
20						CI PEBBLES 20'			20							
22						BOTTOM OF HOLE - 20'			22							
24									24							

LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN		FIELD ENG.		DATE DRILLED <u>7/12/21</u>		AIRPHOTO NO.		CHAINAGE		OFFSET		ELEV		TEST HOLE <u>2</u>							
CKD		TECH <u>Prorych</u>		RIG <u>B-50</u>		SURFACE DRAINAGE:		VEGETATION						MILE <u>B.P.</u> B.C.S. <u>8</u> NUMBER <u>8</u>							
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS					
										CLAY %	SILT %	SAND %	GRAVEL %								
						SILT - CLAYEY															
2									2												
4					ML				4												
6									6												
8						CLAY - SILTY SANDY GRAVELLY 1% BELOW P_L Low - Med. Plastic			8												
10									10												
12					CL				12												
14									14												
16									16												
18									18												
20									20												
22									22												
24									24												

LARD HWY.				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG.		DATE DRILLED 78/01/22		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE 1				
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						SILT - SANDY										
2					ML	CLAYEY			2	52	48	0				DAMP
4					ML	SAND SILT			4	62	38	0				DAMP
6									6	82	18	0				MOIST
8					SM	SAND - SILTY FINE			8	33	67	0				MOIST
10									10	31	69	0				DAMP
12									12							
14					SC	PERBBLES CLAYEY			14	39	59	2				MOIST
16									16							
18									18							
20									20	62	47	11				MOIST
22									22							
24									24							

LIARD HWY										DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~					
DWN		FIELD ENG		DATE DRILLED 8/22		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE 2							
CKD		TECH PRONY CH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B.C.S		NUMBER					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS		WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS					
										CLAY %	SILT %					SAND %	GRAVEL %		
						SILT - SANDY													
2					ML	CLAYEY			2	77	23	0	DAMP						
4									4	84	16	0	DAMP						
6						SAND - SILTY FINE			6	53	47	0	DAMP						
8					SM				8	35	65	0	DAMP						
10									10	29	71	0	DAMP						
12									12										
14									14	35	65	0	DAMP						
16									16										
18									18										
20									20	39	61	0	Moist						
22									22										
24									24										

LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE									
CKD		TECH		RIG		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER									
		Bronych		B-50								3									
												BP 9									
												REMARKS									
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)						
										CLAY %	SILT %	SAND %	GRAVEL %								
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME) PLASTIC LIMIT 40 LIQUID LIMIT 60 80 100 100+											
2					SM	SAND - SILTY FINE			2		19	81	0		DAMP						
4					ML	SILT - SANDY			3		61	39	0		DAMP						
6					SM	SAND - SILTY FINE			5		30	70	0		DAMP						
8					SM ML	SAND - SILT MIX			8		50	50	0		DAMP						
10									11		51	49	0		DAMP						
14					SM	SAND - SILTY FINE			15		30	70	0		DAMP						
18					SM ML	SAND - SILT MIX			20		55	45	0		Moist						
20					20'																
22					BOTTOM OF HOLE 20																
24																					

LIARD HWY				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
OWN		FIELD ENG.		DATE DRILLED 18/01/22		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE 2				
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B.C.S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						SILT - SANDY										
2					ML	CLAY - SILTY SANDY			2		60	40	0			DAMP
4						- PEBBLES					84	16	0			DAMP
6											47	44	9			DAMP
8					CL	GRADUALLY COBBLES					45	42	13			DAMP
10						LOW PLASTIC										
12						1% Below P _L					39	44	17			DAMP
14											45	44	11			DAMP
16																
18																
20																
22																
24																

LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~													
DWN		FIELD ENG		DATE DRILLED 18/01/22		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE 3													
CKD		TECH PRONCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>MILE</th> <th>B,C,S</th> <th>NUMBER</th> </tr> <tr> <td>B.P.</td> <td></td> <td>10</td> </tr> </table>								MILE	B,C,S	NUMBER	B.P.		10
MILE	B,C,S	NUMBER																							
B.P.		10																							
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)		GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS							
										PLASTIC LIMIT	LIQUID LIMIT	CLAY %	SILT %	SAND %	GRAVEL %										
2						ML BOULDER 2" 1" SILT-SANDY CLAYEY GRAVELLY Gt SILT-CLAY-GRAVEL SAND MIX 8'			2	○	90	10	0												
3										3	○	43	45	12											
4										4	○	28	32	40											
6									6	○															
8						CLAY-SILTY -SANDY -GRAVELLY LOW PLASTIC CL PEBBLES W% BELOW P _L 20' BOTTOM OF HOLE - 20'			8	○	44	43	13												
10										10	○	40	38	22											
12										12	○														
14									14	○															
16									16	○	57	36	5												
18									18	○															
20									20	○	55	41	4												
22									22																
24									24																

LIARD Hwy										DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 8/1/72		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE 1											
CKD		TECH Bonych		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B.C.S NUMBER											
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)				GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS			
										PLASTIC LIMIT		LIQUID LIMIT		CLAY	SILT	SAND	GRAVEL						
										20	40	60	80	100	100+	%	%	%	%				
2						SILT			2	○						99	1	0					
4					ML	SANDY			4	○						96	4	0					
6									6	○						88	12	0					
8						COBBLES @ 8'			8	○						72	28	0					
10						REFUSAL @ 9'			10														
12									12														
14									14														
16									16														
18									18														
20									20														
22									22														
24									24														

LIARD Hwy.				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG		DATE DRILLED 8/1/22		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE 2				
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION		ELEV		MILE B.C.S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						
										20	40	60	80	100	100+	
2						SILT -			2							99- 1 0 DAMP
4					ML				4							94- 6 0 DAMP
6									6							95- 5 0 DAMP
8									8							64- 36 0 DAMP
10					ML	SILT - SAND			10							54- 46 0 DAMP
12					SM	MIXTURE			12							
14									14							
16									16							51- 49 0 DAMP
18									18							
20									20							
22									22							
24									24							
						REFUSAL @ 16'										

LIARD Hwy.				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG.		DATE DRILLED 8/22		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE 3				
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION		ELEV		MILE B.C.S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						SILT -										
2						CLAYEY			2	98	2	0		DAMP		
4					ML	SANDY			4	98	2	0		DAMP		
6									6	61	39	0		DAMP		
8						COBBLES @ 11'			8	82	18	0		DAMP		
10									10							
12									12	73	27	0		Moist		
14						ML CLAY-SILTY SANDY GRAVELLY CL LOW PLASTIC			14							
16						Bottom of Hole 15'			16	37	27	36		DAMP		
18									18							
20									20							
22									22							
24									24							

LIARD Hvy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE		MILE		B,C,S		NUMBER											
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION		ELEV																			
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY	SILT	SAND	GRAVEL																
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)																			
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+																			
2						SILT - CLAYEY			2	96	4	0	0	DAMP															
4									4	95	5	0	0	MOST															
6					ML				6	91	9	0	0	DAMP															
8						SANDY			8	79	21	0	0	DAMP															
10						REFUSAL @ 9'			10																				
12									12																				
14									14																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

LIARD Hwy										DRILL HOLE REPORT					Duplication DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE												
CKD		TECH		RIG		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE		B,C,S		NUMBER								
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)				GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS				
										PLASTIC LIMIT		LIQUID LIMIT		CLAY	SILT	SAND	GRAVEL							
						CLAY - SILTY SANDY GROVELLY			2															
									3															
					CL	LOW-MED. PLASTIC			4															
					CI	W% BELOW P _L			5															
									6															
									8															
						P ₂ BBLES			10															
									11															
						BOTTOM OF Hole - 11			12															
									14															
						BREAK DOWN			16															
						1 st Hole REFUSED @ 8			18															
						MOVED BACK			20															
									22															
									24															

LIARD HWY				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~											
DWN		FIELD ENG		DATE DRILLED 12/01/22		AIRPHOTO NO:		CHAINAGE				OFFSET		ELEV		TEST HOLE 1			
CKD		TECH W.B. BAR		RIG 15-50		SURFACE DRAINAGE:				VEGETATION				MILE		B.C.S		NUMBER	
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)		GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS	
												CLAY %	SILT %	SAND %	GRAVEL %				
						CLAY-SILTY GRAVELLY SANDY													
2									2			74	9	17				WET	
												40	38	22				DAMP	
4									4			45	44	11				DAMP	
6									6										
8						LOW-MED PLASTIC			8			51	42	7				MOIST	
10						1% BELOW & AT P _L			10										
12									12			75	22	5				DAMP	
14									14			78	22	0				DAMP	
16									16										
18									18										
20									20			51	26	23				DAMP	
22									22										
24									24										

DEPARTMENT OF PUBLIC WORKS, CANADA
~~MACKENZIE HIGHWAY~~

~~MACKENZIE HIGHWAY~~

DWN		FIELD ENG.	DATE DRILLED	AIRPHOTO NO.	CHAINAGE	OFFSET	ELEV		TEST HOLE		2						
CKD	TECH	VER	RIG	SURFACE DRAINAGE	VEGETATION												
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS
											CLAY %	SILT %	SAND %	GRAVEL %			
2						SILT - CLAYEY SANDY			2		82	18	0			MOIST	
4						CLAY - SILTY SANDY PEBBLES			4		98	2	0			DAMP	
6						CL LOIV PLASTIC 1% AT & BELOW P _L			6		54	35	11			DAMP	
8									8		59	37	4			DAMP	
10									10		52	41	7			MOIST	
12						HOLE CAVED IN			12								
14									14								
16									16								
18									18								
20									20								
22									22								
24									24								

LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
OWN			FIELD ENG.			DATE DRILLED 7/10/22			AIRPHOTO NO:			CHAINAGE			OFFSET			ELEV			TEST HOLE 3								
CKD			TECH WEBER			RIG B-50			SURFACE DRAINAGE:			VEGETATION:									MILE B.C.S NUMBER								
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS													
										CLAY %	SILT %	SAND %	GRAVEL %																
						SILT - CLAYEY																							
2					ML				2	94	6	0			MOIST														
4					ML	SAND - SILT MIX			4	98	2	0			MOIST														
6					SM	PEBBLES			6	48	51	1			DAMP														
8									8	52	38	10			DAMP														
10									10	49	35	16			DAMP														
12									12																				
14					CI	CLAY - SILTY SANDY GRAVELLY MED. PLASTIC			14	69	21	10			DAMP														
16						14% BELOW P _L			16																				
18									18																				
20									20	51	39	20			DAMP														
22									22																				
24									24																				

LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 18/02/22		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE 4																	
CKD		TECH WEPB-B		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER																	
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY %	SILT %	SAND %	GRAVEL %																
						SILT-CLAYey																							
2									2	96	4	0				MOIST													
4									4	97	3	0				DAMP													
6					ML				6	98	2	0				MOIST													
8						SANDY			8	66	31	0				DAMP													
10									10	83	17	0				DAMP													
12									12																				
14						CLAY-SILTY SANDY	13'		14	85	15	0				DAMP													
16					CI	MED. PLASTIC			16																				
18						14% AT P _L			18																				
20							20'		20	62	17	21				DAMP													
22						BOTTOM OF HOLE 20'			22																				
24									24																				

LIARD HWY										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 18/01/22		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE 1																	
CKD		TECH W.B.B. & R		RIG B-30		SURFACE DRAINAGE:		VEGETATION		ELEV		MILE B.C.S NUMBER																	
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS													
										CLAY %	SILT %	SAND %	GRAVEL %																
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)																			
										PLASTIC LIMIT 40 LIQUID LIMIT 60 100 100+																			
2						SILT - CLAYEY SANDY			2		87	13	0			DAMP													
4									4		76	24	0			DAMP													
6									6		73	27	0			DAMP													
8									8		87	13	0			WET													
10						SILT - CLAYEY			10		96	4	0			SAT.													
12									12																				
14						SILT - SANDY			14																				
16									16		83	16	1			SAT.													
18									18																				
20						CLAY - SILTY SANDY Pebbles 17' W/o Below P. 20' BOTTOM OF Hole - 20'			20		55	38	7			DAMP													
22									22																				
24									24																				

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG.		DATE DRILLED 8/1/2		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE 2				
CKD		TECH ~~WAGNER~~		RIG: 8-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B.C.S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						SILT - SANDY CLAYEY										
2									2	82	18	0				DAMP
4									4	80	20	0				DAMP
6									6	80	20	0				DAMP
8					ML	GRAVELLY			8	92	8	0				Moist
10									10	55	33	12				Moist
12									12							
14						CLAY - SILTY SANDY GRAVELLY			14	41	35	18				Moist
16									16							
18					CL	10% Below P _L Low Plastic			18							
20									20	36	37	27				Moist
22						BOTTOM OF HOLE. 20'			22							
24									24							

LIARD Hwy.										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 7/9/22		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE 3									
CKD		TECH V. BOAR		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B.C.S NUMBER									
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS					
										CLAY %	SILT %	SAND %	GRAVEL %								
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)											
										20	40	60	80	100	100+						
2						SILT-SANDY CLAYEY			2							79 - 21 0 WET					
4									4							71 - 29 0 DAMP					
6									6							66 - 34 0 DAMP					
8					ML				8							60 - 40 0 DAMP					
10									10							60 - 40 0 DAMP					
12									12												
14									14							51 - 42 7 DAMP					
16						CLAY - SILTY SANDY			16												
18					CL	PEBBLES - GRAVELLY			18												
20						1/2 Below P _L			20							45 - 31 24 DAMP					
22									22												
24						BOTTOM OF HOLE - 20'			24												

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
OWN		FIELD ENG.		DATE DRILLED 8/01/22		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE 4				
CKD		TECH WEBBER		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B.C.S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
2					ML	SILT-CLAYEY SANDY			2							
4					SH ML	SAND-SILT MIXTURE			4							
6									6							
8									8							
10					ML	SILT-SANDY			10							
12									12							
14						CLAY-SILTY SANDY PEBBLES			14							
16						CLAY BELOW P _c LOW PLASTIC			16							
18									18							
20									20							
22						BOTTOM OF HOLE - 20			22							
24						BOULDER & COBBLES 12' - 20'			24							

LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO		CHAINAGE		OFFSET		TEST HOLE		5							
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION		ELEV		MILE		B,C,S							
SAMPLE NUMBER		SAMPLE TYPE		% RECOVERY		PENETRATION RESISTANCE		UNIFIED SOIL SYMBOL		SOIL DESCRIPTION		LIMITS OF FROZEN GROUND		ICE DESCRIPTION							
DEPTH (FEET)		DEPTH (FEET)		PLASTIC LIMIT		LIQUID LIMIT		GRAIN-SIZE ANALYSIS		WET DENSITY (P.C.F.)		DRY DENSITY (P.C.F.)		REMARKS							
2																					
4																					
6																					
8																					
10																					
12																					
14																					
16																					
18																					
20																					
22																					
24																					

LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 8/22		AIRPHOTO NO:		CHAINAGE		OFFSET		ELEV		TEST HOLE		MILE		B,C,S		NUMBER									
CKD		TECH WEBER		RIG B-50		SURFACE DRAINAGE:		VEGETATION								B.P.				14									
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY %	SILT %	SAND %	GRAVEL %																
					ML	SILT-SANDY																							
2									2	84	16	0																	
4									4	57	43	0																	
6									6	87	13	0																	
8									8	83	17	0																	
10									10																				
12									12	78	22	0																	
14						CLAY-SILTY SANDY-GRAVELLY			14																				
16					CL	LOW-MED. PLASTIC			16	47	30	23																	
18					CI	1 1/2% BELOW P _L PARABOLIC			18																				
20									20	67	25	8																	
22						BOTTOM OF HOLE - 20'			22																				
24									24																				

LIARD HWY.				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~							
DWN		FIELD ENG.		DATE DRILLED 18/12/21		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE 2			
CKD		TECH IVREBER		RIG B-50		SURFACE DRAINAGE:		VEGETATION		ELEV		MILE B.C.S NUMBER			
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)
										CLAY %	SILT %	SAND %	GRAVEL %		
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)					
										PLASTIC LIMIT 20 40 60 80 100 100+					
2						SILT-CLAYEY SANDY			2	73	27	0		DAMP	
4						SANDY ONLY			4	62	38	0		DAMP	
6					M				6	75	25	0		DAMP	
8									8	81	19	0		DAMP	
10									10	59	41	0		DAMP	
12									12						
14						SAND - SILTY			14						
16					SM				16	41	59	0		DAMP	
18						CLAY - SILTY SANDY HARDER			18						
20					C1	MED. PLASTIC W/ATP			20	56	35	9		DAMP	
22						BOTTOM OF HOLE - 20'			22						
24									24						

TEST HOLE 2		
MILE	B.C.S	NUMBER
B.P.		14
REMARKS		

LIARD Hwy										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~										
DWN		FIELD ENG		DATE DRILLED 8/22		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE 3													
CKD		TECH WEBER		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>MILE</th> <th>B,C,S</th> <th>NUMBER</th> </tr> <tr> <td>B.P.</td> <td></td> <td>LA</td> </tr> </table>								MILE	B,C,S	NUMBER	B.P.		LA
MILE	B,C,S	NUMBER																							
B.P.		LA																							
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS									
										CLAY %	SILT %	SAND %	GRAVEL %												
						SILT-CLAYEY SANDY																			
2									2	80	20	0				DAMP									
										85	15	0				DAMP									
4									4	74	26	0				DAMP									
6									6																
8					ML				8	56	44	0				DAMP									
10									10																
12									12	65	35	0				DAMP									
14									14																
16									16	69	31	0				DAMP									
17						REFUSAL @ 17'																			
18									18																
20									20																
22									22																
24									24																

LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO		CHAINAGE		OFFSET		TEST HOLE		MILE		B.C.S		NUMBER											
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION		ELEV																			
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY %	SILT %	SAND %	GRAVEL %																
2					ML	SILT-CLAYEY SANDY			2					51-49	0	DAMP													
					SH	SILT - SAND MIA								51-49	0	DAMP													
4					ML	SILT-CLAYEY SANDY			4					60-40	0	DAMP													
6									6																				
8									8					68-31	0	DAMP													
10									10					63-37	0	DAMP													
12									12																				
14									14					58-42	0	DAMP													
16									16																				
18						CLAY - SILTY SANDY 17'			18																				
20					CL	COBBLES - PEBBLES w/pebbles & Low Resist. 20'			20					63-26	11	MOIST													
22						BOTTOM OF HOLE - 20'			22																				
24									24																				

LIARD - Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG		DATE DRILLED 8/21/22		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE 5				
CKD		TECH 11/23/22		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS
										CLAY	SILT	SAND	GRAVEL			
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						
										PLASTIC LIMIT 20 40 60 80 100 100+						
2						SILT - SANDY FINE			2	79	21	0	0	DAMP		
4									4	75	25	0	0	DAMP		
6									6	54	46	0	0	DAMP		
8					ML				8	50	50	0	0	DAMP		
10									10	49	51	0	0	DAMP		
12									12							
14									14							
16									16	61	39	0	0	DAMP		
18					CL	CLAY - SILTY SANDY PEBBLES LOW-MED. PLASTIC			18							
20					CI	1/20 BELOW P _L			20	54	35	11	0	DAMP		
22						BOTTOM OF HOLE - 20'			22							
24									24							

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG.		DATE DRILLED <u>8/23</u>		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE <u>1</u>				
CKD		TECH <u>Pronch</u>		RIG: <u>B-50</u>		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B.C.S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						SILT-SANDY										
2					ML				2	77	23	0				DAMP
										71	29	0				DAMP
4						SAND-SILTY FINE			4	36	64	0				DAMP
6									6							
8					SM				8	34	66	0				DAMP
10									10	50	50	0				DAMP
12						SILT-SANDY			12							
14									14							
16					ML				16	58	42	0				DAMP
18									18							
20									20	62	38	0				DAMP
22						Bottom of Hole - 20'			22							
24									24							

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG		DATE DRILLED 18/1/22		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE 2				
CKD		TECH PRONCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B.C.S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						ML SILT-CLAYEY SANDY			2							
						SH SAND-SILTY			3							
						ML SILT-SANDY			4							
						SH SAND-SILTY FINE			6							
									8							
									10							
									12							
						ML SILT-SANDY			14							
									16							
									18							
									20							
									22							
									24							

LIARD Hwy.										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~				
DWN		FIELD ENG.		DATE DRILLED 78/9/23		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE 1				
CKD		TECH PROBYCH		RIG B-50		SURFACE DRAINAGE		VEGETATION		ELEV		MILE B.C.S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						SILT - SANDY										
2									2	92	8	0				DAMP
4					ML				4	87	13	0				DAMP
6									6	80	20	0				DAMP
8									8	82	18	0				DAMP
10						SAND-SILTY FINE			10	41	59	0				DRY
12					SM				12							
14									14							
16									16	27	73	0				DAMP
18					ML	SILT-SANDY FINE			18	78	22	0				MOIST
20									20	65	35	0				MOIST
22																
24																

LIARD Hwy										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~				
OWN		FIELD ENG.		DATE DRILLED 8/1/73		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE 2							
CKD		TECH PRONCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION		ELEV		MILE B.C.S NUMBER							
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS			
										CLAY %	SILT %	SAND %	GRAVEL %						
						SILT-SANDY CLAYEY SANDY													
2									2	○	81	19	0			DAMP			
4									4	○	82	18	0			DAMP			
6					ML				6	○	76	24	0			DAMP			
8									8	○	53	41	0			DAMP			
10									10	○									
12									12	○	61	39	0			DAMP			
14						SAND-SILTY FINE			14										
16					SM				16	○	31	69	0			DAMP			
18									18										
20									20	○	27	73	0			DAMP			
22									22										
24									24										

LIARD HWY										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN		FIELD ENG		DATE DRILLED 18/1/23		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE 3									
CKD		TECH PRONCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION		ELEV		MILE B.C.S NUMBER									
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)						
										CLAY %	SILT %	SAND %	GRAVEL %								
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)											
										PLASTIC LIMIT 40 LIQUID LIMIT 80 100 100+											
2						SILT-CLAYEY SANDY			2		82	18	0		DAMP						
4					ML	SANDY ONLY			4		90	10	0		DAMP						
6									6		65	35	0		DAMP						
8									8		69	31	0		DAMP						
10									10		64	34	0		DAMP						
12									12												
14						SAND-CLAYEY FINE			14		20	80	0		DAMP						
16					SM				16												
18									18												
20									20		28	72	0		DAMP						
22									22												
24									24												

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA				~~MACKENZIE HIGHWAY~~					
DWN		FIELD ENG		DATE DRILLED 10/23		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE 1					
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION		ELEV		MILE B.C.S NUMBER					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
											CLAY	SILT	SAND	GRAVEL			
											%	%	%	%			
2						SILT-SANDY			2	○	81	11	0	0			DAMP
4					ML	SAND-SILT MIX			4	○	75	25	0	0			DAMP
6									6	○	50	50	0	0			DAMP
8						SAND-SILT FINE	7'		8	○	43	57	0	0			DAMP
10					SM				10	○	41	59	0	0			DAMP
12									12								
14									14	○	37	63	0	0			DAMP
16									16								
18						SILT-SANDY	18'		18								
20					ML		20'		20	○	90	10	0	0			SAT.
22						BOTTOM OF HOLE 20'			22								
24									24								

LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~						
DWN		FIELD ENG		DATE DRILLED <u>8/19</u>		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE <u>2</u>						
CKD		TECH <u>BRANCH</u>		RIG <u>B-50</u>		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B.C.S NUMBER						
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	WATER & ICE CONTENT		GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)		CLAY	SILT	SAND	GRAVEL			
											%	%	%	%				
2					ML	SILT-CLAYEY SANDY			2			94	6	0	0	IVET		
4					ML	SAND - SILT MIXTURE			3			66	34	0	0	DAMP		
6					ML				5			48	52	0	0	DAMP		
8					SM				8			44	56	0	0	DAMP		
10									11			57	43	0	0	DAMP		
12									15			46	54	0	0	DAMP		
14									20			58	42	3	0	IVET		
16																		
18																		
20																		
22																		
24																		

LIARD Hwy.										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN			FIELD ENG.			DATE DRILLED 10/01/23			AIRPHOTO NO:			CHAINAGE:			OFFSET			TEST HOLE 3											
CKD			TECH PRONYCH			RIG B-50			SURFACE DRAINAGE:			VEGETATION			ELEV			MILE B.C.S NUMBER											
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	O = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)		GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS											
										PLASTIC LIMIT	LIQUID LIMIT	CLAY %	SILT %	SAND %	GRAVEL %														
2						SILT-CLAY SANDY			2	94	6	0	0	0	0	0	0	DAMP											
4					ML				4	80	20	0	0	0	0	0	0	DAMP											
6									6	77	23	0	0	0	0	0	0	DAMP											
8					ML	SILT-SAND MIXTURE			8	36	64	0	0	0	0	0	0	DAMP											
10					SM				10	66	34	0	0	0	0	0	0	DAMP											
12									12																				
14									14	55	45	0	0	0	0	0	0	DAMP											
16									16																				
18					ML	SILT-SANDY			18																				
20									20	88	12	0	0	0	0	0	0	SAT.											
22									22																				
24									24																				

LIARD Hwy										DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~			
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE 1					
CKD		TECH <u>WABER</u>		RIG <u>B-50</u>		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE		B,C,S		NUMBER	
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS	
										CLAY %	SILT %	SAND %	GRAVEL %				
						ML SILT-CLAY 2'											
2						SAND-SILTY FINE			2	86	14	0					MOIST
4									4	30	70	0					DAMP
6									6	22	78	0					DAMP
8									8	38	62	0					DAMP
10									10	23	77	0					DAMP
12									12								
14									14	19	81	0					DAMP
16									16								
18									18								
20									20	23	77	0					DAMP
22									22								
24									24								

LIARD Hwy.										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~													
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE 2													
CKD		TECH <u>WEBER</u>		RIG <u>B-50</u>		SURFACE DRAINAGE		VEGETATION		ELEV		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>MILE</th> <th>B,C,S</th> <th>NUMBER</th> </tr> <tr> <td>B.P.</td> <td></td> <td>18</td> </tr> </table>								MILE	B,C,S	NUMBER	B.P.		18
MILE	B,C,S	NUMBER																							
B.P.		18																							
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)		GRAIN SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS							
										PLASTIC LIMIT	LIQUID LIMIT	CLAY %	SILT %	SAND %	GRAVEL %										
						Silt - clayey SANDY																			
2									2			94	6	0					DAMP						
4									4			54	46	0					DAMP						
6					ML				6			46	54	0					DAMP						
8									8			62	38	0					DAMP						
10									10			38	62	0					DAMP						
12						SAND - SILTY FINE			12																
14									14			29	71	0					DAMP						
16					SH				16																
18									18																
20									20			39	61	0					DAMP						
22									22																
24									24																

LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE 3									
CKD		TECH WEBBER		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B.C.S NUMBER									
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS					
										CLAY %	SILT %	SAND %	GRAVEL %								
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)											
										20	40	60	80	100	100+						
2					ML	SILT-SANDY			2							79-21 0 DAMP					
					SM	SAND-SILTY										39-61 0 DAMP					
4					ML	SILT-SANDY			4							57-43 0 DAMP					
6									6												
8									8							57-43 0 DAMP					
10									10												
12									12							61-39 0 DAMP					
14									14												
16									16							54-46 0 DAMP					
18									18												
20					ML SM	SAND-SILT MIX 20'			20							49-51 0 DAMP					
22						BOTTOM OF HOLE - 20'			22												
24									24												

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 8/23/01		AIRPHOTO NO:		CHAINAGE		OFFSET							
CKD		TECH ~~MEADER~~		RIG B-80		SURFACE DRAINAGE:		VEGETATION		ELEV							
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS	
										CLAY	SILT	SAND	GRAVEL				
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)							
										PLASTIC LIMIT 20 40 60 80 100 100+ LIQUID LIMIT 80 100 100+							
2						SILT-CLAYEY			2					98-2	0	SAT.	
4						SAND-SILTY FINE			3					20-80	0	DAMP	
6									5					53-47	0	DAMP	
8									8					22-78	0	DAMP	
10									11					31-69	0	DAMP	
12									15					31-66	0	DAMP	
14									20					42-58	0	DAMP	
16																	
18																	
20																	
22																	
24																	

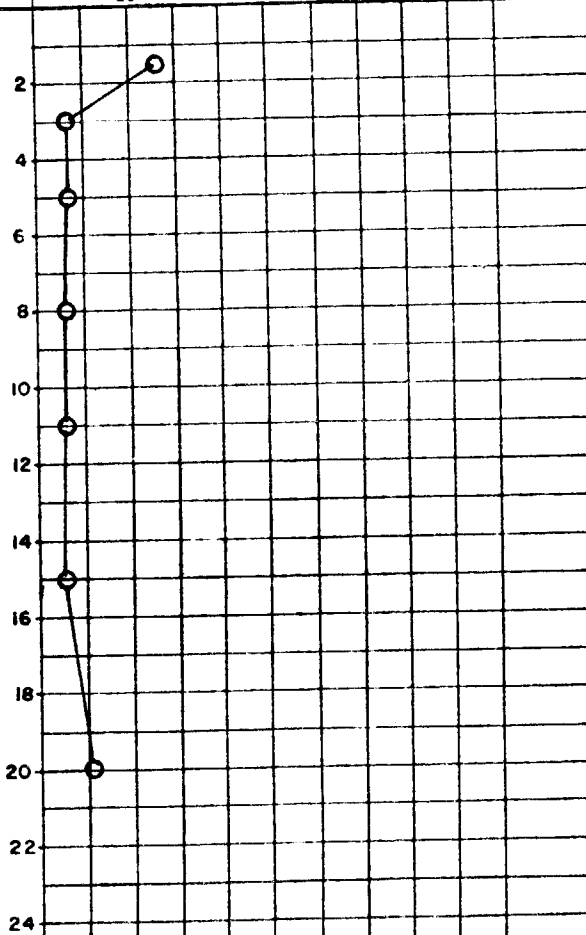
LIARD Hwy.										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN			FIELD ENG.			DATE DRILLED 08/01/23			AIRPHOTO NO:			CHAINAGE			OFFSET			ELEV			TEST HOLE 2								
CKD			TECH V. 8802			RIG B-50			SURFACE DRAINAGE:			VEGETATION:									MILE B.C.S NUMBER								
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	O = WATER CONTENT (% OF DRY WEIGHT) Δ = ICE CONTENT (% OF SAMPLE VOLUME)				GRAIN SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS									
										PLASTIC LIMIT		LIQUID LIMIT		CLAY %	SILT %	SAND %	GRAVEL %												
2					ML	SILT-SANDY			2																				
4									4																				
6									6																				
8					SM	SAND-SILTY FINE	6'		8																				
10									10																				
12									12																				
14									14																				
16									16																				
18					ML	SILT-SANDY	18'		18																				
20							20'		20																				
22						BOTTOM OF HOLE - 20'			22																				
24									24																				

LIARD HWY										DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~							
DWN		FIELD ENG		DATE DRILLED 18/1/13		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE 3									
CKD		TECH VEBER		RIG B-50		SURFACE DRAINAGE:		VEGETATION		ELEV		MILE		B.C.S		NUMBER					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)		GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS			
										PLASTIC LIMIT	LIQUID LIMIT	CLAY %	SILT %	SAND %	GRAVEL %						
										20	40	60	80	100	100+						
2					ML	SILT-CLAYEY SANDY 2'			2	34	16	0									
4						SAND-SILTY FINE			4	46	54	0									
6									6	31	63	0									
8									8	44	56	0									
10									10	43	57	0									
12									12												
14									14	32	68	0									
16									16												
18									18												
20									20	52	48	0									
22									22												
24									24												

LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~				
DWN		FIELD ENG.		DATE DRILLED 8/9/23		AIRPHOTO NO.		CHAINAGE		OFFSET		ELEV		TEST HOLE 4		
CKD		TECH VEBER		RIG B50		SURFACE DRAINAGE		VEGETATION								
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						ML SILT-CLAY										
2						SAND-SILTY FINN			2							
4					SM				4							
6									6							
8									8							
10					SM				10							
12									12							
14									14							
16									16							
18						ML SILT-SANDY			18							
20									20							
22						BOTTOM OF HOLE - 20'			22							
24									24							

○ = WATER CONTENT (% OF DRY WEIGHT)
 △ = ICE CONTENT (% OF SAMPLE VOLUME)

PLASTIC LIMIT 20 40 60 80 100 100+



LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG.		DATE DRILLED 78/01/24		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE 1				
CKD		TECH PRONCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION		ELEV		MILE B.C.S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
2					ML	SILT -			2							O.K. FOR BORROW TO APPROX 18' - PRIMARYLY SILT
						- SANDY										
4									4							
6									6							
8						SILT -			8							
10									10							
12									12							
					SM	SAND										
14						- SILTY			14							
16									16							
						4% ABOVE P										
18						CLAY - Low Plastic			18							
20						SILT SANDY 20'			20							
						BOTTOM OF HOLE - 20'										
22									22							
24									24							

LIARD Hwy.										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE		MILE		B.C.S		NUMBER											
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION		ELEV		B.P.						20											
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY %	SILT %	SAND %	GRAVEL %																
					ML	SILT - CLAYEY SILT - SANDY																							
2																													
4																													
6																													
8					ML																								
10																													
12																													
14																													
16																													
18					ML	SILT - SAND MIXTURE																							
20					SM																								
22																													
24																													

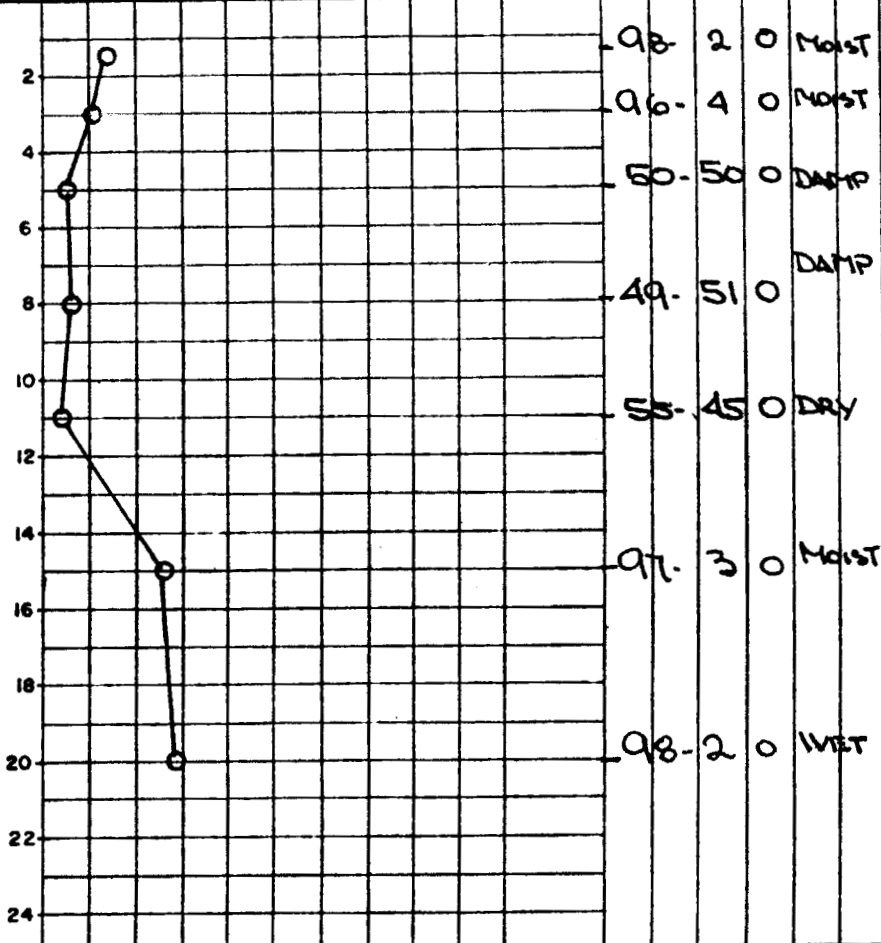
LIARD Hwy.				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~																	
OWN		FIELD ENG		DATE DRILLED 7/10/74		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE 3													
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION		ELEV		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>MILE</th> <th>B,C,S</th> <th>NUMBER</th> </tr> <tr> <td>B.P.</td> <td></td> <td>20</td> </tr> </table>								MILE	B,C,S	NUMBER	B.P.		20
MILE	B,C,S	NUMBER																							
B.P.		20																							
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS									
										CLAY %	SILT %	SAND %	GRAVEL %												
						SAND - SILTY																			
2					SH				2							O.K. FOR BORROW									
4					ML	SILT - SANDY CLAYY			4							-MORE SAND THAN HOLES #1 AND #2.									
6									6																
8						SAND - FINE Silty			8																
10									10																
12					SH				12																
14									14																
16									16																
18					ML	SILT - SANDY			18																
20									20																
22						BOTTOM OF HOLE - 20'			22																
24									24																

LIARD Hwy.				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 8/24		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE 4					
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE		VEGETATION		ELEV		MILE B.C.S NUMBER					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS	
										CLAY %	SILT %	SAND %	GRAVEL %				
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)							
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+							
2					SM	SAND - FINE - SILTY - CLAYEY @ 5' - SILTY ONLY			2		31	69	0		DAMP	O.K. For Borrow PRIMARYLY SAND - VERY FINE	
4								4		56	44	0		DAMP			
6								6		16	84	0		DAMP			
8					SM			8		15	85	0		DAMP			
10								10		18	82	0		DAMP			
12								12									
14								14									
16								16		26	74	0		DAMP			
18								18									
20					ML	SILT - SANDY			20		64	34	0		DAMP		
22						Bottom of Hole 20'			22								
24									24								

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN CKD		FIELD ENG		DATE DRILLED 18/01/24		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE 1				
		TECH PROSVICH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B.C.S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						SILT - CLAYEY										
2					ML				2							
4									4							
6					SL	SILT - SAND MIXTURE			6							
8					ML				8							
10									10							
12									12							
14						CLAY - SILTY 14% ABOVE PL LOW PLASTIC			14							
16					CL				16							
18									18							
20									20							
22									22							
24									24							

○ = WATER CONTENT (% OF DRY WEIGHT)
 △ = ICE CONTENT (% OF SAMPLE VOLUME)

PLASTIC LIMIT 20 40 60 80 100 100+
 LIQUID LIMIT



O.K. FOR BORROW
 TO APPROX 12-13'
 - SILTY

12'
 20'
 BOTTOM OF HOLE - 20'

LIARD Hwy.				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG		DATE DRILLED 8/24		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE 2				
CKD		TECH Pronych		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
2					ML	SILT - CLAYEY			2	98	2	0	0	DAMP	OK. FOR BORROW TO APPROX 12'	
4						SAND SILTY FINE 4'			4	98	2	0	0	DAMP		
6					SM				6	38	62	0	0	DAMP		
8									8	60	40	0	0	DAMP		
10									10	46	54	0	0	DAMP		
12						CLAY. SILTY MEDIUM PLASTIC 12'			12							
14									14							
16					CI	1190 ABOVE PL			16	95	5	0	0	Moist		
18									18							
20						Bottom of Hole - 20'			20	98	2	0	0	Moist		
22									22							
24									24							

LIARD Hwy.

DRILL HOLE REPORT

DEPARTMENT OF PUBLIC WORKS, CANADA

~~MACKENZIE HIGHWAY~~

OWN		FIELD ENG.		DATE DRILLED		AIR PHOTO NO.		CHAINAGE		OFFSET		TEST HOLE				
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION		ELEV		MILE B.C.S. NUMBER				
		PRONYCH		B-50								B.P. 21				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)																
PLASTIC LIMIT 20 40 60 80 100 100+																
2					ML	BROWN SILT-CLAYEY			2	93	2	0			DAMP	O.K. FOR BORROW TO APPROX 13' <u>SILTY</u>
4					SL	SAND-SILTY			4	97	3	0			DAMP	
6					ML	SILT-SANDY			6	49	51	0			DAMP	
8					ML	SILT-SANDY			8	85	15	0			DAMP	
10					SL	SAND-SILTY			10	41	59	0			DAMP	
12									12							
14						CLAY-SILTY 1 1/2" ABOVE P _L			14	88	12	0			MOIST	
16					CL	LOW PLASTIC			16							
18									18							
20						GREY			20	96	4	0			WET	
22						BOTTOM OF HOLE - 20'			22							
24									24							

LIARD Hwy.										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~					
DWN		FIELD ENG.		DATE DRILLED 8/1/22		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE 4					
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B.C.S NUMBER					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS	
										CLAY %	SILT %	SAND %	GRAVEL %				
2					ML	SILT - CLAYEY							98	2	0	Moist	O.K For Borrow To Approx 12-13' SILTY
4					SM	SAND - SILTY							98	2	0	Moist	
6													39	61	0	DAMP	
8					ML	SILT - SANDY							69	31	0	DAMP	
10					SM	SAND - SILTY							26	74	0	DRY	
12																	
14					CL	CLAY - SILTY										Moist	
16					CI	LOW - MEDIUM PLASTIC											
18																	
20																Moist	
22																	
24																	

LIARD Hwy.				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE 1				
CKD		TECH WEBBER		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B.C.S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						
										PLASTIC LIMIT 40 LIQUID LIMIT 80 100 100+						
2					ML	BROWN SILT-CLAYEY			2	96	4	0	0	Moist		
4									4	97	3	0	0	Moist		
6									6	84	16	0	0	Moist		
8					CL	CLAY - SILTY LOW - MEDIUM PLASTIC			8	98	2	0	0	Moist		
10					CI	14% ABOVE P _L			10	99	1	0	0	Moist		
12									12							
14									14							
16									16	99	1	0	0	Moist		
18									18							
20									20	100	0	0	0	WET		
22									22							
24									24							

LIARD Hwy.										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY			
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE 2			
CKD		TECH WEBER		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER			
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)
										CLAY %	SILT %	SAND %	GRAVEL %		
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)					
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+					
2					ML	SILT - CLAYEY			2	94	6	0	0	DAMP	
4									4	96	4	0	0	MOST	
6									6	95	5	0	0	MOST	
8						CLAY - SILTY - SANDY			8	81	13	0	0	MOST	
10						SILTY ONLY			10	97	3	0	0	MOST	
12									12						
14					C1	MEDIUM PLASTIC 14% ABOVE PL			14	100	0	0	0	MOST	
16									16						
18									18						
20									20	100	0	0	0	WET	
22									22						
24									24						

REMARKS

LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY				
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE 3				
CKD		TECH WEBBER		RIG B-50		SURFACE DRAINAGE:		VEGETATION		ELEV		MILE B.C.S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						Brown SILT - CLAYey										
2					ML				2	91	3	0				Moist
									3	95	5	0				Moist
4									4	97	3	0				Moist
6						CLAY - Silty MEDIUM PLASTIC 10% AT & ABOVE PL			6	99	1	0				Moist
8									8							
10					CI				10	97	3	0				Moist
12									12							
14									14	100	0	0				Moist
16									16							
18									18							
20									20	100	0	0				WET
22						Bottom of Hole - 20'			22							
24									24							

DEPARTMENT OF PUBLIC WORKS, CANADA
~~MACKENZIE HIGHWAY~~

~~MACKENZIE HIGHWAY~~

TEST HOLE 4

TELEV	

AIN- 512

MILE	B.C.S	NUMBER
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9
10	10	10
11	11	11
12	12	12
13	13	13
14	14	14
15	15	15
16	16	16
17	17	17
18	18	18
19	19	19
20	20	20
21	21	21
22	22	22
23	23	23
24	24	24
25	25	25
26	26	26
27	27	27
28	28	28
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30	30	30
31	31	31
32	32	32
33	33	33
34	34	34
35	35	35
36	36	36
37	37	37
38	38	38
39	39	39
40	40	40
41	41	41
42	42	42
43	43	43
44	44	44
45	45	45
46	46	46
47	47	47
48	48	48
49	49	49
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56	56	56
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73	73	73
74	74	74
75	75	75
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78	78	78
79	79	79
80	80	80
81	81	81
82	82	82
83	83	83
84	84	84
85	85	85
86	86	86
87	87	87
88	88	88
89	89	89
90	90	90
91	91	91
92	92	92
93	93	93
94	94	94
95	95	95
96	96	96
97	97	97
98	98	98
99	99	99
100	100	100

DRY DENSITY
(P.C.F.)

MILE	B.C.S	NUMBER
1	1	1
2	2	2
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97	97	97
98	98	98
99	99	99
100	100	100

BP	22

REMARKS

Bottom of Hole - 20'

(PCF)

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17-00-13-14-19-29-29

3	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

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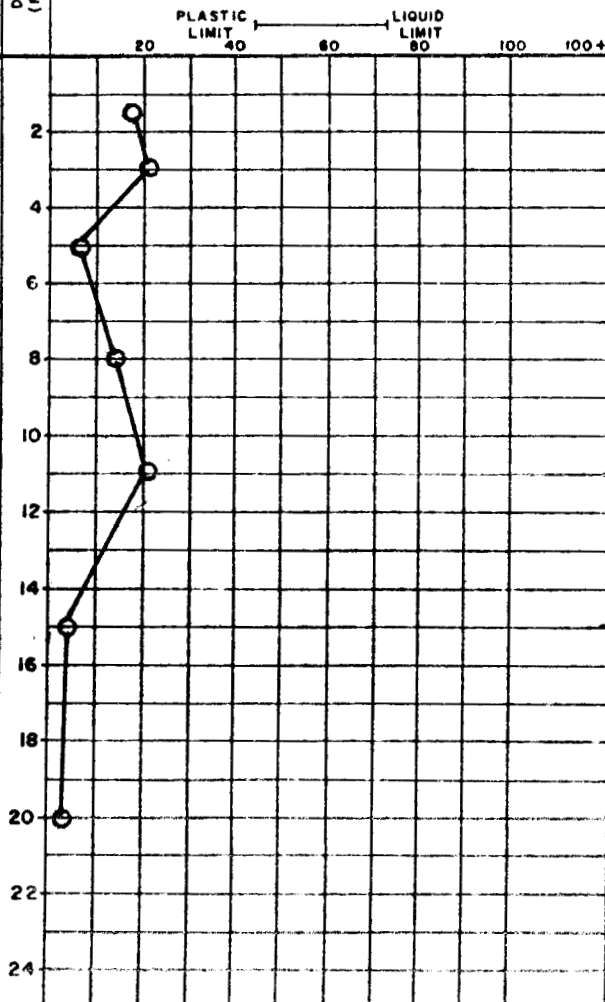
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LARD HWY										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~						
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		ELEV		TEST HOLE 1				
CKD		TECH VEBB		RIG B-50		SURFACE DRAINAGE		VEGETATION						MILE B.C.S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	O = WATER CONTENT (% OF DRY WEIGHT) Δ = ICE CONTENT (% OF SAMPLE VOLUME)		GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS
										PLASTIC LIMIT	LIQUID LIMIT	CLAY %	SILT %	SAND %	GRAVEL %			
2					ML	SILT-CLAY BROWN			2	96	4	0	0	0	0	IVET		
4						CLAY - SILTY MEDIUM PLASTIC W/0 ABOVE P _L			4	97	3	0	0	0	0	MOIST		
6									6	93	7	0	0	0	0	MOIST		
8					CI				8	100	0	0	0	0	0	MOIST		
10									10	99	1	0	0	0	0	MOIST		
12									12									
14									14	99	1	0	0	0	0	MOIST		
16									16									
18					SM	SAND-SILTY GRAVELLY			18									
20									20									
22						BOTTOM OF HOLE - 20'			22									
24									24									

LIARD Hwy.				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE 2				
CKD		TECH ~~IVARSEN~~		RIG B-50		SURFACE DRAINAGE		VEGETATION		ELEV		MILE B.C.S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
2						SILT-CLAYEY BROWN			2							
4					ML	SAND - SILTY	4'		4							
6					SM				6							
8						CLAY - SILTY - SANDY			8							
10					CI	W/2 BELOW P _L MED. PLASTIC			10							
12									12							
14						APPROX. 13' - GRAVELLY			14							
16					SM	SAND - SILTY			16							
18					SP				18							
20									20							
22									22							
24									24							

○ = WATER CONTENT (% OF DRY WEIGHT)
 △ = ICE CONTENT (% OF SAMPLE VOLUME)



LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE 1				
CKD		TECH <u>WEBER</u>		RIG <u>B-50</u>		SURFACE DRAINAGE		VEGETATION		ELEV		MILE B.C.S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						
										PLASTIC LIMIT ——— LIQUID LIMIT 20 40 60 80 100 100+						
2						ML SILT-CLAYRY - SANDY GRN		FROZEN	2		93	7	0			MOIST
4						SILT-SAND MIXTURE			4		87	13	0			MOIST
6									6		58	42	0			MOIST
8									8		52	48	0			MOIST
10									10		51	49	0			MOIST
12									12							
14									14		41	59	0			DAMP
16									16							
18						ML SILT-SANDY			18							
20									20		89	11	0			DAMP
22						BOTTOM OF HOLE - 20'			22							
24									24							

LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~			
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE 2			
CKD		TECH WEBBER		RIG: B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)
										CLAY %	SILT %	SAND %	GRAVEL %		
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)					
										PLASTIC LIMIT 40 LIQUID LIMIT 80					
2						SILT-SANDY CLAYEY			2		85	15	0	DAMP	
4						SANDY ONLY			4		69	31	0	DAMP	
6									6		80	20	0	DAMP	
8									8		77	23	0	DAMP	
10									10		65	35	0	DAMP	
12									12						
14									14		59	41	0	DAMP	
16									16						
18									18						
20									20		64	36	0	DAMP	
22									22						
24									24						

LIARD Hwy										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE 3												
CKD		TECH IV-BBER		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE		B,C,S		NUMBER								
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS								
										CLAY %	SILT %	SAND %	GRAVEL %											
2					ML	SILT - SANDY CLAYEY			2					76	24	0	Moist							
4						SAND - SILTY			4					62	38	0	Moist							
6									6					28	72	0	Damp							
8					GT				8					39	61	0	Moist							
10									10					38	62	0	Moist							
12									12															
14						SILT - SANDY			14					61	39	0	Moist							
16					ML				16															
18									18															
20									20					78	22	0	Moist							
22									22															
24									24															

LIARD Hwy.				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE A				
CKD		TECH WEBBER		RIG: B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY	SILT	SAND	GRAVEL			
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+						
2									2							
4									4							
6									6							
8									8							
10									10							
12									12							
14									14							
16									16							
18									18							
20									20							
22									22							
24									24							

20'
 Bottom of Hole - 20'

LIARD Hriv										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 10/1/28		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE 1									
CKD		TECH PRONICH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV											
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)		GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS			
										PLASTIC LIMIT	LIQUID LIMIT	CLAY %	SILT %	SAND %	GRAVEL %						
2						SILT - CLAYEY			2			99	1	0			Moist				
4					ML	SILT			3			96	4	0			Moist				
6						SILT - SANDY			5			59	40	1			DAMP				
8						SAND - FINE			8			6	94	0			DAMP				
10					SP	FINE - MEDIUM			11			5	95	0			Moist				
14						PERBBLS			15			4	89	7			Moist				
20									20			7	92	1			Moist				
22																					
24																					

LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE 2																	
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION		ELEV		MILE		B.C.S		NUMBER													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY %	SILT %	SAND %	GRAVEL %																
						SILT-CLAYEY				○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME) PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+																			
2					ML				2		97	3	0				WET-SAT												
4						SANDY			4		93	7	0				Moist												
6									6		65	35	0				Moist												
8					SM SP	SAND-SILTY FINE-MEDIUM	6'		8		8	92	0				DAMP												
10									10																				
12					CL	CLAY-SILTY SANDY LOW PLASTIC	10'		12		90	10	0				Moist												
14									14																				
16						SAND-FINE-MED	12'		16		4	96	0				DAMP												
18					SP				18																				
20									20		4	96	0				DAMP												
22									22																				
24									24																				
						Bottom of Hole-20'																							

LIARD Hwy										DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 8/01/28		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE 3											
CKD		TECH PRONCH		RIG B-SD		SURFACE DRAINAGE:		VEGETATION:		ELEV:													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	O = WATER CONTENT (% OF DRY WEIGHT) Δ = ICE CONTENT (% OF SAMPLE VOLUME)		GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS					
										PLASTIC LIMIT	LIQUID LIMIT	CLAY %	SILT %	SAND %	GRAVEL %								
2					ML	SILT - CLAYEY 2'			2	96	4	0											
4					SM	SAND - SILTY few pebbles			4	17	81	2											
6					SP	FINE - MEDIUM			6	5	94	1											
8									8	45	95.5	0											
10					SP				10	8	92	0											
12									12														
14						SILT - CLAYEY SANDY 13'			14	55	45	0											
16					ML				16														
18									18														
20						SANDY 20'			20	72	28	0											
22						BOTTOM OF HOLE - 20'			22														
24									24														

Lined Hwy.				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~							
DWN		FIELD ENG.		DATE DRILLED 18/01/25		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE 2			
CKD		TECH R. ONYX 4		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B.C.S NUMBER			
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)
										CLAY %	SILT %	SAND %	GRAVEL %		
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)					
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+					
2					SM	SAND - SILTY			2	17	83	0		Moist	
4									4	15	85	0		Moist	
6									6	18	82	0		Moist	
8					ML	SILT - SANDY Free water 6'-9'			8	79	21	0		Sat.	
10						GRAVELLY			10	64	24	12		Moist	
12						BOTTOM OF HOLE - 11'			12						
14									14						
16									16						
18									18						
20									20						
22									22						
24									24						

LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~					
DWN		FIELD ENG.		DATE DRILLED 7/25/25		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE 3					
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV:		MILE B.C.S NUMBER					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS	
										CLAY	SILT	SAND	GRAVEL				
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)							
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+							
2						SILT-CLAY			2								
4						SAND-SILT 4'			4								
6									6								
8						GRAVELLY 4'			8								
10									10								
12						BOTTOM OF HOLE 4'			12								
14						REFUSOL - BOULDER			14								
16									16								
18									18								
20									20								
22									22								
24									24								

LIARD Hwy										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 8/10/25		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE 5												
CKD		TECH PRANCH		RIG: B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE		B.C.S		NUMBER								
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS								
										CLAY %	SILT %	SAND %	GRAVEL %											
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)														
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+														
2					ML	SILT - CLAYEY			2															
4						SAND - SILTY FINE			4															
6					SM				6															
8									8															
10						SILT - SANDY			10															
12					ML	FREE WATER			12															
14									14															
16						BOTTOM OF HOLE - 15'			16															
18									18															
20									20															
22									22															
24									24															

LIARD Hwy.				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG		DATE DRILLED 7/20/28		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE 1				
CKD		TECH PRONY CH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B.C.S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY	SILT	SAND	GRAVEL			
										%	%	%	%			
						BROWN ML SILT-CLAYEY										
2									2							
						CL SAND-CLAY MIX.										
4									4							
						SH SAND-SILT										
6									6							
						CLAY-SILT SANDY PEBBLES MED. PLASTIC			8							
8																
						C1 GRAVELLY SAND @ 9' WAS BELOW PL			10							
10																
						SHALE CLAYEY BROWN			12							
12																
						GREY SHALE			14							
14																
									16							
16																
									18							
18																
									20							
20																
									22							
22																
									24							
24																

LIARD HWY.										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE 2																	
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION		ELEV		MILE		B.C.S		NUMBER													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	WATER CONTENT (% OF DRY WEIGHT) ICE CONTENT (% OF SAMPLE VOLUME)		GRAIN SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS											
										PLASTIC LIMIT	LIQUID LIMIT	CLAY %	SILT %	SAND %	GRAVEL %														
						BROWN ML SILT - CLAYEY																							
						SM SAND - GRAVELLY SILTY 3.5'																							
						CLAY - SILTY SANDY RIBBLES																							
						CI MED. PLASTIC W% BELOW PL																							
						LAYER OF GRAVEL @ 11 1/2'																							
						SHALE - SOFT BROKEN DOWN 12.5'																							
						GREY SHALE SOFT. 20'																							
						BOTTOM OF HOLE - 20'																							

LIARD Hwy										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~				
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE 3							
CKD		TECH: <u>BRONCH</u>		RIG: <u>B-50</u>		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE		B.C.S		NUMBER			
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS			
										CLAY %	SILT %	SAND %	GRAVEL %						
2						BROWN SILT-CLAYRY SANDY			2	99	1	0			Moist				
4									4	86	14	0			Moist				
6						CLAY. SILTY SANDY PEBBLES W/ BELOW P. GRAVEL LAYER @ 9' LOW-MED. PLASTIC			6	71	61	8			Moist				
8									8	61	33	6			Moist				
10									10	57	30	13			Moist				
12						BROWN CLAY - SOFT BROKEN DOWN			12										
14									14										
16						GREY - SHALE - SOFT			16	11	56	33			DAMP				
18									18										
20									20	14	63	23			DAMP				
22									22										
24									24										

LIARD Hwy.										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 8/10/78		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE A									
CKD		TECH PRONCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER									
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS					
										CLAY %	SILT %	SAND %	GRAVEL %								
						BROWN SILT-CLAYEY 2'			2	○	97	3	0			MOIST					
						CLAY-SILTY SANDY TILL			3	○	64	31	5			MOIST					
						PERBBLES			4	○	59	29	12			MOIST					
						MED. PLASTIC			6	○											
						11% BELOW P _L			8	○	62	29	9			MOIST					
						11 1/2'			11	○	62	30	8			MOIST					
						BOTTOM OF HOLE 11 1/2'			12												
						REFUSAL			14												
						POSSIBLE GRAVEL & CORBBLE			16												
						LAYER			18												
						HARD SHALE ?			20												
									22												
									24												

DEPARTMENT OF PUBLIC WORKS, CANADA
~~MACKENZIE HIGHWAY~~

OFFSET

TEST HOLE 5

OFFSET

VEGETATION

TELEV

MILE	B.C.S	NUMBER
1	1	1
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86	86	86
87	87	87
88	88	88
89	89	89
90	90	90
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93	93	93
94	94	94
95	95	95
96	96	96
97	97	97
98	98	98
99	99	99
100	100	100

MILE

B.C.S

NUMBERS

BP

27

REMARKS

(P.C.F.)

BOTTOM OF HOLE 20'

24

○ = WATER CONTENT (% OF DRY WEIGHT)
△ = ICE CONTENT (% OF SAMPLE VOLUME)

Diagram illustrating the Plastic Limit (40) and Liquid Limit (60) on a scale. The scale is marked with 40, 60, and 80. The Plastic Limit is indicated at 40 and the Liquid Limit is indicated at 60.

GRAIN- SIZE ANALYSIS

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	391
	393
	395

CL	
%	

SILT	
%	

SAND	%
100	100

GRAVEL	%

WET DENSITY

PCF	DRY DENSITY
1	1.25
2	1.25
3	1.25
4	1.25
5	1.25
6	1.25
7	1.25
8	1.25
9	1.25
10	1.25
11	1.25
12	1.25
13	1.25
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92	1.25
93	1.25
94	1.25
95	1.25
96	1.25
97	1.25
98	1.25
99	1.25
100	1.25

-97-	3	0	MOIST

- 43-57 o DAME

- 95. 5 0 Moist

67-31 2 Mast

-47.40 13 Moist

-9- 4447 DALHO

16-6618

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~				TEST HOLE 1				
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO:		CHAINAGE:		OFFSET		ELEV				
CKD		TECH <u>WEBER</u>		RIG <u>B-50</u>		SURFACE DRAINAGE:		VEGETATION:								
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
2					ML	SILT - CLAYEY BROWN			2							
4					SM	SAND - SILTY FINE	4'		4							
6									6							
8					SC	PEBBLES CLAYEY GRAVELLY			8							
10									10							
12									12							
14					SM	PEBBLES			14							
16									16							
18					SC	GRAVELLY CLAYEY			18							
20							20'		20							
22						BOTTOM OF HOLE 20'			22							
24									24							

LIARD Hwy.				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA				MACKENZIE HIGHWAY			
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE 2			
CKD		TECH ~~POWER~~		RIG B-50		SURFACE DRAINAGE:		VEGETATION		ELEV		MILE B.C.S NUMBER			
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)
										CLAY %	SILT %	SAND %	GRAVEL %		
2					ML	BROWN SILT - CLAYEY			2					99-10	WET
4						CLAY-SILTY SANDY GRAVELLY			4					94-60	Moist
6					CI	MED PLASTIC 14% Below PL			6					58-3111	DAMP
8									8					58-357	Moist
10									10					~~18-53~~	DAMP
12						SHALE - SOFT BROKEN DOWN			12					18-53	DAMP
14						SOFT			14					13-5532	DAMP
16									16						
18									18						
20									20					13-5136	DAMP
22									22						
24									24						

LIARD Hwy.										DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~											
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE 3													
CKD		TECH. WEBER		RIG B-50		SURFACE DRAINAGE:		VEGETATION		ELEV		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>MILE</th> <th>B,C,S</th> <th>NUMBER</th> </tr> <tr> <td>BP</td> <td></td> <td>28</td> </tr> </table>								MILE	B,C,S	NUMBER	BP		28
MILE	B,C,S	NUMBER																							
BP		28																							
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS									
										CLAY %	SILT %	SAND %	GRAVEL %												
2					HL	Brown - Silt - Clayey			2																
4						CLAY. SILTY - SANDY			4																
6					CI	- PEBBLES MED. PLASTIC 1% BELOW P _L			6																
8									8																
10						SAND - CLAYEY SILTY			10																
12					SC	GRAVELLY			12																
14									14																
16						SHALE - BROKEN DOWN			16																
18									18																
20						SOFT - HARD			20																
22						BOTTOM OF HOLE 20'			22																
24									24																

LIARD Hwy										DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~							
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE 1									
CKD		TECH <u>WEBER</u>		RIG <u>B-50</u>		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE		B,C,S		NUMBER					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)		GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS			
										PLASTIC LIMIT	LIQUID LIMIT	CLAY %	SILT %	SAND %	GRAVEL %						
										20	40	60	80	100	100+						
2						ML SILT-CLAY			2	○											Moist
						3'				○											DAMP
4						CLAY - SILTY - SANDY - PEBBLES			4	○											DAMP
6						CL LOW PLASTIC			6	○											DAMP
8						CLAY - SILTY - PEBBLES			8	○											DAMP
10						MEDIUM PLASTIC			10	○											DAMP
12						CI 1/20 BELOW P _L			12	○											Moist
14									14	○											
16									16	○											
18									18	○											
20						20'			20	○											Moist
22						Bottom of Hole - 20			22												
24									24												

LIARD HWY.										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE		2							
CKD		TECH VERBER		RIG 8-50		SURFACE DRAINAGE		VEGETATION		ELEV		MILE		B,C,S							
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS					
										CLAY %	SILT %	SAND %	GRAVEL %								
						BROWN SILT - CLAYEY															
2					ML				2	99	1	0				Moist					
									4	91	7	2				Moist					
4						CLAY - SILTY			6	79	16	5				Moist					
6						SANDY PEBBLES			8	64	31	5				DAMP					
8					CL	LOW - MED. PLASTIC			10	94	6	0				DAMP					
10						1% AT & BELOW P _L			12												
12									14	87	12	1				DAMP					
14					CI				16												
16									18												
18						SILTY			20	93	7	0				Moist					
20									22												
22									24												
24																					

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE 3				
CKD		TECH <u>WEBER</u>		RIG <u>B-50</u>		SURFACE DRAINAGE		VEGETATION		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						HL SILT - CLAYEY TO										
2						CL CLAY - SILTY SANDY			2							
4						CLAY - SILTY SANDY			4							
6						CL SANDY GRAVELLY			6							
8						CL LOW PLASTIC COBBLES			8							
10						CLAY - SILTY MED. PLASTIC			10							
12						CL 14% AT PL			12							
14									14							
16									16							
18									18							
20									20							
22									22							
24									24							

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE 1				
CKD		TECH WEBBER		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						
										PLASTIC LIMIT 20 40 60 80 100 100+ LIQUID LIMIT 80 100 100+						
2					ML	SILT			2		99	1	0			Moist
4						CLAY - SILTY			4		98	2	0			DAMP
6						MED. PLASTIC			6		96	4	0			DAMP
8					C1	11% AT 9 BELOW P _L			8		98	2	0			DAMP
10									10							
12									12		80	19	1			DAMP
14									14							
16									16							
18									18							
20									20							
22									22							
24									24							

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~							
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE 2			
CKD		TECH <u>WELBER</u>		RIG: <u>B-50</u>		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER			
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)
										CLAY %	SILT %	SAND %	GRAVEL %		
						BROWN									
2						ML SILT-CLAYEY			2	92	1	0	0	Moist	
4						CLAY-SILTY MED. PLASTIC			4	98	2	0	0	Moist	
6						CI W% AT R			6	100	0	0	0	Moist	
8									8	100	0	0	0	Moist	
10									10						
12						REFUSAL @ 12'			12	97	3	0	0	Moist	
14									14						
16									16						
18									18						
20									20						
22									22						
24									24						

REMARKS

LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~						
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE 3						
CKD		TECH WEBBER		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B.C.S NUMBER						
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS		
										CLAY %	SILT %	SAND %	GRAVEL %					
2					CL	CLAY - SILTY LOW PLASTIC			2	20	40	60	80	100	100+	99-10	Moist	
4									4							99-10	Moist	
6						MED. PLASTIC			6							100-00	Moist	
8					CI	14% AT & Below P _L			8							100-00	Moist	
10									10							99-10	Moist	
12									12									
14						14'			14									
16						REFUSAL @ 14'			16									
18									18									
20									20									
22									22									
24									24									

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~							
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET					
CKD		TECH <u>WEBER</u>		RIG <u>B-50</u>		SURFACE DRAINAGE:		VEGETATION:		ELEV					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)
										CLAY	SILT	SAND	GRAVEL		
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)					
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+					
2					ML	SILT - CLAYEY			2		99	1	0		DAMP
4						CLAY - SILTY MED. PLASTIC			4		99	1	0		DAMP
6						1% AT & ABOVE P _L			6		99	1	0		MOIST
8					CI				8		99	1	0		MOIST
10									10						
12									12		100	0	0		MOIST
14					CL	CLAY - SILTY SANDY GRAVELLY			14		56	33	11		MOIST
16						1% BELOW P _L			16						
18						REFUSAL @ 16'			18						
20									20						
22									22						
24									24						

TEST HOLE <u>4</u>		
MILE	B,C,S	NUMBER
<u>B.P.</u>		<u>30</u>
REMARKS		

LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE 5																	
CKD		TECH WEBBER		RIG B-50		SURFACE DRAINAGE		VEGETATION		ELEV		MILE		B,C,S		NUMBER													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS		WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS															
										CLAY %	SILT %							SAND %	GRAVEL %										
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)																			
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+																			
2					ML	SILT			2		99	1	0																
									3		99	1	0																
4						CLAY - SILTY			4		97	3	0																
6						MED. - HIGH PLASTIC			6																				
8					CI	14% AT P _L			8		99	1	0																
10					CH				10		99	1	0																
12						REFUSAL @ 11'			12																				
14									14																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

LIARD RIVER				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~										
DWN		FIELD ENG.		DATE DRILLED 18/1/66		AIRPHOTO NO:		CHAINAGE				OFFSET		TEST HOLE 1				
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:				VEGETATION				ELEV				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)		GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
												CLAY	SILT	SAND	GRAVEL			
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+								
2						CL CLAY - SILTY SANDY PEBBLES			2	○		77	21	2		Moist		
4									4	○		54	41	5		Moist		
6						CL MED - LOW PLASTIC			6	○		56	38	6		Moist		
8									8									
10									10									
12									12									
14									14									
16									16									
18									18									
20									20									
22									22									
24									24									

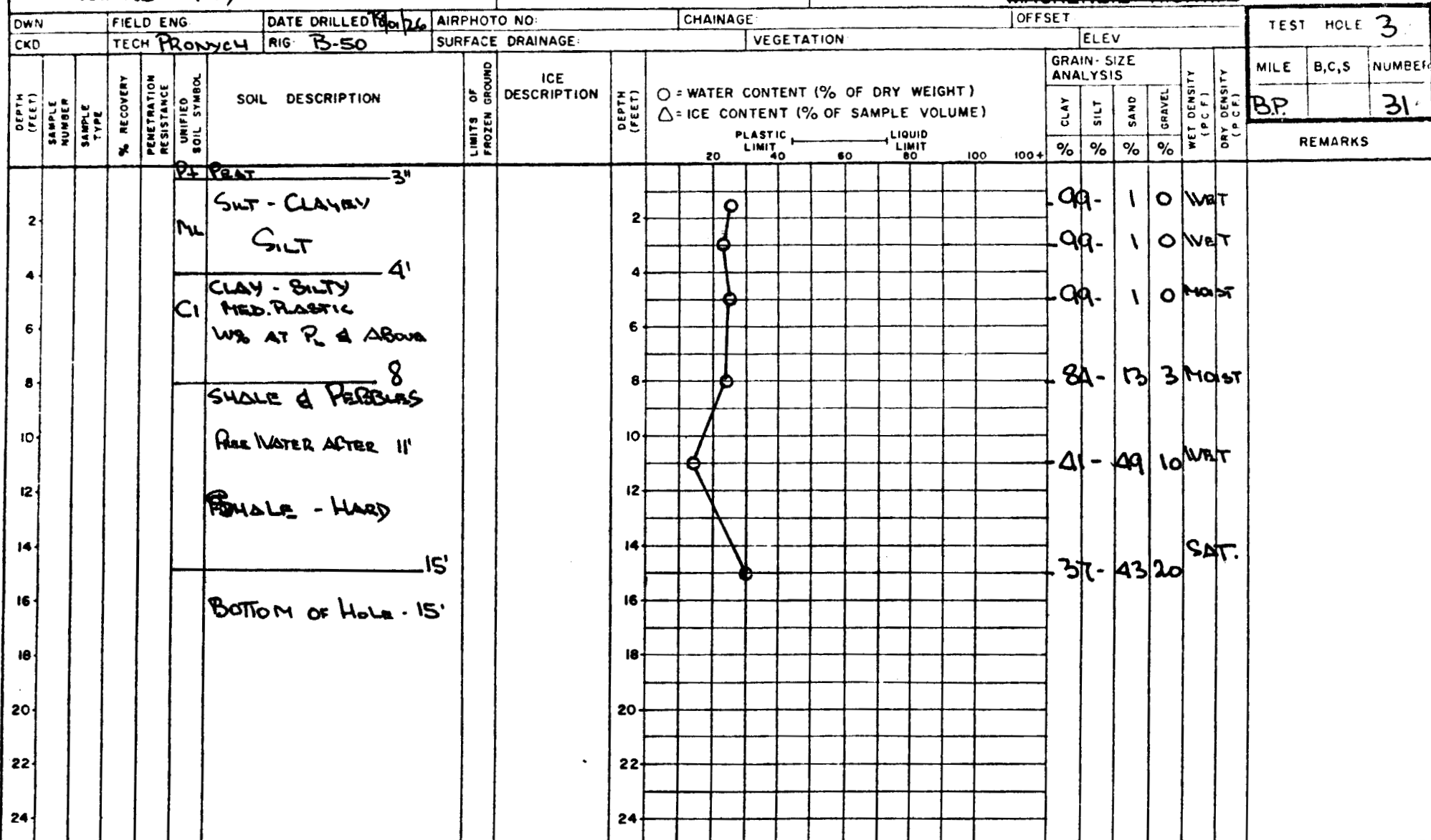
1"
 CL CLAY - SILTY
 SANDY
 PEBBLES
 CL MED - LOW PLASTIC
 6'

REFUSAL @ 6'
 BOULDERS OR COBBLES

LIARD HWY										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~												
DWN		FIELD ENG.		DATE DRILLED 18/10/26		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE 2												
CKD		TECH PRONCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE		B,C,S		NUMBER								
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS		
										PLASTIC LIMIT		LIQUID LIMIT		CLAY %	SILT %	SAND %	GRAVEL %							
										20	40	60	80	100	100+									
						2" ~~P-PEAT~~																		
2					ML	BROWN SILT - CLAYEY			2							100	0	0					WET	
4									4							99	1	0					MOIST	
6									6							99	1	0					WET	
8					CL	CLAY - SILTY LOW PLASTIC			8							100	0	0					WET	
10						SANDY - PEBBLES 1/4" ABOVE P _L			10							83	14	3					MOIST	
12					CI	MED PLASTIC			12															
14						FREE WATER @ 13'			14							27	39	34					WET	
16						GRAVEL-CLAY-SAND MIX. 15'			16															
18						BOTTOM OF HOLE - 15'			18															
20						13' - 15'			20															
22						GRAVEL - SHALE MIX.			22															
24									24															

DEPARTMENT OF PUBLIC WORKS, CANADA

~~MACKENZIE HIGHWAY~~



LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG.		DATE DRILLED 18/01/76		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE 4				
CKD		TECH PRONYCH		RIG: B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B.C.S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						PL. Plast 34										
2					ML	SILT - CLAYEY			2		99	1	0			MOIST
4						41			4		99	1	0			MOIST
6					CI	CLAY - SILTY SANDY PEBBLES			6		72	25	3			MOIST
8						MED. PLASTIC W/ AT & BELOW P _L			8		36	61	3			MOIST
10					CL	LOW PLASTIC 11			10							
12						SHALE - GRAVEL - SHALE CLAY			12		34	60	6			WET
14						CLAY - SHALE HARD 15'			14							
16						BOTTOM OF HOLE - 15'			16		30	40	30			SAT.
18									18							
20									20							
22									22							
24									24							

LIARD Hwy.										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 18/01/26		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE 1												
CKD		TECH V.B. 2022		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B.C.S		NUMBER										
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS								
										CLAY %	SILT %	SAND %	GRAVEL %											
						SILT -																		
2									2															
4					ML	CLAYEY			4															
6									6															
8									8															
10						CLAY - SILTY SANDY PEBBLES LOW PLASTIC 11% @ 8 ABOVE P _L			10															
12					CL				12															
14									14															
16									16															
18						Free Water 15'-20'			18															
20									20															
22									22															
24									24															

LIARD Hwy.				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 10/26		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE 2					
CKD		TECH W.B. 822		RIG B-50		SURFACE DRAINAGE		VEGETATION		ELEV		MILE B.C.S NUMBER					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS	
										CLAY %	SILT %	SAND %	GRAVEL %				
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME) PLASTIC LIMIT 20 40 60 80 100 100+ LIQUID LIMIT							
2					ML	SILT -			2	99	1	0			Moist		
4									4	98	2	0			Moist		
6						CLAY-SILTY SANDY PEBBLES			6	74	21	5			Moist		
8						14% @ P _L			8	73	22	5			Moist		
10						LOW PLASTIC			10								
12					CL				12	76	18	6			Moist		
14									14								
16									16	69	28	3			Moist		
18									18								
20									20	54	39	7			Moist		
22									22								
24									24								

LIARD Hwy.										DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 8/10/74		AIRPHOTO NO:		CHAINAGE:		OFFSET:		ELEV		TEST HOLE 3									
CKD		TECH V.P. 222		RIG B-50		SURFACE DRAINAGE:		VEGETATION:						MILE		B.C.S		NUMBER					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS							
										CLAY %	SILT %	SAND %	GRAVEL %										
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)													
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+													
2						SILT -			2		99	1	0		Moist								
4									4		98	2	0		Moist								
6						(CLAY) - SILTY			6		87	11	2		Moist								
8						SANDY			8		60	32	8		Moist								
10						PEBBLES			10		56	39	5		Moist								
12						LOW PLASTIC			12														
14									14		54	39	7		Moist								
16									16														
18									18														
20						Silty			20		86	7	7		Moist								
22									22														
24						BOTTOM OF HOLE - 20'			24														

LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~				
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		ELEV		TEST HOLE 1		
CKD		TECH <u>W. B. B. R.</u>		RIG <u>B-50</u>		SURFACE DRAINAGE:		VEGETATION:								
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						SILT -										
2									2	99	1	0				WET
4					ML				4	99	1	0				Moist
6						CLAYEY			6	99	1	0				WET
8						CLAY - SILTY			8	99	1	0				Moist
10					CL	LOW-PLASTIC			10	98	2	0				WET
12						10% ABOVE P _L			12							
14									14	100	0	0				WET
16									16							
18					CL	CLAY SILTY SANDY			18							
20					CI	PEBBLES - Till			20	67	29	4				Moist
22									22							
24						BOTTOM OF Hole - 20'			24							

DEPARTMENT OF PUBLIC WORKS, CANADA
MACKENZIE HIGHWAY

B072

LIARD Hwy.				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE 3				
CKD		TECH WEBBER		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B.C.S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						SILT - CLAYEY										
						SILT -										
2									2	99	1	0			Moist	
4					ML				4	99	1	0			Moist	
6									6	96	4	0			WET	
8									8	96	4	0			WET	
10						CLAY - SILTY LOW PLASTIC			10	100	0	0			WET	
12					CL				12							
14									14	99	1	0			Moist	
16						CLAY - SILTY SANDY PEBBLES TILL			16							
18					CL				18							
20						W/AT P _c			20	67	30	3			Moist	
22									22							
24						BOTTOM OF HOLE - 20'			24							

LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE									
CKD		TECH		RIG		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B.C.S NUMBER									
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)						
										CLAY %	SILT %	SAND %	GRAVEL %								
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)											
										20	40	60	80	100	100+						
2					ML	SILT - SANDY			2			97	3	0	Moist						
						SILT - CLAY - CLAY - SILTY						97	3	0	Moist						
4					CL	CLAY - SILTY			4			91	9	0	Moist						
6					CI	MED. PLASTIC			6			98	2	0	Moist						
8									8			98	2	0	Moist						
10									10			95	5	0	WET						
12					CL	LOW PLASTIC			12			95	5	0	WET						
14						FREE WATER 13'-17'			14			80	20	0	SAT.						
16						SANDY			16												
18									18												
20						Silty			20			98	2	0	WET						
22									22												
24						BOTTOM OF HOLE - 20'			24												

LIARD Hwy										DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~											
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE 2													
CKD		TECH WEBER		RIG B-50		SURFACE DRAINAGE:		VEGETATION		ELEV		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>MILE</th> <th>B,C,S</th> <th>NUMBER</th> </tr> <tr> <td>B.P.</td> <td></td> <td>34</td> </tr> </table>								MILE	B,C,S	NUMBER	B.P.		34
MILE	B,C,S	NUMBER																							
B.P.		34																							
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)		GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS							
										PLASTIC LIMIT	LIQUID LIMIT	CLAY %	SILT %	SAND %	GRAVEL %										
						SILT-SANDY																			
2									2	○		99-	1	0				MOIST							
4									4	○		98-	2	0				MOIST							
6					ML	CLAYEY			6	○		97-	3	0				MOIST							
8									8	○		98-	2	0				IVET							
10						IVET FROM 9'-15'			10	○		99-	1	0				IVET							
12						CLAY - SILTY LOW PLASTIC			12	○															
14					CL	10% ABOVE P _L			14	○		99-	1	0				IVET							
16									16	○															
18									18	○															
20									20	○		100-	0	0				IVET.							
22									22																
24									24																

LIARD Hwy										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE 3												
CKD		TECH VERGAS		RIG		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE		B,C,S		NUMBER								
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS								
										CLAY %	SILT %	SAND %	GRAVEL %											
						SILT-CLAYEY																		
2					ML				2	99	1	0					Moist							
4									4	98	2	0					Moist							
6									6	97	3	0					Wet							
8						CL CLAY-SILTY Wet Free Water			8	99	1	0					SAT.							
10					ML	7-13' SILT-CLAYEY			10	100	0	0					SAT.							
12					CL	CLAY-SILTY Low Plastic			12															
14						1% Above P _L			14	98	2	0					SAT.							
16									16															
18									18															
20									20	100	0	0					Wet							
22									22															
24									24															

LIARD Hwy.										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~				
DOWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE B4				
CKD		TECH WEBBER		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B.C.S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						SILT-CLAYRY										
2									2	99	1	0				Moist
4					ML				4	98	2	0				SAT.
6									6	98	2	0				SAT.
8									8	89	11	0				SAT.
10						WET FROM 8'-12'			10	91	9	0				WET
12						CLAY - SILTY 11"			12							
14					CL	LOW-MED. PLASTIC			14	62	34	4				Moist
16						SANDY-PEBBLES			16							
18						TILL			18							
20					CI	W% AT R			20	60	37	4				Moist
22									22							
24									24							

LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~			
OWN		FIELD ENG.		DATE DRILLED		AIR PHOTO NO.		CHAINAGE		OFFSET		TEST HOLE			
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION		ELEV		MILE B.C.S. NUMBER			
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)
									○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						
									PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+						
									CLAY SILT SAND GRAVEL						
									%						
2						SILT - SANDY			2	99	1	0		Moist	
3									3	99	1	0		Moist	
4									4	99	1	0		Moist	
6					ML				6						
8						CLAYEY			8	96	4	0		Moist	
10						WET 9 1/2' - 12' 11'			10	98	2	0		WET	
12					CL	CLAY - SILTY LOW PLASTIC ABOVE P _L			12						
14									14						
16					GM	Free WATER @ 16' SAND - SILTY			16	22	78	0		DAMP	
18									18						
20					ML	SILT - SANDY 20'			20	68	32	0		SAT.	
22						BOTTOM OF HOLE 20'			22						
24									24						

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG.		DATE DRILLED 08/27		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE 3				
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						SILT - CLAYEY										
2									2	98	2	0		Moist		
4					ML				4	99	1	0		Moist		
6									6	99	1	0		Moist		
8						CLAY - SILTY LOW PLASTIC			8	98	2	0		Moist		
10					CL				10	98	2	0		WET		
12						FREE WATER AFTER 12'			12							
14					Sc	SAND-CLAYEY SILTY			14	52	48	0		WET		
16									16							
18						BOTTOM OF HOLE - 15'			18							
20									20							
22									22							
24									24							

LIARD Hwy.										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~				
DWN		FIELD ENG.		DATE DRILLED 8/01/27		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE 18				
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B.C.S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						SILT -										
2					ML				2							
						- CLAYEY										
4					CL	(CLAY) - SILTY			4							
					ML	SILT - CLAYEY										
6						W% ABOVE P _L			6							
8						Low Plastic			8							
10									10							
12									12							
14					SM	SAND - SILTY			14							
16									16							
18					CL	CLAY - SILTY SAND			18							
20						Low Plastic			20							
						W% ABOVE P _L										
						SATURATED										
						BOTTOM OF HOLE - 20'										

LIARD Hwy.				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG		DATE DRILLED 8/27		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE 2				
CKD		TECH PRONEX		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B.C.S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
2						SILT-CLAYEY			2							
4									4							
						SILT-										
6					ML				6							
8									8							
10					ML				10							
					CL	CLAY SILTY - SILTY CLAYEY										
12									12							
14									14							
						SAND - SILTY FINE	14'									
16					SM				16							
18									18							
					ML	SILT-CLAYEY	18'									
20							20'		20							
22									22							
24									24							

LIARD Hwy.				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~											
DWN		FIELD ENG		DATE DRILLED <u>18 May 27</u>		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE <u>3</u>							
CKD		TECH <u>Protych</u>		RIG: <u>B-50</u>		SURFACE DRAINAGE:		VEGETATION:		ELEV		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>MILE</td> <td>B,C,S</td> <td>NUMBER</td> </tr> <tr> <td><u>B.P.</u></td> <td></td> <td><u>36</u></td> </tr> </table>		MILE	B,C,S	NUMBER	<u>B.P.</u>		<u>36</u>
MILE	B,C,S	NUMBER																	
<u>B.P.</u>		<u>36</u>																	
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS			
										CLAY %	SILT %	SAND %	GRAVEL %						
						SILT -													
2									2	99	1	0				Moist			
4									4	99	1	0				Moist			
6									6	100	0	0				Moist			
8						- CLAYEY			8	99	1	0				WET			
10						10' <u>ML SILT-CLAYEY</u>			10	99	1	0				WET-Moist			
12						<u>CL CLAY - SILTY</u>			12										
14						<u>14% ABOVE P_L</u>			14										
16						<u>CL CLAY - SILTY</u>			16	100	0	0				WET-Moist			
18						<u>CI Low-Med. Plastic</u>			18										
20						17' <u>SM SAND - SILTY</u>			20	48	52	0				Moist			
22						<u>CLAY LUMPS</u>			22										
24						20' <u>BOTTOM OF HOLE - 20'</u>			24										

LIARD Hwy.										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE									
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION		ELEV		MILE B.C.S. NUMBER									
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS					
										CLAY %	SILT %	SAND %	GRAVEL %								
						SILT-				○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)											
										PLASTIC LIMIT	LIQUID LIMIT										
										20	40	60	80	100	100+						
2									2							Q8- 2 0 Moist					
4									4							Q9- 1 0 Moist					
6									6							Q9- 1 0 Moist					
8						-CLAYEY			8							Q8- 2 0 WAT					
10						10'			10							100- 0 0 Moist					
12						CLAY - SILTY LOW-MED PLASTIC			12												
14									14												
16									16							Q4- 6 0 Moist					
18									18												
20						ML SILT-CLAYEY 20'			20							Q7- 3 0 WAT					
22						Bottom of Hole - 20'			22												
24									24												

LIARD Hwy.				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG		DATE DRILLED 18 01 27		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE 1				
CKD		TECH VEDDER		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B.C.S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						CL CLAY - SILTY										
2					ML	SILT CLAYRY			2	97	3	0				WET
										53	21	26				Moist
4						SAND - GRAVEL			4	6	49	45				Damp
					SP	Mix										
6					GP				6							
8									8	4	57	39				Moist
10									10							
12									12	5	47	48				Moist
14									14							
16					CI	CLAY - SILTY SANDY			16	58	33	9				Moist
18						PEBBLES										
20						MED. PLASTIC			20	59	34	7				Moist
						W/ AT & ABOVE P _L										
						Thin										
22									22							
24						Bottom of Hole - 20			24							

LIARD Hivy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 18/1/27		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE 2																	
CKD		TECH WABER		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B.C.S NUMBER																	
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY %	SILT %	SAND %	GRAVEL %																
						SILT - CLAYEY																							
2					ML	SANDY			2	94	6	0				WET													
4						SAND - FINE - COARSE			4	69	31	0				MOIST													
6									6	7	92	1				DAMP													
8					SP	GRAVELLY			8	5	79	15				DAMP													
10									10	6	62	32				DAMP													
12									12																				
14						CLAY - SILTY SANDY PEBBLES			14	87	13	0				MOIST													
16						LOW - MED. PLASTIC			16																				
18						CI 14% ABOVE P.			18																				
20									20	87	10	3				MOIST - WET													
22						BOTTOM OF HOLE - 20'			22																				
24									24																				

LIARD Hwy.				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG		DATE DRILLED 8/1/27		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE 3				
CKD		TECH W.B.B.R.		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B.C.S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						SAND - GRAVELLY - GRAVEL - SAND MIX										
2									2				63	31	Moist	
4									4				48	43	Moist	
6					GP				6				54	43	Moist	
8									8				48	49	Moist	
10					GP	GRAVEL SANDY			10				29	65	DAMP	
12									12							
14						CLAY - SILTY SANDY GROVELLY LOW-MOD PLASTIC w/o @ P _L			14				50	19	Moist	
16									16							
18									18							
20									20				35	4	Moist	
22									22							
24									24							

LIARD Hwy.										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 18/1/77		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE 4									
CKD		TECH WRABER		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE		B,C,S		NUMBER					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS					
										CLAY %	SILT %	SAND %	GRAVEL %								
					SP	SAND-GRAVELLY			2					7	67	26	Moist				
					SP	SAND-GRAVEL			3					7	50	43	Moist				
						Mix			4					4	50	46	Moist				
					GP				5												
									6												
									7					7	47	46	Moist				
									8												
									9												
									10					4	55	41	Moist				
									11												
									12												
									13												
									14												
					CL	CLAY-SILTY			15					45	41	14	Moist				
						SANDY			16												
						PEBBLES			17												
						Low Plastic			18												
						W% & P _L			19												
						GRAVELLY			20					39	38	23	Moist				
									21												
									22												
									23												
									24												

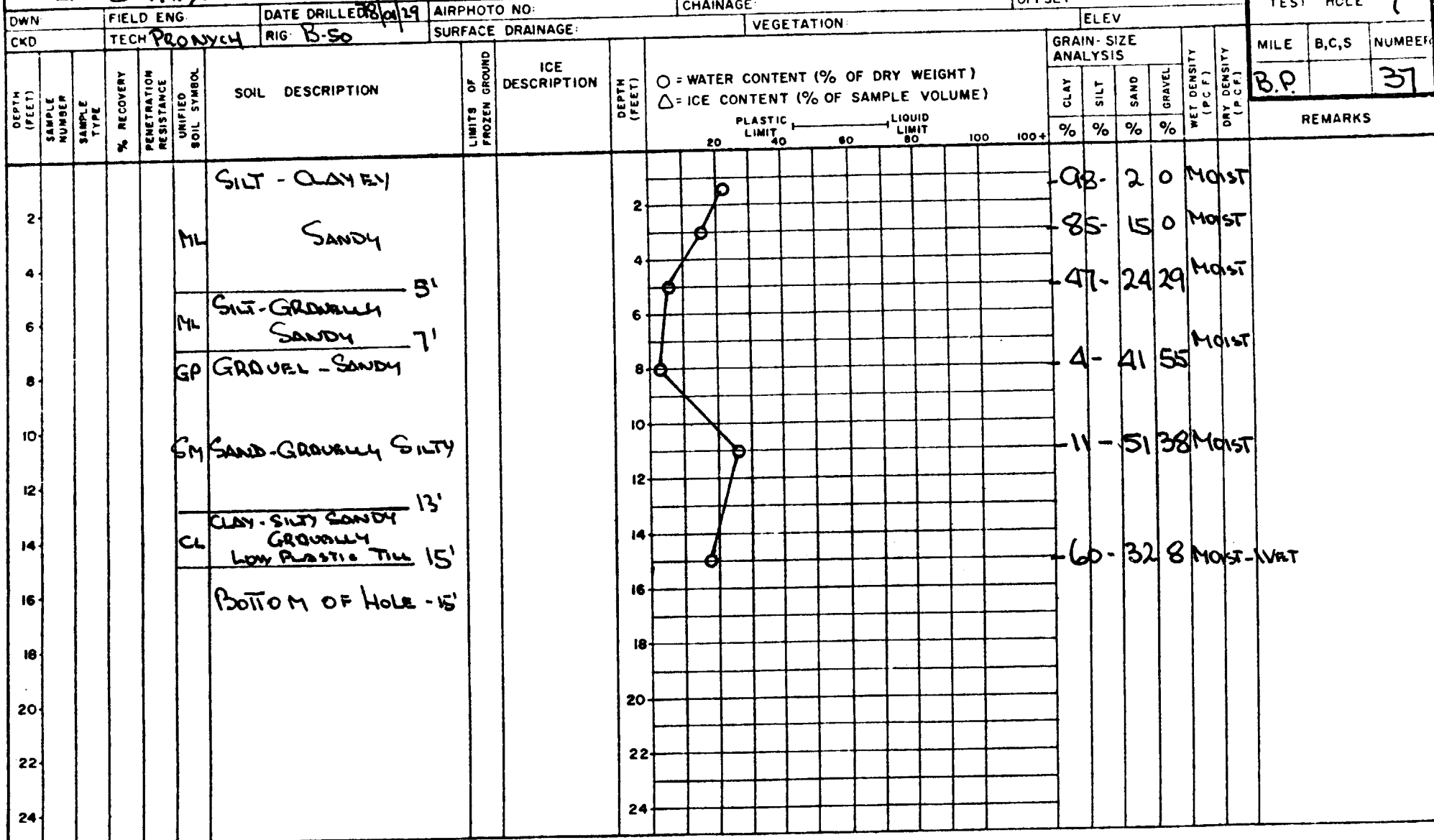
LIARD HWY										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~				
DWN		FIELD ENG.		DATE DRILLED 18/01/27		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE 5							
CKD		TECH VERBER		RIG: B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B.C.S NUMBER							
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS			
										CLAY %	SILT %	SAND %	GRAVEL %						
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME) PLASTIC LIMIT 20 40 60 80 100 100+ LIQUID LIMIT 80									
2					ML	SILT-CLAYEY SANDY			2		94	6	0			Moist			
4						SAND-SILTY FINE			4		72	28	0			Moist			
6									6		40	60	0			Moist			
8					SL				8		30	70	0			Moist			
10									10		22	78	0			Moist			
12									12										
14					CL	CLAY-SILTY SANDY - PARABLAS TILL	13'		14		53	42	5			Moist-wet			
16						BOTTOM OF HOLE IS	15'		16										
18									18										
20									20										
22									22										
24									24										

LIARD Hwy.										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 18/1/29		AIRPHOTO NO:		CHAINAGE		OFFSET		ELEV		TEST HOLE 6										
CKD		TECH PROMYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:																
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	WATER CONTENT (% OF DRY WEIGHT) ICE CONTENT (% OF SAMPLE VOLUME)		GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS						
										○	△	CLAY %	SILT %	SAND %	GRAVEL %									
						GRAVEL - SANDY																		
2									2			7	40	53		Moist								
4					GP GW				4			4	23	73		Moist								
6									6															
8						WET @ 8' 9'			8			4	27	69		Moist								
10					CL	CLAY-SILTY SANDY PEBBLES Low Plastic			10															
12									12			46	37	17		WET								
14						Bottom of Hole - 11'			14															
16									16															
18									18															
20									20															
22									22															
24									24															

DEPARTMENT OF PUBLIC WORKS, CANADA
~~MACKENZIE HIGHWAY~~

~~MACKENZIE HIGHWAY~~

TEST HOLE 7



LIARD HWY										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE		MILE		B,C,S		NUMBER											
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION		ELEV		B.P.																	
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS										WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS							
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)																			
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+										CLAY				SILT		SAND		GRAVEL	
																				%				%		%		%	
2					ML	SILT - SANDY			2																				
4						SAND - SILTY	3.0		4																				
6						Few PEBBLES			6																				
8					SM	DAMP			8	NO SAMPLES TAKEN																			
10									10																				
12									12																				
14					CL	CLAY - SILTY SANDY	13'		14																				
16							15'		16																				
18						BOTTOM OF HOLE 15'			18																				
20									20																				
22									22																				
24									24																				

~~MACKENZIE HIGHWAY~~

1974

LIARD Hwy.										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO.		CHAINAGE:		OFFSET:		TEST HOLE 10																	
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE		B,C,S		NUMBER													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY	SILT	SAND	GRAVEL																
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)																			
										PLASTIC LIMIT ——— LIQUID LIMIT 20 40 60 80 100 100+																			
										%				%		%													
2						ML SILT - SANDY			2																				
4						SAND - SILTY			4																				
6					SM	PERBBLES			6	NO SAMPLES																			
8									8	TAKEN																			
10					CL	CLAY -			10																				
12						MAST TILL 11'			12																				
14						BOTTOM OF HOLE - 11'			14																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

LARD Hwy.										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~														
DWN		FIELD ENG.		DATE DRILLED 18/1/29		AIRPHOTO NO:		CHAINAGE:		OFFSET		ELEV		TEST HOLE 11												
CKD		TECH PROWCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:																		
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS				
										PLASTIC LIMIT 20 40 60 80 100 100+ LIQUID LIMIT						CLAY	SILT	SAND	GRAVEL				%	%	%	%
2					ML	SILT-SANDY SAND 1'			2																	
4						SAND - SILTY PERBBLES			4																	
6									6																	
8					SM	GRAVELLY 8-12'			8																	
10									10																	
12									12																	
14					CL	CLAY - TILL 15'			14																	
16									16																	
18									18																	
20									20																	
22									22																	
24									24																	

LARD Hwy.										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE 12																	
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>MALE</th> <th>B,C,S</th> <th>NUMBER</th> </tr> <tr> <td>B.P.</td> <td></td> <td>37</td> </tr> </table>								MALE	B,C,S	NUMBER	B.P.		37				
MALE	B,C,S	NUMBER																											
B.P.		37																											
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS							
										PLASTIC LIMIT		LIQUID LIMIT		CLAY	SILT	SAND	GRAVEL	%	%				%	%					
										20	40	60	80	100	100+	%	%	%	%										
					ML	SILT - SANDY			1'																				
2					SM	SAND - Silty			2																				
4						Pebbles			4																				
6					Gp	GRAVEL - SANDY			6																				
8						3' - 8'			8																				
10					G	SAND - GRAVELLY			10																				
12						8' - 13'			12																				
14					CL	CLAY - Till			14																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

LIARD Hwy.										DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~							
DWN		FIELD ENG		DATE DRILLED 8/1/79		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE 13									
CKD		TECH PRONICH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B.C.S		NUMBER 37							
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	O = WATER CONTENT (% OF DRY WEIGHT) Δ = ICE CONTENT (% OF SAMPLE VOLUME)		GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS			
										PLASTIC LIMIT	LIQUID LIMIT	CLAY %	SILT %	SAND %	GRAVEL %						
										20	40	60	80	100	100+						
2						ML SILT SANDY 1'			2												
4						GRAVEL - SANDY			4												
6					Q				6												
8					Gw				8												
10									10												
12									12												
14									14												
16						CLAY - SILT SANDY 15'			16												
18					CL	PEBBLES			18												
20						TILL 20'			20												
22						BOTTOM OF HOLE - 20'			22												
24									24												

LIARD Hwy.										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 8/1/79		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE 14												
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE		B.C.S		NUMBER								
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS								
										CLAY %	SILT %	SAND %	GRAVEL %											
						ML SILT-SANDY 11'																		
2						GRAVEL - SANDY			2															
4					GP				4					9	21	70	Moist							
6									6															
8									8					5	33	62	Moist							
10					GW				10															
12						SILTY SANDY CLAYEY			12															
14									14					16	32	52	Moist							
16									16															
18						SANDY			18					3	35	62	Moist							
20						CL Till 19' 20'			20															
22						Bottom of Hole - 20'			22															
24									24															

LIARD Hwy.				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG.		DATE DRILLED 8/29		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE 15				
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B.C.S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY	SILT	SAND	GRAVEL			
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+						
2						ML SILT - SANDY 2.0'			2							
4						GRAVEL-SANDY			4						6-3262	Moist
6					GP				6							
8					GW				8						3-3265	Moist
10									10							
12						Penetration after 13'			12						4-2967	Moist
14						14'			14							
16						TILL ?			16							
18					CL				18							
20						20'			20							
22						BOTTOM OF HOLE - 20			22							
24									24							

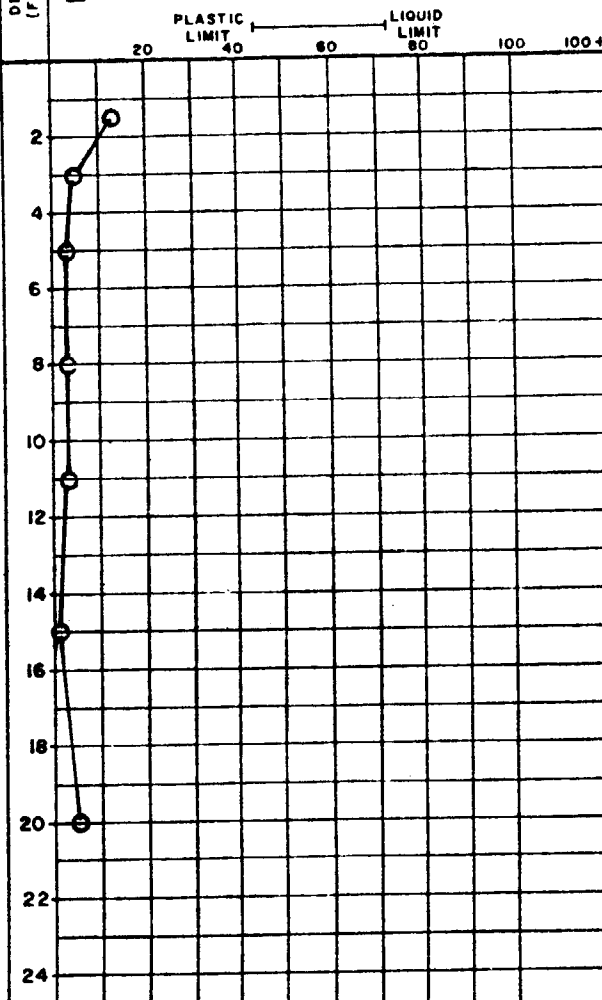
LIARD Hwy.				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~				TEST HOLE 16				
DWN		FIELD ENG.		DATE DRILLED 18-1-79		AIRPHOTO NO:		CHAINAGE:		OFFSET						
CKD		TECH PRONYCH		RIG: B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV						
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY	SILT	SAND	GRAVEL			
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+						
2						Silt-SANDY CLAY ₂₄			2							
4					M				4							
6									6	NO SAMPLES						
8									8	TAKEN						
10						CLAY-SILTY SANDY			10							
12					C	PERVIOUS			12							
14						15'			14							
16						BOTTOM OF HOLE - 13			16							
18									18							
20									20							
22									22							
24									24							

LIARD Hwy.										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 18/01/79		AIRPHOTO NO:		CHAINAGE:		OFFSET		ELEV		TEST HOLE 17							
CKD		TECH WEBBER		RIG B-50		SURFACE DRAINAGE:		VEGETATION:													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS					
										CLAY %	SILT %	SAND %	GRAVEL %								
						SAND - SILTY PEBBLES															
2					SM				2												
					GM	GRAVEL - SANDY SILTY															
4						SANDY			4												
6					GP				6												
8					GW				8												
10									10												
12						CLAY - SILTY SANDY PEBBLES			12												
14									14												
16						BOTTOM OF HOLE - 15'			16												
18									18												
20									20												
22									22												
24									24												

LIARD Hwy.										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 8/1/79		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE 18												
CKD		TECH VEBAR		RIG B-SD		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B.C.S NUMBER												
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS								
										CLAY %	SILT %	SAND %	GRAVEL %											
					ML	SILT - CLAYEY SANDY																		
2									2				58	42	0	WET								
						GRAVEL - SANDY							11	38	51	Moist								
4					GP				4				6	45	48	Moist								
6					GW				6															
8									8				8	40	52	Moist								
10									10				6	33	61	Moist								
12									12															
14									14				4	30	66	Moist								
16					CL	CLAY-SILTY SANDY			16															
18						PEBBLES			18															
20					CI	Low-Med Plastic			20				63	33	4	Moist								
22						BOTTOM OF HOLE - 20'			22															
24									24															

LIARD Hwy.				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 8/29		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE 19					
CKD		TECH VAB-22		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS	
										CLAY %	SILT %	SAND %	GRAVEL %				
						ML Silty-SAND & CLAY 2'											
2						SM SAND-SILTY GRAVELLY											
4																	
6																	
8																	
10						GP GRAVEL-SANDY 20'											
12																	
14																	
16																	
18																	
20																	
22						BOTTOM OF HOLE 20'											
24																	

○ = WATER CONTENT (% OF DRY WEIGHT)
 △ = ICE CONTENT (% OF SAMPLE VOLUME)



DEPTH (FEET)	CLAY (%)	SILT (%)	SAND (%)	GRAVEL (%)	WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
2							
3							
4							
5							
8							
11							
15							
20							

LIARD Hwy.										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 7/19/79		AIRPHOTO NO.		CHAINAGE		OFFSET		ELEV		TEST HOLE 20															
CKD		TECH WEBER		RIG B-50		SURFACE DRAINAGE		VEGETATION																					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY %	SILT %	SAND %	GRAVEL %																
					ML	Silt Sandy Clayey																							
2					SM	SAND-SILTY GRAVELLY			2																				
4					SP	SAND-GRAVELLY			4																				
6									6																				
8									8																				
10					GP	GRAVEL-SANDY			10																				
12					GW	Free Water Above Till			12																				
14									14																				
16									16																				
18					CL	CLAY-SILTY SANDY PEBBLES TILL w/ O.P.			18																				
20									20																				
22						BOTTOM OF Hole - 20'			22																				
24									24																				

LIARD Hwy.										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 8/1/79		AIRPHOTO NO:		CHAINAGE:		OFFSET:		ELEV		TEST HOLE 21										
CKD		TECH WED:RR		RIG B-50		SURFACE DRAINAGE:		VEGETATION:						MILE B.C.S NUMBER										
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS								
										CLAY %	SILT %	SAND %	GRAVEL %											
						ML SILT-SANDY FEW PEBBLES 2'			2					32-68	0	Moist								
						SM SAND-SILTY GRAVELLY			3					12-50	38	Moist								
									4					14-55	31	Moist								
						GP GRAVEL-SAND MIX			6															
									8					8-43	49	Moist								
						GP GRAVEL-SANDY			10															
									11					5-39	56	Moist								
						CLAY-SILTY SANDY FEW PEBBLES TILL 12'			12															
									14															
						C1			15					82-16	2	Moist								
						BOTTOM OF HOLE - 15'			16															
									18															
									20															
									22															
									24															

LIARD GEOTECH 1978

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LIARD Hwy.										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 18 01 74		AIRPHOTO NO:		CHAINAGE:		OFFSET		ELEV.		TEST HOLE															
CKD		TECH PROWCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV.		ELEV.		TEST HOLE															
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY %	SILT %	SAND %	GRAVEL %																
2						SILT - CLAYEY		Frozen	2							DAMP													
4									4							DAMP													
6						SILT - SANDY			6							MOIST													
8					ML				8							MOIST													
10						SILT			10																				
12									12																				
14						Boulders & Cobbles After 13'			14																				
16									16							MOIST													
18						CLAY - SILTY SANDY GRAVELLY			18																				
20					CL				20							MOIST													
22						Bottom of Hole 20'			22																				
24									24																				

LIARD Hwy.

DRILL HOLE REPORT

DEPARTMENT OF PUBLIC WORKS, CANADA

~~MACKENZIE HIGHWAY~~

DWN		FIELD ENG.		DATE DRILLED <u>12/21</u>		AIRPHOTO NO:		CHAINAGE:		OFFSET: <u>2</u>		TEST HOLE													
CKD		TECH <u>PRONYCH</u>		RIG <u>B-50</u>		SURFACE DRAINAGE:		VEGETATION:		ELEV:		MILE <u>32</u> B,C,S <u>2</u> NUMBER													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)				GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS					
										PLASTIC LIMIT 40 — LIQUID LIMIT 80 — 100 100+				CLAY	SILT	SAND	GRAVEL				%	%	%	%	
2						SILT - SANDY TO		Frozen	2																
4					ML	SAND - SILTY			4																
6					SH	VERY FINE			6																
8									8																
10					ML				10																
12									12																
14						PERBBLES			14																
16									16																
18									18																
20									20																
22									22																
24									24																

LIARD Hwy										DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED <u>10/1/74</u>		AIRPHOTO NO:		CHAINAGE:		OFFSET: <u>E</u>		ELEV		TEST HOLE									
CKD		TECH <u>POONYCH</u>		RIG: <u>B-50</u>		SURFACE DRAINAGE:		VEGETATION:						MILE <u>32</u> B.C.S. <u>3</u> NUMBER									
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS							
										CLAY %	SILT %	SAND %	GRAVEL %										
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME) PLASTIC LIMIT 40 LIQUID LIMIT 80													
					ML	SILT - CLAYEY		FROZEN	2							Moist							
2					CL	CLAY - SILTY			3							WET							
4						SILT - SANDY			5							Moist							
6					ML				8							Moist							
8						GRAVELLY			10							Moist							
10						BOTTOM OF HOLE - 10'										Moist							
12																							
14																							
16																							
18																							
20																							
22																							
24																							

LIARD HWY.										DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 8/21		AIRPHOTO NO:		CHAINAGE:		OFFSET: 5		ELEV:		TEST HOLE									
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:						MILE B.C.S NUMBER									
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS							
										CLAY %	SILT %	SAND %	GRAVEL %										
						SAND - SILTY																	
2						CLAY - SILTY LOW PLASTIC										DAMP							
4						SILT - CLAYEY										MOIST							
6						CLAY - SILTY										MOIST							
8						SANDY SILT										MOIST							
10																90-100 MOIST							
12						REFUSAL @ 12'																	
14						COBBLES & BOULDERS																	
16																							
18																							
20																							
22																							
24																							

LIARD Hwy										DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 18/1/21		AIRPHOTO NO:		CHAINAGE:		OFFSET: 6		ELEV:		TEST HOLE									
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:						MILE B,C,S NUMBER									
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS							
										CLAY %	SILT %	SAND %	GRAVEL %										
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)													
										PLASTIC LIMIT 40 LIQUID LIMIT 80													
										20	40	60	80	100	100+								
2						SAND - CLAYAY SILTY RED BROWN		Frozen	2							Moist							
4					SC				4							Moist							
6									6							Moist							
8						CLAY - SILTY SANDY GRAVELLY	6.5'		8							Moist							
10					CI	RED PLASTIC			10							Moist							
12							12'		12														
14						REFUSAL @ 12'			14														
16									16														
18									18														
20									20														
22									22														
24									24														

LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
OWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE																	
CKD		TECH		RIG		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE		B,C,S		NUMBER													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)				GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS									
										CLAY	SILT	SAND	GRAVEL	%	%	%	%												
2						SILT-SANDY CLAY			2												Moist Damp Damp Moist Moist Moist								
4						CLAY-SILTY SANDY GRAVELLY			4																				
6						COBBLES AFTER 2'			6																				
8					CL	W% BELOW P _L			8					47	41	12													
10					CI	LOW-MED. PLASTIC			10																				
12									12																				
14									14																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

LIARD Hwy.										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE												
CKD		TECH		RIG		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER												
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS		WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS										
										CLAY %	SILT %													
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)														
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+														
2					ML	SILT-CLAYEY SANDY		FROZEN	2					MOIST										
4						SAND - SILTY			4					MOIST										
6					SM	SAND - SILT MIX			6					MOIST										
8									8					DAMP										
10									10					DAMP										
12						BOTTOM OF HOLE 10'			12															
14									14															
16									16															
18									18															
20									20															
22									22															
24									24															

LIARD Hwy.										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		ELEV		TEST HOLE															
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION						MILE															
		Pronych		B-50										35															
														2															
														REMARKS															
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)				PLASTIC LIMIT 40 60 80 100 100+ LIQUID LIMIT				GRAIN-SIZE ANALYSIS CLAY SILT SAND GRAVEL % % % %				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)						
2					ML	SILT - SANDY 2'		Frozen	2														MOIST						
4						SAND - SILTY			4														DAMP						
6					SM	VERY FINE			6														DAMP						
8									8														DAMP						
10									10														MOIST						
12									12																				
14									14																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

~~MACKENZIE HIGHWAY~~

4972

LIARD Hwy										DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~					
DWN		FIELD ENG		DATE DRILLED 18/12		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE							
CKD		TECH (R. R. M. C. H.)		RIG P-50		SURFACE DRAINAGE:		VEGETATION:		ELEV:		MILE 35		B.C.S.		NUMBER 9			
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS			
										CLAY %	SILT %	SAND %	GRAVEL %						
2					ML	SILT - SANDY		FROZEN	2								MOIST		
4						SAND - SILTY VERY FINE			4								MOIST		
6					SH				6								DAMP		
8									8								DAMP		
10									10								DAMP		
12									12										
14									14										
16									16										
18									18										
20									20										
22									22										
24									24										

LIARD HWY										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE												
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE		B,C,S		NUMBER								
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS								
										CLAY %	SILT %	SAND %	GRAVEL %											
2						SAND - SILTY VERY FINE		Frozen	2								DRY							
4					SM				4								DAMP							
6									6								DAMP							
8									8								DAMP							
10						SILT - SAND M.M. 10'			10			55	45	0			MOIST							
12						BOTTOM OF HOLE - 10'			12															
14									14															
16									16															
18									18															
20									20															
22									22															
24									24															

LIARD Hwy.										DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 8/21		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE											
CKD		TECH PRONYCH		RIG: B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE		B,C,S		NUMBER							
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS							
										CLAY %	SILT %	SAND %	GRAVEL %										
2					SH	SAND - SILTY VERY FINE			2														
4									4														
6									6														
8									8														
10					SH FL	SILT - SAND MIX			10														
12									12														
14									14														
16									16														
18									18														
20									20														
22									22														
24									24														

○ = WATER CONTENT (% OF DRY WEIGHT)
 △ = ICE CONTENT (% OF SAMPLE VOLUME)

PLASTIC LIMIT 40 60 80 100 100+

28-72 0

DAMP
DAMP
DAMP
MOIST
DAMP
MOIST

15'
 BOTTOM OF HOLE - 15'

LIARD Hwy										DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE											
CKD		TECH		RIG		SURFACE DRAINAGE:		VEGETATION		ELEV													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS	
										PLASTIC LIMIT		LIQUID LIMIT		CLAY	SILT	SAND	GRAVEL						
										20	40	60	80	100	100+	%	%	%	%				
2						SAND - SILTY FINE		Frozen	2													DAMP	
4									4													DAMP	
6					SM				6							22	78	0				DAMP	
8									8													DAMP	
10									10													DAMP	
12						Bottom of Hole - 10'			12														
14									14														
16									16														
18									18														
20									20														
22									22														
24									24														

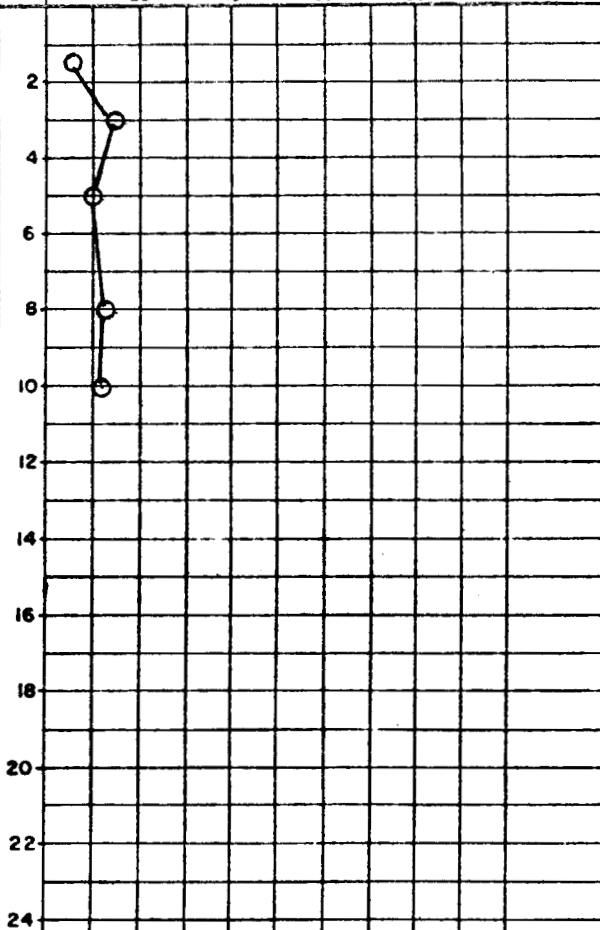
DEPARTMENT OF PUBLIC WORKS, CANADA
~~MACKENZIE HIGHWAY~~

R073

LIARD Hwy.				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE-HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 18/1/24		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE					
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS	
										CLAY %	SILT %	SAND %	GRAVEL %				
2						SAND-SILT MIXTURE											
4																	
6																	
8																	
10																	
10						BOTTOM OF HOLE. 10'											
12																	
14																	
16																	
18																	
20																	
22																	
24																	

○ = WATER CONTENT (% OF DRY WEIGHT)
 △ = ICE CONTENT (% OF SAMPLE VOLUME)

PLASTIC LIMIT LIQUID LIMIT



49-51 0 Moist
 Moist

LIARD Hwy.										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE									
CKD		TECH		RIG		SURFACE DRAINAGE:		VEGETATION:		ELEV:		MILE		B.C.S		NUMBER					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	WATER & ICE CONTENT		GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS			
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)		CLAY	SILT	SAND	GRAVEL						
									PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+		%	%	%	%							
2					ML	SILT - CLAYEY SANDS			2	○								MOIST			
4						SAND - SILT MIX			4	○								MOIST			
6					SM	SAND - SILTY FINE			6	○								DAMP			
8									8	○								DAMP			
10									10	○								MOIST			
12						BOTTOM OF HOLE - 10'			12												
14									14												
16									16												
18									18												
20									20												
22									22												
24									24												

LIARD HWY.										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DOWN		FIELD ENG		DATE DRILLED 8/22		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE									
CKD		TECH PRONCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION		ELEV		MILE B,C,S NUMBER									
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS					
										CLAY %	SILT %	SAND %	GRAVEL %								
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)											
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+											
2						SAND - SILTY FINE			2							MOST					
4					SM				4							MOST					
6									6							MOST					
8									8							DAMP					
10									10							DAMP					
12									12												
14									14												
16									16												
18									18												
20									20												
22									22												
24									24												

Hwy

DRILL HOLE REPORT

DEPARTMENT OF PUBLIC WORKS, CANADA

FIELD ENG.

DATE DRILLED 12/1/22

AIRPHOTO NO:

CHAINAGE:

~~MACKENZIE HIGHWAY~~TECH PronychRIG B-50

SURFACE DRAINAGE:

VEGETATION:

OFFSET:

ELEV

TEST HOLE

MILE B,C,S NUMBER

37

1

REMARKS

										VEGETATION		ELEV									
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)						
										O = WATER CONTENT (% OF DRY WEIGHT) Δ = ICE CONTENT (% OF SAMPLE VOLUME)											
										CLAY	SILT	SAND	GRAVEL								
										PLASTIC LIMIT	LIQUID LIMIT										
										20	40	60	80	100	100+	%	%	%	%		
2					ML	SILT - SAND MIXTURE			2												MOIST
4					SM				4								55	45	0		DAMP
6									6												DAMP
8									8												MOIST
10						10'			10												WET
12						BOTTOM OF HOLE - 10'			12												
14									14												
16									16												
18									18												
20									20												
22									22												
24									24												

10'

BOTTOM OF HOLE - 10'

LIARD Hwy.				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG		DATE DRILLED 8/1/22		AIRPHOTO NO:		CHAINAGE		OFFSET 2		TEST HOLE				
CKD		TECH PRONCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV						
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
2						HL SILT - CLAYEY SILT			2							DAMP WET Moist Moist 55 45 0 DAMP
4						- CLAYEY			3							
6									5							
8									8							
10						SH SAND-SILT MIX 10'			10							
12																
14																
16																
18																
20																
22																
24																

LIARD Hwy.										DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE											
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION		ELEV		MILE		B,C,S		NUMBER							
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)		GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS					
										PLASTIC LIMIT	LIQUID LIMIT	CLAY %	SILT %	SAND %	GRAVEL %								
										20	40	60	80	100	100+								
2						CLAY - SILTY SANDY			2	○												WET	
						MED. PLASTIC				○												MOIST	
4						SILTY			4	○												MOIST	
						W% ABOVE P _L				○													
6									6														
8									8	○												WET	
						9'				○												SAT.	
10						SILT - SANDY			10	○													
						10'																	
						BOTTOM OF HOLE - 10'																	
12									12														
14									14														
16									16														
18									18														
20									20														
22									22														
24									24														

LIARD Hwy.										DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~					
DWN		FIELD ENG		DATE DRILLED 18/01/22		AIRPHOTO NO:		CHAINAGE		OFFSET 2		ELEV		TEST HOLE					
CKD		TECH P. R. O. N. Y. C. H.		RIG B-50		SURFACE DRAINAGE:		VEGETATION:											
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS			
										CLAY %	SILT %	SAND %	GRAVEL %						
						SILT - CLAYEY SANDY													
2					ML				2							SAT.			
4									4							DAMP			
6					SH	SAND-SILT MIXTURE			6							DAMP			
8					ML				8							DAMP			
10									10							DAMP			
12						BOTTOM OF HOLE - 10'			12										
14									14										
16									16										
18									18										
20									20										
22									22										
24									24										

○ = WATER CONTENT (% OF DRY WEIGHT)
 △ = ICE CONTENT (% OF SAMPLE VOLUME)

PLASTIC LIMIT ——— LIQUID LIMIT
 20 40 60 80 100 100+

59-A1

LIARD Hwy										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 18/12		AIRPHOTO NO:		CHAINAGE:		OFFSET:		ELEV:		TEST HOLE										
CKD		TECH PRONYCH		RIG: B-50		SURFACE DRAINAGE:		VEGETATION:						MILE 39 B,C,S NUMBER 2										
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS								
										CLAY %	SILT %	SAND %	GRAVEL %											
2						SILT -																		
4					ML	- CLAYY																		
6																								
8						SAND - SILTY																		
10					GM	Fine																		
12						BOTTOM OF HOLE - 10'																		
14																								
16																								
18																								
20																								
22																								
24																								

DEPARTMENT OF PUBLIC WORKS, CANADA
~~MACKENZIE HIGHWAY~~

DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE				
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY	SILT	SAND	GRAVEL			
									○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)							
									PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+							
2					ML	SILT-			2						Moist	
4									4						Moist	
6									6						Moist	
8									8						Moist	
10						SM SAND - SILTY 10'			10						Moist	
12						BOTTOM OF HOLE - 10'			12							
14									14							
16									16							
18									18							
20									20							
22									22							
24									24							

DEPARTMENT OF PUBLIC WORKS, CANADA
~~MACKENZIE HIGHWAY~~

9072

LIARD Hwy

DRILL HOLE REPORT

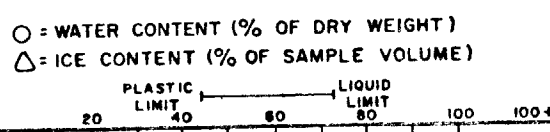
DEPARTMENT OF PUBLIC WORKS, CANADA

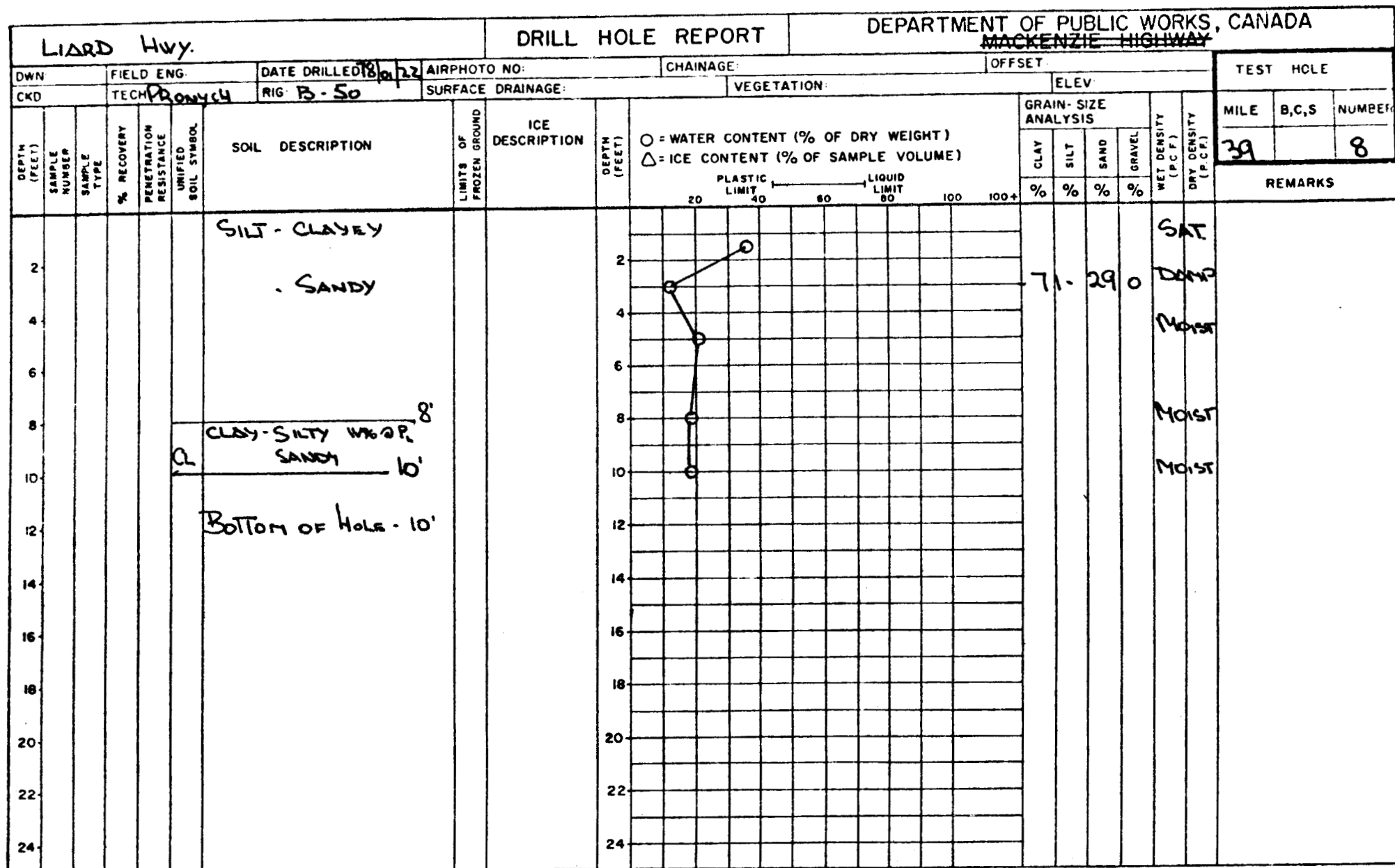
~~MACKENZIE HIGHWAY~~

DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE										
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION		ELEV		MILE	B,C,S	NUMBER								
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	PLASTIC LIMIT		LIQUID LIMIT		GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS		
														CLAY	SILT	SAND	GRAVEL					
											20	40	60	80	100	100+	%	%	%	%		
2						SILT -			2												SAT.	
4					ML	- SANDY			4												MOIST	
6									6												MOIST	
8									8												WET	
10									10												SAT.	
12									12													
14									14													
16									16													
18									18													
20									20													
22									22													
24									24													

LIARD HWY										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 8/21/22		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE												
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV.		MILE 39		B,C,S		NUMBER 6								
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)		GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS						
												CLAY %	SILT %	SAND %	GRAVEL %									
2						SILT - CLAYEY			2									SAT.						
4					HL	SILT			4									Moist						
6						11' ± 0.9'			6									Moist						
8									8									Moist						
10						10'			10									11' ± 0.9'						
12						BOTTOM OF HOLE - 10'			12															
14									14															
16									16															
18									18															
20									20															
22									22															
24									24															

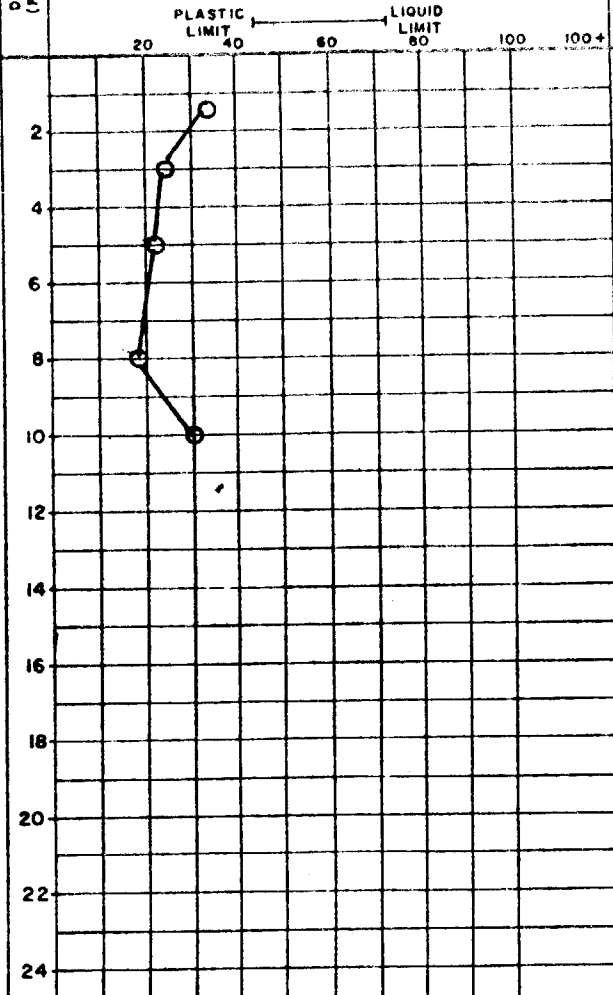
LARD Hwy.										DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~			
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		ELEV		TEST HOLE			
CKD		TECH PRONCH		RIG 13-50		SURFACE DRAINAGE		VEGETATION									
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS	
										CLAY %	SILT %	SAND %	GRAVEL %				
2					ML	SILT - CLAYEY SANDY			2							IVET	
4									3							DAMP	
6					SM	SAND - SILTY FINE			5							DAMP	
8						SILT - SANDY			6.5'								
10					ML	IVET AFTER 8'			8							MOIST	
12						CLAYEY			10'							IVET	
14																	
16																	
18																	
20																	
22																	
24																	





LIARD HWY										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 18/01/22		AIRPHOTO NO:		CHAINAGE:		OFFSET		ELEV		TEST HOLE										
CKD		TECH PRONKH		RIG B-50		SURFACE DRAINAGE:		VEGETATION						MILE 39 B.C.S. NUMBER 9										
DEPT. (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS								
										CLAY %	SILT %	SAND %	GRAVEL %											
2					CL	CLAY - SILTY LOW PLASTIC			2							SAT.								
4						SILT - CLAYEY			4							MOIST								
6									6							DAMP								
8					ML	1/2" AFTER 8'			8							DAMP								
10									10							SAT.								
12						BOTTOM OF HOLE - 10'			12															
14									14															
16									16															
18									18															
20									20															
22									22															
24									24															

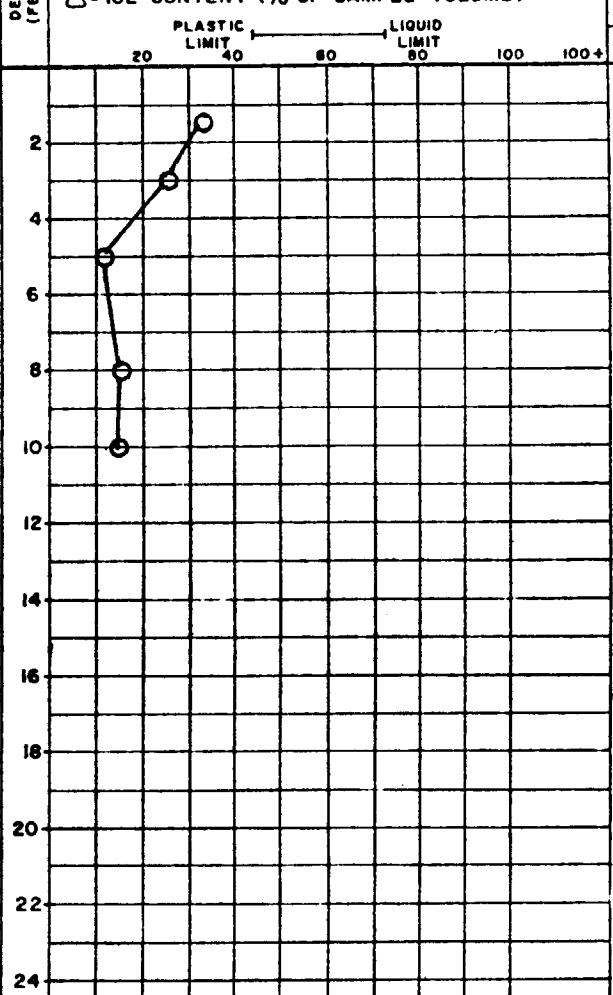
○ = WATER CONTENT (% OF DRY WEIGHT)
 △ = ICE CONTENT (% OF SAMPLE VOLUME)



LIARD Hwy										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE												
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION		ELEV		MILE		B,C,S		NUMBER								
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS								
										CLAY %	SILT %	SAND %	GRAVEL %											
2					ML	SILT - CLAYEY			2															
4					CL	CLAY - SILTY 1/2% Above P. LOW PLASTIC			4															
6						SILT - CLAYEY			6															
8					ML				8															
10						GRAVELLY - SANDY			10															
12						BOTTOM OF HOLE - 10'			12															
14									14															
16									16															
18									18															
20									20															
22									22															
24									24															

LIARD Hwy.										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO:		CHAINAGE:		OFFSET: 4		TEST HOLE									
CKD		TECH IVASBER		RIG B-30		SURFACE DRAINAGE:		VEGETATION:		ELEV:		MILE									
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNITED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)						
										CLAY	SILT	SAND	GRAVEL								
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)											
										PLASTIC LIMIT 40 LIQUID LIMIT 80 100 100+											
										20 40 60 80 100 100+											
2						SILT-CLAYEY			2						SAT.						
4									4						MOIST						
6					ML	SANDY			6						DAMP						
8									8						MOIST						
10									10						MOIST						
12									12												
14									14												
16									16												
18									18												
20									20												
22									22												
24									24												

10'
BOTTOM OF HOLE . 10'



40 2

REMARKS

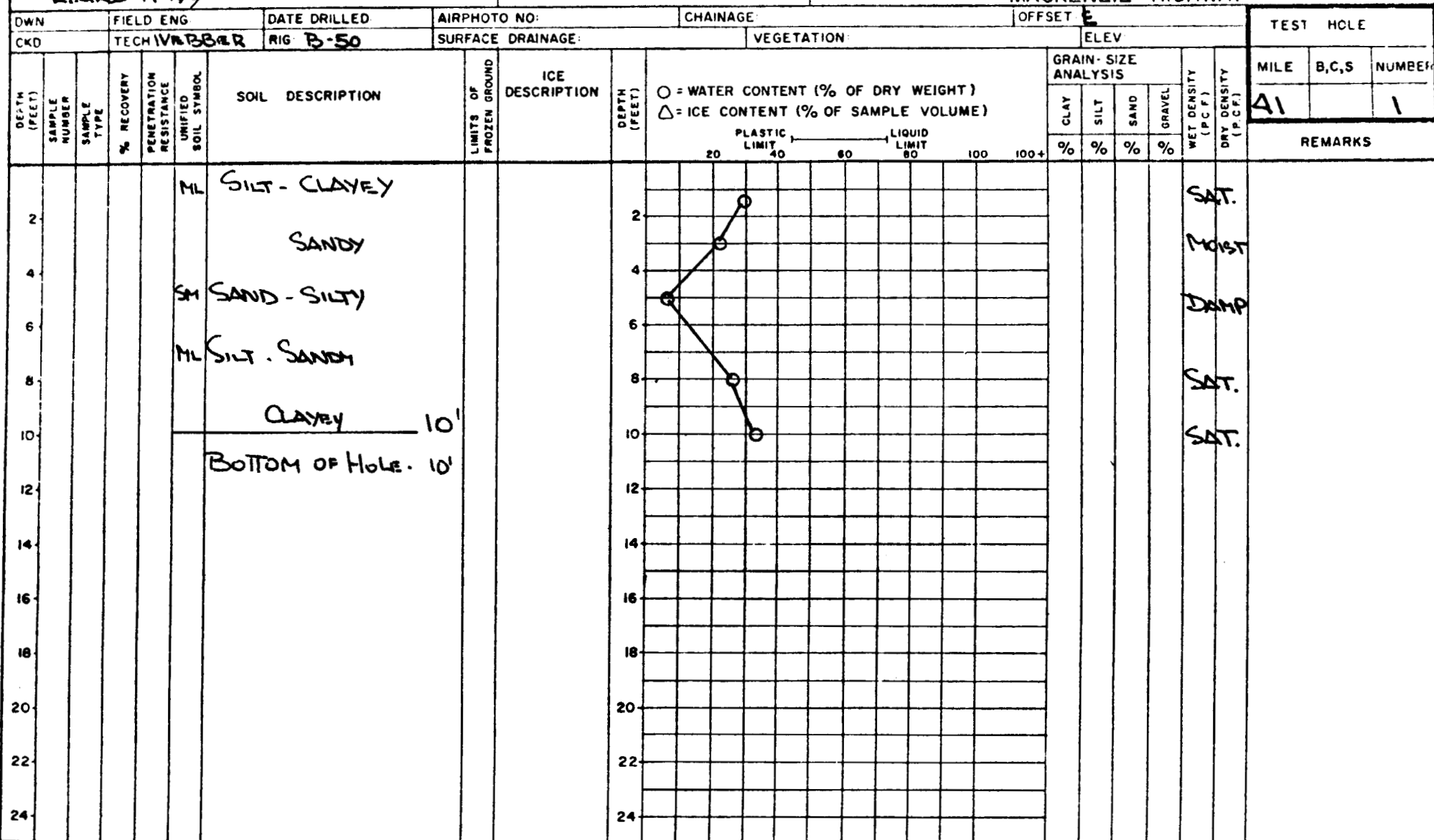
LIARD Hwy.										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE												
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION		ELEV														
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS								
										CLAY	SILT	SAND	GRAVEL											
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)														
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+														
2					CL	CLAY - SILTY W/ABOVE P LOW PLASTIC			2															
4						SILT . CLAYRY			4															
6					ML	SANDY			6															
8									8															
10									10															
12																								
14																								
16																								
18																								
20																								
22																								
24																								

LIARD Hwy						DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~						
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE				
CKD		TECH		RIG		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNITED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY	SILT	SAND	GRAVEL			
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+						
2						SILT - CLAYEY			2							REL WATER MOIST WET WET WET
4					ML				4							
6									6							
8									8							
10						10'			10							
12						BOTTOM OF HOLE - 10'			12							
14									14							
16									16							
18									18							
20									20							
22									22							
24									24							

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE:		OFFSET: <u>E</u>		TEST HOLE					
CKD		TECH <u>WEBBER</u>		RIG <u>B-50</u>		SURFACE DRAINAGE:		VEGETATION:		ELEV:		MILE <u>40</u> B,C,S <u>5</u> NUMBER					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS	
										CLAY %	SILT %	SAND %	GRAVEL %				
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME) PLASTIC LIMIT 40 LIQUID LIMIT 80							
2						Silt - CLAYEY			2							WET	
4					ML				4							MOIST	
6						SANDY			6							MOIST	
8						SAND - SILTY FINE 8'			8							MOIST	
10					SM	10'			10							MOIST	
12						BOTTOM OF HOLE - 10'			12								
14									14								
16									16								
18									18								
20									20								
22									22								
24									24								

DEPARTMENT OF PUBLIC WORKS, CANADA

~~MACKENZIE HIGHWAY~~



LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED:		AIRPHOTO NO:		CHAINAGE:		OFFSET:		ELEV:		TEST HOLE							
CKD		TECH: VERBER		RIG: B-50		SURFACE DRAINAGE:		VEGETATION:													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS					
										CLAY %	SILT %	SAND %	GRAVEL %								
2						SILT - CLAYEY			2												
4					ML	SANDY			4												
6						- SILT			6												
8						- CLAYEY			8												
10									10												
12						BOTTOM OF HOLE - 10'			12												
14									14												
16									16												
18									18												
20									20												
22									22												
24									24												

LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE																	
CKD		TECH		RIG		SURFACE DRAINAGE:		VEGETATION		ELEV		MILE		B,C,S		NUMBER													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS													
										CLAY %	SILT %	SAND %	GRAVEL %																
						SILT-CLAYEY																							
2									2								SAT.												
4					ML	SANDY			4								MOIST												
5									5								SAT.												
8						CLAY - SILTY SANDY PEBBLES			8								MOIST												
10					CI	1/2" Below P _r			10								MOIST												
12						BOTTOM OF HOLE - 10'			12																				
14									14																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

DEPARTMENT OF PUBLIC WORKS, CANADA
~~MACKENZIE HIGHWAY~~

OWN		FIELD ENG.	DATE DRILLED	AIRPHOTO NO.	CHAINAGE	OFFSET	TEST HOLE							
CKD	TECH	VE-332	RIG B-50	SURFACE DRAINAGE:	VEGETATION:	ELEV.	MILE	B,C,S						
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME) PLASTIC LIMIT LIQUID LIMIT	GRAIN-SIZE ANALYSIS CLAY SILT SAND GRAVEL % % % %	WET DENSITY (P.C.F.) DRY DENSITY (P.C.F.)	REMARKS	
2					ML	SILT - CLAYEY			2					DAMP
4					SM	SAND - SILTY FINE			4					MOIST
6									6					
8					ML	SILT - SANDY			8					WET
10									10					WET
12									12					
14									14					
16									16					
18									18					
20									20					
22									22					
24									24					

LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE:		OFFSET		ELEV		TEST HOLE															
CKD		TECH		RIG		SURFACE DRAINAGE:		VEGETATION:																					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY	SILT	SAND	GRAVEL																
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)																			
										PLASTIC LIMIT 40 LIQUID LIMIT 80																			
										20 40 60 80 100 100+																			
2					ML	SILT-CLAYEY SANDY			2						MOIST														
4									4						MOIST														
6					GH	SILT-SAND MIX			6						MOIST														
8					ML				8						WET														
10									10						SAT.														
12						BOTTOM OF HOLE - 10'			12																				
14									14																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

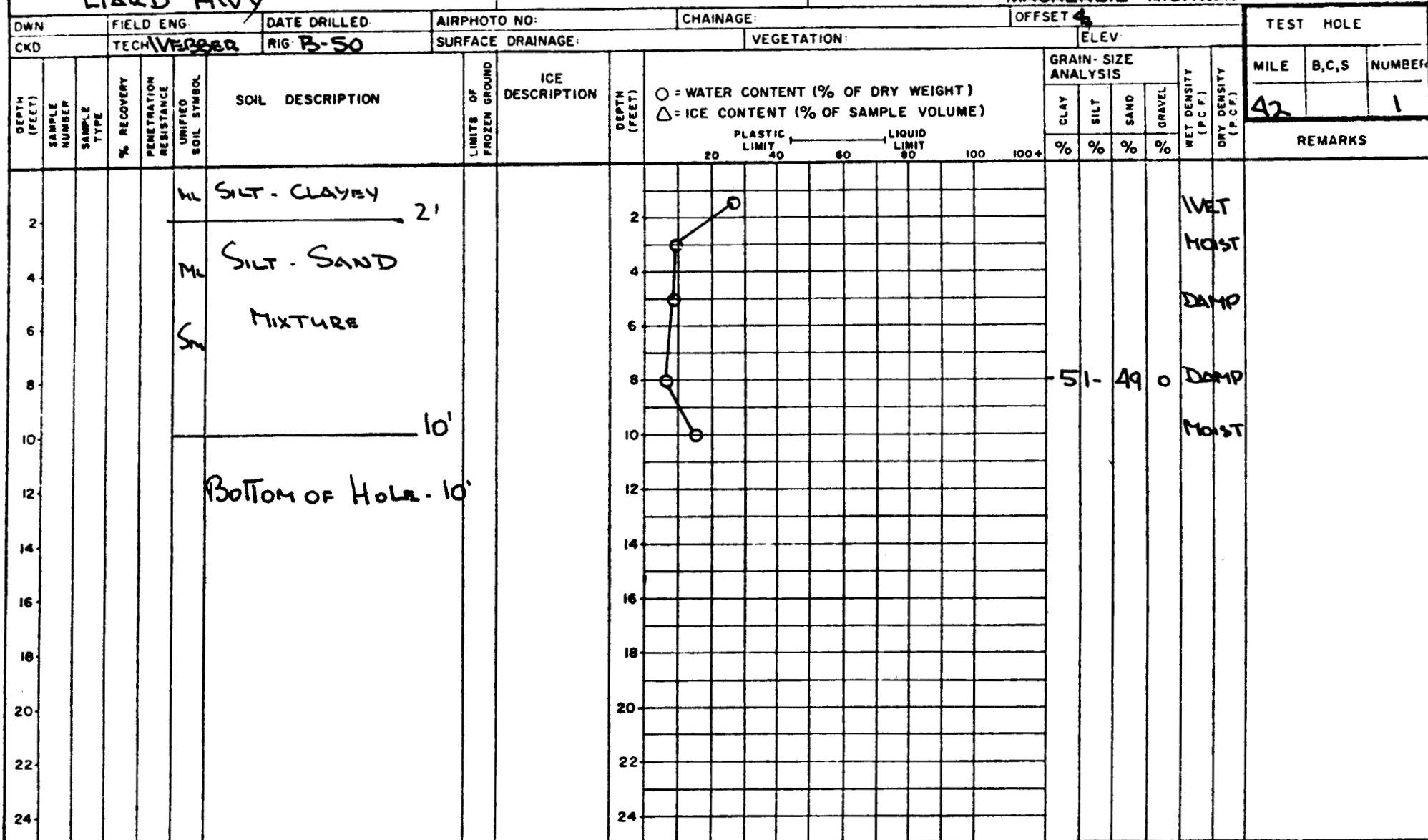
~~MACKENZIE HIGHWAY~~

P073

LIARD Hwy										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE												
CKD		TECH <u>WEDDER</u>		RIG <u>B-50</u>		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE		B,C,S		NUMBER								
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)				GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS				
										PLASTIC LIMIT		LIQUID LIMIT		CLAY	SILT	SAND	GRAVEL							
										20	40	60	80	100	100+	%	%	%	%					
2						SILT-CLAYEY SANDY			2	○												Moist		
4									4	○												Moist		
6									6	○												Moist		
8						CLAY-SILTY SANDY LOW PLASTIC			8	○												WET		
10									10	○												WET		
12						BOTTOM OF HOLE - 10'			12															
14									14															
16									16															
18									18															
20									20															
22									22															
24									24															

DEPARTMENT OF PUBLIC WORKS, CANADA
~~MACKENZIE HIGHWAY~~

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LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~										
OWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO:		CHAINAGE:		OFFSET <u>E</u>								
CKD		TECH <u>WEBER</u>		RIG <u>B-50</u>		SURFACE DRAINAGE:		VEGETATION:		ELEV								
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	TEST HOLE		
										CLAY %	SILT %	SAND %	GRAVEL %			MILE	B,C,S	NUMBER
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)								
										PLASTIC LIMIT ——— LIQUID LIMIT 20 40 60 80 100 100+								
2						SILT - CLAYEY SANDY			2									
4						SAND - SILTY FINE			4									
6									6									
8									8									
10									10									
12									12									
14									14									
16									16									
18									18									
20									20									
22									22									
24									24									

Depth (Feet)	Water Content (%)	Plastic Limit (%)
2	25	25
4	45	25
6	35	25
8	35	25
10	35	25

33-670

4'

10'

BOTTOM OF HOLE - 10'

MOIST

MOIST

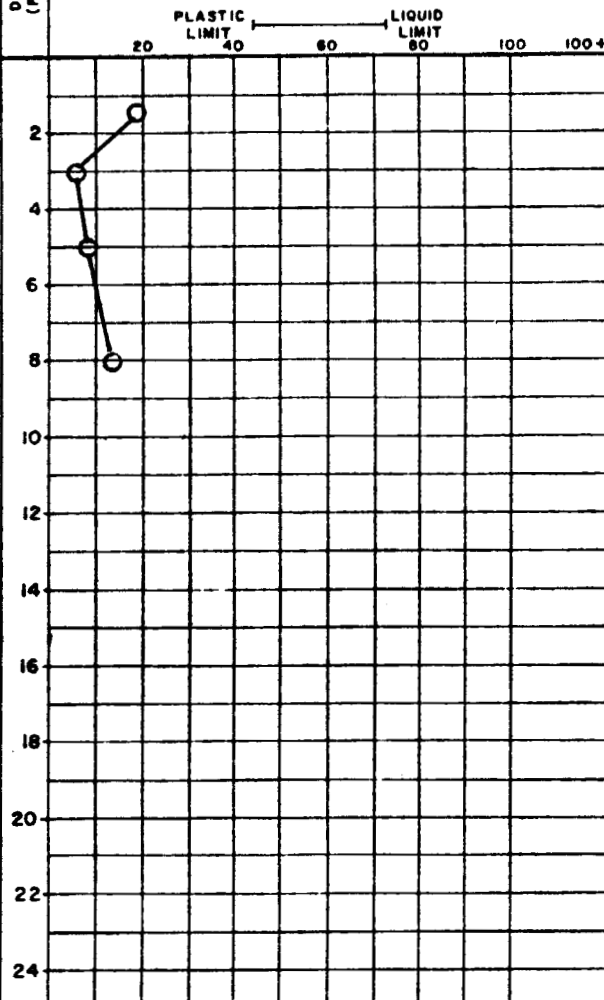
DAMP

DAMP

MOIST

LIARD HWY										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE									
CKD		TECH <u>WABER</u>		RIG <u>B-50</u>		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE									
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS					
										CLAY %	SILT %	SAND %	GRAVEL %								
					ML	SILT															
2						2'															
4					SM	SAND - SILT MIXTURE															
6																					
8					ML																
10						10'															
12						BOTTOM OF HOLE - 10'															
14																					
16																					
18																					
20																					
22																					
24																					

○ = WATER CONTENT (% OF DRY WEIGHT)
 △ = ICE CONTENT (% OF SAMPLE VOLUME)



58-42-0
 Moist
 Moist

~~MACKENZIE HIGHWAY~~

597A

LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~				
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		ELEV		TEST HOLE		
CKD		TECH		RIG		SURFACE DRAINAGE:		VEGETATION:								
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+						
2					ML	SILT - CLAYEY			2							
4					SH	SAND - SILTY FINE			4							
6					ML	SILT - SANDY			6							
8					SH	SAND - SILTY			8							
10					ML	SILT - SANDY			10							
12						BOTTOM OF HOLE - 10'			12							
14									14							
16									16							
18									18							
20									20							
22									22							
24									24							

DEPARTMENT OF PUBLIC WORKS, CANADA
MACKENZIE HIGHWAY

9073

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~											
DWN		FIELD ENG		DATE DRILLED 8/1/23		AIRPHOTO NO:		CHAINAGE:				OFFSET		TEST HOLE					
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:				VEGETATION:				ELEV					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS			
										CLAY %	SILT %	SAND %	GRAVEL %						
						SILT-SANDY				○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME) PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+									
2						2'			2							MOIST			
4					SM	SAND-SILT MIXTURE			4							MOIST			
6									6							DAMP			
8					ML				8			48	52	0		DAMP			
10						10'			10							MOIST			
12						BOTTOM OF HOLE- 10'			12										
14									14										
16									16										
18									18										
20									20										
22									22										
24									24										

LIARD HWY				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG.		DATE DRILLED 18/01/23		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE				
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+						
2					SM	SAND-SILT MIX			2							
4					ML				4							
6					ML	SILT-SANDY	5'		6							
8					SM	SAND-SILTY FINE	6.5'		8							
10							10'		10							
12						BOTTOM OF HOLE - 10'			12							
14									14							
16									16							
18									18							
20									20							
22									22							
24									24							

LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE																	
CKD		TECH		RIG		SURFACE DRAINAGE:		VEGETATION:		ELEV:		MILE		B,C,S		NUMBER													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY %	SILT %	SAND %	GRAVEL %																
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)																			
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+																			
2						SILT - SANDY			2						Moist														
4									4						Moist														
6					ML				6						Moist														
8									8						Moist														
10									10																				
12									12																				
14									14																				
16						15'			16						Moist														
18						BOTTOM OF HOLE - 15'			18																				
20									20																				
22									22																				
24									24																				

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG		DATE DRILLED 8/23		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE				
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						
										PLASTIC LIMIT 40 LIQUID LIMIT 80 100 100+						
2					ML	SILT 2'			2							
4					SH	SAND-SILT MIXTURE			4							
6					ML				6							
8									8							
10									10							
12									12							
14					ML	SILT-SANDY 15'			14							
16									16							
18									18							
20									20							
22									22							
24									24							

LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~				
DWN		FIELD ENG		DATE DRILLED 8/23		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE				
CKD		TECH PRONYCH		RIG: B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
2						SILT-CLAYEY SANDY										
4																
6																
8						SAND-SILTY FINE	8'									
10																
12																
14																
16																
18																
20																
22																
24																

LIARD Hwy

DRILL HOLE REPORT

DEPARTMENT OF PUBLIC WORKS, CANADA

~~MACKENZIE HIGHWAY~~

DWN		FIELD ENG.	DATE DRILLED	AIRPHOTO NO.	CHAINAGE	OFFSET	TEST HOLE											
CKD	TECH	RIG	SURFACE DRAINAGE	VEGETATION	ELEV.	MILE	B,C,S	NUMBER										
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	O = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)		GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
												CLAY	SILT	SAND	GRAVEL			
												PLASTIC LIMIT						
												20	40	60	80	100	100+	
2					ML	SILT-SANDY			2									MOIST
4									4									MOIST
6									6									WET
8									8									WET
10					SH ML	WET AFTER 5' SAND-SILT MIX 10'			10									WET
12						BOTTOM OF HOLE. 10'			12									
14									14									
16									16									
18									18									
20									20									
22									22									
24									24									

LIARD Hwy										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE												
CKD		TECH		RIG		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE		B,C,S		NUMBER								
		PRONYCH		13-50								43				8								
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	O = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)		GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS						
										PLASTIC LIMIT	LIQUID LIMIT	CLAY %	SILT %	SAND %	GRAVEL %									
2						SILT - SANDY			2	25	75							MOIST						
3									3	35	65							MOIST						
4					ML	CLAYEY			4	45	55							MOIST						
5									5	55	45							MOIST						
6									6	65	35							MOIST						
7									7	75	25							MOIST						
8						- SILT			8	85	15							MOIST						
9									9	95	5							WET						
10									10	105	0													
11																								
12						BOTTOM OF HOLE - 10'			12															
13									13															
14									14															
15									15															
16									16															
17									17															
18									18															
19									19															
20									20															
21									21															
22									22															
23									23															
24									24															

~~MACKENZIE HIGHWAY~~

BOYD

LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 18/0/23		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE									
CKD		TECH PROMYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE 43		B,C,S		NUMBER 10					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS					
										CLAY %	SILT %	SAND %	GRAVEL %								
					ML	SILT - CLAYEY SANDY															
2									2								Moist				
4					SM	SAND - SILTY FINE			4								Moist				
6									6								Moist				
8					SM ML	SILT-SAND MIA.			8								Moist				
10									10								Moist				
12									12												
14									14												
16									16												
18									18												
20									20												
22									22												
24									24												

LIARD HWY										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~				
DWN		FIELD ENG		DATE DRILLED 8/21/33		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE				
CKD		TECH PRONCH		RIG B-50		SURFACE DRAINAGE		VEGETATION		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						SILT - SANDY										
2									2							
4									4							
6									6							
8									8							
10						SAND - SILTY FINE			10							
12									12							
14									14							
16									16							
18									18							
20									20							
22									22							
24									24							

DEPARTMENT OF PUBLIC WORKS, CANADA

~~MACKENZIE HIGHWAY~~

[illegible]

LIARD Hwy										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE												
CKD		TECH		RIG		SURFACE DRAINAGE:		VEGETATION:		ELEV:		MILE		B,C,S		NUMBER								
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS								
										CLAY %	SILT %	SAND %	GRAVEL %											
						SILT - SANDY																		
2					HL				2								Moist							
4						SAND - SILTY FINE			4								Moist							
6					SH				6								Moist							
8									8								Moist							
10					ML	SILT - SANDY			10								Moist							
12																								
14																								
16																								
18																								
20																								
22																								
24																								

LIARD Hwy										DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE											
CKD		TECH		RIG		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE		B,C,S		NUMBER							
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS							
										CLAY %	SILT %	SAND %	GRAVEL %										
						SILT-CLAYEY																	
2									2								MOIST						
4					ML	SANDY			4								MOIST						
6									6								MOIST						
8									8								SAT.						
10									10								SAT.						
						10'																	
						BOTTOM OF HOLE - 10'																	
12									12														
14									14														
16									16														
18									18														
20									20														
22									22														
24									24														

LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 8/10/23		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE									
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER									
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS					
										CLAY %	SILT %	SAND %	GRAVEL %								
2					ML	SILT-CLAYEY SANDY			2							Moist					
4						SAND. SILTY FINE			4							Moist					
6					SM				6							Moist					
8									8							Moist					
10									10							Moist					
12						BOTTOM OF HOLE - 10'			12												
14									14												
16									16												
18									18												
20									20												
22									22												
24									24												

LIARD HWY										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE		MILE		B,C,S		NUMBER											
CKD		TECH		RIG		SURFACE DRAINAGE:		VEGETATION:		ELEV																			
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS					WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS												
										CLAY %	SILT %	SAND %	GRAVEL %																
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)																			
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+																			
2						SILT - CLAYRY SAND			2																				
4									4																				
6									6																				
8						SAND - SILTY			8																				
10									10																				
12						BOTTOM OF HOLE - 10'			12																				
14									14																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

~~MACKENZIE HIGHWAY~~

PO73

LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
OWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE																	
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION		ELEV		MILE		B,C,S		NUMBER		REMARKS											
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)														
										CLAY	SILT	SAND	GRAVEL			%	%	%	%										
						SILT - SANDY																							
2									2																				
4					ML				4																				
6									6																				
8						SAND. SILTY			8																				
10					SM	FINE			10																				
12						BOTTOM OF HOLE. 10'			12																				
14									14																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

LIARD HWY										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		ELEV		TEST HOLE							
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS		WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS							
										CLAY %	SILT %										
2					ML	SILT-SAND			2												
4									4												
6									6												
8					SM	SILT-SAND MIX			8												
10					ML				10												
12									12												
14									14												
16									16												
18									18												
20									20												
22									22												
24									24												

Duplication

DEPARTMENT OF PUBLIC WORKS, CANADA

~~MACKENZIE HIGHWAY~~

TEST HOLE

MILE B,C,S NUMBER

45 3

REMARKS

○ = WATER CONTENT (% OF DRY WEIGHT)
△ = ICE CONTENT (% OF SAMPLE VOLUME)

PLASTIC LIMIT 20 40 60 80 100 100+
LIQUID LIMIT

70.300

BOTTOM OF HOLE-10'

DEPARTMENT OF PUBLIC WORKS, CANADA

~~MACKENZIE HIGHWAY~~

DWN		FIELD ENG	DATE DRILLED	AIRPHOTO NO:	CHAINAGE	OFFSET	TEST HOLE										
CKD	TECH	RIG	SURFACE DRAINAGE	VEGETATION	ELEV												
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS	WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	MILE	B,C,S	NUMBER	REMARKS	
									○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)								
									PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+		CLAY	SILT	SAND	GRAVEL			
											%	%	%	%			
2						SILT - CLAYEY			2								
4						SANDY			4								
6					ML				6								
8									8								
10						10'			10								
12						BOTTOM OF HOLE - 10'			12								
14									14								
16									16								
18									18								
20									20								
22									22								
24									24								

LIARD Hvy										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~				
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE:		OFFSET		ELEV		TEST HOLE					
CKD		TECH		RIG		SURFACE DRAINAGE:		VEGETATION:						MILE	B,C,S	NUMBER			
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS			
										CLAY %	SILT %	SAND %	GRAVEL %						
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)									
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+									
2					ML	SILT - SANDY			2										
4					SH	SAND - SILTY			4										
6									6										
8					ML	SILT - SANDY			8										
10						Few pebbles 10'			10										
12						BOTTOM OF HOLE - 10'			12										
14									14										
16									16										
18									18										
20									20										
22									22										
24									24										

LIARD Hwy

DRILL HOLE REPORT

DEPARTMENT OF PUBLIC WORKS, CANADA

~~MACKENZIE HIGHWAY~~

DWN		FIELD ENG	DATE DRILLED	AIRPHOTO NO:	CHAINAGE:	OFFSET	ELEV	TEST HOLE								
CKD		TECH WEBER	RIG B-50	SURFACE DRAINAGE:		VEGETATION										
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY	SILT	SAND	GRAVEL			
										%	%	%	%			
2						ML SILT - SANDY			2							
4						SM SAND - SILTY FINE			4							WET DAMP
6									6							DAMP
8						ML SILT - SANDY			8							81 - 19 0 MOIST
10									10							MOIST
12									12							
14									14							
16									16							
18									18							
20									20							
22									22							
24									24							

○ = WATER CONTENT (% OF DRY WEIGHT)
△ = ICE CONTENT (% OF SAMPLE VOLUME)

PLASTIC LIMIT 40 LIQUID LIMIT 80

10' BOTTOM OF HOLE - 10'

LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
OWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE									
CKD		TECH <u>IVEDBAR</u>		RIG <u>B-50</u>		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER									
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS					
										CLAY %	SILT %	SAND %	GRAVEL %								
2						SILT - SANDY			2												
4					ML				4							WET					
6						SAND - SILTY FINE			6							WET					
8					SM				8							MOIST					
10									10							36-64 0 DAMP					
12						BOTTOM OF HOLE - 10'			12							MOIST					
14									14												
16									16												
18									18												
20									20												
22									22												
24									24												

LIARD Hwy

DRILL HOLE REPORT

DEPARTMENT OF PUBLIC WORKS, CANADA

~~MACKENZIE HIGHWAY~~

DWN		FIELD ENG.	DATE DRILLED	AIRPHOTO NO.	CHAINAGE	OFFSET	TEST HOLE									
CKD	TECH	RIG	SURFACE DRAINAGE	VEGETATION	ELEV											
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
2					ML	SILT - CLAYEY SANDY			2							SAT.
4									4							MOIST
6									6							MOIST
8					SM	SAND. SILTY FINE			8			25	75	0		MOIST
10									10							MOIST
12						BOTTOM OF HOLE - 10'			12							
14									14							
16									16							
18									18							
20									20							
22									22							
24									24							

DEPARTMENT OF PUBLIC WORKS, CANADA

~~MACKENZIE HIGHWAY~~

DWN		FIELD ENG	DATE DRILLED	AIRPHOTO NO:	CHAINAGE	OFFSET	TEST HOLE								
CKD	TECH	UN	RIG	SURFACE DRAINAGE:		VEGETATION	ELEV	MILE	B,C,S	NUMBER					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME) PLASTIC LIMIT LIQUID LIMIT	GRAIN-SIZE ANALYSIS CLAY SILT SAND GRAVEL % % % %	WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS	
2					ML	SILT-CLAYEY SANDY			2						MOIST
4						SAND-SILTY			4						MOIST
6					SM				6						MOIST
8									8						MOIST
10					ML	SILT-SANDY			10						MOIST
12						BOTTOM OF HOLE - 10'			12						
14									14						
16									16						
18									18						
20									20						
22									22						
24									24						

LIARD HWY				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~							
OWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET: 4					
CKD		TECH: WEPPER		RIG: B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV					
										TEST HOLE					
										MILE B,C,S NUMBER					
										47 1					
										REMARKS					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)
										CLAY	SILT	SAND	GRAVEL		
										%	%	%	%		
										O = WATER CONTENT (% OF DRY WEIGHT) Δ = ICE CONTENT (% OF SAMPLE VOLUME)					
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+					
2					ML	SILT CLAYRY SANDY		Frozen	2					17.0	Moist
4						SAND - SILTY FINE			4	83					DAMP
6					SM				6						DAMP
8									8						DAMP
10									10						DAMP
12									12						
14									14						
16									16						
18									18						
20									20						
22									22						
24									24						

LIARD Hwy.										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		ELEV		TEST HOLE															
CKD		TECH		RIG		SURFACE DRAINAGE:		VEGETATION:																					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY	SILT	SAND	GRAVEL																
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)																			
										PLASTIC LIMIT 20 40 60 80 100 100+ LIQUID LIMIT 40 60 80 100 100+																			
2					ML	SILT - CLAY _{ML}		Frozen	2																				
4					SM	SAND - SILTY FINE			4																				
6									6																				
8					SM	SILT - WET 7' - 10'			8																				
10					ML	SAND MIX			10																				
12						BOTTOM OF HOLE 10'			12																				
14									14																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

~~MACKENZIE HIGHWAY~~

BOY

LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		ELEV		TEST HOLE							
CKD		TECH		RIG		SURFACE DRAINAGE:		VEGETATION													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS					
										CLAY	SILT	SAND	GRAVEL								
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)											
										PLASTIC LIMIT 40 LIQUID LIMIT 80											
2						SILT-CLAYEY SANDY		FROZEN	2							Moist					
4									4							Moist					
6					ML				6							Moist					
8									8							Moist					
10						10'			10							Moist					
12						BOTTOM OF HOLE. 10'			12												
14									14												
16									16												
18									18												
20									20												
22									22												
24									24												

LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		ELEV		TEST HOLE							
CKD		TECH		RIG		SURFACE DRAINAGE:		VEGETATION													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	O = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)		GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS			
										PLASTIC LIMIT	LIQUID LIMIT	CLAY %	SILT %	SAND %	GRAVEL %						
2					ML	SILT - CLAYEY		FROZEN	2									Moist			
4					ML	SAND - SILT MIX			4									Moist			
6					1				6									Moist			
8					SH				8									Moist			
10					SH	SAND - SILTY			10									Moist			
12									12												
14									14												
16									16												
18									18												
20									20												
22									22												
24									24												

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE:		OFFSET 4		TEST HOLE				
CKD		TECH ~~YNDOR~~		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV						
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+						
2					ML	SILT-CLAYEY SANDY		FROZEN	2							
4					ML	SILT-SAND MIX			4							
6					SH				6							
8									8							
10					SH	SAND-SILTY			10							
12						BOTTOM OF HOLE - 10'			12							
14									14							
16									16							
18									18							
20									20							
22									22							
24									24							

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN CKD		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE				
		TECH <u>WEBER</u>		RIG <u>B-50</u>		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						
										PLASTIC LIMIT 20 40 60 80 100 100+ LIQUID LIMIT						
2						SILT-CLAYEY SANDY		FROZEN	2							
4					ML				4							
6									6							
8									8							
10						SM SAND-SILTY			10							
12						BOTTOM OF HOLE - 10'			12							
14									14							
16									16							
18									18							
20									20							
22									22							
24									24							

LIARD HWY										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		ELEV		TEST HOLE		MILE		B,C,S		NUMBER									
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION																					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY %	SILT %	SAND %	GRAVEL %																
						SILT-SANDY		Frozen		○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME) PLASTIC LIMIT 40 LIQUID LIMIT 80																			
2									2							SAT.													
4									4							Moist													
6									6							Moist													
8									8							Moist													
10									10																				
12									12							Moist													
14									14																				
16									16							Moist													
18									18																				
20									20																				
22									22																				
24									24																				

HL

15'

Bottom of Hole - 15'

SQ-410

LIARD Hwy.										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
OWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		ELEV		TEST HOLE							
CKD		TECH VERBER		RIG B-50		SURFACE DRAINAGE:		VEGETATION													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	O = WATER CONTENT (% OF DRY WEIGHT) Δ = ICE CONTENT (% OF SAMPLE VOLUME)		GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS			
										PLASTIC LIMIT	LIQUID LIMIT	CLAY %	SILT %	SAND %	GRAVEL %						
2						SILT - SANDY		FROZEN	2												
4						SAND			4												
6						SILT - SANDY			6												
8						SAND			8												
10						SILT - SANDY			10												
12						SAND			12												
14						SILT - SANDY			14												
16						SAND			16												
18						SILT - SANDY			18												
20						SAND			20												
22						SILT - SANDY			22												
24						SAND			24												

VEBBER & Pronych

DUPPLICATION

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY								
DWN		FIELD ENG		DATE DRILLED 8/24		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE				
CKD		TECH Pronych		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY	SILT	SAND	GRAVEL			
									○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)							
									PLASTIC LIMIT 20 40 60 80 100 100+ LIQUID LIMIT 80 100 100+							
2					ML	SILT - SANDY			2							
4									4							
6						SAND - SILTY FINE			6							
8					SM				8							
10									10							
12									12							
14									14							
16									16							
18									18							
20									20							
22									22							
24									24							

LIARD HWY				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN CKD		FIELD ENG	DATE DRILLED	AIRPHOTO NO:	CHAINAGE	OFFSET	ELEV	TEST HOLE								
		TECH <u>WEBER</u>	RIG <u>B-50</u>	SURFACE DRAINAGE:		VEGETATION:										
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY	SILT	SAND	GRAVEL			
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						
										PLASTIC LIMIT ——— LIQUID LIMIT 20 40 60 80 100 100+						
2						SILT - SANDY			2							WET
4					ML				4							WET
6						SAND - SILTY FINE			6							Moist
8					SM				8							Moist
10									10							Moist
12						BOTTOM OF HOLE - 10'			12							
14									14							
16									16							
18									18							
20									20							
22									22							
24									24							

LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE																	
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION		ELEV		MILE		B,C,S		NUMBER		REMARKS											
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS					WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)													
										CLAY	SILT	SAND	GRAVEL																
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)																			
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+																			
2						SAND. CLAYRY SILTY			2																				
4									4																				
6					Sc				6																				
8									8																				
10					ML SILT - SANDY				10																				
12						BOTTOM OF HOLE. 10'			12																				
14									14																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE																	
CKD		TECH		RIG		SURFACE DRAINAGE:		VEGETATION		ELEV		MILE		B,C,S		NUMBER													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY	SILT	SAND	GRAVEL																
									○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)																				
									PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+																				
2						SILT - SANDY			2																				
4						SAND - SILTY FINE			4																				
6									6																				
8									8																				
10									10																				
12									12																				
14									14																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA									
								~~MACKENZIE HIGHWAY~~									
OWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		ELEV		TEST HOLE			
CKD		TECH PRONYCH		RIG B-SD		SURFACE DRAINAGE		VEGETATION									
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS	
										CLAY	SILT	SAND	GRAVEL				
									○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						MILE 48 B,C,S NUMBER 4		
									PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+								
2					ML	SILT-CLAYEY SANDY			2								
4									4								
6						SAND SILTY FINE			6								
8					SM				8								
10									10								
12									12								
14									14								
16									16								
18									18								
20									20								
22									22								
24									24								

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG		DATE DRILLED 8/1/24		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE				
CKD		TECH PRONICH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						SILT - SANDY										
2									2							WET
4									4							DAMP
6						SAND - SILTY FINE			6							MOIST
8									8							MOIST
10									10							MOIST
12									12							
14									14							
16									16							
18									18							
20									20							
22									22							
24									24							

LIARD Hwy										DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~			
DWN		FIELD ENG		DATE DRILLED 78/12/24		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE					
CKD		TECH PROBYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS	
										CLAY %	SILT %	SAND %	GRAVEL %				
						3"											
2						SILT -			2							Moist	
4						ML SAND - SILT MIX			4							Damp	
6						5'			6							Moist	
8						SAND - SILTY FINE			8							Moist	
10									10							Moist	
12									12								
14						15'			14							Moist	
16						BOTTOM OF HOLE. 15'			16								
18									18								
20									20								
22									22								
24									24								

DEPARTMENT OF PUBLIC WORKS, CANADA

~~MACKENZIE HIGHWAY~~

LIARD Hwy

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LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE																	
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION		ELEV		MILE		B,C,S		NUMBER													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)										GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS			
										CLAY	SILT	SAND	GRAVEL																
										%	%	%	%																
2					ML	SILT - SANDY			2														SAT. - 100%						
4						SAND - SILTY			4														Moist						
6									6														Moist						
8					SM				8														Moist						
10									10														Moist						
12									12																				
14									14																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

LARD Hwy.				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG		DATE DRILLED 8/1/24		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE				
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
2						SILT-CLAYEY SANDY			2							WET
4						SAND-SILT MIX			4							MOST
6						SAND-SILTY FINE			6							MOST
8									8							MOST
10									10							MOST
12						BOTTOM OF HOLE-10'			12							
14									14							
16									16							
18									18							
20									20							
22									22							
24									24							

LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 8/21/21		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE									
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE 49		B,C,S		NUMBER 4					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS					
										CLAY %	SILT %	SAND %	GRAVEL %								
2					ML	SILT-CLAYEY SANDY			2								SAT.				
4									4								MOIST				
6					SM	SAND-SILT MIX			6								MOIST				
8					ML				8								MOIST				
10					SM	SAND-SILTY			10								MOIST				
12						BOTTOM OF HOLE - 10'															
14																					
16																					
18																					
20																					
22																					
24																					

DEPARTMENT OF PUBLIC WORKS, CANADA
~~MACKENZIE HIGHWAY~~

~~MACKENZIE HIGHWAY~~

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DEPARTMENT OF PUBLIC WORKS, CANADA
~~MACKENZIE HIGHWAY~~

LIARD Hivy

DWN		FIELD ENG.	DATE DRILLED	AIRPHOTO NO.	CHAINAGE	OFFSET	TEST HOLE							
CKD	TECH	RIG	SURFACE DRAINAGE	VEGETATION	ELEV	MILE B,C,S NUMBER								
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME) PLASTIC LIMIT LIQUID LIMIT	GRAIN-SIZE ANALYSIS CLAY SILT SAND GRAVEL % % % %	WET DENSITY (P.C.F.) DRY DENSITY (P.C.F.)	REMARKS	
2						SAND. SILTY Fina			2				Moist	
4									4				Moist	
6									6				Moist	
8									8				Moist	
10									10				Moist	
12									12					
14									14					
16									16					
18									18					
20									20					
22									22					
24									24					

DEPARTMENT OF PUBLIC WORKS, CANADA
MACKENZIE HIGHWAY

~~MACKENZIE HIGHWAY~~

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LIARD HILL										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 18/1/74		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE																	
CKD		TECH PRONCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S																	
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY %	SILT %	SAND %	GRAVEL %																
2					ML	SILT-CLAYEY SANDY			2							SAT-WET													
4						SAND-SILTY FINE	4'		4							MOIST													
6					SM				6							MOIST													
8									8							MOIST													
10					ML	SILT-SANDY	9'		10							MOIST													
12						BOTTOM OF HOLE - 10'																							
14																													
16																													
18																													
20																													
22																													
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LIARD Hwy.

DRILL HOLE REPORT

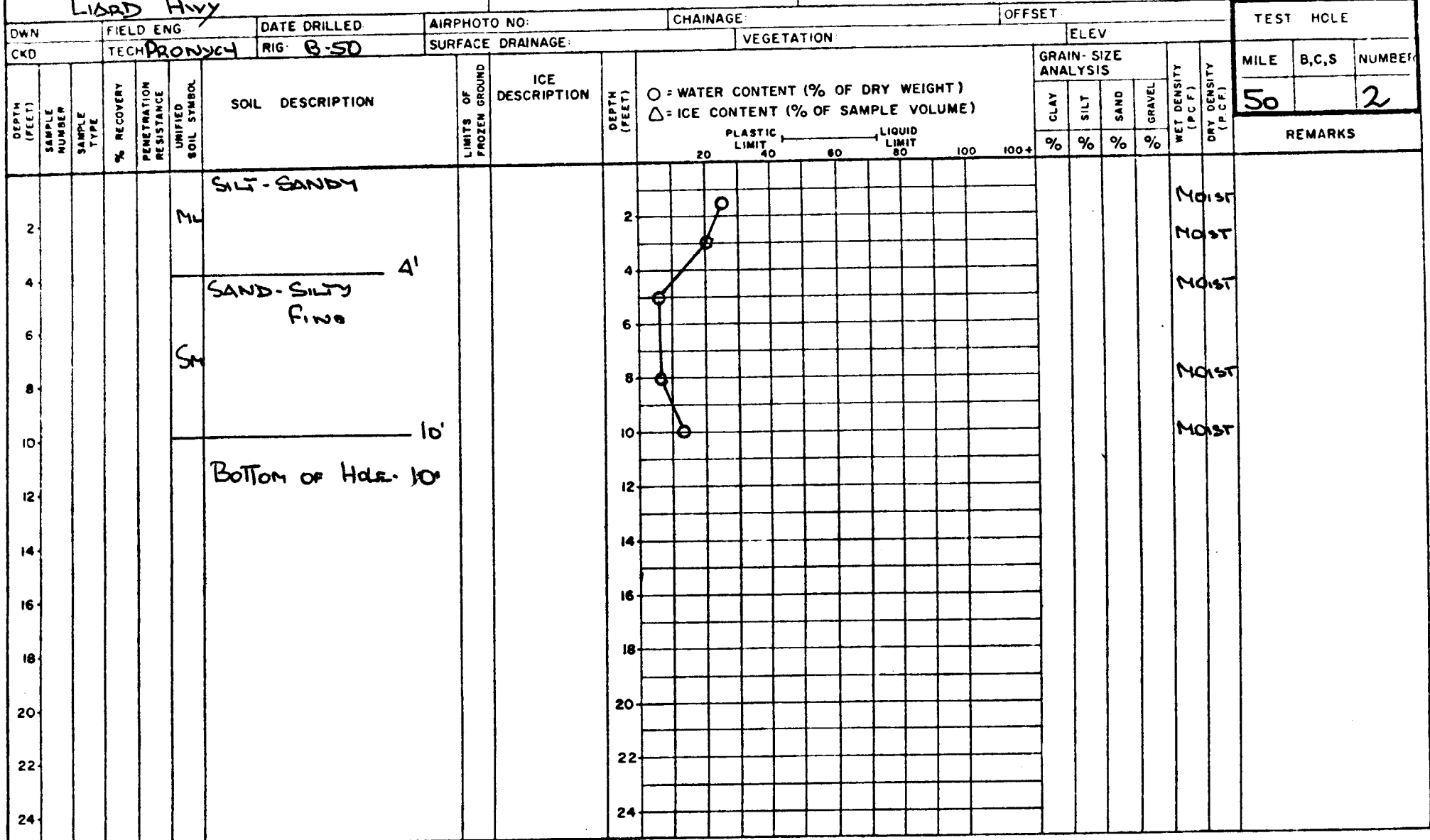
DEPARTMENT OF PUBLIC WORKS, CANADA

~~MACKENZIE HIGHWAY~~

DWN		FIELD ENG.	DATE DRILLED	AIRPHOTO NO.	CHAINAGE	OFFSET	TEST HOLE										
CKD	TECH	RIG	SURFACE DRAINAGE	VEGETATION	ELEV	MILE	B,C,S	NUMBER									
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS		WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS			
											CLAY	SILT	SAND	GRAVEL			
											%	%	%	%			
											PLASTIC LIMIT		LIQUID LIMIT				
											20	40	60	80	100	100+	
											O = WATER CONTENT (% OF DRY WEIGHT)		Δ = ICE CONTENT (% OF SAMPLE VOLUME)				
2					ML	SILT-CLAYEY SANDY			2								SAT.
4							4'		4								MOIST
6					SM	SAND-SILTY FINE			6								MOIST
8									8								MOIST
10							11'		10								MOIST
12					ML	SILT-SANDY			12								
14							15'		14								MOIST
16						BOTTOM OF HOLE- 15'			16								
18									18								
20									20								
22									22								
24									24								

DEPARTMENT OF PUBLIC WORKS, CANADA
~~MACKENZIE HIGHWAY~~

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LIARD HIVE										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DOWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE									
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION		ELEV		MILE B,C,S NUMBER									
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS					
										CLAY %	SILT %	SAND %	GRAVEL %								
						PE PER 3'															
2						SILT-CLAYEY SANDY			2							SAT.					
4					ML				4							MOIST					
6									6							MOIST					
8						SM SAND-SILTY 8'			8							MOIST					
10					ML SAND-SILT MIX 10'				10							MOIST					
12						BOTTOM OF HOLE 10'			12												
14									14												
16									16												
18									18												
20									20												
22									22												
24									24												

LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 8/2/24		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE									
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION		ELEV		MILE		B,C,S		NUMBER					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	PLASTIC LIMIT		LIQUID LIMIT		GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS	
										20	40	60	80	100	100+	CLAY %	SILT %				SAND %
						Peat															
						SILT - SANDY 3'															
2									2												WET
						SAND - SILTY FINE															DAMP
4									4												MOIST
6									6												
8									8												19-810
10									10												MOIST
12									12												
14									14												
16									16												
18									18												
20									20												
22									22												
24									24												

LIARD HWY										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 78/01/24		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE												
CKD		TECH PRONYCH		RIG: B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV:		MILE		B.C.S		NUMBER								
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS								
										CLAY %	SILT %	SAND %	GRAVEL %											
2						SILT-CLAYEY SANDY			2															
4					ML				4															
6									6															
8						SH SAND-SILTY 8'			8															
10						ML SILT SANDY 9'			10															
12						BOTTOM OF HOLE - 10'			12															
14									14															
16									16															
18									18															
20									20															
22									22															
24									24															

LIARD Hwy										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 8/1/24		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE												
CKD		TECH PRONCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE 50		B,C,S		NUMBER 6								
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)		GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS						
												CLAY	SILT	SAND	GRAVEL									
										PLASTIC LIMIT 40 LIQUID LIMIT 80		%	%	%	%									
						SILT-SANDY																		
2									2									MOIST						
4					ML				4									MOIST						
6									6									MOIST						
8									8									MOIST						
10									10									WET-SAT.						
12																								
14																								
16																								
18																								
20																								
22																								
24																								

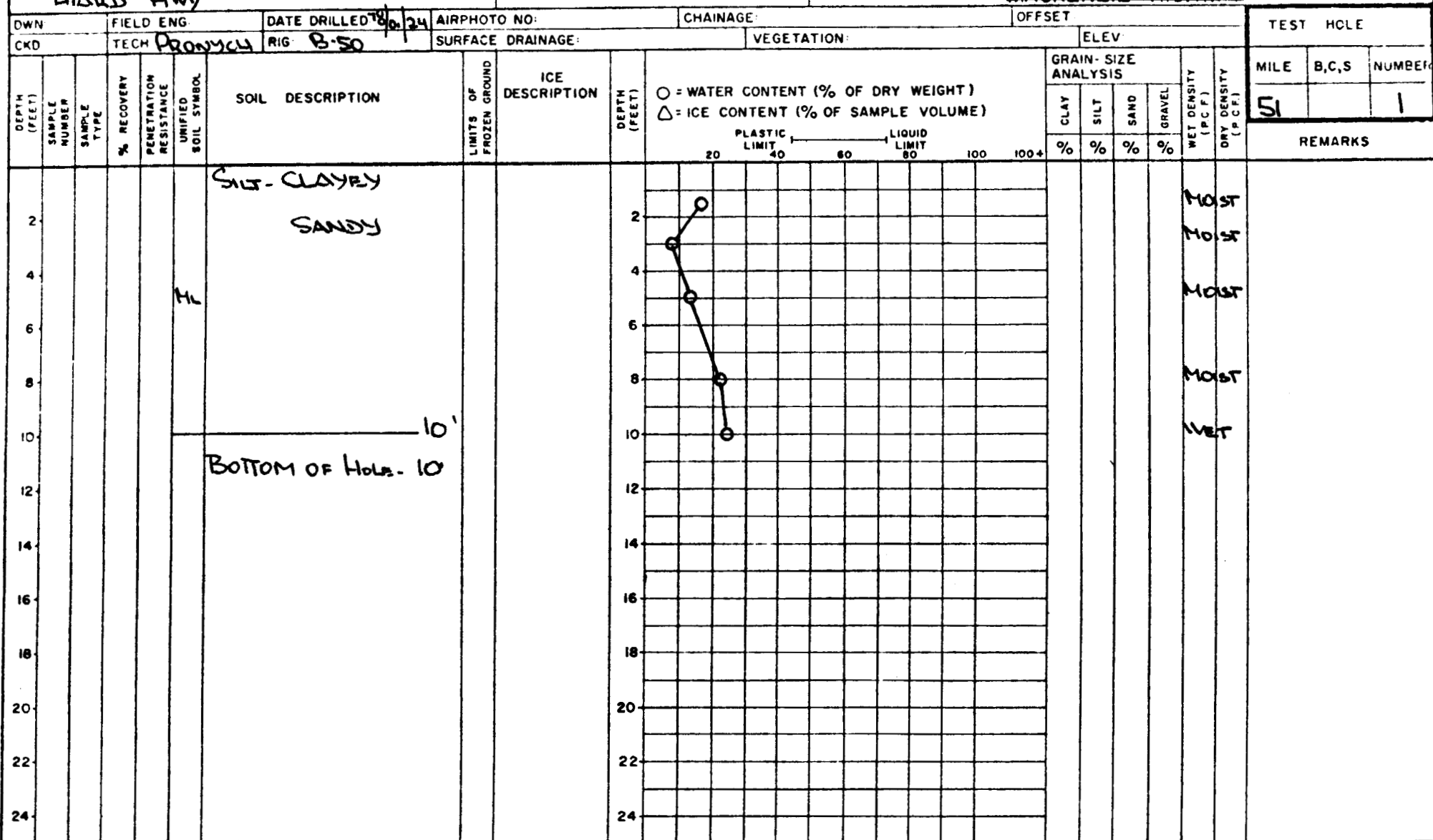
LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 10/24		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE																	
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION		ELEV		MILE B,C,S																	
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY %	SILT %	SAND %	GRAVEL %																
						SILT-SANDY																							
2					ML				2							MOST													
4									4							MOST													
6					SM	SAND-SILTY FINE 5'			6							MOST													
8					AL	SILT-SANDY 8'			8							MOST													
10									10							WET													
12						BOTTOM OF HOLE - 10'																							
14																													
16																													
18																													
20																													
22																													
24																													

LIARD HWY										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIR PHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE																	
CKD		TECH		RIG		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE		B,C,S		NUMBER													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	O = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)		GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS											
										PLASTIC LIMIT	LIQUID LIMIT	CLAY %	SILT %	SAND %	GRAVEL %														
						2' ~~Peas~~ SILT-SANDS																							
2									2									WET											
4					ML				4									MOIST											
6									6									MOIST											
8						SATURATED AFTER 8'			8									MOIST											
10							6'		10									WET											
12						BOTTOM OF HOLE. 10'			12																				
14									14																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA																			
DWN				FIELD ENG				DATE DRILLED 18/1/74				AIRPHOTO NO:				CHAINAGE:				OFFSET:				TEST HOLE			
CKD				TECH PRONYCH				RIG B-50				SURFACE DRAINAGE:				VEGETATION:				ELEV				MILE 50 B,C,S 9 NUMBER 9			
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS											
										CLAY %	SILT %	SAND %	GRAVEL %														
2						ML SILT-SANDY			2																		
4						SAND SILTY FINE			4																		
6									6																		
8						SATURATED AFTER 8'			8																		
10						ML SILT-SANDY			10																		
12						BOTTOM OF HOLE - 101			12																		
14									14																		
16									16																		
18									18																		
20									20																		
22									22																		
24									24																		

DEPARTMENT OF PUBLIC WORKS, CANADA
~~MACKENZIE HIGHWAY~~

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LIARD Hwy										DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 8/1/24		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE											
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE 51		B,C,S		NUMBER 2							
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS							
										CLAY %	SILT %	SAND %	GRAVEL %										
						SILT-SANDY																	
2									2								WET SAT						
4					ML				4								MOIST						
6									6								WET						
8						SATURATED AFTER 6'			8								WET						
10					SM	SAND-SILTY FINE			10								SAT.						
12						BOTTOM OF HOLE- 10			12														
14									14														
16									16														
18									18														
20									20														
22									22														
24									24														

LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 8/24		AIRPHOTO NO:		CHAINAGE:		OFFSET		ELEV		TEST HOLE							
CKD		TECH PRONYCH		RIG 8-50		SURFACE DRAINAGE:		VEGETATION:													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)		GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS			
										PLASTIC LIMIT	LIQUID LIMIT	CLAY %	SILT %	SAND %	GRAVEL %						
2						SILT-SANDY			2	20	60										
4					ML				4	30	70										
6									6	40	80										
8						SATURATED AFTER 6'8"			8	50	90										
10					SM	SAND-SILTY FINE			10	60	100										
12																					
14																					
16																					
18																					
20																					
22																					
24						BOTTOM OF HOLE - 10'															

LIARD Hwy										DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~			
DWN		FIELD ENG		DATE DRILLED 8/24		AIRPHOTO NO:		CHAINAGE:		OFFSET		ELEV		TEST HOLE			
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:									
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS	
										CLAY %	SILT %	SAND %	GRAVEL %				
						SILT-SANDY											
2									2							MOIST	
4									4							WET	
6						SATURATED AFTER 5'			6								
8									8							SAT.	
10						SH SAND-SILTY 8'			10							WET	
12						CL CLAY-SILTY SANDY 9'											
14																	
16																	
18																	
20																	
22																	
24																	

LIARD Hwy										DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 8/24		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE											
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE		B,C,S		NUMBER							
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)		GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS					
										PLASTIC LIMIT	LIQUID LIMIT	CLAY %	SILT %	SAND %	GRAVEL %								
2						SILT-CLAYEY			2									SAT.					
4					M	SANDY			4									Moist					
6									6									Moist					
8						CLAY-SILTY MED. PLASTIC 14% ABOVE P _L	7'		8						97	30		Moist					
10					CI				10									Moist					
12									12														
14									14									Moist					
16						BOTTOM OF HOLE - 15'	15'		16														
18									18														
20									20														
22									22														
24									24														

LIARD HWY				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 18/01/24		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE					
CKD		TECH PRONYCH		RIG B-30		SURFACE DRAINAGE		VEGETATION		ELEV		MILE B,C,S NUMBER					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS	
										CLAY %	SILT %	SAND %	GRAVEL %				
						P ₂₀ 3" SILT - ML CLAYY SANDY Δ CLAY - SILTY MED - PLASTIC C ₁ 14% ABOVE P _L 10' BOTTOM OF Hdg. 10'				○ = WATER CONTENT (% OF DRY WEIGHT) Δ = ICE CONTENT (% OF SAMPLE VOLUME)	PLASTIC LIMIT 40 LIQUID LIMIT 80						
2									2								SAT.
4									4								MOIST
6									6								MOIST
8									8								98-20 MOIST
10									10								MOIST
12									12								
14									14								
16									16								
18									18								
20									20								
22									22								
24									24								

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~WACKENZIE HIGHWAY~~								
DWN		FIELD ENG		DATE DRILLED 8/24		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE				
CKD		TECH WEBBER		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						SILT-CLAYEY SANDY										
2					ML				2							SAT.
4					SC	SAND-SILTY CLAYEY			4							MOIST
6									6							WET
8					CI	CLAY-SILTY MED. PLASTIC W% ABOVE P _L			8							MOIST
10									10							MOIST
12						BOTTOM OF HOLE. 10'			12							
14									14							
16									16							
18									18							
20									20							
22									22							
24									24							

LIARD HWY										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE																	
CKD		TECH		RIG		SURFACE DRAINAGE:		VEGETATION		ELEV		MILE		B,C,S		NUMBER		REMARKS											
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)				GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)										
										PLASTIC LIMIT	LIQUID LIMIT	CLAY %	SILT %	SAND %	GRAVEL %														
2					ML	SILT-SANDY			2	20	40	60	80	100	100+						Moist								
4									4											Moist									
6									6											Moist									
8						CLAY-SILTY SANDY			8											Moist									
10					CI	MED. PLASTIC W/ ABOVE P _L			10											Moist									
12									12																				
14						Few PEBBLES			14											Moist									
16						BOTTOM OF HOLE - 15'			16																				
18									18																				
20									20																				
22									22																				
24									24																				

L1000 Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 18/24		AIRPHOTO NO:		CHAINAGE		OFFSET E		TEST HOLE																	
CKD		TECH WFB322		RIG P-50		SURFACE DRAINAGE:		VEGETATION		ELEV		MILE B,C,S NUMBER																	
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY %	SILT %	SAND %	GRAVEL %																
						SILT - SANDY		FROZEN																					
2									2							WET													
4					ML				4							MOIST													
6									6							WET													
8					CI	CLAY - SILTY MED. PLASTIC			8							MOIST													
10									10							MOIST													
12						BOTTOM OF HOLE. 10'			12																				
14									14																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

LORD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 8/14		AIRPHOTO NO:		CHAINAGE		OFFSET 5		TEST HOLE									
CKD		TECH 11/22/22		RIG B-50		SURFACE DRAINAGE:		VEGETATION		ELEV		MILE		B,C,S		NUMBER					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS					
										CLAY %	SILT %	SAND %	GRAVEL %								
						SILT-CLAYEY SANDY CLAYEY-SANDY		Frozen													
2					M				2								SAT.				
4									4								MOIST				
6									6								MOIST				
8					C	CLAY-SILTY MED. PLASTIC W% ABOVE PL			8								MOIST				
10									10								MOIST				
12									12												
14									14												
16									16												
18									18												
20									20												
22									22												
24									24												

DEPARTMENT OF PUBLIC WORKS, CANADA
MACKENZIE HIGHWAY

~~MACKENZIE HIGHWAY~~

RO73

LARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
OWN		FIELD ENG		DATE DRILLED 8/24		AIRPHOTO NO:		CHAINAGE		OFFSET		ELEV		TEST HOLE		MILE		B,C,S		NUMBER									
CKD		TECH WEBER		RIG B-50		SURFACE DRAINAGE		VEGETATION		ELEV						52				6									
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY %	SILT %	SAND %	GRAVEL %																
2						SILT - CLAYEY			2							Free Water													
4					ML	CLAY - SILTY MED. PLASTIC			4							WET													
6					CI	10% ABOVE P _L			6							MOIST													
8									8							MOIST													
10									10							MOIST													
12									12																				
14									14																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

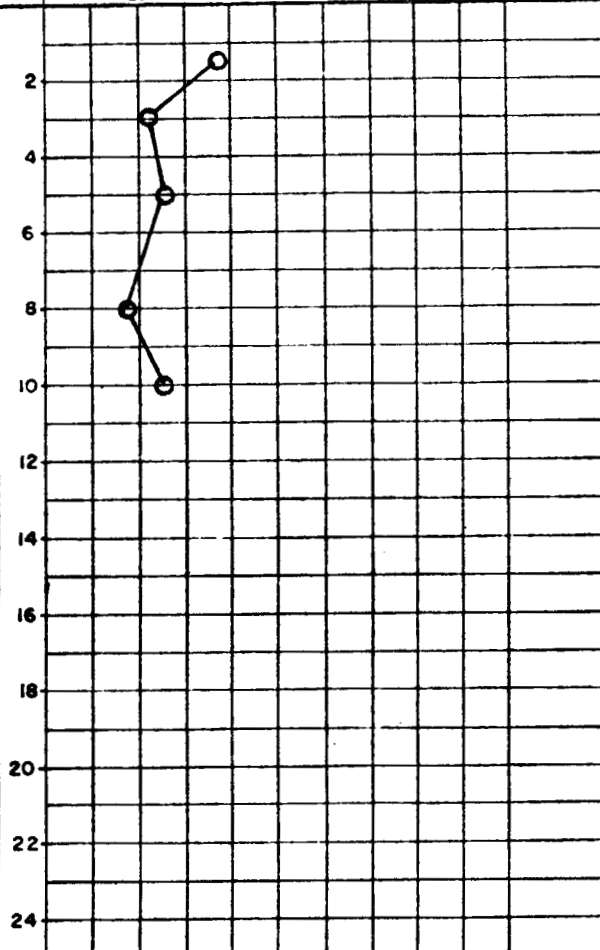
LIARD Hwy										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		ELEV		TEST HOLE										
CKD		TECH		RIG		SURFACE DRAINAGE:		VEGETATION:																
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)				GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS				
										CLAY	SILT	SAND	GRAVEL											
										PLASTIC LIMIT	LIQUID LIMIT			%	%	%	%							
2						SILT - CLAYEY			2								WET							
4						SILT - SANDY			3								MOIST							
6									5								MOIST							
8						CLAY - SILTY MED. PLASTIC			8								MOIST							
10						W/ ABOVE P _L			10								MOIST							
12																								
14																								
16																								
18																								
20																								
22																								
24																								

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG		DATE DRILLED 8/1/24		AIRPHOTO NO:		CHAINAGE		OFFSET E		TEST HOLE				
CKD		TECH VEBER		RIG B-50		SURFACE DRAINAGE:		VEGETATION		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						SILT - CLAYRY		Frozen		○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME) PLASTIC LIMIT 20 40 60 80 100 100+ LIQUID LIMIT 80						
2						SILT			2							SAT.
4						- SANDY			4							WET
6						6'			6							WET
8					CL	CLAY - SILTY LOW - MED PLASTIC			8							MOIST
10					CI	1 1/2 ABOVE P _L			10							MOIST
12						Bottom of Hole - 10'			12							
14									14							
16									16							
18									18							
20									20							
22									22							
24									24							

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG		DATE DRILLED 8/1/24		AIRPHOTO NO:		CHAINAGE		OFFSET E		TEST HOLE				
CKD		TECH VEBBZ		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						SILT - CLAYEY SANDY										
2					ML				2							SAT.
4									4							MOIST
6									6							MOIST
8					CL	CLAY - SILTY SANDY			8							MOIST
10					CI	LOW-MED PLASTIC w/o ABOVE P _L			10							MOIST
12									12							
14									14							
16									16							
18									18							
20									20							
22									22							
24									24							

○ = WATER CONTENT (% OF DRY WEIGHT)
 △ = ICE CONTENT (% OF SAMPLE VOLUME)

PLASTIC LIMIT ——— LIQUID LIMIT
 20 40 60 80 100 100+



56.44 0

LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 08/01/14		AIRPHOTO NO:		CHAINAGE		OFFSET 4		TEST HOLE									
CKD		TECH WABER		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE 53									
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS					
										CLAY %	SILT %	SAND %	GRAVEL %								
						SILT		Frozen													
2						SANDY			2												
4					ML				4												
6									6												
8									8												
10						CLAY-SANDY SILTY			10												
12									12												
14									14												
16									16												
18									18												
20									20												
22									22												
24									24												

Liard Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG		DATE DRILLED 8/01/24		AIRPHOTO NO:		CHAINAGE:		OFFSET 6		TEST HOLE				
CKD		TECH IVEP/2023		RIG B-50		SURFACE DRAINAGE:		VEGETATION		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
2					ML	SILT-CLAYEY SANDY		Frozen	2							WET
4									4							MOIST
6									6							MOIST
8					SM	SAND-SILTY FINE 7'			8							MOIST
10					CI	CLAY-SILTY SANDY 9'			10							MOIST
12																
14																
16																
18																
20																
22																
24																

LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 08/01/24		AIRPHOTO NO:		CHAINAGE		OFFSET		ELEV		TEST HOLE							
CKD		TECH WEBBER		RIG B-50		SURFACE DRAINAGE:		VEGETATION		ELEV		MILE		B,C,S							
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS		WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS							
										CLAY %	SILT %										
2					ML	SILT - CLAYRY SANDY		Frozen	2					SAT.							
4									4					Moist							
6									6					Moist							
8									8					Moist							
10						CL CLAY-SILTY SANDY			10					Moist-WET							
12						Bottom of Hole - 10'			12												
14									14												
16									16												
18									18												
20									20												
22									22												
24									24												

LIARD Hwy										DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 8/24		AIRPHOTO NO:		CHAINAGE		OFFSET 2		ELEV		TEST HOLE									
CKD		TECH VERBER		RIG B-50		SURFACE DRAINAGE:		VEGETATION:						MILE B,C,S NUMBER									
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS	
										PLASTIC LIMIT 20 40 60 80 100 100+						CLAY	SILT	SAND	GRAVEL				
										%	%	%	%										
2						SILT-CLAYEY SANDY			2									SAT.					
4					ML				3									MOIST					
6									5									MOIST					
8					SM	SAND - SILTY SAND 7'			8									MOIST					
10					SC	CLAYEY SILTY 10'			10									WET					
12						BOTTOM OF HOLE. 10'																	
14																							
16																							
18																							
20																							
22																							
24																							

LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DOWN		FIELD ENG		DATE DRILLED 8-1-74		AIRPHOTO NO:		CHAINAGE		OFFSET 2		TEST HOLE									
CKD		TECH V. R. R. R.		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE 5A		B,C,S		NUMBER 2					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)		GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS			
										PLASTIC LIMIT 20 40 60 80 100 100+	LIQUID LIMIT 80 100 100+	CLAY %	SILT %	SAND %	GRAVEL %						
2						SILT-CLAYEY SANDY		Frozen	2	○								Moist			
4					ML				4	○								Moist			
6									6	○								Moist			
8									8	○								Moist			
10									10	○								WET			
12						BOTTOM OF HOLE 10'			12												
14									14												
16									16												
18									18												
20									20												
22									22												
24									24												

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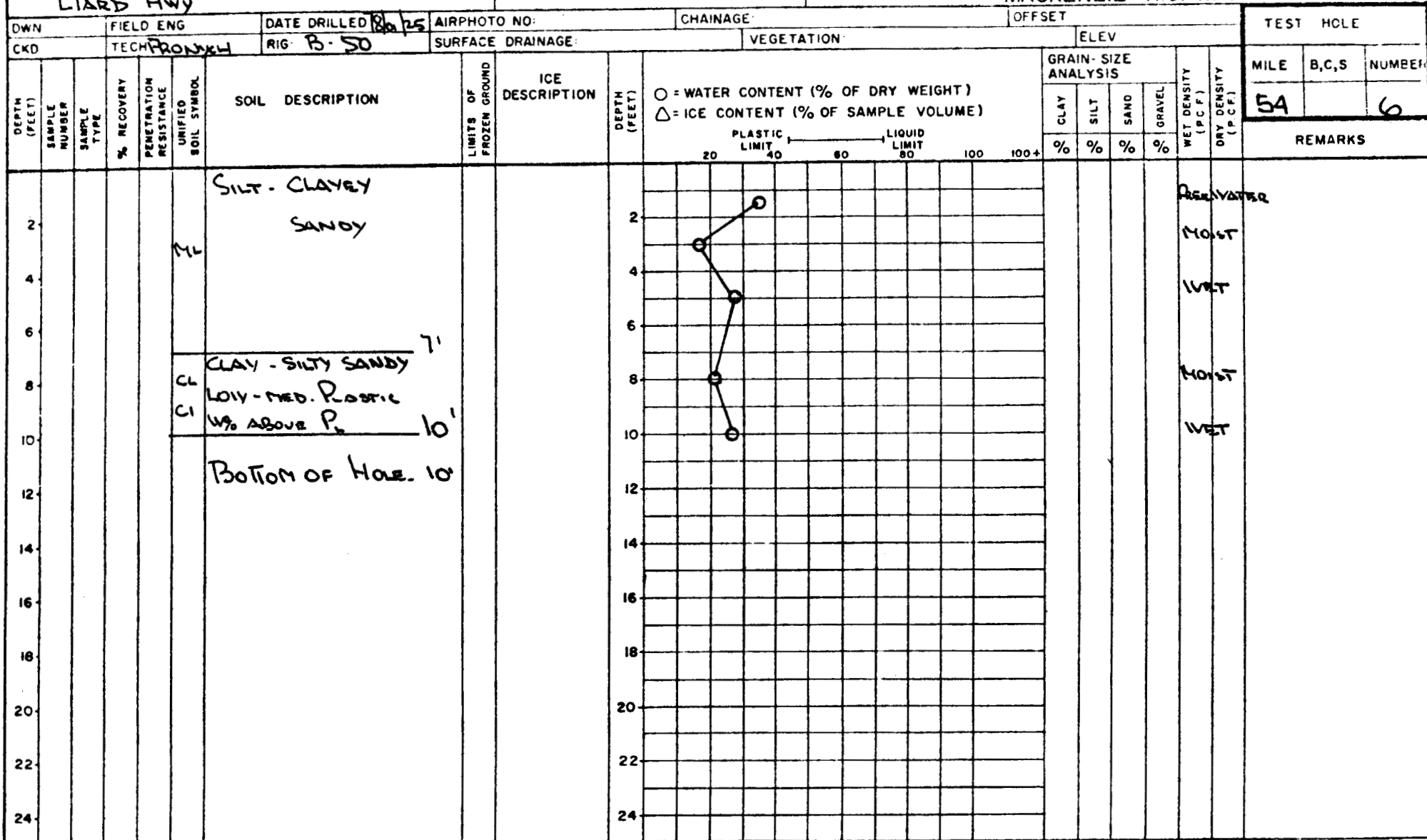
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LIARD HILL										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 8/1/25		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE																	
CKD		TECH PRONYAL		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE		B,C,S		NUMBER													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY %	SILT %	SAND %	GRAVEL %																
2						SILT - SANDY			2																				
4					ML				4																				
6						SATURATED AFTER 6'			6																				
8						9'			8																				
10					ML	SILT-CLAYEY SANDY 10'			10																				
12						BOTTOM OF HOLE - 10'			12																				
14									14																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 18/1/25		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE																	
CKD		TECH P. 20/24		RIG B-50		SURFACE DRAINAGE:		VEGETATION		ELEV		MILE		B,C,S		NUMBER													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS					WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS												
										CLAY %	SILT %	SAND %	GRAVEL %																
2					ML	SILT-CLAYEY SANDY			2									DRY BAG											
4									4																				
6									6																				
8					CL	CLAY-SILTY SANDY 7' LOW PLASTIC			8																				
10						GRAVELLY 10'			10																				
12						BOTTOM OF HOLE - 10'			12																				
14									14																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

DEPARTMENT OF PUBLIC WORKS, CANADA
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LIARD HIVE										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~			
DWN		FIELD ENG.		DATE DRILLED 8/1/25		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE			
CKD		TECH PRONCH		RIG B-30		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER			
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)
										CLAY %	SILT %	SAND %	GRAVEL %		
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)					
										PLASTIC LIMIT ——— LIQUID LIMIT 20 40 60 80 100 100+					
2					ML	SILT-CLAYEY			2						
4									4						
6						SANDY 6'			6						
8					SL	SAND-SILTY FINE			8						
10									10						
12									12						
14					CL	CLAY-SILTY SANDY 12.5'			14						
16						LOW PLASTIC 15'			16						
18									18						
20									20						
22									22						
24									24						
REMARKS															

LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 8/25		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE									
CKD		TECH PRONCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE		B,C,S		NUMBER					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS					
										CLAY	SILT	SAND	GRAVEL								
										O = WATER CONTENT (% OF DRY WEIGHT) Δ = ICE CONTENT (% OF SAMPLE VOLUME)											
										PLASTIC LIMIT 20 40 60 80 100 100+ LIQUID LIMIT 80 100 100+											
2						SILT-CLAYEY			2												
4						SANDY			4												
6						SAND-FINE-MEDIUM			6												
8									8												
10					SP				10												
12									12												
14									14												
16									16												
18									18												
20						ML SILT-CLAYEY			20												
22									22												
24						BOTTOM OF HOLE - 20'			24												

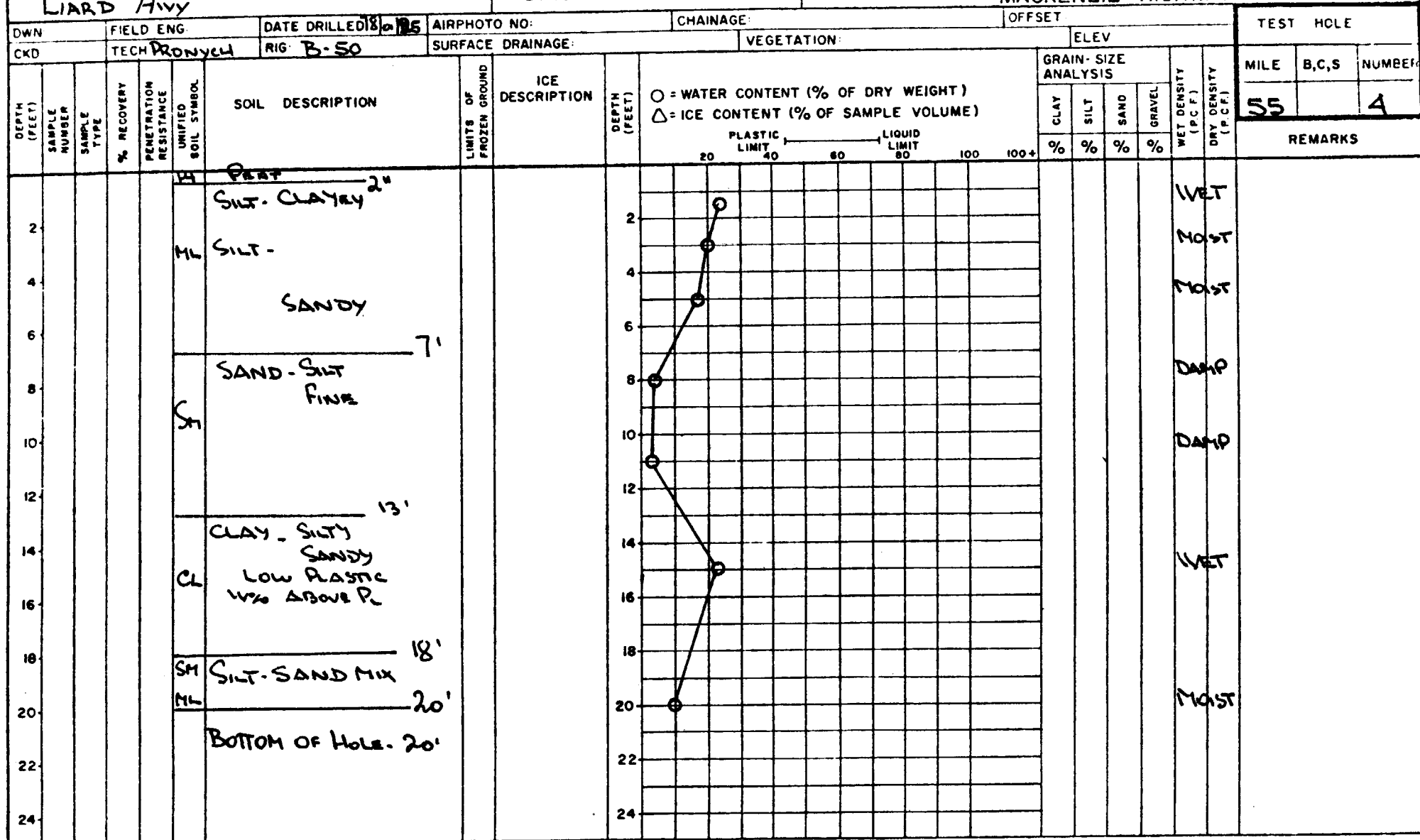
LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 8/1/25		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE																	
CKD		TECH PRONCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION		ELEV		MILE 55		B,C,S		NUMBER 1													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY %	SILT %	SAND %	GRAVEL %																
2					ML	SILT - SANDY CLAYEY SANDY			2								SAT.												
4									4								Moist												
6									6								Moist												
8					Sc	SAND-CLAYEY SILTY	7'		8								DAMP												
10					CL	CLAY-SILT/SANDY	9'		10								Moist												
12							10'																						
14																													
16																													
18																													
20																													
22																													
24																													

LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 7/8/75		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE																	
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV																			
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY	SILT	SAND	GRAVEL																
										O = WATER CONTENT (% OF DRY WEIGHT) Δ = ICE CONTENT (% OF SAMPLE VOLUME)						MILE 55 B,C,S NUMBER 2													
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+																			
						2" SILT-CLAYEY			2							WET													
2									3							MOIST													
4						5' SAND - SILTY FINE			4							MOIST													
6									5							MOIST													
8					SM				6							DAMP													
10									7																				
12									8																				
14						15' BOTTOM OF HOLE. 15'			9							DAMP													
16									10																				
18									11																				
20									12																				
22									13																				
24									14																				

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG		DATE DRILLED 10/25		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE				
CKD		TECH PRONJCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY	SILT	SAND	GRAVEL			
										%	%	%	%			
2					ML	SILT			2							Moist
4									4							Moist
6					SH	SAND - SILTY FINE			6							Damp
8									8							Damp
10									10							Damp
12					SC	CLAYEY			12							Damp
14									14							Damp
16					CL	CLAY - SILTY SANDY LOW PLASTIC W/ AT PL			16							Damp
18									18							
20									20							Moist
22									22							
24									24							

DEPARTMENT OF PUBLIC WORKS, CANADA

~~MACKENZIE HIGHWAY~~



LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 18/1/75		AIRPHOTO NO:		CHAINAGE		OFFSET		ELEV		TEST HOLE							
CKD		TECH PRONVCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS					
										CLAY %	SILT %	SAND %	GRAVEL %								
						SILT - CLAYEY SANDY															
2					ML				2							FREE WATER					
4									4							MOIST					
6					SM	SAND. SILTY FINE			6							MOIST					
8						PEBBLES @ 8' 9'			8							MOIST					
10						CLAY. SILTY W/0 ABOVE P _L			10							MOIST					
12					CL	LOW PLASTIC			12							MOIST					
14						WET AFTER 13'			14							WET					
16						SANDY			16												
18									18												
20									20												
22									22												
24									24												

LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~				
DWN		FIELD ENG		DATE DRILLED 18/1/75		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE				
CKD		TECH PRONJCH		RIG: B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV:		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						ML SILT-CLAYey										
2						SM SILT-SAND MIX,			2							Free water
4						CLAY-SILTY SANDY			4							Moist
6						Low Plastic			6							Moist
8						W% AT 4 ABOVE P _L			8							Moist
10									10							WET
12									12							
14									14							Moist
16						ML SILT-CLAYey SANDY			16							
18									18							
20						Gc GRAVEL-SILT-CLAY SAND MIX			20							Moist
22									22							
24						BOTTOM OF HOLE 20'			24							

LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE																	
CKD		TECH		RIG		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER																	
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
									○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)				CLAY	SILT	SAND	GRAVEL													
									PLASTIC LIMIT 20 40 60 80 100 100+ LIQUID LIMIT				%	%	%	%													
2					ML	SILT - SANDY			2							Moist													
3					SM	SILT - SAND MIX			3							Damp													
4					ML	SILT - SANDY			4							Moist													
6									6																				
8									8							Moist													
10					ML	SILT - CLAYEY			10							Moist													
12					CL	CLAY - SILTY			12																				
14					ML	SILT - CLAYEY			14							Wet													
16									16																				
18					ML	Sandy CLAYEY			18																				
20									20							Moist													
22									22																				
24									24																				

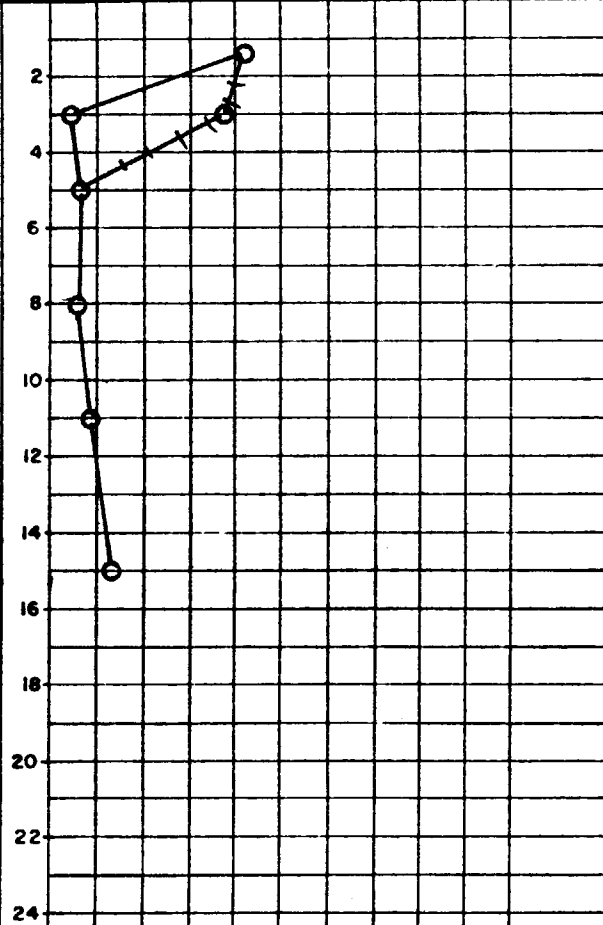
LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 8/25		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE																	
CKD		TECH PRONCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE		B,C,S		NUMBER													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY	SILT	SAND	GRAVEL																
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)																			
										PLASTIC LIMIT 20 40 60 80 100 100+ LIQUID LIMIT																			
2					ML	SILT-CLAYEY SANDY			2								WET												
4						SAND-SILTY			4								Moist												
6									6								Moist												
8					ML	CLAYEY			8								DAMP												
10									10								Moist												
12									12																				
14					CL	CLAY-SILTY SANDY LOW PLASTIC W% AT PL			14								Moist												
16						BOTTOM OF HOLE. 15'			16																				
18									18																				
20									20																				
22									22																				
24									24																				

LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 8/25		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE									
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER									
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS					
										CLAY	SILT	SAND	GRAVEL								
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)											
										PLASTIC LIMIT 20 40 60 80 100 100+ LIQUID LIMIT 80 100 100+											
2					ML	SILT - SANDY			2												
4						CLAY - SILTY			4												
6						SANDY			6							MOIST					
8					CL	Low Plastic			8							MOIST					
10						11% AT P _L			10												
12						Bottom of Hole - 10'			12												
14									14												
16									16												
18									18												
20									20												
22									22												
24									24												

LIARD Hwy										DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 18/12/25		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE											
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE		B,C,S		NUMBER							
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS							
										CLAY %	SILT %	SAND %	GRAVEL %										
2					ML	SILT - CLAYEY			2														
4					SM	SAND - SILTY FINE			4														
6					SM				6														
8					SM - ML	SAND - SILT MIX			8														
10					ML	SILT - SANDY			10														
12					ML				12														
14						CLAYEY			14														
16						BOTTOM OF HOLE - 15'			16														
18									18														
20									20														
22									22														
24									24														

○ = WATER CONTENT (% OF DRY WEIGHT)
 △ = ICE CONTENT (% OF SAMPLE VOLUME)

PLASTIC LIMIT 20 40 60 80 100 100+
 LIQUID LIMIT



Free Water

CHECK

Moist

Moist

Moist

Moist

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY								
DWN		FIELD ENG		DATE DRILLED 8/25		AIRPHOTO NO:		CHAINAGE 56.2984+00		OFFSET		TEST HOLE				
CKD		TECH PRONCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						ML SILT-CLAYEY										
2						SAND - SILTY FINE			2							MOIST
4									4							MOIST
6					SM				6							MOIST
8									8							SAT.
10									10							Free WATER
12						BOTTOM OF HOLE - 10'			12							
14									14							
16									16							
18									18							
20									20							
22									22							
24									24							

LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 8/25		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE									
CKD		TECH PRONCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV:		MILE 56		B,C,S		NUMBER 3					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS						WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS			
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)											
									PLASTIC LIMIT 40 LIQUID LIMIT 80												
									20 40 60 80 100 100+												
									% % % %												
						PT Frost .5'															
						ML SILT-SANDY 2'															
						SM SAND-SILTY FINE															
						ML SILT-SANDY PEBBLES 5'															
						CL CLAY-SILTY LOAMED PLASTIC 8'															
						CI 10% AT & ABOVE P _L 10'															
						BOTTOM OF HOLE 10'															

LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE																	
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION		ELEV		MILE		B,C,S		NUMBER													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY %	SILT %	SAND %	GRAVEL %																
						PA PEAT 4"			2																				
					ML	SILT - SANDY			3																				
						CLAY - SILTY SANDY LOW PLASTIC 5'			4																				
					CL	W% AT PL			5																				
						10'			6																				
						BOTTOM OF HOLE - 10'			7																				
									8																				
									9																				
									10																				
									11																				
									12																				
									13																				
									14																				
									15																				
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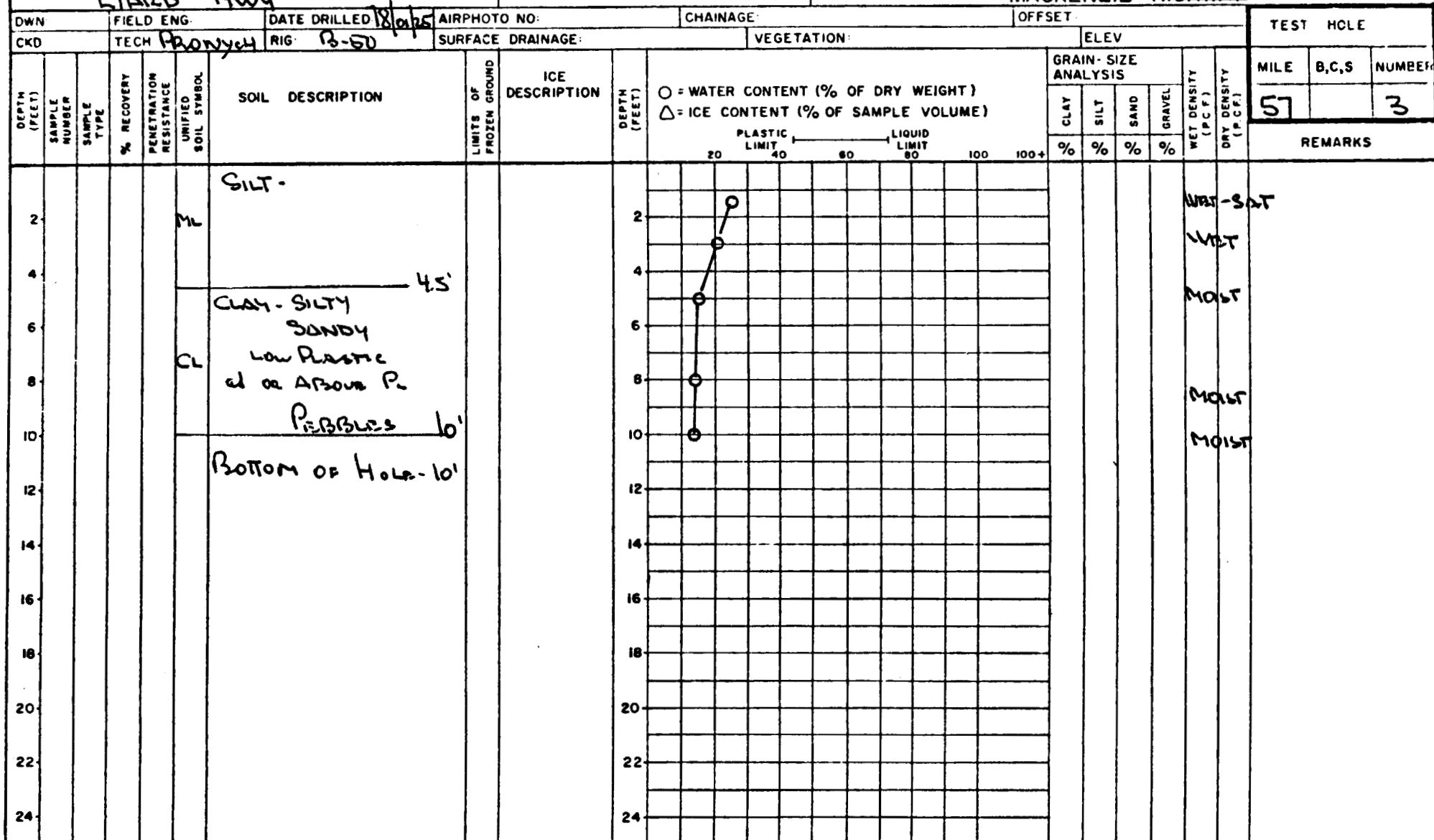
LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE																	
CKD		TECH		RIG		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE		B,C,S		NUMBER													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY %	SILT %	SAND %	GRAVEL %																
2					ML	SILT- 2'			2																				
4					SM	SAND-GROVELLY SILTY			4																				
6						SAND-SILTY FINE 6'			6																				
8					CL	CLAY-SILTY SANDY LOW PLASTIC @ OR BELOW P _L			8																				
10						10'			10																				
12						BOTTOM OF HOLE - 10			12																				
14									14																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

LIARD HWY										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~			
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE			
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION		ELEV					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)
										CLAY	SILT	SAND	GRAVEL		
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)					
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+					
														REMARKS	
2						ML SILT-SANDY			2						Moist
4						SAND-SILTY			4						Moist
6						SM SATURATED AFTER 6'			6						Moist
8									8						WET
10									10						WET
12						BOTTOM OF HOLE - 10'			12						
14									14						
16									16						
18									18						
20									20						
22									22						
24									24						

DEPARTMENT OF PUBLIC WORKS, CANADA
~~MACKENZIE HIGHWAY~~

LIARD Hwy

~~MACKENZIE HIGHWAY~~



LIARD Hm				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG.		DATE DRILLED 8/25		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE				
CKD		TECH WEBBER		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV:		MILE B.C.S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						SILT -										
2						CLAYEY			2							WET
4						CLAY-SILTY SANDY			4							WET
6						PERBBLES			6							WET
8						LOW PLASTIC			8							MOIST
10						ABOVE P _L			10							MOIST
12									12							
14									14							
16									16							
18									18							
20									20							
22									22							
24									24							

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN	FIELD ENG.	DATE DRILLED	AIRPHOTO NO.	CHAINAGE	OFFSET	TEST HOLE										
CKD	TECH	RIG	SURFACE DRAINAGE	VEGETATION	ELEV	MILE	B,C,S	NUMBER	REMARKS							
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)	PLASTIC LIMIT 40 LIQUID LIMIT 80	GRAIN-SIZE ANALYSIS CLAY % SILT % SAND % GRAVEL %	WET DENSITY (P.C.F.) DRY DENSITY (P.C.F.)	58 1		
2					ML	SILT - CLAYEY SANDY			2							
4						CLAY - SILTY SANDY PEBBLES Low Plastic			4							
6									6							
8					CL	@ P.			8							
10									10							
12						BOTTOM OF HOLE - 10'			12							
14									14							
16									16							
18									18							
20									20							
22									22							
24									24							

~~MACKENZIE HIGHWAY~~

1974

LIARD Hwy										DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 18/01/25		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE											
CKD		TECH DUBOIS		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV:		MILE 58		B,C,S		NUMBER 3							
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS							
										CLAY %	SILT %	SAND %	GRAVEL %										
						SILT -																	
2					ML	CLAYEY SANDY			2								WET						
4						CLAY-SILT SANDY LOW PLASTIC @ PL			4								WET						
6									6								MOIST						
8					CL				8								DAMP-MOIST						
10									10								MOIST						
12						BOTTOM OF HOLE - 10'			12														
14									14														
16									16														
18									18														
20									20														
22									22														
24									24														

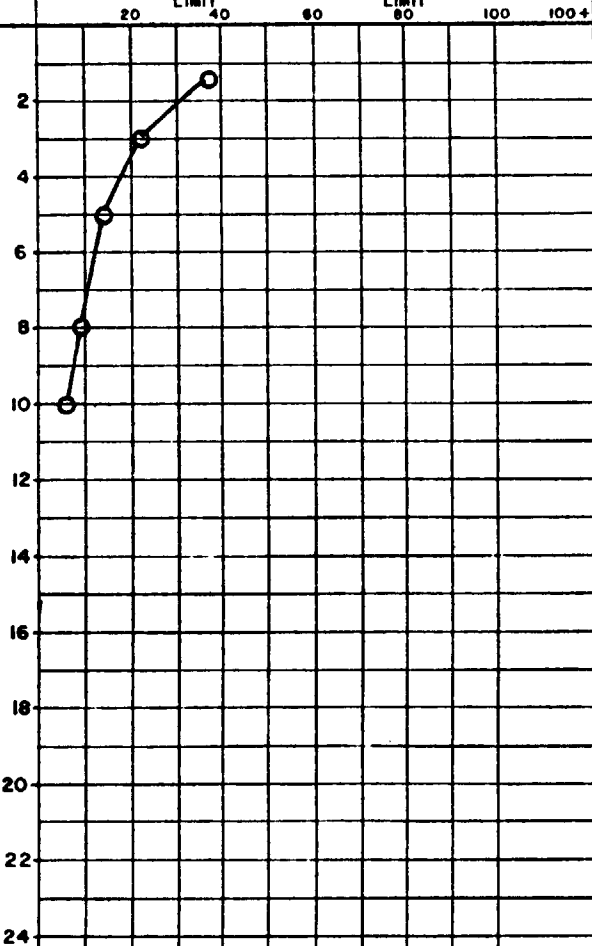
LISRD Hwy										DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 8/25		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE											
CKD		TECH. WEBER		RIG. P-50		SURFACE DRAINAGE:		VEGETATION:		ELEV:		MILE 58		B.C.S.		NUMBER 4							
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS							
										CLAY %	SILT %	SAND %	GRAVEL %										
2						SILT-			2														
4						SE SAND-SILTY CLAY PERBLES			4														
6									6														
8						CLAY-SILTY SANDY PERBLES LOW PLASTIC			8														
10						2 P _u			10														
12						BOTTOM OF HOLE-10'			12														
14									14														
16									16														
18									18														
20									20														
22									22														
24									24														

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG.		DATE DRILLED 8/1/25		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE				
CKD		TECH WEBER		RIG: B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
2						SILT - CLAYEY ML SILT			2							SAT.
4						CLAY - SILTY SANDY LOW PLASTIC + PL			3							Moist
6									5							Moist
8						SHALE - GRAVEL - SAND			8							Moist
10						BOTTOM OF HOLE - 10'			10							Moist
12																
14																
16																
18																
20																
22																
24																

○ = WATER CONTENT (% OF DRY WEIGHT)
 △ = ICE CONTENT (% OF SAMPLE VOLUME)

PLASTIC
LIMIT

LIQUID
LIMIT



LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE																	
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION		ELEV																			
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY	SILT	SAND	GRAVEL																
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME) PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+						MILE B,C,S NUMBER 59 1													
2						SILT-CLAYEY			2																				
4						ML SILT			4																				
6						SHALE - SAND			6																				
8						PEBBLES			8																				
10									10																				
12									12																				
14									14																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

LIARD HWY										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 18/01/25		AIRPHOTO NO:		CHAINAGE		OFFSET 0		TEST HOLE																	
CKD		TECH WEBBER		RIG B-50		SURFACE DRAINAGE:		VEGETATION		ELEV		MILE		B,C,S		NUMBER													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY %	SILT %	SAND %	GRAVEL %																
						SILT-CLAYEY																							
2						ML SILT			2								WET												
4									4								MOIST												
6						5' SHALE - PEBBLES			6								DAMP												
8									8								DAMP												
10									10								DAMP												
12									12								DAMP												
14									14								DAMP												
16						CLAYEY			16								DAMP												
18									18								DAMP												
20						20' BOTTOM OF HOLE 20' ?			20								DAMP												
22									22																				
24									24																				

LIARD Hwy										DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN CKD		FIELD ENG		DATE DRILLED 7/25/01		AIRPHOTO NO:		CHAINAGE:		OFFSET		ELEV		TEST HOLE									
		TECH WEBBER		RIG B-50		SURFACE DRAINAGE:		VEGETATION:															
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	WATER & ICE CONTENT		GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS					
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)		CLAY %	SILT %	SAND %	GRAVEL %								
2						SILT - CLAYEY			2														
4					ML				4														
6									6														
8									8														
10					CL	CLAY - SILTY LOW PLASTIC			10														
12						14% ABOVE P _L			12														
14					ML	SILT - CLAYEY SANDY			14														
16									16														
18									18														
20									20														
22									22														
24									24														

LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 18/01/25		AIRPHOTO NO:		CHAINAGE:		OFFSET		ELEV		TEST HOLE															
CKD		TECH W. J. B. B. R.		RIG B-50		SURFACE DRAINAGE:		VEGETATION:						MILE 59 B.C.S. NUMBER 4															
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY %	SILT %	SAND %	GRAVEL %																
2						SILT-CLAYEY			2							WET													
4						SILT -			4							MOIST													
6						CLAY-SILTY SANDY			6							MOIST													
8						LOW PLASTIC			8							WET													
10						CL 10% ABOVE P _L			10																				
12									12							WET-MOIST													
14						SHALE-CLAY MIX.			14							MOIST													
16									16																				
18						SILTY SAND			18																				
20						Fine			20							25-750 DAMP													
22						BOTTOM OF HOLE - 20'			22																				
24									24																				

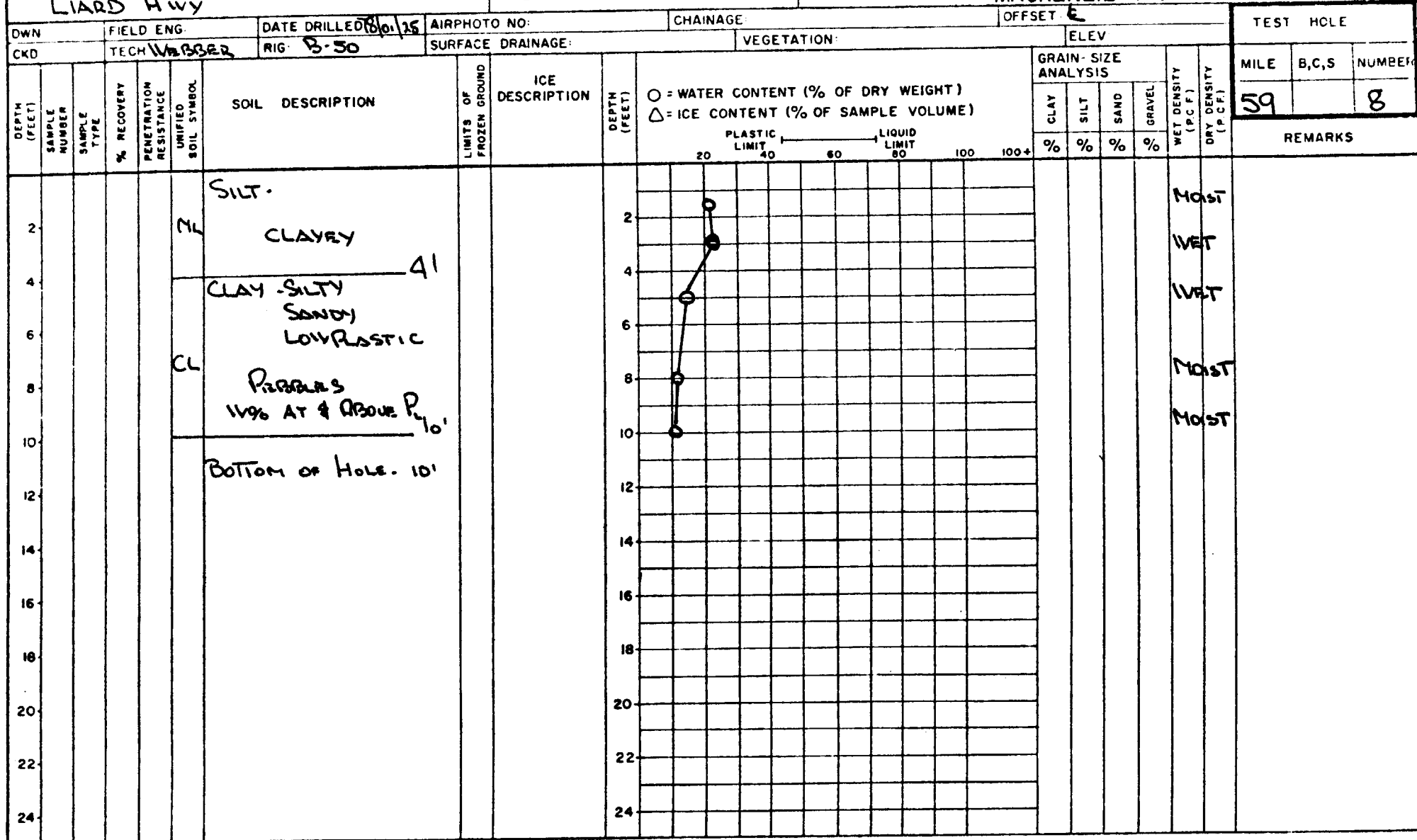
LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA				MACKENZIE HIGHWAY				
DWN		FIELD ENG.		DATE DRILLED 10/25		AIRPHOTO NO:		CHAINAGE:		OFFSET: 2		TEST HOLE				
CKD		TECH: WEBER		RIG: B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV:		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY	SILT	SAND	GRAVEL			
						ML SILT-CLAY										
2						CL CLAY - SILTY SANDY										WET
4						ML SILT-CLAY										MOIST
6																MOIST
8						CLAY - SILTY										MOIST
10						LOW PLASTIC										MOIST
12						SHALE FRAGMENTS & PEBBLES										
14																DAMP
16						SHALE - SANDY										
18																
20																
22																
24																

LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~						
DWN		FIELD ENG.		DATE DRILLED 20/25		AIRPHOTO NO:		CHAINAGE:		OFFSET 2		ELEV		TEST HOLE				
CKD		TECH WABBER		RIG B-50		SURFACE DRAINAGE:		VEGETATION:										
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	O = WATER CONTENT (% OF DRY WEIGHT) Δ = ICE CONTENT (% OF SAMPLE VOLUME)		GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										PLASTIC LIMIT	LIQUID LIMIT	CLAY %	SILT %	SAND %	GRAVEL %			
2					ML	SILT-CLAYEY			2	20	80							Moist
4						CLAY-SILTY SANDY PEBBLES			4	20	80							Moist
6						CLAY-SILTY SANDY PEBBLES			6	20	80							DAMP-MOIST
8					CL	LOW PLASTIC W&B AT P _L			8	20	80							DAMP
10									10	20	80							DAMP
12																		
14																		
16																		
18																		
20																		
22																		
24																		

LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 18/01/25		AIRPHOTO NO:		CHAINAGE:		OFFSET E		ELEV		TEST HOLE															
CKD		TECH 1/3/2022		RIG B-50		SURFACE DRAINAGE:		VEGETATION:																					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY %	SILT %	SAND %	GRAVEL %																
2					ML	SILT-										Most Wet Wet Damp-Moist Damp Damp													
4						CLAY - SILTY SANDY PEBBLES LOW PLASTIC 4% AT P _L																							
6																													
8																													
10																													
12																													
14																													
16																													
18																													
20																													
22																													
24																													

DEPARTMENT OF PUBLIC WORKS, CANADA

~~MACKENZIE HIGHWAY~~



LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
OWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		ELEV		TEST HOLE															
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION																					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY	SILT	SAND	GRAVEL																
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)																			
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+																			
2					ML	SILT-CLAYEY			2							SAT.													
4					CL	CLAY - SILTY LOW - ~~MO~~ PLASTIC Pebbles			4							MOIST													
6									6																				
8					SC	SAND-CLAYEY SILTY			8							WET													
10									10							WET-SAT.													
12						BOTTOM OF HOLE - 10'			12																				
14									14																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
OWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE																	
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION		ELEV		MILE		B,C,S		NUMBER													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNITED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)										GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS			
										20	40	60	80	100	100+	CLAY %	SILT %	SAND %	GRAVEL %										
2					ML	SILT			2														Moist						
4					CL	CLAY-SILTY SANDY PEBBLES LOW PLASTIC 1 1/2 ABOVE P _L			4														Moist						
6									6														SAT.						
8						REFUSAL @ 7'			8																				
10									10																				
12									12																				
14									14																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

LIARD HWY										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 8/10/24		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE									
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE 60		B,C,S		NUMBER 1					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS					
										CLAY %	SILT %	SAND %	GRAVEL %								
2						SILT - ORGANIC			2												
4						SILT -			4												
6						CLAY - SILTY SANDY			6												
8						PEBBLES			8												
10						LOW PLASTIC			10												
12									12												
14									14												
16									16												
18									18												
20									20												
22									22												
24									24												

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG.		DATE DRILLED 8/26		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE				
CKD		TECH PROWCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV:		MILE B.C.S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY	SILT	SAND	GRAVEL			
									○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)							
									PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+							
2					ML	SILT -			2							WET
4						CLAYEY			3							WET
6						CLAY-SILTY			5							H.B.
8					CL	LOW PLASTIC			8							WET
10									10							SAT.
12																
14																
16																
18																
20																
22																
24																

LISRD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 7/22		AIRPHOTO NO:		CHAINAGE		OFFSET		ELEV		TEST HOLE							
CKD		TECH PROMCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	O = WATER CONTENT (% OF DRY WEIGHT) Δ = ICE CONTENT (% OF SAMPLE VOLUME)		GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS			
										PLASTIC LIMIT	LIQUID LIMIT	CLAY %	SILT %	SAND %	GRAVEL %						
2						SILT-CLAYEY			2									WET			
4					ML	SANDY			3									WET-MOIST			
6						CLAYEY			4									WET			
8						CLAY-SANDY SANDY			5									WET			
10					CL	PEBBLES LOW PLASTIC ABOVE P _L			6									WET			
12						BOULDERS OR CORALS @ 12'			7									H.I.B.			
14									8												
16									9												
18									10												
20									11												
22									12												
24									13												
									14												
									15												
									16												
									17												
									18												
									19												
									20												
									21												
									22												
									23												
									24												

LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 8/24		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE									
CKD		TECH PRONCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER									
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS					
										CLAY %	SILT %	SAND %	GRAVEL %								
						SILT															
2									2							Moist					
4						CLAYRY			4							H.B.					
6									6							WET					
8						CLAY - SILTY Low Plastic ABOVE P _L			8							Moist					
10									10												
12						CL Boulders or CORALLS @ 12'			12							Moist					
14						Pebbles @ 15'			14												
16						BOTTOM OF HOLE. 15'			16							Moist					
18									18												
20									20												
22									22												
24									24												

LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE																	
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION		ELEV		MILE		B,C,S		NUMBER													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY	SILT	SAND	GRAVEL																
										%	%	%	%																
2						SILT - CLAYEY			2																				
4					NL	SILT -			4																				
6									6																				
8					CL	CLAY - SILTY LOW-MED. PLASTIC ABOVE P _L			8																				
10					CI				10																				
12						BOTTOM OF HOLE 10'			12																				
14									14																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

LIARD Hwy.				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG.		DATE DRILLED 8/10/26		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE				
CKD		TECH PROBYCH		RIG: B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV:		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						SILT.				○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME) PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+						
2									2							MOS-WET
4					ML	CLAYEY			4							WET
6						CLAY-SILTY LOW PLASTIC			6							WET
8					CL	ABOVE P _L			8							MOS-WET
10						BOTTOM OF HOLE - 10'			10							WET
12									12							
14									14							
16									16							
18									18							
20									20							
22									22							
24									24							

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~											
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO:		CHAINAGE:				OFFSET:		ELEV		TEST HOLE			
CKD		TECH		RIG		SURFACE DRAINAGE:		VEGETATION:											
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)		GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS	
												CLAY	SILT	SAND	GRAVEL				
										PLASTIC LIMIT ——— LIQUID LIMIT 20 40 60 80 100 100+				%	%	%	%		
2						Silt-CLAYEY			2									Free water	
4					ML	Silt			4									WET	
6						CLAY-SILTY SANDY			6									SAT.	
8					CL	LOW PLASTIC ABOVE P _L			8									MOIST	
10						BOTTOM OF HOLE - 10'			10									MOIST	
12									12										
14									14										
16									16										
18									18										
20									20										
22									22										
24									24										

LIARD Hwy										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
OWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE												
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION		ELEV		MILE		B,C,S		NUMBER								
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)				GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS				
										PLASTIC LIMIT		LIQUID LIMIT		CLAY	SILT	SAND	GRAVEL							
										20	40	60	80	100	100+	%	%	%	%					
2						SILT - SANDY			2	○														
4									4	○														
6									6	○														
8						CLAY - SILTY MED PLASTIC 14% ABOVE P _L			8	○														
10									10	○														
12						BOTTOM OF HOLE - 10'			12															
14									14															
16									16															
18									18															
20									20															
22									22															
24									24															

LIARD Hwy.										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
OWN		FIELD ENG		DATE DRILLED 08/26		AIRPHOTO NO.		CHAINAGE		OFFSET 0		TEST HOLE									
CKD		TECH ~~W. G. C. R.~~		RIG B-50		SURFACE DRAINAGE		VEGETATION		ELEV		MILE 62		B.C.S.		NUMBER 3					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS					
										CLAY %	SILT %	SAND %	GRAVEL %								
2						SILT-CLAYRY			2								SAT.				
4						SILT -			4								MOIST				
6						ML SANDY			6								WET				
8						CL CLAY. SILTY 8'			8								MOIST				
10						CL LOW-MED PLASTIC 10'			10								WET				
12						BOTTOM OF HOLE - 10'			12												
14									14												
16									16												
18									18												
20									20												
22									22												
24									24												

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~				TEST HOLE				
OWN		FIELD ENG		DATE DRILLED 8/1/76		AIRPHOTO NO:		CHAINAGE:		OFFSET 0		ELEV				
CKD		TECH WEBER		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						SILT-										
2									2							Moist
4					ML	SANDY			4							Moist
6									6							Wet
8						CLAY - SILTY MED. PLASTIC 8'			8							Moist
10					CL	LOW PLASTIC 10'			10							Moist
12						BOTTOM OF HOLE - 10'			12							
14									14							
16									16							
18									18							
20									20							
22									22							
24									24							

LIARD HWY										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 7/26		AIRPHOTO NO:		CHAINAGE:		OFFSET 2		ELEV		TEST HOLE							
CKD		TECH VERBER		RIG B-50		SURFACE DRAINAGE:		VEGETATION:													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS		WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS							
										CLAY %	SILT %				SAND %	GRAVEL %					
						SILT -															
2									2						MOIST						
4					ML				4						MOIST						
6									6												
8						CLAY-SILTY			8						WET						
10					CL	LOW PLASTIC			10						MOIST						
12						BOTTOM OF HOLE - 10'			12												
14									14												
16									16												
18									18												
20									20												
22									22												
24									24												

LIARD Hwy.				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG		DATE DRILLED 18/01/24		AIRPHOTO NO:		CHAINAGE:		OFFSET E		TEST HOLE				
CKD		TECH VABCAR		RIG B-80		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						SILT-										
2									2							MOIST
4						ML SANDY			4							MOIST
6									6							WET
8						CLAYEY			8							WET
10						CL CLAY-SILTY			10							WET
12									12							
14									14							
16									16							
18									18							
20									20							
22									22							
24									24							

LIARD Hwy										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
OWN		FIELD ENG		DATE DRILLED 8/24		AIRPHOTO NO:		CHAINAGE:		OFFSET 4		TEST HOLE												
CKD		TECH IVERR		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE 62												
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS								
										CLAY %	SILT %	SAND %	GRAVEL %											
2						ML SILT			2							Moist								
4						ML SILT-CLAY CL CLAY SILTY			3							Moist								
6									4							Moist								
8						CLAY - SILTY Low Plastic			5							WET								
10									6															
12						CL			7							WET								
14						PEBBLES			8							Moist								
16									9															
18									10															
20									11															
22									12															
24									13															
									14															
									15															
									16															
									17															
									18															
									19															
									20															
									21															
									22															
									23															
									24															

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG		DATE DRILLED 7/26/26		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE				
CKD		TECH WEBBER		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						SILT-CLAYEY SANDY										
2									2							WET
4									4							MOIST
6						CLAY-SILTY LOW PLASTIC	5'		6							MOIST OPEN BAG
8									8							WET
10							10'		10							WET
12									12							
14									14							
16									16							
18									18							
20									20							
22									22							
24									24							

LIARD - Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 18/01/24		AIRPHOTO NO:		CHAINAGE:		OFFSET 4		TEST HOLE									
CKD		TECH W. ROBER		RIG 13-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE 62		B,C,S		NUMBER 8					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS		WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS							
										CLAY %	SILT %										
2					ML	SILT-			2												
4									4												
6					CI	CLAY - SILTY MED & LOW PLASTIC			6												
8					CI				8												
10					CI				10												
12					CI				12												
14					CL				14												
16						BOTTOM OF HOLE 15'			16												
18									18												
20									20												
22									22												
24									24												

LIARD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~										
DWN		FIELD ENG		DATE DRILLED 8/26		AIRPHOTO NO:		CHAINAGE:		OFFSET		ELEV		TEST HOLE								
CKD		TECH WEBBER		RIG B-50		SURFACE DRAINAGE:		VEGETATION:														
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)		GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS				
										PLASTIC LIMIT	LIQUID LIMIT	CLAY %	SILT %	SAND %	GRAVEL %							
										20	40	60	80	100	100+							
2						SILT-CLAYEY SANDY			2	○												
4									4	○												
6						CLAY-SILTY LOW PLASTIC	5'		6	○												
8									8	○												
10							10'		10	○												
12						BOTTOM OF HOLE - 10'			12													
14									14													
16									16													
18									18													
20									20													
22									22													
24									24													

LIARD HWY										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE																	
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION		ELEV		MILE		B,C,S		NUMBER													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY %	SILT %	SAND %	GRAVEL %																
						SILT. SANDY																							
2									2								Moist												
4					ML				4								Wet												
6									6								Wet												
8					CL	CLAY-SILT/SANDY PIBBLES - Thin low plastic @ P _L			8								Moist												
10									10								Moist												
12						Bottom of Hole - 10'			12																				
14									14																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO		CHAINAGE		OFFSET		TEST HOLE																	
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION		ELEV		MILE		B,C,S		NUMBER													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY %	SILT %	SAND %	GRAVEL %																
2						SILT- SANDY			2																				
4					ML				4																				
6									6																				
8					CL	CLAY-SILT SANDY PEBBLES TILL			8																				
10						@ P _L OR ABOVE 10'			10																				
12						BOTTOM OF HOLE-10'			12																				
14									14																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 8/01/26		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE					
CKD		TECH W. B. B. R. R.		RIG P-30		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE		B,C,S		NUMBER	
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS	
										CLAY %	SILT %	SAND %	GRAVEL %				
						SILT - CLAYM											
2									2								SAT
4									4								MOLT
6						SANDY			6								WLT
8						CLAY-SILTY SAND / PEBBLES - T. L. H.			8								MOLT
10						Q P _L			10								MOLT
12									12								
14									14								
16									16								
18									18								
20									20								
22									22								
24									24								

LIDARD Hwy.				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG.		DATE DRILLED 8/10/26		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE				
CKD		TECH V. BARR		RIG B-SD		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B.C.S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY	SILT	SAND	GRAVEL			
									○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)							
									PLASTIC LIMIT 20 40 60 80 100 100+ LIQUID LIMIT 80 100 100+							
2						SILT-SANDY			2							MOIST
4					ML				3							WET
6									5							WET-SAT
8					CL	CLAY-SILTY SANDY 7' Pebbles - Till above P _L 6'			8							WET
10									10							MOIST
12						BOTTOM OF HOLE - 10'										
14																
16																
18																
20																
22																
24																

LIARD HWY										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE									
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION		ELEV		MILE B.C.S NUMBER									
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS					
										CLAY	SILT	SAND	GRAVEL								
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)											
										PLASTIC LIMIT 40 LIQUID LIMIT 80 100 100+											
2						SILT. SANDY			2												
4					ML				4												
6									6												
8					CL	CLAY - SILTY SANDY YELLOW PLASTIC ABOVE P.			8												
10									10												
12						BOTTOM OF HOLE - 10'			12												
14									14												
16									16												
18									18												
20									20												
22									22												
24									24												

LIARD HWY										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE																	
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION		ELEV		MILE		B.C.S		NUMBER		REMARKS											
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)										GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)				
										CLAY	SILT	SAND	GRAVEL																
										%	%	%	%																
2						SILT-SANDY			2																				
4					ML				4																				
6									6																				
8					CL	CLAY-SILT, SANDY FERRUG. TILL ABOVE P _L	7'		8										MOIST										
10							6'		10										MOIST										
12						Bottom of Hole - 10'			12																				
14									14																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

DEPARTMENT OF PUBLIC WORKS, CANADA
~~MACKENZIE HIGHWAY~~

DWN		FIELD ENG.	DATE DRILLED	AIRPHOTO NO.	CHAINAGE	OFFSET	TEST HOLE										
CKD	TECH	RIG	SURFACE DRAINAGE	VEGETATION	ELEV	<table border="1"> <tr> <th>MILE</th> <th>B,C,S</th> <th>NUMBER</th> </tr> <tr> <td>63</td> <td></td> <td>7</td> </tr> </table>			MILE	B,C,S	NUMBER	63		7			
MILE	B,C,S	NUMBER															
63		7															
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS	
										CLAY %	SILT %	SAND %	GRAVEL %				
						SILT - CLAYEY SANDY											
2									2								
4									4								
6									6								
8						CLAY - SILTY SANDY PITTSBURGH - TILL			8								
10						ABOVE P _L			10								
12						BOTTOM OF HOLE - 10'			12								
14									14								
16									16								
18									18								
20									20								
22									22								
24									24								

LISRD Hwy										DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
OWN		FIELD ENG		DATE DRILLED 8/26		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE											
CKD		TECH W. B. B. R.		RIG P-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE 63		B,C,S		NUMBER 8							
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)					GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS		
										PLASTIC LIMIT		LIQUID LIMIT		CLAY	SILT	SAND	GRAVEL						
										20	40	60	80	100	100+	%	%	%	%				
2					ML	SILT - CLAYEY SANDY			2													PER WATER	
4									4													WET	
6									6													MOIST	
8					CL	CLAY - SILTY SANDY PIBBLES - TILL			8													MOIST	
10						ABOVE P _L			10													WET	
12						BOTTOM OF HOLE - 10'			12														
14									14														
16									16														
18									18														
20									20														
22									22														
24									24														

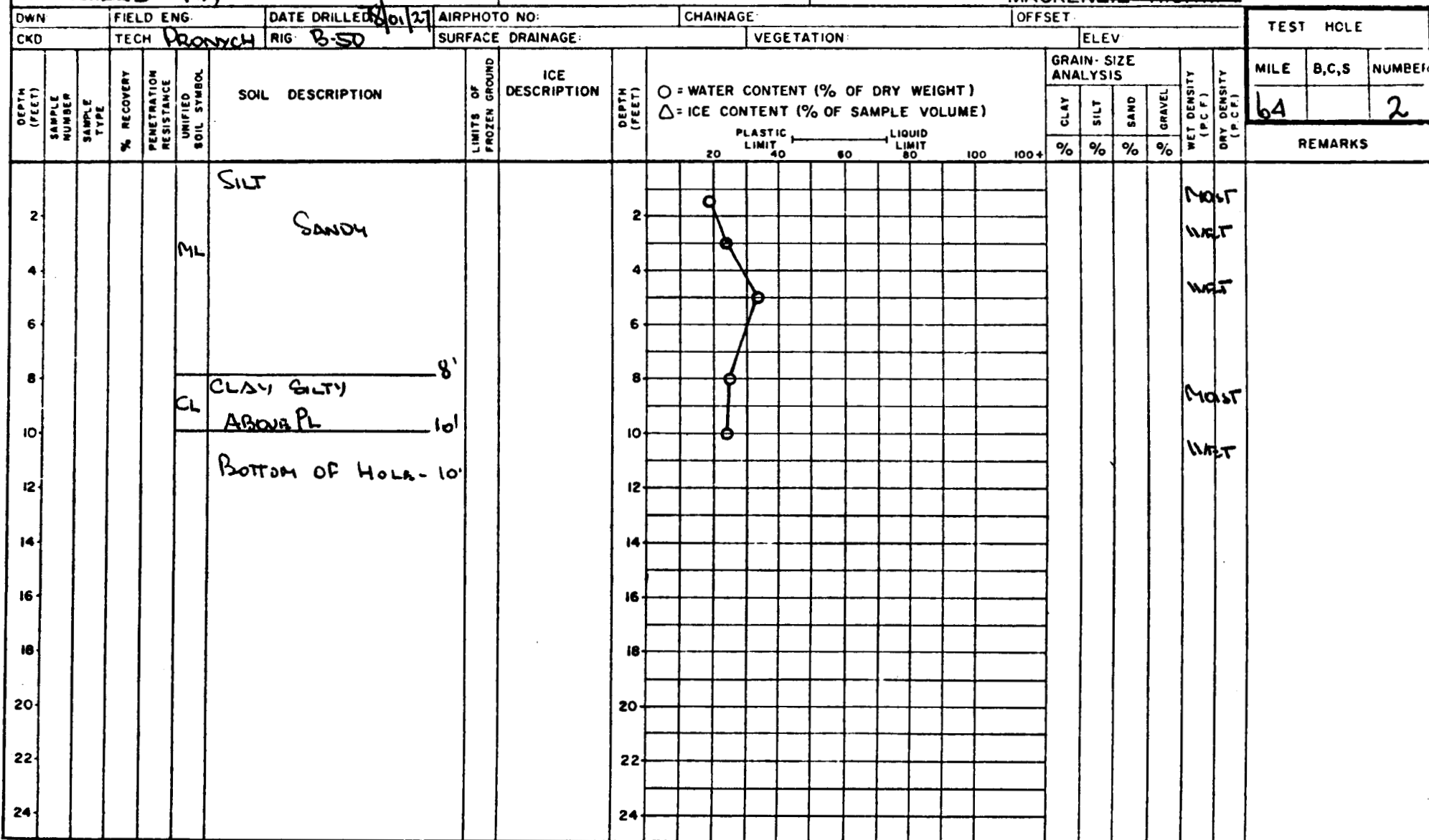
~~MACKENZIE HIGHWAY~~

PAGE 7

LIARD Hwy										DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 10/24		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE											
CKD		TECH W. B. B. R. R.		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE		B,C,S		NUMBER							
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS							
										CLAY %	SILT %	SAND %	GRAVEL %										
						SILT - SANDY																	
2									2								MOIST						
4									4								MOIST						
6									6								WET						
8									8								WET						
10									10								MOIST-WET						
12									12														
14									14														
16									16														
18									18														
20									20														
22									22														
24									24														

DEPARTMENT OF PUBLIC WORKS, CANADA

~~MACKENZIE HIGGINS~~



LIRD Hwy					DRILL HOLE REPORT			DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~							
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE			
CKD		TECH		RIG		SURFACE DRAINAGE:		VEGETATION:		ELEV:		MILE B.C.S NUMBER			
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)
									○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						
									PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+						
									CLAY SILT SAND GRAVEL % % % %						
													REMARKS		
2						SILT - CLAYEY			2					SAT.	
4					ML	SILT -			4					MOIST	
6									6					WET	
8					CL	CLAY-SILT ABOVE P _L	7'		8					WET	
10						@ P _L	10'		10					MOIST	
12						BOTTOM OF HOLE - 10'			12						
14									14						
16									16						
18									18						
20									20						
22									22						
24									24						

LIARD Hwy.										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE									
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION		ELEV		MILE		B.C.S		NUMBER					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS					
										CLAY %	SILT %	SAND %	GRAVEL %								
2						SILT - CLAYEY			2												
4					ML	SANDY			3								SAT.				
6									4								MOIST				
8						CLAY - SILTY			5								WET				
10					CL	ABOVE P _L			6								MOIST				
12									7								MOIST				
14									8												
16									9												
18									10												
20									11												
22									12												
24									13												

LISRD Hwy										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~										
DWN		FIELD ENG.		DATE DRILLED 8/1/26		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE										
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE		B,C,S		NUMBER						
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)				GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS		
										PLASTIC LIMIT		LIQUID LIMIT		CLAY	SILT	SAND	GRAVEL					
										20	40	60	80	100	100+	%	%	%	%			
2						SILT - CLAYEY SANDY			2													SAT.
4					ML				4													MOIST
6									6													MOIST
8									8													WET
10						CL (CLAY-SILT) + PL 9'			10													MOIST
						BOTTOM OF HOLE - 10'																
12									12													
14									14													
16									16													
18									18													
20									20													
22									22													
24									24													

LIARD Hwy.				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 18/01/27		AIRPHOTO NO:		CHAINAGE:		OFFSET							
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV							
										TEST HOLE							
										MILE B,C,S NUMBER							
										64 6							
										REMARKS							
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	PLASTIC LIMIT	LIQUID LIMIT	CLAY %	SILT %	SAND %	GRAVEL %	WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)
2						Silt-			2							Most	
4					ML	SANDY			4							Most	
6						CLAYEY			6							Most	
8									8							WET	
10									10							WET	
12									12								
14									14								
16									16								
18									18								
20									20								
22									22								
24									24								

DEPARTMENT OF PUBLIC WORKS, CANADA
~~MACKENZIE HIGHWAY~~

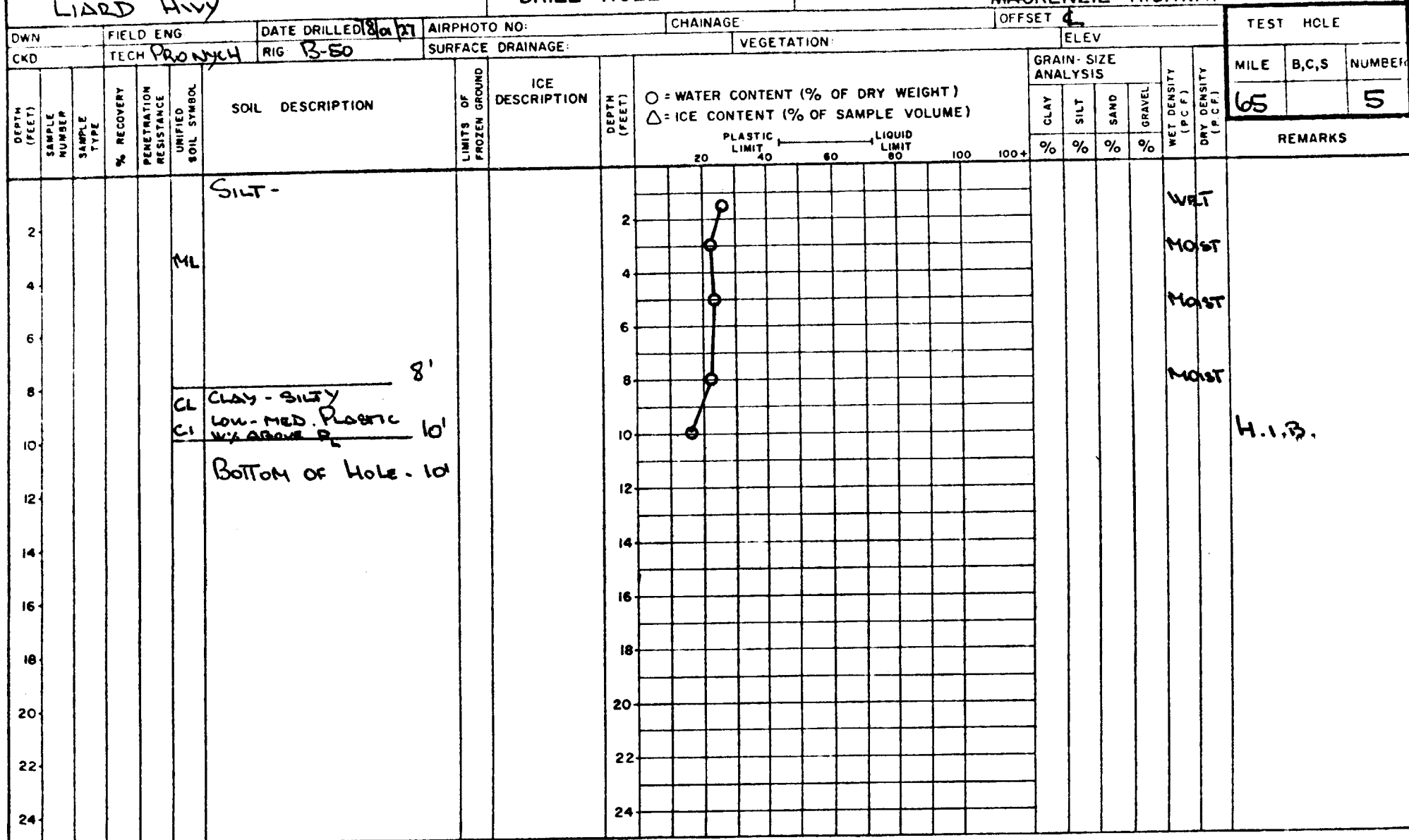
P973

LIARD Hwy.				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG.		DATE DRILLED 18/01/27		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE				
CKD		TECH PROVOCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV:		MILE B.C.S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						SILT -										
2									2							Moist
4					ML				4							Moist
6						1/2" AFTER 6'			6							Moist
8						8'			8							WET
10					CL	CLAY SILTY			10							WET
12						BOTTOM OF HOLE - 10'			12							
14									14							
16									16							
18									18							
20									20							
22									22							
24									24							

LIARD HWY										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE												
CKD		TECH		RIG		SURFACE DRAINAGE:		VEGETATION:		ELEV														
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS								
										CLAY	SILT	SAND	GRAVEL											
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)														
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+														
2						SILT-CLAYEY			2							WET								
4						SILT			4							MOIST								
6					ML	CLAYEY			6							WET								
8						CLAYEY			8							WET								
10					CL	CLAY-SILTY LOW PLASTIC			10							MOIST								
12						BOTTOM OF HOLE - 10			12															
14									14															
16									16															
18									18															
20									20															
22									22															
24									24															

LIARD HWY										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE:		OFFSET:		ELEV		TEST HOLE							
CKD		TECH		RIG		SURFACE DRAINAGE:		VEGETATION:													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS		WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS							
										CLAY %	SILT %										
2						SILT -								WET-SILT.							
4					HL									MOIST							
6														MOIST							
8						1/2" AFTER 7'								WET							
10					CL CI	CLAY-SILTY								MOIST							
12						Bottom of Hole - 10'															
14																					
16																					
18																					
20																					
22																					
24																					

~~MACKENZIE HIGHWAY~~



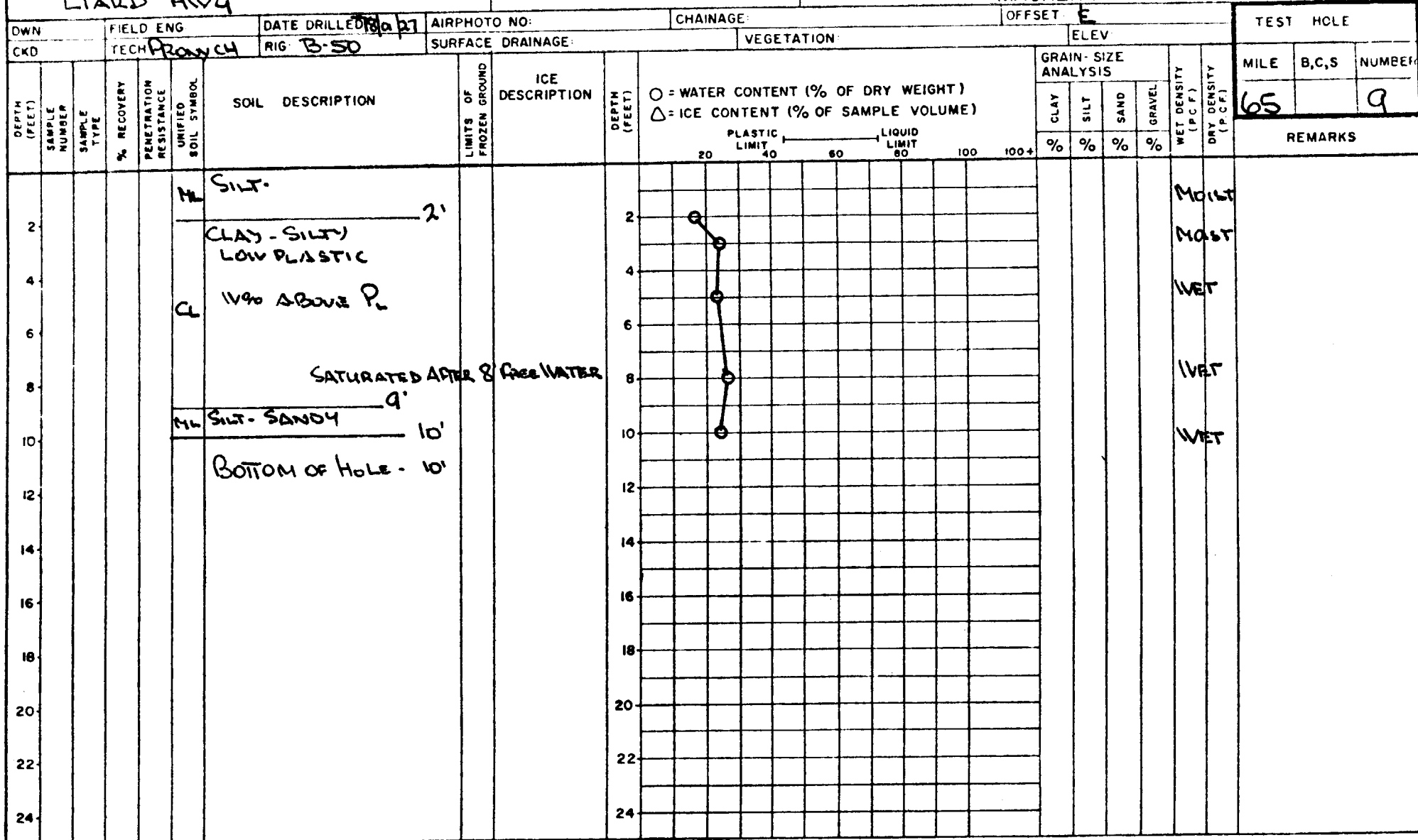
~~MACKENZIE HIGHWAY~~

R073

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG.		DATE DRILLED 18/01/21		AIRPHOTO NO:		CHAINAGE:		OFFSET 4		TEST HOLE				
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV:		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						SILT - SANDY										
2									2							MOIST
4					ML	CLAYRY			4							MOIST
6						WET 6-9'			6							WET
8									8							WET
10					CL	CLAY - SILTY SANDY			10							MOIST
12						9' 10'										
14						BOTTOM OF HOLE - 10'										
16																
18																
20																
22																
24																

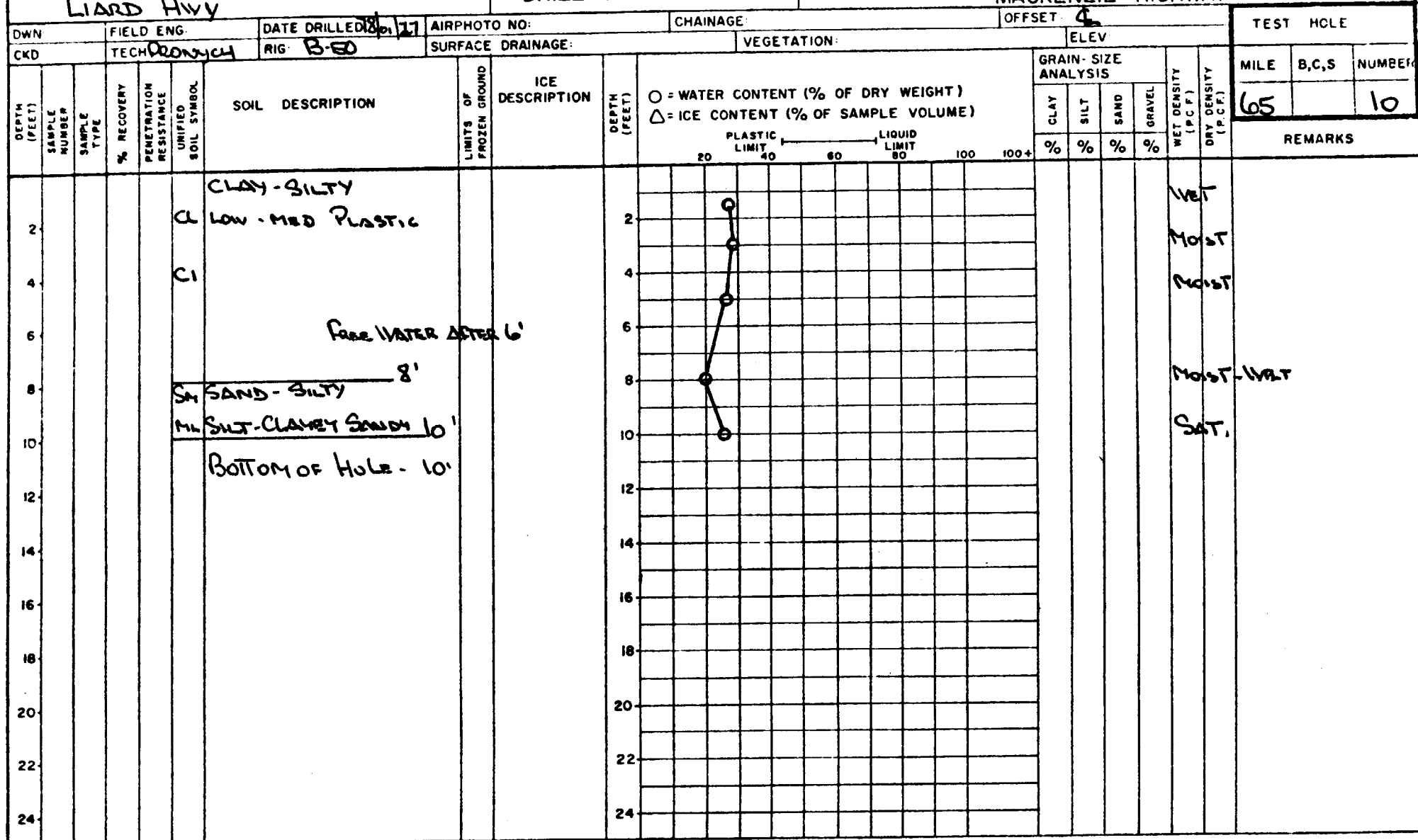
LIARD HWY										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~					
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		TEST HOLE					
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION		ELEV							
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS	
										CLAY	SILT	SAND	GRAVEL				
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)							
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+							
2						ML SILT- CLAY - SILTY LOW PLASTIC CL WET AFTER 6' Wt Above P _L			2								
4									4								
6									6								
8									8								
10									10								
12									12								
14									14								
16									16								
18									18								
20									20								
22									22								
24									24								

DEPARTMENT OF PUBLIC WORKS, CANADA

~~MACKENZIE HIGHWAY~~

LIARD Hwy

~~MACKENZIE-HIGHWAY~~



LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		ELEV		TEST HOLE															
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION																					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY	SILT	SAND	GRAVEL																
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)																			
										PLASTIC LIMIT ——— LIQUID LIMIT 20 40 60 80 100 100+																			
2						CLAY - SILTY MED. PLASTIC W/ABOVE P _L FREE WATER AFTER 8" NO RETURNS 10'			2							Moist													
4									4								Moist												
6									6								Moist												
8									8								Moist												
10									10																				
12									12																				
14									14																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 8/27		AIRPHOTO NO:		CHAINAGE:		OFFSET E		TEST HOLE																	
CKD		TECH PRONICH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE 65		B,C,S		NUMBER 12													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY %	SILT %	SAND %	GRAVEL %																
					ML	SLT-CLAYEY																							
2						CLAY-SILTY			2								Moist												
4						MED. PLASTIC			4								Moist												
6						10% ABOVE P _L			6								Moist												
8					CI				8								Moist												
10									10								Moist												
12									12								Moist												
14									14								Moist												
16						BOTTOM OF HOLE - 15'			16								Moist												
18									18																				
20									20																				
22									22																				
24									24																				

LIARD HWY				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG		DATE DRILLED 8/08/27		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE				
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						
									PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+							
2						SILT - ML CLAYEY			2							Moist
4						4'			3							Moist
6						ML SILT-CLAYEY CL CLAY SILTY LOW PLASTIC			4							Moist
8									5							Moist
10						CL MED. PLASTIC 10'			6							Moist
12						BOTTOM OF HOLE - 10'			7							
14									8							
16									9							
18									10							
20									11							
22									12							
24									13							

LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE:		OFFSET:		TEST HOLE																	
CKD		TECH		RIG		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE		B,C,S		NUMBER													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	O = WATER CONTENT (% OF DRY WEIGHT) Δ = ICE CONTENT (% OF SAMPLE VOLUME)		GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS											
										PLASTIC LIMIT	LIQUID LIMIT	CLAY %	SILT %	SAND %	GRAVEL %														
2						SILT-CLAY			2	35	75							WET-SAT											
4						1/2 SILT-			4	40	80							✓											
6									6	45	85							WET											
8						8'			8	50	90							MOIST											
10						CLAY-SILTY LOW-MED. PLASTIC			10	55	95							MOIST											
12									12	60	100																		
14						15'			14	65	100																		
16						BOTTOM			16	70	100							WET											
18									18																				
20									20																				
22									22																				
24									24																				

LIARD Hwy										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
OWN		FIELD ENG		DATE DRILLED 7/10/27		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE												
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV		MILE		B,C,S		NUMBER								
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)				GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS				
										PLASTIC LIMIT		LIQUID LIMIT		CLAY	SILT	SAND	GRAVEL							
										20	40	60	80	100	100+	%	%	%	%					
2						G _c GRAVEL-CLAYEY SANDY			2															
4						G _{iw}			4															
6									6															
8									8															
10									10															
12									12															
14									14															
16									16															
18									18															
20									20															
22									22															
24									24															

DEPARTMENT OF PUBLIC WORKS, CANADA

~~MACKENZIE HIGHWAY~~

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LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE					
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION		ELEV		MILE B.C.S NUMBER					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS	
										CLAY	SILT	SAND	GRAVEL				
										%	%	%	%				
						ML SILT - PEBBLES											
2									2							Moist	
4						GM GRAVEL - SILTY SANDY			4							Moist	
6						GM SANDY ONLY			6							Moist	
8									8							Moist	
10									10							Moist	
12																	
14																	
16																	
18																	
20																	
22																	
24																	

LIARD Hwy				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~								
DWN		FIELD ENG		DATE DRILLED 12/27		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE				
CKD		TECH PROMYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY	SILT	SAND	GRAVEL			
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						
										PLASTIC LIMIT 20 40 60 80 100 100+ LIQUID LIMIT						
2						Gc GRAVEL-CLAYEY SANDY			2						Moist	
4						Gw SANDY clay			4						Moist	
6									6						Moist	
8									8						Moist	
10									10						Moist	
12									12							
14									14							
16									16							
18									18							
20									20							
22									22							
24									24							

LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 8/27		AIRPHOTO NO:		CHAINAGE:		OFFSET:		ELEV		TEST HOLE															
CKD		TECH PRONYCH		RIG B-50		SURFACE DRAINAGE:		VEGETATION:						MILE B,C,S NUMBER															
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS					WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS												
										CLAY	SILT	SAND	GRAVEL																
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)																			
										PLASTIC LIMIT 40 LIQUID LIMIT 80 100 100+																			
										20 40 60 80 100 100+																			
2						Gc GRAVEL-CLAYEY			2							Moist													
						Gw SANDY ONLY			3							Moist													
4									4							Moist													
6									6							Moist													
8									8							Moist													
10						10'			10							Moist													
						BOTTOM OF Hde. 10'																							
12									12																				
14									14																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

LIARD Hwy.				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG		DATE DRILLED 18/07		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE					
CKD		TECH PRONYK		RIG B-50		SURFACE DRAINAGE:		VEGETATION:		ELEV:		MILE B,C,S NUMBER					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS	
										CLAY %	SILT %	SAND %	GRAVEL %				
						ML SILT-CLAYEY		FROZEN									
2						CLAY-SILTY Low-PLASTIC											WET SAT.
4						SAND-CLAYEY											Moist
6					Sc	SILTY PEBBLES											Moist
8					Gw	GRAVEL-SANDY											Moist
10					SP	SAND-GRAVELLY											Moist
12					Gw	GRAVEL-SAND MIX										Moist	
14						REFUSAL @ 13'											
16																	
18																	
20																	
22																	
24																	

LIARD Hwy										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET		ELEV.		TEST HOLE															
CKD		TECH		RIG		SURFACE DRAINAGE		VEGETATION																					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY %	SILT %	SAND %	GRAVEL %																
						ML SILT-CLAYEY		Frozen																					
2						SAND-SILTY			2							WET													
4					SM				4							MOIST													
6									6							MOIST													
8					CL	CLAY-SILT-SAND MIX PEBBLES			8							MOIST													
10									10							MOIST													
12					SM	SAND-SILTY GRAVELLY			12							MOIST													
14									14							MOIST													
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

LIARD Hwy										DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA ~~MACKENZIE HIGHWAY~~									
DWN		FIELD ENG.		DATE DRILLED 8/27		AIRPHOTO NO.		CHAINAGE		OFFSET		ELEV		TEST HOLE									
CKD		TECH WERBER		RIG B-50		SURFACE DRAINAGE		VEGETATION						MILE		B,C,S		NUMBER					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)		GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS					
										PLASTIC LIMIT	LIQUID LIMIT	CLAY %	SILT %	SAND %	GRAVEL %								
					ML	SILT-CLAYEY SANDY			2														
					SC	SAND-CLAYEY SILTY GRAVELLY			3														
						GRAVEL SANDY			4														
					GP	GRAVEL-SAND MIX.			8														
					Gw	GRAVEL-SANDY			10														
									15														
					CI	CLAY- GRAVELLY SANDY			16														
						MED. PLASTIC			18														
						PEBBLES			20														
						W/OT P.			20														
						BOTTOM OF HOLE - 20'			20														
									22														
									24														