

BEAUFORT SEA

6B

VICTORIA ISLAND

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

MACKENZIE
BAY

Inuvik

NORTHWEST TERRITORIES

Great Bear
Lake

NORTHERN ENVIRONMENTAL
REFERENCE COLLECTION
PROTECTION BRANCH

Yellowknife

Great Slave
Lake

Simpson

Enterprise

ALBERTA



D003277

ACRES

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

NOTE:

"Volume 6 - Borrow Area Borehole Logs" has now been replaced by Volumes 6A and 6B of the same title.

In the original Volume 6, the logs of boreholes on the proposed highway centreline which fell in designated borrow areas were not duplicated as they already appeared in Volumes 2 through 5. This led to an apparent lack of information on borrow areas, which has now been rectified by subdividing Volumes 6A and 6B into miles, and including in each subdivision the appropriate centreline borehole logs. Within each mileage subdivision the logs are arranged with those in the southern borrow area first.

In addition, the logs of boreholes which proved unsuccessful in proving suitable borrow areas are included at the end of Volume 6B.

BORROW AREAS

Mile 412

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 (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %			
2	1					ML Brown clayey silt with a trace of sand		Vx	2					
4									4					
6									6					
8	2				ML		F	Nbn	8					
10									10					
12	3					CL Silty and sandy clay with occasional cobbles and boulders		Nf	12					
14									14					
16						End of hole 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: 10/2/73		AIRPHOTO NO: A22781-138		CHAINAGE:		OFFSET:		TEST HOLE				
CKD:		TECH: M.H.R.		RIG: 2		SURFACE DRAINAGE: GOOD		VEGETATION: B F		ELEV:		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
2	1				CL	BROWN CLAYEY SILT WITH SOME SAND			2							
4							F	N _{bn}	4							
6									6							
8	2				CL		UF		8							
10									10							
12	3				CL				12							
14									14							
16						END OF HOLE AT 15'			16							
18									18							
20									20							
22									22							
24									24							

BORROW AREAS

Mile 414

[illegible]

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT					DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG		DATE DRILLED 11/3/73		AIRPHOTO NO: A22772-113		CHAINAGE 1024+00		OFFSET 450' E		TEST HOLE												
CKD:		TECH S.O.M.		RIG D-7 CAT		SURFACE DRAINAGE GOOD		VEGETATION A B		ELEV		MILE 414		B.C.S. BT		NUMBER 1								
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS								
										CLAY %	SILT %	SAND %	GRAVEL %											
	1				GM	BROWN SILT, SAND, AND GRAVEL TILL WITH SOME CLAY AND OCCASIONAL BOULDERS		N _{bn}																
2						END OF TRENCH AT 2'			2							ABANDONDED TRENCH AT DEPTH OF 2 FT BECAUSE OF EXTREMELY SLOW RATE OF EXCAVATION IN THIS FROZEN SOIL								
4									4															
6									6															
8									8															
10									10															
12									12															
14									14															
16									16															
18									18															
20									20															
22									22															
24									24															

BORROW AREAS

Mile 415

BORROW AREAS

Mile 416

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 %					
2					SM	BROWN SILTY SAND, MINOR GRAVEL AND A TRACE OF SAND, DENSE TO VERY DENSE		N _{bn}	2	9	39	40	12					
4	1										4							
6											6							
8					SM						8	8	32	40	20			
10	2								10									
12					SM				12	10	30	36	24					
14									14									
16	3								16									
18					SM				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 1150+00		OFFSET 100' to West		TEST HOLE				
CKD		TECH V.S.		RIG NO. 2		SURFACE DRAINAGE GOOD		VEGETATION BFG		ELEV 730		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				SH	BROWN SILTY SAND WITH GRAVEL			2		8	39	42	11		
4									4							
6									6							
8	2				SM		F	N _f	8		4	34	55	7		
10									10							
12					SM				12		2	27	55	16		
14	3								14							
16									16							
18									18							
20						END OF HOLE AT 18'			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 11/3/72		AIRPHOTO NO: A22791-132		CHAINAGE 1155+00		OFFSET 150' E		TEST HOLE				
CKD		TECH S.O.M.		RIG D-7 CAT		SURFACE DRAINAGE GOOD		VEGETATION A		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
2	1				GW	BROWN SILTY AND SANDY GRAVEL TILL WITH SOME CLAY, SOME ORGANIC MATTER IN UPPER 1.5' F		N _{dn} -N _f	2							
4									4	9	23	24	44			
6						END OF TRENCH AT 6'			6							
8									8							
10									10							
12									12							
14									14							
16									16							
18									18							
20									20							
22									22							
24									24							

BORROW AREAS

Mile 418

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: A22772-118		CHAINAGE		OFFSET		TEST HOLE													
CKD		TECH M.H.R.		RIG 2		SURFACE DRAINAGE GOOD		VEGETATION B F		ELEV		MILE B,C,S NUMBER													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS									
										CLAY %	SILT %	SAND %	GRAVEL %												
2	1				SP	GRAVELLY SAND, WITH SOME ORGANIC MATTER IN UPPER 1.5 FT.	F	N _{bn}	2	0	1	60	39												
4								N _f	4																
6									6																
8									8																
10						END OF HOLE AT 10' (CAVING IN)	UF		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: A22772-119		CHAINAGE		OFFSET		TEST HOLE				
CKD		TECH R.G.		RIG 2		SURFACE DRAINAGE FAIR		VEGETATION A		ELEV						
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
2	1				Pt	PEAT WITH ICE LENSES AND SOME SAND	F	V _s	2							
4									4							
6						SAND WITH SOME SILT AND A TRACE OF GRAVEL			6							
8	2				SP		F	N _{bn}	8							
10									10							
12					SP				12							
14									14							
16	3				SP		F	N _f	16							
18									18							
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

1 10 85 4

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY								
DWN:		FIELD ENG:		DATE DRILLED: 13/2/73		AIRPHOTO NO: A22772-119		CHAINAGE:		OFFSET:		TEST HOLE				
CKD:		TECH: R.G.		RIG: 2		SURFACE DRAINAGE: GOOD		VEGETATION: A		ELEV:		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
2	1				SP	SAND WITH A TRACE OF SILT AND GRAVEL		N _{bn}	2							
4									4							
6									6							
8	2				SP		F	N _f	8							
10									10							
12									12							
14	3				SP				14							
16									16							
18	4				SP				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 14/2/73		AIRPHOTO NO: A22772-119		CHAINAGE: 1262+50		OFFSET:						
CKD		TECH R.G.		RIG 2		SURFACE DRAINAGE GOOD		VEGETATION: A		ELEV 727		TEST HOLE				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY	SILT	SAND	GRAVEL			
										%	%	%	%			
2	1				GW	BROWN COARSE SAND AND GRAVEL, DENSE		N _f	2							STOPPED HOLE AT 11 FT. ALL GRAVEL AND HARD DRILLING
4									4							
6									6							
8									8							
10	2				GW				10							
12						END OF HOLE AT 11'			12							
14									14							
16									16							
18									18							
20									20							
22									22							
24									24							

BORROW AREAS

Mile 419

[illegible]

BORROW AREAS

Mile 420

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG.		DATE DRILLED 12/2/71		AERPHOTO 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 420		B,C,S C		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 %										
2	1				ML	SANDY SILT WITH SOME CLAY	F	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	AIRPHOTO NO	CHAINAGE	OFFSET		TEST HOLE								
CKD		TECH	RIG	SURFACE DRAINAGE	VEGETATION	ELEV		MILE	B,C,S							
		M.H.R.	2	GOOD	B	661		420	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 %			
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+						
2	1				SP	BROWN SAND, MEDIUM TO FINE GRAINED	P	N _{bp}	2							
4									4							
6							UF		6							
8	2				SP				8							
10									10							
12	3				SP		F	N _f	12							
14									14							
16									16							
18	4				M	GREY SILT WITH SOME SAND AND A TRACE OF GRAVEL			18							
20									20							
22						END OF HOLE AT 20'			22							
24									24							

[illegible]

BORROW AREAS

Mile 421

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
OWN:		FIELD ENG:		DATE DRILLED: 14/2/73		AERPHOTO NO: A22777-122		CHAINAGE:		OFFSET:		TEST HOLE									
CKD:		TECH: M.H.R.		RIG: 2		SURFACE DRAINAGE: GOOD		VEGETATION: A B		ELEV:		MILE 421 B.C.S. 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				SP	BROWN SAND WITH SOME GRAVEL AND A TRACE OF SILT		N _h	2												
4							F	N _f	4												
6									6												
8	2				SP		F	N _f	8												
10									10												
12						END OF HOLE AT 11' (CAVING IN)			12												
14									14												
16									16												
18									18												
20									20												
22									22												
24									24												

BORROW AREAS

Mile 423

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY								
DWN:		FIELD ENG:		DATE DRILLED 14/2/78		AIR PHOTO NO: A22776-200		CHAINAGE: 1490+00 (APPROX)		OFFSET:		TEST HOLE				
CKD:		TECH: R.G.		RIG: 2		SURFACE DRAINAGE: GOOD		VEGETATION: A		ELEV: 681'						
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF 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 LAYERED SAND WITH SOME GRAVEL AND A TRACE OF SILT			2	0	6	87	7			
4									4							
6	2				SW			N _{bn}	6							
8									8	1	10	81	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		AIR PHOTO NO		CHAINAGE		OFFSET		ELEV		TEST HOLE															
CKD		TECH		RIG		SURFACE DRAINAGE		GOOD		VEGETATION		A		ELEV															
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY	SILT	SAND	GRAVEL																
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						MILE 423 B,C,S BT NUMBER 1													
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+																			
					SM	FINE ORGANIC SILTY SAND		N _{bn}																					
2	1				SP	MEDIUM TO COARSE GRAINED SAND WITH SOME GRAVEL AND A TRACE OF SILT	F	N _f	2																				
4									4																				
6									6																				
8									8																				
10									10																				
12									12																				
14									14																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

BORROW AREAS

Mile 424

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA								DRILL HOLE REPORT						DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY						
DWN:		FIELD ENG:		DATE DRILLED: 15/2/72		AIRPHOTO NO: A22776-197		CHAINAGE: 1574+00		OFFSET:										
CKD:		TECH: M.H.R.		RIG: 2		SURFACE DRAINAGE: FAIR		VEGETATION: A B		ELEV: 649		TEST HOLE								
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	MILE	B,C,S	NUMBER		
										CLAY %	SILT %	SAND %	GRAVEL %							
						BROWN SAND WITH SOME GRAVEL		N _f												
2																				
4					SW															
6	1						F													
8																				
10						GREY SILT WITH SOME SAND		N _{bn}												
12	2				ML															
14																				
16	3	P		100																
18						END OF HOLE AT 16.5'														
20																				
22																				
24																				

BORROW AREAS

Mile 425

BORROW AREAS

Mile 427

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY										
DWN		FIELD ENG		DATE DRILLED 15/2/73		AIRPHOTO NO. A22772-136		CHAINAGE 1703 + 50 (Approx.)		OFFSET		TEST HOLE				
CKD		TECH R.G.		RIG 2		SURFACE DRAINAGE GOOD		VEGETATION A		ELEV 645		MILE 427 B,C,S C 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 (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
2	1				ML	BROWN SILT WITH SOME CLAY AND FINE SAND	F	N _{bn}	2							
4									4							
5									5							
6									6							
8	2				ML		UP		8							
10									10							
12									12							
14	3				ML				14							
15									15							
16						END OF HOLE AT 15'			16							
18									18							
20									20							
22									22							
24									24							

[illegible]

BORROW AREAS

Mile 428

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA						DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY							
DWN		FIELD ENG.		DATE DRILLED 15/2/74		AIRPHOTO NO: A22772-137		CHAINAGE 1776+50		OFFSET		TEST HOLE					
CKD		TECH V.S.		RIG I		SURFACE DRAINAGE FAIR		VEGETATION B F G		ELEV 511		MILE 428 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 %				
						BROWN SAND WITH SOME GRAVEL AND A TRACE OF SILT		N _f		○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)							
2	1				SP				2								
4									4								
6									6								
8	2				SP				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 16/2/70		SURPHOTO NO: A22772-137		CHAINAGE 1790+00		OFFSET		ELEV 512		TEST HOLE			
CKD		TECH W.R.		RIG 1		SURFACE DRAINAGE GOOD		VEGETATION A B D						MILE 428 B.C.S C NUMBER F			
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
											CLAY %	SILT %	SAND %	GRAVEL %			
					Pt	PEAT		V _x									
2	1				SM	SANDY SILT WITH SOME CLAY AND A TRACE OF GRAVEL			2								
4									4								
6									6								
8	2				SM		F	N _{bn}	8								
10									10								
12						BROWN GREY			12								
14	3				SM				14								
16						END OF HOLE AT 15'			16								
18									18								
20									20								
22									22								
24									24								

BORROW AREAS

Mile 429

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY										
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO A22772-140		CHAINAGE 1867+50		OFFSET		TEST HOLE						
CKD		TECH B.P.S.		RIG D-7C CAT		SURFACE DRAINAGE GOOD		VEGETATION CLEARED AREA		ELEV 325		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 %					
TOP SOIL										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)								
										20	40	60	80	100	100+			
2					SW	SILTY SAND BROWN AND GREY		N _{be}	2									THIS IS A TRENCH CUT ALONG THE FACE OF A STEEP ESCARPMENT ON THE NORTH BANK OF SMITH CREEK
4	1	△			GW	GRAVEL WITH COBBLES, SANDY, TRACE OF SILT AND OCCASIONAL SMALL BOLDERS, MODERATLY WELL GRADED.			4			0	1	15	84			
6									6									
8									8									
10	2	△			GW	ROUNDED TO SUBROUNDED FRAGMENTS LAYERED DUE TO LOCAL VARIATIONS IN GRAIN SIZE.	F	V _x	10			0	1	16	83			
12									12									
14									14									
16	3	△			GW	PARTLY OXADIZED AND LOCALLY MILDLY CEMENTED WITH CALCITE PRECIPIMATE			16			0	3	37	60			
18									18									
20									20									
22									22									
24	4	△			GW				24			0	1	20	79			

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY							
OWN:		FIELD ENG:		DATE DRILLED 16/2/11		AERPHOTO NO A22772-140		CHAINAGE		OFFSET					
CKD		TECH B.P.S.		RIG D-7C CAT		SURFACE DRAINAGE		GOOD		VEGETATION CLEARED AREA					
										ELEV 300					
										TEST HOLE					
										MILE B,C,S NUMBER					
										429 CT 1					
										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									2						
4									4						
6									6						
8									8						
10	5				GW		F	V _x	10			0	2	21	77
12									12						
14									14						
16						END OF TRENCH AT 38'			16						
18									18						
20									20						
22									22						
24									24						

BORROW AREAS

Mile 430

BORROW AREAS

Mile 431

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: A22772-142		CHAINAGE 1945 + 00		OFFSET		TEST HOLE															
CKD:		TECH R.G.		RNG 2		SURFACE DRAINAGE GOOD		VEGETATION A		ELEV 395		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	

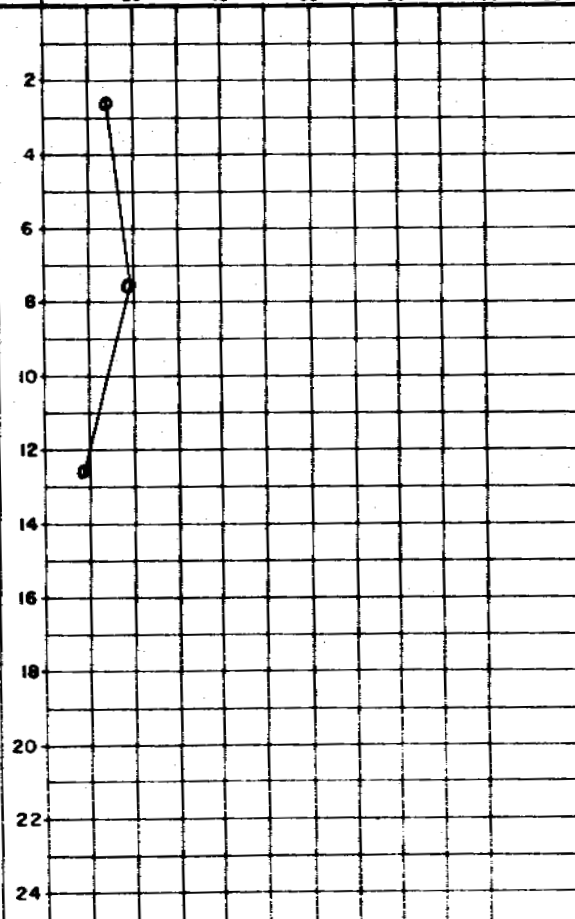
ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY								
DWN:		FIELD ENG		DATE DRILLED #/2/73		AIRPHOTO NO A22772-142		CHAINAGE 1951 + 00		OFFSET						
CKD		TECH R.G.		RIG 2		SURFACE DRAINAGE GOOD		VEGETATION A		ELEV 409						
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL 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
										%	%	%	%			
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						
										PLASTIC LIMIT 20 40 60 80 100 100+ LIQUID LIMIT 80						
2	1				GP	BROWN SANDY GRAVEL WITH SOME COBBLES AND A FEW SMALL BOULDERS			2							
4									4							
5									5							
6	2				GP			N _f	6							
8									8							
9									9							
10						END OF HOLE AT 9'			10							
12									12							
14									14							
16									16							
18									18							
20									20							
22									22							
24									24							

VERY DIFFICULT
DRILLING, SO
ABANDONED HOLE
AT 9'

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. A22772-142		CHAINAGE 1956 + 00		OFFSET		TEST HOLE				
CKD		TECH R.G.		RIG 2		SURFACE DRAINAGE GOOD		VEGETATION A		ELEV 408						
DEPTH (FEET)	SAMPLE 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 SAND AND SILT WITH SOME CLAY AND A TRACE OF GRAVEL			2							
4																
5																
6																
8	2					BROWN SAND WITH SOME SILT AND GRAVEL AND A TRACE OF CLAY			8							
10																
12					SM											
14	3															
15																
16						END OF HOLE AT 15'										
18																
20																
22																
24																

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

PLASTIC LIMIT 20 40 60 80 100 100+
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 19/2/73		AIRPHOTO NO: A22772-142		CHAINAGE 1958+00		OFFSET 300' E		TEST HOLE																	
CKD		TECH B.P.S.		RIG D-7 CAT		SURFACE DRAINAGE GOOD		VEGETATION A B		ELEV		MILE 431		B,C,S BT		NUMBER 1													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS										REMARKS									
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)																			
										PLASTIC LIMIT 20 40 60 80 100 100+ LIQUID LIMIT 80 100 100+																			
										CLAY	SILT	SAND	GRAVEL	WET DENSITY (PCF)	DRY DENSITY (PCF)														
										%	%	%	%																
2					SM	BROWN FINE SILTY SAND WITH SOME GRAVEL		N _{bn}	2																				
4									4																				
6					GP	GRAVEL WITH SOME SAND AND COBBLES, HORIZONTAL BEDDING, ROUNDED PARTICLES		N _f	6																				
8	1								8																				
10									10																				
12									12																				
14						END OF TRENCH AT 13'			14																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

BORROW AREAS

Mile 433

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA						DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY							
DWN:		FIELD ENG:		DATE DRILLED: 20/2/73		AIRPHOTO NO: A22772-144		CHAINAGE: 2021+50		OFFSET: 450' E							
CKD:		TECH: B.P.S.		RIG: D-7 CAT		SURFACE DRAINAGE: GOOD		VEGETATION: B		ELEV:				TEST HOLE			
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS	
										CLAY	SILT	SAND	GRAVEL				
										%	%	%	%				
2					GM	BROWN SILT, SAND AND GRAVEL		Nbn	2								
4						GRAVEL WITH SOME SAND AND COBBLES, LAYERED IN POORLY GRADED AND BETTER GRADED BEDS	F	Nf	4								
6	1								6								
8									8								
10									10								
12						END OF TRENCH AT 10.5'			12								
14									14								
16									16								
18									18								
20									20								
22									22								
24									24								

BORROW AREAS

Mile 434

[illegible]

BORROW AREAS

Mile 435

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
OWN:		FIELD ENG:		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		ELEV		TEST HOLE															
CKD		TECH		RIG		SURFACE DRAINAGE		GOOD		VEGETATION		A		MILE															
		B.P.S.		D-7 CAT										B,C,S															
														NUMBER															
														435															
														BT															
														1															
														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 (PCF)	DRY DENSITY (PCF)				
										PLASTIC LIMIT 20 40 60 80 100 100+ LIQUID LIMIT 80 100 100+										CLAY %	SILT %	SAND %	GRAVEL %						
2					SM	BROWN FINE SILTY SAND		N _{bn}	2																				
4					GW	BROWN SANDY GRAVEL WITH A TRACE OF COBBLES			4																				
6	1				GM	BROWN SILTY AND SANDY GRAVEL WITH OCCASIONAL COBBLES, NON-PLASTIC		N _{bn} -N _f	6											7	24	37	32						
8									8																				
10						END OF TRENCH AT 9'			10																				
12									12																				
14									14																				
16									16																				
18									18																				
20									20																				
22									22																				
24									24																				

BORROW AREAS

Mile 437

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY								
DWN:		FIELD ENG		DATE DRILLED 19/2/73		AIR PHOTO NO. A23004-140		CHAINAGE 2223+50		OFFSET		TEST HOLE				
CKD		TECH M.J.G.		RIG 2		SURFACE DRAINAGE POOR		VEGETATION: A B		ELEV 346						
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF 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	1				Pt	PEAT		V _x	2							
4					SW	GREY GRAVELLY SAND WITH A TRACE OF SILT	F	N _f	4							
6									6							
8						END OF HOLE AT 7'			8							
10									10							
12									12							
14									14							
16									16							
18									18							
20									20							
22									22							
24									24							

MILE	B,C,S	NUMBER
436	C	K

UNABLE TO GET PAST 7' AS HOLE CAVES IN

[illegible]

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY							
DWN:		FIELD ENG:		DATE DRILLED: 19/2/73		AIR PHOTO NO: A23004-141		CHAINAGE: 2234+10		OFFSET:					
CKD:		TECH: M. J. G.		RIG: 2		SURFACE DRAINAGE: POOR		VEGETATION: A B		ELEV: 363					
TEST HOLE		MILE: 437		B,C,S: C		NUMBER: B		REMARKS:							
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)
										CLAY %	SILT %	SAND %	GRAVEL %		
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)					
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+					
2	1				Pt	PEAT		V _x	2						
4					SM	BROWN SILTY SAND		N _{bn}	4						
6					GW	BROWN SAND AND GRAVEL	F	N _f	6						
8	2				SM	SILT AND CLAY WITH SOME SAND AND GRAVEL			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: 21/2/73		AIRPHOTO NO: A22771-88		CHAINAGE: 2231+00		OFFSET: 450' E		TEST HOLE				
CKD:		TECH: B.P.S.		RIG: D-7 CAT		SURFACE DRAINAGE: GOOD		VEGETATION: A		ELEV:		MILE: 437 B,C,S: BT NUMBER: 1				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
						0.3' ORGANIC SOIL										
2					SM	BROWN FINE SILTY SAND		N _{bn}	2							
4						BROWN, FINE GRAINED SANDY GRAVEL. CONTAINS SOME THIN LOCALIZED SAND LENSES	F		4							
6					GP			N _f	6							
8	1								8							
10									10							
12					SM	SILTY SAND LENSE	UF		12							
14						END OF TRENCH AT 12'			14							
16									16							
18									18							
20									20							
22									22							
24									24							

BORROW AREAS

Mile 438

[illegible]

[illegible]

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
OWNER		FIELD ENG.		DATE DRILLED		AERPHOTO NO.		CHAINAGE		OFFSET		ELEV.		TEST HOLE															
CKD		TECH		RIG		SURFACE DRAINAGE		FAIR		VEGETATION		B		MILE															
		J.M.		2										B,C,S															
														NUMBER															
														438 B H															
														REMARKS															
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME) PLASTIC LIMIT 40 60 80 100 100+ LIQUID LIMIT 80 100 100+										GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)				
										CLAY	SILT	SAND	GRAVEL																
										%	%	%	%																
2	1				ML	BROWN SANDY SILT WITH A TRACE OF CLAY AND GRAVEL	F	N _{bn}	2	5	53	39	3																
4									4																				
6									6																				
8	2				SW	SAND WITH SOME SILT AND A TRACE OF GRAVEL THE SILT CONTENT DECREASES WITH DEPTH	F	N _f	8	2	23	67	8																
10									10																				
12									12																				
14	3				SW				14	1	14	63	22																
16									16																				
18									18																				
20	4				GP	SANDY GRAVEL WITH A TRACE OF SILT			20																				
22									22	2	6	13	19																
24									24																				

[illegible]

ACRES CONSULTING SERVICES LIMITED
CALGARY, ALBERTA

DRILL HOLE REPORT

DEPARTMENT OF PUBLIC WORKS, CANADA
MACKENZIE HIGHWAY

DWE		FIELD ENG:		DATE DRILLED: 24/2/77		AIRPHOTO NO: A23004-142		CHAINAGE:		OFFSET:		TEST HOLE												
CKD:		TECH: J.M.		RNG: 2		SURFACE DRAINAGE: FAIR		VEGETATION: B		ELEV:		MILE B,C,S NUMBER												
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS		
										PLASTIC LIMIT 20 40 60 80 100 100+ LIQUID LIMIT 80 100 100+						CLAY	SILT	SAND	GRAVEL					
										%	%	%	%											
2	1				Pt	1' PEATY TOP SOIL	F	V _x	2															HOLE CAVING IN BADLY
4					SP	BROWN SAND WITH SOME GRAVEL AND A TRACE OF SILT	F	N _f	4															
6									6															
8	2				SP	BROWN SAND WITH A SMALL TRACE OF SILT AND GRAVEL			8															
10									10															
12									12															
14									14															
16									16															
18									18															
20									20															
22									22															
24						END OF HOLE AT 10'			24															

HOLE CAVING
IN BADLY

BORROW AREAS

Mile 439

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:					
CKD		TECH		R.G.		RIG		SURFACE DRAINAGE		VEGETATION					
				2				FAIR		A					
										ELEV					
										TEST HOLE					
										MILE B,C,S NUMBER					
										439 B I					
										REMARKS					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNITED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)
										CLAY	SILT	SAND	GRAVEL		
										%	%	%	%		
2						BROWN CLAYEY SILT WITH A TRACE OF SAND	F	N _{bn}	2						
4	1				CL		UF		4						
6									6						
8									8						
10									10						
12									12						
14	2				CL				14						
16									16						
18									18						
20						END OF HOLE AT 20'			20						
22									22						
24									24						

BORROW AREAS

Mile 441

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	
CKD		TECH		R.G.		RIG		SURFACE DRAINAGE		GOOD	
										VEGETATION	
										A	
										ELEV 624	
										TEST HOLE	
										MILE	
										B,C,S	
										NUMBER	
										441	
										C	
										B	
										REMARKS	
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)	
										PLASTIC LIMIT	LIQUID LIMIT
										20	40
										60	80
										100	100+
										CLAY	SILT
										%	%
										%	%
										%	%
										WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)
2	1				ML	GREY SILT WITH SOME CLAY AND A TRACE OF SAND			2		
4									4		
6									6		
8	2				ML		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: 24/2/77		AIRPHOTO NO: A22772-150		CHAINAGE:		OFFSET:		TEST HOLE							
CKD:		TECH: J.M.		RIG: 2		SURFACE DRAINAGE: GOOD		VEGETATION: B		ELEV:		MILE: 441 B.C.S. NUMBER: I							
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF 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				○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)									
2	1				CL	BROWN SILT WITH SOME CLAY AND A TRACE OF SAND	F	N _{bn}	2										
4									4										
6									6										
8	2				CL		UF		8										
10									10										
12	3				CL				12										
14									14										
16									16										
18						END OF HOLE 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												
OWN:		FIELD ENG:		DATE DRILLED: 24/2/73		AERIAL PHOTO NO: A22772-150		CHAINAGE:		OFFSET:		ELEV:		TEST HOLE				
CKD:		TECH: J.M.		RIG: 2		SURFACE DRAINAGE: GOOD		VEGETATION: B						MILE: 441 B.C.S. NUMBER: K				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	O = WATER CONTENT (% OF DRY WEIGHT) Δ = ICE CONTENT (% OF SAMPLE VOLUME)		GRAIN SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										PLASTIC LIMIT	LIQUID LIMIT	CLAY %	SILT %	SAND %	GRAVEL %			
					Pt	PEAT		V _x										
2									2									
4	1				CL	BROWN SILT WITH SOME CLAY AND A TRACE OF SAND	F	N _{bn}	4									
6									6									
8	2				CL				8									
10							DF		10									
12					CL				12									
14									14									
16						END OF HOLE AT 15'			16									
18									18									
20									20									
22									22									
24									24									

NO SAMPLE WOULD BLOW OUT PAST 10' DEPTH

BORROW AREAS

Mile 445

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY			
DWN:		FIELD ENG		DATE DRILLED 20/2/88		PHOTO NO A22772-156		CHAINAGE 136 + 00		OFFSET	
CKD		TECH W.R.		RIG 1		SURFACE DRAINAGE GOOD		VEGETATION ABD		ELEV 658.0	
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 (P.C.F.)	
								CLAY SILT SAND GRAVEL		DRY DENSITY (P.C.F.)	
								%		%	
BROWN SILT WITH SOME CLAY AND A TRACE OF SAND		F		N _{bn}		2					
						4					
						6					
						8					
						10					
						12					
						14					
						16					
						18					
						20					
END OF HOLE AT 20'						22					
						24					

ACRES CONSULTING SERVICES LIMITED
CALGARY, ALBERTA

DRILL HOLE REPORT

DEPARTMENT OF PUBLIC WORKS, CANADA
MACKENZIE HIGHWAY

DWN		FIELD ENG		DATE DRILLED 20/2/73		AERPHOTO NO A22772-		CHAINAGE 138 + 30		OFFSET		ELEV 651.9		TEST HOLE																	
CKD		TECH V.S.		RIG 1		SURFACE DRAINAGE GOOD		VEGETATION AG						MILE B.C.S. NUMBER																	
														445 2																	
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			
																						CLAY % SILT % SAND % GRAVEL %									
2		1								Pt		BROWN SILTY PEAT		N _{dn}				2													
4												BROWN SILT WITH SOME CLAY AND A TRACE OF SAND		F		V		4													
6																		6													
8														UF				8													
10		2		P		30												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				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY								
DWN:		FIELD ENG		DATE DRILLED 21/2/73		AERPHOTO NO. A22772-156		CHAINAGE 138 + 30		OFFSET						
CKD		TECH M.J.C.		RIG 2		SURFACE DRAINAGE POOR		VEGETATION AB		ELEV 651.8						
										TEST HOLE						
										MILE B.C.S NUMBER						
										445 S E-1						
										REMARKS						
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	
										CLAY	SILT	SAND	GRAVEL			
										%	%	%	%			
										○ = 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	GREY CLAYEY SILT WITH A TRACE OF SAND	F	N _{bn}	2							
4										4						
6										6						
8	2				CL					8						
10									10							
12	3				CL		UF		12							
14									14							
16	P			37/6"					16							
18	4			40/6"	CL				18							
20									20							
22						END OF HOLE AT 20.5'			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		VEGETATION		ABD		ELEV		MILE B.C.S. NUMBER	
		M.J.C.		2		POOR		ABD				656.5		445 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				
					Pt	PEAT		V _x							
2									2						
4	1				ML	GREY CLAYEY SILT WITH A TRACE OF SAND		N _{bn}	4						
6							F		6						
8	2				CL				8						
10									10						
12	3				CL		UF		12						
14									14						
16	P			43/6"					16						
18	4				CL				18						
20	P			54/6"					20						
22						END OFF HOLE AT 20.5'			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+

BORROW AREAS

Mile 446

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY							
DATE		FIELD ENG.		DATE DRILLED		AIRPHOTO NO.		CHAINAGE		OFFSET					
CND		TECH		R.G.		RIG		SURFACE DRAINAGE		VEGETATION					
						2		GOOD		B					
										ELEV					
										TEST HOLE					
										MILE B.C.S NUMBER					
										446 B K					
										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	DARK BROWN CLAYEY SILT WITH A TRACE OF SAND			2						
4									4						
6									6						
8									8						
10							F	N _{bn}	10						
12									12						
14	2				CL				14						
16									16						
18									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 22/2/73		AIRPHOTO NO: A22771-102		CHAINAGE:		OFFSET		TEST HOLE				
CKD		TECH R.G.		RIG 2		SURFACE DRAINAGE FAIR		VEGETATION A B		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
2	1				CL	DARK BROWN CLAYEY SILT WITH A TRACE OF SAND			2							
4									4							
6									6							
8									8							
10									10							
12									12							
14	2				CL				14							
16									16							
18									18							
20						END OF HOLE AT 20'			20							
22									22							
24									24							

BORROW AREAS

Mile 447

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY					
DWN:		FIELD ENG		DATE DRILLED 22/2/73		AIRPHOTO NO: A22771-102		CHAINAGE		ELEV							
CKD		TECH J.M.		RIG 2		SURFACE DRAINAGE FAIR		VEGETATION A		OFFSET							
DEPTH (FEET)	SAMPLE 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)	TEST HOLE
										CLAY %	SILT %	SAND %	GRAVEL %	MILE B.C.S. NUMBER			
					Pt	PEAT				○ = 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	CLAYEY SILT WITH A TRACE OF SAND	F	V _x	2								
4									4								
6	2				CL	LIGHT BROWN DARK BROWN			6								
8									8								
10							UF		10								
12	3				CL				12								
14									14								
16						END OF HOLE AT 16'			16								
18									18								
20									20								
22									22								
24									24								
															REMARKS		

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY								
DWN:		FIELD ENG:		DATE DRILLED 22/2/73		AIRPHOTO NO: A22771-104		CHAINAGE		OFFSET		TEST HOLE				
CKD		TECH J.M.		RIG 2		SURFACE DRAINAGE GOOD		VEGETATION A B		ELEV		MILE 447 B C S NUMBER 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 (PCF)	DRY DENSITY (PCF)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
					Pt	PEAT	F	V _x								
2									2							
4	1				CL	BROWN SILT WITH SOME CLAY AND SAND	UF		4							
6									6							
8	2				CL	DARK BROWN SILT WITH SOME CLAY AND A TRACE OF SAND			8							
10							F	V _x	10							
12									12							
14	3				CL				14							
16									16							
18	4								18							
20						END OF HOLE AT 19'			20							
22									22							
24									24							

BORROW AREAS

Mile 448

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY										
DWN:		FIELD ENG		DATE DRILLED 20/2/11		AIRPHOTO NO: A22771-105		CHAINAGE 285 + 50		OFFSET		TEST HOLE				
CKD		TECH R.G.		RIG 2		SURFACE DRAINAGE GOOD		VEGETATION: A		ELEV 672.0		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 (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
									○ = 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	DARK BROWN CLAYEY SILT WITH A TRACE OF SAND			2							
4									4							
6									6							
8	2				ML			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 20/2/74		AERPHOTO NO: A22771-105		CHAINAGE 284 + 25		OFFSET		TEST HOLE		
CKD		TECH R.G.		RIG 2		SURFACE DRAINAGE GOOD		VEGETATION: A		ELEV 661.5				
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 (PCF)	DRY DENSITY (PCF)	REMARKS
										CLAY %	SILT %			
2	1				ML	DARK BROWN CLAYEY SILT WITH A TRACE OF SAND			2	38	60	1	1	
4									4					
6	2				SM	SILTY SAND WITH A TRACE OF CLAY			6	8	29	62	1	
8									8					
10									10					
12	3				ML	DARK BROWN CLAYEY SILT WITH A TRACE OF SAND			12	34	64	2	0	
14									14					
16									16					
18	4				ML				18	37	60	3	0	
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 21/2/73		AIRPHOTO NO A22771-106		CHAINAGE		OFFSET		TEST HOLE				
CKD		TECH R.G.		RIG 2		SURFACE DRAINAGE GOOD		VEGETATION A		ELEV		MILE B.C.S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
2	1				CL	DARK BROWN CLAYEY SILT WITH A TRACE OF SAND			2							
4									4							
6									6							
8									8							
10									10							
12	2				CL				12							
14									14							
16									16							
18									18							
20									20							
22						END OF HOLE AT 20'			22							
24									24							

UNSUCCESSFUL BORROW
DRILL HOLES

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY								
DWN:		FIELD ENG:		DATE DRILLED 4/3/71		AIRPHOTO NO A22782-67		CHAINAGE		OFFSET		TEST HOLE				
CKD		TECH R.G.		RIG 2		SURFACE DRAINAGE GOOD		VEGETATION B		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
2	1				ML	BROWN SILTY AND SANDY TILL WITH SOME CLAY AND GRAVEL			2							
4									4							
5									5							
6	2				ML				6							
8									8							
10									10							
12	3				ML		F	N _{bn}	12							
14									14							
15									15							
16									16							
18	4				ML				18							
20						END OF HOLE AT 20'			20							
22									22							
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA 11/3				DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY										
LWNE		FIELD ENG		DATE DRILLED		AIRPHOTO NO A22782-61		CHAINAGE		OFFSET		TEST HOLE				
CKD		TECH R.S.		RIG NO. 1		SURFACE DRAINAGE GOOD		VEGETATION A		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
2					SC	BROWN SANDY TILL WITH SOME CLAY, SILT AND GRAVEL	F	Nbn	2							
4	1								4							
6									6							
8									8							
10	2				SC		F	Nbn	10							
12									12							
14									14							
16	3								16							
18									18							
20									20							
22						END OF HOLE AT 20'			22							
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA 27/2/73				DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY										
DOWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO: A22771-66		CHAINAGE		OFFSET		ELEV		TEST HOLE		
CKD		TECH R.G.		RIG No. 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 %			
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+						
2									2							Hole located approximat Hole located 770' east of 380-C-B on siesmic line - Unable to show on mosaic
4	1				ML	BROWN SILTY TILL WITH SOME GRAVEL SAND AND CLAY	F	Nbn	4							
6									6							
8									8							
10									10							
12									12							
14									14							
16	2				ML				16							
18									18							
20									20							
22									22							
24	3								24							

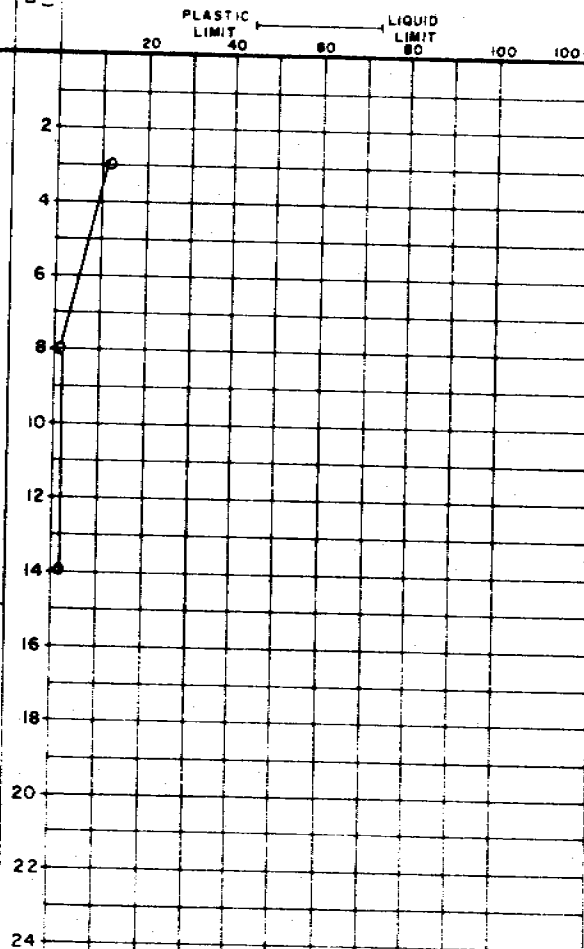
ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA 27/2/73										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG		DATE DRILLED		AIRPHOTO NO. A22771-66		CHAINAGE		OFFSET		ELEV		TEST HOLE															
CKD		TECH R.G.		RIG No. 2		SURFACE DRAINAGE 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																
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)																			
										PLASTIC LIMIT 20 40 60 80 100 100+ LIQUID LIMIT																			
3					ML				2																				
30'						END OF HOLE AT 30'			4																				
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 1/3/73				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY								
DWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO A22771-51		CHAINAGE		OFFSET		TEST HOLE				
CKD		TECH M.H.R.		RIG 2		SURFACE DRAINAGE POOR		VEGETATION B		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY	SILT	SAND	GRAVEL			
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						
										PLASTIC LIMIT 20 40 60 80 100 100+ LIQUID LIMIT						
					Pt	PEAT		V _x	2							
4									4							
6	1				ML	BROWN SILTY AND SANDY TILL WITH SOME CLAY AND A TRACE OF GRAVEL	F	Nbn	6							
8									8							
10									10							
12									12							
14	2				ML		F	Nbn	14							
16									16							
18									18							
20									20							
22									22							
24									24							
END OF HOLE AT 25'																

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG.		DATE DRILLED: 26/2/73		AIRPHOTO NO: A22771-55		CHAINAGE:		OFFSET:		ELEV:		TEST HOLE															
CKD:		TECH: W.R.		RIG: 1		SURFACE DRAINAGE: FAIR		VEGETATION: A B D		ELEV:		ELEV:		TEST HOLE															
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY %	SILT %	SAND %	GRAVEL %																
2	1				SM	BROWN SILTY SANDY TILL WITH SOME CLAY AND A TRACE OF GRAVEL	F	N _{bn}	2																				
4									4																				
6									6																				
8	2				SM	---BROWN GREY---	F	N _{bn}	8																				
10									10																				
12									12																				
14	3				SM				14																				
16									16																				
18	4				SM				18																				
20									20																				
22	5				SM				22																				
24						END OF HOLE AT 25'			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		TEST HOLE	
CKD		TECH J.M.	RIG I	SURFACE DRAINAGE	GOOD	VEGETATION	A	ELEV	
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)
									GRAIN-SIZE ANALYSIS
									CLAY
									SILT
									SAND
									GRAVEL
									WET DENSITY (P.C.F.)
									DRY DENSITY (P.C.F.)
									REMARKS
2					Pt	PEAT			
4	1				ML	BROWN SILTY SANDY TILL WITH SOME CLAY AND A TRACE OF GRAVEL	F	V _C	
6									
8									
10	2				ML				
12									
14									
16						END OF HOLE AT 15'			
18									
20									
22									
24									

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

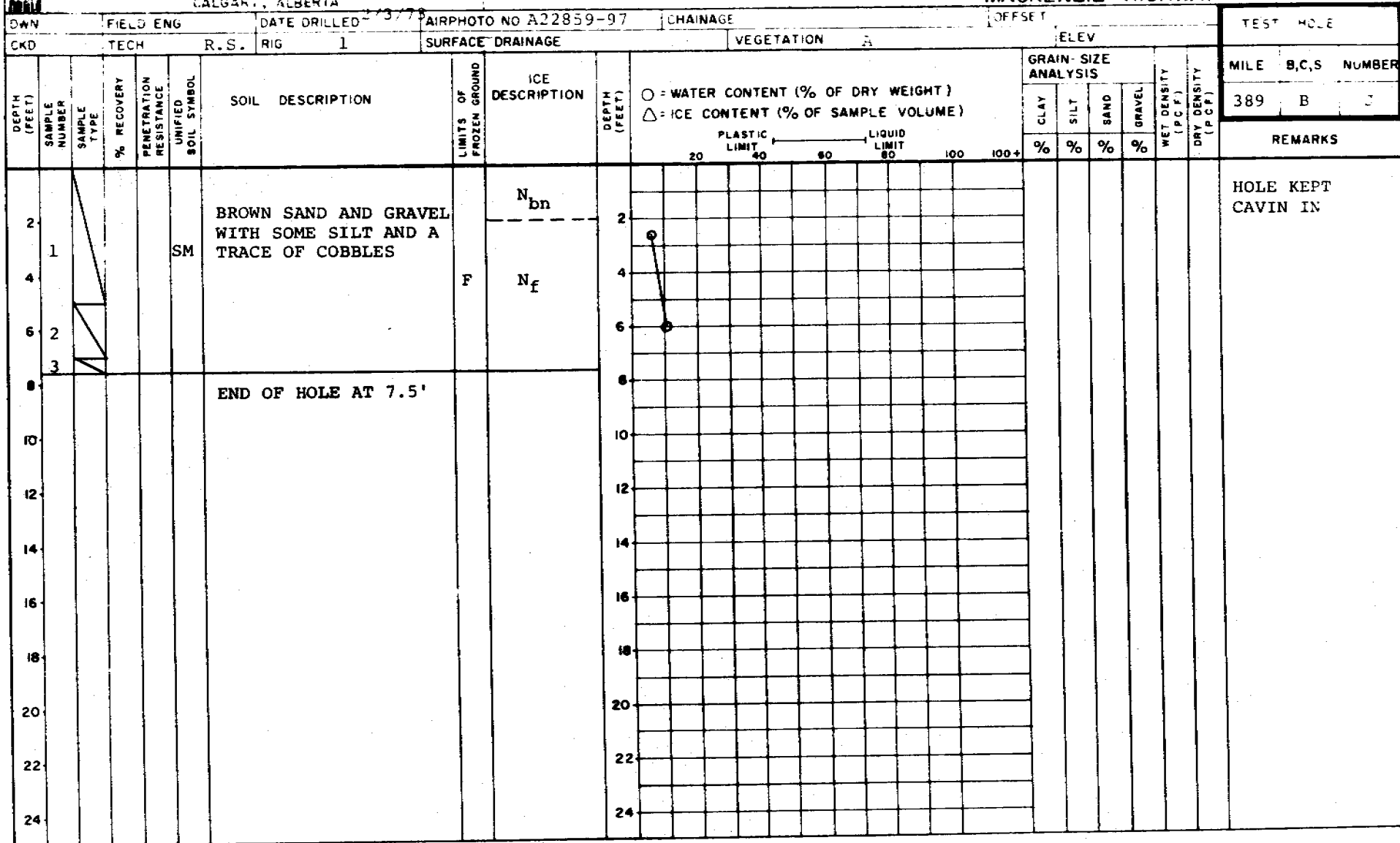


ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY								
DWN:		FIELD ENG		DATE DRILLED 2/2/73		AIRPHOTO NO. A22771-62		CHAINAGE		OFFSET		TEST HOLE				
CKD		TECH W.R.		RIG 1		SURFACE DRAINAGE FAIR		VEGETATION A B D		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
2	1				ML	SILTY AND SANDY TILL WITH SOME CLAY AND GRAVEL AND A TRACE OF COBBLES ---BROWN--- GREY	F	N _{bn}	2							
4									8							
6									6							
8									8							
10									10							
12	2				ML		F	N _{bn}	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 2/2/73		AIRPHOTO NO: A22771-60		CHAINAGE		OFFSET		TEST HOLE				
CKD		TECH W.R.		RIG 1		SURFACE DRAINAGE FAIR		VEGETATION A B D		ELEV						
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
2	1				ML	SILT AND SAND TILL WITH SOME CLAY AND A TRACE OF GRAVEL			2							
4							F	N _{bn}	4							
6						--- BROWN GREY ---			6							
8	2				ML				8							
10									10							
12							F	N _{bn}	12							
14	3				ML				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 A22859-91		CHAINAGE		OFFSET		TEST HOLE				
CKD		TECH R.S.		RIG 1		SURFACE DRAINAGE GOOD		VEGETATION A		ELEV		MILE B.C.S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
2	1				ML-CL	SILTY AND SANDY TILL WITH SOME CLAY AND A TRACE OF GRAVEL	F	N _{bn}	2	21	38	33	8			
4									4							
6									6							
8	2				ML-CL		F	N _{bn}	8	18	44	37	1			
10									10							
12									12							
14	3				ML-CL				14							
16						END OF HOLE AT 15'			16							
18									18							
20									20							
22									22							
24									24							

DEPARTMENT OF PUBLIC WORKS, CANADA
MACKENZIE HIGHWAY



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					
CKD		TECH		R.S.		RIG		SURFACE DRAINAGE		VEGETATION					
										ELEV					
										TEST HOLE					
										MILE B,C,S NUMBER					
										391 B E					
										REMARKS					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNITED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	WATER CONTENT (% OF DRY WEIGHT)	ICE CONTENT (% OF SAMPLE VOLUME)	GRAIN-SIZE ANALYSIS	WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	
												CLAY	SILT	SAND	GRAVEL
												%	%	%	%
2	1				Pt	PEAT AND SOME FINE SILTY SAND		V _x	2						
4					ML-CL	CLAYEY SILTY, AND SANDY TILL WITH A TRACE OF GRAVEL		N _{bn}	4						
6									6						
8	2								8			30	38	30	2
10									10						
12	3				ML-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 2/2/73		AIRPHOTO NO A22771-66		CHAINAGE 0/S @ 824+80		OFFSET 1500' E					
CKD		TECH R.S.		RIG 1		SURFACE DRAINAGE GOOD		VEGETATION A		ELEV					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				TEST HOLE	
									○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)				MILE B.C.S NUMBER 391 B F		
									PLASTIC LIMIT 20 40 60 80 100 100+ LIQUID LIMIT 80 100 100+				REMARKS		
									CLAY	SILT	SAND	GRAVEL	WET DENSITY (PCF)	DRY DENSITY (PCF)	
									%	%	%	%			
2	1				ML-CL	BROWN SANDY SILTY TILL WITH SOME CLAY AND A TRACE OF GRAVEL	F	N _{bn}	2						
4									4						
6									6						
8	2				ML-CL				8						
10									10						
12	3				ML-CL				12						
14									14						
16						END OF HOLE 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		ELEV		TEST HOLE					
CKD		TECH		W.R.		RIG		SURFACE DRAINAGE		FAIR		VEGETATION		A B D		ELEV			
DEPTH (FEET)		SAMPLE NUMBER		SAMPLE TYPE		% RECOVERY		PENETRATION RESISTANCE		UNIFIED SOIL SYMBOL		SOIL DESCRIPTION		LIMITS OF FROZEN GROUND		ICE DESCRIPTION		DEPTH (FEET)	
2		1										FINE BROWN SAND WITH SOME SILT				N _{bn}		2	
4																		4	
6		2												F		N _f		6	
8																		8	
10																		10	
12		3										FINE BROWN SILTY SAND WITH A TRACE OF CLAY						12	
14																		14	
16		4												F		N _{bn}		16	
18																		18	
20																		20	
22		5																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+

GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)
CLAY	SILT	SAND	GRAVEL		
%	%	%	%		
0	12	88	0		
0	12	88	0		
3	37	60	0		
3	38	59	0		

MILE	B,C,S	NUMBER
392	B	L

REMARKS	

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 R. S.		RIG 1		SURFACE DRAINAGE GOOD		VEGETATION A		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
2	1				SM		F	N _{bn}	2							
4									4							
6	2				SM	BROWN FINE SAND WITH SILT, WET	UF		6							
8									8							
10									10							
12									12							
14									14							
16									16							
18	3				SM	SANDY SILT	UF		18							
20									20							
22	4								22							
24						END OF HOLE AT 25'			24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT										DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
OWN		FIELD ENG		DATE DRILLED		AIRPHOTO NO		CHAINAGE		OFFSET		ELEV		TEST HOLE															
CKD		TECH		W.R.		RIG		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 LIQUID LIMIT 20 40 60 80 100 100+																			
2	1				SP	FINE GREY SAND	F	N _{bn}	2																				
4									4																				
6									6																				
8	2				SM	FINE GREY SILTY SAND, WET	UF		8																				
10									10																				
12									12																				
14	3								14																				
16									16																				
18	4				SM	FINE GREY SILTY SAND WITH A TRACE OF CLAY	UF		18																				
20									20																				
22	5								22																				
24									24																				

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
OWN:		FIELD ENG		DATE DRILLED 3/2/78		AIRPHOTO NO		CHAINAGE		OFFSET		TEST HOLE									
CKD		TECH R. S.		RIG 1		SURFACE DRAINAGE		GOOD		VEGETATION A		ELEV									
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS					
										CLAY %	SILT %	SAND %	GRAVEL %								
2	1				SM	BROWN FINE SILTY SAND	F	N _{bn}	2												
4									4												
6									6												
8									8												
10	2				SM		UF		10												
12									12												
14									14												
16									16												
18	3								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		AIRPHOTO NO		CHAINAGE		OFFSET		ELEV		TEST HOLE		
CKD		TECH		W.R.		RIG		SURFACE DRAINAGE		GOOD		VEGETATION		A 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
									○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)							
									PLASTIC LIMIT ——— LIQUID LIMIT 20 40 60 80 100 100+							
									CLAY % SILT % SAND % GRAVEL %							
2	1				SP	FINE BROWN SAND WITH A TRACE OF SILT AND GRAVEL		N _{bn}	2	3	5	89	3			
4							F	N _f	4							
6									6							
8	2				SP				8	0	3	93	4			
10									10							
12	3				SP				12	2	6	89	3			
14							F	N _f	14							
16									16							
18	4				SP				18	4	10	82	4			
20									20							
22	5				SP		F	N _f	22	0	2	88	10			
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY								
OWN:		FIELD ENG		DATE DRILLED 30/1/73		AIRPHOTO NO A22771-62		CHAINAGE		OFFSET 600' E		TEST HOLE				
CKD		TECH W.R.		RIG 1		SURFACE DRAINAGE FAIR		VEGETATION A B		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
					Pt	1' OF BROWN TOPSOIL										
2	1				SP	FINE BROWN SAND WITH SOME SILT	F	N _{bn}	2							
4																
6																
8	2				SP		F	N _f	8		3	12	85	0		
10																
12	3				SP				12		0	12	88	0		
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 31/1/73		AIRPHOTO NO. A22771-73		CHAINAGE		OFFSET							
CKD		TECH R.G.		RIG 2		SURFACE DRAINAGE GOOD		VEGETATION A		ELEV		TEST HOLE					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS	
										CLAY %	SILT %	SAND %	GRAVEL %				
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)							
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+							
2	1				SM	BROWN SILTY SANDY TILL WITH SOME ORGANIC MATTER IN UPPER 3 FT.	F	N _{bn}	2								
4									4								
6									6								
8	2				CL	BROWN CLAYEY SILTY TILL WITH SOME SAND	F	N _{bn}	8								
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 8/2/73										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG		DATE DRILLED		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE									
CKD:		TECH M.H.R.		RIG 2		SURFACE DRAINAGE FAIR		VEGETATION A		ELEV		MILE B,C,S NUMBER									
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS					
										CLAY %	SILT %	SAND %	GRAVEL %								
2						SILT WITH SOME CLAY AND A TRACE OF SAND AND GRAVEL	F	N _{bn}	2												
4									4												
6	1	P		73	ML- CL	BROWN GREY			6	22	72	3	3								
8									8												
10	2				ML- CL		F	N _{bn}	10												
12									12												
14									14												
16									16												
18	3				SM	GREY SILTY SANDY TILL WITH SOME CLAY AND GRAVEL	F	N _{bn}	18												
20									20												
22	4				SM				22	20	30	40	10								
24									24												

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA										DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY						
DWN:		FIELD ENG		DATE DRILLED 6/2/77		AIRPHOTO NO: A22771-76		CHAINAGE		OFFSET 500' E		TEST HOLE								
CKD:		TECH W.R.		RIG 1		SURFACE DRAINAGE GOOD		VEGETATION A B D		ELEV		MILE 398		B,C,S B		NUMBER H				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)				GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										PLASTIC LIMIT ——— LIQUID LIMIT 20 40 60 80 100 100+				CLAY	SILT	SAND	GRAVEL			
										%	%	%	%							
2	4					END OF HOLE AT 30'			2											
4									4											
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 6/2/73		AIRPHOTO NO: A22771-80		CHAINAGE		OFFSET		TEST HOLE						
CKD		TECH W.R.		RIG 1		SURFACE DRAINAGE		GOOD		VEGETATION A B D		ELEV						
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	MILE	B,C,S	NUMBER
										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	4								2									
4									4									
30						END OF HOLE AT 30'			30									
6									6									
8									8									
10									10									
12									12									
14									14									
16									16									
18									18									
20									20									
22									22									
24									24									
REMARKS																		

[illegible]

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY								
DWN		FIELD ENG		DATE DRILLED 6/2/71		AERPHOTO NO A22771-76		CHAINAGE		OFFSET 1050' E		TEST HOLE				
CKD		TECH		W.R.		RIG 1		SURFACE DRAINAGE GOOD		VEGETATION A B		ELEV				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
2	1				ML	BROWN SANDY SILT WITH SOME CLAY AND BOULDERS (DOMINANTLY OF WEATHERED GREY SHALE)	F	N _{bn}	2							
4																
6																
8																
10	2					SOFT DARK GREY SHALE BEDROCK, WEATHERED AND FISSILE	F	N _{bn}	10							
12																
14																
16																
18	3								18							
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 6/2/73		AIRPHOTO NO: A22771-76		CHAINAGE		OFFSET		TEST HOLE																	
CKD		TECH		W.R.		RIG 1		SURFACE DRAINAGE		VEGETATION		ELEV		MILE		B,C,S		NUMBER											
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS							
										PLASTIC LIMIT		LIQUID LIMIT		CLAY	SILT	SAND	GRAVEL												
										20	40	60	80	100	100+	%	%	%	%										
2	4								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		AIRPHOTO NO		CHAINAGE		OFFSET		TEST HOLE																	
CKD		TECH		W.R.		RIG		SURFACE DRAINAGE		FAIR		VEGETATION		A B D		ELEV													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS													
										CLAY	SILT	SAND	GRAVEL																
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						MILE 398 B,C,S B NUMBER 0													
										PLASTIC LIMIT 20 40 60 80 100 100+ LIQUID LIMIT 80 100 100+																			
2					Pt	3' OF PEAT	F	V _x	2																				
4									4																				
6	1				ML	GREY SILTY TILL WITH SOME SAND, CLAY AND GRAVEL AND A TRACE OF COBBLES	F	N _{bn}	6																				
8									8																				
10									10																				
12	2				ML		UF		12																				
14									14																				
16									16																				
18	3				ML	DARK SOFT GREY SHALE BED ROCK, FISSILE. EXTREMELY WEATHERED IN UPPER 12 FT.			18																				
20									20																				
22	4				ML				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: A22771-78		CHAINAGE		OFFSET		TEST HOLE									
CKD		TECH W.R.		RIG 1		SURFACE DRAINAGE FAIR		VEGETATION A B D		ELEV		MILE B,C,S NUMBER									
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS					
										CLAY %	SILT %	SAND %	GRAVEL %								
2	4						UF		2												
28	5								4												
30						END OF HOLE AT 30'			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 6/2/73		AIRPHOTO NO. A22771-76		CHAINAGE		OFFSET		TEST HOLE						
CKD		TECH W.R.		RIG 1		SURFACE DRAINAGE FAIR		VEGETATION A B		ELEV		MILE B,C,S NUMBER						
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS		
										CLAY	SILT	SAND	GRAVEL					
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)								
										PLASTIC LIMIT ——— LIQUID LIMIT 20 40 60 80 100 100+								
					PT	2' OF PEAT		V _x										
2					SC	GREY TO BLACK, MOTTLED, CLAYEY AND SILTY TILL WITH SOME SAND AND GRAVEL. (MOSTLY COMPOSED OF SHALE FRAGMENTS)	F	N _{dn}	2									
4									4									
6									6									
8									8									
10									10									
12									12									
14	2				SC				14									
16									16									
18	2A				CL				18									
20									20									
22	3					SOFT DARK GREY SHALE BEDROCK, WEATHERED AND FISSILE			22									
24									24									

PI = 17.7

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG		DATE DRILLED 6/2/71		AIRPHOTO NO. A22771-73		CHAINAGE		OFFSET 900' W		TEST HOLE					
CKD		TECH		W.R.		RIG 1		SURFACE DRAINAGE GOOD		VEGETATION A		ELEV					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS	
										CLAY %	SILT %	SAND %	GRAVEL %				
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						MILE B,C,S NUMBER	
										PLASTIC LIMIT 20 40 60 80 100 100+ LIQUID LIMIT 80 100 100+						398 B C	
2					Pt	PEAT			2								
4					CL	BROWN CLAYEY, SILTY AND SANDY TILL WITH A TRACE OF GRAVEL	F	N _{bn}	4								
6	1								6								
8									8								
10									10								
12									12								
14	2				CL		F	N _{bn}	14								
16									16								
18									18								
20						SOFT DARK GREY SHALE BEDROCK, WEATHERED AND FISSILE			20								
22	3								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: A22771-73		CHAINAGE:		OFFSET: 900' W		TEST HOLE				
CKD:		TECH: W.R.		RIG: 1		SURFACE DRAINAGE: GOOD		VEGETATION: A		ELEV:						
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						
										PLASTIC LIMIT ——— LIQUID LIMIT 20 40 60 80 100 100+						
2	4								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: 6/2/76		AIRPHOTO NO: A22771-76		CHAINAGE:		OFFSET:		TEST HOLE		
CKD:		TECH: W.R.		RIG: 1		SURFACE DRAINAGE: GOOD		VEGETATION: A B		ELEV:		MILE: 398 B,C,S NUMBER: 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 %			
2						BROWN SANDY SILT AND CLAY	F	N _{DN}	2					PI = 20.7
4	1				CL				4	35	40	25		
6									6					
8									8					
10						SOFT DARK GREY SHALE BEDROCK, WEATHERED AND FISSILE			10					
12	2								12					
14									14					
16									16					
18									18					
20									20					
22							UF		22					
24	3								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: A22772-95		CHAINAGE		OFFSET		TEST HOLE									
CKD		TECH W.R.		RIG 1		SURFACE DRAINAGE GOOD		VEGETATION A B D		ELEV		MILE 403		B,C,S B		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						SILTY SAND TILL WITH SOME CLAY AND GRAVEL	F	N _{bn}	2												
4	1				SC				4		15	28	53	4							
6									6												
8									8												
10									10												
12							F	N _{bn}	12												
14	2				SC				14		18	28	39	15							
16									16												
18									18												
20									20												
22	3								22												
24									24												

[illegible]

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA 9/2/73				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY								
DWN:		FIELD ENG		DATE DRILLED		AIRPHOTO NO. A22772-97		CHAINAGE		OFFSET		TEST HOLE				
CKD		TECH R.S.		RIG 1		SURFACE DRAINAGE GOOD		VEGETATION A		ELEV.		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
1					Pt	PEAT TOP SOIL AND SOME SILTY SAND	F	V _x	2							
2																
4	2				SC	SILTY, SANDY AND GRAVELLY TILL WITH SOME CLAY	F	N _{bn}	4	15	30	30	25			
6									6							
8	3				CL	---BROWN--- GREY CLAYEY, SILTY AND SANDY TILL WITH SOME GRAVEL AND OCCASIONAL BOULDERS	F		8	25	30	30	15			
10									10							
12									12							
14									14							
16									16							
18	4				CL		F		18	26	26	36	12			
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: 10/2/72		AERIAL PHOTO NO: A22772-104		CHAINAGE:		OFFSET:		ELEV:		TEST HOLE															
CKD:		TECH: W.R.		RIG: 1		SURFACE DRAINAGE: GOOD		VEGETATION: A B		ELEV:		MILE: 408		B,C,S: B		NUMBER: I													
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS							
										PLASTIC LIMIT		LIQUID LIMIT		CLAY	SILT	SAND	GRAVEL												
										20	40	60	80	100	100+	%	%	%	%										
2	3								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		AIRPHOTO NO:		CHAINAGE		OFFSET								
CKD		TECH:		RIG		SURFACE DRAINAGE		VEGETATION		ELEV.								
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS		
										CLAY %	SILT %	SAND %	GRAVEL %					
○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)																		
										PLASTIC LIMIT ——— LIQUID LIMIT 20 40 60 80 100 100+								
2					Pt	PEAT		V _x	2									
4						SILT AND SAND WITH SOME CLAY AND A TRACE OF GRAVEL	F	N _{bn}	4									
6	1				ML				6									
8									8									
10									10									
12									12									
14	2				ML				14									
16									16									
18									18									
20									20									
22									22									
24						24												
END OF HOLE AT 20'																		

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA				DRILL HOLE REPORT				DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY								
DWN:		FIELD ENG:		DATE DRILLED: 11/2/71		AIRPHOTO NO: A22781-138		CHAINAGE		OFFSET		TEST HOLE				
CKD		TECH: W.R.		RIG: 1		SURFACE DRAINAGE: FAIR		VEGETATION: A B		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
2	1				SM	FINE SILTY SAND			2							
4									4							
6									6							
8									8							
10	2				SM				10							
12							UF		12							
14									14							
16						END OF HOLE AT 14'			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: A22772-123		CHAINAGE		OFFSET		TEST HOLE				
CKD		TECH M.H.R.		RIG 2		SURFACE DRAINAGE GOOD		VEGETATION A B		ELEV		MILE 422 B.C.S. 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				SP	SAND WITH A TRACE OF SILT AND GRAVEL, SOME ORGANIC MATTER IN UPPER ONE FOOT.	F	N _{bn}	2							
4									4							
6									6							
8	2				SP		F	N _f	8							
10						END OF HOLE AT 10' (CAVING IN)			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: 15/2/72		AIRPHOTO NO: A22772-134		CHAINAGE		OFFSET		TEST HOLE				
CKD		TECH: V.S.		RIG: 1		SURFACE DRAINAGE: GOOD		VEGETATION: B F G		ELEV		MILE: 426, B.C.S: B, NUMBER: I				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF 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 SILTY SAND WITH SOME ORGANIC MATTER			2							TERRAIN SLOPING TOWARDS CREEK
4	1				CL	GREY CLAYEY SILT WITH SOME SAND AND A TRACE OF GRAVEL			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: 15/2/73		AIRPHOTO NO: A22772-134		CHAINAGE:		OFFSET:		ELEV:		TEST HOLE			
CKD:		TECH: V.S.		RIG: 1		SURFACE DRAINAGE: GOOD		VEGETATION: B F 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					SM	BROWN SILTY SAND WITH SOME ORGANIC MATTER IN UPPER 1 FT.	F	N _{bn}	2								
4	1				SM	BROWN SILTY SAND TILL WITH SOME CLAY AND A TRACE OF GRAVEL	UF		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								

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

PLASTIC LIMIT 20 40 60 80 100 100+
 LIQUID LIMIT

GRAIN-SIZE ANALYSIS
 CLAY SILT SAND GRAVEL
 % % % %

WET DENSITY (P.C.F.)
 DRY DENSITY (P.C.F.)

TEST HOLE
 MILE B,C,S NUMBER
 426 B J

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA 15/2/73										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY									
DWN:		FIELD ENG		DATE DRILLED		AIRPHOTO NO: A22772-137		CHAINAGE:		OFFSET		TEST HOLE									
CKD:		TECH: V.S.		RIG: 1		SURFACE DRAINAGE: GOOD		VEGETATION: B F G		ELEV:		MILE		B,C,S		NUMBER					
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS		WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS							
										CLAY %	SILT %						SAND %	GRAVEL %			
2	1				SM	BROWN SILTY SAND TILL WITH A TRACE OF CLAY AND GRAVEL			2	9	30	52	9								
4									4												
6									6												
8									8												
10	2				CL	GREY SILT TILL WITH SOME SAND AND CLAY AND A TRACE OF GRAVEL	F	N _{bn}	10	13	58	25	4								
12									12												
14									14												
16									16												
18									18												
20						END OF HOLE AT 15'			20												
22									22												
24									24												

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA 16/2/73										DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY											
DWN:		FIELD ENG		DATE DRILLED		AIRPHOTO NO: A22772-139		CHAINAGE		OFFSET		TEST HOLE											
CKD:		TECH		W.R.		RIG		1		SURFACE DRAINAGE		GOOD		VEGETATION: A B D		ELEV:		MILE		B,C,S		NUMBER	
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS							
										CLAY %	SILT %	SAND %	GRAVEL %										
2	1				CL	CLAYEY SILT WITH A TRACE OF SAND	F	V _x	2	29	63	8	0										
4									4														
6						BROWN GREY			6														
8	2				CL		UF		8														
10									10														
12	3				CL				12														
14									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		AIRPHOTO NO:		CHAINAGE:		OFFSET		TEST HOLE																	
CKD		TECH		V.S.		RIG		SURFACE DRAINAGE		FAIR		VEGETATION		A G		ELEV		MILE		B,C,S		NUMBER							
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						GRAIN-SIZE ANALYSIS				WET DENSITY (PCF)	DRY DENSITY (PCF)	REMARKS							
									PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+						CLAY %	SILT %	SAND %	GRAVEL %											
2	1				CL-ML	BROWN SILT WITH SOME CLAY, SAND AND GRAVEL	F	N _{bn}	2										20	37	21	22							
4									4																				
6									6																				
8	2				SW	BROWN SAND TILL WITH SOME SILT AND GRAVEL AND A TRACE OF CLAY	UF		8										6	14	50	30							
10									10																				
12	3				SW				12										7	16	63	14							
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: 24/2/73		AIRPHOTO NO: A23004-141		CHAINAGE		OFFSET:		TEST HOLE							
CKD		TECH: W.R.		RIG: 1		SURFACE DRAINAGE: GOOD		VEGETATION: A B D		ELEV:		MILE: 437		S,C,S: B		NUMBER: I			
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF 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					SP	BROWN SAND AND FINE GRAVEL WITH A TRACE OF SILT			2										
4	1				ML	GREY SILTY TILL WITH SOME CLAY, SAND AND GRAVEL			4										
6									6										
8	2				ML				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 23/2/73		AIRPHOTO NO: A23004-143		CHAINAGE		OFFSET		TEST HOLE				
CKD:		TECH R.G.		RIG 2		SURFACE DRAINAGE FAIR		VEGETATION A		ELEV.		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY %	SILT %	SAND %	GRAVEL %			
2						BROWN SILT AND CLAY WITH A TRACE OF GRAVEL			2							
4	1				CL				4							
6									6							
8									8							
10							F	N _{bn}	10							
12									12							
14	2				CL				14							
16									16							
18									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 19/2/73		AIRPHOTO NO: A23004-143		CHAINAGE		OFFSET		TEST HOLE									
CKD		TECH V.S.		RIG 1		SURFACE DRAINAGE FAIR		VEGETATION B G		ELEV		MILE 439		B.C.S B		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	GREY SILT WITH SOME CLAY AND SAND	F	V _x	2												
4									4												
6									6												
8	2				CL	GREY CLAYEY SILT WITH A TRACE OF SAND	F	V _x	8												
10									10												
12									12												
14									14												
16	3				CL	GREY SILT AND CLAY WITH A TRACE OF SAND	F	V _x	16												
18									18												
20									20												
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 19/2/73		AIRPHOTO NO: A23004-143		CHAINAGE		OFFSET		TEST HOLE				
CKD		TECH V.S.		RIG 1		SURFACE DRAINAGE FAIR		VEGETATION B G		ELEV						
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY	SILT	SAND	GRAVEL			
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						
										PLASTIC LIMIT 40 LIQUID LIMIT 80						
2	1				PT	BLACK PEATY SILT WITH SOME SAND	F	V _x	2							
4									4							
6	2								6							
8									8							
10									10							
12	3				CL	GREY SILT WITH SOME CLAY AND SAND			12							
14									14							
16									16							
18									18							
20						END OF HOLE AT 18'			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 23/2/73		AIRPHOTO NO. A22772-150		CHAINAGE		OFFSET		TEST HOLE				
CKD		TECH R.G.		RIG 2		SURFACE DRAINAGE GOOD		VEGETATION A		ELEV		MILE 441 B,C,S 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 ——— LIQUID LIMIT 20 40 60 80 100 100+						
										%						
2	1				CL	LIGHT BROWN CLAYEY SILT WITH A TRACE OF SAND			2							
4									4							
6									6							
8							F	N _{bn}	8							
10									10							
12									12							
14	2				CL				14							
16									16							
18									18							
20									20							
22						END OF HOLE AT 20'			22							
24									24							

ACRES CONSULTING SERVICES LIMITED CALGARY, ALBERTA 23/2/73				DRILL HOLE REPORT		DEPARTMENT OF PUBLIC WORKS, CANADA MACKENZIE HIGHWAY										
OWN:		FIELD ENG		DATE DRILLED		AIRPHOTO NO: A22772-151		CHAINAGE		OFFSET		TEST HOLE				
CKD		TECH: R.G.		RIG: 2		SURFACE DRAINAGE: GOOD		VEGETATION: A		ELEV.		MILE: 442 B, C, S				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY	SILT	SAND	GRAVEL			
2	1				CL				2							
4									4							
6									6							
8	2				CL	DARK BROWN CLAYEY SILT F WITH A TRACE OF SAND AND AN OCCASIONAL BOULDER		N _{bn}	8							
10									10							
12									12							
14									14							
16									16							
18									18							
20									20							
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: 23/2/73		AERPHOTO NO: A22772-151		CHAINAGE:		OFFSET:		TEST HOLE				
CKD:		TECH: R.G.		RIG: 2		SURFACE DRAINAGE: GOOD		VEGETATION: A		ELEV:		MILE: 442 B.C.S. NUMBER: I				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF 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				CL	BROWN CLAYEY SILT WITH A TRACE OF SAND AND AN OCCASIONAL BOULDER			2							
4									4							
6									6							
8									8							
10									10							
12	2				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		AIRPHOTO NO:		CHAINAGE		OFFSET		TEST HOLE									
CKD		TECH		RIG		SURFACE DRAINAGE		FAIR		VEGETATION		ELEV									
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS					
										CLAY	SILT	SAND	GRAVEL								
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)											
										PLASTIC LIMIT LIQUID LIMIT 20 40 60 80 100 100+											
					Pt	PEAT		V _x													
2	1				CL	BROWN SILT WITH SOME CLAY AND A TRACE OF SAND			2												
4									4												
6	2				CL		UF		6												
8									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 24/2/73		AIRPHOTO NO. A22772-151		CHAINAGE		OFFSET		TEST HOLE				
CKD		TECH J.M.		RIG 2		SURFACE DRAINAGE FAIR		VEGETATION B		ELEV		MILE B,C,S NUMBER				
DEPTH (FEET)	SAMPLE NUMBER	SAMPLE TYPE	% RECOVERY	PENETRATION RESISTANCE	UNIFIED SOIL SYMBOL	SOIL DESCRIPTION	LIMITS OF FROZEN GROUND	ICE DESCRIPTION	DEPTH (FEET)	GRAIN-SIZE ANALYSIS				WET DENSITY (P.C.F.)	DRY DENSITY (P.C.F.)	REMARKS
										CLAY	SILT	SAND	GRAVEL			
										○ = WATER CONTENT (% OF DRY WEIGHT) △ = ICE CONTENT (% OF SAMPLE VOLUME)						
										PLASTIC LIMIT 20 40 60 80 100 100+ LIQUID LIMIT 80 100 100+						
					Pt	PEAT		V *								
2									2							
4	1				CL	DARK BROWN SILT WITH SOME CLAY AND A TRACE OF SAND			4							
6							F	N _{bn}	6							
8	2				CL				8							
10									10							
12	3				CL				12							
14									14							
16									16							
18									18							
20						END OF HOLE AT 18'			20							
22									22							
24									24							