

# **GEOTECHNICAL INVESTIGATIONS**

Highway Construction  
Km 1758.7 to 1768.1  
Alaska Highway #1  
Yukon 2001-2002  
**Volume 2 of 2**



Community and Transportation Services  
Transportation Engineering Branch

**Geotechnical Services**

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**ORIGINAL - Do Not Remove From File**



HIGHWAY CONSTRUCTION

GEOTECHNICAL INVESTIGATION

Km 1758.7 to 1768.1  
YUKON 2001-2002

ALASKA HIGHWAY #1

Highway Construction  
Km 1758.7 to 1768.1  
Alaska Highway #1  
Yukon 2001-2002  
**Volume 2 of 2**

This Data Package prepared for project viewing:

May, 2001

Transportation Engineering Branch  
Geotechnical Services  
461 Range Road  
Whitehorse, Yukon



## CONTENTS

### Volume 1 of 2

#### INTRODUCTION

Investigation notes, classification methods and legends.

#### CENTRELINE TESTING ALASKA HIGHWAY

Subsurface Exploration and Testing Report Sheets are provided.

The reports for the centreline holes are arranged according to project location, starting at Km 1758+650 and increasing to Km 1767+600.

Laboratory Testing Result Sheets are provided.

The reports for the centreline holes are arranged according to test hole number, starting at 552-1496 and increasing to 556-1601.

2000	TEST HOLES 1496 to 1514	shown with prefix 552-
	TEST HOLES 1515 to 1539	shown with prefix 553-
	TEST HOLES 1540 to 1564	shown with prefix 554-
	TEST HOLES 1565 to 1577	shown with prefix 555-
	TEST HOLES 1578 to 1601	shown with prefix 556-

#### **NOTE:**

**2000 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****GRANULAR SOURCE Km 1766.0 LHS ALASKA HIGHWAY**

Location plans, photographs, and subsurface exploration and testing report sheets are provided.

**Auger Testing**

1985	TEST HOLES 68 to 75	shown with prefix 778-
2000	TEST HOLES 1442 to 1450	shown with prefix 557-

**Backhoe Testing**

1985	TEST PITS 85, 86, 87, 90, and 91	shown with prefix 807-
1988	TEST PITS 03, 05, 07 to 09, 12 to 16, and 18 to 25	shown with prefix 031-
1988	TEST PITS 26, 27, 29 to 31, and and 33 to 35	shown with prefix 032-

HIGHWAY CONSTRUCTION

**GEOTECHNICAL INVESTIGATION**

Km 1758.7 to 1768.1  
YUKON 2001-2002





ALASKA HIGHWAY #1

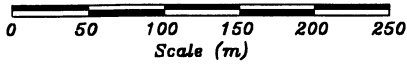
**GRANULAR SOURCE TESTING**  
**Km 1766.0 LHS**  
**ALASKA HIGHWAY**



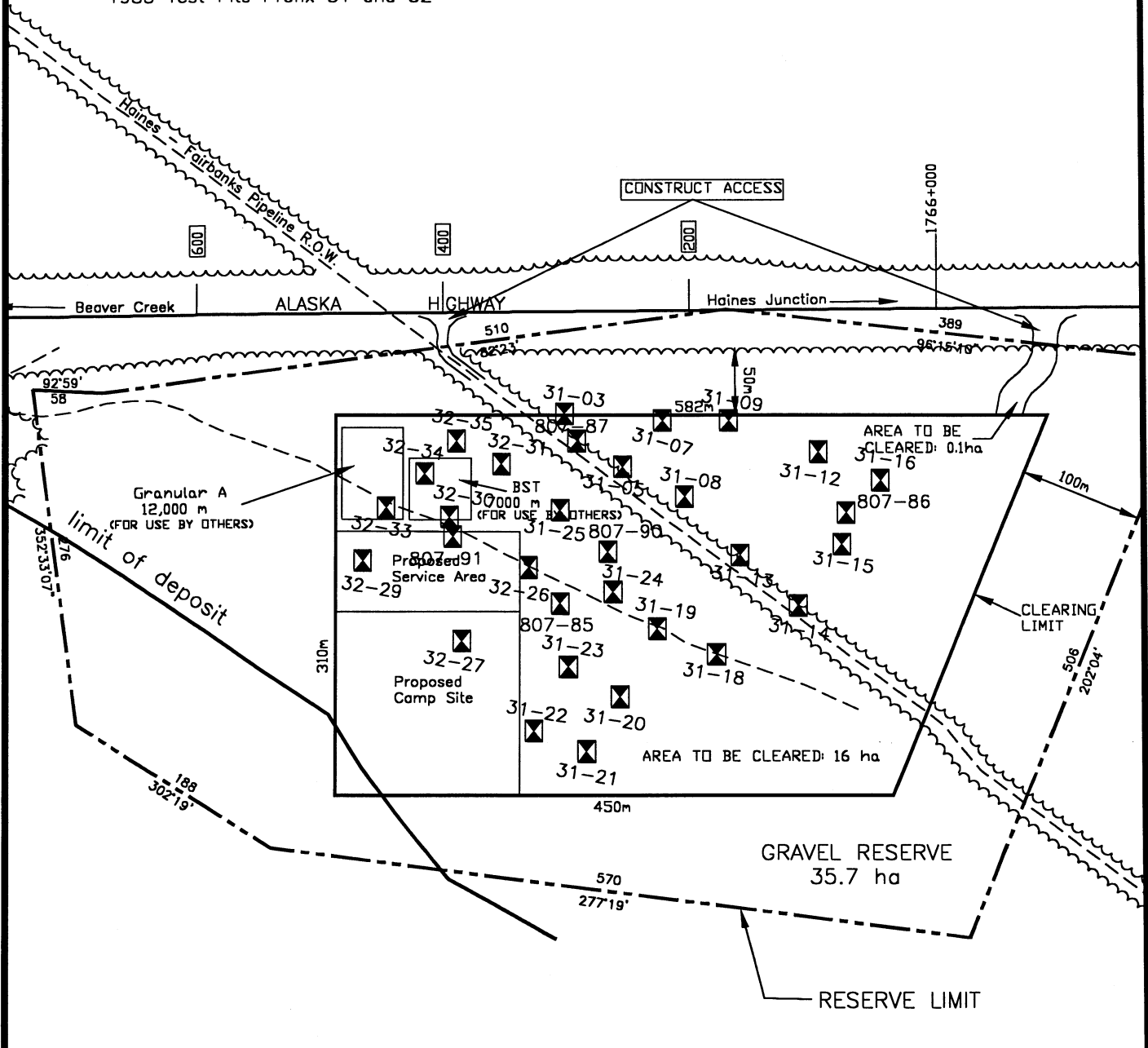


**LEGEND**

-  Edge of clearing
-  Existing trails
-  Approximate Test Hole Location
-  Approximate Test Pit Location



1985 Test Pits Prefix 807  
1988 Test Pits Prefix 31 and 32



Transportation Engineering Branch

SITE PLAN  
PRODUCE AND STOCKPILE  
AGGREGATE  
Km 1766.0 L.H.S.  
(Duke River)  
ALASKA HWY. YUKON

pit file:	115 G-05
revision:	2001-Proposed
drawn:	WAE/JJM
date:	01-05-08
scale:	1: 5000
drwg:	115g-05S







### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION		HOLE No.	85-70
HOLE LOCATION		ELEV.	DEPTH TO G.W.L.
DATE DRILLED	85-06-10	DRILL UNIT	B30-6" AUGER
		TECHNICIAN	D.S.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASS or G.W.L.	SAMPLE TYPE	SAMPLE DATA					STD PENETRATION BLOWS/300mm	PLASTIC LIMIT	LIQUID LIMIT
				FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND			
1	POORLY GRADED SAND WITH GRAVEL - brown		AP	183	344	SP	42.1	57.7	—	0x	NP
2	WELL-GRADED GRAVEL WITH SAND - brown										
3	ROCK		AP	184	345	GW	53.9	42.9	—	0x	NP
3	REFUSAL										
4											
5											
6											
7											
8											
9											
10											

0 - % MOISTURE CONTENT  
 x - % < .074 mm

PLASTIC LIMIT — LIQUID LIMIT











### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION

HOLE No.

85-75

HOLE LOCATION

ELEV.

DEPTH TO G.W.L.

DATE DRILLED 85-06-10

DRILL UNIT 230-6" AUGER

TECHNICIAN

D.S.

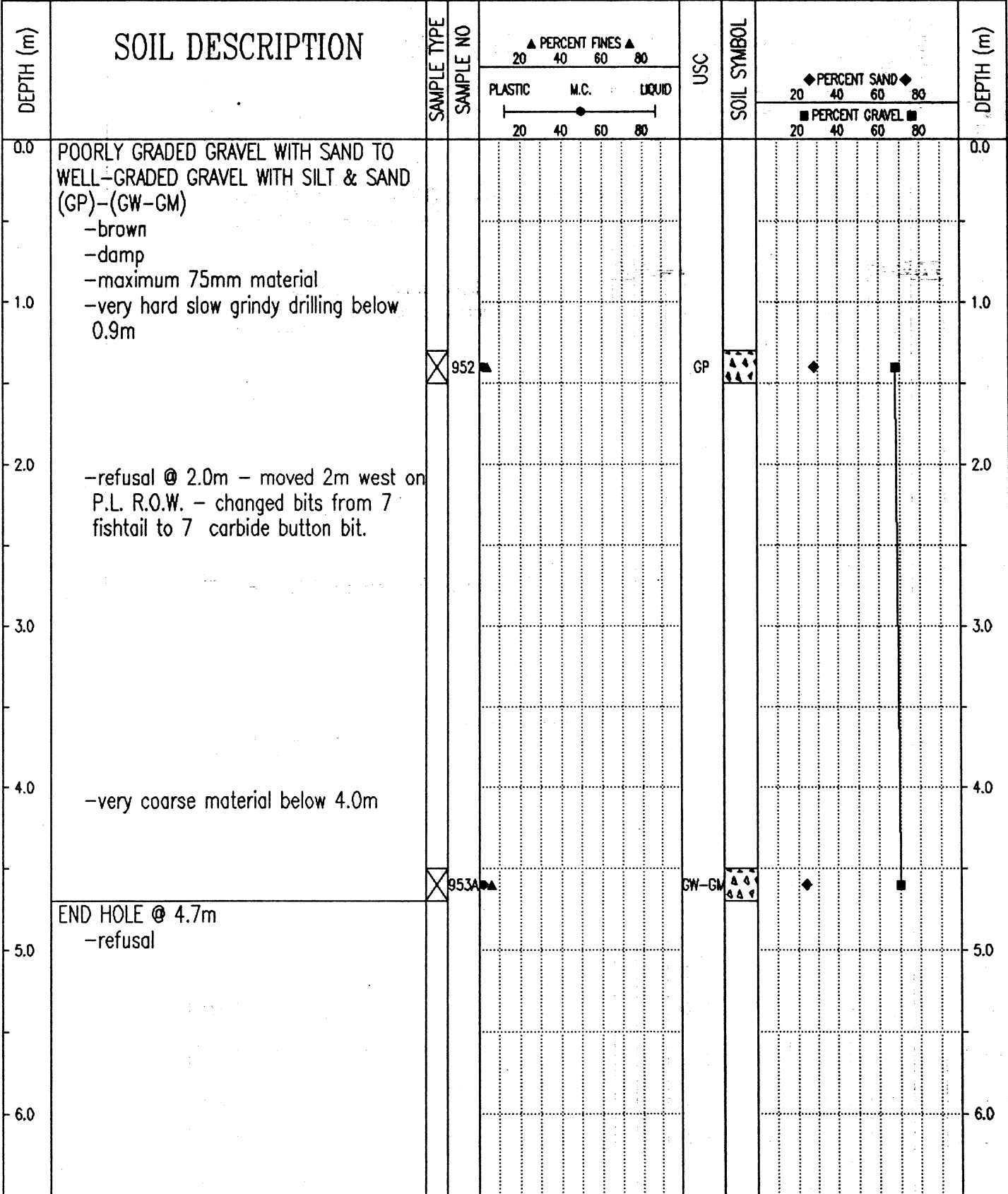
DEPTH (m)	DESCRIPTION OF MATERIAL	SAMPLE DATA							STD PENETRATION BLOWS / 300mm	0 - % MOISTURE CONTENT x - % < .074mm PLASTIC LIMIT — LIQUID LIMIT
		PERMAFROST CLASS or G.W.L.	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND		
1	WELL-GRADED GRAVELS WITH SAND - GREY									
	ROCKS									
	REFUSALS									
2										
3										
4										
5										
6										
7										
8										
9										
10										

A/P 194 355 GW 755 23 X

0 10 20 30 40 50 60 70 80 90 100

NP

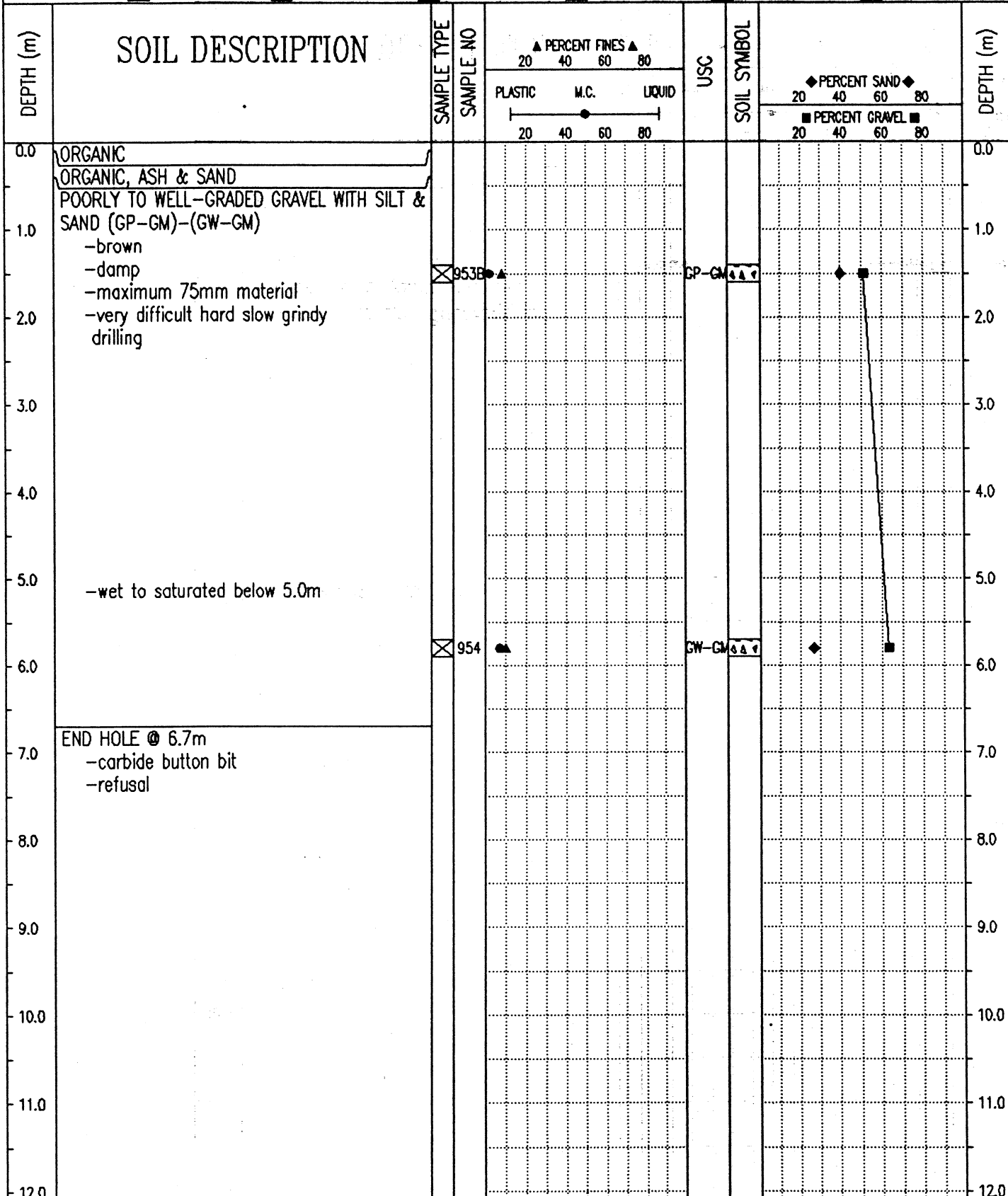
SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEG 11	TEST PIT NO: 557-1442T
ENGINEERING CAPITAL	GRANULAR SOURCE	Project No: 092-202101-0361
B40-L MOBILE DRILL 6" AUGER	LOCATION: 1766+400 LHS	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE	



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Transportation Engineering

LOGGED BY: D.T.	COMPLETION DEPTH: 4.7 m
REVIEWED BY:	COMPLETE: 00/06/21
Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEG 11	TEST PIT NO: 557-1443T
ENGINEERING CAPITAL	GRANULAR SOURCE	Project No: 092-202101-0361
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	<input checked="" type="checkbox"/> AUGER	<input type="checkbox"/> BULK
	<input type="checkbox"/> TUBE	<input type="checkbox"/> CORE



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LOGGED BY: D.T.  
 REVIEWED BY:  
 Fig. No:

COMPLETION DEPTH: 6.7 m  
 COMPLETE: 00/06/21

SUBSURFACE EXPLORATION AND TEST REPORT		SHAKWAK SEG 11		TEST PIT NO: 557-1444T								
ENGINEERING CAPITAL		GRANULAR SOURCE		Project No: 092-202101-0361								
B40-L MOBILE DRILL 6" AUGER		LOCATION: 1766+400 LHS		ELEVATION: 0.00 (m)								
SAMPLE TYPE		<input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE										
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES ▲			USC	SOIL SYMBOL	PERCENT SAND ◆			DEPTH (m)
				PLASTIC	M.C.	LIQUID			PERCENT GRAVEL ■			
0.0	<p>ORGANIC</p> <p>WELL-GRADED GRAVEL WITH SILT &amp; SAND (GW-GM)</p> <ul style="list-style-type: none"> <li>-brown</li> <li>-damp</li> <li>-maximum 75mm material</li> <li>-very hard slow grindy drilling</li> </ul>										0.0	
1.0												1.0
2.0			955				GW-GM					2.0
3.0												3.0
4.0												4.0
5.0	-trace easier drilling @ 5.0m											5.0
6.0												6.0
7.0	-saturated below 7.0m											7.0
8.0	<p>END HOLE @ 7.9m</p> <ul style="list-style-type: none"> <li>-carbide button bit</li> <li>-refusal</li> </ul>		956				GW-GM					8.0
9.0												9.0
10.0												10.0
11.0												11.0
12.0												12.0
<p>Government of Yukon</p> <p>Transportation Engineering</p>				<p>LOGGED BY: D.T.</p> <p>REVIEWED BY:</p> <p>Fig. No:</p>		<p>COMPLETION DEPTH: 7.9 m</p> <p>COMPLETE: 00/06/22</p>				<p>Page 1 of 1</p>		



SUBSURFACE EXPLORATION AND TEST REPORT      SHAKWAK SEG 11      TEST PIT NO: 557-1446T

ENGINEERING CAPITAL      GRANULAR SOURCE      Project No: 092-202101-0361

B40-L MOBILE DRILL 6" AUGER      LOCATION: 1766+400 LHS      ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES ▲			USC	SOIL SYMBOL	PERCENT SAND ◆			DEPTH (m)
				PLASTIC	M.C.	LIQUID			PERCENT GRAVEL ■			
0.0	ORGANIC										0.0	
0.0 - 1.0	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM) -brown -damp -maximum 75mm material -very hard slow grindy drilling											
1.0 - 2.0												
2.0 - 3.0			958				GP-GM					
3.0 - 4.0	END HOLE @ 3.0m -refusal - carbide bit destroyed											
4.0 - 5.0												
5.0 - 6.0												

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LOGGED BY: D.T.

REVIEWED BY:

Fig. No:

COMPLETION DEPTH: 3.0 m

COMPLETE: 00/06/22

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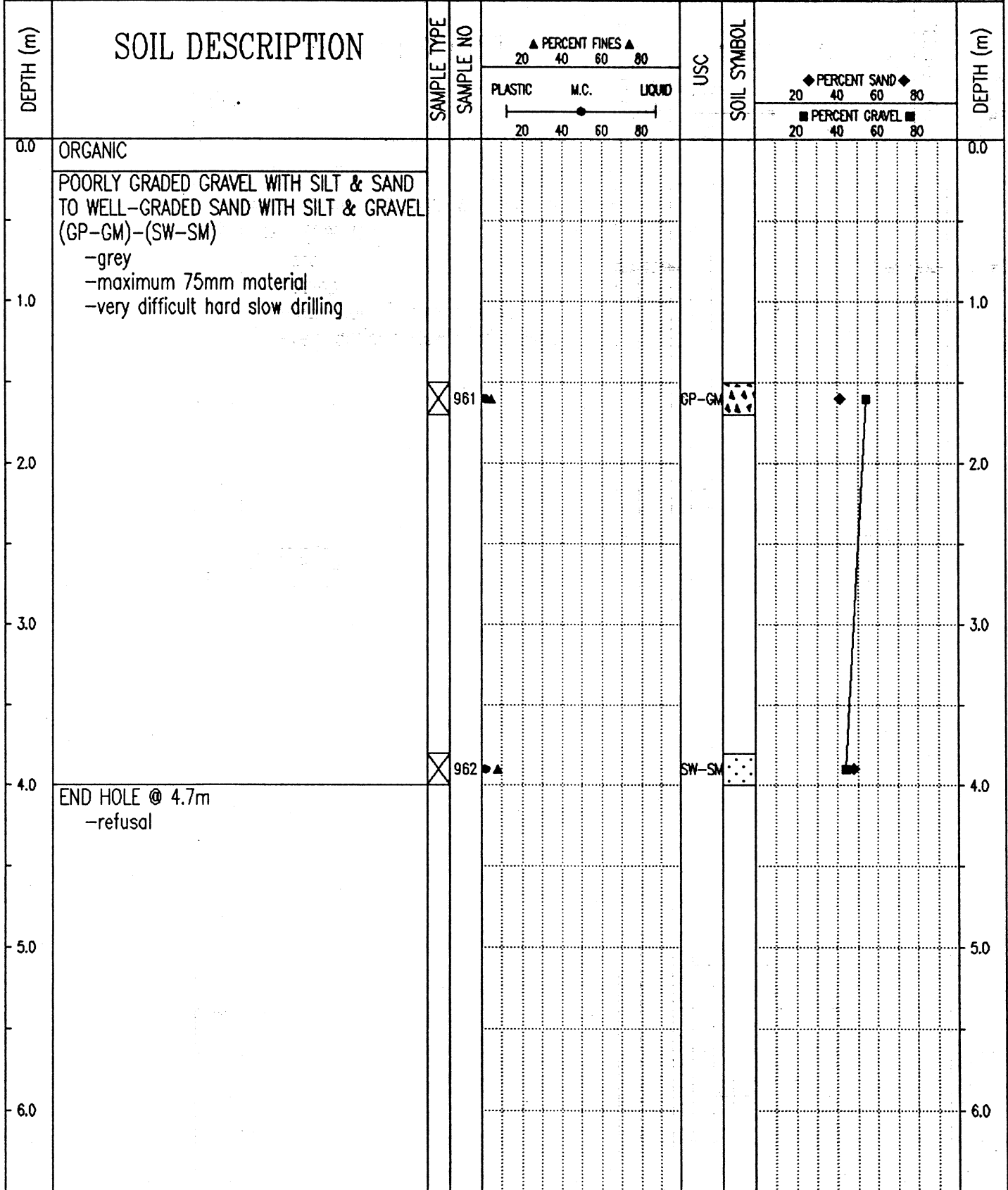
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ENGINEERING CAPITAL		GRANULAR SOURCE		Project No: 092-202101-0361							
B40-L MOBILE DRILL 6" AUGER		LOCATION: 1766+400 LHS		ELEVATION: 0.00 (m)							
SAMPLE TYPE		S.P.T.		AUGER							
RETURN		S.P.T.		AUGER							
BULK		TUBE		CORE							
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES		USC	SOIL SYMBOL	PERCENT SAND		PERCENT GRAVEL	DEPTH (m)
				PLASTIC	M.C.			LIQUID	20		
0.0	ORGANIC POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)										0.0
1.0	-brown -damp -maximum 75mm material -very difficult hard slow grindy drilling										1.0
2.0			959				GP-GM				2.0
3.0											3.0
4.0	END HOLE @ 3.7m -refusal		960				GP-GM				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											11.0
12.0											12.0

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REVIEWED BY:  
Fig. No:

COMPLETION DEPTH: 3.7 m  
COMPLETE: 00/06/22

SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEG 11	TEST PIT NO: 557-1448T
ENGINEERING CAPITAL	GRANULAR SOURCE	Project No: 092-202101-0361
B40-L MOBILE DRILL 6" AUGER	LOCATION: 1766+400 LHS	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE	

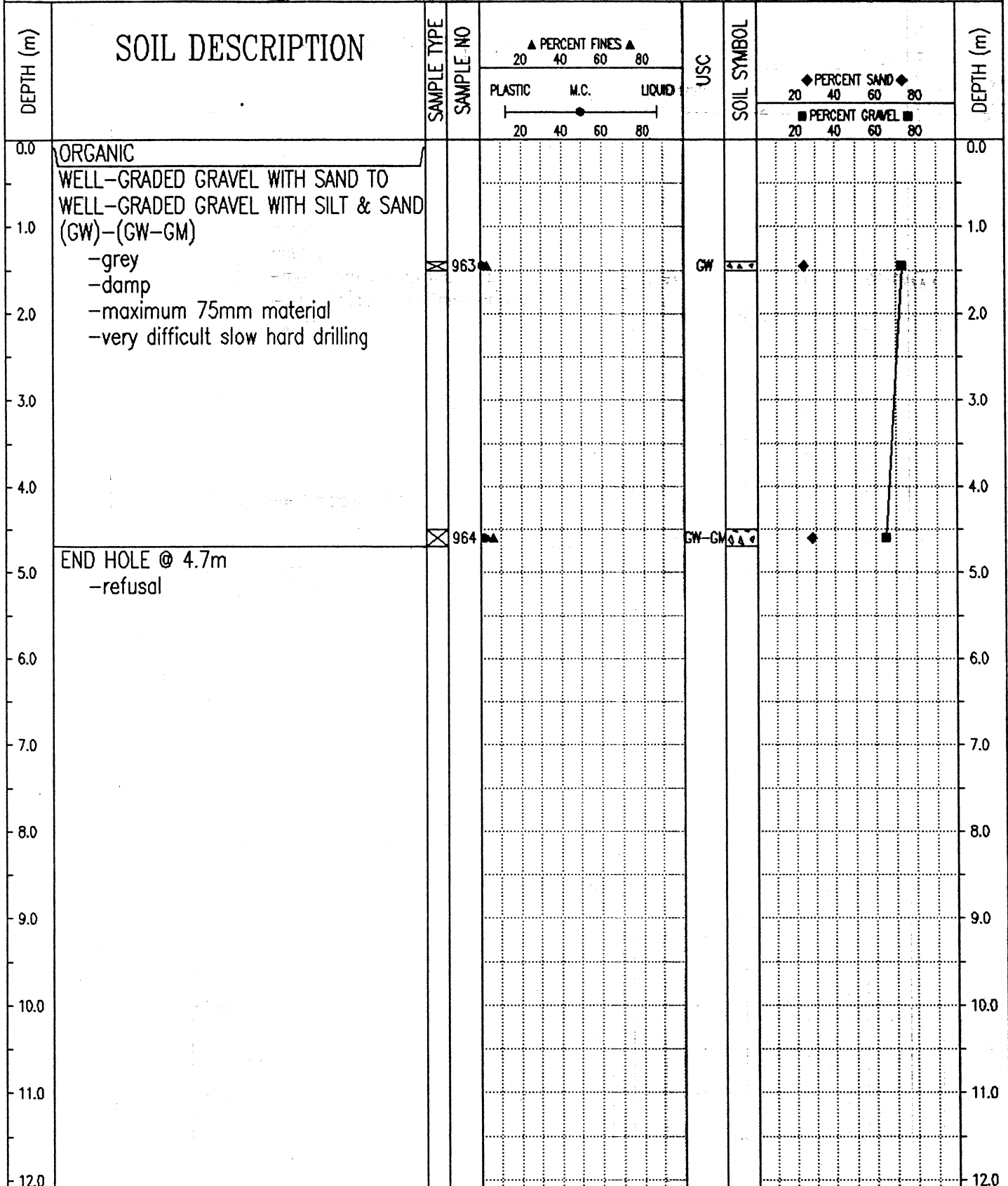


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LOGGED BY: D.T.  
REVIEWED BY:  
Fig. No:

COMPLETION DEPTH: 4.0 m  
COMPLETE: 00/06/22

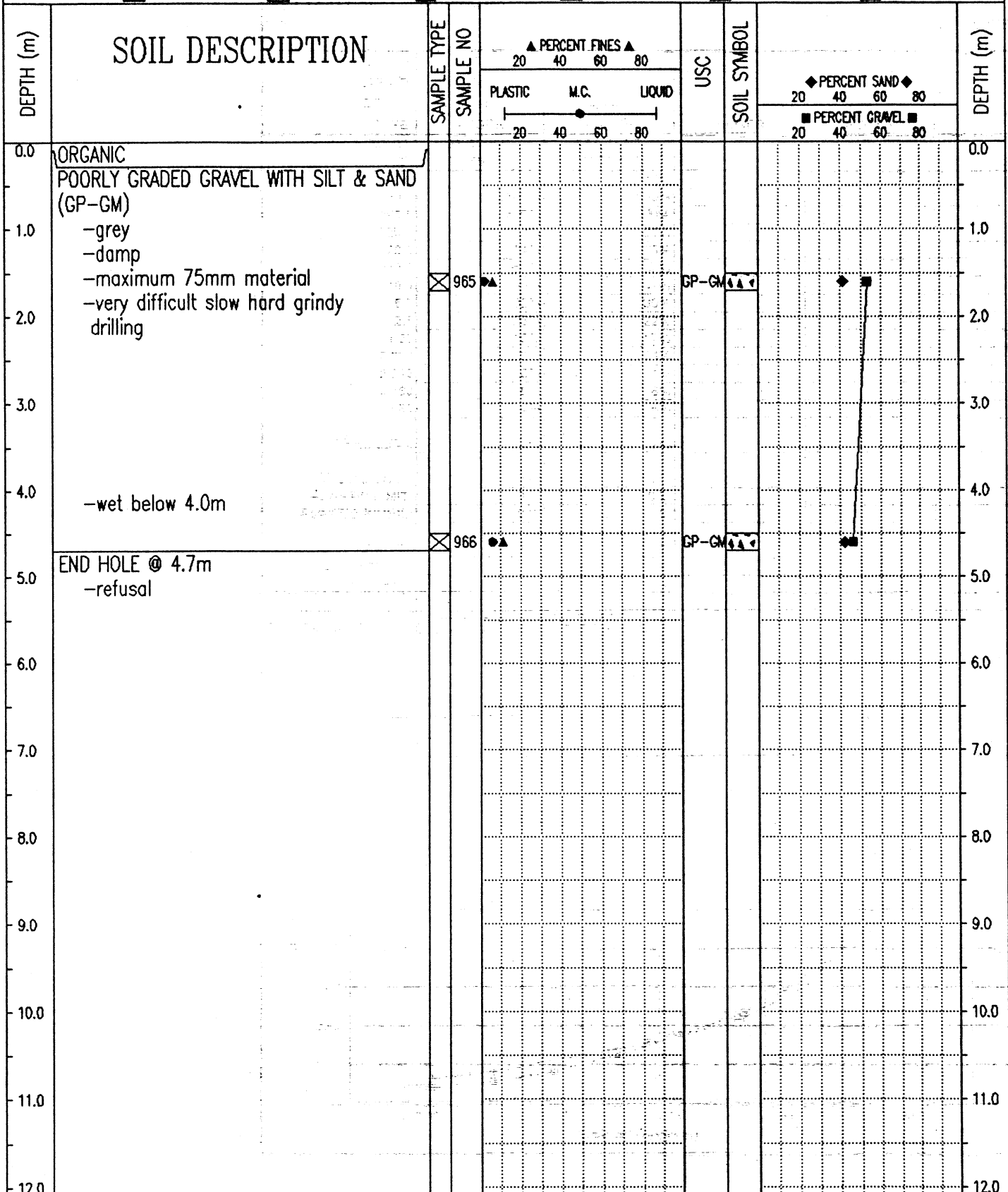
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ENGINEERING CAPITAL	GRANULAR SOURCE	Project No: 092-202101-0361
B40-L MOBILE DRILL 6" AUGER	LOCATION: 1766+400 LHS	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE	



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 Transportation Engineering

LOGGED BY: D.T.  
 REVIEWED BY:  
 Fig. No:  
 COMPLETION DEPTH: 4.7 m  
 COMPLETE: 00/06/22  
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SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEG 11	TEST PIT NO: 557-1450T
ENGINEERING CAPITAL	GRANULAR SOURCE	Project No: 092-202101-0361
B40-L MOBILE DRILL 6" AUGER	LOCATION: 1766+400 LHS	ELEVATION: 0.00 (m)
SAMPLE TYPE <input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE		



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Transportation Engineering

LOGGED BY: D.T.

REVIEWED BY:

Fig. No:

COMPLETION DEPTH: 4.7 m

COMPLETE: 00/06/22

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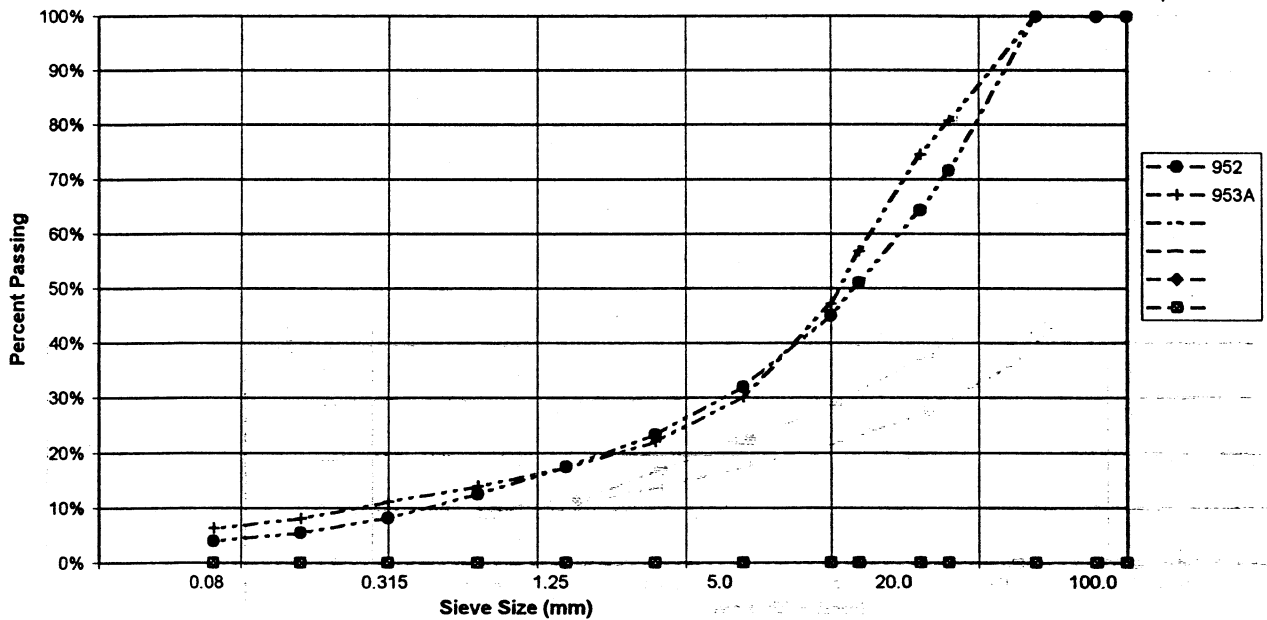
PROJECT NUMBER: 092-202101-0361-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: Shakwak Seg 11  
 PROJECT LOCATION: 1788+400 LHS  
 DRILL UNIT: MOBILE B40 L  
 HOLE LOCATION: PIT 1788+400 LT  
 LOGGED BY: D.T.

HOLE No.: 557-1442T

DATE COMP: 2000/06/21

FIELD NO:	952	953A			
LAB NO:	1353	1354			
DEPTH:	1.3-1.5	4.5-4.7			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	72%	81%			
20.0	64%	75%			
12.5	51%	57%			
10.0	45%	47%			
5.0	32%	30%			
2.5	23%	22%			
1.25	18%	17%			
0.630	13%	14%			
0.315	8%	11%			
0.160	6%	8%			
0.080	4%	6%			
M.C.(%):	2%	2%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	68	70			
% SAND:	28	24			
% FINES:	4	6			
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)			

YTG Trans. Eng. Grain Size Analysis (Percent Passing vs Grain Size)



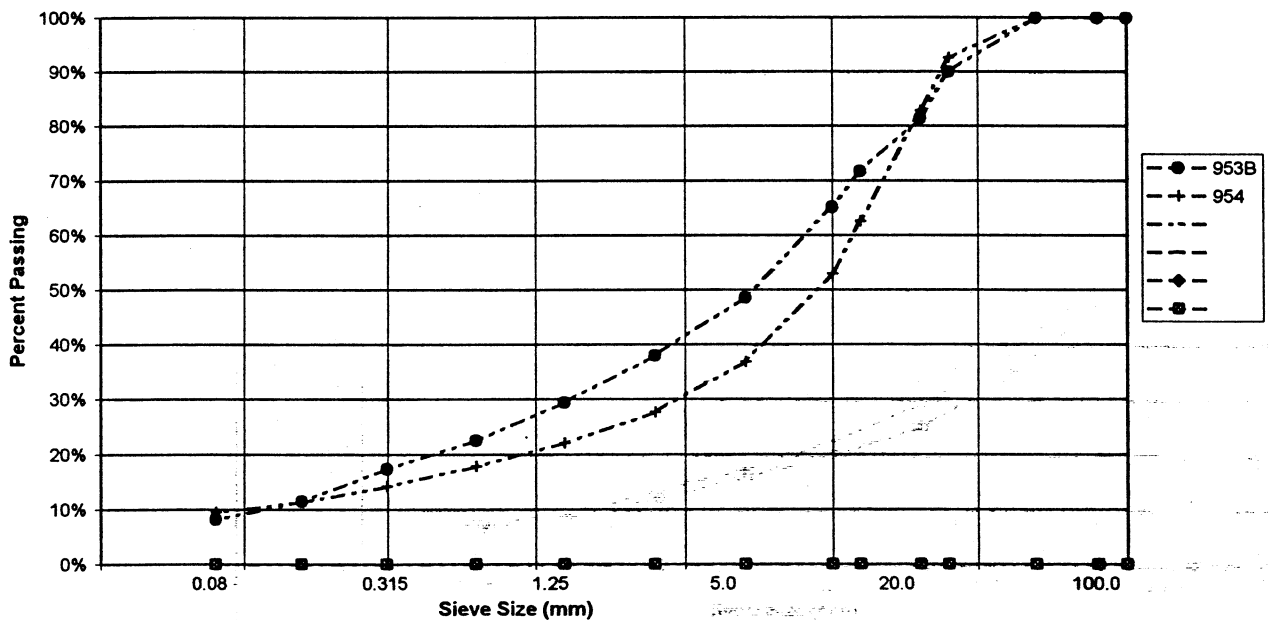
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 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: Shakwak Seg 11  
 PROJECT LOCATION: 1766+400 LHS  
 DRILL UNIT: MOBILE B40 L  
 HOLE LOCATION: PIT 1766+400 LT  
 LOGGED BY: D.T.

HOLE No.: 557-1443T

DATE COMP: 2000/06/22

FIELD NO:	953B	954			
LAB NO:	1355	1356			
DEPTH:	1.4-1.6	5.7-5.9			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	90%	93%			
20.0	81%	83%			
12.5	72%	63%			
10.0	65%	53%			
5.0	49%	37%			
2.5	38%	28%			
1.25	29%	22%			
0.630	22%	18%			
0.315	17%	14%			
0.160	12%	11%			
0.080	8%	10%			
M.C.(%)	2%	7%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX:	0.0	0.0			
% GRAVEL:	51	63			
% SAND:	40	27			
% FINES:	8	10			
CLASSIFICATION	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)			

YTG Trans. Eng. Grain Size Analysis (Percent Passing vs Grain Size)



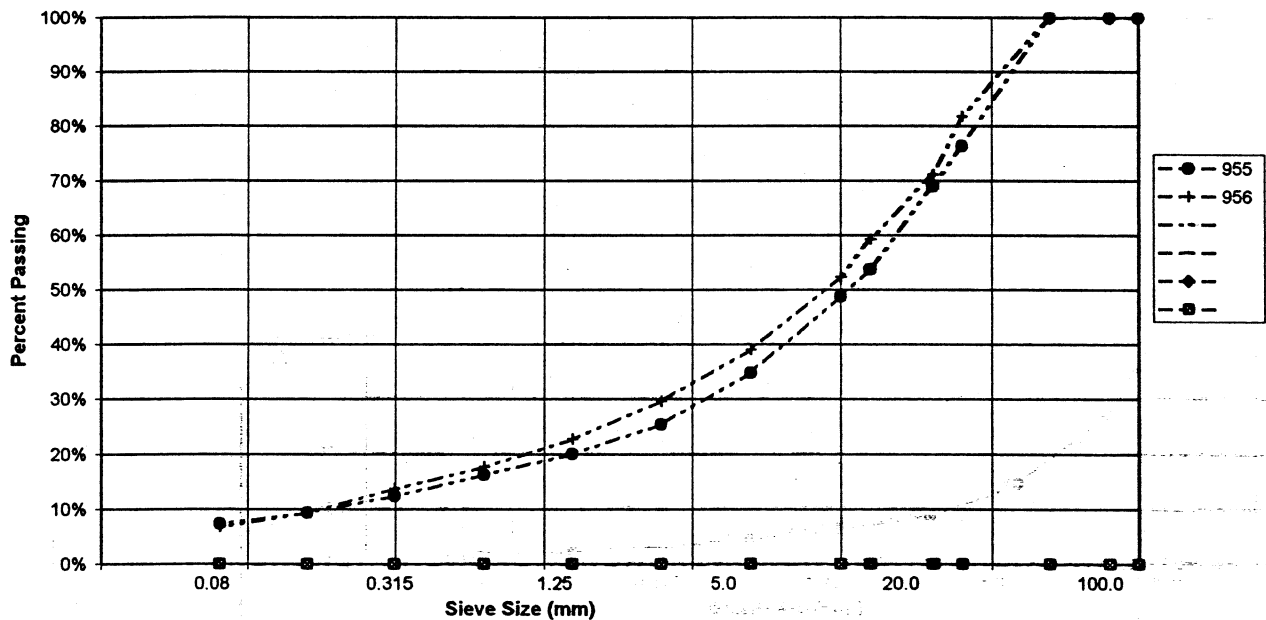
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 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: Shakwak Seg 11  
 PROJECT LOCATION: 1766+400 LHS  
 DRILL UNIT: MOBILE B40 L  
 HOLE LOCATION: PIT 1766+400 LT  
 LOGGED BY: D.T.

HOLE No.: 557-1444T

DATE COMP: 2000/08/22

FIELD NO:	955	956			
LAB NO:	1357	1358			
DEPTH:	1.3-1.5	7.7-7.9			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	76%	82%			
20.0	69%	71%			
12.5	54%	59%			
10.0	49%	52%			
5.0	35%	39%			
2.5	25%	30%			
1.25	20%	23%			
0.630	16%	18%			
0.315	12%	14%			
0.160	9%	9%			
0.080	7%	7%			
M.C.(%):	2%	8%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX:	0.0	0.0			
% GRAVEL:	65	61			
% SAND:	27	32			
% FINES:	7	7			
CLASSIFICATION	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)			

YTG Trans. Eng. Grain Size Analysis (Percent Passing vs Grain Size)



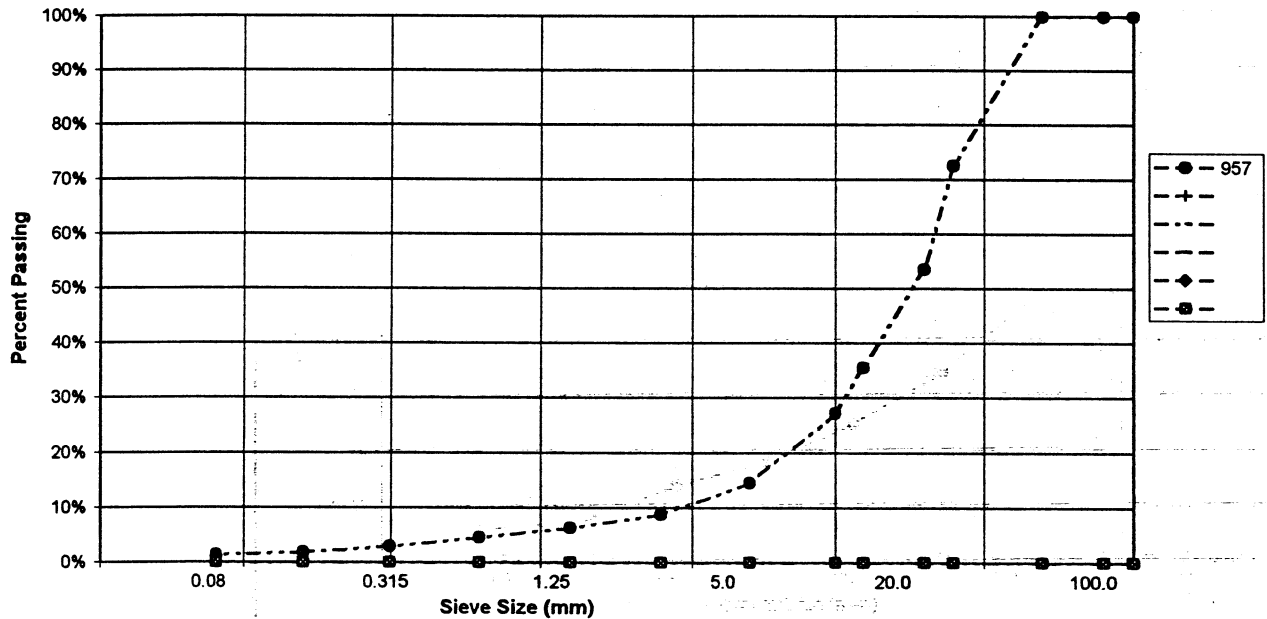
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 PROJECT NAME: Shakwak Seg 11  
 PROJECT LOCATION: 1766+400 LHS  
 DRILL UNIT: MOBILE B40 L  
 HOLE LOCATION: PIT 1766+400 LT  
 LOGGED BY: D.T.

HOLE No.: 557-1445T

DATE COMP: 2000/06/22

FIELD NO:	957				
LAB NO:	1359				
DEPTH:	1.5-1.7				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
60.0	100%				
25.0	73%				
20.0	54%				
12.5	36%				
10.0	27%				
5.0	15%				
2.5	9%				
1.25	6%				
0.630	5%				
0.315	3%				
0.160	2%				
0.080	1%				
M.C.(%):	2%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	85				
% SAND:	13				
% FINES:	1				
CLASSIFICATION	POORLY GRADED GRAVEL (GP)				

YTG Trans. Eng. Grain Size Analysis (Percent Passing vs Grain Size)



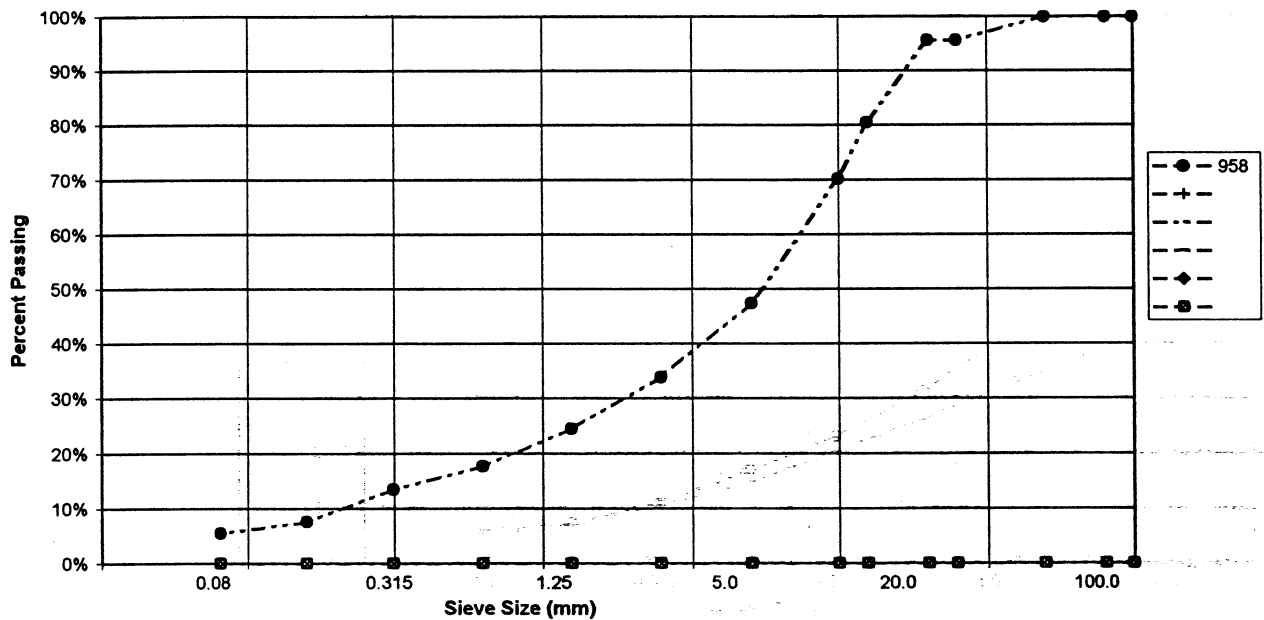
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 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: Shakwak Seg 11  
 PROJECT LOCATION: 1766+400 LHS  
 DRILL UNIT: MOBILE B40 L  
 HOLE LOCATION: PIT 1766+400 LT  
 LOGGED BY: D.T.

HOLE No.: 557-1446T

DATE COMP: 2000/06/22

FIELD NO:	958				
LAB NO:	1360				
DEPTH:	1.4-1.5				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	96%				
20.0	96%				
12.5	81%				
10.0	70%				
5.0	47%				
2.5	34%				
1.25	24%				
0.630	18%				
0.315	14%				
0.160	8%				
0.080	5%				
M.C.(%):	5%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	53				
% SAND:	42				
% FINES:	5				
CLASSIFICATION	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)				

YTG Trans. Eng. Grain Size Analysis (Percent Passing vs Grain Size)



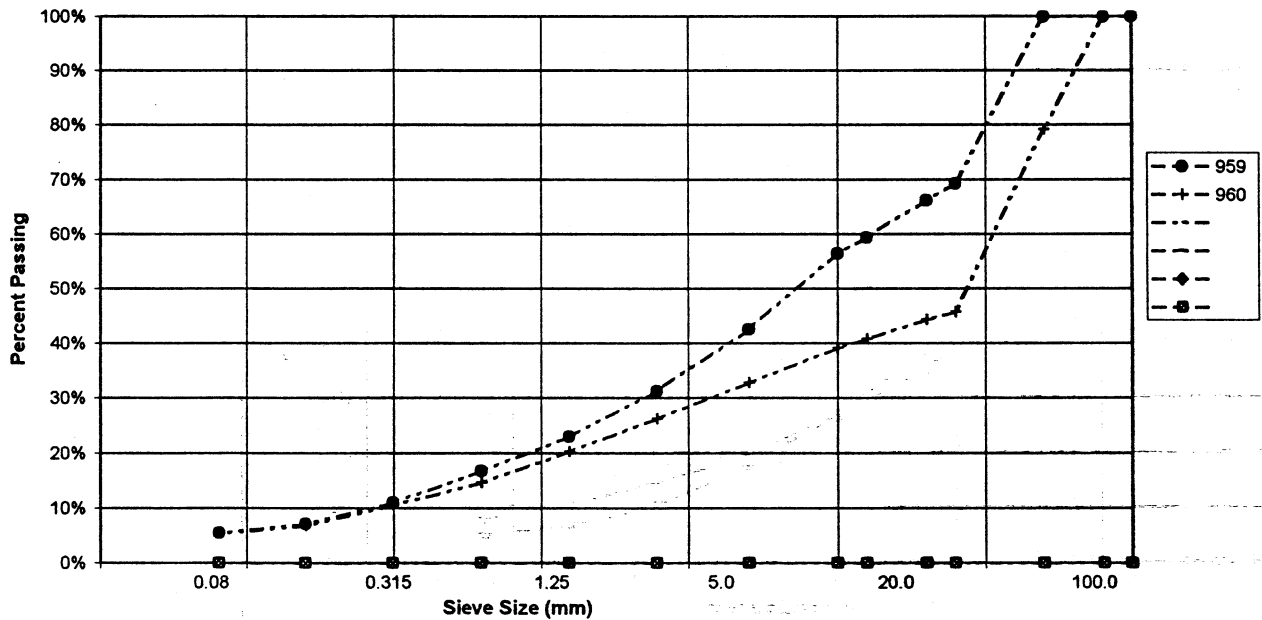
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 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: Shakwak Seg 11  
 PROJECT LOCATION: 1768+400 LHS  
 DRILL UNIT: MOBILE B40 L  
 HOLE LOCATION: PIT 1768+400 LT  
 LOGGED BY: D.T.

HOLE No.: 557-1447T

DATE COMP: 2000/06/22

FIELD NO:	959	960			
LAB NO:	1361	1362			
DEPTH:	1.4-1.6	3.5-3.7			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	79%			
25.0	69%	46%			
20.0	66%	44%			
12.5	59%	41%			
10.0	56%	39%			
5.0	43%	33%			
2.5	31%	26%			
1.25	23%	20%			
0.630	17%	15%			
0.315	11%	11%			
0.160	7%	7%			
0.080	5%	5%			
M.C.(%):	2%	3%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX:	0.0	0.0			
% GRAVEL:	57	67			
% SAND:	37	27			
% FINES:	5	5			
CLASSIFICATION	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)			

YTG Trans. Eng. Grain Size Analysis (Percent Passing vs Grain Size)



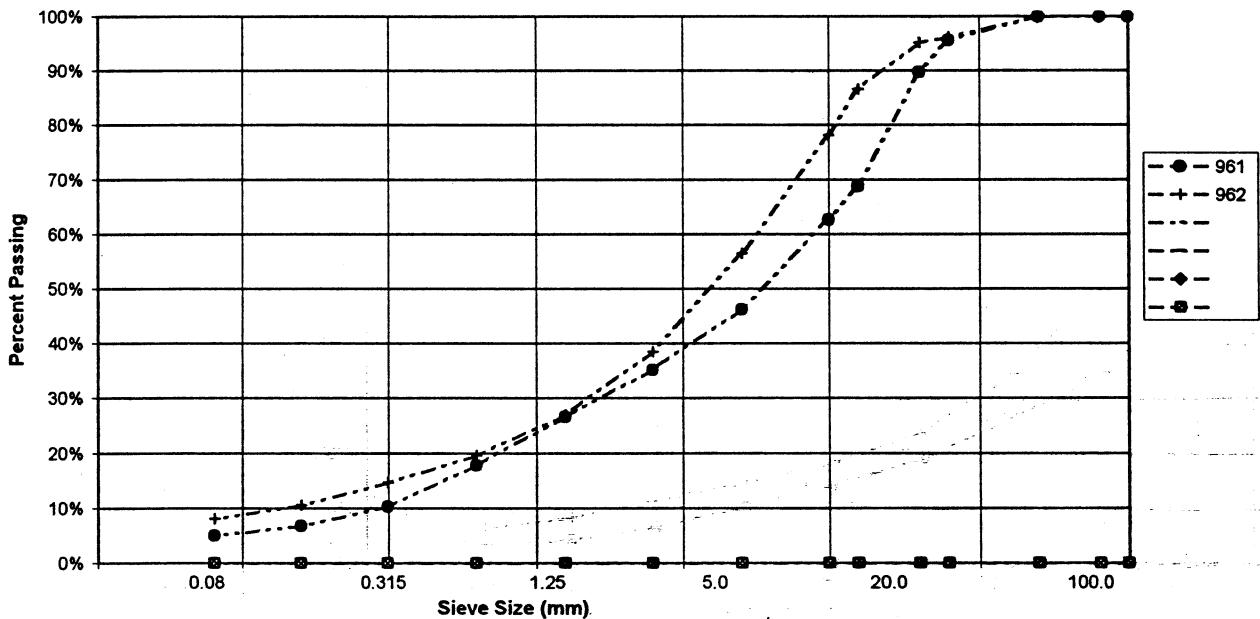
PROJECT NUMBER: 092-202101-0361-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: Shakwak Seg 11  
 PROJECT LOCATION: 1766+400 LHS  
 DRILL UNIT: MOBILE B40 L  
 HOLE LOCATION: PIT 1766+400 LT  
 LOGGED BY: D.T.

HOLE No.: 557-1448T

DATE COMP: 2000/06/22

FIELD NO:	961	962			
LAB NO:	1363	1364			
DEPTH:	1.5-1.7	3.8-4.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	96%	96%			
20.0	90%	95%			
12.5	69%	87%			
10.0	63%	78%			
5.0	46%	56%			
2.5	35%	39%			
1.25	27%	27%			
0.630	18%	20%			
0.315	10%	15%			
0.160	7%	11%			
0.080	5%	8%			
M.C.(%)	2%	2%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX:	0.0	0.0			
% GRAVEL:	54	44			
% SAND:	41	48			
% FINES:	5	8			
CLASSIFICATION	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)			

YTG Trans. Eng. Grain Size Analysis (Percent Passing vs Grain Size)



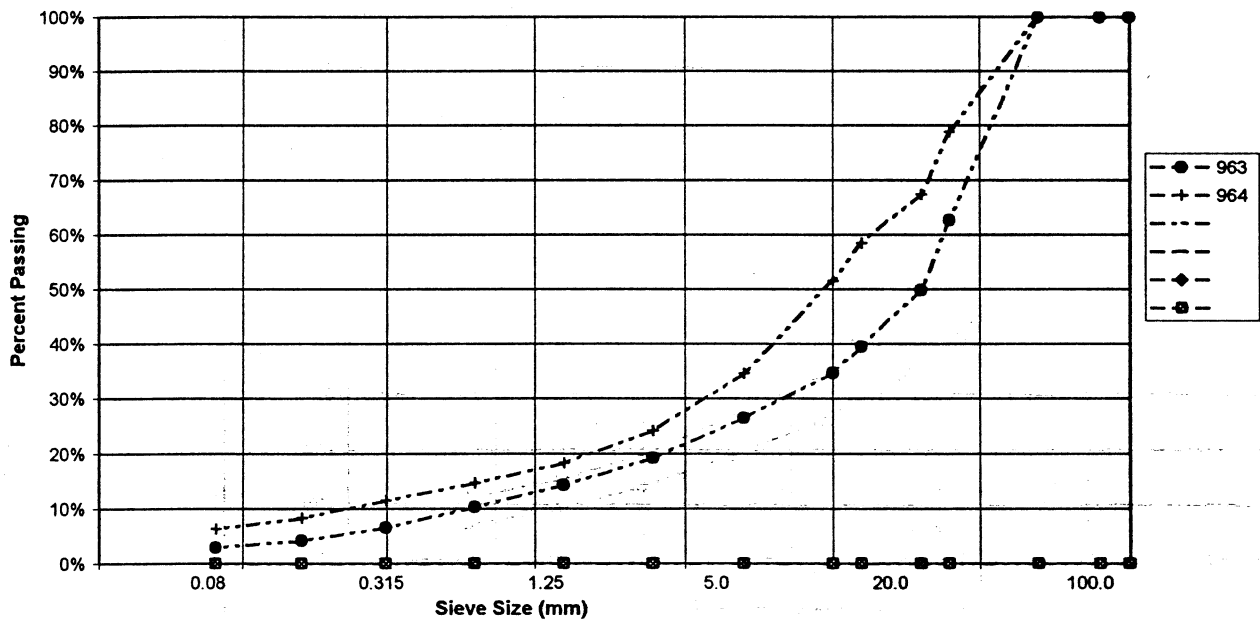
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 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: Shakwak Seg 11  
 PROJECT LOCATION: 1766+400 LHS  
 DRILL UNIT: MOBILE B40 L  
 HOLE LOCATION: PIT 1766+400 LT  
 LOGGED BY: D.T.

HOLE No.: 557-1449T

DATE COMP: 2000/06/22

FIELD NO:	963	964			
LAB NO:	1365	1366			
DEPTH:	1.4-1.5	4.5-4.7			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	63%	79%			
20.0	50%	67%			
12.5	40%	58%			
10.0	35%	52%			
5.0	27%	35%			
2.5	19%	24%			
1.25	14%	18%			
0.630	10%	15%			
0.315	7%	11%			
0.160	4%	8%			
0.080	3%	6%			
M.C.(%)	1%	2%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX:	0.0	0.0			
% GRAVEL:	73	65			
% SAND:	24	28			
% FINES:	3	6			
CLASSIFICATION	WELL-GRADED GRAVEL WITH SAND (GW)	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)			

YTG Trans. Eng. Grain Size Analysis (Percent Passing vs Grain Size)



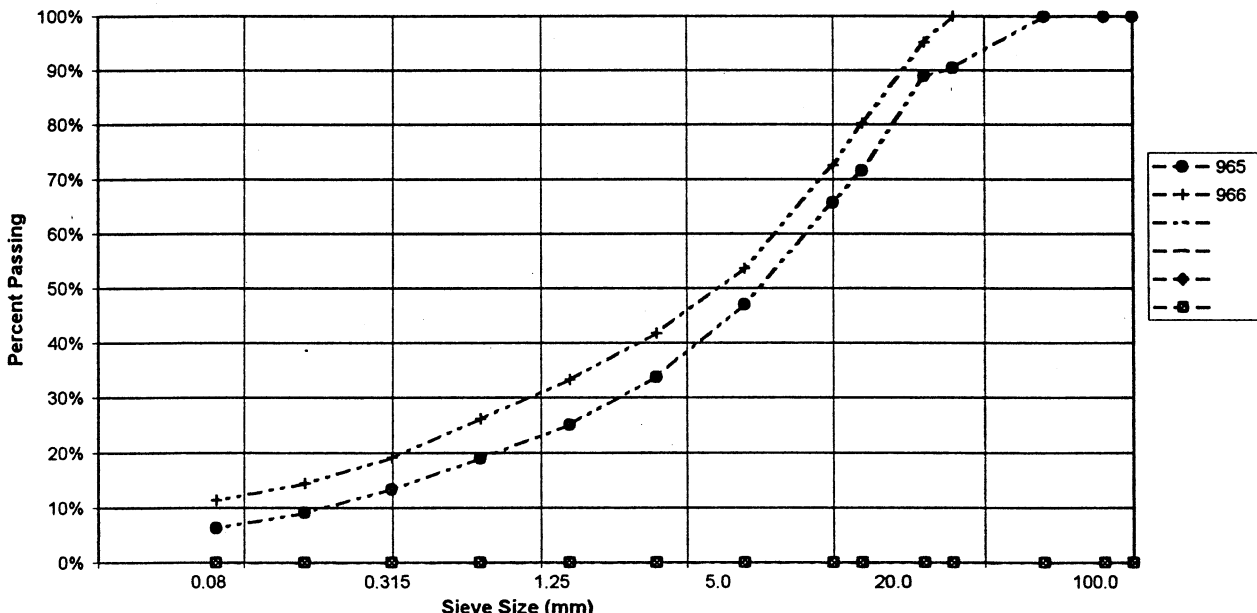
PROJECT NUMBER: 092-202101-0361-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: Shakwak Seg 11  
 PROJECT LOCATION: 1766+400 LHS  
 DRILL UNIT: MOBILE B40 L  
 HOLE LOCATION: PIT 1766+400 LT  
 LOGGED BY: D.T.

HOLE No.: 557-1450T

DATE COMP: 2000/06/22

FIELD NO:	965	966			
LAB NO:	1367	1368			
DEPTH:	1.5-1.7	4.5-4.7			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	91%	100%			
20.0	89%	95%			
12.5	72%	80%			
10.0	66%	73%			
5.0	47%	54%			
2.5	34%	42%			
1.25	25%	33%			
0.630	19%	26%			
0.315	13%	19%			
0.160	9%	14%			
0.080	6%	11%			
M.C.(%)	2%	6%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX:	0.0	0.0			
% GRAVEL:	53	46			
% SAND:	41	42			
% FINES:	6	11			
CLASSIFICATION	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)			

YTG Trans. Eng. Grain Size Analysis (Percent Passing vs Grain Size)





SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION		HOLE No.	85-85
HOLE LOCATION		ELEV.	DEPTH TO G.W.L.
DATE DRILLED	85-06-18	DRILL UNIT	BACKHOE
		TECHNICIAN	D.S.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASS. or G.W.L.	SAMPLE TYPE	FIELD No.	LAB No.	SAMPLE DATA					STD PENETRATION BLOWS/300mm	0 - % MOISTURE CONTENT X - % < .074mm PLASTIC LIMIT — LIQUID LIMIT	
						UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm				
0	SILTY ORGANIC SAND - damp - brown												
1	WELL GRADED GRAVEL WITH SAND - damp - grey - (LOW) TO SUB - (LOW) MTL. - EST. 20% + 100mm MTL. - maximum 250mm MTL.												
2	- HOLE COLLAPSE IN - MAX. 150mm MTL.												
3	END HOLE												
4													
5													
6													
7													
8													
9													
10													

PIT RUN	211	327	GW	74.5	24.5	—	X	NP				
CRUSH	211	327	GW	63.6	34.7	—	X	NP	C.C. = 53.4%			
PIT RUN	212	328	GW	76.4	22.4	—	X	NP				
CRUSH	212	328	GW	67.8	30.4	—	X	NP	C.C. = 60.6%			



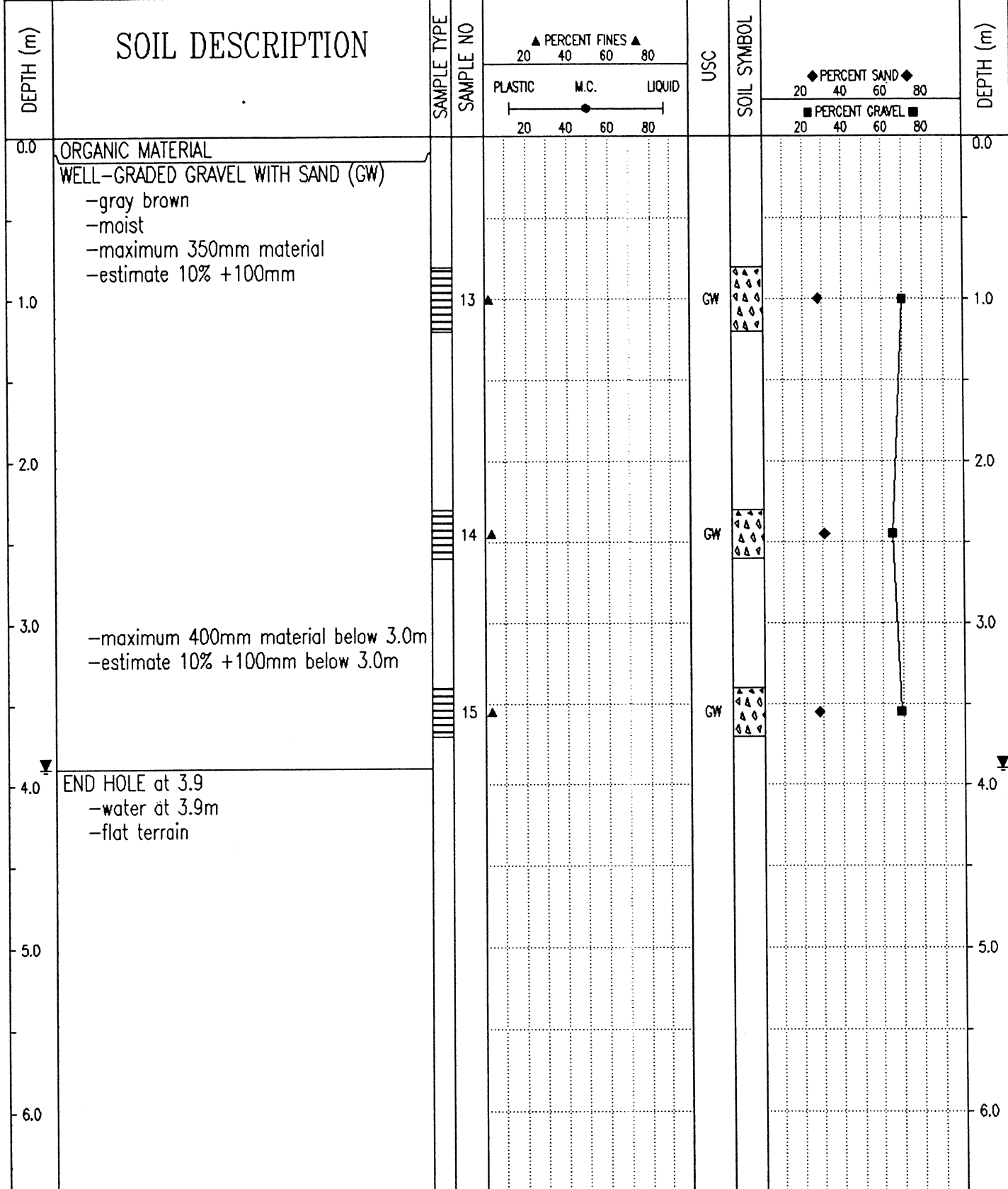






SUBSURFACE EXPLORATION AND TEST REPORT		ALASKA HIGHWAY PRE-ENGINEERING		TEST PIT NO: 031-03									
PWC - CAPITAL Y.T.		A/H KM 1766 LHS		Project No: 115-G-05									
BACKHOE: CAT 225		LOCATION: See Plan		ELEVATION: 0.00 (m)									
SAMPLE TYPE <input type="checkbox"/> RETURN		<input checked="" type="checkbox"/> S.P.T.		<input checked="" type="checkbox"/> AUGER									
		<input type="checkbox"/> BULK		<input type="checkbox"/> TUBE									
				<input type="checkbox"/> CORE									
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES ▲			USC	SOIL SYMBOL	PERCENT SAND ◆			PERCENT GRAVEL ■	DEPTH (m)
				PLASTIC	M.C.	LIQUID			20	40	60		
0.0	ORGANIC MATERIAL WELL-GRADED GRAVEL WITH SAND (GW) -light brown -damp -maximum 200mm material -estimate 5-10% +100mm												0.0
1.0													1.0
2.0			7					GW					2.0
3.0			8					GW					3.0
4.0			9					GW					4.0
4.5	END HOLE at 4.5m -water at 4.5m -flat terrain												4.5
5.0													5.0
6.0													6.0
Government of Yukon Transportation Engineering				LOGGED BY: CB				COMPLETION DEPTH: 4.5 m					
				REVIEWED BY:				COMPLETE: 88/10/24					
				Fig. No:				Page 1 of 1					

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



-maximum 400mm material below 3.0m  
-estimate 10% +100mm below 3.0m

END HOLE at 3.9  
-water at 3.9m  
-flat terrain

Government of Yukon  
Transportation Engineering

LOGGED BY: CB	COMPLETION DEPTH: 3.9 m
REVIEWED BY:	COMPLETE: 88/10/25
Fig. No:	Page 1 of 1



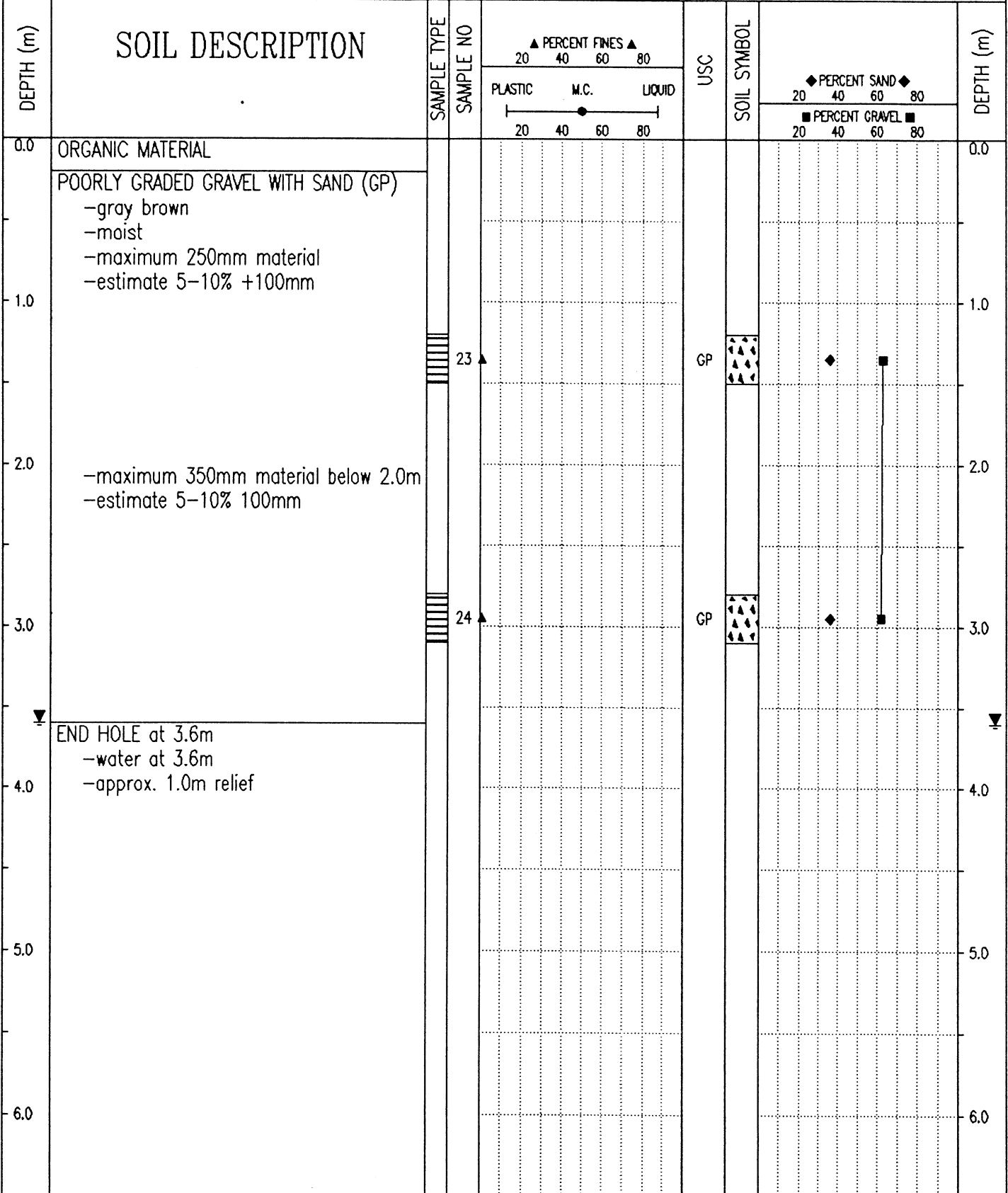
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PWC - CAPITAL Y.T.		A/H KM 1766 LHS		Project No: 115-G-05						
BACKHOE: CAT 225		LOCATION: See Plan		ELEVATION: 0.00 (m)						
SAMPLE TYPE <input checked="" type="checkbox"/> RETURN		<input checked="" type="checkbox"/> S.P.T.		<input checked="" type="checkbox"/> AUGER						
		<input type="checkbox"/> BULK		<input type="checkbox"/> TUBE						
				<input type="checkbox"/> CORE						
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80		USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80		DEPTH (m)
				PLASTIC M.C. LIQUID 20 40 60 80				■ PERCENT GRAVEL ■ 20 40 60 80		
0.0	ORGANIC MATERIAL									0.0
	WELL-GRADED GRAVEL WITH SAND (GW)									
	-gray brown									
	-moist									
	-maximum 200mm material									
	-estimate 10% +100mm									
1.0										1.0
			21 ▲			GW	▲▲▲▲ ▲▲▲▲ ▲▲▲▲	◆	■	
2.0										2.0
	-maximum 400mm material below 2.4m									
	-estimate 10% +100mm									
3.0			22 ▲			GW	▲▲▲▲ ▲▲▲▲ ▲▲▲▲	◆	■	3.0
4.0	END HOLE at 3.6m									4.0
	-water at 3.6m									
	-flat terrain									
5.0										5.0
6.0										6.0
Government of Yukon Transportation Engineering				LOGGED BY: CB		COMPLETION DEPTH: 3.6 m				
				REVIEWED BY:		COMPLETE: 88/10/25				
				Fig. No:		Page 1 of 1				

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 031-09
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PWC - CAPITAL Y.T.	A/H KM 1766 LHS	Project No: 115-G-05
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BACKHOE: CAT 225	LOCATION: See Plan	ELEVATION: 0.00 (m)
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SAMPLE TYPE	<input type="checkbox"/> RETURN	<input checked="" type="checkbox"/> S.P.T.	<input checked="" type="checkbox"/> AUGER	<input type="checkbox"/> BULK	<input type="checkbox"/> TUBE	<input type="checkbox"/> CORE
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LOGGED BY: CB

REVIEWED BY:

Fig. No:

COMPLETION DEPTH: 3.6 m

COMPLETE: 88/10/25

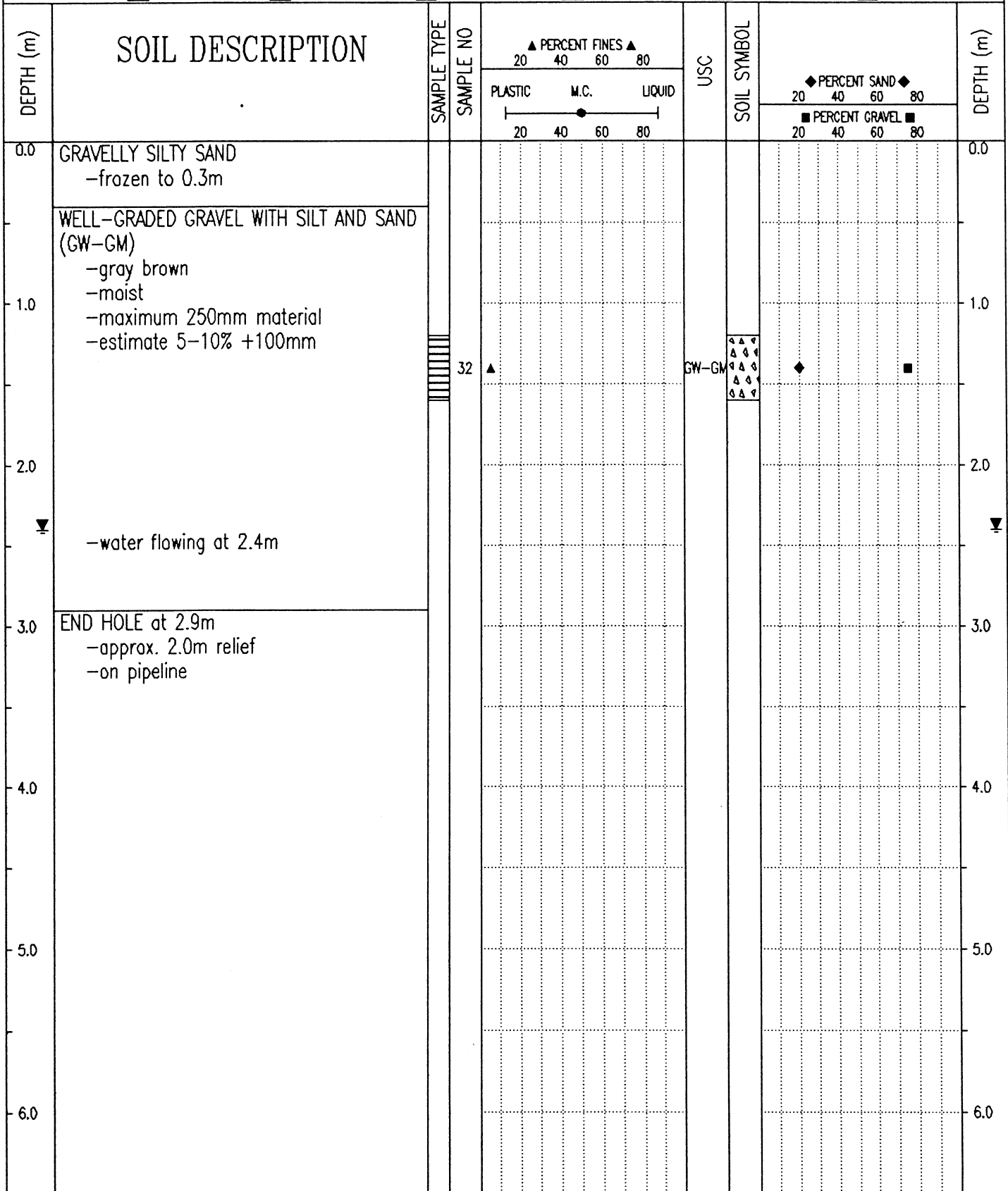
Page 1 of 1

SUBSURFACE EXPLORATION AND TEST REPORT		ALASKA HIGHWAY PRE-ENGINEERING		TEST PIT NO: 031-12					
PWC - CAPITAL Y.T.		A/H KM 1766 LHS		Project No: 115-G-05					
BACKHOE: CAT 225		LOCATION: See Plan		ELEVATION: 0.00 (m)					
SAMPLE TYPE <input checked="" type="checkbox"/> RETURN		<input checked="" type="checkbox"/> S.P.T.		<input checked="" type="checkbox"/> AUGER					
		<input type="checkbox"/> BULK		<input type="checkbox"/> TUBE					
				<input type="checkbox"/> CORE					
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES			USC	SOIL SYMBOL	DEPTH (m)
				PLASTIC	M.C.	LIQUID			
0.0	ORGANIC MATERIAL								0.0
0.0	WELL-GRADED GRAVEL WITH SAND (GW)								0.0
0.0	-gray brown								0.0
0.0	-moist								0.0
0.0	-maximum 250mm material								0.0
0.0	-estimate 5% +100mm								0.0
1.0									1.0
2.0									2.0
2.6			29				GW		2.6
2.6									2.6
3.0									3.0
3.0	END HOLE at 2.6m								3.0
3.0	-water at 2.6m								3.0
4.0									4.0
5.0									5.0
6.0									6.0
Government of Yukon Transportation Engineering				LOGGED BY: CB		COMPLETION DEPTH: 2.6 m			
				REVIEWED BY:		COMPLETE: 88/10/25			
				Fig. No:				Page 1 of 1	

SUBSURFACE EXPLORATION AND TEST REPORT		ALASKA HIGHWAY PRE-ENGINEERING		TEST PIT NO: 031-13							
PWC - CAPITAL Y.T.		A/H KM 1766 LHS		Project No: 115-G-05							
BACKHOE: CAT 225		LOCATION: See Plan		ELEVATION: 0.00 (m)							
SAMPLE TYPE <input checked="" type="checkbox"/> RETURN		<input checked="" type="checkbox"/> S.P.T.		<input checked="" type="checkbox"/> AUGER							
		<input type="checkbox"/> BULK		<input type="checkbox"/> TUBE							
				<input type="checkbox"/> CORE							
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲		USC	SOIL SYMBOL	◆ PERCENT SAND ◆		DEPTH (m)	
				PLASTIC	M.C.			LIQUID	■ PERCENT GRAVEL ■		
0.0	ORGANIC MATERIAL			20	40	60	80	20	40	60	80
1.0	POORLY GRADED GRAVEL WITH SAND (GP) -gray brown -moist -maximum 300mm material -estimate 5% +100mm			20	40	60	80	20	40	60	80
2.0			30								
3.0	END HOLE at 2.9m -water at 2.9m -on pipeline -flat terrain		31								
4.0											
5.0											
6.0											
Government of Yukon Transportation Engineering				LOGGED BY: CB		COMPLETION DEPTH: 2.9 m					
				REVIEWED BY:		COMPLETE: 88/10/25					
				Fig. No:		Page 1 of 1					

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 031-14
PWC - CAPITAL Y.T.	A/H KM 1766 LHS	Project No: 115-G-05
BACKHOE: CAT 225	LOCATION: See Plan	ELEVATION: 0.00 (m)

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

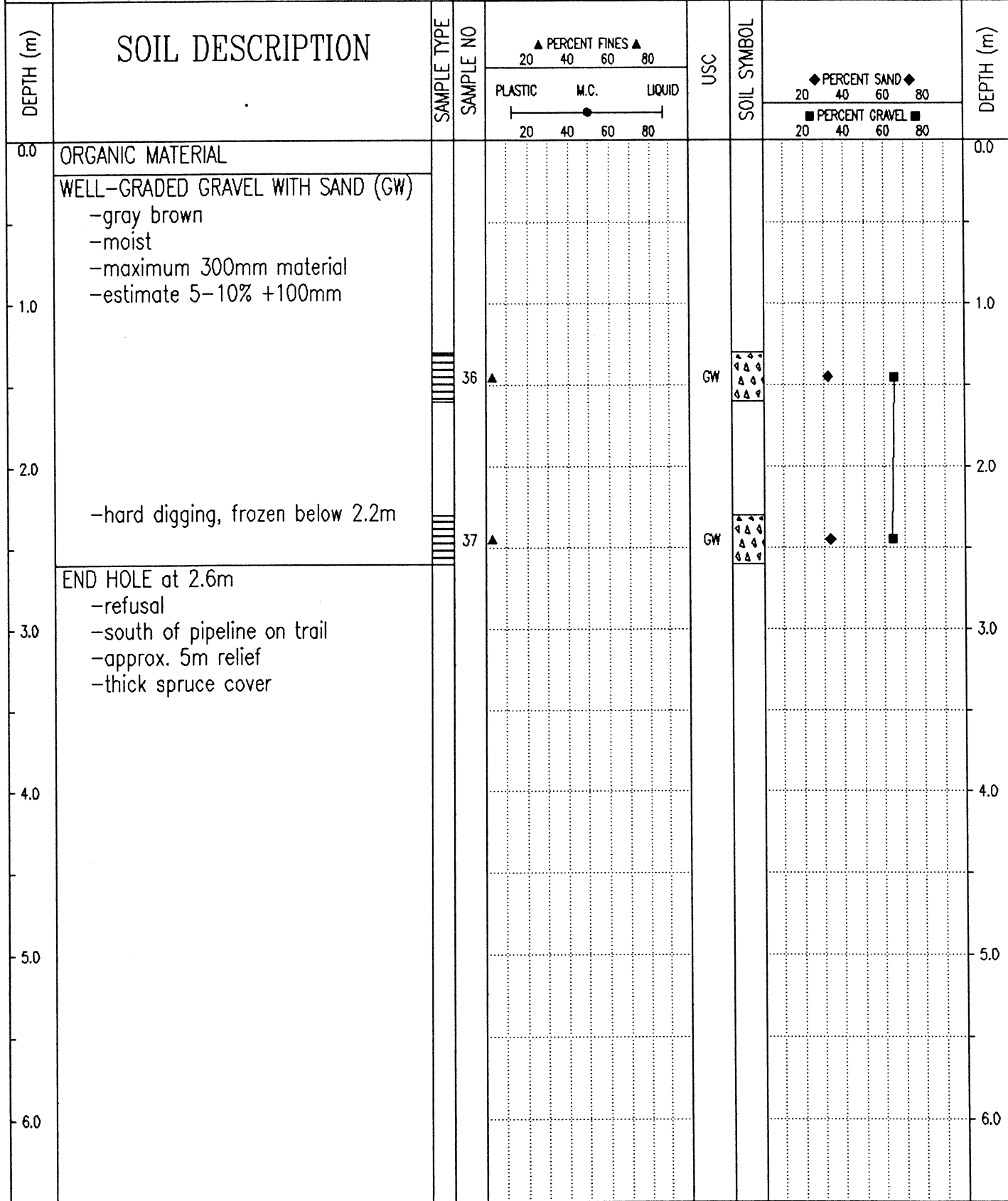


Government of Yukon Transportation Engineering	LOGGED BY: CB	COMPLETION DEPTH: 2.9 m
	REVIEWED BY:	COMPLETE: 88/10/26
	Fig. No:	Page 1 of 1



SUBSURFACE EXPLORATION AND TEST REPORT		ALASKA HIGHWAY PRE-ENGINEERING		TEST PIT NO: 031-16									
PWC - CAPITAL Y.T.		A/H KM 1766 LHS		Project No: 115-G-05									
BACKHOE: CAT 225		LOCATION: See Plan		ELEVATION: 0.00 (m)									
SAMPLE TYPE <input checked="" type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE													
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES			USC	SOIL SYMBOL	PERCENT SAND			PERCENT GRAVEL	DEPTH (m)
				PLASTIC	M.C.	LIQUID			20	40	60		
0.0	ORGANIC MATERIAL												0.0
	WELL-GRADED GRAVEL WITH SAND (GW) -gray brown -moist -maximum 250mm material -estimate 5% +100mm												
1.0													1.0
2.0	-water flowing at 2.0m		34				GW	▲▲▲▲ ▲▲▲▲ ▲▲▲▲	◆	■			2.0
3.0	END HOLE at 2.4m -0.5m dia. spruce cover -approx. 1.0m relief												3.0
4.0													4.0
5.0													5.0
6.0													6.0
Government of Yukon Transportation Engineering				LOGGED BY: CB REVIEWED BY: Fig. No:				COMPLETION DEPTH: 2.4 m COMPLETE: 88/10/26					

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 031-18
PWC - CAPITAL Y.T.	A/H KM 1766 LHS	Project No: 115-G-05
BACKHOE: CAT 225	LOCATION: See Plan	ELEVATION: 0.00 (m)
SAMPLE TYPE <input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE		



Government of Yukon Transportation Engineering	LOGGED BY: CB	COMPLETION DEPTH: 2.6 m
	REVIEWED BY:	COMPLETE: 88/10/26
	Fig. No:	Page 1 of 1

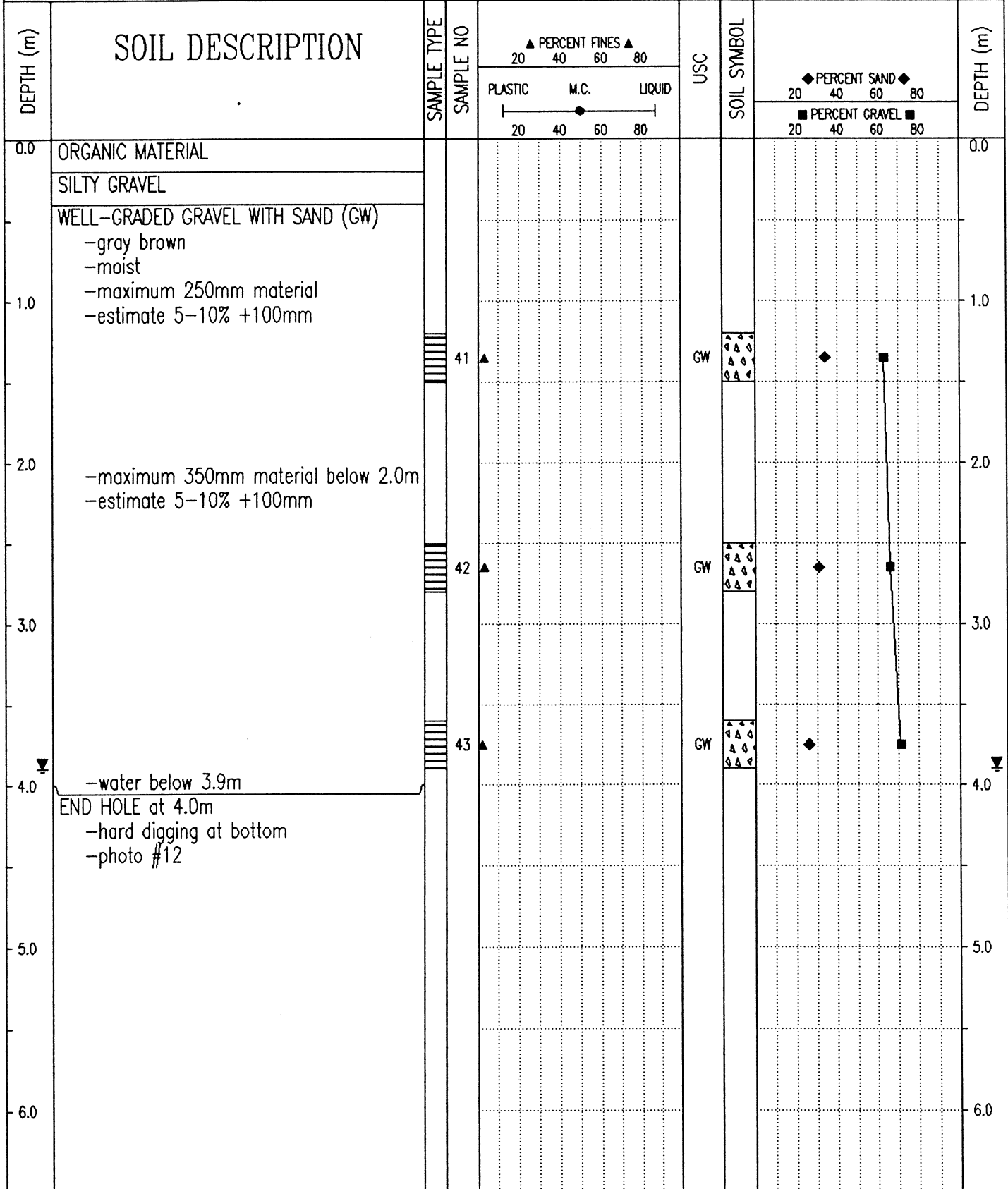
SUBSURFACE EXPLORATION AND TEST REPORT		ALASKA HIGHWAY PRE-ENGINEERING		TEST PIT NO: 031-19						
PWC - CAPITAL Y.T.		A/H KM 1766 LHS		Project No: 115-G-05						
BACKHOE: CAT 225		LOCATION: See Plan		ELEVATION: 0.00 (m)						
SAMPLE TYPE		RETURN		S.P.T.						
		AUGER		BULK						
		TUBE		CORE						
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80		USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80		DEPTH (m)
				PLASTIC M.C. LIQUID 20 40 60 80				■ PERCENT GRAVEL ■ 20 40 60 80		
0.0	ORGANIC MATERIAL								0.0	
0.0 - 1.0	WELL-GRADED GRAVEL WITH SAND (GW) -gray brown -moist -maximum 300mm material -estimate 5-10% +100mm									
1.0 - 2.5	-easy digging -maximum 400mm material below 2.5m -estimate 5-10% +100mm									
2.5 - 3.3	-frozen below 2.9m									
3.3 - 4.0	END HOLE at 3.3m -refusal -water in bottom of hole 5 min. later									
4.0 - 6.0										

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Transportation Engineering

LOGGED BY: CB  
REVIEWED BY:  
Fig. No:

COMPLETION DEPTH: 3.3 m  
COMPLETE: 88/10/26

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 031-20
PWC - CAPITAL Y.T.	A/H KM 1766 LHS	Project No: 115-G-05
BACKHOE: CAT 225	LOCATION: See Plan	ELEVATION: 0.00 (m)
SAMPLE TYPE <input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE		

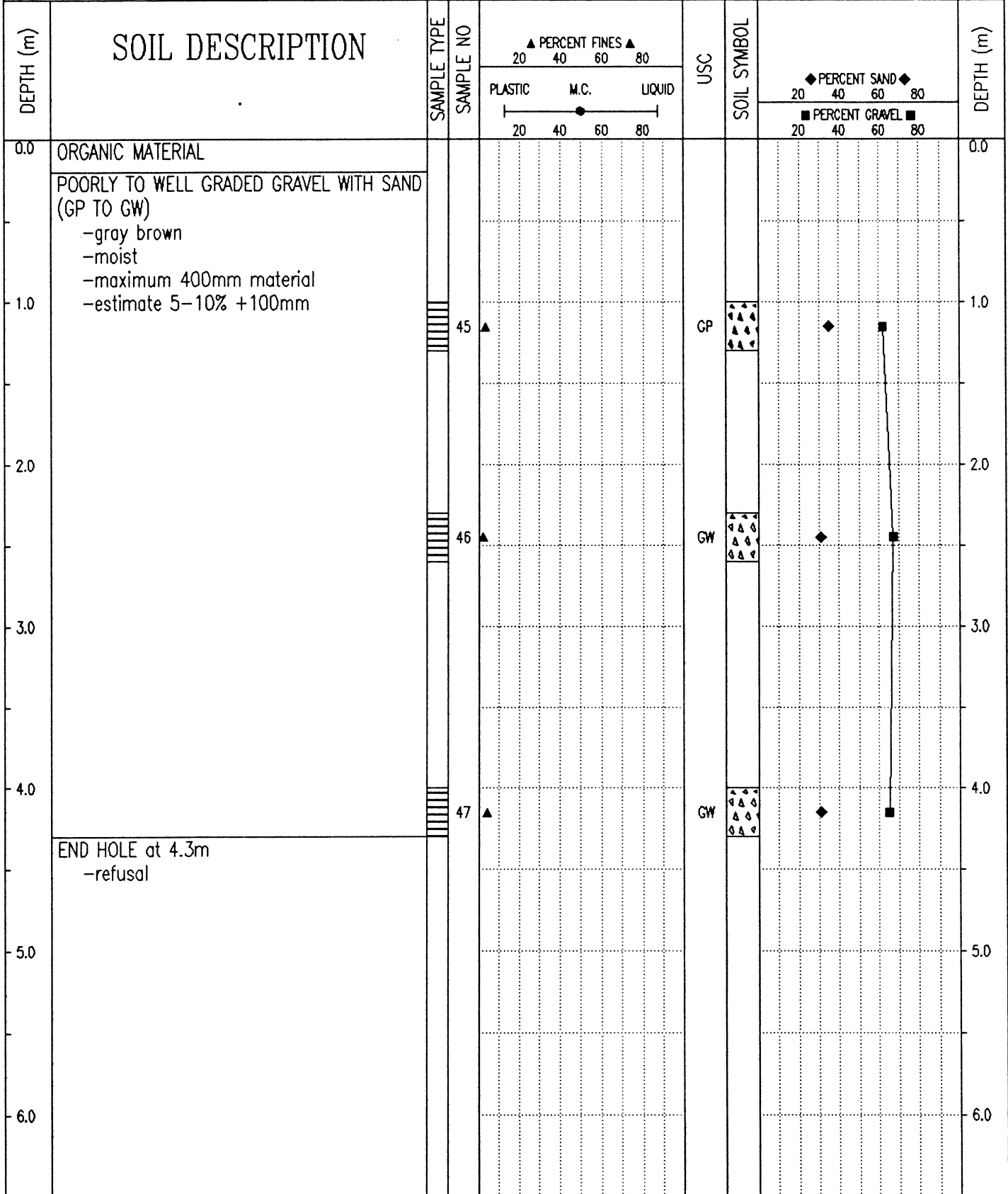


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Transportation Engineering

LOGGED BY: CB	COMPLETION DEPTH: 4.0 m
REVIEWED BY:	COMPLETE: 88/10/26
Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION AND TEST REPORT		ALASKA HIGHWAY PRE-ENGINEERING		TEST PIT NO: 031-21								
PWC - CAPITAL Y.T.		A/H KM 1766 LHS		Project No: 115-G-05								
BACKHOE: CAT 225		LOCATION: See Plan		ELEVATION: 0.00 (m)								
SAMPLE TYPE <input type="checkbox"/> RETURN		<input checked="" type="checkbox"/> S.P.T.		<input checked="" type="checkbox"/> AUGER								
		<input type="checkbox"/> BULK		<input type="checkbox"/> TUBE								
				<input type="checkbox"/> CORE								
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲		USC	SOIL SYMBOL	◆ PERCENT SAND ◆		DEPTH (m)		
				PLASTIC	M.C.			LIQUID	PERCENT GRAVEL ■			
0.0	ORGANIC MATERIAL GRAVEL AND SILTY SAND LAYERS -moist			20	40	60	80	20	40	60	80	0.0
1.0	WELL-GRADED GRAVEL WITH SAND (GW) -gray brown -moist -maximum 250mm material -estimate 5-10% +100mm											1.0
2.0			44									2.0
	-frozen below 2.4m											
3.0	END HOLE at 2.6m -refusal -thick spruce cover											3.0
4.0												4.0
5.0												5.0
6.0												6.0
Government of Yukon Transportation Engineering				LOGGED BY: CB		COMPLETION DEPTH: 2.6 m						
				REVIEWED BY:		COMPLETE: 88/10/26						
				Fig. No:		Page 1 of 1						

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 031-22
PWC - CAPITAL Y.T.	A/H KM 1766 LHS	Project No: 115-G-05
BACKHOE: CAT 225	LOCATION: See Plan	ELEVATION: 0.00 (m)
SAMPLE TYPE <input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE		



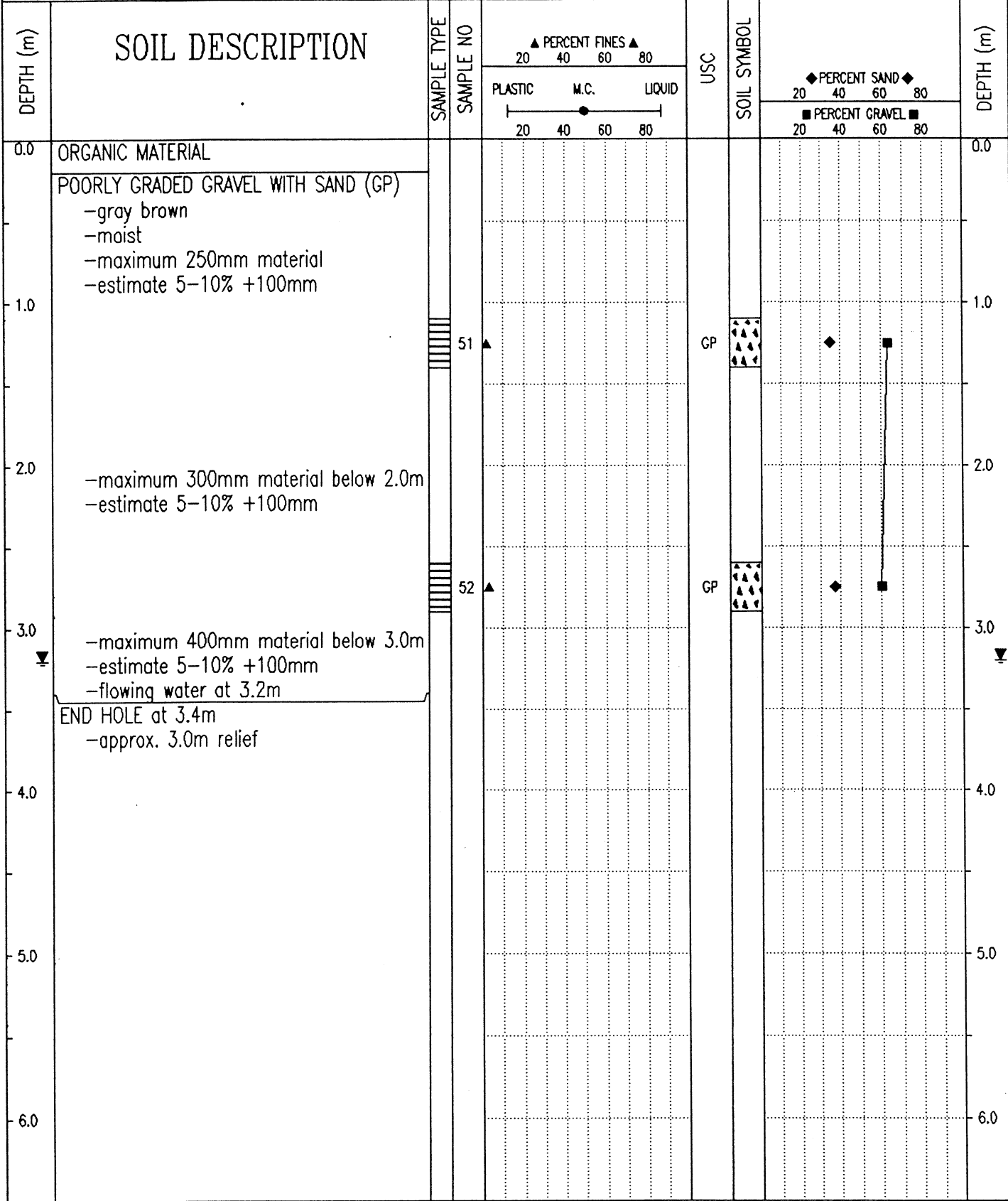
Government of Yukon  
Transportation Engineering

LOGGED BY: CB  
REVIEWED BY:  
Fig. No:

COMPLETION DEPTH: 4.3 m  
COMPLETE: 88/10/26

SUBSURFACE EXPLORATION AND TEST REPORT		ALASKA HIGHWAY PRE-ENGINEERING		TEST PIT NO: 031-23						
PWC - CAPITAL Y.T.		A/H KM 1766 LHS		Project No: 115-G-05						
BACKHOE: CAT 225		LOCATION: See Plan		ELEVATION: 0.00 (m)						
SAMPLE TYPE		<input checked="" type="checkbox"/> RETURN	<input checked="" type="checkbox"/> S.P.T.	<input checked="" type="checkbox"/> AUGER	<input type="checkbox"/> BULK	<input type="checkbox"/> TUBE	<input type="checkbox"/> CORE			
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80		USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80		DEPTH (m)
				PLASTIC	M.C.			LIQUID	■ PERCENT GRAVEL ■ 20 40 60 80	
0.0	ORGANIC MATERIAL									0.0
	SILTY GRAVEL									
	POORLY TO WELL-GRADED GRAVEL WITH SAND (GP TO GW)									
1.0	-gray brown -moist -maximum 300mm material -estimate 5% +100mm									1.0
2.0			48			GP				2.0
3.0			49			GW				3.0
4.0	-maximum 350mm material below 3.0m -estimate 5-10% +100mm -hole caving in		50			GW				4.0
4.4	END HOLE at 4.4m -flowing water in bottom of hole									4.4
5.0										5.0
6.0										6.0
Government of Yukon Transportation Engineering				LOGGED BY: CB REVIEWED BY: Fig. No:		COMPLETION DEPTH: 4.4 m COMPLETE: 88/10/26				

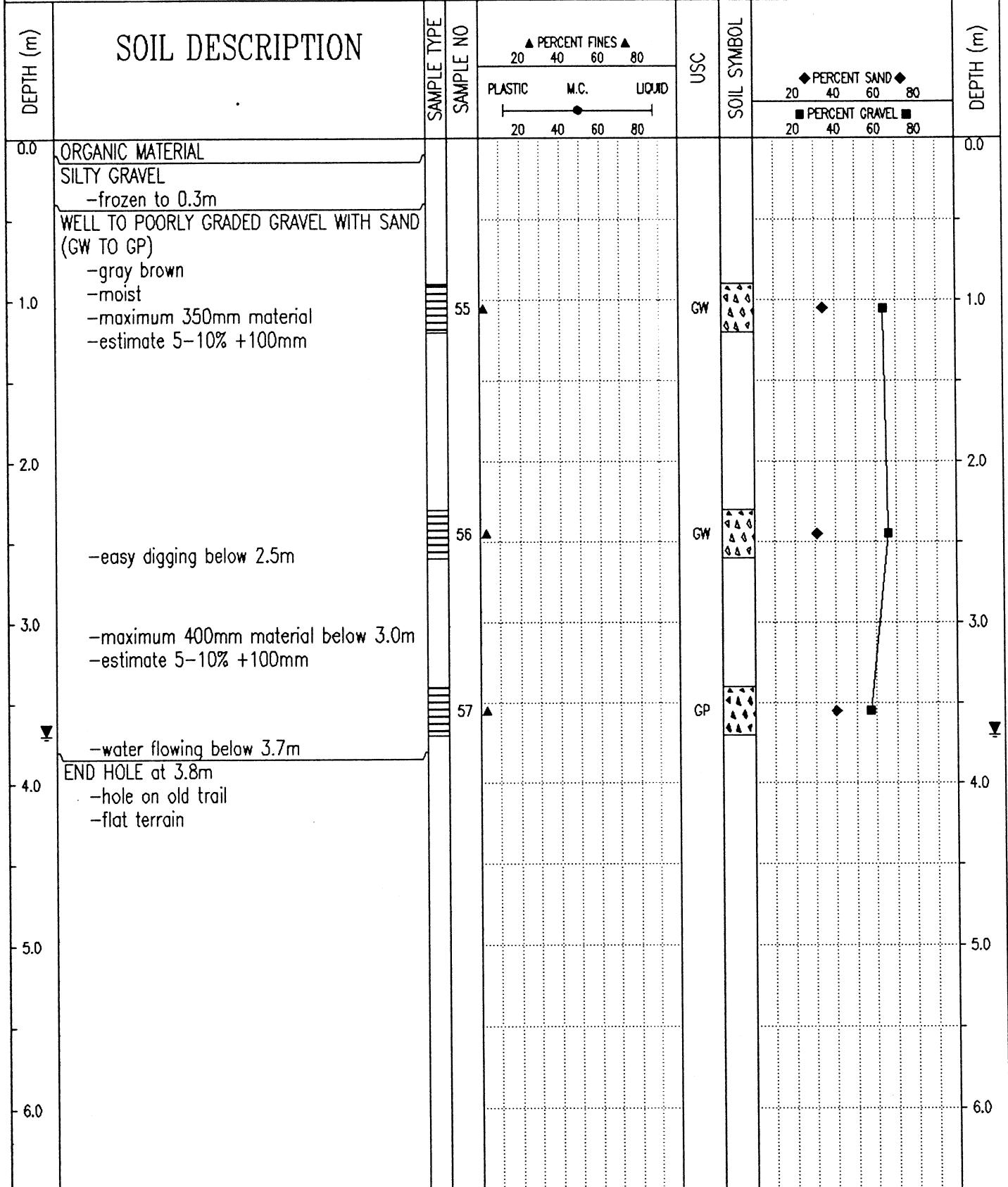
SUBSURFACE EXPLORATION AND TEST REPORT		ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 031-24
PWC - CAPITAL Y.T.		A/H KM 1766 LHS	Project No: 115-G-05
BACKHOE: CAT 225		LOCATION: See Plan	ELEVATION: 0.00 (m)
SAMPLE TYPE <input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE			



Government of Yukon Transportation Engineering	LOGGED BY: CB	COMPLETION DEPTH: 3.4 m
	REVIEWED BY:	COMPLETE: 88/10/26
	Fig. No:	Page 1 of 1

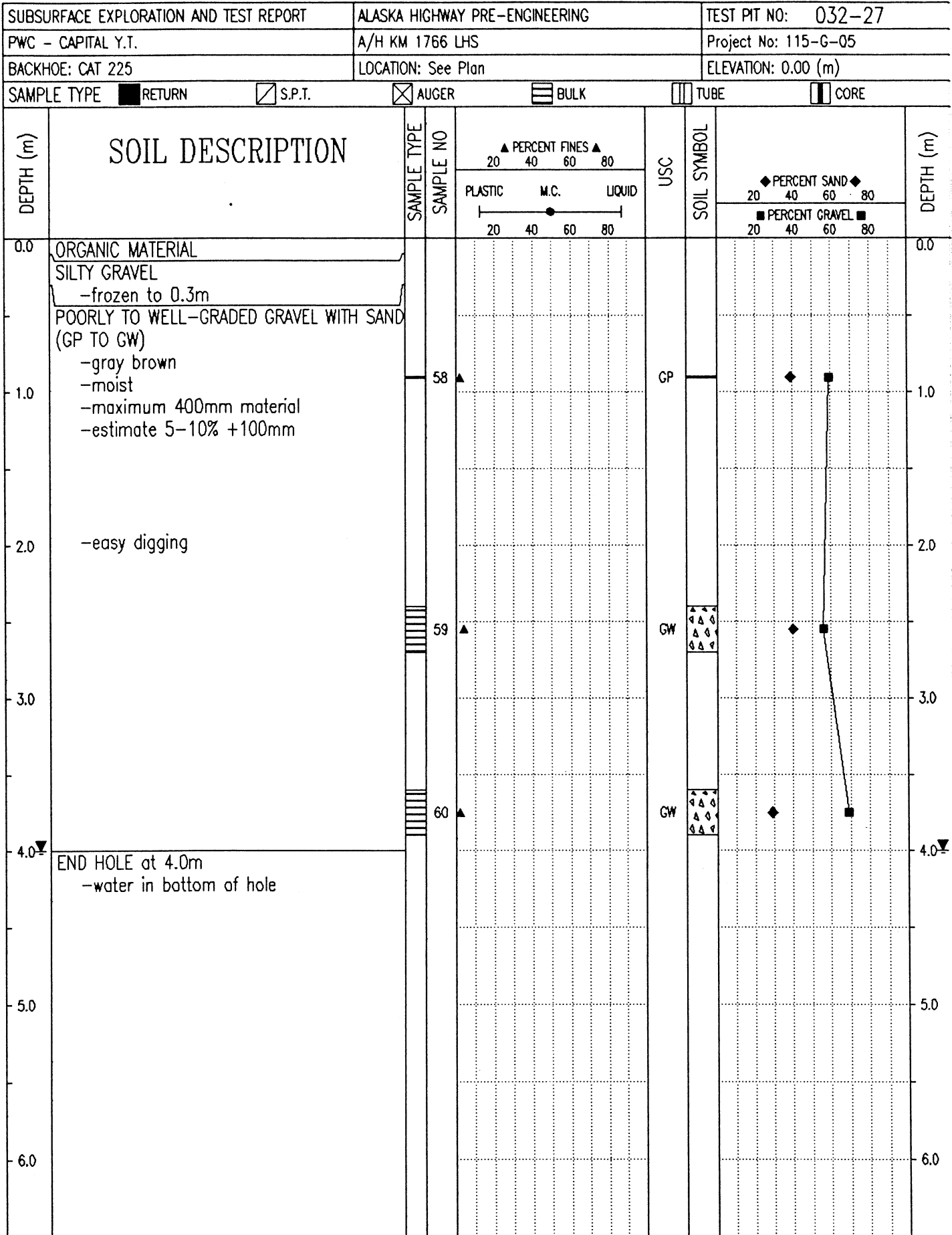
SUBSURFACE EXPLORATION AND TEST REPORT		ALASKA HIGHWAY PRE-ENGINEERING		TEST PIT NO: 031-25								
PWC - CAPITAL Y.T.		A/H KM 1766 LHS		Project No: 115-G-05								
BACKHOE: CAT 225		LOCATION: See Plan		ELEVATION: 0.00 (m)								
SAMPLE TYPE <input checked="" type="checkbox"/> RETURN		<input checked="" type="checkbox"/> S.P.T.		<input checked="" type="checkbox"/> AUGER								
		<input type="checkbox"/> BULK		<input type="checkbox"/> TUBE								
				<input type="checkbox"/> CORE								
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES ▲			USC	SOIL SYMBOL	PERCENT SAND ◆			DEPTH (m)
				PLASTIC	M.C.	LIQUID			PERCENT GRAVEL ■			
0.0	ORGANIC MATERIAL										0.0	
0.0 - 1.0	POORLY TO WELL-GRADED GRAVEL WITH SAND (GP TO GW) -gray brown -moist -maximum 300mm material -estimate 5-10% +100mm											
1.0 - 2.0												
2.0	-easy digging		53				GP				2.0	
2.0 - 3.0												
3.0			54				GW				3.0	
3.0 - 4.0	-maximum 350mm material below 3.5m -estimate 5-10% +100mm											
4.0	-water below 3.9m										4.0	
4.0 - 4.2	END HOLE at 4.2m											
4.2 - 5.0												
5.0 - 6.0												
Government of Yukon Transportation Engineering				LOGGED BY: CB		COMPLETION DEPTH: 4.2 m						
				REVIEWED BY:		COMPLETE: 88/10/27						
				Fig. No:		Page 1 of 1						

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 032-26
PWC - CAPITAL Y.T.	A/H KM 1766 LHS	Project No: 115-G-05
BACKHOE: CAT 225	LOCATION: See Plan	ELEVATION: 0.00 (m)
SAMPLE TYPE <input checked="" type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE		



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LOGGED BY: CB	COMPLETION DEPTH: 3.8 m
REVIEWED BY:	COMPLETE: 88/10/27
Fig. No:	Page 1 of 1



Government of Yukon  
Transportation Engineering

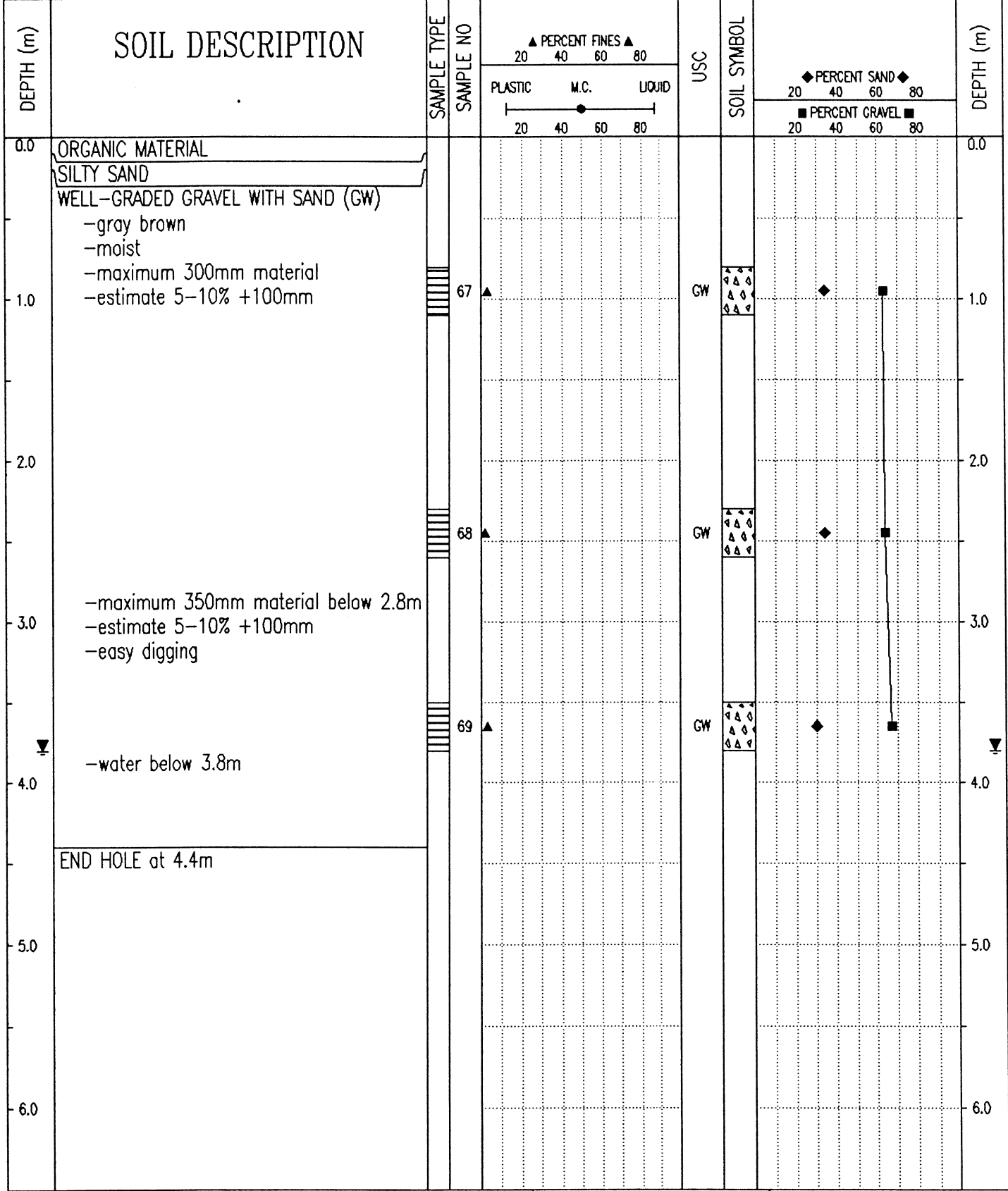
LOGGED BY: CB  
REVIEWED BY:  
Fig. No:

COMPLETION DEPTH: 4.0 m  
COMPLETE: 88/10/27

SUBSURFACE EXPLORATION AND TEST REPORT		ALASKA HIGHWAY PRE-ENGINEERING		TEST PIT NO: 032-29						
PWC - CAPITAL Y.T.		A/H KM 1766 LHS		Project No: 115-G-05						
BACKHOE: CAT 225		LOCATION: See Plan		ELEVATION: 0.00 (m)						
SAMPLE TYPE		<input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE								
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80		USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80		DEPTH (m)
				PLASTIC	M.C.			LIQUID	■ PERCENT GRAVEL ■ 20 40 60 80	
0.0	ORGANIC MATERIAL SILTY SAND WELL-GRADED GRAVEL WITH SAND (GW) -gray brown -moist -maximum 350mm material -estimate 5-10% +100mm									0.0
1.0			64 ▲			GW	▲▲▲ ▲▲▲ ▲▲▲	◆	■	1.0
2.0										2.0
3.0			65 ▲			GW	▲▲▲ ▲▲▲ ▲▲▲	◆	■	3.0
4.0										4.0
5.0	-water below 4.8m END HOLE at 5.0m -photo #13		66 ▲			GW	▲▲▲ ▲▲▲ ▲▲▲	◆	■	5.0
6.0										6.0
Government of Yukon Transportation Engineering				LOGGED BY: CB REVIEWED BY: Fig. No:		COMPLETION DEPTH: 5.0 m COMPLETE: 88/10/27				

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 032-30
PWC - CAPITAL Y.T.	A/H KM 1766 LHS	Project No: 115-G-05
BACKHOE: CAT 225	LOCATION: See Plan	ELEVATION: 0.00 (m)

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



Government of Yukon Transportation Engineering	LOGGED BY: CB	COMPLETION DEPTH: 4.4 m
	REVIEWED BY:	COMPLETE: 88/10/27
	Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION AND TEST REPORT		ALASKA HIGHWAY PRE-ENGINEERING		TEST PIT NO: 032-31						
PWC - CAPITAL Y.T.		A/H KM 1766 LHS		Project No: 115-G-05						
BACKHOE: CAT 225		LOCATION: See Plan		ELEVATION: 0.00 (m)						
SAMPLE TYPE <input checked="" type="checkbox"/> RETURN		<input checked="" type="checkbox"/> S.P.T.		<input checked="" type="checkbox"/> AUGER						
		<input type="checkbox"/> BULK		<input type="checkbox"/> TUBE						
				<input type="checkbox"/> CORE						
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲		USC	SOIL SYMBOL	◆ PERCENT SAND ◆		DEPTH (m)
				PLASTIC	M.C.			LIQUID	■ PERCENT GRAVEL ■	
0.0	ORGANIC MATERIAL POORLY GRADED GRAVEL WITH SAND (GP) -gray brown -moist -maximum 300mm material -estimate 5-10% +100mm									0.0
1.0			70				GP			1.0
2.0										2.0
3.0	WELL-GRADED GRAVEL WITH SAND (GW) -gray brown -moist -maximum 400mm material -estimate 5-10% +100mm		71				GW			3.0
4.0	-sample 72 lost in transit -wet below 3.9m -water below 4.2m		72							4.0
5.0	END HOLE at 4.4m									5.0
6.0										6.0
Government of Yukon Transportation Engineering				LOGGED BY: CB		COMPLETION DEPTH: 4.4 m				
				REVIEWED BY:		COMPLETE: 88/10/27				
				Fig. No:		Page 1 of 1				

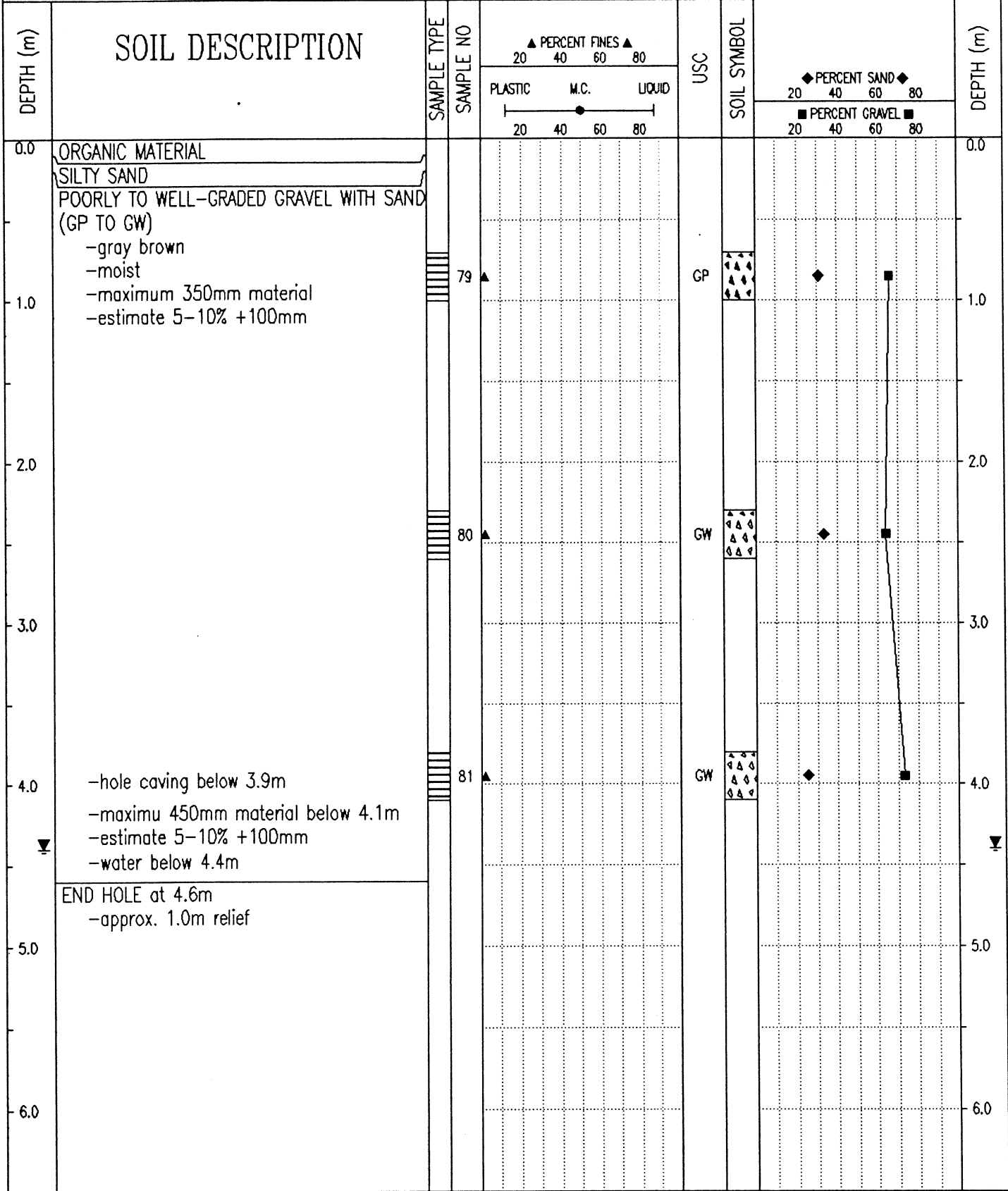
SUBSURFACE EXPLORATION AND TEST REPORT		ALASKA HIGHWAY PRE-ENGINEERING		TEST PIT NO: 032-33											
PWC - CAPITAL Y.T.		A/H KM 1766 LHS		Project No: 115-G-05											
BACKHOE: CAT 225		LOCATION: See Plan		ELEVATION: 0.00 (m)											
SAMPLE TYPE <input checked="" type="checkbox"/> RETURN		<input checked="" type="checkbox"/> S.P.T.		<input checked="" type="checkbox"/> AUGER											
		<input type="checkbox"/> BULK		<input type="checkbox"/> TUBE											
				<input type="checkbox"/> CORE											
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES			USC	SOIL SYMBOL	PERCENT SAND			PERCENT GRAVEL			DEPTH (m)
				PLASTIC	M.C.	LIQUID			20	40	60	80	20	40	
0.0	ORGANIC MATERIAL													0.0	
	SILTY GRAVEL -frozen														
1.0	POORLY TO WELL-GRADED GRAVEL WITH SAND (GP TO GW) -gray brown -moist -maximum 300mm material -estimate 5-10% +100mm		76					GP						1.0	
2.0	-maximum 350mm material below 2.0m -estimate 5-10% +100mm -easy digging													2.0	
3.0			77					GW						3.0	
4.0														4.0	
5.0			78					GW						5.0	
6.0														6.0	
5.0	END HOLE at 4.8m -water at 4.8m -flat terrain -open area													5.0	

Government of Yukon  
Transportation Engineering

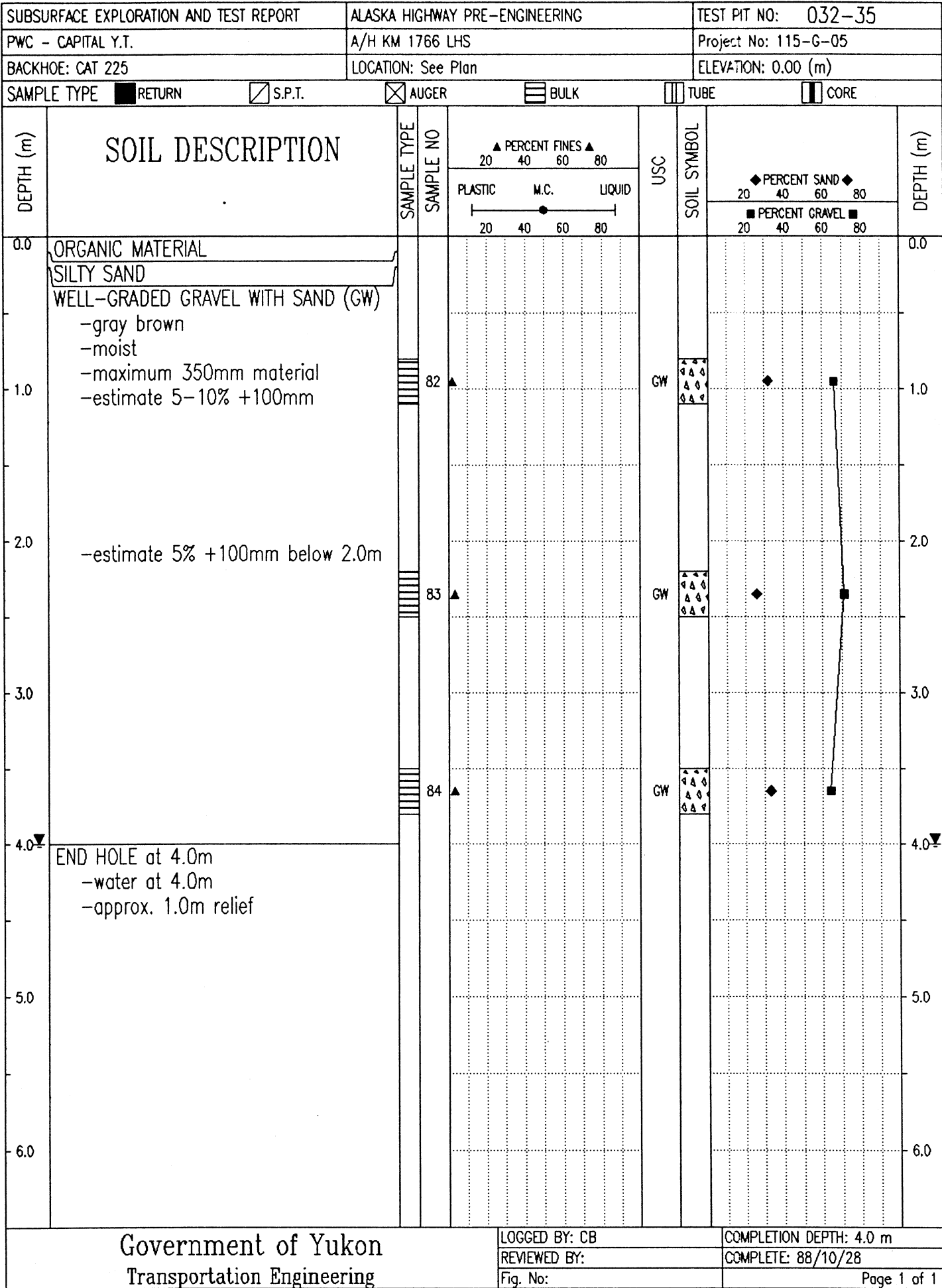
LOGGED BY: CB  
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Fig. No:

COMPLETION DEPTH: 4.8 m  
COMPLETE: 88/10/27

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 032-34
PWC - CAPITAL Y.T.	A/H KM 1766 LHS	Project No: 115-G-05
BACKHOE: CAT 225	LOCATION: See Plan	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE	



Government of Yukon Transportation Engineering	LOGGED BY: CB	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 88/10/28
	Fig. No:	Page 1 of 1



PROJECT NUMBER: 115-G-05 HOLE NUMBER: 031-03  
 CLIENT: PWC - CAPITAL Y.T.  
 PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING  
 PROJECT LOCATION: A/H KM 1766 LHS  
 DRILL UNIT: CAT 225 HOE  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: CB DATE COMPLETED: 88.10.24

FIELD NO: 7	FIELD NO: 8	FIELD NO: 9
LAB NO: 2759	LAB NO: 2760	LAB NO: 2761
DEPTH: 1.8-2.1	DEPTH: 2.9-3.2	DEPTH: 3.9-4.2
TYPE: BULK	TYPE: BULK	TYPE: BULK

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	100	101.6	--
76.2	100	76.2	91	76.2	100
50.8	90	50.8	91	50.8	85
38.1	84	38.1	82	38.1	71
25.4	69	25.4	75	25.4	58
19.0	64	19.0	66	19.0	54
12.7	51	12.7	56	12.7	46
9.5	45	9.5	51	9.5	40
4.76	33	4.76	39	4.76	30
2.38	--	2.38	--	2.38	--
2.00	23	2.00	27	2.00	21
1.19	--	1.19	--	1.19	--
0.841	16	0.841	18	0.841	13
0.595	--	0.595	--	0.595	--
0.42	10	0.42	11	0.42	8
0.297	--	0.297	--	0.297	--
0.177	--	0.177	--	0.177	--
0.149	4	0.149	4	0.149	3
0.074	3	0.074	3	0.074	2

M.C.(%): -- M.C.(%): -- M.C.(%): --

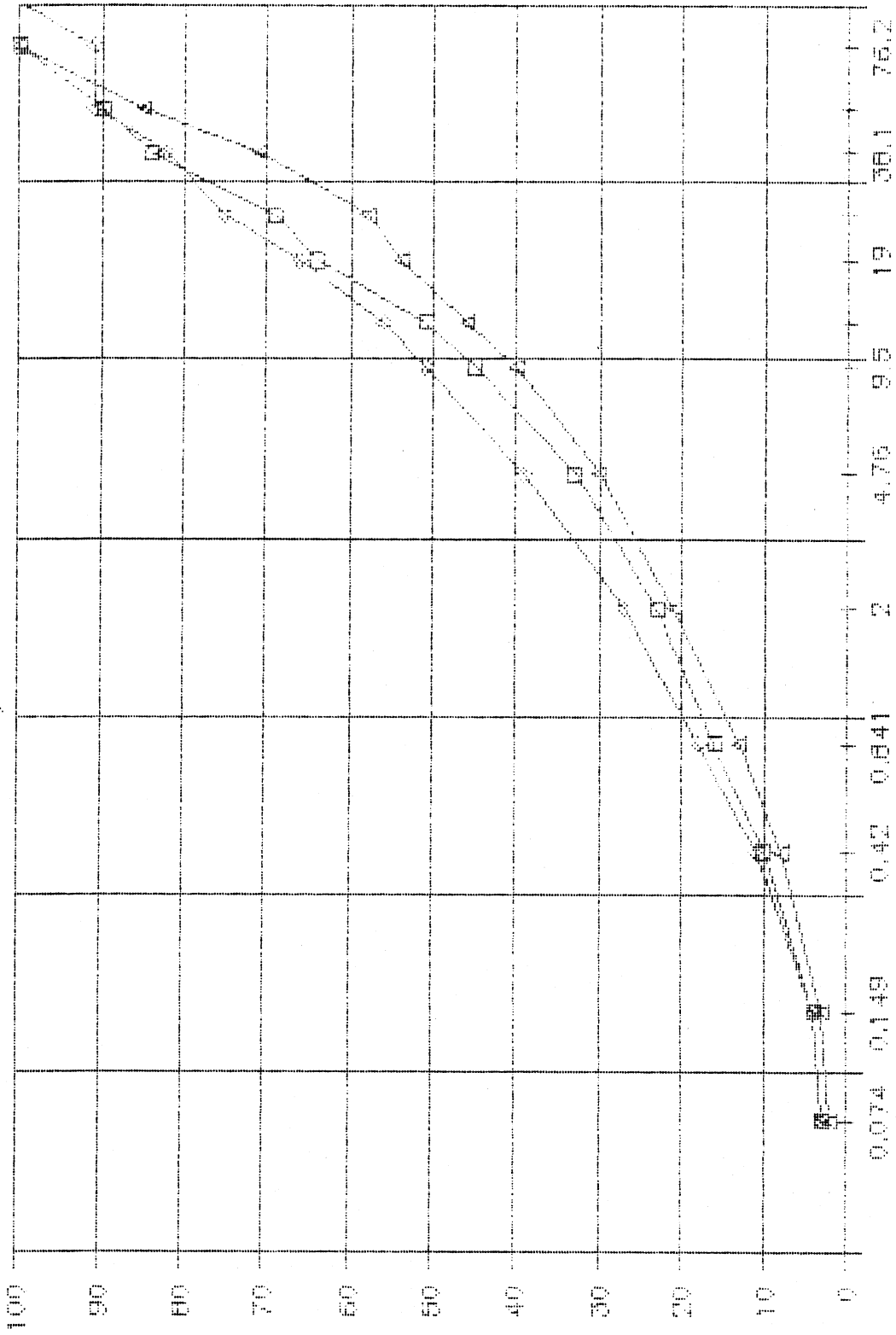
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LIQUID: --	LIQUID: --	LIQUID: --
PLASTIC: --	PLASTIC: --	PLASTIC: --
P.I.: N.P.	P.I.: N.P.	P.I.: N.P.

% GRAVEL: 67	% GRAVEL: 61	% GRAVEL: 70
% SAND: 30	% SAND: 36	% SAND: 29
% FINES: 3	% FINES: 3	% FINES: 2

CLASSIFICATION:	CLASSIFICATION:	CLASSIFICATION:
WELL-GRADED	WELL-GRADED	WELL-GRADED
GRAVEL WITH SAND	GRAVEL WITH SAND	GRAVEL WITH SAND
(GW)	(GW)	(GW)

# PUBLIC WORKS CANADA — WHITEHORSE, Y.T.

Grain Size Analysis — Hole 031—03



Legend:  
 □ SAMP. 7  
 ○ SAMP. 8  
 △ SAMP. 9  
 × SAMP. 2  
 ● SAMP. 5

PERCENT PASSING

PROJECT NUMBER: 115-G-05 HOLE NUMBER: 031-05  
 CLIENT: PWC - CAPITAL Y.T.  
 PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING  
 PROJECT LOCATION: A/H KM 1766 LHS  
 DRILL UNIT: CAT 225 HOE  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: CB DATE COMPLETED: 88.10.25

FIELD NO: 13	FIELD NO: 14	FIELD NO: 15
LAB NO: 2765	LAB NO: 2766	LAB NO: 2767
DEPTH: 0.8-1.2	DEPTH: 2.3-2.6	DEPTH: 3.4-3.7
TYPE: BULK	TYPE: BULK	TYPE: BULK

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--	101.6	--
76.2	100	76.2	100	76.2	100
50.8	82	50.8	96	50.8	79
38.1	74	38.1	82	38.1	67
25.4	61	25.4	71	25.4	59
19.0	55	19.0	70	19.0	52
12.7	45	12.7	51	12.7	45
9.5	40	9.5	46	9.5	41
4.76	30	4.76	35	4.76	31
2.38	--	2.38	--	2.38	--
2.00	20	2.00	24	2.00	20
1.19	--	1.19	--	1.19	--
0.841	12	0.841	15	0.841	13
0.595	--	0.595	--	0.595	--
0.42	8	0.42	9	0.42	8
0.297	--	0.297	--	0.297	--
0.177	--	0.177	--	0.177	--
0.149	3	0.149	5	0.149	4
0.074	2	0.074	3	0.074	3

M.C.(%): -- M.C.(%): -- M.C.(%): --

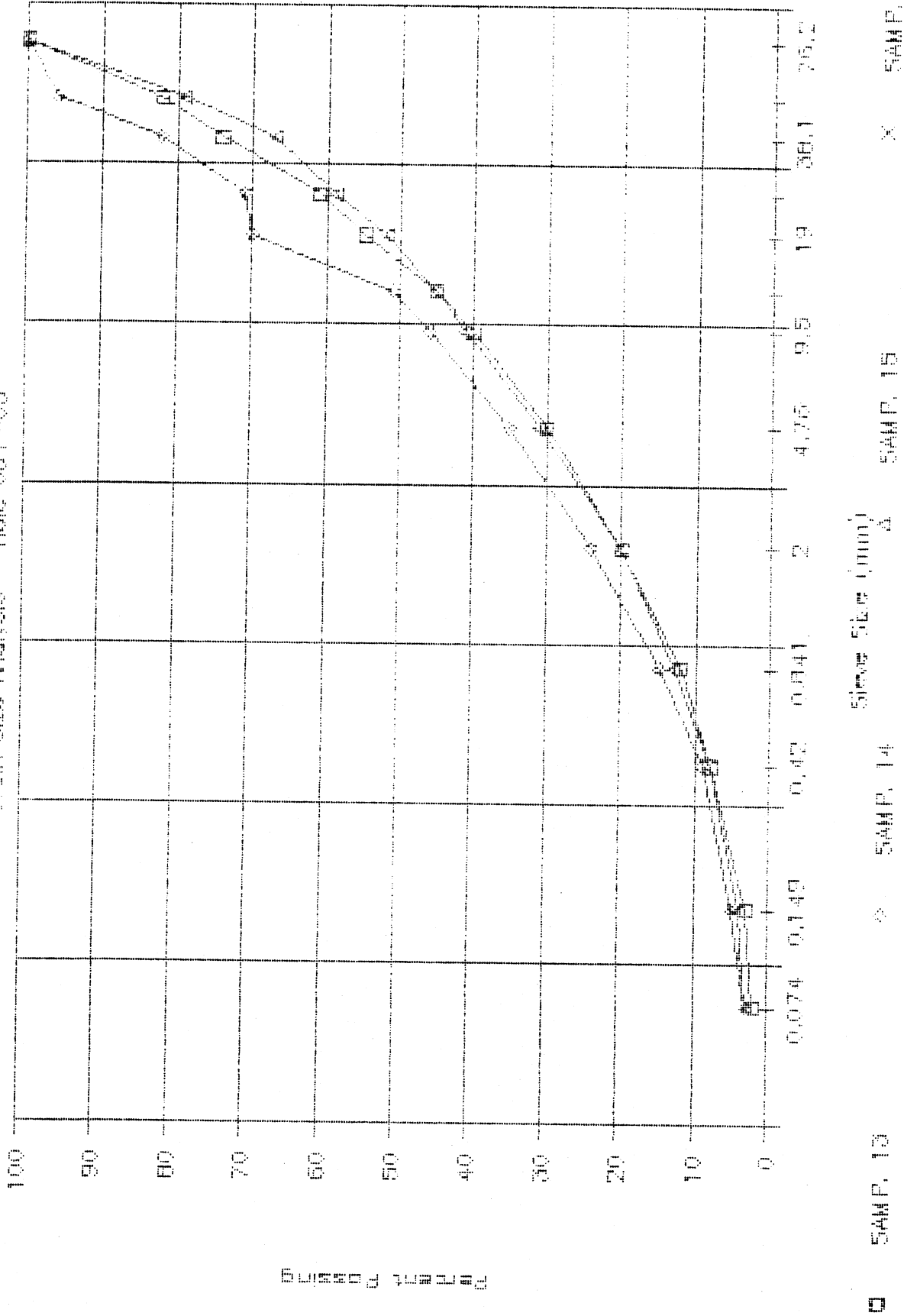
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PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.

% GRAVEL:	70	% GRAVEL:	65	% GRAVEL:	69
% SAND:	28	% SAND:	31	% SAND:	28
% FINES:	2	% FINES:	3	% FINES:	3

CLASSIFICATION:	CLASSIFICATION:	CLASSIFICATION:
WELL-GRADED	WELL-GRADED	WELL-GRADED
GRAVEL WITH SAND	GRAVEL WITH SAND	GRAVEL WITH SAND
(GW)	(GW)	(GW)

# PUBLIC WORKS CANADA — WHITEHORSE, Y.T.

Grain Size Analysis — Hole 031-05



PERCENT PASSING

PROJECT NUMBER: 115-G-05 HOLE NUMBER: 031-07  
 CLIENT: PWC - CAPITAL Y.T.  
 PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING  
 PROJECT LOCATION: A/H KM 1766 LHS  
 DRILL UNIT: CAT 225 HOE  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: CB DATE COMPLETED: 88.10.25

FIELD NO: 18	FIELD NO: 19	FIELD NO: 20
LAB NO: 2770	LAB NO: 2771	LAB NO: 2772
DEPTH: 1.3-1.6	DEPTH: 2.7-3.0	DEPTH: 3.6-3.9
TYPE: BULK	TYPE: BULK	TYPE: BULK

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--	101.6	--
76.2	--	76.2	100	76.2	100
50.8	100	50.8	88	50.8	91
38.1	80	38.1	78	38.1	82
25.4	70	25.4	66	25.4	70
19.0	63	19.0	58	19.0	60
12.7	53	12.7	48	12.7	50
9.5	47	9.5	43	9.5	44
4.76	35	4.76	32	4.76	34
2.38	--	2.38	--	2.38	--
2.00	26	2.00	22	2.00	24
1.19	--	1.19	--	1.19	--
0.841	17	0.841	13	0.841	15
0.595	--	0.595	--	0.595	--
0.42	11	0.42	7	0.42	8
0.297	--	0.297	--	0.297	--
0.177	--	0.177	--	0.177	--
0.149	4	0.149	2	0.149	3
0.074	2	0.074	2	0.074	2

M.C.(%): -- M.C.(%): -- M.C.(%): --

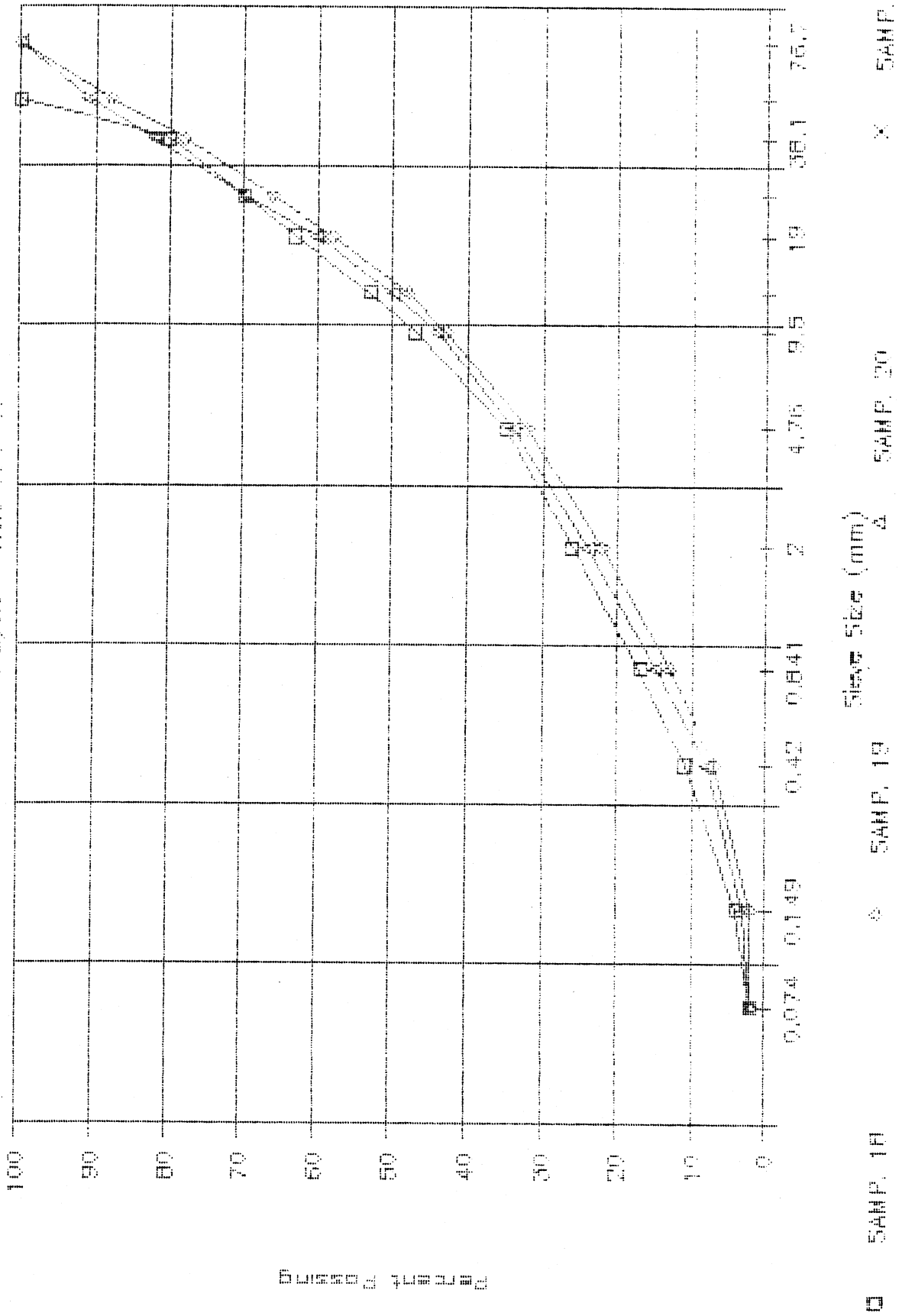
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PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.

% GRAVEL:	65	% GRAVEL:	68	% GRAVEL:	66
% SAND:	33	% SAND:	31	% SAND:	32
% FINES:	2	% FINES:	2	% FINES:	2

CLASSIFICATION:	CLASSIFICATION:	CLASSIFICATION:
WELL-GRADED	WELL-GRADED	WELL-GRADED
GRAVEL WITH SAND	GRAVEL WITH SAND	GRAVEL WITH SAND
(GW)	(GW)	(GW)

# PUBLIC WORKS CANADA - WHITEHORSE, Y.T.

Grain Size Analysis - Hole 031-07



PERCENT PASSED

PROJECT NUMBER: 115-G-05 HOLE NUMBER: 031-08  
 CLIENT: PWC - CAPITAL Y.T.  
 PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING  
 PROJECT LOCATION: A/H KM 1766 LHS  
 DRILL UNIT: CAT 225 HOE  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: CB DATE COMPLETED: 88.10.25

FIELD NO: 21	FIELD NO: 22
LAB NO: 2773	LAB NO: 2774
DEPTH: 1.2-1.5	DEPTH: 3.0-3.3
TYPE: BULK	TYPE: BULK

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--
76.2	100	76.2	100
50.8	93	50.8	84
38.1	80	38.1	72
25.4	62	25.4	61
19.0	55	19.0	55
12.7	45	12.7	46
9.5	40	9.5	41
4.76	29	4.76	32
2.38	--	2.38	--
2.00	19	2.00	23
1.19	--	1.19	--
0.841	12	0.841	15
0.595	--	0.595	--
0.42	8	0.42	9
0.297	--	0.297	--
0.177	--	0.177	--
0.149	2	0.149	3
0.074	1	0.074	2

M.C.(%): -- M.C.(%): --

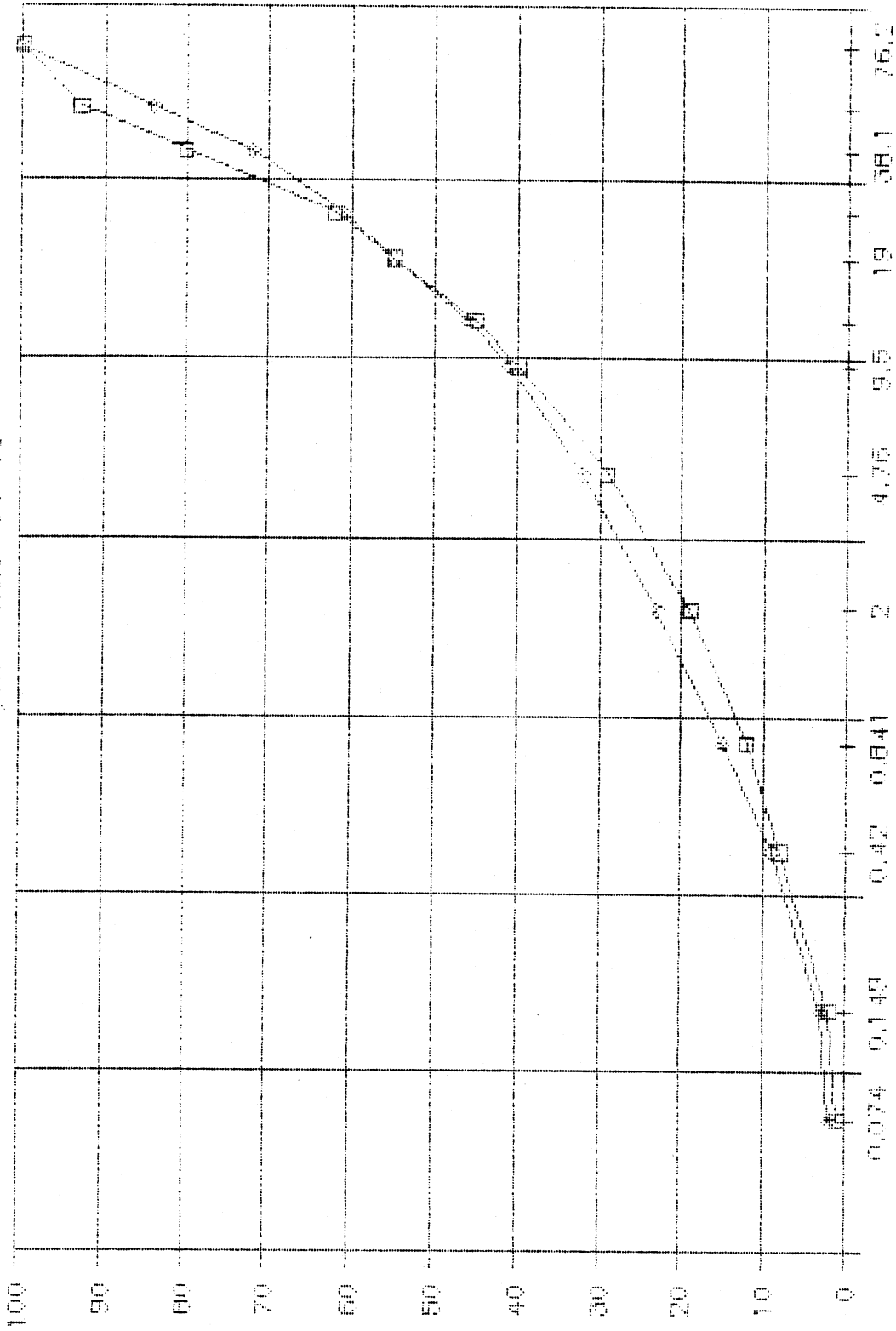
LIMITS	LIMITS
LIQUID: --	LIQUID: --
PLASTIC: --	PLASTIC: --
P.I.: N.P.	P.I.: N.P.

% GRAVEL: 71	% GRAVEL: 68
% SAND: 28	% SAND: 30
% FINES: 1	% FINES: 2

CLASSIFICATION:	CLASSIFICATION:
WELL-GRADED	WELL-GRADED
GRAVEL WITH SAND	GRAVEL WITH SAND
(GW)	(GW)

# PUBLIC WORKS CANADA — WHITEHORSE, Y.T.

Grain Size Analysis — Hole 031-06



GRAIN SIZE ANALYSIS

□ SAMPLE 21      ▲ SAMPLE 22      ○ SAMPLE 23      △ SAMPLE 24

PROJECT NUMBER: 115-G-05 HOLE NUMBER: 031-09  
 CLIENT: PWC - CAPITAL Y.T.  
 PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING  
 PROJECT LOCATION: A/H KM 1766 LHS  
 DRILL UNIT: CAT 225 HOE  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: CB DATE COMPLETED: 88.10.25

FIELD NO: 23	FIELD NO: 24
LAB NO: 2775	LAB NO: 2776
DEPTH: 1.2-1.5	DEPTH: 2.8-3.1
TYPE: BULK	TYPE: BULK

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--
76.2	100	76.2	100
50.8	88	50.8	91
38.1	73	38.1	80
25.4	66	25.4	68
19.0	61	19.0	61
12.7	52	12.7	53
9.5	47	9.5	49
4.76	37	4.76	38
2.38	--	2.38	--
2.00	25	2.00	25
1.19	--	1.19	--
0.841	12	0.841	12
0.595	--	0.595	--
0.42	5	0.42	5
0.297	--	0.297	--
0.177	--	0.177	--
0.149	2	0.149	2
0.074	1	0.074	1

M.C.(%): -- M.C.(%): --

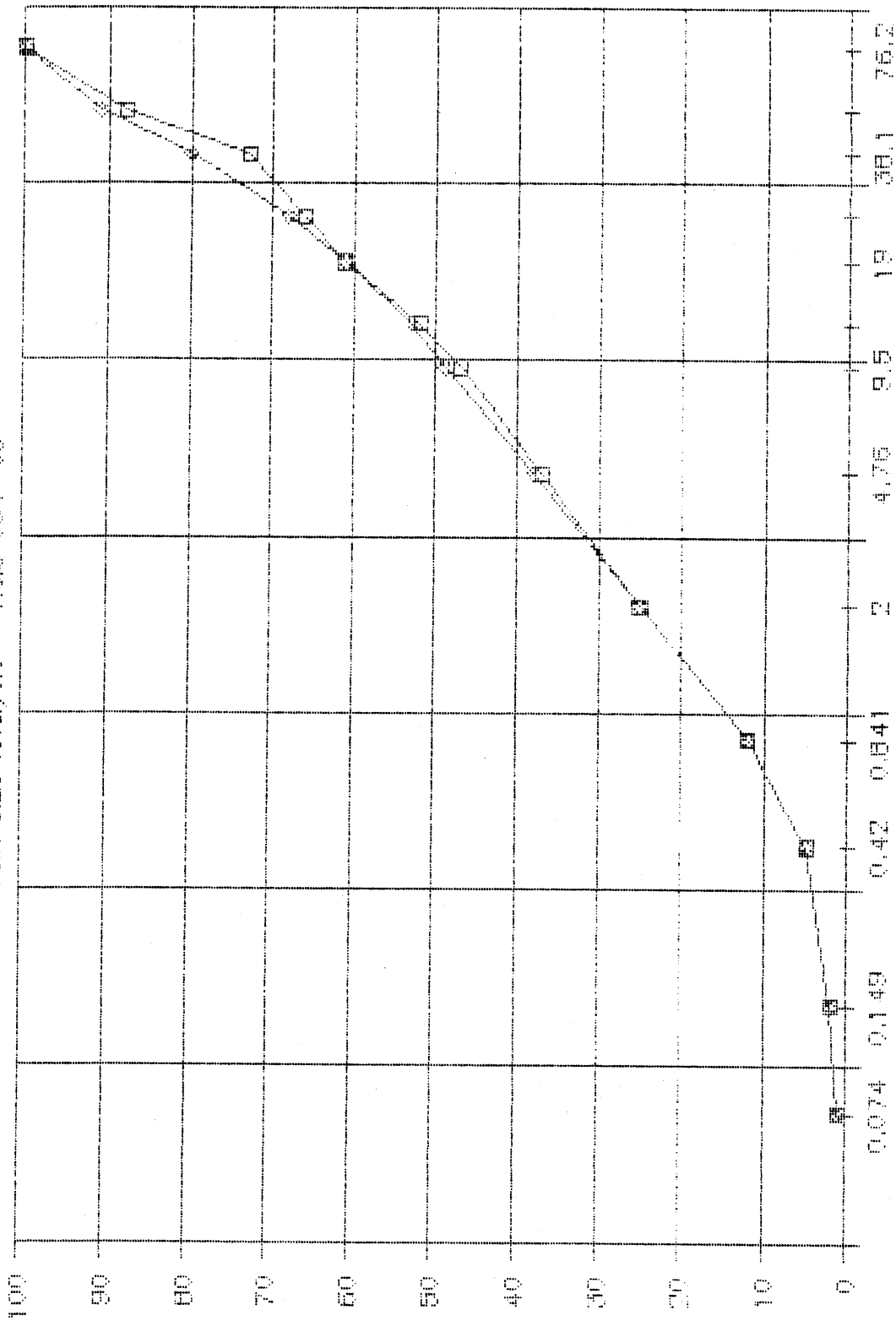
LIMITS	LIMITS
LIQUID: --	LIQUID: --
PLASTIC: --	PLASTIC: --
P.I.: N.P.	P.I.: N.P.

% GRAVEL: 63	% GRAVEL: 62
% SAND: 36	% SAND: 36
% FINES: 1	% FINES: 1

CLASSIFICATION:	CLASSIFICATION:
POORLY GRADED	POORLY GRADED
GRAVEL WITH SAND	GRAVEL WITH SAND
(GP)	(GP)

# PUBLIC WORKS CANADA — WHITEHORSE, Y.T.

Grain Size Analysis — Hole 031-09



PERCENT FINER

5AMP, 23      5AMP, 24      5AMP, 25      5AMP, 26

PROJECT NUMBER: 115-G-05 HOLE NUMBER: 031-12  
 CLIENT: PWC - CAPITAL Y.T.  
 PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING  
 PROJECT LOCATION: A/H KM 1766 LHS  
 DRILL UNIT: CAT 225 HOE  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: CB DATE COMPLETED: 88.10.25

FIELD NO: 29  
 LAB NO: 2781  
 DEPTH: 1.4-1.7  
 TYPE: BULK

SIEVE SIZE	PERCENT PASSING
------------	-----------------

101.6	70
76.2	70
50.8	66
38.1	53
25.4	51
19.0	46
12.7	38
9.5	35
4.76	26
2.38	--
2.00	17
1.19	--
0.841	10
0.595	--
0.42	6
0.297	--
0.177	--
0.149	2
0.074	1

M.C.(%): --

LIMITS

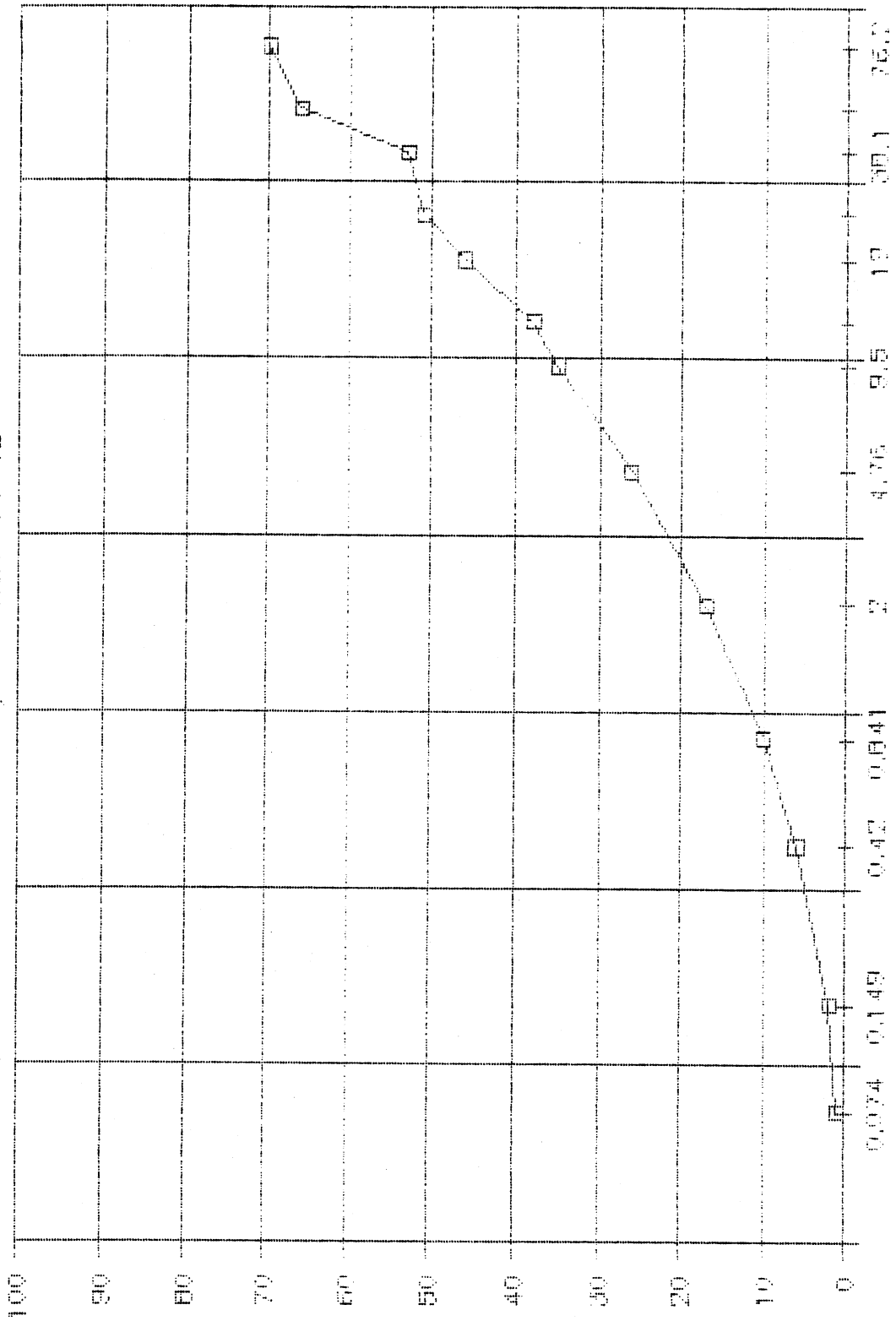
LIQUID: --  
 PLASTIC: --  
 P.I.: N.P.

% GRAVEL: 74  
 % SAND: 25  
 % FINES: 1

CLASSIFICATION:  
 WELL-GRADED  
 GRAVEL WITH SAND  
 (GW)

# PUBLIC WORKS CANADA — WHITEHORSE, Y.T.

Grain Size Analysis — Hole 031-12



□ SAMP. 29      ○ SAMP.      △ SAMP.      SAMP.

100  
90  
80  
70  
60  
50  
40  
30  
20  
10  
0

PROJECT NUMBER: 115-G-05 HOLE NUMBER: 031-13  
 CLIENT: PWC - CAPITAL Y.T.  
 PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING  
 PROJECT LOCATION: A/H KM 1766 LHS  
 DRILL UNIT: CAT 225 HOE  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: CB DATE COMPLETED: 88.10.25

FIELD NO: 30	FIELD NO: 31
LAB NO: 2782	LAB NO: 2783
DEPTH: 1.4-1.7	DEPTH: 2.4-2.7
TYPE: BULK	TYPE: BULK

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--
76.2	100	76.2	100
50.8	90	50.8	89
38.1	82	38.1	73
25.4	67	25.4	62
19.0	63	19.0	60
12.7	54	12.7	51
9.5	48	9.5	46
4.76	38	4.76	35
2.38	--	2.38	--
2.00	25	2.00	24
1.19	--	1.19	--
0.841	12	0.841	13
0.595	--	0.595	--
0.42	5	0.42	6
0.297	--	0.297	--
0.177	--	0.177	--
0.149	2	0.149	2
0.074	2	0.074	1

M.C. (%): -- M.C. (%): --

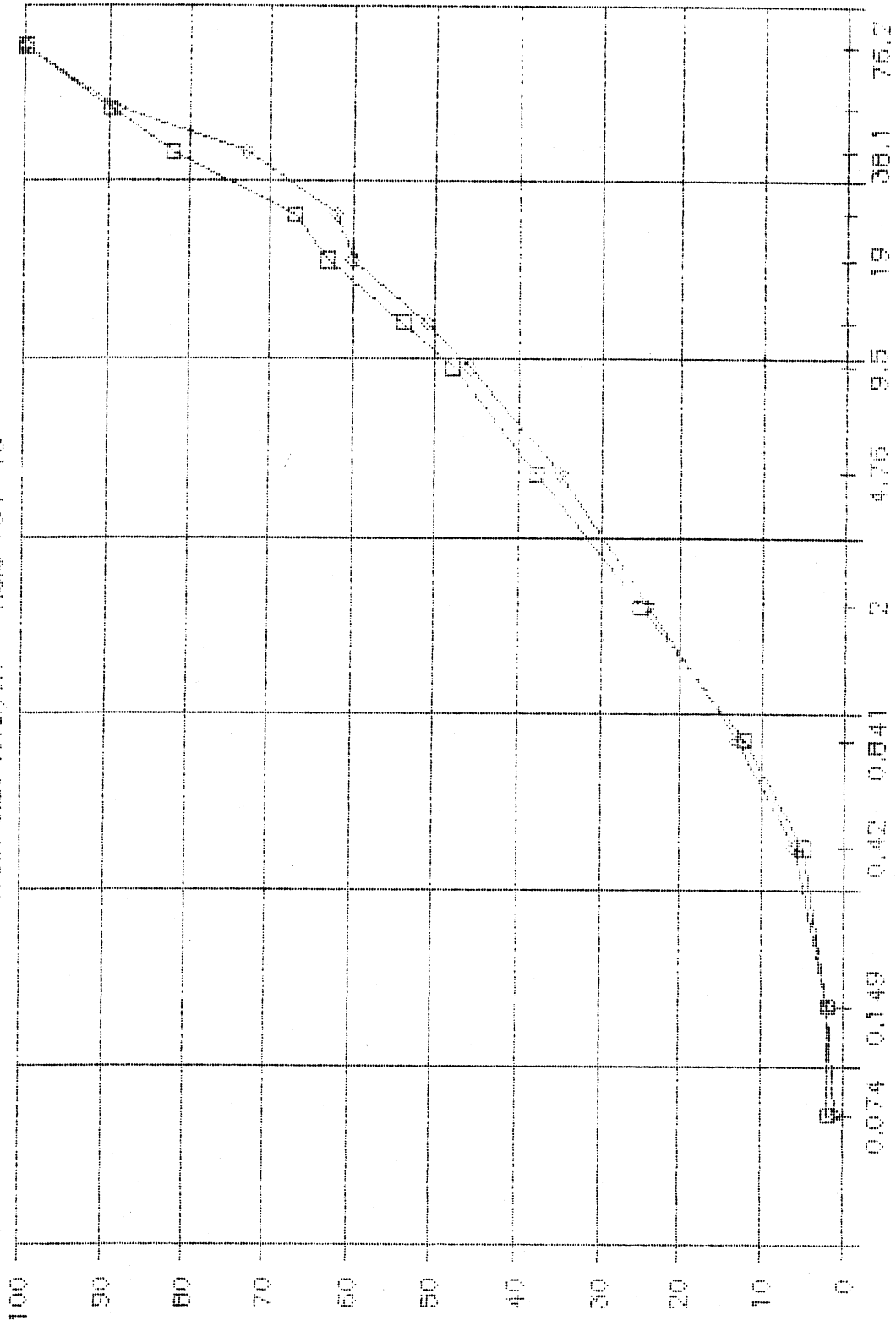
LIMITS	LIMITS
LIQUID: --	LIQUID: --
PLASTIC: --	PLASTIC: --
P.I.: N.P.	P.I.: N.P.

% GRAVEL: 62	% GRAVEL: 65
% SAND: 36	% SAND: 34
% FINES: 2	% FINES: 1

CLASSIFICATION:	CLASSIFICATION:
POORLY GRADED	POORLY GRADED
GRAVEL WITH SAND	GRAVEL WITH SAND
(GP)	(GP)

# PUBLIC WORKS CANADA -- WHITEHORSE, Y.T.

Grain Size Analysis -- Hole 031-13



PERCENT PASSING

Sieve Size (mm)

0 5AMP. 30 0 5AMP. 31 4 5AMP. 4 5AMP. 5 19 38.1 75.2

PROJECT NUMBER: 115-G-05 HOLE NUMBER: 031-14  
 CLIENT: PWC - CAPITAL Y.T.  
 PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING  
 PROJECT LOCATION: A/H KM 1766 LHS  
 DRILL UNIT: CAT 225 HOE  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: CB DATE COMPLETED: 88.10.26

FIELD NO: 32  
 LAB NO: 2784  
 DEPTH: 1.2-1.6  
 TYPE: BULK

SIEVE SIZE	PERCENT PASSING
------------	-----------------

101.6	100
76.2	80
50.8	66
38.1	59
25.4	53
19.0	48
12.7	38
9.5	33
4.76	25
2.38	--
2.00	17
1.19	--
0.841	11
0.595	--
0.42	8
0.297	--
0.177	--
0.149	6
0.074	5

M.C.(%): --

LIMITS

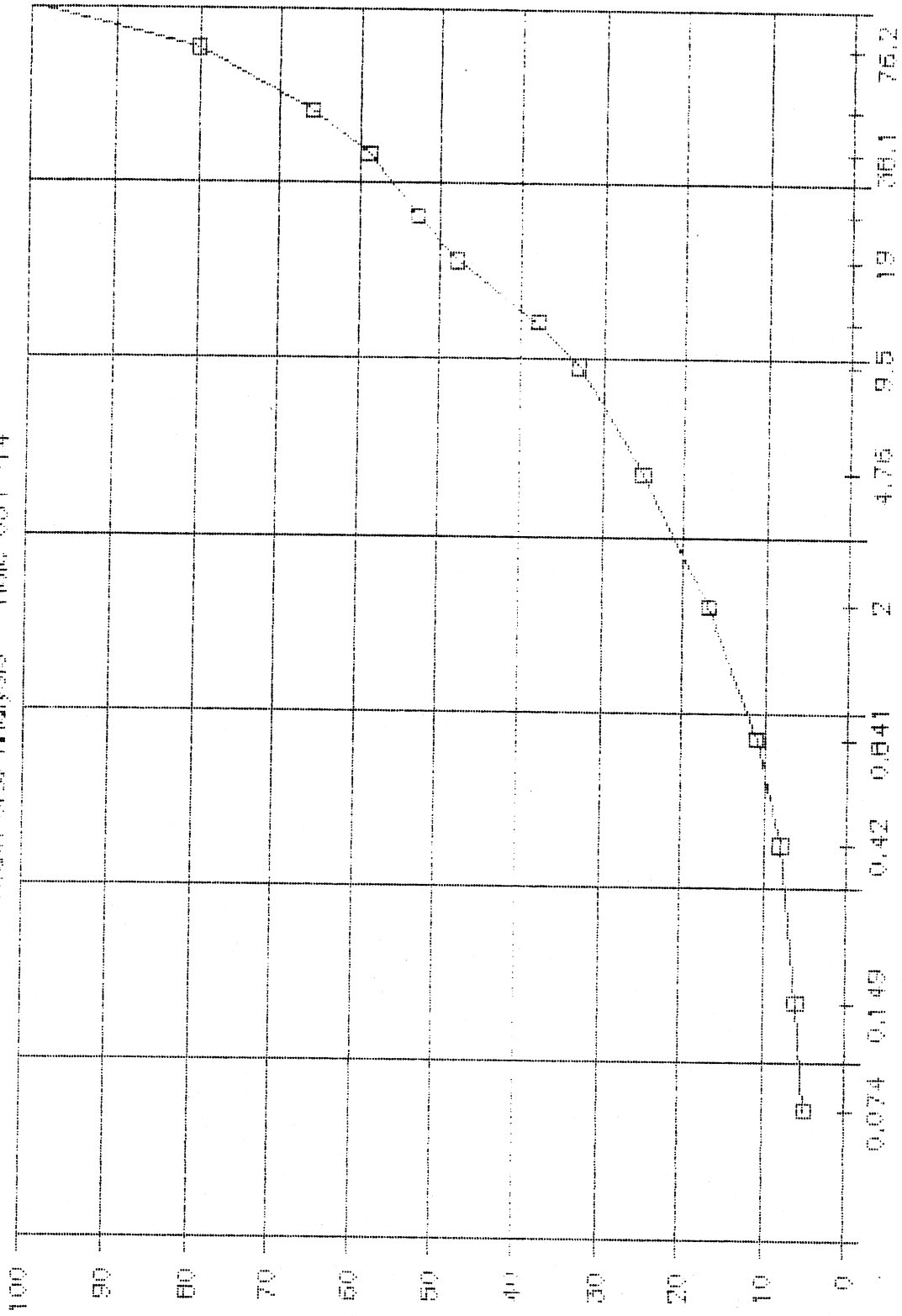
LIQUID: --  
 PLASTIC: --  
 P.I.: N.P.

% GRAVEL: 75  
 % SAND: 20  
 % FINES: 5

CLASSIFICATION:  
 WELL-GRADED  
 GRAVEL WITH SILT  
 & SAND (GW-GM)

# PUBLIC WORKS CANADA — WHITEHORSE, Y.T.

Grain Size Analysis - Hole 031-14



LEWIS & CLARK

□ 5AMP, 32      ○ 5AMP, 32      Δ 5AMP, 32      × 5AMP, 32

PROJECT NUMBER: 115-G-05 HOLE NUMBER: 031-15  
 CLIENT: PWC - CAPITAL Y.T.  
 PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING  
 PROJECT LOCATION: A/H KM 1766 LHS  
 DRILL UNIT: CAT 225 HOE  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: CB DATE COMPLETED: 88.10.26

FIELD NO: 33  
 LAB NO: 2785  
 DEPTH: 1.3-1.6  
 TYPE: BULK

SIEVE SIZE	PERCENT PASSING
------------	-----------------

101.6	--
76.2	100
50.8	80
38.1	78
25.4	64
19.0	62
12.7	51
9.5	45
4.76	33
2.38	--
2.00	23
1.19	--
0.841	15
0.595	--
0.42	9
0.297	--
0.177	--
0.149	2
0.074	2

M.C.(%): --

LIMITS

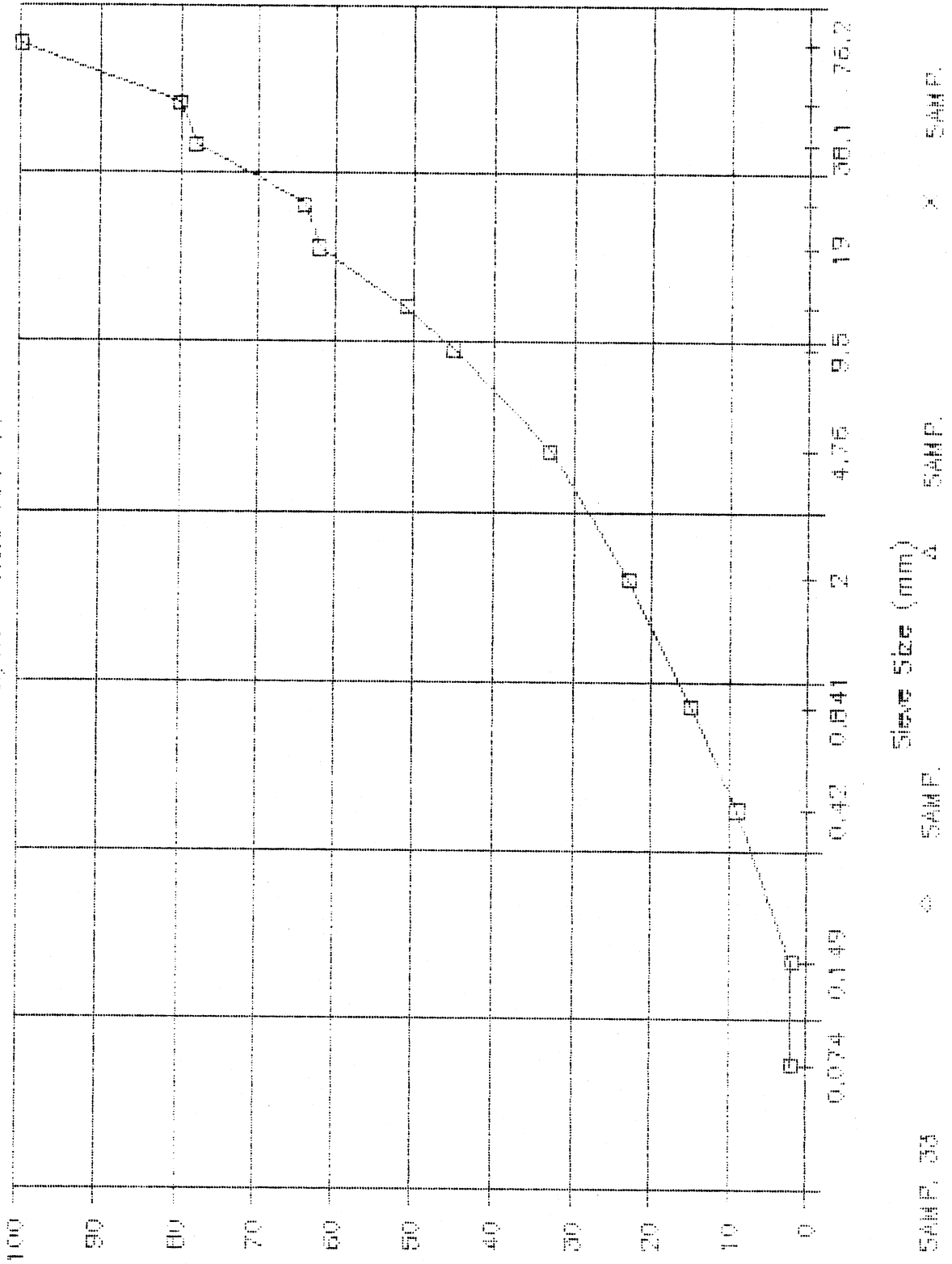
LIQUID: --  
 PLASTIC: --  
 P.I.: N.P.

% GRAVEL: 67  
 % SAND: 32  
 % FINES: 2

CLASSIFICATION:  
 WELL-GRADED  
 GRAVEL WITH SAND  
 (GW)

# PUBLIC WORKS CANADA — WHITEHORSE, Y.T.

Grain Size Analysis — Hole 031-15



PLANNED DEVELOPMENT

□ SAMP. 33

○ SAMP.

△ SAMP.

△ SAMP.

× SAMP.

× SAMP.

PROJECT NUMBER: 115-G-05 HOLE NUMBER: 031-16  
 CLIENT: PWC - CAPITAL Y.T.  
 PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING  
 PROJECT LOCATION: A/H KM 1766 LHS  
 DRILL UNIT: CAT 225 HOE  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: CB DATE COMPLETED: 88.10.26

FIELD NO: 34  
 LAB NO: 2786  
 DEPTH: 1.2-1.5  
 TYPE: BULK

SIEVE SIZE	PERCENT PASSING
------------	-----------------

101.6	--
76.2	100
50.8	73
38.1	73
25.4	65
19.0	58
12.7	49
9.5	43
4.76	34
2.38	--
2.00	26
1.19	--
0.841	18
0.595	--
0.42	9
0.297	--
0.177	--
0.149	2
0.074	1

M.C.(%): --

LIMITS

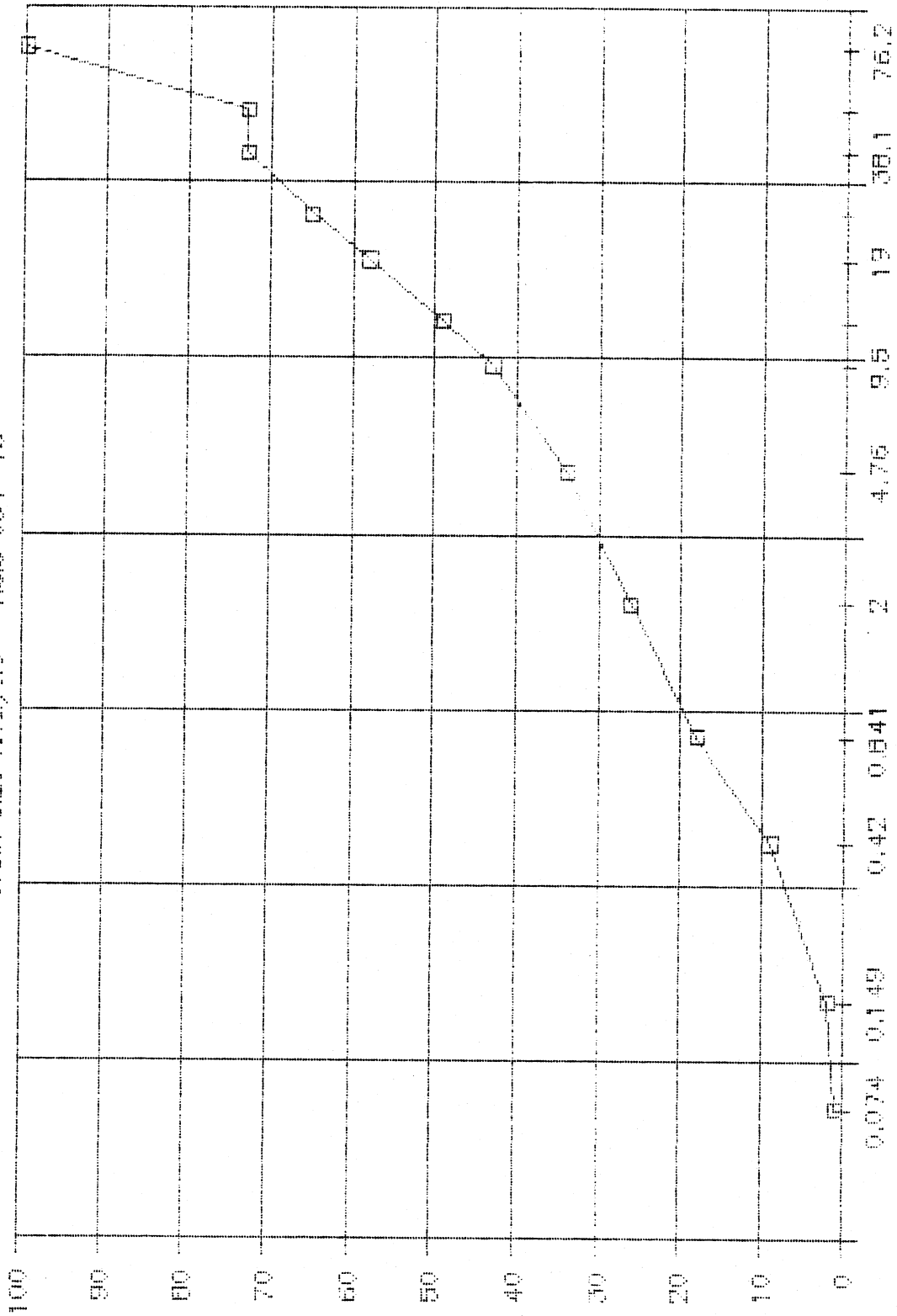
LIQUID: --  
 PLASTIC: --  
 P.I.: N.P.

% GRAVEL: 66  
 % SAND: 33  
 % FINES: 1

CLASSIFICATION:  
 WELL-GRADED  
 GRAVEL WITH SAND  
 (GW)

# PUBLIC WORKS CANADA — WHITEHORSE, Y.T.

Grain Size Analysis — Hole 031—15



□ SAMP. 34      ◊ SAMP.      Δ SAMP.      × SAMP.

0 10 20 30 40 50 60 70 80 90 100

PROJECT NUMBER: 115-G-05 HOLE NUMBER: 031-13  
 CLIENT: PWC - CAPITAL Y.T.  
 PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING  
 PROJECT LOCATION: A/H KM 176c LHS  
 DRILL UNIT: CAT 225 HOE  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: CS DATE COMPLETED: 88.10.26

FIELD NO: 36  
 LAB NO: 2788  
 DEPTH: 1.3-1.6  
 TYPE: BULK

FIELD NO: 37  
 LAB NO: 2789  
 DEPTH: 2.3-2.6  
 TYPE: BULK

SIEVE SIZE	PERCENT PASSING
------------	-----------------

SIEVE SIZE	PERCENT PASSING
------------	-----------------

101.6	--
76.2	100
50.8	96
38.1	93
25.4	75
19.0	67
12.7	54
9.5	48
4.76	35
2.38	--
2.00	23
1.19	--
0.841	14
0.595	--
0.42	8
0.297	--
0.177	--
0.149	4
0.074	3

101.6	--
76.2	100
50.8	82
38.1	82
25.4	71
19.0	65
12.7	54
9.5	47
4.76	36
2.38	--
2.00	24
1.19	--
0.841	15
0.595	--
0.42	9
0.297	--
0.177	--
0.149	4
0.074	3

M.C. (%): --

M.C. (%): --

LIMITS

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

LIMITS

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

% GRAVEL: 65  
 % SAND: 32  
 % FINES: 3

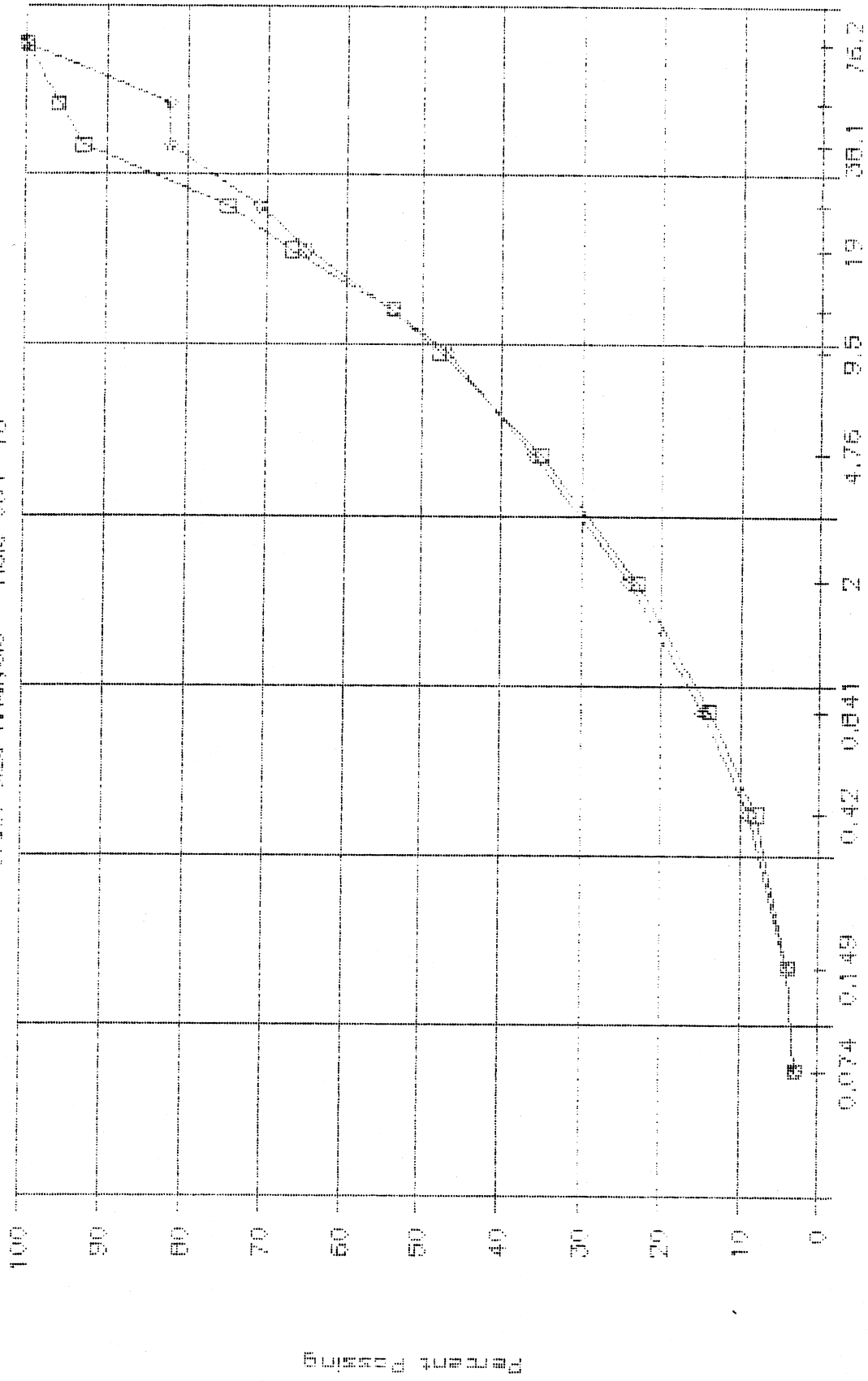
% GRAVEL: 64  
 % SAND: 33  
 % FINES: 3

CLASSIFICATION:  
 WELL-GRADED  
 GRAVEL WITH SAND  
 (GW)

CLASSIFICATION:  
 WELL-GRADED  
 GRAVEL WITH SAND  
 (GW)

# PUBLIC WORKS CANADA -- WHITEHORSE, Y.T.

Grain Size Analysis -- Hole 001-1B



D 5AMP, 36      5AMP, 37      5AMP, 38      5AMP, 39

PROJECT NUMBER: 115-G-05 HOLE NUMBER: 031-19  
 CLIENT: PWC - CAPITAL Y.T.  
 PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING  
 PROJECT LOCATION: A/H KM 1766 LHS  
 DRILL UNIT: CAT 225 HOE  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: CB DATE COMPLETED: 88.10.26

FIELD NO: 38	FIELD NO: 39	FIELD NO: 40
LAB NO: 2790	LAB NO: 2791	LAB NO: 2792
DEPTH: 1.4-1.7	DEPTH: 2.5-2.8	DEPTH: 3.1-3.3
TYPE: BULK	TYPE: BULK	TYPE: BULK

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--	101.6	--
76.2	--	76.2	100	76.2	100
50.8	100	50.8	94	50.8	82
38.1	89	38.1	86	38.1	76
25.4	71	25.4	76	25.4	65
19.0	63	19.0	67	19.0	56
12.7	49	12.7	52	12.7	46
9.5	43	9.5	47	9.5	41
4.76	30	4.76	36	4.76	32
2.38	--	2.38	--	2.38	--
2.00	20	2.00	25	2.00	23
1.19	--	1.19	--	1.19	--
0.841	11	0.841	18	0.841	16
0.595	--	0.595	--	0.595	--
0.42	7	0.42	12	0.42	11
0.297	--	0.297	--	0.297	--
0.177	--	0.177	--	0.177	--
0.149	3	0.149	5	0.149	5
0.074	2	0.074	4	0.074	3

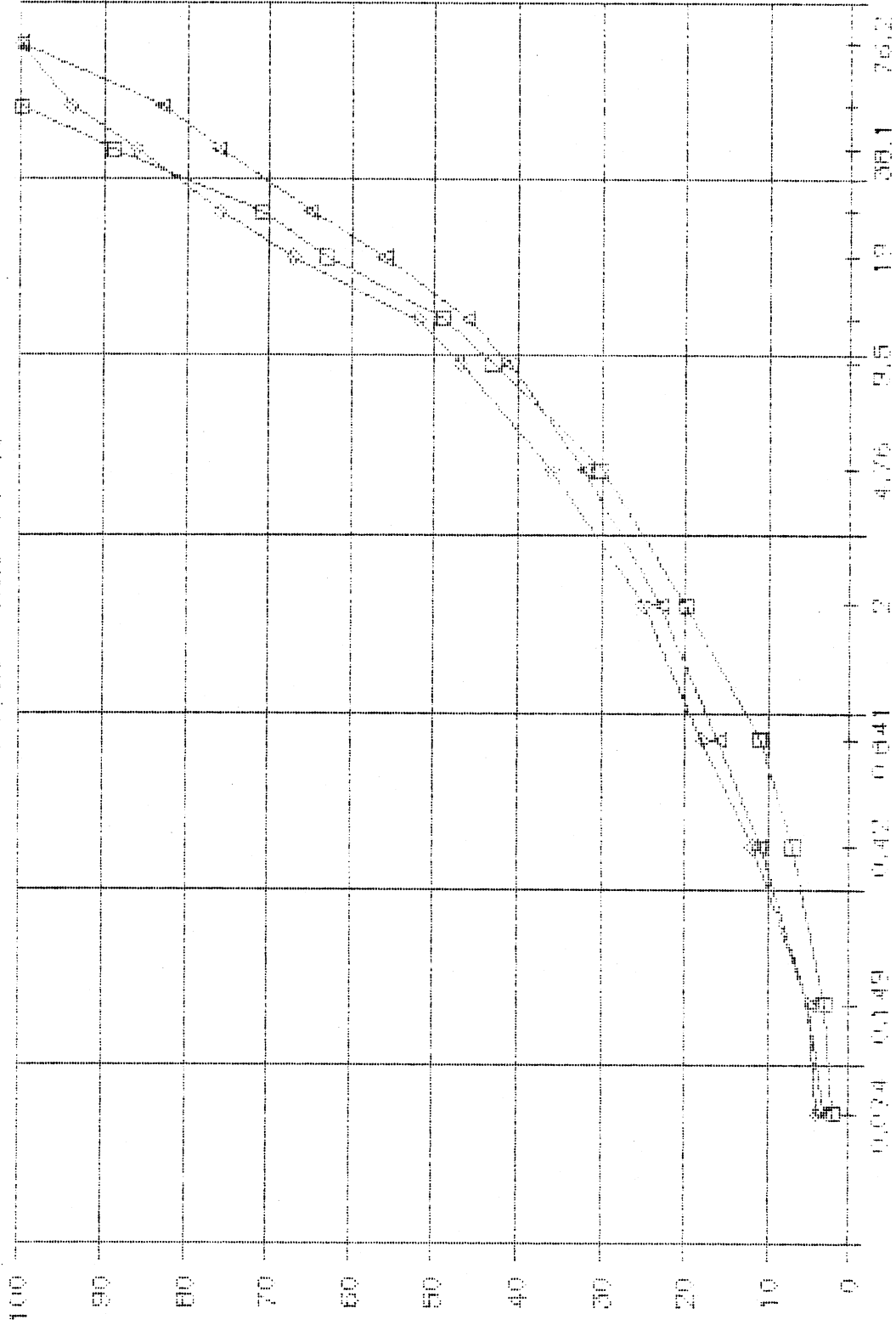
M.C.(%):	--	M.C.(%):	--	M.C.(%):	--
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.

% GRAVEL:	70	% GRAVEL:	64	% GRAVEL:	68
% SAND:	28	% SAND:	32	% SAND:	29
% FINES:	2	% FINES:	4	% FINES:	3

CLASSIFICATION:	WELL-GRADED GRAVEL WITH SAND (GW)	CLASSIFICATION:	WELL-GRADED GRAVEL WITH SAND (GW)	CLASSIFICATION:	WELL-GRADED GRAVEL WITH SAND (GW)
-----------------	-----------------------------------	-----------------	-----------------------------------	-----------------	-----------------------------------

# PUBLIC WORKS CANADA -- WHITEHORSE, Y.T.

Grain Size Analysis - Hole 001-19



SAMP. 39     
  SAMP. 40     
  SAMP. 39     
  SAMP. 40

PERCENT PASSING

PROJECT NUMBER: 115-G-05 HOLE NUMBER: 031-20  
 CLIENT: PWC - CAPITAL Y.T.  
 PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING  
 PROJECT LOCATION: A/H KM 1766 LHS  
 DRILL UNIT: CAT 225 HOE  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: CB DATE COMPLETED: 88.10.26

FIELD NO: 41  
 LAB NO: 2793  
 DEPTH: 1.2-1.5  
 TYPE: BULK

FIELD NO: 42  
 LAB NO: 2794  
 DEPTH: 2.5-2.8  
 TYPE: BULK

FIELD NO: 43  
 LAB NO: 2795  
 DEPTH: 3.6-3.9  
 TYPE: BULK

SIEVE SIZE	PERCENT PASSING
------------	-----------------

101.6	--
76.2	100
50.8	86
38.1	84
25.4	74
19.0	66
12.7	54
9.5	47
4.76	37
2.38	--
2.00	28
1.19	--
0.841	20
0.595	--
0.42	12
0.297	--
0.177	--
0.149	5
0.074	3

SIEVE SIZE	PERCENT PASSING
------------	-----------------

101.6	--
76.2	100
50.8	91
38.1	82
25.4	73
19.0	64
12.7	52
9.5	44
4.76	34
2.38	--
2.00	24
1.19	--
0.841	16
0.595	--
0.42	10
0.297	--
0.177	--
0.149	4
0.074	3

SIEVE SIZE	PERCENT PASSING
------------	-----------------

101.6	--
76.2	100
50.8	87
38.1	76
25.4	65
19.0	52
12.7	43
9.5	33
4.76	29
2.38	--
2.00	21
1.19	--
0.841	13
0.595	--
0.42	8
0.297	--
0.177	--
0.149	2
0.074	2

M.C.(%): --

LIMITS

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

% GRAVEL: 63  
 % SAND: 34  
 % FINES: 3

CLASSIFICATION:  
 WELL-GRADED  
 GRAVEL WITH SAND  
 (GW)

M.C.(%): --

LIMITS

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

% GRAVEL: 66  
 % SAND: 31  
 % FINES: 3

CLASSIFICATION:  
 WELL-GRADED  
 GRAVEL WITH SAND  
 (GW)

M.C.(%): --

LIMITS

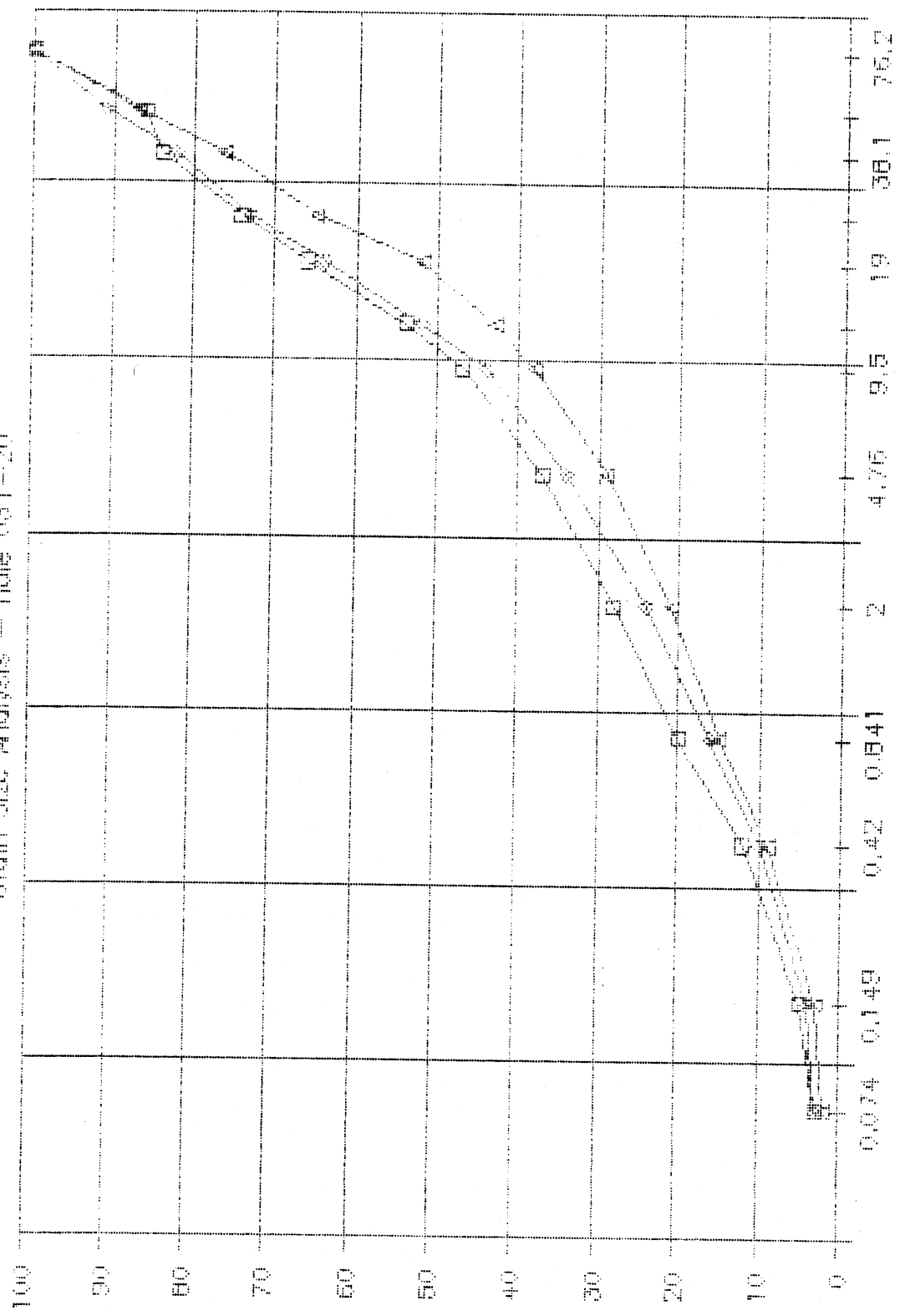
LIQUID: --  
 PLASTIC: --  
 P.I.: N.P.

% GRAVEL: 71  
 % SAND: 26  
 % FINES: 2

CLASSIFICATION:  
 WELL-GRADED  
 GRAVEL WITH SAND  
 (GW)

# PUBLIC WORKS CANADA — WHITEHORSE, Y.T.

Grain Size Analysis — Hole 031-20



○ SAMP. 41
□ SAMP. 42
△ SAMP. 43
X SAMP.

PUBLIC WORKS CANADA

PROJECT NUMBER: 115-G-05 HOLE NUMBER: 031-21  
CLIENT: PWC - CAPITAL Y.T.  
PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING  
PROJECT LOCATION: A/H KM 1766 LHS  
DRILL UNIT: CAT 225 HOE  
HOLE LOCATION: SEE PLAN  
LOGGED BY: CB DATE COMPLETED: 88.10.26

FIELD NO: 44  
LAB NO: 2796  
DEPTH: 1.6-1.9  
TYPE: BULK

SIEVE SIZE	PERCENT PASSING
---------------	--------------------

101.6	--
76.2	100
50.8	87
38.1	77
25.4	57
19.0	51
12.7	43
9.5	40
4.76	31
2.38	--
2.00	24
1.19	--
0.841	18
0.595	--
0.42	13
0.297	--
0.177	--
0.149	6
0.074	4

M.C. (%): --

LIMITS

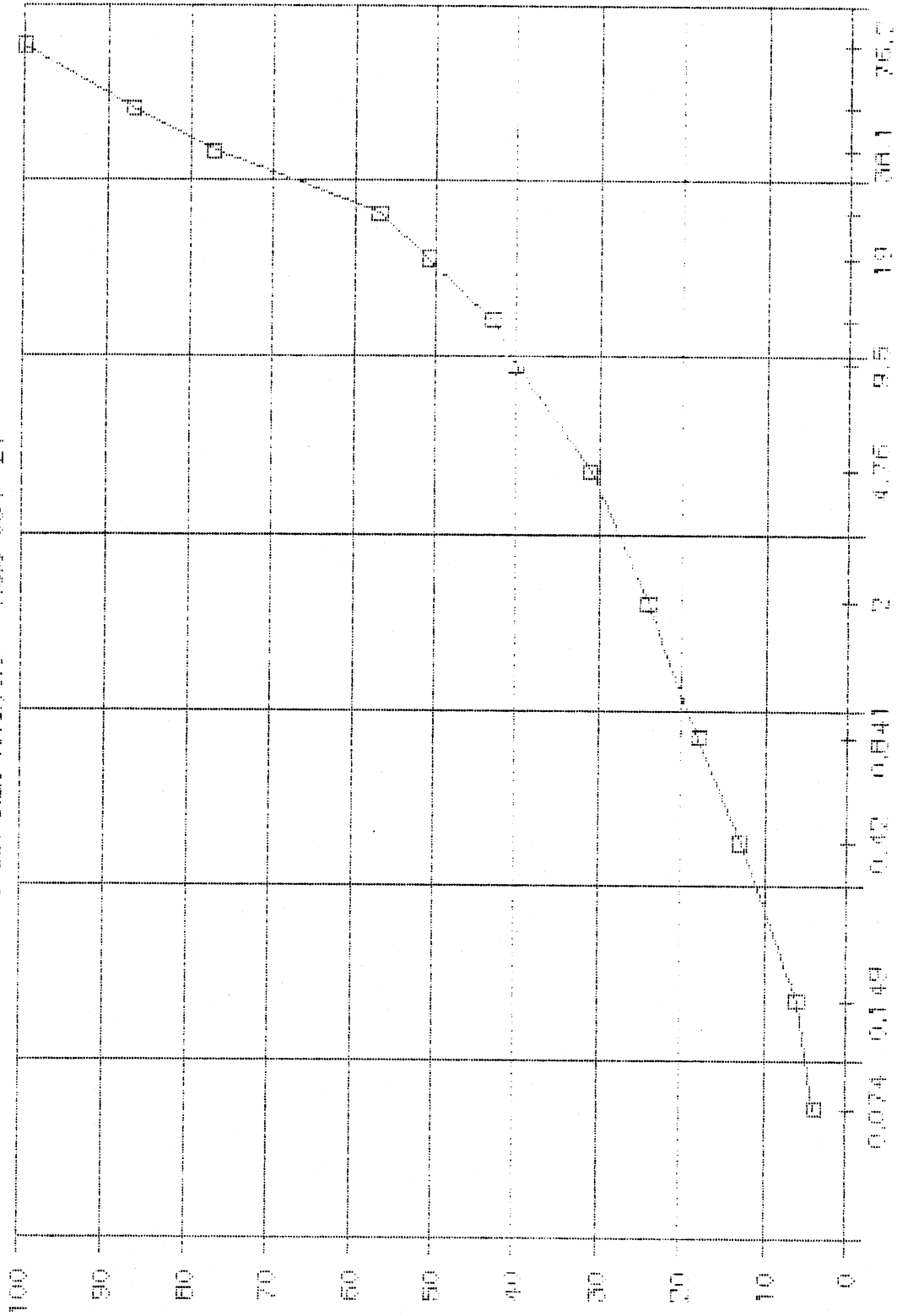
LIQUID: --  
PLASTIC: --  
P.I.: N.P.

% GRAVEL: 69  
% SAND: 28  
% FINES: 4

CLASSIFICATION:  
WELL-GRADED  
GRAVEL WITH SAND  
(GW)

# PUBLIC WORKS CANADA - WHITEHORSE, Y.T.

Grain Size Analysis - Hole 001-21



PERCENT PASSING

Sieve Size (mm)

□ 5AMP. 44

○ 5AMP.

△ 5AMP.

× 5AMP.

PROJECT NUMBER: 115-G-05 HOLE NUMBER: 031-22  
 CLIENT: PWC - CAPITAL Y.T.  
 PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING  
 PROJECT LOCATION: A/H KM 1766 LHC  
 DRILL UNIT: CAT 225 HOE  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: CB DATE COMPLETED: 88.10.26

FIELD NO: 45  
 LAB NO: 2797  
 DEPTH: 1.0-1.3  
 TYPE: BULK

FIELD NO: 46  
 LAB NO: 2798  
 DEPTH: 2.3-2.6  
 TYPE: BULK

FIELD NO: 47  
 LAB NO: 2799  
 DEPTH: 4.0-4.3  
 TYPE: BULK

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	100
50.8	89
38.1	81
25.4	71
19.0	63
12.7	55
9.5	49
4.76	38
2.38	--
2.00	27
1.19	--
0.841	16
0.595	--
0.42	10
0.297	--
0.177	--
0.149	5
0.074	3

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	100
50.8	88
38.1	83
25.4	69
19.0	62
12.7	49
9.5	43
4.76	33
2.38	--
2.00	25
1.19	--
0.841	17
0.595	--
0.42	8
0.297	--
0.177	--
0.149	3
0.074	2

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	100
38.1	90
25.4	74
19.0	63
12.7	52
9.5	46
4.76	35
2.38	--
2.00	25
1.19	--
0.841	16
0.595	--
0.42	10
0.297	--
0.177	--
0.149	6
0.074	4

M.C.(%): --

M.C.(%): --

M.C.(%): --

LIMITS

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

LIMITS

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

LIMITS

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

% GRAVEL: 62  
 % SAND: 35  
 % FINES: 3

% GRAVEL: 67  
 % SAND: 31  
 % FINES: 2

% GRAVEL: 65  
 % SAND: 31  
 % FINES: 4

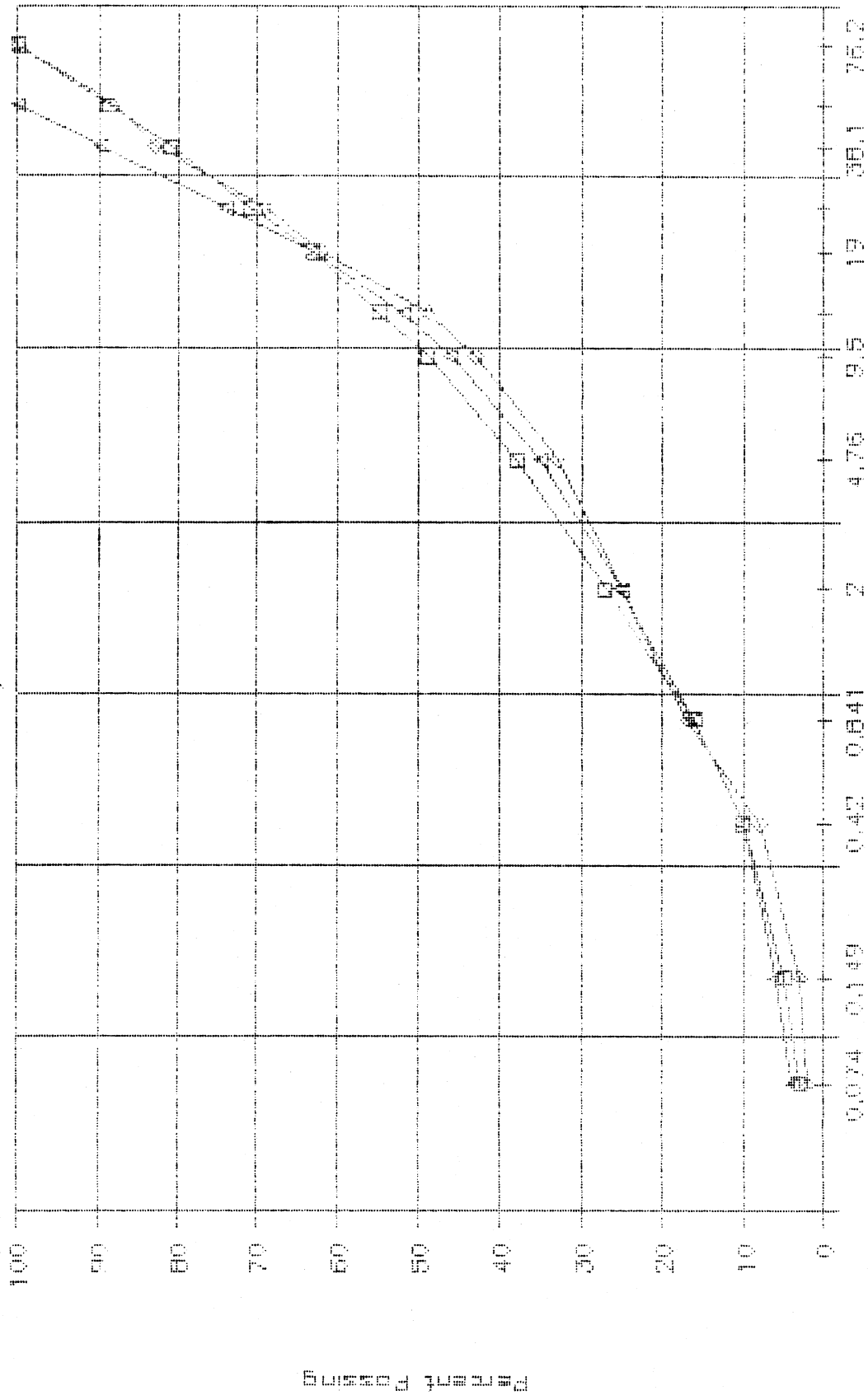
CLASSIFICATION:  
 POORLY GRADED  
 GRAVEL WITH SAND  
 (GP)

CLASSIFICATION:  
 WELL-GRADED  
 GRAVEL WITH SAND  
 (GW)

CLASSIFICATION:  
 WELL-GRADED  
 GRAVEL WITH SAND  
 (GW)

# PUBLIC WORKS CANADA — WHITEHORSE, N.T.

Grain Size Analysis — Hole 031-22



□ SAMP. 45      △ SAMP. 47      × SAMP.

PROJECT NUMBER: 115-G-09 HOLE NUMBER: 031-20  
 CLIENT: PWC - CAPITAL Y.T.  
 PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING  
 PROJECT LOCATION: A/H KM 1766 LHS  
 DRILL UNIT: CAT 225 HCE  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: CB DATE COMPLETED: 88.10.26

FIELD NO: 48	FIELD NO: 49	FIELD NO: 50
LAB NO: 2800	LAB NO: 2801	LAB NO: 2802
DEPTH: 1.4-1.7	DEPTH: 2.9-3.2	DEPTH: 4.0-4.3
TYPE: BULK	TYPE: BULK	TYPE: BULK

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--	101.6	--
76.2	100	76.2	--	76.2	100
50.8	83	50.8	100	50.8	91
38.1	70	38.1	93	38.1	79
25.4	60	25.4	74	25.4	69
19.0	56	19.0	64	19.0	62
12.7	48	12.7	52	12.7	54
9.5	44	9.5	47	9.5	48
4.76	33	4.76	36	4.76	36
2.38	--	2.38	--	2.38	--
2.00	23	2.00	25	2.00	25
1.19	--	1.19	--	1.19	--
0.841	14	0.841	17	0.841	18
0.595	--	0.595	--	0.595	--
0.42	7	0.42	9	0.42	11
0.297	--	0.297	--	0.297	--
0.177	--	0.177	--	0.177	--
0.149	3	0.149	3	0.149	3
0.074	2	0.074	2	0.074	2

M.C.(%): -- M.C.(%): -- M.C.(%): --

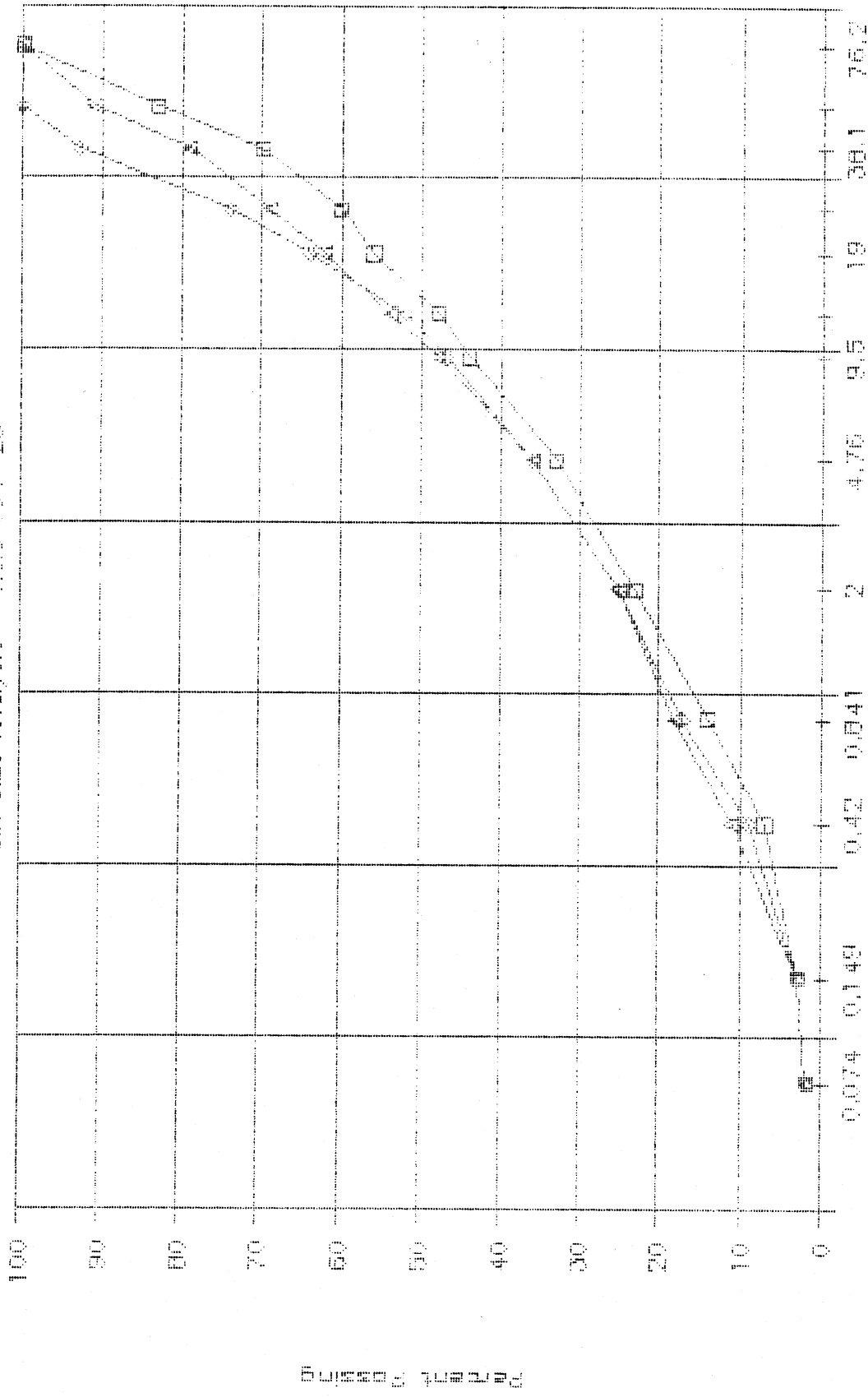
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.

% GRAVEL:	67	% GRAVEL:	64	% GRAVEL:	64
% SAND:	31	% SAND:	34	% SAND:	34
% FINES:	2	% FINES:	2	% FINES:	2

CLASSIFICATION:	POORLY GRADED GRAVEL WITH SAND (GP)	CLASSIFICATION:	WELL-GRADED GRAVEL WITH SAND (GW)	CLASSIFICATION:	WELL-GRADED GRAVEL WITH SAND (GW)
-----------------	-------------------------------------	-----------------	-----------------------------------	-----------------	-----------------------------------

# PUBLIC WORKS CANADA -- WHITEHORSE, Y.T.

Grain Size Analysis -- Hole 031--23



SAMP. 48     
  SAMP. 50     
  SAMP. X     
  SAMP.

PROJECT NUMBER: 115-G-05 HOLE NUMBER: 031-24  
 CLIENT: PWC - CAPITAL Y.T.  
 PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING  
 PROJECT LOCATION: A/H KM 1766 LHS  
 DRILL UNIT: CAT 225 HOE  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: CB DATE COMPLETED: 88.10.26

FIELD NO: 51	FIELD NO: 52
LAB NO: 2803	LAB NO: 2804
DEPTH: 1.1-1.4	DEPTH: 2.6-2.9
TYPE: BULK	TYPE: BULK

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--
76.2	100	76.2	100
50.8	94	50.8	96
38.1	79	38.1	84
25.4	65	25.4	77
19.0	59	19.0	67
12.7	51	12.7	57
9.5	46	9.5	52
4.76	37	4.76	40
2.38	--	2.38	--
2.00	26	2.00	28
1.19	--	1.19	--
0.841	14	0.841	17
0.595	--	0.595	--
0.42	8	0.42	10
0.297	--	0.297	--
0.177	--	0.177	--
0.149	3	0.149	4
0.074	2	0.074	3

M.C.(%): -- M.C.(%): --

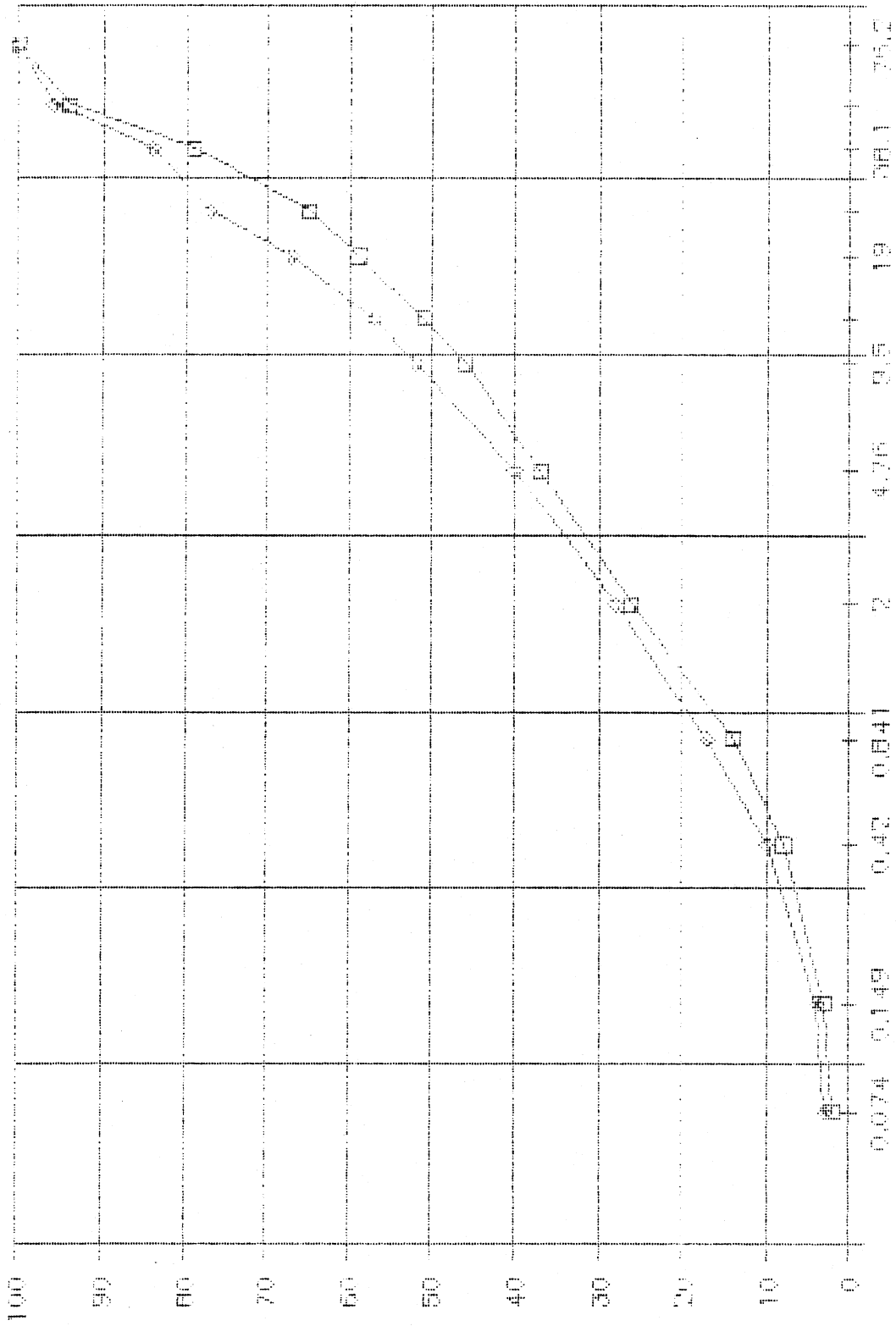
LIMITS	LIMITS
LIQUID: --	LIQUID: --
PLASTIC: --	PLASTIC: --
P.I.: N.P.	P.I.: N.P.

% GRAVEL: 63	% GRAVEL: 60
% SAND: 35	% SAND: 37
% FINES: 2	% FINES: 3

CLASSIFICATION:	CLASSIFICATION:
POORLY GRADED	POORLY GRADED
GRAVEL WITH SAND	GRAVEL WITH SAND
(GP)	(GP)

# PUBLIC WORKS CANADA — WHITEHORSE, N.T.

Grain Size Analysis - Hole 001-24



PERCENT PASSING

Sieve Size (mm)

SAMP. 51

SAMP. 52

SAMP.

PROJECT NUMBER: 115-G-05 HOLE NUMBER: 031-25  
 CLIENT: PWC - CAPITAL Y.T.  
 PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING  
 PROJECT LOCATION: A/H KM 1766 LHS  
 DRILL UNIT: CAT 225 HOE  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: CE DATE COMPLETED: 88.10.27

FIELD NO: 53	FIELD NO: 54
LAB NO: 2905	LAB NO: 2906
DEPTH: 1.8-2.2	DEPTH: 2.9-3.2
TYPE: BULK	TYPE: BULK

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--
76.2	100	76.2	100
50.8	84	50.8	91
38.1	70	38.1	83
25.4	63	25.4	73
19.0	56	19.0	65
12.7	48	12.7	53
9.5	43	9.5	45
4.76	35	4.76	31
2.38	--	2.38	--
2.00	24	2.00	19
1.19	--	1.19	--
0.841	12	0.841	11
0.595	--	0.595	--
0.42	6	0.42	5
0.297	--	0.297	--
0.177	--	0.177	--
0.149	2	0.149	2
0.074	1	0.074	2

M.C. (%): -- M.C. (%): --

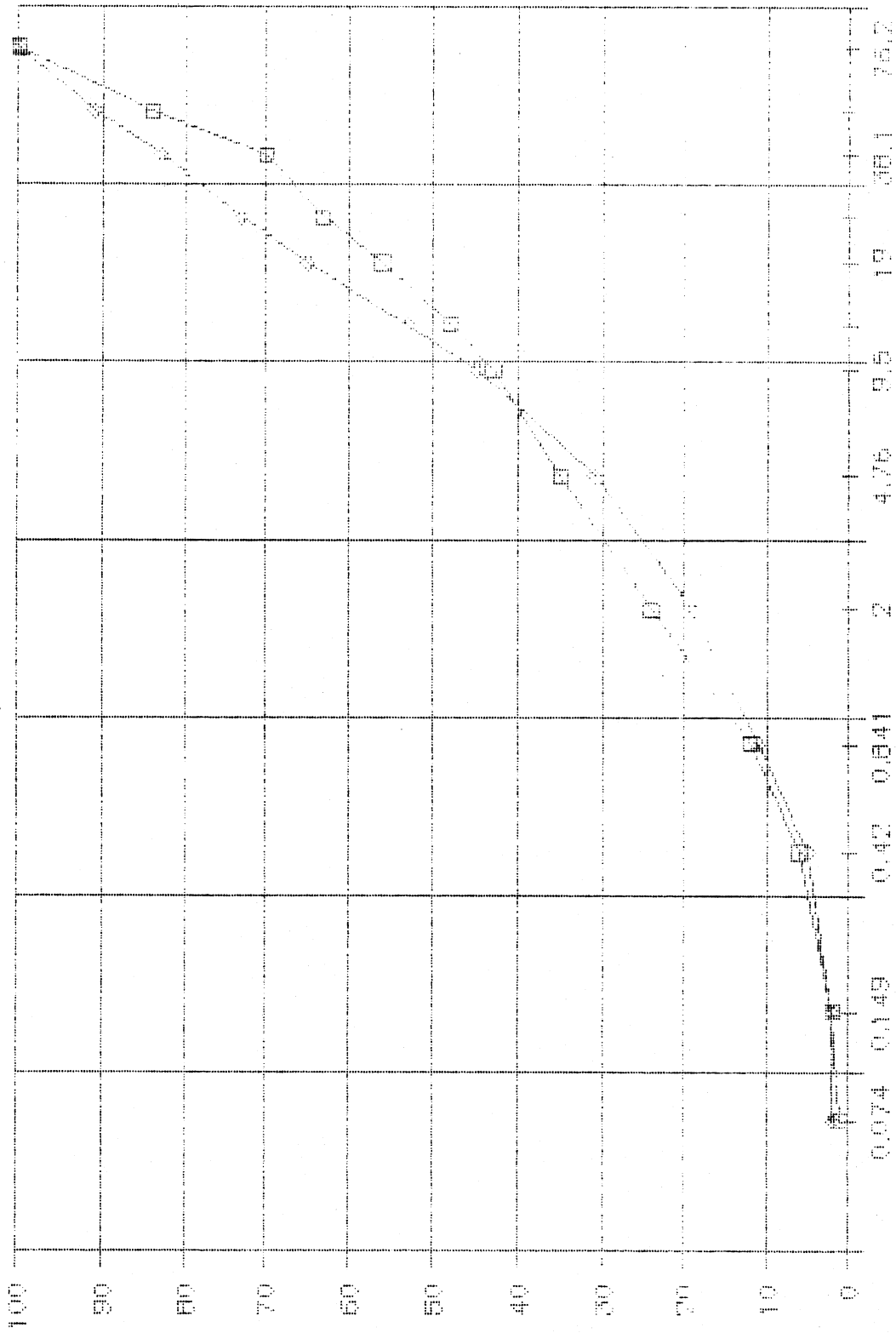
LIMITS	LIMITS
LIQUID: --	LIQUID: --
PLASTIC: --	PLASTIC: --
P.I.: N.P.	P.I.: N.P.

% GRAVEL: 65	% GRAVEL: 69
% SAND: 34	% SAND: 29
% FINES: 1	% FINES: 2

CLASSIFICATION:	CLASSIFICATION:
POORLY GRADED	WELL-GRADED
GRAVEL WITH SAND	GRAVEL WITH SAND
(GP)	(GW)

# PUBLIC WORKS CANADA — WHITEHORSE, Y.T.

Grain Size Analysis — Hole 001-2b



PERCENT FINER

SAMP. 50      SAMP. 54      SAMP. 54      SAMP. 54

PROJECT NUMBER: 115-G-05 HOLE NUMBER: 032-26  
 CLIENT: PWC - CAPITAL Y.T.  
 PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING  
 PROJECT LOCATION: A/H KM 1766 LHS  
 DRILL UNIT: CAT 225 HOE  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: CB DATE COMPLETED: 88.10.27

FIELD NO: 55  
 LAB NO: 2807  
 DEPTH: 0.9-1.2  
 TYPE: BULK

FIELD NO: 56  
 LAB NO: 2808  
 DEPTH: 2.3-2.6  
 TYPE: BULK

FIELD NO: 57  
 LAB NO: 2809  
 DEPTH: 3.4-3.7  
 TYPE: BULK

SIEVE SIZE	PERCENT PASSING
------------	-----------------

SIEVE SIZE	PERCENT PASSING
------------	-----------------

SIEVE SIZE	PERCENT PASSING
------------	-----------------

101.6	--
76.2	100
50.8	94
38.1	81
25.4	71
19.0	65
12.7	54
9.5	48
4.76	36
2.38	--
2.00	24
1.19	--
0.841	14
0.595	--
0.42	8
0.297	--
0.177	--
0.149	3
0.074	2

101.6	--
76.2	100
50.8	86
38.1	84
25.4	72
19.0	64
12.7	53
9.5	47
4.76	34
2.38	--
2.00	21
1.19	--
0.841	14
0.595	--
0.42	9
0.297	--
0.177	--
0.149	4
0.074	3

101.6	--
76.2	--
50.8	100
38.1	81
25.4	73
19.0	66
12.7	57
9.5	52
4.76	43
2.38	--
2.00	33
1.19	--
0.841	22
0.595	--
0.42	12
0.297	--
0.177	--
0.149	4
0.074	3

M.C. (%): --

M.C. (%): --

M.C. (%): --

LIMITS

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

LIMITS

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

LIMITS

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

% GRAVEL: 64  
 % SAND: 34  
 % FINES: 2

% GRAVEL: 66  
 % SAND: 31  
 % FINES: 3

% GRAVEL: 57  
 % SAND: 40  
 % FINES: 3

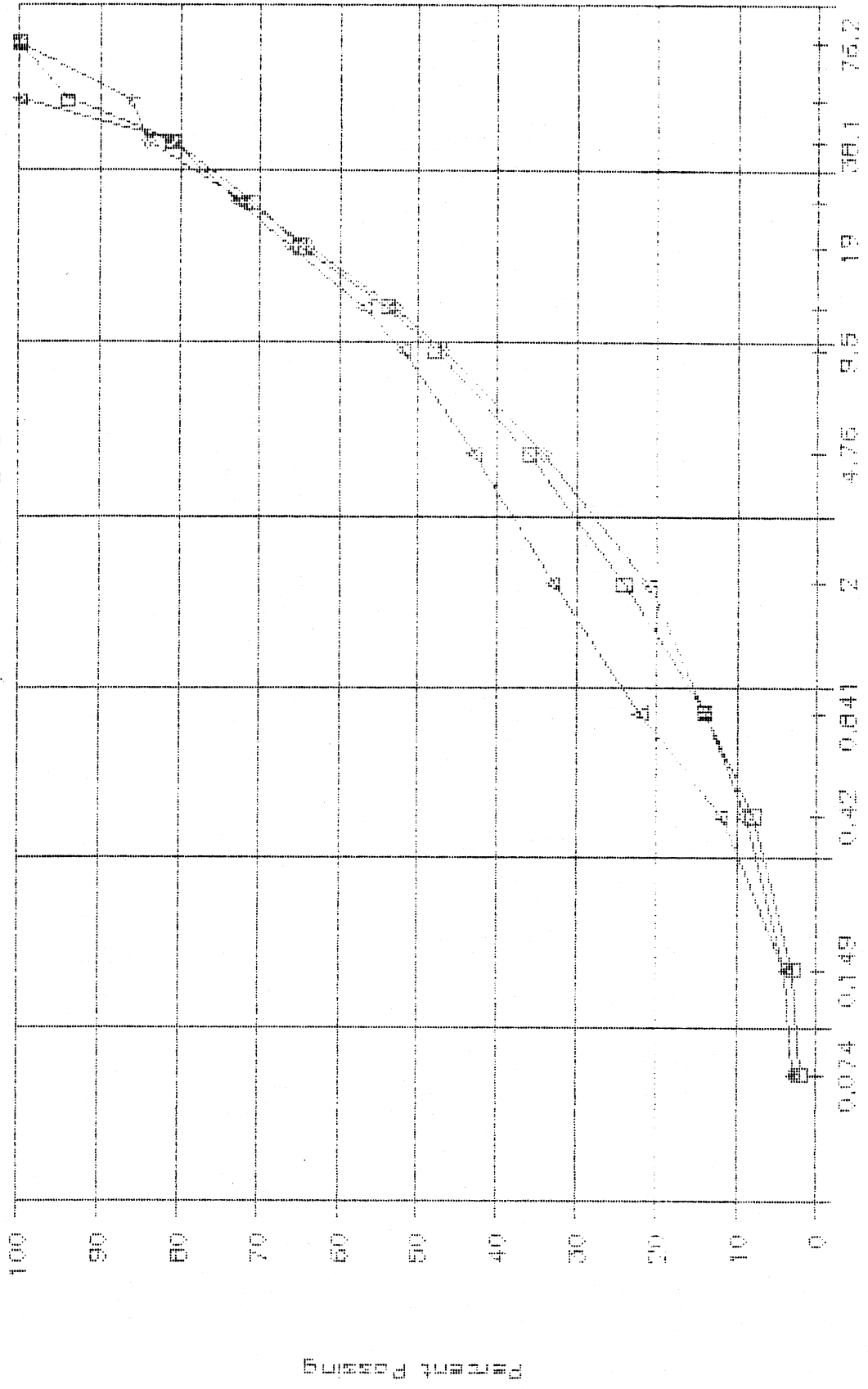
CLASSIFICATION:  
 WELL-GRADED  
 GRAVEL WITH SAND  
 (GW)

CLASSIFICATION:  
 WELL-GRADED  
 GRAVEL WITH SAND  
 (GW)

CLASSIFICATION:  
 POORLY GRADED  
 GRAVEL WITH SAND  
 (GP)

# PUBLIC WORKS CANADA -- WHITEHORSE, Y.T.

Grain Size Analysis - Hole 032-26



SAMP. 55     
  SAMP. 57     
  SAMP. 58

PROJECT NUMBER: 115-G-05 HOLE NUMBER: 032-27  
 CLIENT: PWC - CAPITAL Y.T.  
 PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING  
 PROJECT LOCATION: A/H KM 1766 LHS  
 DRILL UNIT: CAT 225 HOE  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: CB DATE COMPLETED: 88.10.27

FIELD NO: 58	FIELD NO: 59	FIELD NO: 60
LAB NO: 2810	LAB NO: 2811	LAB NO: 2812
DEPTH: 0.6-0.9	DEPTH: 2.4-2.7	DEPTH: 3.6-3.9
TYPE: BULK	TYPE: BULK	TYPE: BULK

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--	101.6	--
76.2	100	76.2	--	76.2	100
50.8	92	50.8	100	50.8	95
38.1	86	38.1	96	38.1	79
25.4	74	25.4	87	25.4	67
19.0	68	19.0	80	19.0	56
12.7	58	12.7	64	12.7	47
9.5	52	9.5	57	9.5	41
4.76	41	4.76	44	4.76	31
2.38	--	2.38	--	2.38	--
2.00	31	2.00	30	2.00	20
1.19	--	1.19	--	1.19	--
0.841	19	0.841	21	0.841	12
0.595	--	0.595	--	0.595	--
0.42	10	0.42	14	0.42	7
0.297	--	0.297	--	0.297	--
0.177	--	0.177	--	0.177	--
0.149	3	0.149	5	0.149	5
0.074	2	0.074	4	0.074	2

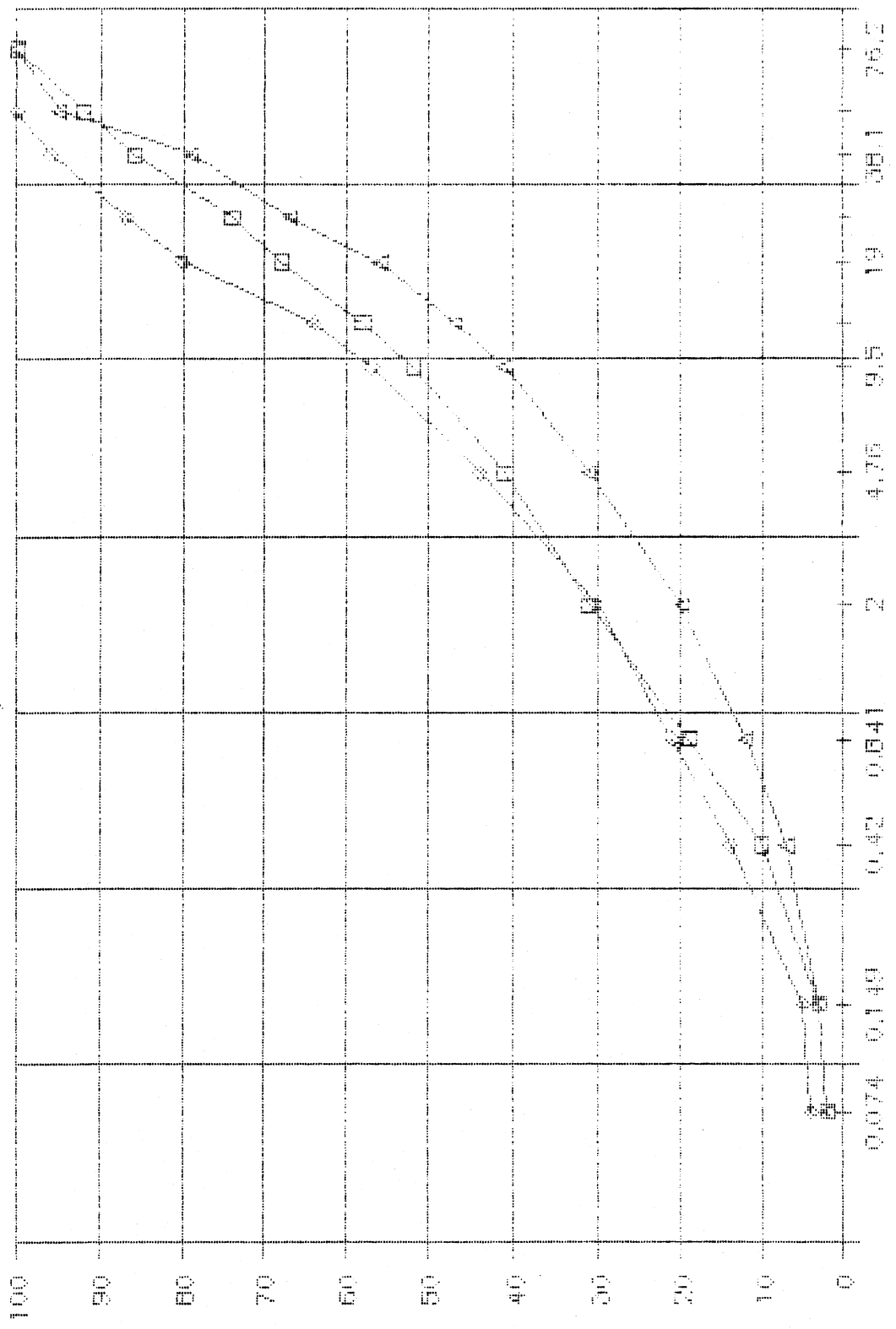
M.C.(%):	--	M.C.(%):	--	M.C.(%):	--
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.

% GRAVEL:	59	% GRAVEL:	56	% GRAVEL:	69
% SAND:	39	% SAND:	40	% SAND:	29
% FINES:	2	% FINES:	4	% FINES:	2

CLASSIFICATION:	POORLY GRADED GRAVEL WITH SAND (GP)	CLASSIFICATION:	WELL-GRADED GRAVEL WITH SAND (GW)	CLASSIFICATION:	WELL-GRADED GRAVEL WITH SAND (GW)
-----------------	-------------------------------------	-----------------	-----------------------------------	-----------------	-----------------------------------

# PUBLIC WORKS CANADA -- WHITEHORSE, Y.T.

Grain Size Analysis -- Hole 032-27



PERCENT PASSING

Sieve Size (mm)

□ SAMPLE 50      △ SAMPLE 50

PROJECT NUMBER: 115-G-05 HOLE NUMBER: 032-29  
 CLIENT: PWC - CAPITAL Y.T.  
 PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING  
 PROJECT LOCATION: A/H KM 1766 LHS  
 DRILL UNIT: CAT 225 HOE  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: CE DATE COMPLETED: 88.10.27

FIELD NO: 64  
 LAB NO: 2816  
 DEPTH: 0.7-1.0  
 TYPE: BULK

FIELD NO: 65  
 LAB NO: 2817  
 DEPTH: 2.4-2.7  
 TYPE: BULK

FIELD NO: 66  
 LAB NO: 2818  
 DEPTH: 4.3-4.6  
 TYPE: BULK

SIEVE SIZE	PERCENT PASSING
------------	-----------------

SIEVE SIZE	PERCENT PASSING
------------	-----------------

SIEVE SIZE	PERCENT PASSING
------------	-----------------

101.6	--
76.2	--
50.8	100
38.1	89
25.4	69
19.0	60
12.7	50
9.5	46
4.76	35
2.38	--
2.00	24
1.19	--
0.841	17
0.595	--
0.42	11
0.297	--
0.177	--
0.149	4
0.074	3

101.6	--
76.2	100
50.8	85
38.1	73
25.4	64
19.0	58
12.7	45
9.5	39
4.76	29
2.38	--
2.00	17
1.19	--
0.841	8
0.595	--
0.42	5
0.297	--
0.177	--
0.149	2
0.074	2

101.6	--
76.2	--
50.8	100
38.1	89
25.4	79
19.0	73
12.7	60
9.5	52
4.76	39
2.38	--
2.00	26
1.19	--
0.841	16
0.595	--
0.42	11
0.297	--
0.177	--
0.149	4
0.074	3

M.C.(%): --  
 LIMITS  
 LIQUID: --  
 PLASTIC: --  
 P.I.: N.P.

M.C.(%): --  
 LIMITS  
 LIQUID: --  
 PLASTIC: --  
 P.I.: N.P.

M.C.(%): --  
 LIMITS  
 LIQUID: --  
 PLASTIC: --  
 P.I.: N.P.

% GRAVEL: 65  
 % SAND: 33  
 % FINES: 3

% GRAVEL: 71  
 % SAND: 27  
 % FINES: 2

% GRAVEL: 61  
 % SAND: 36  
 % FINES: 3

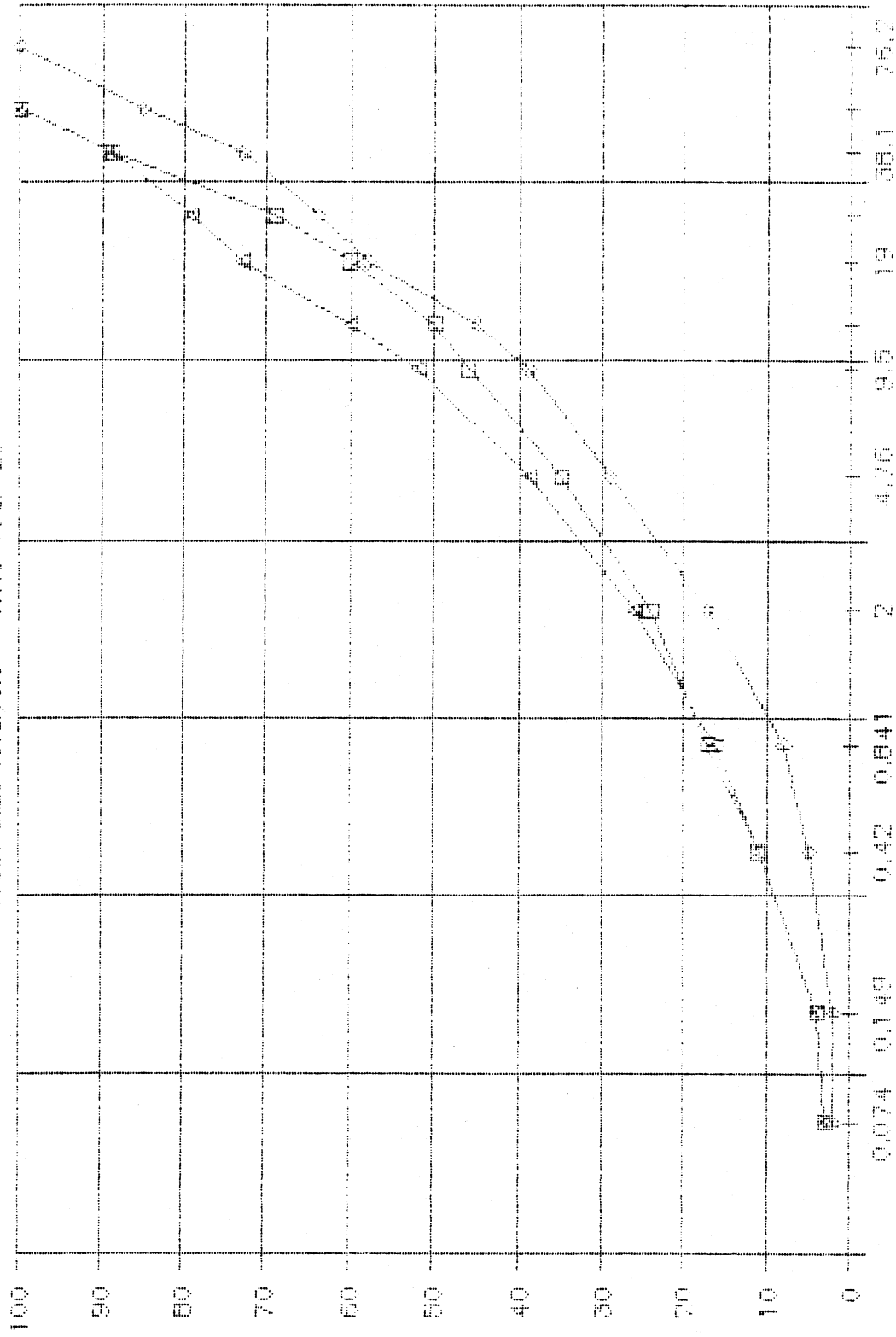
CLASSIFICATION:  
 WELL-GRADED  
 GRAVEL WITH SAND  
 (GW)

CLASSIFICATION:  
 WELL-GRADED  
 GRAVEL WITH SAND  
 (GW)

CLASSIFICATION:  
 WELL-GRADED  
 GRAVEL WITH SAND  
 (GW)

# PUBLIC WORKS CANADA — WHITEHORSE, Y.T.

Grain Size Analysis -- Hole 032-23



Legend:   
 □ SAMP. 64   
 ○ SAMP. 66   
 x SAMP.

DATE: 1964

PROJECT NUMBER: 115-G-05 HOLE NUMBER: 032-30  
 CLIENT: PWC - CAPITAL Y.T.  
 PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING  
 PROJECT LOCATION: A/H KM 1766 LHS  
 DRILL UNIT: CAT 225 HOE  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: CB DATE COMPLETED: 88.10.27

FIELD NO: 67  
 LAB NO: 2819  
 DEPTH: 0.8-1.1  
 TYPE: BULK

FIELD NO: 68  
 LAB NO: 2820  
 DEPTH: 2.3-2.6  
 TYPE: BULK

FIELD NO: 69  
 LAB NO: 2821  
 DEPTH: 3.5-3.8  
 TYPE: BULK

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	100
38.1	90
25.4	77
19.0	72
12.7	59
9.5	52
4.76	37
2.38	--
2.00	22
1.19	--
0.841	14
0.595	--
0.42	10
0.297	--
0.177	--
0.149	4
0.074	3

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	100
38.1	84
25.4	68
19.0	61
12.7	53
9.5	46
4.76	36
2.38	--
2.00	25
1.19	--
0.841	12
0.595	--
0.42	9
0.297	--
0.177	--
0.149	3
0.074	2

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	100
50.8	93
38.1	77
25.4	59
19.0	56
12.7	47
9.5	42
4.76	33
2.38	--
2.00	24
1.19	--
0.841	17
0.595	--
0.42	10
0.297	--
0.177	--
0.149	4
0.074	3

M.C. (%): --

M.C. (%): --

M.C. (%): --

LIMITS

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

LIMITS

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

LIMITS

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

% GRAVEL: 63  
 % SAND: 34  
 % FINES: 3

% GRAVEL: 64  
 % SAND: 34  
 % FINES: 2

% GRAVEL: 67  
 % SAND: 30  
 % FINES: 3

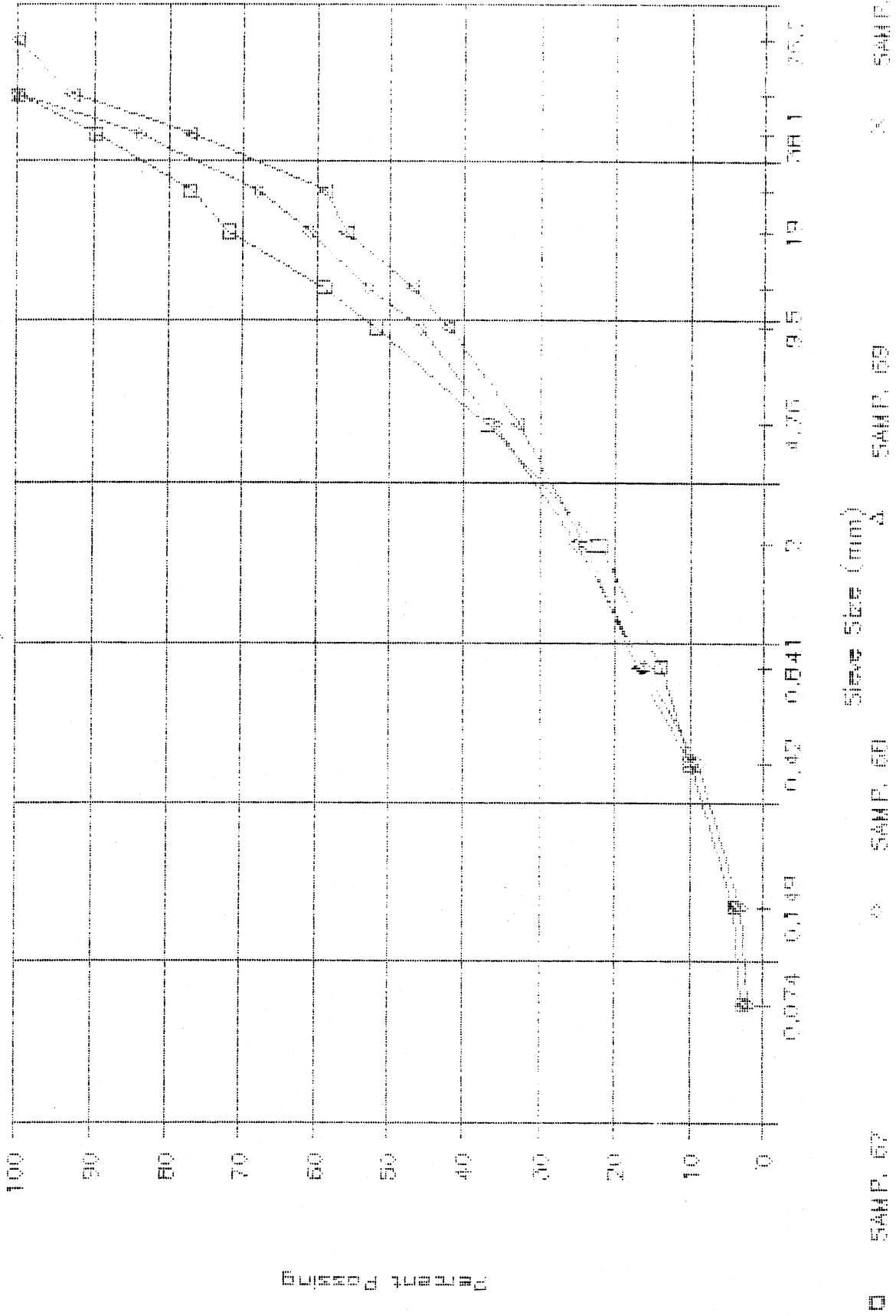
CLASSIFICATION:  
 WELL-GRADED  
 GRAVEL WITH SAND  
 (GW)

CLASSIFICATION:  
 WELL-GRADED  
 GRAVEL WITH SAND  
 (GW)

CLASSIFICATION:  
 WELL-GRADED  
 GRAVEL WITH SAND  
 (GW)

# PUBLIC WORKS CANADA -- WHITEHORSE, Y.T.

Grain Size Analysis - Hole 032--30



PROJECT NUMBER: 115-G-05 HOLE NUMBER: 002-31  
 CLIENT: PWC CAPITAL-YT  
 PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING  
 PROJECT LOCATION: A/H KM 1786 LHS  
 DRILL UNIT: CAT. 225 HOE  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: CS DATE COMPLETED: 88.10.27

FIELD NO: 70	FIELD NO: 71
LAB NO: 2922	LAB NO: 2823
DEPTH: 1.0-1.3	DEPTH: 2.8-3.1
TYPE: BULK	TYPE: BULK

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
------------	-----------------	------------	-----------------

101.6	--	101.6	--
76.2	--	76.2	100
50.8	100	50.8	80
38.1	89	38.1	67
25.4	77	25.4	54
19.0	70	19.0	47
12.7	60	12.7	37
9.5	54	9.5	31
4.76	42	4.76	22
2.38	--	2.38	--
2.00	29	2.00	12
1.19	--	1.19	--
0.841	18	0.841	7
0.595	--	0.595	--
0.42	10	0.42	5
0.297	--	0.297	--
0.177	--	0.177	--
0.149	3	0.149	2
0.074	2	0.074	2

M.C.(%): -- M.C.(%): --

LIMITS

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

LIMITS

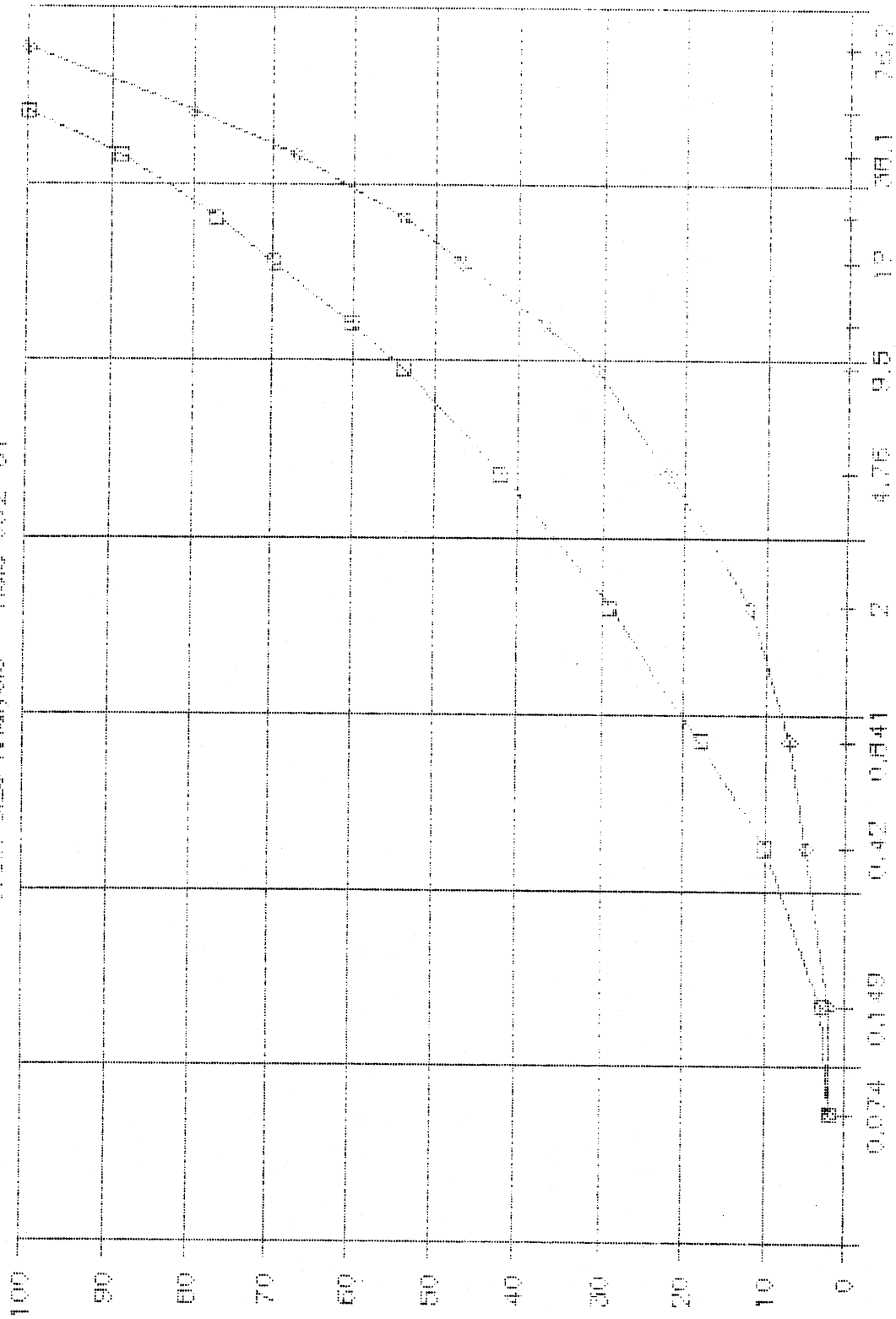
LIQUID: --  
 PLASTIC: --  
 P.I.: N.P.

% GRAVEL: 58	% GRAVEL: 78
% SAND: 40	% SAND: 20
% FINES: 2	% FINES: 2

CLASSIFICATION: POORLY GRADED GRAVEL WITH SAND (GP)	CLASSIFICATION: WELL-GRADED GRAVEL WITH SAND (GW)
--	--

# PUBLIC WORKS CANADA — WHITEHORSE, Y.T.

Grain Size Analysis — Hole 032-31



PERCENT PASSING

Sieve Size (mm)

□ 5AMP. 70      ○ 5AMP. 71

PROJECT NUMBER: 115-G-05 HOLE NUMBER: 002-00  
 CLIENT: PWC CAPITAL-YT  
 PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING  
 PROJECT LOCATION: A/H KM 1766 LHS  
 DRILL UNIT: CAT 225 HOE  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: CB DATE COMPLETED: 88.10.27

FIELD NO: 76  
 LAB NO: 2827  
 DEPTH: 0.9-1.2  
 TYPE: BULK

FIELD NO: 77  
 LAB NO: 2928  
 DEPTH: 2.5-2.8  
 TYPE: BULK

FIELD NO: 78  
 LAB NO: 2929  
 DEPTH: 4.4-4.7  
 TYPE: BULK

SIEVE SIZE	PERCENT PASSING
------------	-----------------

SIEVE SIZE	PERCENT PASSING
------------	-----------------

SIEVE SIZE	PERCENT PASSING
------------	-----------------

101.6	--
76.2	100
50.8	89
38.1	75
25.4	55
19.0	51
12.7	40
9.5	34
4.76	25
2.38	--
2.00	19
1.19	--
0.841	14
0.595	--
0.42	8
0.297	--
0.177	--
0.149	3
0.074	3

101.6	--
76.2	100
50.8	92
38.1	67
25.4	56
19.0	51
12.7	43
9.5	39
4.76	30
2.38	--
2.00	22
1.19	--
0.841	15
0.595	--
0.42	9
0.297	--
0.177	--
0.149	3
0.074	2

101.6	--
76.2	100
50.8	83
38.1	70
25.4	55
19.0	49
12.7	41
9.5	36
4.76	28
2.38	--
2.00	20
1.19	--
0.841	14
0.595	--
0.42	9
0.297	--
0.177	--
0.149	3
0.074	2

M.C.(%): --

M.C.(%): --

M.C.(%): --

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

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

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

% GRAVEL: 75  
 % SAND: 23  
 % FINES: 3

% GRAVEL: 70  
 % SAND: 28  
 % FINES: 2

% GRAVEL: 72  
 % SAND: 25  
 % FINES: 2

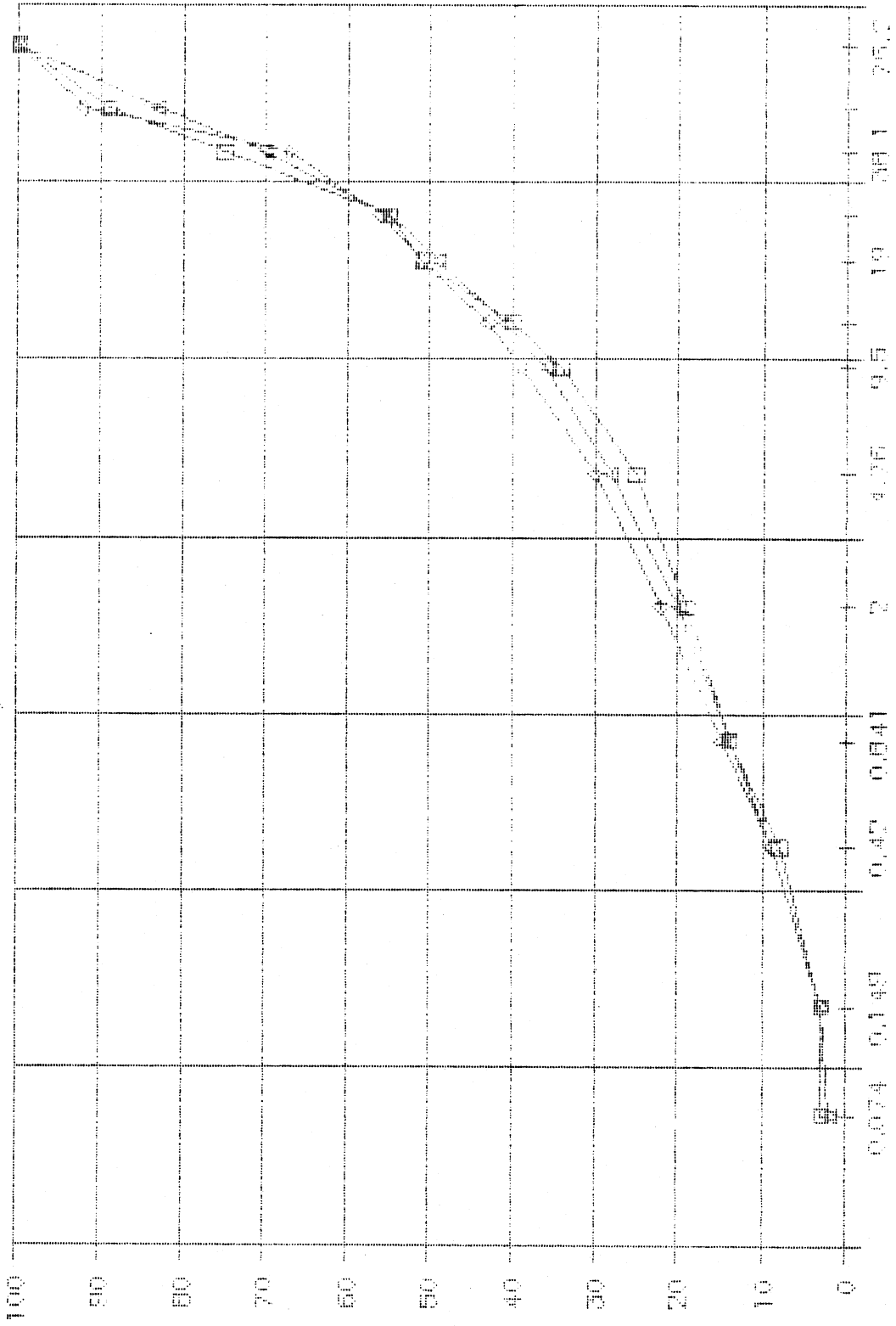
CLASSIFICATION:  
 POORLY GRADED  
 GRAVEL WITH SAND  
 (GP)

CLASSIFICATION:  
 WELL-GRADED  
 GRAVEL WITH SAND  
 (GW)

CLASSIFICATION:  
 WELL-GRADED  
 GRAVEL WITH SAND  
 (GW)

# PUBLIC WORKS CANADA — WHITEHORSE, Y.T.

Grain Size Analysis - Hole 032-33



Legend:  SAMP. 76      SAMP. 77

Sieve Size (mm)

PERCENT PASSING

PROJECT NUMBER: 115-G-09 HOLE NUMBER: 002-34  
 CLIENT: PWC CAPITAL-YT  
 PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING  
 PROJECT LOCATION: A/H KM 1766 LHS  
 DRILL UNIT: CAT 225 HGE  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: CB DATE COMPLETED: 09.10.08

FIELD NO: 79	FIELD NO: 80	FIELD NO: 81
LAB NO: 2830	LAB NO: 2831	LAB NO: 2832
DEPTH: 0.7-1.0	DEPTH: 2.3-2.6	DEPTH: 3.8-4.1
TYPE: BULK	TYPE: BULK	TYPE: BULK

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--	101.6	--
76.2	100	76.2	--	76.2	100
50.8	86	50.8	100	50.8	85
38.1	75	38.1	88	38.1	63
25.4	59	25.4	75	25.4	54
19.0	55	19.0	65	19.0	49
12.7	47	12.7	54	12.7	42
9.5	42	9.5	47	9.5	37
4.76	34	4.76	38	4.76	27
2.38	--	2.38	--	2.38	--
2.00	24	2.00	25	2.00	18
1.19	--	1.19	--	1.19	--
0.841	15	0.841	16	0.841	11
0.595	--	0.595	--	0.595	--
0.42	8	0.42	10	0.42	6
0.297	--	0.297	--	0.297	--
0.177	--	0.177	--	0.177	--
0.149	3	0.149	4	0.149	3
0.074	2	0.074	2	0.074	2

M.C.(%): -- M.C.(%): -- M.C.(%): --

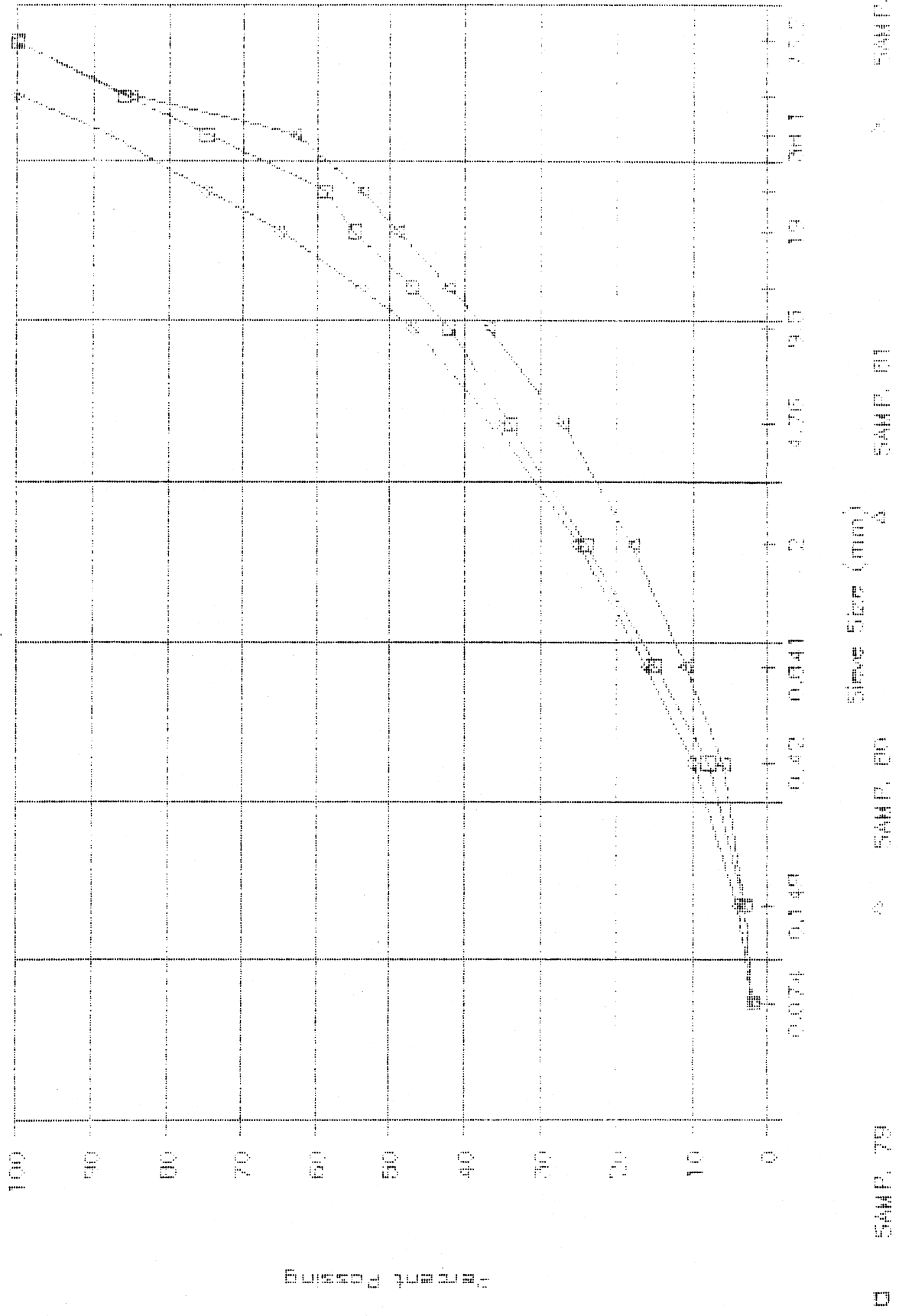
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.

% GRAVEL:	66	% GRAVEL:	64	% GRAVEL:	73
% SAND:	31	% SAND:	33	% SAND:	25
% FINES:	2	% FINES:	2	% FINES:	2

CLASSIFICATION:	CLASSIFICATION:	CLASSIFICATION:
POORLY GRADED	WELL-GRADED	WELL-GRADED
GRAVEL WITH SAND	GRAVEL WITH SAND	GRAVEL WITH SAND
(GP)	(GW)	(GW)

# PUBLIC WORKS CANADA — WHELFORSE, N.T.

Grain Size Analysis — Hole 032-34



Sieve Size (mm)

□ SAMP. 79    △ SAMP. 81

PROJECT NUMBER: 115-G-05 HOLE NUMBER: 000-28  
 CLIENT: PWC CAPITAL-YT  
 PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING  
 PROJECT LOCATION: A/H KM 1766 LHS  
 DRILL UNIT: CAT 225 HOE  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: CB DATE COMPLETED: 89.10.28

FIELD NO: 82  
 LAB NO: 2933  
 DEPTH: 0.8-1.1  
 TYPE: BULK

FIELD NO: 83  
 LAB NO: 2934  
 DEPTH: 2.2-2.5  
 TYPE: BULK

FIELD NO: 84  
 LAB NO: 2935  
 DEPTH: 3.5-3.8  
 TYPE: BULK

SIEVE SIZE	PERCENT PASSING
------------	-----------------

SIEVE SIZE	PERCENT PASSING
------------	-----------------

SIEVE SIZE	PERCENT PASSING
------------	-----------------

101.6	--
75.2	100
50.8	82
38.1	74
25.4	65
19.0	60
12.7	52
9.5	45
4.76	34
2.38	--
2.00	24
1.19	--
0.841	16
0.595	--
0.42	8
0.297	--
0.177	--
0.149	3
0.074	2

101.6	--
75.2	100
50.8	94
38.1	80
25.4	67
19.0	55
12.7	45
9.5	40
4.76	29
2.38	--
2.00	19
1.19	--
0.841	11
0.595	--
0.42	7
0.297	--
0.177	--
0.149	4
0.074	3

101.6	--
75.2	100
50.8	90
38.1	84
25.4	72
19.0	63
12.7	50
9.5	47
4.76	36
2.38	--
2.00	26
1.19	--
0.841	17
0.595	--
0.42	9
0.297	--
0.177	--
0.149	4
0.074	3

M.C. (%): --

M.C. (%): --

M.C. (%): --

LIMITS

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

LIMITS

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

LIMITS

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

% GRAVEL: 66  
 % SAND: 32  
 % FINES: 2

% GRAVEL: 71  
 % SAND: 26  
 % FINES: 3

% GRAVEL: 64  
 % SAND: 33  
 % FINES: 3

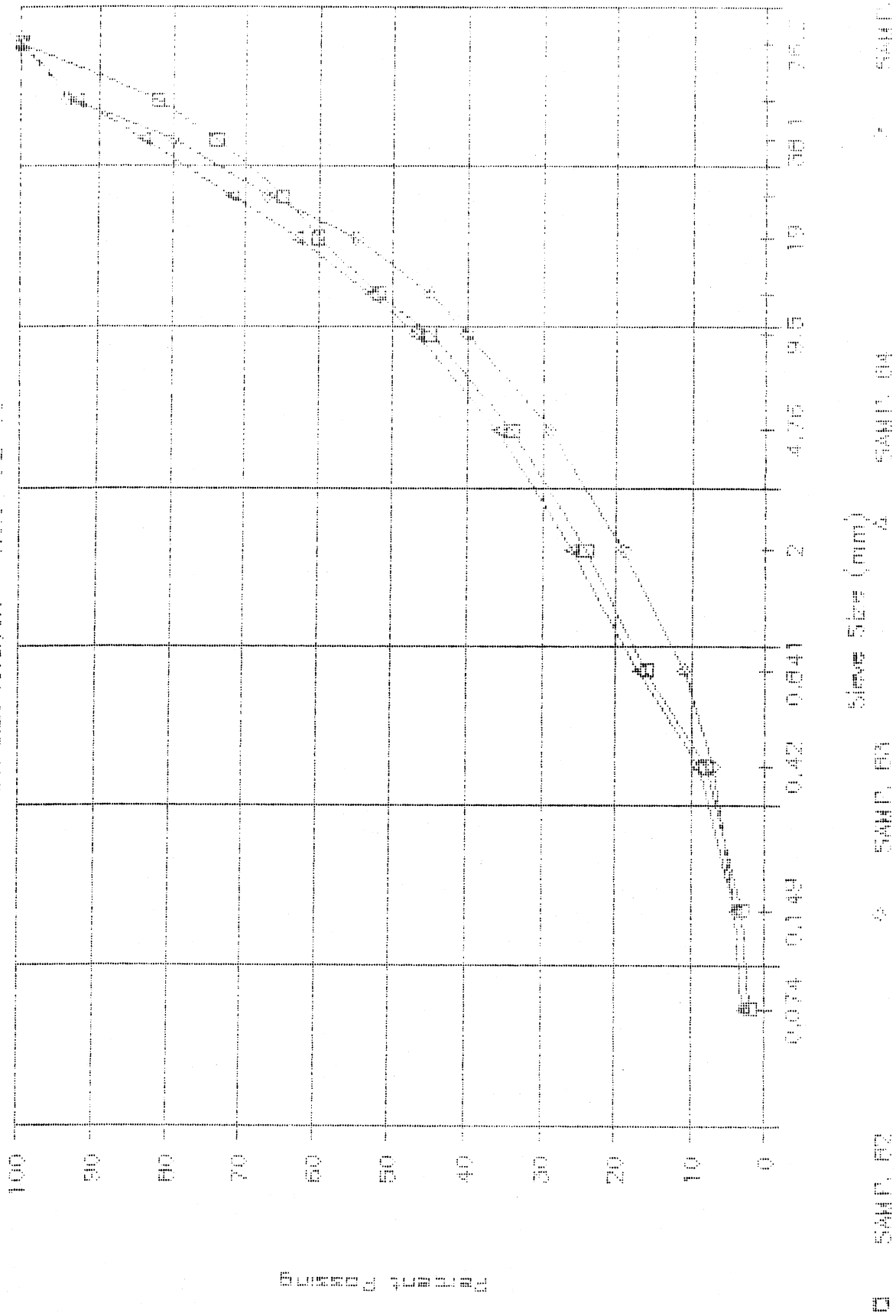
CLASSIFICATION:  
 WELL-GRADED  
 GRAVEL WITH SAND  
 (GW)

CLASSIFICATION:  
 WELL-GRADED  
 GRAVEL WITH SAND  
 (GW)

CLASSIFICATION:  
 WELL-GRADED  
 GRAVEL WITH SAND  
 (GW)

# PUBLIC WORKS CANADA — WHITEHORSE, Y.T.

Grain Size Analysis — Hole 032-35



PERCENT FINER

Sieve Size (mm)

□ SAND, 04  
△ SAND, 03