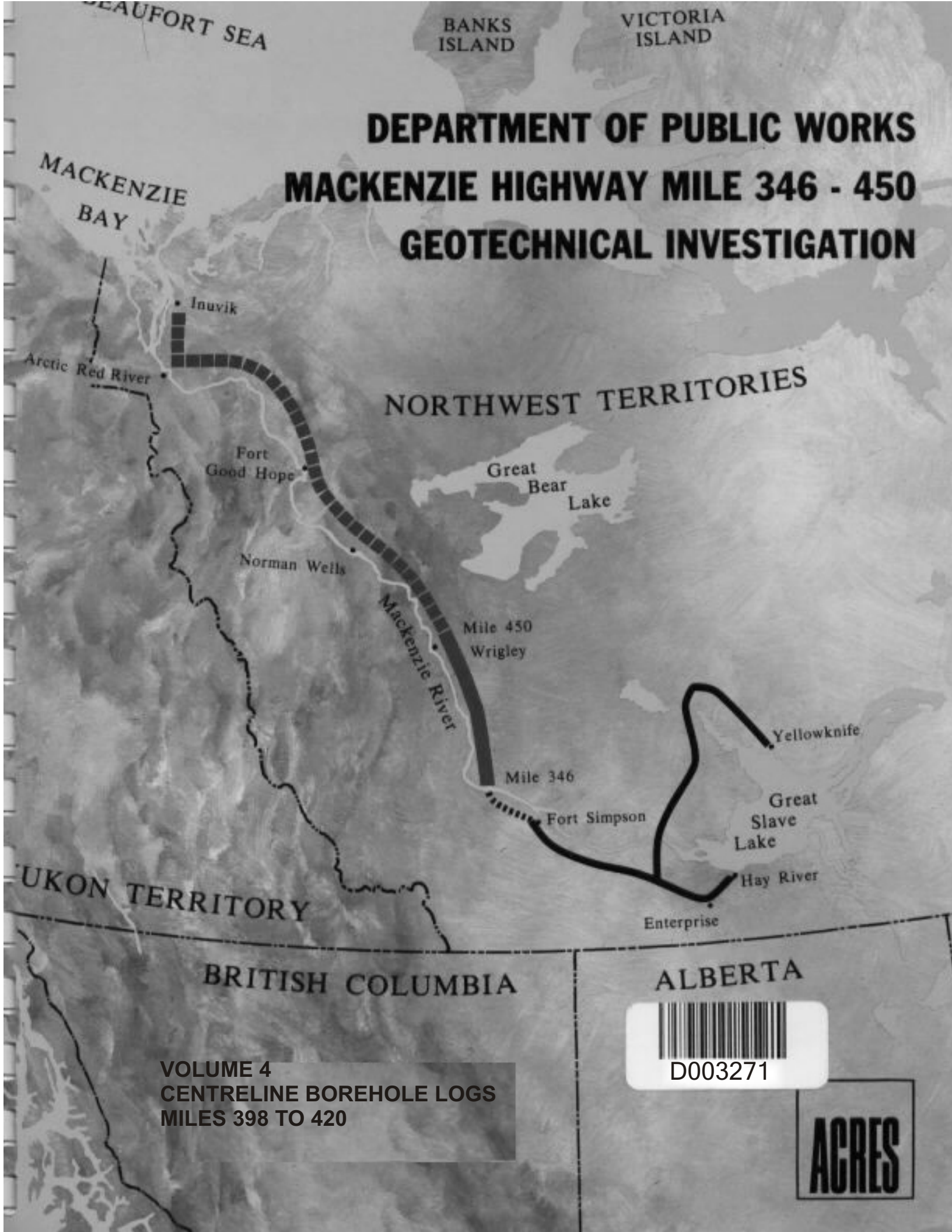


DEPARTMENT OF PUBLIC WORKS
MACKENZIE HIGHWAY MILE 346 - 450
GEOTECHNICAL INVESTIGATION



VOLUME 4
CENTRELINE BOREHOLE LOGS
MILES 398 TO 420



D003271

ACRES

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
OWN:		FIELD ENG		DATE DRILLED 2/2/73		AIRPHOTO NO: A22771-33		CHAINAGE 163 + 25		OFFSET		TEST HOLE																	
CKD		TECH SITHAM		RIG 2		SURFACE DRAINAGE Good		VEGETATION AF		ELEV 745'																			
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					SM	BROWN FINE SILTY SAND		N _{bn}	2																				
4						GREY GRAVELLY SAND WITH SOME SILT			4																				
5	1		60	125	GM			N _f	5																				
6						GREY SILTY SAND WITH SOME CLAY AND A TRACE OF GRAVEL.			6																				
8									8																				
10	2	P	72	36	ML			V _r	10																				
12									12																				
14									14																				
15	3	P	20	36	ML				15																				
16									16																				
18									18																				
20	4	P	10	29	ML			N _f	20																				
22									22																				
24	5	P	10	32	SM	GREY SILT AND FINE SAND WITH A TRACE OF CLAY			24																				

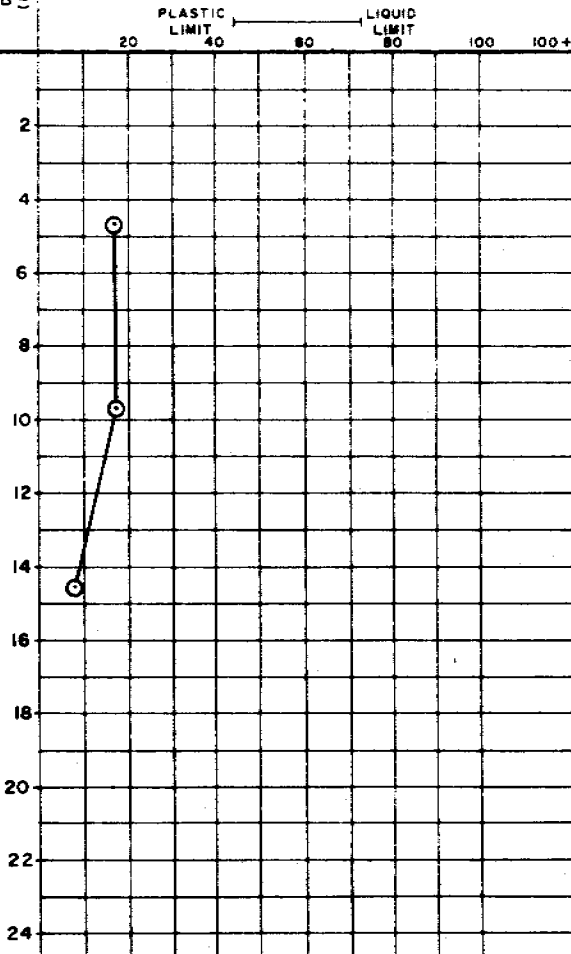
ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG		DATE DRILLED 2/2/73		AIRPHOTO NO: A22771-73		CHAINAGE 163 + 25		OFFSET		TEST HOLE																	
CKD		TECH SITHAM		RIG 2		SURFACE DRAINAGE: Good		VEGETATION AF		ELEV 745'																			
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						GREY SILT AND FINE SAND WITH A TRACE OF CLAY	F	N _f	2																				
4	6	P	50	33	SM				4																				
30						End of hole at 30'			6																				
6									8																				
8									10																				
10									12																				
12									14																				
14									16																				
16									18																				
18									20																				
20									22																				
22									24																				
24																													

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY											
DWN:		FIELD ENG.	DATE DRILLED 2/2/73	AIRPHOTO NO: A22771-76	CHAINAGE: 177 + 00'	OFFSET		TEST HOLE									
CKD		TECH: SITHAM	RIG: 2	SURFACE DRAINAGE: Good		VEGETATION: A F		ELEV: 863'									
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 40 LIQUID LIMIT 80							
										20 40 60 80 100 100+							
2					SM	BROWN FINE SILTY SAND		N _{bn}	2								
4									4								
5	1	P		49	ML	SANDY SILT TILL WITH SOME CLAY AND A TRACE OF GRAVEL		V _r	5								
6									6								
8						BROWN GREY			8								
10	2	P		63	ML		F		10								
12									12								
14									14								
15	3	P		84	ML	GREY SILT TILL, SANDY WITH SOME GRAVEL AND A TRACE OF CLAY		N _f	15								
16									16								
18									18								
20	4			77	SM			V _r	20								
22									22								
24									24								

[illegible]

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG.		DATE DRILLED 2/2/73		AIRPHOTO NO: A22771-76		CHAINAGE 183 + 00'		OFFSET		TEST HOLE									
CKD:		TECH SITHAM		RIG 2		SURFACE DRAINAGE POOR		VEGETATION BF		ELEV 874'		MILE 398		B,C,S C		NUMBER C					
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					Pt	PEAT		V _x	2												
3									3												
4									4												
5	1	P	90	61	ML	SANDY SILT WITH SOME CLAY AND A TRACE OF GRAVEL		V _s	5												
6									6												
8									8												
9	2	P	90	72	ML			N _f	9												
10									10												
12									12												
13									13												
14	3	P			132	GREY SHALE BEDROCK HARD, SILTY			14												
15									15												
16						End of hole at 15'			16												
18									18												
20									20												
22									22												
24									24												

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



ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG		DATE DRILLED 2/2/73		AIRPHOTO NO. A22771-76		CHAINAGE 189 + 00		OFFSET		TEST HOLE																	
CKD		TECH SITHAM		RIG 2		SURFACE DRAINAGE Fair		VEGETATION BF		ELEV 882'		MILE 398																	
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 SANDY SILT WITH SOME CLAY.			2																				
4									4																				
5	1	P		97	ML				5																				
6									6																				
8									8																				
10	2			50/ 2"		GREY SHALE BEDROCK, HARD			10																				
12									12																				
14									14																				
16									16																				
18									18																				
20									20																				
22	3					AS ABOVE, VERY HARD			22																				
24									24																				

[illegible]

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG:		DATE DRILLED 2/2/73		AIRPHOTO NO:		CHAINAGE: 200 + 61'				OFFSET		ELEV 911'		TEST HOLE					
CKD:		TECH V.S.		RIG 2		SURFACE DRAINAGE: FAIR				VEGETATION: BF				MILE 398		B.C.S. NUMBER C					
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						PEAT		V _x	2												
4									4												
5	1				112ML	SANDY SILT TILL WITH SOME CLAY AND A TRACE OF GRAVEL		V _s	5												
6									6												
8						BROWN			8												
9									9												
10	2	T			68ML	GREY			10												
12									12												
14									14												
15	P				56ML				15												
16						End of hole at 15'			16												
18									18												
20									20												
22									22												
24									24												

ACRES CONSULTING SERVICES LIMITED - CALGARY, ALBERTA						DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY								
DWN.	FIELD ENG		DATE DRILLED 2/2/73		AIRPHOTO NO:	CHAINAGE 212 + 22		OFFSET		ELEV 906		TEST HOLE				
CKD	TECH	R.G.	RIG 2		SURFACE DRAINAGE POOR		VEGETATION A						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	1				Pt	PEAT		V _x	2							
4									4							
6							F		6							
8	2				ML	SANDY SILT TILL WITH CLAY AND A TRACE OF GRAVEL. BROWN		N _{bn}	8							
10									10							
12	3					GREY WEATHERED SHALE			12							
14									14							
15									15							
16						End of hole at 15'			16							
18									18							
20									20							
22									22							
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY												
DWN:		FIELD ENG		DATE DRILLED: 2/2/73		AIRPHOTO NO: A22771-78		CHAINAGE: 224 + 96		OFFSET		TEST HOLE						
CKD		TECH		R.G.		RIG 2		SURFACE DRAINAGE: GOOD		VEGETATION: A		ELEV 899						
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	1				ML	BROWN SILTY TILL, SANDY WITH SOME CLAY AND A TRACE OF GRAVEL	F	N _{bn}	2									
4											4							
5											5							
6									6									
8	2				ML				8									
10									10									
12	3				SC				12									
14									14									
15									15									
16									16									
18									18									
20									20									
22									22									
24									24									

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG:		DATE DRILLED: 2/2/72		AIRPHOTO NO: A22771-78		CHAINAGE: 232 + 70		OFFSET:		ELEV: 910		TEST HOLE															
CKD:		TECH: R.G.		RIG: 2		SURFACE DRAINAGE: GOOD		VEGETATION: A																					
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	1				ML	BROWN SILTY TILL, SANDY AND CLAYEY WITH SOME GRAVEL AND A TRACE OF COBBLES	F	N _{bn}	2	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME) PLASTIC LIMIT 40 LIQUID LIMIT 80																			
4												4																	
5												6																	
6	2				ML				8																				
8									10																				
10									12																				
12	3				SC				14																				
14									16																				
15									18																				
16						End of hole at 15'			20																				
18									22																				
20									24																				

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY										
OWN:		FIELD ENG:		DATE DRILLED: 2/2/77		AIRPHOTO NO: A22771-78		CHAINAGE: 239 + 40		OFFSET:		TEST HOLE				
CKD:		TECH: R.G.		RIG: 2		SURFACE DRAINAGE: GOOD		VEGETATION: A		ELEV: 925		MILE: 399 C, S NUMBER: D				
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	1				ML	BROWN SILTY AND SANDY TILL WITH SOME GRAVEL AND CLAY			2							
4									4							
5									5							
6	2				SC			N ₆₀	6							
8									8							
10									10							
12	3				SC				12							
14									14							
15						End of hole at 15'			15							
16									16							
18									18							
20									20							
22									22							
24									24							

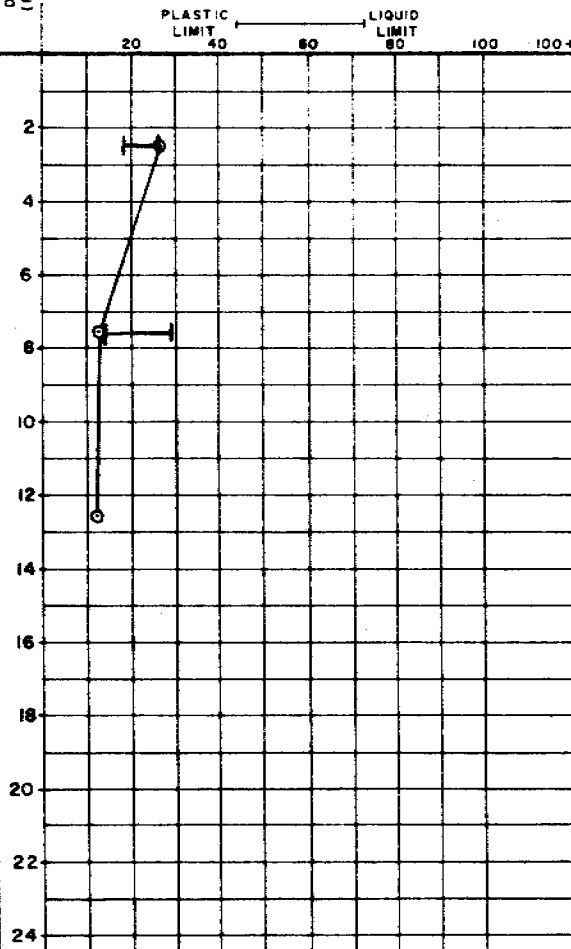
ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA						DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY						
OWN:		FIELD ENG		DATE DRILLED 2/2/73		AIRPHOTO NO: A22771-78		CHAINAGE: 244 + 14		OFFSET		TEST HOLE				
CKD		TECH R.G.		RIG 2		SURFACE DRAINAGE GOOD		VEGETATION B		ELEV 939						
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	1				ML	DARK BROWN SILTY AND SANDY TILL WITH SOME CLAY AND A TRACE OF GRAVEL	F	N _f	2							
4									4							
6									6							
8	2				ML	AS ABOVE WITH LESS GRAVEL			8							
10									10							
12	3				ML	AS ABOVE			12							
14									14							
15						End of hole at 15'			16							
16									18							
18									20							
20									22							
22									24							
24																

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY										
DWN:		FIELD ENG.	DATE DRILLED 2/2/73	AIRPHOTO NO: A2271-78	CHAINAGE 268 + 30	OFFSET		TEST HOLE								
CKD:		TECH R.G.	RIG 2	SURFACE DRAINAGE FAIR	VEGETATION B	ELEV 934										
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	1				ML	SANDY AND SILTY TILL WITH SOME SAND AND GRAVEL			2							
4						BROWN GREY			4							
5									5							
6									6							
8									8							
10	2				ML		F	N _{bn}	10		26	31	39	4		
12									12							
14									14							
15									15							
16						End of hole at 15'			16							
18									18							
20									20							
22									22							
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY										
DWN:		FIELD ENG		DATE DRILLED 2/2/73		AIRPHOTO NO. A22771-78		CHAINAGE 270 + 90.		OFFSET		TEST HOLE				
CKD		TECH R.G.		RIG		SURFACE DRAINAGE FAIR		VEGETATION B		ELEV 933.						
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	1					SC SILTY TILL, SANDY WITH SOME CLAY AND GRAVEL		N _f	2							
4									4							
5									5							
6									6							
8						SC			8							
10						GREY SHALE			10							
12	2								12							
14									14							
15						End of hole at 15'			15							
16									16							
18									18							
20									20							
22									22							
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG:		DATE DRILLED 2/2/73		AIRPHOTO NO A22771-80		CHAINAGE 273+05		OFFSET 40' OF L		TEST HOLE MILE B.C.S NUMBER 400 C B																	
CKD:		TECH B.G.		RIG 2 -		SURFACE DRAINAGE FAIR		VEGETATION B.		ELEV 926																			
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	1				CL	SILTY TILL, SANDY WITH SOME CLAY AND A TRACE OF GRAVEL ----- BROWN GREY	F	N _f	2																				
4											4																		
5											5																		
6									6																				
8	2				SC				8																				
10									10																				
12	3				SC				12																				
14									14																				
15						End of hole at 15'.			15																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

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



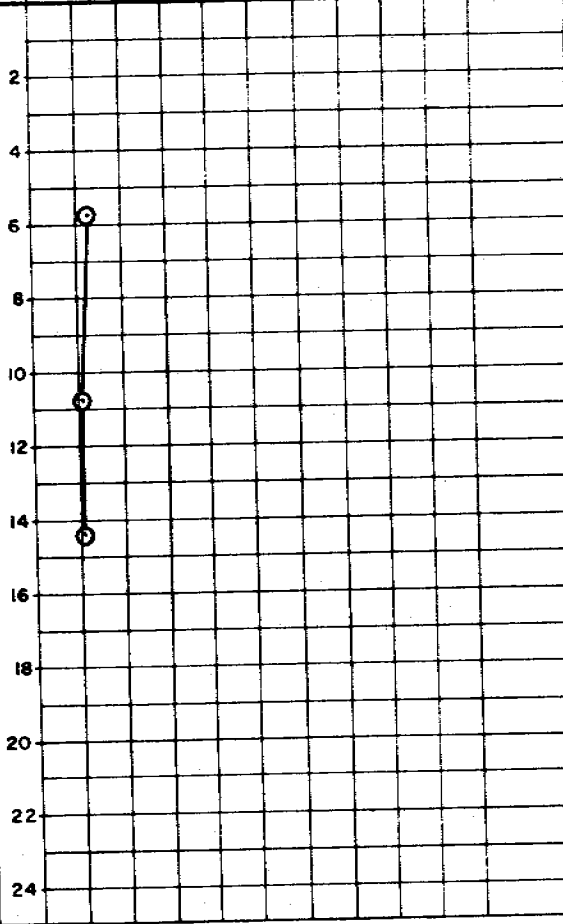
ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY			
DWN		FIELD ENG		DATE DRILLED 3/2/73		AIRPHOTO NO A22771-80		CHAINAGE 300 + 72		OFFSET		TEST HOLE			
CKD		TECH V.S.		RIG 2		SURFACE DRAINAGE POOR		VEGETATION B E G		ELEV 941		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 %				
2						SILTY TILL, SANDY WITH A TRACE OF CLAY AND OF FINE GRAVEL			2						
4									4						
5	1	P	7028	ML			F	N _{bn}	5						
6						- BROWN GREY -			6						
8									8						
10							UF		10						
11	2	P	7554	ML					11						
12									12						
14	3	P	40100	ML		TILL AS ABOVE, HARDER	F	N _{bn}	14						
15						End of hole at 15'			15						
16									16						
18									18						
20									20						
22									22						
24									24						

[illegible]

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY					
OWN:		FIELD ENG		DATE DRILLED 3/2/73		AIRPHOTO NO: A22771-80		CHAINAGE 289 + 00		OFFSET		TEST HOLE					
CKD		TECH V.S.		RIG 2		SURFACE DRAINAGE POOR		VEGETATION BF		ELEV 937'		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						SILTY TILL, SANDY WITH SOME GRAVEL AND A TRACE OF CLAY.	F	N _{bn}	2								
4									4								
5	1.	△			110 ML				5								
6						6											
8						8											
10	2.	P.			89 ML	10											
12						12											
14	3.	△			78 ML	14											
15						15											
16						16											
18						18											
20						20											
22						22											
24						24											
						End of hole at 15'											

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

PLASTIC LIMIT 40 60 LIQUID LIMIT 80 100 100+



ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN			FIELD ENG			DATE DRILLED 6/2/77			AIRPHOTO NO A22771-81			CHAINAGE 348 + 70			OFFSET			TEST HOLE											
CKD			TECH R.S.			RIG 2			SURFACE DRAINAGE FAIR			VEGETATION BG			ELEV 808'			MILE 401 B,C,S C C											
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								
										20	40	60	80	100	100+	CLAY %	SILT %	SAND %	GRAVEL %										
2	1				SC	SANDY AND SILTY TILL WITH SOME GRAVEL AND A TRACE OF CLAY	F	N _f	2																				
4										4																			
5										6																			
6	2				SC				8																				
8									10																				
9						BROWN GREY	F	V _x	12																				
10									14																				
12	3				SC				16																				
14									18																				
15						End of hole at 15'			20																				
16									22																				
18									24																				
20																													
22																													
24																													

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY					
DWN:		FIELD ENG		DATE DRILLED 6/2/78		AIRPHOTO NO. A22771-81		CHAINAGE 355 + 70		OFFSET	
CKD		TECH R.S.		RIG 2		SURFACE DRAINAGE FAIR		VEGETATION BF		ELEV 789	
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	
								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.)	
										REMARKS	
PEAT		Pt									
BROWN SILTY TILL, SANDY WITH SOME GRAVEL		SC		F		V _x		2		2	
								4		4	
								6		6	
								8		8	
								10		10	
								12		12	
								14		14	
								16		16	
								18		18	
								20		20	
								22		22	
								24		24	
BROWN GREY		ML		F		V _x		8		8	
								10		10	
								12		12	
								14		14	
								16		16	
								18		18	
								20		20	
								22		22	
								24		24	
End of hole at 15'		SC						12		12	
								14		14	
								16		16	
								18		18	
								20		20	
								22		22	
								24		24	

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										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		FAIR		VEGETATION		BF		ELEV 743															
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 401 B,C,S C NUMBER E													
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+																			
2					SC	SILTY AND SANDY TILL WITH SOME GRAVEL AND A TRACE OF CLAY	F	N _f	2																				
4	1									4	○																		
6										6																			
8						-- BROWN GREY			8																				
10	2				ML		F	V _x	10		○																		
12									12																				
14	3				ML				14		○																		
15						End of hole at 15'			16																				
16									18																				
18									20																				
20									22																				
22									24																				

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY								
DWN:		FIELD ENG		DATE DRILLED 6/2/73		AIRPHOTO NO: A22772-94		CHAINAGE 379 + 90		OFFSET		TEST HOLE				
CKD:		TECH W.R.		RIG I		SURFACE DRAINAGE FAIR		VEGETATION A B		ELEV 719		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							
									20 40 60 80 100 100+							
2	1				ML	BROWN CLAYEY AND SILTY TILL, SANDY WITH SOME GRAVEL AND FEW COBBLES	F	N _f	2							
4																
6																
8																
10	2				ML	End of hole at 15'			10							
12																
14																
15																
16									16							
18									18							
20									20							
22									22							
24									24							

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ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY			
DWN:		FIELD ENG		DATE DRILLED 6/2/73		AIRPHOTO NO A22772-96		CHAINAGE 411 + 25		OFFSET	
CKD:		TECH R.S.		RIG 1		SURFACE DRAINAGE GOOD		VEGETATION A		ELEV 626	
										TEST HOLE	
										MILE 402 B,C,S C NUMBER E	
										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 40 LIQUID LIMIT 80 20 40 60 80 100 100+																
2	1				ML	BROWN SILTY TILL, CLAYEY AND SANDY WITH SOME GRAVEL, FEW COBBLES: AND FEW SMALL BOULDERS BELOW DEPTH OF 8 FT.	F	N _f	2							
4									4							
5									5							
6	2				ML				6							
8									8							
10									10							
12	3				SC				12							
14									14							
15						End of hole at 15'			15							
16									16							
18									18							
20									20							
22									22							
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY										
DWN:		FIELD ENG		DATE DRILLED 6/2/73		AIRPHOTO NO: A22772-96		CHAINAGE 418 + 35		OFFSET		TEST HOLE				
CKD		TECH R.S.		RIG 1		SURFACE DRAINAGE GOOD		VEGETATION A		ELEV 603'		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	1				SM	FINE BROWN SAND AND SILT WITH SOME GRAVEL AND A TRACE OF CLAY			2	15	30	51	4			
5					ML	SILTY AND SANDY TILL WITH SOME CLAY, GRAVEL, SOME COBBLES AND OCCASIONAL BOULDERS			6	14	20	52	14			
12	3				ML				12							
15						End of hole at 15'			15							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY										
DWN:		FIELD ENG	DATE DRILLED 6/2/73	AIRPHOTO NO A22772-96	CHAINAGE 434 + 00	OFFSET		TEST HOLE								
CKD		TECH R.S.	RIG 1	SURFACE DRAINAGE GOOD		VEGETATION A		ELEV 598								
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	1				ML	BROWN CLAYEY TILL WITH SOME SILT, SAND, GRAVEL, COBBLES, AND BOULDERS			2							
4									4							
6	2				ML		F	N _f	6							
8									8							
10									10							
12	3				ML				12							
14									14							
15						End of hole at 15'			15							
16									16							
18									18							
20									20							
22									22							
24									24							

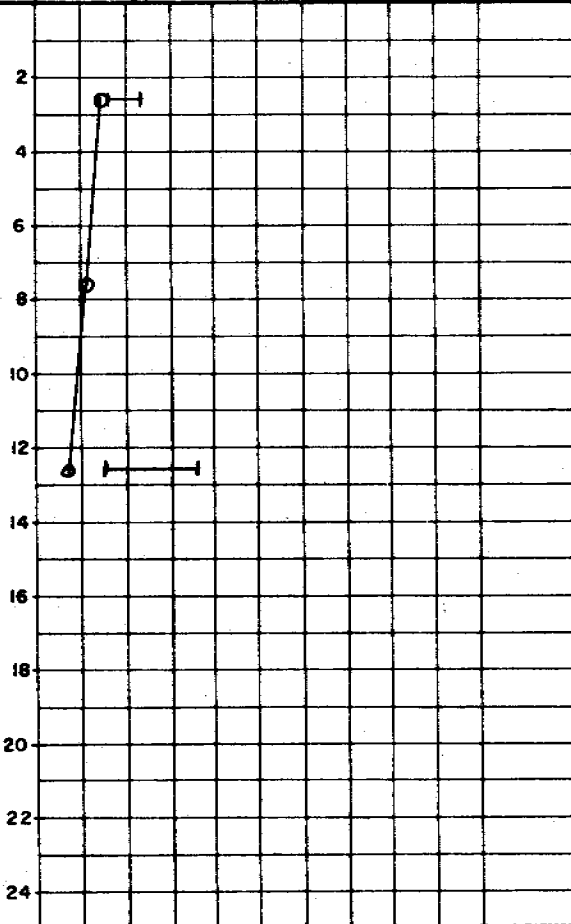
ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY										
DWN:		FIELD ENG		DATE DRILLED 6/2/13		AIRPHOTO NO. A22772-96		CHAINAGE 449 + 10		OFFSET		TEST HOLE				
CKD		TECH R.S.		RIG 1		SURFACE DRAINAGE Good		VEGETATION: A		ELEV 605						
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	1				SC	BROWN CLAYEY AND SILTY TILL, SANDY WITH SOME GRAVEL, COBBLES AND SMALL BOULDERS			2							
4									4							
6	2				SC		F	V _x	6							
8									8							
10									10							
12	3				SC				12							
14									14							
15						End of hole at 15'			15							
16									16							
18									18							
20									20							
22									22							
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY										
DWN:		FIELD ENG	DATE DRILLED 4/2/73		AIRPHOTO NO. A22772-97	CHAINAGE 472 + 12		OFFSET	TEST HOLE							
CKD		TECH R.S.	RIG 1		SURFACE DRAINAGE		VEGETATION: A	ELEV 685								
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	1				ML	BROWN CLAYEY AND SILTY TILL, SANDY WITH SOME GRAVEL AND A TRACE OF COBBLES. A GRAVELLY LAYER IS PRESENT AT 8 TO 11 FT.		N _{bn}	2							
4									4							
5									5							
6	2				ML				6							
8									8							
10									10							
12									12							
14	3				ML				14							
15						End of hole at 15'			15							
16									16							
18									18							
20									20							
22									22							
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY													
DWN:		FIELD ENG		DATE DRILLED 6/2/73		AIRPHOTO NO: A22772-97		CHAINAGE 475 + 00		OFFSET		TEST HOLE							
CKD		TECH R.S.		RIG 1		SURFACE DRAINAGE GOOD		VEGETATION: A		ELEV 682		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	1				SM	BROWN SILTY AND SANDY TILL, MINOR CLAY WITH SOME GRAVEL, COBBLES AND BOULDERS	F	N _{bn}	2										
4											4								
5											5								
6									6										
8	2				CL- ML				8										
10									10										
12	3								12										
14									14										
15									15										
16						End of hole at 15'			16										
18									18										
20									20										
22									22										
24									24										

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

20 40 60 80 100 100+
PLASTIC LIMIT LIQUID LIMIT



ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA						DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY							
DWN:		FIELD ENG		DATE DRILLED 6/2/73		AIRPHOTO NO: A22772-97		CHAINAGE 477 + 65		OFFSET				TEST HOLE			
CKD		TECH R.S.		RIG 1		SURFACE DRAINAGE GOOD				VEGETATION A				ELEV 684			
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	1				ML	BROWN SILTY AND SANDY TILL, MINOR CLAY, WITH SOME GRAVEL, COBBLES AND BOULDERS	F	N _{bn}	2								
4									4								
5									6								
6									8	○							
8	2				SC				10								
10									12								
12	3				SC				14								
14									16								
16						End of hole at 15'			18								
18									20								
20									22								
22									24								
24																	

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA					DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
OWN:		FIELD ENG		DATE DRILLED 4/2/73		AIRPHOTO NO: A22772-97		CHAINAGE 489+27		OFFSET		TEST HOLE				
CKD		TECH R.S.		RIG 1		SURFACE DRAINAGE GOOD		VEGETATION A		ELEV 688		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						
2	1				SC	BROWN SANDY TILL, SILTY WITH SOME CLAY, GRAVEL, COBBLES AND A FEW SMALL BOULDERS	F	N _{bn}	2							
4									4							
5									5							
6									6							
8	2				SC				8							
10									10							
12	3				SC				12							
14									14							
15									15							
16						End of hole at 15'			16							
18									18							
20									20							
22									22							
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG.		DATE DRILLED 2/2/73		AIRPHOTO NO. A22772-97		CHAINAGE 502 + 12		OFFSET		TEST HOLE																	
CKD:		TECH. R.S.		RIG 1		SURFACE DRAINAGE GOOD		VEGETATION A		ELEV 678		MILE 404		B,C,S C		NUMBER E													
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					SM	BROWN FINE SILTY SAND WITH A TRACE OF GRAVEL		N _{bn}	2																				
2.5	1				ML	CLAYEY AND SILTY TILL, SANDY WITH SOME GRAVEL, COBBLES AND BOULDERS		N _{bn}	4																				
4									6																				
5									8																				
6	2				SC				10																				
8									12																				
10									14																				
12	3				SC				16																				
14									18																				
15						End of hole at 15'			20																				
16									22																				
18									24																				
20																													
22																													
24																													

[illegible]

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG		DATE DRILLED 4/2/73		AIRPHOTO NO A22772-98		CHAINAGE 517 + 80		OFFSET		TEST HOLE																	
CKD		TECH R.S.		RIG 1		SURFACE DRAINAGE GOOD		VEGETATION A		ELEV 667		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	1				SM	BROWN FINE SILTY SAND WITH A TRACE OF GRAVEL		N _{bn}	2																				
4					ML	SILTY TILL, CLAYEY AND SANDY WITH SOME GRAVEL AND COBBLES AND A FEW SMALL BOULDERS			4																				
6									6																				
8	2				ML		F	N _{bn}	8																				
10									10																				
12	3				SC				12																				
14									14																				
15									15																				
16						End of hole at 15'			16																				
18									18																				
20									20																				
22									22																				
24									24																				

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY								
DWN:		FIELD ENG		DATE DRILLED 7/2/72		AIRPHOTO NO: A22772-98		CHAINAGE 525 + 10		OFFSET		TEST HOLE				
CKD		TECH W.R.		RIG 1		SURFACE DRAINAGE FAIR		VEGETATION A B D		ELEV 663		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	1				ML	CLAYEY TILL, SILTY AND SANDY WITH SOME GRAVEL			2							
4									4							
5									5							
6									6							
8	2							N _{bn}	8							
9									9							
10					SC	BROWN SILTY TILL, SANDY WITH SOME GRAVEL AND COBBLES			10							
12	3								12							
14									14							
15						End of hole at 15'			15							
16									16							
18									18							
20									20							
22									22							
24									24							

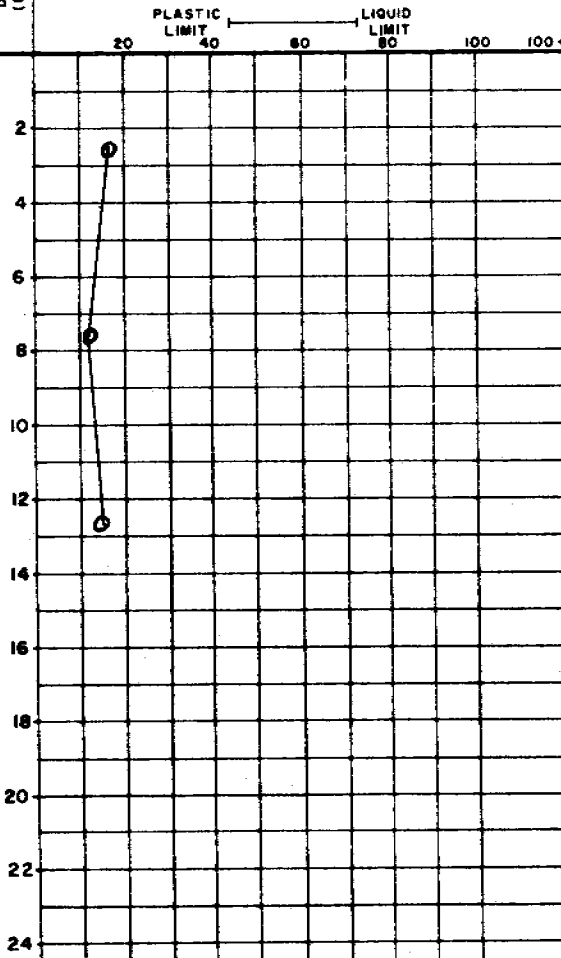
ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG		DATE DRILLED 7/2/73		AIRPHOTO NO: A22772-99		CHAINAGE 544 + 79		OFFSET		ELEV 639'		TEST HOLE							
CKD		TECH W.R.		RIG 1		SURFACE DRAINAGE GOOD		VEGETATION A B D													
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+											
1					SM	FINE SILTY SAND			1												
2	1				SC	BROWN SILTY AND CLAYEY TILL, SANDY WITH SOME GRAVEL AND COBBLES			2	15	30	49	6								
4									4												
6									6												
8	2				SC				8	10	22	59	9								
9									9												
10									10												
12	3				SC				12												
14									14												
15									15												
16						End of hole at 15'			16												
18									18												
20									20												
22									22												
24									24												

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY						
DWN:		FIELD ENG		DATE DRILLED 6/2/73		AIRPHOTO NO: A22772-99		CHAINAGE: 555 + 90		OFFSET		TEST HOLE		
CKD		TECH W. R.		RIG 1		SURFACE DRAINAGE GOOD		VEGETATION A B D		ELEV 610				
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	1				SM	BROWN SILTY TILL, SANDY WITH SOME GRAVEL AND COBBLES			2	○				
4									4					
6									6					
8	2				SM		F	N _f	8	○				
10									10					
12	3				SM				12	○				
14									14					
16						END OF HOLE AT 15'			16					
18									18					
20									20					
22									22					
24									24					

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY										
DWN		FIELD ENG	DATE DRILLED 7/2/73	AIRPHOTO NO A22772-99	CHAINAGE 566 + 00	OFFSET		TEST HOLE								
CKD		TECH W.P.	RIG 1	SURFACE DRAINAGE GOOD	VEGETATION A B D	ELEV 590										
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS AT 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	1				ML	BROWN SILTY TILL, SANDY TILL, SANDY WITH SOME GRAVEL AND COBBLES, MINOR CLAY		N _F	2							
4									4							
5									5							
6	2								6							
8					ML				8							
10									10							
12	3								12							
14									14							
15						End of hole at 15'			15							
16									16							
18									18							
20									20							
22									22							
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG		DATE DRILLED 7/2/73		AIRPHOTO NO: A22772-99		CHAINAGE: 571 + 00		OFFSET		TEST HOLE									
CKD		TECH: W.R.		RIG: 1		SURFACE DRAINAGE: GOOD		VEGETATION: A B D		ELEV: 580		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	1				SC	BROWN SILTY TILL, SANDY WITH SOME GRAVEL AND A TRACE OF CLAY AND OF COBBLES	F	N _f	2												
4											4										
6	2				SC						6										
8									8												
10									10												
12	3				SC				12												
14									14												
15						End of hole at 15'			15												
16									16												
18									18												
20									20												
22									22												
24									24												

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



ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN		FIELD ENG		DATE DRILLED 7/2/73		AIRPHOTO NO. A22772-99		CHAINAGE 577 + 00		OFFSET		TEST HOLE									
CKD		TECH W.R.		RIG 1		SURFACE DRAINAGE GOOD		VEGETATION A B D		ELEV 561											
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	1				SM	BROWN FINE SILTY SAND WITH A TRACE OF GRAVEL			2												
4					SM	SANDY TILL, SILTY WITH SOME GRAVEL AND COBBLES, MINOR CLAY			4												
5																					
6																					
8	2				SM		F	N _{bn}	8												
10									10												
12	3				SM				12												
14									14												
15						End of hole at 15'			15												
16									16												
18									18												
20									20												
22									22												
24									24												

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY												
DWN		FIELD ENG	DATE DRILLED 7/2/73	AIRPHOTO NO A22772-99	CHAINAGE 587 + 60	OFFSET		TEST HOLE										
CKD	TECH W.R.	RIG 1	SURFACE DRAINAGE GOOD		VEGETATION AB	ELEV 534		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	1				ML	CLAYEY AND SILTY TILL, SANDY, WITH SOME GRAVEL AND COBBLES	F	N _{bn}	2									
4											4							
5											5							
6	2				ML				6									
8									8									
10									10									
12	3				ML				12									
14									14									
15						End of hole at 15'			15									
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+

DEPARTMENT OF PUBLIC WORKS, CANADA
MACKENZIE HIGHWAY

[illegible]

[illegible]

ACRES CONSULTING SERVICES LIMITED
CALGARY, ALBERTA

DRILL HOLE REPORT

DEPARTMENT OF PUBLIC WORKS, CANADA
MACKENZIE HIGHWAY

DWN		FIELD ENG		DATE DRILLED 7/2/73		AIRPHOTO NO A22772-101		CHAINAGE 609 + 00		OFFSET		TEST HOLE				
CKD	TECH	W.R.	RIG 1	SURFACE DRAINAGE POOR		VEGETATION A D		ELEV 497								
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					Pt	PEAT		V _x	2							
4									4							
6							F		6							
8	1				ML	SILTY AND CLAYEY TILL, SANDY WITH SOME GRAVEL AND A FEW SMALL BOULDERS		N _f	8							
10									10							
12	2				ML				12							
14									14							
15						End of hole at 15'			15							
16									16							
18									18							
20									20							
22									22							
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN		FIELD ENG		DATE DRILLED 7/2/73		AIRPHOTO NO. A22772-101		CHAINAGE 619 + 00		OFFSET		TEST HOLE																	
CKD		TECH W.R.		RIG 1		SURFACE DRAINAGE POOR		VEGETATION D		ELEV 497		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						PEAT			2																				
4					Pt			V _x	4																				
6							F		6																				
8									8																				
10					CL	SILTY CLAY		V _x	10																				
11									11																				
12	1				ML	SILTY, CLAYEY TILL, SANDY WITH SOME GRAVEL AND COBBLES		N _f	12																				
14									14																				
15						End of hole at 15'			15																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA						DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG		DATE DRILLED 7/2/73		AIRPHOTO NO: A22772-102		CHAINAGE 639 + 90		OFFSET		TEST HOLE					
CKD		TECH W.R.		RIG 1		SURFACE DRAINAGE GOOD		VEGETATION ABD		ELEV 496		MILE 407		B,C,S C		NUMBER B	
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 %				
						PEAT											
2	1				SM	BROWN SANDY TILL, SILTY WITH SOME GRAVEL AND SOME CLAY AND COBBLES	F	N _{bn}	2	13	27	43	17				
8	2				SM				8	15	26	40	19				
12	3				SN				12								
15						End of hole at 15'			15								
16									16								
18									18								
20									20								
22									22								
24									24								

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG		DATE DRILLED 7/2/73		AIRPHOTO NO. A22772-102		CHAINAGE 645 + 10		OFFSET		ELEV 498		TEST HOLE															
CKD:		TECH W.R.		RIG 1		SURFACE DRAINAGE GOOD		VEGETATION ABD						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 %																		
2	1				ML	BROWN SILTY TILL, SANDY WITH SOME GRAVEL AND MINOR CLAY AND COBBLES			2	○																			
4									4																				
5									5																				
6	2				ML				6																				
8									8																				
10									10																				
12	3				ML				12																				
14									14																				
15									15																				
16						End of hole at 15'			16																				
18									18																				
20									20																				
22									22																				
24									24																				

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG		DATE DRILLED 7/2/73		AIRPHOTO NO: A22772-102		CHAINAGE 654 + 30		OFFSET		TEST HOLE																	
CKD		TECH W.R.		RIG 1		SURFACE DRAINAGE GOOD		VEGETATION ABD		ELEV 496		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	1				SM	BROWN FINE SILTY SAND			2																				
3									3																				
4									4																				
5									5																				
6									6																				
8	2				ML	BROWN CLAYEY AND SILTY TILL, SANDY WITH SOME GRAVEL AND A TRACE OF COBBLES	F	N _{bn}	8																				
10									10																				
12	3				ML				12																				
14									14																				
15						End of hole at 15'			15																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY								
DWN:		FIELD ENG		DATE DRILLED 7/2/73		AIRPHOTO NO. A22772-102		CHAINAGE 657 + 90		OFFSET		TEST HOLE				
CKD		TECH W.R.		RIG 1		SURFACE DRAINAGE GOOD		VEGETATION BD		ELEV 492		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	1				SM	BROWN FINE SILTY SAND	F	N _{bn}	2							
4									4							
5									5							
6	2				ML	BROWN CLAYEY AND SILTY TILL, SANDY WITH SOME GRAVEL AND A TRACE OF COBBLES	F	N _f	6							
8									8							
10									10							
12	3				ML				12							
14									14							
15						End of hole at 15'			15							
16									16							
18									18							
20									20							
22									22							
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA						DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY								
DWN		FIELD ENG		DATE DRILLED 7/2/73		AIRPHOTO NO. A22772-103		CHAINAGE 670 + 10		OFFSET		TEST HOLE				
CKD		TECH W.R.		RIG 1		SURFACE DRAINAGE GOOD		VEGETATION ABD		ELEV 492						
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	1				SM	BROWN FINE SILTY SAND			2							
4									4							
5									5							
6	2				ML	BROWN CLAYEY AND SILTY TILL, SANDY WITH SOME GRAVEL AND A TRACE OF COBBLES		N _{bn}	6							
8									8							
10									10							
12	3								12							
14									14							
15									15							
16						End of hole at 15'			16							
18									18							
20									20							
22									22							
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG		DATE DRILLED 9/2/73		AIRPHOTO NO: A-22772-103		CHAINAGE 678+25		OFFSET		TEST HOLE																	
CKD		TECH		R.S.		RIG 1		SURFACE DRAINAGE GOOD		VEGETATION A		ELEV 485																	
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	1				SM	SILTY TILL SANDY WITH SOME GRAVEL AND A TRACE OF CLAY	F	N _{bn}	2							HOLE KEPT CAVING PAST 15'-0" BECAUSE OF SAND													
4																													
6																													
6.5									6.5																				
8	2				SM				8																				
10									10																				
12								N _f	12																				
14	3				SM				14																				
16						END OF HOLE AT 15'			16																				
18									18																				
20									20																				
22									22																				
24									24																				

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY										
DWN:		FIELD ENG		DATE DRILLED 7/2/73		AIRPHOTO NO: A-22772-103		CHAINAGE: 685+62		OFFSET		ELEV 473		TEST HOLE		
CKD		TECH R.S.		RIG		SURFACE DRAINAGE FAIR		VEGETATION B				MILE 408		B.C.S. NUMBER C E		
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	1				CL	CLAYEY SILT WITH SOME SAND	F	N _{bn}	2							
4									4							
6									6							
8	2				CL				8							
10									10							
12									12							
14	3				CL				14							
16									16							
18	4				CL				18							
20						End of hole at 20'			20							
22									22							
24									24							

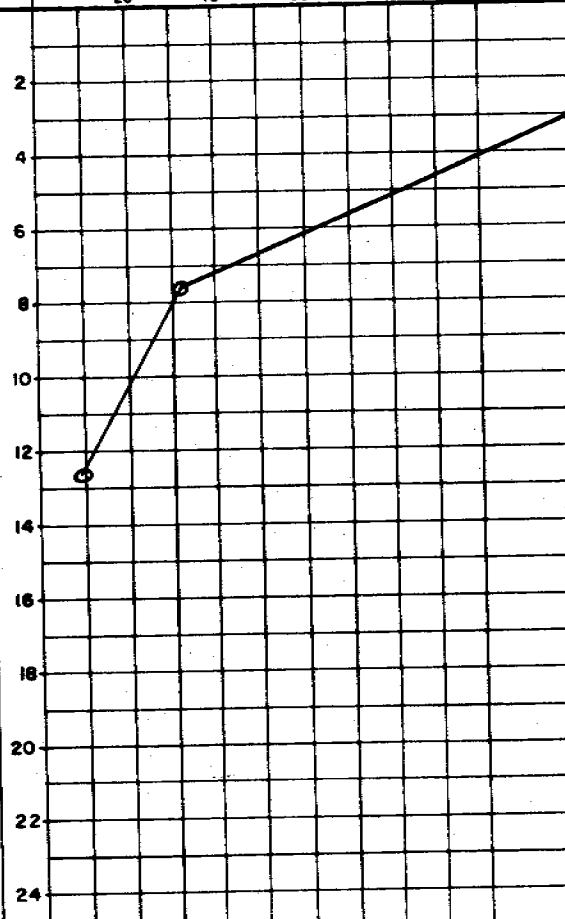
ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY								
DWN:		FIELD ENG		DATE DRILLED 6/2/73		AIRPHOTO NO: A-22772-103		CHAINAGE 693 + 30		OFFSET		TEST HOLE				
CKD		TECH R.S.		RIG 1		SURFACE DRAINAGE FAIR		VEGETATION: B		ELEV 466.0						
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	1				CL	CLAYEY SILT WITH SOME SAND			2	32	61	7	0			
4																
6	2				CL				6							
8									8	36	63	1	0			
10									10							
12	3				CL				12							
14									14							
16						End of hole at 15'			16							
18									18							
20									20							
22									22							
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA		DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY											
DWN	FIELD ENG	DATE DRILLED 6/2/73	AIRPHOTO NO. A-22772-104	CHAINAGE 703 + 23	OFFSET										
CKD	TECH R.S.	RIG 1	SURFACE DRAINAGE FAIR	VEGETATION B	ELEV 469.4										
					TEST HOLE										
					MILE 408 B,C,S C NUMBER D										
					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		
										%	%	%	%		
2	1				CL	BROWN CLAYEY SILT WITH SOME SAND	F	N _{bn}	2						
4									4						
6	2								6						
8					CL				8						
10									10						
12	3				CL				12						
14									14						
16						End of hole at 15'			16						
18									18						
20									20						
22									22						
24									24						

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY					
OWN:		FIELD ENG:		DATE DRILLED: 6/2/73		AIRPHOTO NO: A-22772-104		CHAINAGE: 706 + 90		OFFSET:		TEST HOLE					
CKD:		TECH: R.S.		RIG: 1		SURFACE DRAINAGE: GOOD		VEGETATION: A		ELEV: 458		MILE: 408 B,C,S: C NUMBER: E					
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	1				PT	PEAT			2								
4									4								
5									5								
6									6								
6.5									6.5								
8	2				ML	SILTY CLAYEY TILL WITH SOME GRAVEL AND COBBLES BELOW 12'			8								
10									10								
12	3				ML				12								
14									14								
15						End of hole at 15'			15								
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+
LIQUID LIMIT



ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY																							
DWN:		FIELD ENG		DATE DRILLED 6/2/73		AIRPHOTO NO: A-22772-104		CHAINAGE: 712 + 10		OFFSET		TEST HOLE																	
CKD		TECH R.S.		RIG 1		SURFACE DRAINAGE GOOD		VEGETATION, A		ELEV 459		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		1								CL		BROWN SILT AND SAND, MINOR CLAY				F N _f		2											
4																		4											
5																		5											
6		2																6											
8																		8											
10										SM		SILTY AND SANDY LAYER						10											
12		3								CL		BROWN SILT AND SAND SOME CLAY						12											
14																		14											
15																		15											
16												End of hole at 15'						16											
18																		18											
20																		20											
22																		22											
24																		24											

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
OWN:		FIELD ENG:		DATE DRILLED 6/2/73		AIRPHOTO NO: A-22772-104		CHAINAGE: 723 + 35		OFFSET:		ELEV 453.2		TEST HOLE															
CKD:		TECH R.S.		RIG 1		SURFACE DRAINAGE FAIR		VEGETATION: B																					
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	1				PT	PEAT		V _x	2																				
4									4																				
6									6																				
8	2				ML	BROWN SILT WITH SOME CLAY AND SAND	F	N _{bn}	8																				
10									10																				
12	3				ML				12																				
14									14																				
16						End of hole at 15'			16																				
18									18																				
20									20																				
22									22																				
24									24																				

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY				
DWN:		FIELD ENG		DATE DRILLED 6/2/73		AIRPHOTO NO: A-22772-104		CHAINAGE 732 + 70		OFFSET		TEST HOLE				
CKD		TECH R.S.		RIG 1		SURFACE DRAINAGE FAIR		VEGETATION B		ELEV. 452						
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	1				SC	BROWN SILTY AND CLAYEY TILL, SANDY WITH A TRACE OF GRAVEL			2							
4									4							
5									5							
6									6							
8	2				SC		F	N _{DN}	8							
10									10							
12	3				SC				12							
14									14							
15						End of Hole at 15'			15							
16									16							
18									18							
20									20							
22									22							
24									24							

[illegible]

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY								
DWN:		FIELD ENG		DATE DRILLED 8/2/73		AIRPHOTO NO: A-22772-106		CHAINAGE: 772 + 75		OFFSET:		TEST HOLE				
CKD		TECH W.R.		RIG 1		SURFACE DRAINAGE: GOOD		VEGETATION: A.D.		ELEV 463		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	1				ML	BROWN SILTY TILL, SANDY WITH A TRACE OF FINE GRAVEL AND MINOR CLAY		N _{bn}	2							
4									4							
5									5							
6									6							
8	2				ML				8							
10									10							
12									12							
13	3				ML				13							
14									14							
15						End of Hole at 15'			15							
16									16							
18									18							
20									20							
22									22							
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY					
DWN:		FIELD ENG:		DATE DRILLED: 8/2/79		AIRPHOTO NO: A. 22772-106		CHAINAGE: 783 + 45		OFFSET:		TEST HOLE	
CKD:		TECH: W.R.		RIG: 1		SURFACE DRAINAGE: GOOD		VEGETATION: ABD		ELEV: 463.6			

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.)	TEST HOLE		
										CLAY %	SILT %	SAND %	GRAVEL %			MILE	B,C,S	NUMBER
1					Pt	Peat			1									
2	1				SC	SILTY TILL CLAYEY AND SANDY WITH SOME GRAVEL			2									
4									4									
5									5									
6	2							N _{dn}	6									
8									8									
10						BROWN GREY			10									
12									12									
14	3								14									
15									15									
16						End of Hole at 15'			16									
18									18									
20									20									
22									22									
24									24									

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG		DATE DRILLED 8/2/7		AIRPHOTO NO: A-22772-100		CHAINAGE 786 + 20		OFFSET		TEST HOLE					
CKD		TECH W.R.		RIG 1		SURFACE DRAINAGE GOOD		VEGETATION: AD		ELEV 474'		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 %				
7																	
2	1				ML	GREY SILTY TILL, SANDY, SOME GRAVEL AND COBBLES, MINOR CLAY	F	N _{bn}	2								
4					ML			N _f	4								
5					ML				6								
6					ML				8								
8	2				ML				8								
10									10								
12									12								
14	3				ML				14								
15						End of hole at 15'			16								
16									18								
18									20								
20									22								
22									24								

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY										
DWN:		FIELD ENG		DATE DRILLED 8/2/78		AIRPHOTO NO A22772-106		CHAINAGE 787 + 20		OFFSET		TEST HOLE				
CKD		TECH W, R,		RIG 1		SURFACE DRAINAGE FAIR		VEGETATION AD		ELEV 475.6		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	1				SC	Fine brown silty sand and some gravel (till)	F	N _{bn}	2							
4									4							
5									5							
6									6							
8	2				SC	sandy silt with some fine gravel (till)	F		8							
10									10							
12	3								12							
14									14							
16						Hole ends at 15'			16							
18									18							
20									20							
22									22							
24									24							

[illegible]

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				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								
		W.R.	#1	FAIR		ABD		404								
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	1				ML-CL	BROWN SILTY TILL, TRACE CLAY, SAND AND MINOR GRAVEL		N _{bn}	2							
4									4							
5									5							
6	2				ML-CL			N _{bn}	6							
8									8							
10									10							
12	3				ML-CL				12							
14									14							
15									15							
16						End of hole at 15'			16							
18									18							
20									20							
22									22							
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY										
DWN:		FIELD ENG		DATE DRILLED 8/2/73		AIRPHOTO NO: A-22772-107		CHAINAGE 828+50		OFFSET		TEST HOLE				
CKD		TECH		W.R.		RIG 1		SURFACE DRAINAGE		VEGETATION: ABD		ELEV 392				
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	1				ML-CL	BROWN SANDY AND SILTY TILL, MINOR CLAY WITH SOME GRAVEL		N _{bn}	2	12	33	40	15			
4									4							
6									6							
8	2				ML-CL	GREY SILT, TRACE OF SAND AND CLAY			8	16	78	6	0			
10									10							
12					ML-CL				12							
14	3								14	14	80	6	0			
16						End of hole at 15'			16							
18									18							
20									20							
22									22							
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY					
DWN:		FIELD ENG		DATE DRILLED 8/2/73		AIRPHOTO NO: A-22772-107		CHAINAGE 830 + 60		OFFSET		TEST HOLE	
CKD		TECH W.R.		RIG 1		SURFACE DRAINAGE FAIR		VEGETATION: ABD		ELEV 392			

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	1				ML	BROWN SILTY SAND, MINOR CLAY AND A TRACE OF GRAVEL			2							
4					CL				4							
5									5							
6	2								6							
8					CL	BROWN SANDY SILT, MINOR CLAY, TRACE OF GRAVEL			8							
10									10							
12	3				ML				12							
14					CL				14							
15						End of hole at 15'			15							
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

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY								
DWN:		FIELD ENG		DATE DRILLED 8/2/73		AIRPHOTO NO: A.22772-103		CHAINAGE: 835 + 09		OFFSET		TEST HOLE				
CKD		TECH W.R.		RIG I		SURFACE DRAINAGE: GOOD		VEGETATION: ABD		ELEV 374		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 %			
27	7				SC				2							
4	8				SC		F	N _{bn}	4							
30						End of hole at 30'			6							
6									8							
8									10							
10									12							
12									14							
14									16							
16									18							
18									20							
20									22							
22									24							

[illegible]

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG		DATE DRILLED 8/2/78		AIRPHOTO NO: A22772-102		CHAINAGE 839+00		OFFSET		TEST HOLE					
CKD		TECH W.R.		RIG 1		SURFACE DRAINAGE GOOD		VEGETATION A B D		ELEV 361		MILE S.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	1				CL	BROWN SILTY TILL, SANDY AND CLAYEY WITH A TRACE OF GRAVEL VARIES LOCALLY			2								
4										4							
6										6							
8	2				CL				8								
10									10								
12	3				CL				12								
14									14								
16						END OF HOLE AT 15'			16								
18									18								
20									20								
22									22								
24									24								

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY																					
DWN:		FIELD ENG:		DATE DRILLED 8/2/73		AIRPHOTO NO: A22772-107		CHAINAGE: 850 + 50		OFFSET		TEST HOLE															
CKD:		TECH: W.R.		RIG 1		SURFACE DRAINAGE: GOOD		VEGETATION: ABD		ELEV: 331		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	

[illegible]

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG G.P.S.		DATE DRILLED 8/2/73		AIRPHOTO NO: A22772-107		CHAINAGE: 865 + 70		OFFSET		TEST HOLE																	
CKD		TECH R. SAVARD		RIG 1		SURFACE DRAINAGE GOOD		VEGETATION A		ELEV 281.2		MILE 411		B,C,S C		NUMBER H													
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	1				SM	Brown fine silty sand		Nbn	2																				
3									3																				
4					SW	Brown sand and gravel with some silt	F	Nf	4																				
6									6																				
8	2				SW				8																				
10									10																				
12	3				SW				12																				
14									14																				
16						End of hole at 15'			16																				
18									18																				
20									20																				
22									22																				
24									24																				

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY												
DWN:		FIELD ENG: G.P.S.		DATE DRILLED: 8/2/73		AIRPHOTO NO: A22772-107		CHAINAGE: 866 + 95		OFFSET: -		TEST HOLE						
CKD:		TECH: R.SAVARD		RIG: 1		SURFACE DRAINAGE: GOOD		VEGETATION: A		ELEV: 275.5								
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+									
1.5					Pt	PEAT		Nbn	2							Hit a hard boulder at 8' so hole was abandoned and shifted 20' north where hole 411-C-1a was drilled		
2					SM	Silty Sand			4									
3					GM	Gravelly sand with some cobbles and a few boulders	F	Nf	6									
4																		
6	2																	
8						End of hole at 8'			8									
10									10									
12									12									
14									14									
16									16									
18									18									
20									20									
22									22									
24									24									

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA		DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY													
DWN: FIELD ENG. G.P.S.		DATE DRILLED 8/2/73		AIRPHOTO NO: A22772-107		CHAINAGE: 867 + 15		OFFSET: -		TEST HOLE							
CKD: TECH. R. SAVARD		RIG: 1		SURFACE DRAINAGE: GOOD		VEGETATION: A		ELEV: 276									
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
										CLAY %	SILT %	SAND %	GRAVEL %				
2	1				Pt	PEAT	F	Vx	2								Hole abandoned at 5' because of cave-in
4	2				SW	Gravelly sand		Nf	4								
6						End of hole at 5'			6								
8									8								
10									10								
12									12								
14									14								
16									16								
18									18								
20									20								
22									22								
24									24								

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY								
DWNE		FIELD ENG:		DATE DRILLED: 9/2/73		AIRPHOTO NO: A22772-108		CHAINAGE: 873+12		OFFSET		TEST HOLE				
CKD:		TECH: M.H.R.		RIG: 2		SURFACE DRAINAGE: GOOD		VEGETATION: A F		ELEV: 274.0		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			
										O = WATER CONTENT (% OF DRY WEIGHT) Δ = ICE CONTENT (% OF SAMPLE VOLUME)						
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+						
2	1				GM	BROWN SAND AND GRAVEL WITH BOULDERS			2							
4									4							
6									6							
8									8							
10	2	P		46		-----DO-----			10							
12									12							
14									14							
16									16							
18									18							
20	3	P		50/ 4"		-----DO-----			20							
22									22							
24									24							

[illegible]

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG.		DATE DRILLED 9/2/73		AIRPHOTO NO: A22772-108		CHAINAGE: 873 + 70		OFFSET		TEST HOLE																	
CKD		TECH		M.R.		RIG 2		SURFACE DRAINAGE: IN RIVER		VEGETATION: NIL - RIVER		ELEV. 268		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					GP	Brown sandy gravel with some silt and boulders	UF		2								Drilled on River Between Two Mountains, Hole Cased to 25 ft.												
4								4																					
6								6																					
8								8																					
9								9																					
10					GP	Sand and gravel with some cobbles and a trace of silt		10																					
12								12																					
14								14																					
15								15																					
16								16																					
18								18																					
20					GP			20																					
22								22																					
24								24																					
25								25																					

[illegible]

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG		DATE DRILLED 9/2/73		AIRPHOTO NO: A22772-108		CHAINAGE		873 + 70		OFFSET		ELEV		266		TEST HOLE											
CKD		TECH		R.G.		RIG		2		SURFACE DRAINAGE		IN RIVER		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							
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)																			
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+										CLAY		SILT		SAND		GRAVEL			
																				%		%		%		%			
50						Sand and Gravel with some cobbles and a trace of silt			2																				
2									4																				
4									6																				
55	6				GP				8																				
6									10																				
8									12																				
60						End of Hole at 60'			14																				
12									16																				
14									18																				
16									20																				
18									22																				
20									24																				
22																													
24																													

Drilled on
River Between
Two Mountains

Hole Starting
To Cave at 60'

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG G.P.S.		DATE DRILLED 10/2/73		AIRPHOTO NO: A22772-108		CHAINAGE: 875 + 70		OFFSET:		TEST HOLE																	
CKD:		TECH M.H.R.		RIG 2		SURFACE DRAINAGE: GOOD		VEGETATION: ABF		ELEV: 280		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						Brown sand and gravel with some cobbles and a trace of silt and boulders	UF		2							North bank of River Between Two Mountains													
4								4																					
6	1	P		20/0	GP			6																					
8								8																					
10	2	P		20/1	GP			10																					
12								12																					
14								14																					
16	3	P		85	GP			16																					
18								18																					
20	4			10/0				20																					
22								22																					
24								24																					

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA						DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY						
DWN:		FIELD ENG:		DATE DRILLED 10/2/73		AIRPHOTO NO: A22772-108		CHAINAGE: 878 + 95		OFFSET:		TEST HOLE		
CKD		TECH: W.R.		RIG: 1		SURFACE DRAINAGE: GOOD		VEGETATION: ABD		ELEV: 278		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 %			
2	1				SM	Brown fine silty sand with some clay and a trace of gravel		Nbn	2					
3.5							F		3.5					
4									4					
5									5					
6					SW	Sand and gravel with some silt and cobbles		Nf	6					
8	2								8					
10									10					
12									12					
13	3				SW				13					
14							UF		14					
15						End of hole at 15'			15					
16									16					
18									18					
20									20					
22									22					
24									24					

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY										
DWN:		FIELD ENG. G.P.S.		DATE DRILLED 10/2/73		AIRPHOTO NO: A22772-108		CHAINAGE: 882 + 19		OFFSET		TEST HOLE				
CKD		TECH R.S.		RIG 1		SURFACE DRAINAGE: GOOD		VEGETATION: A		ELEV 282						
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	1				SW	Brown sand and gravel with some silt and traces of cobbles	F	Nf	2							
4									4							
5									5							
6									6							
8	2				SW				8							
10									10							
12	3				SW				12							
14									14							
16						End of Hole at 15'			16							
18									18							
20									20							
22									22							
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG. G.P.S.		DATE DRILLED 10/2/73		AIRPHOTO NO: A22772-107		CHAINAGE 888 + 20		OFFSET		TEST HOLE																	
CKD		TECH R.S.		RIG 1		SURFACE DRAINAGE: GOOD		VEGETATION: A		ELEV 282																			
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	1				SW	Brown sand, gravelly with some silt and a trace of cobbles	F	Nf	2																				
4									4																				
6									6																				
8	2					Silty sand with some gravel			8																				
10					SM				10																				
12	3								12																				
14									14																				
15						End of Hole at 15'			15																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG-G.P.S.		DATE DRILLED 10/2/78		AIR PHOTO NO: A22772-107		CHAINAGE: 891 + 11		OFFSET:		TEST HOLE									
CKD		TECH: R.S.		RIG: 1		SURFACE DRAINAGE: GOOD		VEGETATION: A		ELEV: 304											
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	1				SW	Brown sand and gravel with a trace of silt	F	Nf	2												
4									4												
5									5												
6.5									6.5												
8	2				ML	Clay and silt till, sandy with some gravel		Nbn	8												
10									10												
12	3								12												
14									14												
15						End of Hole at 15'			15												
16									16												
18									18												
20									20												
22									22												
24									24												

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY			
DWN:		FIELD ENG. G.P.S.		DATE DRILLED 10/2/73		AIRPHOTO NO. A22772-107		CHAINAGE: 894 + 90		OFFSET	
CKD:		TECH. R.S.		RIG 1		SURFACE DRAINAGE GOOD		VEGETATION A		ELEV. 296	
TEST HOLE											
										MILE 411	
										B,C,S C	
										NUMBER R	
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 20 40 60 80 100 100+						
2	1				SW	Brown sand, gravelly with a trace of silt	F	Nf	2							
4									4							
5									5							
6									6							
8	2								8							
10						Brown sand with a trace of silt and gravel			10							
12	3						UF		12							
14									14							
15						End of Hole at 15'			15							
16									16							
18									18							
20									20							
22									22							
24									24							

[illegible]

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN		FIELD ENG		DATE DRILLED 11/27/3		AIRPHOTO NO: A22772-110		CHAINAGE 917 + 68		OFFSET		TEST HOLE																	
CKD		TECH W.R.		RIG 1		SURFACE DRAINAGE FAIR		VEGETATION AD		ELEV 277		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	1				Pt	PEAT		Vx	2																				
3																													
4					SM	Brown Silty Sand			4																				
5																													
6									6																				
8	2				SM		F	Nbn	8																				
10									10																				
12	3				SM	Silty Sand With A Trace of Gravel		Nbn	12																				
14									14																				
15						End of Hole at 15'			15																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA						DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY								
DWN:		FIELD ENG G.P.S.		DATE DRILLED 11/2/73		AIRPHOTO NO: A22772-110		CHAINAGE: 930 + 86		OFFSET: -		ELEV 282		TEST HOLE		
CKD		TECH R.S.		RIG 1		SURFACE DRAINAGE FAIR		VEGETATION: B								
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	1				Pt	PEAT	F	Vx	2							
4									4							
5						BROWN SILTY CLAY WITH A TRACE OF SAND		Nbn	5							
6									6							
8	2				CL				8							
10	3	T	100%	56 46 96					10							
12									12							
14	4								14							
16						END HOLE AT 15'			16							
18									18							
20									20							
22									22							
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY																																									
DWN:		FIELD ENG. G.P.S. DATE DRILLED 11/2/73										AIR PHOTO NO: A22772-110										CHAINAGE: 937 + 49										OFFSET: -										ELEV: 293										TEST HOLE									
CKD:		TECH R.SAVARD										RIG 1										SURFACE DRAINAGE FAIR										VEGETATION: B																													

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	1				CL	Brown silty clay with a trace of sand and occasional boulders below 10 feet	F	Vx	2							
4									4							
6	2				CL				6							
8									8							
10									10							
12	3				ML			Nbn	12							
14									14							
16						End of hole 15'			16							
18									18							
20									20							
22									22							
24									24							

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

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY			
DWN:		FIELD ENG G.P.S.		DATE DRILLED 11/2/73		AIRPHOTO NO: A22772-110		CHAINAGE: 944 + 53		OFFSET: -		TEST HOLE			
CKD		TECH R.SAVARD		RIG 1		SURFACE DRAINAGE FAIR		VEGETATION: B		ELEV 304		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 %				
2	1				ML	Brown clayey silt with a trace of sand		Vx	2						
4															
6															
8	2				ML		F	Nbn	8						
10															
12	3				CL	Silty and sandy clay with occasional cobbles and boulders		Nf	12						
14															
16						End of hole at 15'			16						
18									18						
20									20						
22									22						
24									24						

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY			
DWN:		FIELD ENG. G.P.S.		DATE DRILLED: 11/2		AIRPHOTO NO: A22772-110		CHAINAGE: 957 + 70		OFFSET: -	
CKD:		TECH. R. SAVARD		RIG: 1		SURFACE DRAINAGE: FAIR		VEGETATION: B		ELEV: 405	
										TEST HOLE	
										MILE B,C,S NUMBER	
										412 S E	
										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	1				CL	BROWN CLAYEY SILT WITH A TRACE OF SAND		Nbn	2									
4									4			32	67	1	0			
6									6									
8									8									
10	2				ML	CLAYEY SILT WITH A TRACE OF SAND		Nf	10									
12									12			17	75	8	0			
14									14									
16									16									
18									18									
20	3								20									
22									22									
24						(Cont'd)			24									

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY										
OWN:		FIELD ENG. P.S.	DATE DRILLED 11/2/71	PHOTO NO. A22772-110	CHAINAGE 957 + 70	OFFSET		TEST HOLE										
CKD	TECH	RIG 1	SURFACE DRAINAGE FAIR		VEGETATION B	ELEV 405												
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 %					
25	4					SC SILTY SAND WITH SOME CLAY	F	N f	2					15	69	16	0	
30						END OF HOLE 30'			4					19	74	7	0	
									6									
									8									
									10									
									12									
									14									
									16									
									18									
									20									
									22									
									24									

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY																									
OWN:		FIELD ENG:		DATE DRILLED 11/2/73		AIRPHOTO NO: A22772-111		CHAINAGE: 961 + 10		OFFSET: -																							
CKD:		TECH: R. SAVARD		RIG: I		SURFACE DRAINAGE: FAIR		VEGETATION: B		ELEV: 382																							
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			
2		1										CL		Brown silty clay with a trace of sand		F		Nbn		2													
4																				4													
6		2										CL								6													
8																				8													
10		3										CL								10													
12																				12													
14																				14													
16														End of hole at 15'						16													
18																				18													
20																				20													
22																				22													
24																				24													

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY				
DWN:		FIELD ENG		DATE DRILLED 12/2/73		AIRPHOTO NO: A22772-111		CHAINAGE 964 + 00		OFFSET -		TEST HOLE				
CKD		TECH W.R.		RIG 1		SURFACE DRAINAGE GOOD		VEGETATION AD		ELEV 401		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 %			
					Pt	PEAT		Vx		○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						
2	1				SM	BROWN SILTY SAND			2							
4									4							
6	2						F	Nbn	6							
8									8							
10	3				SM	SILTY SAND WITH MINOR GRAVEL			10							
12									12							
14									14							
15						End of hole at 15'			15							
16									16							
18									18							
20									20							
22									22							
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY										
DWR:		FIELD ENG:		DATE DRILLED: 9/2/73		AIRPHOTO NO: A22772-111		CHAINAGE: 939 + 61		OFFSET:		TEST HOLE				
CKD:		TECH: R.S.		RIG: 1		SURFACE DRAINAGE: GOOD		VEGETATION: A		ELEV: 279						
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	1				Pt	PEAT	F	Vx	2							HOLE CAVING PAST 10 FEET
3									3							
4									4							
6	2		90%	19	CL	Silty sand with some sand	UF		6							
8									8							
10									10							
12	3				CL				12							
14									14							
16									16							
18									18							
20						End of Hole at 15'			20							
22									22							
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA					DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY										
OWN:		FIELD ENG. G.P.S.		DATE DRILLED 11/2/79		PHOTO NO. A22772-111		CHAINAGE 967 + 80		OFFSET -		TEST HOLE								
CKD:		TECH. R. SAVARD		RIG 1		SURFACE DRAINAGE FAIR		VEGETATION B		ELEV. 438										
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		
										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	1				CL	BROWN CLAYEY SILT WITH A TRACE OF SAND	F	Vx	2											
4								Nbn	4											
6									6											
8									8											
10	2				CL				10											
12									12											
14									14											
16									16											
18	3				CL				18											
20									20											
22						End of hole at 20'			22											
24									24											

Hole was moved
approximately
90' east of
marker to obtain
better place to
drill

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA FEB 12						DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY								
DWN:		FIELD ENG:		DATE DRILLED 1973		AIRPHOTO NO: A22772-111		CHAINAGE: 970+00		OFFSET: -		TEST HOLE				
CKD:		TECH: W.P.		RIG: 1		SURFACE DRAINAGE: GOOD		VEGETATION: A B D		ELEV: 449		MILE 413 B,C,S NUMBER S A				
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	1				ML	BROWN SILT WITH SOME CLAY AND SAND AND A TRACE OF GRAVEL		N _{bn}	2	14	52	29	5			
4								V _c								
6					ML			N _{bn}	6							
8	2						F		8	21	58	16	5			
10																
12	3				SW	GRAVELLY SAND WITH SOME SILT AND A TRACE OF CLAY		N _f	12	4	11	63	22			
14																
16					SW											
18									18	7	20	61	12			
20						END OF HOLE AT 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 80

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA							DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY							
DWN:		FIELD ENG: G.P.S.		DATE DRILLED: 12/2/72		AIR PHOTO NO: A22772-111		CHAINAGE: 973 + 00 (Approx.)		OFFSET: -		TEST HOLE				
CKD:		TECH: W.R.		RIG: 1		SURFACE DRAINAGE: GOOD		VEGETATION: ABD		ELEV: 457						
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	1	2			CL	BROWN CLAYEY SILT WITH A TRACE OF SAND		V x	2	45	54	1	0			
4									4							
6									6							
8	2				CL		F		8	32	66	2	0			
10									10							
12									12							
14	3				CL			N b n	14	25	74	1	0			
16	4	P		110	CL				16							
18									18							
20	5	2			CL				20	25	74	1	0			
22						END OF HOLE AT 20'			22							
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG		DATE DRILLED 11/2/81		AIR PHOTO NO: A22772-111		CHAINAGE: 978+20		OFFSET		TEST HOLE																	
CKD		TECH M.H.R.		RIG 2		SURFACE DRAINAGE FAIR		VEGETATION B		ELEV 467		MILE 413		B,C,S C		NUMBER B													
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	1				CL	BROWN SILTY CLAY WITH SOME SAND, BEING GRAVELLY BELOW 14'	F	N _{bn}	2																				
4					CL				4																				
6					CL				6																				
8	2				CL				8																				
10					CL				10																				
12	3				CL		UF		12																				
14									14																				
16						END OF HOLE AT 15'			16																				
18									18																				
20									20																				
22									22																				
24									24																				

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY										
DWN:		FIELD ENG:		DATE DRILLED: 11/2/73		AIRPHOTO NO: A22772-111		CHAINAGE: 985+00		OFFSET:						
CKD:		TECH: M.H.R.		RIG: 2		SURFACE DRAINAGE: FAIR		VEGETATION: B		ELEV: 480						
TEST HOLE		MILE		B,C,S		NUMBER		REMARKS								
413		C		C												
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	1				CL	BROWN SILT WITH SOME SAND AND A TRACE OF CLAY	F	N _{bn}	2							
4									4							
6									6							
8	2				CL				8							
10						GRAVELLY SAND	UF		10							
12									12							
14	3				SW				14							
16						END OF HOLE AT 15'			16							
18									18							
20									20							
22									22							
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG:		DATE DRILLED: 2/2/73		AIRPHOTO NO: A22772-112		CHAINAGE: 996+00		OFFSET:		TEST HOLE									
CKD:		TECH: M.H.R.		RIG: 2		SURFACE DRAINAGE: FAIR		VEGETATION: B		ELEV: 498		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	1				SM	BROWN SILTY SAND WITH A TRACE OF CLAY		N _{bn}	2												
4									4												
6							F		6												
8	2				SW	SILTY SAND WITH SOME GRAVEL			8												
10							UF		10												
12									12												
14	3				SW	GRAVELLY SAND			14												
16						END OF HOLE AT 15'			16												
18									18												
20									20												
22									22												
24									24												

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY													
DWN:		FIELD ENG.	DATE DRILLED	PHOTO NO:	CHAINAGE:	OFFSET:		TEST HOLE											
CKD:		TECH: R.G.	RIG: 2	SURFACE DRAINAGE: GOOD		VEGETATION: A		ELEV: 522											
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	1				ML	SILT WITH SOME CLAY, SAND AND GRAVEL	F	N _{bn}	2										
4											4								
6	2				ML						6								
8									8										
10									10										
12	3				ML				12										
14									14										
16						END OF HOLE AT 15'			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+
 LIQUID LIMIT

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY							
DWN:		FIELD ENG:		DATE DRILLED: 11/2/73		AIRPHOTO NO: A22772-112		CHAINAGE: 1012+00		OFFSET:					
CKD:		TECH: R.G.		RIG: 2		SURFACE DRAINAGE: GOOD		VEGETATION: A		ELEV: 526					
TEST HOLE		MILE: 413		B,C,S: C		NUMBER: G		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 %		
2	1				SW	GRAVEL AND SAND		N _f	2						
4									4						
6									6						
8	2				SM	SILTY SAND WITH SOME GRAVEL	F	N _{bn}	8						
10									10						
12									12						
14	3								14						
16						END OF HOLE AT 15'			16						
18									18						
20									20						
22									22						
24									24						

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY										
DWN:		FIELD ENG.	DATE DRILLED	AIR PHOTO NO:	CHAINAGE:	OFFSET:		TEST HOLE								
CKD:		TECH R.G.	RIG No.2	SURFACE DRAINAGE: Good	VEGETATION: A	ELEV: 535		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 %			
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						
										PLASTIC LIMIT 40 LIQUID LIMIT 80						
2	1				ML	Dark Brown Clayey Silt with a trace of Gravel and Sand			2							
4									4							
6									6							
8	2				ML	Brown Sandy Silt, Minor Clay and a Trace of Sand	F	Nbn	8							
10									10							
12									12							
14	3								14							
16						End of hole at 15'			16							
18									18							
20									20							
22									22							
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG		DATE DRILLED 12/2/73		AIRPHOTO NO: A22772-115		CHAINAGE: 1031+00		OFFSET		TEST HOLE																	
CKD		TECH M.H.R.		RIG No.2		SURFACE DRAINAGE: Fair		VEGETATION: B		ELEV. 541		MILE 414		B,C,S C		NUMBER B													
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	1				SM	Pt Peat			2																				
4						Brown Sandy Silt with some gravel			4																				
6								N _{bn}	6																				
8	2				SP	Brown Sand	F		8																				
10									10																				
12					SW	Brown Sand and Some Fine Gravel			12																				
14	3								14																				
16						End of hole at 15'			16																				
18									18																				
20									20																				
22									22																				
24									24																				

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY								
DWN:		FIELD ENG		DATE DRILLED 12/2/66		AIRPHOTO NO: A22772-115		CHAINAGE 1042 + 20		OFFSET		TEST HOLE				
CKD		TECH M.H.R.		RIG 2		SURFACE DRAINAGE FAIR		VEGETATION B		ELEV 563						
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 %			
					Pt	PEAT										
2									2							
4	1				ML	BROWN SANDY SILT WITH SOME CLAY			4							
6									6							
8	2				SM	BROWN SANDY SILT WITH SOME GRAVEL AND A FEW BOULDERS	F	N _{bn}	8							
10									10							
12									12							
14	3				SM				14							
16						END OF HOLE AT 15'			16							
18									18							
20									20							
22									22							
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY								
DWN:		FIELD ENG		DATE DRILLED 12/2/73		AIRPHOTO NO: A22772-115		CHAINAGE: 1052+60		OFFSET						
CKD		TECH M.H.R.		RIG No.2		SURFACE DRAINAGE: Fair		VEGETATION: B		ELEV 607						
TEST HOLE																
MILE 414 B,C,S C NUMBER E																
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 40 LIQUID LIMIT 80						
2	1				SM	Brown Silt with a trace of Sand and Gravel		N _{bn}	2							
4										4						
6										6						
8	2				SM		F		8							
10									10							
12	3				SM		UF		12							
14									14							
16						End of hole at 15'			16							
18									18							
20									20							
22									22							
24									24							

WATER AT 10 FT.

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY										
OWN:		FIELD ENG		DATE DRILLED 12/2/83		AIRPHOTO NO: A22772-114		CHAINAGE 1073+80		OFFSET		TEST HOLE				
CKD		TECH M.H.R.		RIG 2		SURFACE DRAINAGE POOR-FAIR		VEGETATION BF		ELEV 641		MILE 415 B,C,S C NUMBER A				
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	1				SM	BROWN SANDY SILT WITH SOME GRAVEL AND A FEW BOULDERS	F	N _{bn}	2							
4									4							
6									6							
8	2				SM		UF		8	13	32	43	12			
10									10							
12	3				SM				12							
14									14							
16						END OF HOLE AT 15'			16							
18									18							
20									20							
22									22							
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY								
OWN:		FIELD ENG		DATE DRILLED 12/2/82		AERPHOTO NO: A22772-114		CHAINAGE: 1090+00		OFFSET:		TEST HOLE		
CKD:		TECH M.H.R.		RIG 2		SURFACE DRAINAGE PAIR		VEGETATION AB		ELEV. 649				
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 %			
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)				
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+				
2	1				SM	SILT WITH SAND, SOME GRAVEL AND A FEW BOULDERS	F	N _{bn}	2					
4									4					
6	2				SM				6					
8									8					
10						BROWN GREY			10					
12	3				SM				12					
14									14					
16						END OF HOLE AT 15'			16					
18									18					
20									20					
22									22					
24									24					

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY								
DWN:		FIELD ENG		DATE DRILLED 12/2/93		AIRPHOTO NO: A22772-115		CHAINAGE 1071+59		OFFSET		TEST HOLE				
CKD		TECH M.H.R.		RIG 2		SURFACE DRAINAGE POOR		VEGETATION B		ELEV 639		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	1				SM	BROWN SILTY SAND	F	N _{bn}	2							
4									4							
6									6							
8	2				SM				8							
10									10							
12						SAND AND GRAVEL WITH SOME COBBLES AND A FEW BOULDERS		N _f	12							
14	3				GM				14							
16						END OF HOLE AT 15'			16							
18									18							
20									20							
22									22							
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN		FIELD ENG		DATE DRILLED 12/2/73		AIRPHOTO NO. A22772-115		CHAINAGE 1114+00		OFFSE		TEST HOLE																	
CKD		TECH M.H.R.		RIG 2		SURFACE DRAINAGE POOR		VEGETATION B		ELEV 672		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	1				SM	BROWN FINE SILTY SAND		N _{bn}	2																				
4						SILTY SAND WITH SOME GRAVEL AND A FEW COBBLES	F		4																				
6									6																				
8	2				SM				8																				
10									10																				
12	3				GM	SAND & GRAVEL WITH SOME COBBLES	UF		12																				
14									14																				
16						END OF HOLE AT 15'			16																				
18									18																				
20									20																				
22									22																				
24									24																				

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY								
DWN:		FIELD ENG		DATE DRILLED 12/2/73		AIRPHOTO NO: A22772-115		CHAINAGE 1122+00		OFFSET		TEST HOLE				
CKD:		TECH M.H.R.		RIG NO. 2		SURFACE DRAINAGE Good		VEGETATION AB		ELEV 684		M.E. S.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	1				GM	Brown Sandy Gravel	F	Nf	2							Hard to keep hole from caving in.
4							UF		4							
6						End of hole at 5'			6							
8									8							
10									10							
12									12							
14									14							
16									16							
18									18							
20									20							
22									22							
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY											
DWN		FIELD ENG	DATE DRILLED 12/2/73	AIRPHOTO NO. A22772-115	CHAINAGE 1140+00	OFFSET		TEST HOLE									
CKD		TECH V.S.	RIG No.2	SURFACE DRAINAGE GOOD		VEGETATION B F G		ELEV 748									
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	BROWN SILTY SAND, MINOR GRAVEL AND A TRACE OF SAND, DENSE TO VERY DENSE	F	N _{bn}	2	9	39	40	12				
4	1								4								
6									6								
8					SM				8	8	32	40	20				
10									10								
12					SM				12	10	30	36	24				
14									14								
16					SM				16								
18									18	13	29	36	22				
20						END OF HOLE AT 20'			20								
22									22								
24									24								

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG:		DATE DRILLED 12/2/73		AIRPHOTO NO: A22772-115		CHAINAGE 1155+00		OFFSET:		TEST HOLE																	
CKD:		TECH V.S.		RIG No. 2		SURFACE DRAINAGE FAIR		VEGETATION BFG		ELEV 720																			
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	1				GM	BROWN SILTY SAND WITH GRAVEL AND A TRACE OF CLAY		N _{bn}	2	8	30	31	31																
4									4																				
6									6																				
8	2				GM		F		8	6	33	39	22																
10									10																				
12	3				GM				12	5	26	43	26																
14									14																				
16									16																				
18	4				SM	SANDY TILL WITH COARSE GRAVEL		N _f	18	4	24	53	19																
20									20																				
22						HOLE ENDS AT 20'			22																				
24									24																				

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG		DATE DRILLED 12/2/73		AIRPHOTO NO: A22772-115		CHAINAGE 1158+00		OFFSET		TEST HOLE																	
CKD		TECH Y.S.		RIG NO. 2		SURFACE DRAINAGE FAIR		VEGETATION BFG		ELEV 718		MILE 416 B,C,S S NUMBER F																	
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	1				SM	GRAVELLY, SILTY SAND TILL WITH A TRACE OF CLAY		f	2																				
4									4																				
6						BROWN GREY	F	Nbn	6																				
8	2				SM				8	11	38	42	9																
10									10																				
12									12	6	31	51	12																
14	3				SM				14																				
16						SILTSTONE AT 16'			16																				
18						HOLE ENDS AT 16'			18																				
20									20																				
22									22																				
24									24																				

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG:		DATE DRILLED 14/2/73		AIRPHOTO NO: A22772-115		CHAINAGE: 1159+50		OFFSET		TEST HOLE												
CKD:		TECH W.R.		RIG No.1		SURFACE DRAINAGE: GOOD		VEGETATION: BD		ELEV 718														
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					Pt	PEAT		Vx	2															
4									4															
6					SM	SILTY SAND	F	N _{bn}	6															
8	1								8															
10									10															
12									12															
14	2								14															
16						END OF HOLE AT 15'			16															
18									18															
20									20															
22									22															
24									24															

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG		DATE DRILLED 14/2/73		AIRPHOTO NO: A22772-115		CHAINAGE: 1165+00		OFFSET		TEST HOLE									
CKD		TECH W.R.		RIG No. 1		SURFACE DRAINAGE: FAIR		VEGETATION: AD		ELEV 707											
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					Pt	BLACK PEAT		Vx	2												
4									4												
6					SM	SILTY SAND WITH A TRACE OF GRAVEL	F	N _{bn}	6												
8	1								8												
10									10												
12	2				SM				12												
14	3								14												
16						END OF HOLE AT 15'			16												
18									18												
20									20												
22									22												
24									24												

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY										
OWN: CKD		FIELD ENG: TECH V.S.		DATE DRILLED 12/2/73		AIRPHOTO NO. A22772-115		CHAINAGE 1162+00 (Approx.)		OFFSET		ELEV 706		TEST HOLE		
RIG NO. 2		SURFACE DRAINAGE FAIR		VEGETATION BFG		GRAIN-SIZE ANALYSIS		WET DENSITY (P.C.F.)		DRY DENSITY (P.C.F.)		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)	PLASTIC LIMIT	LIQUID LIMIT	CLAY %	SILT %	SAND %	GRAVEL %	
2	1				ML	BROWN SANDY SILT TILL WITH SOME GRAVEL AND A TRACE OF CLAY		N _{bn}	2	4	50	36	10			
4									4							
6					SM	BROWN SILTY SAND TILL SOME GRAVEL AND A TRACE OF CLAY		N _f	6	4	32	57	7			
8	2								8							
10									10							
12	3								12	3	29	61	7			
14					SM			N _{bn}	14							
16									16							
18	4				SM				18	4	29	64	3			
20						HOLE ENDS AT 20'			20							
22									22							
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG:		DATE DRILLED: 14/2/70		PHOTO NO: A22772-117		CHAINAGE: 1175+50		OFFSET:		TEST HOLE																	
CKD		TECH W.R.		RIG 1		SURFACE DRAINAGE: GOOD		VEGETATION: A B D		ELEV: 713																			
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					Pt	PEAT		V _x	2																				
4	1				SW	BROWN GRAVELLY SAND WITH TRACES OF SILT AND CLAY			4																				
6							F	N _{bn}	6																				
8	2				SW				8																				
10									10																				
12	3				SW				12																				
14									14																				
16						END OF HOLE AT 15'			16																				
18									18																				
20									20																				
22									22																				
24									24																				

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG		DATE DRILLED 14/2/12		AIR PHOTO NO: A22772-117		CHAINAGE: 1180+00		OFFSET		TEST HOLE																	
CKD		TECH		W.R.		RIG 1		SURFACE DRAINAGE: GOOD		VEGETATION: A B D		ELEV. 726		MILE 417		B,C,S C		NUMBER B											
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																													
2	1				Pt	PEAT		Vx	2																				
4					SM	BROWN SILTY SAND WITH SOME GRAVEL		Nbn	4																				
6									6																				
8	2				SM				8																				
10									10																				
12	3				SM				12																				
14									14																				
16						END OF HOLE AT 15'			16																				
18									18																				
20									20																				
22									22																				
24									24																				

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG		DATE DRILLED: 14/2/13		AIR PHOTO NO: A22772-117		CHAINAGE: 1183+00 (Approx)		OFFSET		TEST HOLE																	
CKD:		TECH: W.R.		RIG: 1		SURFACE DRAINAGE: GOOD		VEGETATION: A B D		ELEV: 729		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	1				ML	BROWN SILT WITH SOME SAND AND TRACES OF CLAY AND GRAVEL			2	12	73	12	3																
4						SILT AND SAND WITH TRACES OF CLAY AND GRAVEL			4																				
6									6																				
8	2				ML			N _{bn}	8	7	46	46	1																
10									10																				
12	3				SM				12	4	36	59	1																
14									14																				
16	4	P		101					16	7	50	43	0																
18	5				SM				18																				
20								N _f	20																				
22	6				SM				22																				
24									24																				

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG:		DATE DRILLED: 14/2/14		AIRPHOTO NO: A22772-117		CHAINAGE: 1187+00		OFFSET:		TEST HOLE																	
CKD:		TECH: W.R.		RIG: 1		SURFACE DRAINAGE: GOOD		VEGETATION: A B D		ELEV: 736																			
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	1				SW	BROWN GRAVELLY SAND WITH SOME SILT AND A TRACE OF CLAY			2																				
4									4																				
6									6																				
8	2				SW			N _{bn}	8																				
10									10																				
12									12																				
14	3				SW				14																				
16						END OF HOLE AT 15'			16																				
18									18																				
20									20																				
22									22																				
24									24																				

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG:		DATE DRILLED: 14/2/13		PHOTO NO: A22772-117		CHAINAGE: 1192+50		OFFSET:		TEST HOLE																	
CKD:		TECH: W.R.		RIG: 1		SURFACE DRAINAGE: GOOD		VEGETATION: A B D		ELEV: 744		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	1				SM	BROWN GRAVELLY SAND WITH SOME SILT	F	N _{bn}	2																				
4											4																		
6											6																		
8	2				SM				8																				
10									10																				
12									12																				
14	3				SM				14																				
16						END OF HOLE AT 15'			16																				
18									18																				
20									20																				
22									22																				
24									24																				

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

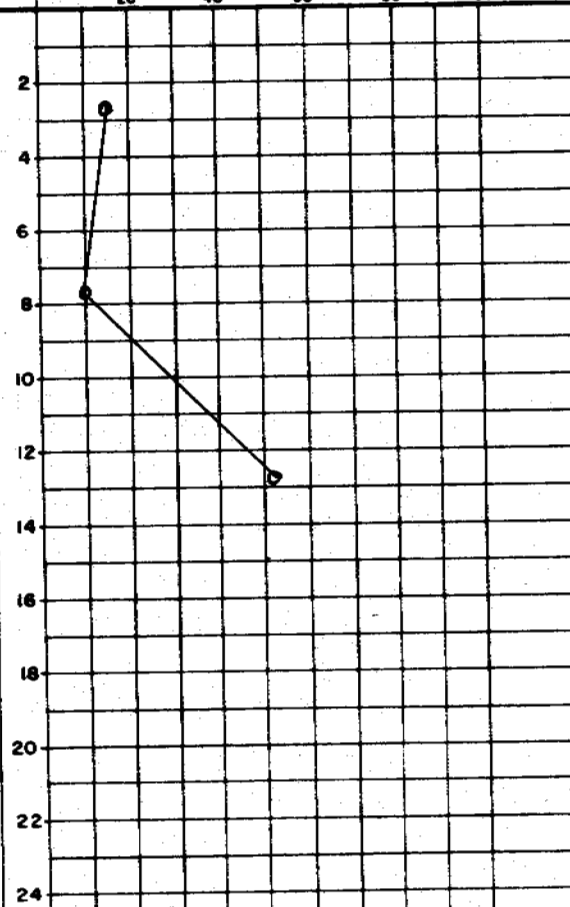
PLASTIC LIMIT 40 60 80 100 100+
 LIQUID LIMIT 60 80 100 100+

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY										
DWN:		FIELD ENG	DATE DRILLED	AIRPHOTO NO.	CHAINAGE	OFFSET		TEST HOLE								
CKD		TECH W.R.	RIG 1	SURFACE DRAINAGE	GOOD	VEGETATION A B D		ELEV 753								
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	1				SM	SILTY SAND WITH SOME GRAVEL			2							
4									4							
6									6							
8	2				SM			N _{bn}	8							
10									10							
12	3				SM	BROWN GREY			12							
14	4								14							
16						END OF HOLE AT 15'			16							
18									18							
20									20							
22									22							
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG:		DATE DRILLED 14/2/14		AIR PHOTO NO: A22772-118		CHAINAGE: 1201+00		OFFSET:		TEST HOLE																	
CKD:		TECH W.R.		RIG 1		SURFACE DRAINAGE FAIR		VEGETATION BD		ELEV: 751		MILE 417		B,C,S C		NUMBER G													
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	1				SM	BROWN SILTY SAND WITH SOME GRAVEL			2																				
4									4																				
6									6																				
8	2						F	N _{bn}	8																				
10									10																				
12									12																				
14	3								14																				
16						END OF HOLE AT 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+



ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY										
DWN:		FIELD ENG:		DATE DRILLED: 14/3/73		AIRPHOTO NO: A22772-118		CHAINAGE: 1204+00		OFFSET:		TEST HOLE						
CKD:		TECH:		W.R.:		RIG: 1		SURFACE DRAINAGE: GOOD		VEGETATION: A D		ELEV: 751						
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	1				SM	SILTY SAND WITH SOME GRAVEL	F	N _{bn}	2									
4											4							
6											6							
8	2				SM						8							
10									10									
12	3				SM				12									
14									14									
16									16									
18	4				SM				18									
20									20									
22	5								22									
24									24									

--- BROWN
GREY

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

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

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA						DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY							
OWN:		FIELD ENG:		DATE DRILLED: 14/2/73		AIRPHOTO NO: A22772-118		CHAINAGE: 1204+00		OFFSET:		TEST HOLE					
CKD:		TECH W.R.		RIG 1		SURFACE DRAINAGE: GOOD		VEGETATION:		ELEV: 751		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	6				SM		F	N _{bn}	2								
4									4								
30'						END OF HOLE AT 30'			6								
6									8								
8									10								
10									12								
12									14								
14									16								
16									18								
18									20								
20									22								
22									24								
24																	

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG		DATE DRILLED 14/2/10		AIR PHOTO NO: A22772-118		CHAINAGE: 1209+80		OFFSET:		TEST HOLE									
CKD		TECH		W.R.		RIG 1		SURFACE DRAINAGE GOOD		VEGETATION: A B D		ELEV: 746		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	1				SW	BROWN SILTY SAND WITH SOME GRAVEL		F N _{bn}	2												
4											4										
6											6										
8	2				SW				8												
10									10												
12	3				SW				12												
14									14												
16						END OF HOLE AT 15'			16												
18									18												
20									20												
22									22												
24									24												

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:			FIELD ENG			DATE DRILLED 14.2/14			AIRPHOTO NO: A22772-118			CHAINAGE: 1214+40			OFFSET			ELEV. 747			TEST HOLE								
CKD			TECH W.R.			RIG 1			SURFACE DRAINAGE: GOOD			VEGETATION: A B D																	
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				○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)																			
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+																			
2	1				SW	BROWN GRAVELLY SAND WITH A TRACE OF SILT	F	N _f	2																				
4									4																				
6									6																				
8	2				SW				8																				
10									10																				
						END OF HOLE AT 10'			12																				
12									14																				
14									16																				
16									18																				
18									20																				
20									22																				
22									24																				
24																													

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY								
DWN:		FIELD ENG:		DATE DRILLED: 4/2/71		AIRPHOTO NO: A22772-118		CHAINAGE: 1228+00		OFFSET:		TEST HOLE				
CKD		TECH: V.S.		RIG: 1		SURFACE DRAINAGE: GOOD		VEGETATION: A B F		ELEV: 736						
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	1				SW	BROWN SAND WITH FINE GRAVEL			2							
4									4							
6									6							
8	2				SP	GREY SAND AND GRAVEL	F	N _f	8							
10									10							
12									12							
14	3				SP				14							
16						END OF HOLE AT 15'			16							
18									18							
20									20							
22									22							
24									24							

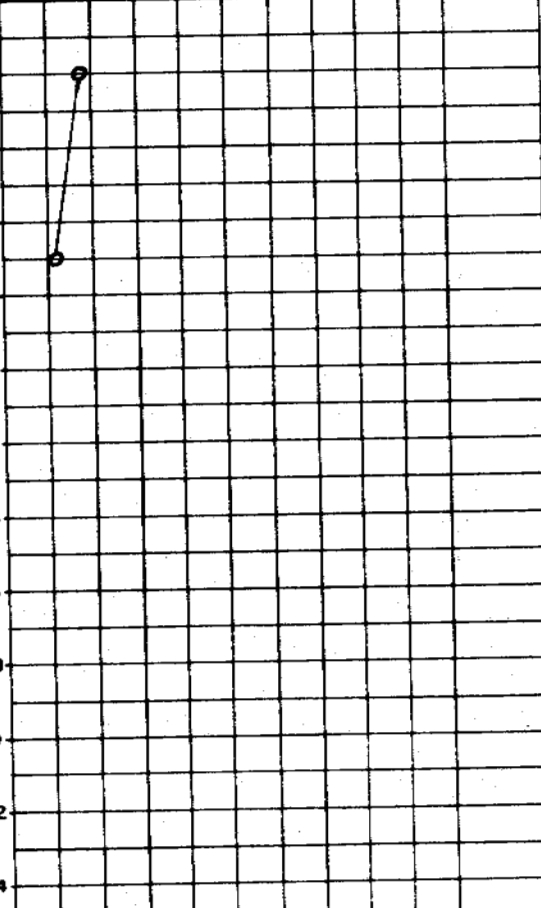
ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY								
DWN:		FIELD ENG:		DATE DRILLED: 4/2/11		AIRPHOTO NO: A22772-118		CHAINAGE: 1233+00		OFFSET:		TEST HOLE				
CKD:		TECH: V.S.		RIG: 1		SURFACE DRAINAGE: GOOD		VEGETATION: A F G		ELEV: 738						
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	1				SP	BROWN FINE GRAVEL AND SAND, VERY DENSE			2	0	3	75	22			
4									4							
6									6							
8	2				SP	GREY SAND WITH SOME FINE GRAVEL	F	N _F	8	0	6	92	2			
10									10							
12	3								12							
14									14							
16						END OF HOLE AT 15'			16							
18									18							
20									20							
22									22							
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG:		DATE DRILLED: 14/2/73		AIRPHOTO NO: A22772-118		CHAINAGE: 1238+00		OFFSET:		TEST HOLE																	
CKD:		TECH: V.S.		RIG: 1		SURFACE DRAINAGE: GOOD		VEGETATION: A F G		ELEV: 722																			
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					Pt	PEAT			2																				
4	1				Pt	BROWN PEATY CLAY	F	V _x	4																				
6									6																				
8	2				GW	GRAVEL AND SAND WITH SOME COBBLES	NF		8			1	8	45	46														
10									10																				
12	3								12			1	5	51	43														
14									14																				
16						END OF HOLE AT 15'			16																				
18									18																				
20									20																				
22									22																				
24									24																				

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG		DATE DRILLED 14/2/73		AIR PHOTO NO: A22772-118		CHAINAGE 1241+00		OFFSET		TEST HOLE																	
CKD		TECH V.S.		RIG 1		SURFACE DRAINAGE FAIR		VEGETATION A F G		ELEV 725		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	1				GP	BROWN SANDY GRAVEL		N _{bn}	2																				
4					GW	FINE TO COARSE GRAVEL WITH SOME SAND AND COBBLES		N _f	4																				
6									6																				
8	2								8																				
10					GW				10																				
12	3								12																				
14									14																				
16						END OF HOLE AT 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



0	1	76	23
0	4	45	51

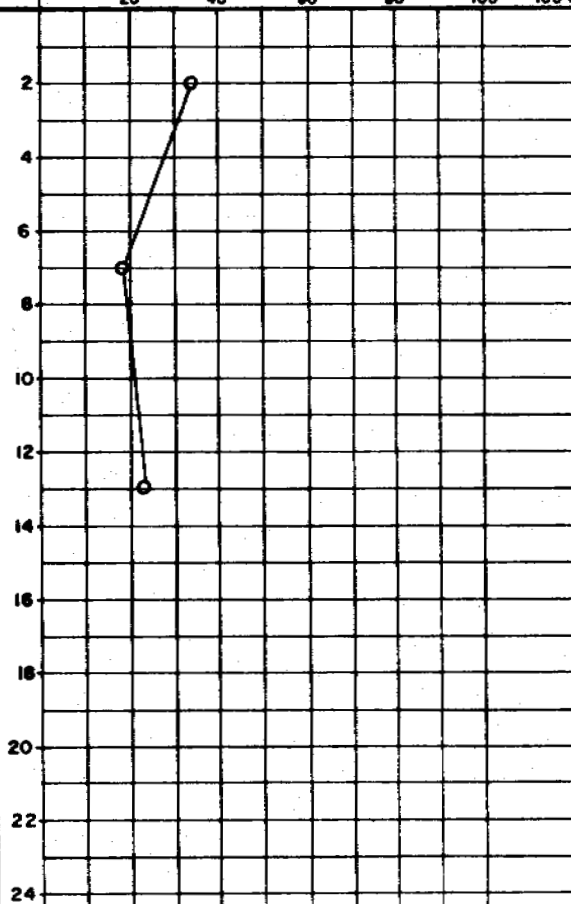
ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG:		DATE DRILLED: 14/2/73		AIRPHOTO NO: A22772-118		CHAINAGE: 1250+50		OFFSET:		ELEV: 731		TEST HOLE															
CKD:		TECH: V.S.		RIG: 1		SURFACE DRAINAGE: GOOD		VEGETATION: A F G		GRAIN-SIZE ANALYSIS		WET DENSITY (P.C.F.)		DRY DENSITY (P.C.F.)															
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 20 40 60 80 100 100+																				
									CLAY SILT SAND GRAVEL % % % %																				
									REMARKS																				
2	1				GP	BROWN GRAVEL (IN FINE AND COARSE LAYERS) WITH SOME SAND, VERY DENSE			2																				
4									4																				
6									6																				
8	2								8																				
10									10																				
12									12																				
14	3								14																				
16						END OF HOLE AT 15'			16																				
18									18																				
20									20																				
22									22																				
24									24																				

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG:		DATE DRILLED: 14/2/03		AIRPHOTO NO: A22772-119		CHAINAGE: 1262+50		OFFSET:		ELEV: 727		TEST HOLE															
CKD:		TECH: R.G.		RIG: 2		SURFACE DRAINAGE: GOOD		VEGETATION: A																					
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	1				GW	BROWN COARSE SAND AND GRAVEL, DENSE			2							STOPPED HOLE AT 11 FT. ALL GRAVEL AND HARD DRILLING													
4									4																				
6									6																				
8					GW				8																				
10	2								10																				
12						END OF HOLE AT 11'			12																				
14									14																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA 12/2/73				DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY			
DWN:		FIELD ENG	DATE DRILLED	AIRPHOTO NO:	CHAINAGE:	OFFSET		TEST HOLE	
CKD	TECH	R.G.	RIG	SURFACE DRAINAGE	GOOD	VEGETATION	A	ELEV	724
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
									CLAY %
									SILT %
									SAND %
									GRAVEL %
									WET DENSITY (P.C.F.)
									DRY DENSITY (P.C.F.)
									REMARKS
2	1				SC	SILTY SAND WITH SOME CLAY AND A TRACE OF GRAVEL	F	N _{bn}	2
4									4
6									6
8	2				SC				8
10									10
12					ML				12
14	3								14
16						END OF HOLE AT 15'			16
18									18
20									20
22									22
24									24

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

PLASTIC LIMIT 40
 LIQUID LIMIT 60



ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY										
DWN:		FIELD ENG:		DATE DRILLED: 12/2/77		AERPHOTO NO: A22772-119		CHAINAGE: 1269+30		OFFSET:		TEST HOLE				
CKD:		TECH R.G.		RIG: 2		SURFACE DRAINAGE: GOOD		VEGETATION: A		ELEV: 724						
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	1				Pt	PEAT WITH SOME SAND			2							RKL SHOWN PURE ORGANIC IN SAMPLE ONE AT 5 FT.
4					GW	SAND AND GRAVEL WITH SOME ORGANIC MATERIAL IN UPPER FIVE FEET			4							
6									6							
8	2				GW		F	N _f	8		2	9	89	0		
10									10							
12	3				GW				12							
14									14							
16						END OF HOLE AT 15'			16							
18									18							
20									20							
22									22							
24									24							

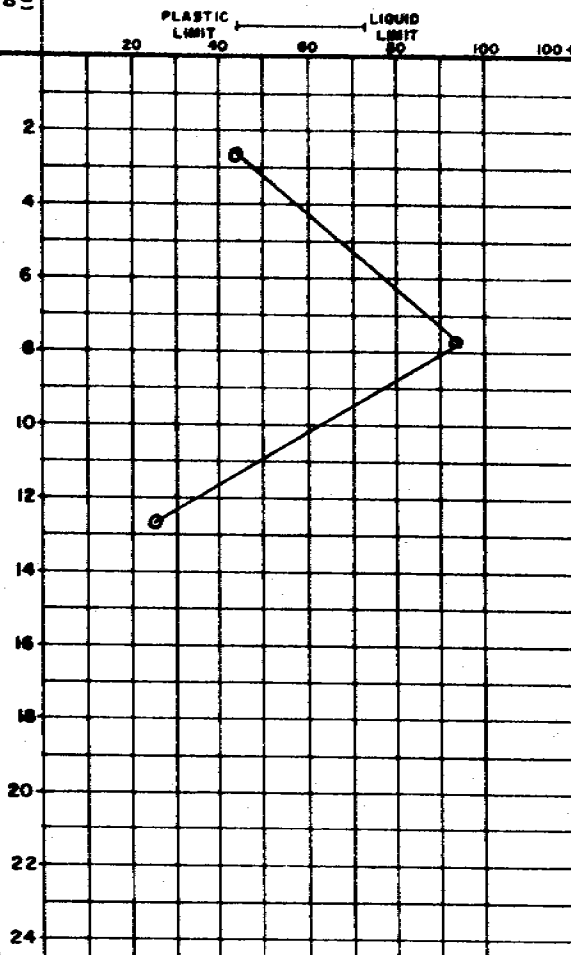
○ = WATER CONTENT (% OF DRY WEIGHT)
△ = ICE CONTENT (% OF SAMPLE VOLUME)

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

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ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG:		DATE DRILLED: 12/2/73		AERPHOTO NO: A22772-119		CHAINAGE: 1283+00		OFFSET:		TEST HOLE									
CKD:		TECH: R.G.		RIG: 2		SURFACE DRAINAGE: FAIR		VEGETATION: A		ELEV: 725											
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					Pt	PEAT			2												
4	1				SC	CLAY, SILT AND SAND WITH A TRACE OF GRAVEL	F	Nbn	4												
6									6												
8	2				SC				8												
10									10												
12	3				SC				12												
14									14												
16						END OF HOLE AT 15'			16												
18									18												
20									20												
22									22												
24									24												

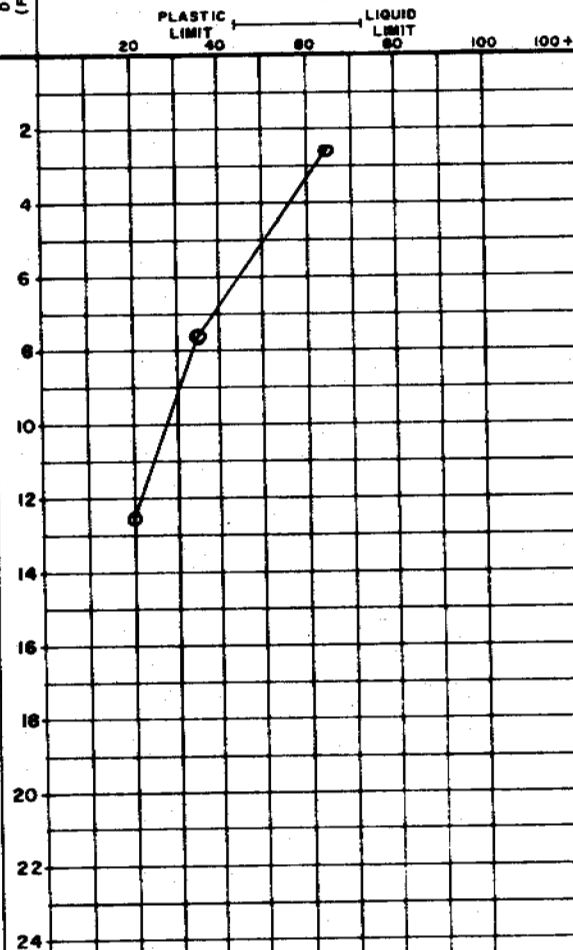
○ = WATER CONTENT (% OF DRY WEIGHT)
 △ = ICE CONTENT (% OF SAMPLE VOLUME)



ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY								
DWN:		FIELD ENG:		DATE DRILLED: 12/27/13		AIRPHOTO NO: A22772-120		CHAINAGE: 1288+00		OFFSET:		TEST HOLE				
CKD:		TECH: R.G.		RIG: 2		SURFACE DRAINAGE: GOOD		VEGETATION: A		ELEV: 726						
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	1				Pt	PEAT		V _x	2							
4					SC	DARK BROWN SANDY CLAY AND SILT			4							
6							F	N _{bn}	6							
8	2				SC				8							
10									10							
12	3				SC				12							
14									14							
16						END OF HOLE AT 15'			16							
18									18							
20									20							
22									22							
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
OWN:		FIELD ENG:		DATE DRILLED: 2/2/79		AIR PHOTO NO: A22772-120		CHAINAGE: 1294+38		OFFSET:		ELEV: 723		TEST HOLE							
CKD:		TECH: R.G.		RIG: 2		SURFACE DRAINAGE: FAIR		VEGETATION: A													
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					
										CLAY %	SILT %						SAND %	GRAVEL %			
2					Pt	PEAT		V _x	2												
2.5	1				SC	SILTY SAND WITH SOME CLAY			4												
6									6												
8	2				SC		F	N _{bn}	8												
10									10												
12					SC				12												
14	3								14												
16						END OF HOLE AT 15'			16												
18									18												
20									20												
22									22												
24									24												

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



ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY								
DWN:		FIELD ENG		DATE DRILLED 12/2/73		AERIAL PHOTO NO: A22772-120		CHAINAGE: 1305+50		OFFSET:		TEST HOLE				
CKD		TECH R.G.		RIG 2		SURFACE DRAINAGE GOOD		VEGETATION A		ELEV 712						
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	1				SW	MEDIUM GRAINED SAND WITH A TRACE OF GRAVEL			2							
4									4							
6									6							
8	2				SW		F	N _f	8							
10									10							
12									12							
14	3				SW				14							
16						END OF HOLE AT 15'			16							
18									18							
20									20							
22									22							
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG.		DATE DRILLED: 13/2/11		AIRPHOTO NO: A22772-120		CHAINAGE: 1313+00		OFFSET:		TEST HOLE																	
CKD:		TECH M.H.R.		RIG 2		SURFACE DRAINAGE: EXCELLENT		VEGETATION: A B		ELEV: 709																			
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	1				GW	SAND AND GRAVEL			2																				
4									4																				
6									6																				
8	2				GW				8																				
10						END OF HOLE AT 10'			10																				
12									12																				
14									14																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA						DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY							
DWN:		FIELD ENG		DATE DRILLED 13/2/79		AIRPHOTO NO: A22772-120		CHAINAGE 1322+00		OFFSET		TEST HOLE					
CKD:		TECH M.H.R.		RIG 2		SURFACE DRAINAGE GOOD		VEGETATION A B		ELEV 714		MILE 420		B,C,S C		NUMBER A	
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 %				
					SM	REDDISH SILTY SAND	F	Nbr									
2	1				SW	BROWN SANDY GRAVEL	UP		2								
4									4								
6	2				SW				6								
8									8								
10						END OF HOLE AT 10'			10								
12									12								
14									14								
16									16								
18									18								
20									20								
22									22								
24									24								

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY								
DWN:		FIELD ENG:		DATE DRILLED: 12/2/12		AIRPHOTO NO: A22772-120		CHAINAGE: 1334+00		OFFSET:		TEST HOLE				
CKD:		TECH: M.H.R.		RIG: 2		SURFACE DRAINAGE: GOOD		VEGETATION: A B		ELEV: 721						
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	1				GP	BROWN SANDY GRAVEL	F	N _{bn}	2							
4							UF		4							
6									6							
8	2				GP				8							
10						END OF HOLE AT 10'			10							
12									12							
14									14							
16									16							
18									18							
20									20							
22									22							
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG		DATE DRILLED 12/2/73		AIRPHOTO NO: A22772-121		CHAINAGE 1337+50		OFFSET		TEST HOLE																	
CKD:		TECH M.H.R.		RIG 2		SURFACE DRAINAGE GOOD		VEGETATION A B		ELEV 711		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		1								ML		SANDY SILT WITH SOME CLAY				N _{bn}		2											
4																		4											
6																		6											
8		2								ML								8											
10												BROWN GRAY						10											
12		2A								ML								12											
14																		14											
16		3		P		82		ML										16											
18												END OF HOLE AT 16.5'						18											
20																		20											
22																		22											
24																		24											

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY				
DWN:		FIELD ENG:		DATE DRILLED: 12/2/73		AIR PHOTO NO: A22772-121		CHAINAGE: 1344+71		OFFSET:		TEST HOLE				
CKD:		TECH: M.H.R.		RIG: 2		SURFACE DRAINAGE: GOOD		VEGETATION: B		ELEV: 661		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	1				SP	BROWN SAND, MEDIUM TO FINE GRAINED	N _{bu}		2							
4							UF		4							
6									6							
8	2				SP				8							
10							F	N _f	10							
12	3				SP				12							
14									14							
16									16							
18	4				M	GREY SILT WITH SOME SAND AND A TRACE OF GRAVEL			18							
20						END OF HOLE AT 20'			20							
22									22							
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG		DATE DRILLED 13/2/72		AIR PHOTO NO: A22772-121		CHAINAGE: 1357+30		OFFSET		ELEV 634		TEST HOLE															
CKD		TECH M.H.R.		RIG 2		SURFACE DRAINAGE POOR		VEGETATION B						MILE 420		B,C,S C		NUMBER G											
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					Pt	PEAT		V _x	2																				
4	1				SM	SANDY SILT WITH OCCASIONAL GRAVELLY LAYERS	F		4																				
6								N _{bn}	6																				
8	2				GM				8																				
10							UF		10																				
12	3				SM				12																				
14									14																				
16						END OF HOLE AT 15'			16																				
18									18																				
20									20																				
22									22																				
24									24																				

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY					
DWN:		FIELD ENG:		DATE DRILLED: 13/2/74		AERPHOTO NO: A22772-121		CHAINAGE: 1365+00		OFFSET:		ELEV: 627				TEST HOLE			
CKD:		TECH: M.H.R.		RIG: 2		SURFACE DRAINAGE: POOR		VEGETATION: B						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 %						
					Pt	PEAT		V _x	2										
2																			
4	1				SM	SANDY SILT WITH A TRACE OF GRAVEL	F		4										
6									6										
8	2				GP	SANDY GRAVEL			8										
10									10										
12						END OF HOLE AT 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 40 60 80 100 100+
 LIQUID LIMIT 80