GEOTECHNICAL INVESTIGATIONS

Highway Construction
Km 1674.0 to 1684.3 Alaska Highway #1
Yukon, 2003-2004
Volume 2 of 2

Yukon
Highways and Public Works
Transportation Engineering Branch

Geotechnical Services

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Highway Construction
Km 1674.0 to 1684.3
Alaska Highway #1
Yukon 2003-2004
Volume 2 of 2

This Data Package prepared for project viewing:

April, 2003

Transportation Engineering Branch
Geotechnical Services
461 Range Road
Whitehorse, Yukon

CONTENTS

Volume 1 of 2

INTRODUCTION

Investigation notes, classification methods and legends.

2000 & 2001 CENTRELINE TESTING ALASKA HIGHWAY

Subsurface Exploration and Testing Report Sheets are provided.
The reports for the Right-of-Way holes are arranged according to project location, starting at Km 1673+875 and increasing to Km 1684+450.

Laboratory Testing Result Sheets are provided.
The reports for the centreline holes are arranged according to test hole number, starting at 563-1743 and increasing to 594-979.

2000 & 2001	TEST HOLES 1743 to 1747	shown with prefix 563-
	TEST HOLES 1748 to 1751	shown with prefix 564-
	TEST HOLES 888 to 912	shown with prefix 586-
	TEST HOLES 913 to 925	shown with prefix 587-
	TEST HOLES 926 to 948	shown with prefix 588-
	TEST HOLES 949 to 973	shown with prefix 593-
	TEST HOLES 974 to 979	shown with prefix 594-

NOTE: 2000 & 2001 Centreline Test Hole locations on the Subsurface Exploration and Testing Report Sheets are approximate. Actual Test Hole locations, compiled by GPS survey, are indicated on project plans.

CONTENTS (continued)

Volume 2 of 2

1978 CENTRELINE TESTING ALASKA HIGHWAY

A Test Hole Location Reference Table and Subsurface Exploration & Testing Report Sheets are provided.
The reports for the centreline holes are arranged according to project location, starting at Km 1673+993 and increasing to Km 1684+415.

1978	TEST HOLES 169 to 301	shown with no prefix

IMPORTANT NOTE: Due to alignment revisions subsequent to the 1978 centreline testing the test hole locations indicated on the 1978 Subsurface Exploration and Testing Report sheets are invalid. Utilize the Test Hole Location Reference Table provided in order to determine the test hole locations relevant to the current alignment.

QUARRY SOURCE Km 1674 RHS ALASKA HIGHWAY

Location Plan and Subsurface Exploration and Testing Report Sheets are provided.

Air Rotary Drill Testing

2000	TEST HOLES 866 to 869, 873 to 883	shown with prefix 576-

GRANULAR SOURCE Km 1691.3 RHS ALASKA HIGHWAY (Silver City)

A production history, location plan, photographs, and subsurface exploration and testing report sheets are provided.

Auger Testing

2001	TEST HOLES 1505 & 1507	shown with prefix 581-
2001	TEST HOLES 1518	shown with prefix 582-

Backhoe Testing

1991	TEST PITS 03 to 06	shown with prefix 152-
1992	TEST PITS 17 to 20	shown with prefix EBA-
2001	TEST PITS 1520 to 1523, 1529 to 1533 1535 to 1543	shown with prefix 583-
2001	TEST PITS 1544 to 1546, 1551 & 1552	shown with prefix 584-

1978 CENTRELINE TESTING
1673+993 to 1684+415
ALASKA HIGHWAY

TEST HOLE LOCATION REFERENCE TABLE

Km 1674.0 to 1684.4

TEST HOLE #	DRILL LOG LOCATION		CURRENT LOCATION	
	STATION	OFFSET	STATION	OFFSET
169	1674+022	C.L.	1673+993	0.5 m Rt
170	1674+091	C.L.	1674+062	0.5 m Rt
171	1674+160	C.L.	1674+131	0.5 m Rt
172	1674+230	C.L.	1674+201	0.5 m Rt
173	1674+320	C.L.	1674+291	0.5 m Rt
174	1674+395	C.L.	1674+366	0.6 m Rt
175	1674+466	C.L.	1674+437	0.6 m Rt
176	1674+565	C.L.	1674+536	0.6 m Rt
177	1674+645	C.L.	1674+616	0.6 m Rt
178	1674+730	C.L.	1674+701	0.6 m Rt
179	1674+803	C.L.	1674+774	0.6 m Rt
180	1674+878	C.L.	1674+849	0.7 m Rt
181	1674+950	C.L.	1674+921	0.7 m Rt
182	1675+028	C.L.	1674+999	0.7 m Rt
183	1675+115	C.L.	1675+086	0.7 m Rt
184	1675+189	C.L.	1675+160	0.7 m Rt
185	1675+209	C.L.	1675+180	0.7 m Rt
186	1675+335	C.L.	1675+306	0.7 m Rt
187	1675+408	C.L.	1675+379	0.7 m Rt
188	1675+475	C.L.	1675+446	0.8 m Rt
189	1675+550	C.L.	1675+521	0.7 m Rt
190	1675+620	C.L.	1675+591	0.5 m Rt
191	1675+690	C.L.	1675+661	0.4 m Rt
192	1675+770	C.L.	1675+741	0.2 m Rt
193	1675+890	C.L.	1675+861	C.L.
194	1675+963	C.L.	1675+934	0.1 m Lt
195	1676+172	C.L.	1676+143	0.1 m Lt
196	1676+192	C.L.	1676+163	0.1 m Lt
197	1676+268	C.L.	1676+239	C.L.
198	1676+342	C.L.	1676+313	C.L.
199	1676+412	C.L.	1676+383	C.L.
200	1676+487	C.L.	1676+458	C.L.
201	1676+580	C.L.	1676+551	C.L.
202	1676+648	C.L.	1676+619	C.L.
203	1676+730	C.L.	1676+701	C.L.
204	1676+804	C.L.	1676+775	C.L.
205	1676+880	C.L.	1676+851	C.L.
206	1676+950	C.L.	1676+921	0.1 m Rt

J. Marynowski

TEST HOLE #	DRILL LOG LOCATION		CURRENT LOCATION	
	STATION	OFFSET	STATION	OFFSET
207	1677+020	C.L.	1676+991	0.1 m Rt
208	1677+085	C.L.	1677+056	0.1 m Rt
209	1677+164	C.L.	1677+135	0.1 m Rt
210	1677+268	C.L.	1677+239	0.1 m Rt
211	1677+349	C.L.	1677+320	0.1 m Rt
212	1677+428	C.L.	1677+399	0.1 m Rt
213	1677+505	C.L.	1677+476	0.1 m Rt
214	1677+584	C.L.	1677+555	0.2 m Rt
215	1677+662	C.L.	1677+633	0.2 m Rt
216	1677+732	C.L.	1677+703	0.2 m Rt
217	1677+896	C.L.	1677+867	0.2 m Rt
218	1677+972	C.L.	1677+943	0.2 m Rt
219	1678+058	C.L.	1678+029	0.2 m Rt
220	1678+137	C.L.	1678+108	0.2 m Rt
221	1678+212	C.L.	1678+183	0.3 m Rt
222	1678+290	C.L.	1678+261	0.3 m Rt
223	1678+368	C.L.	1678+339	0.3 m Rt
224	1678+456	C.L.	1678+427	0.2 m Rt
225	1678+538	C.L.	1678+509	0.9 m Lt
226	1678+616	C.L.	1678+587	1.7 m Lt
227	1678+695	C.L.	1678+665	2.4 m Lt
228	1678+775	C.L.	1678+745	2.9 m Lt
229	1678+857	C.L.	1678+827	3.2 m Lt
230	1678+937	C.L.	1678+907	3.2 m Lt
231	1679+018	C.L.	1678+988	3.0 m Lt
232	1679+094	C.L.	1679+064	2.8 m Lt
233	1679+175	C.L.	1679+145	2.6 m Lt
234	1679+254	C.L.	1679+224	2.3 m Lt
235	1679+332	C.L.	1679+302	2.1 m Lt
236	1679+405	C.L.	1679+375	1.9 m Lt
237	1679+487	C.L.	1679+457	1.6 m Lt
238	1679+576	C.L.	1679+546	1.4 m Lt
239	1679+640	C.L.	1679+610	1.2 m Lt
240	1679+720	C.L.	1679+690	0.9 m Lt
241	1679+797	C.L.	1679+767	0.7 m Lt
242	1679+870	C.L.	1679+840	0.5 m Lt
243	1679+930	C.L.	1679+900	0.3 m Lt
244	1680+010	C.L.	1679+980	C.L.
245	1680+080	C.L.	1680+050	0.2 m Rt
246	1680+160	C.L.	1680+130	0.4 m Rt
247	1680+230	C.L.	1680+200	1.0 m Rt

TEST HOLE #	DRILL LOG LOCATION		CURRENT LOCATION	
	STATION	OFFSET	STATION	OFFSET
248	1680+369	C.L.	1680+278	1.6 m Rt
249	1680+432	C.L.	1680+341	2.2 m Rt
250	1680+507	C.L.	1680+416	2.8 m Rt
251	1680+588	C.L.	1680+497	2.7 m Rt
252	1680+667	C.L.	1680+576	2.4 m Rt
253	1680+740	C.L.	1680+649	2.0 m Rt
254	1680+822	C.L.	1680+731	1.6 m Rt
255	1680+900	C.L.	1680+809	0.9 m Rt
256	1680+975	C.L.	1680+884	0.4 m Lt
257	1680+999	C.L.	1680+908	0.8 m Lt
258	1681+138	C.L.	1681+047	3.2 m Rt
259	1681+217	C.L.	1681+126	4.1 m Lt
260	1681+298	C.L.	1681+207	3.8 m Lt
261	1681+388	C.L.	1681+297	3.4 m Lt
262	1681+455	C.L.	1681+364	3.1 m Lt
263	1681+530	C.L.	1681+439	2.8 m Lt
264	1681+610	C.L.	1681+519	2.4 m Lt
265	1681+690	C.L.	1681+599	2.1 m Lt
266	1681+767	C.L.	1681+676	3.3 m Lt
267	1681+844	C.L.	1681+752	6.3 m Lt
268	1681+920	C.L.	1681+828	17.0 m Lt
269	1682+000	C.L.	1681+908	29.4 m Lt
270	1682+080	C.L.	1681+988	40.6 m Lt
271	1682+152	C.L.	1682+062	47.7 m Lt
272	1682+240	C.L.	1682+152	52.4 m Lt
273	1682+300	C.L.	1682+214	53.0 m Lt
274	1682+400	C.L.	1682+316	49.6 m Lt
275	1682+448	C.L.	1682+364	47.2 m Lt
276	1682+518	C.L.	1682+434	43.7 m Lt
277	1682+589	C.L.	1682+505	40.1 m Lt
278	1682+672	C.L.	1682+588	36.0 m Lt
279	1682+770	C.L.	1682+686	31.0 m Lt
280	1682+838	C.L.	1682+754	27.6 m Lt
281	1682+908	C.L.	1682+824	24.1 m Lt
282	1682+990	C.L.	1682+906	19.9 m Lt
283	1683+045	C.L.	1682+961	17.4 m Lt
284	1683+118	C.L.	1683+033	15.9 m Lt
285	1683+187	C.L.	1683+102	17.3 m Lt
286	1683+245	C.L.	1683+160	20.5 m Lt
287	1683+328	C.L.	1683+245	26.0 m Lt
288	1683+403	C.L.	1683+321	29.3 m Lt

TEST HOLE #	DRILL LOG LOCATION		CURRENT LOCATION	
	STATION	OFFSET	STATION	OFFSET
289	1683+470	C.L.	1683+389	30.4 m Lt
290	1683+535	C.L.	1683+457	31.0 m Lt
291	1683+630	C.L.	1683+554	29.1 m Lt
292	1683+710	C.L.	1683+636	25.3 m Lt
293	1683+795	C.L.	1683+722	19.3 m Lt
294	1683+865	C.L.	1683+793	12.8 m Lt
295	1683+939	C.L.	1683+867	7.7 m Lt
296	1684+010	C.L.	1683+938	5.7 m Lt
297	1684+088	C.L.	1684+016	5.6 m Lt
298	1684+172	C.L.	1684+100	5.7 m Lt
299	1684+252	C.L.	1684+181	6.7 m Lt
300	1684+368	C.L.	1684+296	5.9 m Lt
301	1684+487	C.L.	1684+415	6.1 m Lt

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WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 — HOLE No. 169

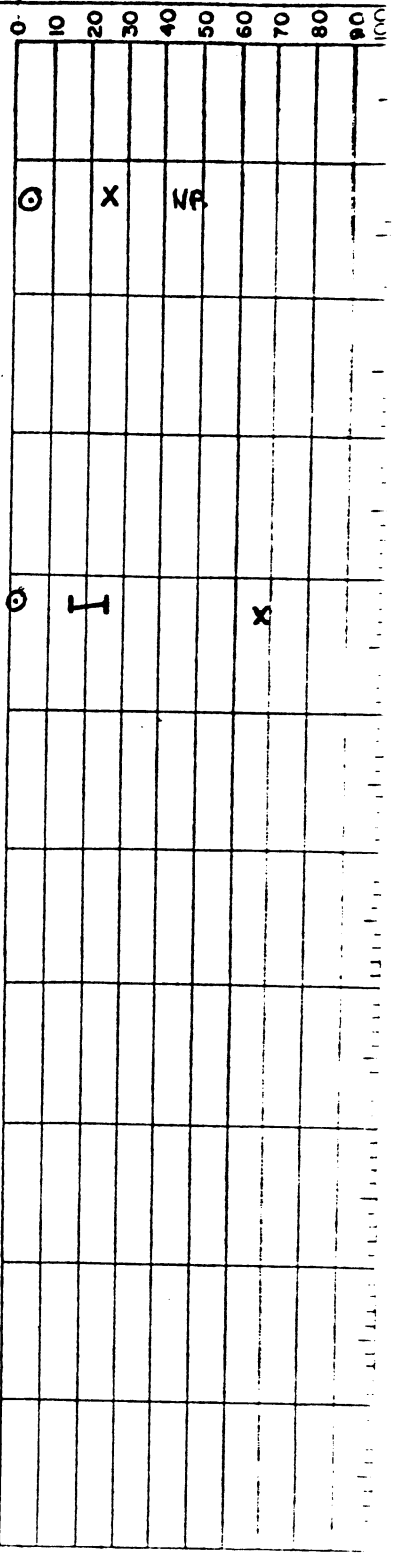
HOLE LOCATION 1674+022 — ELEV. — DEPTH TO G.W.L.

DATE DRILLED 78·10·26 — DRILL UNIT — TECHNICIAN T.M.

SAMPLE DATA

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
1										
2			A	p	1	1988	GM	39	36	
3										
4			A	p	2	1973	CL	4	28	28
5	END HOLE									
6										
7										
8										
9										
10										

O – % MOISTURE CONTENT
X – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



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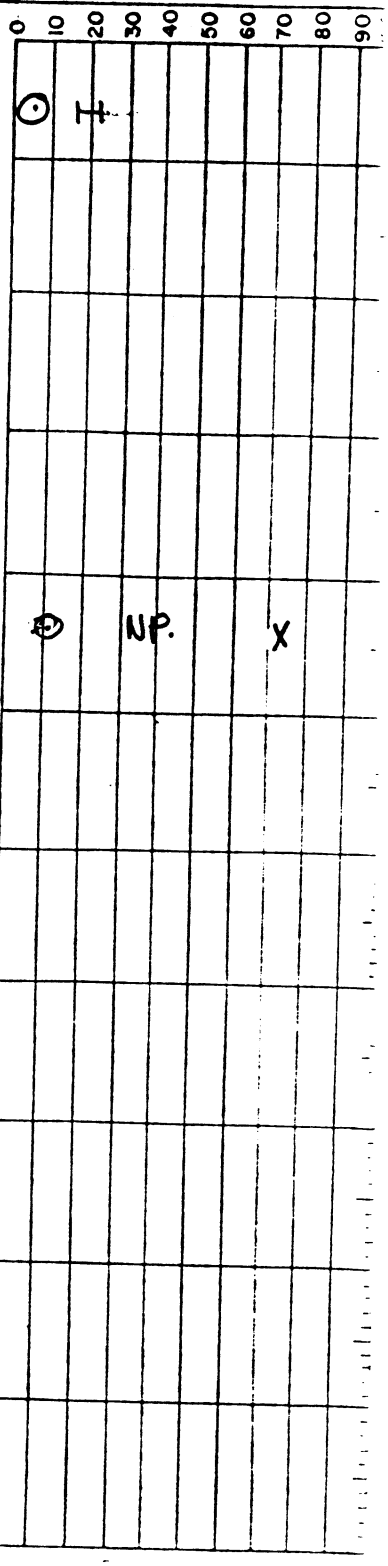
MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 — HOLE No. 470
HOLE LOCATION 1674+091 — ELEV. — DEPTH TO G.W.L.
DATE DRILLED 78·10·26 — DRILL UNIT — TECHNICIAN T.M

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
1			A/P	1	1976	CL-ML				
2										
3										
4			A/P	2	2008	ML	4	23	33	
5	END HOLE									
6										
7										
8										
9										
10										

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



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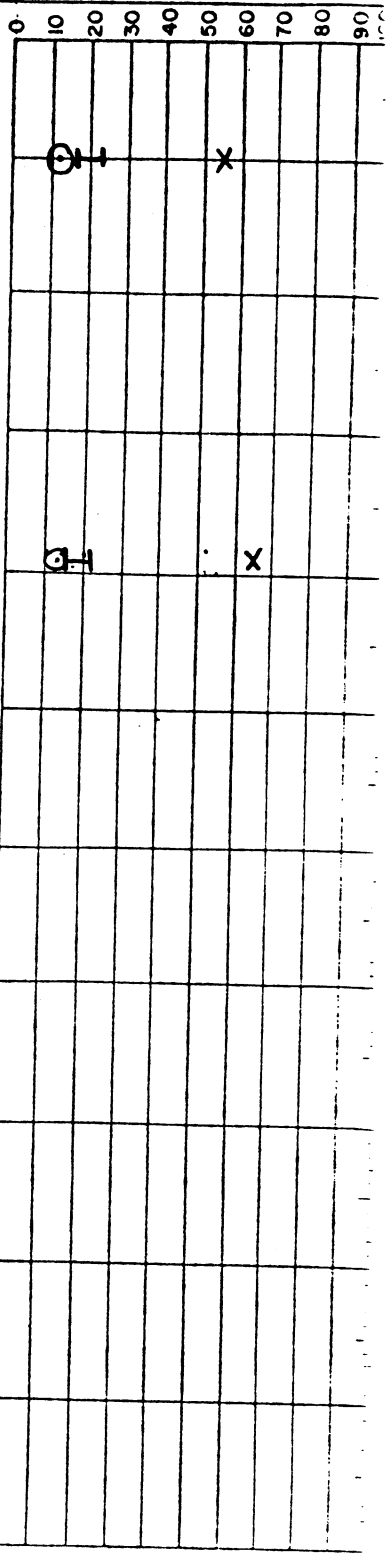
MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION	SHAKWAK SEGMENT 9		HOLE No. 171
HOLE LOCATION	1674+160	ELEV.	DEPTH TO G.W.L.
DATE DRILLED	78·10·26	DRILL UNIT	TECHNICIAN T.M.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm
1			A/P	1	2033	CL-ML	12	34	18	
2										
3										
4			A/P	2	1986	CL-ML	11	24		
5	END HOLE									
6										
7										
8										
9										
10										

O – % MOISTURE CONTENT
X – % < .074mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



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MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 172

HOLE LOCATION 1674+230 | ELEV. | DEPTH TO G.W.L.

DATE DRILLED | DRILL UNIT | TECHNICIAN T. M.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm
			A/P	1	1982	SM	18	44		
			A/P	2	1990	ML	10	28	20	
	END HOLE									

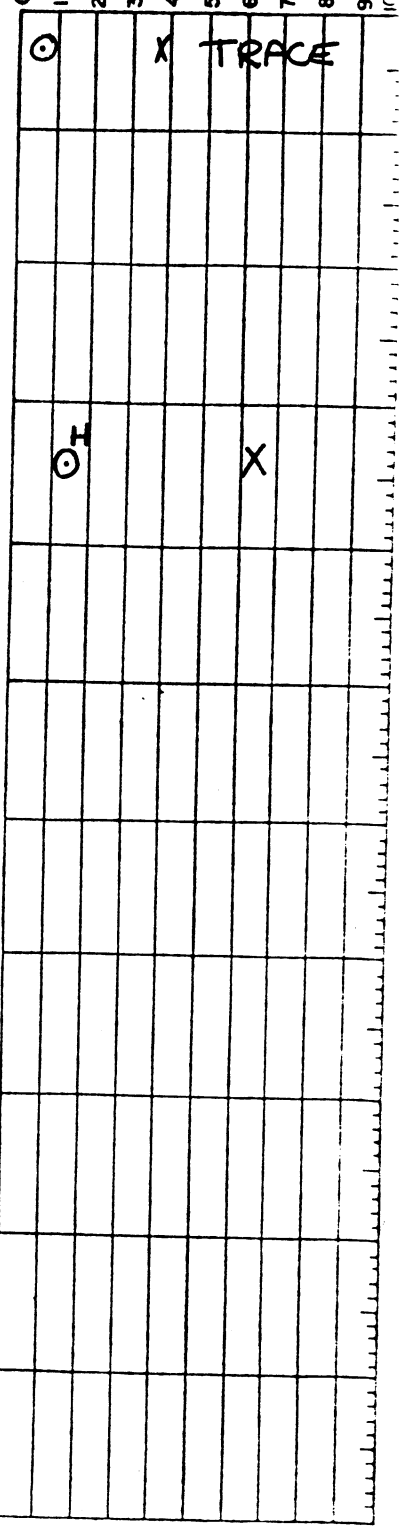
SAMPLE DATA

O – % MOISTURE CONTENT

X – % < .074mm

LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90 100



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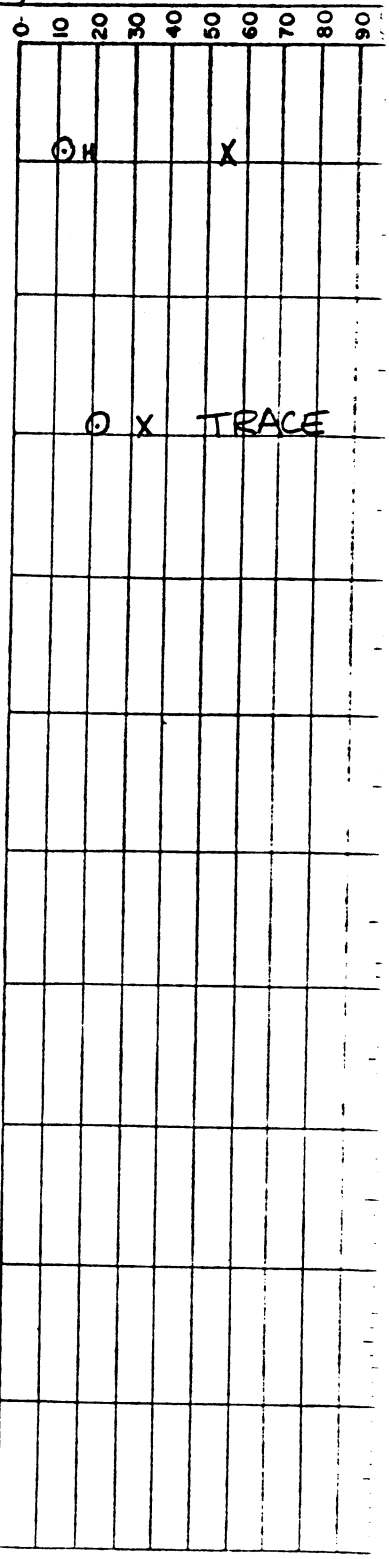
MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9		HOLE No. 173
HOLE LOCATION 1674+320	ELEV.	DEPTH TO G.W.L.
DATE DRILLED 78·10·27	DRILL UNIT	TECHNICIAN TM.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
1			A/P	1	1987	ML	9	36		
2										
3			A/P	2	1993	SM	2	64	6	
4	END HOLE									
5										
6										
7										
8										
9										
10										

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



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WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION	SHAKWAK SEGMENT 9		HOLE No. 174
HOLE LOCATION	1674 + 395	ELEV.	DEPTH TO G.W.L.
DATE DRILLED	78.10.27	DRILL UNIT	TECHNICIAN T.M

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
0			A/P	1	2025	SM	10	44	16	
3	END HOLE									

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

⊙ x TRACE

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WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 — HOLE No. 175

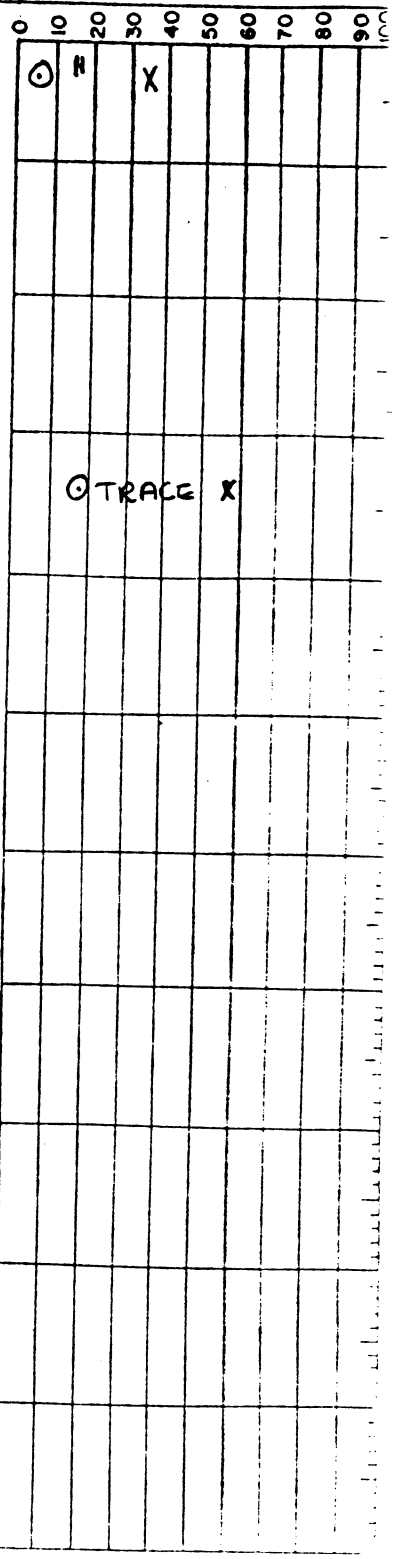
HOLE LOCATION 1674+466 — ELEV. — DEPTH TO G.W.L.

DATE DRILLED 78·10·27 — DRILL UNIT — TECHNICIAN T.M

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm
1			A/P	1	1991	SM	17	48	-	
2										
3			A/P	2	1981	ML	11	31	14	
4										
5	END HOLE									
6										
7										
8										
9										
10										

SAMPLE DATA

O – % MOISTURE CONTENT
X – % < .074mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



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WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 176

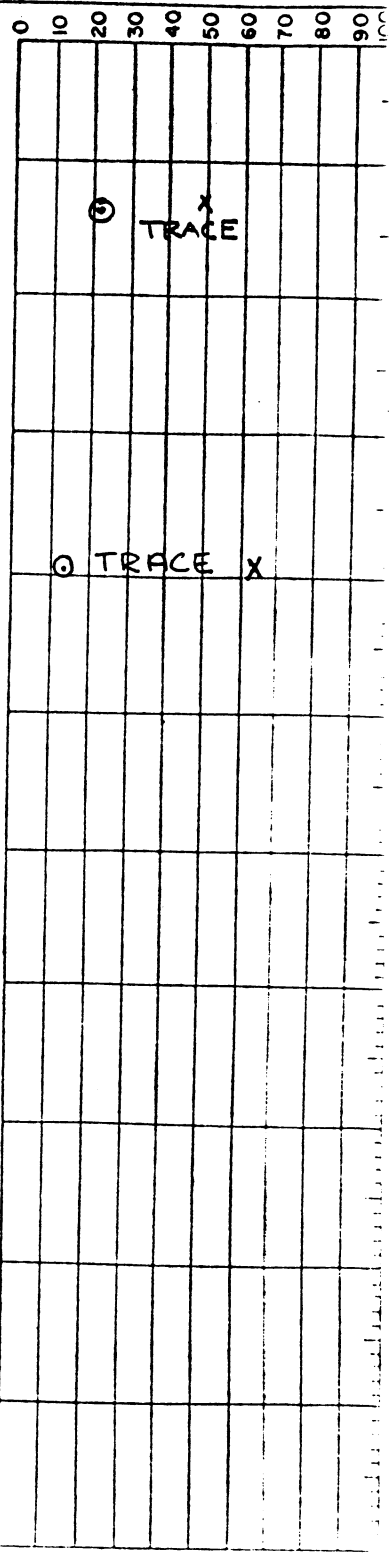
HOLE LOCATION 1674 + 565 | ELEV. | DEPTH TO G.W.L.

DATE DRILLED 78.10.27 | DRILL UNIT | TECHNICIAN T.M.

SAMPLE DATA

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
1										
2		A/P	1		1992	SM	8.4	42.1	11.9	
3										
4		A/P	2		2691	ML	8	29	9	
5	END HOLE									
6										
7										
8										
9										
10										

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



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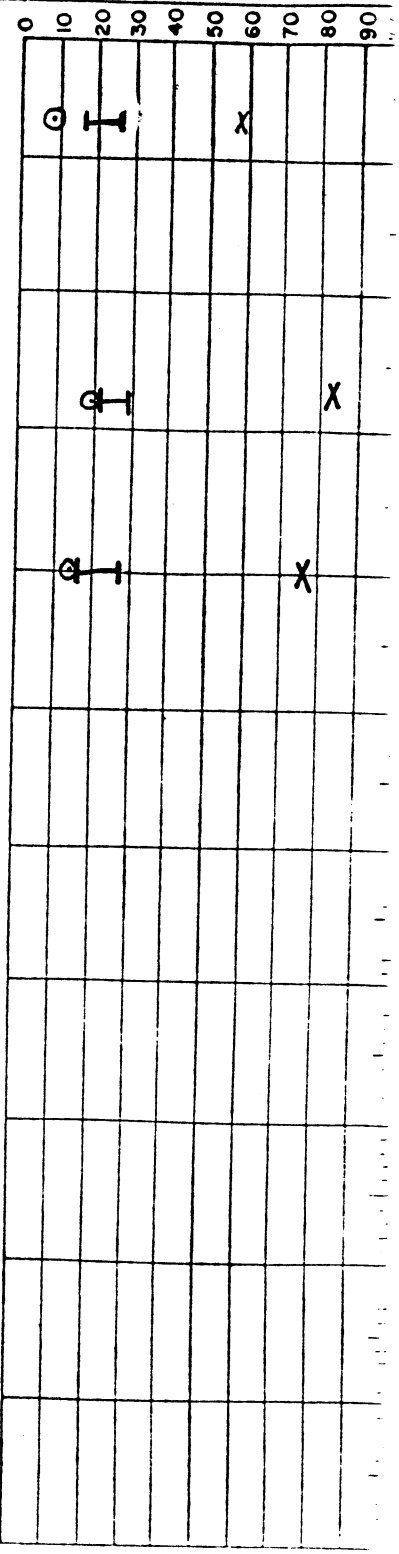
MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 177
HOLE LOCATION 1674+645 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED 78-10-30 | DRILL UNIT | TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
			A/P	1	2330	CL	17	25	-	
			A/P	2	2340	CL	3	12		
			A/P	3	2293	CL	5	19	37	
	END HOLE									

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



Public Works Canada

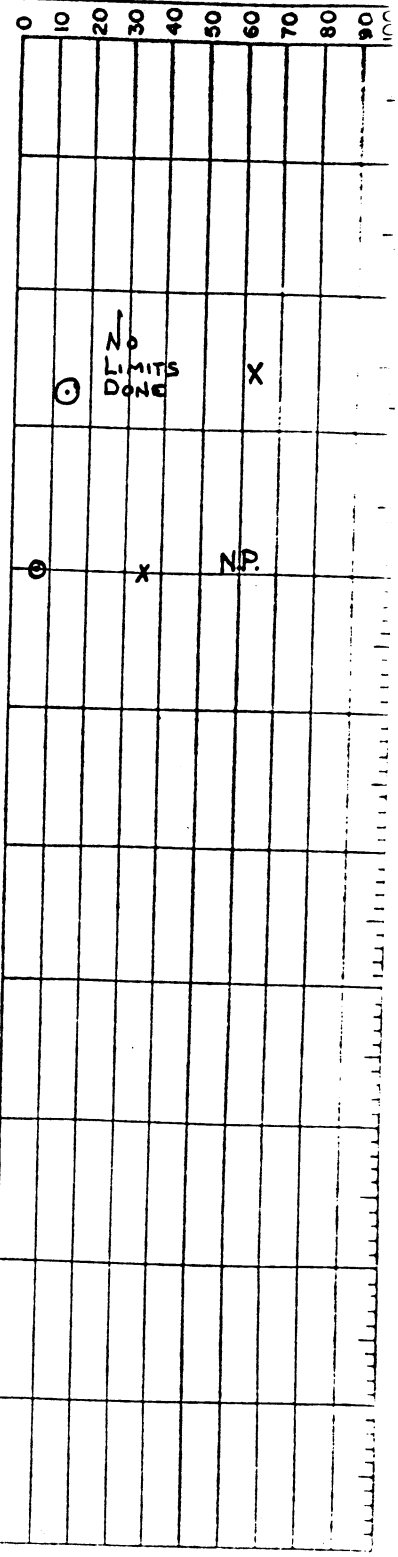
MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION	SHAKWAK SEGMENT 9		HOLE No. 178
HOLE LOCATION	1674+730	ELEV.	DEPTH TO G.W.L.
DATE DRILLED	78-10-30	DRILL UNIT	TECHNICIAN S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
3			A/P	1	2688	CL	3	35	12	
4			A/P	2	2517	SM	28	37	13	
5	END HOLE									

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 179
HOLE LOCATION 1674 + 803 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED 78-10-30 | DRILL UNIT | TECHNICIAN S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
1										
2			A/P	1	2074	SM	3	68	·	
3										
4			A/P	2	2321	ML	15	30	12	
5	END HOLE									
6										
7										
8										
9										
10										

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊣ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

⊙ x NP

⊙ TRACE x

Public Works Canada

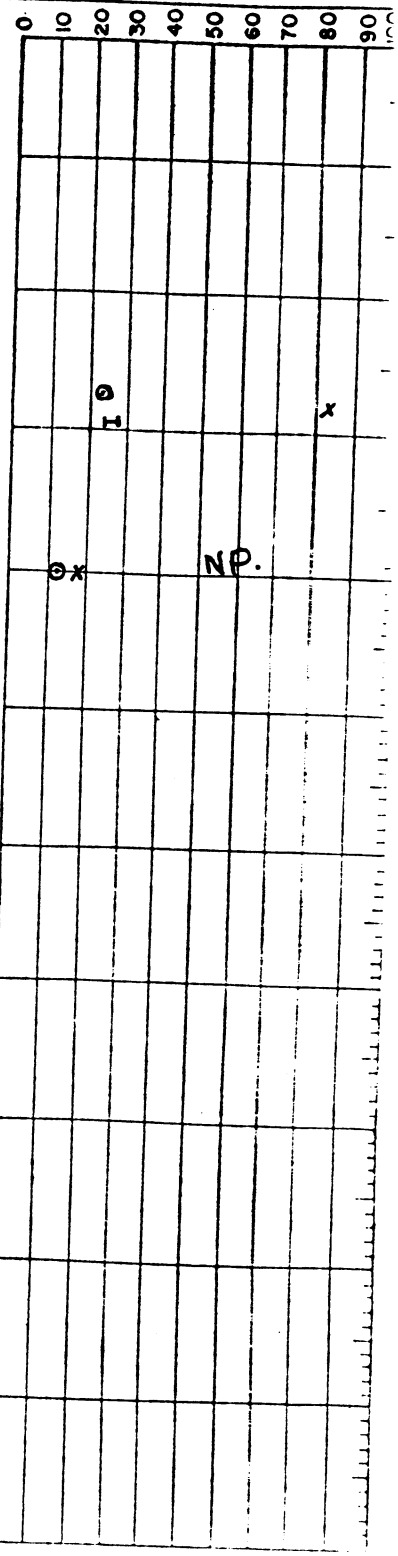
MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 180
HOLE LOCATION 1674+878 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED 78-10-30 | DRILL UNIT | TECHNICIAN S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
3			A/P	1	2694	M.L.	1	15	21	
4			A/P	2	2530	S.M.	10	72		
5	END HOLE									

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

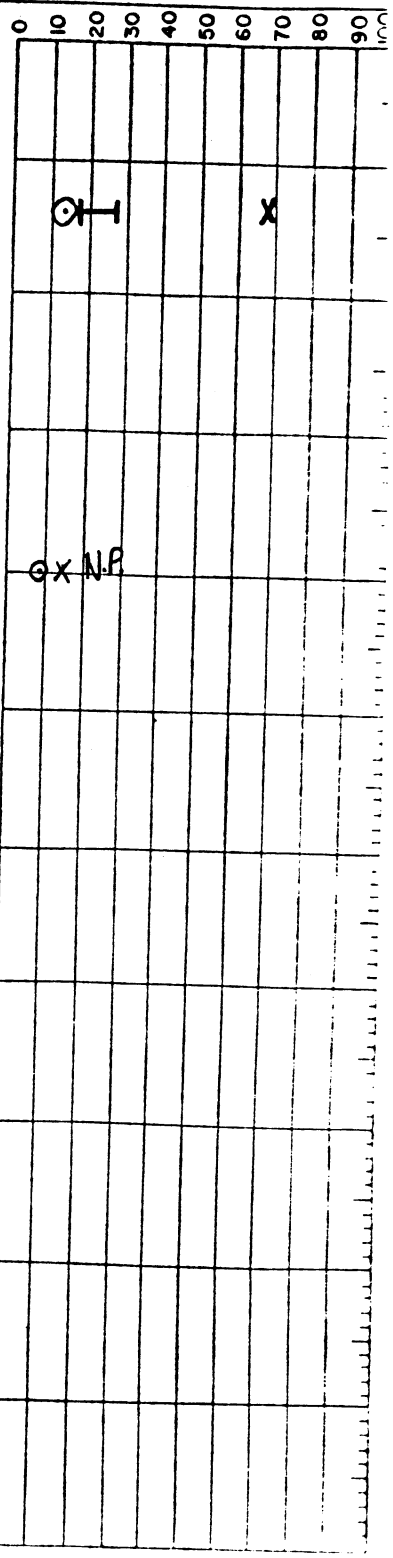
SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION: SHAKWAK SEGMENT 9 | HOLE No.: 181
HOLE LOCATION: 1674 + 950 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED: 78-10-30 | DRILL UNIT | TECHNICIAN: S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm
			A/P	1	2610	CL	4	26	26	
			A/P	2	2550	SM	16	69		
	END HOLE									

SAMPLE DATA

0 - % MOISTURE CONTENT
x - % < .074mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION: SHAKWAK SEGMENT 9 — HOLE No. 182
HOLE LOCATION: 1675 + 028 — ELEV. — DEPTH TO G.W.L.
DATE DRILLED: 78-10-30 — DRILL UNIT — TECHNICIAN: S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300mm
			A/P	1	2558	CL ML	4	27	10	
			A/P	2	2692	SM	23	51	5	
	END HOLE									

SAMPLE DATA

0 – % MOISTURE CONTENT
X – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90 100

1 2 3 4 5 6 7 8 9 10

N.P.

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 183
HOLE LOCATION 1675 + 115 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED 78-10-30 | DRILL UNIT | TECHNICIAN S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
			A/P	1	2179	SM	25	26		
			A/P	2	2077	SM	22	48	8	
	END HOLE									

0 - % MOISTURE CONTENT
x - % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

⊙ TRACE x

⊙ x TRACE

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

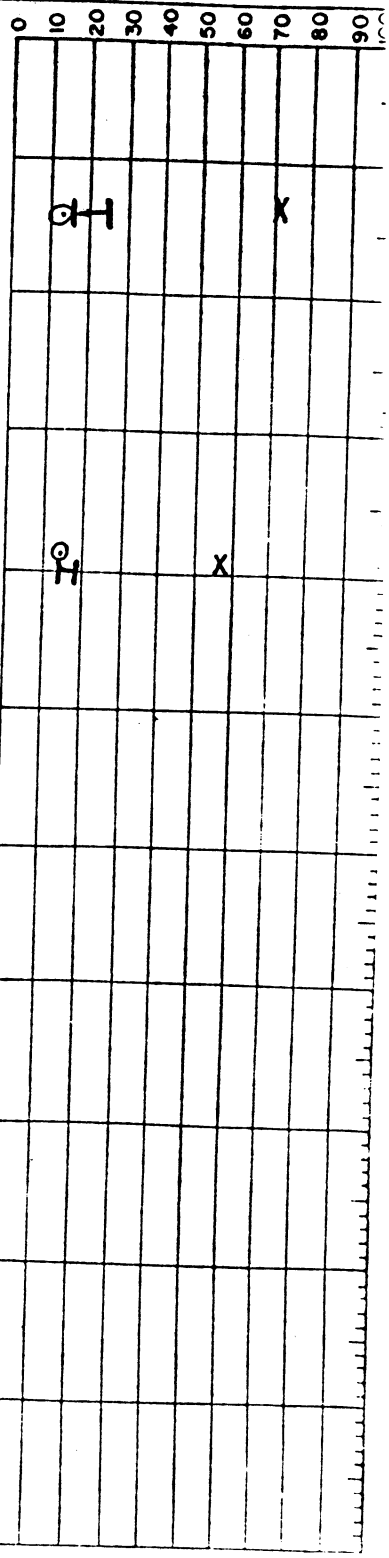
SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 184
HOLE LOCATION 1675 + 189 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED 78-10-30 | DRILL UNIT | TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
1										
2			A/P	1	2320	CL-ML	7	22		
3										
4			A/P	2	2341	CL-ML	12	31	20	
5	END HOLE									
6										
7										
8										
9										
10										

SAMPLE DATA

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION: SHAKWAK SEGMENT 9 | HOLE No.: 185
HOLE LOCATION: 1675+189 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED: 78-10-30 | DRILL UNIT | TECHNICIAN: S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
			A/P	1	2314	ML	0	24		
			A/P	2	2693	S.M	18	38	14	
	END HOLE									

SAMPLE DATA

0 – % MOISTURE CONTENT
X – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

1 2 3 4 5 6 7 8 9 10

⊙ TRACE X

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

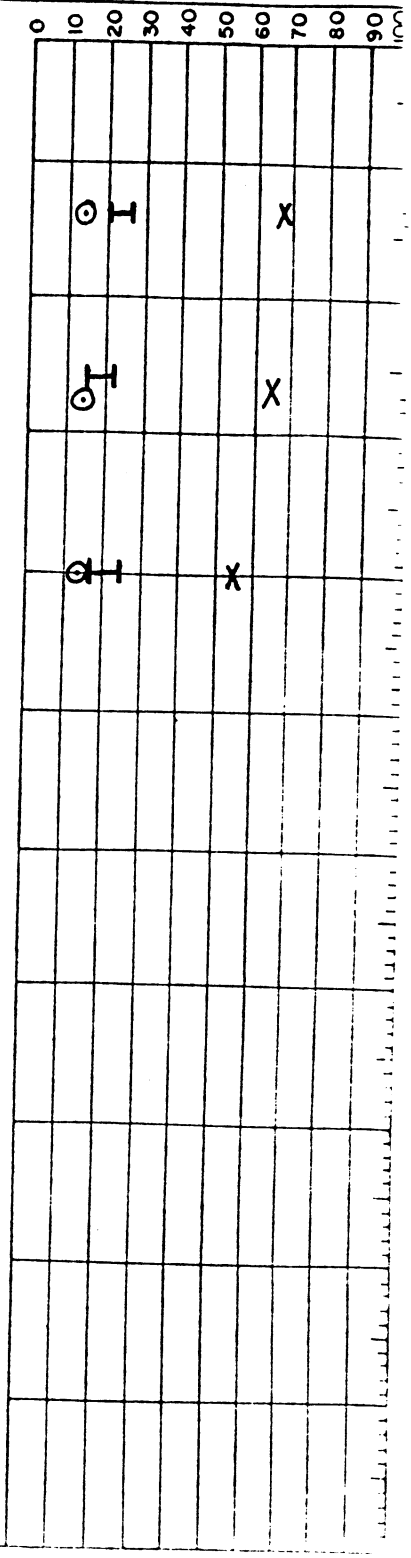
SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 186
HOLE LOCATION 1675+209 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED 78-10-30 | DRILL UNIT | TECHNICIAN S.C.

SAMPLE DATA

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm
1										
2		A|P	1		2334	CL-ML	6	26		
3		A|P	2		2078	CL-ML	7	28	20	
4		A|P	3		2073	CL	22	24	-	
5	END HOLE									
6										
7										
8										
9										
10										

0 – % MOISTURE CONTENT
x – % < .074mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 — HOLE No. 187

HOLE LOCATION 1675+408 — ELEV. — DEPTH TO G.W.L.

DATE DRILLED 78.10.30 — DRILL UNIT — TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm
3		A	I/P	1	2322	CL	3	21	-	
4		A	I/P	2	2338	ML	8	27	23	
5	END HOLE									

SAMPLE DATA

0 – % MOISTURE CONTENT

x – % < .074mm

LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

N.P.

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 188
HOLE LOCATION 1675+475 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED 78.10.30 | DRILL UNIT | TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm
3		A/P	1		2572	CL	24	18		
4		A/P	2		2592	SC	25	32		
5	END HOLE									

SAMPLE DATA

0 – % MOISTURE CONTENT
X – % < .074mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

1 2 3 4 5 6 7 8 9 10

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 — HOLE No. 189

HOLE LOCATION 1675+550 — ELEV. — DEPTH TO G.W.L.

DATE DRILLED 78-8-30 — DRILL UNIT — TECHNICIAN S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm
3		A	P	1	2346	ML	14	23		
4		A	P	2	2600	CL	6	22	31	
5	END HOLE									

SAMPLE DATA

0 – % MOISTURE CONTENT
X – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

⊙ N.P. X

⊙⊣ X

Public Works Canada

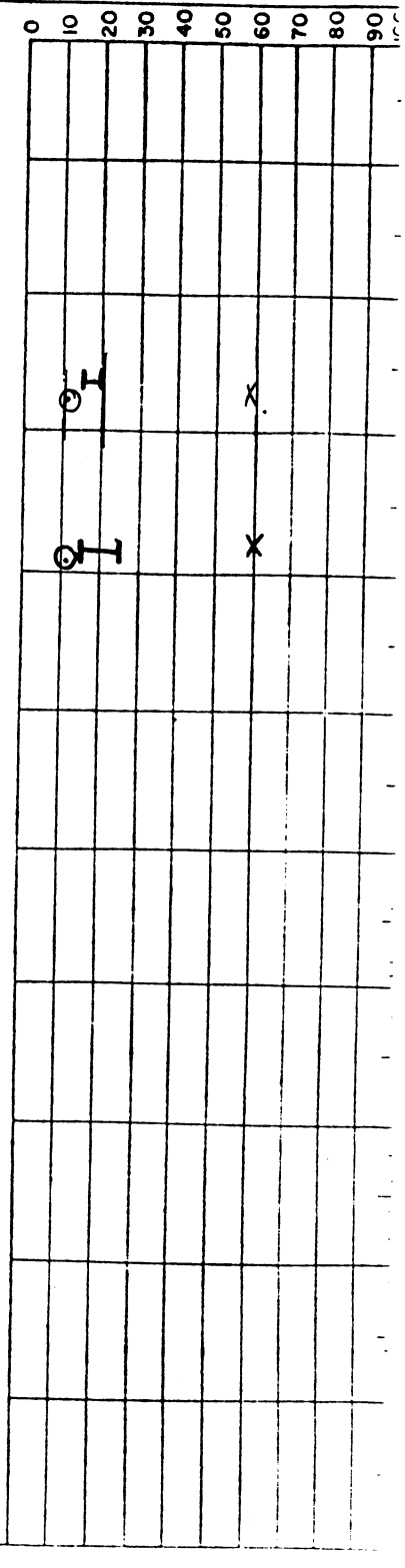
MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 190
HOLE LOCATION 1675 t 620 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED 78·10·30 | DRILL UNIT | TECHNICIAN SC.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
3			A/P	1	2568	CL	15	26	..	
4			A/P	2	2079	CL	16	24	29	
5	ENDHOLE									

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

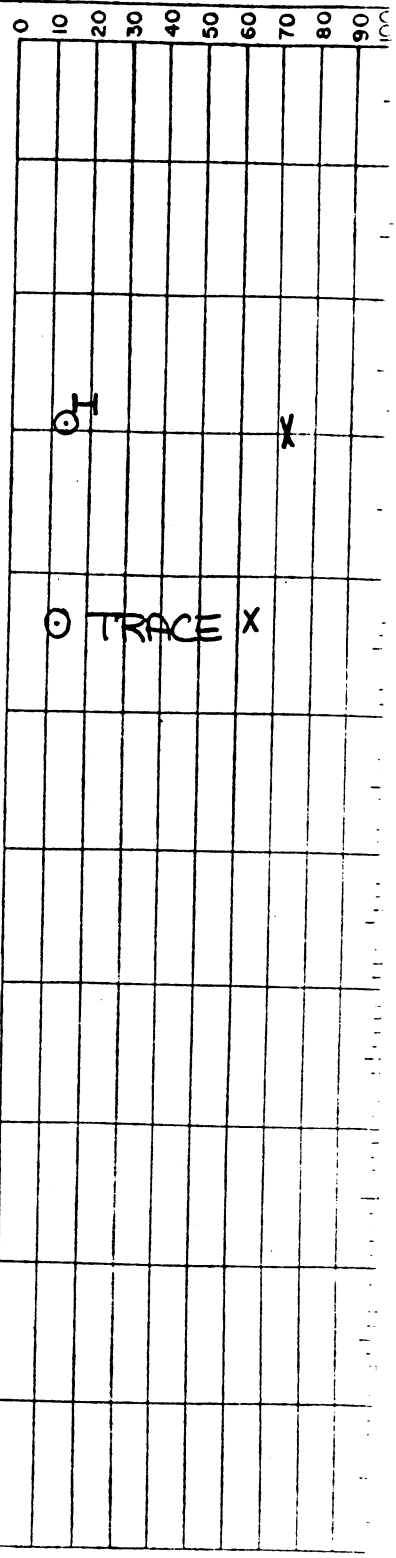
SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 191
HOLE LOCATION 1675+690 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED 78-10-30 | DRILL UNIT | TECHNICIAN S.C.

SAMPLE DATA

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
3			A	1P	1	2587	CL-ML	6[2]	23[3]	25[2]
4			A	1P	2	2575	ML	8	29	-
5	END HOLE									

0 - % MOISTURE CONTENT
x - % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 — HOLE No. 192

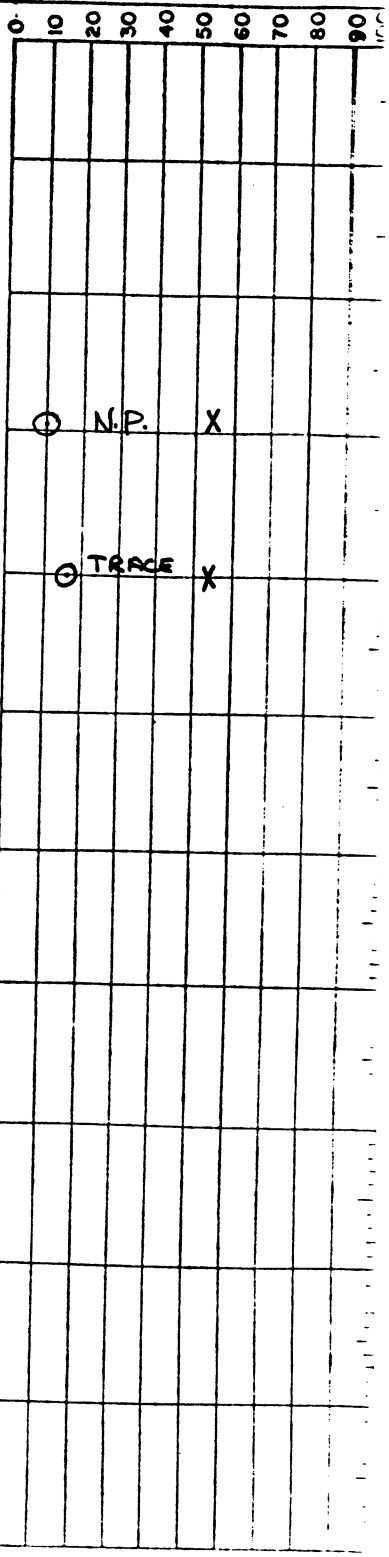
HOLE LOCATION 1675+770 — ELEV. — DEPTH TO G.W.L.

DATE DRILLED 78.10.30 — DRILL UNIT — TECHNICIAN S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
			A	P	1	2689	ML	11	34	11
			A	P	2	2080	CL-ML	7	40	16
	END HOLE									

SAMPLE DATA

0 – % MOISTURE CONTENT
X – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION	SHAKWAK SEGMENT 9		HOLE No. 193
HOLE LOCATION	1675+890	ELEV.	DEPTH TO G.W.L.
DATE DRILLED	78.10.30	DRILL UNIT	TECHNICIAN S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
3			A/P	1	2577	ML	5	36	-	
4			A/P	2	2337	SM	17	34	13	
5	END HOLE									

0 - % MOISTURE CONTENT
x - % < .074 mm
LIQUID LIMIT — PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90 100

⊙ TRACE X

⊙ TRACE X

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

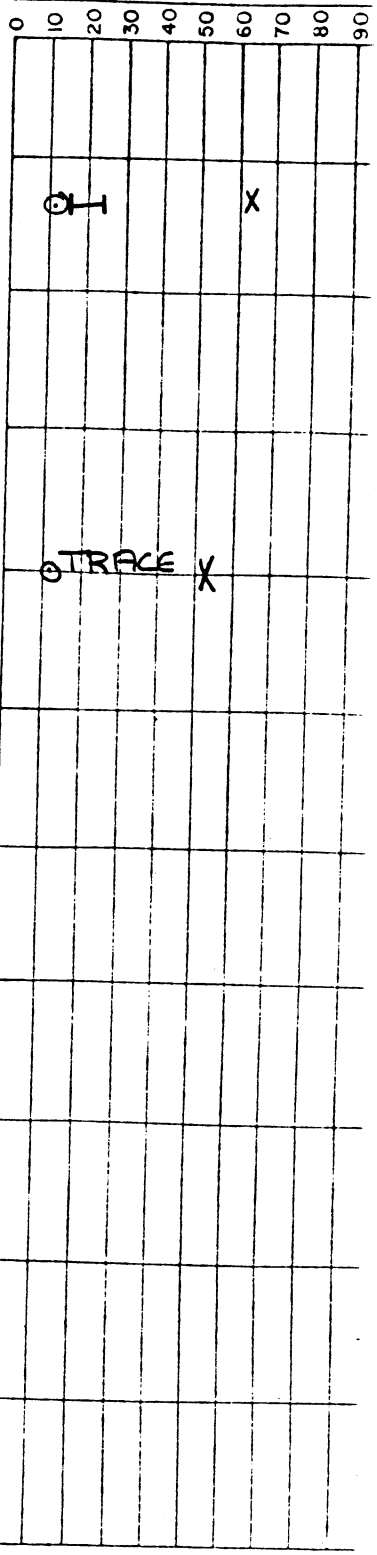
SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9		HOLE No. 194
HOLE LOCATION 1675+963	ELEV.	DEPTH TO G.W.L.
DATE DRILLED 78.10.31	DRILL UNIT	TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
1										
2			A/P	1	2333	CL	12	24		
3										
4			A/P	2	2309	ML	13	36	15	
5	END HOLE									
6										
7										
8										
9										
10										

SAMPLE DATA

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 — HOLE No. 195

HOLE LOCATION 1676+172 — ELEV. — DEPTH TO G.W.L.

DATE DRILLED 78.10.31 — DRILL UNIT — TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300mm
3			A/P	1	2076	CL-ML	8	31		
4			A/P	2	2557	SC	13	41	9	
5	END HOLE									

SAMPLE DATA

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊣ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

TRACE

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 — HOLE No. 196

HOLE LOCATION 1676+192 — ELEV. — DEPTH TO G.W.L.

DATE DRILLED 78.10.31 — DRILL UNIT — TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
			SAMPLE DATA							
3		A	P	1	2503	SM	24	35	11	
5	END HOLE									

0 – % MOISTURE CONTENT
X – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

⊙ H X

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 — HOLE No. 197

HOLE LOCATION 1676+268 — ELEV. — DEPTH TO G.W.L.

DATE DRILLED 78-10-31 — DRILL UNIT — TECHNICIAN S.C.

SAMPLE DATA

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm
3			A	P	1	2603	SC-SM	28	34	
4			A	P	2	2323	SM	24	38	11
5	END HOLE									

0 - % MOISTURE CONTENT
x - % < .074mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

⊕ ⊢ x

⊕ TRACE x

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION	SHAKWAK SEGMENT 9		HOLE No. 198
HOLE LOCATION	1676+342	ELEV.	DEPTH TO G.W.L.
DATE DRILLED	78.10.31	DRILL UNIT	TECHNICIAN S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm
3	REFUSAL									

0 – % MOISTURE CONTENT
x – % < .074mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 199
HOLE LOCATION 1676 + 412 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED 78-10-31 | DRILL UNIT | TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
3			A	1P	2339	CL	11	29	21	
4			A	1P	2313	ML	18	28		
5	END HOLE									

SAMPLE DATA

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢⊣ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

OH x
TRACE x

Public Works Canada

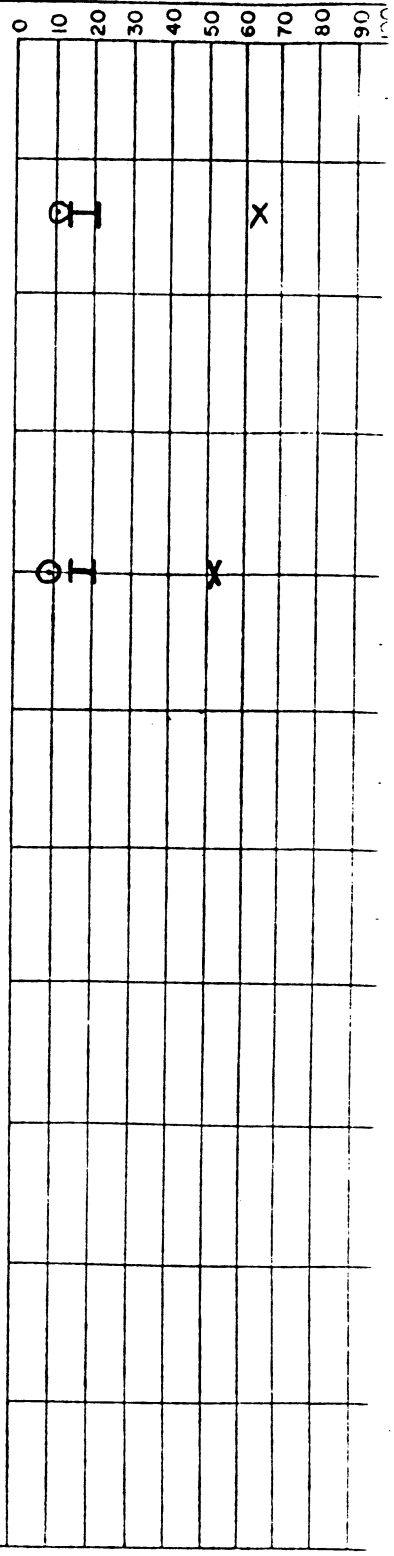
MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION	SHAKWAK SEGMENT 9		HOLE No. 200
HOLE LOCATION	1676 + 487	ELEV.	DEPTH TO G.W.L.
DATE DRILLED	78·10·31	DRILL UNIT	TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
1										
2			A/P	1	2316	CL-ML	11	26		
3										
4			A/P	2	2318	CL-ML	20	27	21	
5	END HOLE									
6										
7										
8										
9										
10										

O – % MOISTURE CONTENT
X – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



Form No. 60-257

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 — HOLE No. 201

HOLE LOCATION 1676+580 — ELEV. — DEPTH TO G.W.L.

DATE DRILLED 78·10·31 — DRILL UNIT — TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
			A	P	1	2315	ML	6	29	
			A	P	2	2326	SM	19	33	16
	END HOLE									

SAMPLE DATA

0 – % MOISTURE CONTENT
X – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

⊙OH X

⊙TRACE X

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 202

HOLE LOCATION 1676+.648 | ELEV. | DEPTH TO G.W.L.

DATE DRILLED 78.10.31 | DRILL UNIT | TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm	0 – % MOISTURE CONTENT; x – % < .074 mm; LIQUID LIMIT ⊢ PLASTIC LIMIT
1											0 10 20 30 40 50 60 70 80 90
2			A/P	1	2496	SM	35	51			⊙ x N.P.
3											
4											
5			A/P	2	2554	SM	18	43	10		⊙ TRACE x
6											
7											
8											
9											
10											

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 — HOLE No. 203

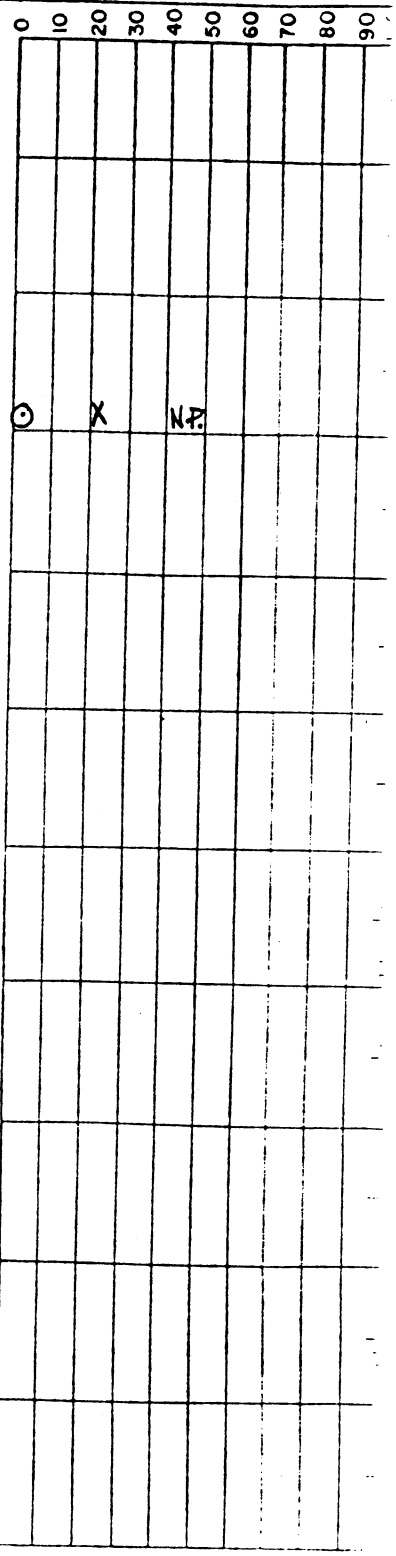
HOLE LOCATION 1676+730 — ELEV. — DEPTH TO G.W.L.

DATE DRILLED 78·10·31 — DRILL UNIT — TECHNICIAN S.C.

SAMPLE DATA

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
3	REFUSAL	A/P	1		2605	SM	38	41		

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊣ PLASTIC LIMIT



Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 204

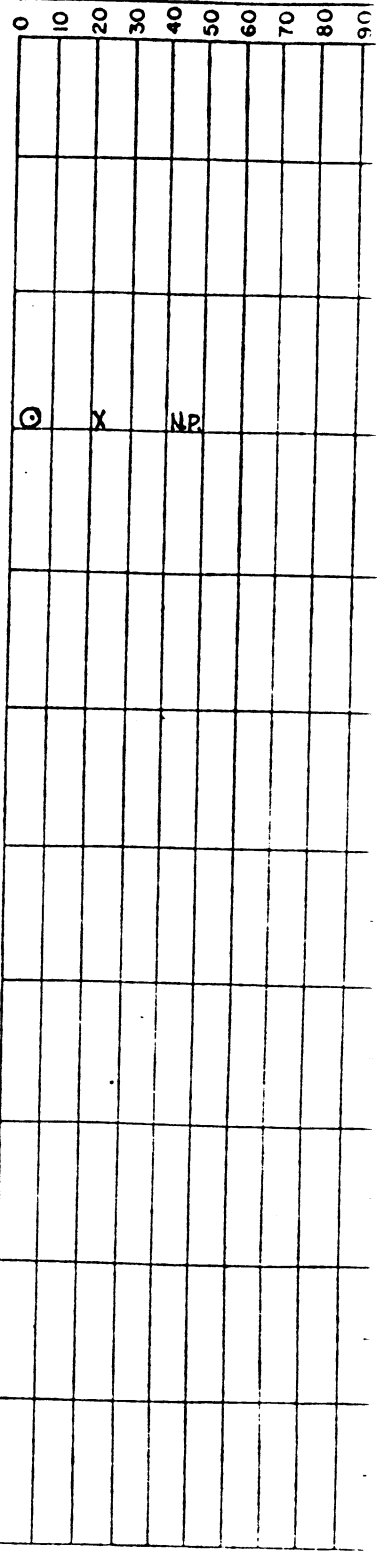
HOLE LOCATION 1676+804 | ELEV. | DEPTH TO G.W.L.

DATE DRILLED 78·10·31 | DRILL UNIT | TECHNICIAN S.C.

SAMPLE DATA

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
3	REFUSAL	A/P	1		2532	GM	49	29	1	

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



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WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION	SHAKWAK SEGMENT 9		HOLE No. 205
HOLE LOCATION	1676+ 880	ELEV.	DEPTH TO G.W.L.
DATE DRILLED	78·10·31	DRILL UNIT	TECHNICIAN SC.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
3			A	P	1	2515	ML	22	24	3
4	REFUSAL									

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

⊕ N.P. x

Dwg. No. 60-253-

Public Works Canada

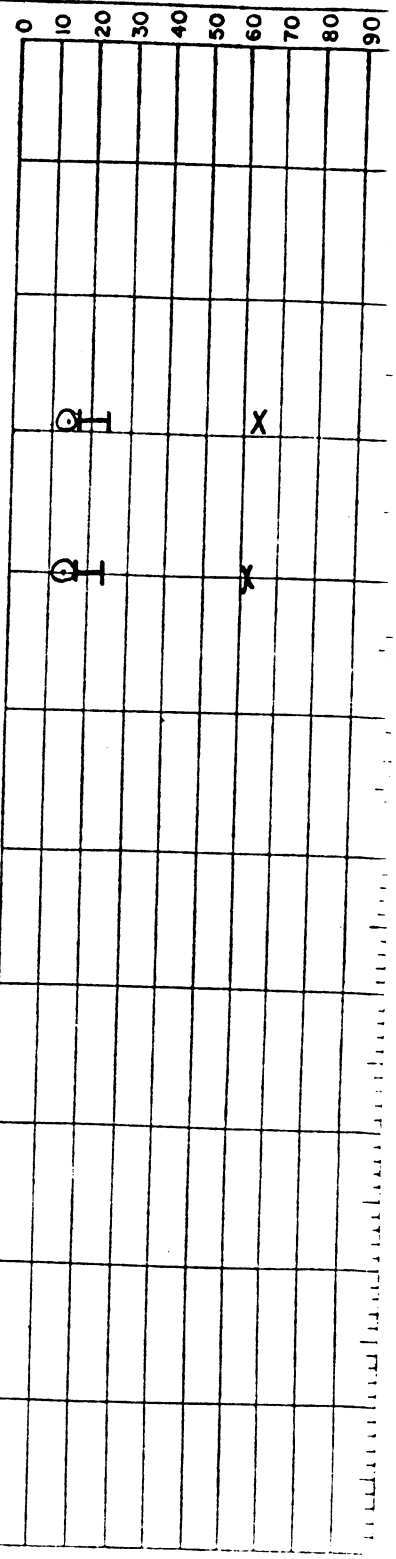
MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 206
HOLE LOCATION 1676+950 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED | DRILL UNIT | TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
3			A/P	1	2588	CL	17	19		
4			A/P	2	2613	CL-ML	13	26	30	
5	END. HOLE									

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



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MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 — HOLE No. 207

HOLE LOCATION 1677+020 — ELEV. — DEPTH TO G.W.L.

DATE DRILLED 78·10·31 — DRILL UNIT — TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
			A/P	1	2552	ML	6	33		
			A/P	2	2531	SM	20	30	16	
	END HOLE									

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

O TRACE X

OH X

1 2 3 4 5 6 7 8 9 10

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MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION: SHAKWAK SEGMENT 9 — HOLE No. 208
HOLE LOCATION: 1677+085 — ELEV. — DEPTH TO G.W.L.
DATE DRILLED: 78.10.31 — DRILL UNIT — TECHNICIAN: S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm
			A/P	1	2609	ML	8	30	18	
			A/P	2	2564	ML	15	34	-	
	END HOLE									

SAMPLE DATA

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢⊣ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

1 2 3 4 5 6 7 8 9 10

⊙ 11 x

⊙ N.P. x

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MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 209
HOLE LOCATION 1677+164 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED 78·10·31 | DRILL UNIT | TECHNICIAN B.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
3			A/P	1	23+7	SM	15	36		
4			A/P	2	2362	GM	51	18	11	
5	END HOLE									

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

3: 0 NP X
4: 0 X TRACE

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 — HOLE No. 210

HOLE LOCATION 1677 + 269 — ELEV. — DEPTH TO G.W.L.

DATE DRILLED 78.10.31 — DRILL UNIT — TECHNICIAN S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
			A	P	1	2359	GM	55	18	
			A	P	2	2566	ML	10	35	16
	END HOLE									

SAMPLE DATA

0 - % MOISTURE CONTENT

x - % < .074 mm

LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

3: ⊙ x TRACE

4: ⊙ N.P. x

1 2 3 4 5 6 7 8 9 10

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MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 — HOLE No. 211

HOLE LOCATION 1677+349 — ELEV. — DEPTH TO G.W.L.

DATE DRILLED 78 · 10 · 31 — DRILL UNIT — TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm
3	REFUSAL		A/P	1	2349	GM	67	21		

SAMPLE DATA

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

⊙ X N.P.

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 — HOLE No. 212

HOLE LOCATION 1677+428 — ELEV. — DEPTH TO G.W.L.

DATE DRILLED 78.11.01 — DRILL UNIT — TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm
			SAMPLE DATA							
3		A	P	1	2520	GM	30	30	18	
4		A	P	2	2317	ML	18	24		
5	END HOLE									

0 – % MOISTURE CONTENT
X – % < .074mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

3: ⊖ H X
4: ⊖ N.P. X

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MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 — HOLE No. 213

HOLE LOCATION 1677+505 — ELEV. — DEPTH TO G.W.L.

DATE DRILLED 78.11.01 — DRILL UNIT — TECHNICIAN S.C.

SAMPLE DATA

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm
3		A	P	1	2324	SM	30	39		
4		A	P	2	2357	ML	9	36	15	
5	END HOLE									

0 – % MOISTURE CONTENT
x – % < .074mm
LIQUID LIMIT ⊢⊣ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

⊙ x NP

⊙ TRACE x

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MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 — HOLE No. 214

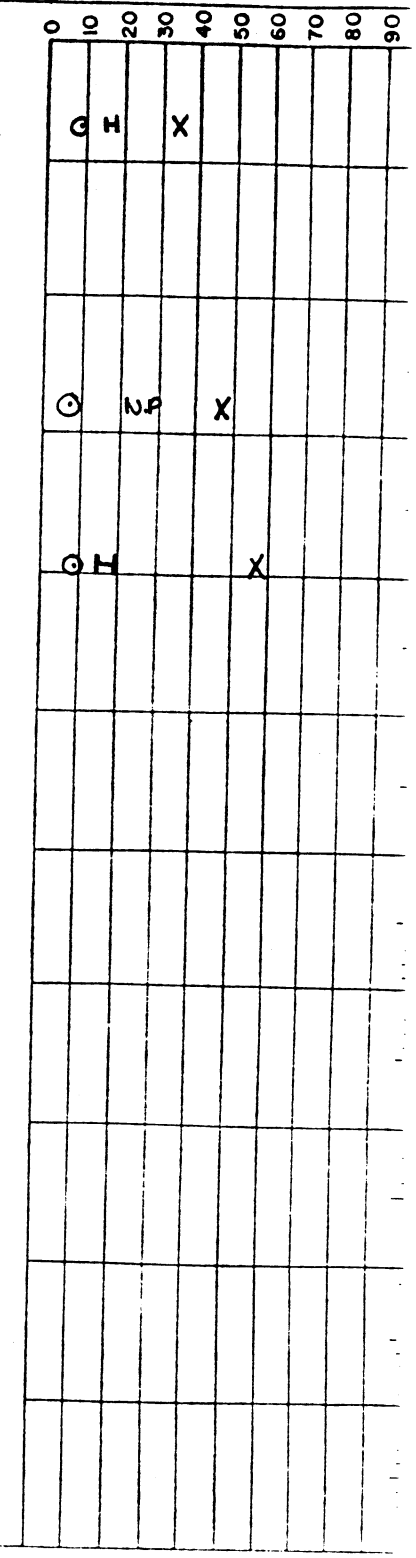
HOLE LOCATION 1677 + 584 — ELEV. — DEPTH TO G.W.L.

DATE DRILLED 78-11-01 — DRILL UNIT — TECHNICIAN S.C

SAMPLE DATA

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm
1		A|P	1		2516	SM	19	47		
2										
3		A|P	2		2542	SM	21.6	30.5	15.4	
4		A|P	3		2501	ML	9.3	33.3	22.2	
5	END HOLE									
6										
7										
8										
9										
10										

0 – % MOISTURE CONTENT
x – % < .074mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 — HOLE No. 215

HOLE LOCATION 1677 + 662 — ELEV. — DEPTH TO G.W.L.

DATE DRILLED — DRILL UNIT — TECHNICIAN

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
3	REFUSAL		A/P	1	2356	SM	31	27	14	

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

⊙ N.P. x

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 — HOLE No. 216
HOLE LOCATION 1677 + 732 — ELEV. — DEPTH TO G.W.L.
DATE DRILLED — DRILL UNIT — TECHNICIAN S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
			A/P	1	2351	GM	30	26	14	
	REFUSAL									

SAMPLE DATA

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

O TRACE X

1 2 3 4 5 6 7 8 9 10

Public Works Canada

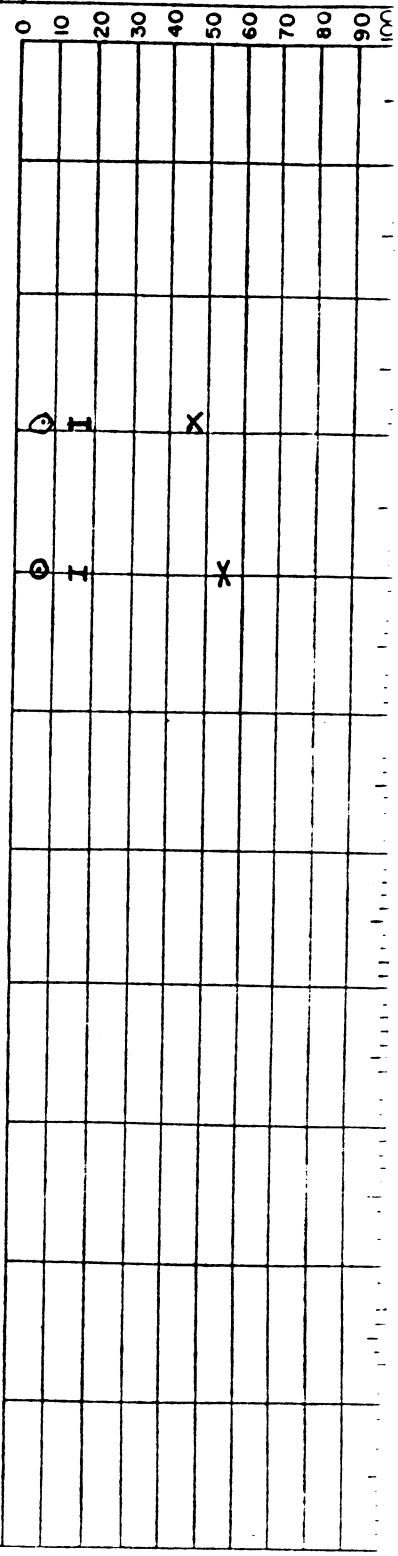
MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 217
HOLE LOCATION 1677+896 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED 78-11-01 | DRILL UNIT | TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
3			A/P	1	2611	SM	21	30		
4			A/P	2	2551	ML	11.6	32.9	22.3	
5	END HOLE									

0 - % MOISTURE CONTENT
x - % < .074 mm
LIQUID LIMIT ⊣ PLASTIC LIMIT



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MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 — HOLE No. 218

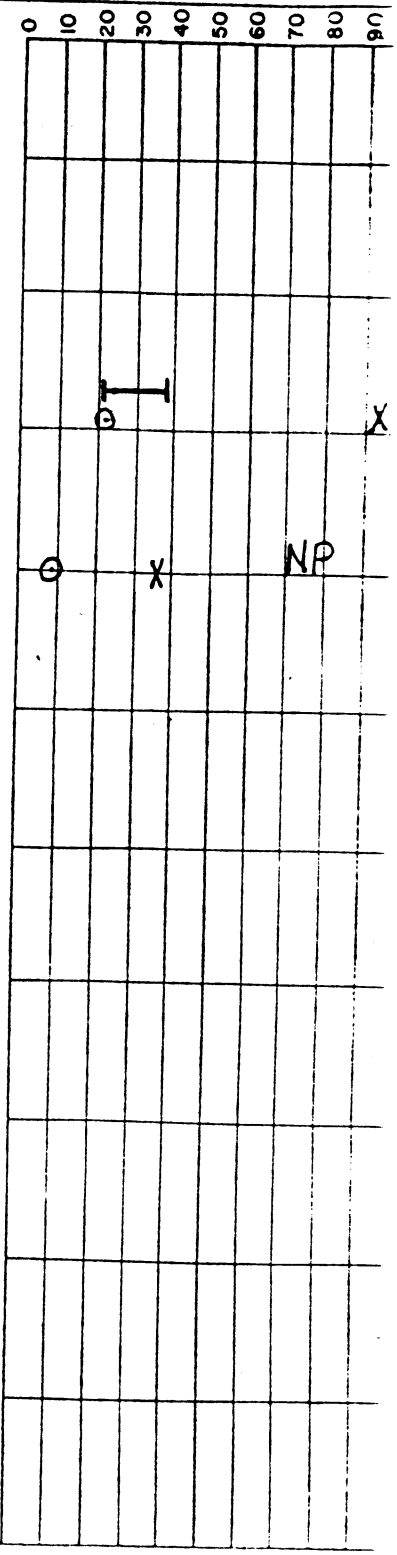
HOLE LOCATION 1677+972 — ELEV. — DEPTH TO G.W.L.

DATE DRILLED 78-11-01 — DRILL UNIT — TECHNICIAN S.C.

SAMPLE DATA

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
3		A	P	1	2511	CL	2	5		
4		A	P	2	2596	GM	39.5	23.7	5.4	
5	END HOLE									

0 – % MOISTURE CONTENT
X – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



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MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 219

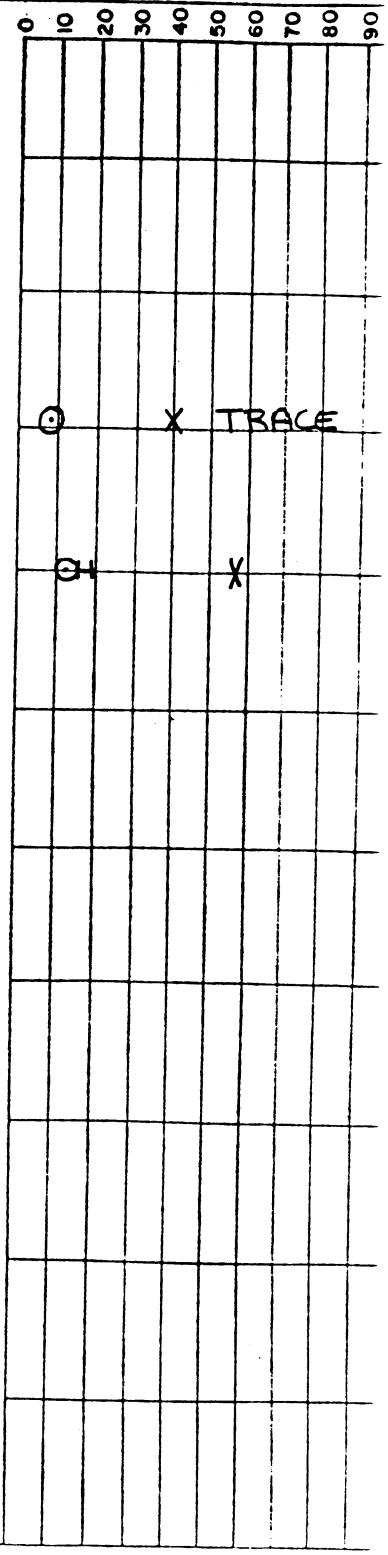
HOLE LOCATION 1678+058 | ELEV. | DEPTH TO G.W.L.

DATE DRILLED 78-11-01 | DRILL UNIT | TECHNICIAN S.C.

SAMPLE DATA

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
3			A/P	1	2563	GM	34	26		
4			A/P	2	2492	GM-ML	7.8	33.6	24.2	
5	END HOLE									

0 – % MOISTURE CONTENT
X – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 220
HOLE LOCATION 1678+137 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED 78.11.01 | DRILL UNIT | TECHNICIAN S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm
3		A/P	1	2513	ML	15.7	31.9	21.6		
4		A/P	2	2570	CL	14	28			

SAMPLE DATA

0 – % MOISTURE CONTENT
X – % < .074mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

3: ○ X NP.
4: ○ ⊢ X

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MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

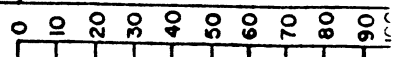
SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 221
HOLE LOCATION 1678+212 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED 78-11-01 | DRILL UNIT | TECHNICIAN S.C.

SAMPLE DATA

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
1		A/P	1		2555	ML	8	41	9	
2										
3		A/P	2		2479	ML	11	29	24	
4		A/P	3		2186	ML	13	30		
5	END HOLE									
6										
7										
8										
9										
10										

O – % MOISTURE CONTENT
X – % < .074 mm
LIQUID LIMIT ⊢⊣ PLASTIC LIMIT



1	⊙ N.P.	X
2		
3	⊙ N.P.	X
4	⊙ TRACE	X

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 — HOLE No. 222

HOLE LOCATION 1678+290 — ELEV. — DEPTH TO G.W.L.

DATE DRILLED — DRILL UNIT — TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	SAMPLE DATA: PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm
3			A	P	1	2529	GM	27.8	25.9	17.6
4			A	P	2	2491	CL-ML	12	31	
5	END HOLE									

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

1 2 3 4 5 6 7 8 9 10

Public Works Canada

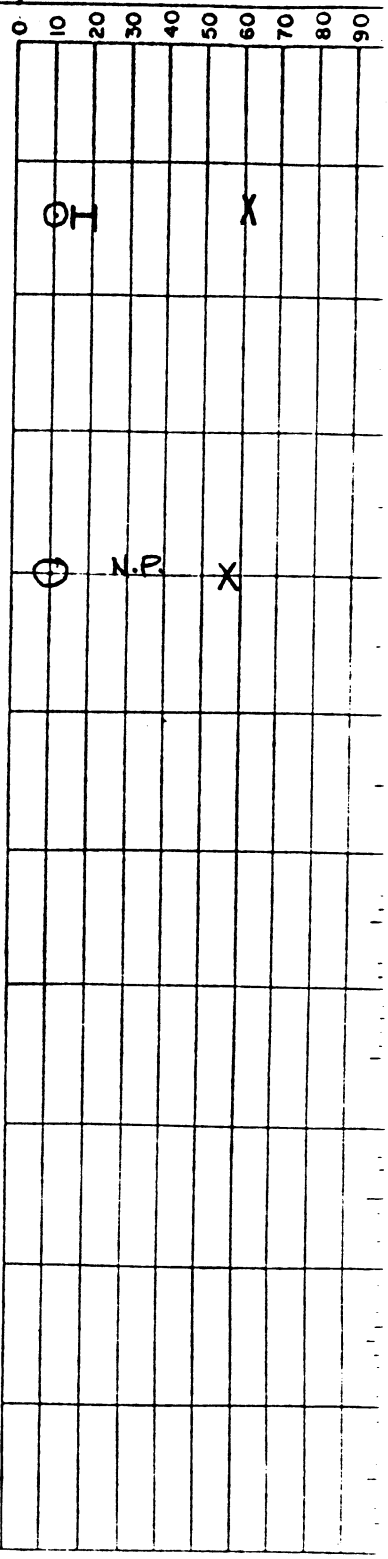
MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION	SHAKWAK SEGMENT 9		HOLE No. 223
HOLE LOCATION	1678+368	ELEV.	DEPTH TO G.W.L.
DATE DRILLED	78.11.01	DRILL UNIT	TECHNICIAN S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
1			A/P	1	2488	CL-ML	8	31	24	
2										
3										
4			A/P	2	2332	ML	10	32	22	
5	END HOLE									
6										
7										
8										
9										
10										

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



Public Works Canada

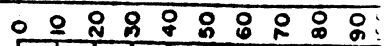
MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION	SHAKWAK SEGMENT 9		HOLE No. 224
HOLE LOCATION	1678+456	ELEV.	DEPTH TO G.W.L.
DATE DRILLED	78.11.01	DRILL UNIT	TECHNICIAN S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
3			A/P	1	2571	SM	31	43	8	
4	END HOLE									

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



0 x NP

Public Works Canada

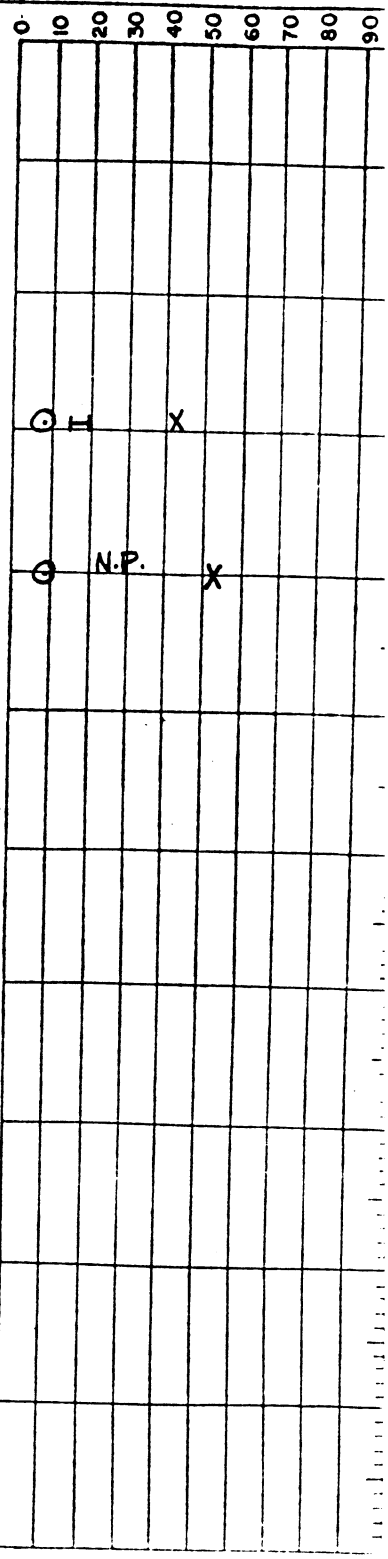
MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION	SHAKWAK SEGMENT 9		HOLE No. 225
HOLE LOCATION	1678 + 538	ELEV.	DEPTH TO G.W.L.
DATE DRILLED	78. 11. 01	DRILL UNIT	TECHNICIAN S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300mm
3		A	P	1	2489	GC-GM	30.9	25.3	17.3	
4		A	P	2	2690	ML	17	31		
5	END HOLE									

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION	SHAKWAK SEGMENT 9		HOLE No. 226
HOLE LOCATION	678+616	ELEV.	DEPTH TO G.W.L.
DATE DRILLED	78.11.01	DRILL UNIT	TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300mm
3			A/P	1	2559	GM	26	25	7	
4			A/P	2	2601	CL-ML	15	31	19	
5	END HOLE									

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

1 2 3 4 5 6 7 8 9 10

Public Works Canada

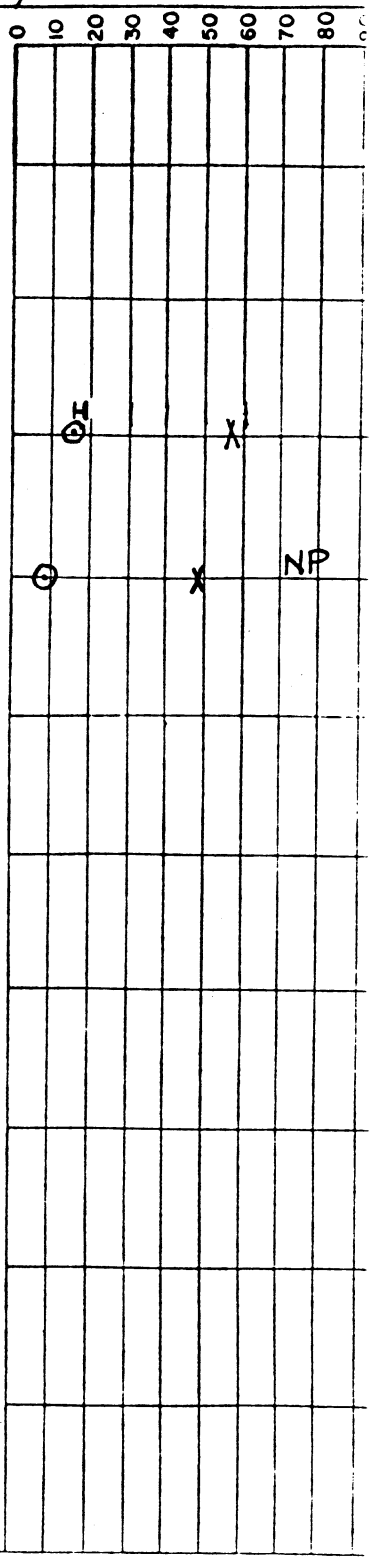
MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION	SHAKWAK SEGMENT 9		HOLE No. 227
HOLE LOCATION	1678+695	ELEV.	DEPTH TO G.W.L.
DATE DRILLED	78. 11. 01	DRILL UNIT	TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
3			A/P	1	2485	ML	11.2	30.6	16.8	
4			A/P	2	2487	GM	27.3	23.4	19.4	
	END HOLE									

O – % MOISTURE CONTENT
X – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 228
HOLE LOCATION 1678+775 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED 78.11.01 | DRILL UNIT | TECHNICIAN S.C.

SAMPLE DATA

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm
3			A	p	1	26.5	ML	4	26	
4			A	p	2	2567	ML	12	30	19
5	END HOLE									

0 - % MOISTURE CONTENT
X - % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

3: ⊙H X
4: ⊙TRACE X

Public Works Canada

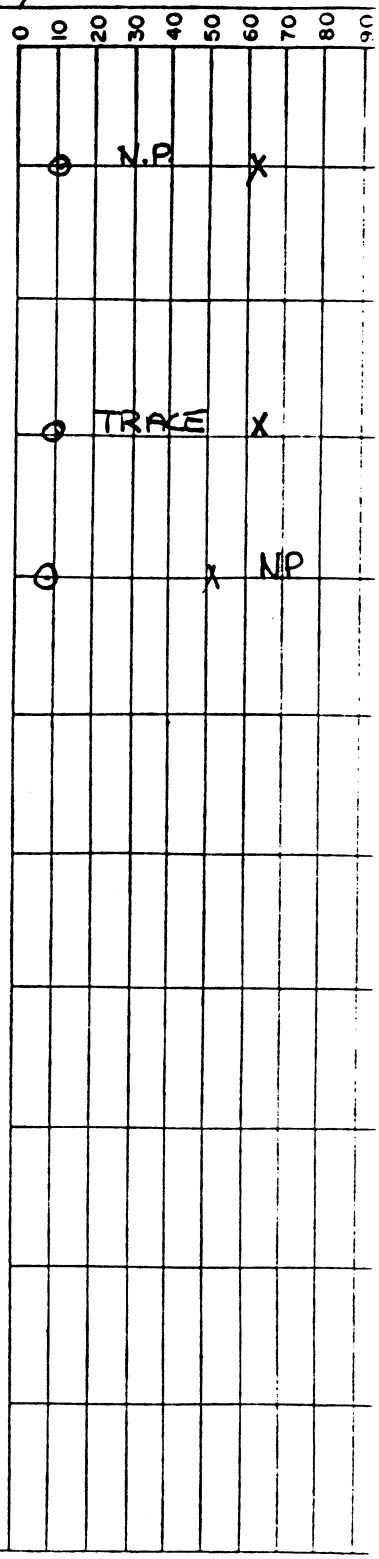
MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION	SHAKWAK SEGMENT 9		HOLE No. 229
HOLE LOCATION	1678+857	ELEV.	DEPTH TO G.W.L.
DATE DRILLED	78.11.01	DRILL UNIT	TECHNICIAN S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
1			A/P	1	2553	ML	8	31	3	
2										
3			A/P	2	2184	ML	8	28		
4			A/P	3	2481	ML	18.3	30.9	18.3	
5	END HOLE									
6										
7										
8										
9										
10										

0 - % MOISTURE CONTENT
x - % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

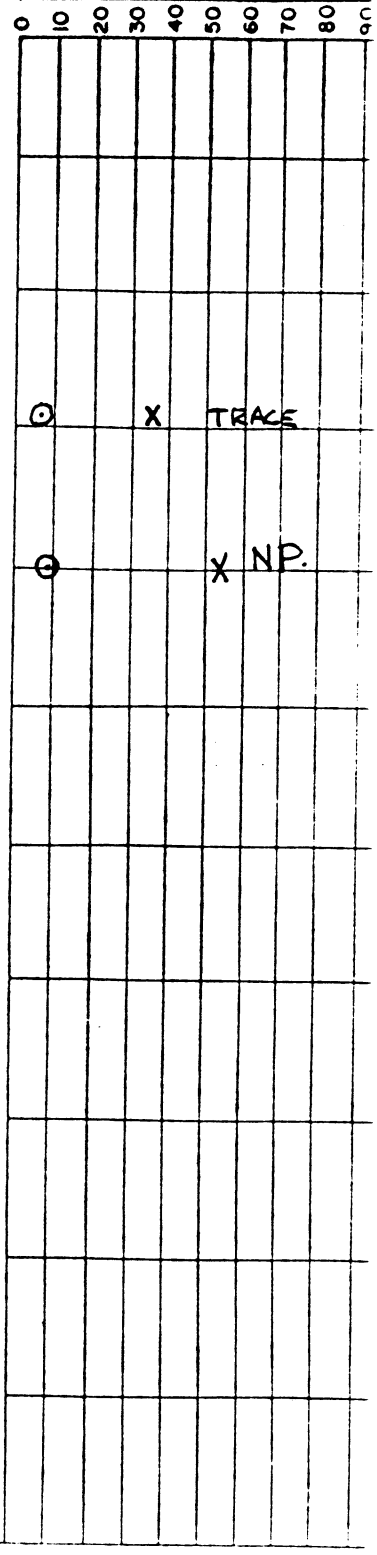
PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 230

HOLE LOCATION 1678+937 | ELEV. | DEPTH TO G.W.L.

DATE DRILLED 78.11.01 | DRILL UNIT | TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/.300 mm
3			A/P	1	2075	ML	7	57		
4			A/P	2	2533	ML	9.7	36.8	19.2	
5	END HOLE									

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



Public Works Canada

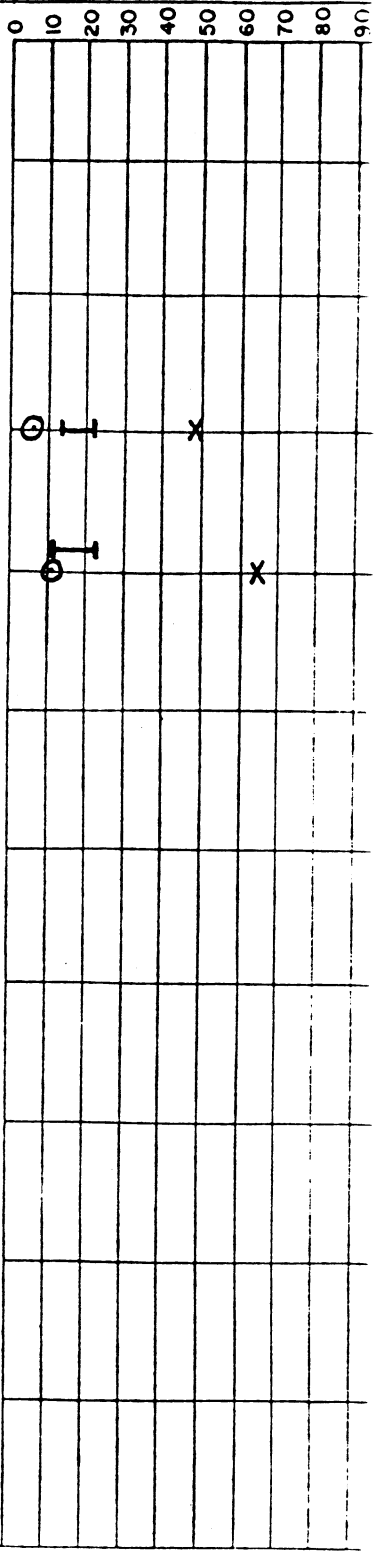
MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION	SHAKWAK SEGMENT 9		HOLE No. 231
HOLE LOCATION	1679+018	ELEV.	DEPTH TO G.W.L.
DATE DRILLED	98.11.01	DRILL UNIT	TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
3			A/P	1	2348	GC.	26	24		
4			A/P	2	2181	CL	4	31	26	
5	END HOLE									

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢⊣ PLASTIC LIMIT



Public Works Canada

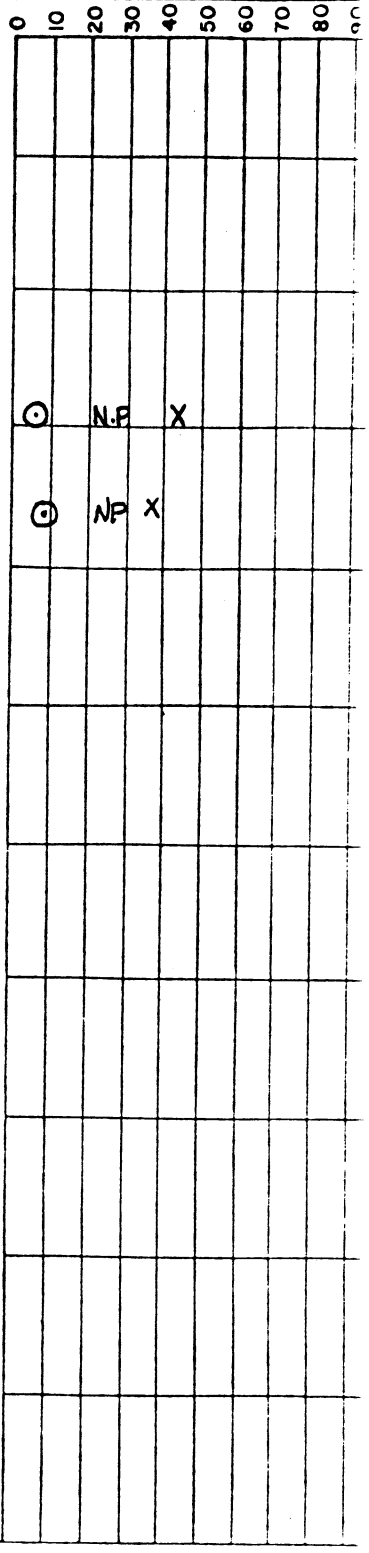
MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION	SHAKWAK SEGMENT 9		HOLE No. 232
HOLE LOCATION	1679+094	ELEV.	DEPTH TO G.W.L.
DATE DRILLED	78.11.01	DRILL UNIT	TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
			A/P	1	2289	SM	20	36	15	
			A/P	2	2312	SM	13	49		
	END HOLE									

0 – % MOISTURE CONTENT
X – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



Public Works Canada

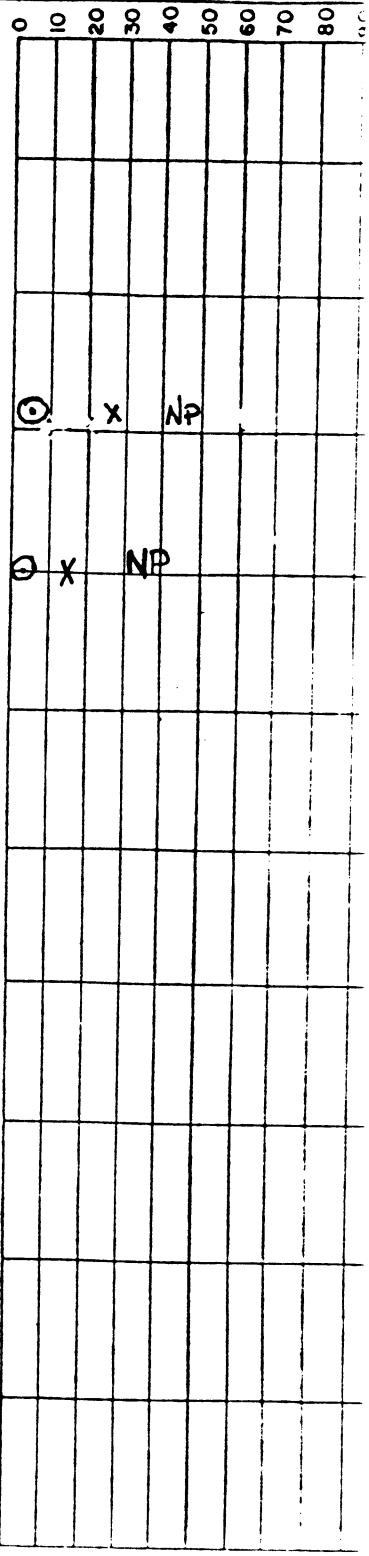
MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION	SHAKWAK SEGMENT 9		HOLE No. 233
HOLE LOCATION	679 + 175	ELEV.	DEPTH TO G.W.L.
DATE DRILLED	78 · 11 · 01	DRILL UNIT	TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
3			A/P	1	2582	GM	42.1	30.3		
4			A/P	2	2500	GM	45.°	39.2		
5	END HOLE									

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



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MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 234

HOLE LOCATION 1679+254 | ELEV. | DEPTH TO G.W.L.

DATE DRILLED | DRILL UNIT | TECHNICIAN S.C.

SAMPLE DATA

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
3		A	P	1	2187	SM	20.9	32.9		
5	END HOLE									

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

① x TRACE

Public Works Canada

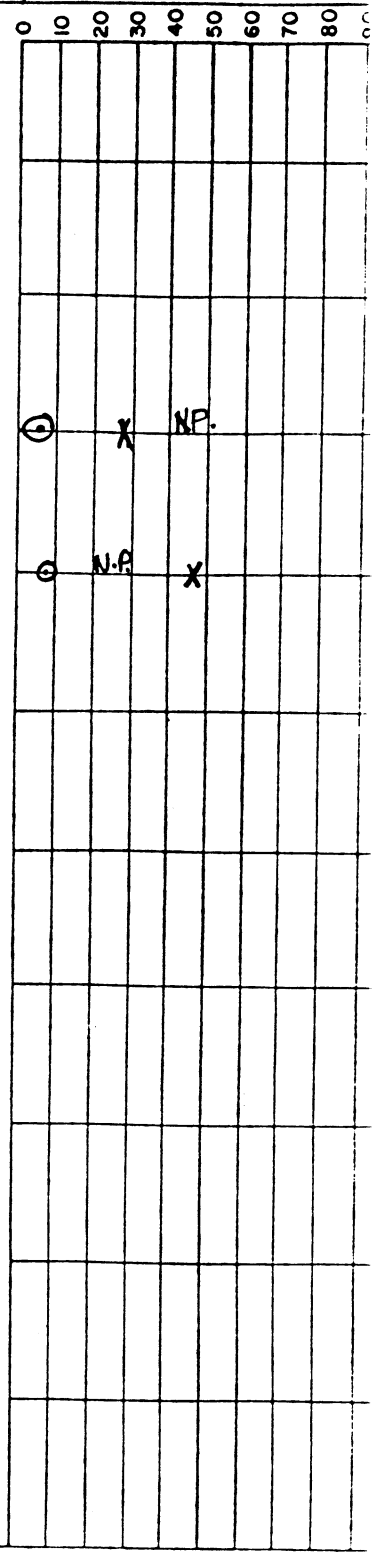
MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9		HOLE No. 235
HOLE LOCATION 1679+332	ELEV.	DEPTH TO G.W.L.
DATE DRILLED 78.11.02	DRILL UNIT	TECHNICIAN SC.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
3		A/P	1	2512	GM	53.7	17.6	10.9		
4		A/P	2	2177	SM	16	37			
4.6	END HOLE									

0 – % MOISTURE CONTENT
X – % < .074 mm
LIQUID LIMIT ⊢⊣ PLASTIC LIMIT



Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

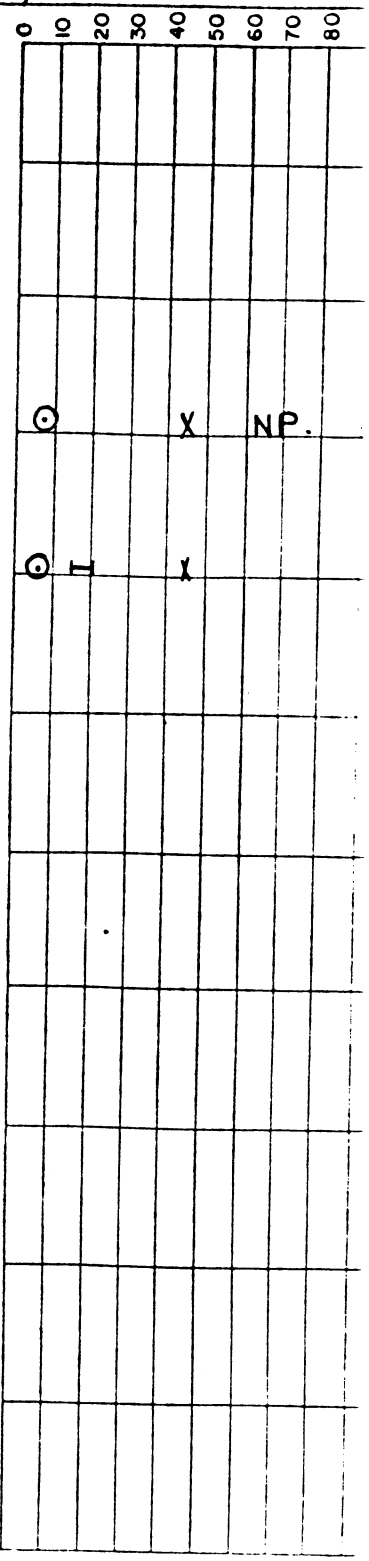
SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION	SHAKWAK SEGMENT 9		HOLE No. 236
HOLE LOCATION	1679+405	ELEV.	DEPTH TO G.W.L.
DATE DRILLED	78.11.02	DRILL UNIT	TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300mm
3			A/P	1	2490	SM	24.4	29.6	15.6	
4			A/P	2	2056	SM	20.6	32.2	5.0	
5	END HOLE									

O – % MOISTURE CONTENT
X – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80



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MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 — HOLE No. 237

HOLE LOCATION 1679+487 — ELEV. — DEPTH TO G.W.L.

DATE DRILLED — DRILL UNIT — TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
1										
2			A/P	1	2336	SM	24	31	13	
3										
4			A/P	2	2180	CL-ML	12	34	·	
5	END HOLE									
6										
7										
8										
9										
10										

SAMPLE DATA

0 – % MOISTURE CONTENT

X – % < .074 mm

LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

1: ⊙ TRACE X

2:

3:

4: ⊙ H X

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9:

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Public Works Canada

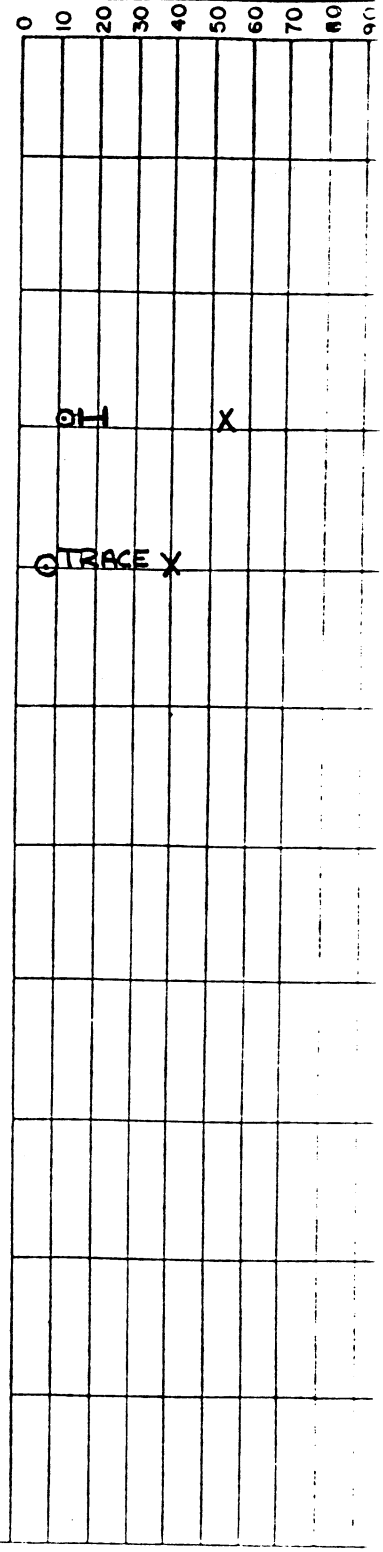
MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION	SHAKWAK SEGMENT 9		HOLE No. 238
HOLE LOCATION	1679 + 576	ELEV.	DEPTH TO G.W.L.
DATE DRILLED	78.11.02	DRILL UNIT	TECHNICIAN S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
3			A/P	1	2345	CL-ML	15	31		
4			A/P	2	2353	SC	29	31	13	
5	END HOLE									

0 – % MOISTURE CONTENT
X – % < .074 mm
LIQUID LIMIT ⊢⊣ PLASTIC LIMIT



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MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 239
HOLE LOCATION 1679+640 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED 78.11.02 | DRILL UNIT | TECHNICIAN S.C.

SAMPLE DATA

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm
			A	P	1	2565	SM	17	33	13
			A	P	2	2578	CL-ML	17	31	11
	END HOLE									

O - % MOISTURE CONTENT
X - % < .074mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

⊙ TRACE X
⊙ TRACE X

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MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 240
HOLE LOCATION 1679+720 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED 78.11.02 | DRILL UNIT | TECHNICIAN S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm
3			A/P	1	2519	ML	20.1	28.9	18.6	
4			A/P	2	2541	SM	19.2	33.1	17.3	
5	END HOLE									

0 - % MOISTURE CONTENT
x - % < .074mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80

⊙ x N.P.
⊙ x N.P.

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MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

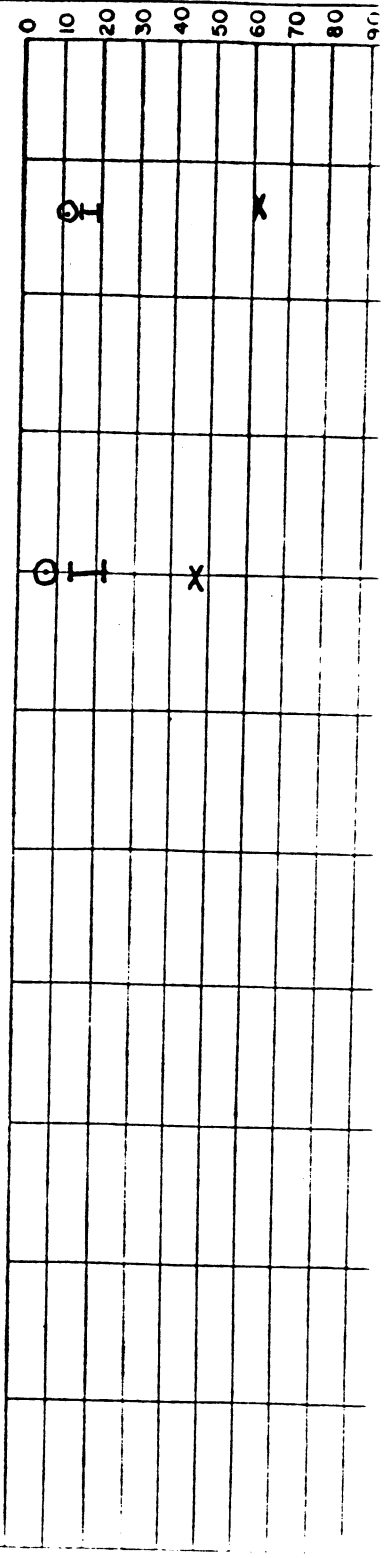
SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 241
HOLE LOCATION 1679 + 797 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED | DRILL UNIT | TECHNICIAN S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
			A/P	1	2475	ML	15.8	24.5	21.5	
			A/P	2	2594	SC	20	32	.	
	END HOLE									

SAMPLE DATA

0 - % MOISTURE CONTENT
X - % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



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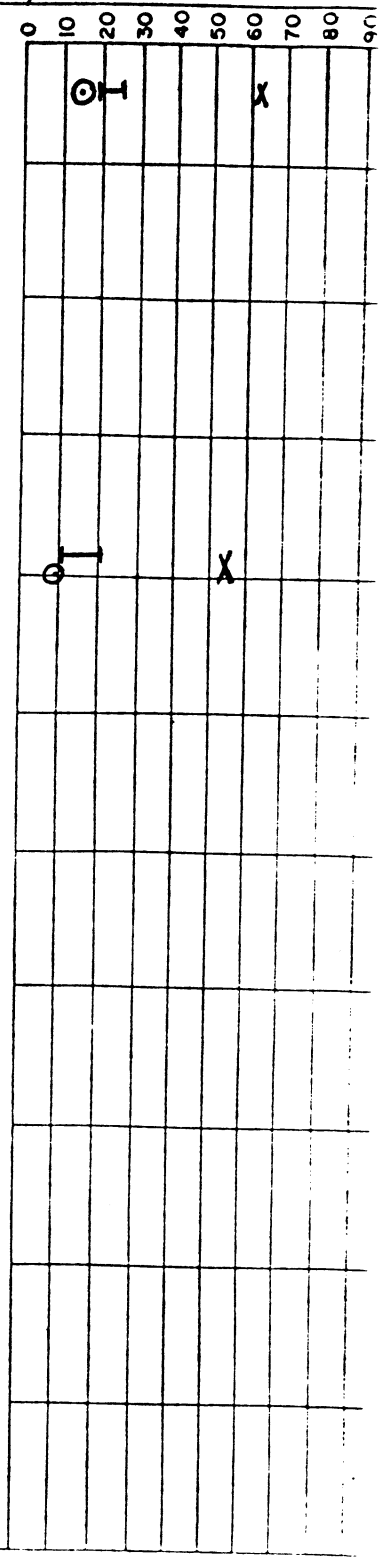
MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION	SHAKWAK SEGMENT 9		HOLE No. 242
HOLE LOCATION	1679+870	ELEV.	DEPTH TO G.W.L.
DATE DRILLED	78.11.02	DRILL UNIT	TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
			A/P	1	2523	CL-ML	9.7	27.7	16.4	
			A/P	2	2518	CL	11.8	32.7	11.5	
	END HOLE									

0 – % MOISTURE CONTENT
X – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



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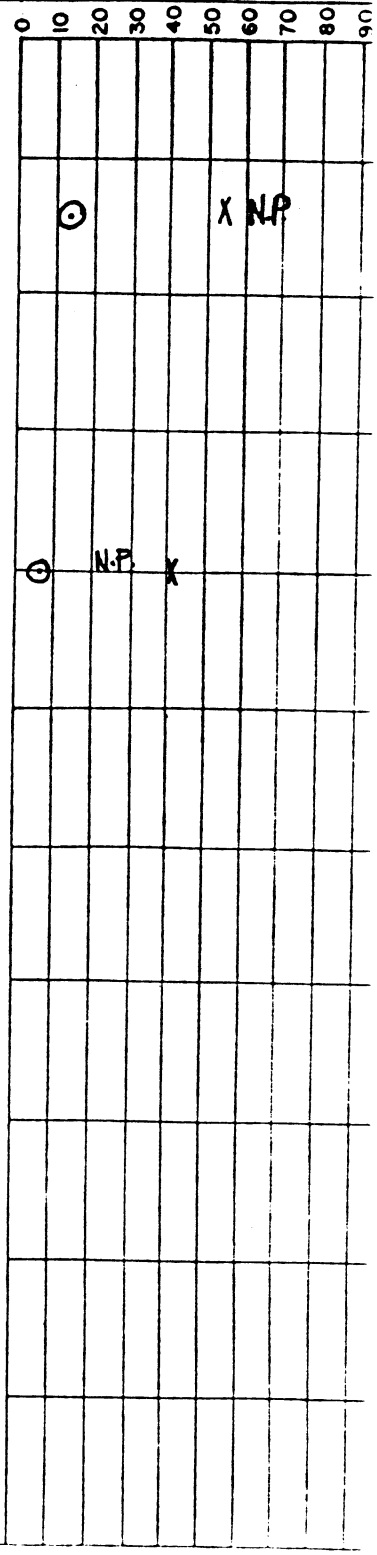
MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 243
HOLE LOCATION 1679+930 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED 78·11·02 | DRILL UNIT | TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
1			A/P	1	2502	ML	18.6	27.1	13.7	
2										
3										
4			A/P	2	2310	SM	28	32	-	
5	END HOLE									
6										
7										
8										
9										
10										

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 244
HOLE LOCATION 1680+010 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED 78.11.02 | DRILL UNIT | TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm
1			A/P	1	2599	SC	16	36	17	
2										
3			A/P	2	2327	ML	16	31	19	
4										
5	END HOLE									
6										
7										
8										
9										
10										

0 - % MOISTURE CONTENT
X - % < .074mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80

⊙ TRACE X
⊙ NP X

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION	SHAKWAK SEGMENT 9		HOLE No. 245
HOLE LOCATION	1680+080	ELEV.	DEPTH TO G.W.L.
DATE DRILLED	78.11.08	DRILL UNIT	TECHNICIAN S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm
1										
2		A/P	1		2505	SM	17	36	3	
3		A/P	2		2072	ML	4	30		
4										
5	END HOLE									
6										
7										
8										
9										
10										

O – % MOISTURE CONTENT
X – % < .074mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80

2	O X	NP
3	O TRACE	X

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 246
HOLE LOCATION 1680+160 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED 78.11.02 | DRILL UNIT | TECHNICIAN S.C.

SAMPLE DATA

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
		A/P	1		2311	SM	16	38		
		A/P	2		2591	GM	35.4	30.8	11.6	
	END HOLE									

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊣ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

1 2 3 4 5 6 7 8 9 10

⊙ TRACE X
⊙ H X

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 247

HOLE LOCATION 1680+230 | ELEV. | DEPTH TO G.W.L.

DATE DRILLED 78·11·02 | DRILL UNIT | TECHNICIAN S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
1			A/P	1	2598	SM	16	37		
2										
3			A/P	2	2342	SM	15	37	16	
4										
5	END HOLE									
6										
7										
8										
9										
10										

0 – % MOISTURE CONTENT
X – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

1: ⊙ TRACE X
3: ⊙ TRACE X

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 248
HOLE LOCATION 1680+ 369 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED 78.11.02 | DRILL UNIT | TECHNICIAN S.C.

SAMPLE DATA

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm
1										
2			A	P	1	2178	SC	23	32	15
3			A	P	2	2343	GM	31	30	
4										
5										
6										
7										
8										
9										
10										

0 – % MOISTURE CONTENT
x – % < .074mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80

⊙ H x
⊙ TRACE x

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 249
HOLE LOCATION 1680+432 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED 78.11.02 | DRILL UNIT | TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300mm	0 – % MOISTURE CONTENT; X – % < .074 mm; LIQUID LIMIT ⊢ PLASTIC LIMIT
0											0 10 20 30 40 50 60 70 80
			A/P	1	2183	SM	14	38	-		⊕ N.P. X
			A/P	2	2607	SM	25	33	15		⊙ N.P. X
	END HOLE										

1 2 3 4 5 6 7 8 9 10

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 — HOLE No. 250

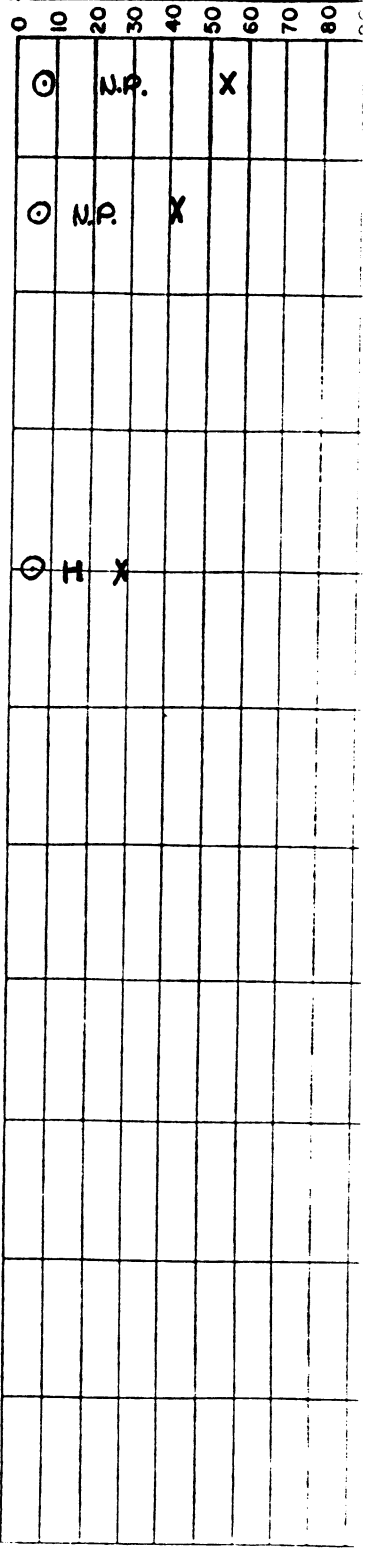
HOLE LOCATION 1680 + 507 — ELEV. — DEPTH TO G.W.L.

DATE DRILLED 78·11·02 — DRILL UNIT — TECHNICIAN SC.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
			A	P	1	2595	ML	13	35	
			A	P	2	2586	SM	30	30	15
			A	P	3	2562	GC	48	22	
	END HOLE									

SAMPLE DATA

0 – % MOISTURE CONTENT
X – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

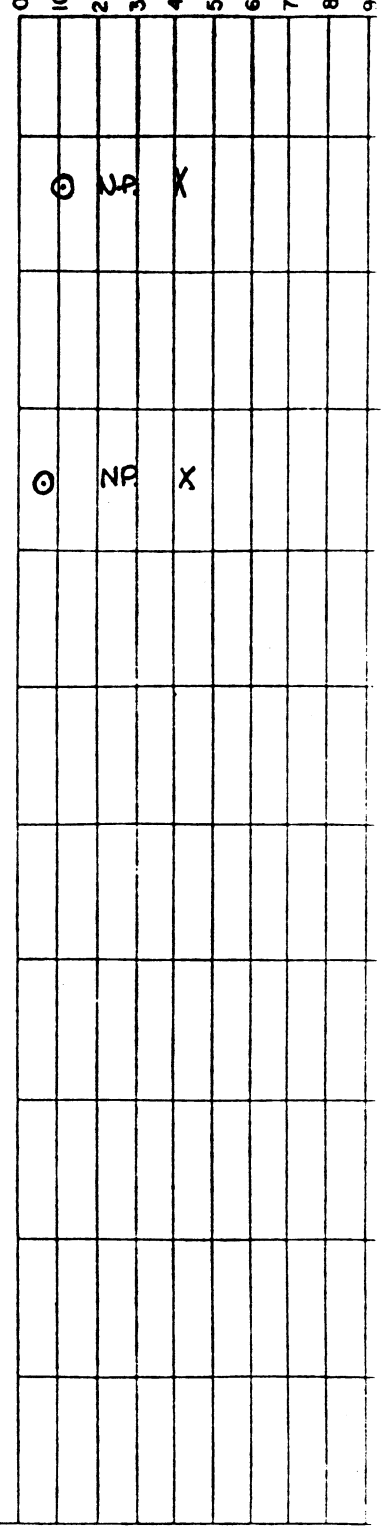
SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9		HOLE No. 251
HOLE LOCATION	ELEV.	DEPTH TO G.W.L.
DATE DRILLED 78.11.02	DRILL UNIT	TECHNICIAN S.C.

SAMPLE DATA

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm
1		A	1P	1	2560	GM	31	28	14	
2										
3		A	1P	2	2185	SM	25	33		
4										
5	END HOLE									
6										
7										
8										
9										
10										

O – % MOISTURE CONTENT
X – % < .074mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 — HOLE No. 252

HOLE LOCATION 1680+667 — ELEV. — DEPTH TO G.W.L.

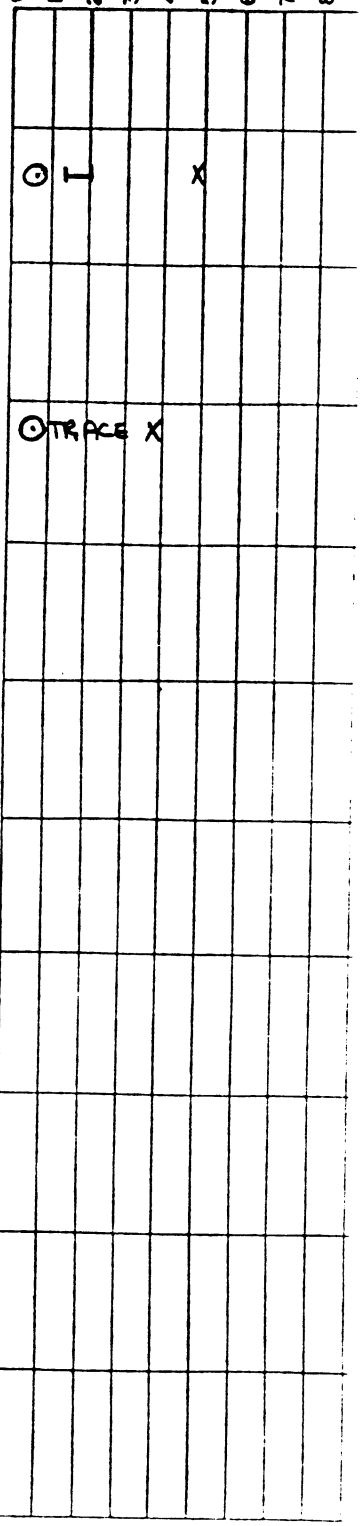
DATE DRILLED 78.11.02 — DRILL UNIT — TECHNICIAN S.C.

SAMPLE DATA

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm
1			A	P	1	2576	SC	20	30	
2										
3			A	P	2	2335	GC	33	27	14
4										
5	END HOLE									
6										
7										
8										
9										
10										

0 – % MOISTURE CONTENT
x – % < .074mm
LIQUID LIMIT ⊢⊣ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80



Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

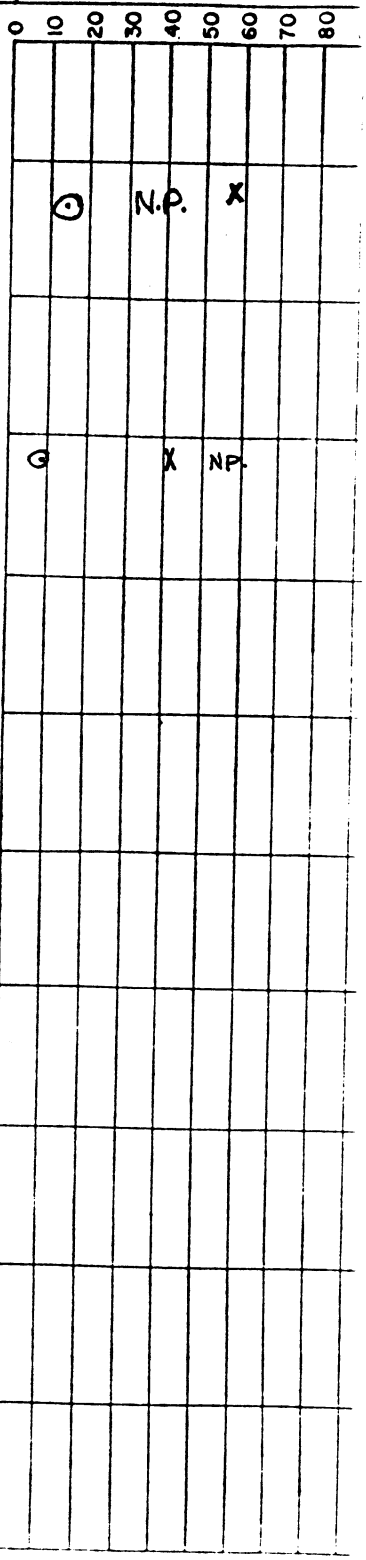
PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 253

HOLE LOCATION 1680+740 | ELEV. | DEPTH TO G.W.L.

DATE DRILLED 78.11.02 | DRILL UNIT | TECHNICIAN S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
0 – 1										
1 – 2			A/P	1	2182	OL	12	30		
2 – 3										
3 – 4			A/P	2	2507	ML	14.6	33.8	16.7	
4 – 5	END HOLE									
5 – 6										
6 – 7										
7 – 8										
8 – 9										
9 – 10										

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



Public Works Canada

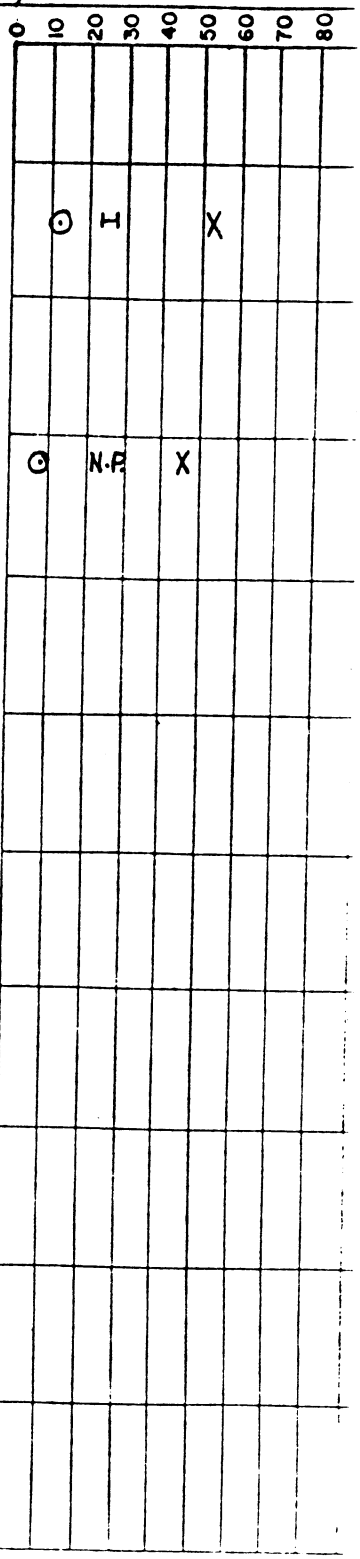
MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 254
HOLE LOCATION 1680+822 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED 79.11.03 | DRILL UNIT | TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
1										
2		A	1p	1	2526	ML	13	35	14.2	
3		A	1p	2	2579	SM	19	34		
4										
5	END HOLE									
6										
7										
8										
9										
10										

O – % MOISTURE CONTENT
X – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 255

HOLE LOCATION 1680+900 | ELEV. | DEPTH TO G.W.L.

DATE DRILLED 78.11.03 | DRILL UNIT | TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
1										
2		A	1P	1	2547	SM	23	36		
3										
4		A	1P	2	2589	ML	12	32	13	
5	END HOLE									
6										
7										
8										
9										
10										

SAMPLE DATA

0 – % MOISTURE CONTENT

X – % < .074 mm

LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80

1: ⊙ TRACE X

2:

3: ⊙ TRACE X

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 — HOLE No. 256

HOLE LOCATION 1680+975 — ELEV. — DEPTH TO G.W.L.

DATE DRILLED 78.11.03 — DRILL UNIT — TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
1										
2		A/P	1	2344	GM	38	28			
3										
4		A/P	2	2524	GL-ML	14.3	35.5	18.6		
5	END HOLE									
6										
7										
8										
9										
10										

SAMPLE DATA

O – % MOISTURE CONTENT
X – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80

2: ⊙ N.P. X

4: ⊙ H X

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 257
HOLE LOCATION 1680+999 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED 78.11.03 | DRILL UNIT | TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
3			A	P	1	2296	CL	6	27	18
4			A	P	2	2298	ML	17	28	
5	END HOLE									

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80

N.P.

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 — HOLE No. 258

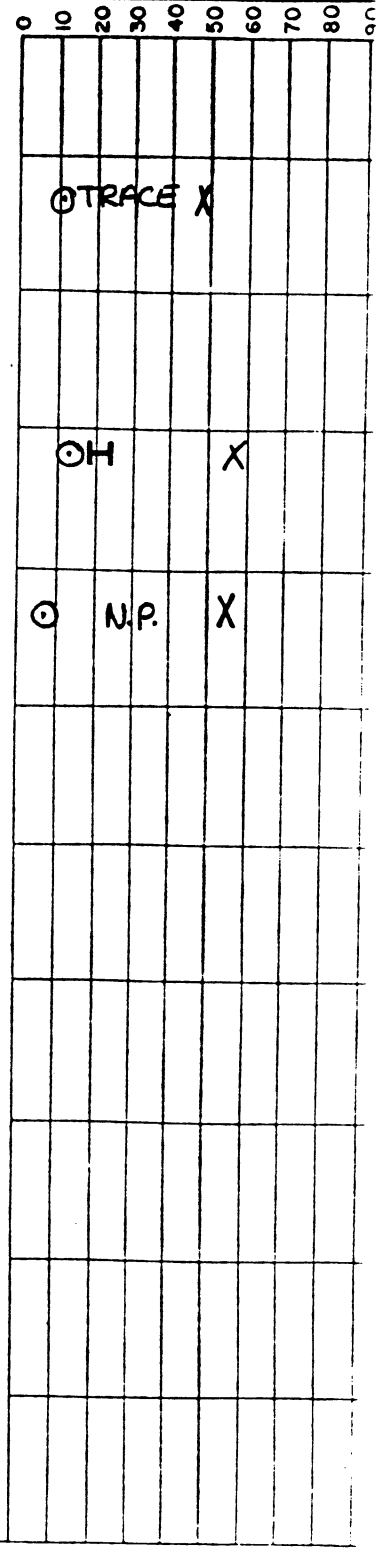
HOLE LOCATION 1681 + 138 — ELEV. — DEPTH TO G.W.L.

DATE DRILLED 78.11.03 — DRILL UNIT — TECHNICIAN S.C.

SAMPLE DATA

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm
		A/P	1		2295	SM	21	29		
		A/P	2		2292	CL-ML	11	32	18	
		A/P	3		2297	ML	12	32		
	END HOLE									

0 – % MOISTURE CONTENT
x – % < .074mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 — HOLE No. 259

HOLE LOCATION 1681+217 — ELEV. — DEPTH TO G.W.L.

DATE DRILLED 78.11.03 — DRILL UNIT — TECHNICIAN S.C.

SAMPLE DATA

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm
1										
2			A/P	1	2290	SM	21	34		
3										
4			A/P	2	2291	ML	15	30	16	
5	END HOLE									
6										
7										
8										
9										
10										

0 – % MOISTURE CONTENT

x – % < .074mm

LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80

⊙ TRACE X

⊙ TRACE X

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 — HOLE No. 260

HOLE LOCATION 1681+298 — ELEV. — DEPTH TO G.W.L.

DATE DRILLED 78.11.03 — DRILL UNIT — TECHNICIAN S.C.

SAMPLE DATA

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
1										
2			A1p	1	2294	SM	15	35		
3			A1p	2	2299	SM	24	31	15	
4										
5	END HOLE									
6										
7										
8										
9										
10										

O – % MOISTURE CONTENT
X – % < .074 mm
LIQUID LIMIT ⊢⊣ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80

2 ⊙ TRACE X

3 ⊙ TRACE X

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 — HOLE No. 261

HOLE LOCATION 1681+388 — ELEV. — DEPTH TO G.W.L.

DATE DRILLED 78.11.03 — DRILL UNIT — TECHNICIAN S.C.

SAMPLE DATA

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
1										
2			A/p	1	2367	ML	14	33	11	
3										
4			A/p	2	2190	ML	12	29	.	
5	END HOLE									
6										
7										
8										
9										
10										

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢⊣ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80

TRACE x

TRACE x

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 262

HOLE LOCATION 1681+455 | ELEV. | DEPTH TO G.W.L.

DATE DRILLED 78.11.03 | DRILL UNIT | TECHNICIAN S.C.

SAMPLE DATA

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm
1										
2			A	P	1	2372	ML	2	30	16
3										
4			A	P	2	2199	SM	24	32	
5	END HOLE									
6										
7										
8										
9										
10										

0 – % MOISTURE CONTENT
x – % < .074mm
LIQUID LIMIT ⊢⊣ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80

⊙ TRACE X

⊙ TRACE X

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 — HOLE No. 263
HOLE LOCATION 1681+530 — ELEV. — DEPTH TO G.W.L.
DATE DRILLED 78.11.03 — DRILL UNIT — TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm
1										
2			A/P	1	Z191	ML	11	37		
3										
4			A/P	2	Z202	ML	15	33	13	
5	END HOLE									
6										
7										
8										
9										
10										

O – % MOISTURE CONTENT
X – % < .074mm
LIQUID LIMIT ⊢⊣ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80

O TRACE X
O N.P. X

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 — HOLE No. 264

HOLE LOCATION 1681+610 — ELEV. — DEPTH TO G.W.L.

DATE DRILLED 78.11.03 — DRILL UNIT — TECHNICIAN S.C.

SAMPLE DATA

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
1										
2		A|P	1		2371	SM	16.	40		
3										
4		A|P	2		2201	GM	29	28	12	
5	END HOLE									
6										
7										
8										
9										
10										

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

1: N.P. ⊙ X
2: N.P. ⊙ X

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

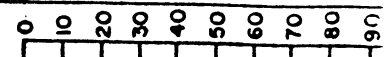
PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 265

HOLE LOCATION 1681+690 | ELEV. | DEPTH TO G.W.L.

DATE DRILLED 78.11.03 | DRILL UNIT | TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
1										
2			Alp	1	2198	SM	19	34		
3										
4			Alp	2	2200	SM	22	32	12	
5	END HOLE									
6										
7										
8										
9										
10										

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



2	⊙ N.P.	X
4	⊙ N.P.	X

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 — HOLE No. 266

HOLE LOCATION 1681+767 — ELEV. — DEPTH TO G.W.L.

DATE DRILLED 78.11.06 — DRILL UNIT — TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
1										
2										
3			A|P	1						
4			A|P	2	2196	GM	34	27		
5	END HOLE									
6										
7										
8										
9										
10										

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

⊙ N.P. x

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 267

HOLE LOCATION 1681 + 844 | ELEV. | DEPTH TO G.W.L.

DATE DRILLED 78.11.06 | DRILL UNIT | TECHNICIAN S.C.

SAMPLE DATA

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm
1										
2		A	P	1	2197	ML	12	28		
3										
4		A	P	2	2174	SM	15	35	15	
5	END HOLE									
6										
7										
8										
9										
10										

0 – % MOISTURE CONTENT

x – % < .074mm

LIQUID LIMIT ⊣ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

⊙ TRACE X

⊙ TRACE X

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

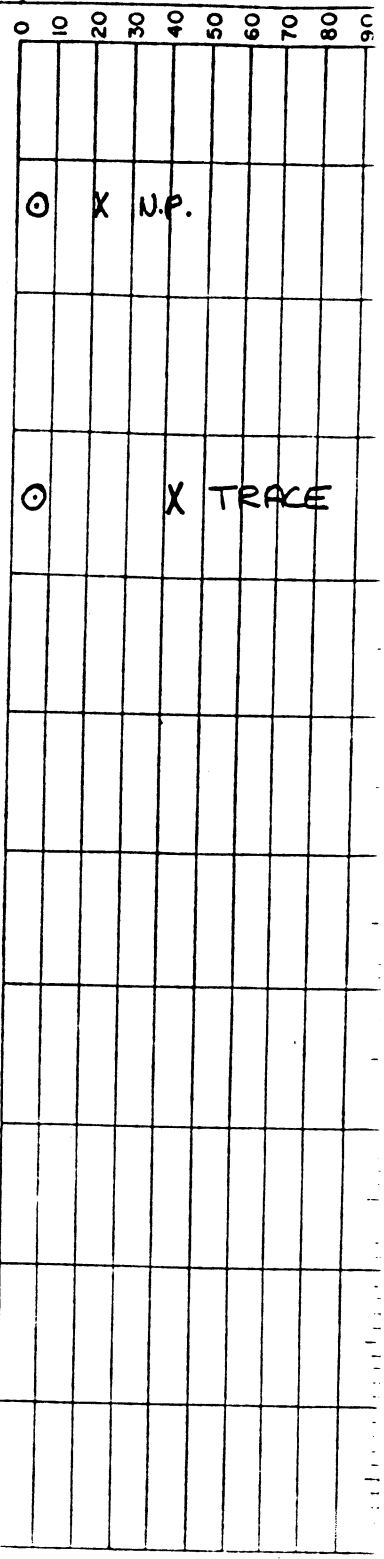
PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 268

HOLE LOCATION 1681+920 | ELEV. | DEPTH TO G.W.L.

DATE DRILLED 78.11.06 | DRILL UNIT | TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300mm
1										
2			A/P	1	2581	SM	40	40	3	
3										
4			A/P	2	2236	SM	22	36		
5	END HOLE									
6										
7										
8										
9										
10										

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION	SHAKWAK SEGMENT 9		HOLE No. 269
HOLE LOCATION	1682+000	ELEV.	DEPTH TO G.W.L.
DATE DRILLED	78·11·03	DRILL UNIT	TECHNICIAN S.C.

SAMPLE DATA

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300mm
1										
2			A	p	1	2233	SM	16	36	12
3										
4			A	p	2	2159	CL-ML	17	25	
5	END HOLE									
6										
7										
8										
9										
10										

0 – % MOISTURE CONTENT
X – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

⊙ TRACE X

⊙ H X

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 270

HOLE LOCATION 1682+080 | ELEV. | DEPTH TO G.W.L.

DATE DRILLED 78.11.06 | DRILL UNIT | TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
1			A	P	1	2583	ML	16	30	26
2										
3										
4			A	P	2	2222	CL	4	20	47
5	END HOLE									
6										
7										
8										
9										
10										

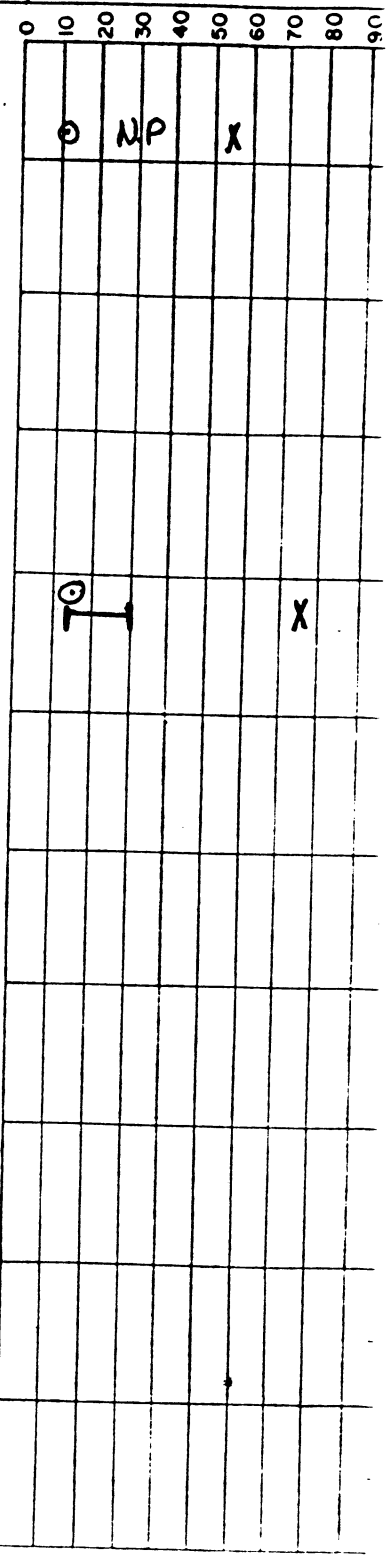
SAMPLE DATA

0 – % MOISTURE CONTENT

x – % < .074 mm

LIQUID LIMIT ⊣ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90



Public Works Canada

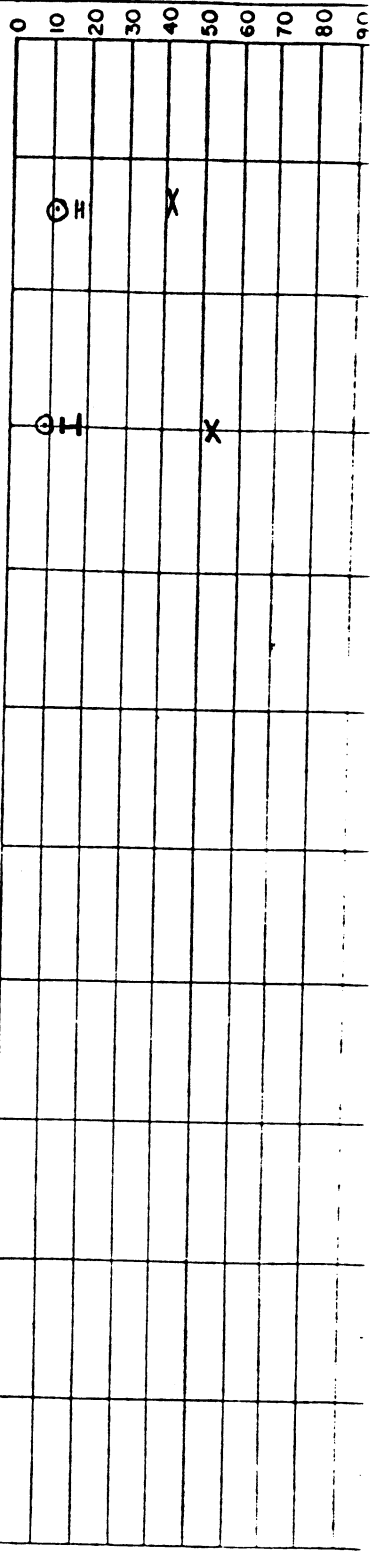
MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION	SHAKWAK SEGMENT 9		HOLE No. 271
HOLE LOCATION	1682+152	ELEV.	DEPTH TO G.W.L.
DATE DRILLED	78.11.06	DRILL UNIT	TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
1			A|P	1	2585	SM	17.6	41.6	12.3	
2										
3			A|P	2	2248	CL-ML	14	32		
4										
5	END HOLE									
6										
7										
8										
9										
10										

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION	SHAKWAK SEGMENT 9		HOLE No. 272
HOLE LOCATION	1682+240	ELEV.	DEPTH TO G.W.L.
DATE DRILLED	78.11.03	DRILL UNIT	TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
			A/P	1	2206	SM	28	33		
			A/P	2	2224	C-ML	7	37	14	
	END HOLE									

0 – % MOISTURE CONTENT
X – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

⊙ TRACE X

⊙ TRACE X

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

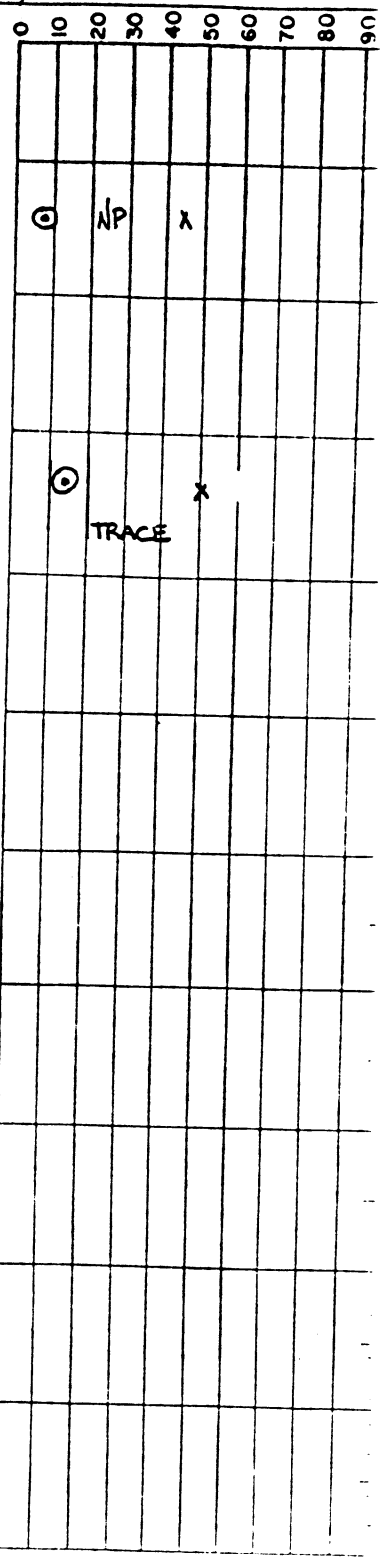
PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. Z73

HOLE LOCATION 1682+300 | ELEV. | DEPTH TO G.W.L.

DATE DRILLED 78.11.03 | DRILL UNIT | TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm
1										
2			A/P	1	2172	SM	14.3	42.2		
3										
4			A/P	2	2231	ML	18.3	31.7		
5	END HOLE									
6										
7										
8										
9										
10										

0 - % MOISTURE CONTENT
x - % < .074mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 274

HOLE LOCATION 1682+400 | ELEV. | DEPTH TO G.W.L.

DATE DRILLED 78.11.03 | DRILL UNIT | TECHNICIAN S.C.

SAMPLE DATA

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
		A	P	1	2160	ML	7	24		
		A	P	2	2250	SC	31	36	9	
	END HOLE									

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

⊙ H x

⊙ x TRACE

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 275

HOLE LOCATION 1682+448 | ELEV. | DEPTH TO G.W.L.

DATE DRILLED 78.11.07 | DRILL UNIT | TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
			A	P	1	2209	SM	27	42	
			A	P	2	2164	SC	34	34	9
	END HOLE									

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

1 2 3 4 5 6 7 8 9 10

⊙ X TRACE

⊙ X TRACE

Public Works Canada

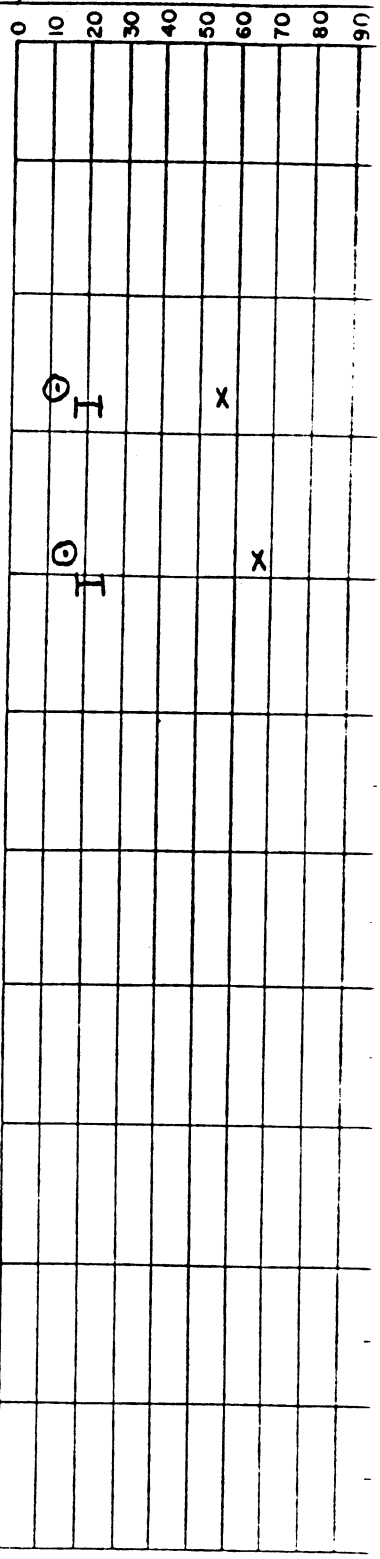
MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION	SHAKWAK SEGMENT 9		HOLE No. 276
HOLE LOCATION	1682+518	ELEV.	DEPTH TO G.W.L.
DATE DRILLED	78.11.7	DRILL UNIT	TECHNICIAN S.C

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
3			A/P	1	2168	CL-ML	9.6	33.8		
4			A/P	2	2176	CL-ML	5.0	29.4	22.9	
5	END HOLE									

0 – % MOISTURE CONTENT
X – % < .074 mm
LIQUID LIMIT ⊢⊣ PLASTIC LIMIT



Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION	SHAKWAK SEGMENT 9		HOLE No. 277
HOLE LOCATION	1682+589	ELEV.	DEPTH TO G.W.L.
DATE DRILLED	78·11·07	DRILL UNIT	TECHNICIAN S.C.

SAMPLE DATA

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
3			A/P	1	2163	SM	26	39	8	
4			A/P	2	2597	SM	33	34	6	9.1
4.6	END HOLE									

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

⊙ x TRACE

⊙ x NP

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 278
HOLE LOCATION 1682+672 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED 78.11.07 | DRILL UNIT | TECHNICIAN SC.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
1										
2			Alp	1	2228	GM	40	31		
3										
4			Alp	2	2353	ML	0	0		
5	END HOLE									
6										
7										
8										
9										
10										

0 - % MOISTURE CONTENT
X - % < .074 mm
LIQUID LIMIT ⊣ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

2 ⊙ X N.P.
4 ⊙ N.P.

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 279
HOLE LOCATION 1682+770 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED 78·11·07 | DRILL UNIT | TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm
1										
2			A/P	1	2229	SM	23	40		
3										
4			A/P	2	2606	ML	14	33	14	
5	END HOLE									
6										
7										
8										
9										
10										

0 – % MOISTURE CONTENT
x – % < .074mm
LIQUID LIMIT ⊣ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

⊙ N.P. X

⊙ N.P. X

Public Works Canada

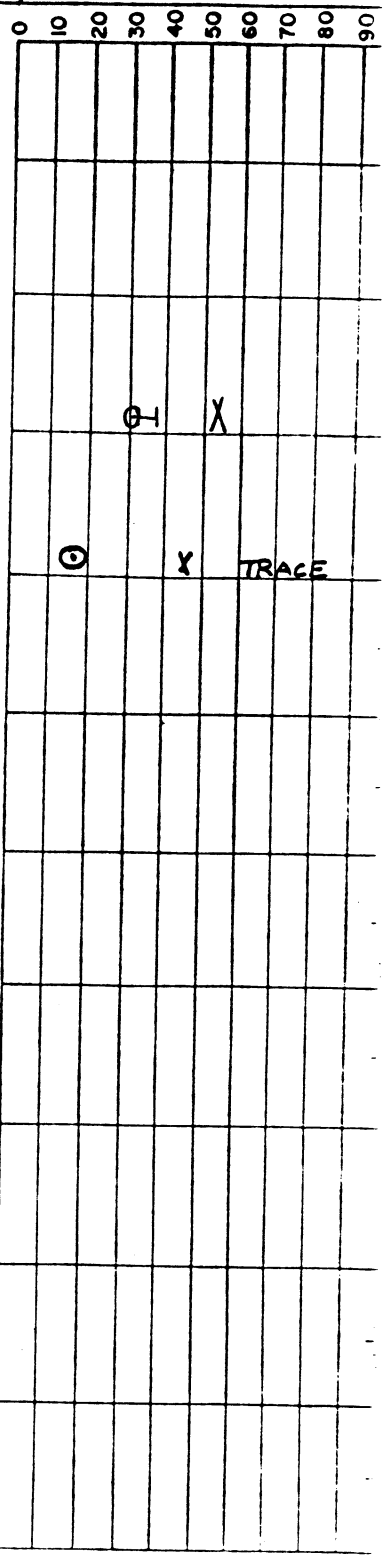
MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION	SHAKWAK SEGMENT 9		HOLE No. 280
HOLE LOCATION	1682 + 838	ELEV.	DEPTH TO G.W.L.
DATE DRILLED	78. 11. 07	DRILL UNIT	TECHNICIAN S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
3			A/P	1	2569	ML-OL	12.1	35.1		
4			A/P	2	2169	SM	24.0	22.6	11.3	
5	END HOLE									

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 281
HOLE LOCATION 1682+908 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED 78-11-07 | DRILL UNIT. | TECHNICIAN S.C.

SAMPLE DATA

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
1										
2		A	P	1	2249	GM	39	35	5	
3										
4		A	P	2	2165	GM	54	25		
5	END HOLE									
6										
7										
8										
9										
10										

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

⊙ X TRACE

⊙ X TRACE

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION: SHAKWAK SEGMENT 9 — HOLE No. 282
HOLE LOCATION: 1682+990 — ELEV. — DEPTH TO G.W.L.
DATE DRILLED: 78.11.07 — DRILL UNIT — TECHNICIAN: S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
		A/P	1	2220	SM	15	38			
		A/P	2	2232	SM	36	41			
	END HOLE									

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

1 ⊙ N.P. x
2
3
4 ⊙ x N.P.
5
6
7
8
9
10

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MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

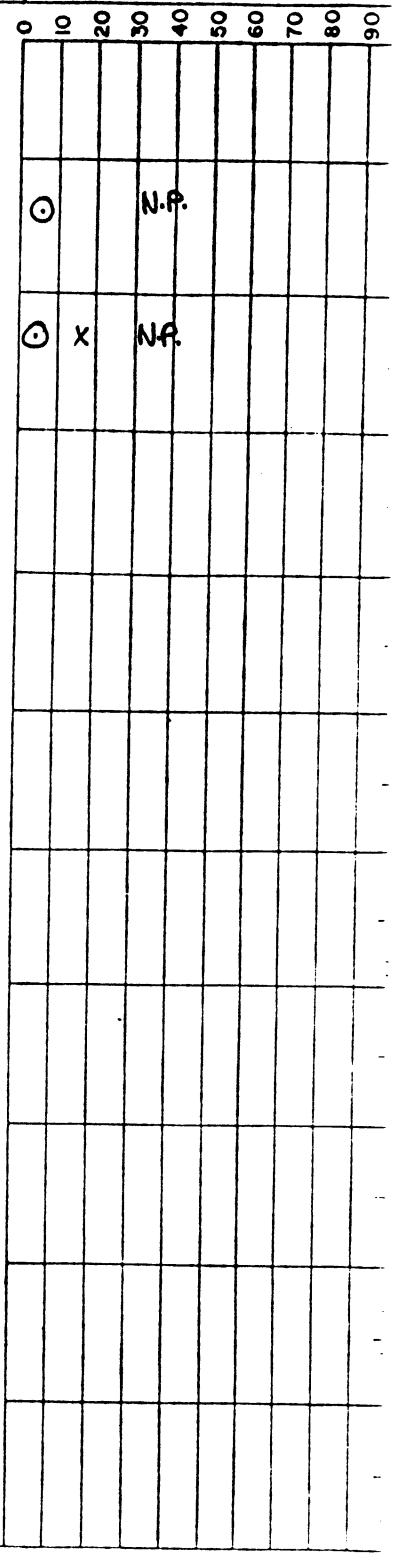
PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 283

HOLE LOCATION 1683+045 | ELEV. | DEPTH TO G.W.L.

DATE DRILLED 78.11.7 | DRILL UNIT | TECHNICIAN S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm
			A/P	1	2235	ML	0	0		
			A/P	2	2508	GM	68	14		
	REFUSAL									

0 – % MOISTURE CONTENT
x – % < .074mm
LIQUID LIMIT ⊣ PLASTIC LIMIT



Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 284

HOLE LOCATION 1683+118 | ELEV. | DEPTH TO G.W.L.

DATE DRILLED 78.11.7 | DRILL UNIT | TECHNICIAN S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300mm
3			A	p	1	2213	GC	34	22	
4			A	p	2	2223	GM	35	28	9
5	END HOLE									

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

1 2 3 4 5 6 7 8 9 10

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MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9		HOLE No. 285
HOLE LOCATION 1683+187	ELEV.	DEPTH TO G.W.L.
DATE DRILLED 78·11·07	DRILL UNIT	TECHNICIAN S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm
1										
2			A/P	1	2175	SC	34	45		
3										
4			A/P	2	2212	SC	24	35	3	
5	END HOLE									
6										
7										
8										
9										
10										

0 – % MOISTURE CONTENT
x – % < .074mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

TRACE

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 286
HOLE LOCATION 1683+245 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED 78.11.07 | DRILL UNIT | TECHNICIAN S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm
1										
2		A|P	1	2260	ML	8	38			
3										
4		A|P	2	2262	SC	28	39	6		
5	END HOLE									
6										
7										
8										
9										
10										

SAMPLE DATA

0 – % MOISTURE CONTENT
x – % < .074mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

1: ⊙ TRACE x
4: ⊙ x TRACE

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 287

HOLE LOCATION 1683+328 | ELEV. | DEPTH TO G.W.L.

DATE DRILLED 78.11.07 | DRILL UNIT | TECHNICIAN S.C.

SAMPLE DATA

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
1										
2			A/P	1	2241	SM	30	31		
3										
4			A/P	2	2210	GM	58	22	2	
5	END HOLE									
6										
7										
8										
9										
10										

O – % MOISTURE CONTENT

X – % < .074 mm

LIQUID LIMIT ⊣ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

1: ⊙ N.P. X

3: ⊙ X N.P.

Public Works Canada

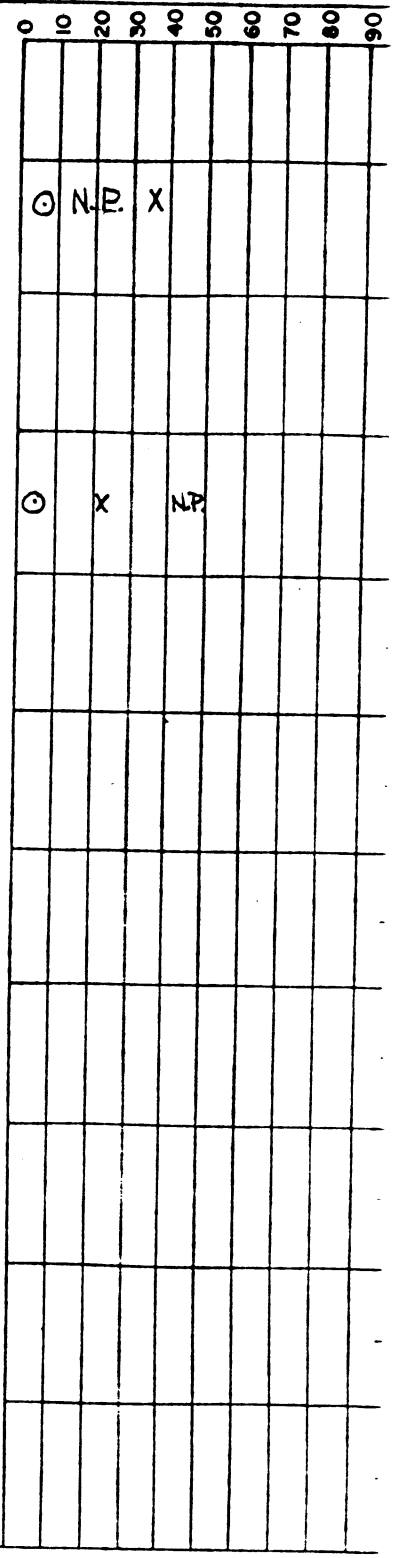
MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION	SHAKWAK SEGMENT 9		HOLE No. 28B
HOLE LOCATION	1683+403	ELEV.	DEPTH TO G.W.L.
DATE DRILLED	78.11.07	DRILL UNIT	TECHNICIAN S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
1										
2			AP	1	2302	SM	27	36	7	
3										
4			AP	2	2230	GM	44	35		
5	END HOLE									
6										
7										
8										
9										
10										

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊣ PLASTIC LIMIT



Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

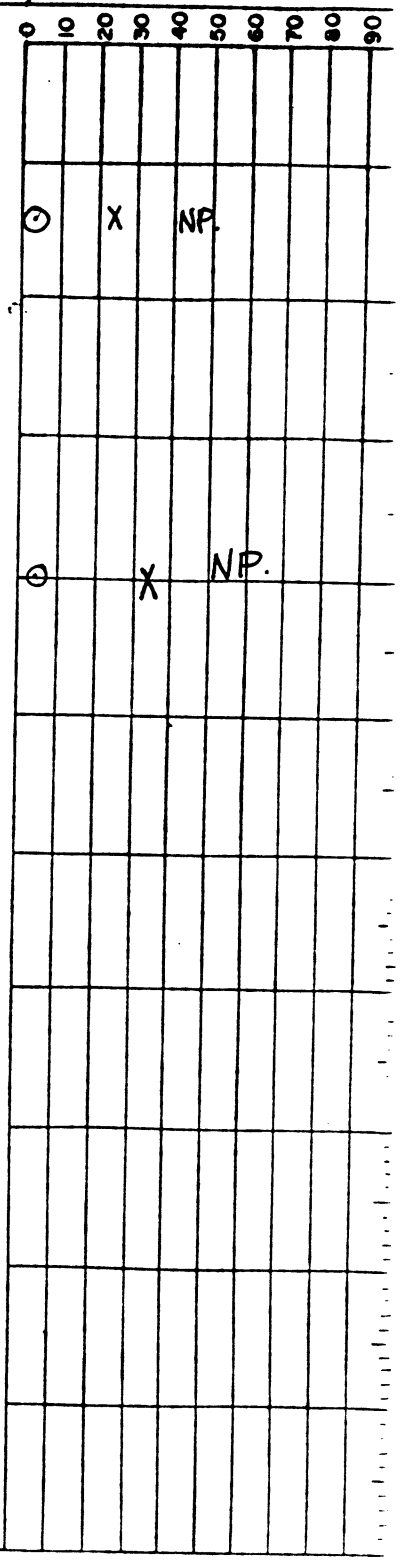
SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION	SHAKWAK SEGMENT 9		HOLE No. 289
HOLE LOCATION	1683+470	ELEV.	DEPTH TO G.W.L.
DATE DRILLED	78·11·07	DRILL UNIT	TECHNICIAN S.C.

SAMPLE DATA

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
1.5		A/P	1		2478	SM	27.2	48.1	4.3	
4.0		A/P	2		2477	SM	31.1	36.9	7.3	

0 – % MOISTURE CONTENT
X – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 290
HOLE LOCATION 1683+535 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED 78.11.07 | DRILL UNIT | TECHNICIAN S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
			A/P	1	2476	CL-ML	12	31	3	
			A/P	2	2162	SM	16	39	-	
			A/P	3	2208	GM	50	27	2	
	END HOLE									

SAMPLE DATA

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⟷ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

TRACE

N.P.

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 — HOLE No. 291

HOLE LOCATION 1683+630 — ELEV. — DEPTH TO G.W.L.

DATE DRILLED 78.11.07 — DRILL UNIT — TECHNICIAN S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm
			A	P	1	2240	SM	21	31	-
			A	P	2	2273	SM	20	39	8
	END HOLE									

SAMPLE DATA

0 – % MOISTURE CONTENT
x – % < .074mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

⊙ N.P. X

⊙ X TRACE

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 292
HOLE LOCATION 1683+710 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED 78.11.07 | DRILL UNIT | TECHNICIAN S.C.

SAMPLE DATA

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
1										
2		A/P	1		2473	GM.	49	35	4	
3										
4		A/P	2		2234	GM	41	30		
5	END HOLE									
6										
7										
8										
9										
10										

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

⊙ x N.P.

⊙ x TRACE.

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION	SHAKWAK SEGMENT 9		HOLE No. 293
HOLE LOCATION	1683+795	ELEV.	DEPTH TO G.W.L.
DATE DRILLED	78.11.08	DRILL UNIT	TECHNICIAN S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
1										
2		A/P	1		2365	GM	42	41		
3										
4		A/P	2		2303	SM	13	42	11	
5	END HOLE									
6										
7										
8										
9										
10										

SAMPLE DATA

0 – % MOISTURE CONTENT
X – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

⊙ X TRACE

⊙ TRACE X

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 — HOLE No. 294

HOLE LOCATION 1683+865 — ELEV. — DEPTH TO G.W.L.

DATE DRILLED 78.11.08 — DRILL UNIT — TECHNICIAN S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
1										
2			A	P	1	2580	SM	28	45	5
3										
4			A	P	2	2590	SM	14	60	
5	END HOLE									
6										
7										
8										
9										
10										

SAMPLE DATA

0 – % MOISTURE CONTENT

x – % < .074 mm

LIQUID LIMIT ⊣ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

⊙ x N.P.

⊙ x N.P.

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION	SHAKWAK SEGMENT 9		HOLE No. 295
HOLE LOCATION	1683+939	ELEV.	DEPTH TO G.W.L.
DATE DRILLED	78.11.08	DRILL UNIT	TECHNICIAN S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
	REFUSAL									

0 – % MOISTURE CONTENT
X – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

1 2 3 4 5 6 7 8 9 10

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 296

HOLE LOCATION 1684+010 | ELEV. | DEPTH TO G.W.L.

DATE DRILLED 78-11-08 | DRILL UNIT | TECHNICIAN S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300mm
1										
2		A/P	1		2306	SM	9	44		
3		A/P	2		2263	ML	0	16	61	
4	REFUSAL.									
5										
6										
7										
8										
9										
10										

0 - % MOISTURE CONTENT
x - % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

⊙ TRACE x

⊙ TRACE x

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

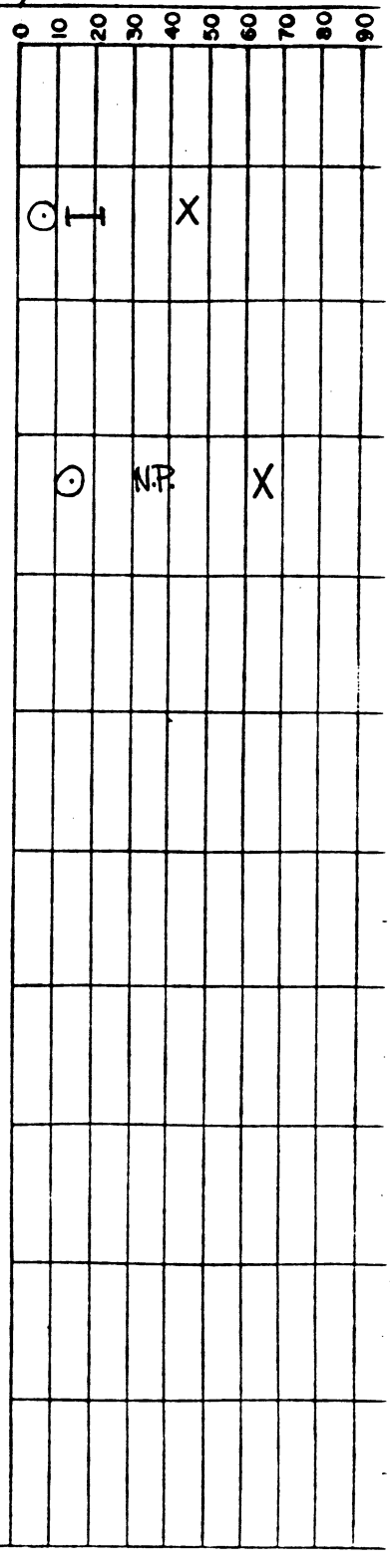
SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9		HOLE No. 297.
HOLE LOCATION 1684+088	ELEV.	DEPTH TO G.W.L.
DATE DRILLED 78.11.08	DRILL UNIT	TECHNICIAN B.C.

SAMPLE DATA

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
1										
2			A/P	1	2375	SC	25	31		
3										
4			A/P	2	2226	ML	11	24	37	
5	END HOLE									
6										
7										
8										
9										
10										

0 – % MOISTURE CONTENT
X – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT



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MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 298

HOLE LOCATION 1684+172 | ELEV. | DEPTH TO G.W.L.

DATE DRILLED 78.11.08 | DRILL UNIT | TECHNICIAN S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm	0 – % MOISTURE CONTENT; x – % < .074mm; LIQUID LIMIT ⊣ PLASTIC LIMIT
1			A/P	1	2471	ML	3	33	11		⊙ N.P. X
2											
3			A/P	2	2243	SM	27	44			⊙ X TRACE
4			A/P	3	2257	SM	28	35	11		⊙ X TRACE
5	END HOLE										
6											
7											
8											
9											
10											

0 10 20 30 40 50 60 70 80 90

Dwg No 60-253-

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 299
HOLE LOCATION 1684+252 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED 78.11.08 | DRILL UNIT | TECHNICIAN S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300mm
			A/P	1	2300	GM	0	0		
			A/P	2	2602	SM	22	37	13	

0 - % MOISTURE CONTENT
x - % < .074 mm
LIQUID LIMIT ⊢⊣ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

⊙ TRACE

⊙ TRACE X

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

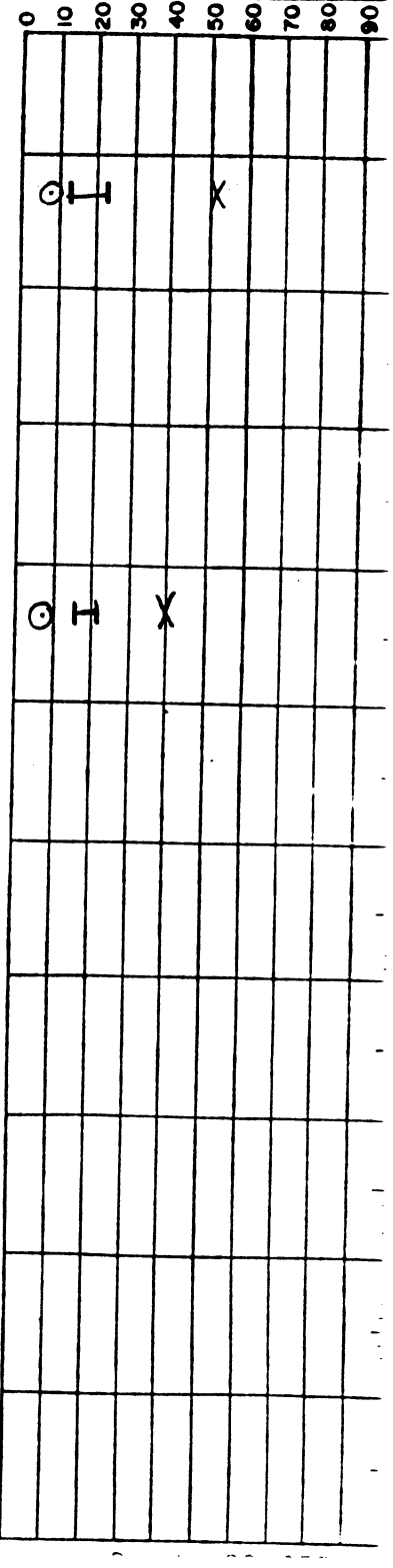
PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 300
HOLE LOCATION 1684+368 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED 78.11.08 | DRILL UNIT | TECHNICIAN S.C.

SAMPLE DATA

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300mm
1										
2		Alp	1		2167	CL	12	36		
3										
4		Alp	2		2261	GC-GM	30	30	10	
5	END HOLE									
6										
7										
8										
9										
10										

0 – % MOISTURE CONTENT
X – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90



Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9 | HOLE No. 301
HOLE LOCATION 1684 + 487 | ELEV. | DEPTH TO G.W.L.
DATE DRILLED 78.11.08 | DRILL UNIT | TECHNICIAN S.C.

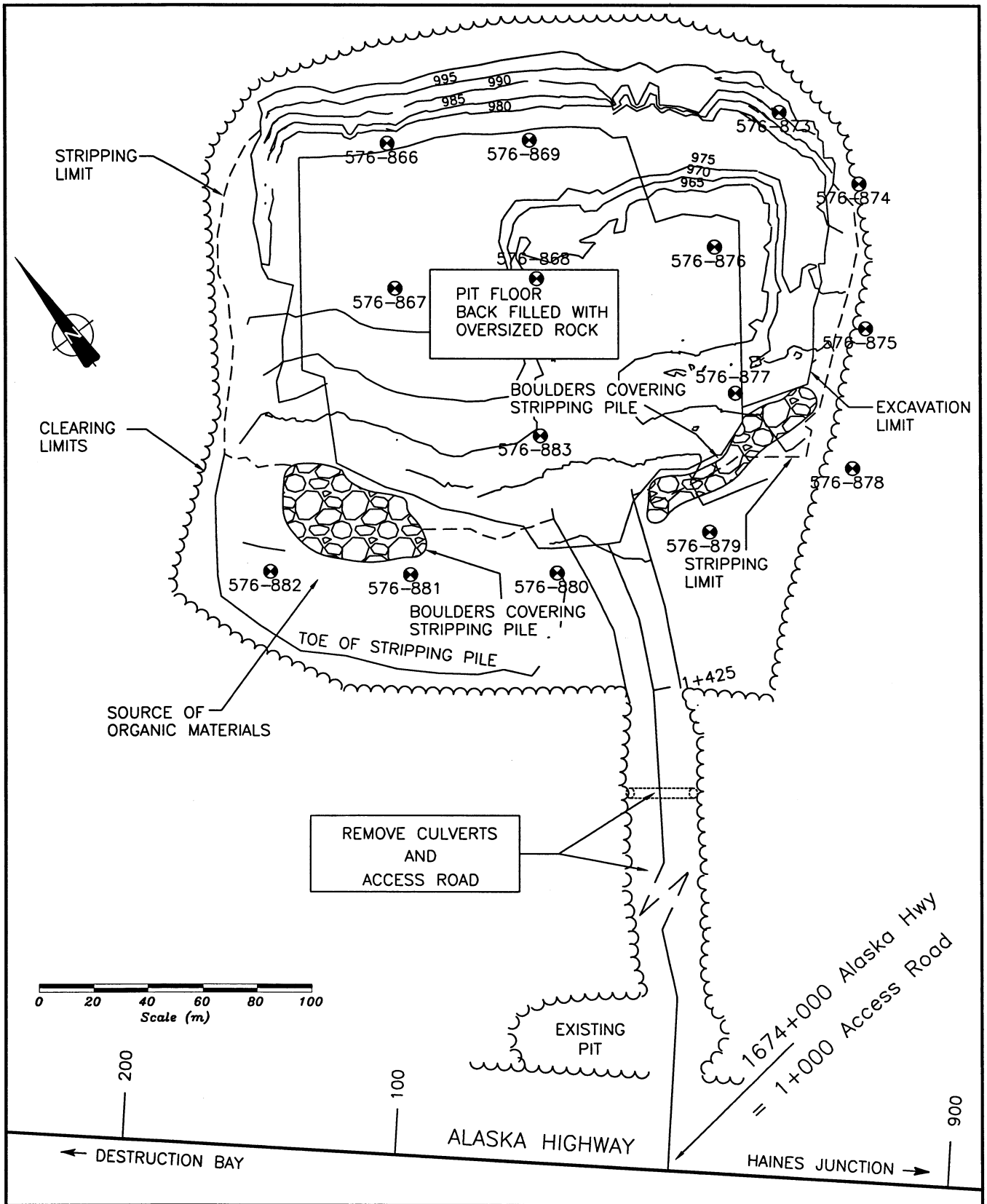
DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
1										
2			A/P	1	2211	SAMPLE LOST.				
3										
4			A/P	2	2355	SM	14	46	4	
5	END HOLE									
6										
7										
8										
9										
10										

0 – % MOISTURE CONTENT
x – % < .074 mm
LIQUID LIMIT ⊢ PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90

⊙ TRACE X

QUARRY SOURCE TESTING
Km 1674 RHS
ALASKA HIGHWAY



Yukon
Highways and Public Works

Transportation Engineering Branch

SITE PLAN

ROCK QUARRY

km 1674 RHS

ALASKA HIGHWAY, YUKON

designed: J. BELISLE
drawn: KP / JJM
app'd:
date: 01 May, 2003
scale: 1:2000
drwg: 011674SP

SUBSURFACE EXPLORATION & TEST REPORT	SHAKWAK SEG 09	TEST HOLE NO: 576-866
ENGINEERING CAPITAL	KM 1674 RHS	Project No: 092-202101-0363
AIR ROTARY	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0								0.0
1.0								1.0
2.0	ROCK @ 2.1m -white rock dust 2.1 to 10.4m -slow drilling -no coarse chips							2.0
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0
7.0								7.0
8.0								8.0
9.0								9.0
10.0								10.0
11.0	END HOLE @ 10.4m Note: visible surface rock between testhole #866 & #865 -no water in testhole 2000-09-03							11.0
12.0								12.0
13.0								13.0
14.0								14.0
15.0								15.0
16.0								16.0

Government of Yukon
Transportation Engineering

LOGGED BY: G.C.	COMPLETION DEPTH: 10.4 m
REVIEWED BY:	COMPLETE: 00/08/31
Fig. No:	Page 1 of 1

00/12/11 02:52PM

SUBSURFACE EXPLORATION & TEST REPORT	SHAKWAK SEG 09	TEST HOLE NO: 576-867
ENGINEERING CAPITAL	KM 1674 RHS	Project No: 092-202101-0363
AIR ROTARY	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0								0.0
1.0								1.0
2.0	ROCK @ 1.5m –white rock dust 1.5m to 10.4m –slow drilling –no coarse chips							2.0
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0
7.0								7.0
8.0								8.0
9.0								9.0
10.0								10.0
11.0	END HOLE @ 10.4m Note: Steep slope below testhole –surface rock 3m upchain –water in hole 3 days after drilling							11.0
12.0								12.0
13.0								13.0
14.0								14.0
15.0								15.0
16.0								16.0

Government of Yukon
Transportation Engineering

LOGGED BY: G.C.	COMPLETION DEPTH: 10.4 m
REVIEWED BY:	COMPLETE: 00/09/01
Fig. No:	Page 1 of 1

00/12/14 09:00AM

SUBSURFACE EXPLORATION & TEST REPORT	SHAKWAK SEG 09	TEST HOLE NO: 576-868
ENGINEERING CAPITAL	KM 1674 RHS	Project No: 092-202101-0363
AIR ROTARY	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0								0.0
1.0	ROCK @ 1.1m -slow drilling -coarse rock chips							1.0
2.0								2.0
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0
7.0	END HOLE @ 6.7m Note: surface rock 10 & 15m rt -steep slope below test hole -H20 in hole 3 days after drilling							7.0
8.0								8.0
9.0								9.0
10.0								10.0
11.0								11.0
12.0								12.0
13.0								13.0
14.0								14.0
15.0								15.0
16.0								16.0

Government of Yukon
Transportation Engineering

LOGGED BY: G.C.	COMPLETION DEPTH: 6.7 m
REVIEWED BY:	COMPLETE: 00/09/01
Fig. No:	Page 1 of 1

00/12/14 09:00AM

SUBSURFACE EXPLORATION & TEST REPORT	SHAKWAK SEG 09	TEST HOLE NO: 576-869
ENGINEERING CAPITAL	KM 1674 RHS	Project No: 092-202101-0363
AIR ROTARY	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0								0.0
1.0	ROCK @ .61m –slow drilling –no large rock chips							1.0
2.0								2.0
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0
7.0								7.0
8.0								8.0
9.0								9.0
10.0								10.0
11.0	END HOLE @ 10.4m Note: no visible surface rock. –water in hole 3 days after drilling							11.0
12.0								12.0
13.0								13.0
14.0								14.0
15.0								15.0
16.0								16.0

Government of Yukon
Transportation Engineering

LOGGED BY: G.C.	COMPLETION DEPTH: 10.4 m
REVIEWED BY:	COMPLETE: 00/09/01
Fig. No:	Page 1 of 1

00/12/11 02:52PM

SUBSURFACE EXPLORATION & TEST REPORT	SHAKWAK SEG 09	TEST HOLE NO: 576-873
ENGINEERING CAPITAL	KM 1674 RHS	Project No: 092-202101-0363
AIR ROTARY	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0								0.0
1.0								1.0
2.0								2.0
3.0								3.0
4.0	ROCK @ 3.7m							4.0
5.0								5.0
6.0								6.0
7.0								7.0
8.0	-damp cuttings 7.3 to 9.1m -possibly sandstone -damp (moisture) -easy drilling							8.0
9.0	-dry dust below 9.1m							9.0
10.0								10.0
11.0	END HOLE @ 10.4m Note: test hole in gulley - water in hole imediately after drilling (5 min.)							11.0
12.0								12.0
13.0								13.0
14.0								14.0
15.0								15.0
16.0								16.0

Government of Yukon
Transportation Engineering

LOGGED BY: G.C.	COMPLETION DEPTH: 10.4 m
REVIEWED BY:	COMPLETE: 00/09/03
Fig. No:	Page 1 of 1

00/12/14 09:00AM

SUBSURFACE EXPLORATION & TEST REPORT	SHAKWAK SEG 09	TEST HOLE NO: 576-874
ENGINEERING CAPITAL	KM 1674 RHS	Project No: 092-202101-0363
AIR ROTARY	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0								0.0
1.0								1.0
	ROCK @ .1.5m							
2.0								2.0
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0
7.0								7.0
8.0								8.0
	ROCK CHIPS 8.5m TO 10.4m –brown –large chips 12.5mm							
9.0								9.0
10.0								10.0
	END HOLE @ 10.4m Note: visible rock 15m lt & 3m rt –visible surface rock 25m downchain on trail 50m rt of testhole #877 –water in hole 3 days after drilling							
11.0								11.0
12.0								12.0
13.0								13.0
14.0								14.0
15.0								15.0
16.0								16.0

Government of Yukon
Transportation Engineering

LOGGED BY: G.C.	COMPLETION DEPTH: 10.4 m
REVIEWED BY:	COMPLETE: 00/08/31
Fig. No:	Page 1 of 1

00/12/14 09:00AM

SUBSURFACE EXPLORATION & TEST REPORT	SHAKWAK SEG 09	TEST HOLE NO: 576-875
ENGINEERING CAPITAL	KM 1674 RHS	Project No: 092-202101-0363
AIR ROTARY	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0								0.0
1.0	ROCK @ 0.9m							1.0
2.0								2.0
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0
7.0								7.0
8.0								8.0
9.0								9.0
10.0								10.0
11.0	END HOLE @ 10.4m Note: Visible surface rock 5m from Testhole.							11.0
12.0								12.0
13.0								13.0
14.0								14.0
15.0								15.0
16.0								16.0

Government of Yukon
Transportation Engineering

LOGGED BY: G.C.	COMPLETION DEPTH: 10.4 m
REVIEWED BY:	COMPLETE: 00/08/31
Fig. No:	Page 1 of 1

00/12/14 08:59AM

SUBSURFACE EXPLORATION & TEST REPORT	SHAKWAK SEG 09	TEST HOLE NO: 576-876
ENGINEERING CAPITAL	KM 1674 RHS	Project No: 092-202101-0363
AIR ROTARY	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0								0.0
1.0								1.0
2.0								2.0
	ROCK @ 2.4m							
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0
7.0								7.0
8.0								8.0
9.0								9.0
10.0								10.0
	END HOLE @ 10.4m							
11.0	Note: last length of steel was wet when it was removed.							11.0
	-water in hole 5 mins after drilling							
12.0								12.0
13.0								13.0
14.0								14.0
15.0								15.0
16.0								16.0

Government of Yukon
Transportation Engineering

LOGGED BY: G.C.	COMPLETION DEPTH: 10.4 m
REVIEWED BY:	COMPLETE: 00/09/03
Fig. No:	Page 1 of 1

00/12/11 02:53PM

SUBSURFACE EXPLORATION & TEST REPORT	SHAKWAK SEG 09	TEST HOLE NO: 576-877
ENGINEERING CAPITAL	KM 1674 RHS	Project No: 092-202101-0363
AIR ROTARY	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0								0.0
1.0								1.0
	ROCK @ 1.5m							
2.0	-12.5mm rock chips							2.0
3.0								3.0
4.0								4.0
5.0								5.0
6.0	-brown dust & rock chips 6.1 to 7.3m							6.0
	-white dust below 7.3							
7.0								7.0
8.0	-brown seam @ 8.2m							8.0
9.0								9.0
10.0								10.0
	END HOLE @ 10.4m							
11.0	Note: Hole was dry after drilling							11.0
12.0								12.0
13.0								13.0
14.0								14.0
15.0								15.0
16.0								16.0

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Transportation Engineering

LOGGED BY: G.C.	COMPLETION DEPTH: 10.4 m
REVIEWED BY:	COMPLETE: 00/09/03
Fig. No:	Page 1 of 1

00/12/14 09:00AM

SUBSURFACE EXPLORATION & TEST REPORT	SHAKWAK SEG 09	TEST HOLE NO: 576-878
ENGINEERING CAPITAL	KM 1674 RHS	Project No: 092-202101-0363
AIR ROTARY	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0								0.0
1.0								1.0
2.0								2.0
3.0	ROCK -harder drilling than testhole #879 -slower drilling -coarse rock chips 12.5mm							3.0
4.0								4.0
5.0								5.0
6.0								6.0
7.0								7.0
8.0								8.0
9.0								9.0
10.0								10.0
11.0	END HOLE @ 10.4m Note: Water in hole 3 days after drilling.							11.0
12.0								12.0
13.0								13.0
14.0								14.0
15.0								15.0
16.0								16.0

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LOGGED BY: G.C.	COMPLETION DEPTH: 10.4 m
REVIEWED BY:	COMPLETE: 00/08/31
Fig. No:	Page 1 of 1

00/12/14 08:59AM

SUBSURFACE EXPLORATION & TEST REPORT	SHAKWAK SEG 09	TEST HOLE NO: 576-879
ENGINEERING CAPITAL	KM 1674 RHS	Project No: 092-202101-0363
AIR ROTARY	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ☰ BULK ▯ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0								0.0
1.0								1.0
2.0								2.0
3.0	-boulder @ 2.74m							3.0
4.0								4.0
5.0	ROCK @4.3m -white -drillers comment - rock was easy drilling							5.0
6.0								6.0
7.0								7.0
8.0								8.0
9.0								9.0
10.0	END HOLE @ 10.1m							10.0
11.0								11.0
12.0								12.0
13.0								13.0
14.0								14.0
15.0								15.0
16.0								16.0

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LOGGED BY: G.C.	COMPLETION DEPTH: 10.1 m
REVIEWED BY:	COMPLETE: 00/08/31
Fig. No:	Page 1 of 1

00/12/14 08:59AM

SUBSURFACE EXPLORATION & TEST REPORT	SHAKWAK SEG 09	TEST HOLE NO: 576-880
ENGINEERING CAPITAL	KM 1674 RHS	Project No: 092-202101-0363
AIR ROTARY	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SILT WITH SUB-ROUNDED GRAVEL							0.0
1.0								1.0
2.0								2.0
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0
7.0								7.0
8.0								8.0
9.0	ROCK @ 8.5m -large rock chips -hard slow drilling -driller comment - granite -grey to white							9.0
10.0								10.0
11.0								11.0
12.0								12.0
13.0								13.0
14.0	END HOLE @ 14.0m							14.0
15.0								15.0
16.0								16.0

Government of Yukon
Transportation Engineering

LOGGED BY: G.C.	COMPLETION DEPTH: 14.0 m
REVIEWED BY:	COMPLETE: 00/09/03
Fig. No:	Page 1 of 1

00/12/14 09:00AM

SUBSURFACE EXPLORATION & TEST REPORT	SHAKWAK SEG 09	TEST HOLE NO: 576-881
ENGINEERING CAPITAL	KM 1674 RHS	Project No: 092-202101-0363
AIR ROTARY	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID / 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0								0.0
1.0								1.0
2.0								2.0
3.0								3.0
4.0								4.0
5.0	BOULDER @ 4.6m –white – brown –(1500 pounds down press – soft rock)							5.0
6.0								6.0
7.0								7.0
8.0	WEATHERED ROCK –possibly wet –looked like wet coloured silt with rock chips							8.0
9.0								9.0
10.0								10.0
11.0								11.0
12.0								12.0
13.0	END HOLE @ 12.2m Note: Steel stuck – 45min to remove –Air rushing from hole for a couple minutes after removing steel.							13.0
14.0								14.0
15.0								15.0
16.0								16.0

Government of Yukon
Transportation Engineering

LOGGED BY: G.C.	COMPLETION DEPTH: 12.2 m
REVIEWED BY:	COMPLETE: 00/09/03
Fig. No:	Page 1 of 1

00/12/11 02:53PM

SUBSURFACE EXPLORATION & TEST REPORT	SHAKWAK SEG 09	TEST HOLE NO: 576-882
ENGINEERING CAPITAL	KM 1674 RHS	Project No: 092-202101-0363
AIR ROTARY	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0								0.0
1.0								1.0
▼	–water @ 1.5m – second length of steel							▼
2.0								2.0
3.0								3.0
4.0								4.0
5.0	ROCK @ 4.6m							5.0
6.0								6.0
7.0								7.0
8.0	–drillers comment was (very hard rock)							8.0
9.0								9.0
10.0								10.0
	END HOLE @ 10.4m							
11.0								11.0
12.0								12.0
13.0								13.0
14.0								14.0
15.0								15.0
16.0								16.0

Government of Yukon
Transportation Engineering

LOGGED BY: G.C.	COMPLETION DEPTH: 10.4 m
REVIEWED BY:	COMPLETE: 00/09/03
Fig. No:	Page 1 of 1

00/12/11 02:53PM

SUBSURFACE EXPLORATION & TEST REPORT	SHAKWAK SEG 09	TEST HOLE NO: 576-883
ENGINEERING CAPITAL	KM 1674 RHS	Project No: 092-202101-0363
AIR ROTARY	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN | S.P.T. | AUGER | BULK | TUBE | CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ROCK @ .05m							0.0
1.0								1.0
2.0								2.0
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0
7.0	END HOLE @ 6.7m -no water in hole							7.0
8.0								8.0
9.0								9.0
10.0								10.0
11.0								11.0
12.0								12.0
13.0								13.0
14.0								14.0
15.0								15.0
16.0								16.0

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Transportation Engineering

LOGGED BY: G.C.	COMPLETION DEPTH: 6.7 m
REVIEWED BY:	COMPLETE: 00/09/03
Fig. No:	Page 1 of 1

00/12/11 02:53PM

GRANULAR SOURCE TESTING
Km 1691.3 RHS
ALASKA HIGHWAY

HISTORY OF AGGREGATE PRODUCTION

Alaska Highway Km 1691.3 RHS (Silver City)
Pit ID. 115 G-07

Average Crusher Run Characteristics of Material Produced

File Number --- 2142-5-70 Contractor --- Nuway Crushing Ltd.
Stockpile ID --- n/a Commenced --- 92-06-04 Completed --- 92-06-05
Type of aggregate --- 20 mm B.S.T. Aggregate Type II
Amount Produced --- ± 2,500 m³ No. of tests --- 11

Sieve Size mm	- 20.0	12.5	10.0	5.00	2.50	1.25	0.315	0.080
Percent Passing	- 100	83.4	--	49.4	35.6	26.4	10.8	4.8

Moisture Content - 2.1 % Standard Proctor
Fracture - 70.9 % Kg/m³ @ % moisture

==========

File Number --- 2142-5-70 Contractor --- Nuway Crushing Ltd.
Stockpile ID --- n/a Commenced --- 92-06-04 Completed --- 92-06-06
Type of aggregate --- Granular A" Base Course
Amount Produced --- ± 4,800 m³ No. of tests --- 22

Sieve Size mm	- 20.0	12.5	10.0	5.00	2.50	1.25	0.315	0.080
Percent Passing	- 99.9	83.0	--	50.3	34.7	27.0	11.3	5.2

Moisture Content - 2.7 % Standard Proctor
Fracture - 64.3 % Kg/m³ @ % moisture

==========

File Number --- 2145-4 Contractor --- Nuway Crushing Ltd.
Stockpile ID --- n/a Commenced --- 94-03-22 Completed --- 94-03-26
Type of aggregate --- Granular "A" Base Course
Amount Produced --- 10,252 m³ No. of tests --- 36

Sieve Size mm	- 20.0	12.5	10.0	5.00	2.50	1.25	0.315	0.080
Percent Passing	- 100	85.5	--	59.0	--	34.4	13.8	5.9

Moisture Content - 2.4 % Standard Proctor
Fracture - 65.2 % Kg/m³ @ % moisture

==========

File Number --- 2145-4 Contractor --- Nuway Crushing Ltd.
Stockpile ID --- 1994-27 Commenced --- 94-03-26 Completed --- 94-03-31
Type of aggregate --- 20 mm B.S.T. Aggregate
Amount Produced --- 9,307 m³ No. of tests --- 40

Sieve Size mm	- 20.0	12.5	10.0	5.00	2.50	1.25	0.315	0.080
Percent Passing	- 100	72.6	--	36.3	26.2	19.0	6.4	4.8

Moisture Content - 1.6 % Standard Proctor
Fracture - 69.5 % Kg/m³ @ % moisture

==========

115 G-07 cont'd

File Number --- 2550-22/01-24 Contractor --- North American Roads (Nuway)
Stockpile ID --- n/a Commenced --- 01-07-14 Completed --- 01-08-02
Type of aggregate --- Granular "A" Base Course
Amount Produced --- ± 44,500 m³ No. of tests --- 105

Sieve Size mm	- 20.0	12.5	10.0	5.00	2.50	1.25	0.315	0.080
Percent Passing	- 100	87.2	--	52.9	38.5	28.4	11.7	5.9

Moisture Content - 2.2 % Standard Proctor
Fracture - 63.4 % 2246 Kg/m³ @ 7.4 % moisture

File Number --- 2550-22/01-24 Contractor --- North American Roads (Nuway)
Stockpile ID --- 2001-28 Commenced --- 01-07-26 Completed --- 01-08-01
Type of aggregate --- 20 mm B.S.T. Aggregate
Amount Produced --- ± 10,900 m³ No. of tests --- 38

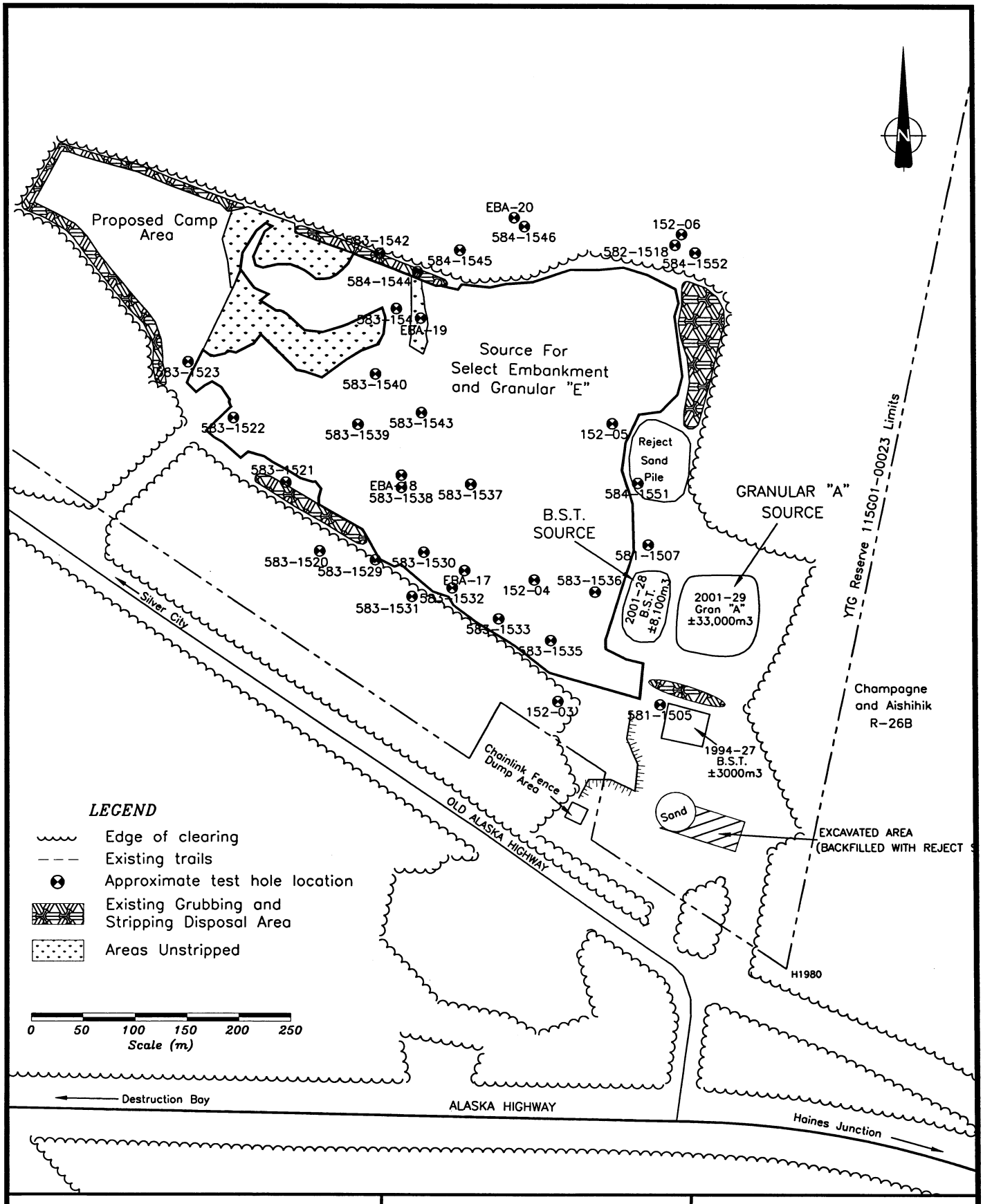
Sieve Size mm	- 20.0	12.5	10.0	5.00	2.50	1.25	0.315	0.080
Percent Passing	- 100	83.3	--	41.4	28.3	20.4	9.0	4.4

Moisture Content - 1.5 % Standard Proctor
Fracture - 61.6 % Kg/m³ @ % moisture

File Number --- 2550-22/01-24 Contractor --- North American Roads (Nuway
Stockpile ID --- 2001-29 Commenced --- 01-10-10 Completed --- 02-06-01
Type of aggregate --- Granular "A" Base Course
Amount Produced --- ± 37,200 m³ No. of tests --- 144

Sieve Size mm	- 20.0	12.5	10.0	5.00	2.50	1.25	0.315	0.080
Percent Passing	- 100	83.0	--	48.0	--	24.6	10.2	4.9

Moisture Content - 2.2 % Standard Proctor
Fracture - 66.1 % Kg/m³ @ % moisture
** 18,200 m³ produced in Fall 2001; 19,000 m³ produced in spring 2002



Yukon
Highways and Public Works

Transportation Engineering Branch

SITE PLAN
GRANULAR PIT
Km 1691.3 R.H.S.
(Silver City)
ALASKA HWY. YUKON

pit file:	115 G-07
revision:	03-Proposed
drawn:	JJM
date:	03-05-01
scale:	1: 5000
drwg:	115g-07S

Km 1691.3 RHS Alaska Highway #1
Pit Ident. 115 G-07
(Silver City)

February 2001
Book # 581-582
Test Hole 1505-1518

Auger Hole Logs

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST HOLE NO: 581-1505
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
D-4 CAT B40 L	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	GRAVEL -old stock pile base -seasonal frost to 0.6m -grindy drilling							0.0
1.0	SANDY SILT -brown, moist -smooth drilling	⊠	1	● ▲	GP-GM		◆ ■	1.0
2.0	POORLY TO WELL-GRADED GRAVEL WITH SILT & SAND (GP-GM)-(GW-GM) -brown -moist -grindy drilling							2.0
3.0	-coarser from 3 to 3.8m -maximum 100mm material augered up							3.0
4.0	-easier drilling from 3.8 to 4.8m -maximum 80mm material augered up							4.0
5.0	-smoother drilling below 4.8m							5.0
		⊠	2	● ▲	GW-GM		◆ ■	
6.0	SILTY SAND WITH GRAVEL (SM) -brown -wet -easy drilling							6.0
7.0								7.0
8.0	-saturated below 8.0m -smooth tight drilling below 8.2m -H20 @ 8.2m	⊠	3	● ▲	SM		■ ◆	8.0
9.0	END HOLE @ 8.8m							9.0
10.0								10.0

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Transportation Engineering

LOGGED BY: JM	COMPLETION DEPTH: 8.8 m
REVIEWED BY:	COMPLETE: 01/02/20
Fig. No: 115-G-07	Page 1 of 1

01/03/06 11:57AM

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST HOLE NO: 581-1507
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
D-4 CAT B40 L	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SANDY SILT							0.0
	POORLY GRADED GRAVEL WITH SILT & SAND TO POORLY GRADED GRAVEL WITH SAND (GP-GM)-(GP) -brown -damp -grindy drilling	⊠	6	◆▲	GP-GM		◆ ■	
1.0								1.0
2.0								2.0
3.0	-maximum 100mm material augered up							3.0
4.0		⊠	7	▲	GP		◆ ■	4.0
5.0	-maximum 70mm material augered up from below 5.0m							5.0
6.0								6.0
7.0								7.0
8.0	SILTY SAND WITH GRAVEL (SM) -wet -easier grindy drilling	⊠	8	◆▲	SM		■ ◆	8.0
9.0	END HOLE @ 8.8m Note: Spruce,poplar,willow cover							9.0
10.0								10.0

Government of Yukon Transportation Engineering	LOGGED BY: JM	COMPLETION DEPTH: 8.8 m
	REVIEWED BY:	COMPLETE: 01/02/20
	Fig. No: 115-G-07	Page 1 of 1

01/03/05 11:57AM

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST HOLE NO: 582-1518
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
D-4 CAT B40 L	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▥ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC							0.0
	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)							
	-brown							
1.0	-damp	⊠	41		GP-GM			1.0
	-grindy drilling							
2.0	-coarser material below 1.8m							2.0
	-no fines augering up below 1.8m - just maximum 50mm sub-angular gravels							
3.0								3.0
4.0								4.0
5.0								5.0
	SAND							
6.0	-smooth easy drilling below 5.4m							6.0
	-no sample recovered - material vibrated off flight							
7.0	-no evidance of change in moisture content							7.0
	END HOLE @ 7.6m							
8.0								8.0
9.0								9.0
10.0								10.0

Government of Yukon Transportation Engineering	LOGGED BY: D.T.	COMPLETION DEPTH: 7.6 m
	REVIEWED BY:	COMPLETE: 01/02/28
	Fig. No: 115-G-07	Page 1 of 1

01/03/27 03:50PM

Km 1691.3 RHS Alaska Highway #1
Pit Ident. 115 G-07
(Silver City)

February 2001
Book # 581-582
Test Hole 1505-1518

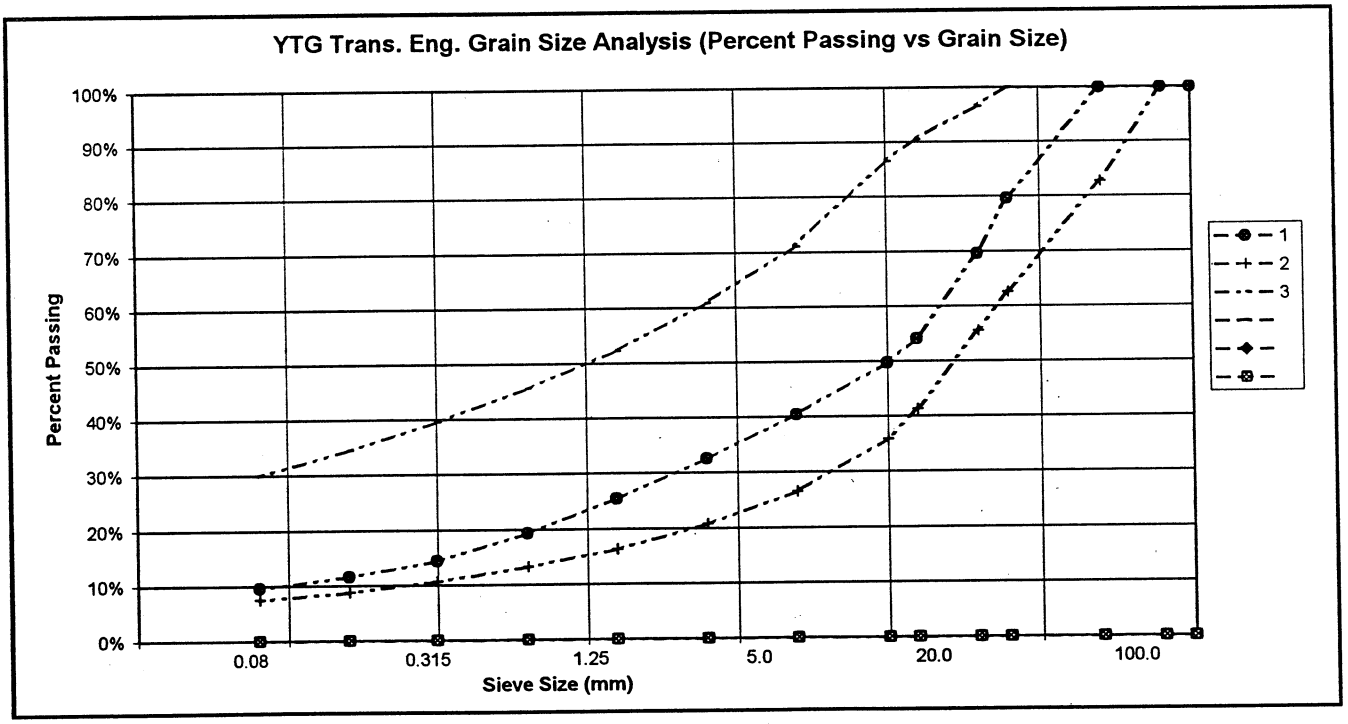
Auger Sample Results

PROJECT NUMBER: 092-202101-0363-1
CLIENT: ENGINEERING CAPITAL
PROJECT NAME: SHAKWAK SEG 09
PROJECT LOCATION: Silver Creek Reserve Km 1694 A/H
DRILL UNIT: MOBILE B40 L - D-4 CAT
HOLE LOCATION: SEE PLAN
LOGGED BY: J.M.

HOLE No.: 581-1505

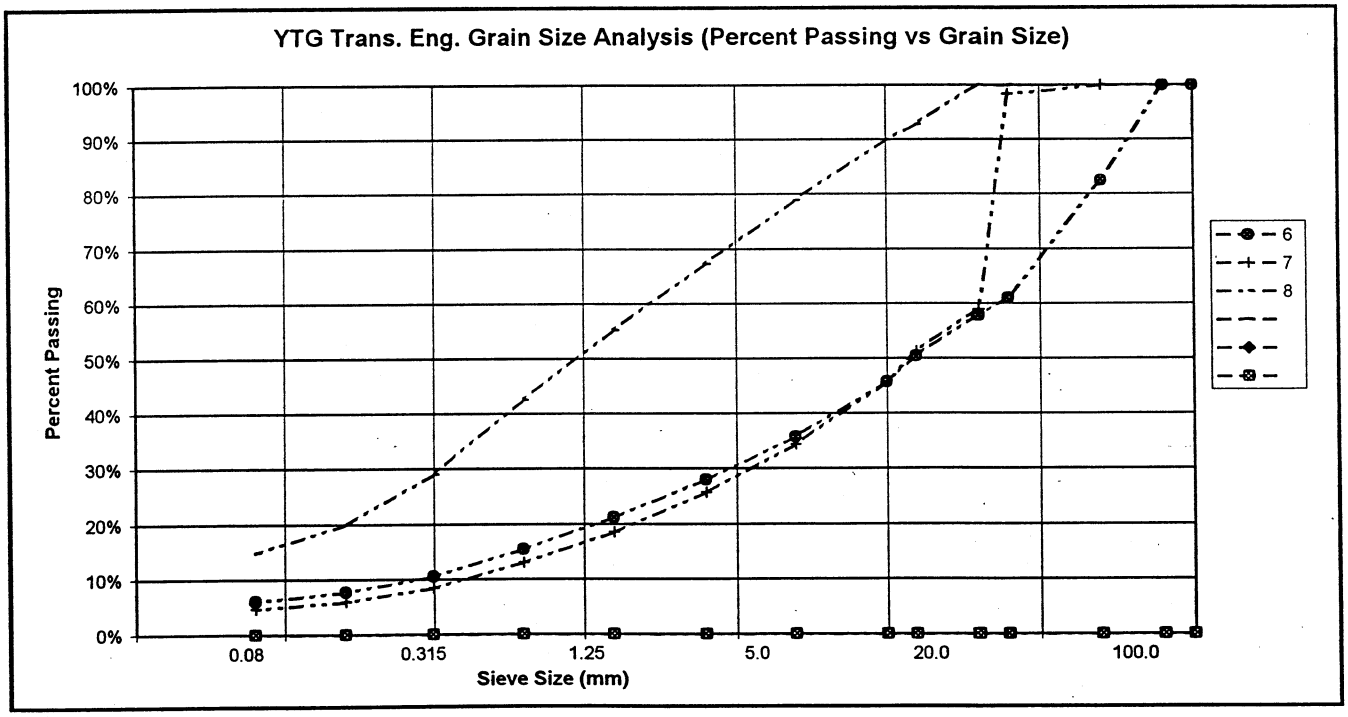
DATE COMP: 2000/02/20

FIELD NO:	1	2	3			
LAB NO:	1	2	3			
DEPTH:	1.0-1.2	5.2-5.8	8.2-8.8			
TYPE:	AUGER	AUGER	AUGER	AUGER		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	100%	83%	100%			
25.0	80%	63%	100%			
20.0	70%	55%	96%			
12.5	54%	41%	91%			
10.0	50%	36%	86%			
5.0	41%	26%	71%			
2.5	33%	21%	61%			
1.25	25%	16%	52%			
0.630	19%	13%	46%			
0.315	14%	11%	40%			
0.160	12%	9%	35%			
0.080	10%	8%	30%			
M.C.(%):	3%	2%	8%			
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	59	74	29			
% SAND:	31	19	41			
% FINES:	10	8	30			
CLASSIFICATION	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)	SILTY SAND WITH GRAVEL (SM)			



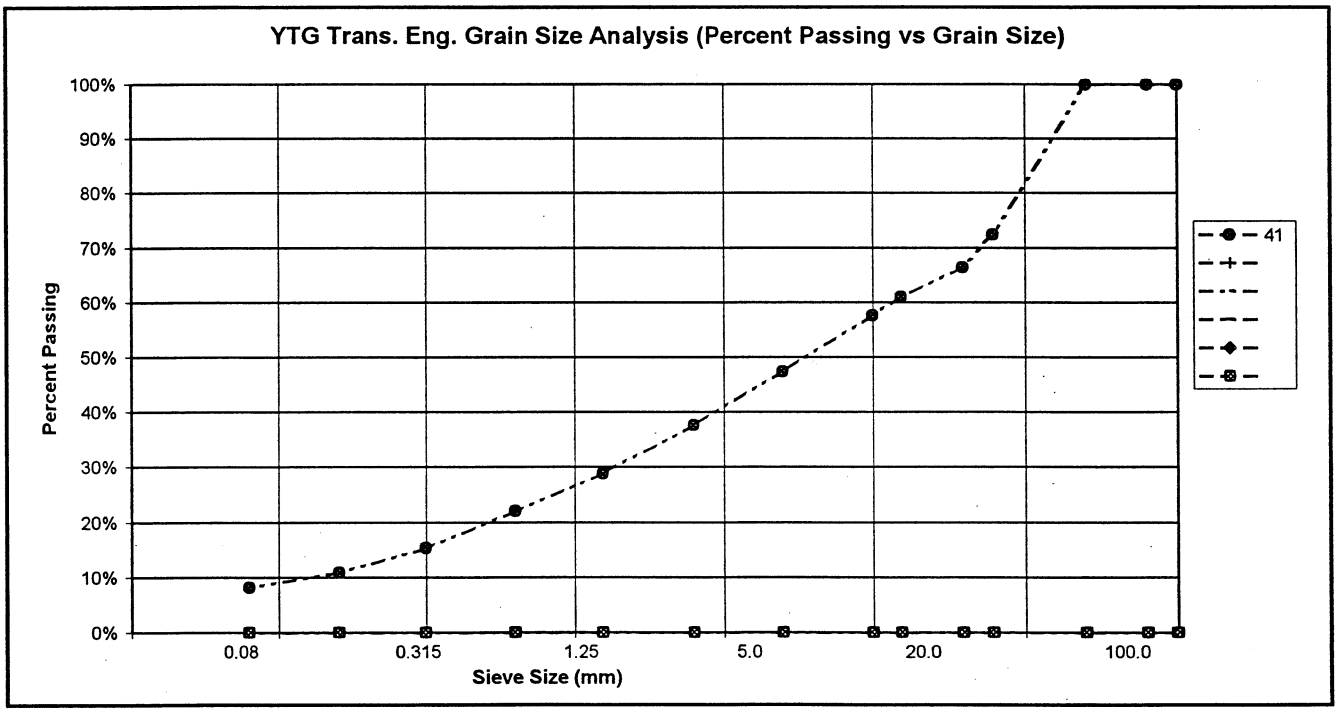
PROJECT NUMBER:	092-202101-0363-1		HOLE No.: 581-1507
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 09		
PROJECT LOCATION:	Silver Creek Reserve Km 1694 A/H		
DRILL UNIT:	MOBILE B40 L - D-4 CAT		
HOLE LOCATION:	SEE PLAN		
LOGGED BY:	J.M.		DATE COMP: 2000/02/20

FIELD NO:	6	7	8			
LAB NO:	6	7	8			
DEPTH:	0.8-1.2	3.6-4.3	8.2-8.8			
TYPE:	AUGER	AUGER	AUGER	AUGER		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	83%	100%	100%			
25.0	61%	98%	100%			
20.0	58%	59%	100%			
12.5	50%	51%	93%			
10.0	46%	46%	90%			
5.0	36%	34%	79%			
2.5	28%	26%	67%			
1.25	21%	19%	55%			
0.630	15%	13%	43%			
0.315	11%	8%	29%			
0.160	8%	6%	20%			
0.080	6%	5%	15%			
M.C.(%):	2%	2%	6%			
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	64	66	21			
% SAND:	30	30	64			
% FINES:	6	5	15			
CLASSIFICATION	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	POORLY GRADED GRAVEL WITH SAND (GP)	SILTY SAND WITH GRAVEL (SM)			



PROJECT NUMBER:	092-202101-0363-1		HOLE No.: 582-1518
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 09		
PROJECT LOCATION:	Silver Cr Reserve Km 1694 A/H		
DRILL UNIT:	D-4 CAT		
HOLE LOCATION:	SEE PLAN		
LOGGED BY:	D.T.		DATE COMP: 2001/02/28

FIELD NO:	41					
LAB NO:	41					
DEPTH:	1.1-1.3					
TYPE:	AUGER	AUGER	AUGER	AUGER		
SIEVE SIZE	PERCENT PASSING					
100.0	100%					
80.0	100%					
50.0	100%					
25.0	72%					
20.0	66%					
12.5	61%					
10.0	58%					
5.0	47%					
2.5	38%					
1.25	29%					
0.630	22%					
0.315	15%					
0.160	11%					
0.080	8%					
M.C.(%):	5%					
LIQUID LIMIT:	0.0					
PLASTIC LIMIT:	0.0					
PLASTIC INDEX.:	0.0					
% GRAVEL:	53					
% SAND:	39					
% FINES:	8					
CLASSIFICATION	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)					



Km 1691.3 RHS Alaska Highway #1
Pit Ident. 115 G-07
(Silver City)

November 1991
Book # 152
Test Hole 1 to 8

Test Pit Logs

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY GRANULAR INVESTIGATION	BOREHOLE No. 152-03
PWC/O&M YUKON	A/H KM 1692 RHS	Project No: 859167
BACKHOE: CASE 688	LOCATION: See Plan	ELEVATION 0.000 (m)

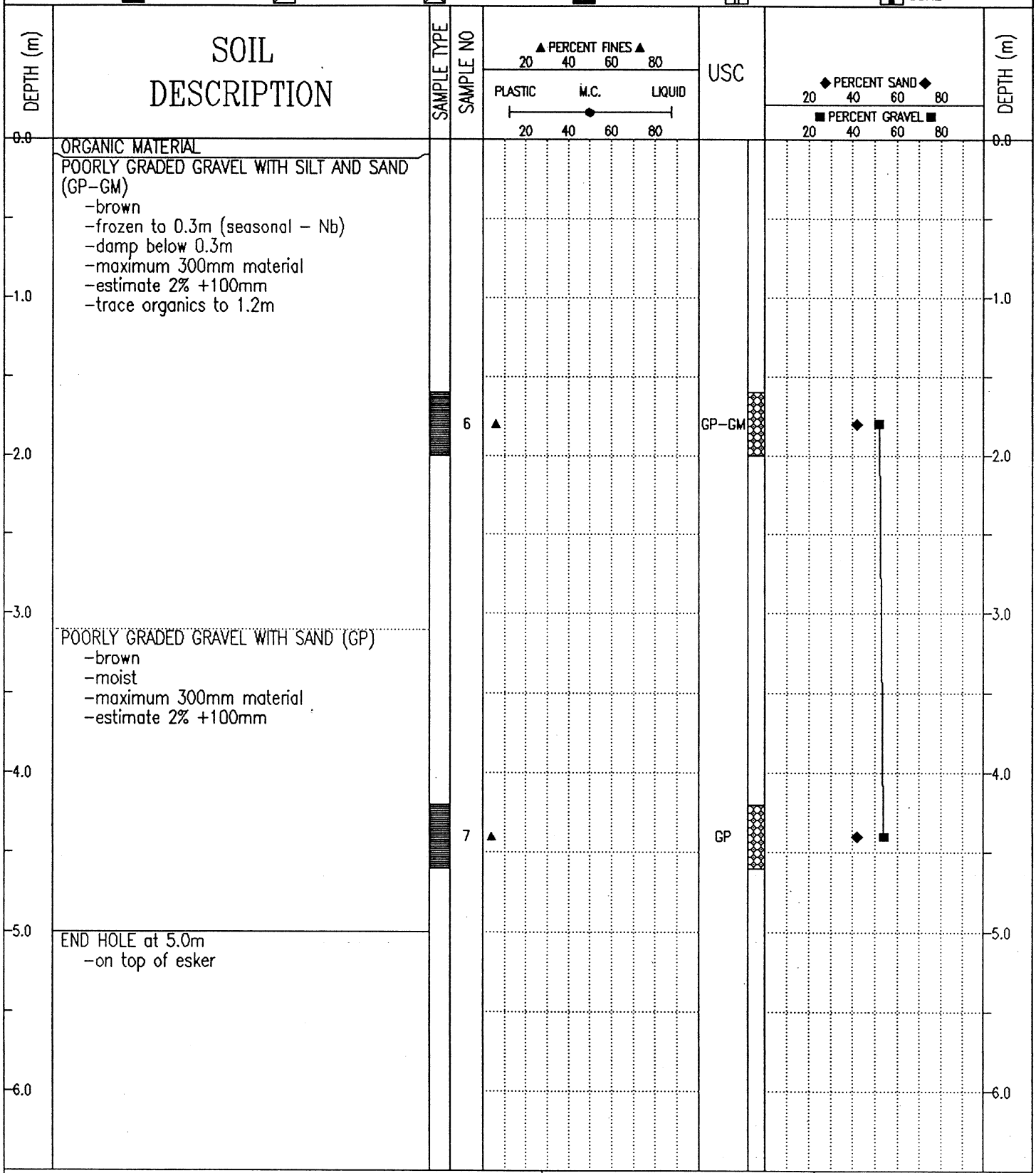
SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ▬ BULK ▯▯ TUBE ▮▯ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC MATERIAL						0.0
	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -frozen to 0.4m (seasonal - Nb) -maximum 150mm material -estimate 1% +100mm -damp below 0.4m -minor caving in below 0.4m -trace of organics from 0.1m to 2.0m	▬	5	▲	GP-GM	◆ ■	
1.0							1.0
2.0							2.0
3.0							3.0
4.0	END HOLE at 4.0m -on top of esker						4.0
5.0							5.0
6.0							6.0

Public Works Canada Whitehorse, Yukon Territory.	COMPLETION DEPTH 4.0 m	COMPLETE 91/11/05	
	LOGGED BY DT	DWG NO.	Page 1 of 1

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY GRANULAR INVESTIGATION	BOREHOLE No. 152-04
PWC/O&M YUKON	A/H KM 1692 RHS	Project No: 859167
BACKHOE: CASE 688	LOCATION: See Plan	ELEVATION 0.000 (m)

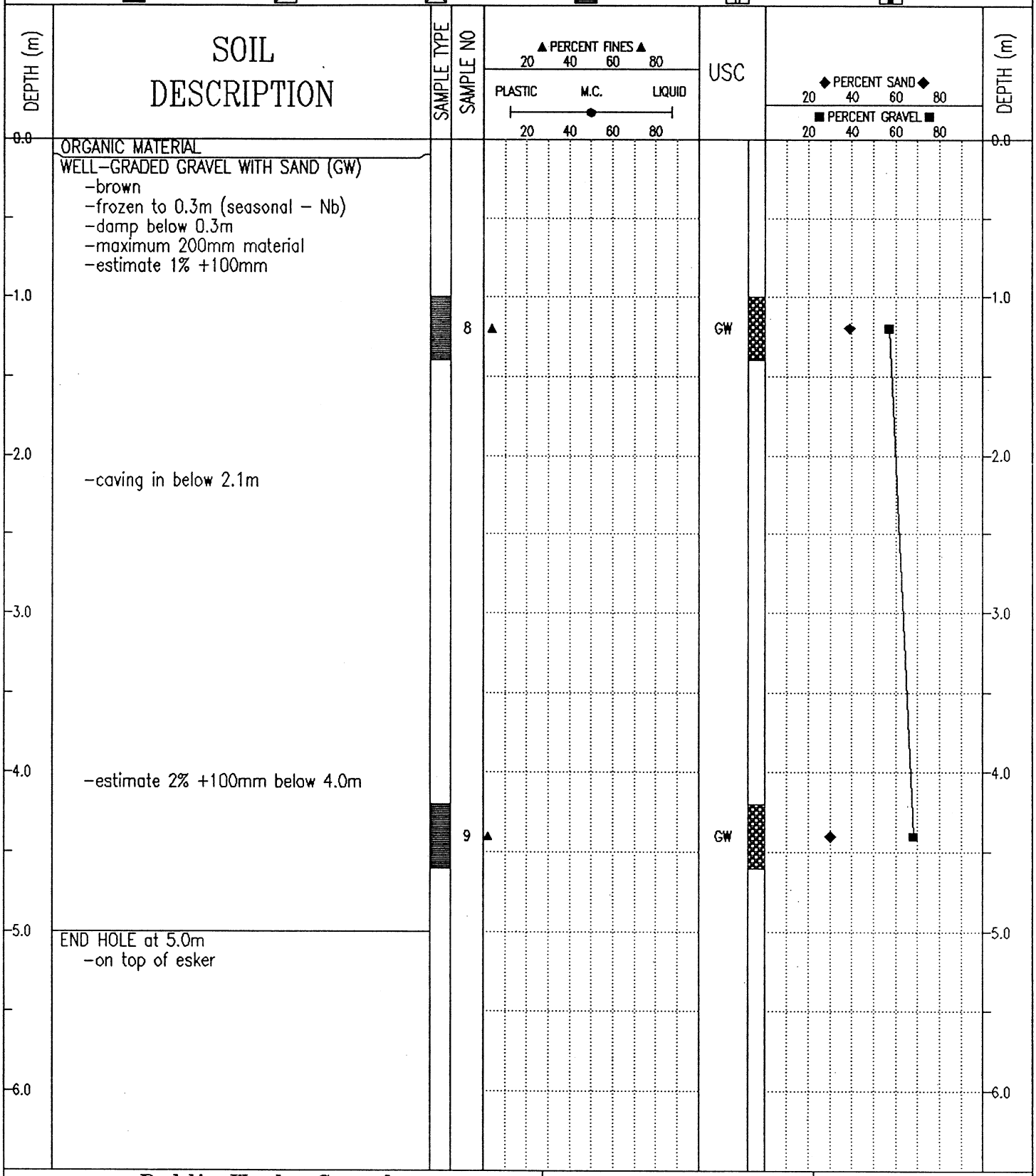
SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ■ BULK ▯ TUBE ▯ CORE



Public Works Canada Whitehorse, Yukon Territory.	COMPLETION DEPTH 5.0 m	COMPLETE 91/11/05
	LOGGED BY DT	DWG NO.	Page 1 of 1

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY GRANULAR INVESTIGATION	BOREHOLE No. 152-05
PWC/O&M YUKON	A/H KM 1692 RHS	Project No: 859167
BACKHOE: CASE 688	LOCATION: See Plan	ELEVATION 0.000 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ☒ AUGER ▬ BULK ▯ TUBE ▮ CORE



Public Works Canada Whitehorse, Yukon Territory.	COMPLETION DEPTH 5.0 m	COMPLETE 91/11/05
	LOGGED BY DT	DWG NO.	Page 1 of 1

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY GRANULAR INVESTIGATION	BOREHOLE No. 152-06
PWC/O&M YUKON	A/H KM 1692 RHS	Project No: 859167
BACKHOE: CASE 688	LOCATION: See Plan	ELEVATION 0.000 (m)

SAMPLE TYPE ■ RETURN ⧄ S.P.T. ⊠ AUGER ▬ BULK ▯▯ TUBE ▮▯ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC MATERIAL						0.0
	POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM) -brown -frozen to 0.4m (seasonal - Nb) -damp below 0.4m -maximum 100mm material						
1.0			10 ▲		SP-SM	■ ◆	1.0
2.0							2.0
3.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -damp -maximum 100mm material						3.0
4.0			11 ▲		GP-GM	◆ ■	4.0
5.0	END HOLE at 5.0m -on top of esker						5.0
6.0							6.0

Public Works Canada Whitehorse, Yukon Territory.	COMPLETION DEPTH 5.0 m	COMPLETE 91/11/05
	LOGGED BY DT	DWG NO.
		Page 1 of 1

Km 1691.3 RHS Alaska Highway #1
Pit Ident. 115 G-07
(Silver City)

November 1991
Book # 152
Test Hole 1 to 8

Pit Run Sample Results

PROJECT NUMBER:	859167	HOLE NUMBER:	152-03
CLIENT:	PWC/O&M YUKON		
PROJECT NAME:	ALASKA HIGHWAY GRANULAR INVESTIGATION		
PROJECT LOCATION:	115-G-07		
DRILL UNIT:	BACKHOE: CASE 688		
HOLE LOCATION:	SEE PLAN		
LOGGED BY:	DT	DATE COMPLETED:	91.11.05

FIELD NO: 5
LAB NO: 5403
DEPTH: 1.4-1.8
TYPE: BULK

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	100
38.1	90
25.4	83
19.0	76
12.7	67
9.5	62
4.76	50
2.38	--
2.00	37
1.19	--
0.841	28
0.595	--
0.42	20
0.297	--
0.177	--
0.149	11
0.074	6

M.C.(%): --

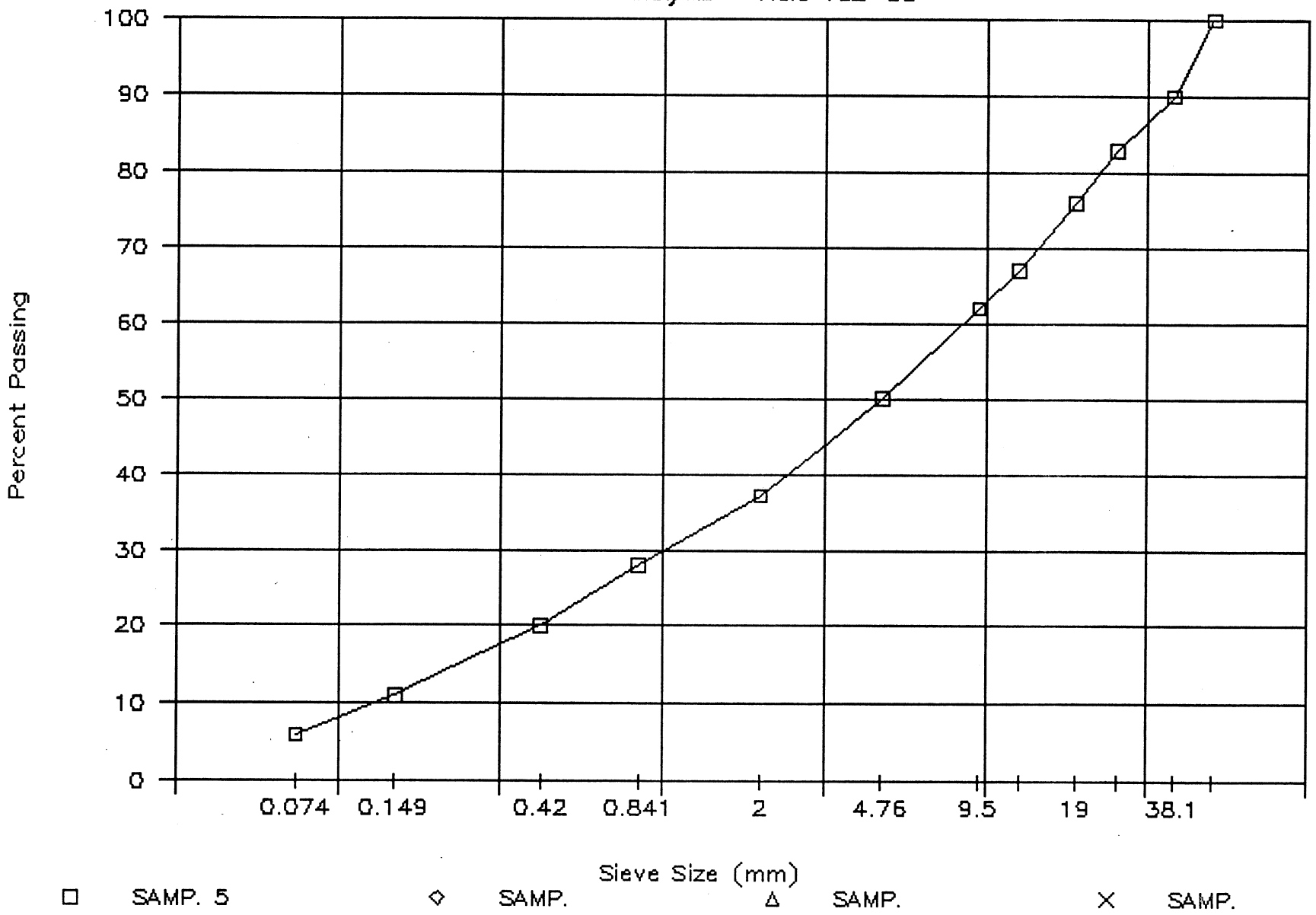
LIMITS
LIQUID: --
PLASTIC: --
P.I.: N.P.

% GRAVEL: 50
% SAND: 43
% FINES: 6

CLASSIFICATION:
POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)

PUBLIC WORKS CANADA — WHITEHORSE, Y.T.

Grain Size Analysis — Hole 152–03

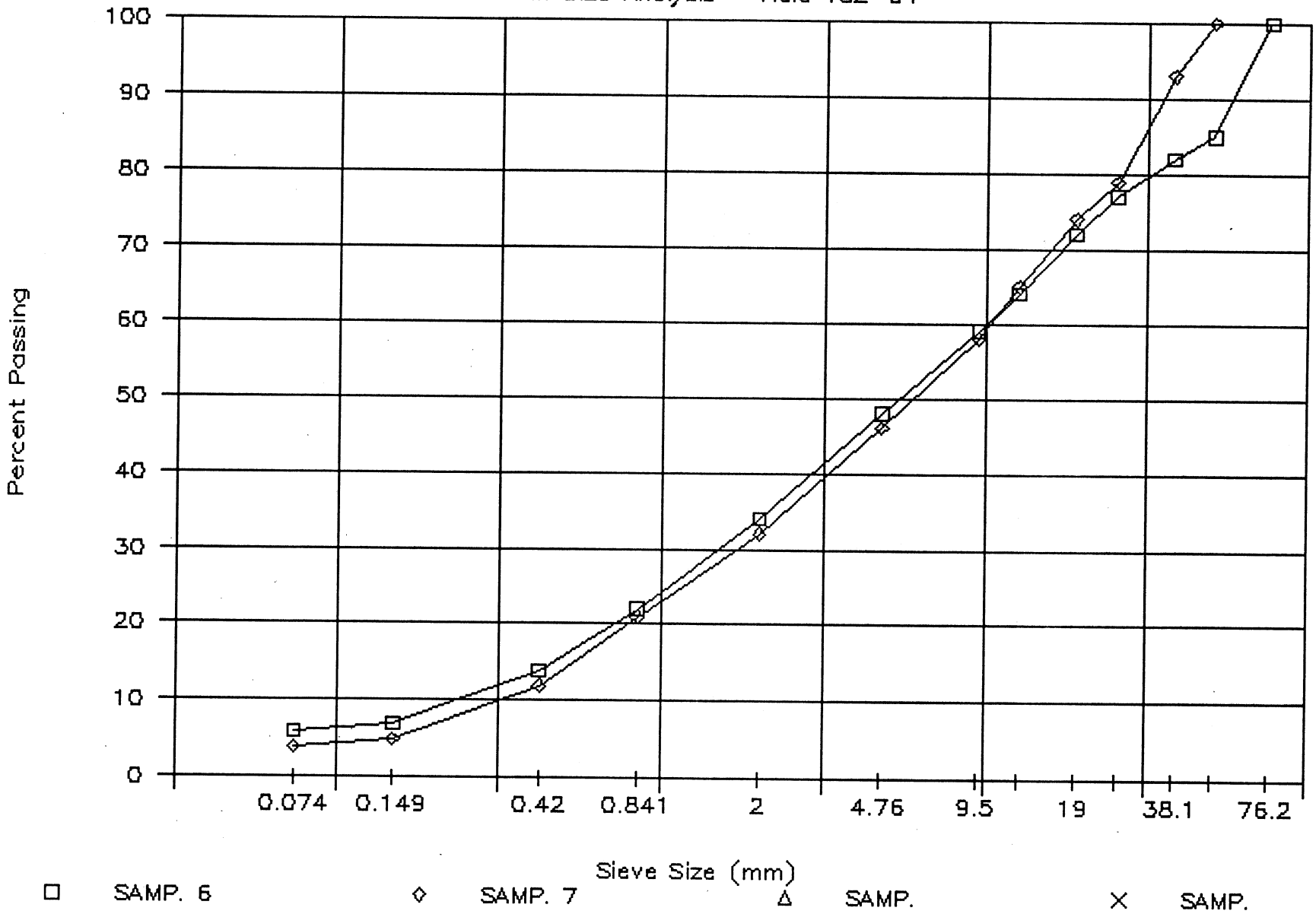


PROJECT NUMBER:	859167	HOLE NUMBER:	152-04
CLIENT:	PWC/O&M YUKON		
PROJECT NAME:	ALASKA HIGHWAY GRANULAR INVESTIGATION		
PROJECT LOCATION:	115-G-07		
DRILL UNIT:	BACKHOE: CASE 688		
HOLE LOCATION:	SEE PLAN		
LOGGED BY:	DT	DATE COMPLETED:	91.11.05

FIELD NO: 6		FIELD NO: 7	
LAB NO: 5404		LAB NO: 5405	
DEPTH: 1.6-2.0		DEPTH: 4.2-4.6	
TYPE: BULK		TYPE: BULK	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--
76.2	100	76.2	--
50.8	85	50.8	100
38.1	82	38.1	93
25.4	77	25.4	79
19.0	72	19.0	74
12.7	64	12.7	65
9.5	59	9.5	58
4.76	48	4.76	46
2.38	--	2.38	--
2.00	34	2.00	32
1.19	--	1.19	--
0.841	22	0.841	21
0.595	--	0.595	--
0.42	14	0.42	12
0.297	--	0.297	--
0.177	--	0.177	--
0.149	7	0.149	5
0.074	6	0.074	4
M.C.(%):	--	M.C.(%):	--
LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	52	% GRAVEL:	54
% SAND:	42	% SAND:	42
% FINES:	6	% FINES:	4
CLASSIFICATION: POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)		CLASSIFICATION: POORLY GRADED GRAVEL WITH SAND (GP)	

PUBLIC WORKS CANADA — WHITEHORSE, Y.T.

Grain Size Analysis — Hole 152–04

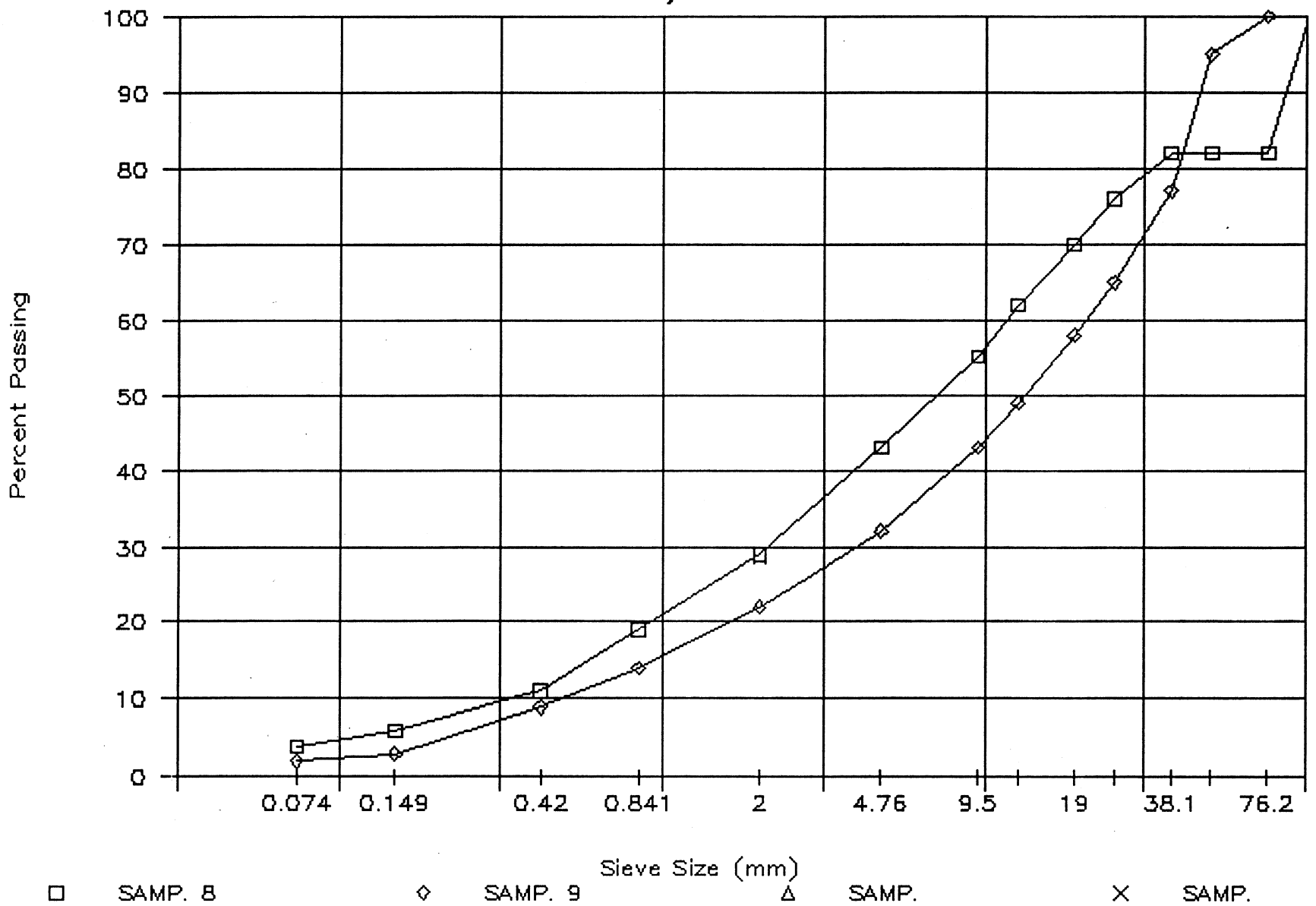


PROJECT NUMBER:	859167	HOLE NUMBER:	152-05
CLIENT:	PWC/O&M YUKON		
PROJECT NAME:	ALASKA HIGHWAY GRANULAR INVESTIGATION		
PROJECT LOCATION:	115-G-07		
DRILL UNIT:	BACKHOE: CASE 688		
HOLE LOCATION:	SEE PLAN		
LOGGED BY:	DT	DATE COMPLETED:	91.11.05

FIELD NO: 8		FIELD NO: 9	
LAB NO: 5406		LAB NO: 5407	
DEPTH: 1.0-1.4		DEPTH: 4.2-4.6	
TYPE: BULK		TYPE: BULK	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	100	101.6	--
76.2	82	76.2	100
50.8	82	50.8	95
38.1	82	38.1	77
25.4	76	25.4	65
19.0	70	19.0	58
12.7	62	12.7	49
9.5	55	9.5	43
4.76	43	4.76	32
2.38	--	2.38	--
2.00	29	2.00	22
1.19	--	1.19	--
0.841	19	0.841	14
0.595	--	0.595	--
0.42	11	0.42	9
0.297	--	0.297	--
0.177	--	0.177	--
0.149	6	0.149	3
0.074	4	0.074	2
M.C.(%):	--	M.C.(%):	--
LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	57	% GRAVEL:	68
% SAND:	39	% SAND:	30
% FINES:	4	% FINES:	2
CLASSIFICATION:		CLASSIFICATION:	
WELL-GRADED GRAVEL WITH SAND (GW)		WELL-GRADED GRAVEL WITH SAND (GW)	

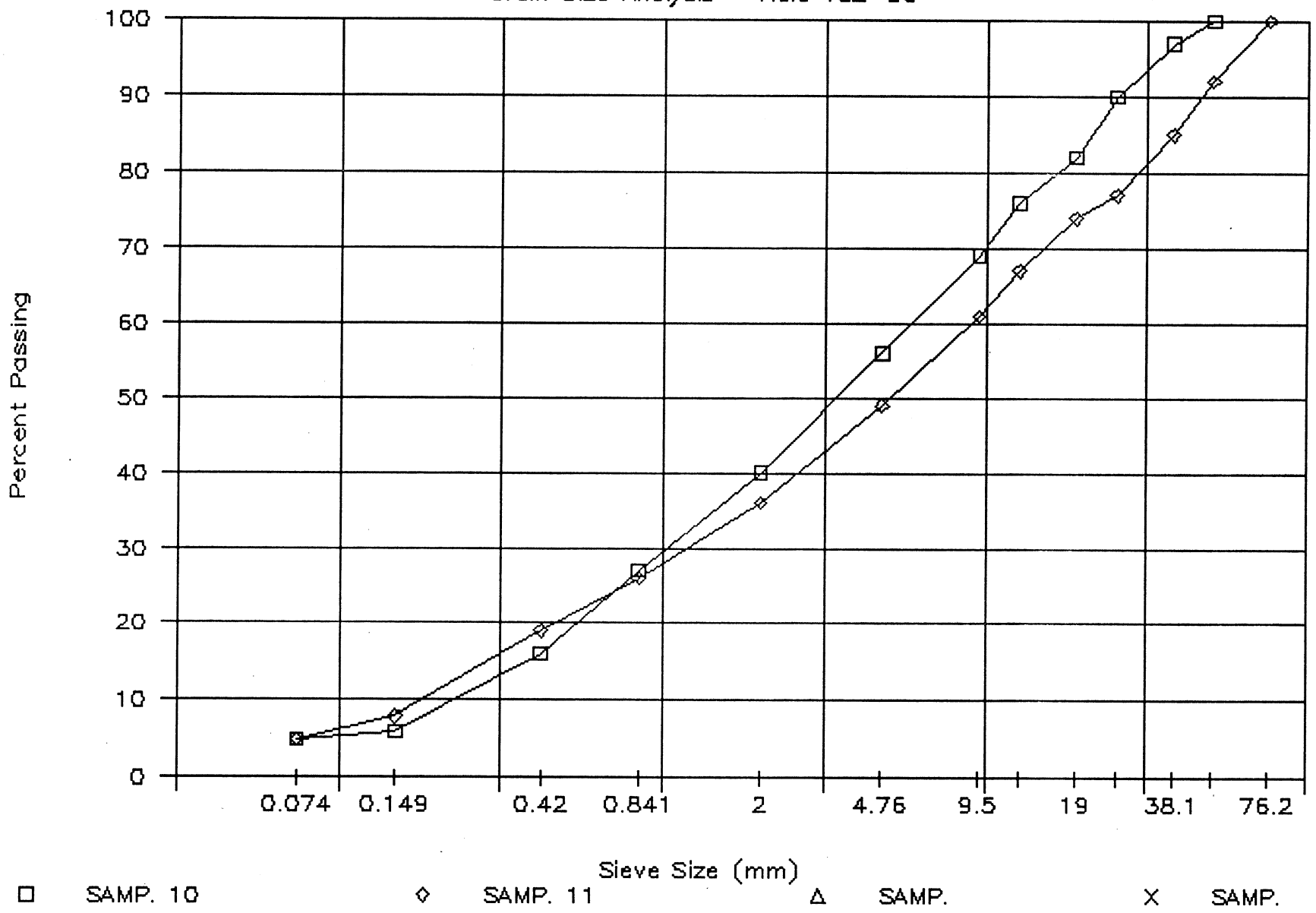
PUBLIC WORKS CANADA — WHITEHORSE, Y.T.

Grain Size Analysis — Hole 152–05



PUBLIC WORKS CANADA — WHITEHORSE, Y.T.

Grain Size Analysis — Hole 152–06



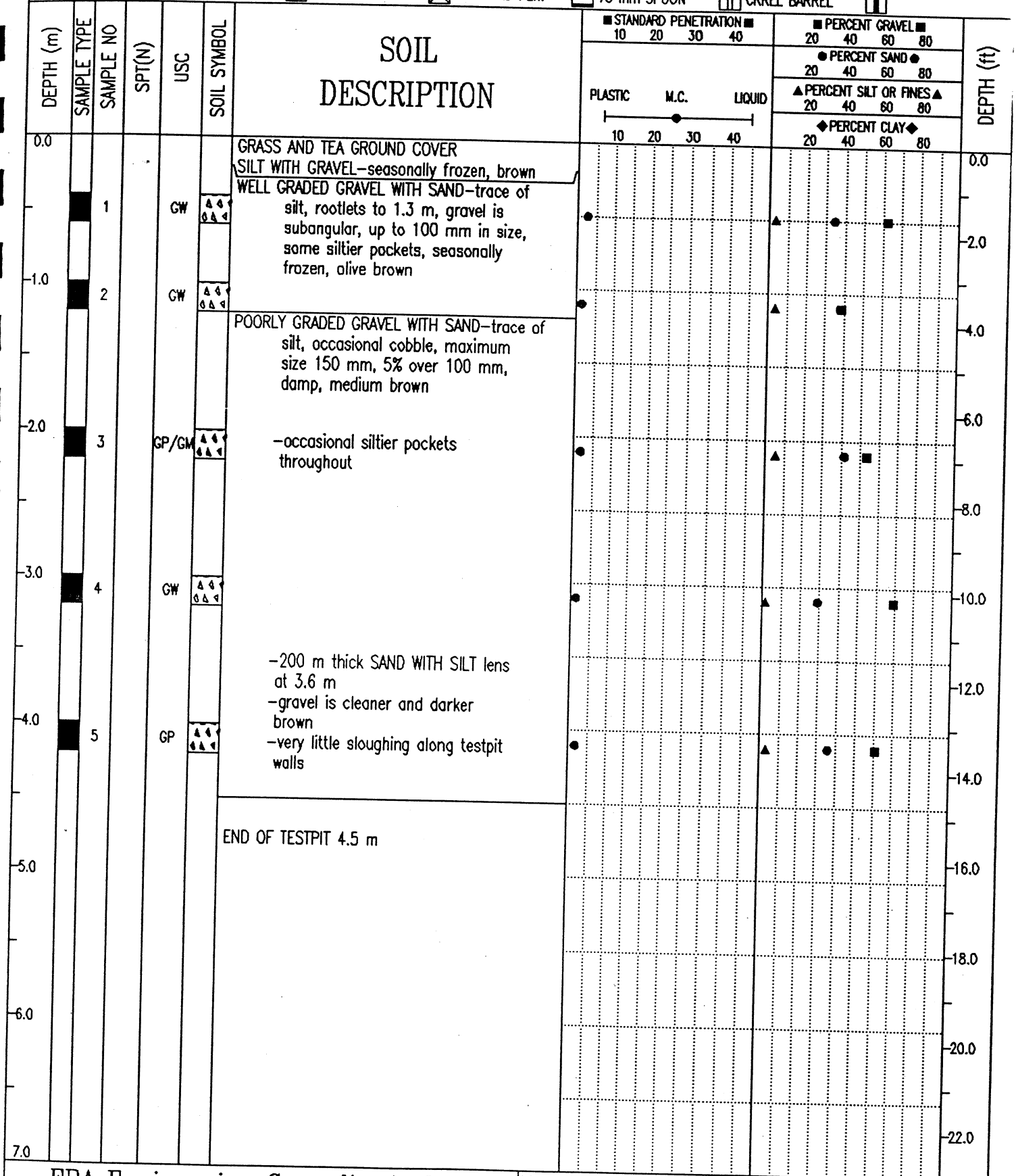
Km 1691.3 RHS Alaska Highway #1
Pit Ident. 115 G-07
(Silver City)

April 1992
Report GR-01-013
Test Hole 013E to 023E

Test Pit Logs
Pit Run Sample Results

GRANULAR SOURCE EVALUATION km 1693	CLIENT: YTG – TRANSPORTATION ENG.	BOREHOLE No: 92–017E
SILVER CITY AREA	HOE: CAT 225 TRACKED BACKHOE	Project No: 0201–10922
NORTH ALASKA HIGHWAY	UTM ZONE: 7 N6768443.00 E643978.00	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ GRAB SAMPLE ⊘ NO RECOVERY ⊠ STANDARD PEN. ▤ 75 mm SPOON ▥ CRREL BARREL



EBA Engineering Consultants Ltd. Whitehorse, Yukon	LOGGED BY: MCP	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/04/22
	Fig. No:	Page 1 of 1

EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: Granular Source Evaluation
km 1693 North Alaska Highway

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-017E

Depth: 0.6 m

Soil Description: WELL GRADED GRAVEL WITH SAND (GW)

Cu: 30

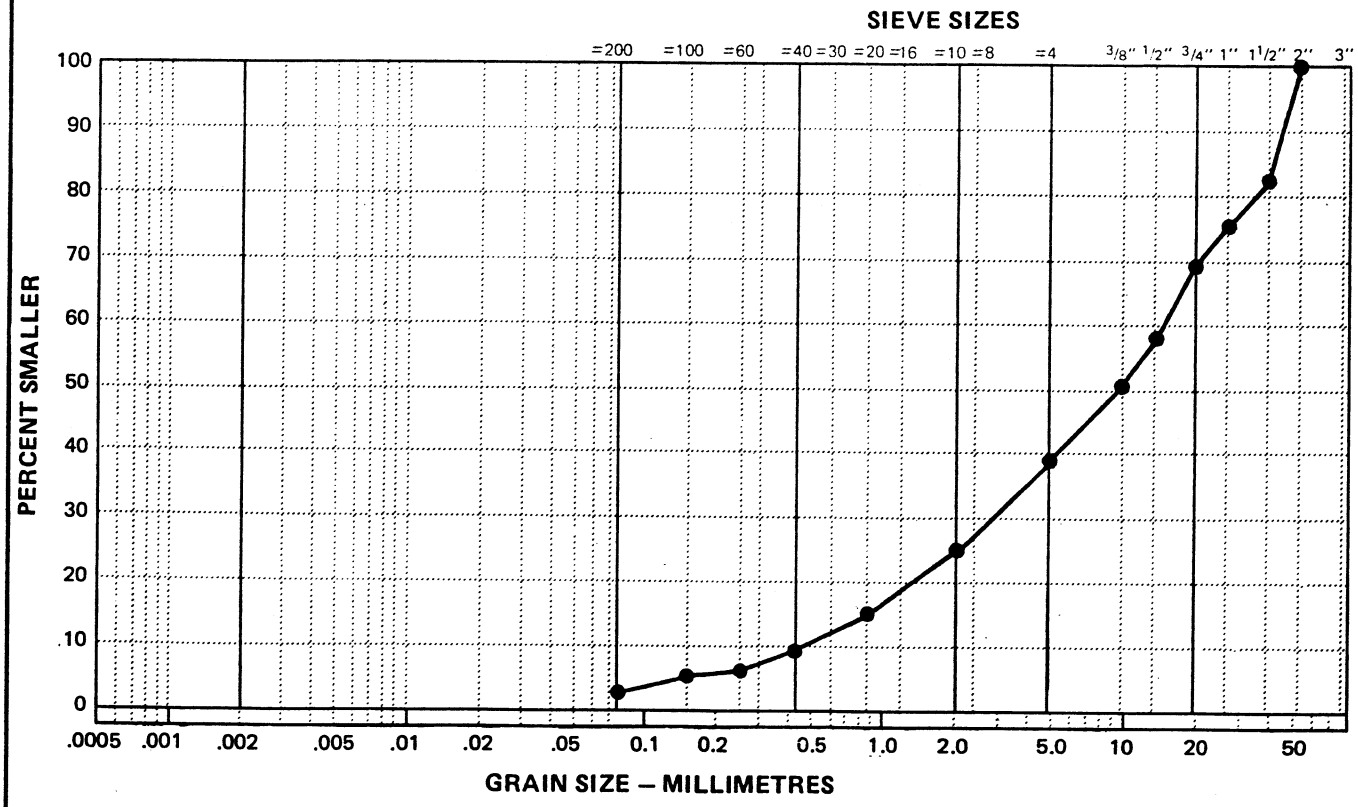
Cc: 1.2

Natural Moisture Content: 2.6 %

Remarks: Gravel 62.3%
Sand 34.3%
Silt 3.4%

SIEVE	PERCENTAGE PASSING
3"	
2"	100.0
1 1/2"	82.1
1"	75.5
3/4"	69.2
3/8"	50.8
No. 4	37.7
No. 10	24.7
No. 20	15.4
No. 40	9.1
No. 60	6.4
No. 100	4.8
No. 200	3.4

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



Data presented hereon is for the sole use of the stipulated client. EBA is not responsible, nor can be held liable, for use made of this report by any other party, with or without the knowledge of EBA.

The testing services reported herein have been performed by an EBA technician to recognized industry standards, unless otherwise noted. No other warranty is made. These data do not include or represent any interpretation or opinion of specification compliance or material suitability. Should engineering interpretation be required, EBA will provide it upon written request.

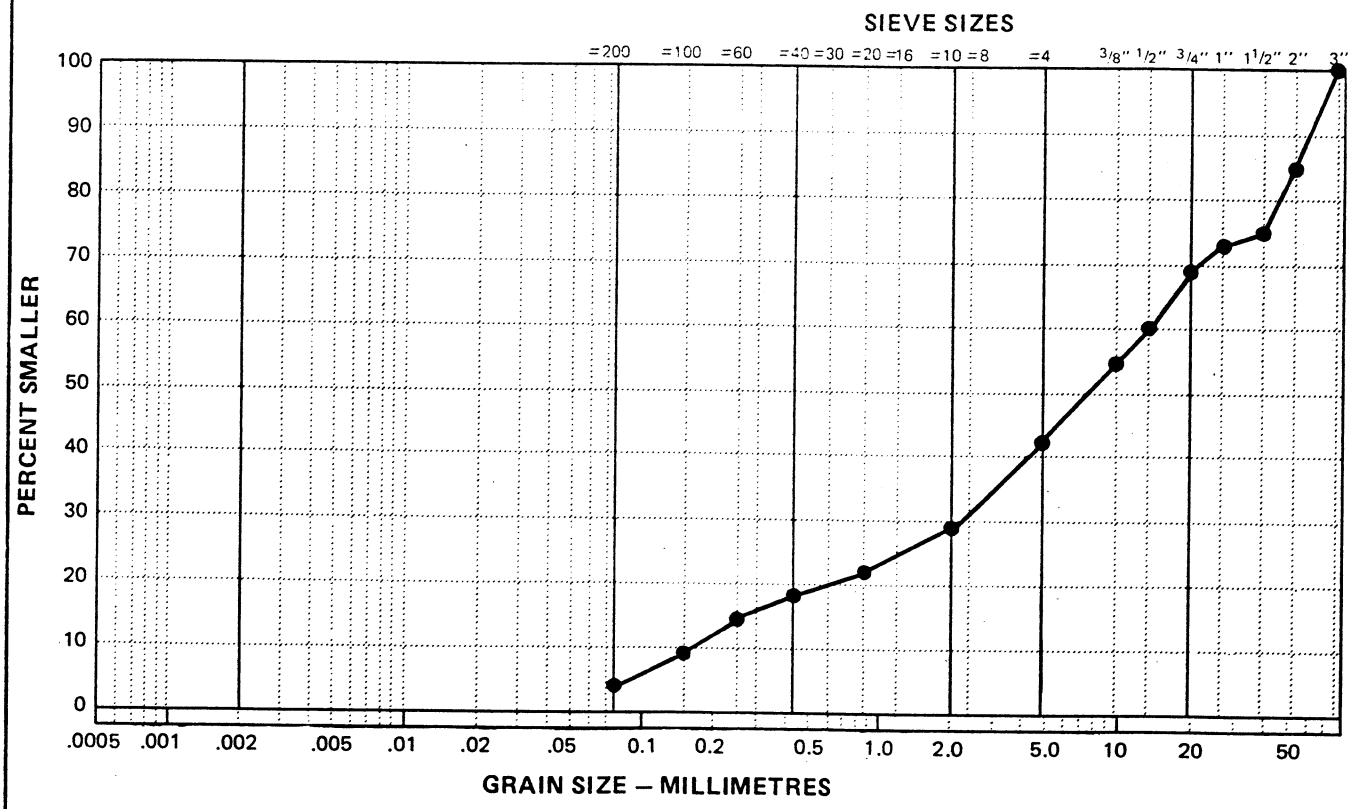
EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: Granular Source Evaluation
km 1693 North Alaska Highway
Project Number: 0201-10922
Date Tested: 92-04-29
Borehole Number: 92-017E
Depth: 1.0 m
Soil Description: WELL GRADED GRAVEL WITH SAND (GW)
Cu: 78
Cc: 2.3
Natural Moisture Content: 1.4 %
Remarks: Gravel 38.5%
Sand 37.8%
Silt 3.7%

SIEVE	PERCENTAGE PASSING
3"	100.0
2"	84.4
1 1/2"	74.8
1"	72.9
3/4"	69.4
3/8"	35.0
No. 4	41.5
No. 10	29.3
No. 20	22.0
No. 40	17.2
No. 60	13.5
No. 100	8.8
No. 200	3.7

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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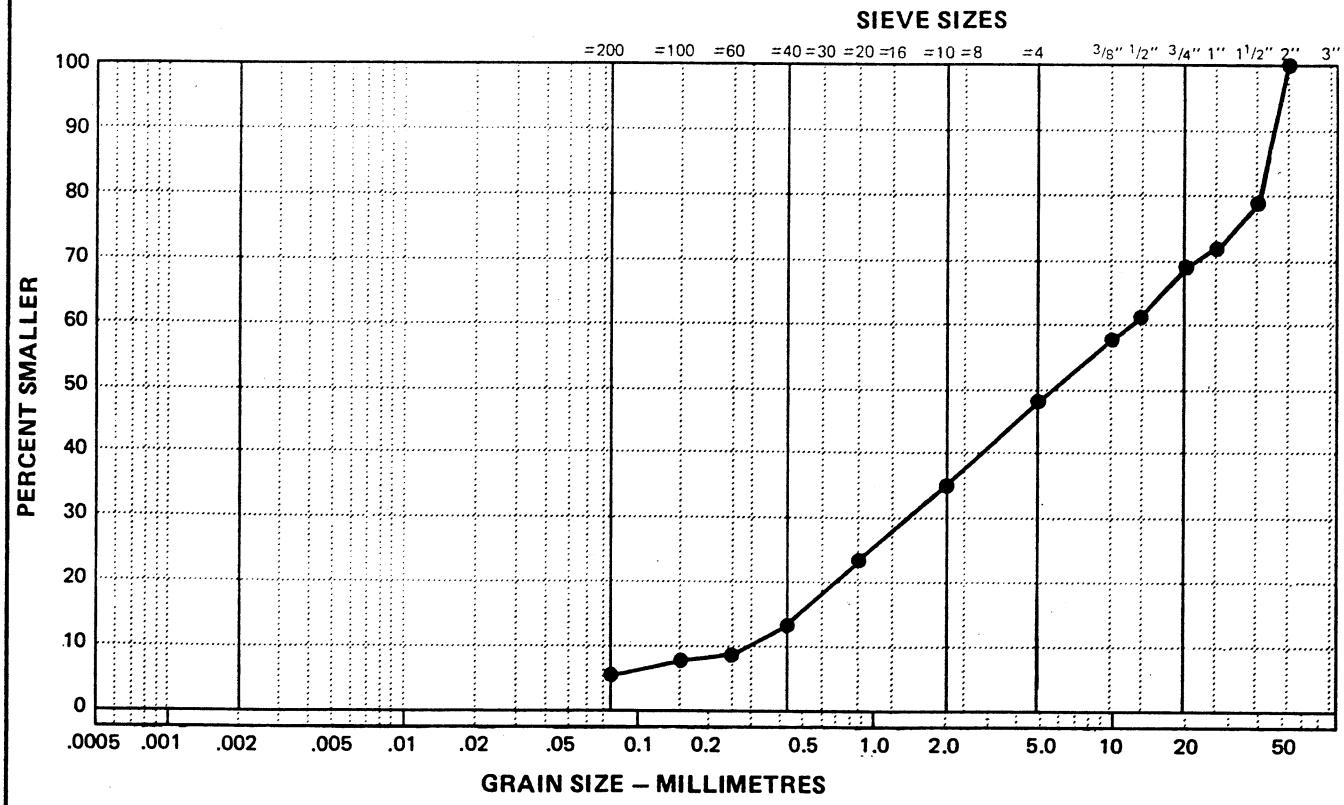
EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: Granular Source Evaluation
km 1693 North Alaska Highway, Yukon
Project Number: 0201-10922
Date Tested: 92-04-29
Borehole Number: 92-017E
Depth: 2.0 m
Soil Description: POORLY GRADED GRAVEL WITH SILT AND SAND
Cu: 43 (GP/GM)
Cc: 0.6
Natural Moisture Content: 1.8 %
Remarks: Gravel 53.3%
Sand 41.4%
Silt 5.3%

SIEVE	PERCENTAGE PASSING
3"	
2"	100.0
1 1/2"	78.4
1"	72.3
3/4"	69.0
3/8"	56.7
No. 4	46.7
No. 10	34.7
No. 20	22.9
No. 40	12.8
No. 60	8.4
No. 100	6.6
No. 200	5.3

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: Granular Source Evaluation
km 1693 North Alaska Highway, Yukon

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-017E

Depth: 3.0 m

Soil Description: WELL GRADED GRAVEL WITH SAND (GW)

Cu: 37

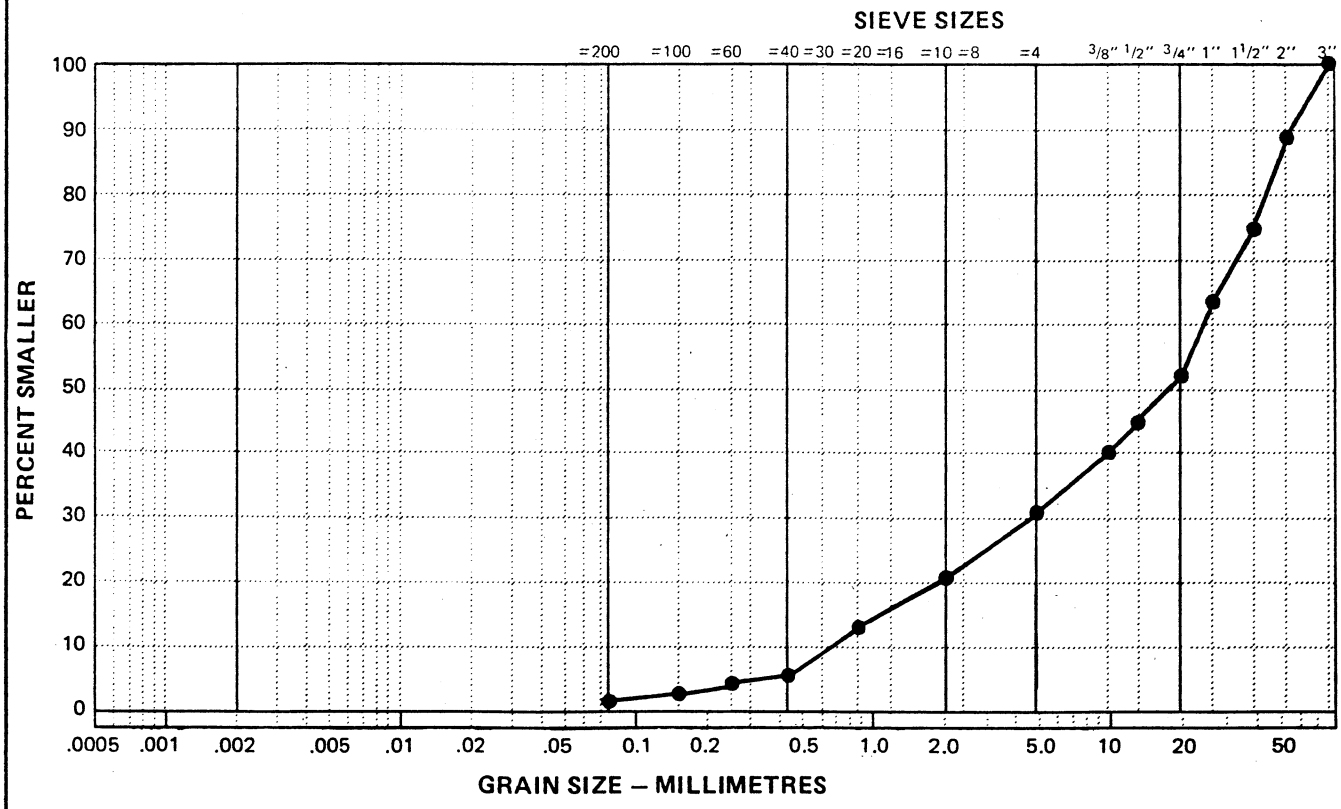
Cc: 1.2

Natural Moisture Content: 1.3 %

Remarks: Gravel 69.4%
Sand 28.9%
Silt 1.7%

SIEVE	PERCENTAGE PASSING
3"	100.0
2"	87.9
1 1/2"	75.2
1"	62.7
3/4"	52.2
3/8"	39.5
No. 4	30.6
No. 10	21.1
No. 20	12.7
No. 40	6.3
No. 60	3.6
No. 100	2.4
No. 200	1.7

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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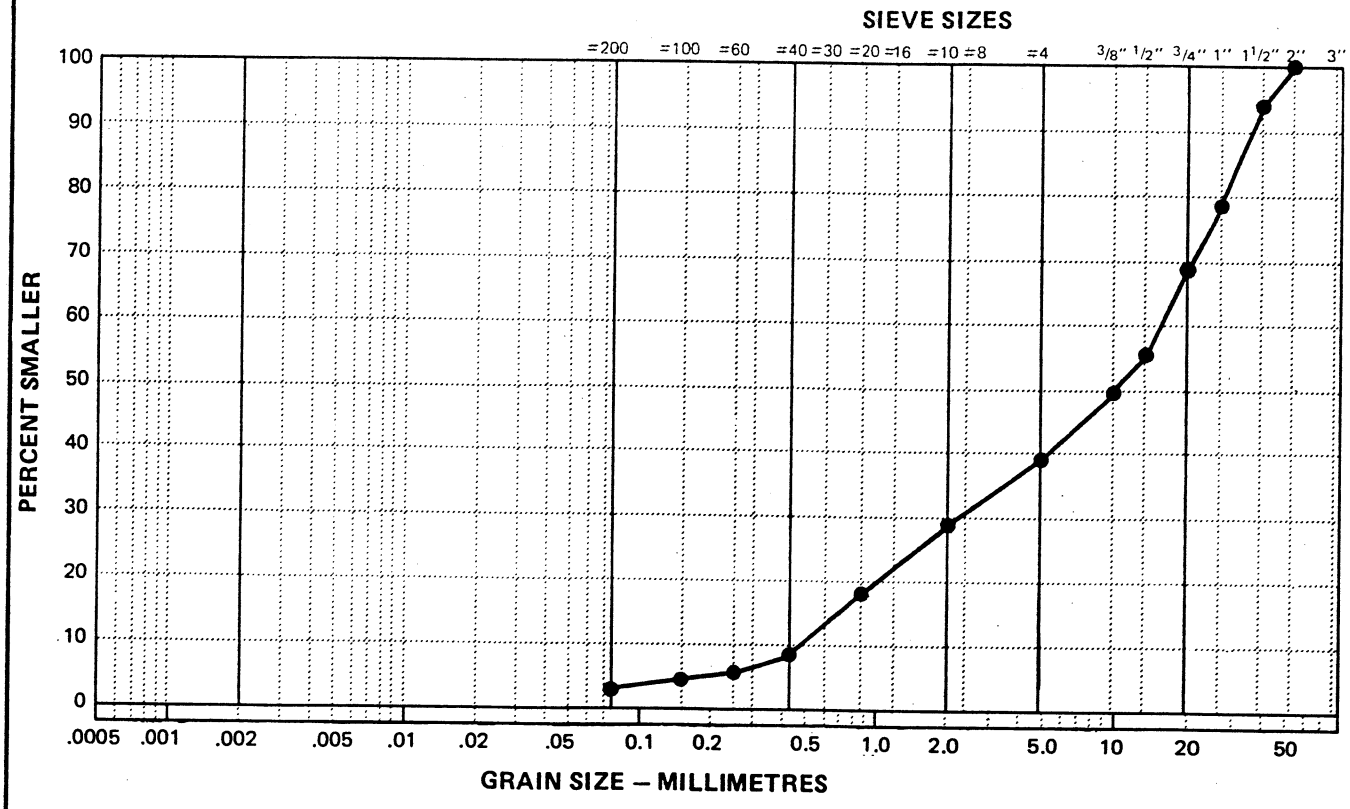
EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: Granular Source Evaluation
km 1693 North Alaska Highway
Project Number: 0201-10922
Date Tested: 92-04-29
Borehole Number: 92-017E
Depth: 4.0 m
Soil Description: POORLY GRADED GRAVEL WITH SAND (GP)
Cu: 32
Cc: 0.7
Natural Moisture Content: 1.8 %
Remarks: Gravel 60.9%
Sand 35.7%
Silt 3.4%

SIEVE	PERCENTAGE PASSING
3"	
2"	100.0
1 1/2"	93.9
1"	76.8
3/4"	67.8
3/8"	49.6
No. 4	39.1
No. 10	29.0
No. 20	17.1
No. 40	7.7
No. 60	5.0
No. 100	4.0
No. 200	3.4

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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GRANULAR SOURCE EVALUATION km 1693	CLIENT: YTG – TRANSPORTATION ENG.	BOREHOLE No: 92-018E
SILVER CITY AREA	HOE: CAT 225 TRACKED BACKHOE	Project No: 0201-10922
NORTH ALASKA HIGHWAY	UTM ZONE: 7 N6768517.00 E644046.00	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ GRAB SAMPLE ⊘ NO RECOVERY ⊠ STANDARD PEN. ▤ 75 mm SPOON ▥ CRREL BARREL

DEPTH (m)	SAMPLE TYPE	SAMPLE NO	SPT(N)	USC	SOIL SYMBOL	SOIL DESCRIPTION
0.0						SPARSE GRASS GROUND COVER ORGANICS AND SILT–seasonally frozen, dark brown
	■	1		GP		SILT WITH GRAVEL–some sand, rootlets to 0.7 m, seasonally frozen, greyish brown
1.0	■	2		GP		POORLY GRADED GRAVEL WITH SAND–trace of silt, occasional cobble to 150 mm maximum size, less than 5% over 100 mm, gravel is well graded, sand is medium to coarse, seasonally frozen to 2.0 m, discontinuous silty lenses of gravel at 1.3 m and 2.7 m
2.0	■	3		GW		
3.0	■	4		SP/SM		POORLY GRADED SAND WITH SILT–medium to fine grained, damp, brown
						POORLY GRADED SAND WITH GRAVEL–trace of silt, medium to coarse, damp, brown
4.0	■	5		SP		
						END OF TESTPIT 4.5 m
5.0						
6.0						
7.0						

■ STANDARD PENETRATION ■ 10 20 30 40

PLASTIC M.C. LIQUID 10 20 30 40

■ PERCENT GRAVEL ■ 20 40 60 80

● PERCENT SAND ● 20 40 60 80

▲ PERCENT SILT OR FINES ▲ 20 40 60 80

◆ PERCENT CLAY ◆ 20 40 60 80

DEPTH (ft) 0.0 2.0 4.0 6.0 8.0 10.0 12.0 14.0 16.0 18.0 20.0 22.0

EBA Engineering Consultants Ltd. Whitehorse, Yukon	LOGGED BY: MCP	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/04/22
	Fig. No:	Page 1 of 1

EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: Granular Source Evaluation
km 1693 North Alaska Highway, Yukon

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-018E

Depth: 0.5 m

Soil Description: POORLY GRADED GRAVEL WITH SAND (GP)

Cu: 71.4

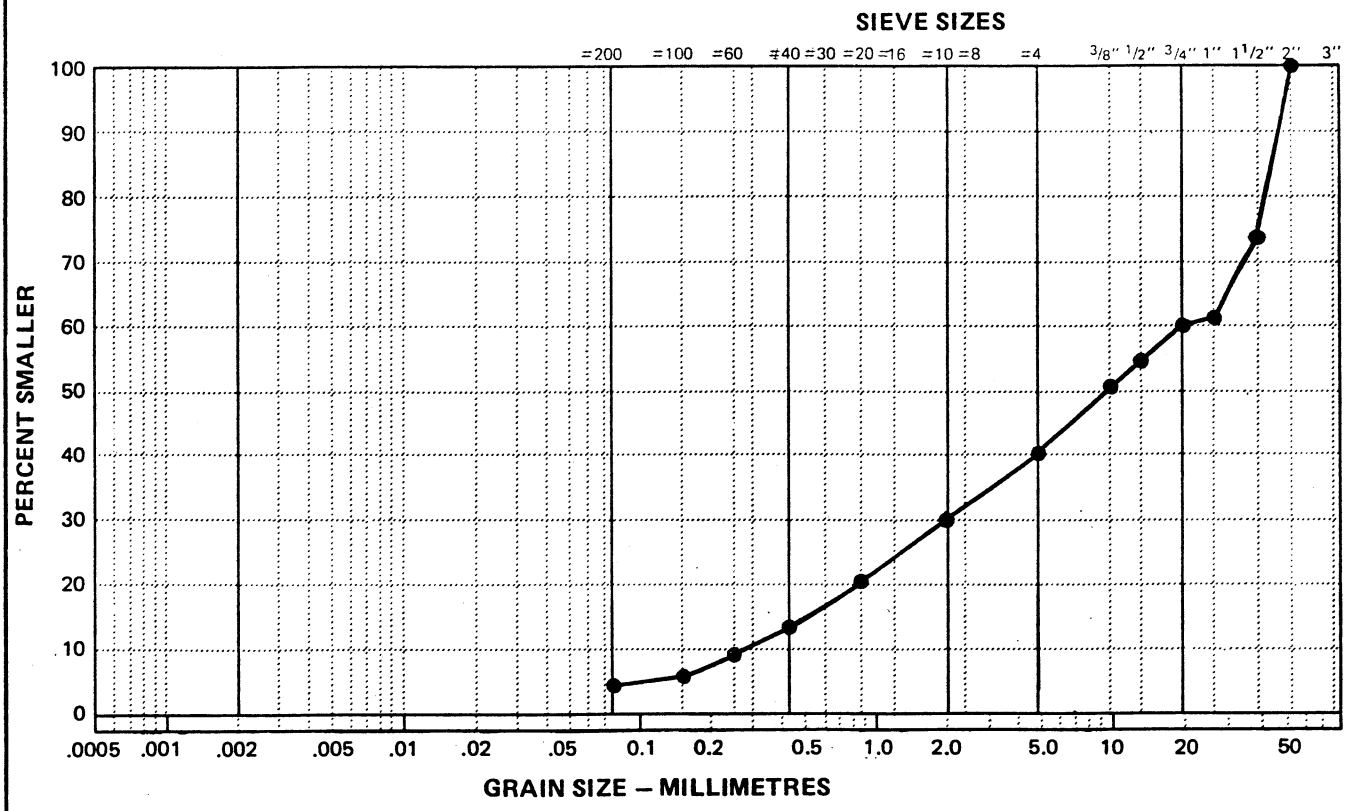
Cc: 0.7

Natural Moisture Content: 4.4 %

Remarks: Gravel 59.6%
Sand 35.8%
Silt 4.6%

SIEVE	PERCENTAGE PASSING
3"	
2"	100.0
1 1/2"	72.7
1"	60.8
3/4"	60.0
3/8"	50.7
No. 4	40.4
No. 10	29.7
No. 20	20.9
No. 40	13.1
No. 60	8.7
No. 100	6.4
No. 200	4.6

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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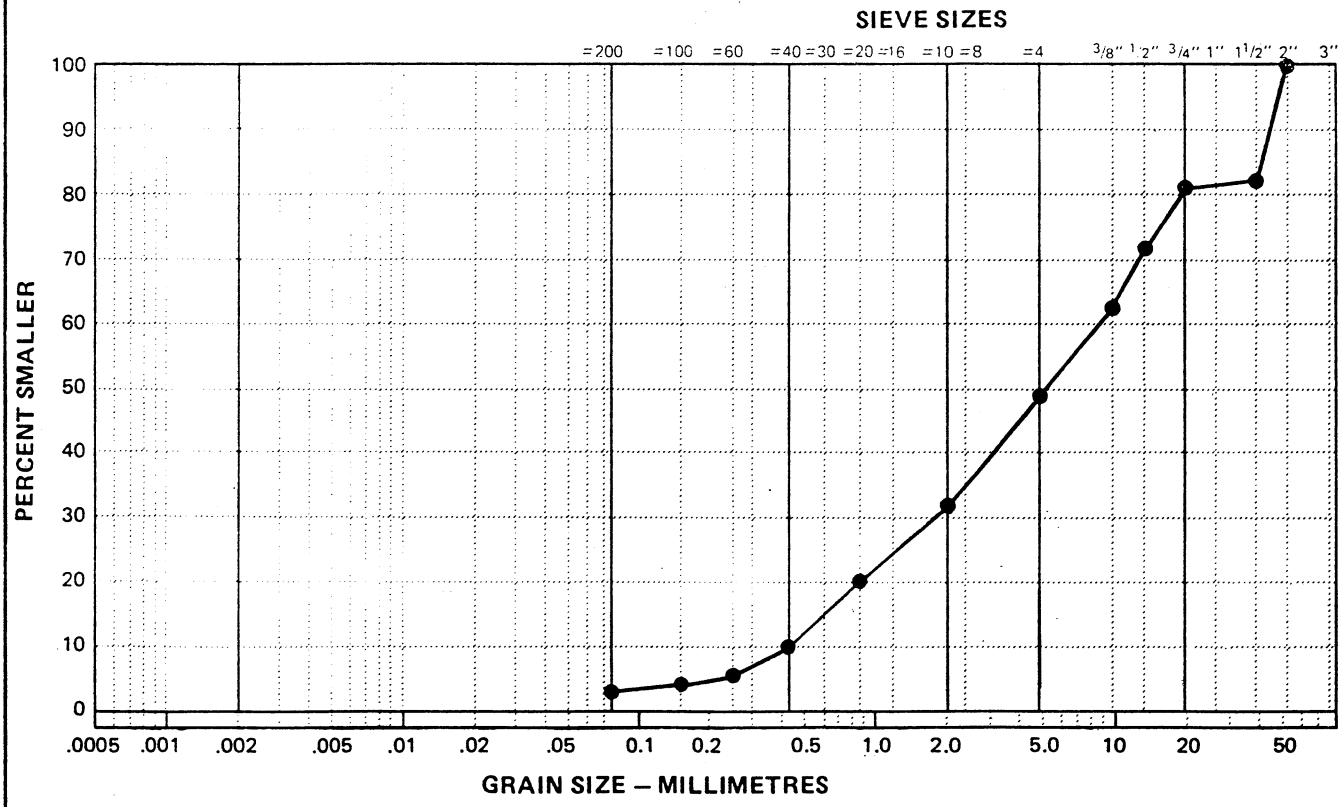
EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: Granular Source Evaluation
km 1693 North Alaska Highway, Yukon
Project Number: 0201-10922
Date Tested: 92-04-29
Borehole Number: 92-018E
Depth: 1.0 m
Soil Description: POORLY GRADED GRAVEL WITH SAND (GP)
Cu: 20
Cc: 0.8
Natural Moisture Content: 4.8 %
Remarks: Gravel 51.2%
Sand 46.0%
Silt 2.8%

SIEVE	PERCENTAGE PASSING
3"	
2"	100.0
1 1/2"	82.4
1"	
3/4"	80.7
3/8"	63.2
No. 4	48.8
No. 10	32.1
No. 20	19.7
No. 40	10.2
No. 60	5.8
No. 100	3.9
No. 200	2.8

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: Granular Source Evaluation
km 1693 North Alaska Highway, Yukon

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-018E

Depth: 2.0 m

Soil Description: WELL GRADED GRAVEL WITH SAND (GW)

Cu: 21.4

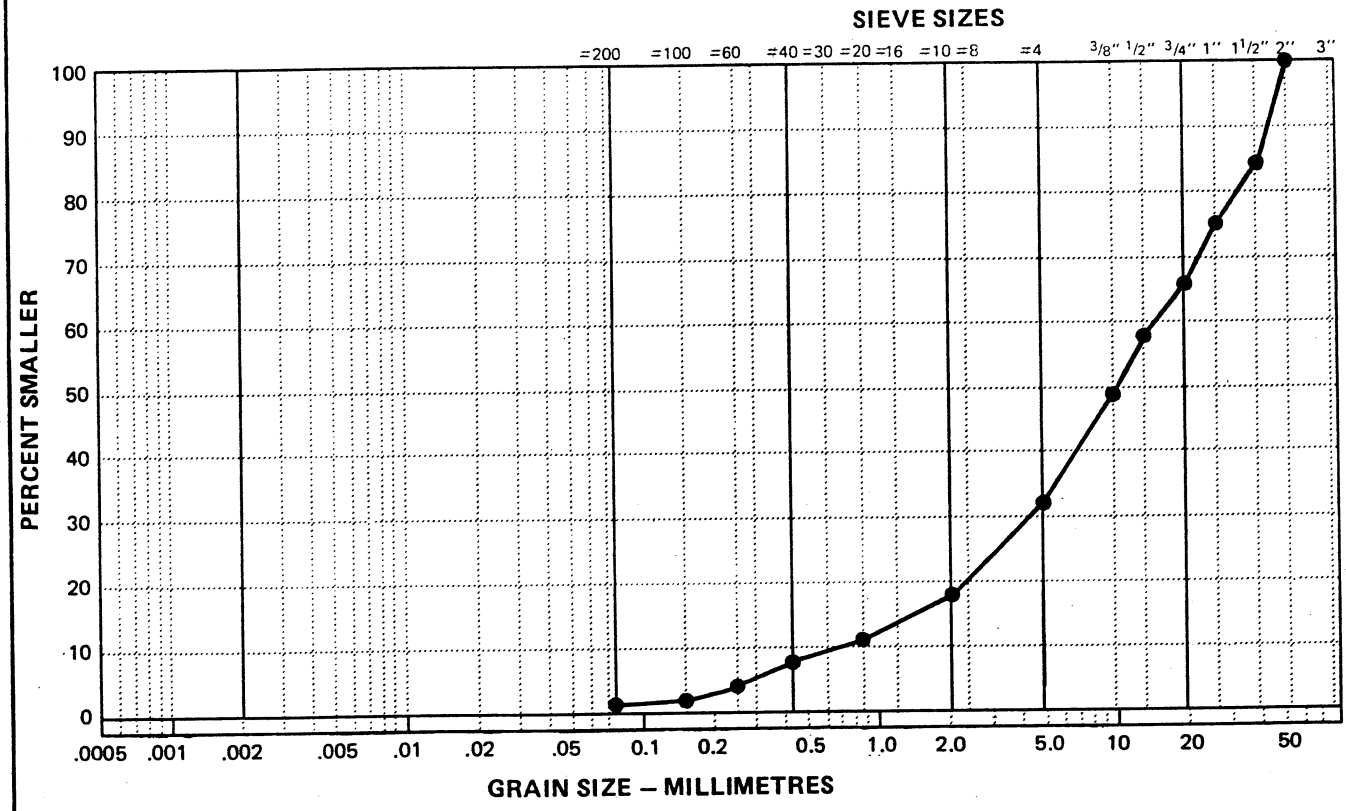
Cc: 1.9

Natural Moisture Content: 1.5 %

Remarks: Gravel 68.0%
Sand 30.3%
Silt 1.7%

SIEVE	PERCENTAGE PASSING
3"	
2"	100.0
1 1/2"	83.6
1"	75.5
3/4"	65.6
3/8"	48.8
No. 4	32.0
No. 10	17.7
No. 20	10.7
No. 40	6.7
No. 60	3.6
No. 100	2.3
No. 200	1.7

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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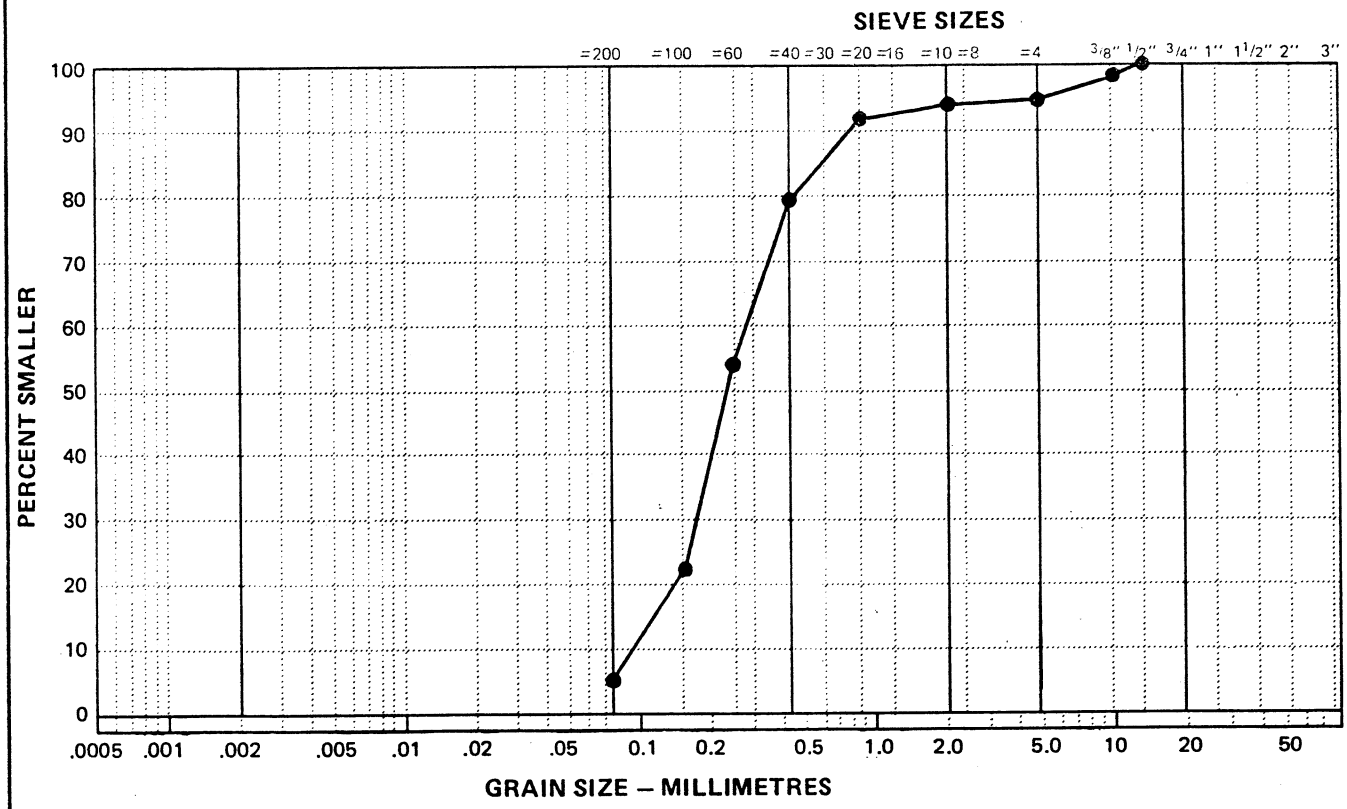
EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: Granular Source Evaluation
km 1693 North Alaska Highway, Yukon
Project Number: 0201-10922
Date Tested: 92-04-29
Borehole Number: 92-018E
Depth: 3.0 m
Soil Description: POORLY GRADED SAND WITH SILT (SP/SM)
Cu: 3.2
Cc: 1.4
Natural Moisture Content: 2.7 %
Remarks: Gravel 4.2%
Sand 90.4%
Silt 5.4%

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	
1"	
3/4"	100.0
3/8"	97.1
No. 4	95.8
No. 10	94.6
No. 20	92.3
No. 40	78.5
No. 60	54.0
No. 100	22.0
No. 200	5.4

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: Granular Source Evaluation
km 1693 North Alaska Highway, Yukon

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-018E

Depth: 4.0 m

Soil Description: POORLY GRADED SAND WITH GRAVEL (SP)

Cu: 8.9

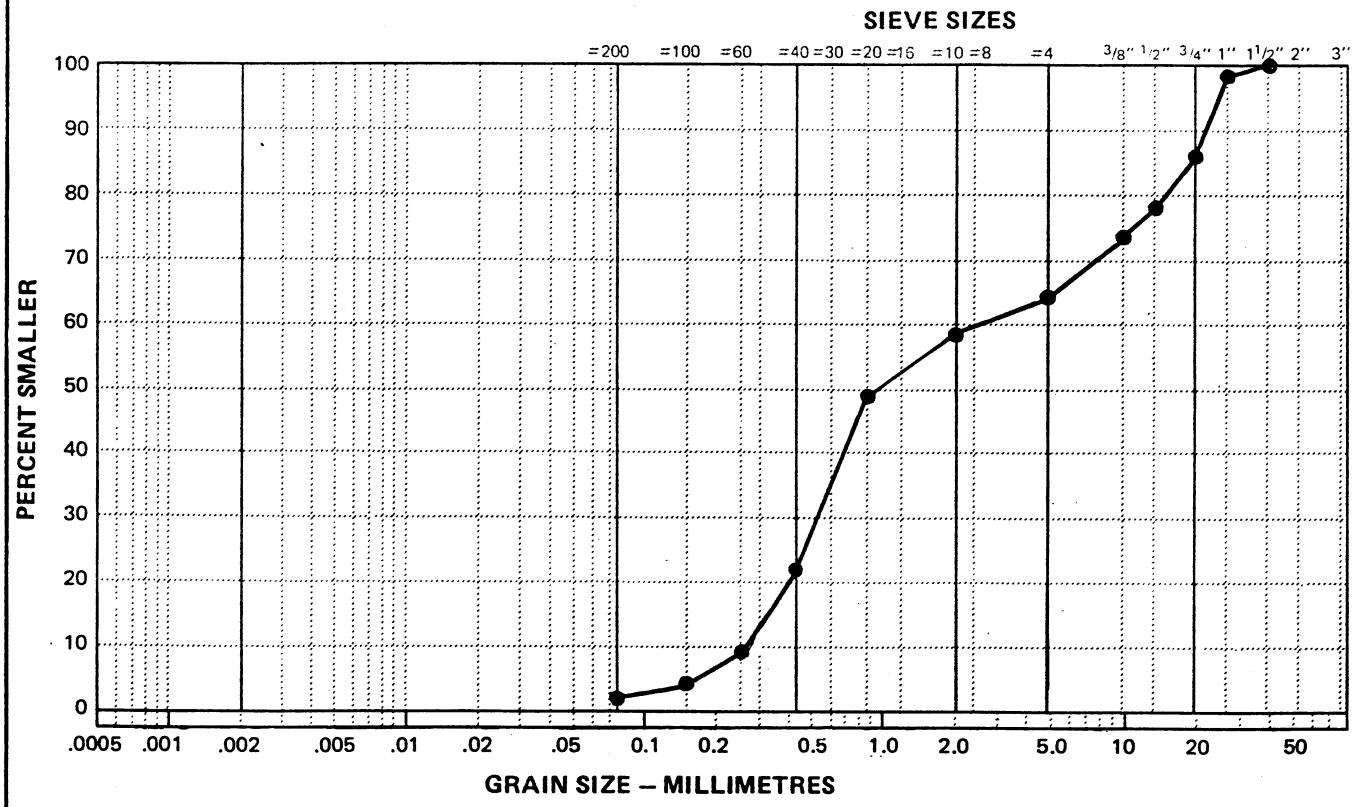
Cc: 0.4

Natural Moisture Content: 2.1 %

Remarks: Gravel 35.7%
Sand 62.0%
Silt 2.3%

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	100.0
1"	96.5
3/4"	86.1
3/8"	72.7
No. 4	64.3
No. 10	58.4
No. 20	48.8
No. 40	22.0
No. 60	9.0
No. 100	4.0
No. 200	2.3

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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GRANULAR SOURCE EVALUATION km 1693	CLIENT: YTG – TRANSPORTATION ENG.	BOREHOLE No: 92-019E
SILVER CITY AREA	HOE: CAT 225 TRACKED BACKHOE	Project No: 0201-10922
NORTH ALASKA HIGHWAY	UTM ZONE: 7 N6768572.00 E644108.00	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ GRAB SAMPLE ⊘ NO RECOVERY ⊠ STANDARD PEN. ▤ 75 mm SPOON ▥ CRREL BARREL

DEPTH (m)	SAMPLE TYPE	SAMPLE NO	SPT(N)	USC	SOIL SYMBOL	SOIL DESCRIPTION
0.0						SPARSE GRASS GROUND COVER ORGANIC SILT–rootlets throughout, seasonally frozen, olive brown
	■	1		GP/GM		POORLY GRADED GRAVEL WITH SILT AND SAND–rootlets to 1.3 m, subangular, up to 100 mm maximum size, seasonally frozen to 1.0 m, damp, medium brown
1.0	■	2		GP		POORLY GRADED GRAVEL WITH SAND–occasional cobble to 150 mm, gravel is well graded, sand is well graded, damp, medium greyish brown
2.0	■	3		SP		–finer from 2.0 – 2.5 m
3.0	■	4		GP		–siltier below 3.2 m
4.0	■	5		GM		SILTY GRAVEL WITH SAND–gravel is fine to 40 mm, moist, olive
5.0						END OF TESTPIT 4.5 m
6.0						
7.0						

■ STANDARD PENETRATION ■ 10 20 30 40

PLASTIC M.C. LIQUID 10 20 30 40

■ PERCENT GRAVEL ■ 20 40 60 80

● PERCENT SAND ● 20 40 60 80

▲ PERCENT SILT OR FINES ▲ 20 40 60 80

◆ PERCENT CLAY ◆ 20 40 60 80

DEPTH (ft) 0.0 2.0 4.0 6.0 8.0 10.0 12.0 14.0 16.0 18.0 20.0 22.0

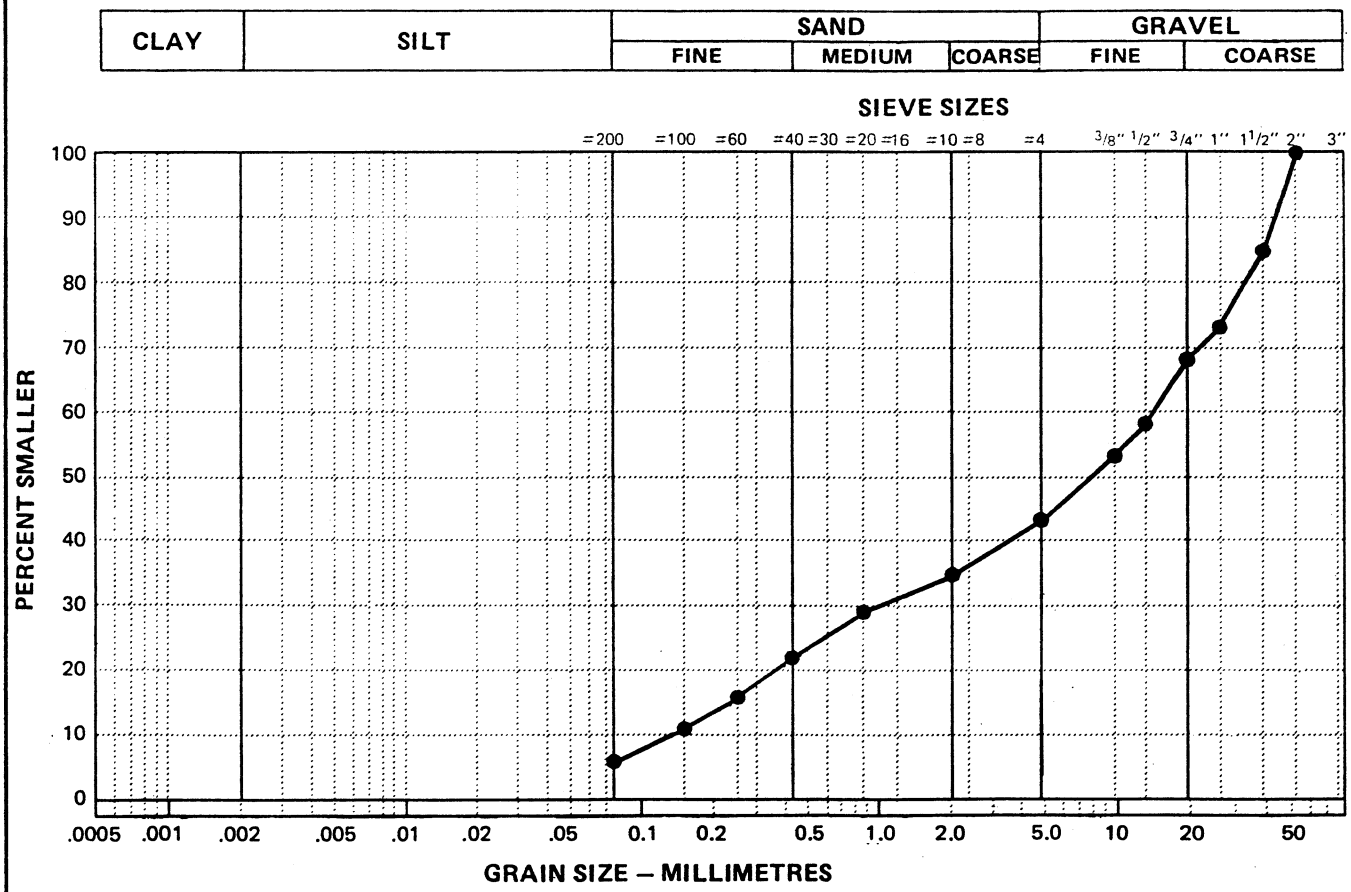
EBA Engineering Consultants Ltd. Whitehorse, Yukon	LOGGED BY: MCP	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/04/22
	Fig. No:	Page 1 of 1

EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: Granular Source Evaluation
km 1693 North Alaska Highway, Yukon
Project Number: 0201-10922
Date Tested: 92-04-29
Borehole Number: 92-019E
Depth: 0.5 m
Soil Description: POORLY GRADED GRAVEL WITH SILT & SAND (GP/GM)
Cu: 115
Cc: 0.5
Natural Moisture Content: 5.5 %
Remarks: Gravel 57.1%
Sand 36.6%
Silt 6.3%

SIEVE	PERCENTAGE PASSING
3"	
2"	100.0
1 1/2"	85.0
1"	73.2
3/4"	68.1
3/8"	53.4
No. 4	42.9
No. 10	35.3
No. 20	29.1
No. 40	22.2
No. 60	15.6
No. 100	10.5
No. 200	6.3



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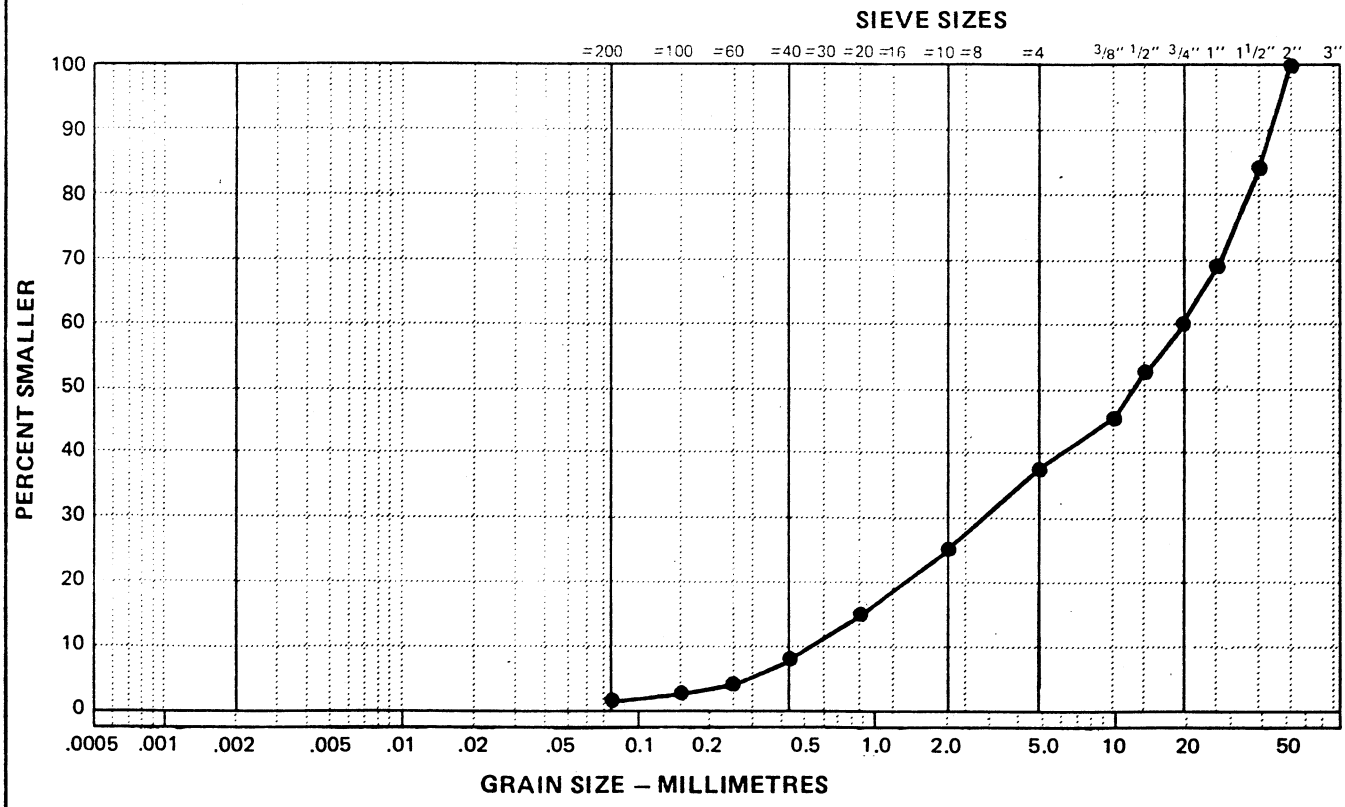
EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: Granular Source Evaluation
km 1693 North Alaska Highway
Project Number: 0201-10922
Date Tested: 92-04-29
Borehole Number: 92-019E
Depth: 1.0 m
Soil Description: POORLY GRADED GRAVEL WITH SAND (GP)
Cu: 40
Cc: 0.9
Natural Moisture Content: 1.5 %
Remarks: Gravel 64.4%
Sand 33.6%
Silt 2.0%

SIEVE	PERCENTAGE PASSING
3"	
2"	100.0
1 1/2"	83.9
1"	69.4
3/4"	60.4
3/8"	45.8
No. 4	35.6
No. 10	24.9
No. 20	15.4
No. 40	7.9
No. 60	4.4
No. 100	2.7
No. 200	2.0

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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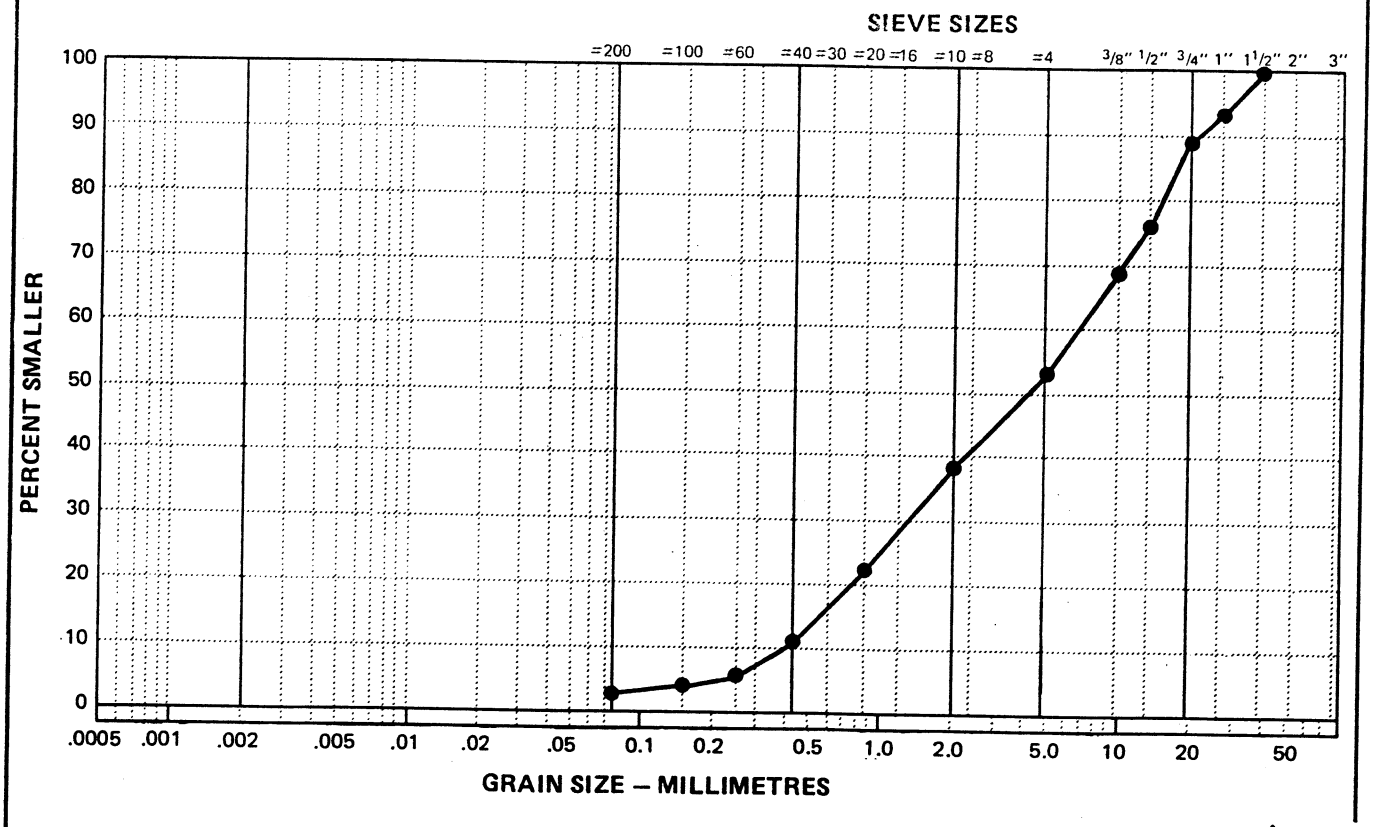
EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: Granular Source Evaluation
km 1693 North Alaska Highway, Yukon
Project Number: 0201-10922
Date Tested: 92-04-29
Borehole Number: 92-019E
Depth: 2.0 m
Soil Description: POORLY GRADED SAND WITH GRAVEL (SP)
Cu: 16.3
Cc: 0.9
Natural Moisture Content: 2.0 %
Remarks: Gravel 46.6%
Sand 50.2%
Silt 3.2%

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	100.0
1"	92.7
3/4"	88.6
3/8"	68.5
No. 4	53.4
No. 10	36.8
No. 20	22.2
No. 40	11.4
No. 60	6.4
No. 100	4.2
No. 200	3.2

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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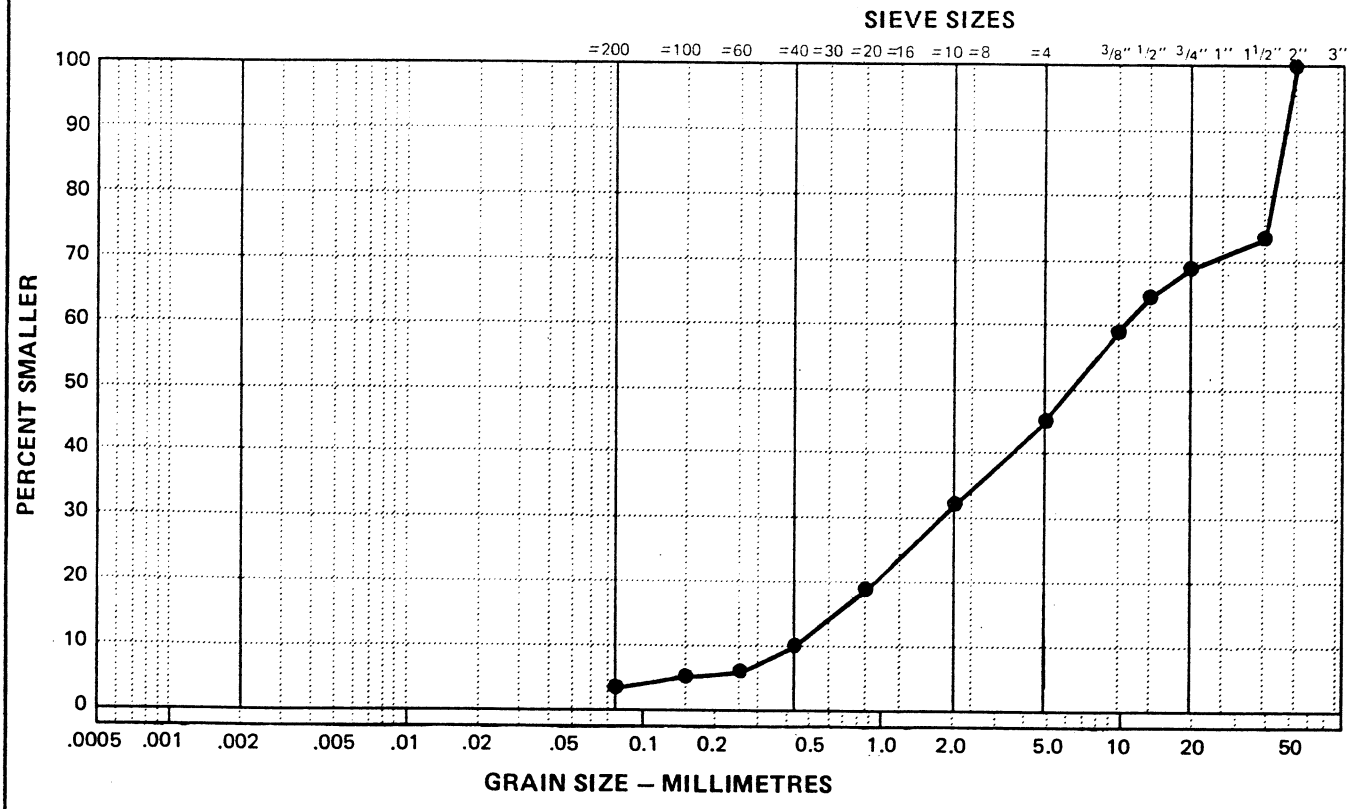
EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: Granular Source Evaluation
km 1693 North Alaska Highway, Yukon
Project Number: 0201-10922
Date Tested: 92-04-29
Borehole Number: 92-019E
Depth: 3.0 m
Soil Description: POORLY GRADED GRAVEL WITH SAND (GP)
Cu: 22.2
Cc: 0.7
Natural Moisture Content: 1.8 %
Remarks: Gravel 58.1%
Sand 41.1%
Silt 4.3%

SIEVE	PERCENTAGE PASSING
3"	
2"	100.0
1 1/2"	72.7
1"	
3/4"	69.1
3/8"	58.9
No. 4	45.4
No. 10	31.7
No. 20	19.1
No. 40	9.9
No. 60	6.3
No. 100	4.8
No. 200	4.3

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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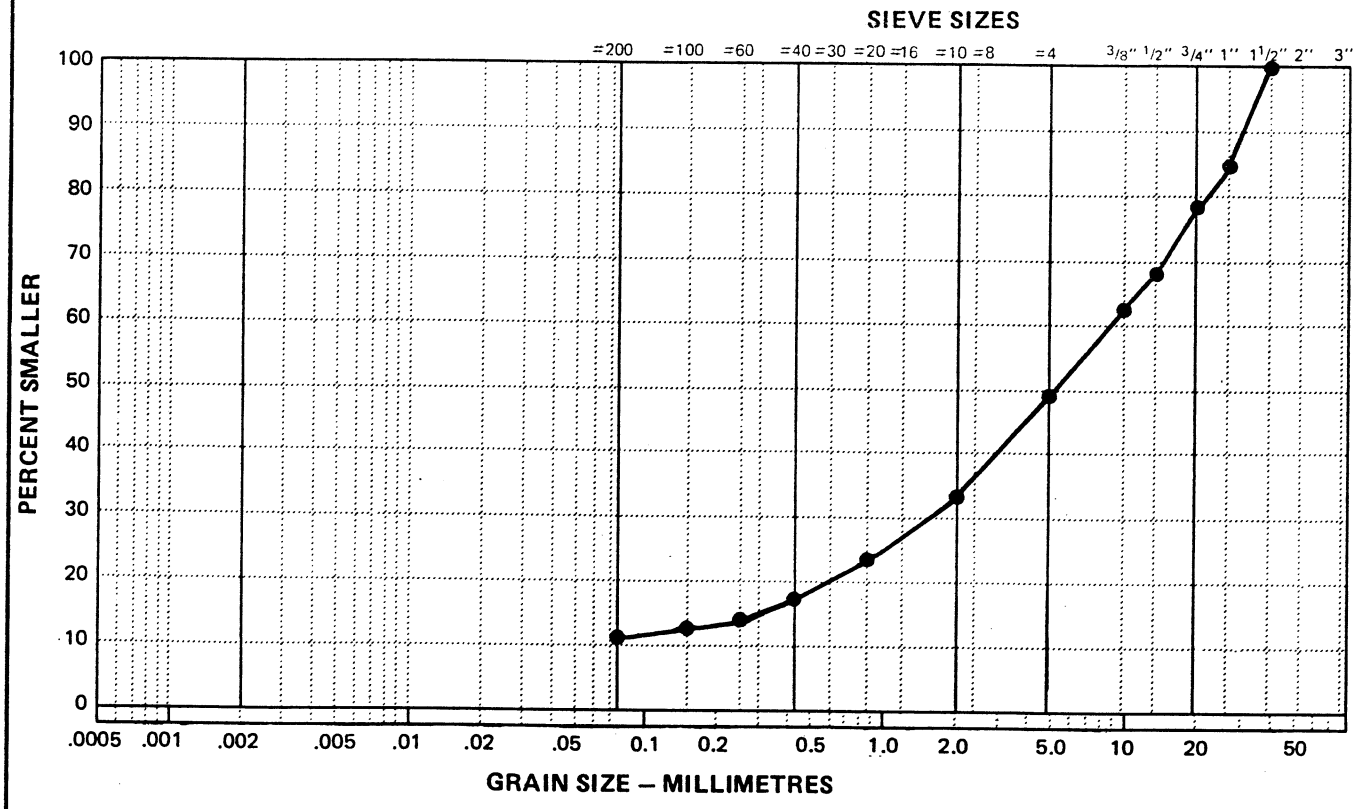
EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: Granular Source Evaluation
km 1693 North Alaska Highway, Yukon
Project Number: 0201-10922
Date Tested: 92-04-29
Borehole Number: 92-019E
Depth: 4.0 m
Soil Description: SILTY GRAVEL WITH SAND (GM)
Cu:
Cc:
Natural Moisture Content: 3.2 %
Remarks: Gravel 51.2%
Sand 36.7%
Silt 12.1%

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	100.0
1"	84.0
3/4"	78.3
3/8"	62.2
No. 4	48.8
No. 10	33.3
No. 20	23.1
No. 40	16.5
No. 60	13.8
No. 100	12.7
No. 200	12.1

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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GRANULAR SOURCE EVALUATION km 1693	CLIENT: YTG - TRANSPORTATION ENG.	BOREHOLE No: 92-020E
SILVER CITY AREA	HOE: CAT 225 TRACKED BACKHOE	Project No: 0201-10922
NORTH ALASKA HIGHWAY	UTM ZONE: 7 N6768724.00 E644176.00	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ GRAB SAMPLE ⊘ NO RECOVERY ⊠ STANDARD PEN. ▤ 75 mm SPOON ▥ CRREL BARREL

DEPTH (m)	SAMPLE TYPE	SAMPLE NO	SPT(N)	USC	SOIL SYMBOL	SOIL DESCRIPTION
0.0						SPARSE GRASS COVER
	■	1		SW/SM		SILT WITH SAND AND GRAVEL–rootlets throughout, trace of organics, dark brown
1.0	■	2		GW		WELL GRADED SAND WITH SILT AND GRAVEL–occasional cobble and boulder to 300 mm, rootlets to 0.9 m, olive brown
						WELL GRADED GRAVEL WITH SILT AND SAND becoming WELL GRADED GRAVEL WITH SAND below 1.0 m, trace of silt, occasional cobble, subangular up to 50 mm, sand and gravel both well graded, damp, medium brown
2.0	■	3		GW		
3.0	■	4		GW		–cleaner and greyish brown below 3.5 m
4.0	■	5		GW		
						END OF TESTPIT 4.2 m
5.0						
6.0						
7.0						

■ STANDARD PENETRATION ■ 10 20 30 40

PLASTIC M.C. LIQUID 10 20 30 40

■ PERCENT GRAVEL ■ 20 40 60 80

● PERCENT SAND ● 20 40 60 80

▲ PERCENT SILT OR FINES ▲ 20 40 60 80

◆ PERCENT CLAY ◆ 20 40 60 80

DEPTH (ft): 0.0, 2.0, 4.0, 6.0, 8.0, 10.0, 12.0, 14.0, 16.0, 18.0, 20.0, 22.0

EBA Engineering Consultants Ltd.
Whitehorse, Yukon

LOGGED BY: MCP	COMPLETION DEPTH: 4.2 m
REVIEWED BY:	COMPLETE: 92/04/22
Fig. No:	Page 1 of 1

EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: Granular Source Evaluation
km 1693 North Alaska Highway, Yukon

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-020E

Depth: 0.5 m

Soil Description: WELL GRADED SAND WITH SILT AND GRAVEL (SW/SM)

Cu: 29.4

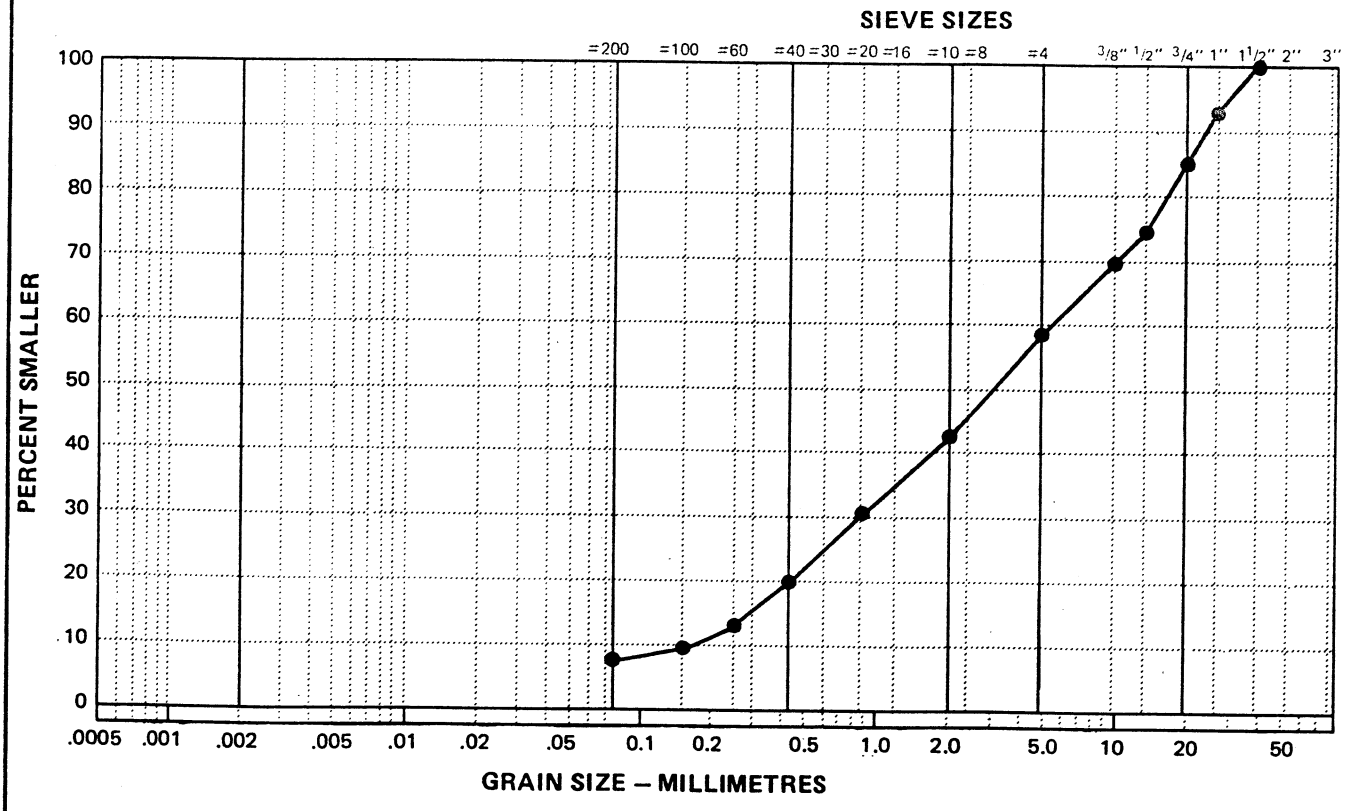
Cc: 1.0

Natural Moisture Content: 2.6 %

Remarks: Gravel 41.8%
Sand 51.5%
Silt 6.7%

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	100.0
1"	93.0
3/4"	84.7
3/8"	69.6
No. 4	58.2
No. 10	42.9
No. 20	30.5
No. 40	20.2
No. 60	13.4
No. 100	9.5
No. 200	6.7

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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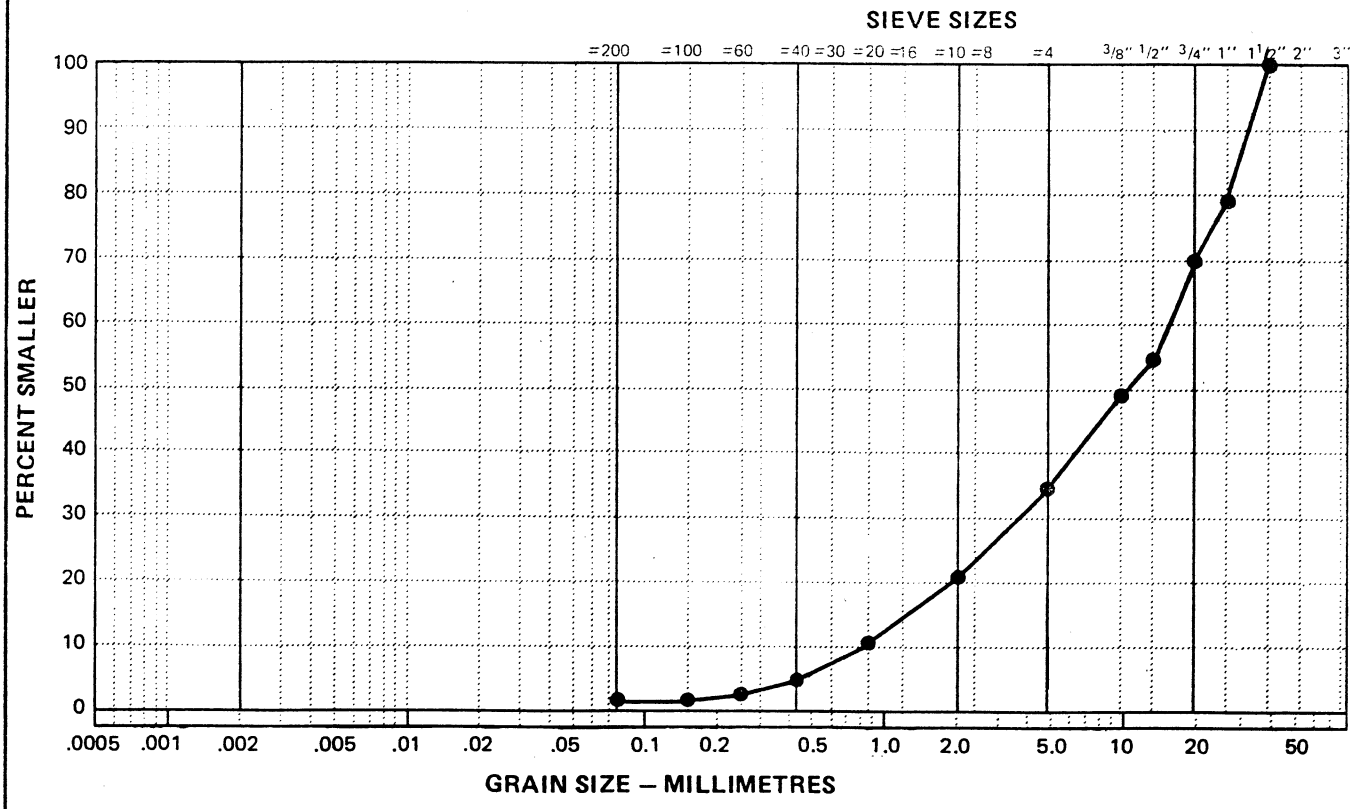
EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: Granular Source Evaluation
km 1693 North Alaska Highway, Yukon
Project Number: 0201-10922
Date Tested: 92-04-29
Borehole Number: 92-020E
Depth: 1.0 m
Soil Description: WELL GRADED GRAVEL WITH SAND (GW)
Cu: 20
Cc: 1.0
Natural Moisture Content: 1.6 %
Remarks: Gravel 65.3%
Sand 32.6%
Silt 2.1%

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	100.0
1"	79.1
3/4"	70.3
3/8"	49.2
No. 4	34.7
No. 10	20.5
No. 20	10.6
No. 40	5.3
No. 60	3.4
No. 100	2.6
No. 200	2.1

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: Granular Source Evaluation
km 1693 North Alaska Highway, Yukon

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-020E

Depth: 2.0 m

Soil Description: WELL GRADED GRAVEL WITH SAND (GW)

Cu: 26.7

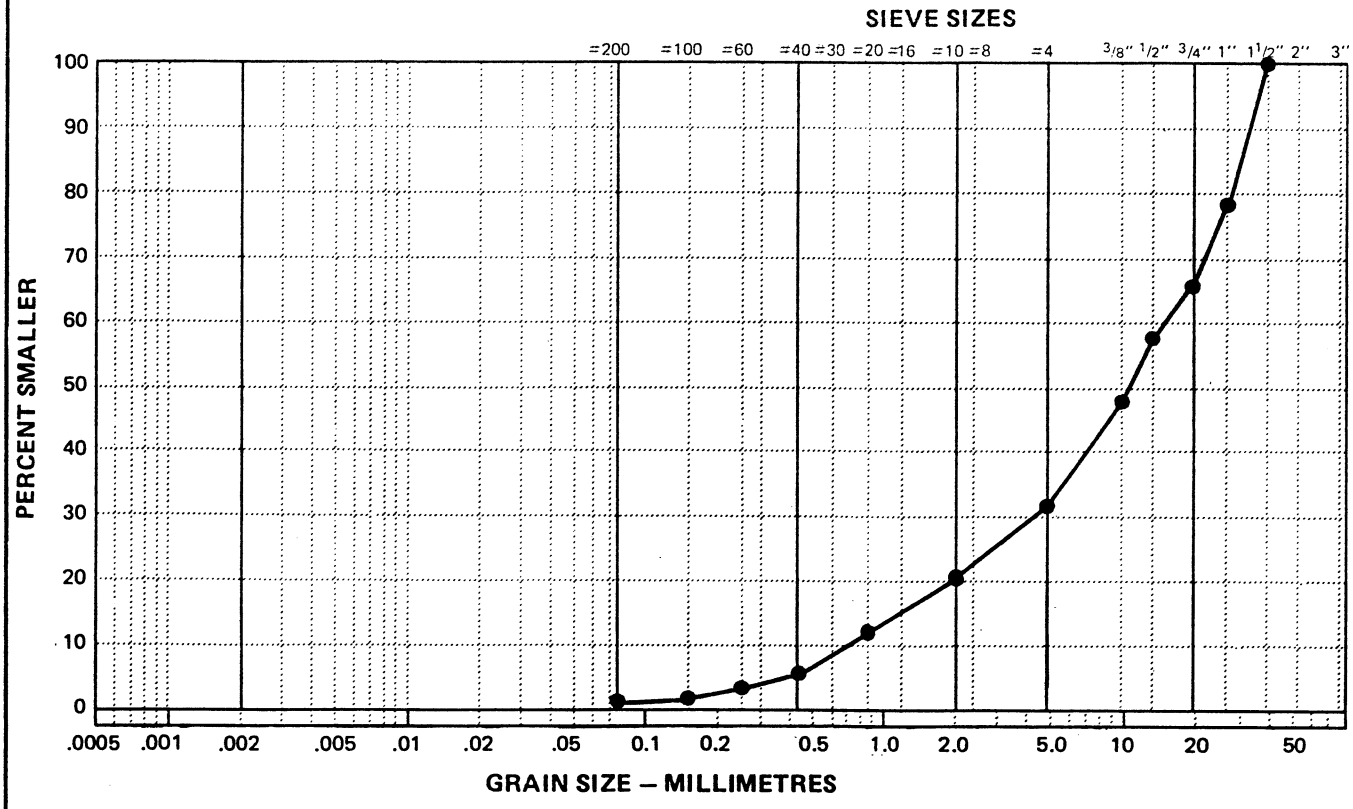
Cc: 1.7

Natural Moisture Content: 1.5 %

Remarks: Gravel 68.1%
Sand 29.8%
Silt 2.1%

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	100.0
1"	77.1
3/4"	65.6
3/8"	46.6
No. 4	31.9
No. 10	19.7
No. 20	12.0
No. 40	6.4
No. 60	4.0
No. 100	2.9
No. 200	2.1

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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PARTICLE - SIZE ANALYSIS OF SOILS

Project: Granular Source Evaluation
km 1693 North Alaska Highway, Yukon

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-020E

Depth: 3.0 m

Soil Description: WELL GRADED GRAVEL WITH SAND (GW)

Cu: 30

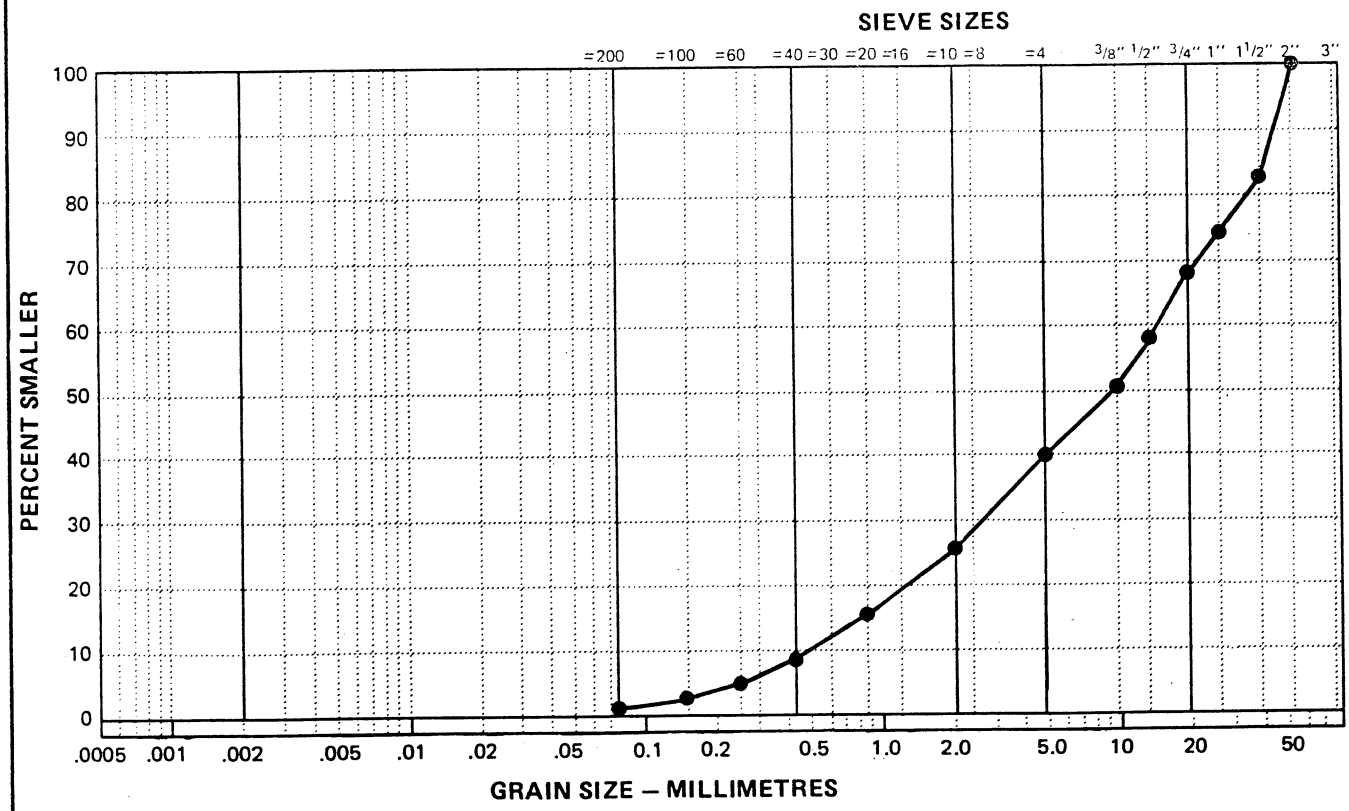
Cc: 1.2

Natural Moisture Content: 1.6 %

Remarks: Gravel 60.0%
Sand 37.4%
Silt 2.6%

SIEVE	PERCENTAGE PASSING
3"	
2"	100.0
1 1/2"	82.6
1"	74.9
3/4"	67.3
3/8"	51.0
No. 4	40.0
No. 10	26.4
No. 20	15.7
No. 40	8.2
No. 60	4.9
No. 100	3.4
No. 200	2.6

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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PARTICLE - SIZE ANALYSIS OF SOILS

Project: Granular Source Evaluation
km 1693 North Alaska Highway, Yukon

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-020E

Depth: 4.0 m

Soil Description: WELL GRADED GRAVEL AND SAND (GW)

Cu: 8.9

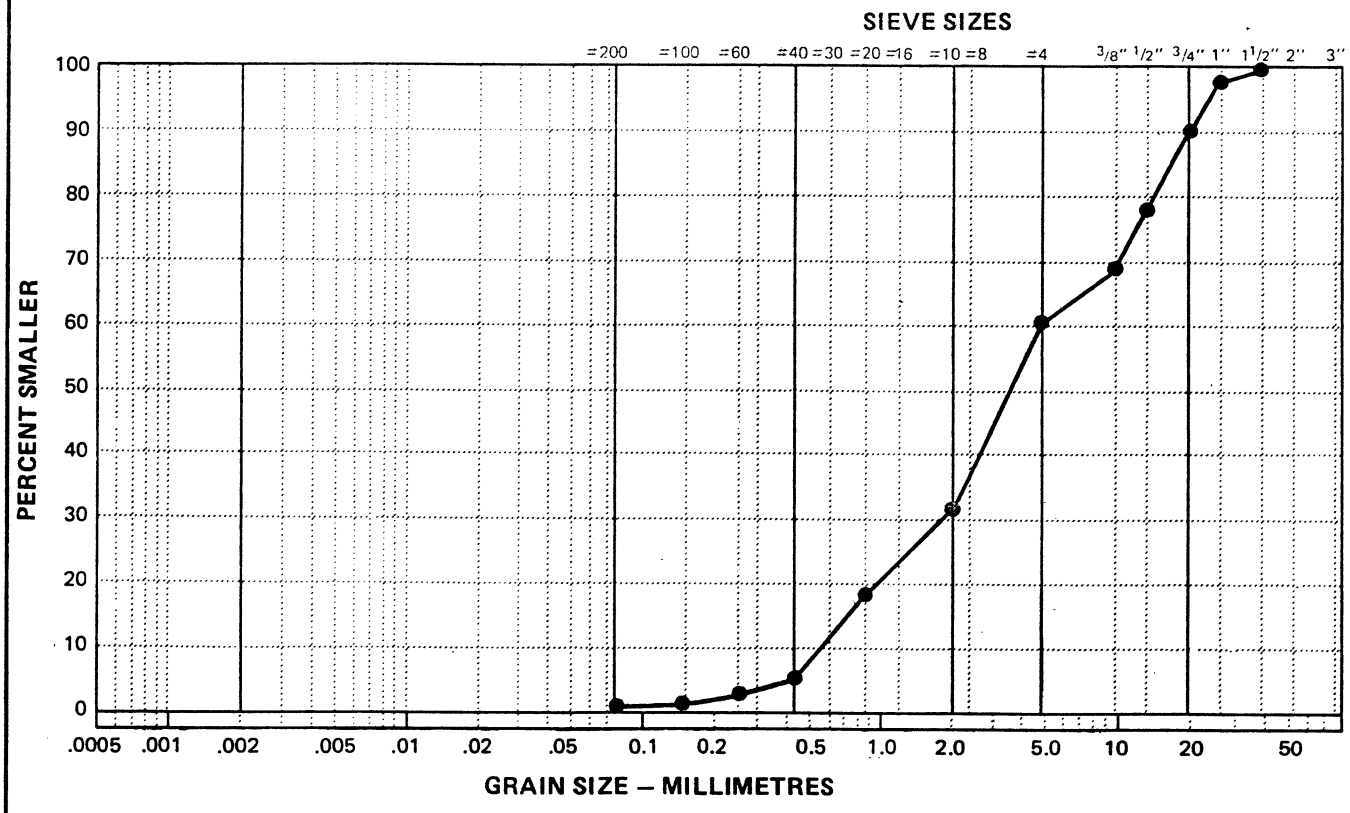
Cc: 1.2

Natural Moisture Content: 1.5 %

Remarks: Gravel 49.4%
Sand 49.3%
Silt 1.3%

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	100.0
1"	96.9
3/4"	90.2
3/8"	68.8
No. 4	50.6
No. 10	32.3
No. 20	16.8
No. 40	6.0
No. 60	2.8
No. 100	1.8
No. 200	1.3

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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Km 1691.3 RHS Alaska Highway #1
Pit Ident. 115 G-07
(Silver City)

March 2001
Book # 583-584
Test Hole 1519-1552

Test Pit Logs

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST PIT NO: 583-1520
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
CAT 320 EXCAVATOR	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ☒ S.P.T. ☒ AUGER ☰ BULK ▯ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SAND, SILT & ORGANIC -light brown -seasonal frozen to 0.2m							0.0
	POORLY TO WELL-GRADED GRAVEL WITH SAND (GP)-(GW) -brown -damp							
1.0	-maximum 100mm material		44 ▲		GP		◆ ■	1.0
2.0	-moist below 2.0m -maximum 200 mm material -estimate 5% +100mm material below 2.0m							2.0
			45 ▲		GP		◆ ■	
3.0								3.0
4.0								4.0
			46 ▲		GW		◆ ■	
5.0	END HOLE @ 5.0m							5.0
6.0								6.0

Government of Yukon
Transportation Engineering

LOGGED BY: D.T.	COMPLETION DEPTH: 5.0 m
REVIEWED BY:	COMPLETE: 01/03/12
Fig. No: 115-G-07	Page 1 of 1

01/03/27 04:46PM

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST PIT NO: 583-1521
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
CAT 320 EXCAVATOR	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC –seasonal frozen (Nb) to 0.3m				
	SANDY SILT –brown –frozen				
	WELL-GRADED SAND WITH GRAVEL TO POORLY GRADED GRAVEL WITH SAND (SW)-(GP) –brown –damp –maximum 100mm material –some frozen lumps		47	SW	
2.0			48	GP	
3.0					
	–very hard digging below 3.7m –frozen below 3.7m (Nb)				
4.0			49	GP	
	END HOLE @ 4.6m				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

DEPTH (m)

Government of Yukon
Transportation Engineering

LOGGED BY: D.T.	COMPLETION DEPTH: 4.6 m
REVIEWED BY:	COMPLETE: 01/03/12
Fig. No: 115-G-07	Page 1 of 1

01/03/27 04:47PM

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST PIT NO: 583–1522
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
CAT 320 EXCAVATOR	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC –seasonal frozen							0.0
	SANDY SILT –some organic							
	POORLY GRADED GRAVEL WITH SILT & SAND TO WELL-GRADED SAND WITH GRAVEL (GP-GM)-(SW) –brown –frozen (NF)to 2.3m –easy digging 0 to 2.3m –low moisture content –maximum 100mm material		50 ▲		GP-GM			
1.0								1.0
2.0								2.0
	–maximum 150mm material below 2.3m –damp below 2.3m –estimate 1% +100mm material		51 ▲		SW			
3.0								3.0
4.0								4.0
	–moist below 4.5m		52 ▲		GP-GM			
5.0	END HOLE @ 5.0m							5.0
6.0								6.0

Government of Yukon
Transportation Engineering

LOGGED BY: D.T.	COMPLETION DEPTH: 5.0 m
REVIEWED BY:	COMPLETE: 01/03/12
Fig. No: 115-G-07	Page 1 of 1

01/03/27 04:47PM

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST PIT NO: 583-1523
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
CAT 320 EXCAVATOR	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⧄ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC -seasonal frozen							0.0
	SANDY SILT -some brown organic							
	POORLY GRADED GRAVEL WITH SAND (GP) -brown -frozen (Nf)to 2.3m -maximum 150mm material -estimate 1% +100mm material		53 ▲		GP			
1.0								1.0
2.0								2.0
	-thawed, moist below 2.3m -estimate 5% +100mm material		54 ▲		GP			
3.0								3.0
4.0								4.0
			55 ▲		GP			
5.0	END HOLE @ 5.0m							5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: D.T.	COMPLETION DEPTH: 5.0 m
	REVIEWED BY:	COMPLETE: 01/03/12
	Fig. No: 115-G-07	Page 1 of 1

01/03/27 04:47PM

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST PIT NO: 583-1529
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
CAT 320 EXCAVATOR	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ☒ S.P.T. ☒ AUGER ☰ BULK ▯ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC –frozen (Nb)							0.0
	SILT (ML) –brown –moist							
1.0								1.0
2.0								2.0
3.0								3.0
4.0			69	▲	ML		◆	4.0
	END HOLE @ 4.4m NOTE: in low area betwen eskers							
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: D.T.	COMPLETION DEPTH: 4.4 m
	REVIEWED BY:	COMPLETE: 01/03/13
	Fig. No: 115-G-07	Page 1 of 1

01/03/27 04:47PM

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST PIT NO: 583-1530
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
CAT 320 EXCAVATOR	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC –seasonal frozen							0.0
	POORLY GRADED GRAVEL WITH SAND (GP) –brown –frozen (Nf)to 2.2m –maximum 200mm material –estimate 5% +100mm material		70 ▲		GP			
1.0								1.0
2.0	–thawed, damp below 2.2m							2.0
			71 ▲		GP			
3.0								3.0
4.0								4.0
			72 ▲		GP			
5.0	END HOLE @ 5.0							5.0
6.0								6.0

Government of Yukon
Transportation Engineering

LOGGED BY: D.T.	COMPLETION DEPTH: 5.0 m
REVIEWED BY:	COMPLETE: 01/03/13
Fig. No: 115-G-07	Page 1 of 1

01/03/28 08:14AM

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST PIT NO: 583-1531
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
CAT 320 EXCAVATOR	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⧄ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC –season frozen							0.0
	POORLY GRADED GRAVEL WITH SILT & SAND TO POORLY GRADED GRAVEL WITH SAND (GP-GM)-(GP) –some organic in top metre –brown –frozen (Nf)to 1.4m –maximum 200mm material –estimate +100mm material –thawed, damp below 1.4m –easier digging below 1.4m		73	▲	GP-GM		◆ ■	
1.0								1.0
2.0								2.0
			74	▲	GP		◆ ■	
3.0								3.0
4.0								4.0
			75	▲	GP		◆ ■	
5.0	END HOLE @ 5.0m							5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: D.T.	COMPLETION DEPTH: 5.0 m
	REVIEWED BY:	COMPLETE: 01/03/13
	Fig. No: 115-G-07	Page 1 of 1

01/03/28 08:14AM

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST PIT NO: 583-1532
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
CAT 320 EXCAVATOR	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC –seasonal frozen							0.0
	SILT –some sand –brown, moist							
1.0	POORLY GRADED GRAVEL WITH SAND (GP) –brown –damp –maximum 200mm material –estimate 5% +100mm material		76 ▲		GP			1.0
2.0								2.0
3.0			77 ▲		GP			3.0
4.0								4.0
5.0			78 ▲		GP			5.0
	END HOLE @ 5.0m NOTE: located in hole between eskers							
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: D.T.	COMPLETION DEPTH: 5.0 m
	REVIEWED BY:	COMPLETE: 01/03/13
	Fig. No: 115-G-07	Page 1 of 1

01/03/28 08:15AM

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST PIT NO: 583-1533
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
CAT 320 EXCAVATOR	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC –seasonal frost							0.0
	POORLY GRADED GRAVEL WITH SAND TO WELL-GRADED SAND WITH GRAVEL (GP)-(SW) –brown –frozen (Nf) to 2.0m –maximum 150mm material –estimate 5% +100 material		79	▲	GP		◆ ■	
1.0								1.0
2.0	–thawed below 2.0m		80	▲	SW		◆ ■	2.0
3.0								3.0
4.0								4.0
5.0	END HOLE @ 5.0m		81	▲	GP		◆ ■	5.0
6.0								6.0

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LOGGED BY: D.T.	COMPLETION DEPTH: 5.0 m
REVIEWED BY:	COMPLETE: 01/03/13
Fig. No: 115-G-07	Page 1 of 1

01/03/28 08:15AM

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST PIT NO: 583-1535
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
CAT 320 EXCAVATOR	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC –seasonal frozen							0.0
	POORLY GRADED GRAVEL WITH SILT & SAND TO WELL–GRADED SAND WITH GRAVEL TO POORLY GRADED GRAVEL WITH SAND (GP–GM)–(SW)–(GP) –brown –frozen (Nb)to 2.0m –maximum 200mm material –estimate 10% +100 material		84 ▲		GP–GM			
1.0								1.0
2.0	–thawed below 2.0m –damp below 2.0m							2.0
			85 ▲		SW			
3.0								3.0
4.0	–maximum 100mm material below 4.0m –estimate 1% +100mm material below 4m							4.0
			86 ▲		GP			
5.0	END HOLE @ 5.0m							5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: D.T.	COMPLETION DEPTH: 5.0 m
	REVIEWED BY:	COMPLETE: 01/03/13
	Fig. No: 115-G-07	Page 1 of 1

01/03/28 08:15AM

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST PIT NO: 583-1536
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
CAT 320 EXCAVATOR	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC –seasonal frozen							0.0
	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM) –brown –frozen (Nf)to 1.9m –maximum 150mm material –estimate 5% +100mm material		87	▲	GP-GM		◆ ■	
1.0								1.0
2.0	–thawed & easier digging below 1.9m							2.0
3.0								3.0
4.0	–damp below 4.0m							4.0
			88	▲	GP-GM		◆ ■	
5.0	END HOLE @ 5.0m							5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: D.T.	COMPLETION DEPTH: 5.0 m
	REVIEWED BY:	COMPLETE: 01/03/13
	Fig. No: 115-G-07	Page 1 of 1

01/03/13 08:14AM

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST PIT NO: 583-1537
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
CAT 320 EXCAVATOR	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⧄ S.P.T. ☒ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC -seasonal frozen							0.0
	POORLY GRADED GRAVEL WITH SAND TO POORLY GRADED GRAVEL WITH SILT & SAND (GP)-(GP-GM) -some organic -brown -frozen (Nf)to 1.7m -maximum 100mm material		89 ▲		GP			
1.0								1.0
	-thawed below 1.7m -damp below 1.7m -maximum 200mm material below 1.7m -estimate 5% +100mm material below 1.7m							
2.0								2.0
			90 ▲		GP-GM			
3.0								3.0
4.0	-maximum 250mm material below 4.0m -estimate 10% +100mm material below 4m							4.0
			91 ▲		GP			
5.0	END HOLE @ 5.0m NOTE: located on esker ridge							5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: D.T.	COMPLETION DEPTH: 5.0 m
	REVIEWED BY:	COMPLETE: 01/03/13
	Fig. No: 115-G-07	Page 1 of 1

01/01/58 08:14AM

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST PIT NO: 583-1538
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
CAT 320 EXCAVATOR	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ☒ S.P.T. ☒ AUGER ☰ BULK ▯ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL	DEPTH (m)
0.0	ORGANIC -seasonal frozen					0.0
	WELL-GRADED SAND WITH SILT & GRAVEL TO WELLL-GRADED SAND WITH GRAVEL (SW-SM) - (SW) -brown -frozen (Nf)to 1.2m -maximum 100mm material -thawed, damp below 1.2m		92	SW-SM		
1.0						1.0
2.0			93	SW		2.0
3.0	SILT (TRACE SAND AND GRAVEL) -brown -moist -smooth easy digging					3.0
4.0						4.0
5.0	END HOLE @ 5.0m NOTE: located in-between eskers					5.0
6.0						6.0

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

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REVIEWED BY:	COMPLETE: 01/03/13
Fig. No: 115-G-07	Page 1 of 1

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST PIT NO: 583-1539
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
CAT 320 EXCAVATOR	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID / 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC							0.0
	WELL-GRADED SAND WITH SILT & GRAVEL TO POORLY GRADED GRAVEL WITH SAND (SW-SM)-(GP)							
	-brown							
	-frozen (Nf)to 1.9m		94	△	SW-SM			
1.0	-maximum 100mm material							1.0
	-some organic contamination							
2.0	-thawed, damp from 1.9m							2.0
	-no organic contamination below 1.9m		95	▲	GP			
3.0								3.0
4.0								4.0
			96	▲	GP			
5.0	END HOLE @ 5.0m							5.0
	NOTE: located on top of esker							
6.0								6.0

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	REVIEWED BY:	COMPLETE: 01/03/13
	Fig. No: 115-G-07	Page 1 of 1

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST PIT NO: 583-1540
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
CAT 320 EXCAVATOR	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)

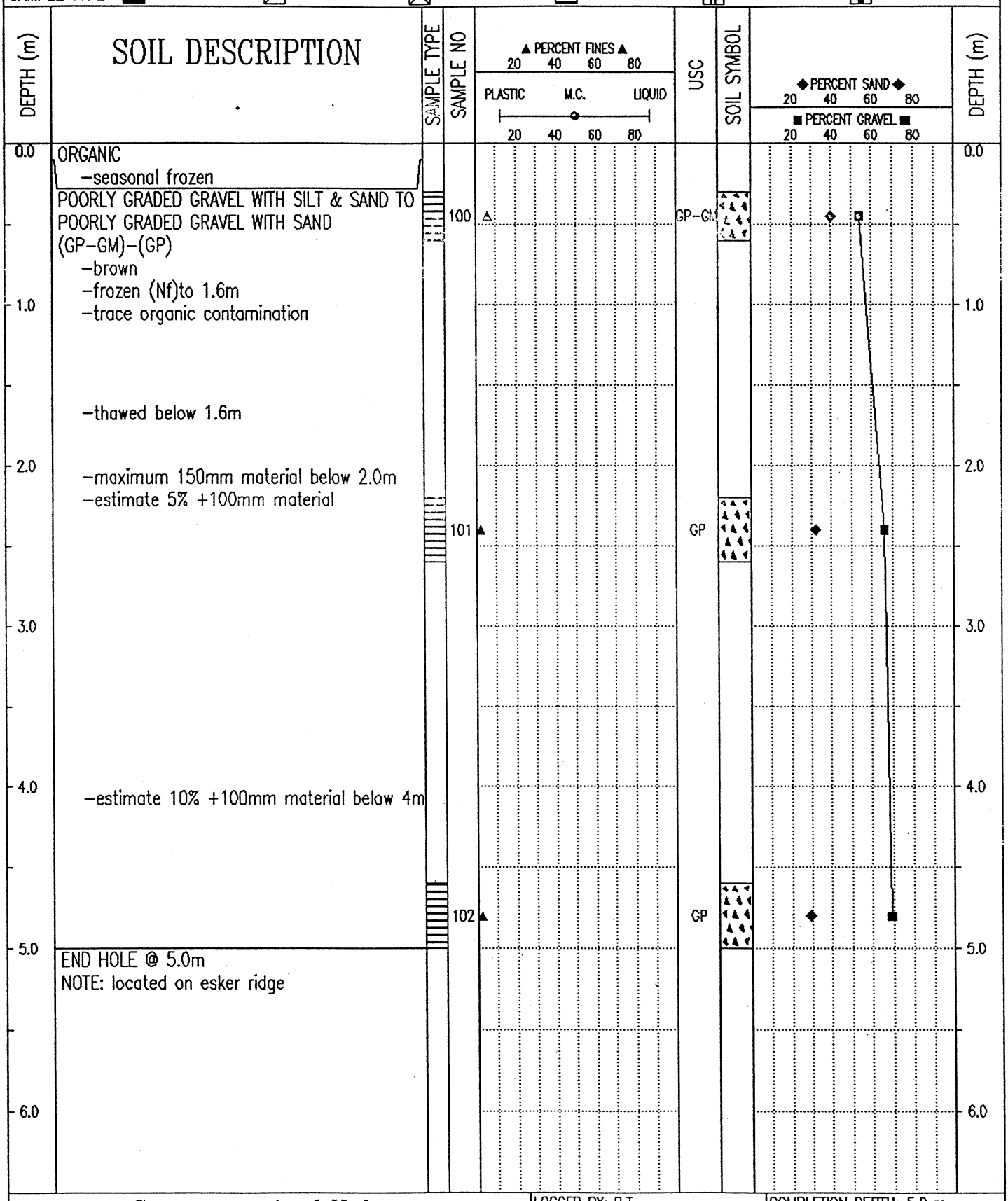
SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC -seasonal frozen							0.0
	POORLY GRADED GRAVEL WITH SAND (GP) -brown -frozen (Nf)to 1.9m -maximum 200mm material -estimate 5% +100 material		97	▲	GP		◆ ■	
1.0								1.0
2.0	-thawed, damp below 1.9m -estimate 10% +100mm material below 1.9							2.0
			98	▲	GP		◆ ■	
3.0								3.0
4.0								4.0
			99	▲	GP		◆ ■	
5.0	END HOLE @ 5.0m NOTE: located at intersection of 2 eskers							5.0
6.0								6.0

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	REVIEWED BY:	COMPLETE: 01/03/13
	Fig. No: 115-G-07	Page 1 of 1

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST PIT NO: 583-1541
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
CAT 320 EXCAVATOR	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN | S.P.T. | AUGER | BULK | TUBE | CORE



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	REVIEWED BY:	COMPLETE: 01/03/13
	Fig. No: 115-G-07	Page 1 of 1

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST PIT NO: 583-1542
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
CAT 320 EXCAVATOR	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ◪ PERCENT GRAVEL ◪ 20 40 60 80	DEPTH (m)
0.0	ORGANIC –seasonal frozen							0.0
	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM) –brown –frozen (Nf)to 1.6m –maximum 100mm material		103	▲	GP-GM		◆ ◇ ■	
1.0								1.0
	–thawed, damp below 1.6m							
2.0								2.0
			104	▲	GW-GM		◆ ■	
3.0								3.0
4.0								4.0
			05	▲	GP-GM		◆ ■	
5.0	END HOLE @ 5.0m NOTE: located on top of esker							5.0
6.0								6.0

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	REVIEWED BY:	COMPLETE: 01/03/13
	Fig. No: 115-G-07	Page 1 of 1

01/01/28 08:15AM

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST PIT NO: 583-1543
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
CAT 320 EXCAVATOR	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / □ PERCENT GRAVEL □ 20 40 60 80	DEPTH (m)
0.0	ORGANIC –seasonal frozen							0.0
	POORLY GRADED GRAVEL WITH SILT & SAND (GP–GM) –brown –frozen (Nf)to 2.0m –maximum 100mm material		106		GP–GM			
1.0								1.0
2.0	POORLY TO WELL GRADED SAND WITH GRAVEL (SP) – (SW) –brown –thawed, damp –maximum 100mm material		107		SP			2.0
3.0								3.0
4.0	–frozen below 4.0m (Vc) –hard digging below 4.0m		108		SW			4.0
	END HOLE @ 4.6m NOTE: located on small esker							
5.0								5.0
6.0								6.0

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REVIEWED BY:	COMPLETE: 01/03/13
Fig. No: 115-G-07	Page 1 of 1

01/03/28 08:15AM

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST PIT NO: 584-1544
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
CAT 320 EXCAVATOR	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ☒ S.P.T. ☒ AUGER ☰ BULK ▯ TUBE ▯ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC –seasonal frozen –very hard digging							0.0
	GRAVEL, COBBLES, SAND, SILT & ORGANIC –dark grey –frozen (Nb)to 0.7m							
1.0	SILTY SAND WITH GRAVEL (SM) –brown –moist –easy digging		109	▲	SM		■ ◆	1.0
2.0	POORLY GRADED GRAVEL WITH SILT & SAND GP-GM) –brown –moist to wet –maximum 100mm material		110	▲	GP-GM		◆ ■	2.0
3.0								3.0
4.0	–H20 flowing into hole @ 3.9m							4.0
	SANDY SILT –brown –moist to wet							
5.0	END HOLE @ 5.0m NOTE: located in low area between eskers							5.0
6.0								6.0

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	REVIEWED BY:	COMPLETE: 01/03/15
	Fig. No: 115-G-07	Page 1 of 1

01/01/28 08:15AM

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST PIT NO: 584-1545
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
CAT 320 EXCAVATOR	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ☒ S.P.T. ☒ AUGER ☰ BULK ▯▯ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC –seasonal frozen –hard digging							0.0
	WELL TO POORLY GRADED GRAVEL WITH SILT & SAND TO WELL-GRADED SAND WITH SILT & GRAVEL (GW-GM)-(GP-GM)-(SW-SM) –brown –frozen (Nf) –maximum 200mm material –estimate 5% +100mm material		111	▲	GW-GM		◆ ■	
1.0								1.0
2.0	–thawed, damp below 2.0m –maximum 100mm material		112	▲	GP-GM		◆ ■	2.0
3.0								3.0
4.0			113	▲	SW-SM		◆ ■	4.0
5.0	END HOLE @ 5.0m NOTE: on esker above TP1544							5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: D.T.	COMPLETION DEPTH: 5.0 m
	REVIEWED BY:	COMPLETE: 01/03/15
	Fig. No: 115-G-07	Page 1 of 1

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST PIT NO: 584-1546
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
CAT 320 EXCAVATOR	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ☒ AUGER ▤ BULK ▥ TUBE ▥ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID / 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC –seasonal frozen							0.0
	WELL-GRADED SAND WITH SILT & GRAVEL TO POORLY GRADED GRAVEL WITH SAND (SW-SM)-(GP) –brown –frozen (Nf)to 1.8m –maximum 100mm material		114 ▲		SW-SM			
1.0								1.0
	–thawed, damp below 1.8m							
2.0								2.0
			115 ▲		GP			
3.0								3.0
4.0								4.0
			116 ▲		GP			
5.0	END HOLE @ 5.0m							5.0
6.0								6.0

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	REVIEWED BY:	COMPLETE: 01/03/15
	Fig. No: 115-G-07	Page 1 of 1

01/03/28 08:15AM

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST PIT NO: 584–1551
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092–202101–0363
CAT 320 EXCAVATOR	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ☒ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC							0.0
	SANDY SILT WITH GRAVEL –brown –damp							
1.0	POORLY GRADED GRAVEL WITH SILT & SAND (GP–GM) –brown –damp –maximum 200mm material –estimate 5% +100mm material							1.0
2.0			132	▲	GP–GM		◆ ■	2.0
3.0								3.0
4.0			133	▲	GP–GM		◆ ■	4.0
5.0								5.0
6.0	END HOLE @ 6.0m NOTE: hole dug into side of esker		134	▲	GP–GM		◆ ■	6.0

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REVIEWED BY:	COMPLETE: 01/03/15
Fig. No: 115–G–07	Page 1 of 1

01/03/28 08:16AM

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST PIT NO: 584-1552
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
CAT 320 EXCAVATOR	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ☒ AUGER ▤ BULK ▥ TUBE ▥ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC				
	SANDY GRAVEL & SILT -brown -frozen (Nf)				
	WELL-GRADED SAND WITH GRAVEL TO POORLY GRADED GRAVEL WITH SAND (SW)-(GP) -brown -damp -frozen (Nf) -maximum 100mm material		135 ▲	SW	
1.0					
2.0					
3.0					
	-maximum 200mm material below 3.8m -estimate 5% +100mm material below 3.8m		136 ▲	GP	
4.0					
5.0			137 ▲	GP	
	END HOLE @ 5.5m NOTE: hole dug on side of esker, part way up slope, below hole 1518				
6.0					

PERCENT FINES ▲ (20 40 60 80)

PLASTIC — M.C. — LIQUID (20 40 60 80)

◇ PERCENT SAND ◆ (20 40 60 80)

■ PERCENT GRAVEL ■ (20 40 60 80)

DEPTH (m)

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REVIEWED BY:	COMPLETE: 01/03/15
Fig. No: 115-G-07	Page 1 of 1

01/03/28 08:16AM

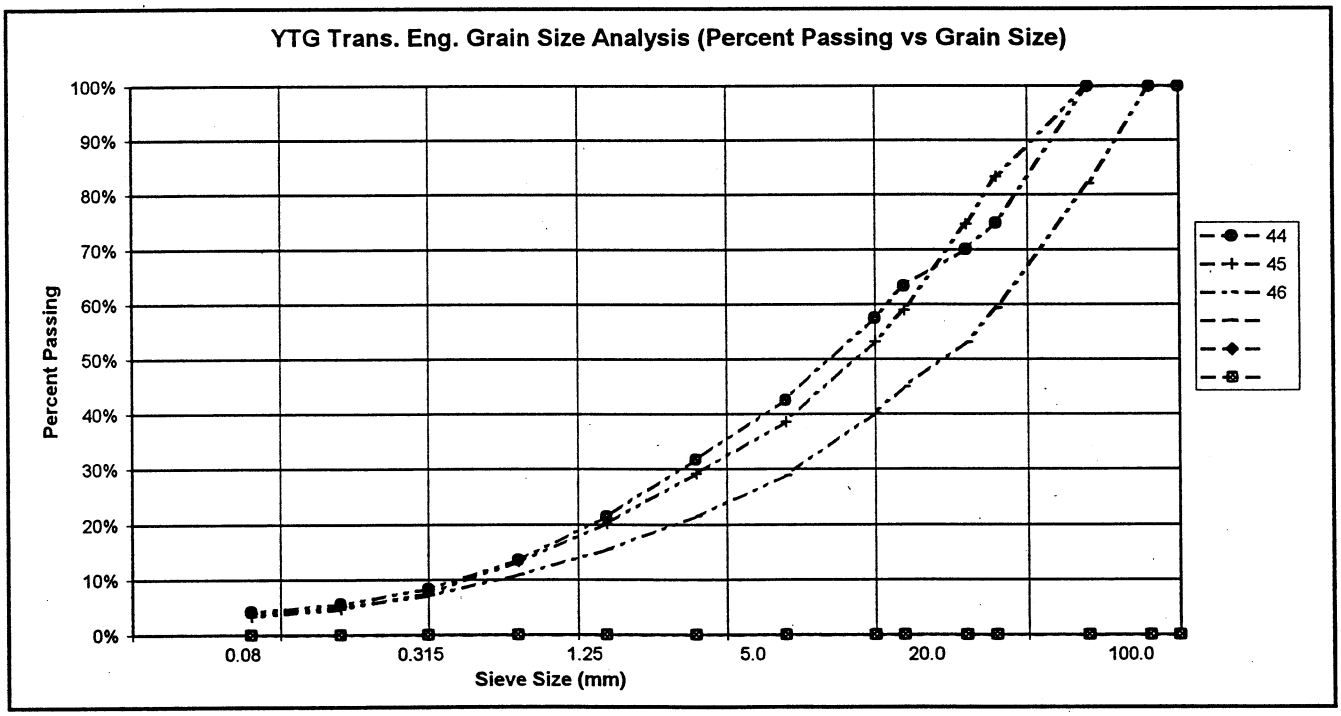
Km 1691.3 RHS Alaska Highway #1
Pit Ident. 115 G-07
(Silver City)

March 2001
Book # 583-584
Test Hole 1519-1552

Pit Run Sample Results

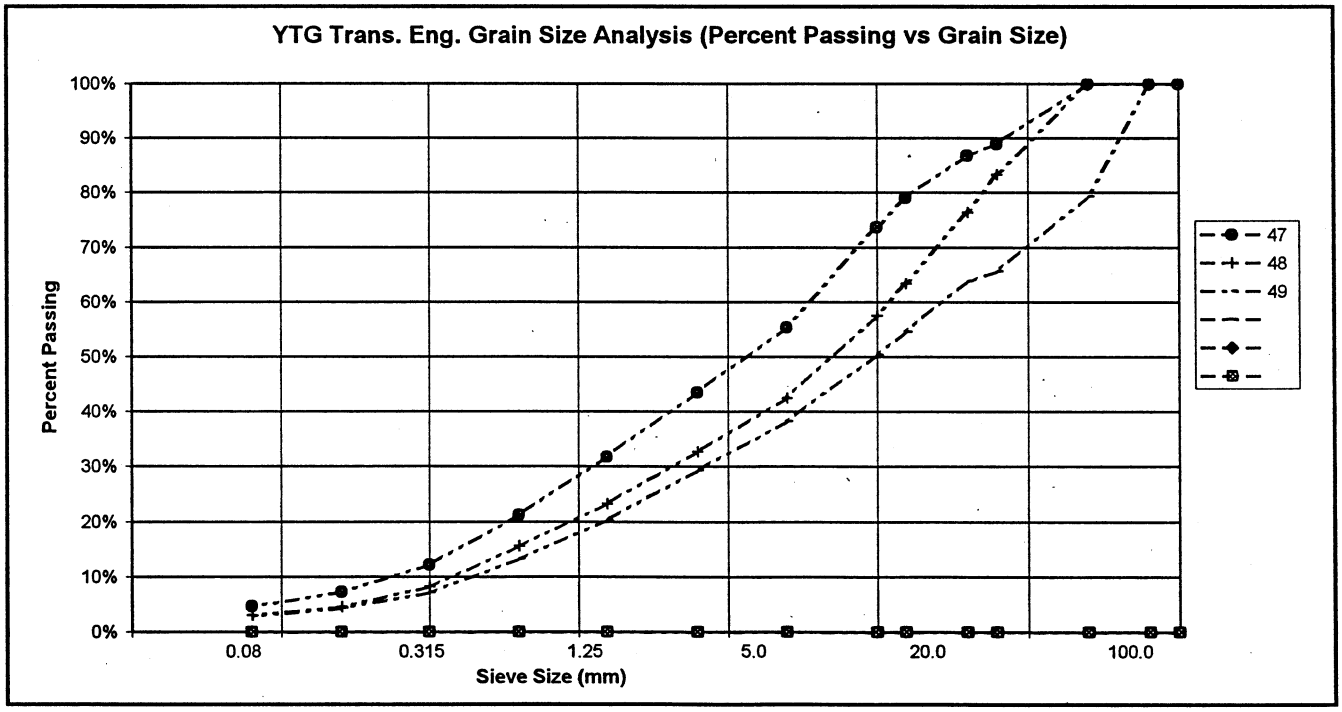
PROJECT NUMBER:	092-202101-0363-1		HOLE No.: 583-1520
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 09		
PROJECT LOCATION:	Km 1694 A/H Silver Creek		
DRILL UNIT:	Cat 320 Excavator		
HOLE LOCATION:	SEE PLAN		
LOGGED BY:	D.T.		DATE COMP: 2001/03/12

FIELD NO:	44	45	46			
LAB NO:	44	45	46			
DEPTH:	0.8-1.2	2.5-2.8	4.8-5.0			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	100%	100%	82%			
25.0	75%	83%	59%			
20.0	70%	75%	53%			
12.5	63%	59%	45%			
10.0	58%	53%	40%			
5.0	43%	39%	29%			
2.5	32%	29%	21%			
1.25	22%	20%	16%			
0.630	14%	13%	11%			
0.315	8%	8%	7%			
0.160	6%	5%	5%			
0.080	4%	3%	4%			
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	57	61	71			
% SAND:	38	35	25			
% FINES:	4	3	4			
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	WELL-GRADED GRAVEL WITH SAND (GW)			



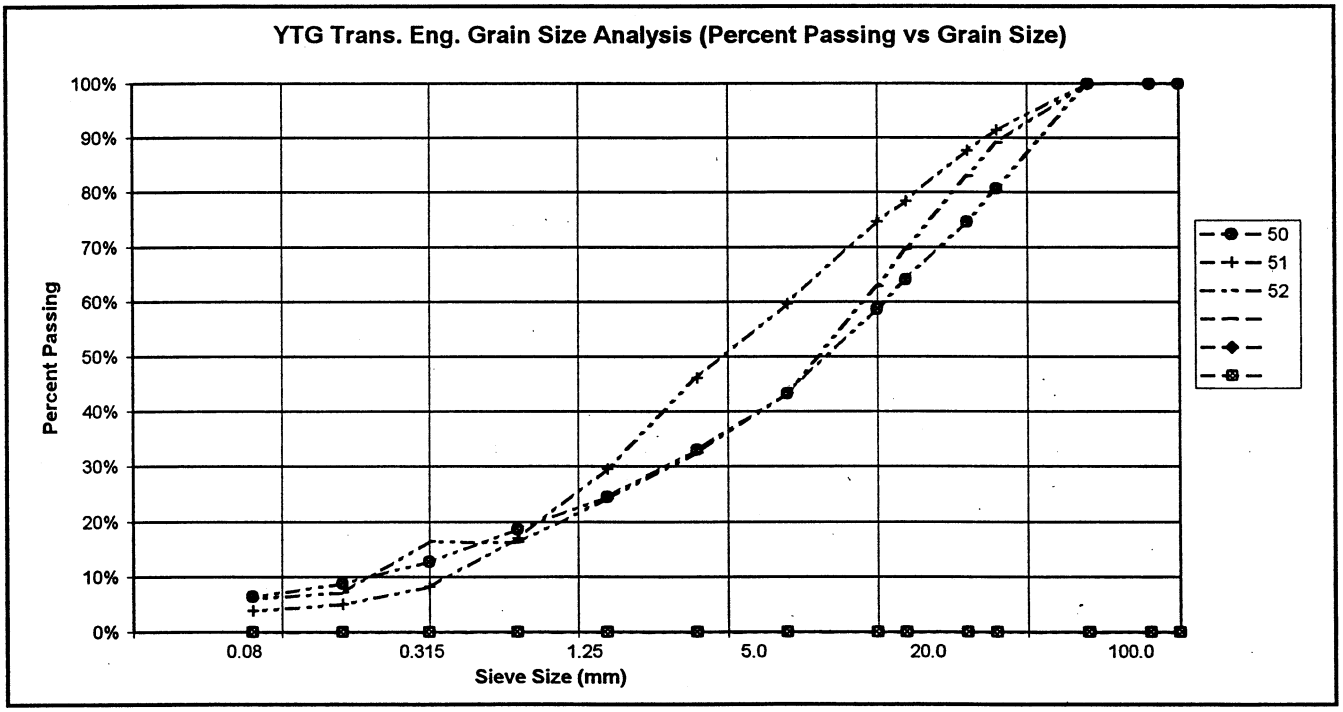
PROJECT NUMBER:	092-202101-0363-1		HOLE No.: 583-1521
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 09		
PROJECT LOCATION:	Km 1694 A/H Silver Creek		
DRILL UNIT:	Cat 320 Excavator		
HOLE LOCATION:	SEE PLAN		
LOGGED BY:	D.T.		DATE COMP: 2001/03/12

FIELD NO:	47	48	49			
LAB NO:	47	48	49			
DEPTH:	0.9-1.3	2.3-2.7	4.4-4.6			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	100%	100%	79%			
25.0	89%	83%	66%			
20.0	87%	76%	64%			
12.5	79%	63%	55%			
10.0	74%	58%	50%			
5.0	55%	42%	38%			
2.5	44%	33%	29%			
1.25	32%	23%	20%			
0.630	21%	16%	13%			
0.315	12%	8%	7%			
0.160	7%	5%	4%			
0.080	5%	3%	3%			
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	45	58	62			
% SAND:	51	39	35			
% FINES:	5	3	3			
CLASSIFICATION	WELL-GRADED SAND WITH GRAVEL (SW)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)			



PROJECT NUMBER:	092-202101-0363-1		HOLE No.: 583-1522
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 09		
PROJECT LOCATION:	Km 1694 A/H Silver Creek		
DRILL UNIT:	Cat 320 Excavator		
HOLE LOCATION:	SEE PLAN		
LOGGED BY:	D.T.		DATE COMP: 2001/03/12

FIELD NO:	50	51	52			
LAB NO:	50	51	52			
DEPTH:	0.7-1.0	2.4-2.8	4.7-5.0			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	100%	100%	100%			
25.0	81%	91%	89%			
20.0	75%	88%	83%			
12.5	64%	78%	70%			
10.0	59%	75%	63%			
5.0	43%	60%	43%			
2.5	33%	46%	33%			
1.25	25%	30%	24%			
0.630	19%	17%	16%			
0.315	13%	8%	16%			
0.160	9%	5%	7%			
0.080	6%	4%	6%			
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	57	40	57			
% SAND:	37	56	37			
% FINES:	6	4	6			
CLASSIFICATION	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	WELL-GRADED SAND WITH GRAVEL (SW)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)			

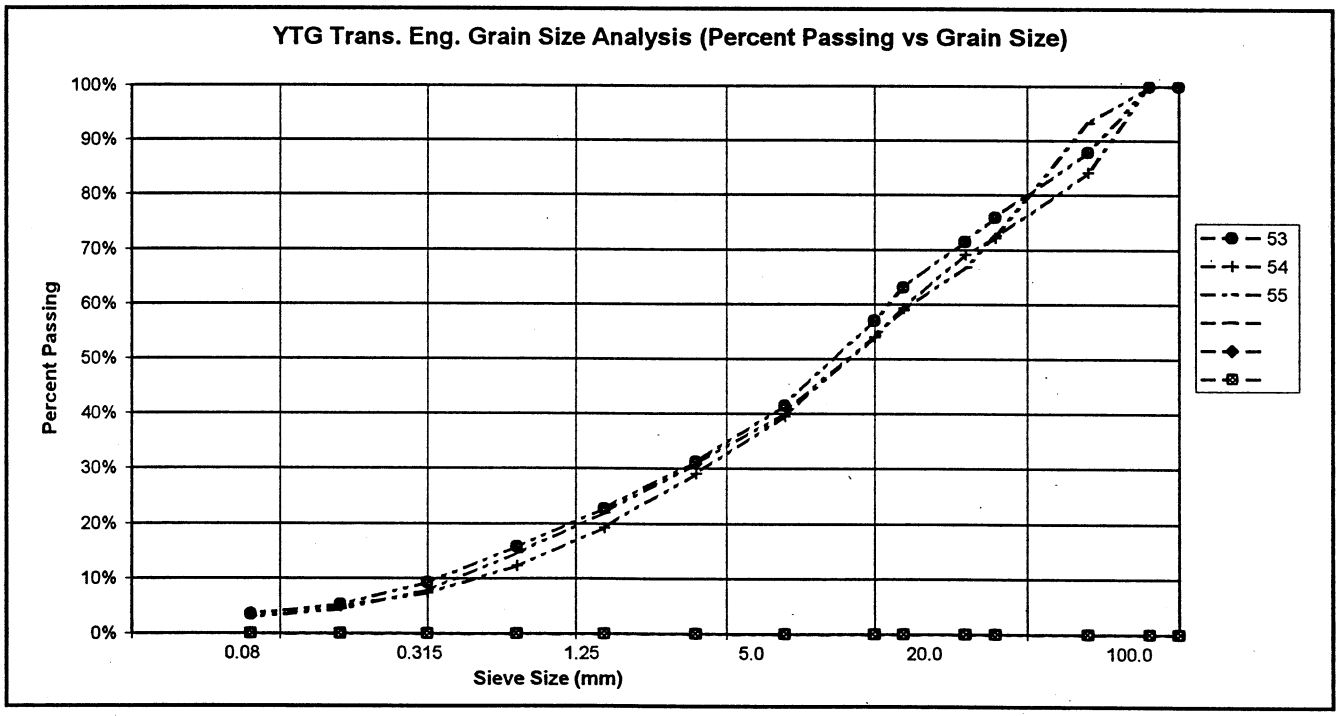


PROJECT NUMBER:	092-202101-0363-1
CLIENT:	ENGINEERING CAPITAL
PROJECT NAME:	SHAKWAK SEG 09
PROJECT LOCATION:	Km 1694 A/H Silver Creek
DRILL UNIT:	Cat 320 Excavator
HOLE LOCATION:	SEE PLAN
LOGGED BY:	D.T.

HOLE No.: 583-1523

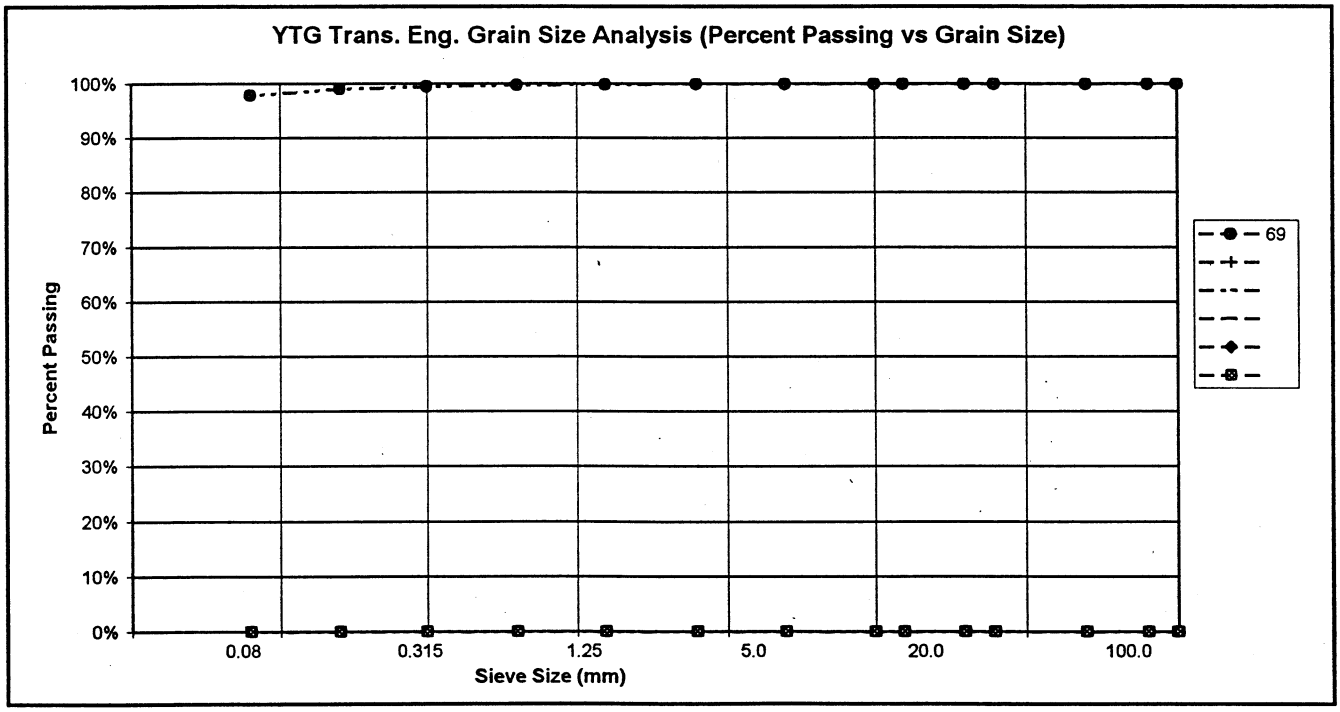
DATE COMP: 2001/03/12

FIELD NO:	53	54	55			
LAB NO:	53	54	55			
DEPTH:	0.7-1.0	2.6-3.0	4.7-5.0			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	88%	84%	93%			
25.0	76%	72%	73%			
20.0	71%	69%	67%			
12.5	63%	59%	59%			
10.0	57%	54%	54%			
5.0	42%	40%	40%			
2.5	31%	29%	31%			
1.25	23%	19%	22%			
0.630	16%	12%	15%			
0.315	9%	7%	8%			
0.160	5%	5%	4%			
0.080	4%	4%	3%			
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	58	60	60			
% SAND:	38	36	37			
% FINES:	4	4	3			
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)			



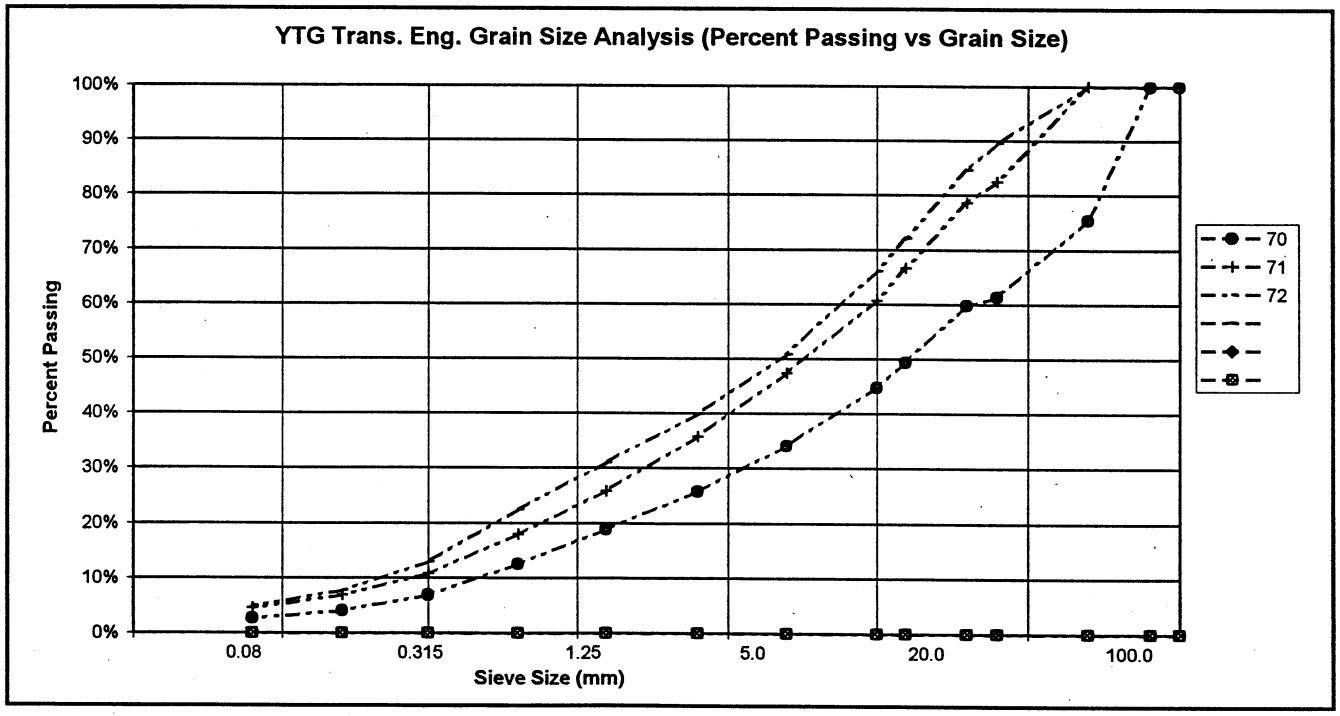
PROJECT NUMBER:	092-202101-0363-1		HOLE No.: 583-1529
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 09		
PROJECT LOCATION:	Km 1694 A/H Silver Creek		
DRILL UNIT:	Cat 320 Excavator		
HOLE LOCATION:	SEE PLAN		
LOGGED BY:	D.T.		DATE COMP: 2001/03/13

FIELD NO:	69					
LAB NO:	69					
DEPTH:	4.0-4.4					
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING					
100.0	100%					
80.0	100%					
50.0	100%					
25.0	100%					
20.0	100%					
12.5	100%					
10.0	100%					
5.0	100%					
2.5	100%					
1.25	100%					
0.630	100%					
0.315	99%					
0.160	99%					
0.080	98%					
M.C.(%):						
LIQUID LIMIT:	0.0					
PLASTIC LIMIT:	0.0					
PLASTIC INDEX.:	0.0					
% GRAVEL:	0					
% SAND:	2					
% FINES:	98					
CLASSIFICATION	SILT (ML)					



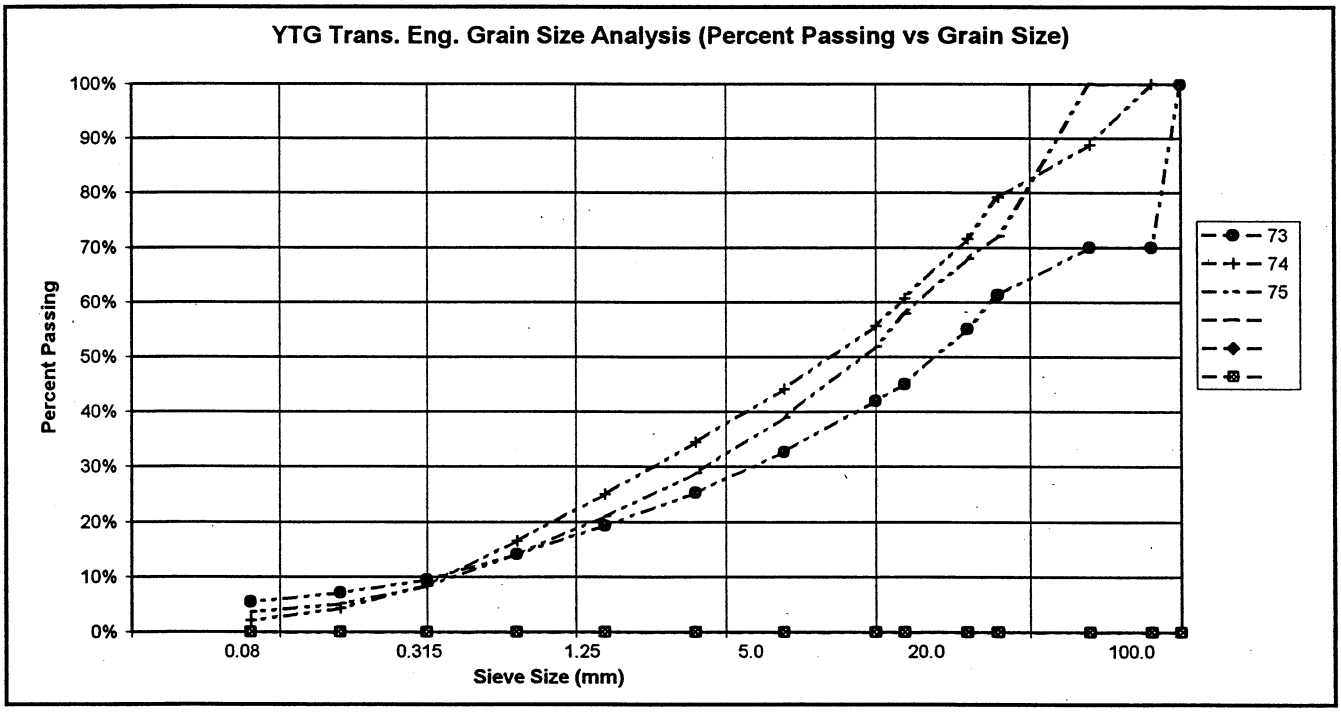
PROJECT NUMBER:	092-202101-0363-1		HOLE No.: 583-1530
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 09		
PROJECT LOCATION:	Km 1694 A/H Silver Creek		
DRILL UNIT:	Cat 320 Excavator		
HOLE LOCATION:	SEE PLAN		
LOGGED BY:	D.T.		DATE COMP: 2001/03/13

FIELD NO:	70	71	72			
LAB NO:	70	71	72			
DEPTH:	0.9-1.1	2.7-3.0	4.8-5.0			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	75%	100%	100%			
25.0	61%	82%	90%			
20.0	60%	79%	85%			
12.5	49%	67%	72%			
10.0	45%	61%	66%			
5.0	34%	47%	51%			
2.5	26%	36%	40%			
1.25	19%	26%	31%			
0.630	13%	18%	22%			
0.315	7%	11%	13%			
0.160	4%	7%	8%			
0.080	3%	5%	5%			
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	66	53	49			
% SAND:	31	43	46			
% FINES:	3	5	5			
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)			



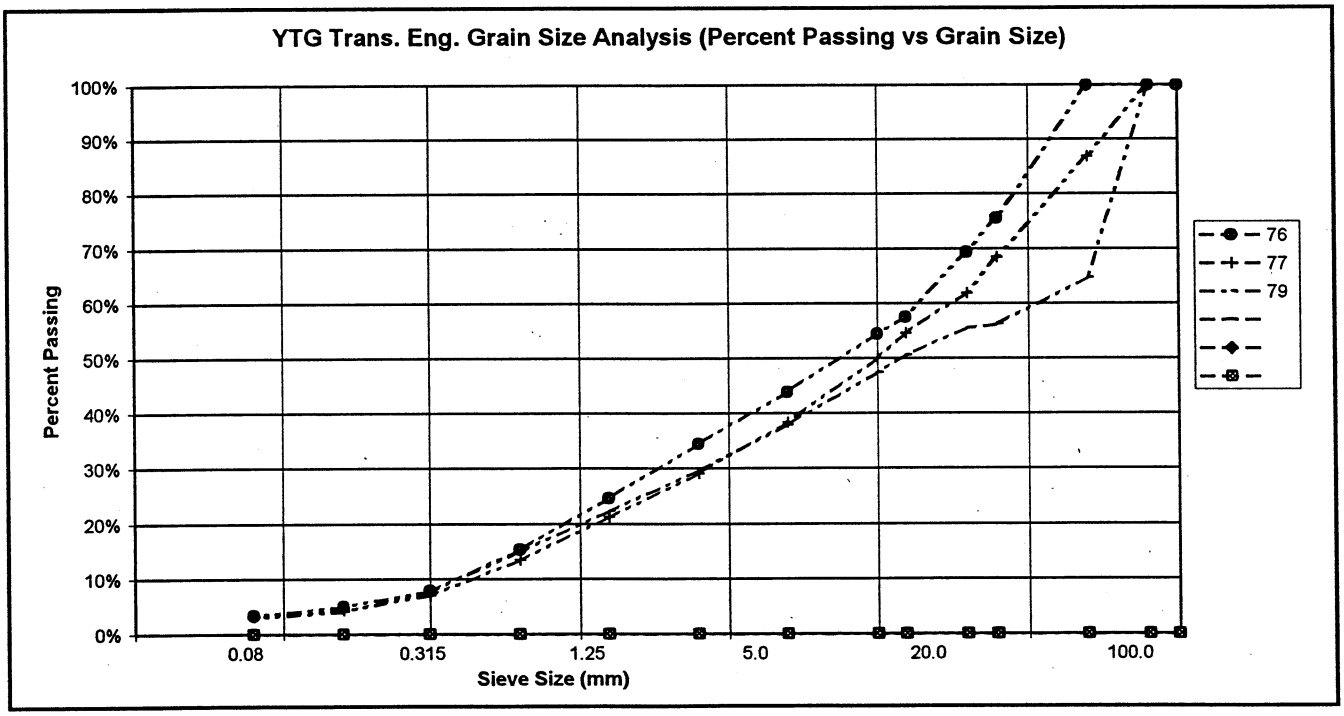
PROJECT NUMBER:	092-202101-0363-1		HOLE No.: 583-1531
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 09		
PROJECT LOCATION:	Km 1694 A/H Silver Creek		
DRILL UNIT:	Cat 320 Excavator		
HOLE LOCATION:	SEE PLAN		
LOGGED BY:	D.T.		DATE COMP: 2001/03/13

FIELD NO:	73	74	75			
LAB NO:	73	74	75			
DEPTH:	0.3-0.6	2.3-2.7	4.8-5.0			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	70%	100%	100%			
50.0	70%	89%	100%			
25.0	61%	79%	72%			
20.0	55%	72%	68%			
12.5	45%	61%	58%			
10.0	42%	56%	52%			
5.0	33%	44%	39%			
2.5	25%	35%	29%			
1.25	19%	25%	21%			
0.630	14%	17%	14%			
0.315	9%	9%	8%			
0.160	7%	4%	5%			
0.080	6%	2%	4%			
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	67	56	61			
% SAND:	27	42	35			
% FINES:	6	2	4			
CLASSIFICATION	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)			



PROJECT NUMBER:	092-202101-0363-1		HOLE No.: 583-1532
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 09		
PROJECT LOCATION:	Km 1694 A/H Silver Creek		
DRILL UNIT:	Cat 320 Excavator		
HOLE LOCATION:	SEE PLAN		
LOGGED BY:	D.T.		DATE COMP: 2001/03/13

FIELD NO:	76	77	79			
LAB NO:	76	77	78			
DEPTH:	1.2-1.6	3.0-3.4	4.6-5.0			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	100%	87%	65%			
25.0	76%	68%	56%			
20.0	69%	62%	55%			
12.5	58%	55%	51%			
10.0	55%	50%	47%			
5.0	44%	38%	38%			
2.5	34%	29%	30%			
1.25	25%	21%	22%			
0.630	15%	13%	15%			
0.315	8%	7%	8%			
0.160	5%	4%	4%			
0.080	3%	3%	3%			
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	56	62	62			
% SAND:	40	35	35			
% FINES:	3	3	3			
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)			

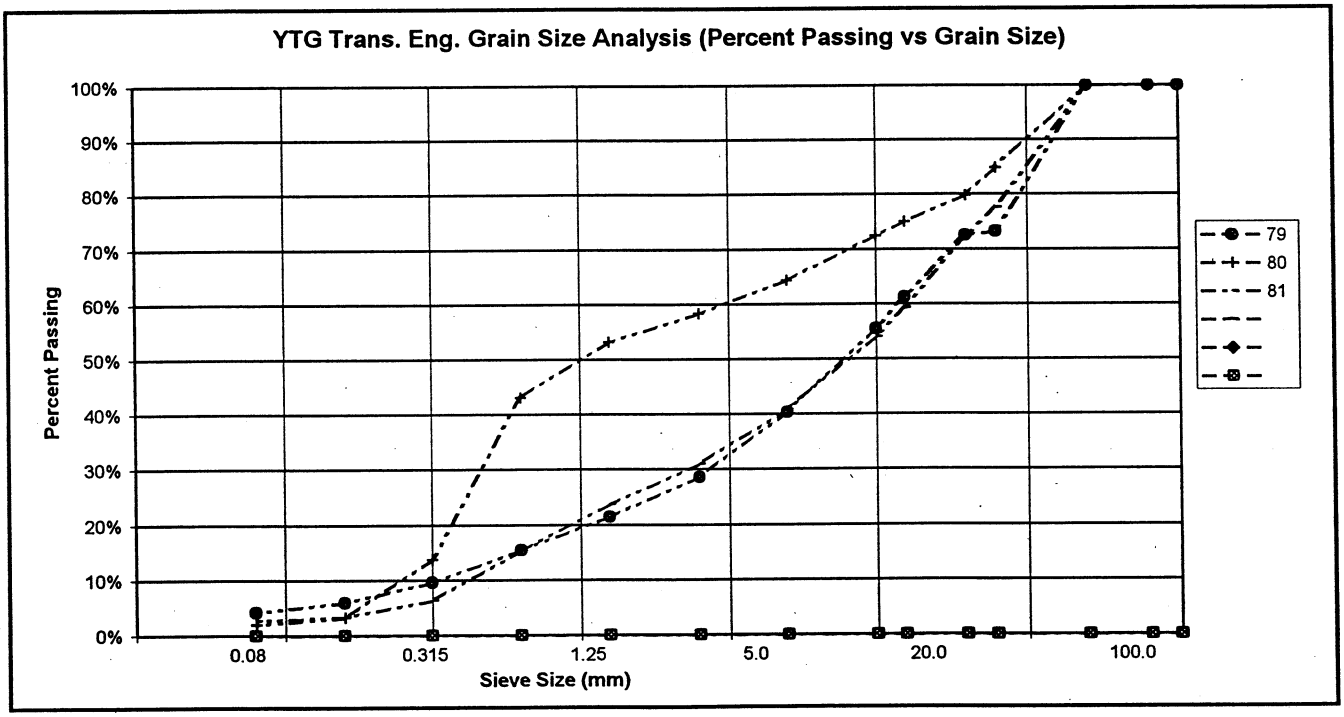


PROJECT NUMBER: 092-202101-0363-1
CLIENT: ENGINEERING CAPITAL
PROJECT NAME: SHAKWAK SEG 09
PROJECT LOCATION: Km 1694 A/H Silver Creek
DRILL UNIT: Cat 320 Excavator
HOLE LOCATION: SEE PLAN
LOGGED BY: D.T.

HOLE No.: 583-1533

DATE COMP: 2001/03/13

FIELD NO:	79	80	81			
LAB NO:	79	80	81			
DEPTH:	0.4-0.7	2.3-2.7	4.6-5.0			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	100%	100%	100%			
25.0	73%	85%	78%			
20.0	73%	80%	72%			
12.5	61%	75%	59%			
10.0	56%	72%	54%			
5.0	40%	64%	41%			
2.5	29%	58%	31%			
1.25	21%	53%	24%			
0.630	15%	43%	15%			
0.315	10%	14%	6%			
0.160	6%	3%	3%			
0.080	4%	2%	3%			
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	60	36	59			
% SAND:	36	62	38			
% FINES:	4	2	3			
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	WELL-GRADED SAND WITH GRAVEL (SW)	POORLY GRADED GRAVEL WITH SAND (GP)			

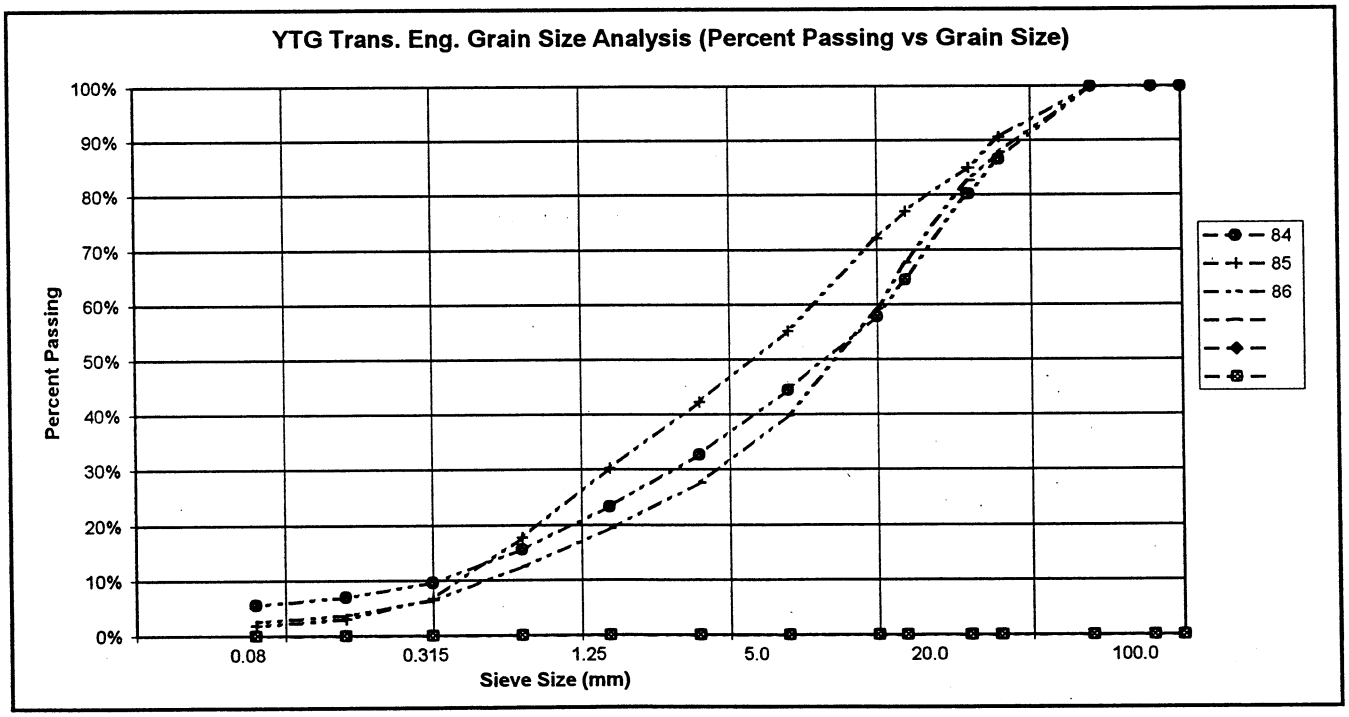


PROJECT NUMBER: 092-202101-0363-1
CLIENT: ENGINEERING CAPITAL
PROJECT NAME: SHAKWAK SEG 09
PROJECT LOCATION: Km 1694 A/H Silver Creek
DRILL UNIT: Cat 320 Excavator
HOLE LOCATION: SEE PLAN
LOGGED BY: D.T.

HOLE No.: 583-1535

DATE COMP: 2001/03/13

FIELD NO:	84	85	86			
LAB NO:	84	85	86			
DEPTH:	0.5-0.8	2.6-3.0	4.6-5.0			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	100%	100%	100%			
25.0	87%	91%	88%			
20.0	80%	85%	83%			
12.5	65%	77%	68%			
10.0	58%	72%	59%			
5.0	44%	55%	40%			
2.5	33%	42%	28%			
1.25	23%	30%	19%			
0.630	16%	18%	12%			
0.315	10%	7%	6%			
0.160	7%	3%	4%			
0.080	6%	2%	3%			
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	56	45	60			
% SAND:	39	53	37			
% FINES:	6	2	3			
CLASSIFICATION	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	WELL-GRADED SAND WITH GRAVEL (SW)	POORLY GRADED GRAVEL WITH SAND (GP)			

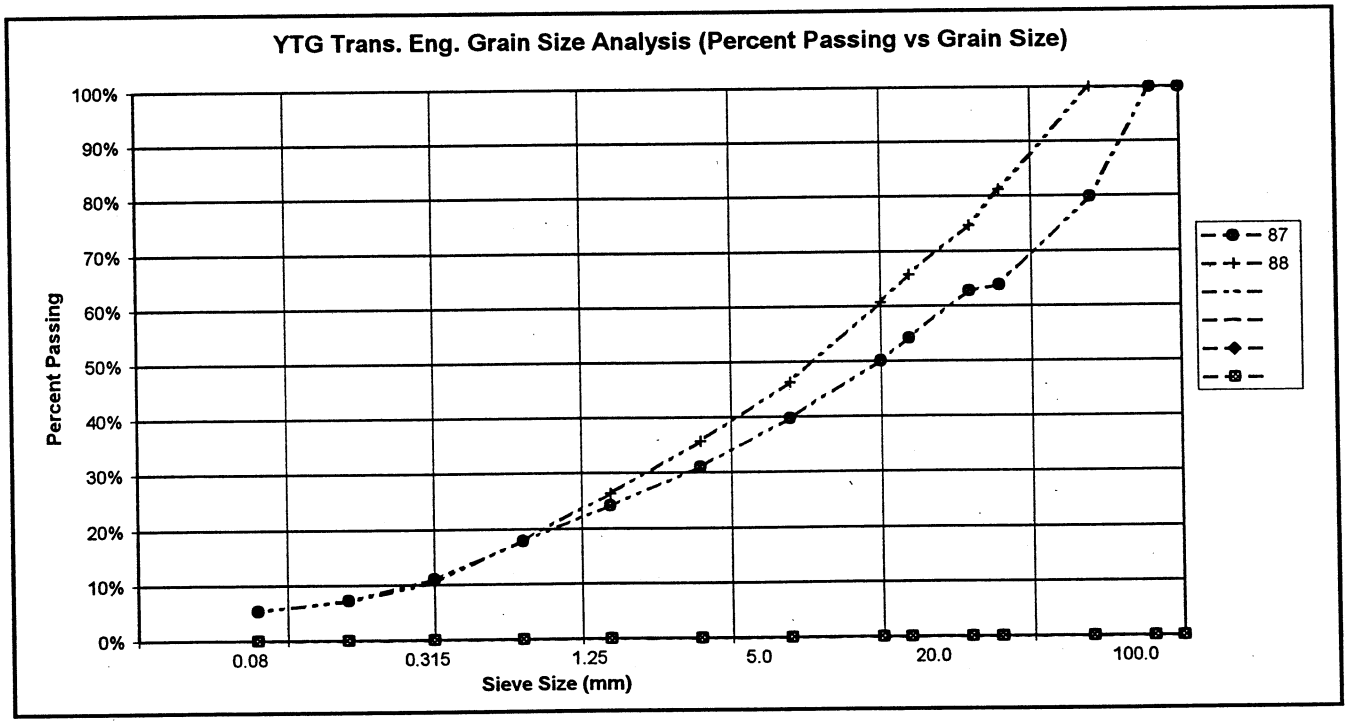


PROJECT NUMBER: 092-202101-0363-1
CLIENT: ENGINEERING CAPITAL
PROJECT NAME: SHAKWAK SEG 09
PROJECT LOCATION: Km 1694 A/H Silver Creek
DRILL UNIT: Cat 320 Excavator
HOLE LOCATION: SEE PLAN
LOGGED BY: D.T.

HOLE No.: 583-1536

DATE COMP: 2001/03/13

FIELD NO:	87	88				
LAB NO:	87	88				
DEPTH:	0.4-0.7	4.6-5.0				
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING				
100.0	100%	100%				
80.0	100%	100%				
50.0	80%	100%				
25.0	64%	81%				
20.0	63%	75%				
12.5	54%	66%				
10.0	50%	61%				
5.0	40%	46%				
2.5	31%	36%				
1.25	24%	26%				
0.630	18%	18%				
0.315	11%	10%				
0.160	7%	7%				
0.080	5%	6%				
M.C.(%):						
LIQUID LIMIT:	0.0	0.0				
PLASTIC LIMIT:	0.0	0.0				
PLASTIC INDEX.:	0.0	0.0				
% GRAVEL:	60	54				
% SAND:	34	41				
% FINES:	5	6				
CLASSIFICATION	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)				

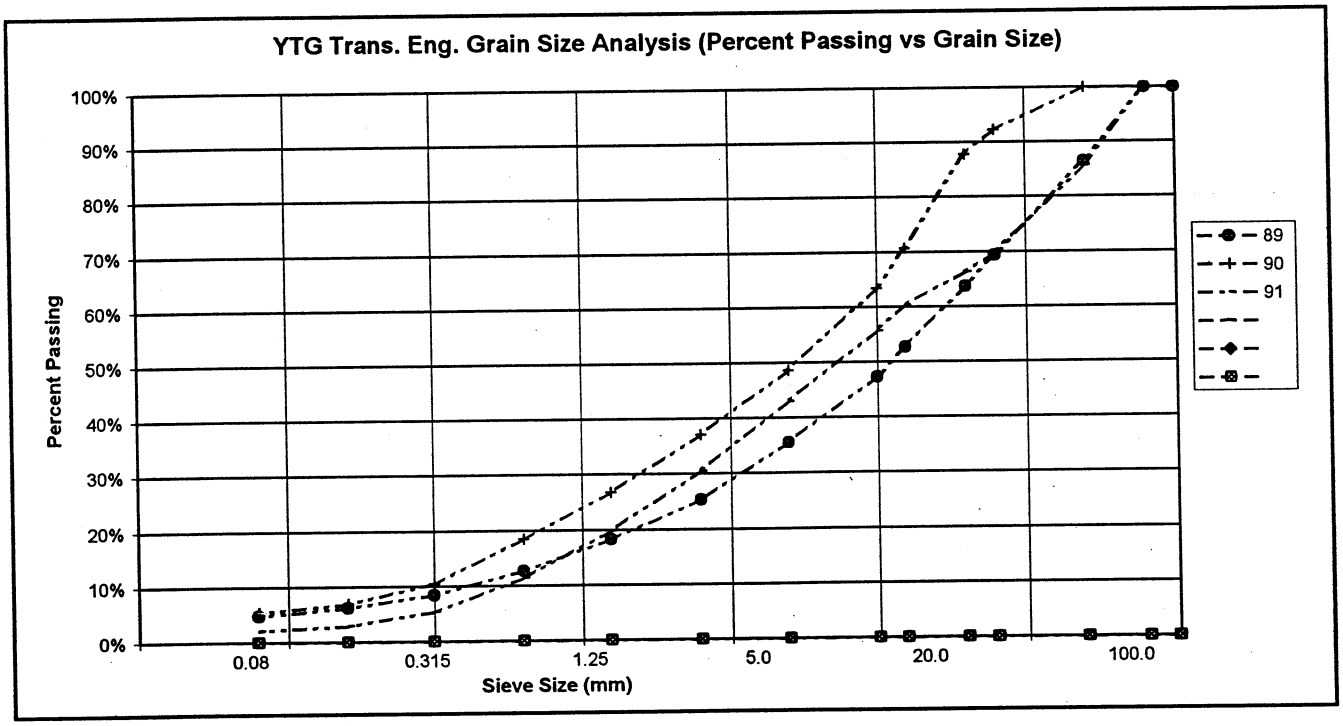


PROJECT NUMBER: 092-202101-0363-1
CLIENT: ENGINEERING CAPITAL
PROJECT NAME: SHAKWAK SEG 09
PROJECT LOCATION: Km 1694 A/H Silver Creek
DRILL UNIT: Cat 320 Excavator
HOLE LOCATION: SEE PLAN
LOGGED BY: D.T.

HOLE No.: 583-1537

DATE COMP: 2001/03/14

FIELD NO:	89	90	91			
LAB NO:	89	90	91			
DEPTH:	0.3-0.7	2.4-2.8	4.6-5.0			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	87%	100%	86%			
25.0	69%	92%	70%			
20.0	64%	88%	66%			
12.5	53%	71%	60%			
10.0	47%	63%	56%			
5.0	36%	49%	43%			
2.5	25%	37%	30%			
1.25	18%	27%	20%			
0.630	13%	18%	11%			
0.315	8%	10%	5%			
0.160	6%	7%	3%			
0.080	5%	5%	2%			
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	64	51	57			
% SAND:	31	43	41			
% FINES:	5	5	2			
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	POORLY GRADED GRAVEL WITH SAND (GP)			

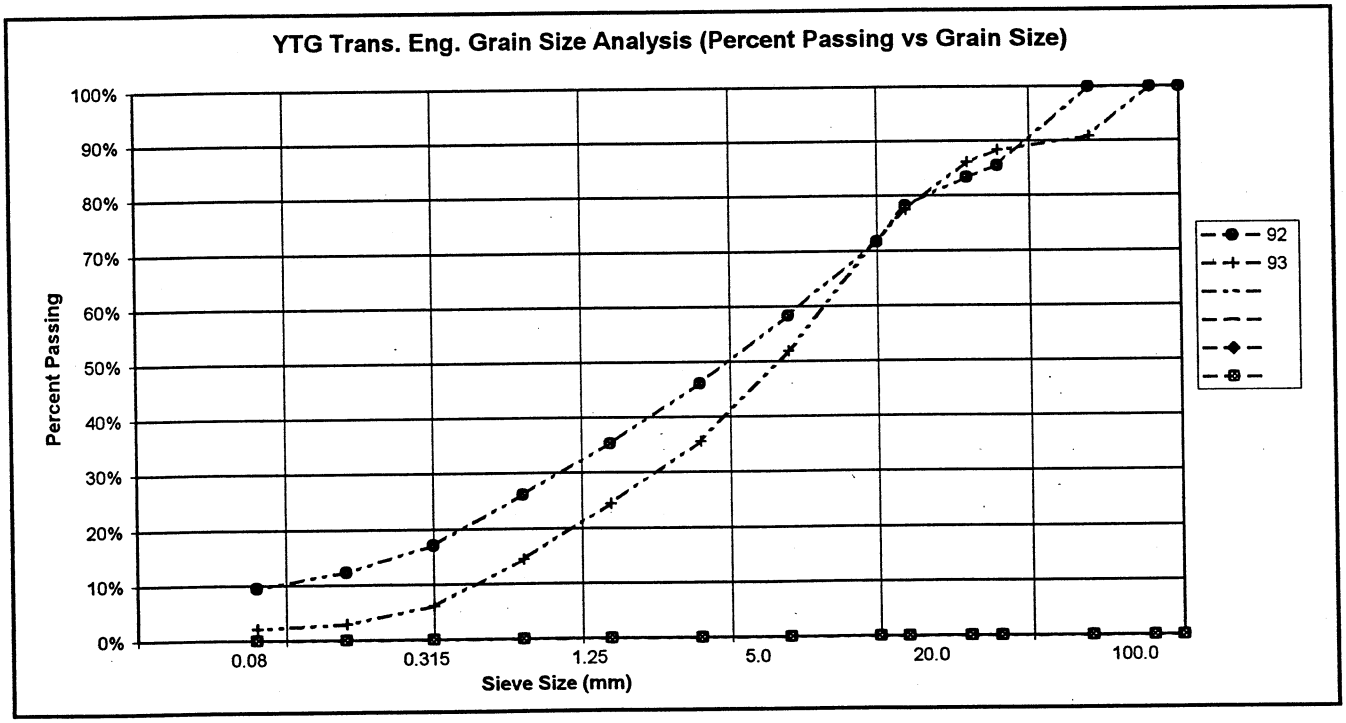


PROJECT NUMBER: 092-202101-0363-1
CLIENT: ENGINEERING CAPITAL
PROJECT NAME: SHAKWAK SEG 09
PROJECT LOCATION: Km 1694 A/H Silver Creek
DRILL UNIT: Cat 320 Excavator
HOLE LOCATION: SEE PLAN
LOGGED BY: D.T.

HOLE No.: 583-1538

DATE COMP: 2001/03/14

FIELD NO:	92	93				
LAB NO:	92	93				
DEPTH:	0.4-0.7	2.3-2.7				
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING				
100.0	100%	100%				
80.0	100%	100%				
50.0	100%	91%				
25.0	86%	88%				
20.0	83%	86%				
12.5	78%	78%				
10.0	72%	72%				
5.0	58%	52%				
2.5	46%	36%				
1.25	35%	24%				
0.630	26%	14%				
0.315	17%	6%				
0.160	12%	3%				
0.080	10%	2%				
M.C.(%):						
LIQUID LIMIT:	0.0	0.0				
PLASTIC LIMIT:	0.0	0.0				
PLASTIC INDEX.:	0.0	0.0				
% GRAVEL:	42	48				
% SAND:	49	50				
% FINES:	10	2				
CLASSIFICATION	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)	WELL-GRADED SAND WITH GRAVEL (SW)				

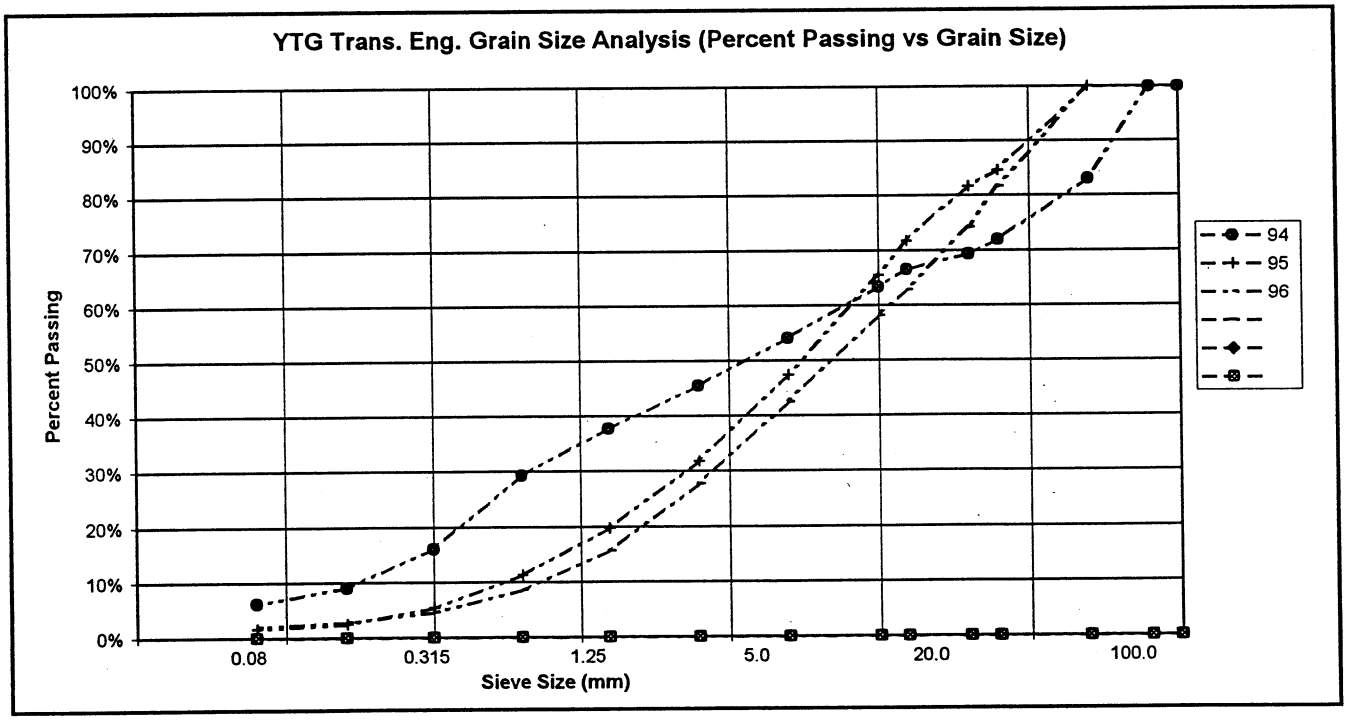


PROJECT NUMBER: 092-202101-0363-1
CLIENT: ENGINEERING CAPITAL
PROJECT NAME: SHAKWAK SEG 09
PROJECT LOCATION: Km 1694 A/H Silver Creek
DRILL UNIT: Cat 320 Excavator
HOLE LOCATION: SEE PLAN
LOGGED BY: D.T.

HOLE No.: 583-1539

DATE COMP: 2001/03/14

FIELD NO:	94	95	96			
LAB NO:	94	95	96			
DEPTH:	0.7-1.0	2.4-2.8	4.6-5.0			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	83%	100%	100%			
25.0	72%	85%	82%			
20.0	69%	82%	74%			
12.5	67%	72%	63%			
10.0	63%	65%	58%			
5.0	54%	47%	43%			
2.5	46%	32%	28%			
1.25	38%	20%	16%			
0.630	29%	11%	9%			
0.315	16%	5%	5%			
0.160	9%	3%	3%			
0.080	6%	2%	2%			
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	46	53	57			
% SAND:	48	46	41			
% FINES:	6	2	2			
CLASSIFICATION	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)			

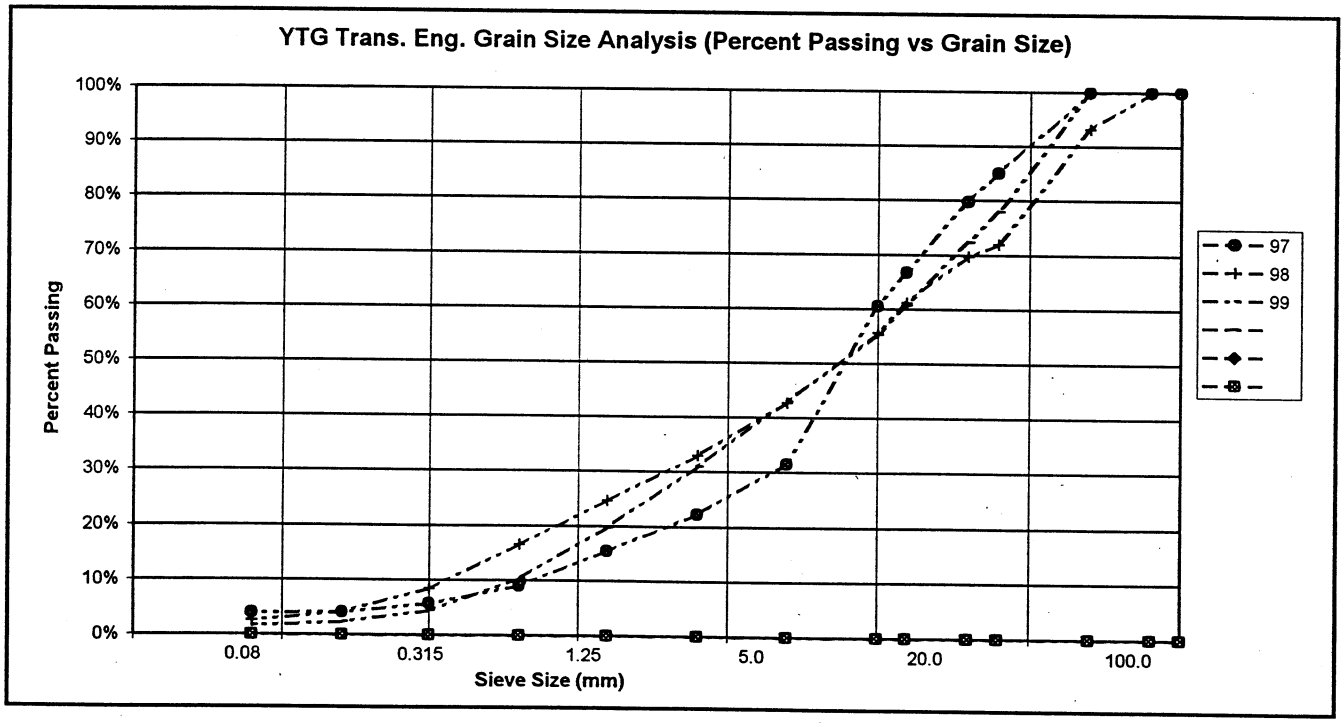


PROJECT NUMBER:	092-202101-0363-1
CLIENT:	ENGINEERING CAPITAL
PROJECT NAME:	SHAKWAK SEG 09
PROJECT LOCATION:	Km 1694 A/H Silver Creek
DRILL UNIT:	Cat 320 Excavator
HOLE LOCATION:	SEE PLAN
LOGGED BY:	D.T.

HOLE No.: 583-1540

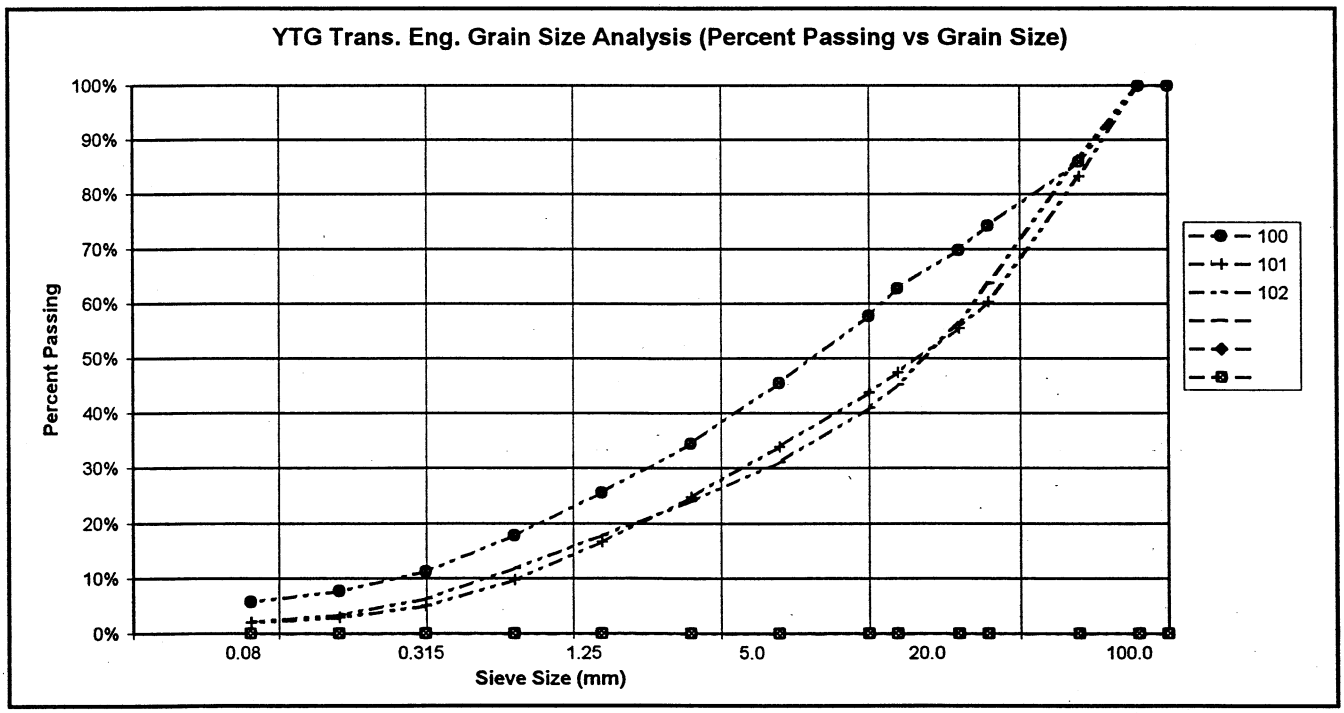
DATE COMP: 2001/03/14

FIELD NO:	97	98	99			
LAB NO:	97	98	99			
DEPTH:	0.6-0.9	2.6-3.0	4.6-5.0			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	100%	93%	100%			
25.0	85%	72%	78%			
20.0	80%	70%	72%			
12.5	67%	61%	61%			
10.0	61%	56%	55%			
5.0	32%	43%	43%			
2.5	22%	33%	31%			
1.25	16%	25%	20%			
0.630	9%	17%	10%			
0.315	6%	8%	4%			
0.160	4%	4%	2%			
0.080	4%	3%	2%			
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	68	57	57			
% SAND:	28	40	41			
% FINES:	4	3	2			
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)			



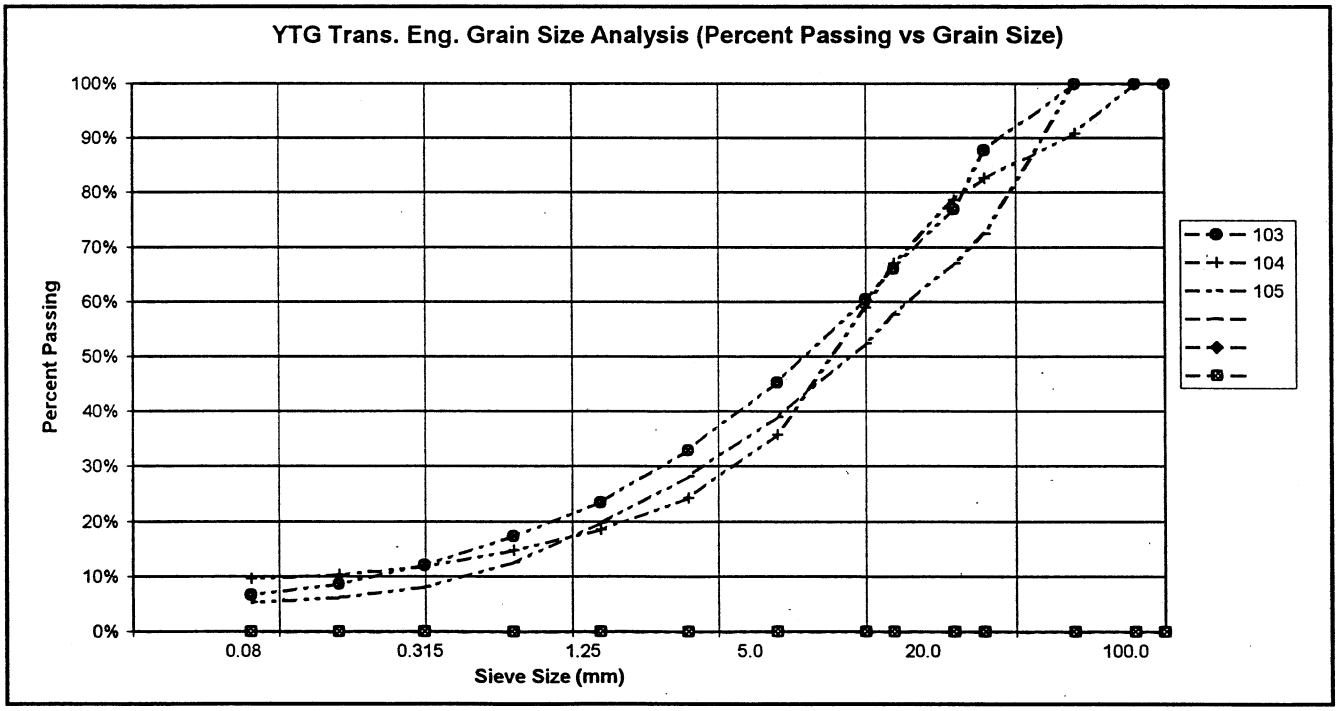
PROJECT NUMBER:	092-202101-0363-1		HOLE No.: 583-1541
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 09		
PROJECT LOCATION:	Km 1694 A/H Silver Creek		
DRILL UNIT:	Cat 320 Excavator		
HOLE LOCATION:	SEE PLAN		
LOGGED BY:	D.T.		DATE COMP: 2001/03/14

FIELD NO:	100	101	102			
LAB NO:	100	101	102			
DEPTH:	0.3-0.6	2.2-2.6	4.6-5.0			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	86%	83%	87%			
25.0	74%	60%	64%			
20.0	70%	56%	56%			
12.5	63%	47%	45%			
10.0	58%	44%	41%			
5.0	46%	34%	31%			
2.5	35%	25%	24%			
1.25	26%	17%	18%			
0.630	18%	10%	12%			
0.315	11%	5%	6%			
0.160	8%	3%	3%			
0.080	6%	2%	2%			
M.C.(%):			#VALUE!			
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	54	66	69			
% SAND:	40	32	29			
% FINES:	6	2	2			
CLASSIFICATION	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)			



PROJECT NUMBER:	092-202101-0363-1		HOLE No.: 583-1542
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 09		
PROJECT LOCATION:	Km 1694 A/H Silver Creek		
DRILL UNIT:	Cat 320 Excavator		
HOLE LOCATION:	SEE PLAN		
LOGGED BY:	D.T.		DATE COMP: 2001/03/14

FIELD NO:	103	104	105			
LAB NO:	103	104	105			
DEPTH:	0.4-0.7	2.6-3.0	4.6-5.0			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	100%	91%	100%			
25.0	88%	83%	72%			
20.0	77%	79%	67%			
12.5	66%	67%	58%			
10.0	60%	59%	52%			
5.0	45%	36%	39%			
2.5	33%	24%	28%			
1.25	23%	19%	20%			
0.630	17%	15%	13%			
0.315	12%	12%	8%			
0.160	9%	10%	6%			
0.080	7%	10%	5%			
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	55	64	61			
% SAND:	39	26	34			
% FINES:	7	10	5			
CLASSIFICATION	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)			

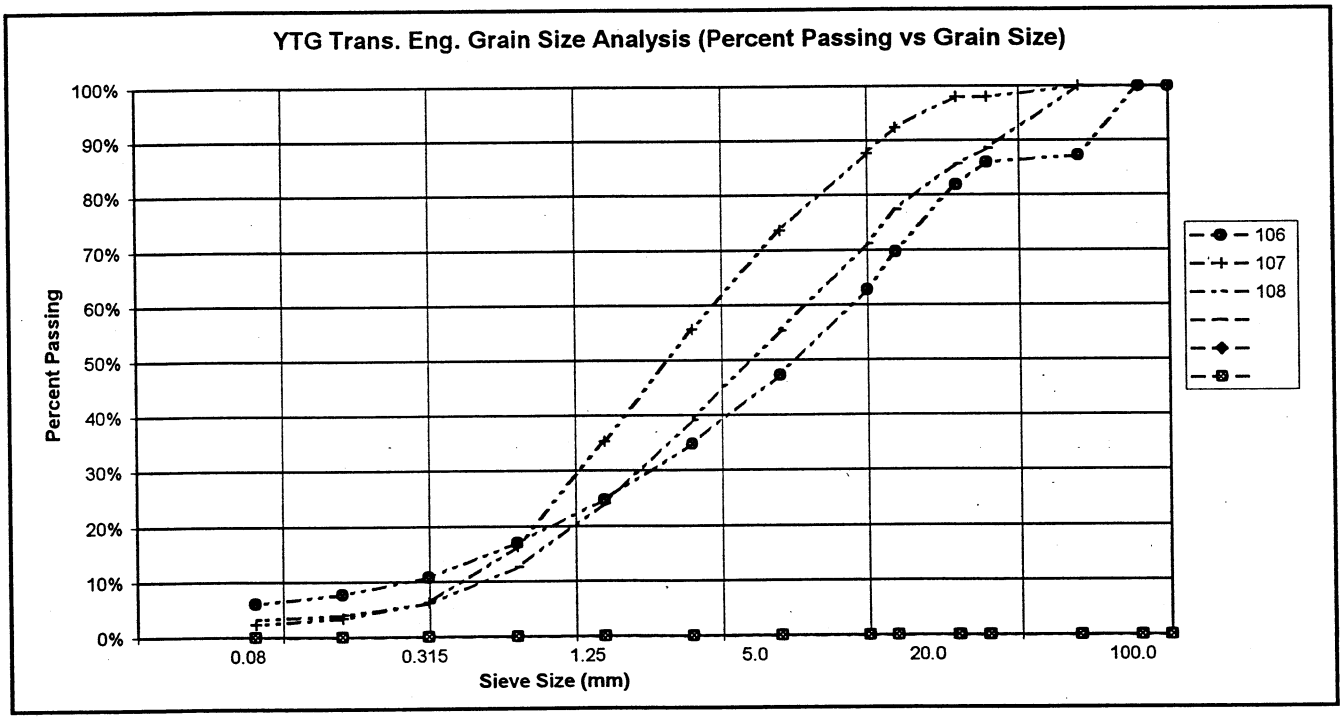


PROJECT NUMBER: 092-202101-0363-1
CLIENT: ENGINEERING CAPITAL
PROJECT NAME: SHAKWAK SEG 09
PROJECT LOCATION: Km 1694 A/H Silver Creek
DRILL UNIT: Cat 320 Excavator
HOLE LOCATION: SEE PLAN
LOGGED BY: D.T.

HOLE No.: 583-1543

DATE COMP: 2001/03/14

FIELD NO:	106	107	108			
LAB NO:	106	107	108			
DEPTH:	0.5-0.8	2.6-3.0	4.4-4.6			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	87%	100%	100%			
25.0	86%	98%	88%			
20.0	82%	98%	86%			
12.5	70%	92%	77%			
10.0	63%	88%	71%			
5.0	47%	74%	55%			
2.5	35%	56%	39%			
1.25	25%	35%	24%			
0.630	17%	16%	13%			
0.315	11%	6%	6%			
0.160	8%	3%	4%			
0.080	6%	2%	3%			
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	53	26	45			
% SAND:	41	71	52			
% FINES:	6	2	3			
CLASSIFICATION	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	POORLY GRADED SAND WITH GRAVEL (SP)	WELL-GRADED SAND WITH GRAVEL (SW)			

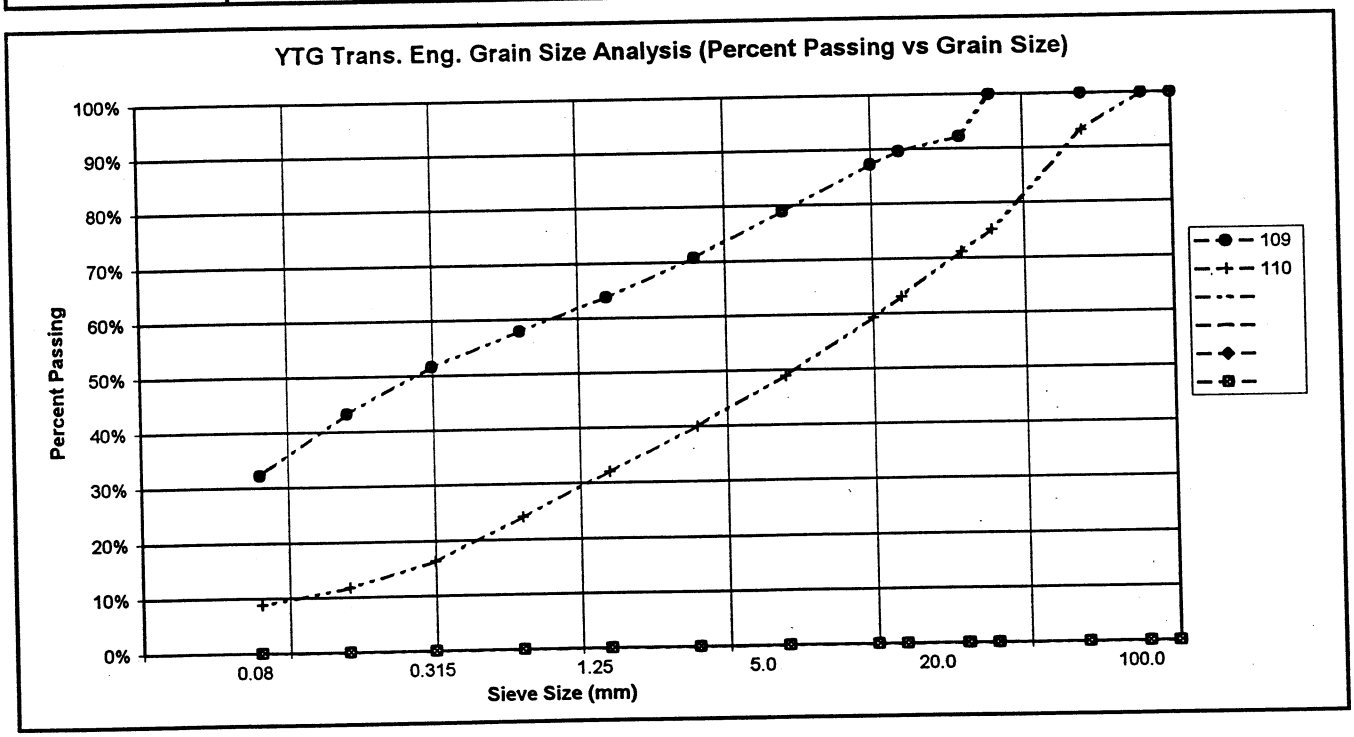


PROJECT NUMBER: 092-202101-0363-1
CLIENT: ENGINEERING CAPITAL
PROJECT NAME: SHAKWAK SEG 09
PROJECT LOCATION: Km 1694 A/H
DRILL UNIT: CAT 320 L EXCAVATOR
HOLE LOCATION: SEE PLAN
LOGGED BY: D.T.

HOLE No.: 584-1544

DATE COMP: 2001/03/15

FIELD NO:	109	110				
LAB NO:	109	110				
DEPTH:	1.1-1.5	2.4-2.7				
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING				
100.0	100%	100%				
80.0	100%	100%				
50.0	100%	93%				
25.0	100%	75%				
20.0	92%	71%				
12.5	90%	63%				
10.0	87%	59%				
5.0	79%	49%				
2.5	71%	40%				
1.25	64%	32%				
0.630	58%	24%				
0.315	52%	16%				
0.160	43%	12%				
0.080	32%	9%				
M.C.(%):						
LIQUID LIMIT:	0.0	0.0				
PLASTIC LIMIT:	0.0	0.0				
PLASTIC INDEX.:	0.0	0.0				
% GRAVEL:	21	51				
% SAND:	47	40				
% FINES:	32	9				
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)				

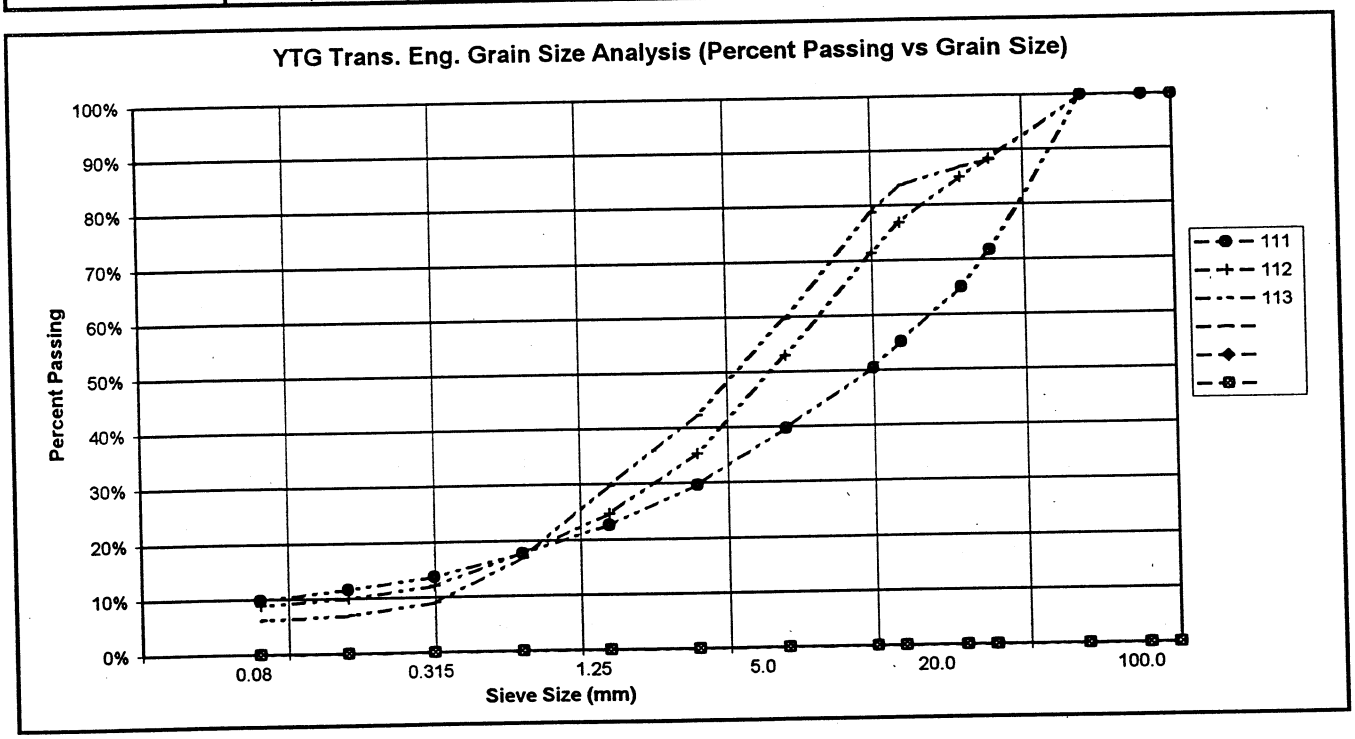


PROJECT NUMBER: 092-202101-0363-1
CLIENT: ENGINEERING CAPITAL
PROJECT NAME: SHAKWAK SEG 09
PROJECT LOCATION: Km 1694 A/H
DRILL UNIT: CAT 320 L EXCAVATOR
HOLE LOCATION: SEE PLAN
LOGGED BY: D.T.

HOLE No.: 584-1545

DATE COMP: 2001/03/15

FIELD NO:	111	112	113			
LAB NO:	111	112	113			
DEPTH:	0.3-0.6	2.6-3.0	4.6-5.0			
TYPE:	BULK	BULK	BULK	AUGER		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	100%	100%	100%			
25.0	72%	88%	88%			
20.0	65%	85%	87%			
12.5	55%	77%	84%			
10.0	50%	71%	79%			
5.0	40%	53%	60%			
2.5	30%	35%	42%			
1.25	23%	25%	30%			
0.630	18%	18%	17%			
0.315	14%	12%	9%			
0.160	12%	10%	7%			
0.080	10%	9%	6%			
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	60	47	40			
% SAND:	30	44	53			
% FINES:	10	9	6			
CLASSIFICATION	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)			

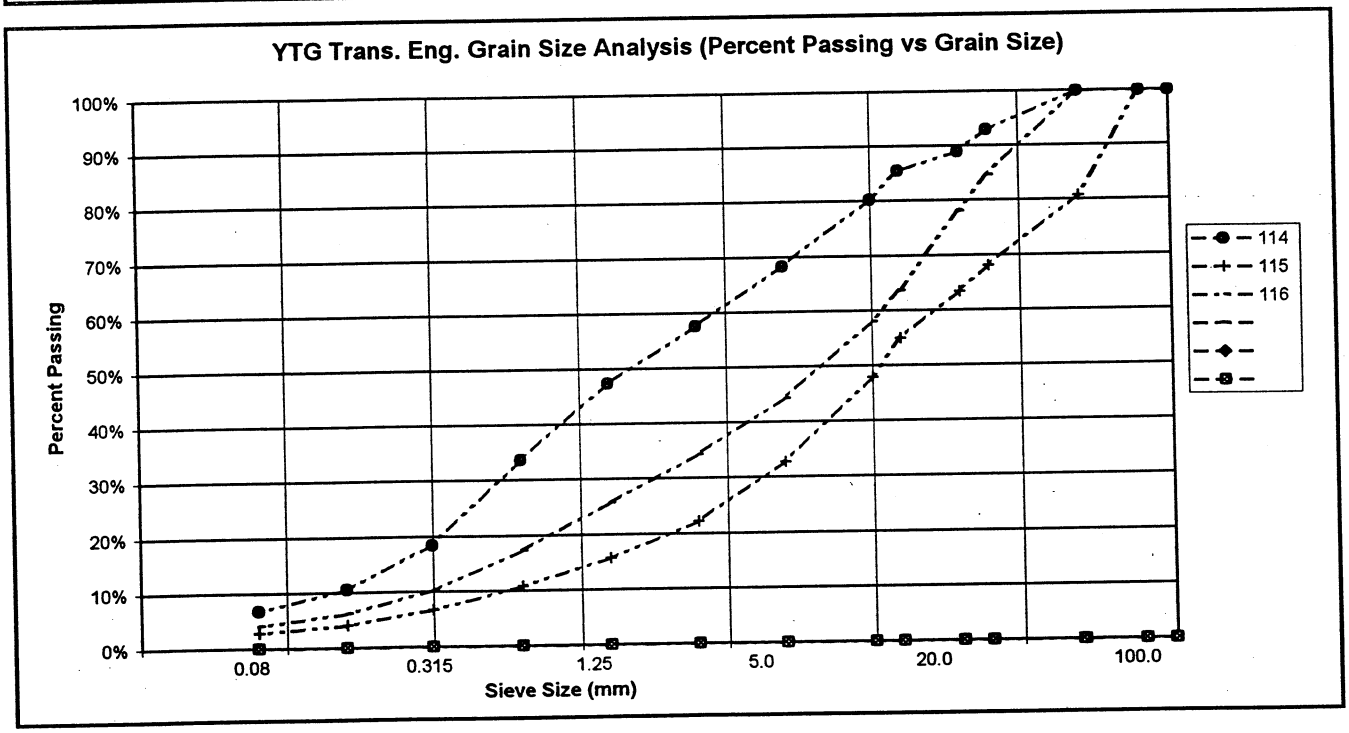


PROJECT NUMBER: 092-202101-0363-1
CLIENT: ENGINEERING CAPITAL
PROJECT NAME: SHAKWAK SEG 09
PROJECT LOCATION: Km 1694 A/H
DRILL UNIT: CAT 320 L EXCAVATOR
HOLE LOCATION: SEE PLAN
LOGGED BY: D.T.

HOLE No.: 584-1546

DATE COMP: 2001/03/15

FIELD NO:	114	115	116			
LAB NO:	114	115	116			
DEPTH:	0.3-0.6	2.5-2.9	4.6-5.0			
TYPE:	BULK	BULK	BULK	AUGER		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	100%	81%	100%			
25.0	93%	68%	85%			
20.0	89%	63%	78%			
12.5	86%	55%	64%			
10.0	80%	48%	58%			
5.0	68%	33%	44%			
2.5	58%	22%	34%			
1.25	47%	16%	26%			
0.630	34%	11%	17%			
0.315	18%	7%	10%			
0.160	11%	4%	6%			
0.080	7%	3%	4%			
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	32	67	56			
% SAND:	61	30	40			
% FINES:	7	3	4			
CLASSIFICATION	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)			

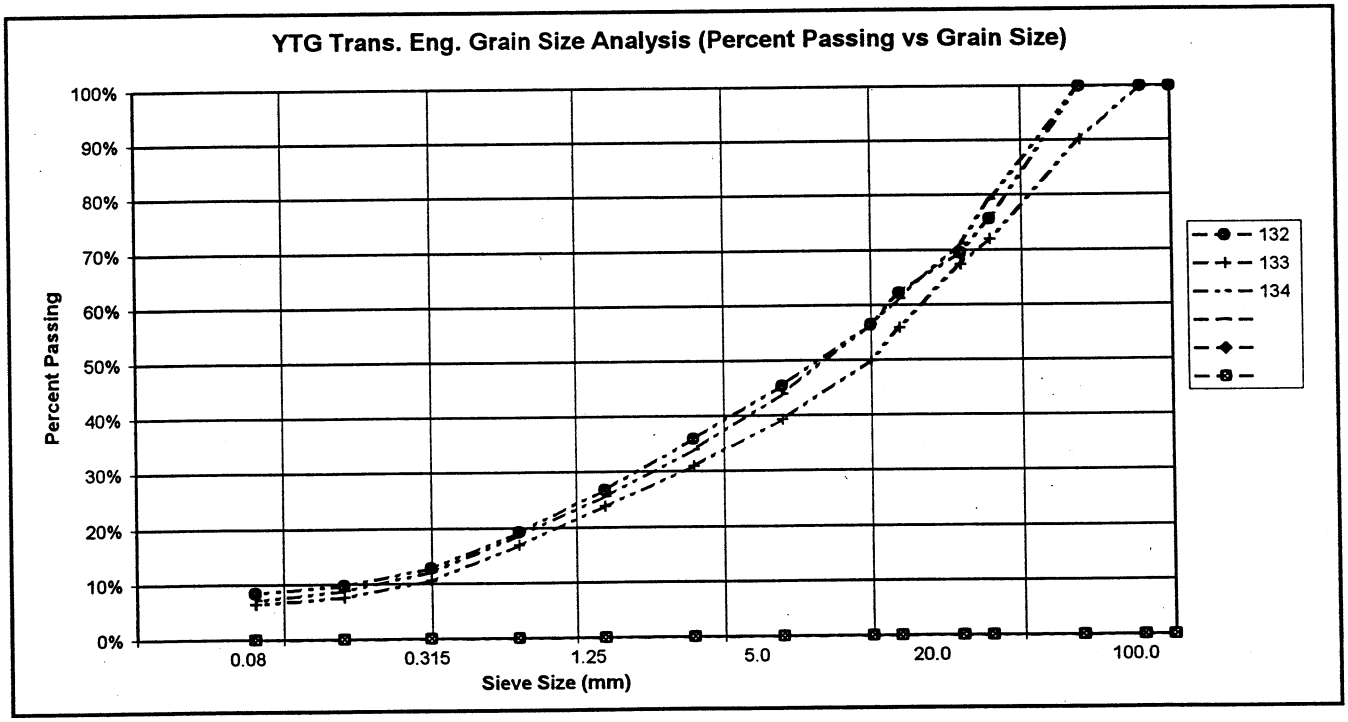


PROJECT NUMBER:	092-202101-0363-1
CLIENT:	ENGINEERING CAPITAL
PROJECT NAME:	SHAKWAK SEG 09
PROJECT LOCATION:	Km 1694 A/H
DRILL UNIT:	CAT 320 L EXCAVATOR
HOLE LOCATION:	SEE PLAN
LOGGED BY:	D.T.

HOLE No.: 584-1551

DATE COMP: 2001/03/15

FIELD NO:	132	133	134			
LAB NO:	132	133	134			
DEPTH:	2.2-2.4	3.9-4.3	5.7-6.0			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	100%	90%	100%			
25.0	76%	72%	79%			
20.0	69%	67%	71%			
12.5	62%	56%	61%			
10.0	57%	50%	56%			
5.0	45%	39%	44%			
2.5	36%	31%	34%			
1.25	27%	24%	26%			
0.630	19%	17%	19%			
0.315	13%	11%	12%			
0.160	10%	8%	9%			
0.080	8%	6%	7%			
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	55	61	56			
% SAND:	37	33	37			
% FINES:	8	6	7			
CLASSIFICATION	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)			



PROJECT NUMBER:	092-202101-0363-1		HOLE No.: 584-1552
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 09		
PROJECT LOCATION:	Km 1694 A/H		
DRILL UNIT:	CAT 320 L EXCAVATOR		
HOLE LOCATION:	SEE PLAN		
LOGGED BY:	D.T.		DATE COMP: 2001/03/15

FIELD NO:	135	136	137			
LAB NO:	135	136	137			
DEPTH:	1.5-1.9	4.1-4.5	5.1-5.5			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	100%	91%	100%			
25.0	89%	77%	89%			
20.0	85%	75%	83%			
12.5	74%	63%	71%			
10.0	70%	57%	64%			
5.0	55%	43%	50%			
2.5	43%	32%	38%			
1.25	31%	23%	28%			
0.630	21%	16%	19%			
0.315	11%	8%	10%			
0.160	6%	4%	6%			
0.080	4%	3%	4%			
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	45	57	50			
% SAND:	51	41	46			
% FINES:	4	3	4			
CLASSIFICATION	WELL-GRADED SAND WITH GRAVEL (SW)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)			

