HIGHWAY CONSTRUCTION

km 1893.7 to km 1915.7
ALASKA HIGHWAY, Y.T.

VOLUME 1
CENTRELINE TESTING

This Data Package prepared for project viewing:

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GR-01-156

GEOTECHNICAL INVESTIGATION
HIGHWAY CONSTRUCTION
km 1893.7 to km 1915.7, ALASKA HIGHWAY, Y.T.
CENTRELINE TESTING

CONTENTS

INTRODUCTION

Investigation notes, classification methods and legends.

VOLUME 1
CENTRELINE TESTING

Subsurface exploration and testing report sheets are provided. The reports for the centreline holes are arranged according to project location, starting at km 1893+700 and increasing to km 1915+625.

Auger Testing

1991	TEST HOLES 1 to 18 & 20	shown with prefix 139-
	TEST HOLES 21 to 43	shown with prefix 140-
	TEST HOLES 47 to 59	shown with prefix 141-
	TEST HOLES 143 to 157	shown with prefix 145-
1992	TEST HOLES 18 to 23	shown with prefix 174-
	TEST HOLES 24 to 48	shown with prefix 175-
	TEST HOLES 49 to 70	shown with prefix 194-
	TEST HOLES 71 to 76 & 80	shown with prefix 195-
	TEST HOLES 87 to 95	shown with prefix 195-
	TEST HOLES 96 to 110	shown with prefix 196-
	TEST HOLES 117 to 120	shown with prefix 196-
	TEST HOLES 121 to 145	shown with prefix 197-
	TEST HOLES 146 to 169	shown with prefix 198-
	TEST HOLES 182 to 183	shown with prefix 207-
1993	TEST HOLES 00 to 05	shown with prefix 244-
	TEST HOLES 12 to 13	shown with prefix 244-
	TEST HOLES 17 to 24 & 28	shown with prefix 244-
	TEST HOLES 33, 34, 41 & 42	shown with prefix 245-
	TEST HOLES 45 to 59	shown with prefix 245-

Backhoe Testing

1993	TEST HOLES 16 to 29 & 33	shown with prefix 257-
	TEST HOLES 37 to 42	shown with prefix 258-
	TEST HOLES 30 to 31	shown with prefix 274-

Air Rotary Testing

1994	TEST HOLE 6	shown with prefix 281-

GEOTECHNICAL INVESTIGATION
HIGHWAY CONSTRUCTION
km 1893.7 to km 1915.7, ALASKA HIGHWAY, Y.T.
CENTRELINE TESTING

CONTENTS (Cont'd)

VOLUME 2
GRAIN SIZE SUMMARIES

VOLUME 3
GRANULAR AND BORROW TESTING

Km 1895.5 LHS

Testing results bound separately.

Km 1902 LHS

Auger Testing

1991	TEST HOLES 21 to 23	shown with prefix 138-

EBA Backhoe Testing

1992	TEST HOLES 30 & 31	shown with prefix EBA-

Air Rotary Testing

1994	TEST HOLES 30 to 46	shown with prefix 284-

Km 1904 LHS

EBA Backhoe Testing

1992	TEST HOLES 32 to 34	shown with prefix EBA-

Air Rotary Testing

1993	TEST HOLES 35 to 40	shown with prefix 245-
	TEST HOLES 30 to 32	shown with prefix 257-
1994	TEST HOLES 13 to 29	shown with prefix 281-, 282-, & 284-

Km 1904 RHS

Backhoe Testing

1993	TEST HOLES 41 to 44	shown with prefix 274- and 275-

Air Rotary Testing

1993	TEST HOLES 123 to 128	shown with prefix 219-
1994	TEST HOLES 7 to 12	shown with prefix 281-

Km 1907 RHS

Auger testing

1993	TEST HOLES 6 to 11	shown with prefix 244-

Backhoe Testing

1993	TEST HOLES 34 to 36	shown with prefix 257-
	TEST HOLES 37 to 40	shown with prefix 274-

Km 1915.4 LHS

Backhoe Testing

1993	TEST HOLES 43 to 46	shown with prefix 258-
	TEST HOLES 32 to 36	shown with prefix 274-

INTRODUCTION

GEOTECHNICAL INVESTIGATION
HIGHWAY CONSTRUCTION
km 1893.7 to km 1915.7, ALASKA HIGHWAY, Y.T.
CENTRELINE TESTING

GEOTECHNICAL INVESTIGATION DATA

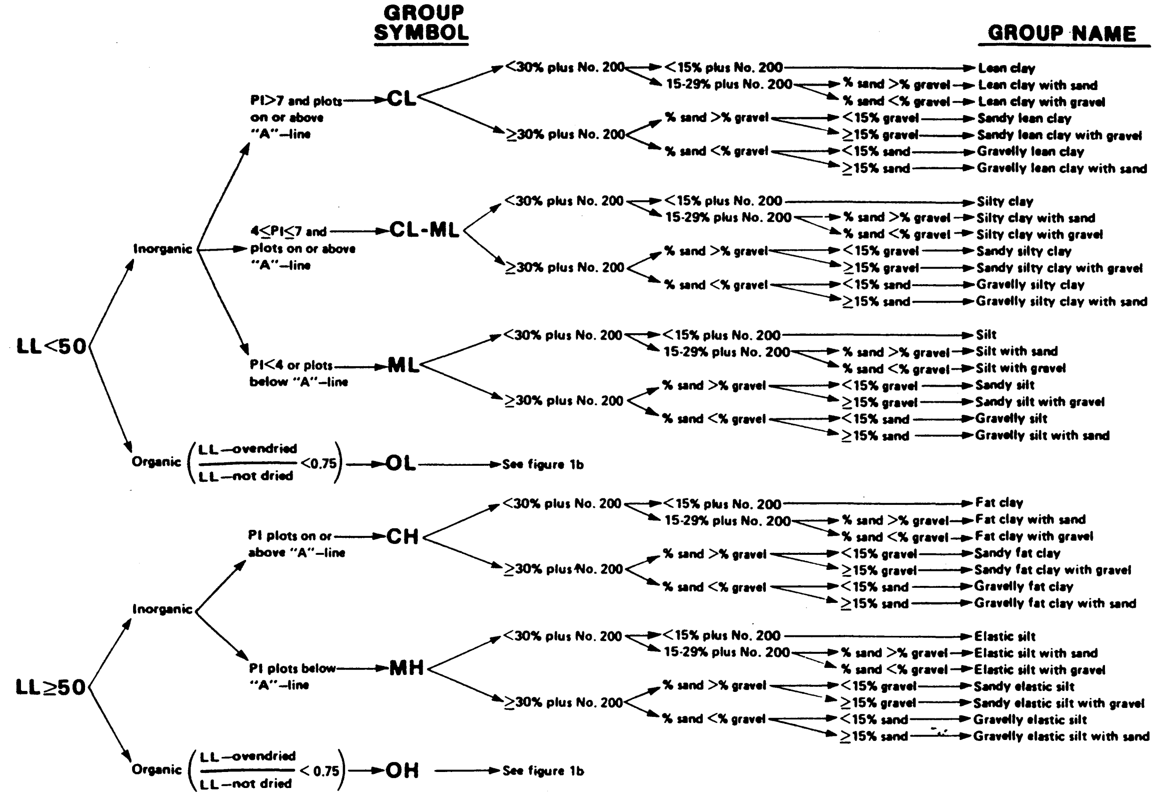
This geotechnical investigation data is provided to assist in the interpretation of soil conditions encountered within this project area. The data presented was prepared solely for Departmental designing and estimating purposes.

The description of material/soil description shown on the subsurface exploration and test reports is a textural description based on identification of retrieved material by the field drilling technician at the time of investigation. This description may be modified following laboratory testing and classification of selected samples. The system used is based on the ASTM standards for identification and classification of soils. Permafrost classifications and groundwater levels are indicated as detected at time of drilling, unless otherwise noted. Changes in moisture or frost conditions should be anticipated depending on the season, time lapse or amount of development work done since the date of investigation.

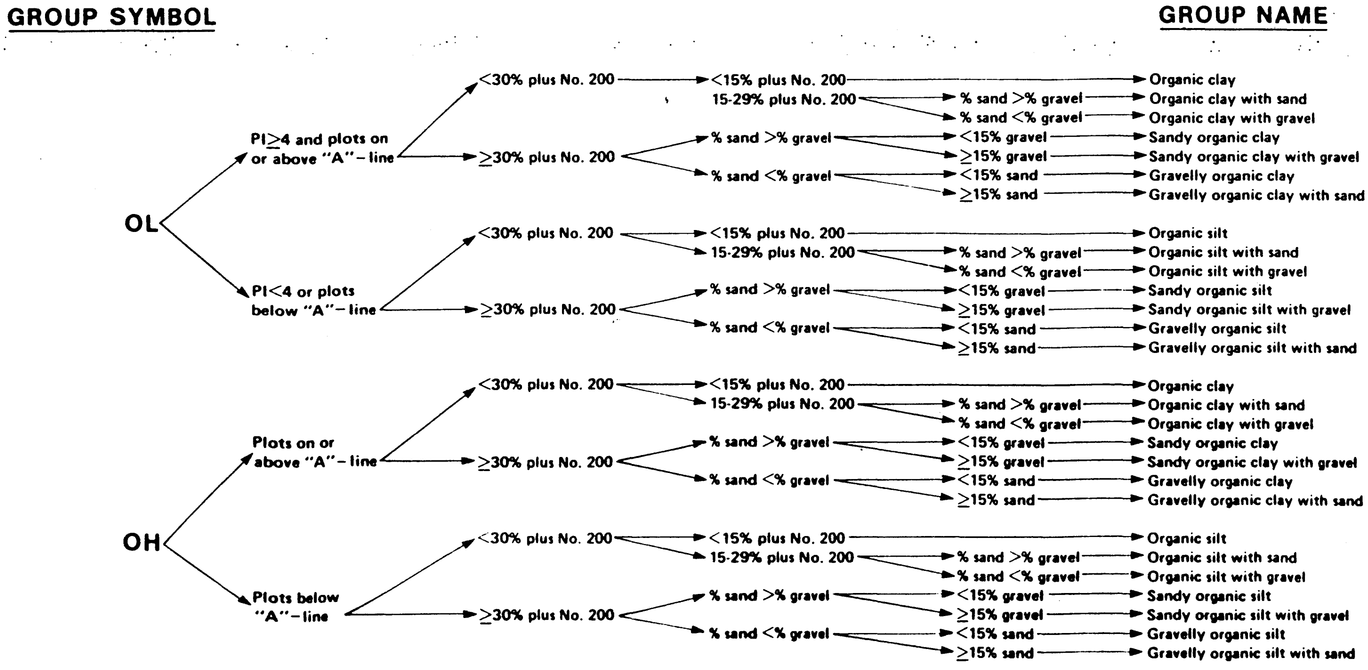
The sample identification and laboratory testing data is provided to give detailed physical properties of selected retrieved samples within the subsurface profile. ***These tests may be conducted on disturbed samples and may exhibit properties different from the native materials.*** The sample classification may also vary from the soil description due to variations within the sampled strata or because of changes resulting from the sampling method or excavation equipment used.

These descriptions are not intended to be conclusive as to the nature of any material encountered, or to conditions between or around the test borings/pits.

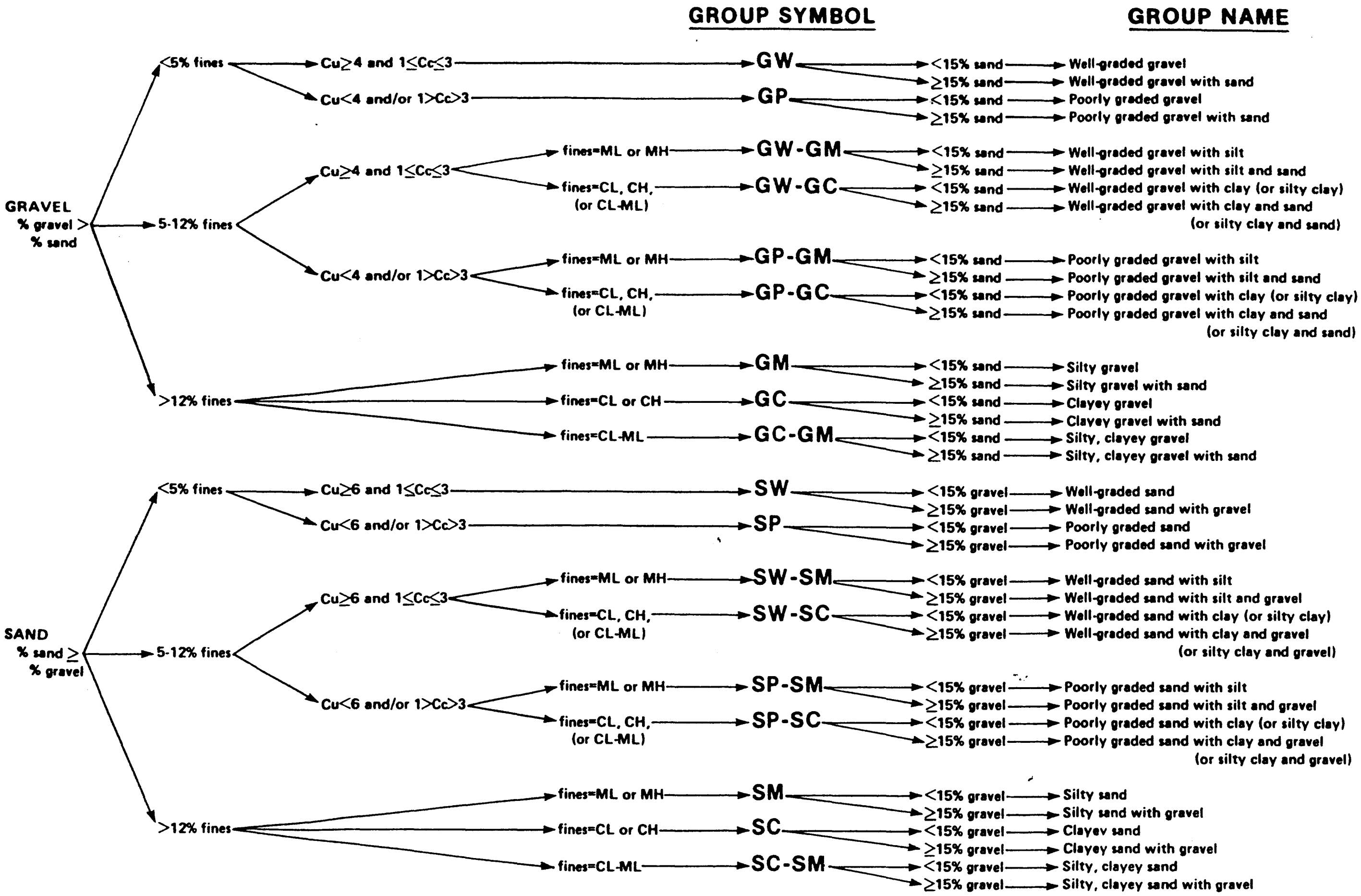
It is recommended that a site inspection, combined with consideration of the regional geology and climatic conditions be conducted. An evaluation of the investigation methods and development work done since the time of investigation should be done prior to interpreting the subsurface conditions for construction purposes.



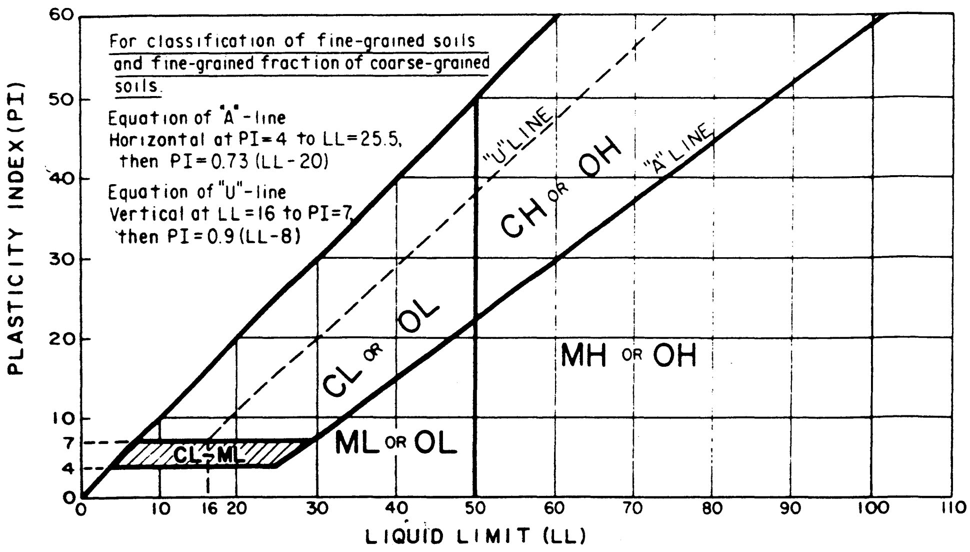
Flow chart for classifying fine-grained soil.



Flow chart for classifying organic soil.



Flow chart for classifying coarse-grained soil.



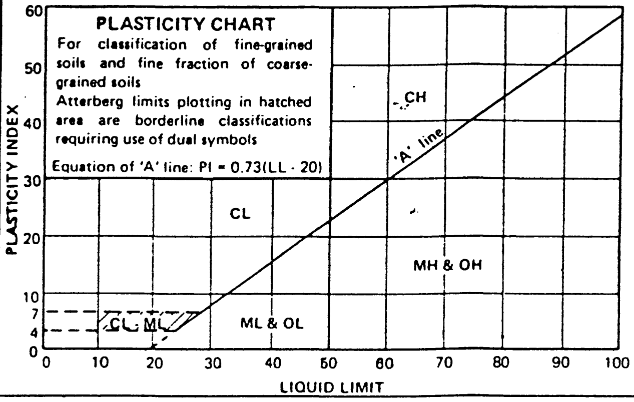
Plasticity chart.

CRITERIA FOR ASSIGNING GROUP SYMBOLS AND GROUP NAMES USING LABORATORY TESTS [a]				SOIL CLASSIFICATION	
				GROUP SYMBOL	GROUP NAME [b]
COARSE-GRAINED SOILS more than 50% retained on No. 200 sieve	GRAVELS More than 50% of coarse fraction retained on No. 4 sieve	CLEAN GRAVELS Less than 5% fines [c]	$C_u \geq 4$ and $1 \leq C_c \leq 3$ [e]	GW	Well-graded gravel [f]
			$C_u < 4$ and/or $1 > C_c > 3$ [e]	GP	Poorly graded gravel [f]
		GRAVELS WITH FINES More than 12% fines [c]	Fines classify as ML or MH	GM	Silty gravel [f,g,h]
			Fines classify as CL or CH	GC	Clayey gravel [f,g,h]
	SANDS 50% or more of coarse fraction passes No. 4 sieve	CLEAN SANDS Less than 5% fines [d]	$C_u \geq 6$ and $1 \leq C_c \leq 3$ [e]	SW	Well-graded sand [i]
			$C_u < 6$ and/or $1 > C_c > 3$ [e]	SP	Poorly graded sand [i]
		SANDS WITH FINES More than 12% fines [d]	Fines classify as ML or MH	SM	Silty sand [g,h,i]
			Fines classify as CL or CH	SC	Clayey sand [g,h,i]
FINE-GRAINED SOILS 50% or more passed the No. 200 sieve	SILTS AND CLAYS Liquid limit less than 50%	inorganic	PI > 7 and plots on or above "A" line [j]	CL	Lean clay [k,l,m]
			PI < 4 or plots below "A" line [j]	ML	Silt [k,l,m]
		organic	$\frac{\text{Liquid limit - oven dried}}{\text{Liquid limit - not dried}} < 0.75$	OL	Organic clay [k, l, m, n] Organic silt [k, l, m, o]
	SILTS AND CLAYS Liquid limit 50% or more	inorganic	PI plots on or above "A" line	CH	Fat clay [k,l,m]
			PI plots below "A" line	MH	Elastic silt [k,l,m]
		organic	$\frac{\text{Liquid limit - oven dried}}{\text{Liquid limit - not dried}} < 0.75$	OH	Organic clay [k, l, m, p] Organic silt [k, l, m, q]
Highly organic soils		Primarily organic matter, dark in color, and organic odor		PT	Peat

a. Based on the material passing the 3-in (75-mm) sieve.
b. If field sample contained cobbles and/or boulders, add "with cobbles and/or boulders" to group name.
c. Gravels with 5 to 12% fines require dual symbols
  GW-GM well graded gravel with silt
  GW-GC well graded gravel with clay
  GP-GM poorly graded gravel with silt
  GP-GC poorly graded gravel with clay
d. Sands with 5 to 12% fines require dual symbols
  SW-SM well graded sand with silt
  SW-SC well graded sand with clay
  SP-SM poorly graded sand with silt
  SP-SC poorly graded sand with clay
e. $C_u = D_{60}/D_{10}$ $\quad C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$
f. If soil contains $\geq$ 15% sand, add "with sand" to group name.
g. If fines classify as CL-ML, use dual symbol GC-GM, SC-SM.
h. If fines are organic, add "with organic fines" to group name.
i. If soil contains $\geq$ 15% gravel, add "with gravel" to group name.
j. If Atterberg limits plot in hatched area, soil is a CL-ML, silty clay.
k. If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel" whichever is predominant.
l. If soil contains $\geq$ 30% plus No. 200, predominantly sand, add "sandy" to group name.
m. If soil contains $\geq$ 30% plus No. 200, predominantly gravel, add "gravelly" to group name.
n. PI $\geq$ 4 and plots on or above "A" line.
o. PI $<$ 4 or plots below "A" line.
p. PI plots on or above "A" line.
q. PI plots below "A" line.

Soil classification chart

UNIFIED SOIL CLASSIFICATION†

MAJOR DIVISIONS			GROUP SYMBOLS	TYPICAL NAMES	CLASSIFICATION CRITERIA		
COARSE-GRAINED SOILS More than 50% retained on No. 200 sieve*	GRAVELS 50% or more of coarse fraction retained on No. 4 sieve	CLEAN GRAVELS	GW	Well-graded gravels and gravel-sand mixtures, little or no fines	Classification on basis of percentage of fines Less than 5% pass No. 200 sieve GW, GP, SW, SP More than 12% pass No. 200 sieve GM, GC, SM, SC 5% to 12% pass No. 200 sieve Borderline classification requiring use of dual symbols	$C_u = D_{60}/D_{10}$ Greater than 4 $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ Between 1 and 3	
			GP	Poorly-graded gravels and gravel-sand mixtures, little or no fines		Not meeting both criteria for GW	
		GRAVELS WITH FINES	GM	Silty gravels, gravel-sand-silt mixtures		Atterberg limits plot below 'A' line or plasticity index less than 4	Atterberg limits plotting in hatched area are borderline classifications requiring use of dual symbols
			GC	Clayey gravels, gravel-sand clay mixtures		Atterberg limits plot above 'A' line and plasticity index greater than 7	
	SANDS More than 50% of coarse fraction passes No. 4 sieve	CLEAN SANDS	SW	Well-graded sands and gravelly sands, little or no fines		$C_u = D_{60}/D_{10}$ Greater than 6 $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ Between 1 and 3	
			SP	Poorly-graded sands and gravelly sands, little or no fines		Not meeting both criteria for SW	
		SANDS WITH FINES	SM	Silty sands, sand-silt mixtures		Atterberg limits plot below 'A' line or plasticity index less than 4	Atterberg limits plotting in hatched area are borderline classifications requiring use of dual symbols
			SC	Clayey sands, sand-clay mixtures		Atterberg limits plot above 'A' line and plasticity index greater than 7	
FINE-GRAINED SOILS 50% or more passes No. 200 sieve*	SILTS AND CLAYS	Liquid limit 50% or less	ML	Inorganic silts, very fine sands, rock flour, silty or clayey fine sands			
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays			
			OL	Organic silts and organic silty clays of low plasticity			
	SILTS AND CLAYS	Liquid limit greater than 50%	MH	Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts			
			CH	Inorganic clay of high plasticity, fat clays			
			OH	Organic clays of medium to high plasticity			
HIGHLY ORGANIC SOILS			PT	Peat, muck and other highly organic soils	*Based on the material passing the 3 in. (75 mm) sieve †ASTM Designation D 2487, for identification procedure see D 2488		

GROUND ICE DESCRIPTION

ICE NOT VISIBLE

GROUP SYMBOLS	SYMBOLS	SUBGROUP DESCRIPTION	
N	Nf	Poorly-bonded or friable	▨
	Nbn	No excess ice, well-bonded	▨
	Nbe	Excess ice, well - bonded	▨

VISIBLE ICE LESS THAN 50% BY VOLUME

GROUP SYMBOLS	SYMBOLS	SUBGROUP DESCRIPTION	
V	Vx	Individual ice crystals or inclusions	▨
	Vc	Ice coatings on particles	▨
	Vr	Random or irregularly oriented ice formations	▨
	Vs	Stratified or distinctly oriented ice formations	▤

VISIBLE ICE GREATER THAN 50% BY VOLUME

ICE	ICE + Soil Type	Ice with soil inclusions	■
	ICE	Ice without soil inclusions (greater than 25 mm (1 in.) thick)	■

NOTE:

1. *Dual symbols are used to indicate borderline or mixed ice classifications*
2. *Visual estimates of ice contents indicated on borehole logs ± 5%*
3. *This system of ground ice description has been modified from NRC Technical Memo 79, Guide to the Field Description of Permafrost for Engineering Purposes*

LEGEND

Soil ▨ Ice ■

	BOUNDARY LINES ON DRILL LOGS	TEST HOLE NO: 3
ENGINEERING-CAPITAL		Project No:
		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	BOUNDARY LINES							0.0
	A solid line is used when a definite soil change is logged and a depth is known.							
1.0	A dashed line is used when a definite soil change is noted either by the field log or the sample test results and the depth of change is unknown.							1.0
2.0	A dotted line is used when a gradual or gradational change is noted by field notes and sample test results.							2.0
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0

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Transportation Engineering	REVIEWED BY:	COMPLETE: / /
	Fig. No:	Page 1 of 1

93/12/13 04:36PM

CENTRELINE TESTING

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-59
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1893+700 o/s 5m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◨ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
	SILTY GRAVEL WITH SAND (GM)			
	-saturated below 0.8m			
1.0		☒	138	GM
2.0	-grindy drilling below 1.9m			
	SILT (ML) -frozen -smooth drilling			
3.0				
4.0				
5.0		☒	139	ML
5.0	END HOLE at 5.0m			
6.0				

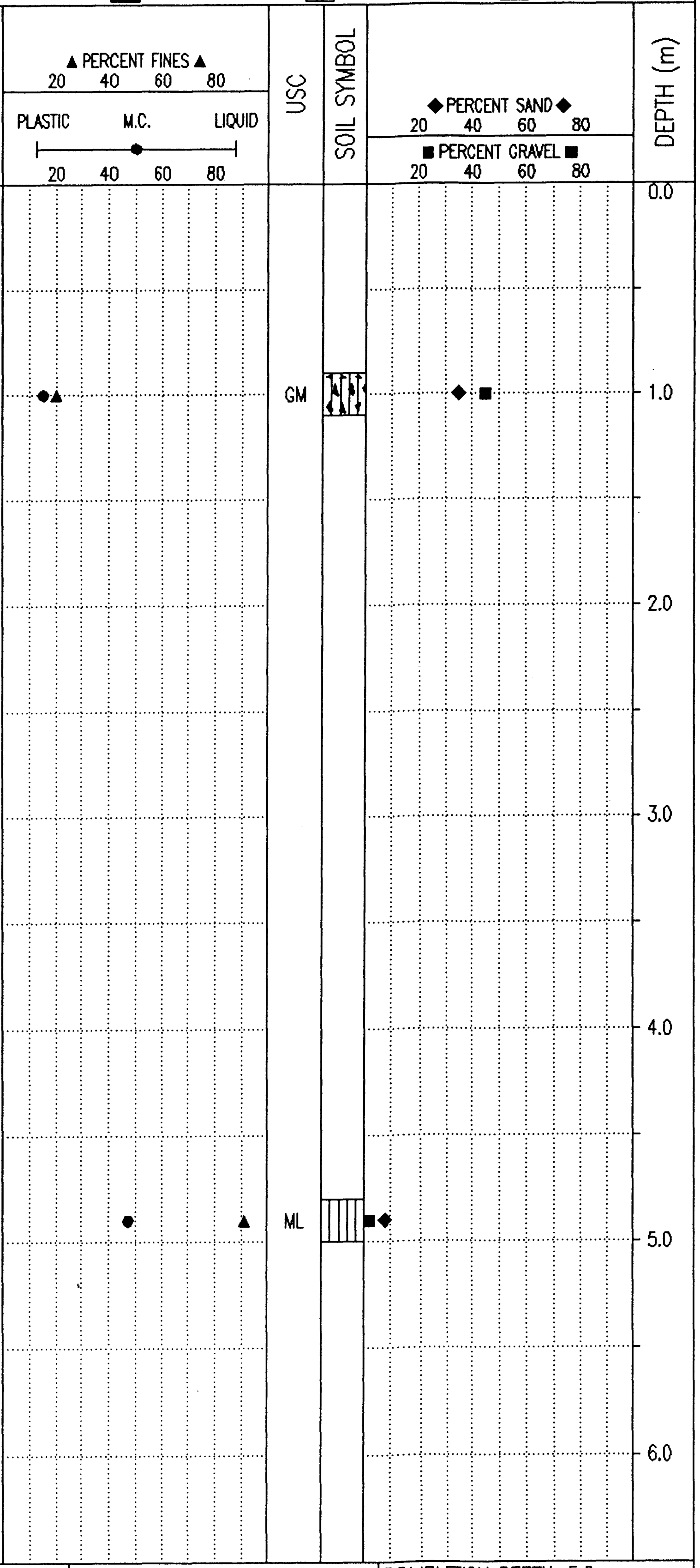

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	Fig. No:	Page 1 of 1

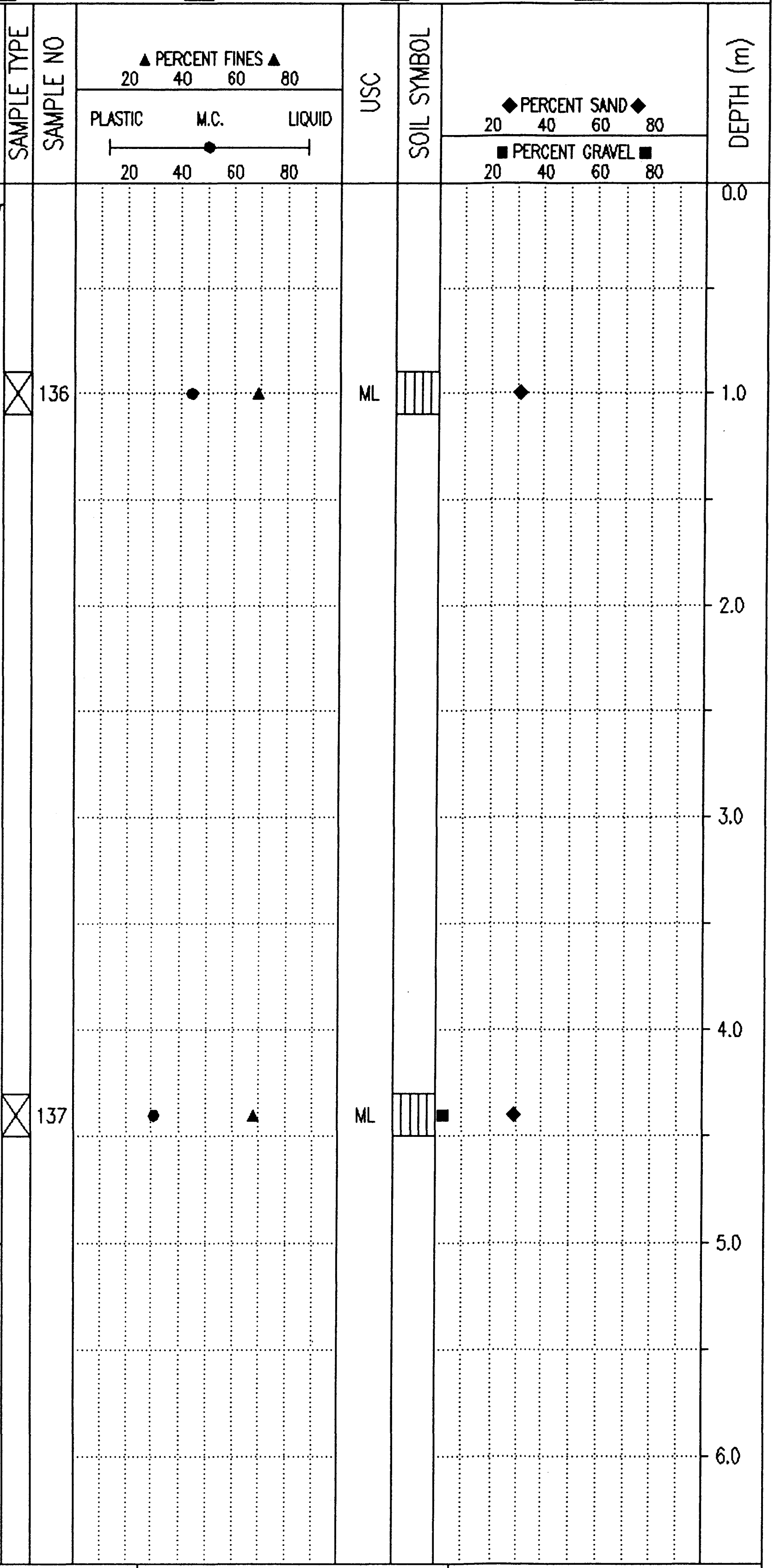
93/11/16 11:17AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-58
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1893+800 o/s 6m Rt.	ELEVATION: 0.00 (m)

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

SOIL DESCRIPTION

DEPTH (m)	SOIL DESCRIPTION
0.0	ORGANIC MATERIAL
	SANDY SILT (ML) -smooth drilling
1.0	
	-organics below 1.4m
2.0	-frozen below 2.0m -very slow drilling below 2.0m
	-some gravel from 2.7m to 3.2m -grindy drilling from 2.7m to 3.2m
3.0	-smooth drilling below 3.2m
4.0	
5.0	END HOLE at 5.0m
6.0	



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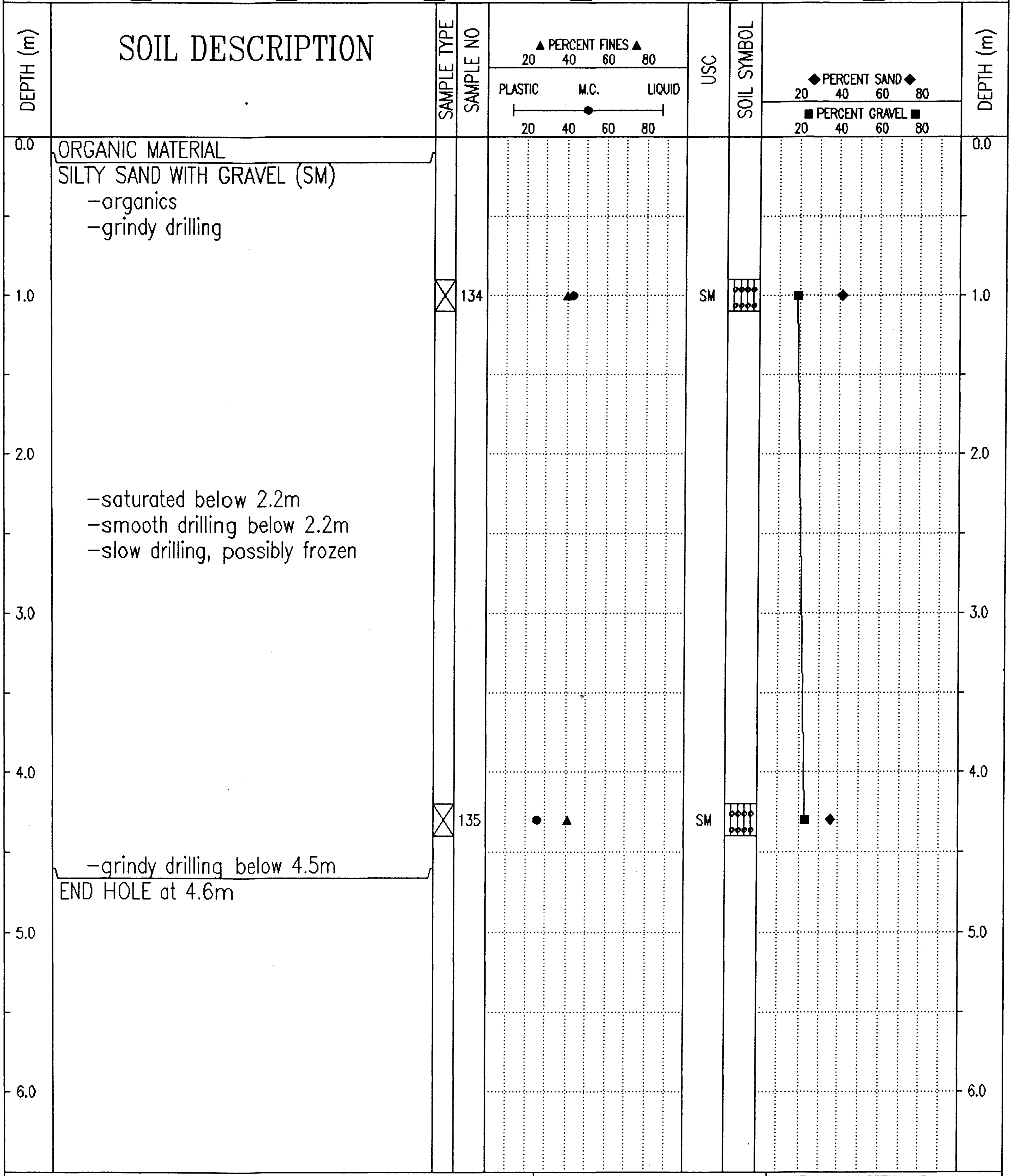
	REVIEWED BY:	COMPLETE: 93/09/11
	Fig. No:	Page 1 of 1

93/11/16 11:16AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-57
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1893+900	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ▌ CORE



ORGANIC MATERIAL

SILTY SAND WITH GRAVEL (SM)
- organics
- grindy drilling
- saturated below 2.2m
- smooth drilling below 2.2m
- slow drilling, possibly frozen
- grindy drilling below 4.5m

END HOLE at 4.6m

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	Fig. No:	Page 1 of 1

93/11/05 12:12PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-56
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1894+000 o/s 7m Rt.	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 MATERIAL				
	SANDY SILTY GRAVEL -wet -smooth drilling				
	SILT WITH SAND (ML) -wet to saturated				
1.0		☒	133	ML	▥
2.0	-grindy drilling at 1.8m				
▼	-water at 2.4m -smooth drilling below 2.4m				
3.0					
4.0					
5.0	END HOLE at 5.0m				
6.0					

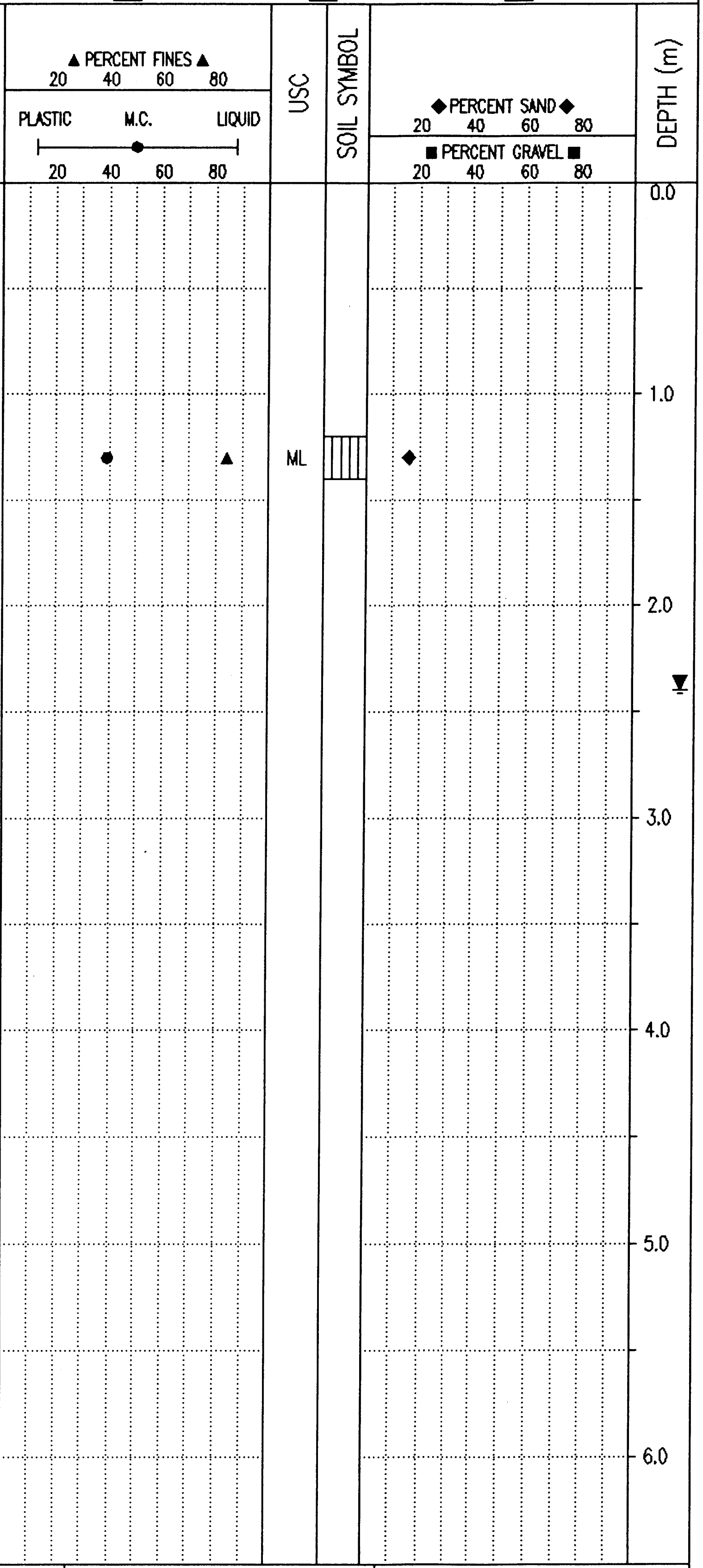

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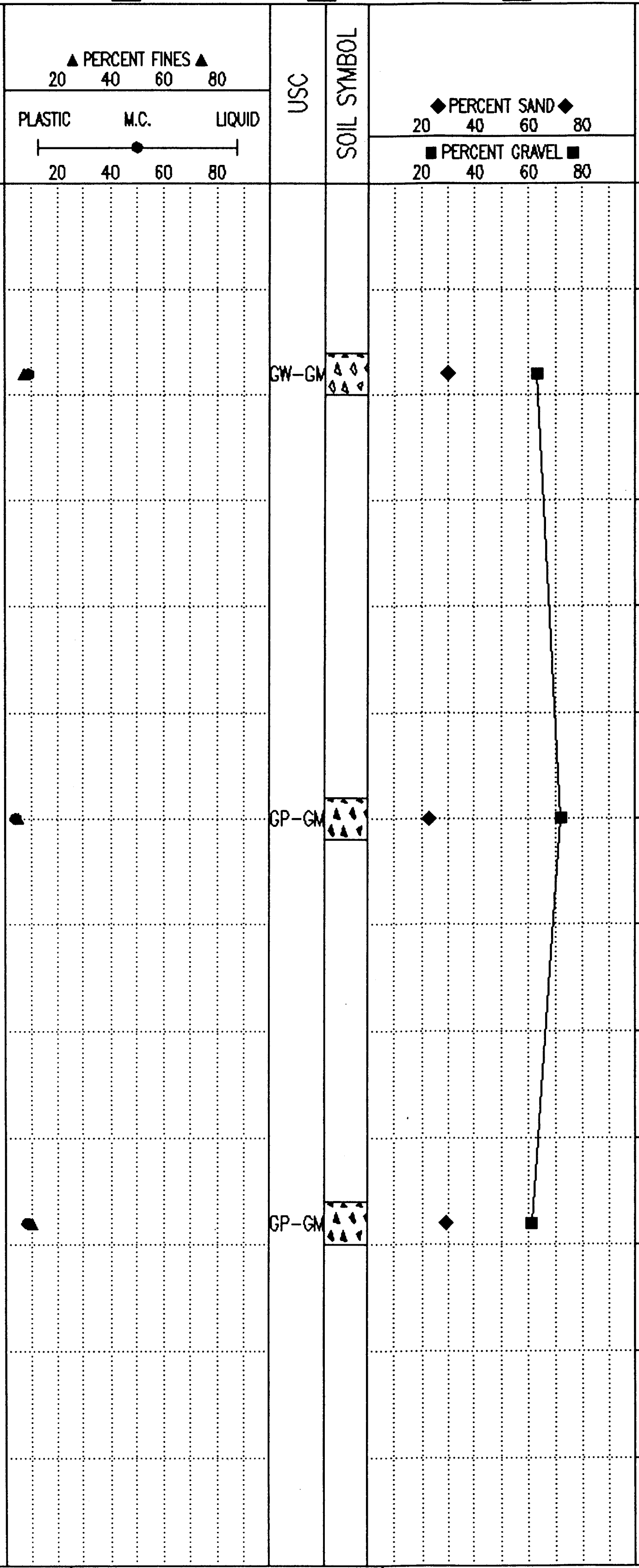
	Fig. No:	Page 1 of 1

93/11/05 03:27PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-55
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1894+100	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL WELL TO POORLY GRADED GRAVEL WITH SILT AND SAND (GW-GM TO GP-GM) -grindy drilling			
1.0		☒	130	GW-GM
2.0				
3.0		☒	131	GP-GM
4.0				
5.0	END HOLE at 5.0m	☒	132	GP-GM
6.0				



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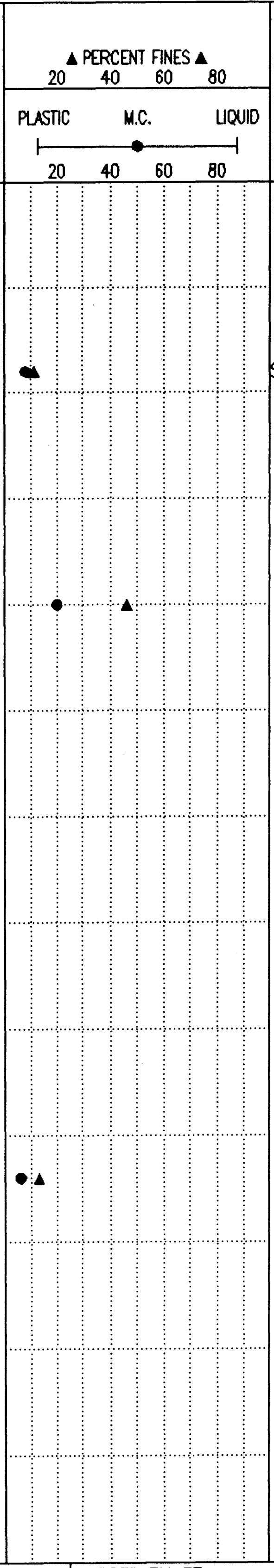
	REVIEWED BY:	COMPLETE: 93/09/11
	Fig. No:	Page 1 of 1

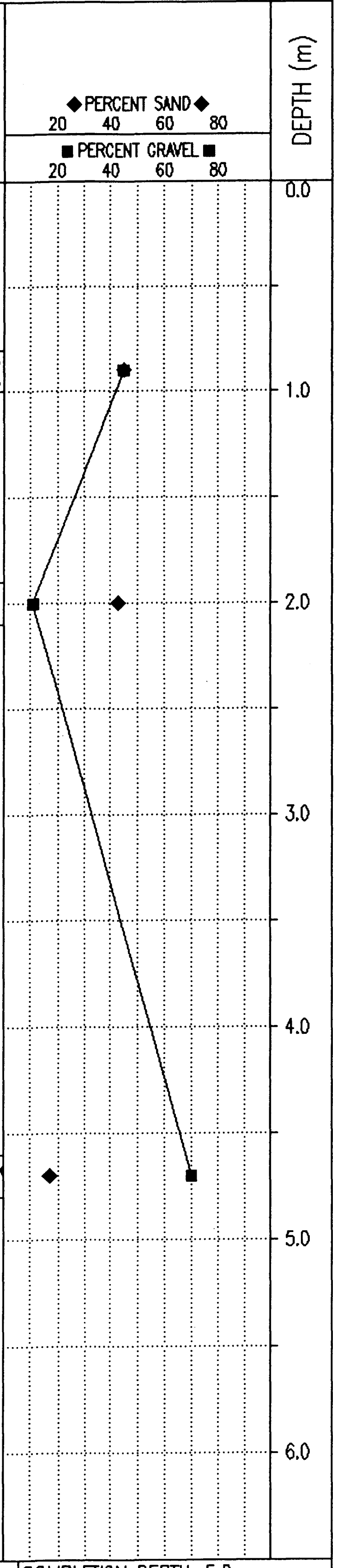
93/11/05 12:09PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-54
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1894+200 o/s 5m Rt.	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 MATERIAL				
	POORLY GRADED SAND WITH SILT AND GRAVEL (SP–SM) –organics –smooth drilling	☒	127	SP–SM	○○○○
1.0	SILTY SAND (SM) –grindy drilling	☒	128	SM	
2.0					
3.0					
	SILTY GRAVEL WITH SAND (GM) –grindy drilling –organics	☒	129	GM	
4.0					
5.0	END HOLE at 5.0m				
6.0					





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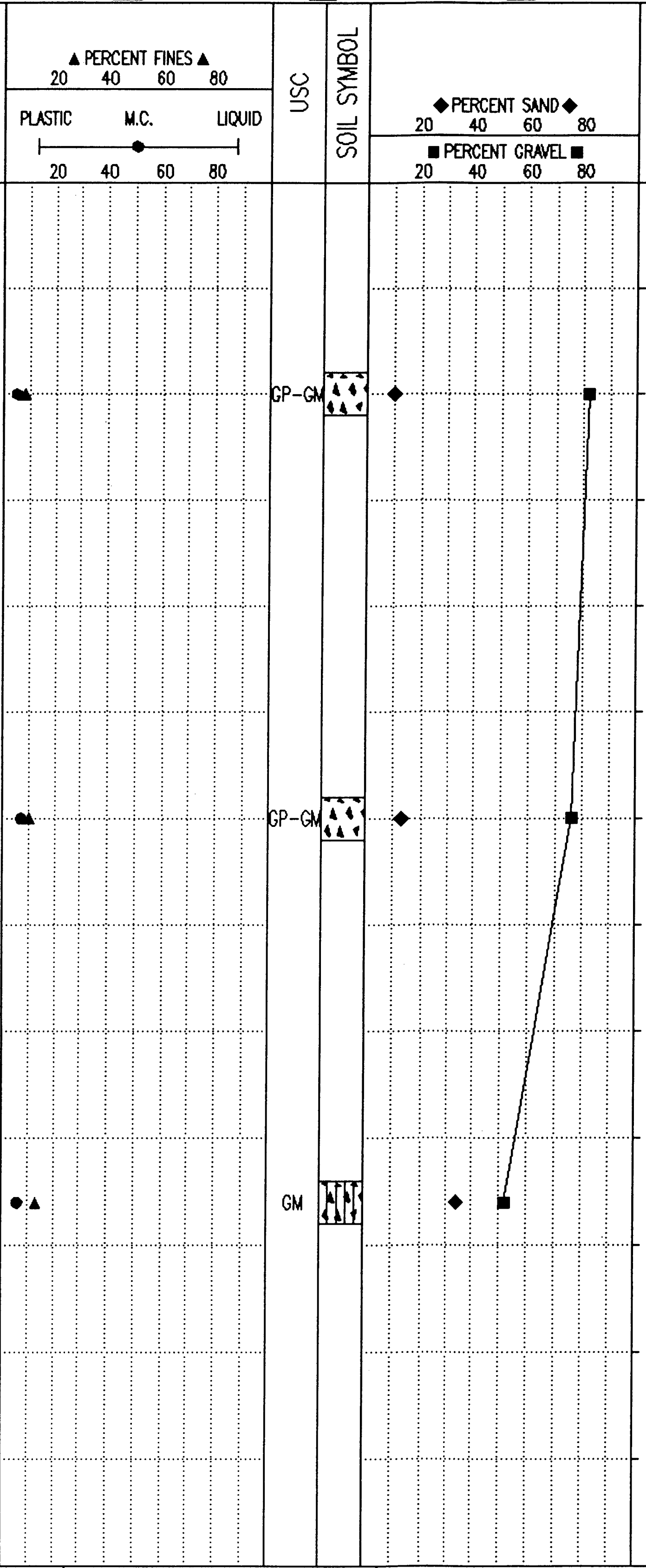
	REVIEWED BY:	COMPLETE: 93/09/11
	Fig. No:	Page 1 of 1

93/11/05 12:07PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-53
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1894+300 o/s 5m Rt.	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 MATERIAL				
	POORLY GRADED GRAVEL WITH SILT (GP-GM) -grindy drilling				
1.0	-smooth drilling below 1.0m	☒	124	GP-GM	
3.0		☒	125	GP-GM	
4.0	SILTY GRAVEL WITH SAND (GM) -smooth drilling				
		☒	126	GM	
5.0	END HOLE at 5.0m				
6.0					



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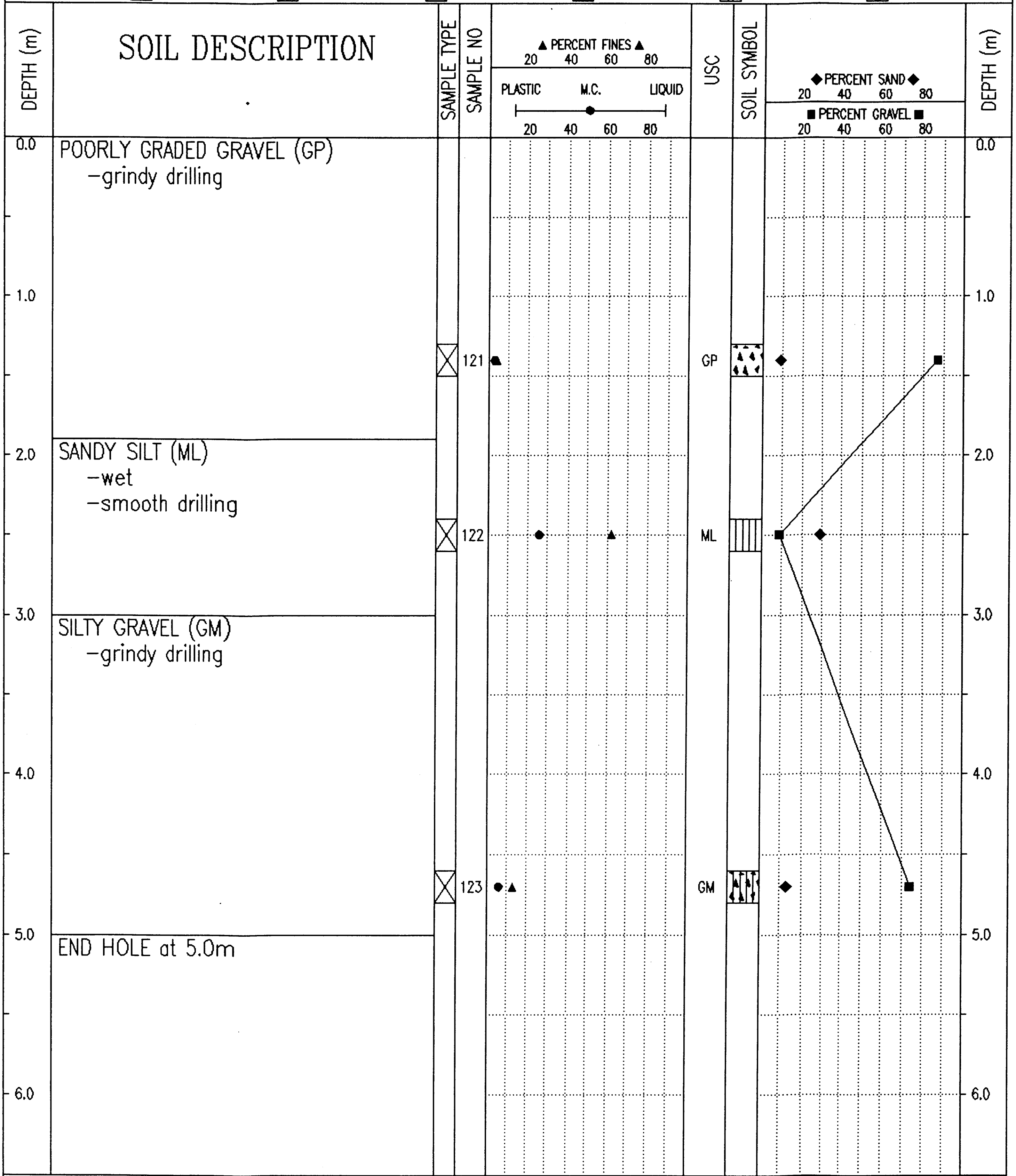
	REVIEWED BY:	COMPLETE: 93/09/11
	Fig. No:	Page 1 of 1

93/11/05 12:06PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-52
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1894+400 o/s 6m Lt.	ELEVATION: 0.00 (m)

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



SOIL DESCRIPTION

DEPTH (m)	SOIL DESCRIPTION
0.0	POORLY GRADED GRAVEL (GP) -grindy drilling
1.9	SANDY SILT (ML) -wet -smooth drilling
3.0	SILTY GRAVEL (GM) -grindy drilling
5.0	END HOLE at 5.0m

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LOGGED BY: TF	COMPLETION DEPTH: 5.0 m
REVIEWED BY:	COMPLETE: 93/09/11
Fig. No:	Page 1 of 1

93/11/05 12:04PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-51
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1894+500	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 MATERIAL							0.0
	SILTY SANDY GRAVEL -some boulders -grindy drilling							
1.0								1.0
2.0	END HOLE at 2.0m -refusal							2.0
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0

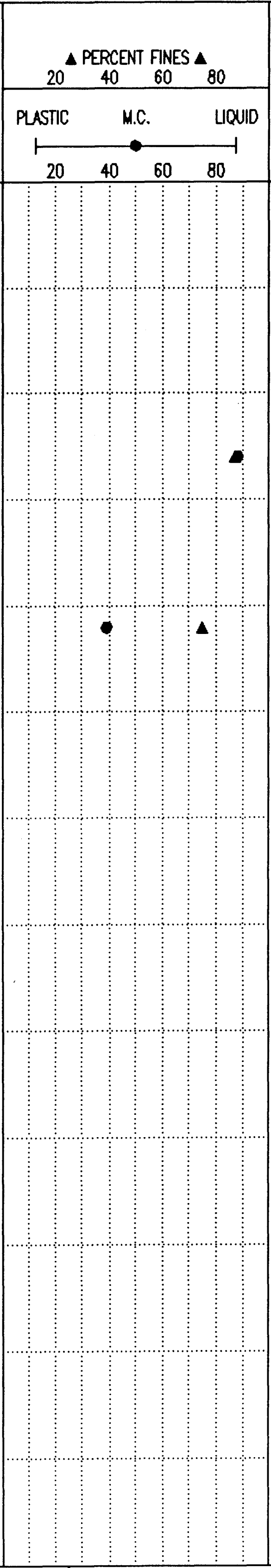
Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 2.0 m
	REVIEWED BY:	COMPLETE: 93/09/11
	Fig. No:	Page 1 of 1

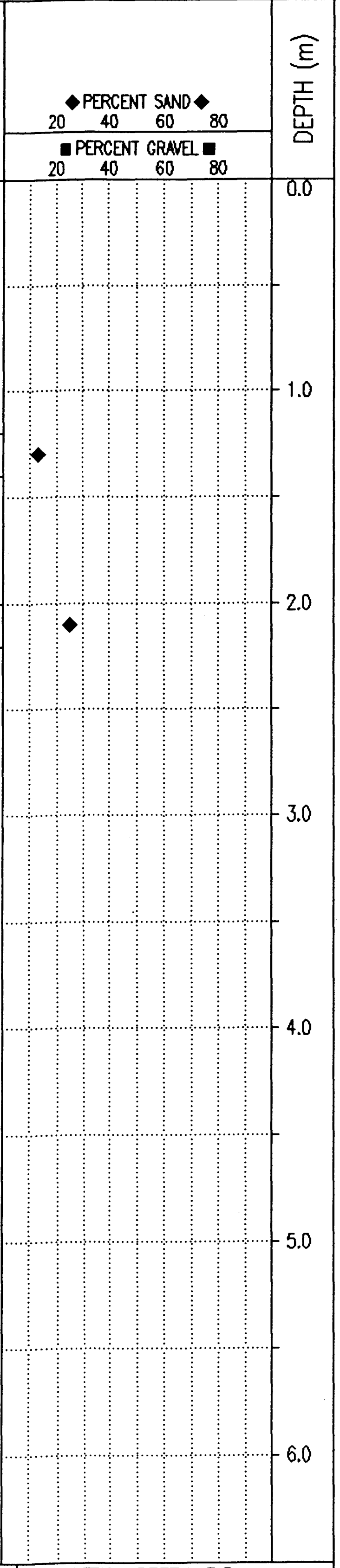
93/11/05 12:03PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-50
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1894+600	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 MATERIAL				
	SILT				
	ORGANIC MATERIAL -frozen -smooth drilling				
1.0	SILT (ML) -organic -frozen	☒	119	ML	▥
	SILT WITH SAND (ML) -organic -frozen	☒	120	ML	▥
2.0	SILTY GRAVEL -grindy drilling				
3.0					
	END HOLE at 3.8m -refusal				
4.0					
5.0					
6.0					





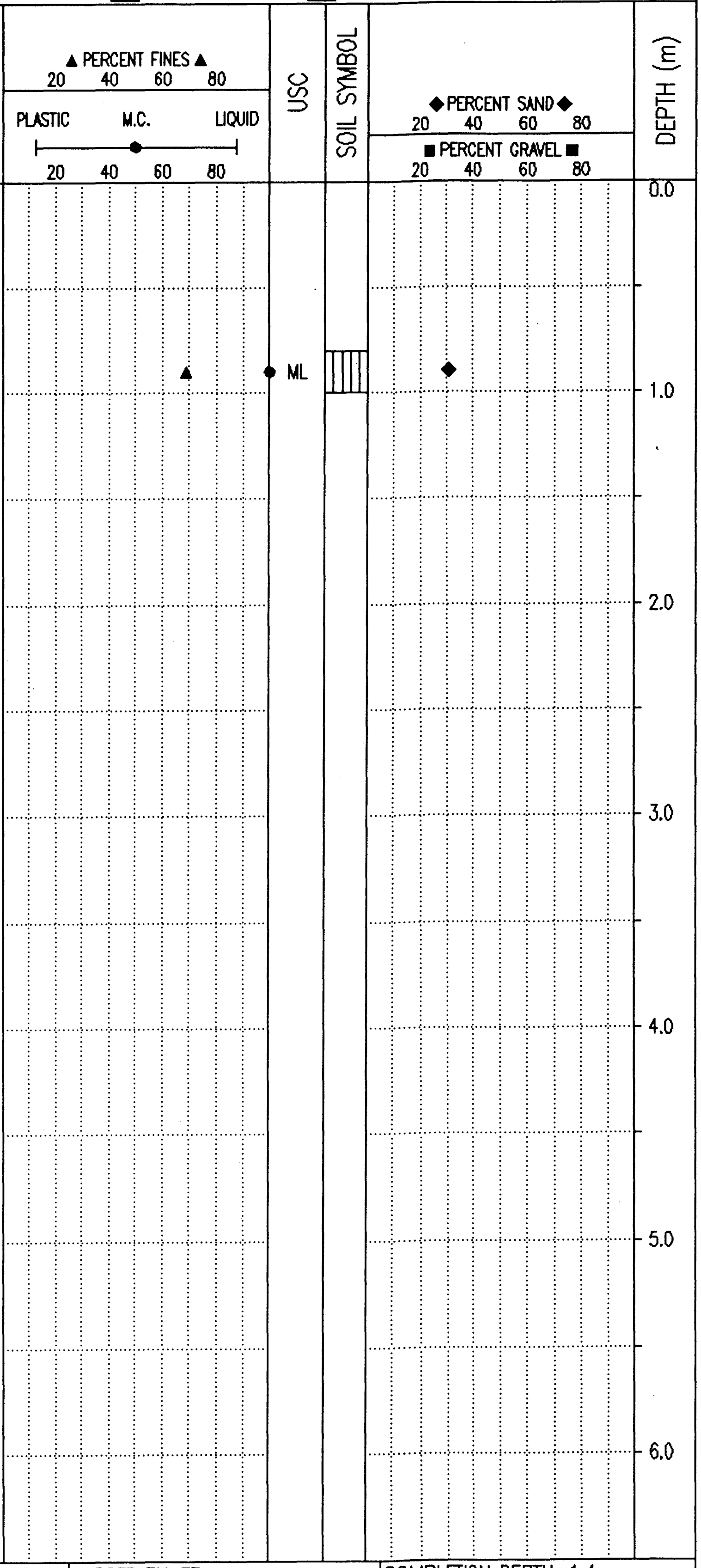
Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 3.8 m
	REVIEWED BY:	COMPLETE: 93/09/11
	Fig. No:	Page 1 of 1

93/11/05 12:01PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-49
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1894+700	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	SANDY SILT (ML) –organic –wet to saturated –frozen with visible ice below 0.7m –grindy drilling below 1.1m	☒	118	ML
1.4	END HOLE at 1.4m –refusal			

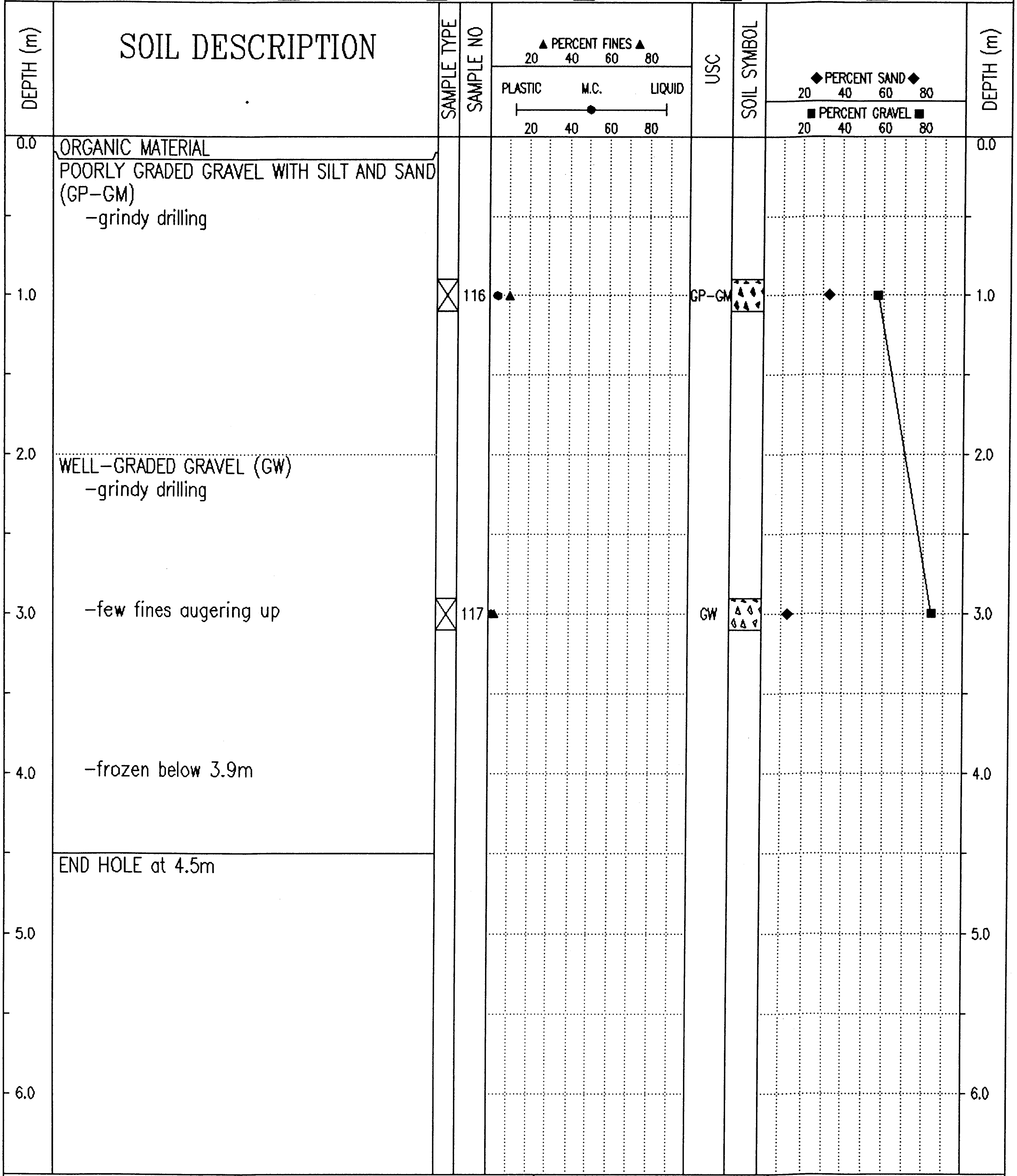


Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 1.4 m
	REVIEWED BY:	COMPLETE: 93/09/10
	Fig. No:	Page 1 of 1

93/11/05 12:00PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-48
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1894+800	ELEVATION: 0.00 (m)

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



Depth (m)	Soil Description	Sample Type	Sample No	USC
0.0	ORGANIC MATERIAL			
	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -grindy drilling			
1.0		☒	116	GP-GM
2.0	WELL-GRADED GRAVEL (GW) -grindy drilling			
3.0	-few fines augering up	☒	117	GW
4.0	-frozen below 3.9m			
4.5	END HOLE at 4.5m			

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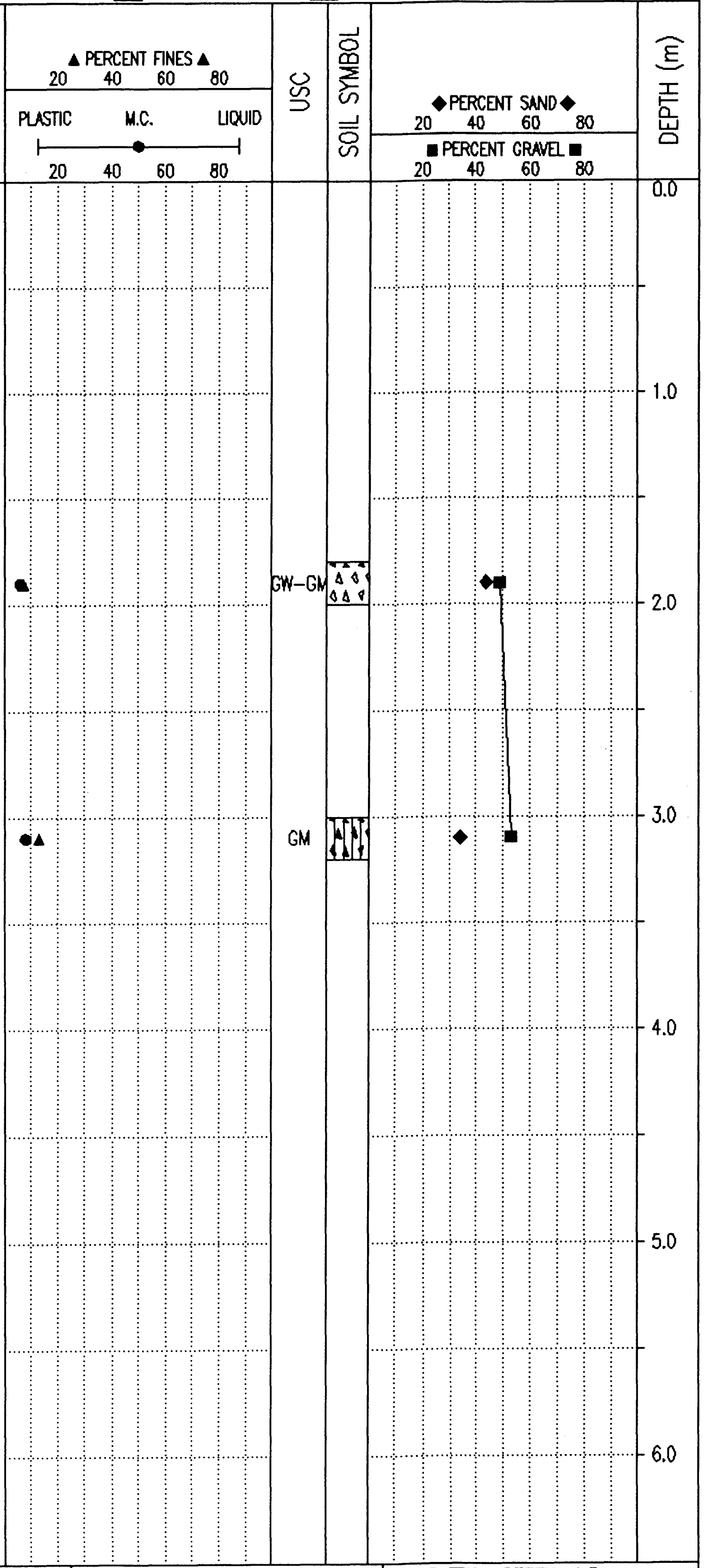
LOGGED BY: TF	COMPLETION DEPTH: 4.5 m
REVIEWED BY:	COMPLETE: 93/09/10
Fig. No:	Page 1 of 1

93/11/05 03:25PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-47
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1894+900	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL –frozen with visible ice –first refusal at 0.8m, boulder			
1.2	WELL–GRADED GRAVEL WITH SILT AND SAND (GW–GM) –frozen –hard grindy drilling	☒	114	GW–GM
2.5	SILTY GRAVEL WITH SAND (GM) –frozen –hard grindy drilling	☒	115	GM
4.5	END HOLE at 4.5m –refusal			

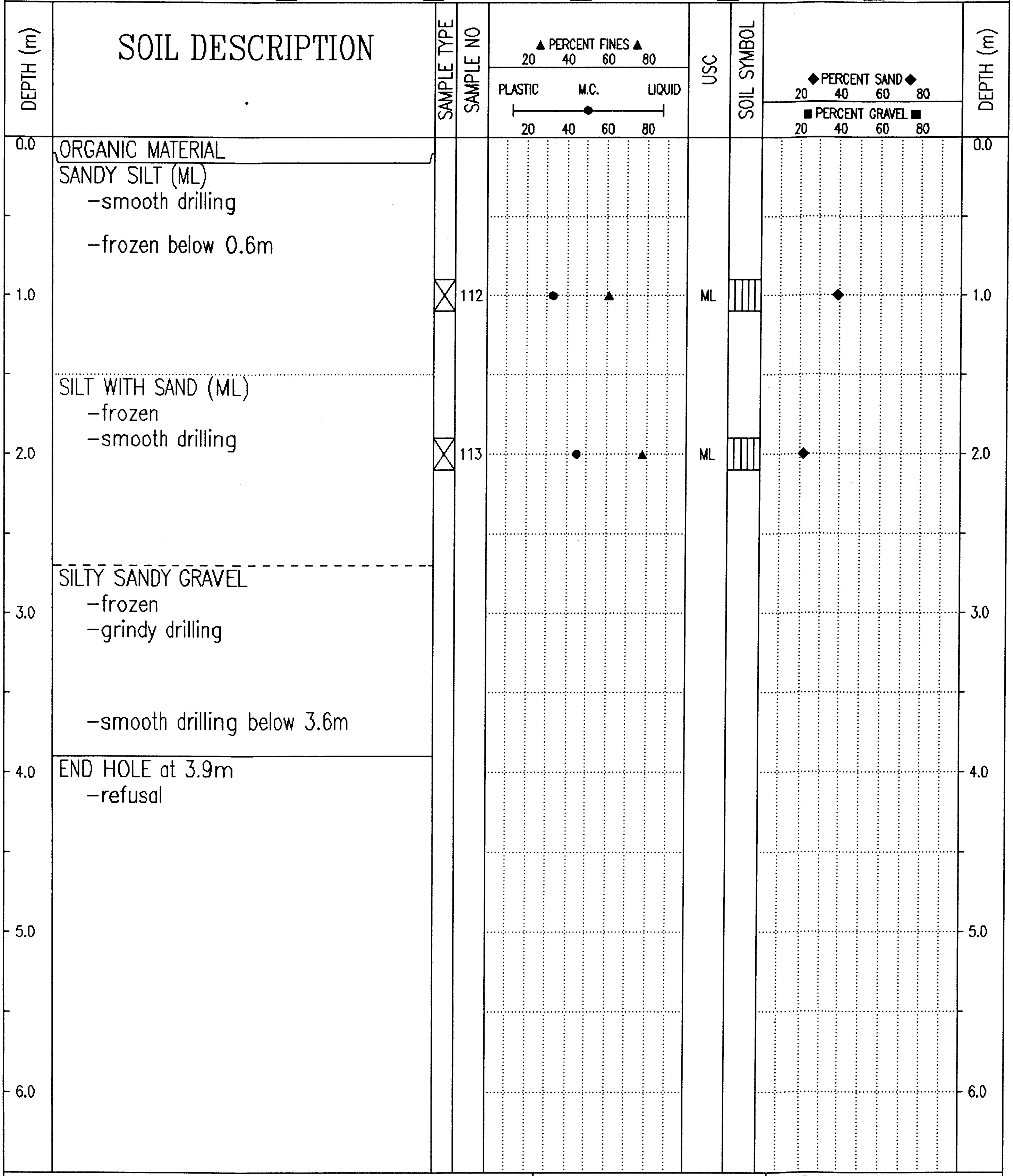


Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 93/09/10
	Fig. No:	Page 1 of 1

93/11/05 11:57AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-46
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1895+000	ELEVATION: 0.00 (m)

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



DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
	SANDY SILT (ML) -smooth drilling -frozen below 0.6m			
1.0		☒	112	ML
	SILT WITH SAND (ML) -frozen -smooth drilling			
2.0		☒	113	ML
	SILTY SANDY GRAVEL -frozen -grindy drilling -smooth drilling below 3.6m			
4.0	END HOLE at 3.9m -refusal			

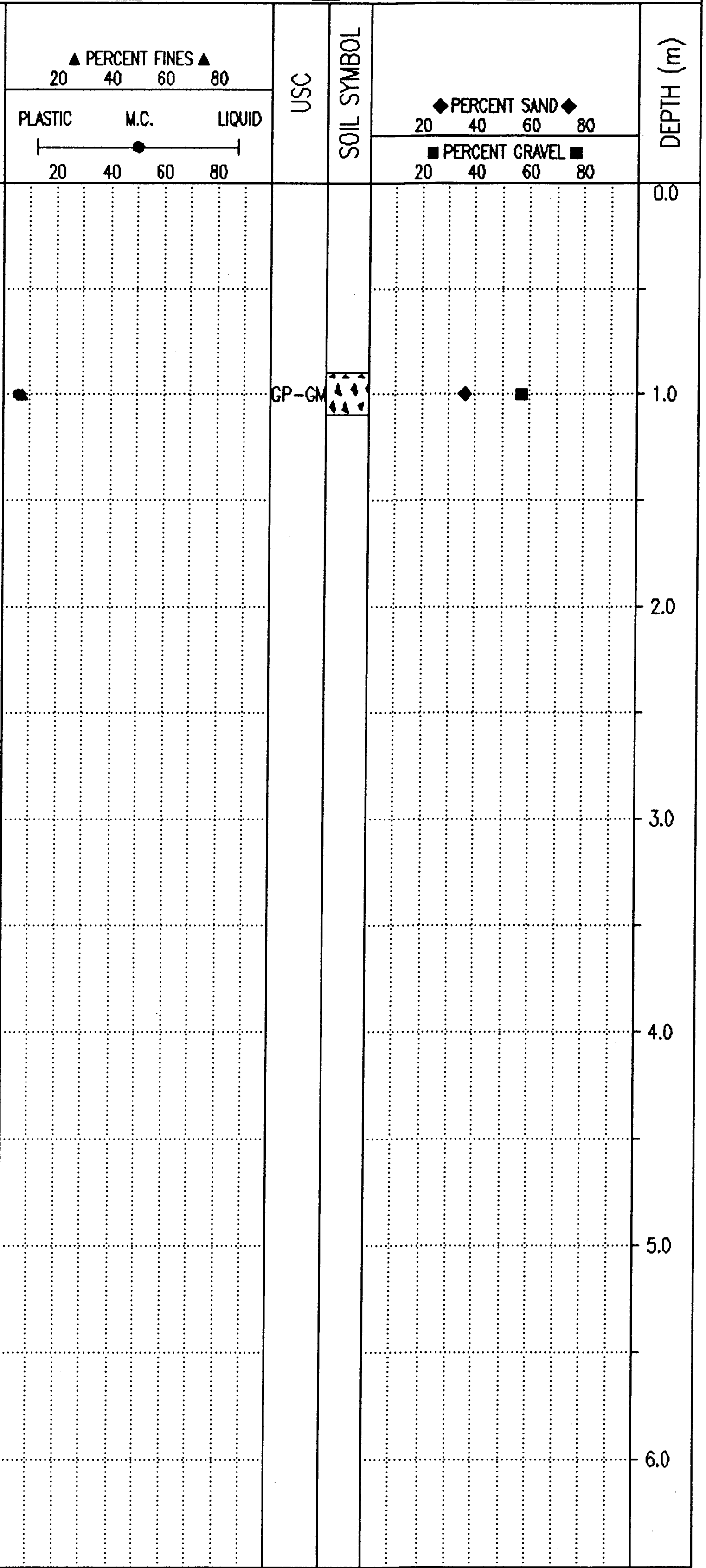
Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 3.9 m
	REVIEWED BY:	COMPLETE: 93/09/10
	Fig. No:	Page 1 of 1

93/11/05 11:56AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-45
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1895+100 o/s 4m Rt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
	GRAVELLY SAND –easy drilling			
1.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP–GM) –boulders –grindy drilling –first refusal at 1.3m –few fines augering up	☒	111	GP–GM
3.0	END HOLE at 3.1m –refusal			



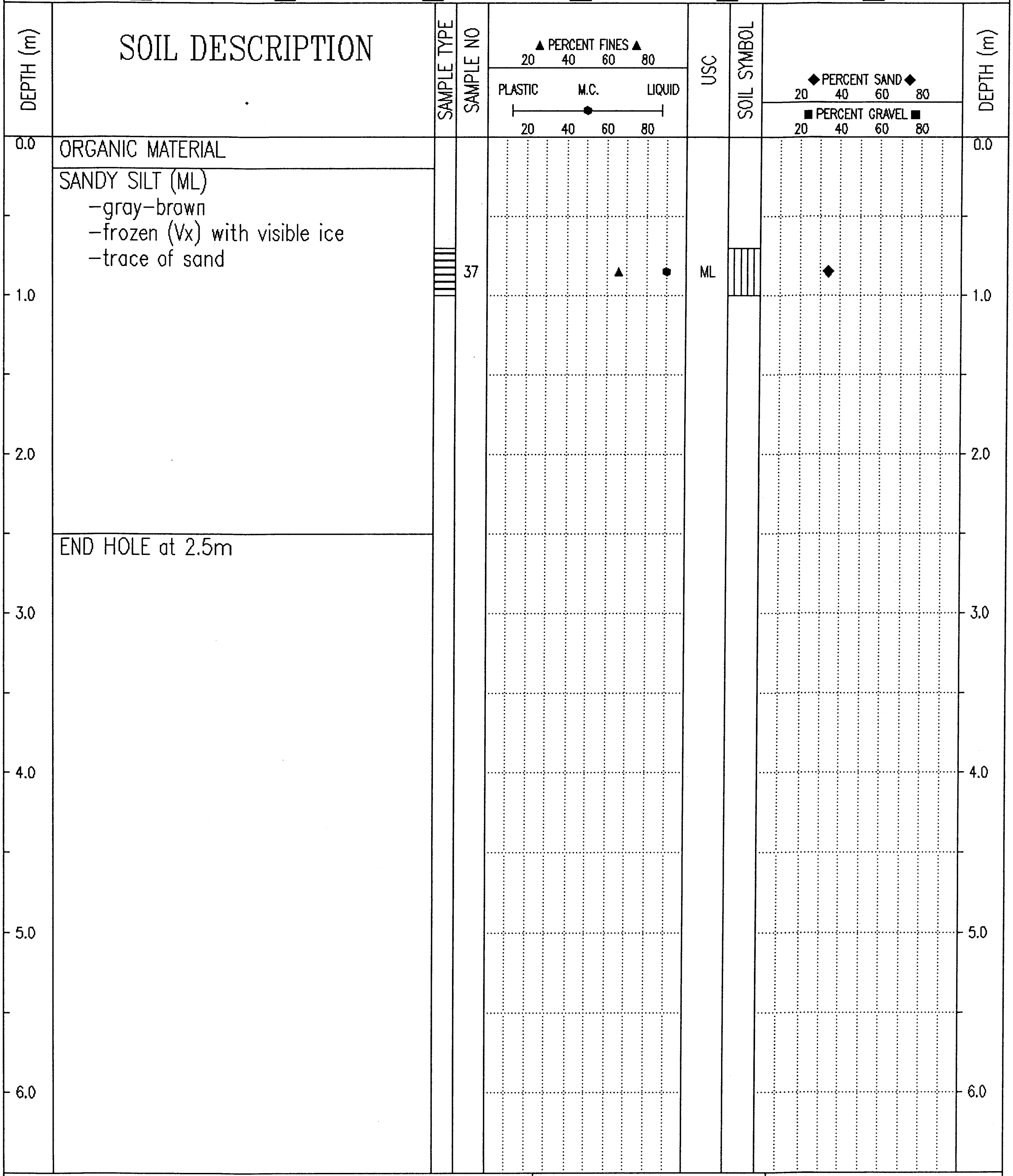
Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 3.1 m
	REVIEWED BY:	COMPLETE: 93/09/10
	Fig. No:	Page 1 of 1

93/11/05 03:24PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY GRANULAR INVESTIGATION	TEST PIT NO: 274-31
SHAKWAK PROJECT	SEGMENT 16	Project No: 092-202101-0312
BACKHOE: CAT 235	LOCATION: Sta. 1895+225	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⧄ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◨ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
	SANDY SILT (ML) –gray–brown –frozen (Vx) with visible ice –trace of sand	☰	37	ML
2.5	END HOLE at 2.5m			

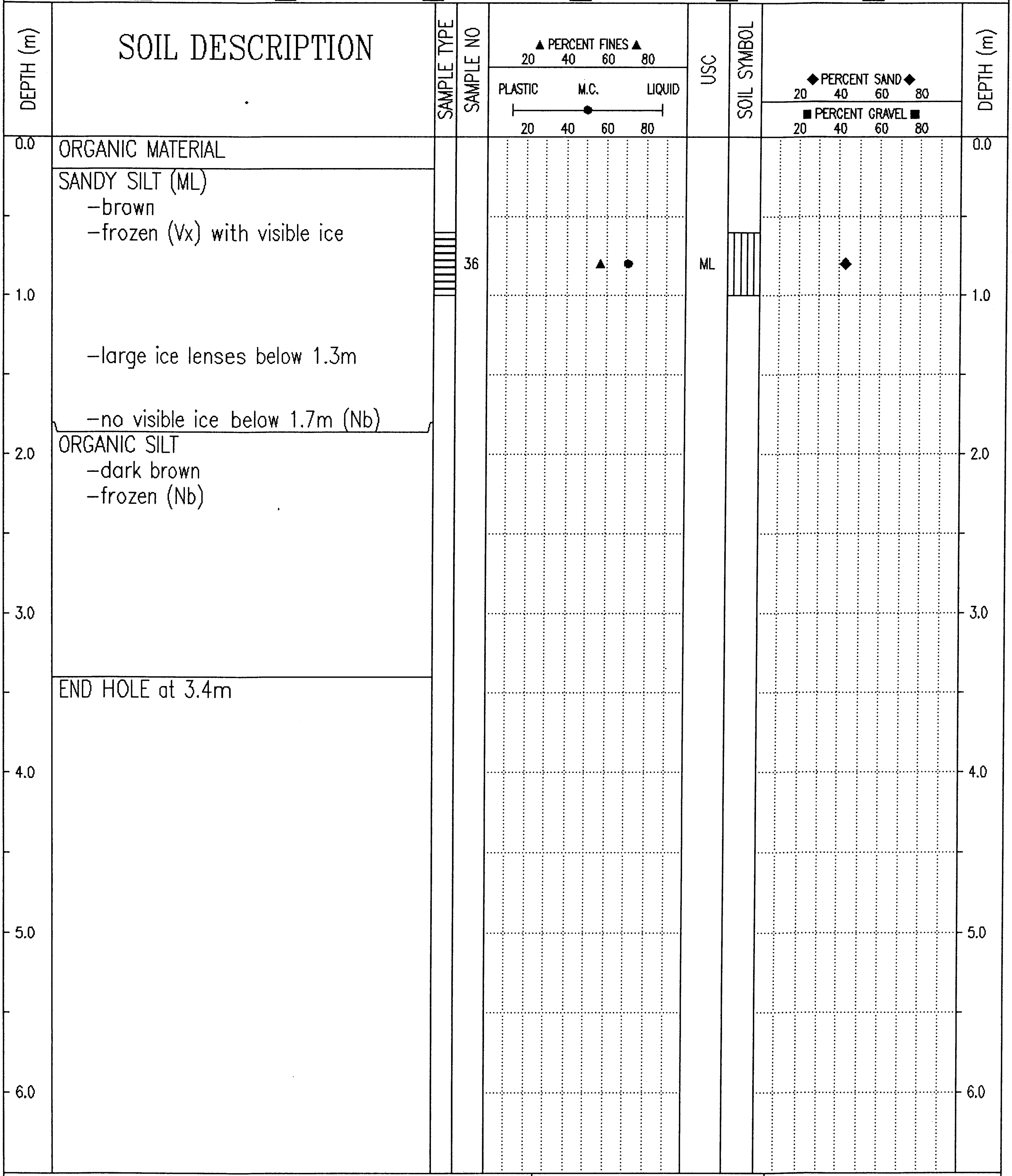


Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 2.5 m
	REVIEWED BY:	COMPLETE: 93/11/11
	Fig. No:	Page 1 of 1

93/11/24 12:25PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY GRANULAR INVESTIGATION	TEST PIT NO: 274-30
SHAKWAK PROJECT	SEGMENT 16	Project No: 092-202101-0312
BACKHOE: CAT 235	LOCATION: Sta. 1895+350	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◸ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◨ CORE



SOIL DESCRIPTION

0.0 ORGANIC MATERIAL

SANDY SILT (ML)
-brown
-frozen (Vx) with visible ice

-large ice lenses below 1.3m

-no visible ice below 1.7m (Nb)

ORGANIC SILT
-dark brown
-frozen (Nb)

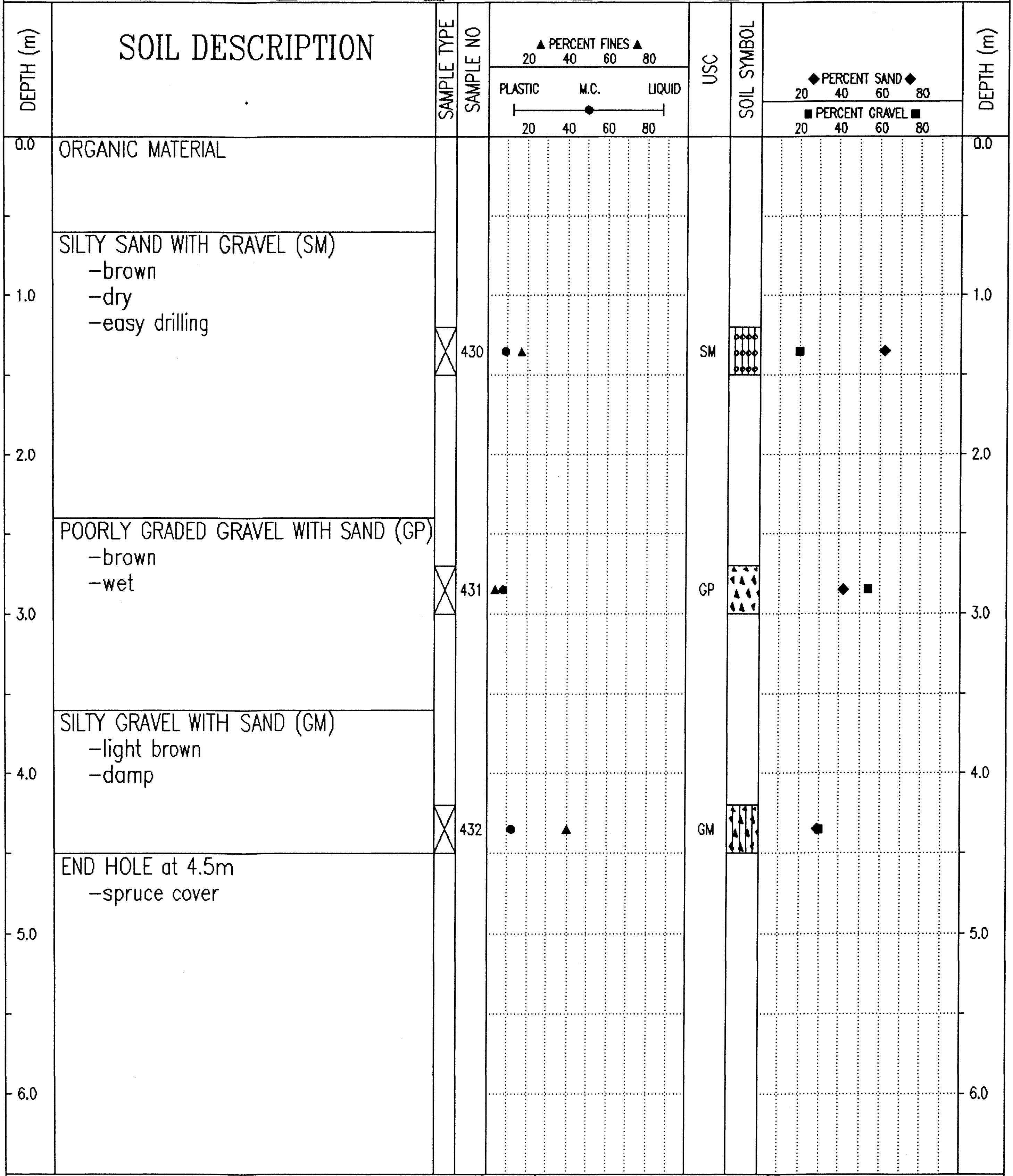
END HOLE at 3.4m

Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 3.4 m
	REVIEWED BY:	COMPLETE: 93/11/11
	Fig. No:	Page 1 of 1

93/11/24 02:02PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 207-183
CLIENT: SHAKWAK PROJECT	A/H KM 1895-1916	Project No: SEGMENT 16
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1895+500	ELEVATION: 0.00 (m)

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



ORGANIC MATERIAL

SILTY SAND WITH GRAVEL (SM)
-brown
-dry
-easy drilling

POORLY GRADED GRAVEL WITH SAND (GP)
-brown
-wet

SILTY GRAVEL WITH SAND (GM)
-light brown
-damp

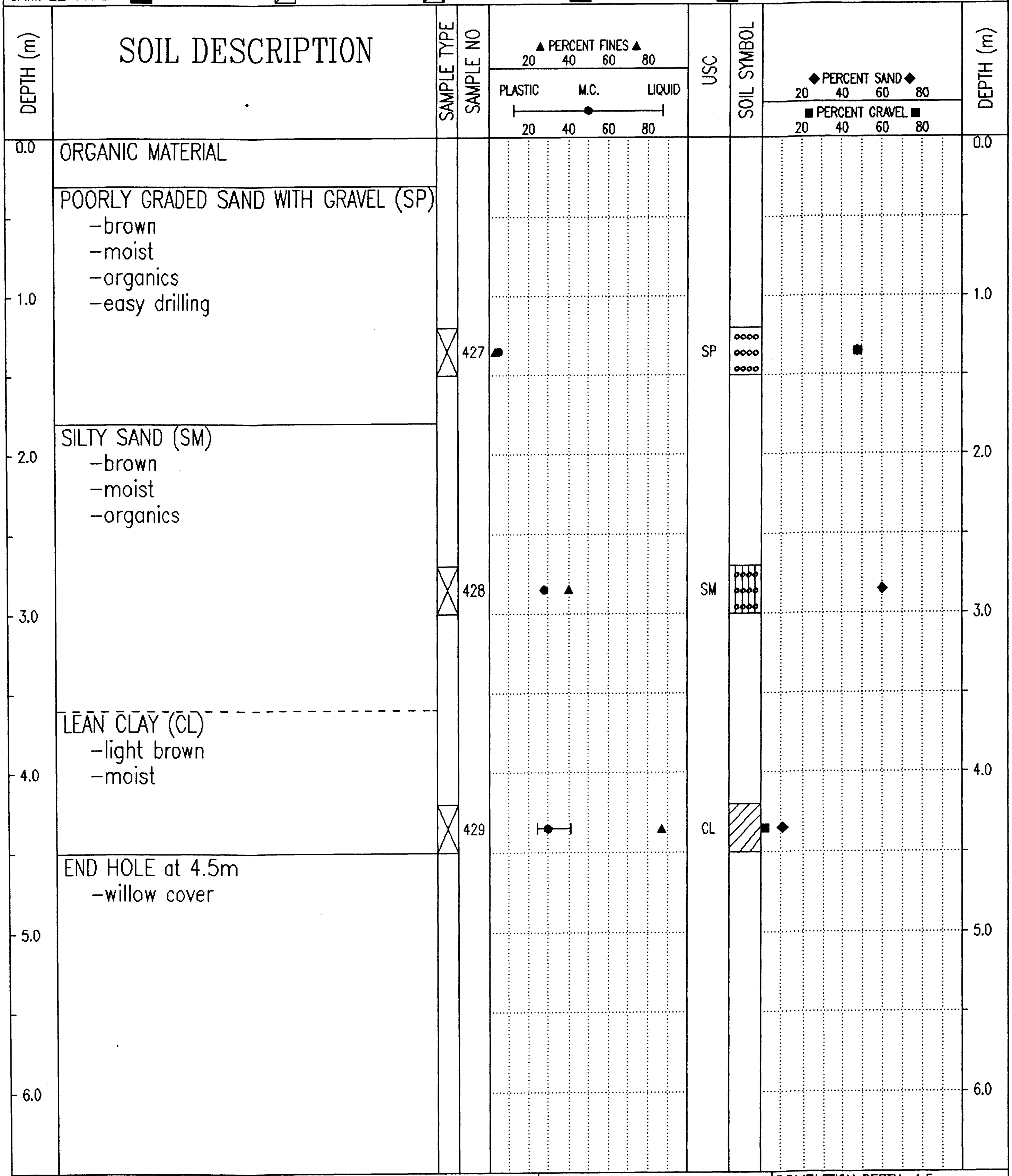
END HOLE at 4.5m
-spruce cover

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/21
	Fig. No:	Page 1 of 1

93/11/15 02:03PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 207-182
CLIENT: SHAKWAK PROJECT	A/H KM 1895-1916	Project No: SEGMENT 16
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1895+650	ELEVATION: 0.00 (m)

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



SOIL DESCRIPTION

ORGANIC MATERIAL

POORLY GRADED SAND WITH GRAVEL (SP)
- brown
- moist
- organics
- easy drilling

SILTY SAND (SM)
- brown
- moist
- organics

LEAN CLAY (CL)
- light brown
- moist

END HOLE at 4.5m
- willow cover

SAMPLE TYPE	SAMPLE NO	USC
☒	427	SP
☒	428	SM
☒	429	CL

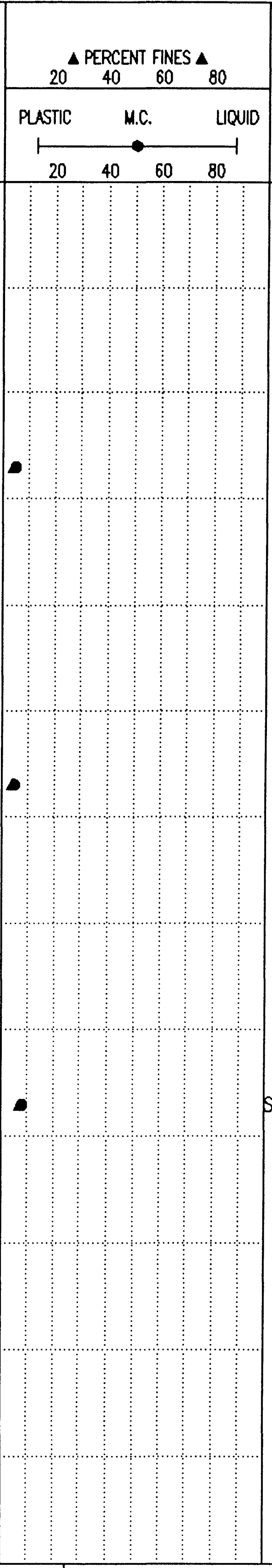
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/21
	Fig. No:	Page 1 of 1

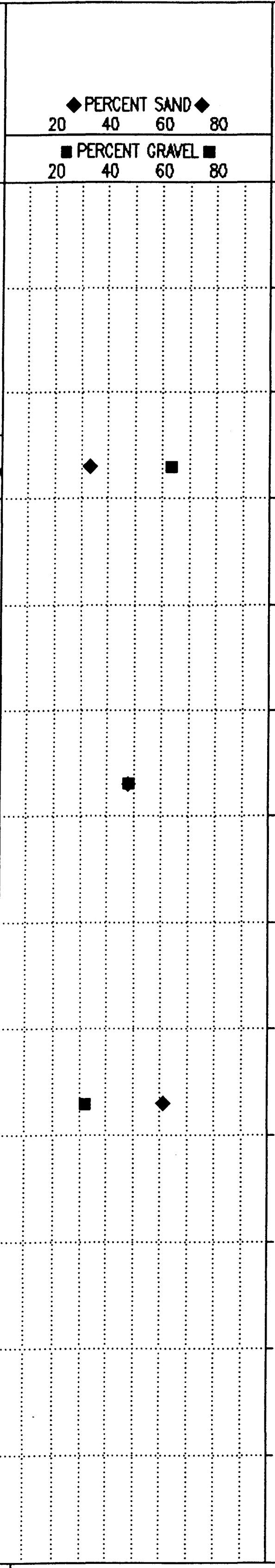
93/11/15 02:01PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-169
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1895+750	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 MATERIAL					0.0
	POORLY GRADED GRAVEL WITH SAND (GP) -brown -moist -hard drilling					
1.0						1.0
		☒	393	GP		
2.0	POORLY GRADED SAND WITH GRAVEL (SP) -brown -wet					2.0
		☒	394	SP		
3.0						3.0
	WELL-GRADED SAND WITH SILT AND GRAVEL (SP-SM) -brown -wet					
4.0						4.0
		☒	395	SW-SM		
	END HOLE at 4.5m -willow and spruce cover					
5.0						5.0
6.0						6.0



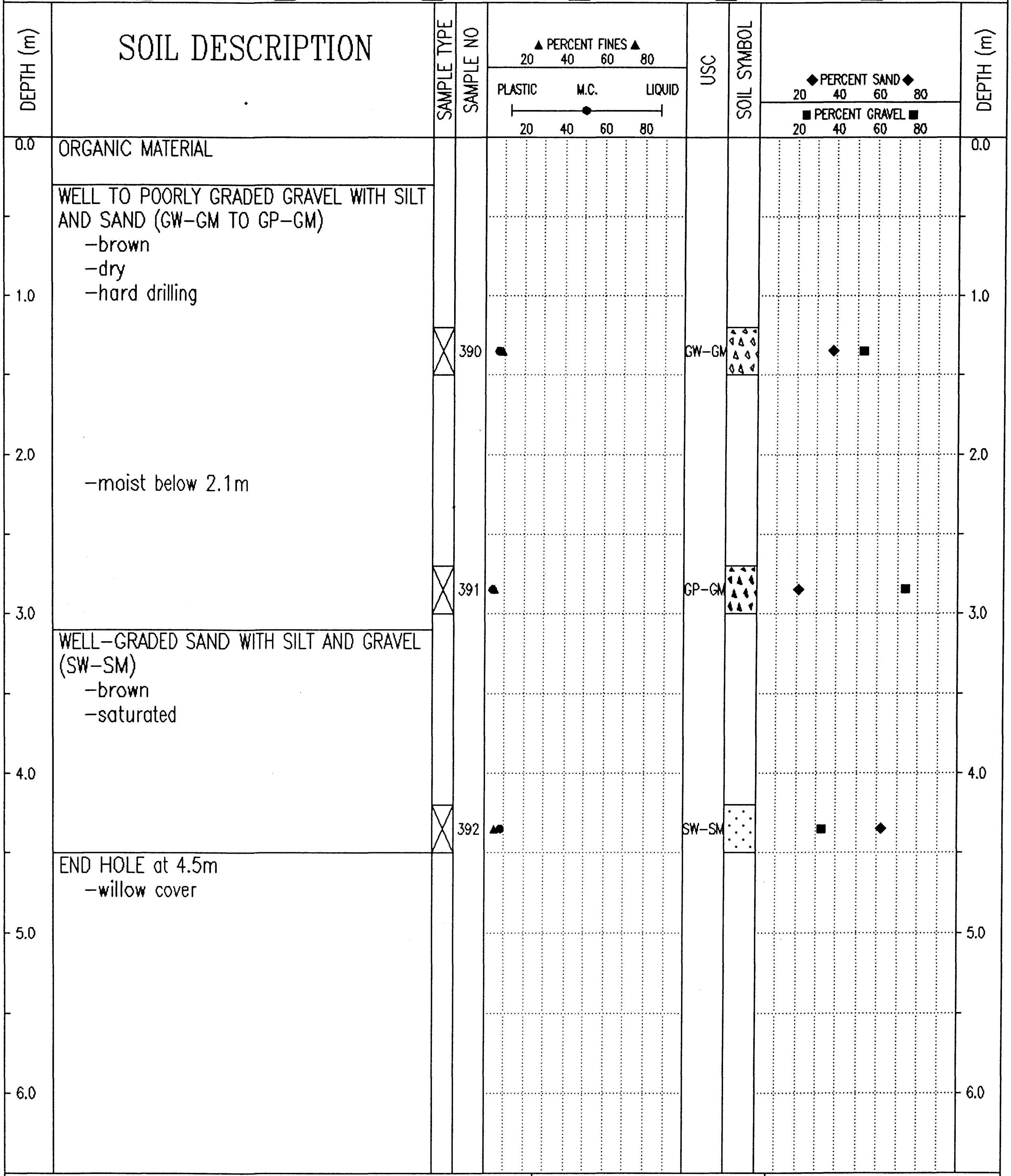


Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/19
	Fig. No:	Page 1 of 1

93/11/15 01:04PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-168
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1895+850	ELEVATION: 0.00 (m)

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



ORGANIC MATERIAL

WELL TO POORLY GRADED GRAVEL WITH SILT AND SAND (GW-GM TO GP-GM)
- brown
- dry
- hard drilling
- moist below 2.1m

WELL-GRADED SAND WITH SILT AND GRAVEL (SW-SM)
- brown
- saturated

END HOLE at 4.5m
- willow cover

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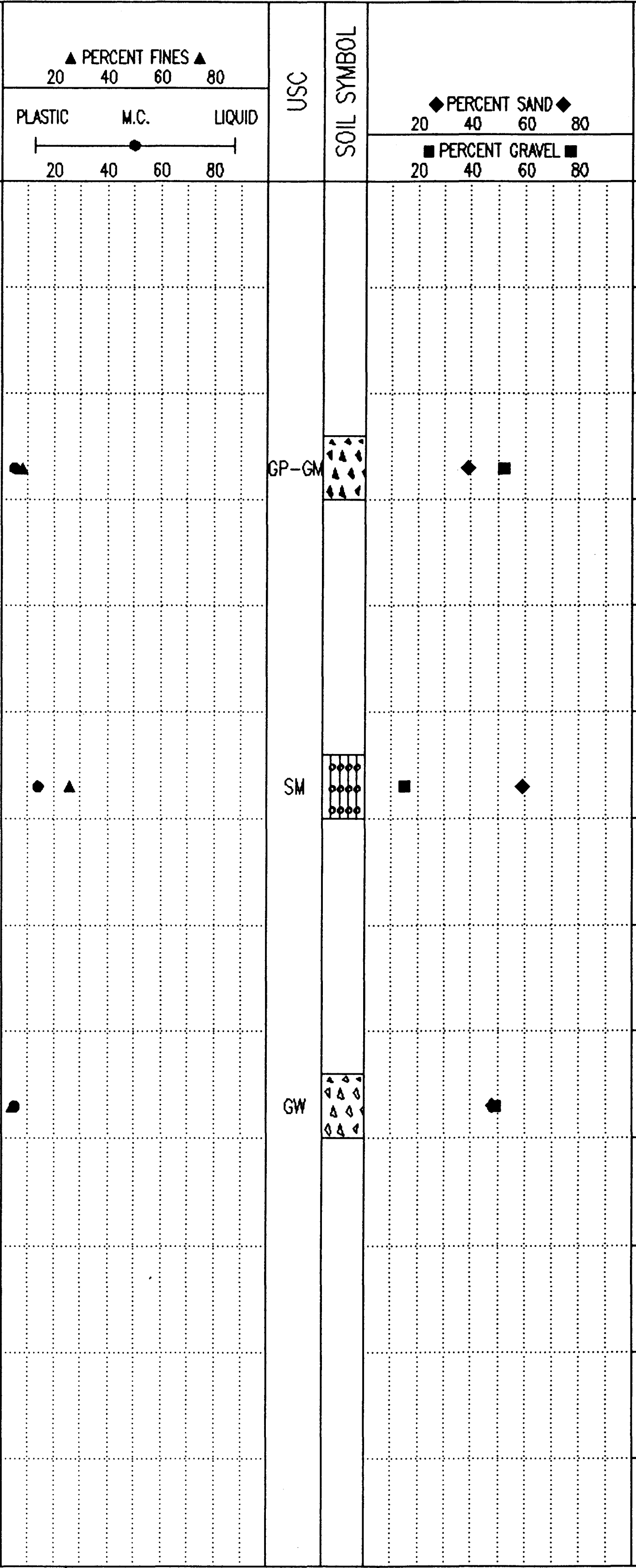
Transportation Engineering	REVIEWED BY:	COMPLETE: 92/08/19
	Fig. No:	Page 1 of 1

93/11/15 01:02PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-167
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1895+950	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
0.5	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -dry			
1.35		☒ AUGER	387	GP-GM
2.0	SILTY SAND WITH GRAVEL (SM) -brown -wet			
2.85		☒ AUGER	388	SM
3.3	WELL-GRADED GRAVEL WITH SAND (GW) -brown -saturated -hard drilling			
4.35		☒ AUGER	389	GW
4.5	END HOLE at 4.5m -willow cover			

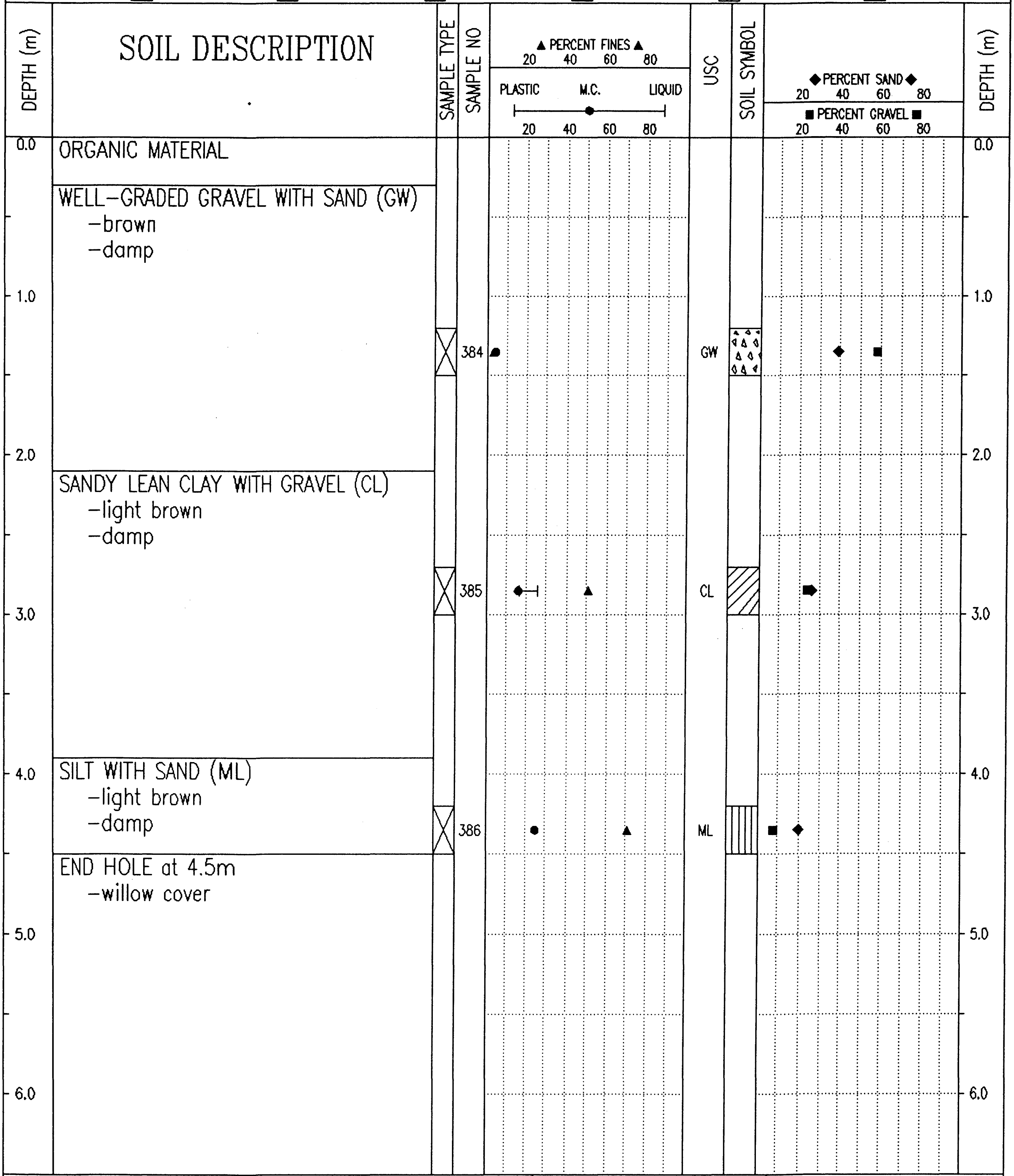


Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/19
	Fig. No:	Page 1 of 1

93/11/15 01:01PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-166
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1896+050 o/s 5m Lt.	ELEVATION: 0.00 (m)

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



DEPTH (m)	SOIL DESCRIPTION	SAMPLE NO	USC
0.0	ORGANIC MATERIAL		
	WELL-GRADED GRAVEL WITH SAND (GW) -brown -damp	384	GW
	SANDY LEAN CLAY WITH GRAVEL (CL) -light brown -damp	385	CL
	SILT WITH SAND (ML) -light brown -damp	386	ML
	END HOLE at 4.5m -willow cover		

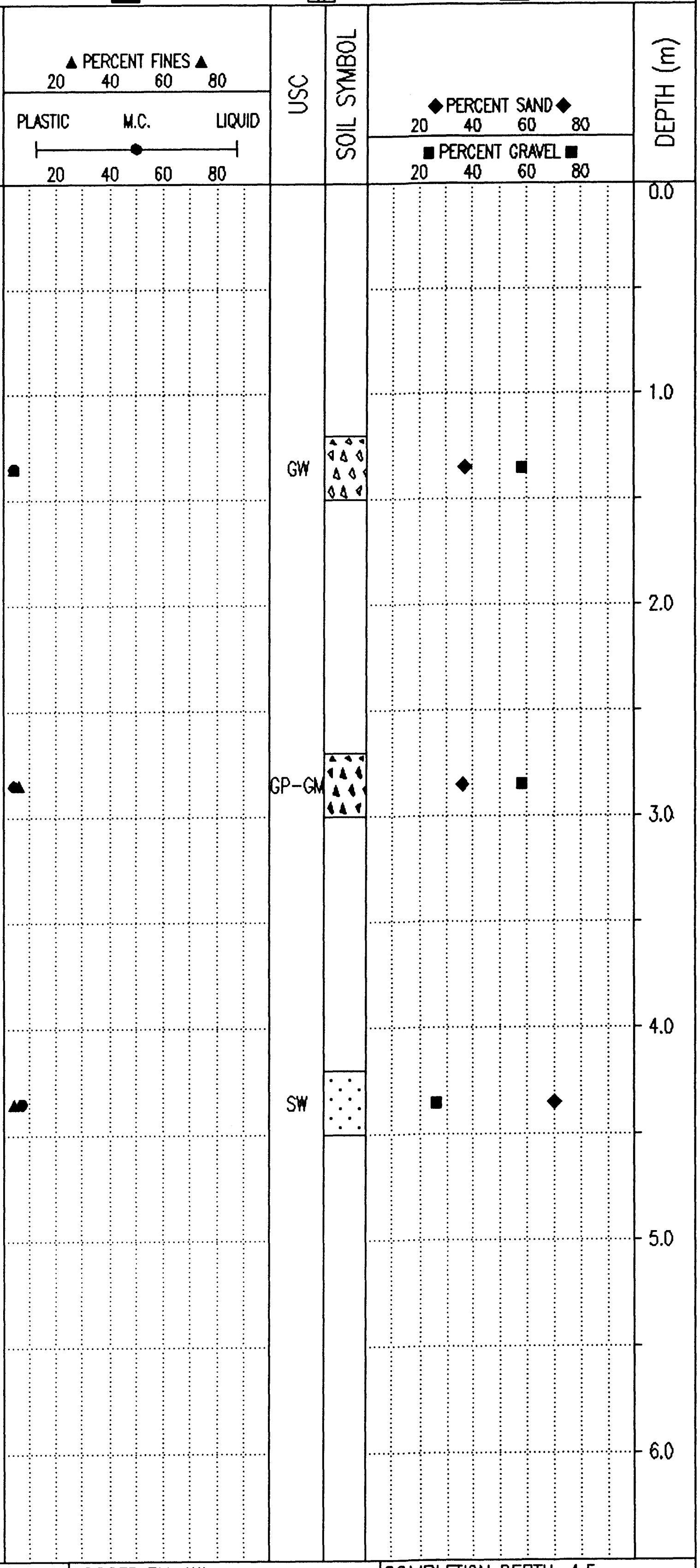
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/19
	Fig. No:	Page 1 of 1

93/11/15 12:59PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-165
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1896+150 o/s 5m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ⊟ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO
0.0	ROAD FILL AND ORGANIC MATERIAL		
	WELL-GRADED GRAVEL WITH SAND (GW) -brown -moist		
1.0			
		☒	380
2.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -moist		
		☒	381
3.0			
	WELL-GRADED SAND WITH GRAVEL (SW) -brown -wet		
4.0			
		☒	382
	END HOLE at 4.5m -in ditch		
5.0			
6.0			



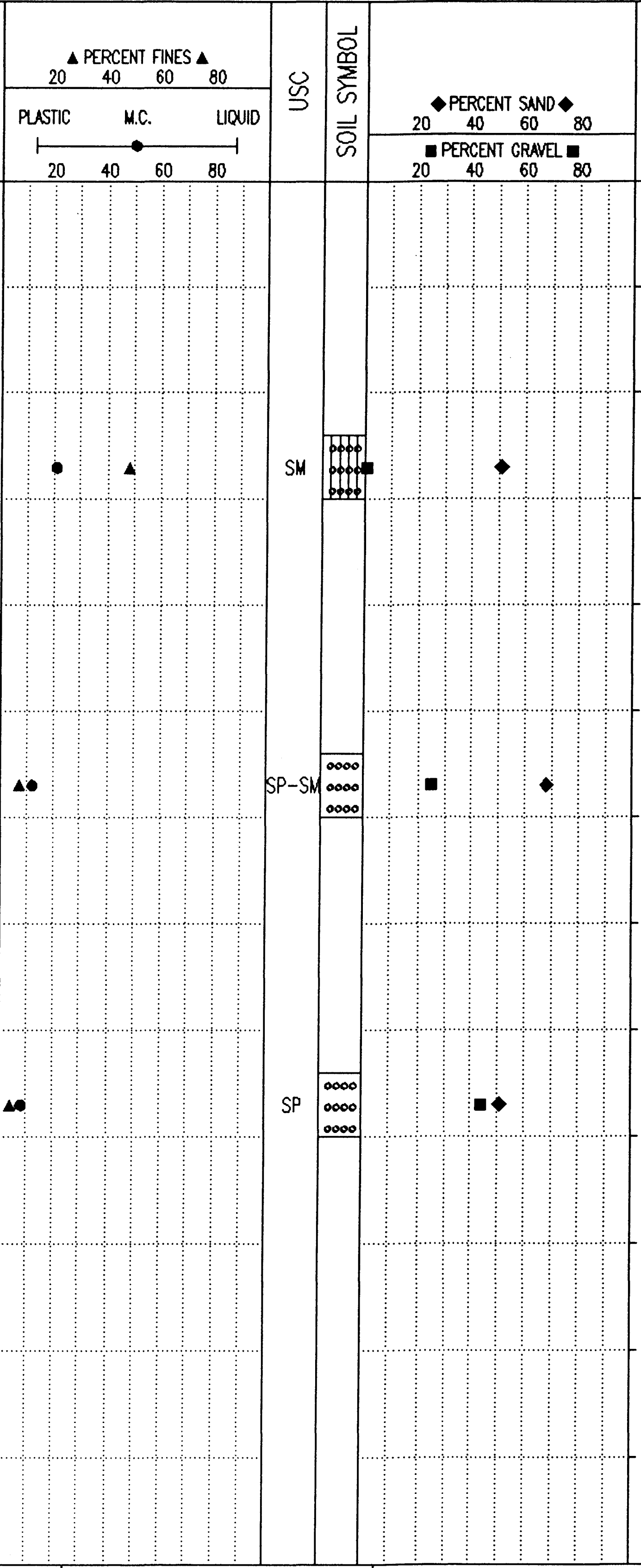
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/19
	Fig. No:	Page 1 of 1

93/11/15 12:58PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-164
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1896+250	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ROAD FILL AND ORGANIC MATERIAL			
1.0	SILTY SAND (SM) -brown -moist	☒	377	SM
2.4	POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM) -brown -wet	☒	378	SP-SM
3.3	POORLY GRADED SAND WITH GRAVEL (SP) -brown -saturated	☒	379	SP
4.5	END HOLE at 4.5m -in ditch			



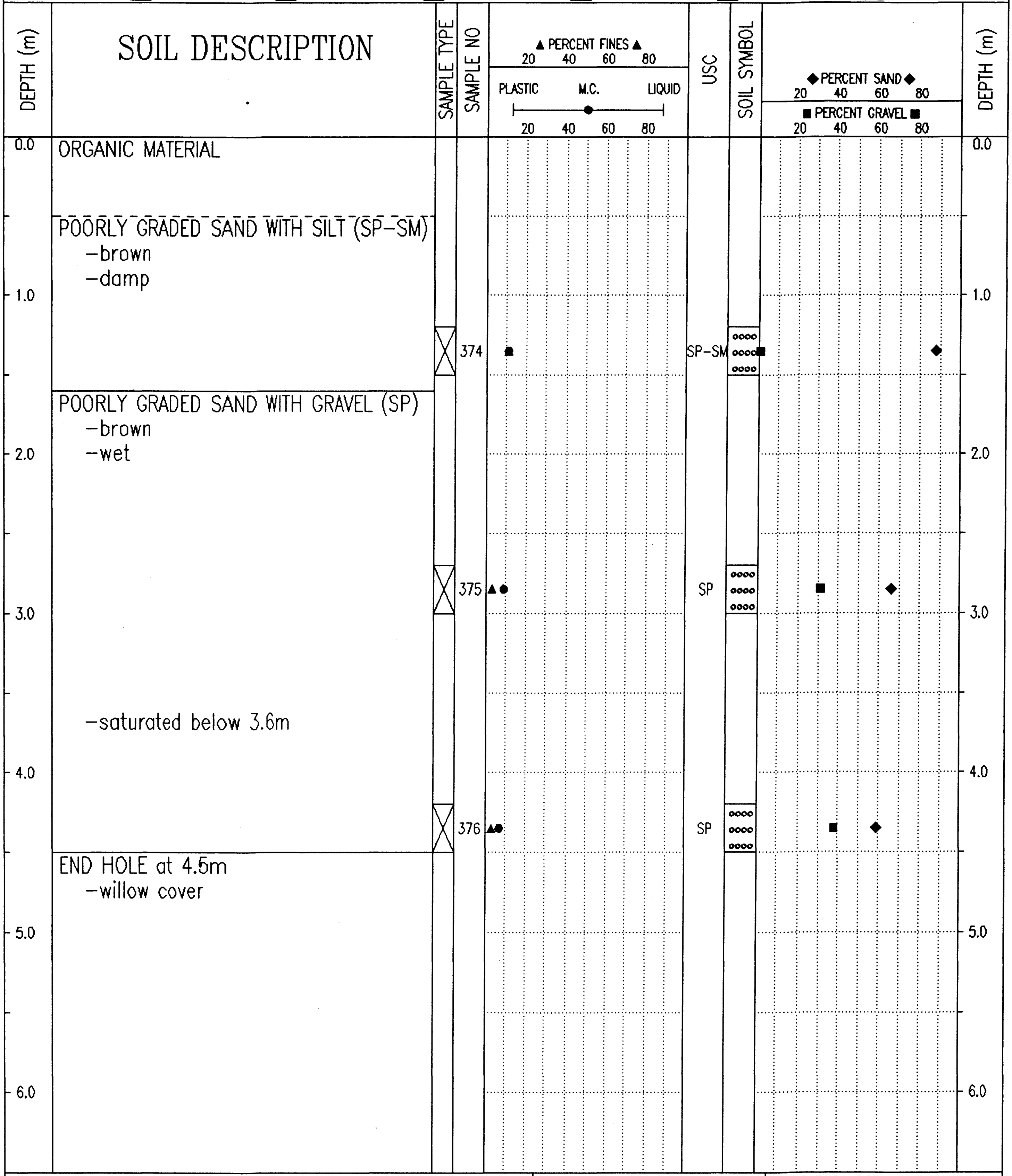
Government of Yukon
Transportation Engineering

LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
REVIEWED BY:	COMPLETE: 92/08/19
Fig. No:	Page 1 of 1

93/11/15 12:56PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-163
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1896+350	ELEVATION: 0.00 (m)

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



SOIL DESCRIPTION

ORGANIC MATERIAL

POORLY GRADED SAND WITH SILT (SP-SM)
-brown
-damp

POORLY GRADED SAND WITH GRAVEL (SP)
-brown
-wet

-saturated below 3.6m

END HOLE at 4.5m
-willow cover

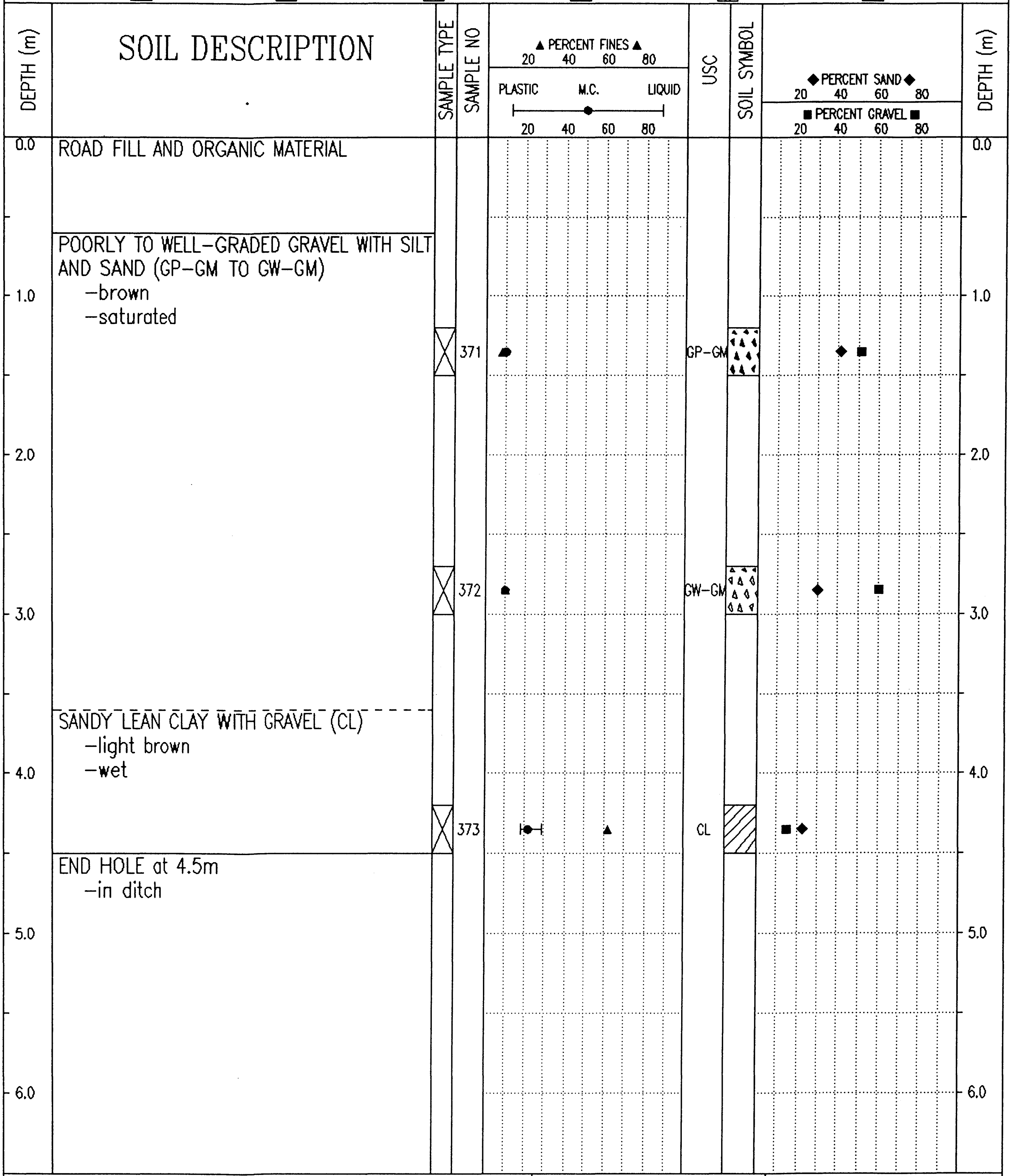
SAMPLE NO	USC
374	SP-SM
375	SP
376	SP

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/19
	Fig. No:	Page 1 of 1

93/11/15 12:54PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-162
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1896+450 o/s 6m Rt.	ELEVATION: 0.00 (m)

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



SOIL DESCRIPTION

ROAD FILL AND ORGANIC MATERIAL

POORLY TO WELL-GRADED GRAVEL WITH SILT AND SAND (GP-GM TO GW-GM)
-brown
-saturated

SANDY LEAN CLAY WITH GRAVEL (CL)
-light brown
-wet

END HOLE at 4.5m
-in ditch

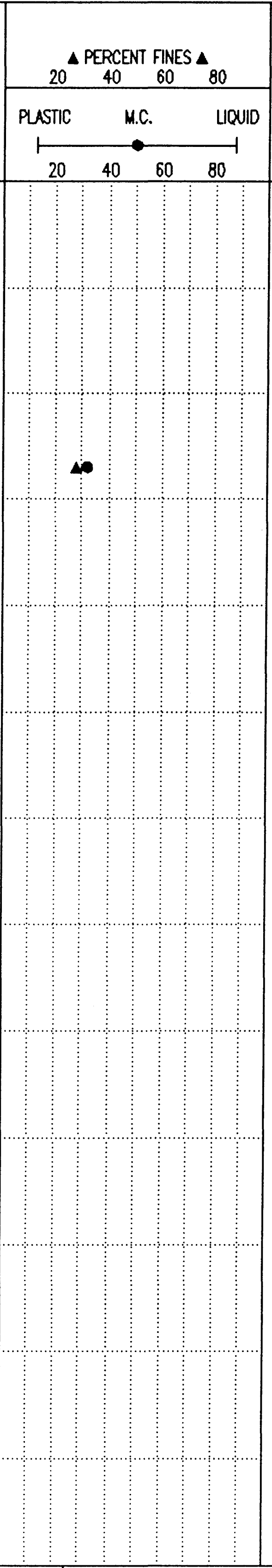
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/19
	Fig. No:	Page 1 of 1

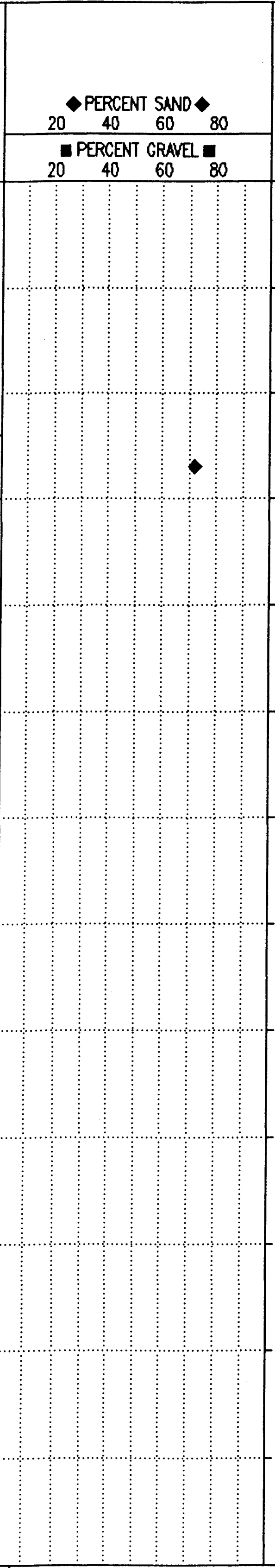
93/11/15 12:53PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-161
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1896+550 o/s 8m Rt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
1.0	SILTY SAND (SM) –brown –saturated –organics	☒	370	SM
2.0	END HOLE at 2.0m –refusal –swamp cover			
3.0				
4.0				
5.0				
6.0				





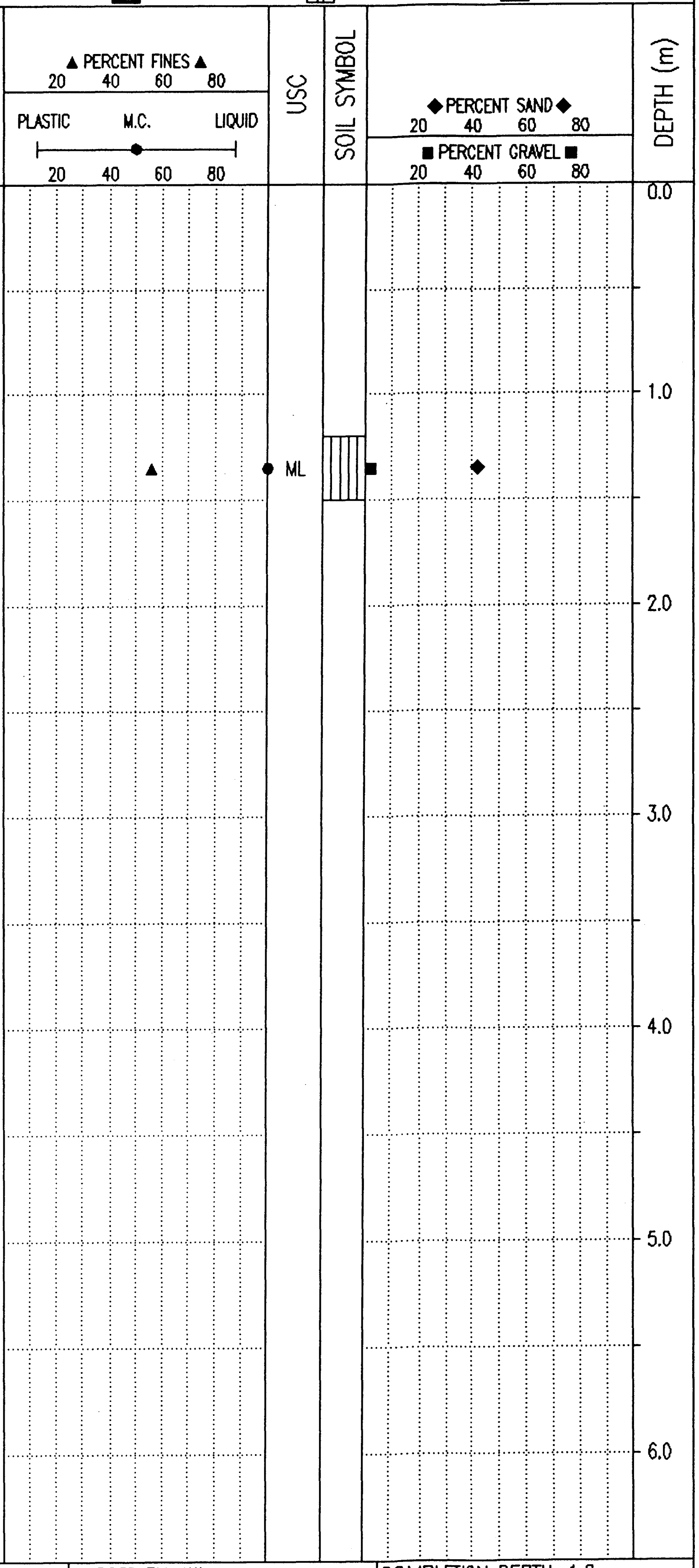
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 2.0 m
	REVIEWED BY:	COMPLETE: 92/08/19
	Fig. No:	Page 1 of 1

93/11/15 12:51PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-160
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1896+650 o/s 8m Rt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
	ORGANIC SANDY SILT (OL) -frozen (Vx) with visible ice	☒	369	ML
	END HOLE at 1.6m -refusal -small spruce and willow cover			

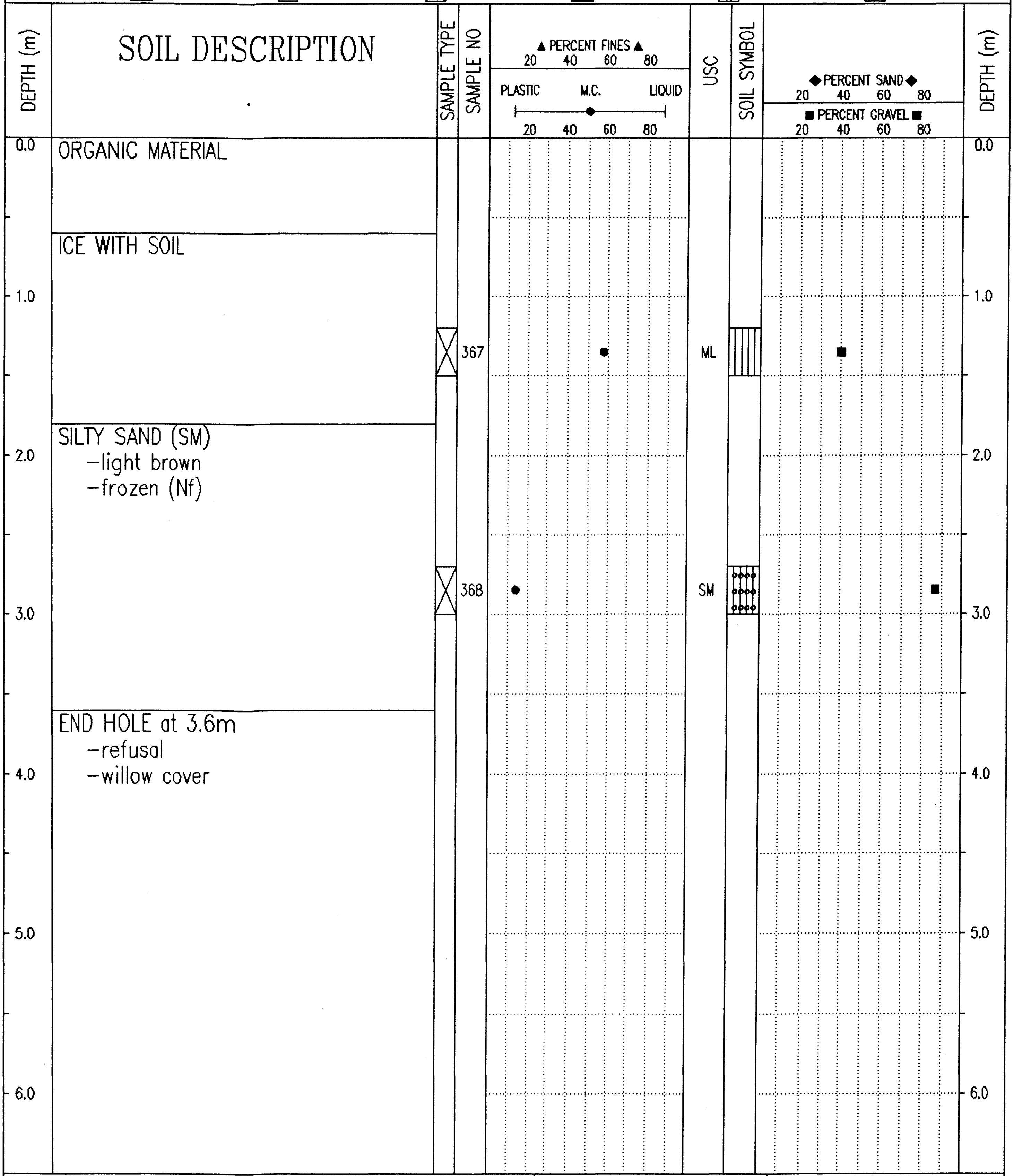


Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 1.6 m
	REVIEWED BY:	COMPLETE: 92/08/19
	Fig. No:	Page 1 of 1

93/11/15 12:50PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-159
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1896+750 o/s 7m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ▐ CORE



ORGANIC MATERIAL

ICE WITH SOIL

SILTY SAND (SM)
- light brown
- frozen (Nf)

END HOLE at 3.6m
- refusal
- willow cover

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Transportation Engineering

LOGGED BY: AW	COMPLETION DEPTH: 3.6 m
REVIEWED BY:	COMPLETE: 92/08/19
Fig. No:	Page 1 of 1

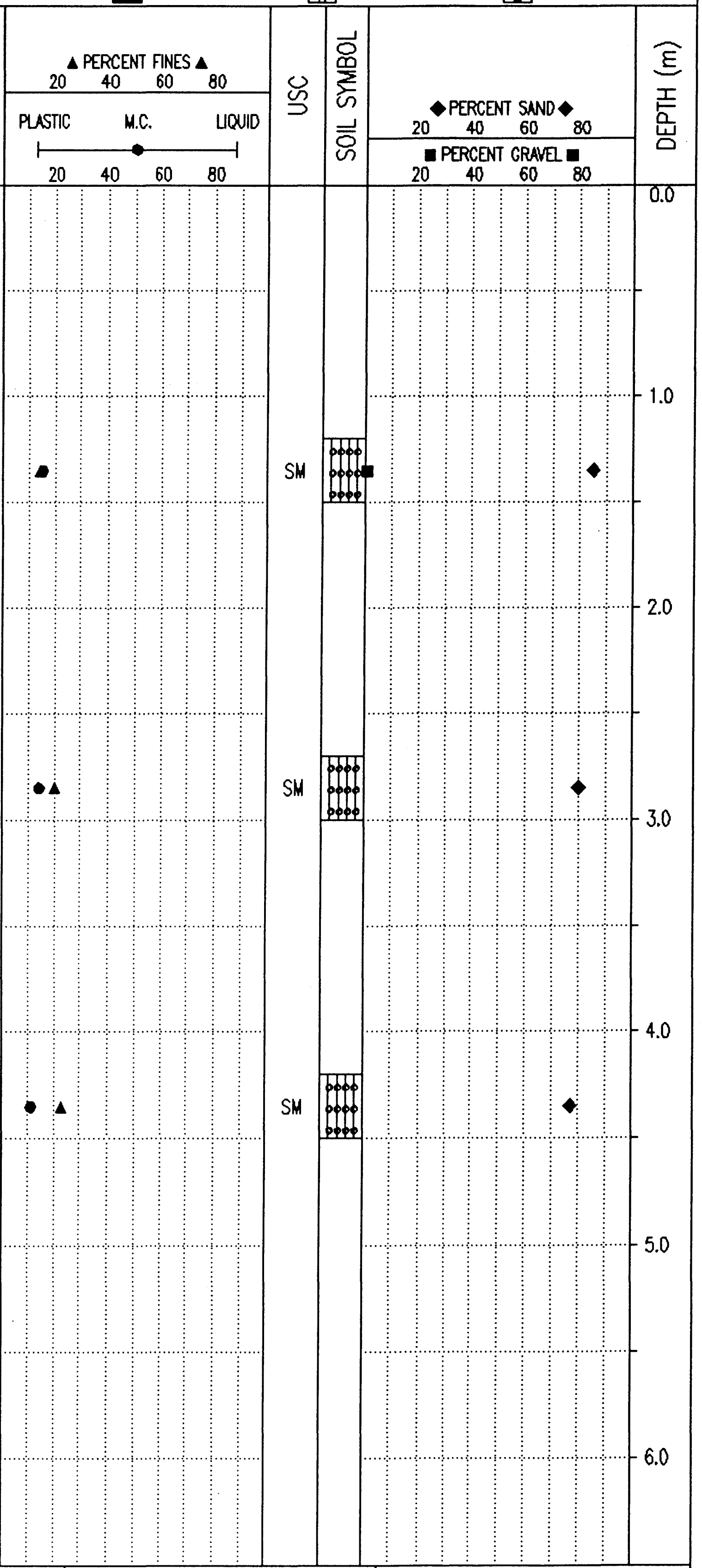
93/11/15 12:48PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-158
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1896+850 o/s 10m Rt.	ELEVATION: 0.00 (m)

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

SOIL DESCRIPTION

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
0.6	SILTY SAND (SM) -light brown -frozen (Nf) -slow drilling			
1.2–1.5		☒	364	SM
2.7–3.0		☒	365	SM
4.2–4.5		☒	366	SM
4.5	END HOLE at 4.5m -water on surface -willow cover			



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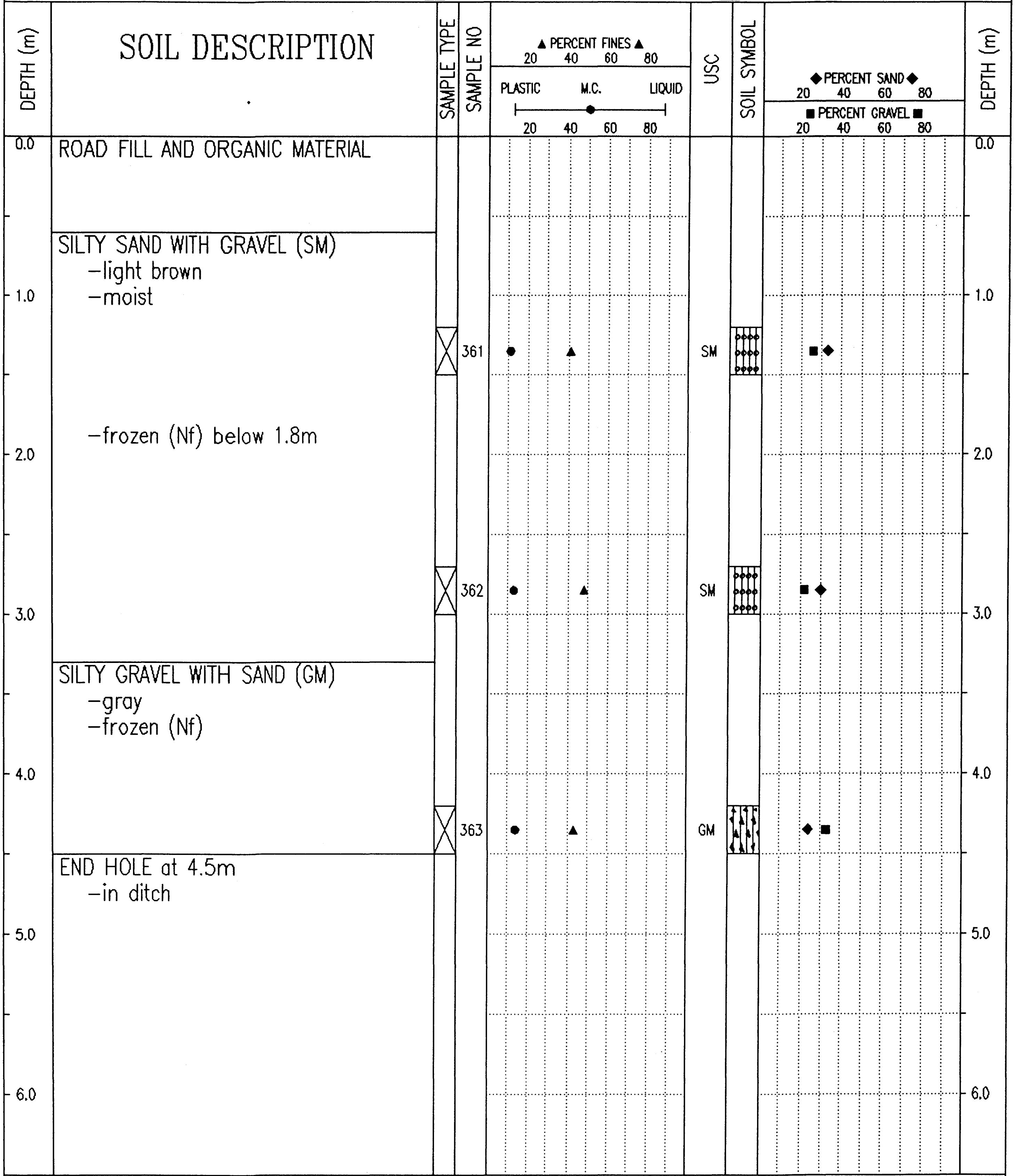
Transportation Engineering

LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
REVIEWED BY:	COMPLETE: 92/08/19
Fig. No:	Page 1 of 1

93/11/15 12:47PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-157
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1896+950	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◸ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◧ CORE



ROAD FILL AND ORGANIC MATERIAL

SILTY SAND WITH GRAVEL (SM)
- light brown
- moist
- frozen (Nf) below 1.8m

SILTY GRAVEL WITH SAND (GM)
- gray
- frozen (Nf)

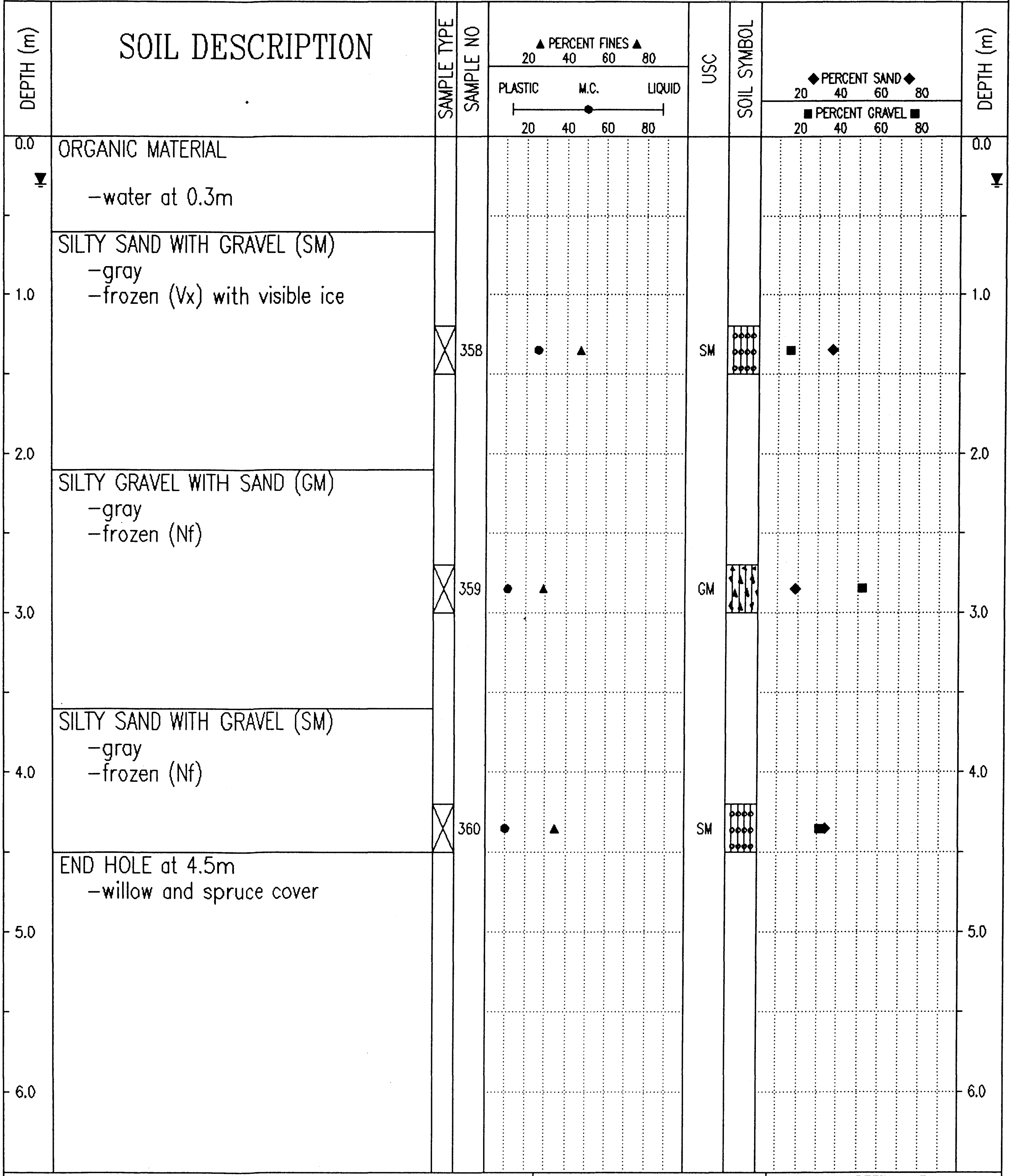
END HOLE at 4.5m
- in ditch

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/19
	Fig. No:	Page 1 of 1

93/11/15 12:45PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-156
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1897+050	ELEVATION: 0.00 (m)

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



SOIL DESCRIPTION

ORGANIC MATERIAL
-water at 0.3m

SILTY SAND WITH GRAVEL (SM)
-gray
-frozen (Vx) with visible ice

SILTY GRAVEL WITH SAND (GM)
-gray
-frozen (Nf)

SILTY SAND WITH GRAVEL (SM)
-gray
-frozen (Nf)

END HOLE at 4.5m
-willow and spruce cover

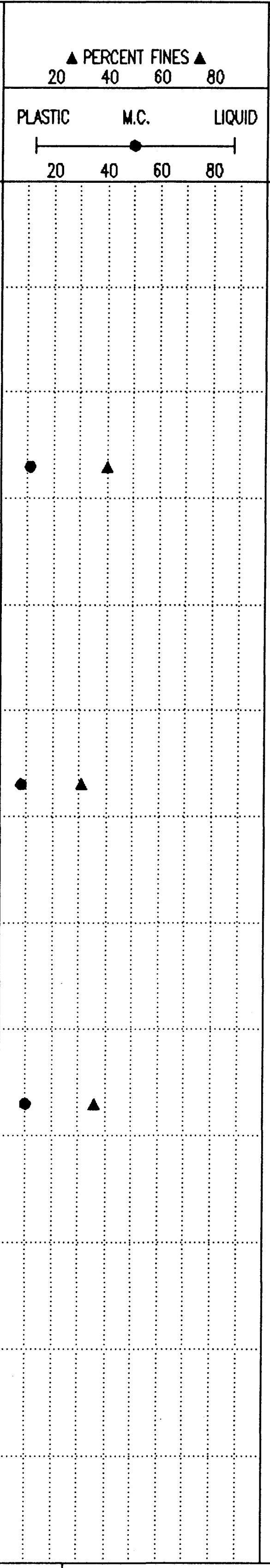
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/18
	Fig. No:	Page 1 of 1

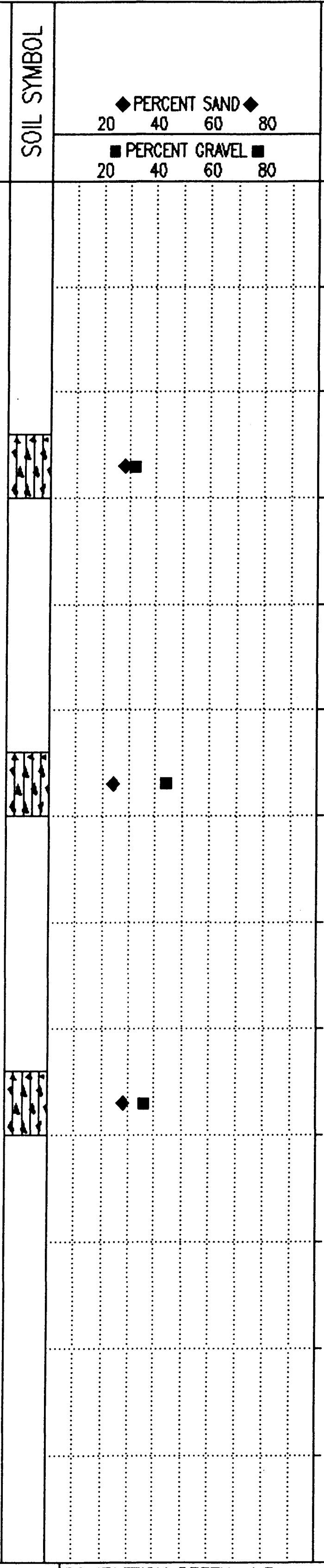
93/11/15 12:43PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-155
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1897+150	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ☰ BULK ◫ TUBE ◨ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	DEPTH (m)
0.0	ORGANIC MATERIAL				0.0
▼	-water ar 0.5m				▼
1.0	SILTY GRAVEL WITH SAND (GM) -light brown -damp				1.0
		☒	355	GM	
2.0					2.0
		☒	356	GM	
3.0					3.0
4.0					4.0
		☒	357	GM	
	END HOLE at 4.5m -willow and poplar cover				
5.0					5.0
6.0					6.0



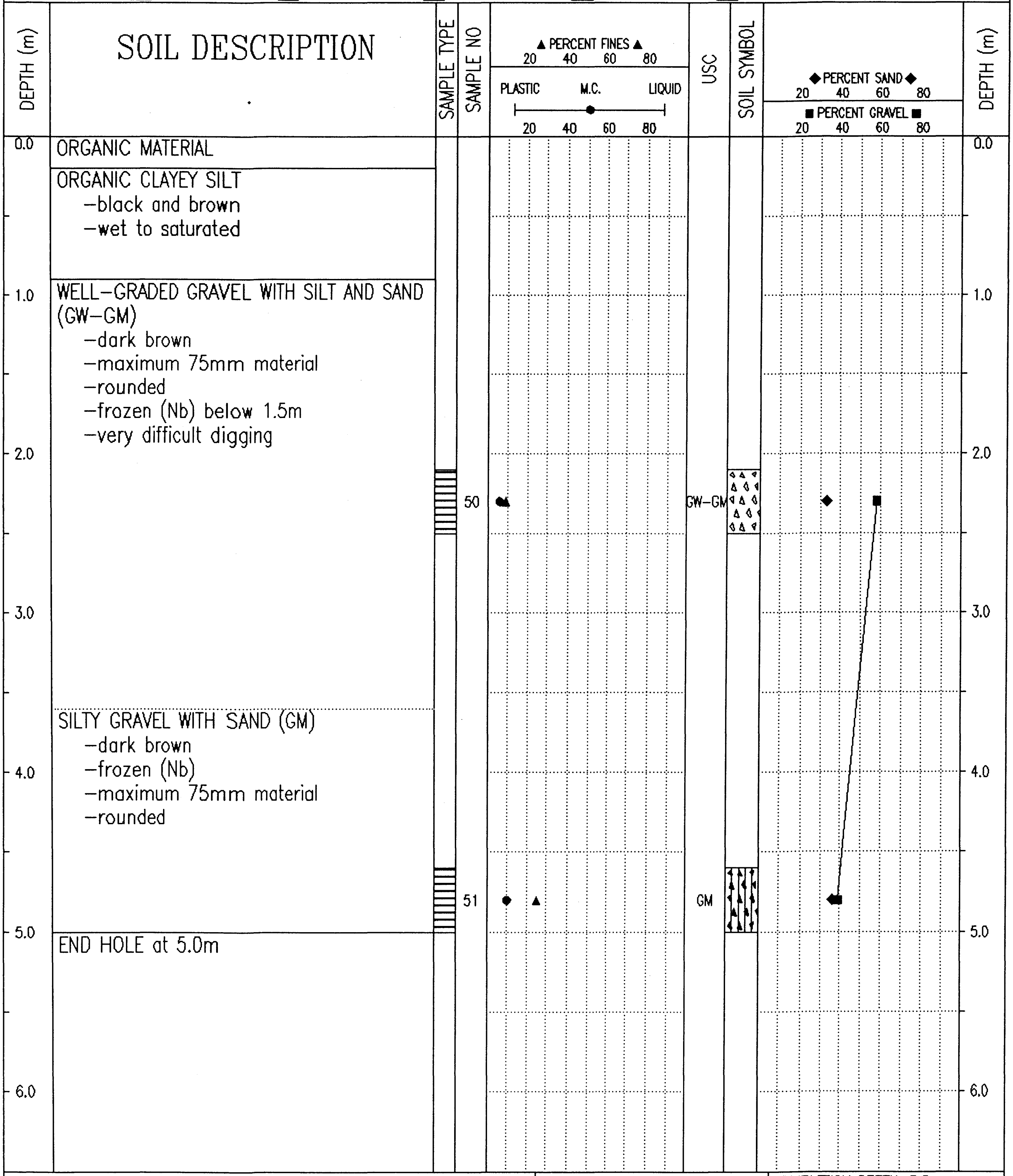


Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/18
	Fig. No:	Page 1 of 1

93/11/15 12:42PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 257-16
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1897+150 o/s 10m Rt.	ELEVATION: 0.00 (m)

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



SOIL DESCRIPTION

ORGANIC MATERIAL

ORGANIC CLAYEY SILT
- black and brown
- wet to saturated

WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM)
- dark brown
- maximum 75mm material
- rounded
- frozen (Nb) below 1.5m
- very difficult digging

SILTY GRAVEL WITH SAND (GM)
- dark brown
- frozen (Nb)
- maximum 75mm material
- rounded

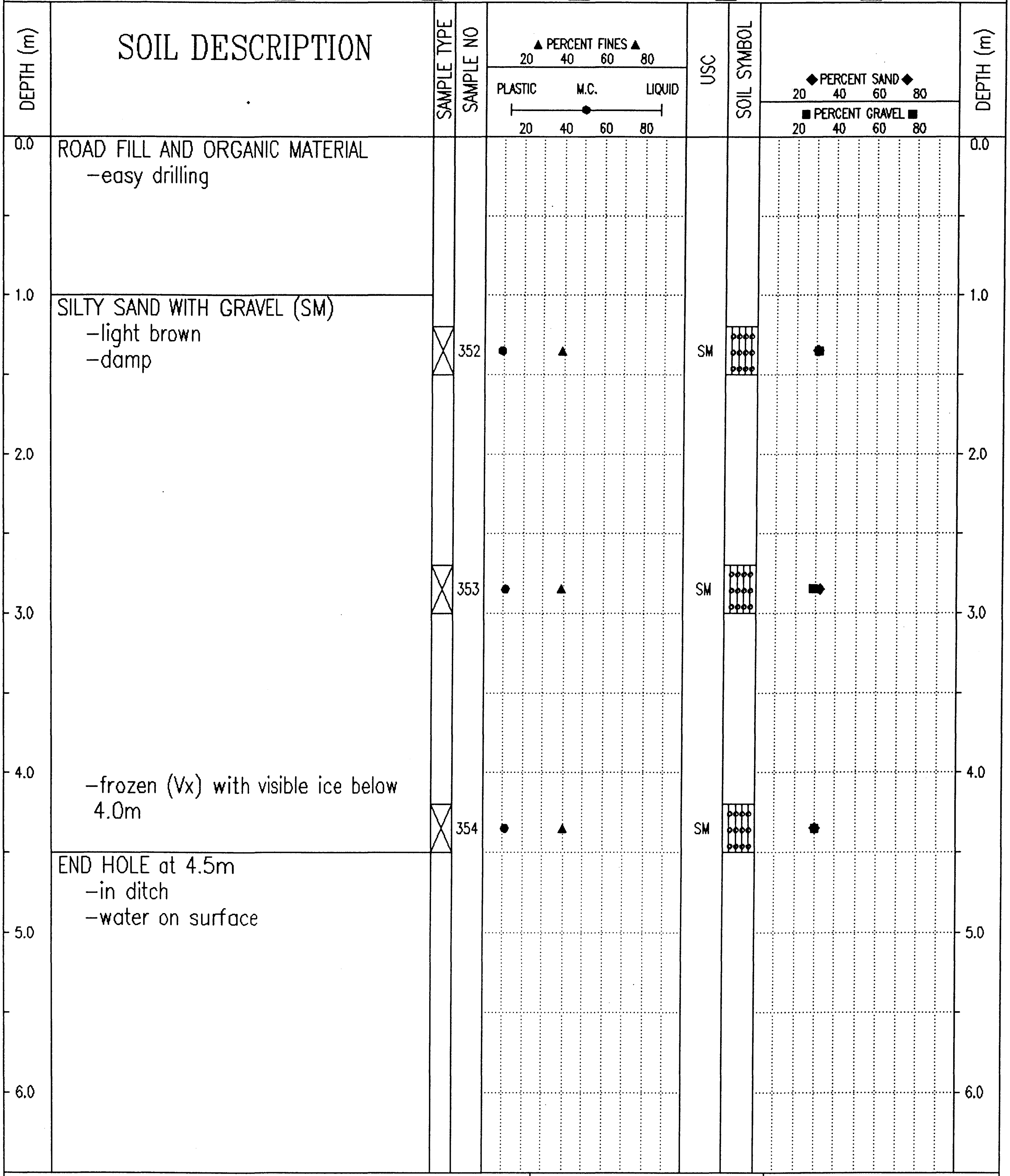
END HOLE at 5.0m

Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 5.0 m
	REVIEWED BY:	COMPLETE: 93/09/30
	Fig. No:	Page 1 of 1

93/10/27 11:23AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198–154
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1897+250 o/s 5m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◸ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◨ CORE



SOIL DESCRIPTION

Depth (m)	Soil Description	Sample Type	Sample No	USC
0.0	ROAD FILL AND ORGANIC MATERIAL –easy drilling			
1.0	SILTY SAND WITH GRAVEL (SM) –light brown –damp	☒	352	SM
		☒	353	SM
	–frozen (Vx) with visible ice below 4.0m	☒	354	SM
4.5	END HOLE at 4.5m –in ditch –water on surface			

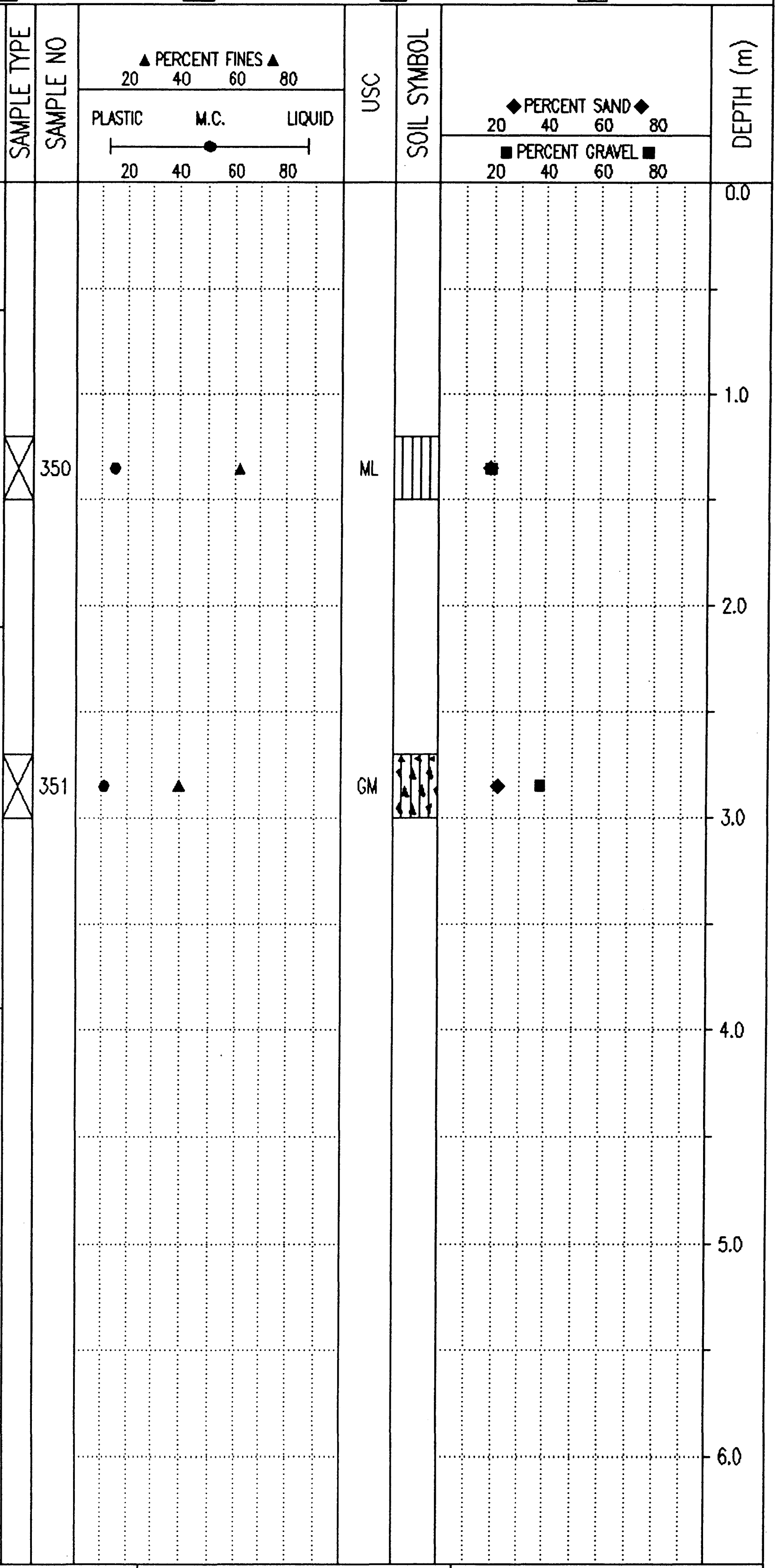
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/18
	Fig. No:	Page 1 of 1

93/11/15 12:40PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-153
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1897+350 o/s 6m Rt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION
0.0	ROAD FILL AND ORGANIC MATERIAL -easy drilling
	SANDY SILT WITH GRAVEL (ML) -light brown -damp
1.0	
2.0	SILTY GRAVEL WITH SAND (GM) -light brown -damp
3.0	
4.0	END HOLE at 3.9m -refusal -in ditch -water on surface
5.0	
6.0	



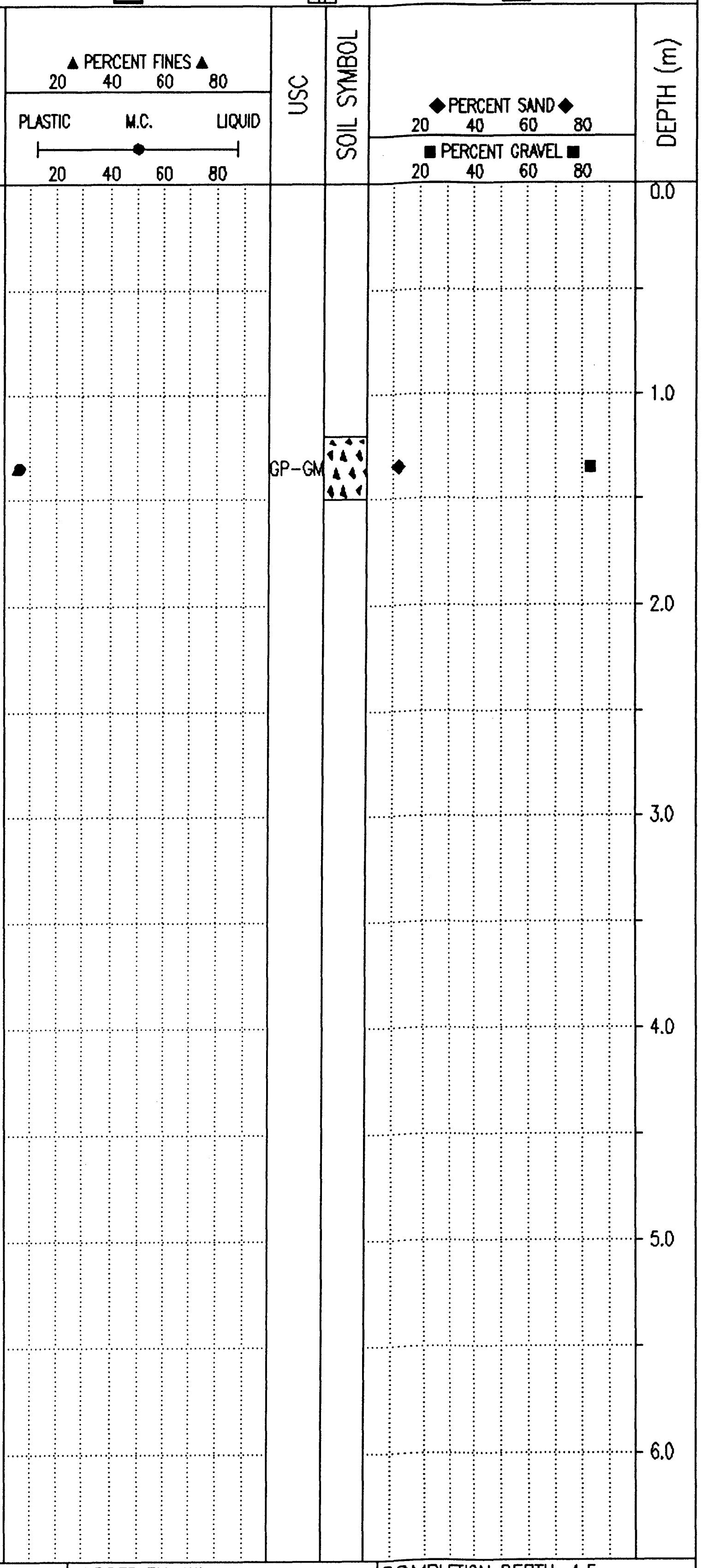
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 3.9 m
	REVIEWED BY:	COMPLETE: 92/08/18
	Fig. No:	Page 1 of 1

93/11/15 12:39PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-152
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1897+450 o/s 6m Rt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ROAD FILL AND ORGANIC MATERIAL			
1.0	POORLY GRADED GRAVEL WITH SILT (GP-GM) -brown -wet	☒	349	GP-GM
	SILTY GRAVEL -light brown -damp			
	END HOLE at 4.5m -in ditch -water on surface			



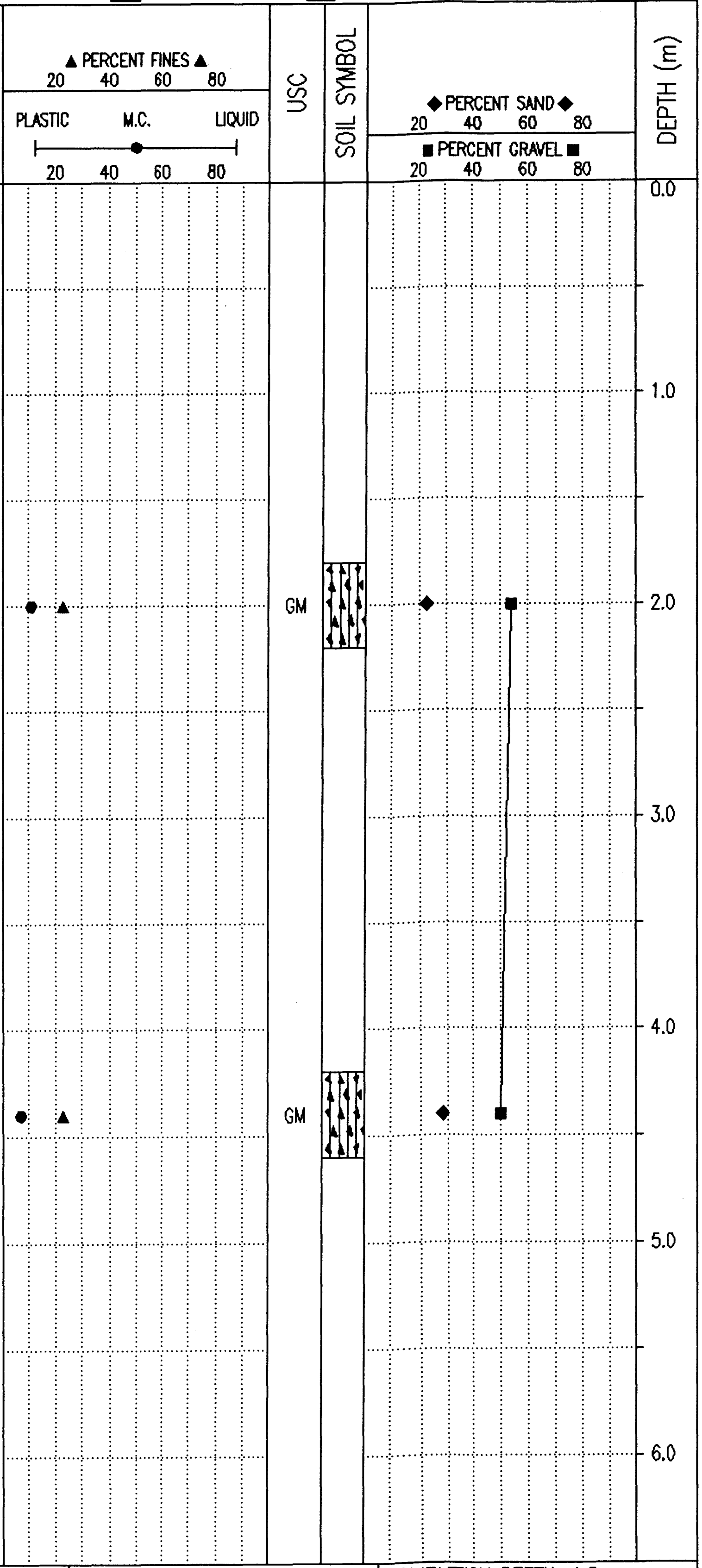
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/18
	Fig. No:	Page 1 of 1

93/11/15 12:37PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 257-17
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1897+450 o/s 30m Rt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
	ORGANIC SILT -dark brown -wet			
1.0	SILTY GRAVEL WITH SAND (GM) -brown -frozen -maximum 250mm material -estimate 1% +100mm -hard digging			
2.0		☰	52	GM
3.0	-visible ice (Vc) below 2.8m			
4.0		☰	53	GM
	END HOLE at 4.6m -on old pole line			
5.0				
6.0				



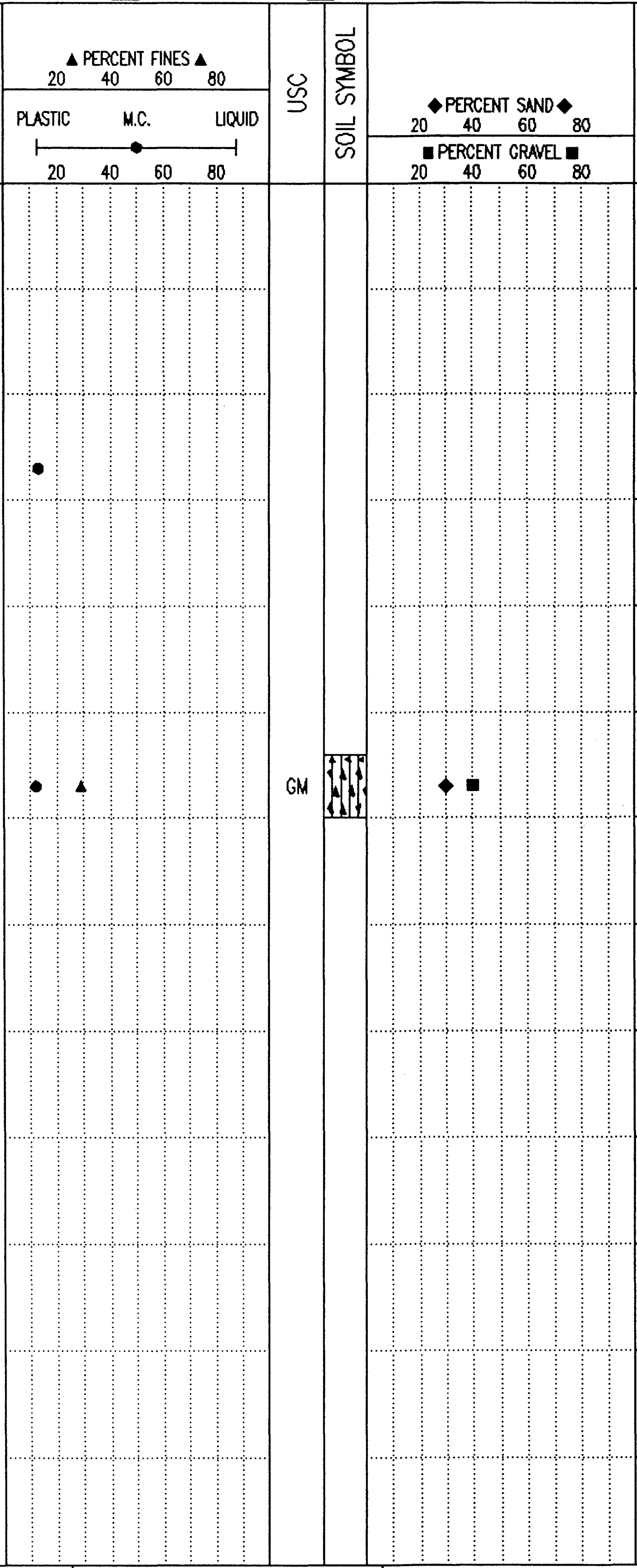
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 93/09/30
	Fig. No:	Page 1 of 1

93/10/27 03:34PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-151
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1897+550 o/s 8m Rt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ROAD FILL AND ORGANIC MATERIAL -easy drilling			
1.0	SILTY GRAVEL WITH SAND (GM) -dark brown -moist -sample #347 spilled	☒	347	
	-gray below 1.8m -wet below 1.8m			
2.0				
		☒	348	GM
3.0	-hard drilling below 3.0m			
4.0	END HOLE at 3.9m -refusal -in ditch			
5.0				
6.0				



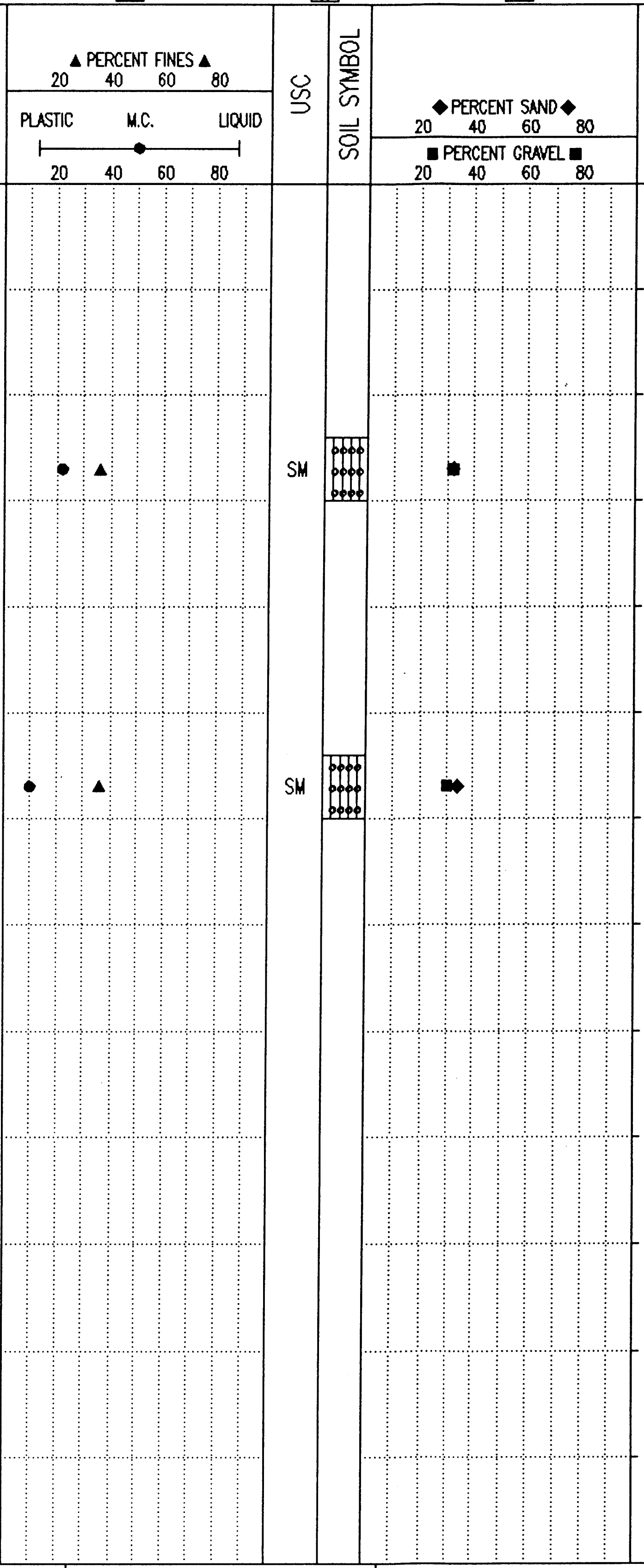
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 3.9 m
	REVIEWED BY:	COMPLETE: 92/08/18
	Fig. No:	Page 1 of 1

93/11/15 12:36PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-150
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1897+675 o/s 8m Rt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ROAD FILL AND ORGANIC MATERIAL			
1.0	SILTY SAND WITH GRAVEL (SM) -dark brown -moist	☒	345	SM
2.0 ▼	-water at 2.0m -light brown below 2.1m -wet below 2.1m			
		☒	346	SM
3.0				
4.0	-unable to retrieve sample due to water			
	END HOLE at 4.5m -in ditch			
5.0				
6.0				



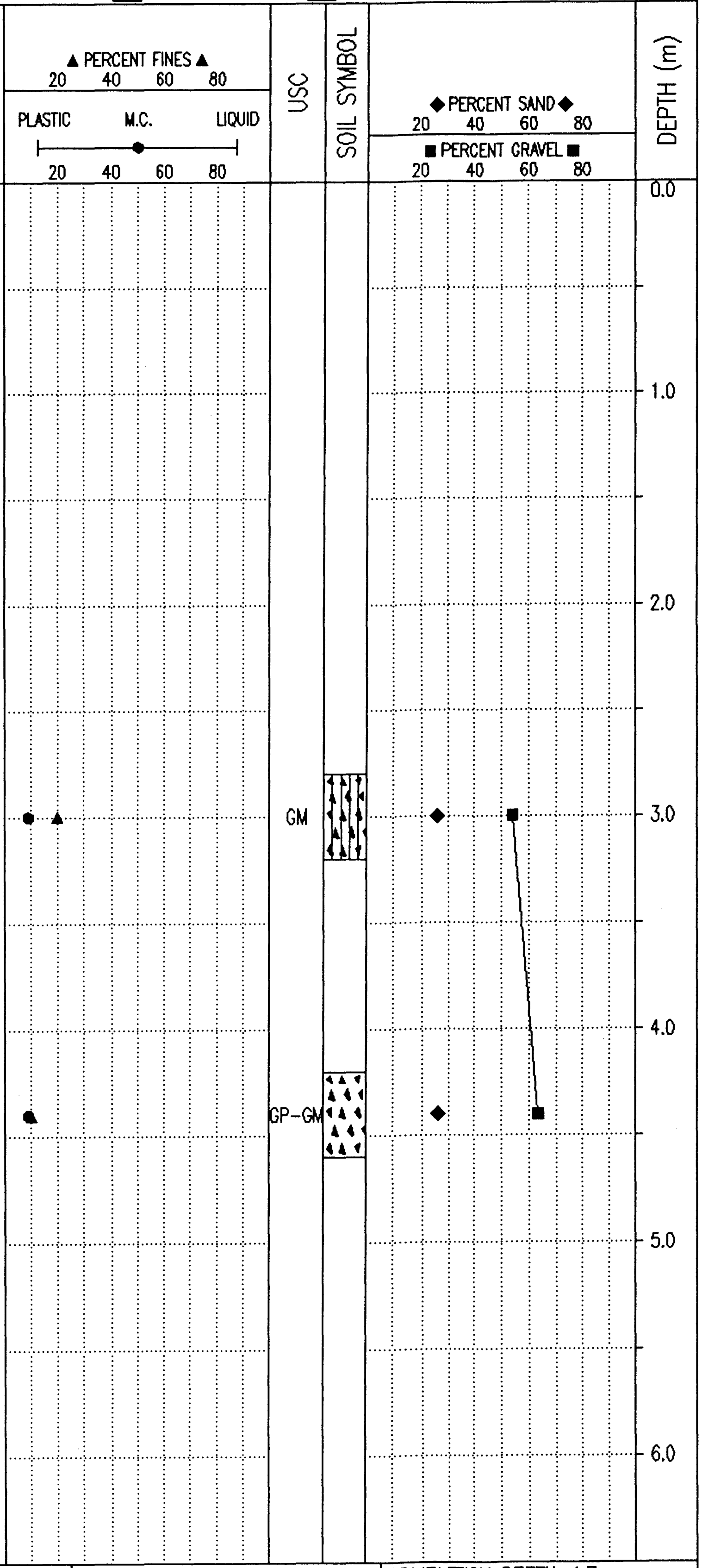
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/18
	Fig. No:	Page 1 of 1

93/11/15 12:34PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 257-18
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1897+750 o/s 20m Rt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
	ORGANIC SILT -some gravel -black			
1.0	SILTY GRAVEL WITH SAND (GM) -brown -maximum 350mm material -estimate 10% +100mm			
2.0	-frozen (Nb) below 2.3m			
3.0		☰	54	GM
4.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -frozen (Nb) -maximum 350mm material -estimate 10% +100mm	☰	55	GP-GM
	END HOLE at 4.7m			
5.0				
6.0				

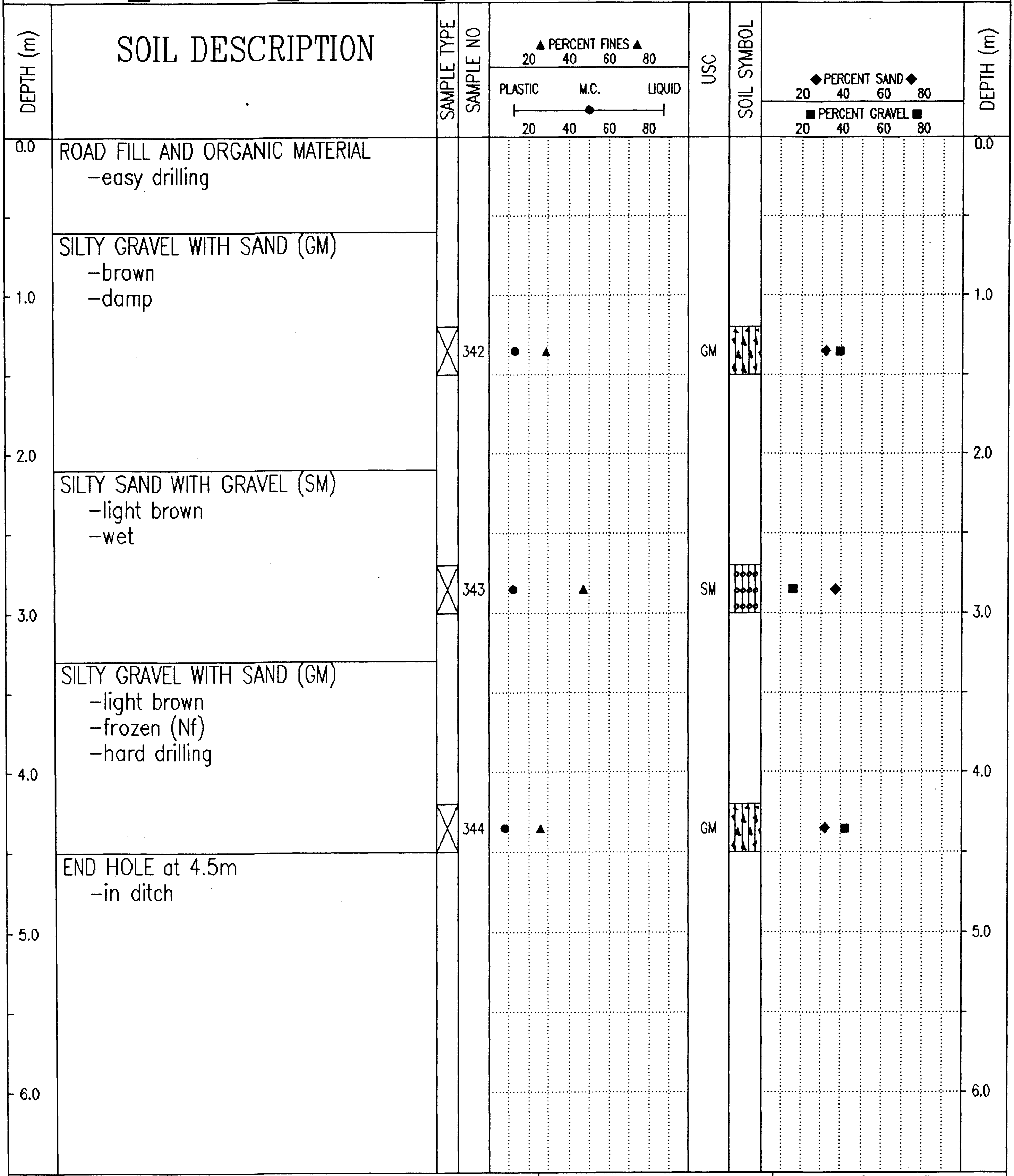


Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.7 m
	REVIEWED BY:	COMPLETE: 93/09/30
	Fig. No:	Page 1 of 1

93/10/27 11:27AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-149
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1897+800 o/s 8m Rt.	ELEVATION: 0.00 (m)

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



SOIL DESCRIPTION

ROAD FILL AND ORGANIC MATERIAL
-easy drilling

SILTY GRAVEL WITH SAND (GM)
-brown
-damp

SILTY SAND WITH GRAVEL (SM)
-light brown
-wet

SILTY GRAVEL WITH SAND (GM)
-light brown
-frozen (Nf)
-hard drilling

END HOLE at 4.5m
-in ditch

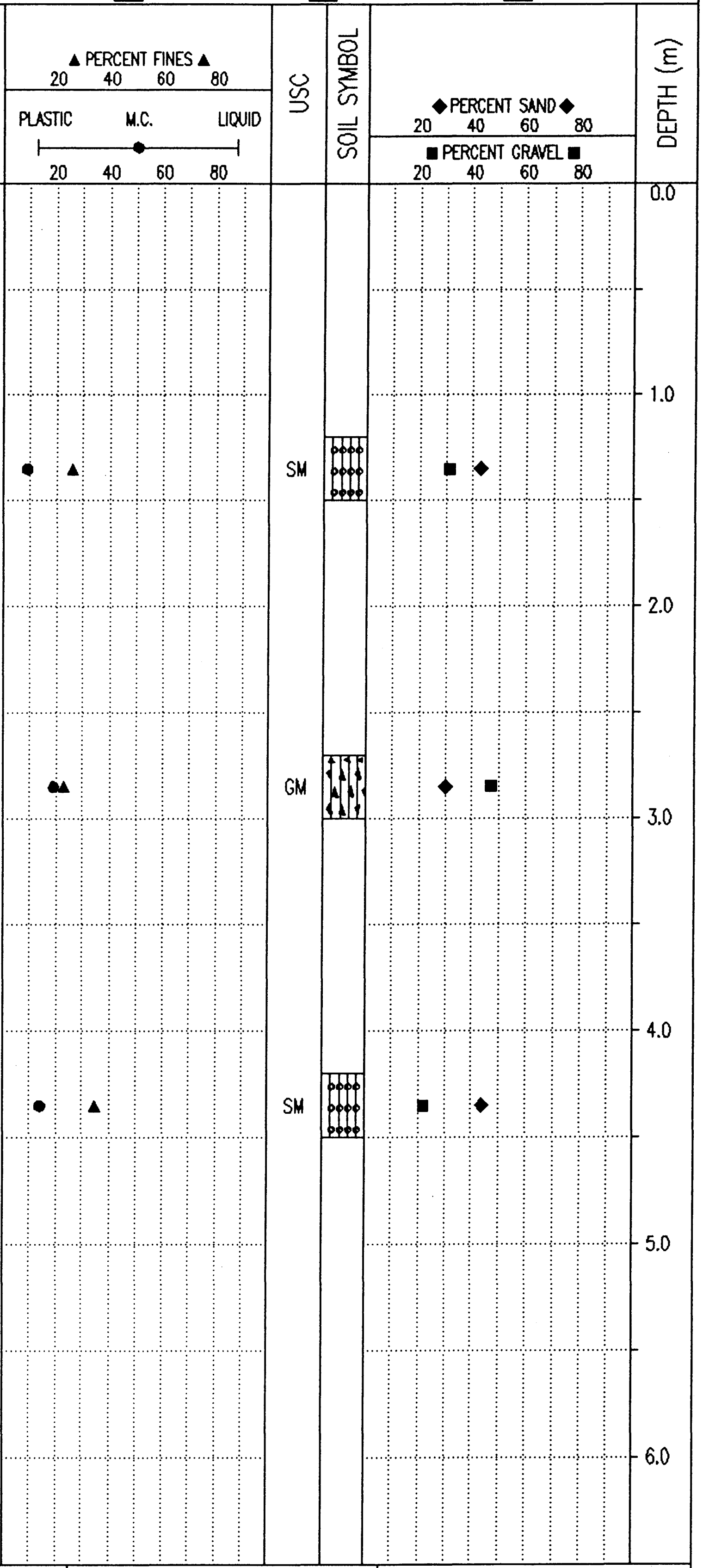
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/18
	Fig. No:	Page 1 of 1

93/11/15 12:33PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-148
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1897+900 o/s 6m Rt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ROAD FILL AND ORGANIC MATERIAL -easy drilling			
	SILTY SAND WITH GRAVEL (SM) -light brown -damp	☒	339	SM
	SILTY GRAVEL WITH SAND (GM) -dark brown -wet	☒	340	GM
	SILTY SAND WITH GRAVEL (SM) -gray -frozen(Nb)	☒	341	SM
	END HOLE at 4.5m -in ditch -water on surface			

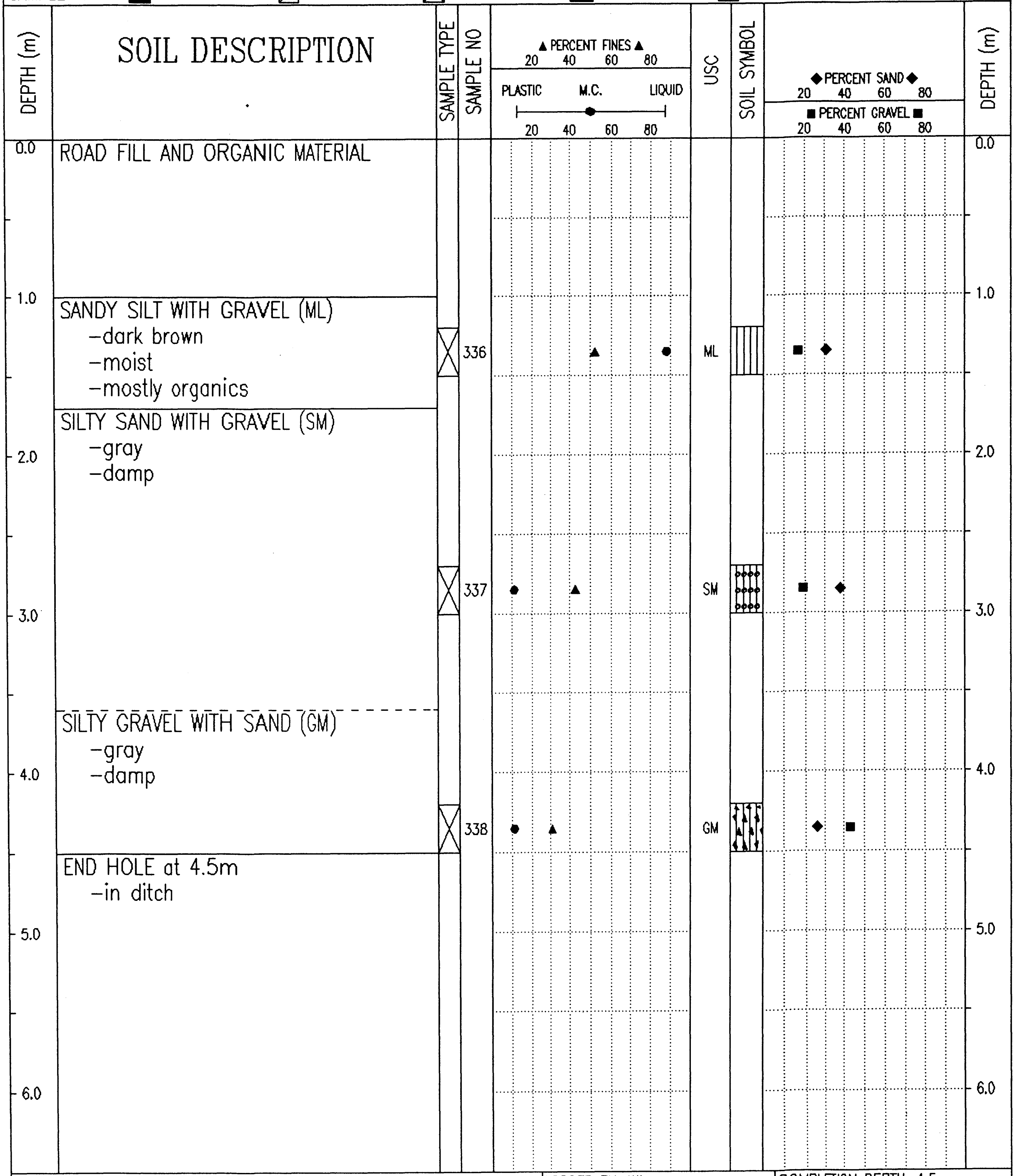


Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/18
	Fig. No:	Page 1 of 1

93/11/15 12:31PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-147
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1898+000 o/s 5m Rt.	ELEVATION: 0.00 (m)

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



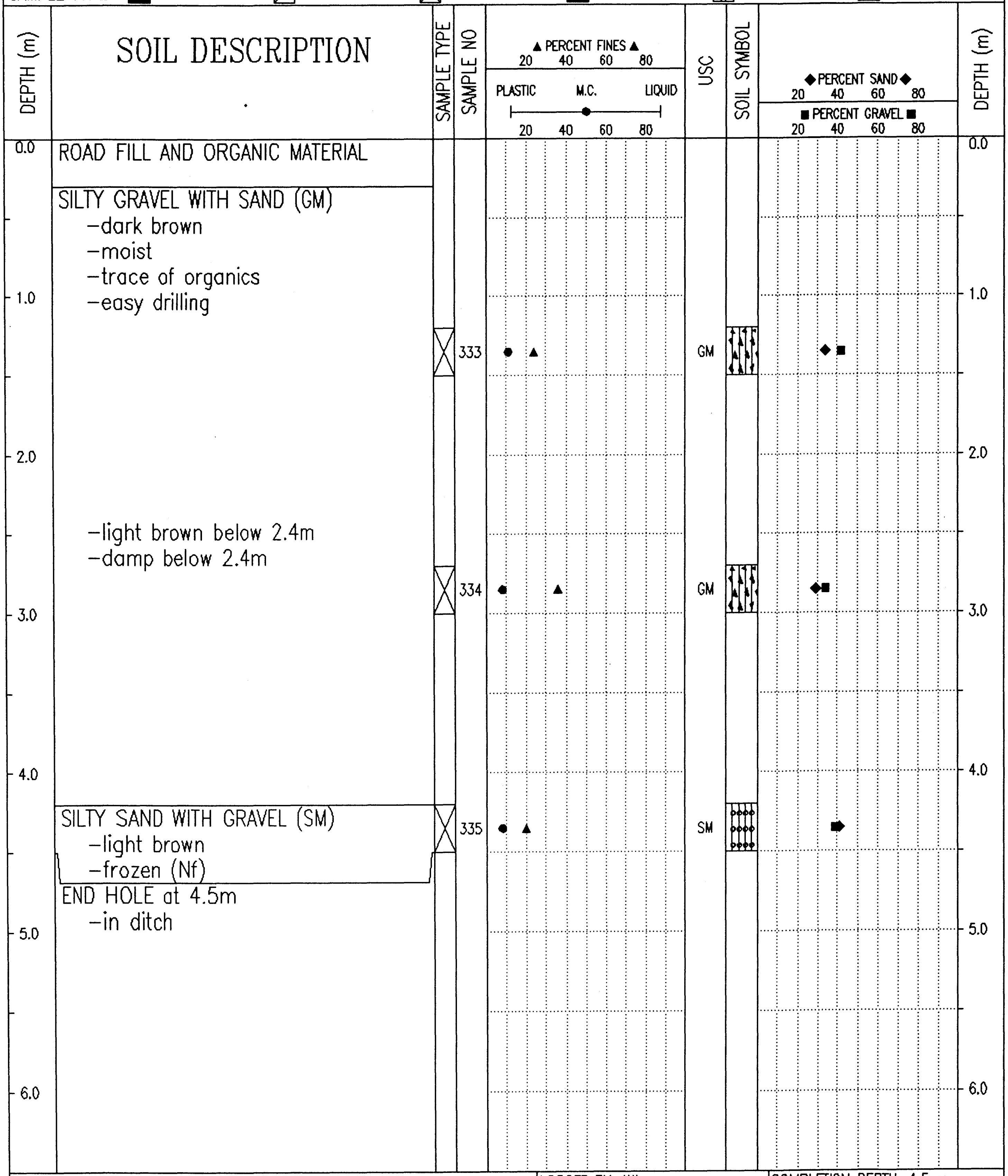
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ROAD FILL AND ORGANIC MATERIAL			
1.0	SANDY SILT WITH GRAVEL (ML) -dark brown -moist -mostly organics	AUGER	336	ML
	SILTY SAND WITH GRAVEL (SM) -gray -damp	AUGER	337	SM
	SILTY GRAVEL WITH SAND (GM) -gray -damp	AUGER	338	GM
	END HOLE at 4.5m -in ditch			

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/18
	Fig. No:	Page 1 of 1

93/11/15 12:29PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-146
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1898+100 o/s 6m Rt.	ELEVATION: 0.00 (m)

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



SOIL DESCRIPTION

ROAD FILL AND ORGANIC MATERIAL

SILTY GRAVEL WITH SAND (GM)
- dark brown
- moist
- trace of organics
- easy drilling
- light brown below 2.4m
- damp below 2.4m

SILTY SAND WITH GRAVEL (SM)
- light brown
- frozen (Nf)

END HOLE at 4.5m
- in ditch

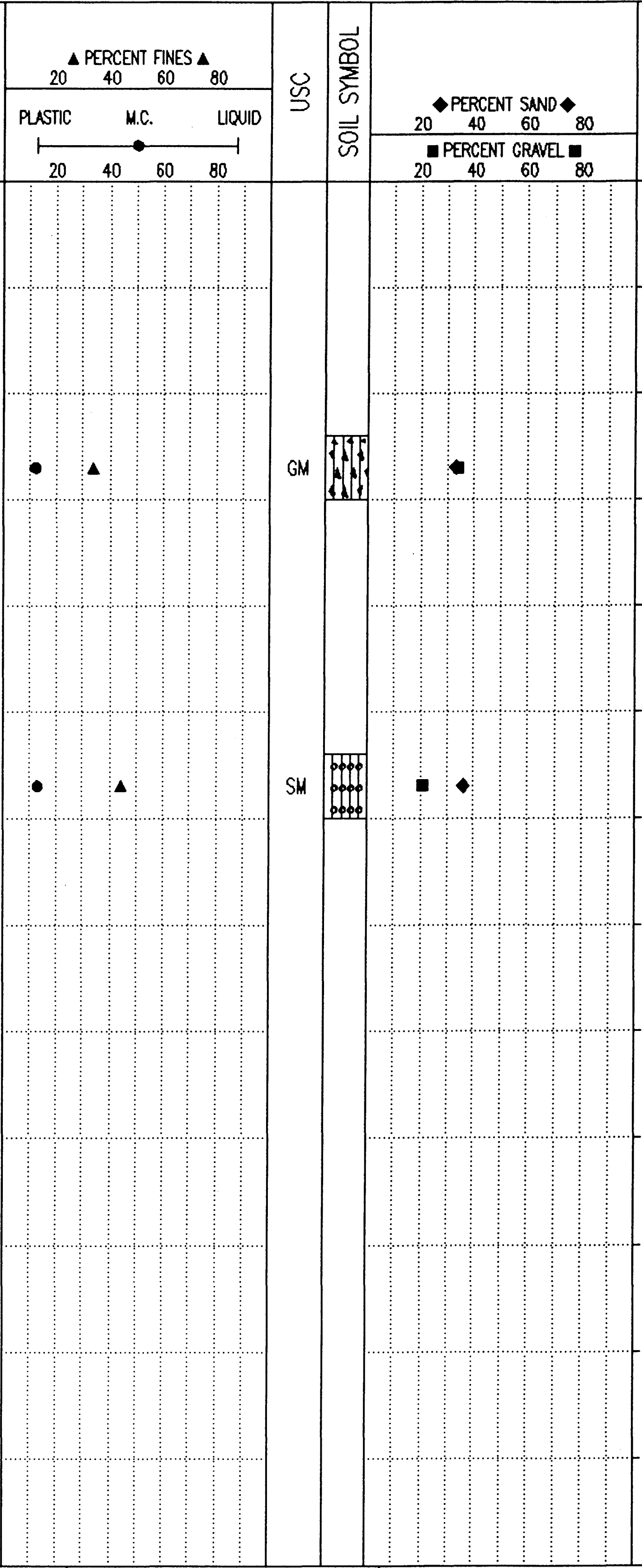
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/18
	Fig. No:	Page 1 of 1

93/11/15 12:28PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197–145
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1898+200 o/s 10m Rt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
	SILTY GRAVEL WITH SAND (GM) –light brown –moist –easy drilling			
1.0		☒	331	GM
	SILTY SAND WITH GRAVEL (SM) –gray –damp			
2.0		☒	332	SM
3.0	–water at 3.6m			
4.0	END HOLE at 4.5m –willow cover			
5.0				
6.0				

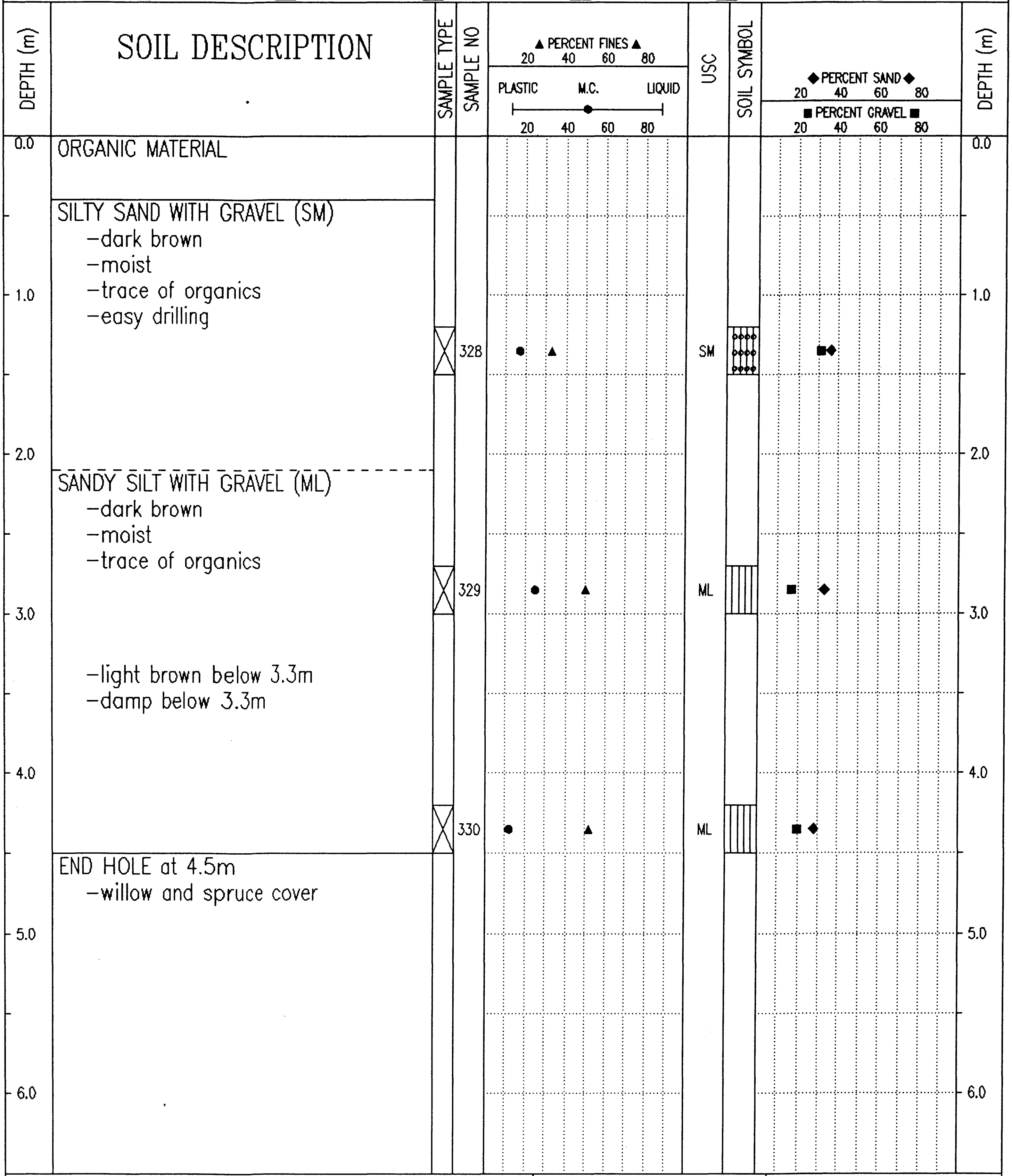


Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/18
	Fig. No:	Page 1 of 1

93/11/15 12:26PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-144
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1898+300 o/s 20m Rt.	ELEVATION: 0.00 (m)

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



ORGANIC MATERIAL

SILTY SAND WITH GRAVEL (SM)
- dark brown
- moist
- trace of organics
- easy drilling

SANDY SILT WITH GRAVEL (ML)
- dark brown
- moist
- trace of organics
- light brown below 3.3m
- damp below 3.3m

END HOLE at 4.5m
- willow and spruce cover

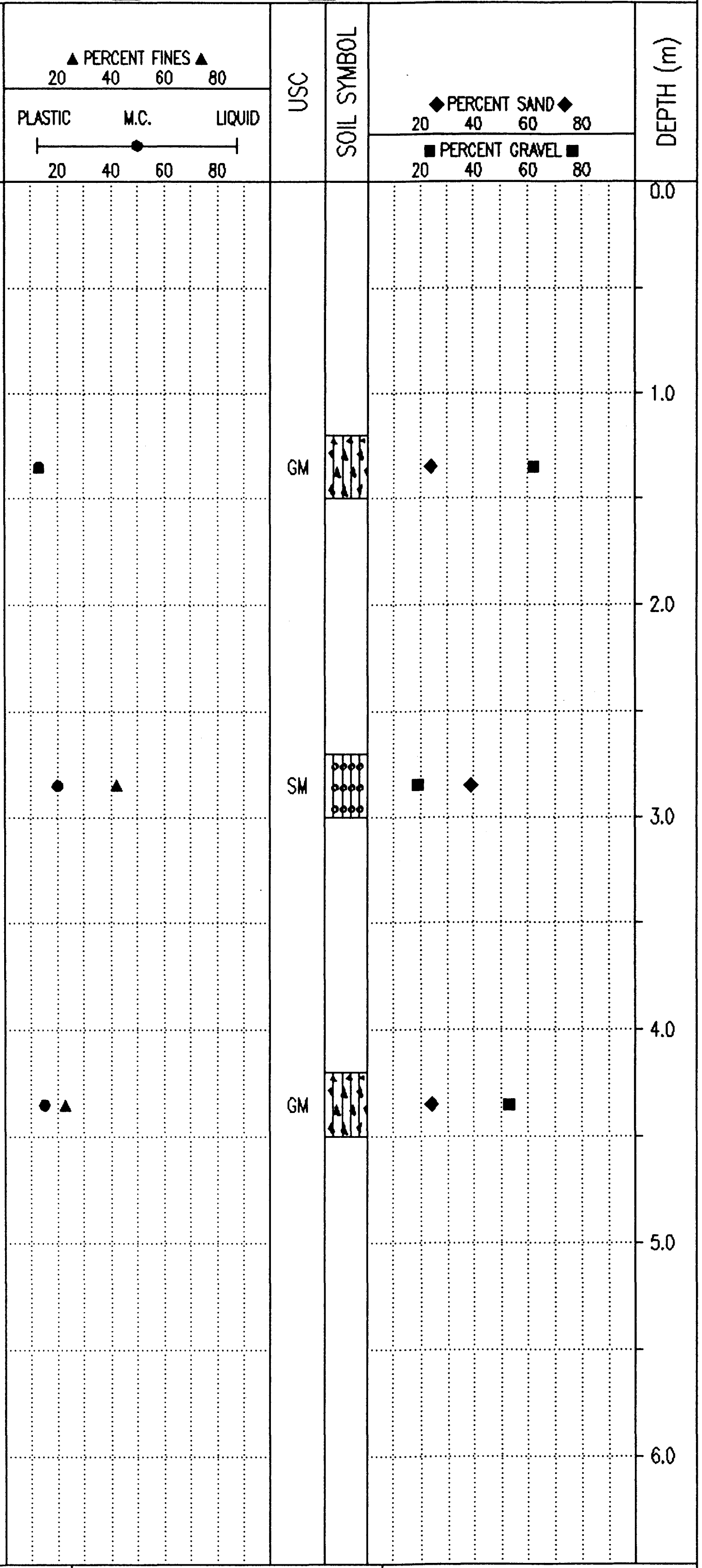
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/18
	Fig. No:	Page 1 of 1

93/11/15 12:25PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-143
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1898+400 o/s 20m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◩ S.P.T. ☒ AUGER ⊟ BULK ▥ TUBE ◨ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
0.3	SILTY GRAVEL WITH SAND (GM) -brown -moist	☒	325	GM
2.1	SILTY SAND WITH GRAVEL (SM) -brown -wet	☒	326	SM
3.6	SILTY GRAVEL WITH SAND (GM) -brown -damp	☒	327	GM
4.5	END HOLE at 4.5m -willow and poplar cover			



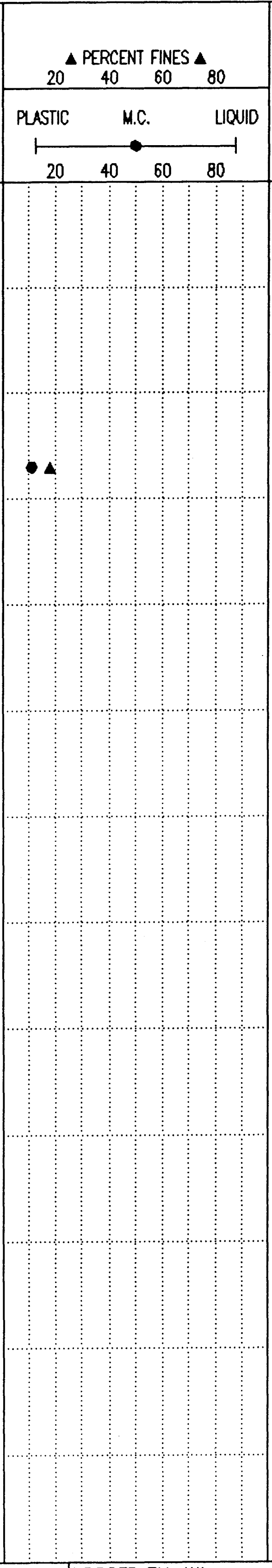
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/13
	Fig. No:	Page 1 of 1

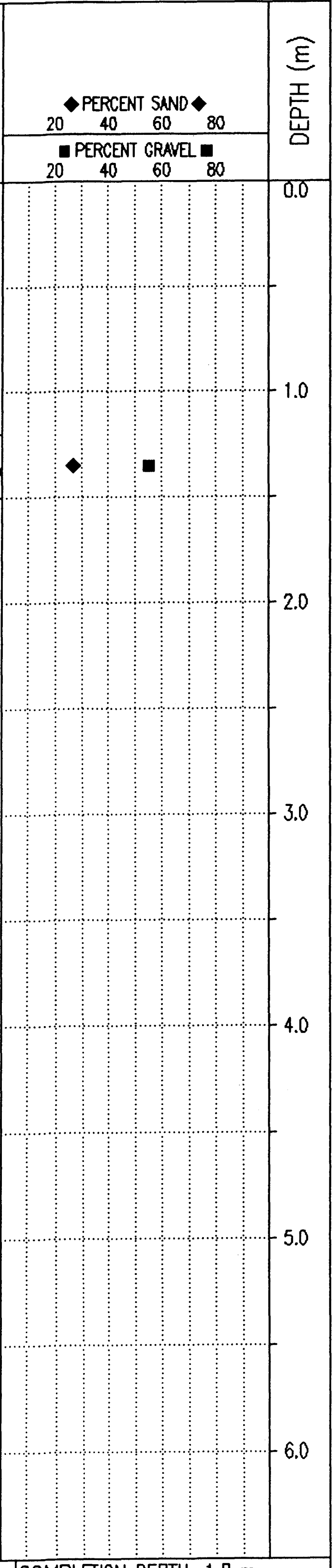
93/11/15 12:23PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-142
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1898+525 o/s 20m Rt.	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 MATERIAL				
	SILTY GRAVEL WITH SAND (GM) -brown -frozen (Vx) with visible ice -hard drilling -first refusal at 1.2m	☒	324	GM	▨
	END HOLE at 1.8m -refusal -willow and spruce cover				





Government of Yukon
Transportation Engineering

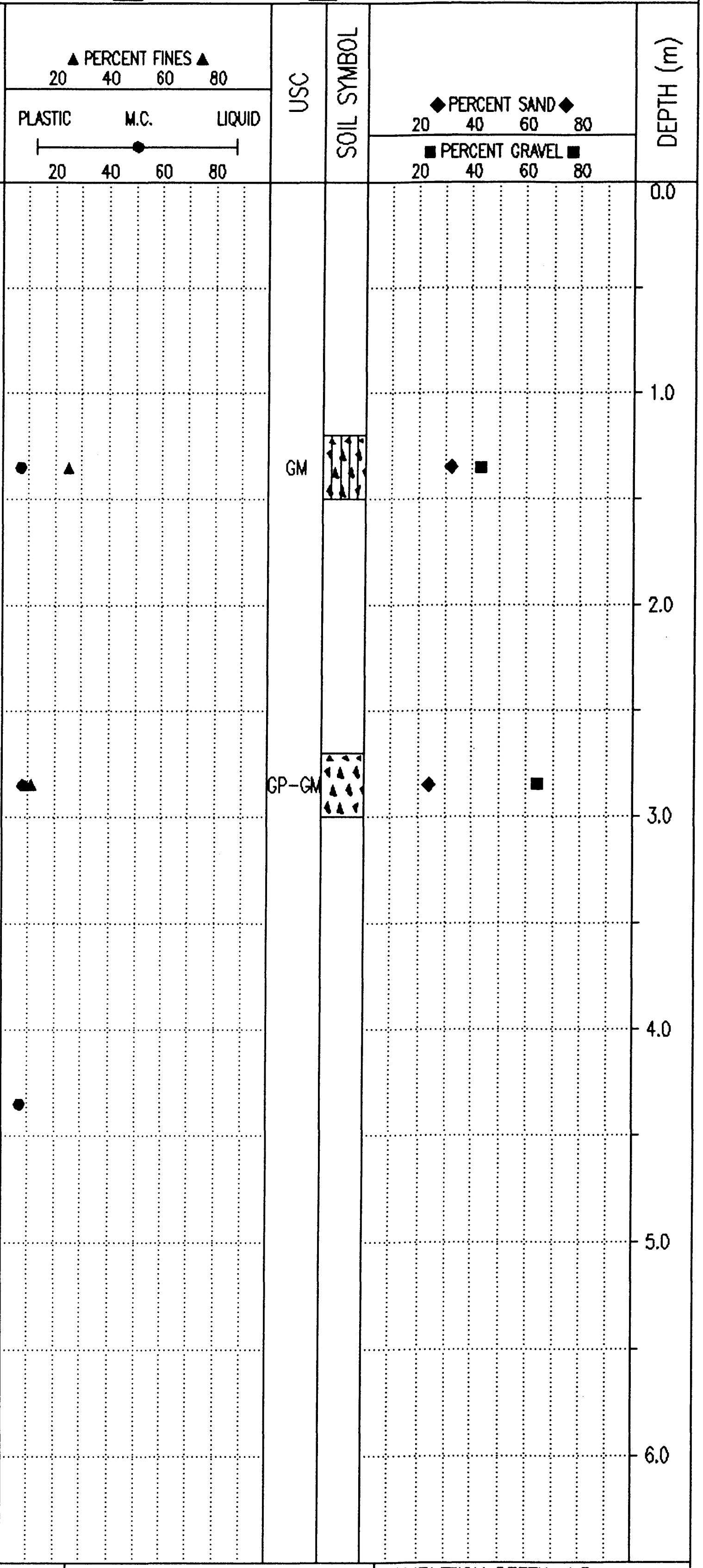
LOGGED BY: AW	COMPLETION DEPTH: 1.8 m
REVIEWED BY:	COMPLETE: 92/08/13
Fig. No:	Page 1 of 1

93/11/15 12:21PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-141
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1898+625 o/s 20m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◩ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
	SILTY GRAVEL WITH SAND (GM) -light brown -saturated -hard drilling			
1.0		☒	321	GM
	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -frozen (Nf)			
2.0		☒	322	GP-GM
3.0	-light brown below 3.3m			
4.0	-sample #323 spilled	☒	323	
	END HOLE at 4.5m -spruce and willow cover			
5.0				
6.0				



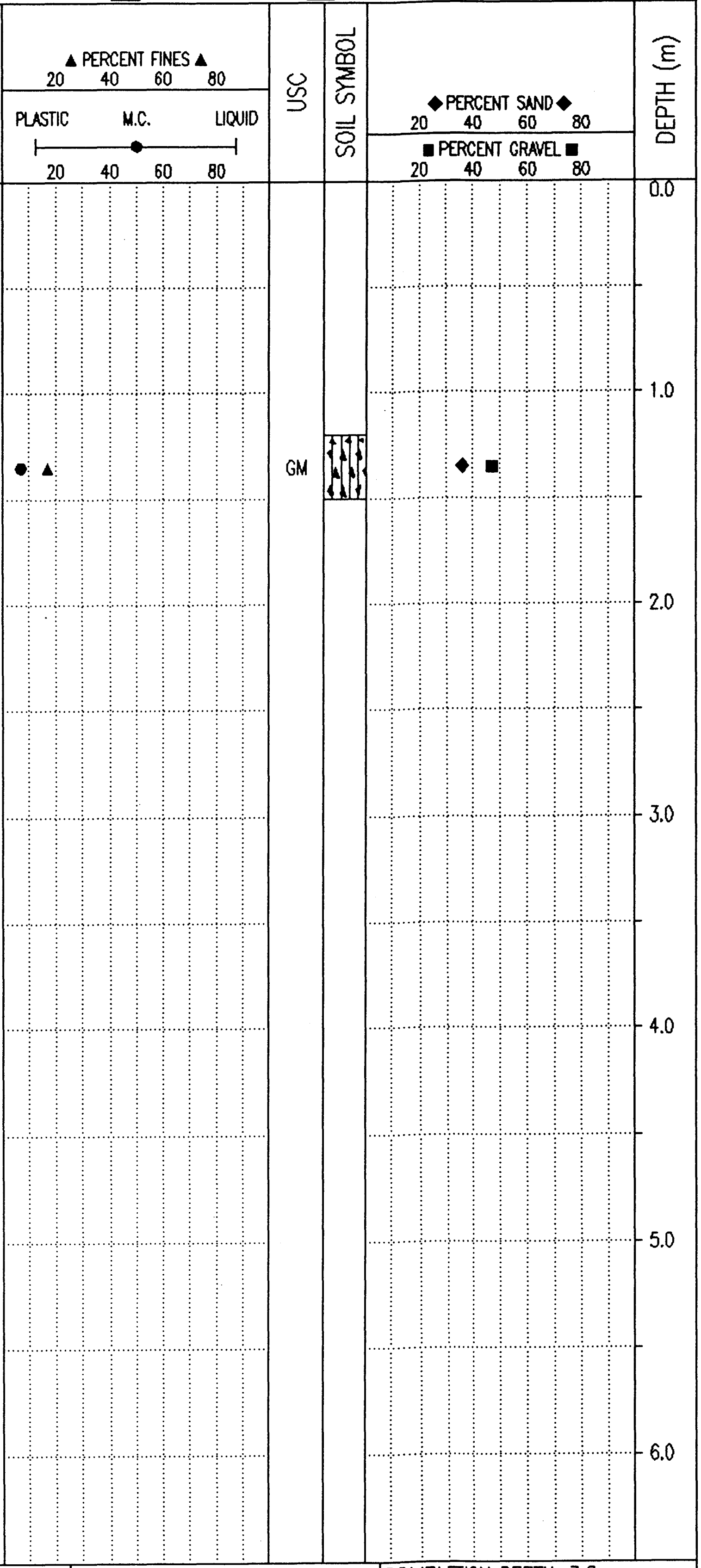
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/13
	Fig. No:	Page 1 of 1

93/11/15 12:20PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-140
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1898+725 o/s 7m Rt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO
0.0	ROAD FILL AND ORGANIC MATERIAL		
	SILTY GRAVEL WITH SAND (GM) -light brown -wet		
1.0		☒	320
2.0	-gray below 1.8m -saturated below 1.8m		
3.0			
	END HOLE at 3.6m -refusal -water on surface		
4.0			
5.0			
6.0			

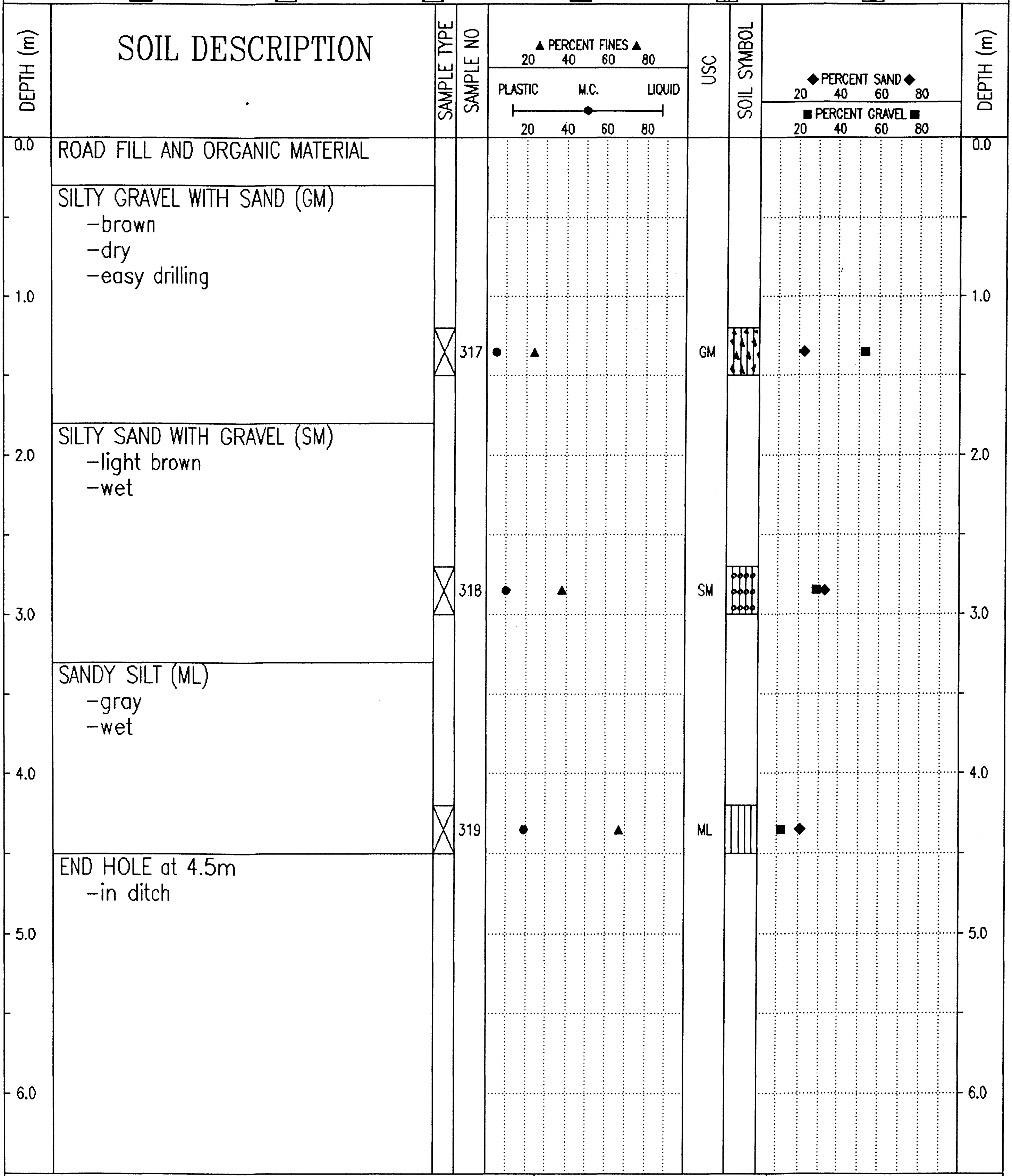


Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 3.6 m
	REVIEWED BY:	COMPLETE: 92/08/13
	Fig. No:	Page 1 of 1

93/11/15 12:18PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-139
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1898+850 o/s 10m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◩ S.P.T. ☒ AUGER ☰ BULK ◫ TUBE ◧ CORE



ROAD FILL AND ORGANIC MATERIAL

SILTY GRAVEL WITH SAND (GM)
-brown
-dry
-easy drilling

SILTY SAND WITH GRAVEL (SM)
-light brown
-wet

SANDY SILT (ML)
-gray
-wet

END HOLE at 4.5m
-in ditch

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.2 m
	REVIEWED BY:	COMPLETE: 92/08/13
	Fig. No:	Page 1 of 1

93/11/15 12:17PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 257-19
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1898+900 o/s 20m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◧ CORE

SOIL DESCRIPTION

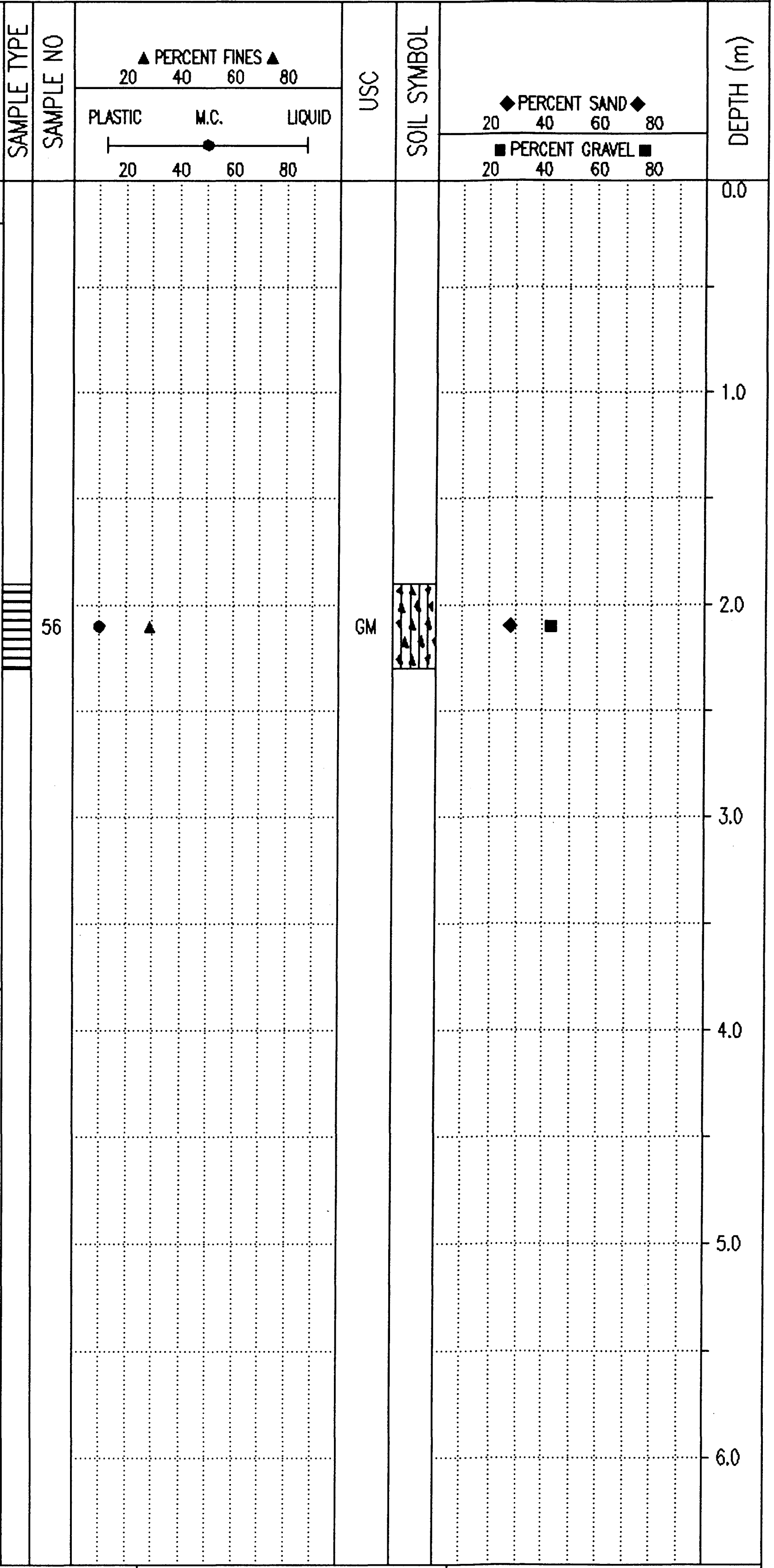
DEPTH (m)

0.0 ORGANIC MATERIAL

SILTY GRAVEL WITH SAND (GM)
- brown
- saturated
- maximum 200mm material
- estimate 5% +100mm
- frozen with visible ice (Vs) below 1.7m
- more and larger ice lenses below 3.2m

END HOLE at 3.8m
- backhoe sinking in saturated layer

1.0
2.0
3.0
4.0
5.0
6.0



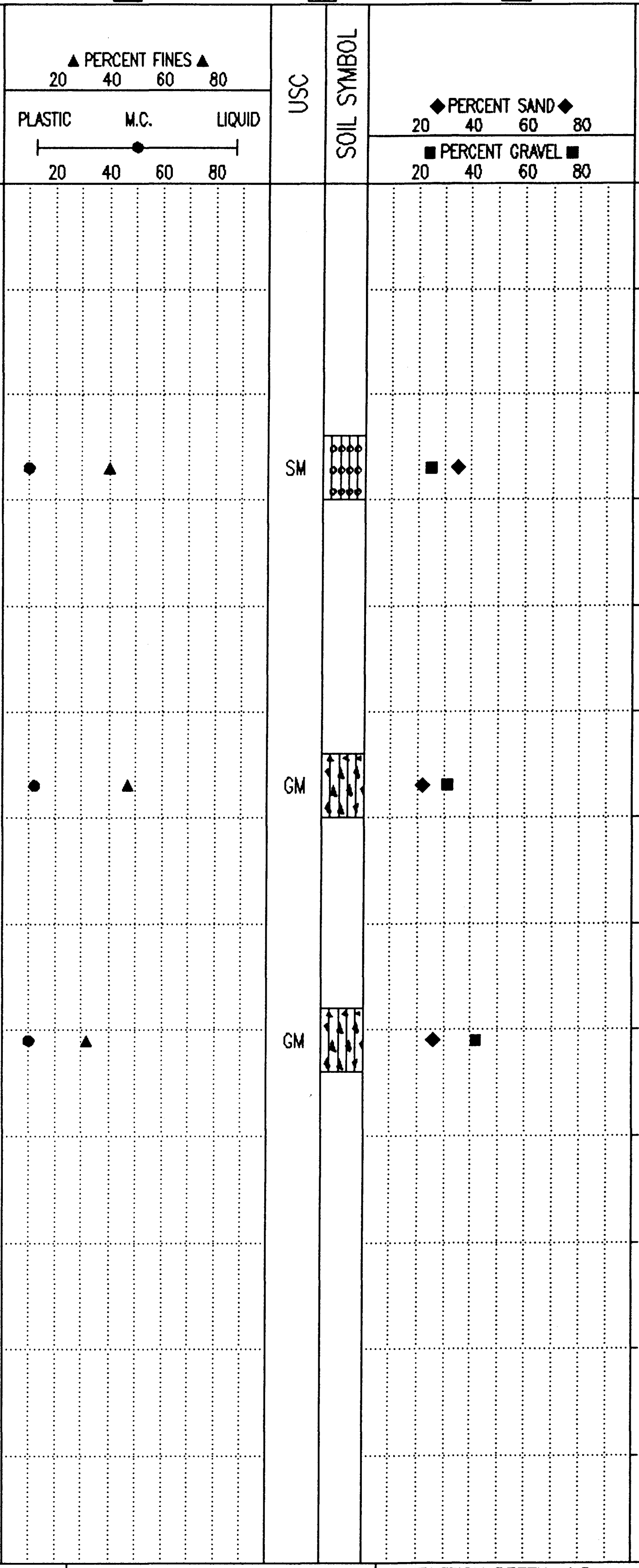
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 3.8 m
	REVIEWED BY:	COMPLETE: 93/09/30
	Fig. No:	Page 1 of 1

93/10/27 03:35PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-138
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1899+000 o/s 10m Rt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ROAD FILL AND ORGANIC MATERIAL			
1.0	SILTY SAND WITH GRAVEL (SM) -light brown -saturated	☒	314	SM
	SILTY GRAVEL WITH SAND (GM) -light brown -damp	☒	315	GM
	-saturated below 3.3m	☒	316	GM
	END HOLE at 4.2m -refusal -in ditch -water on surface			



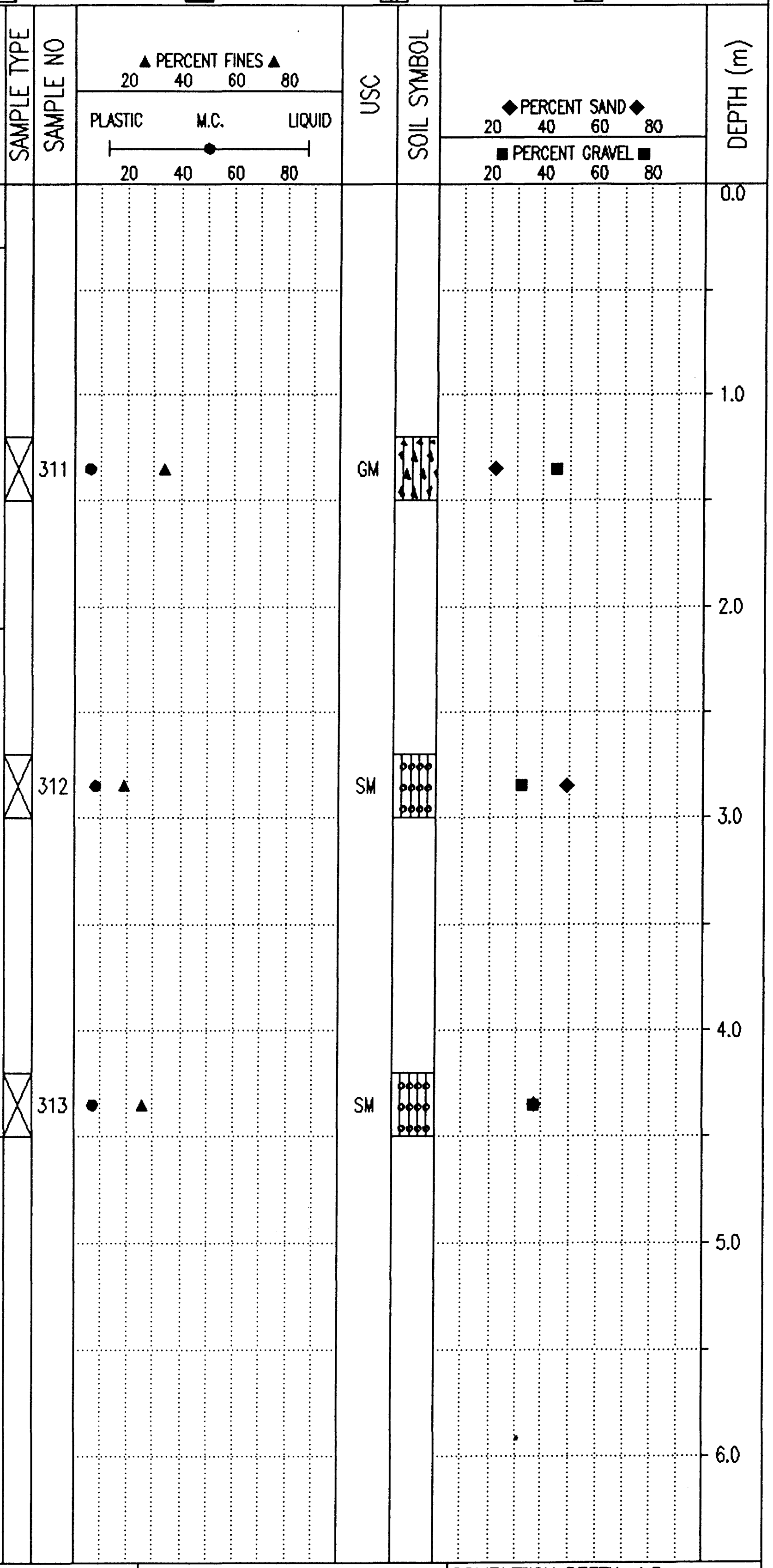
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.2 m
	REVIEWED BY:	COMPLETE: 92/08/13
	Fig. No:	Page 1 of 1

93/11/15 12:15PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-137
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1899+100 o/s 10m Rt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION
0.0	ROAD FILL AND ORGANIC MATERIAL
	SILTY GRAVEL WITH SAND (GM) -light brown -dry
2.0	SILTY SAND WITH GRAVEL (SM) -light brown -damp -saturated below 4.0m
4.5	END HOLE at 4.5m -in ditch



Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/13
	Fig. No:	Page 1 of 1

93/11/15 12:14PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 257-20
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1899+100 o/s 46m Rt.	ELEVATION: 0.00 (m)

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

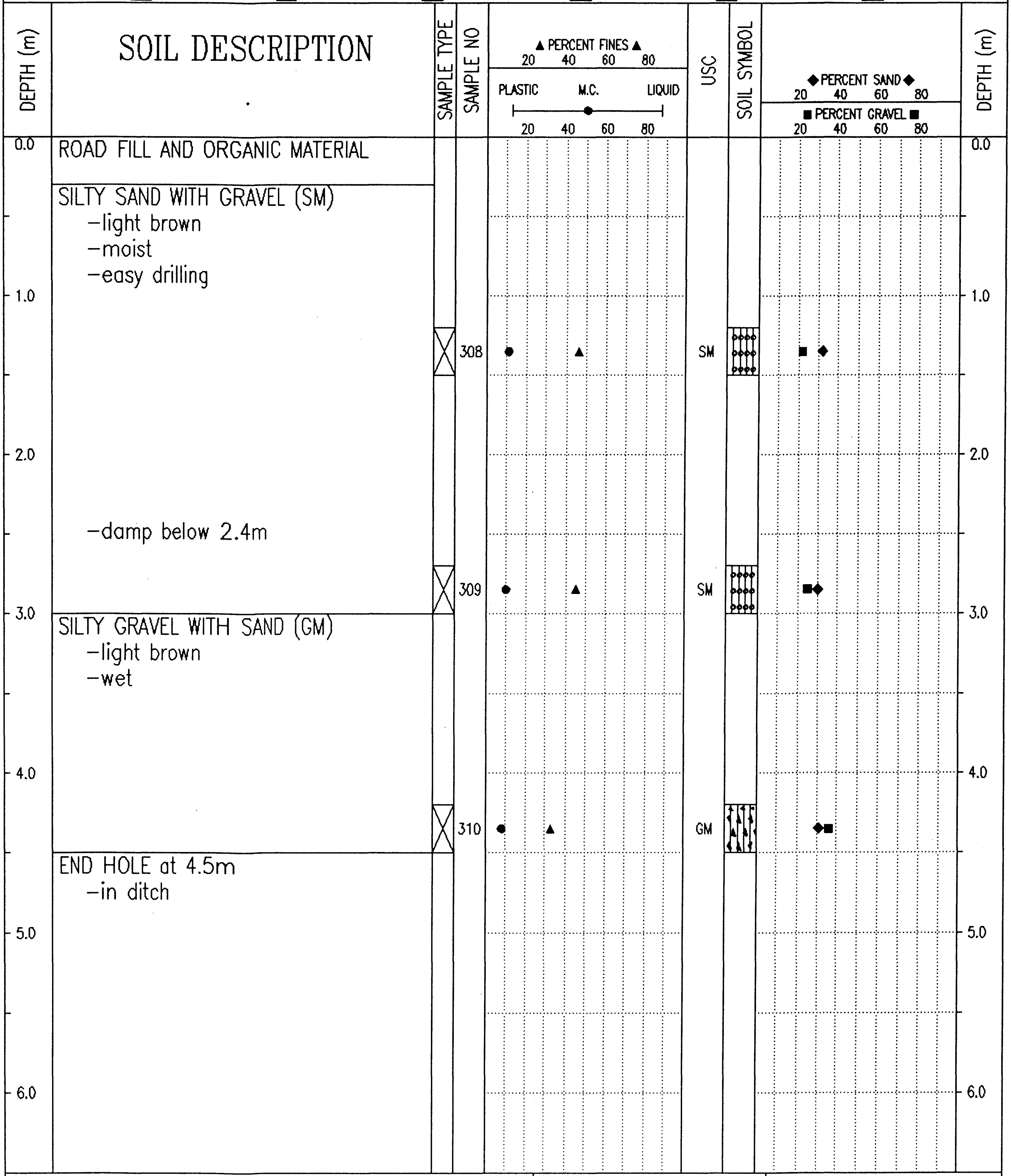
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC MATERIAL							0.0
	ICE AND SOIL							
	GRAVEL, ICE AND SOIL							
1.0								1.0
	SILT (ML) -brown -frozen with visible ice (Vx)							
2.0		▤	57	● ▲	ML	▥	◆	2.0
	END HOLE at 2.4m -refusal -edge of clearing							
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 2.4 m
	REVIEWED BY:	COMPLETE: 93/09/30
	Fig. No:	Page 1 of 1

94/03/25 04:16PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-136
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1899+200 o/s 10m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◸ S.P.T. ☒ AUGER ☰ BULK ◫ TUBE ◧ CORE



ROAD FILL AND ORGANIC MATERIAL

SILTY SAND WITH GRAVEL (SM)
-light brown
-moist
-easy drilling

-damp below 2.4m

SILTY GRAVEL WITH SAND (GM)
-light brown
-wet

END HOLE at 4.5m
-in ditch

SAMPLE TYPE	SAMPLE NO	USC
☒	308	SM
☒	309	SM
☒	310	GM

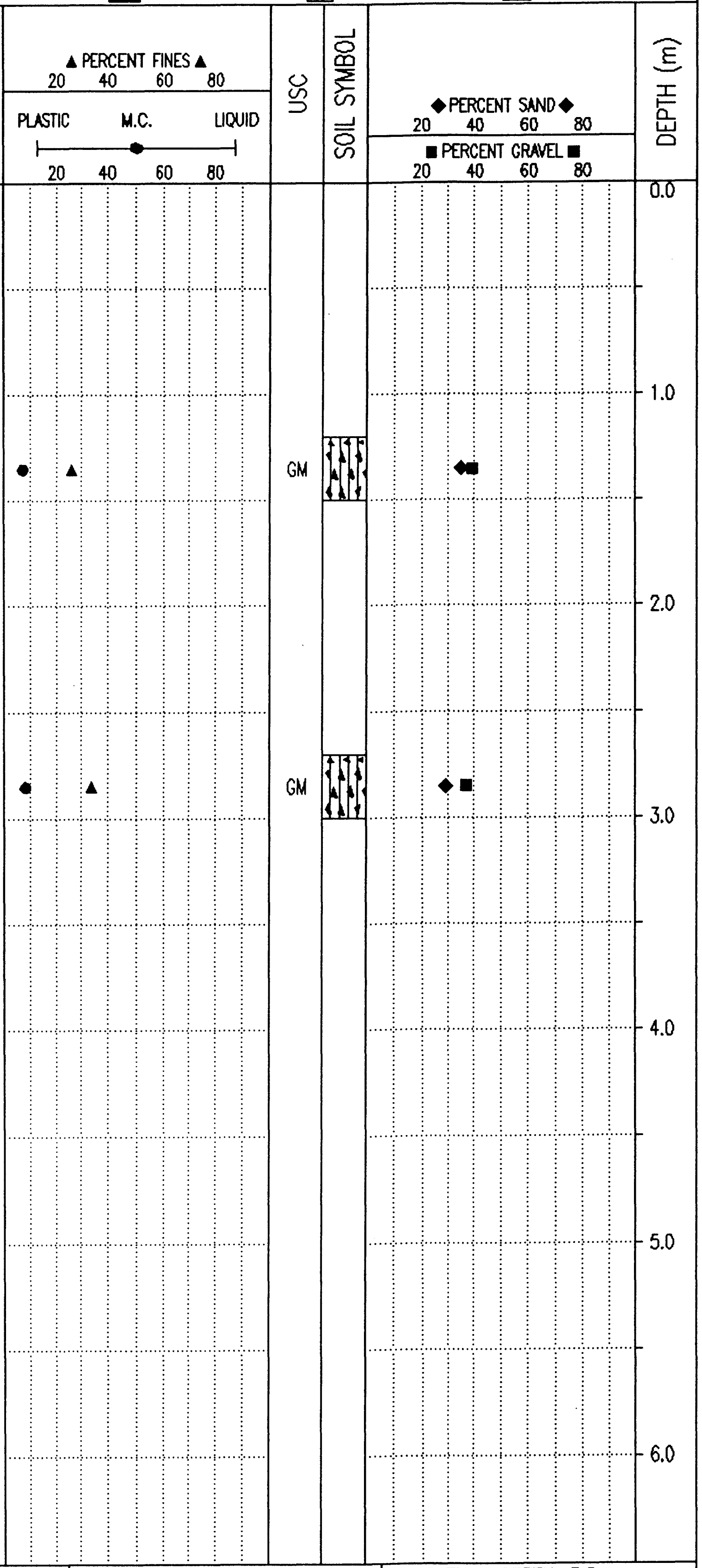
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/13
	Fig. No:	Page 1 of 1

93/11/15 12:12PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-135
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1899+300 o/s 7m Rt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ROAD FILL AND ORGANIC MATERIAL			
	SILTY GRAVEL WITH SAND (GM) -light brown -wet			
1.0				
		☒	306	GM
2.0				
	-moist below 2.4m			
		☒	307	GM
3.0	END HOLE at 3.0m -refusal -in ditch			
4.0				
5.0				
6.0				



Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 3.0 m
	REVIEWED BY:	COMPLETE: 92/08/13
	Fig. No:	Page 1 of 1

93/11/15 12:11PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 257-21
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1899+300 o/s 35m Rt.	ELEVATION: 0.00 (m)

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

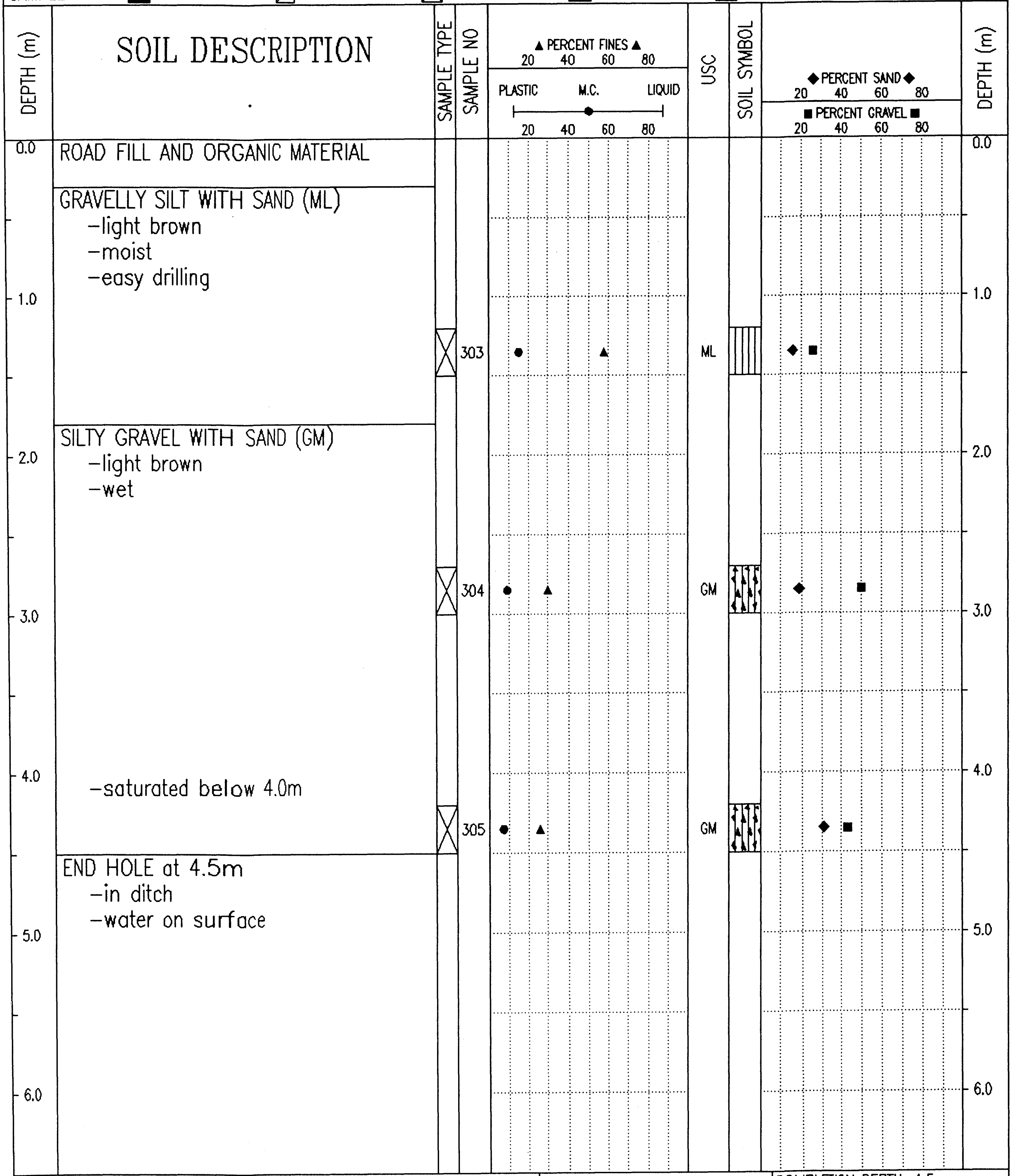
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC MATERIAL							0.0
	ORGANIC SILT -black -wet							
1.0	SILT -brown -saturated -some gravel							1.0
	ICE AND SILT -white and brown -frozen							
2.0								2.0
	END HOLE at 2.4m -backhoe sinking -on edge of clearing							
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 2.4 m
	REVIEWED BY:	COMPLETE: 93/10/01
	Fig. No:	Page 1 of 1

94/03/25 04:18PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-134
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1899+400	ELEVATION: 0.00 (m)

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



0.0 ROAD FILL AND ORGANIC MATERIAL

GRAVELLY SILT WITH SAND (ML)
- light brown
- moist
- easy drilling

SILTY GRAVEL WITH SAND (GM)
- light brown
- wet
- saturated below 4.0m

END HOLE at 4.5m
- in ditch
- water on surface

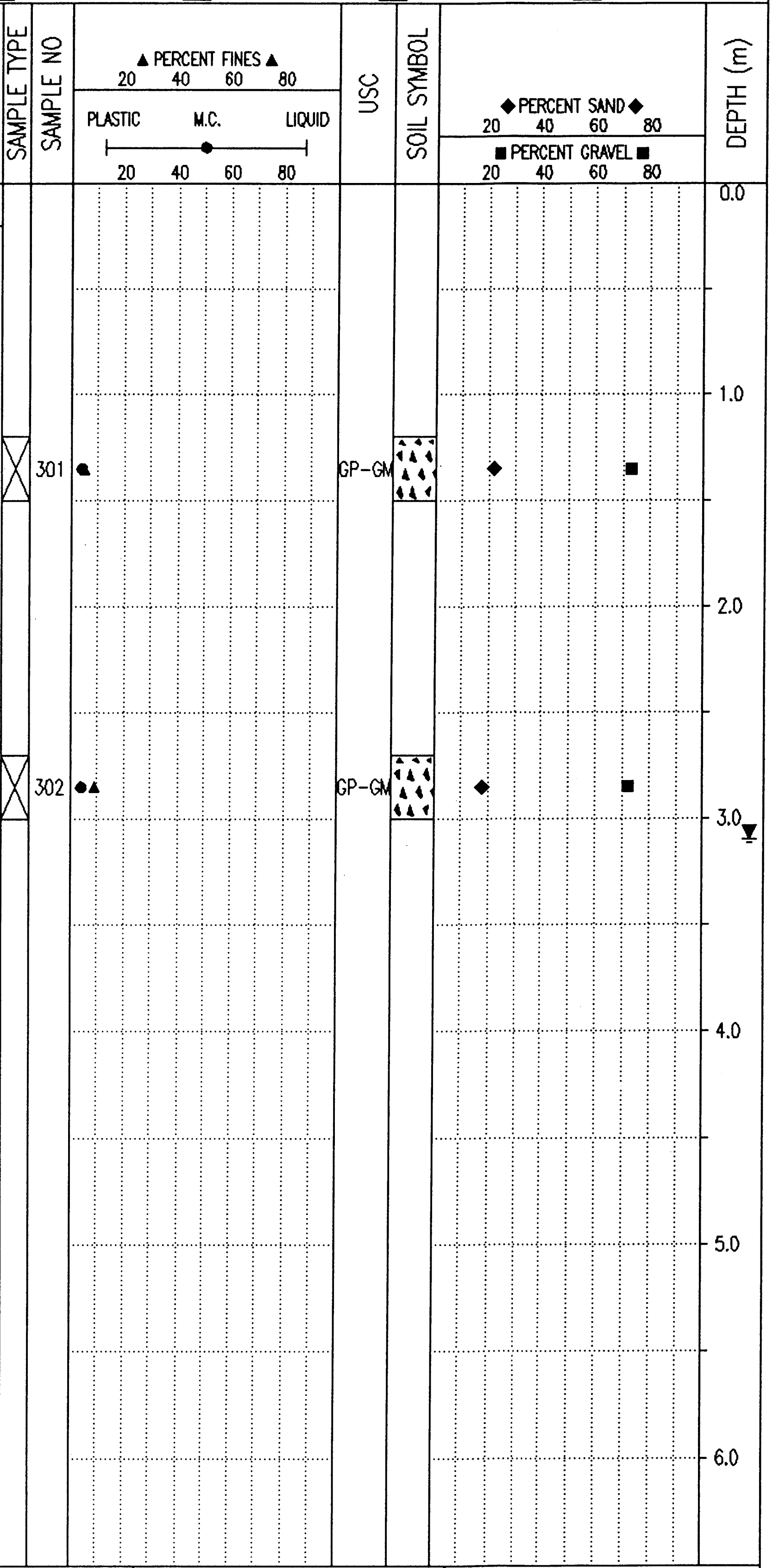
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/13
	Fig. No:	Page 1 of 1

93/11/15 12:09PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-133
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1899+500	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE NO	USC
0.0	ROAD FILL AND ORGANIC MATERIAL		
	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -wet -hard drilling		
1.0		301	GP-GM
2.0	-saturated below 2.6m	302	GP-GM
3.0 ▼	SILTY SAND -gray -saturated -very easy drilling		
4.0			
	END HOLE at 4.5m -in ditch		
5.0			
6.0			



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Transportation Engineering

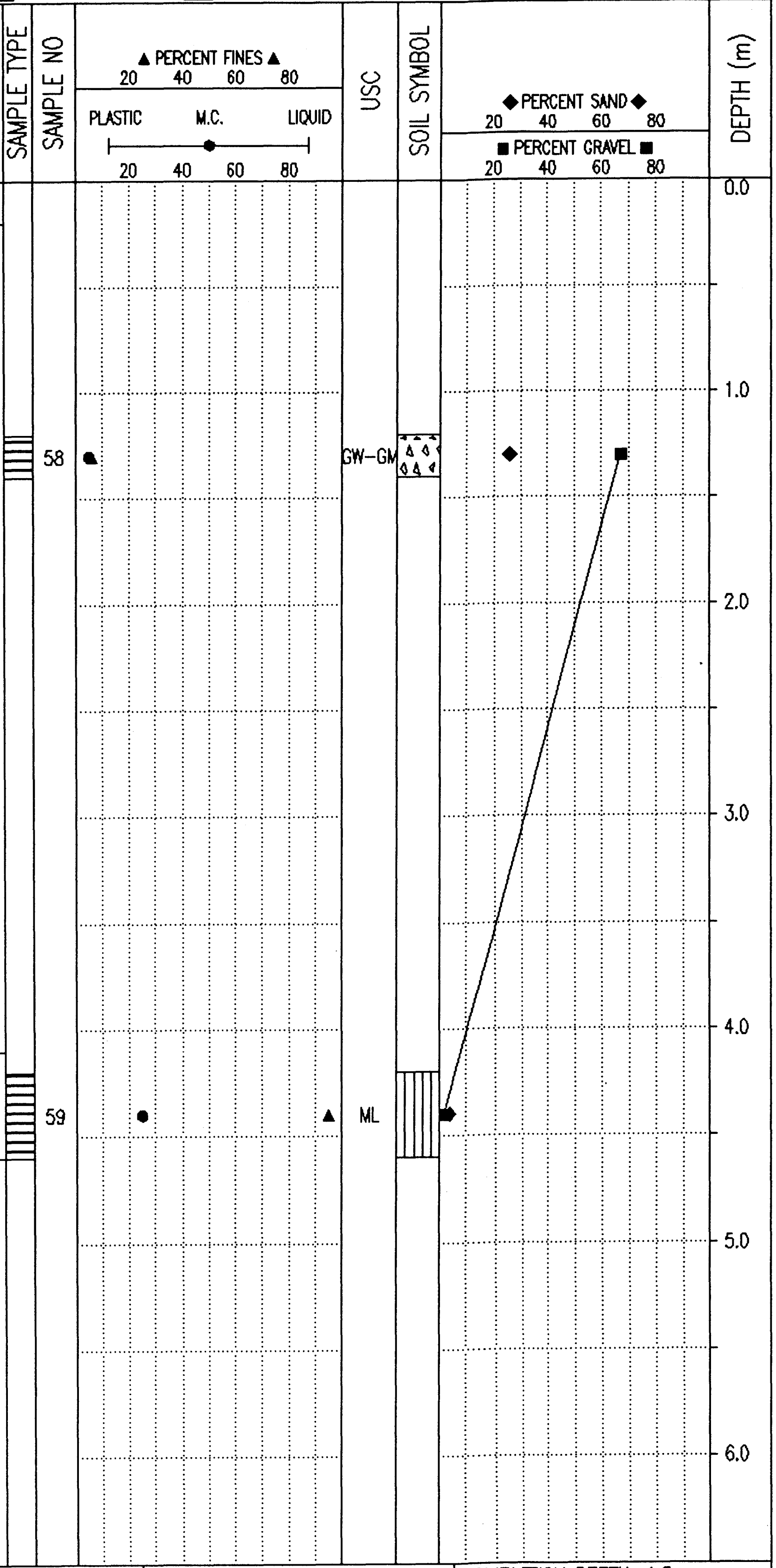
LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
REVIEWED BY:	COMPLETE: 92/08/13
Fig. No:	Page 1 of 1

93/11/15 12:07PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 257-22
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1899+500 o/s 25m Rt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION
0.0	ORGANIC MATERIAL
	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -maximum 100mm material -sub-rounded to rounded -frozen with visible ice (Vx) below 0.8m
1.0	
2.0	
3.0	
4.0	
	SILT (ML) -brown -frozen with visible ice (Vx)
	END HOLE at 4.6m
5.0	
6.0	



LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
REVIEWED BY:	COMPLETE: 93/10/01
Fig. No:	Page 1 of 1

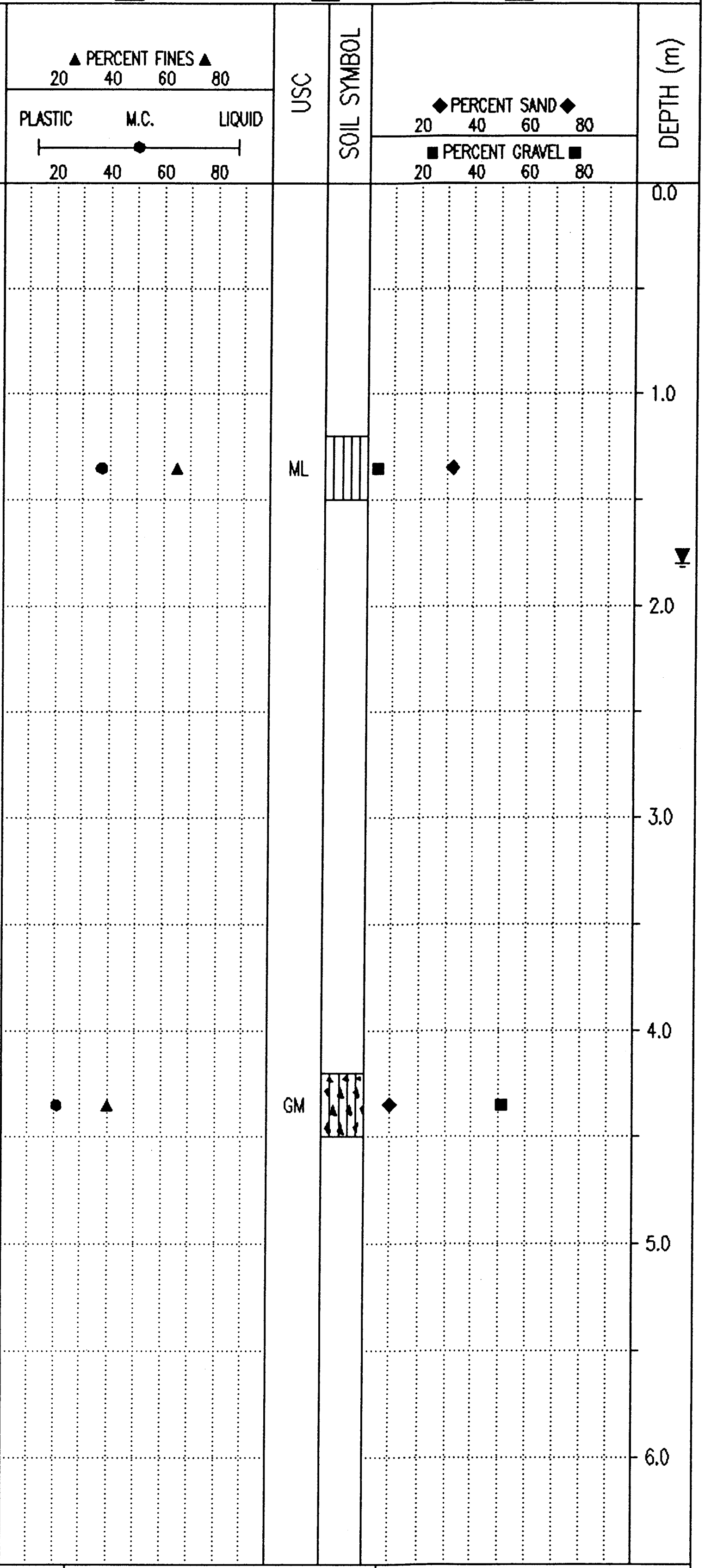
Government of Yukon
Transportation Engineering

93/10/28 01:52PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-132
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1899+600	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO
0.0	ORGANIC MATERIAL		
1.0	SANDY SILT (ML) -light brown -damp -organic -water at 1.8m	☒	299
2.0	SILTY GRAVEL (GM) -gray -wet	☒	300
	END HOLE at 4.5m -willow cover		



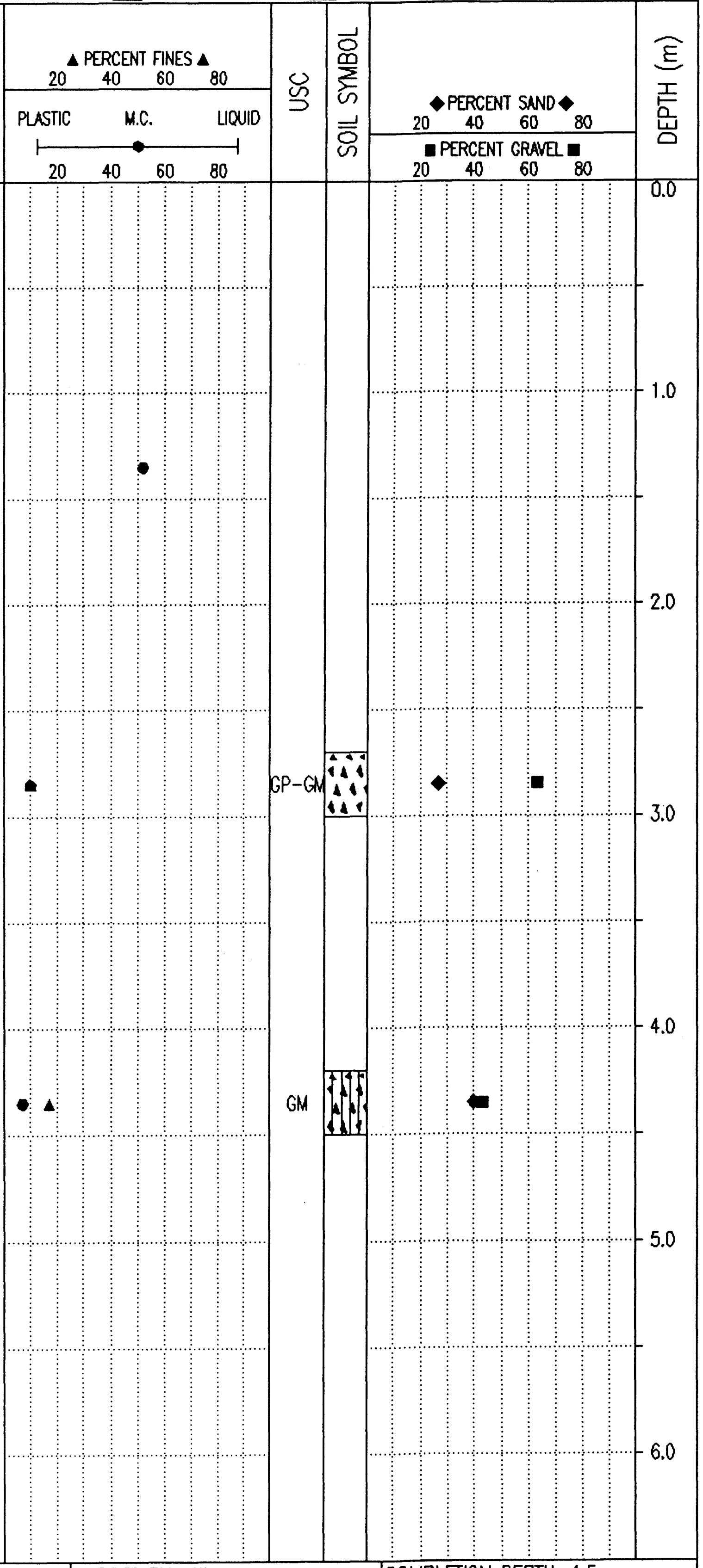
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/12
	Fig. No:	Page 1 of 1

93/11/15 12:06PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-131
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1899+700	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
	SILT WITH SAND AND GRAVEL –dark brown –frozen (Nf) –organics	☒	296	
2.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP–GM) –dark brown –frozen (Nf)	☒	297	GP-GM
3.0	SILTY GRAVEL WITH SAND (GM) –gray –frozen (Nf)	☒	298	GM
4.5	END HOLE at 4.5m –willow cover			



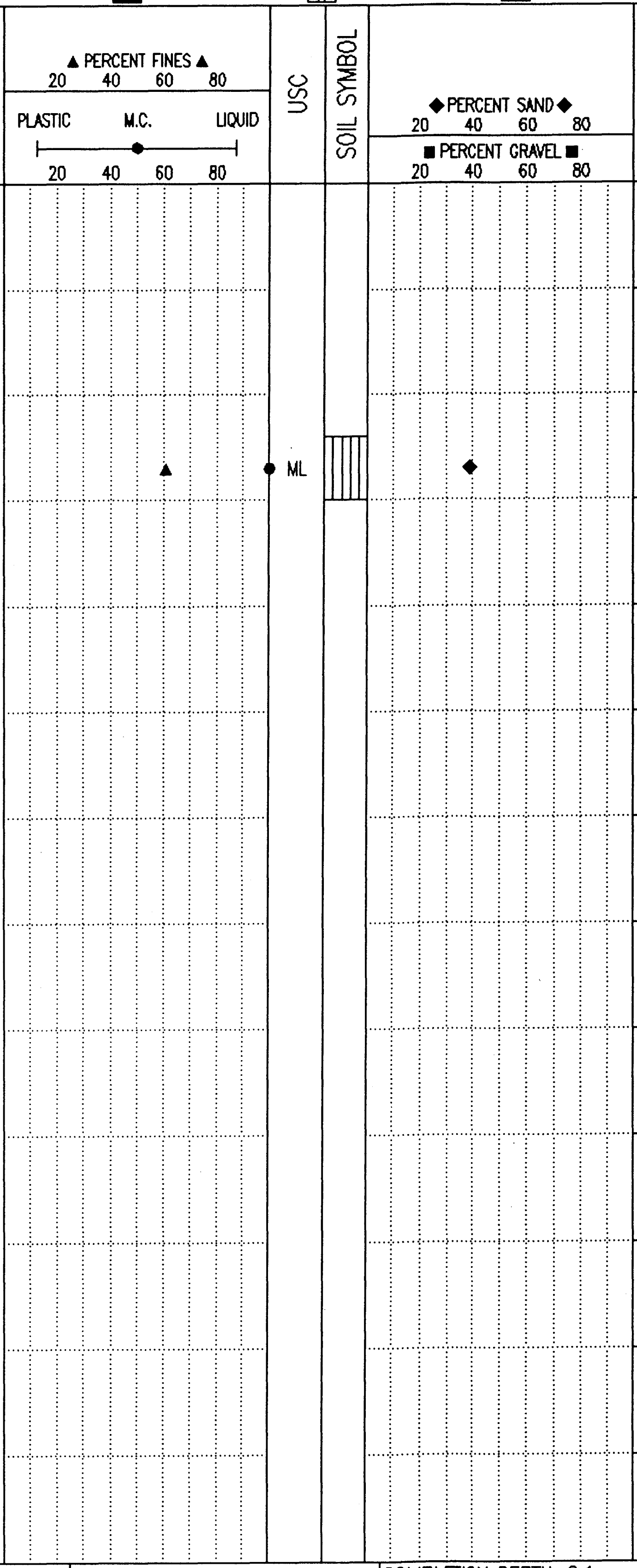
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/12
	Fig. No:	Page 1 of 1

93/11/15 12:04PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-130
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1899+800	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 MATERIAL				
1.0	SANDY SILT (ML) -dark brown -frozen (Vx) with visible ice -organic	☒	295	ML	▥
2.0	END HOLE at 2.1m -refusal -spruce and willow cover				



Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 2.1 m
	REVIEWED BY:	COMPLETE: 92/08/12
	Fig. No:	Page 1 of 1

93/11/15 12:03PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-129
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1899+900	ELEVATION: 0.00 (m)

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

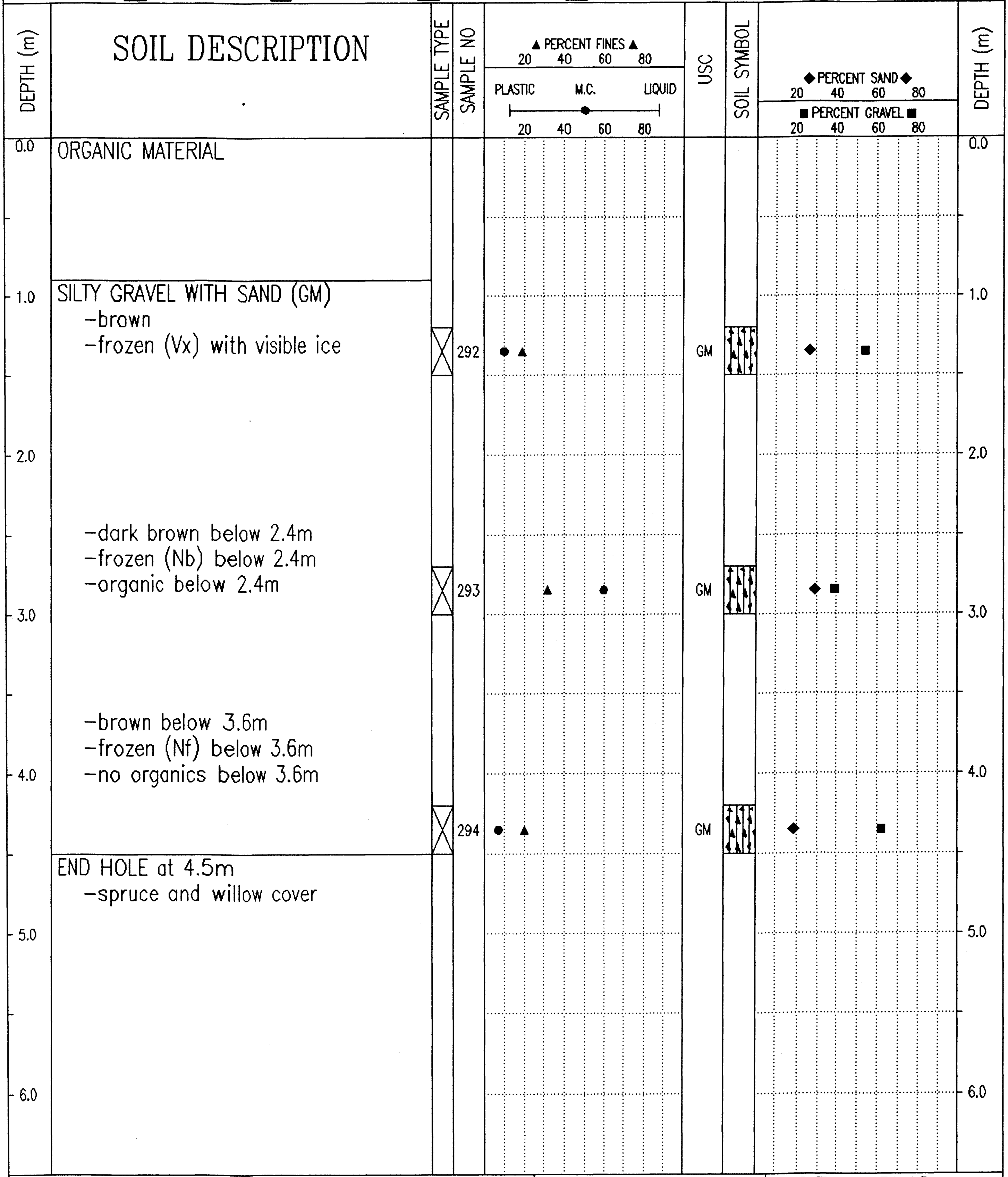
SOIL DESCRIPTION

0.0 ORGANIC MATERIAL

1.0 SILTY GRAVEL WITH SAND (GM)
- -brown
- -frozen (Vx) with visible ice
- -dark brown below 2.4m
- -frozen (Nb) below 2.4m
- -organic below 2.4m
- -brown below 3.6m
- -frozen (Nf) below 3.6m
- -no organics below 3.6m

END HOLE at 4.5m
- -spruce and willow cover

SAMPLE TYPE	SAMPLE NO	USC
☒	292	GM
☒	293	GM
☒	294	GM

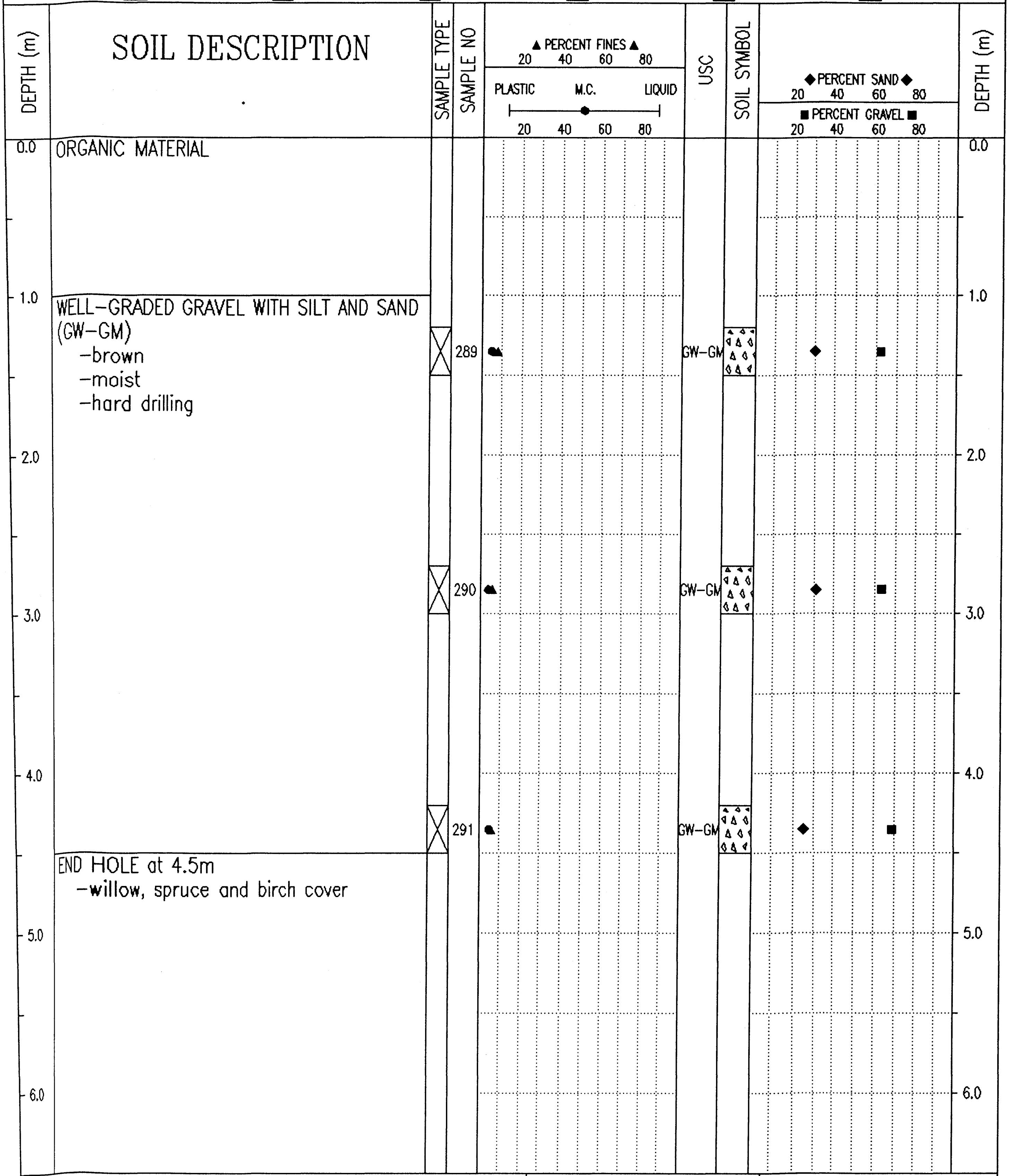


Government of Yukon Transportation Engineering	LOGGED BY: AW REVIEWED BY: Fig. No:
COMPLETION DEPTH: 4.5 m COMPLETE: 92/08/12	Page 1 of 1

93/11/15 12:01PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-128
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1900+000	ELEVATION: 0.00 (m)

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



ORGANIC MATERIAL

WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM)
-brown
-moist
-hard drilling

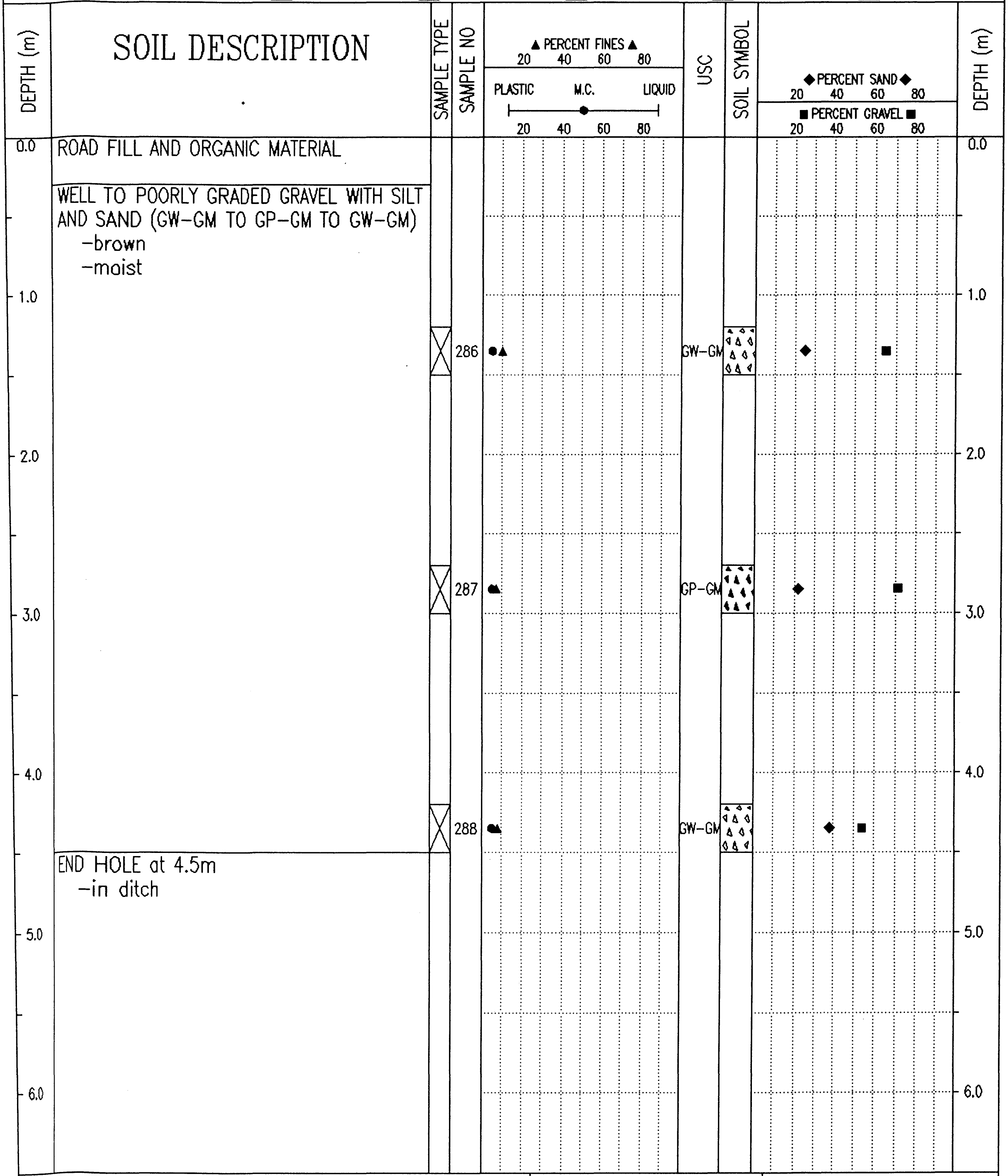
END HOLE at 4.5m
-willow, spruce and birch cover

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/12
	Fig. No:	Page 1 of 1

93/11/15 12:00PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-127
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1900+100	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◸ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◨ CORE



DEPTH (m)	SOIL DESCRIPTION	SAMPLE NO	USC
0.0	ROAD FILL AND ORGANIC MATERIAL		
	WELL TO POORLY GRADED GRAVEL WITH SILT AND SAND (GW-GM TO GP-GM TO GW-GM) -brown -moist		
		286	GW-GM
		287	GP-GM
		288	GW-GM
4.5	END HOLE at 4.5m -in ditch		

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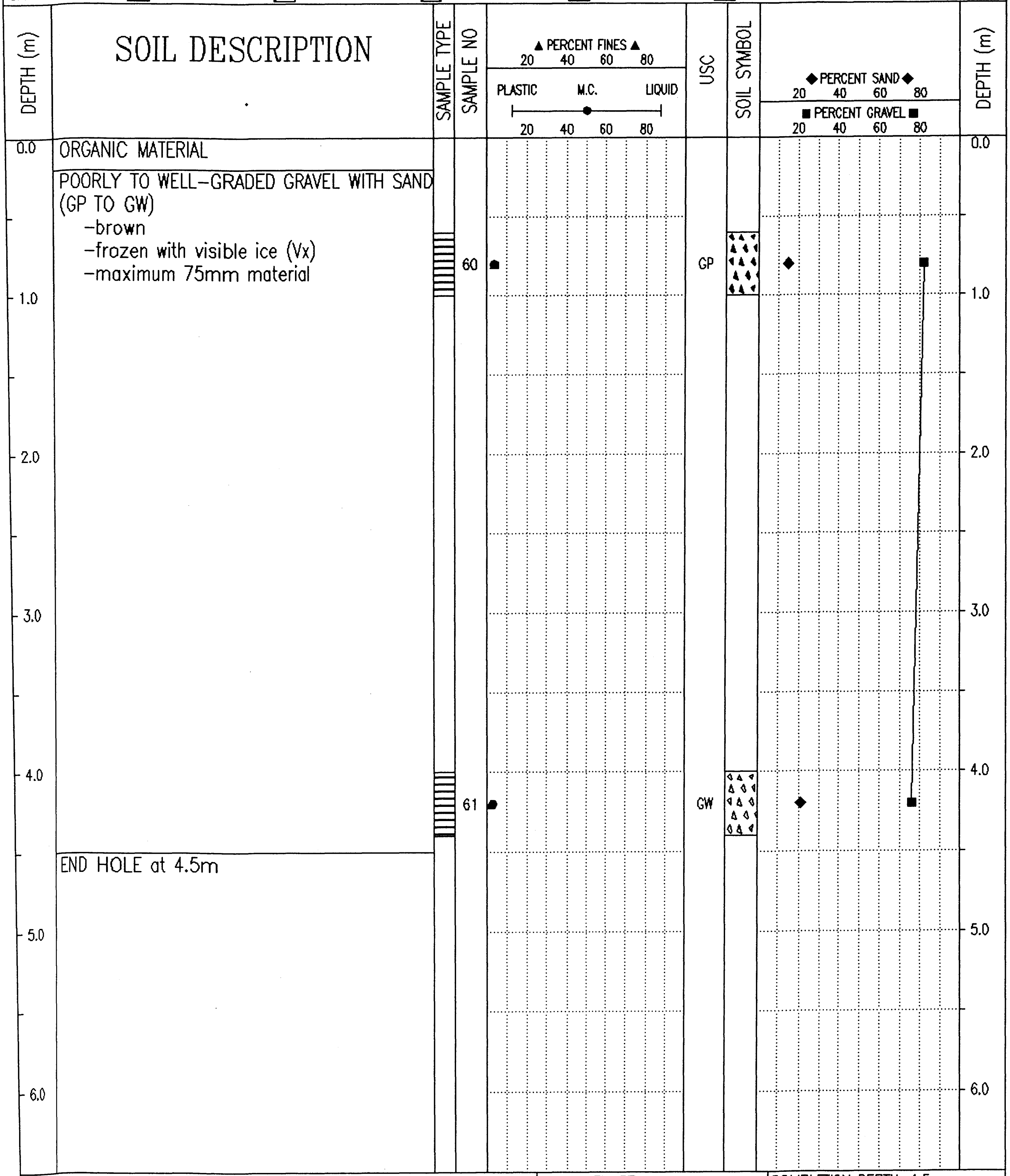
LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
REVIEWED BY:	COMPLETE: 92/08/12
Fig. No:	Page 1 of 1

93/11/15 11:58AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 257-23
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1900+125 o/s 35m Rt.	ELEVATION: 0.00 (m)

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



DEPTH (m)	SOIL DESCRIPTION	SAMPLE NO	USC
0.0	ORGANIC MATERIAL		
	POORLY TO WELL-GRADED GRAVEL WITH SAND (GP TO GW) -brown -frozen with visible ice (Vx) -maximum 75mm material	60	GP
		61	GW
4.5	END HOLE at 4.5m		

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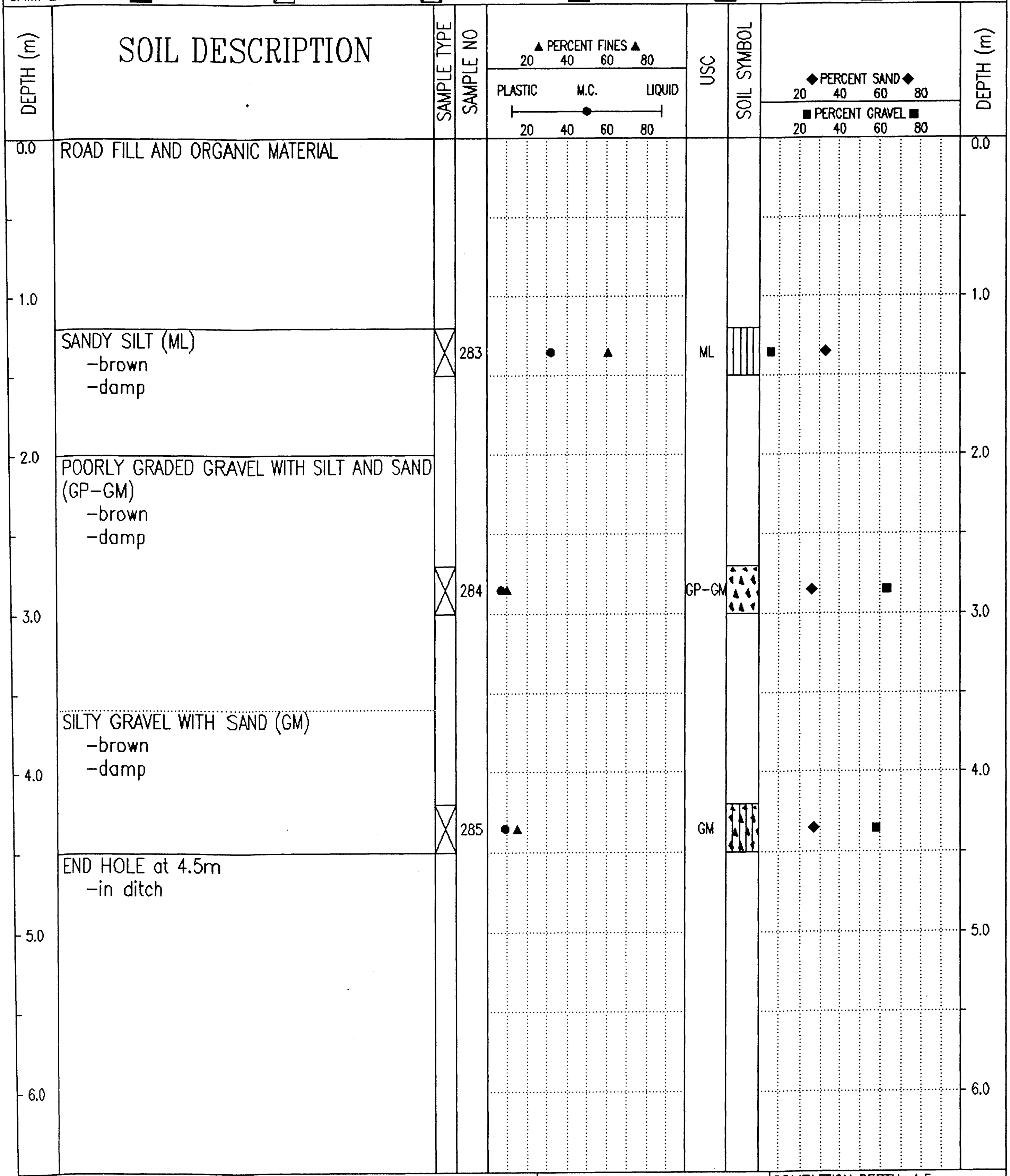
LOGGED BY: DT	COMPLETION DEPTH: 4.5 m
REVIEWED BY:	COMPLETE: 93/10/01
Fig. No:	Page 1 of 1

93/10/28 01:54PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-126
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1900+200	ELEVATION: 0.00 (m)

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



Soil description	Sample type	Sample No	USC
ROAD FILL AND ORGANIC MATERIAL			
SANDY SILT (ML) -brown -damp	☒	283	ML
POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -damp	☒	284	GP-GM
SILTY GRAVEL WITH SAND (GM) -brown -damp	☒	285	GM
END HOLE at 4.5m -in ditch			

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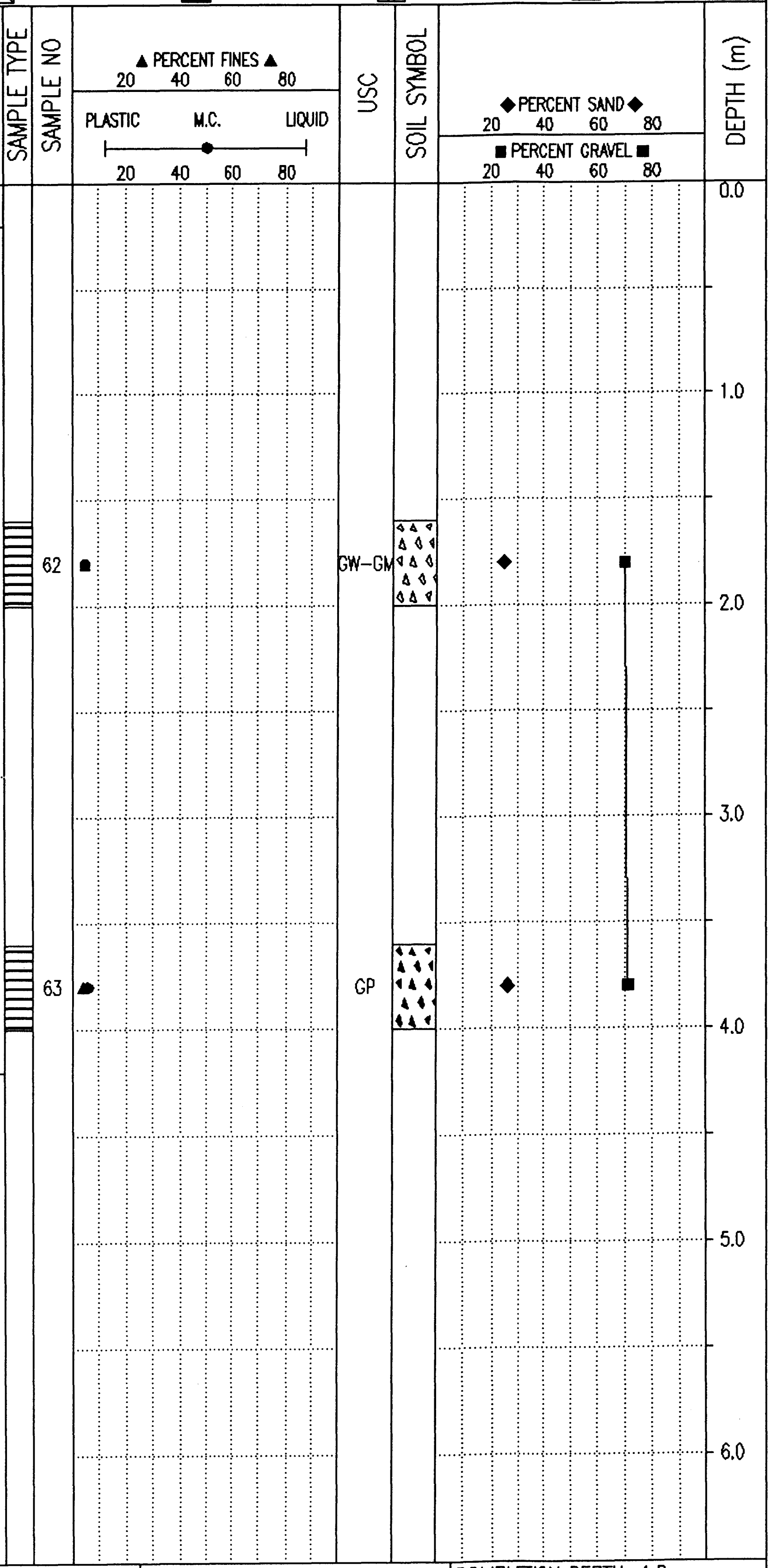
LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
REVIEWED BY:	COMPLETE: 92/08/12
Fig. No:	Page 1 of 1

93/11/15 11:57AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 257-24
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1900+250 o/s 15m Rt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION
0.0	ORGANIC MATERIAL
	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -wet -maximum 200mm material -estimate 20% +100mm
	-frozen below 2.4m
	POORLY GRADED GRAVEL WITH SAND (GP) -brown -frozen with visible ice (Vx) -maximum 200mm material -estimate 20% +100mm
	END HOLE at 4.2m



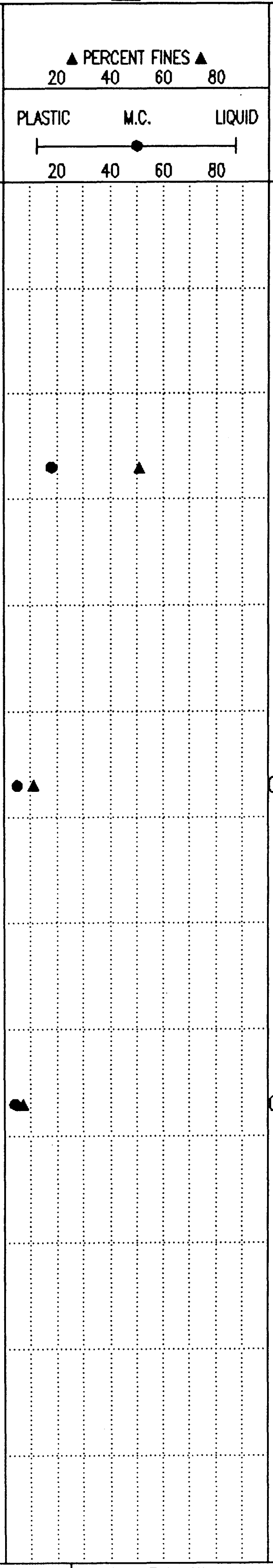
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.2 m
	REVIEWED BY:	COMPLETE: 93/10/01
	Fig. No:	Page 1 of 1

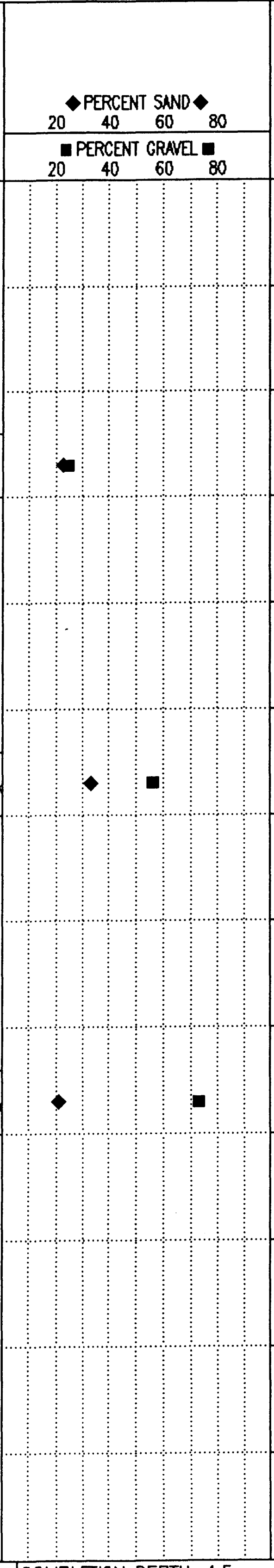
93/10/28 01:55PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-125
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1900+300	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
	GRAVELLY SILT WITH SAND (ML) -brown -damp			
1.0		☒	280	ML
	WELL TO POORLY GRADED GRAVEL WITH SILT AND SAND (GW-GM TO GP-GM) -brown -moist			
2.0				
3.0		☒	281	GW-GM
4.0		☒	282	GP-GM
	END HOLE at 4.5m -poplar and willow cover			
5.0				
6.0				



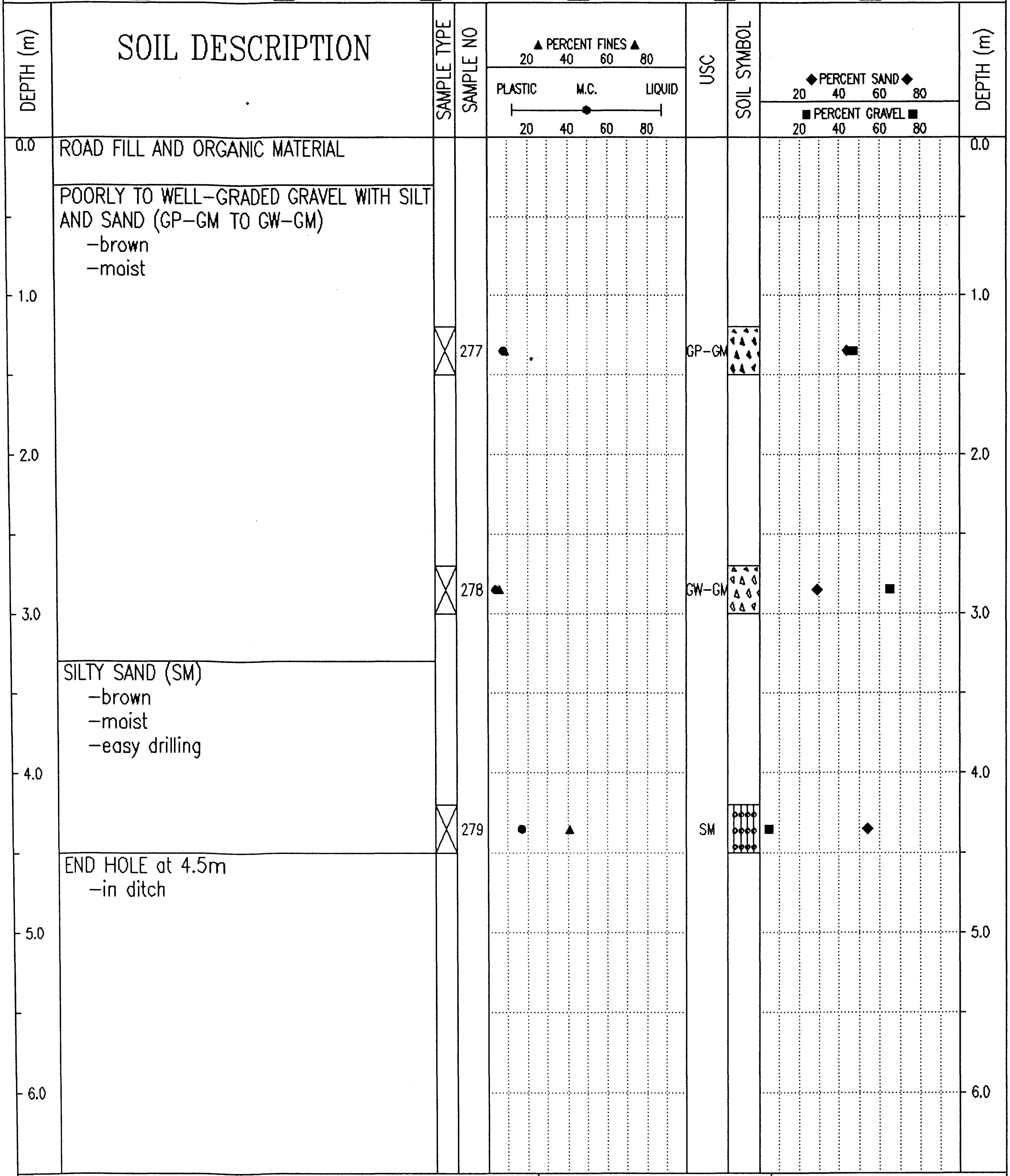


Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/12
	Fig. No:	Page 1 of 1

93/11/15 11:55AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-124
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1900+400	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◿ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ▌ CORE



SOIL DESCRIPTION

ROAD FILL AND ORGANIC MATERIAL

POORLY TO WELL-GRADED GRAVEL WITH SILT AND SAND (GP-GM TO GW-GM)
- brown
- moist

SILTY SAND (SM)
- brown
- moist
- easy drilling

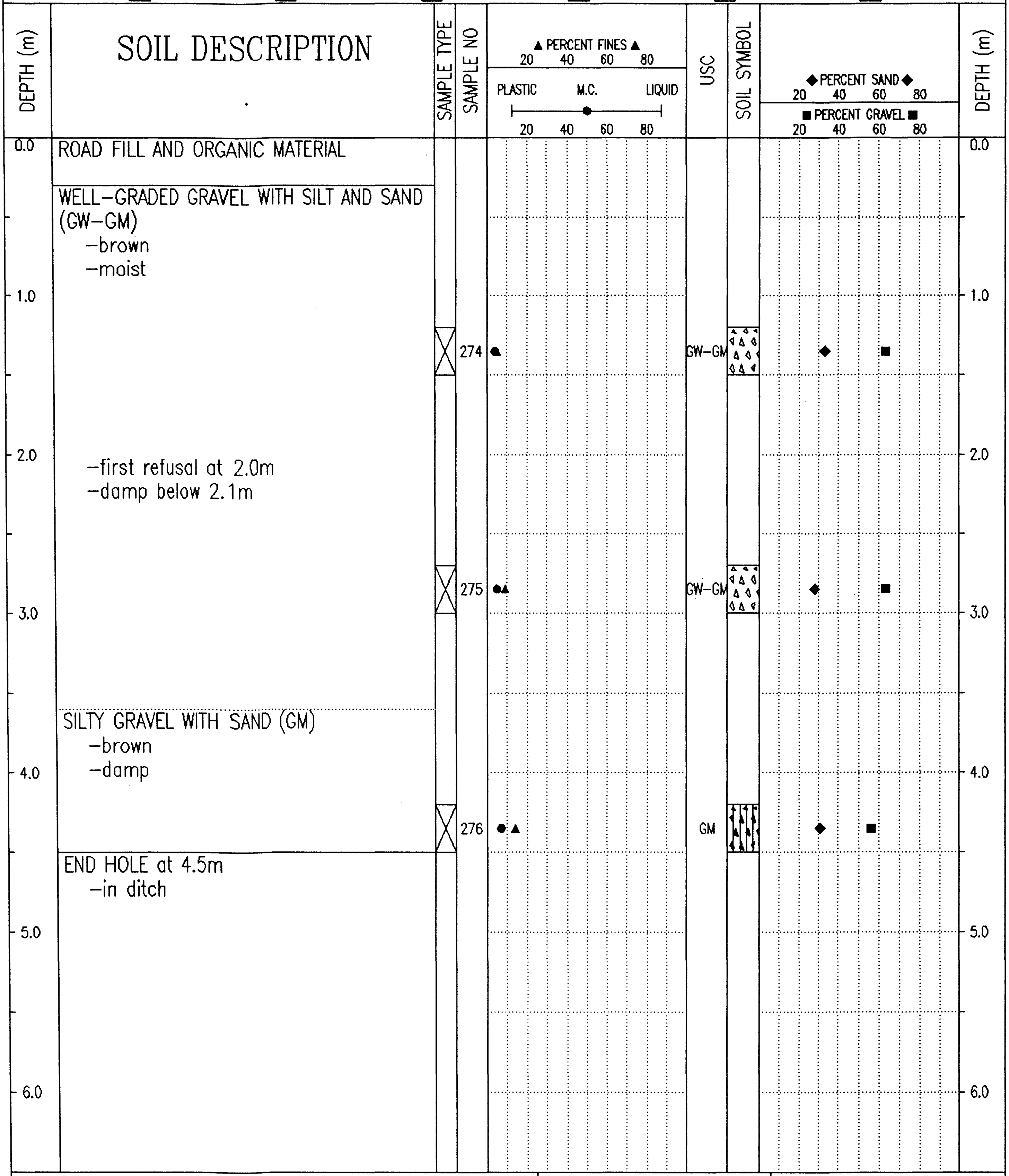
END HOLE at 4.5m
- in ditch

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/12
	Fig. No:	Page 1 of 1

93/11/15 11:54AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-123
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1900+500	ELEVATION: 0.00 (m)

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



Depth (m)	SOIL DESCRIPTION
0.0	ROAD FILL AND ORGANIC MATERIAL
	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -moist
2.0	-first refusal at 2.0m -damp below 2.1m
	SILTY GRAVEL WITH SAND (GM) -brown -damp
4.5	END HOLE at 4.5m -in ditch

SAMPLE TYPE	SAMPLE NO	USC
AUGER	274	GW-GM
AUGER	275	GW-GM
AUGER	276	GM

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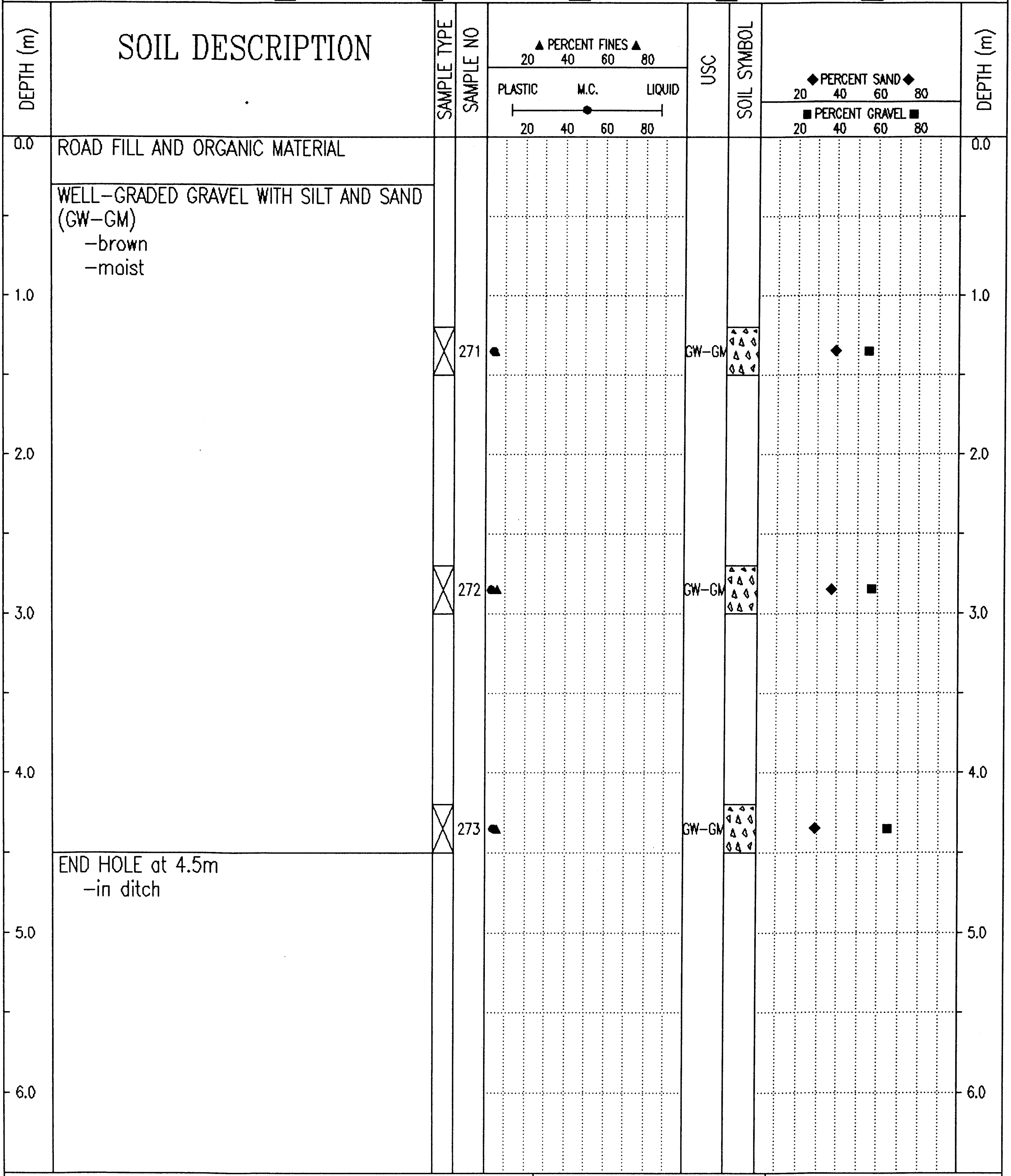
LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
REVIEWED BY:	COMPLETE: 92/08/12
Fig. No:	Page 1 of 1

93/11/15 11:52AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-122
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1900+600 o/s 3m Rt.	ELEVATION: 0.00 (m)

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



ROAD FILL AND ORGANIC MATERIAL

WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM)
-brown
-moist

END HOLE at 4.5m
-in ditch

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/12
	Fig. No:	Page 1 of 1

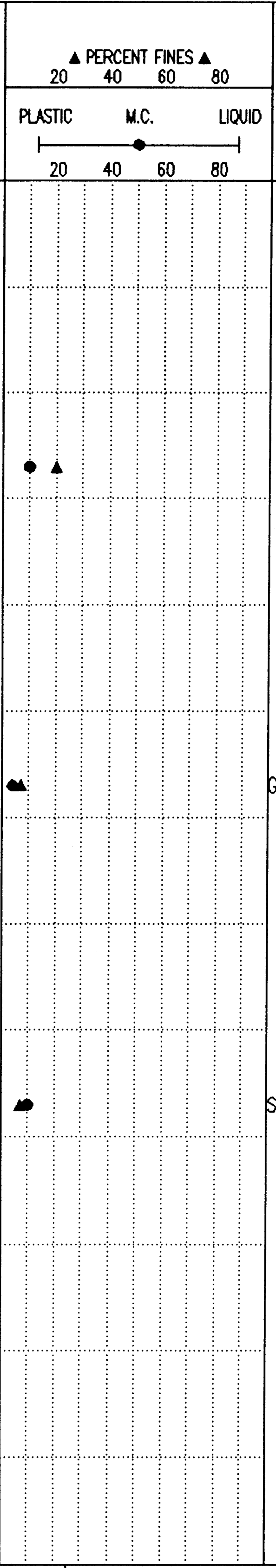
93/11/15 11:50AM

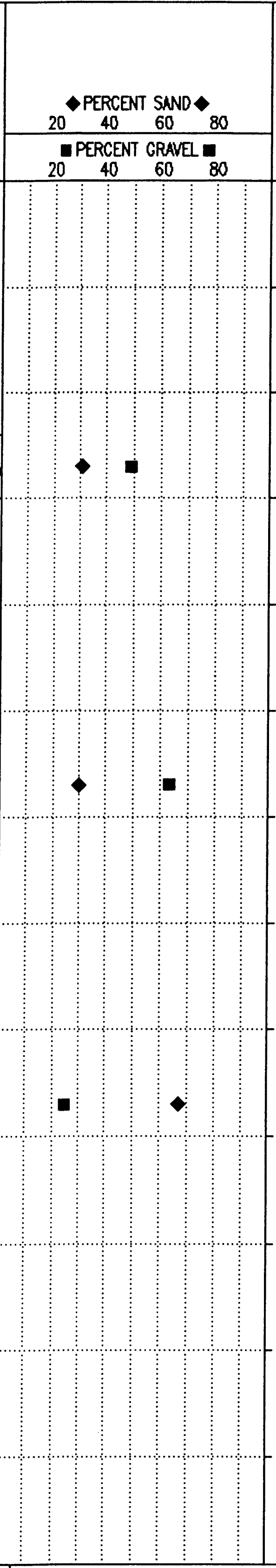
SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-121
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1900+700 o/s 4m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◺ S.P.T. ☒ AUGER ⊟ BULK ◫ TUBE ◨ CORE

SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
ROAD FILL AND ORGANIC MATERIAL			
SILTY GRAVEL WITH SAND (GM) –brown –moist	☒	268	GM
WELL–GRADED GRAVEL WITH SAND (GW–GM) –brown –moist	☒	269	GW–GM
POORLY GRADED SAND WITH SILT AND GRAVEL (SP–SM) –brown –moist	☒	270	SP–SM
END HOLE at 4.5m –in ditch			

DEPTH (m): 0.0, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0



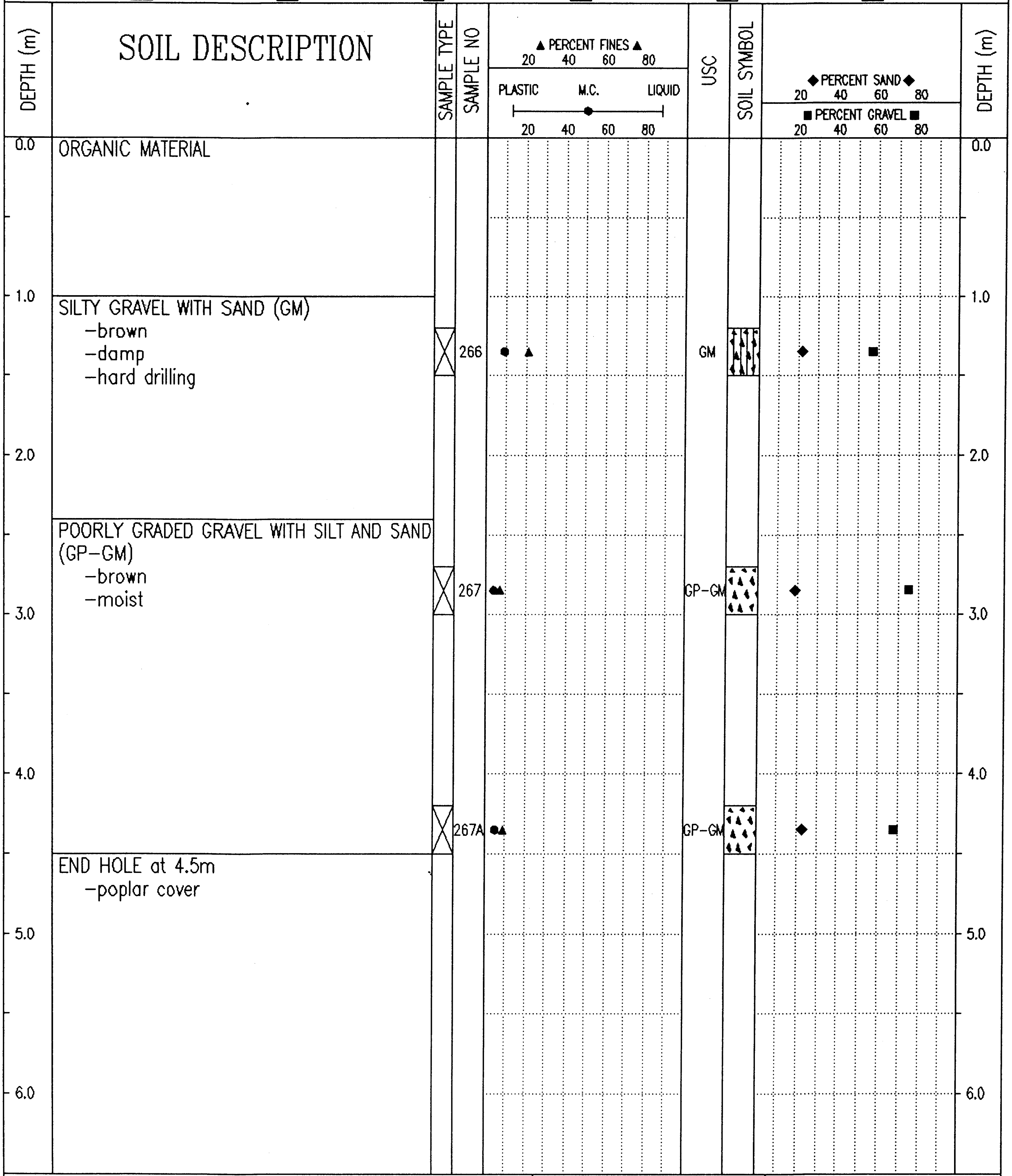


Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/12
	Fig. No:	Page 1 of 1

93/11/15 11:49AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196–120
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1900+800 o/s 5m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◿ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◨ CORE



0.0 ORGANIC MATERIAL

1.0 SILTY GRAVEL WITH SAND (GM)
- brown
- damp
- hard drilling

POORLY GRADED GRAVEL WITH SILT AND SAND (GP–GM)
- brown
- moist

END HOLE at 4.5m
- poplar cover

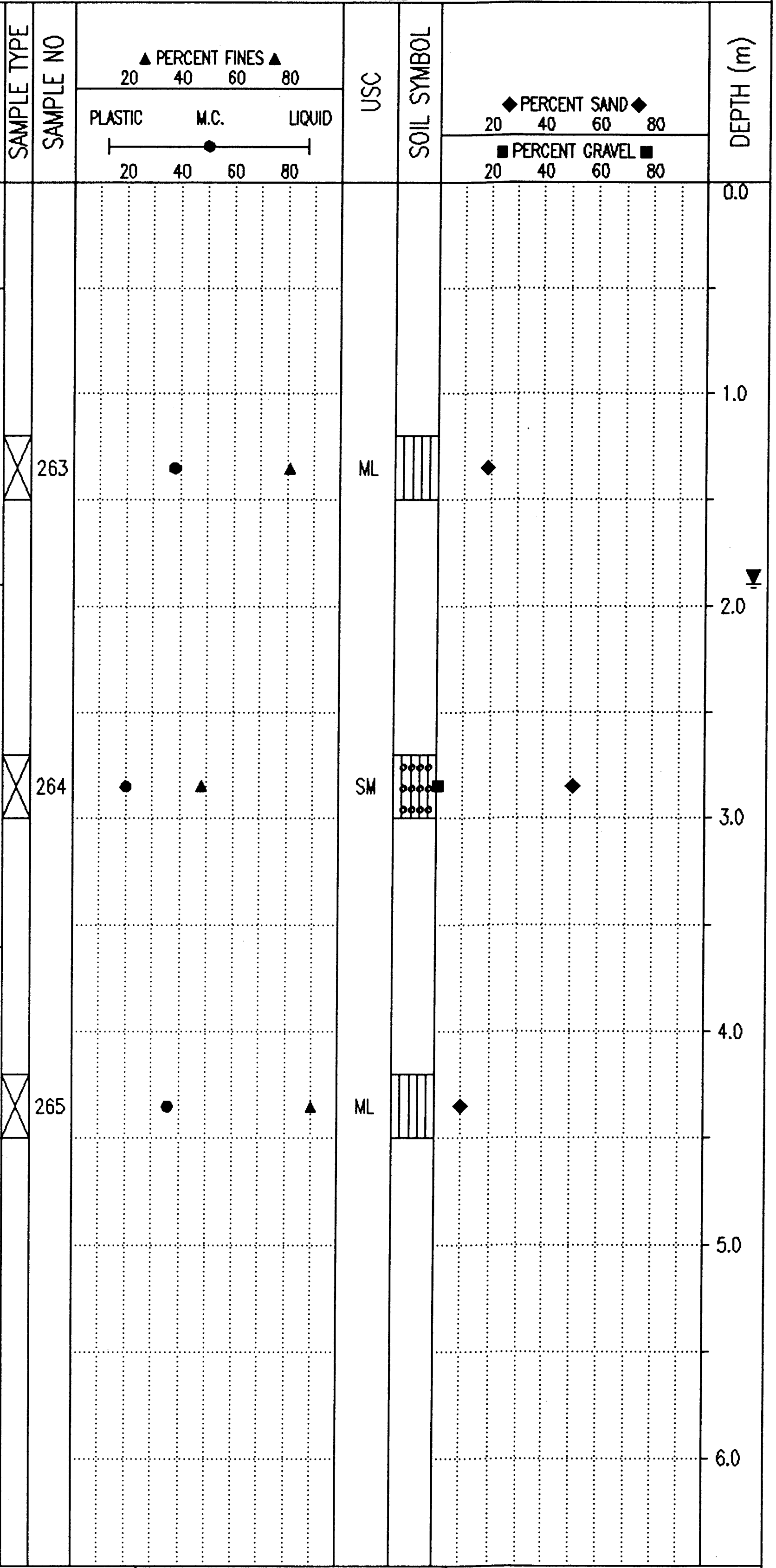
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/12
	Fig. No:	Page 1 of 1

93/11/15 11:47AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-119
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1900+900 o/s 5m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◿ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◫ CORE

DEPTH (m)	SOIL DESCRIPTION
0.0	ORGANIC MATERIAL
	SILT WITH SAND (ML) -dark brown -moist -organic -easy drilling
1.0	
2.0	SILTY SAND (SM) -light brown -water at 1.9m
3.0	
4.0	SILT (ML) -light brown -wet -organic
	END HOLE at 4.5m -willow and swamp cover
5.0	
6.0	

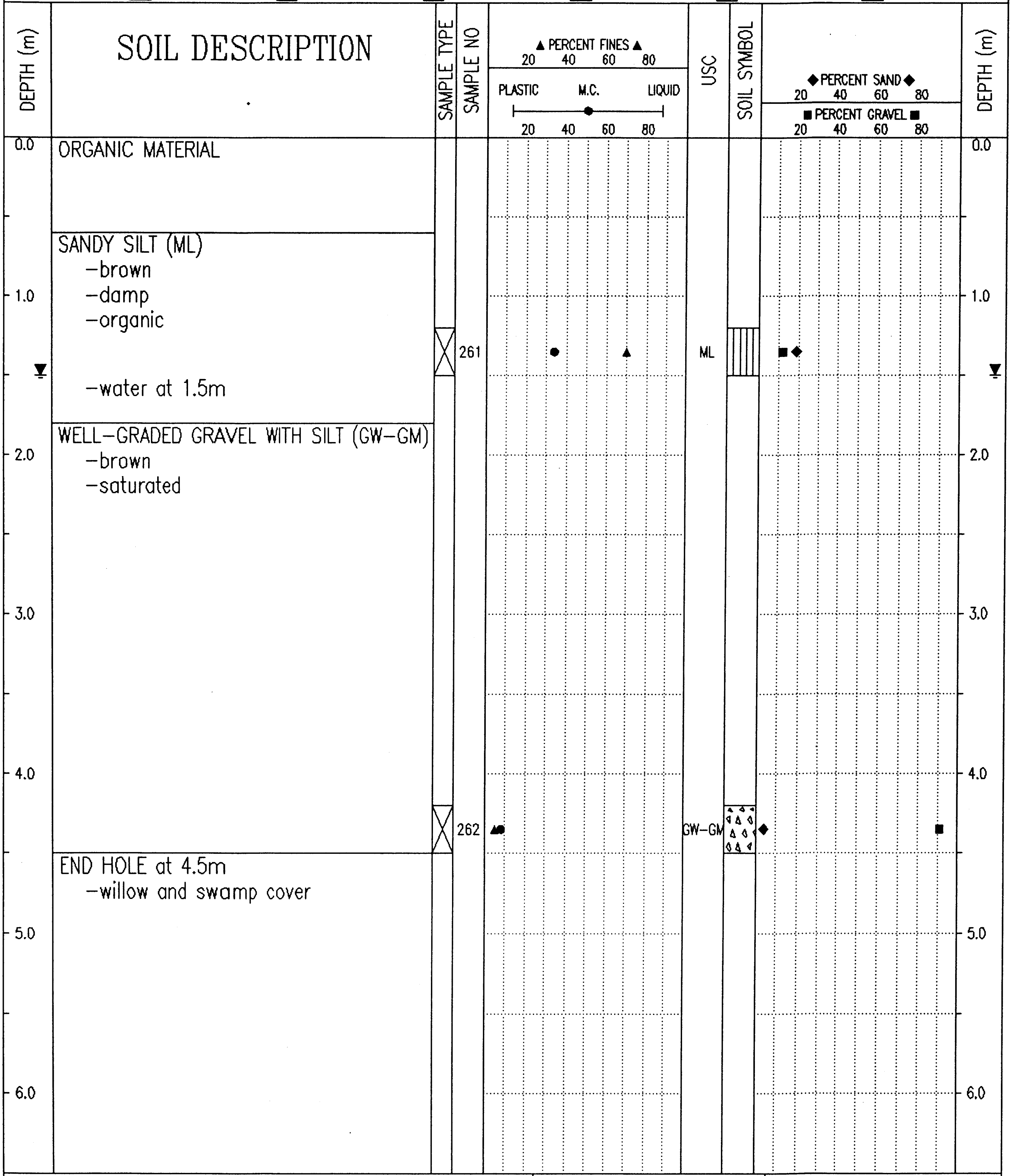


Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/12
	Fig. No:	Page 1 of 1

93/11/15 11:46AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-118
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1901+000 o/s 5m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◿ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◨ CORE



DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
0.6	SANDY SILT (ML) -brown -damp -organic -water at 1.5m	☒ AUGER	261	ML
1.8	WELL-GRADED GRAVEL WITH SILT (GW-GM) -brown -saturated	☒ AUGER	262	GW-GM
4.5	END HOLE at 4.5m -willow and swamp cover			

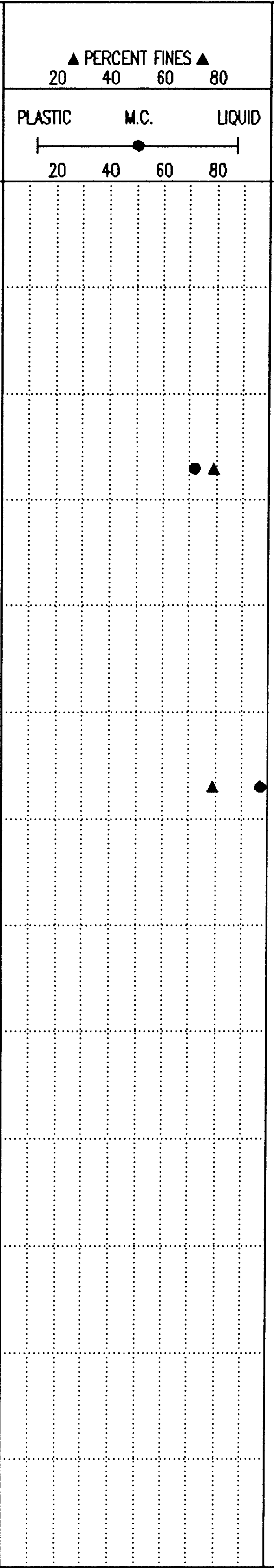
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/12
	Fig. No:	Page 1 of 1

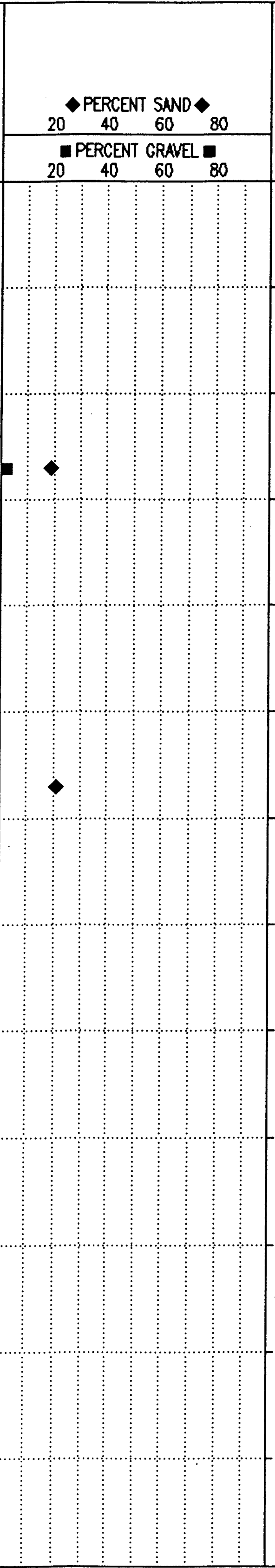
93/11/15 11:44AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-117
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1901+100 o/s 7m Rt.	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 MATERIAL					0.0
	SILT WITH SAND (ML) -dark brown -moist -organic					
1.0						1.0
		☒	259	ML	▥	
	-brown below 1.8m -frozen (Nb) below 1.8m					
2.0						2.0
		☒	260	ML	▥	
3.0						3.0
	END HOLE at 3.3m -refusal -willow and spruce cover					
4.0						4.0
5.0						5.0
6.0						6.0



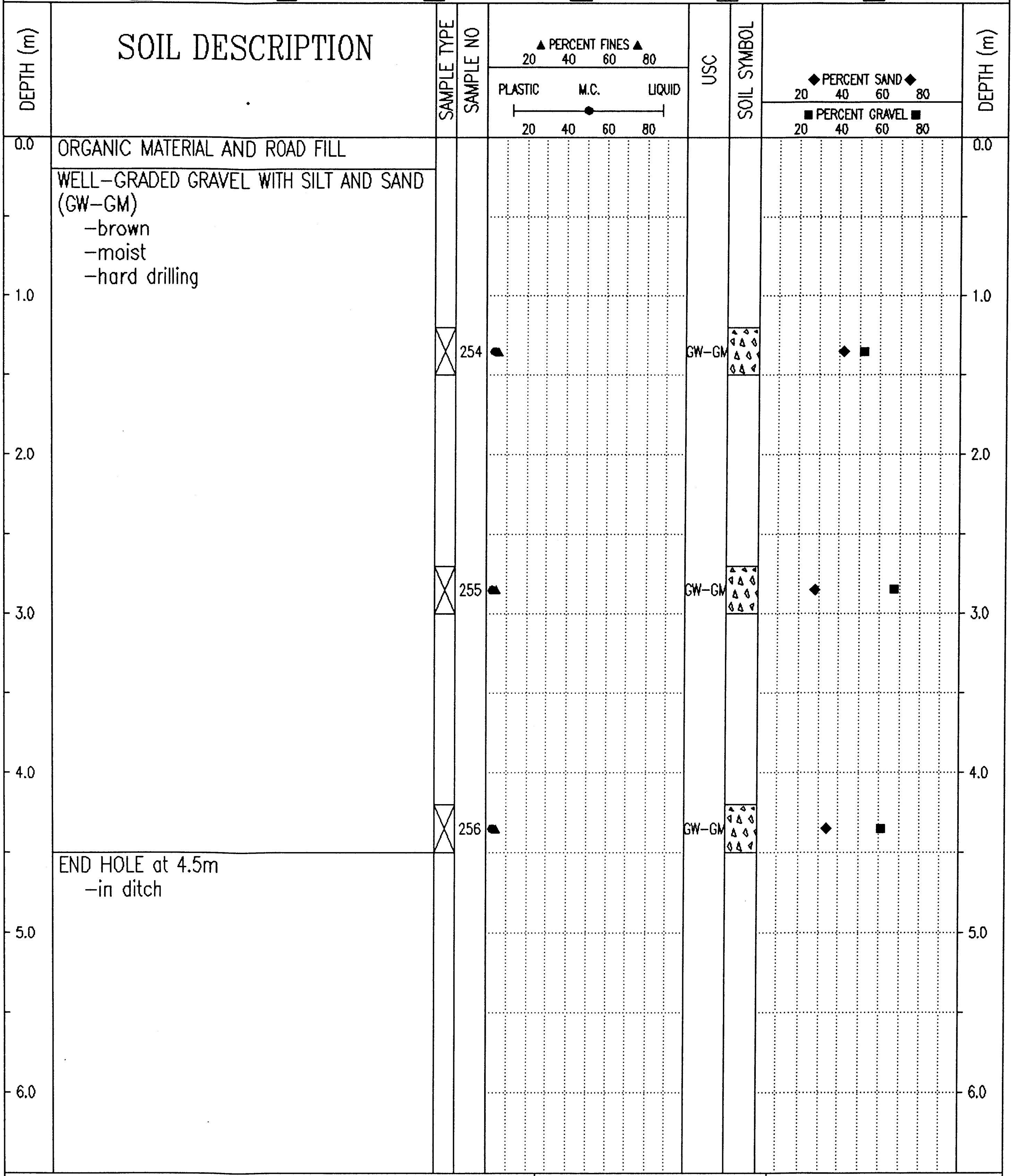


Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 3.3 m
	REVIEWED BY:	COMPLETE: 92/08/12
	Fig. No:	Page 1 of 1

93/11/15 11:43AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-110
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1901+200 o/s 8m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◩ S.P.T. ☒ AUGER ☰ BULK ◫ TUBE ◧ CORE



ORGANIC MATERIAL AND ROAD FILL

WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM)
- brown
- moist
- hard drilling

END HOLE at 4.5m
- in ditch

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Transportation Engineering

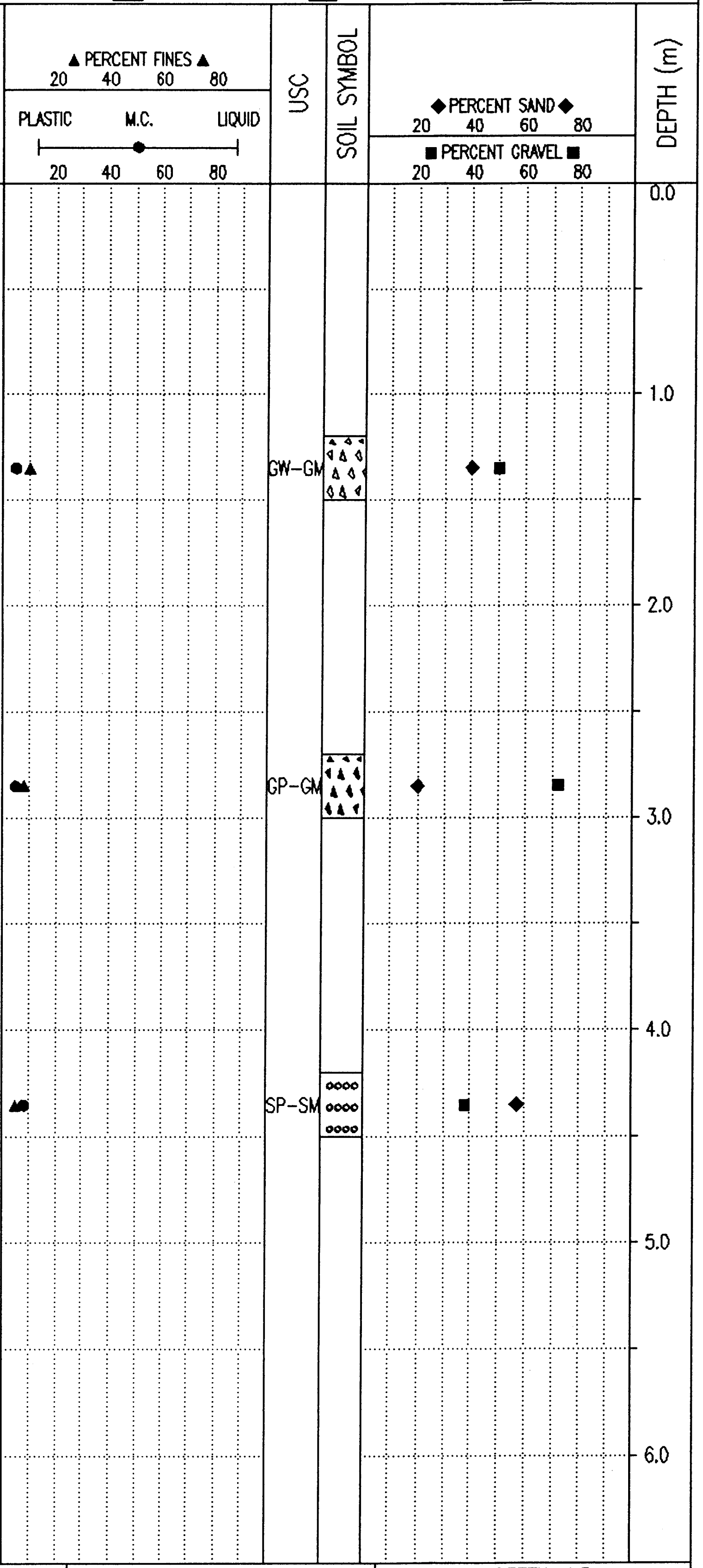
LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
REVIEWED BY:	COMPLETE: 92/08/11
Fig. No:	Page 1 of 1

93/11/15 11:41AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-109
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1901+300 o/s 12m Rt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL AND ROAD FILL			
	WELL TO POORLY GRADED GRAVEL WITH SILT AND SAND (GW-GM TO GP-GM) -brown -moist			
1.0		☒	252	GW-GM
2.0				
3.0		☒	253	GP-GM
	POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM) -brown -damp			
4.0		☒	254	SP-SM
	END HOLE at 4.5m -in ditch			
5.0				
6.0				

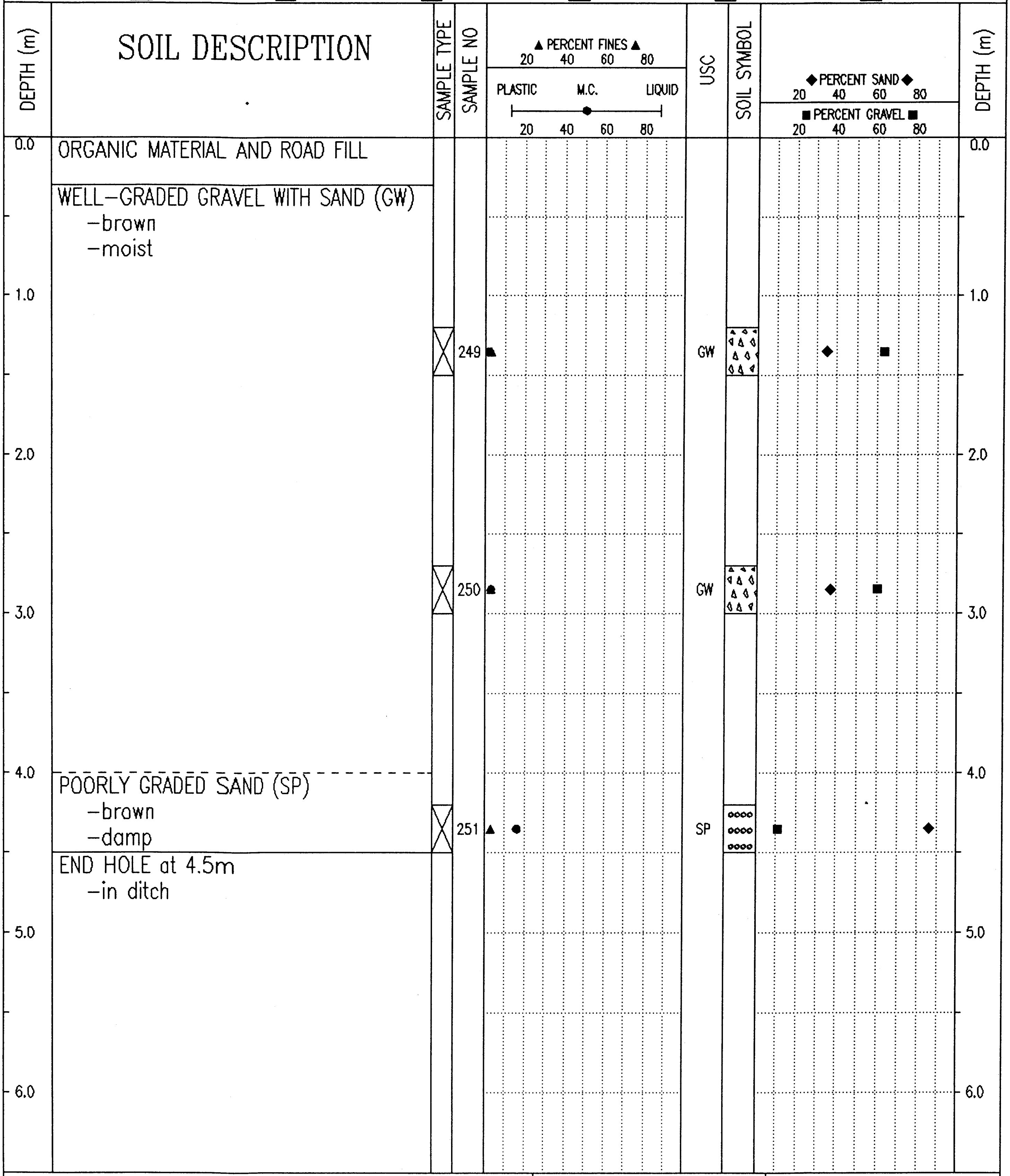


Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/11
	Fig. No:	Page 1 of 1

93/11/15 11:40AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-108
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1901+400 o/s 14m Rt.	ELEVATION: 0.00 (m)

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



0.0 ORGANIC MATERIAL AND ROAD FILL

WELL-GRADED GRAVEL WITH SAND (GW)
- brown
- moist

4.0 POORLY GRADED SAND (SP)
- brown
- damp

END HOLE at 4.5m
- in ditch

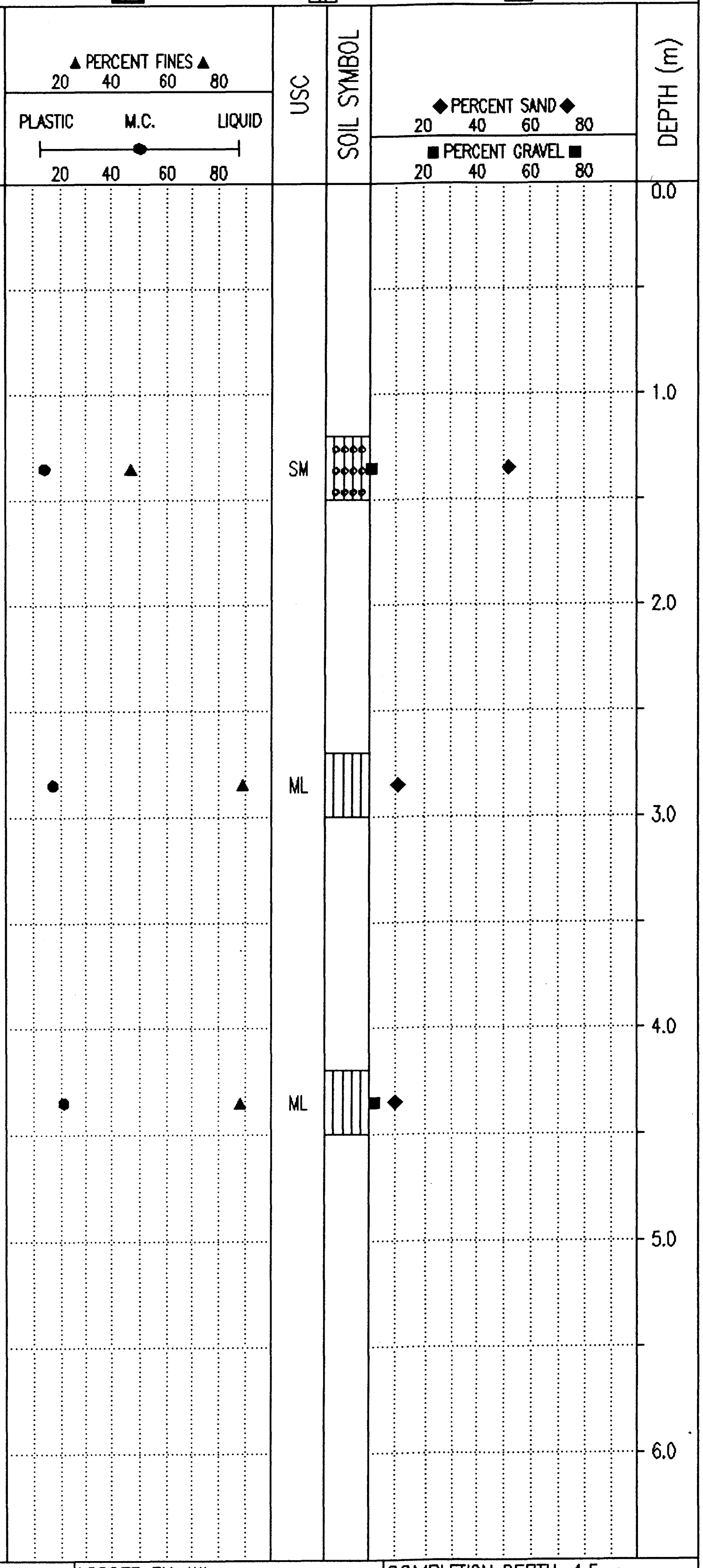
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/11
	Fig. No:	Page 1 of 1

93/11/15 11:38AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-107
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1901+500 o/s 8m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◿ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◨ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL AND ROAD FILL			
	SILTY SAND (SM) -brown -wet	☒	246	SM
	SILT (ML) -gray -frozen (Nb)	☒	247	ML
		☒	248	ML
4.5	END HOLE at 4.5m -in ditch			

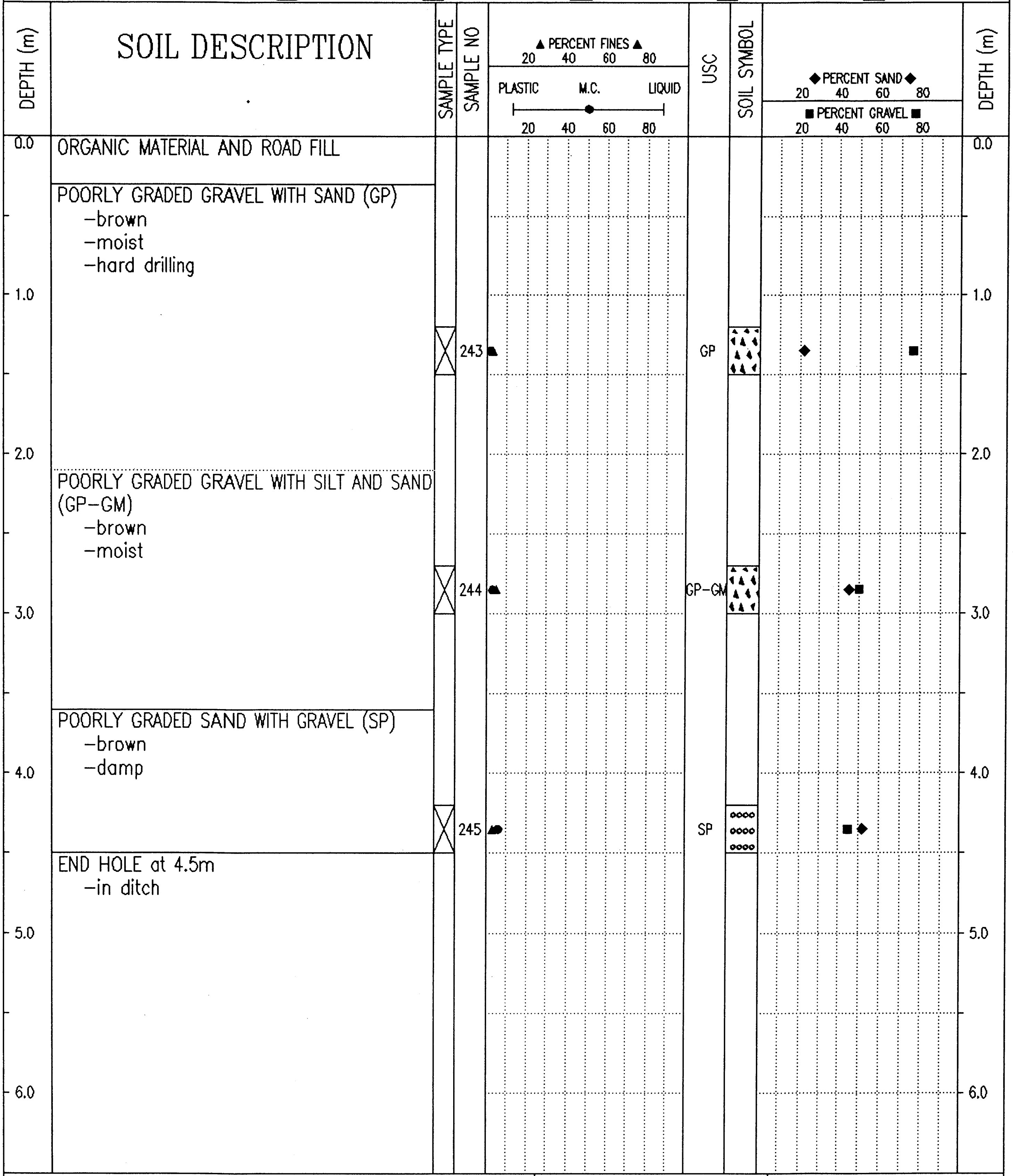


Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/11
	Fig. No:	Page 1 of 1

93/11/15 11:36AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-106
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1901+600 o/s 6m Rt.	ELEVATION: 0.00 (m)

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



ORGANIC MATERIAL AND ROAD FILL

POORLY GRADED GRAVEL WITH SAND (GP)
-brown
-moist
-hard drilling

POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM)
-brown
-moist

POORLY GRADED SAND WITH GRAVEL (SP)
-brown
-damp

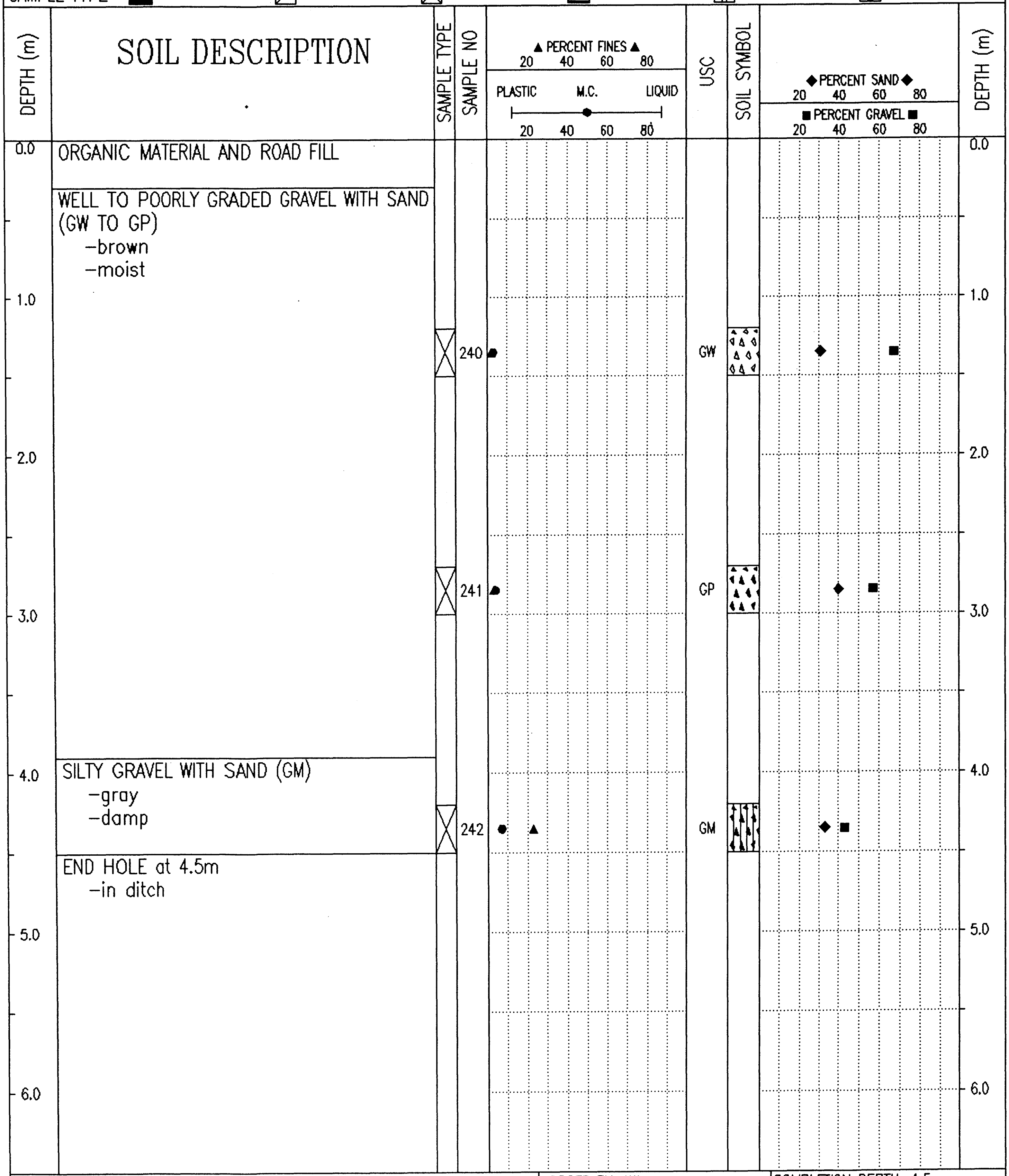
END HOLE at 4.5m
-in ditch

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/11
	Fig. No:	Page 1 of 1

93/11/15 11:36AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-105
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1901+700 o/s 7m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◨ CORE



DEPTH (m)	SOIL DESCRIPTION
0.0	ORGANIC MATERIAL AND ROAD FILL
	WELL TO POORLY GRADED GRAVEL WITH SAND (GW TO GP) -brown -moist
4.0	SILTY GRAVEL WITH SAND (GM) -gray -damp
	END HOLE at 4.5m -in ditch

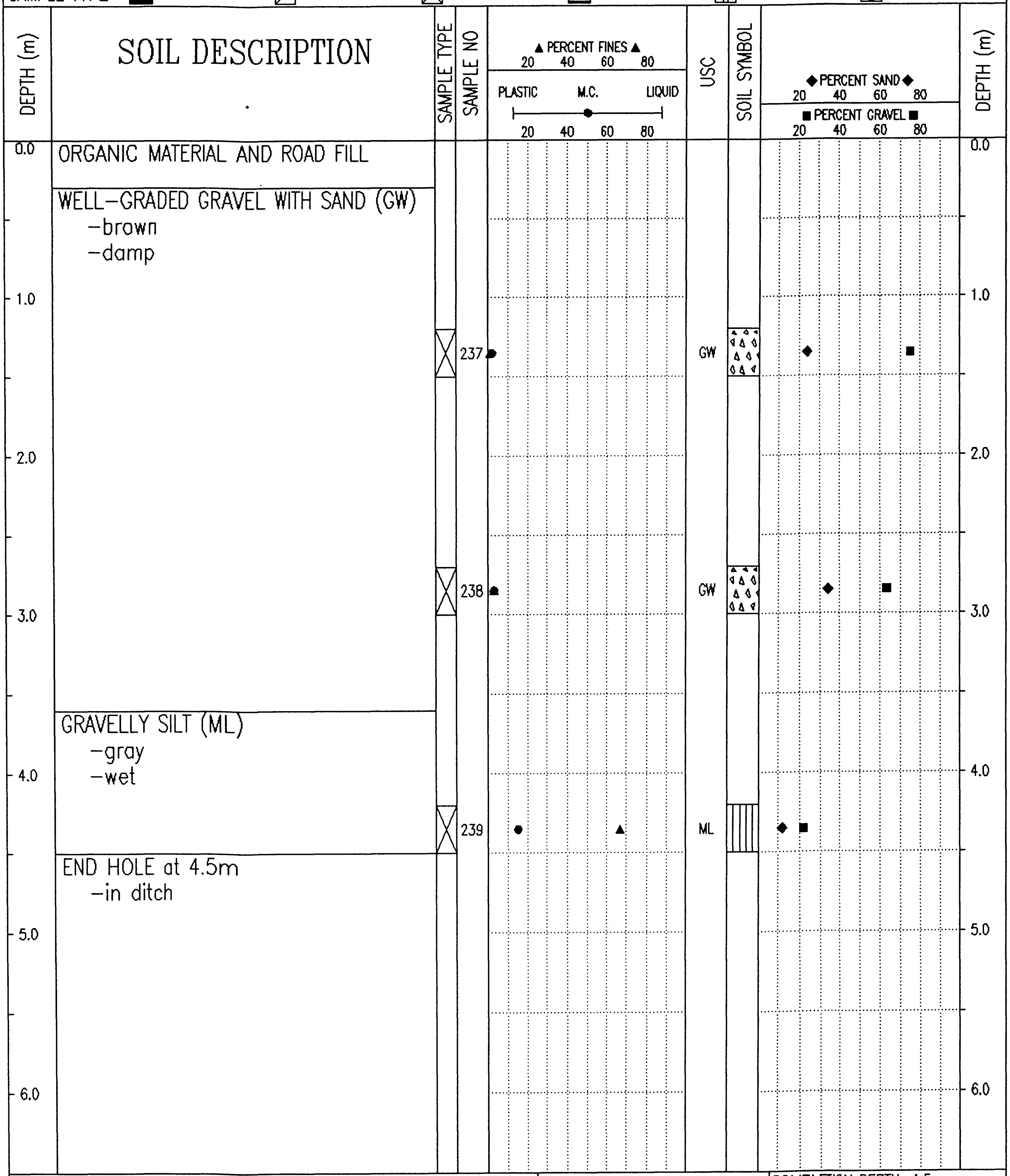
SAMPLE TYPE	SAMPLE NO	USC
AUGER	240	GW
AUGER	241	GP
AUGER	242	GM

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/11
	Fig. No:	Page 1 of 1

93/11/15 11:33AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-104
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1901+800 o/s 8m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◿ S.P.T. ☒ AUGER ⊟ BULK ▥ TUBE ◨ CORE



ORGANIC MATERIAL AND ROAD FILL

WELL-GRADED GRAVEL WITH SAND (GW)
-brown
-damp

GRAVELLY SILT (ML)
-gray
-wet

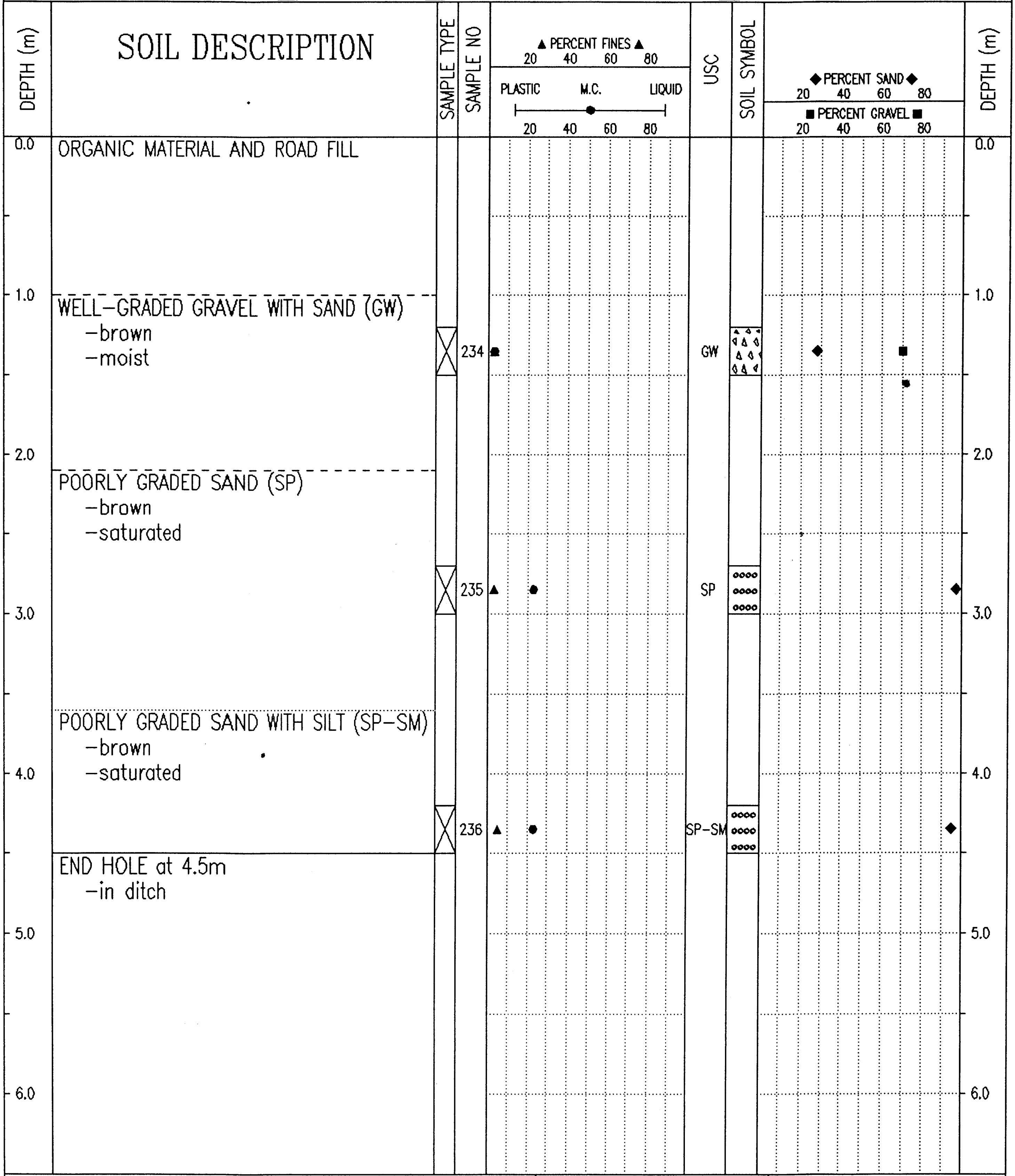
END HOLE at 4.5m
-in ditch

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/11
	Fig. No:	Page 1 of 1

93/11/15 11:32AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-103
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1901+900 o/s 3m Rt.	ELEVATION: 0.00 (m)

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



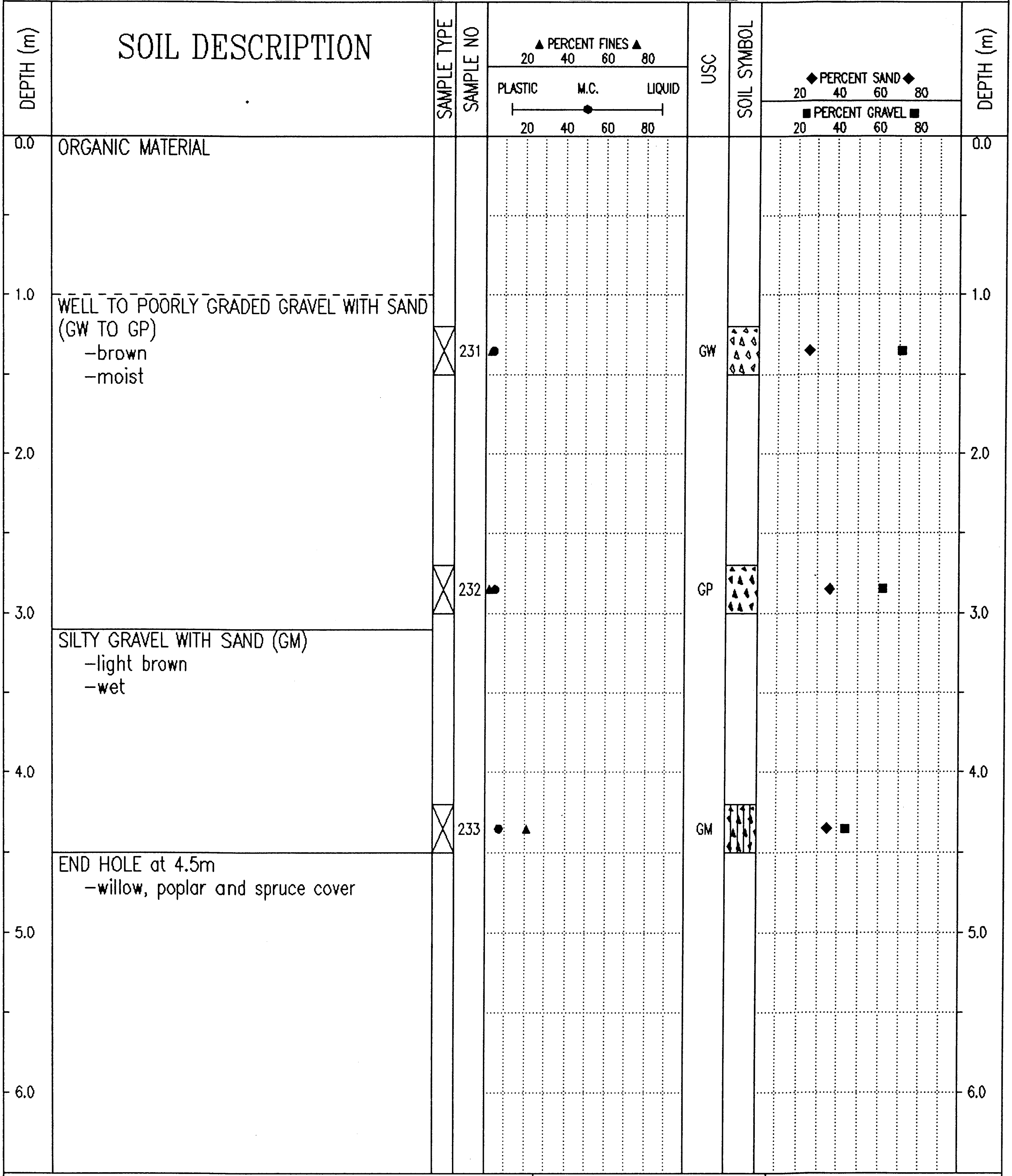
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL AND ROAD FILL			
1.0	WELL-GRADED GRAVEL WITH SAND (GW) -brown -moist	AUGER	234	GW
2.0	POORLY GRADED SAND (SP) -brown -saturated	AUGER	235	SP
	POORLY GRADED SAND WITH SILT (SP-SM) -brown -saturated	AUGER	236	SP-SM
4.5	END HOLE at 4.5m -in ditch			

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/11
	Fig. No:	Page 1 of 1

93/11/15 11:30AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-102
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1902+000	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◩ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◧ CORE



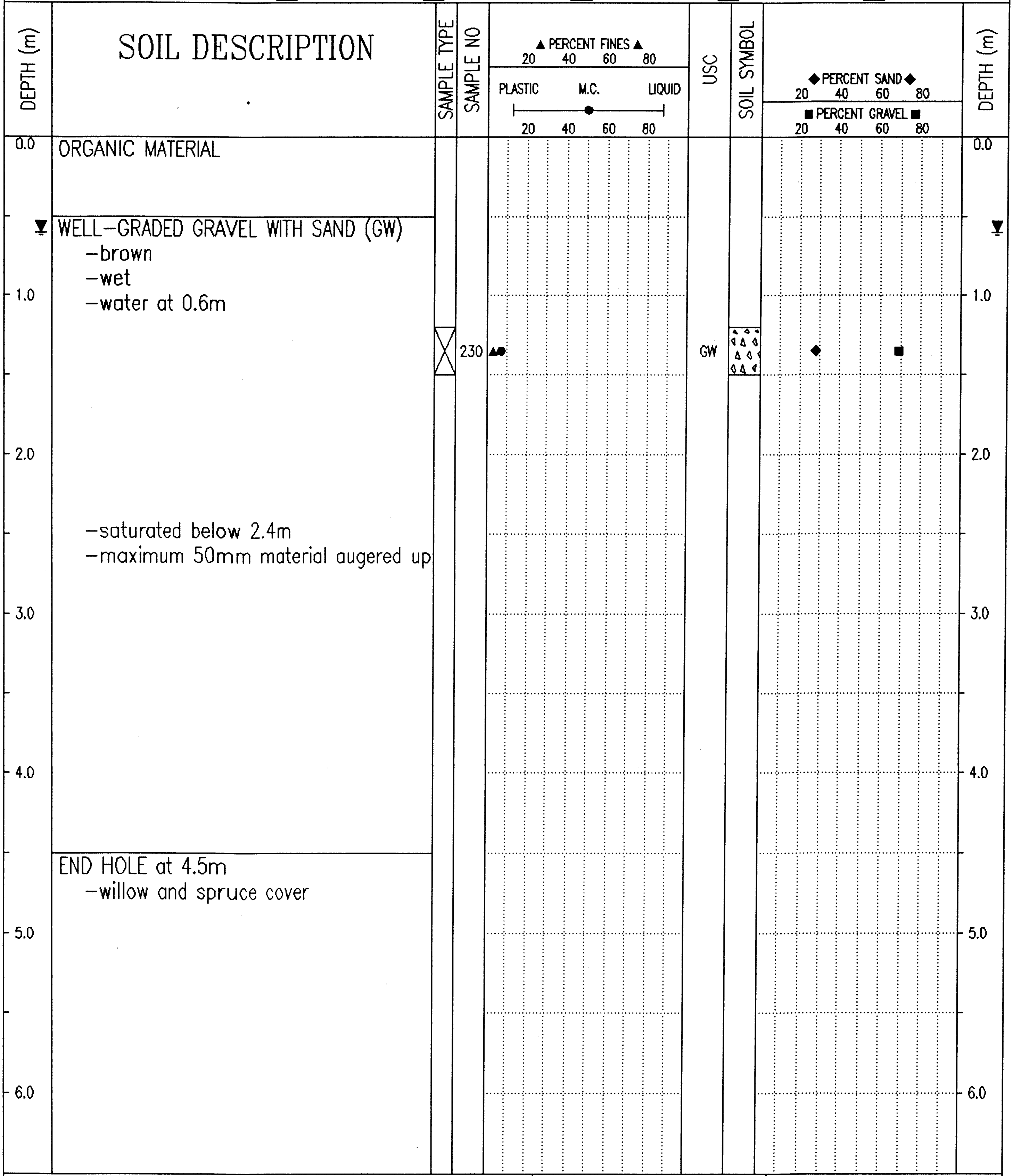
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
1.0	WELL TO POORLY GRADED GRAVEL WITH SAND (GW TO GP) -brown -moist	☒	231	GW
		☒	232	GP
3.0	SILTY GRAVEL WITH SAND (GM) -light brown -wet	☒	233	GM
4.5	END HOLE at 4.5m -willow, poplar and spruce cover			

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/11
	Fig. No:	Page 1 of 1

93/11/15 11:29AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-101
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1902+100	ELEVATION: 0.00 (m)

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



ORGANIC MATERIAL

WELL-GRADED GRAVEL WITH SAND (GW)
- brown
- wet
- water at 0.6m
- saturated below 2.4m
- maximum 50mm material augered up

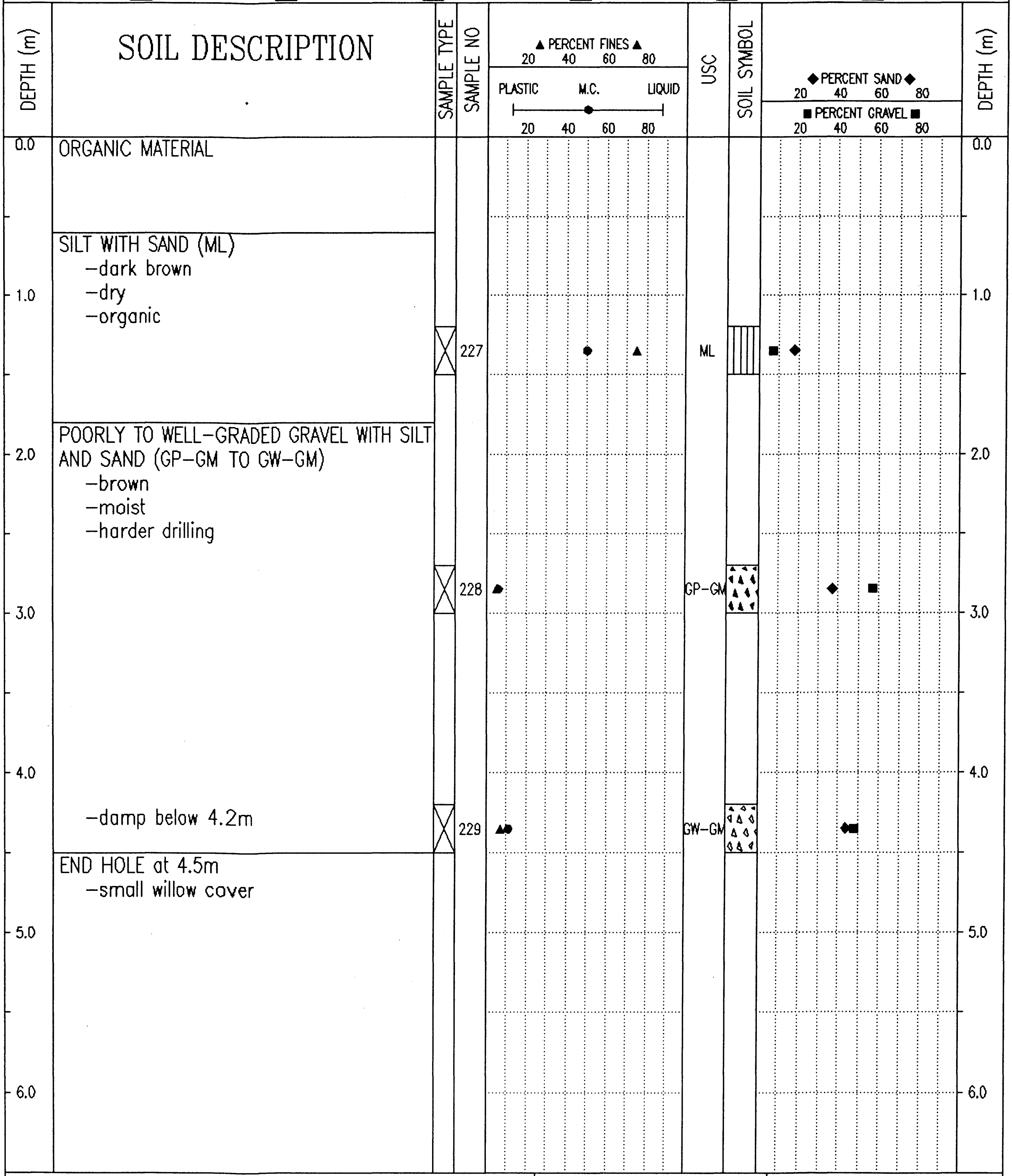
END HOLE at 4.5m
- willow and spruce cover

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/11
	Fig. No:	Page 1 of 1

93/11/15 11:27AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-100
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1902+200	ELEVATION: 0.00 (m)

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



ORGANIC MATERIAL

SILT WITH SAND (ML)
-dark brown
-dry
-organic

POORLY TO WELL-GRADED GRAVEL WITH SILT AND SAND (GP-GM TO GW-GM)
-brown
-moist
-harder drilling

-damp below 4.2m

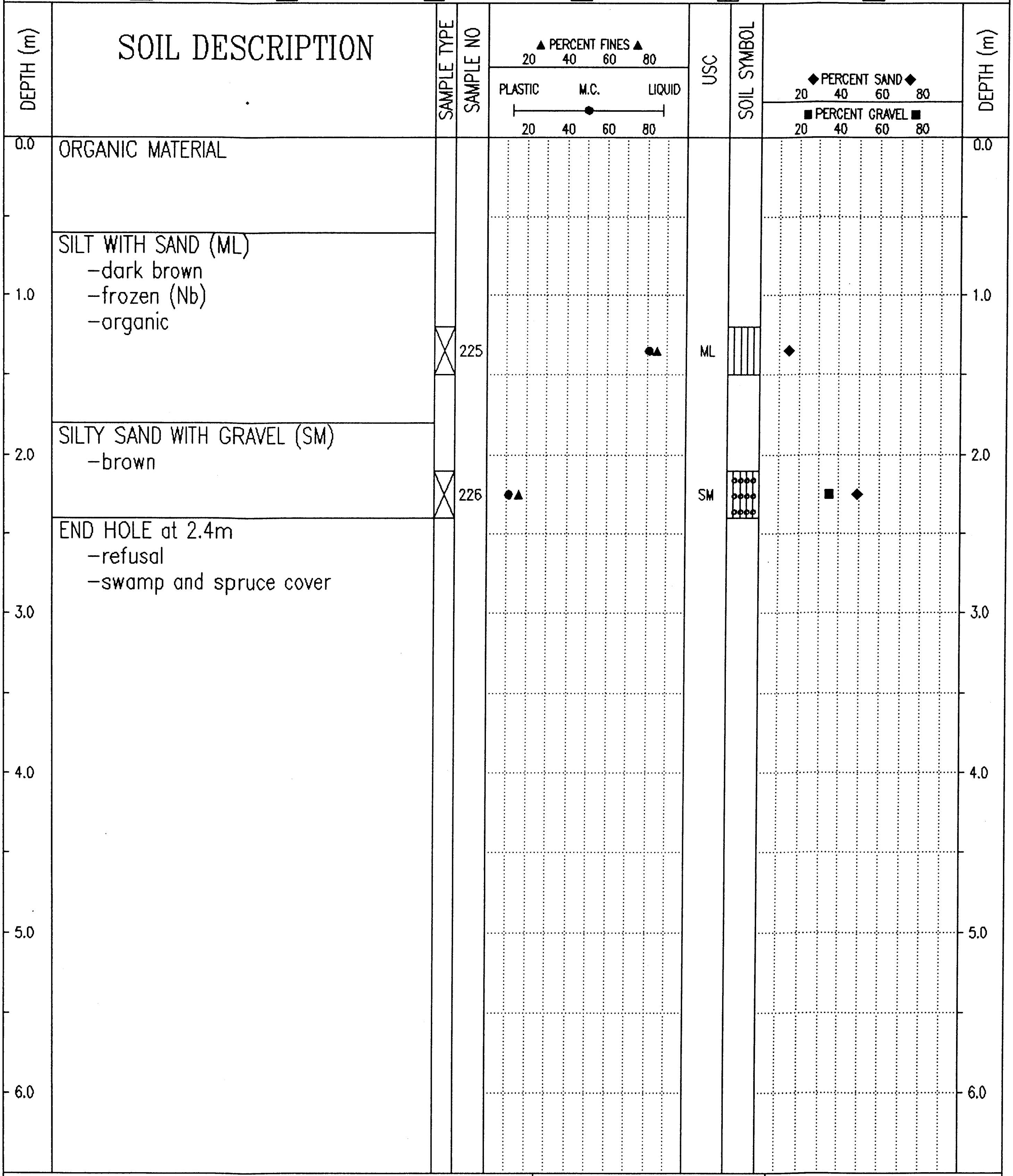
END HOLE at 4.5m
-small willow cover

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/11
	Fig. No:	Page 1 of 1

93/11/15 11:26AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-99
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1902+300	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◨ CORE



DEPTH (m)	SOIL DESCRIPTION
0.0	ORGANIC MATERIAL
	SILT WITH SAND (ML) –dark brown –frozen (Nb) –organic
	SILTY SAND WITH GRAVEL (SM) –brown
	END HOLE at 2.4m –refusal –swamp and spruce cover

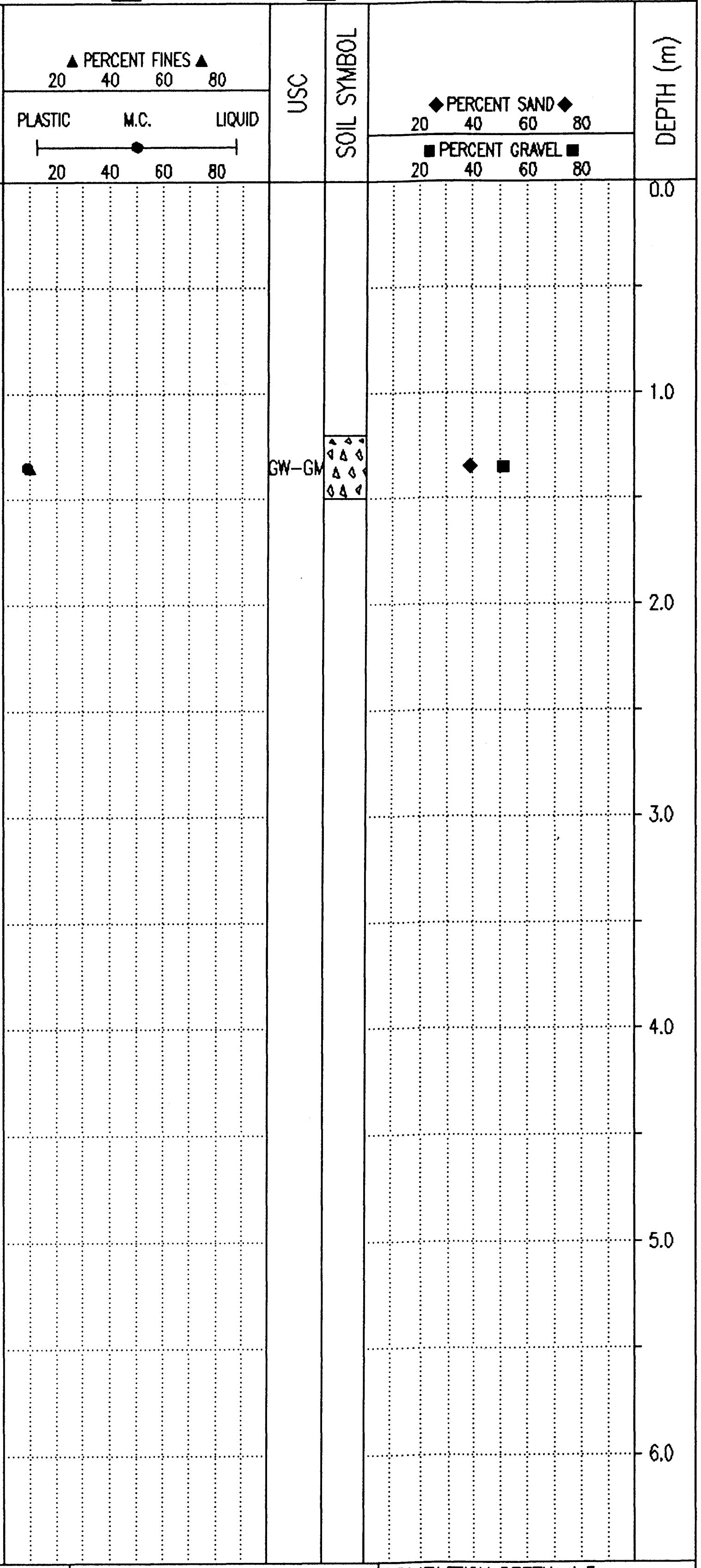
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 2.4 m
	REVIEWED BY:	COMPLETE: 92/08/11
	Fig. No:	Page 1 of 1

93/11/15 11:24AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-98
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1902+450	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 MATERIAL				
1.0	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) –frozen (Vx) with visible ice	☒	224	GW-GM	▵
2.0	END HOLE at 1.5m –refusal twice –swamp and small spruce cover				
3.0					
4.0					
5.0					
6.0					

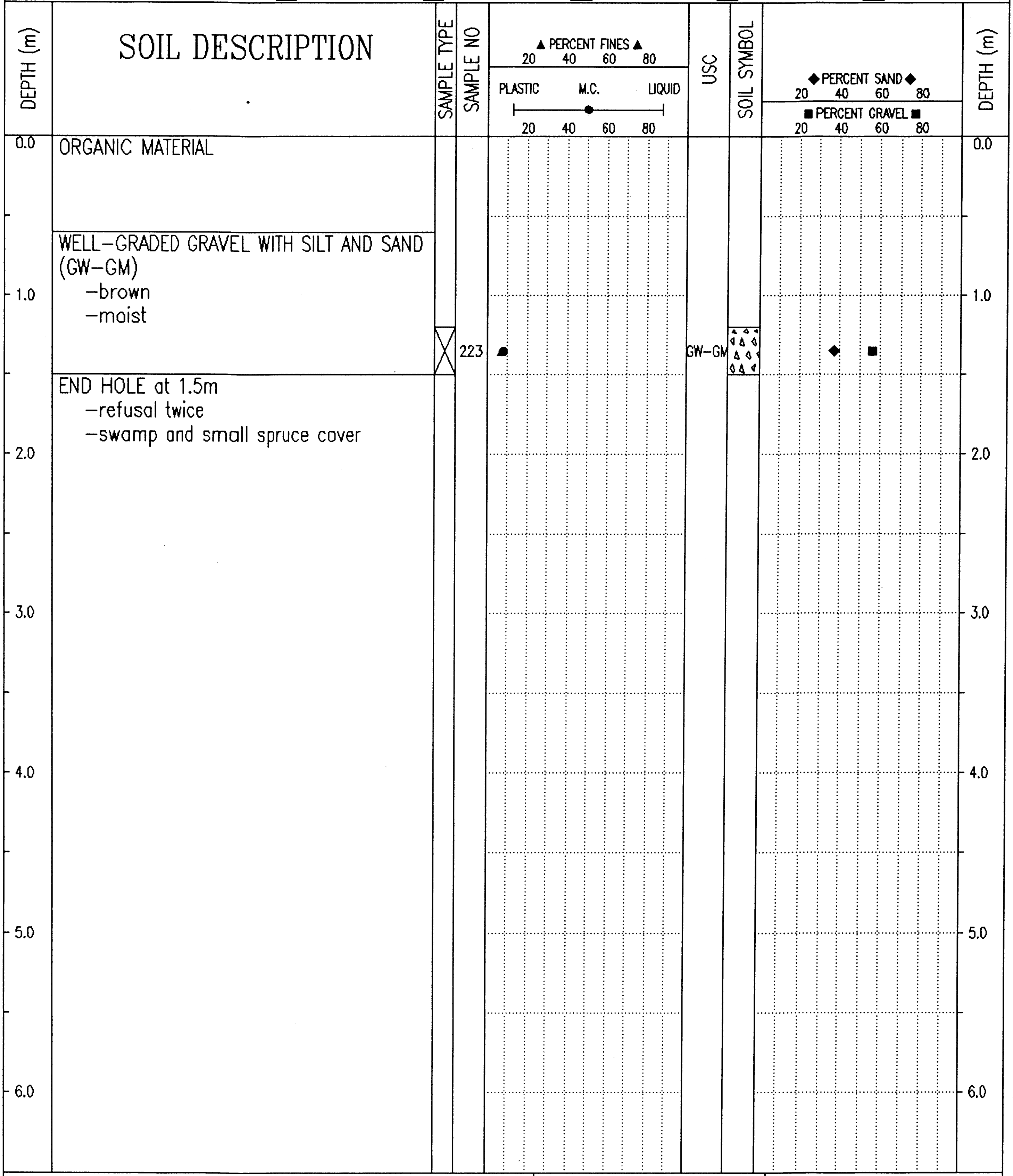


Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 1.5 m
	REVIEWED BY:	COMPLETE: 92/08/11
	Fig. No:	Page 1 of 1

93/11/15 11:23AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-97
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1902+550	ELEVATION: 0.00 (m)

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



SOIL DESCRIPTION

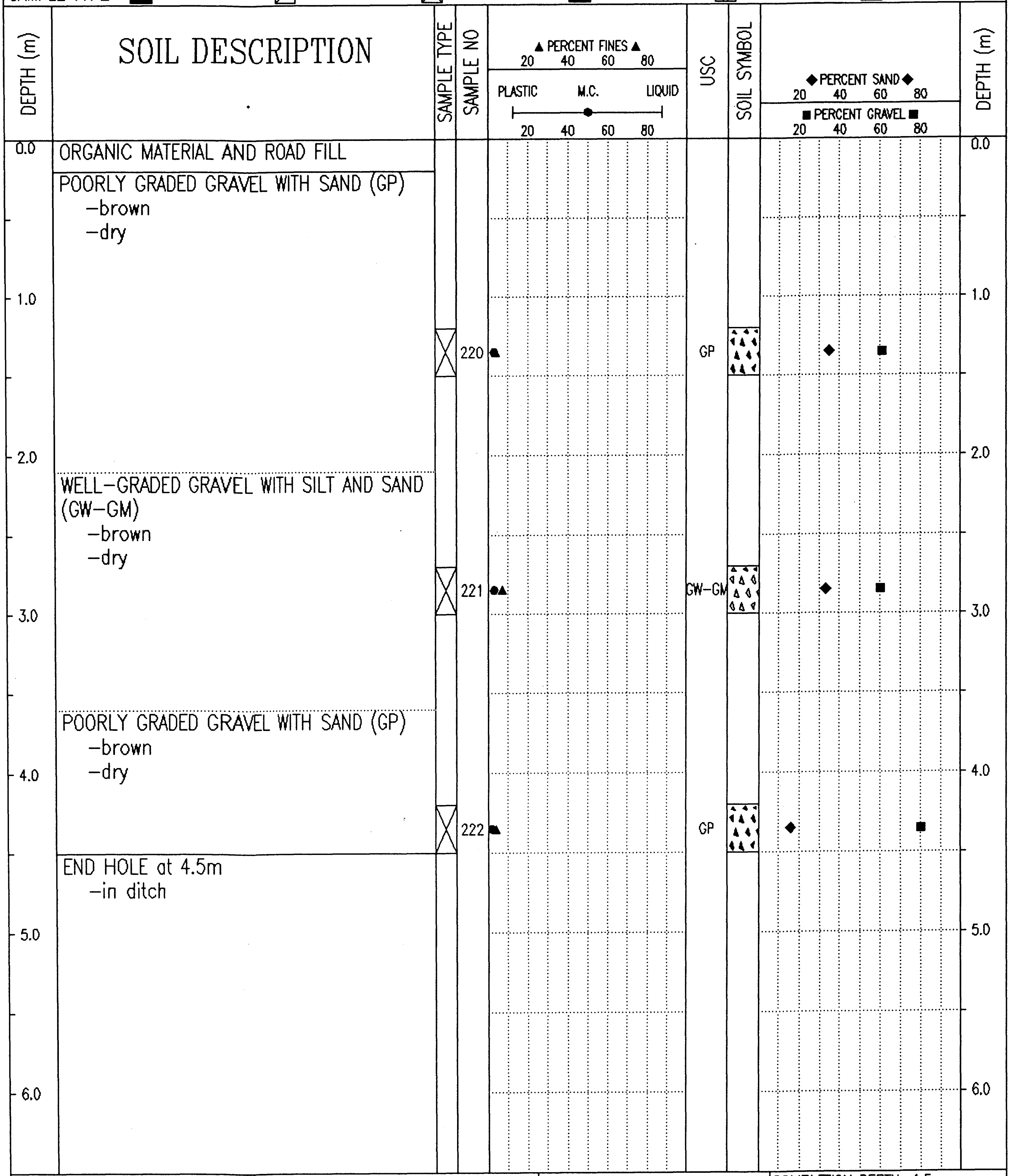
Depth (m)	Soil description	Sample type	Sample no	USC
0.0	ORGANIC MATERIAL			
	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -moist	☒	223	GW-GM
1.5	END HOLE at 1.5m -refusal twice -swamp and small spruce cover			

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 1.5 m
	REVIEWED BY:	COMPLETE: 92/08/11
	Fig. No:	Page 1 of 1

93/11/15 11:21AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-96
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1902+650	ELEVATION: 0.00 (m)

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



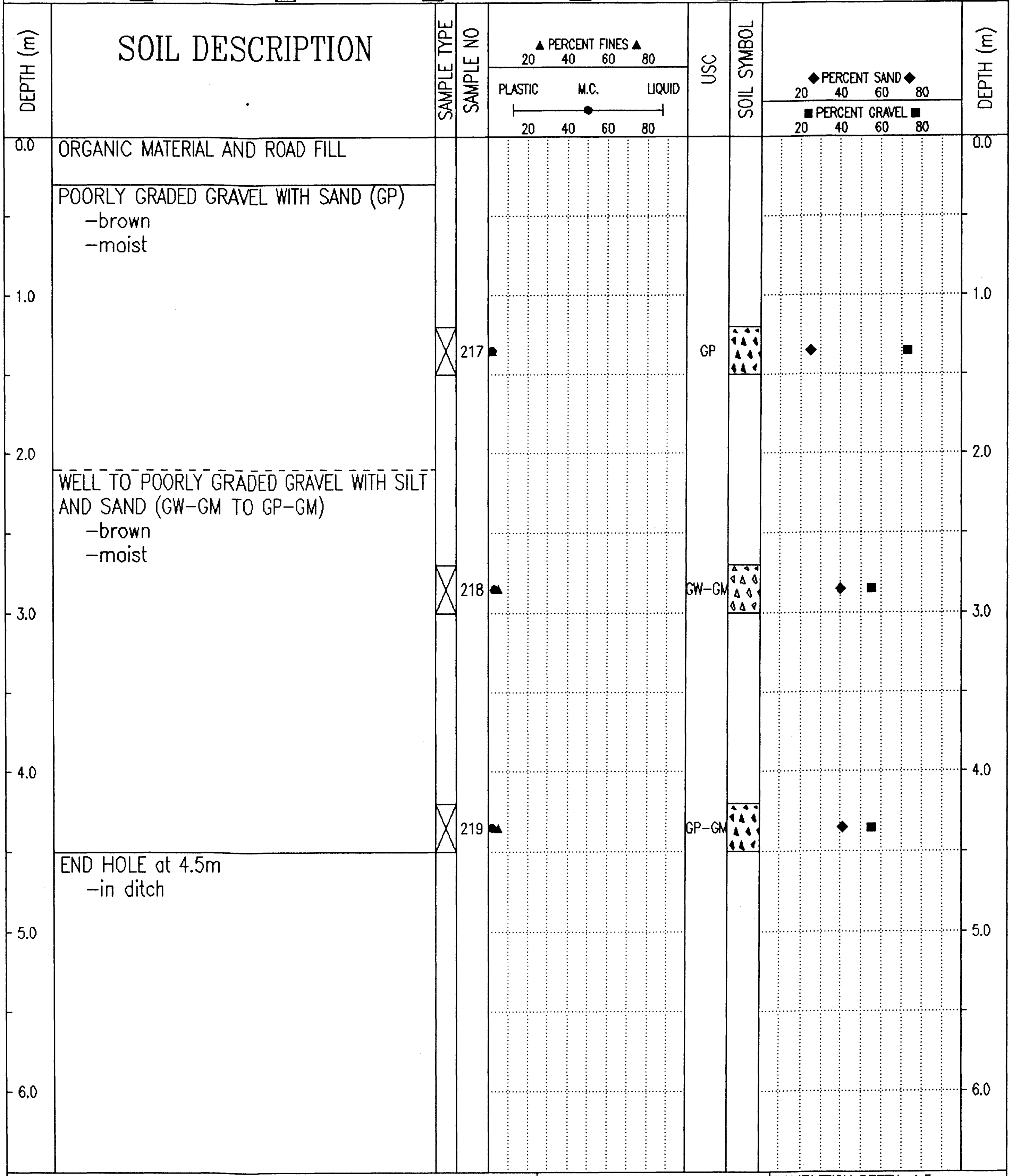
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL AND ROAD FILL				
	POORLY GRADED GRAVEL WITH SAND (GP) -brown -dry	☒	220	GP	
2.0	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -dry	☒	221	GW-GM	
	POORLY GRADED GRAVEL WITH SAND (GP) -brown -dry	☒	222	GP	
	END HOLE at 4.5m -in ditch				

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/10
	Fig. No:	Page 1 of 1

93/11/15 11:20AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 195-95
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1902+750 o/s 5m Rt.	ELEVATION: 0.00 (m)

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



ORGANIC MATERIAL AND ROAD FILL

POORLY GRADED GRAVEL WITH SAND (GP)
-brown
-moist

WELL TO POORLY GRADED GRAVEL WITH SILT AND SAND (GW-GM TO GP-GM)
-brown
-moist

END HOLE at 4.5m
-in ditch

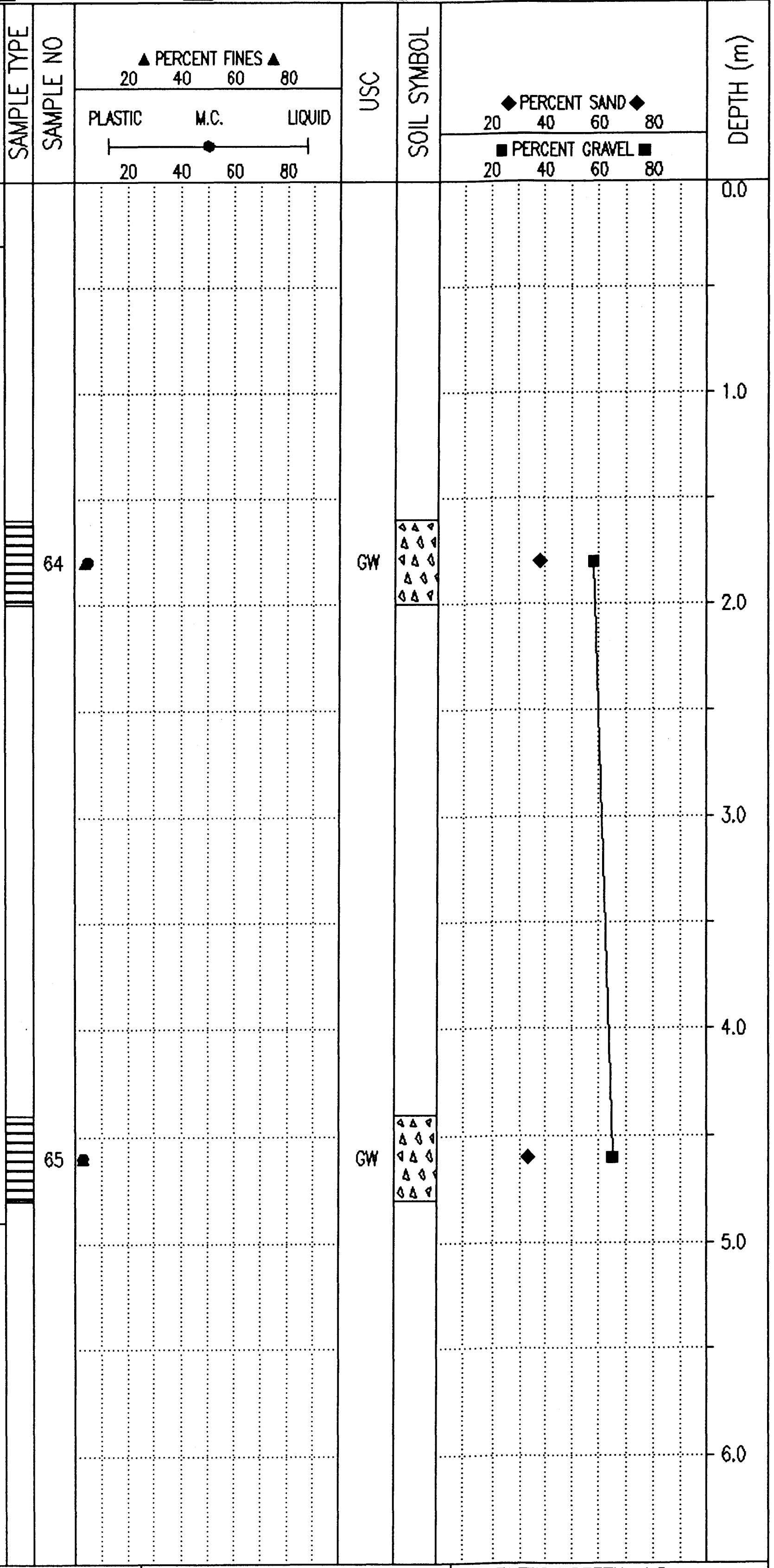
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/10
	Fig. No:	Page 1 of 1

93/11/15 10:13AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 257-25
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1902+800 o/s 10m Rt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION
0.0	ORGANIC SILT
	WELL-GRADED GRAVEL WITH SAND (GW) -brown -moist -maximum 150mm material -estimate 5% +100mm
4.9	END HOLE at 4.9m

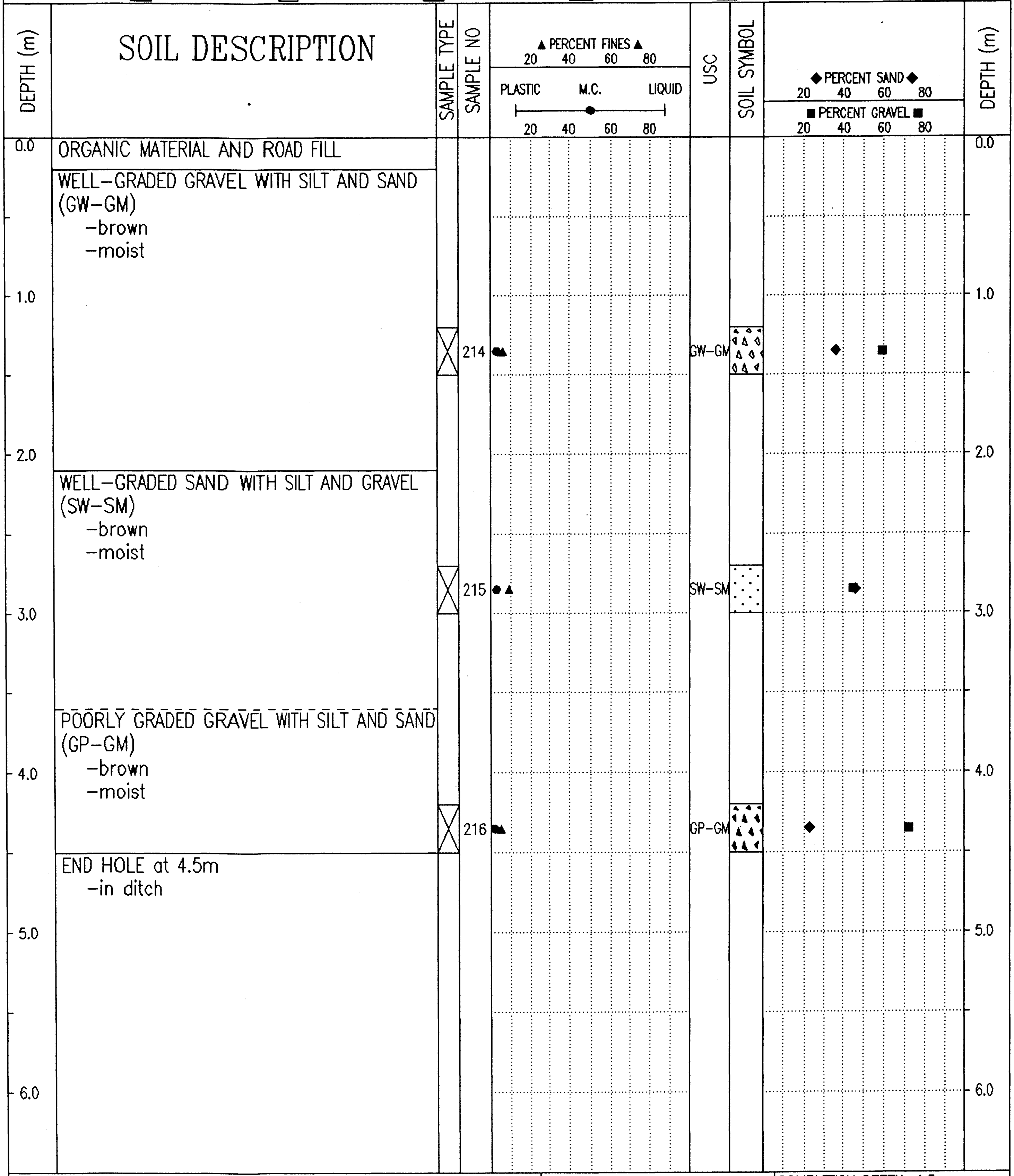


Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.9 m
	REVIEWED BY:	COMPLETE: 93/10/01
	Fig. No:	Page 1 of 1

93/10/28 01:57PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 195-94
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1902+850 o/s 8m Rt.	ELEVATION: 0.00 (m)

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



DEPTH (m)	SOIL DESCRIPTION	SAMPLE NO	USC
0.0	ORGANIC MATERIAL AND ROAD FILL		
	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -moist	214	GW-GM
2.0	WELL-GRADED SAND WITH SILT AND GRAVEL (SW-SM) -brown -moist	215	SW-SM
	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -moist	216	GP-GM
4.5	END HOLE at 4.5m -in ditch		

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/10
	Fig. No:	Page 1 of 1

93/11/15 10:11AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 195-93
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1902+950 o/s 7m Rt.	ELEVATION: 0.00 (m)

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

DEPTH (m)

SOIL DESCRIPTION

0.0 ORGANIC MATERIAL AND ROAD FILL

POORLY GRADED GRAVEL WITH SAND (GP)
- brown
- moist

1.0

2.0

WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM)
- brown
- moist

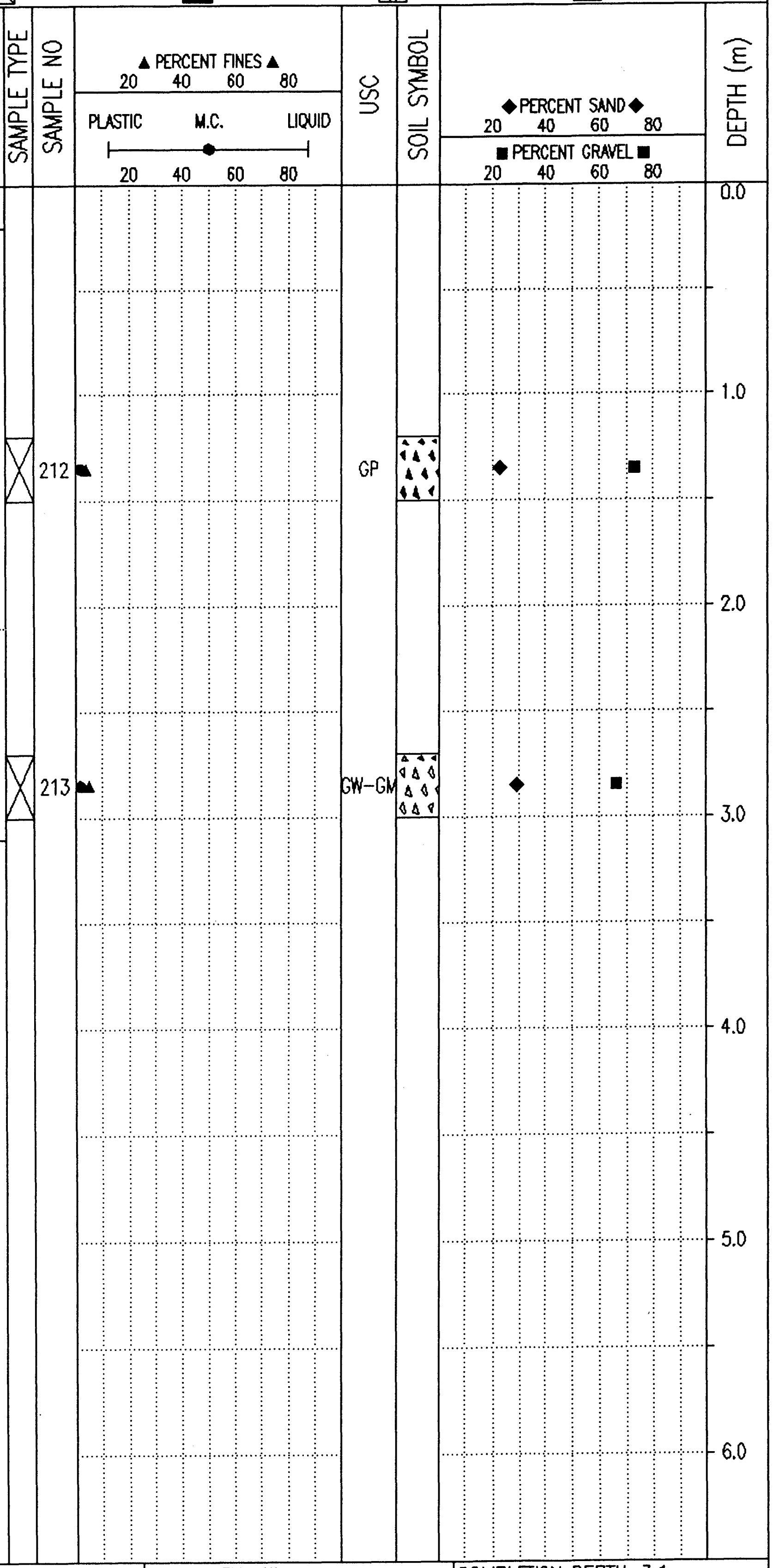
3.0

END HOLE at 3.1m
- refusal
- in ditch

4.0

5.0

6.0



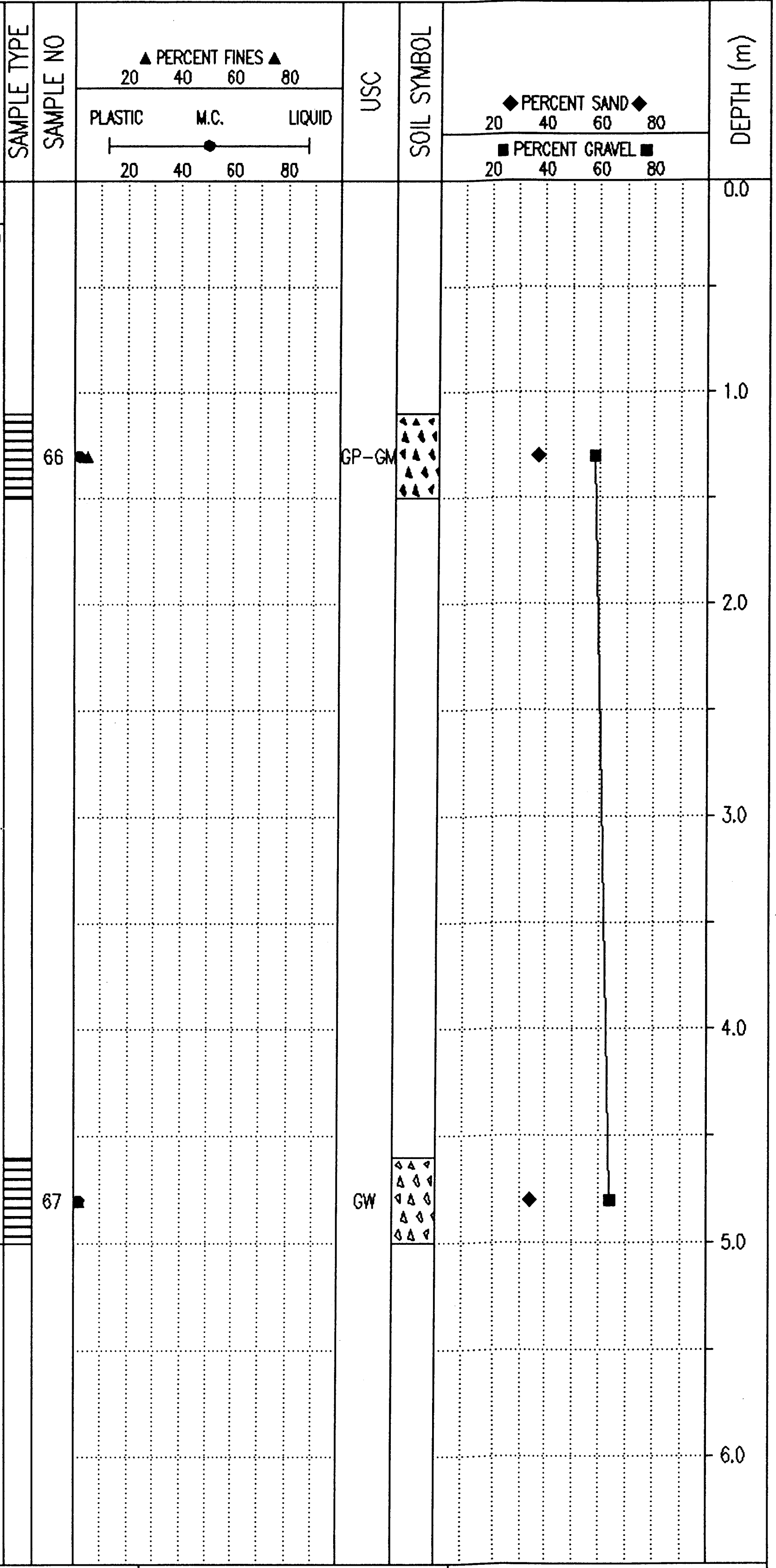
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 3.1 m
	REVIEWED BY:	COMPLETE: 92/08/10
	Fig. No:	Page 1 of 1

93/11/15 10:10AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 257-26
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1902+950 o/s 10m Rt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION
0.0	SILTY ORGANIC MATERIAL
	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -moist -maximum 150mm material -estimate 5% +100mm
1.0	
2.0	
3.0	WELL-GRADED GRAVEL WITH SAND (GW) -brown -moist -maximum 150mm material -estimate 5% +100mm
4.0	
5.0	END HOLE at 5.0m
6.0	



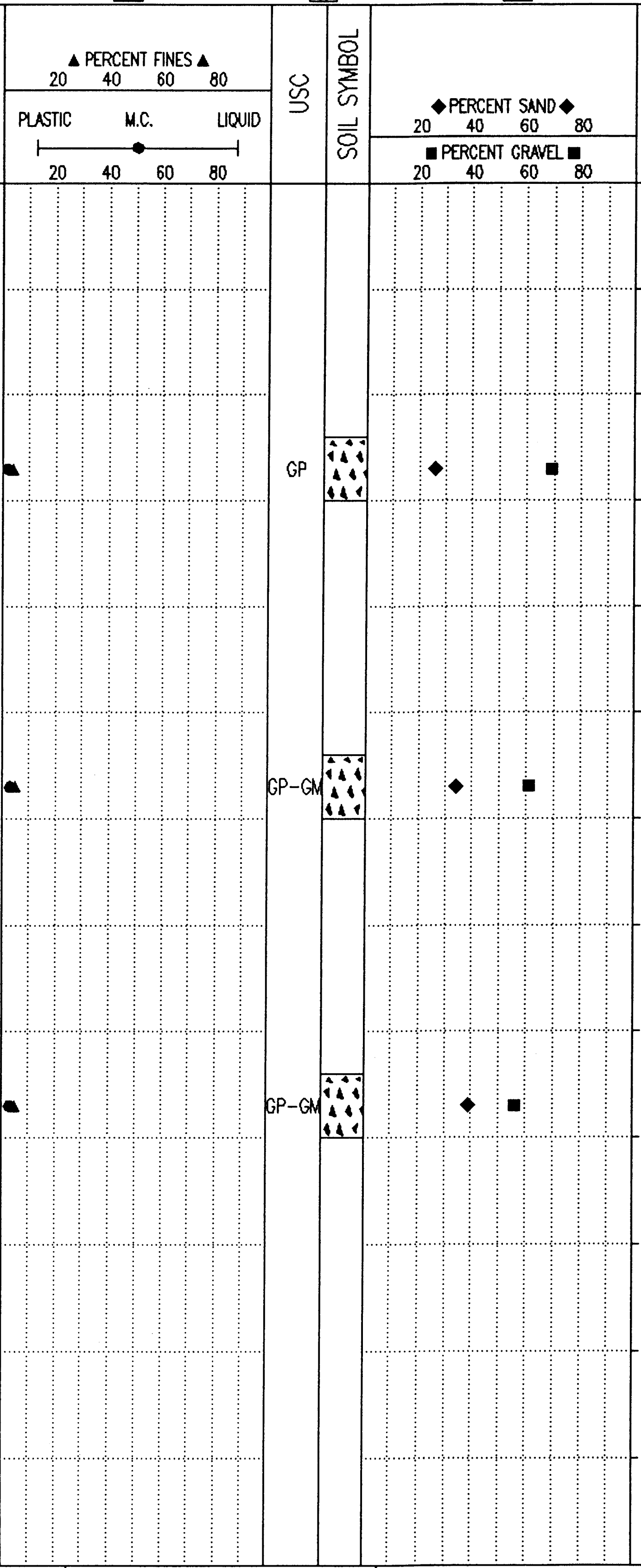
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 5.0 m
	REVIEWED BY:	COMPLETE: 93/10/01
	Fig. No:	Page 1 of 1

93/10/28 01:58PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 195–92
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1903+050 o/s 6m Rt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL AND ROAD FILL			
	POORLY GRADED GRAVEL WITH SAND (GP) –brown –moist –hard drilling			
1.0		☒	209	GP
2.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP–GM) –brown –moist			
		☒	210	GP–GM
3.0				
4.0		☒	211	GP–GM
	END HOLE at 4.5m –in ditch			
5.0				
6.0				



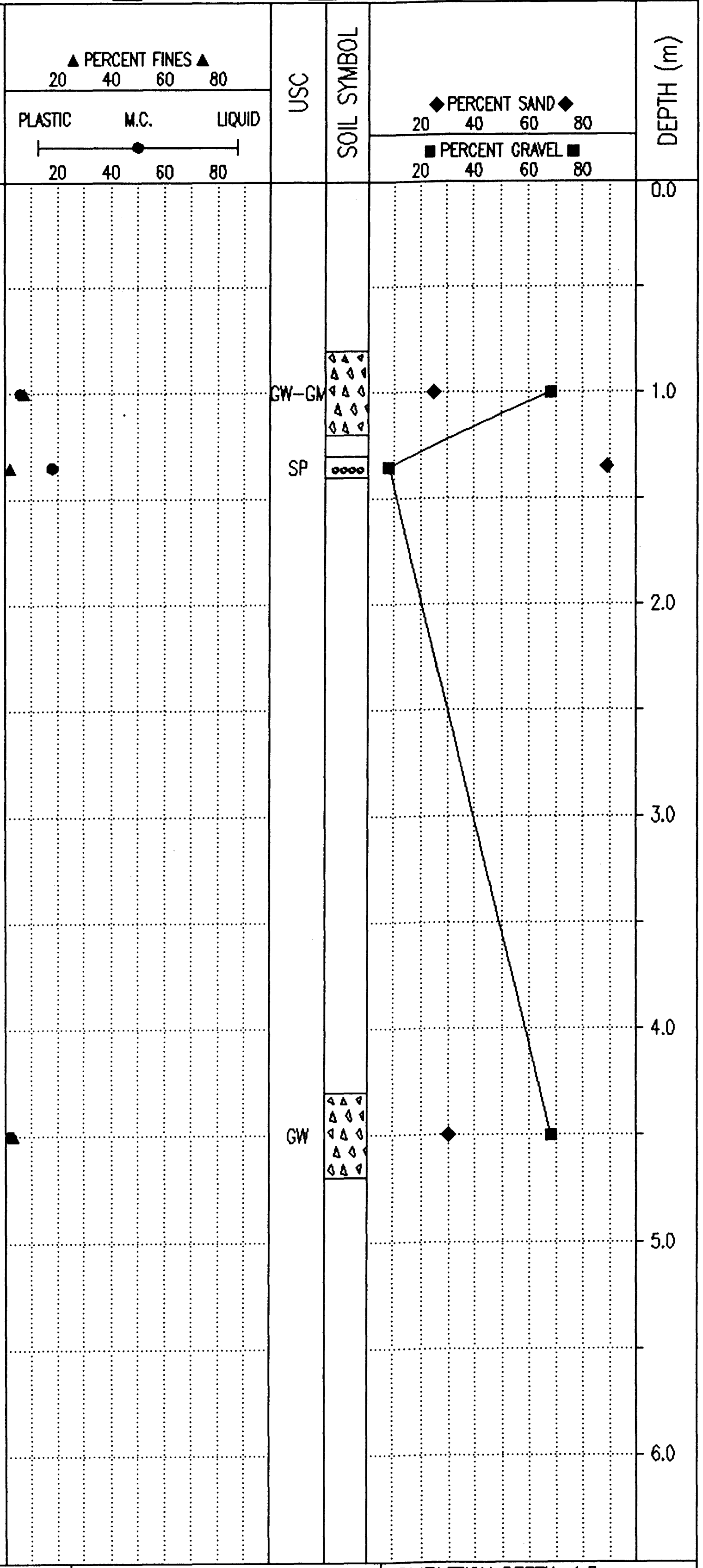
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/10
	Fig. No:	Page 1 of 1

93/11/15 10:08AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 257-27
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1903+050 o/s 10m Rt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	SILTY ORGANIC MATERIAL			
	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -maximum 100mm material -frozen with visible ice (Vx) below 0.6m	☰		
1.0			68	GW-GM
	POORLY GRADED SAND (SP) -brown -frozen with visible ice (Vx) -first refusal at 1.4m	☰	69	SP
2.0	WELL-GRADED GRAVEL WITH SAND (GW) -brown -frozen (Nb) -maximum 75mm material			
3.0				
4.0		☰	70	GW
	END HOLE at 4.8m			
5.0				
6.0				

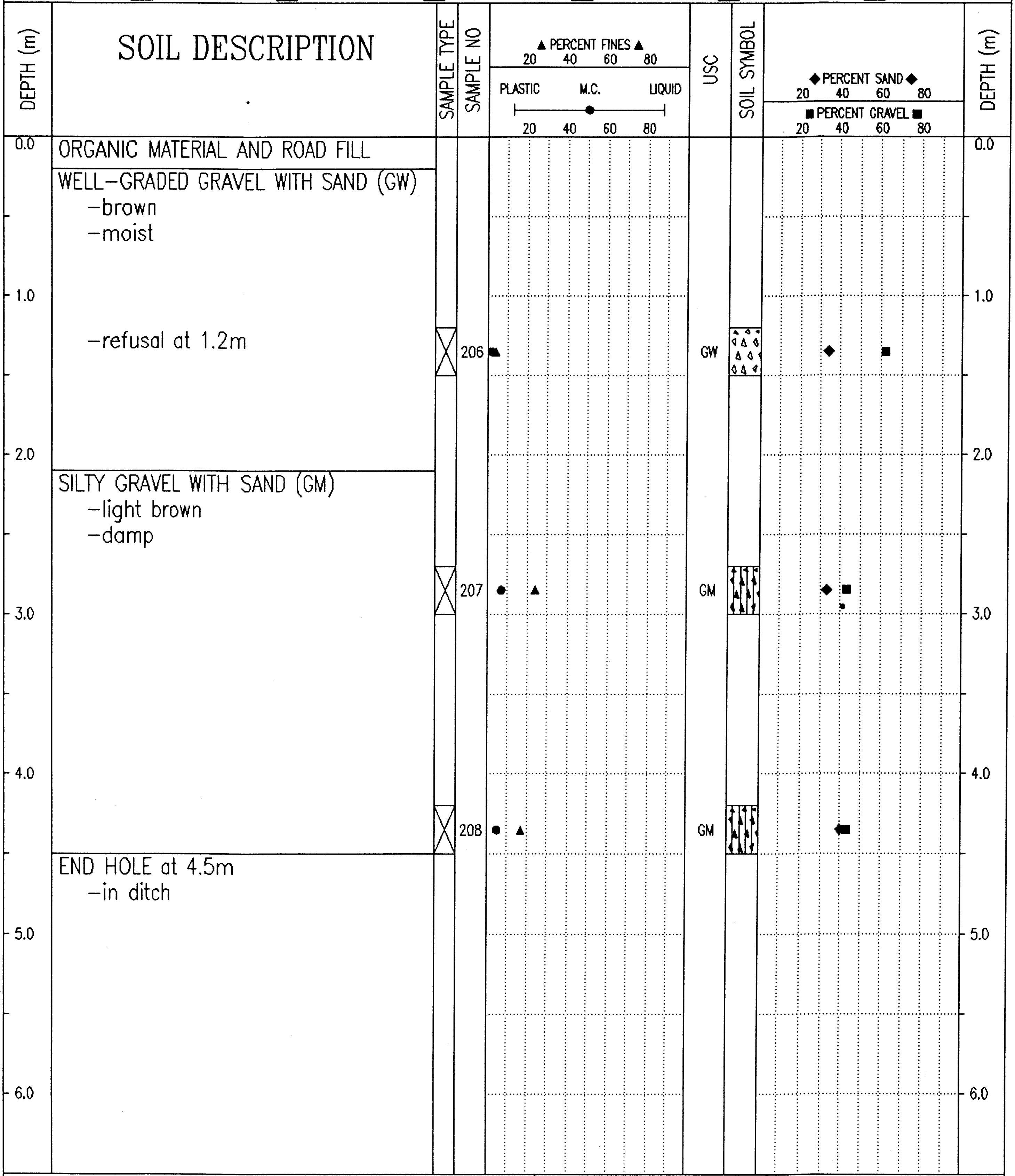


Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.8 m
	REVIEWED BY:	COMPLETE: 93/10/01
	Fig. No:	Page 1 of 1

93/10/28 02:00PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 195-91
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1903+150 o/s 2m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◩ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◧ CORE



ORGANIC MATERIAL AND ROAD FILL

WELL-GRADED GRAVEL WITH SAND (GW)
-brown
-moist
-refusal at 1.2m

SILTY GRAVEL WITH SAND (GM)
-light brown
-damp

END HOLE at 4.5m
-in ditch

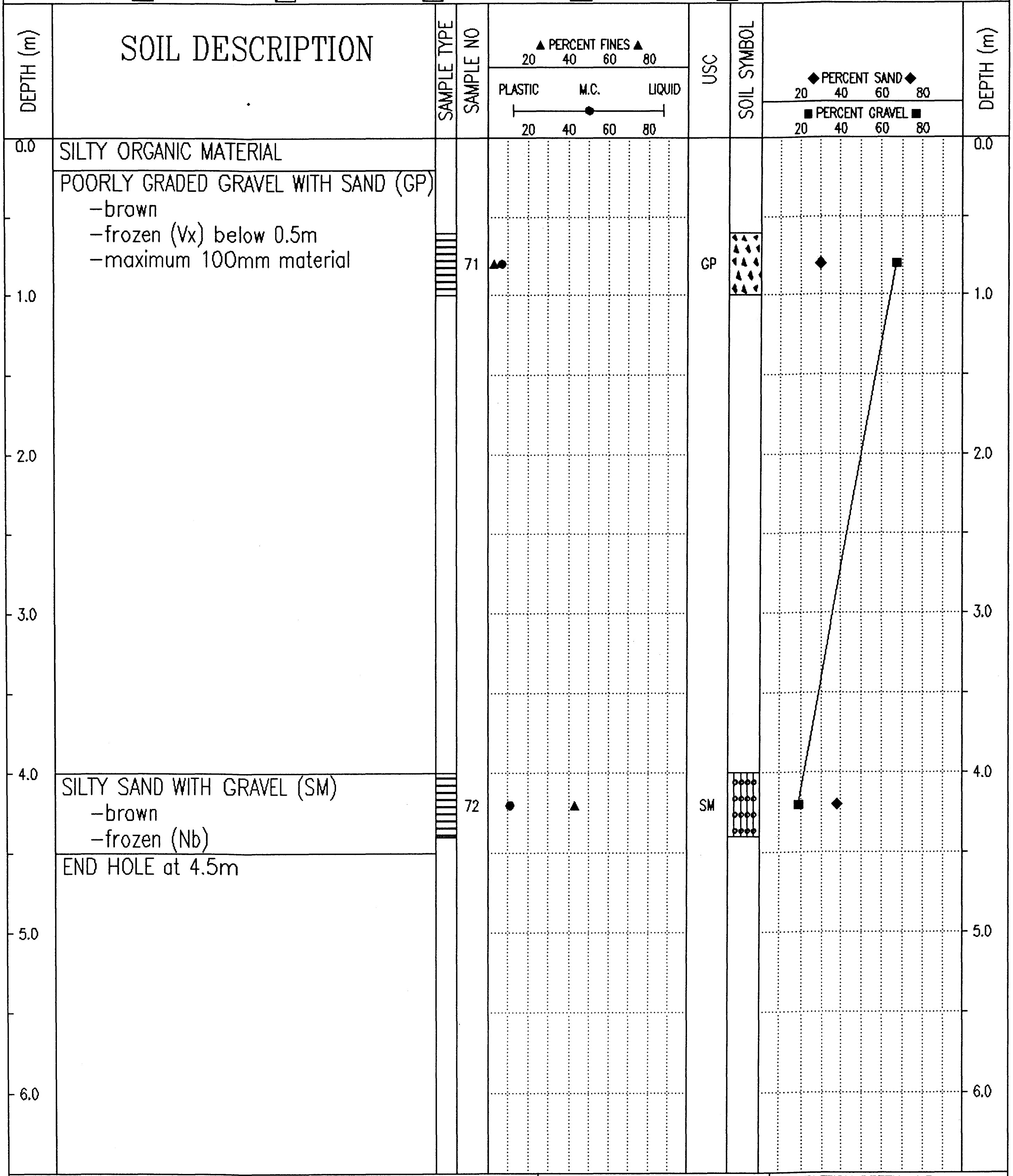
SAMPLE TYPE	SAMPLE NO	USC
☒	206	GW
☒	207	GM
☒	208	GM

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/10
	Fig. No:	Page 1 of 1

93/11/15 10:07AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 257-28
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1903+150 o/s 15m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◿ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◧ CORE



Depth (m)	Soil Description	Sample No	USC
0.0	SILTY ORGANIC MATERIAL		
	POORLY GRADED GRAVEL WITH SAND (GP) –brown –frozen (Vx) below 0.5m –maximum 100mm material	71	GP
4.0	SILTY SAND WITH GRAVEL (SM) –brown –frozen (Nb)	72	SM
4.5	END HOLE at 4.5m		

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Transportation Engineering

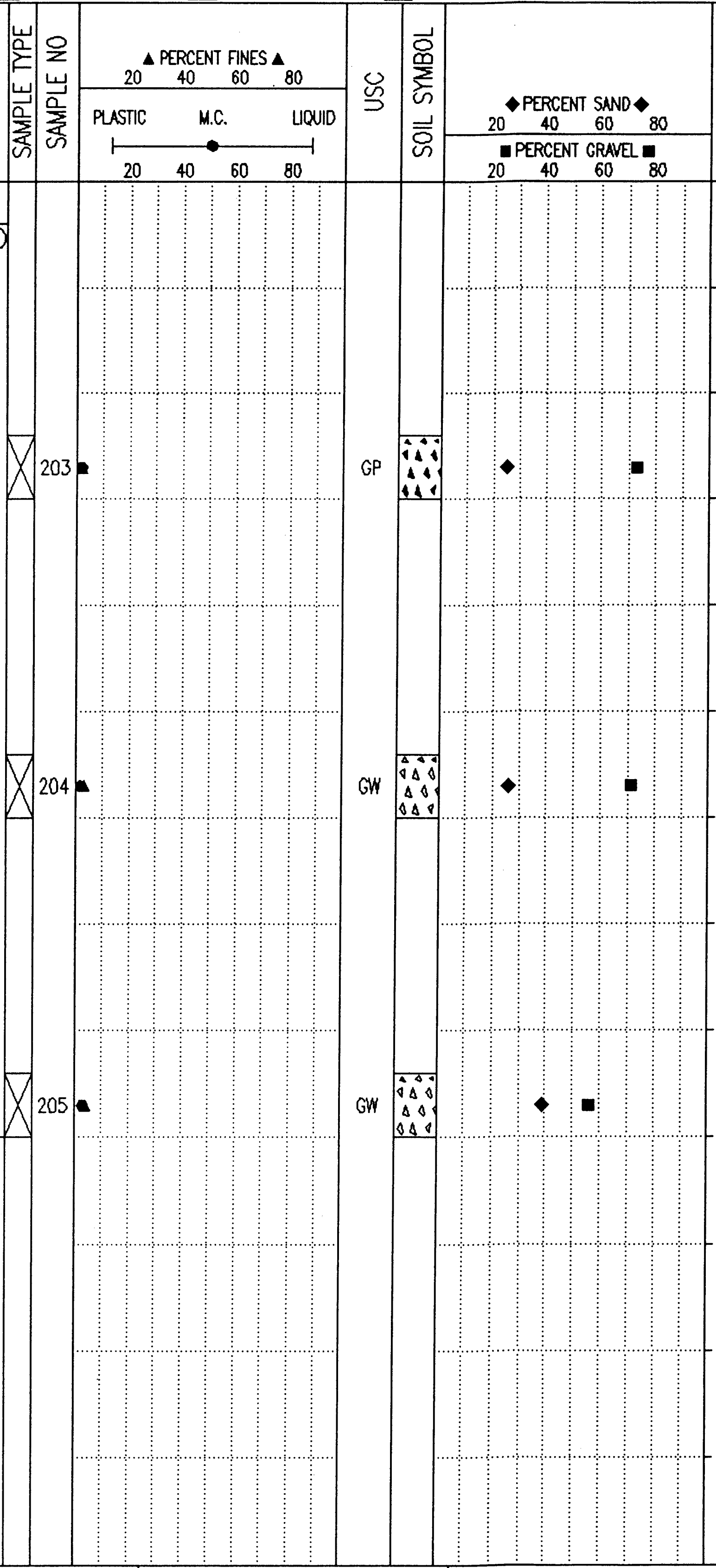
LOGGED BY: DT	COMPLETION DEPTH: 4.5 m
REVIEWED BY:	COMPLETE: 93/10/01
Fig. No:	Page 1 of 1

93/10/28 10:22AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 195-90
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1903+250 o/s 6m Rt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION
0.0	ORGANIC MATERIAL AND ROAD FILL
	POORLY TO WELL-GRADED GRAVEL WITH SAND (GP TO GW) -brown -dry
1.0	
2.0	
	-moist below 2.6m
3.0	
4.0	
	END HOLE at 4.5m -in ditch
5.0	
6.0	



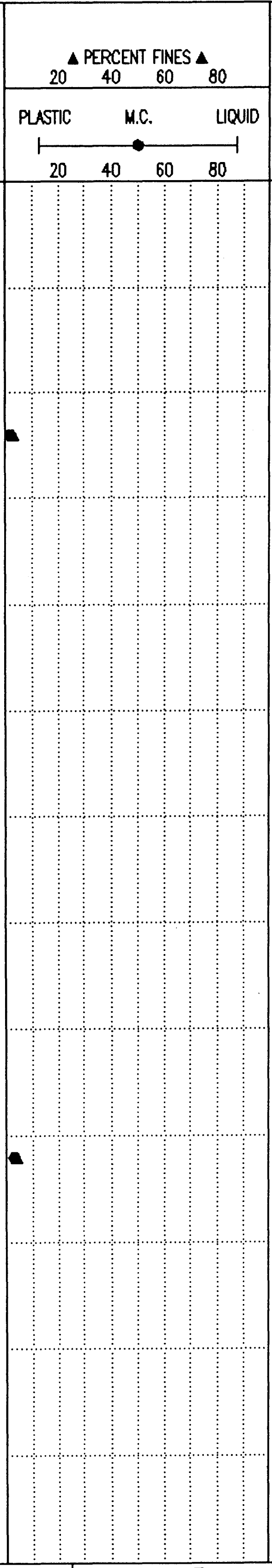
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/10
	Fig. No:	Page 1 of 1

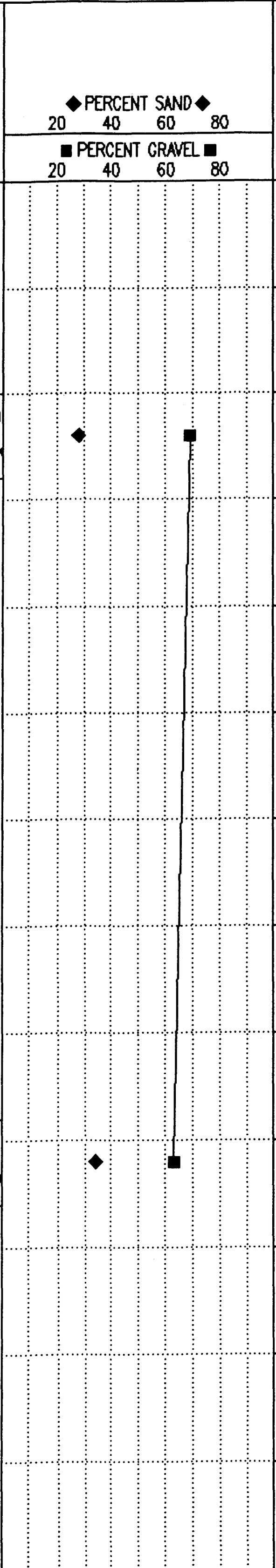
93/11/15 10:05AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 257-29
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1903+250 o/s 10m Rt.	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	GRAVELLY SILT -brown				
	SAND -brown -some silt				
	POORLY GRADED GRAVEL WITH SAND (GP) -brown -moist -maximum 100mm material				
1.0		☰	73	GP	▲
2.0					
3.0					
4.0					
		☰	74	GP	▲
5.0	END HOLE at 5.0m -in bladed area				
6.0					





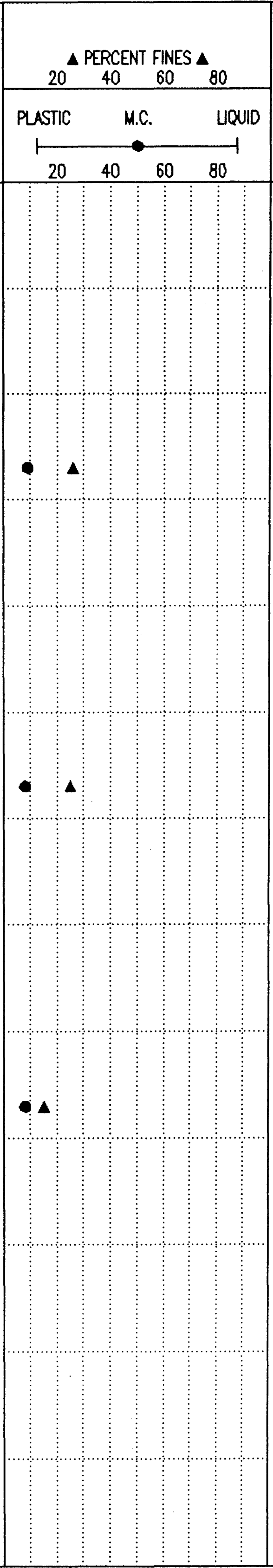
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 5.0 m
	REVIEWED BY:	COMPLETE: 93/10/01
	Fig. No:	Page 1 of 1

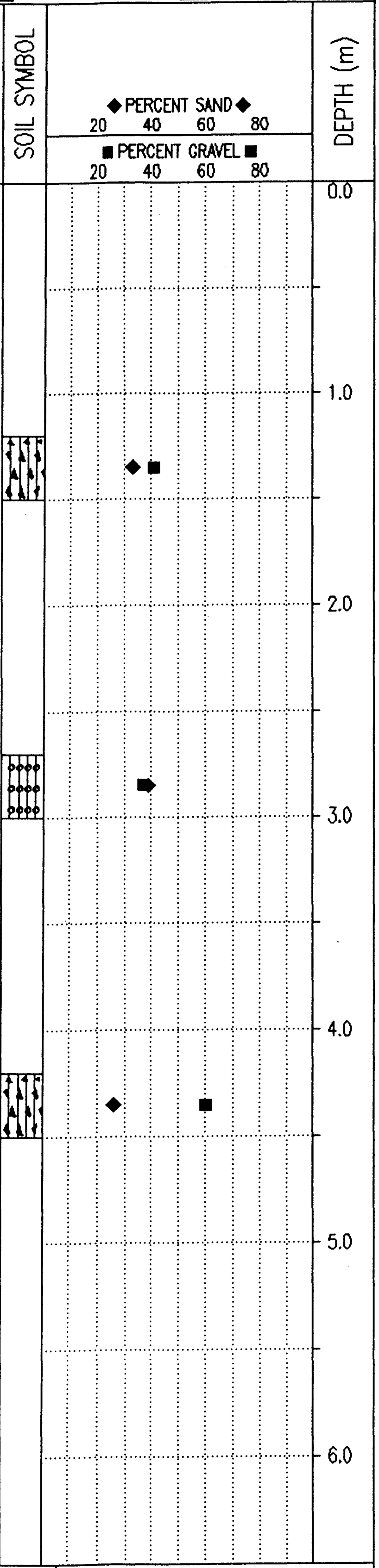
93/10/28 02:03PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 195-89
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1903+350 o/s 10m Rt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL AND ROAD FILL			
	SILTY GRAVEL WITH SAND (GM) -light brown -damp -easy drilling	☒	200	GM
	SILTY SAND WITH GRAVEL (SM) -light brown -saturated	☒	201	SM
	SILTY GRAVEL WITH SAND (GM) -light brown -saturated	☒	202	GM
	END HOLE at 4.5m -in ditch			





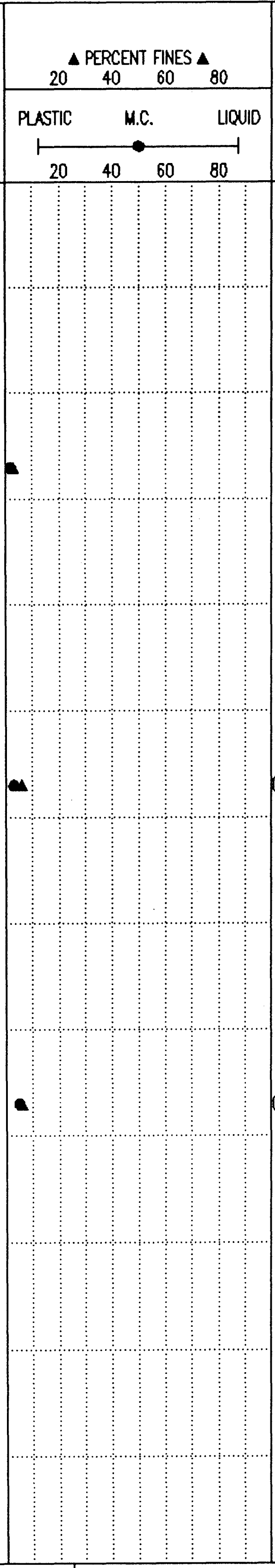
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/10
	Fig. No:	Page 1 of 1

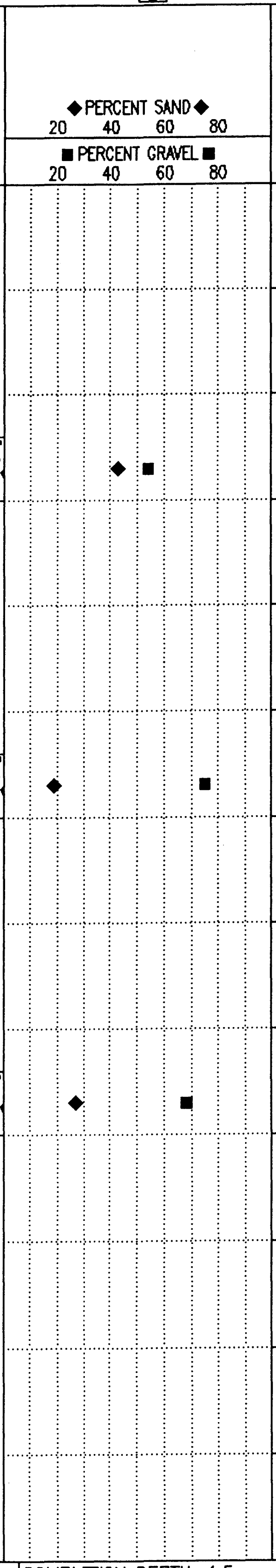
93/11/15 10:04AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 195-88
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1903+450 o/s 8m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◿ S.P.T. ☒ AUGER ☰ BULK ◫ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL AND ROAD FILL			
	POORLY GRADED GRAVEL WITH SAND (GP) -brown -moist	☒	197	GP
2.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -moist	☒	198	GP-GM
4.0		☒	199	GP-GM
5.0	END HOLE at 4.5m -in ditch			
6.0				



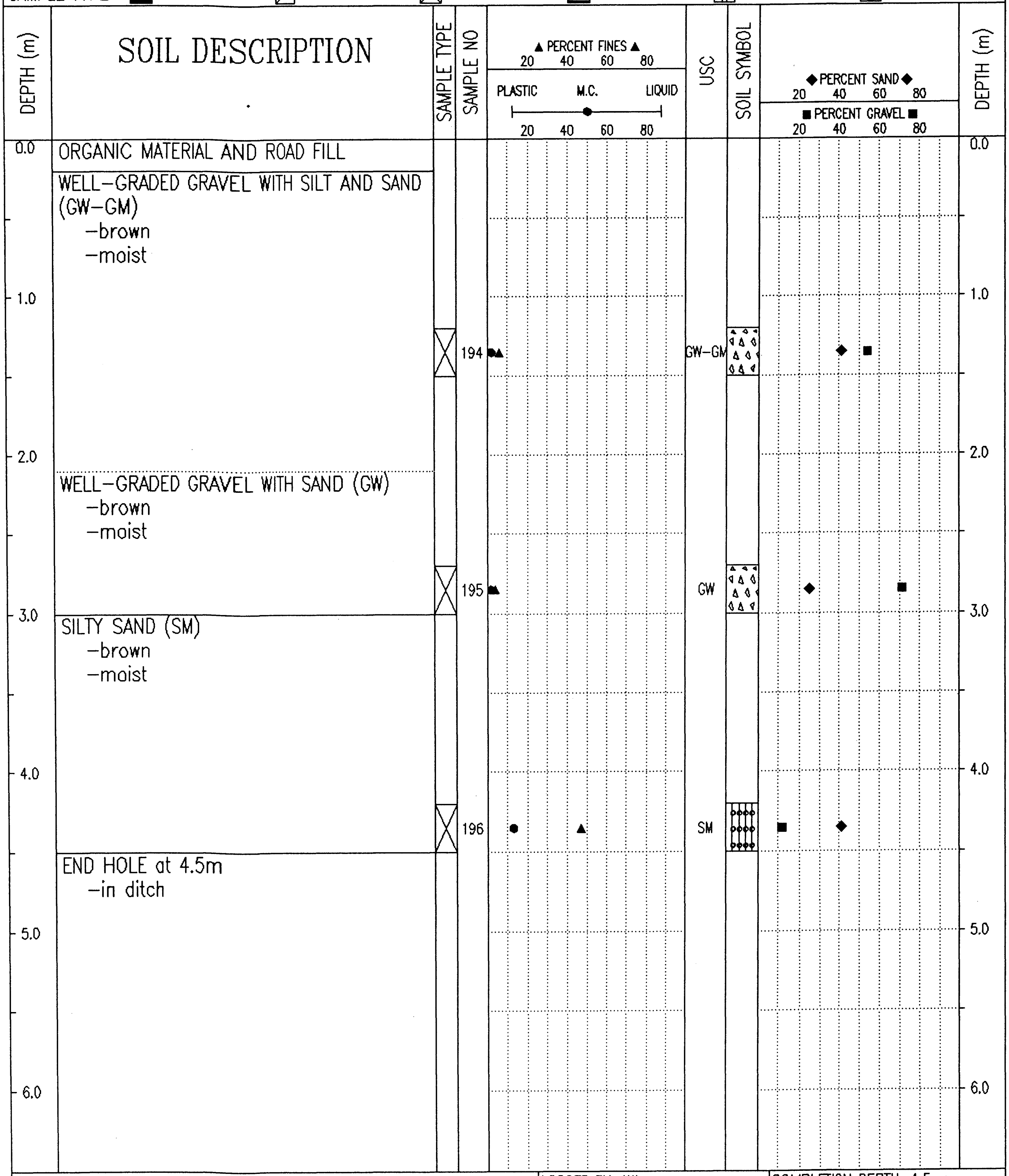


Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/10
	Fig. No:	Page 1 of 1

93/11/15 10:00AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 195-87
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1903+550 o/s 7m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◿ S.P.T. ☒ AUGER ⊟ BULK ▥ TUBE ▮ CORE



0.0 ORGANIC MATERIAL AND ROAD FILL

WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM)
-brown
-moist

WELL-GRADED GRAVEL WITH SAND (GW)
-brown
-moist

SILTY SAND (SM)
-brown
-moist

END HOLE at 4.5m
-in ditch

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/10
	Fig. No:	Page 1 of 1

93/11/15 09:59AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 195-80
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1903+650	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◩ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◫ CORE

SOIL DESCRIPTION

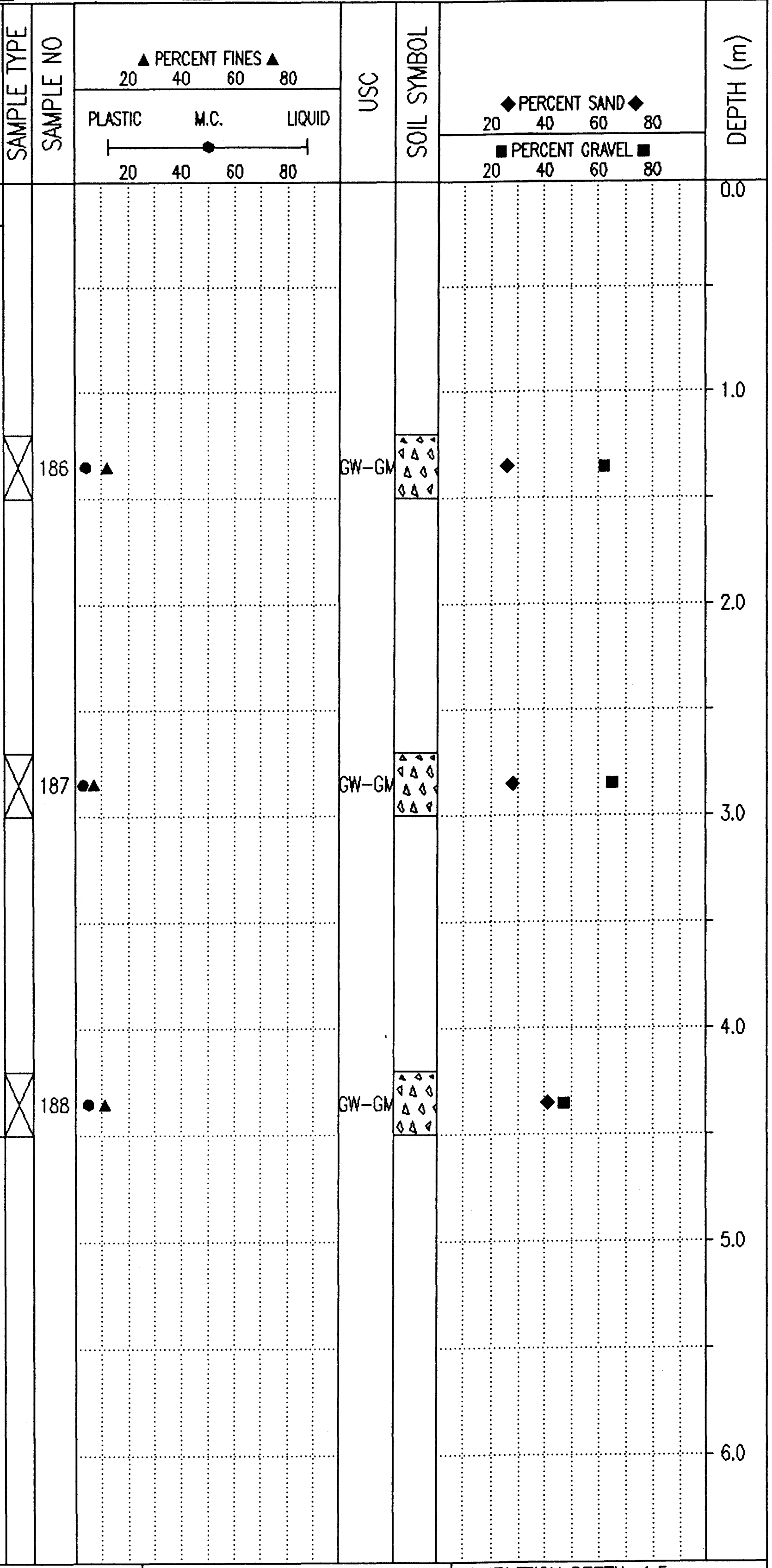
DEPTH (m)

0.0 ORGANIC MATERIAL AND ROAD FILL

WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM)
- -brown
- -moist
- -hard drilling

4.0 -damp below 4.0m

END HOLE at 4.5m
- -in ditch

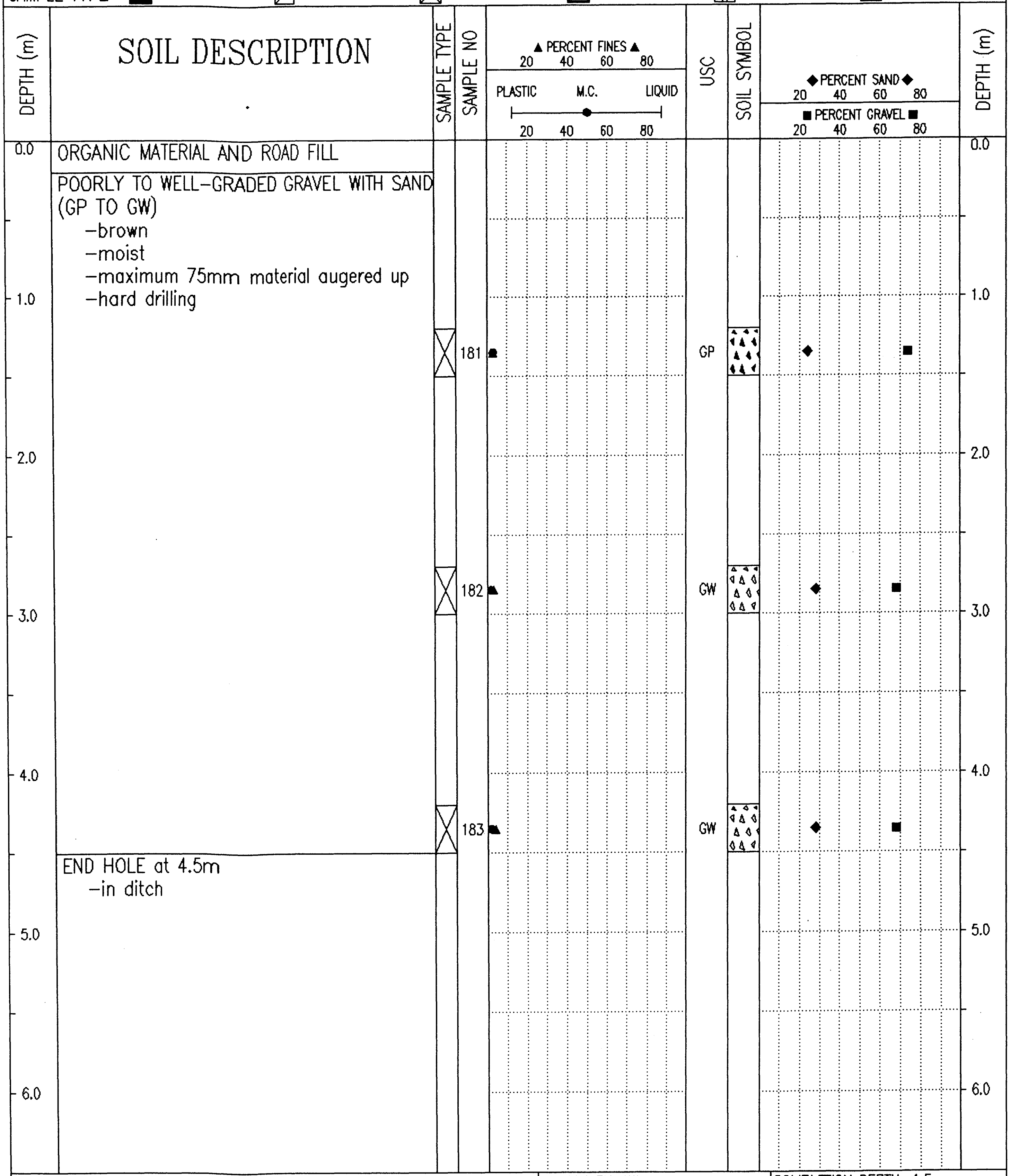


Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/07
	Fig. No:	Page 1 of 1

93/11/15 09:49AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 195-76
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1903+750 o/s 6m Rt.	ELEVATION: 0.00 (m)

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



0.0 ORGANIC MATERIAL AND ROAD FILL

POORLY TO WELL-GRADED GRAVEL WITH SAND (GP TO GW)
- brown
- moist
- maximum 75mm material augered up
- hard drilling

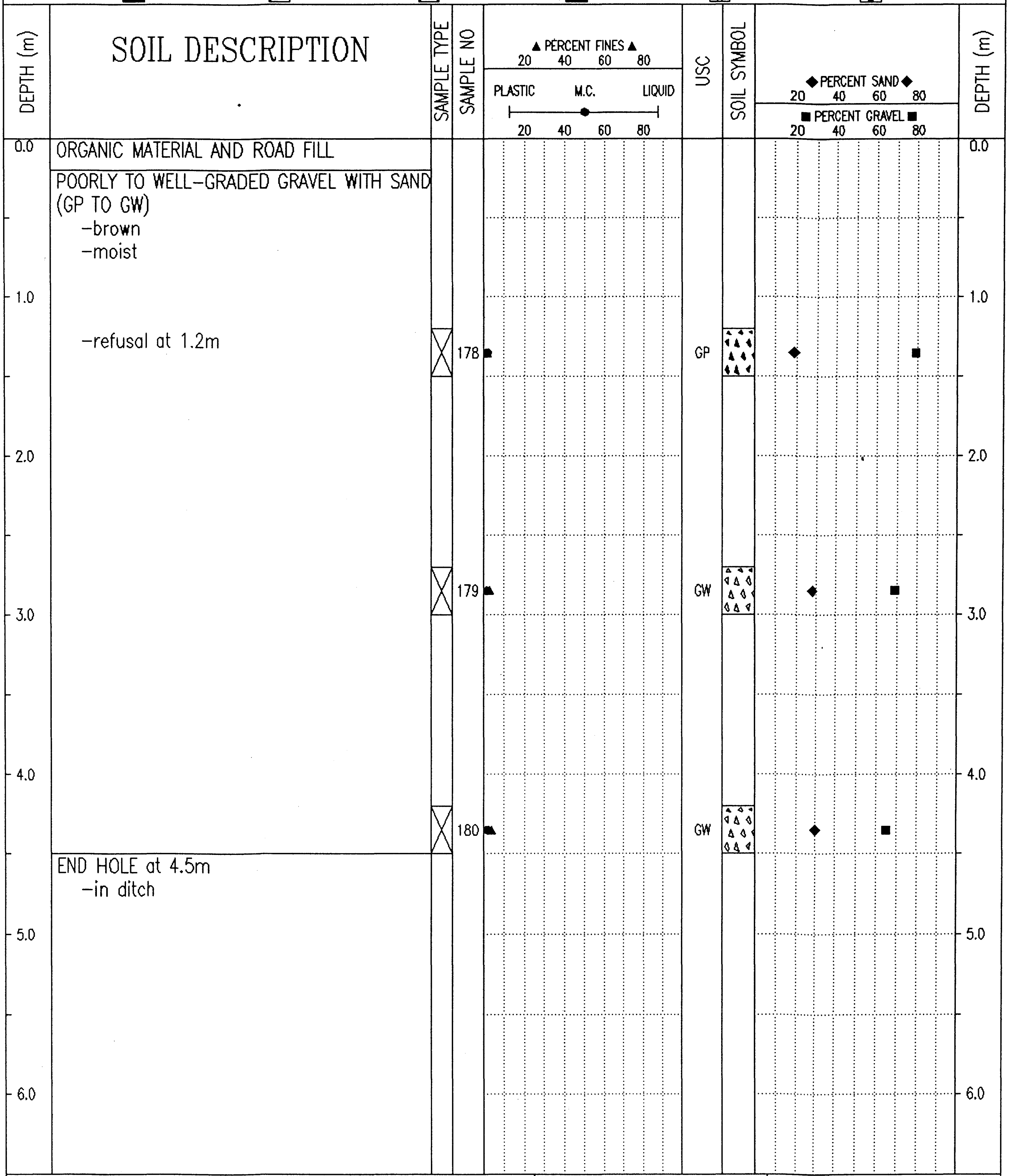
END HOLE at 4.5m
- in ditch

Government of Yukon Transportation Engineering	
LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
REVIEWED BY:	COMPLETE: 92/08/07
Fig. No:	Page 1 of 1

93/11/15 09:43AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 195-75
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1903+850 o/s 5m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◿ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◧ CORE



ORGANIC MATERIAL AND ROAD FILL

POORLY TO WELL-GRADED GRAVEL WITH SAND (GP TO GW)
-brown
-moist

-refusal at 1.2m

END HOLE at 4.5m
-in ditch

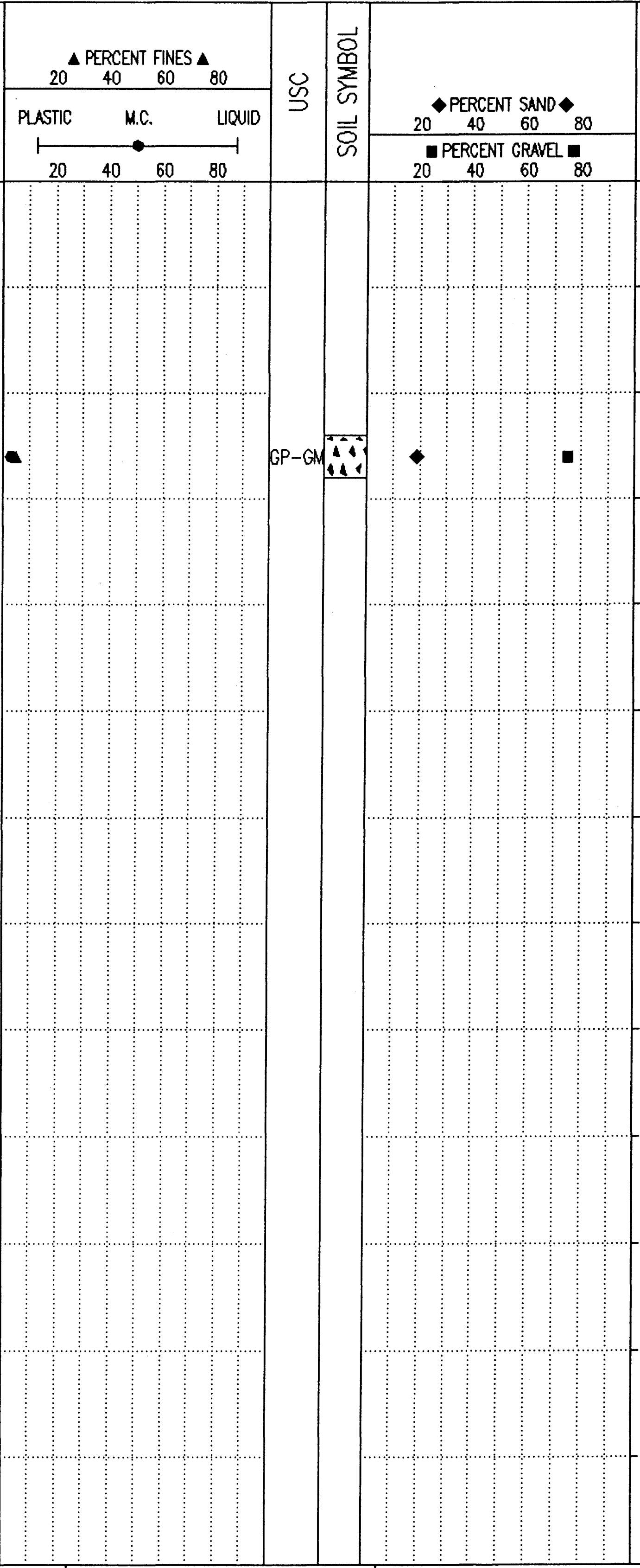
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/07
	Fig. No:	Page 1 of 1

93/11/15 09:41AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 195-74
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1903+950 o/s 6m Rt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	DEPTH (m)
0.0	ORGANIC MATERIAL AND ROAD FILL				0.0
	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -dry -maximum 75mm material augered up				
1.0					1.0
		☒	177	GP-GM	
2.0	-first refusal at 2.0m				2.0
	END HOLE at 2.7m -refusal -in ditch				
3.0					3.0
4.0					4.0
5.0					5.0
6.0					6.0



LOGGED BY: AW	COMPLETION DEPTH: 2.7 m
REVIEWED BY:	COMPLETE: 92/08/07
Fig. No:	Page 1 of 1

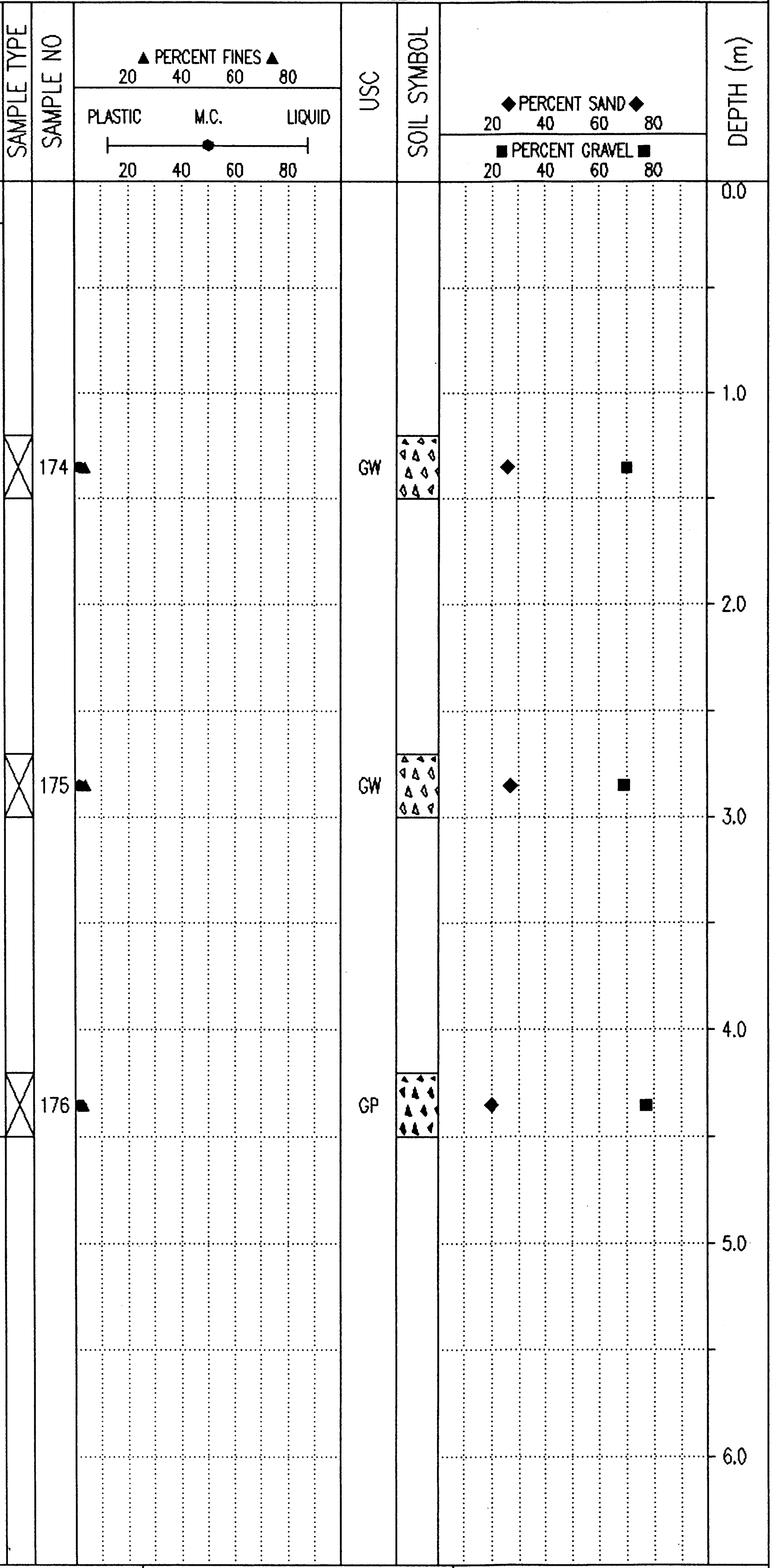
Government of Yukon
Transportation Engineering

93/11/15 09:40AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 195-73
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1904+050	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION
0.0	ORGANIC MATERIAL AND ROAD FILL
	WELL TO POORLY GRADED GRAVEL WITH SAND (GW TO GP) -brown -moist
1.0	
2.0	-damp below 2.4m -maximum 75mm material augered up below 2.4m
3.0	
4.0	-moist below 3.8m
4.5	END HOLE at 4.5m -in ditch
5.0	
6.0	

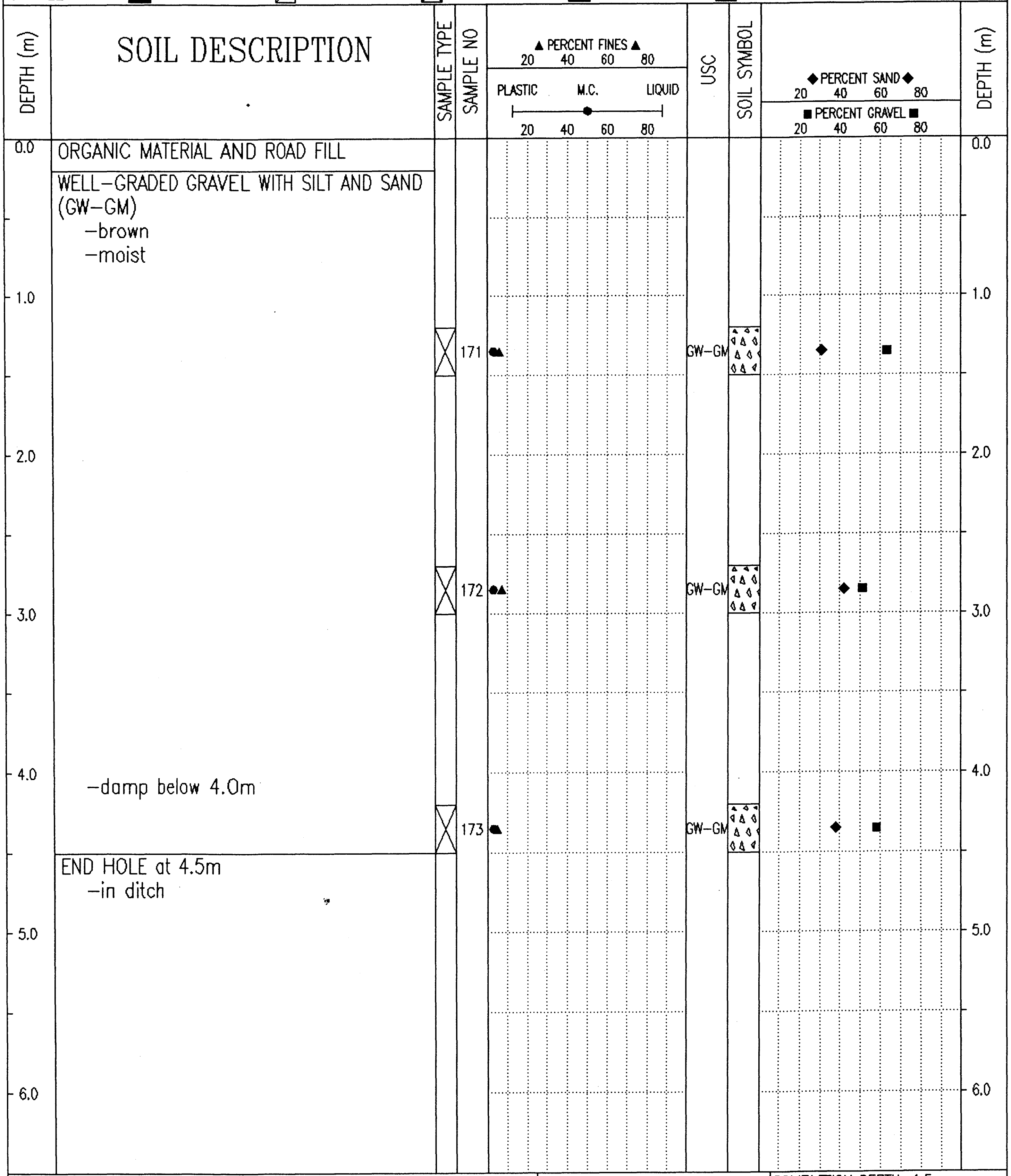


Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/07
	Fig. No:	Page 1 of 1

93/11/15 09:38AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 195-72
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1904+150	ELEVATION: 0.00 (m)

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



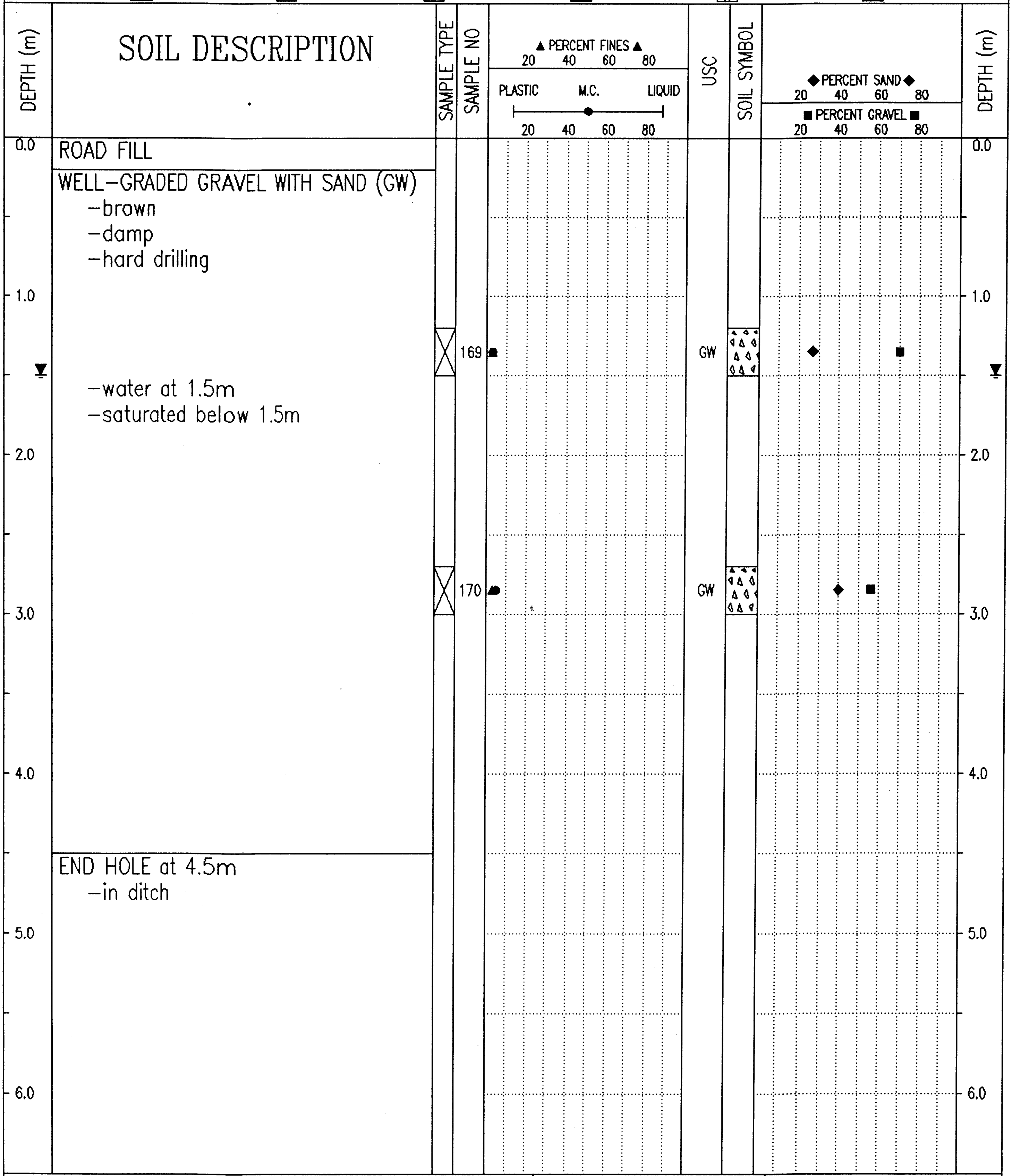
Depth (m)	Soil description	Sample type	Sample no	USC
0.0	ORGANIC MATERIAL AND ROAD FILL			
	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -moist			
		☒	171	GW-GM
		☒	172	GW-GM
4.0	-damp below 4.0m			
		☒	173	GW-GM
4.5	END HOLE at 4.5m -in ditch			

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/07
	Fig. No:	Page 1 of 1

93/11/15 09:37AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 195-71
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1904+250	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◨ CORE



ROAD FILL

WELL-GRADED GRAVEL WITH SAND (GW)
- brown
- damp
- hard drilling
- water at 1.5m
- saturated below 1.5m

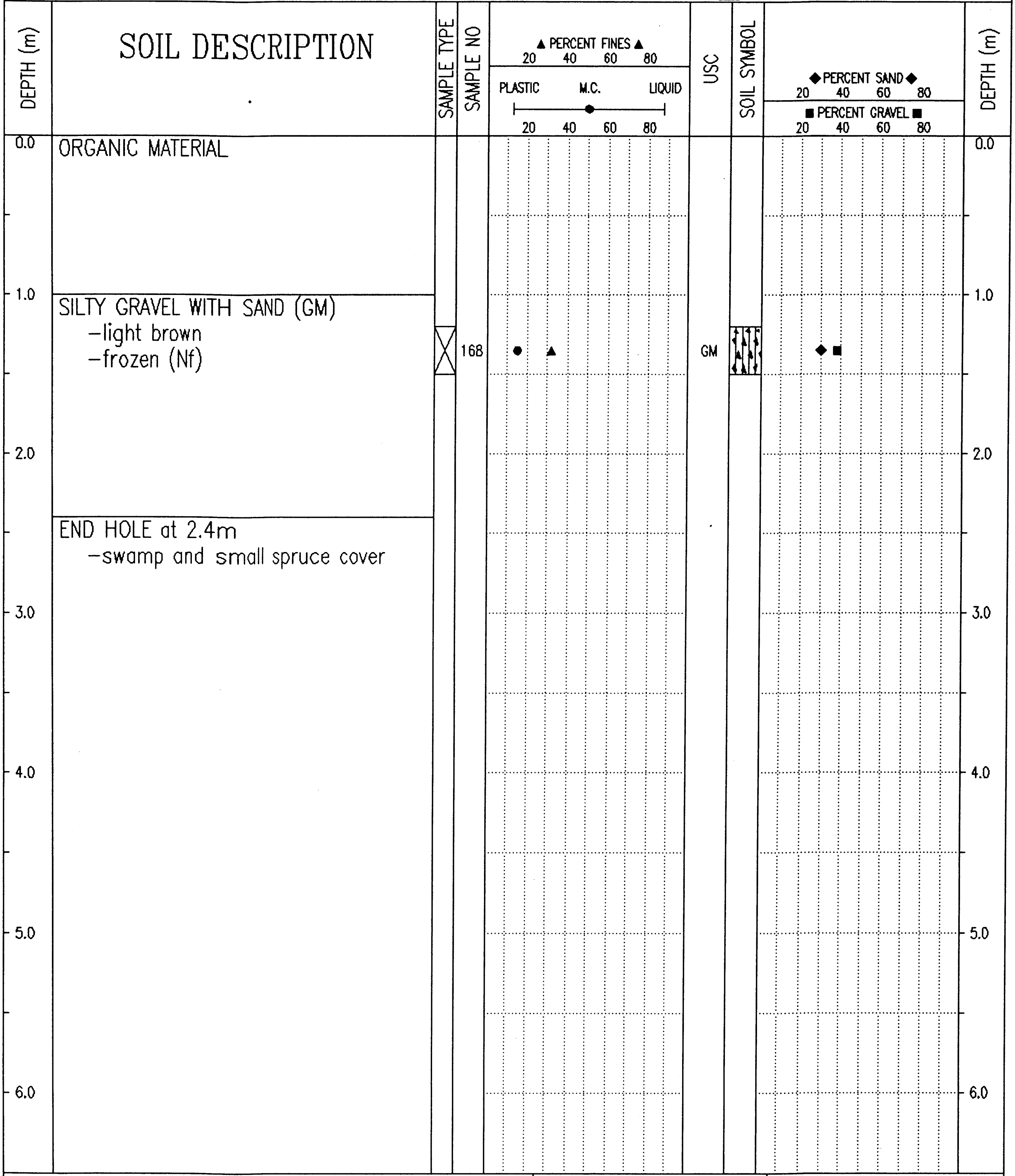
END HOLE at 4.5m
- in ditch

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/07
	Fig. No:	Page 1 of 1

93/11/12 02:42PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-70
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1904+350	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◩ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◨ CORE



DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
1.0	SILTY GRAVEL WITH SAND (GM) -light brown -frozen (Nf)	☒	168	GM
2.4	END HOLE at 2.4m -swamp and small spruce cover			

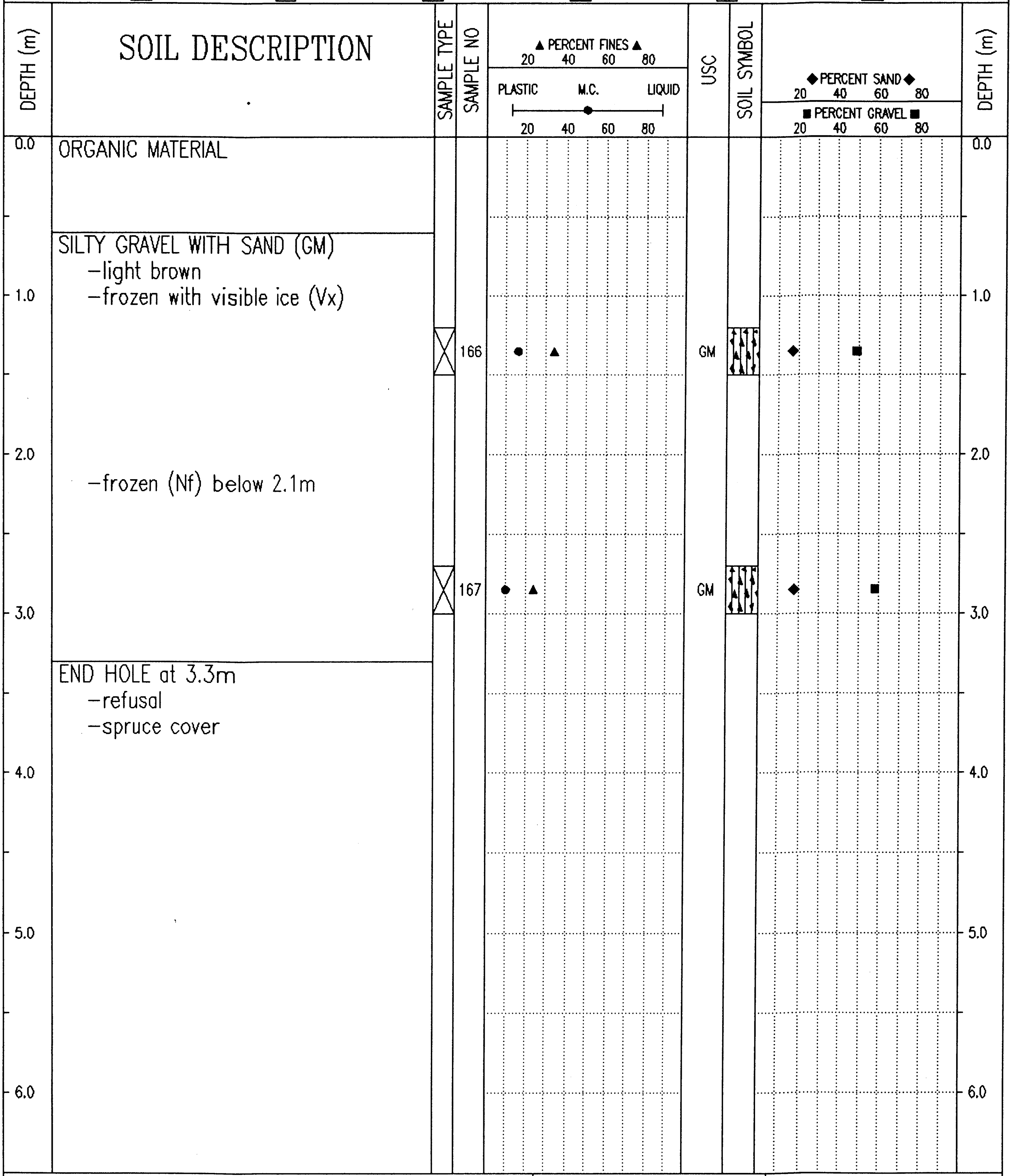
Government of Yukon
Transportation Engineering

LOGGED BY: AW	COMPLETION DEPTH: 2.4 m
REVIEWED BY:	COMPLETE: 92/08/07
Fig. No:	Page 1 of 1

93/11/12 02:41PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-69
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1904+475	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ☰ BULK ◫ TUBE ◧ CORE



ORGANIC MATERIAL

SILTY GRAVEL WITH SAND (GM)
 -light brown
 -frozen with visible ice (Vx)

 -frozen (Nf) below 2.1m

END HOLE at 3.3m
 -refusal
 -spruce cover

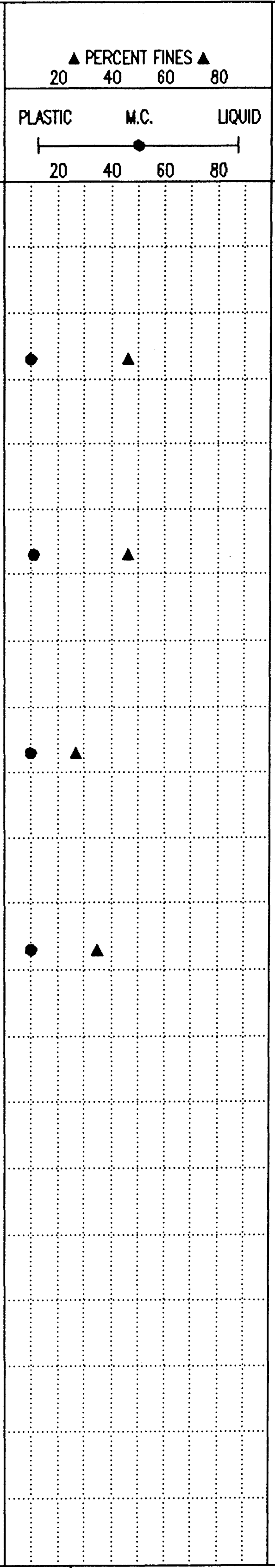
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 3.3 m
	REVIEWED BY:	COMPLETE: 92/08/07
	Fig. No:	Page 1 of 1

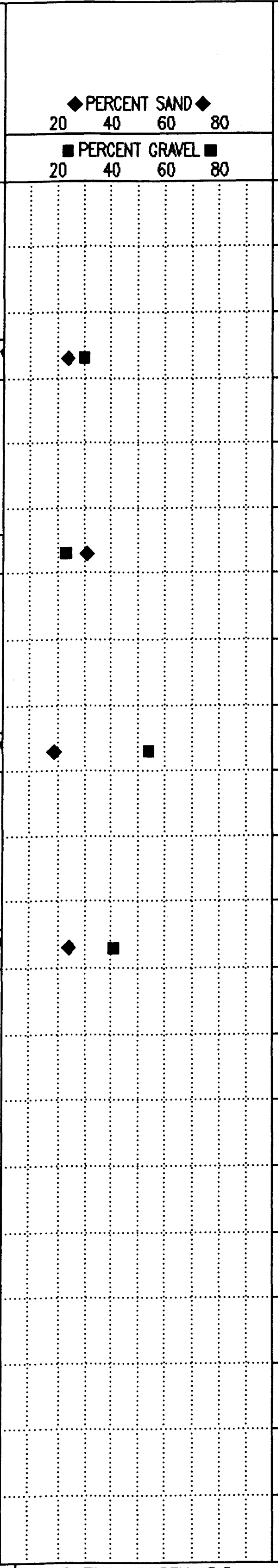
93/11/12 02:40PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-68
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1904+550	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◿ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	DEPTH (m)
0.0	ORGANIC MATERIAL				0.0
	SILTY GRAVEL WITH SAND (GM) –light brown –moist –easy drilling				
1.0					1.0
		☒	162	GM	
2.0	SILTY SAND WITH GRAVEL (SM) –gray –wet				2.0
		☒	163	SM	
3.0					3.0
	–harder drilling below 3.6m –water at 3.9m				
▼ 4.0	SILTY GRAVEL WITH SAND (GM) –gray –damp				▼ 4.0
		☒	164	GM	
5.0					5.0
		☒	165	GM	
6.0					6.0
7.0	END HOLE at 6.9m –refusal –spruce, willow and birch cover				7.0
8.0					8.0
9.0					9.0
10.0					10.0





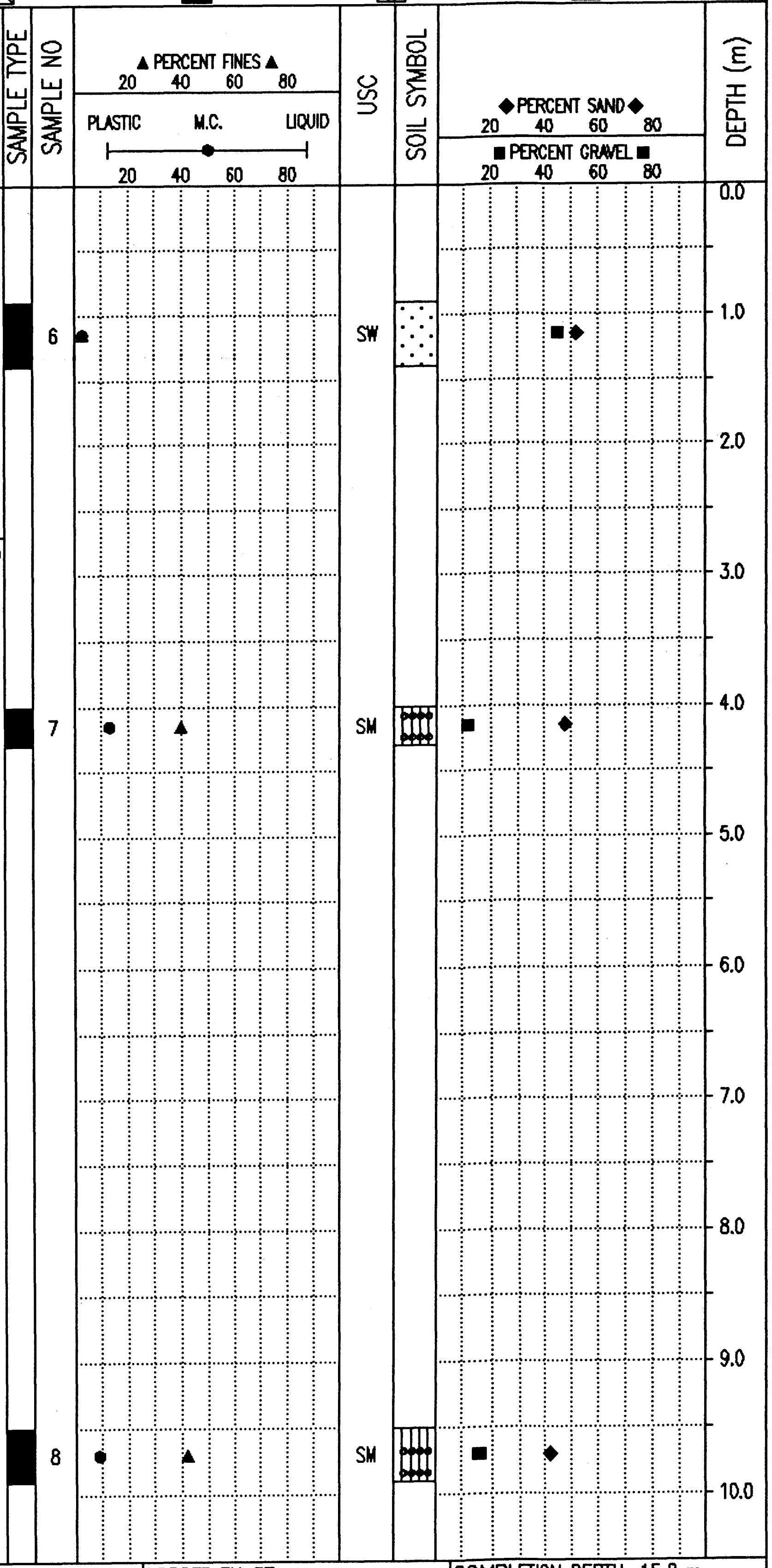
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 6.9 m
	REVIEWED BY:	COMPLETE: 92/08/07
	Fig. No:	Page 1 of 1

93/11/12 02:38PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 281-06
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL: SCHRAMM AIR ROTARY	LOCATION: 1904+555 o/s 30mRt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION
0.0	WELL-GRADED SAND WITH GRAVEL (SW) -brown -wet with traces of ice -smooth drilling -noisy jumpy drilling below 0.8 m
1.0	
2.0	
3.0	SILTY SAND TO SILTY SAND WITH GRAVEL (SM) -brown -smooth drilling
4.0	
5.0	
6.0	
7.0	
8.0	
9.0	-gray below 9.2 m
10.0	

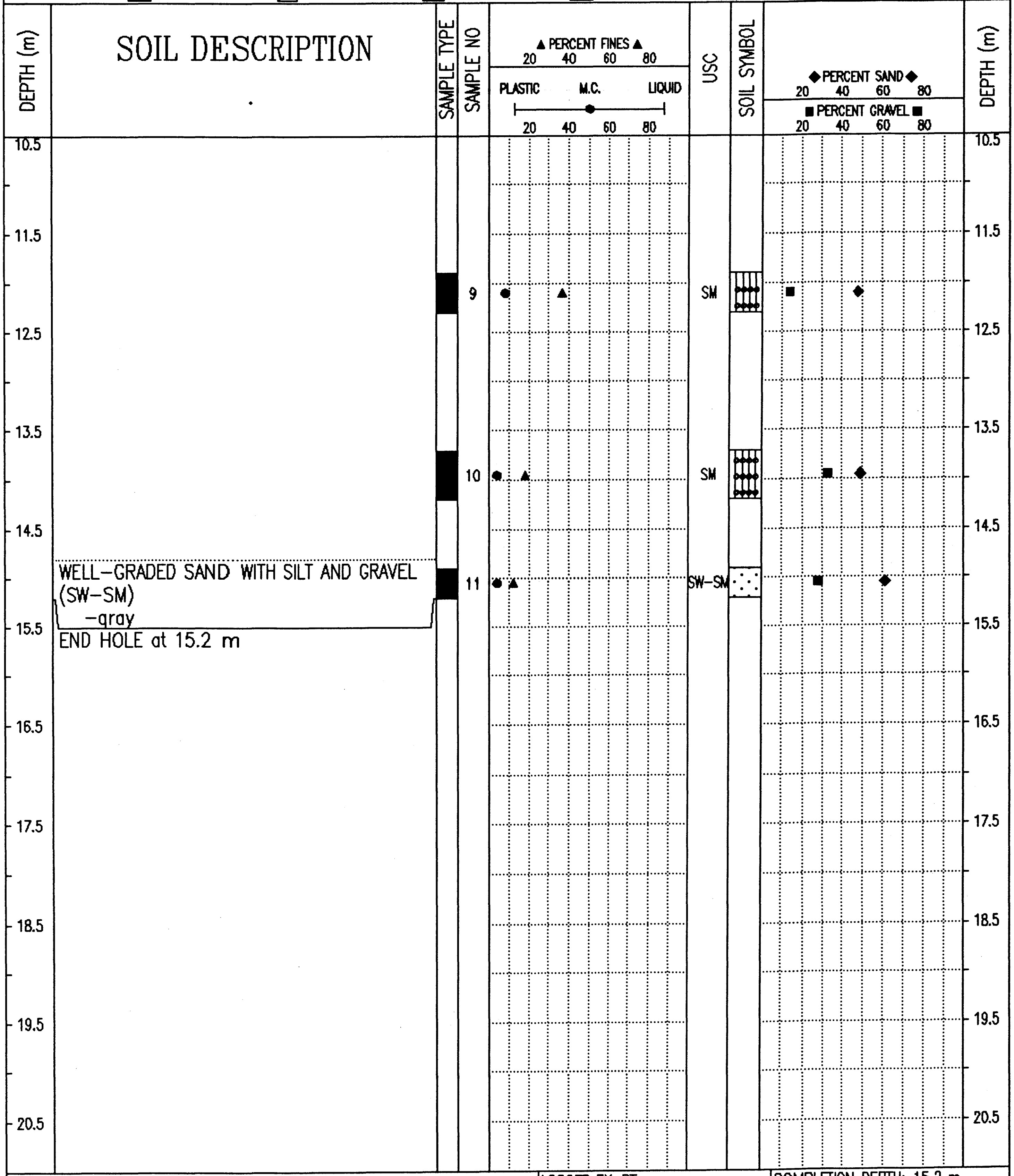


Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 15.2 m
	REVIEWED BY:	COMPLETE: 94/02/28
	Fig. No:	Page 1 of 2

94/03/28 04:36PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 281-06
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL: SCHRAMM AIR ROTARY	LOCATION: 1904+555 o/s 30mRt.	ELEVATION: 0.00 (m)

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



WELL-GRADED SAND WITH SILT AND GRAVEL (SW-SM)
-gray

END HOLE at 15.2 m

Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 15.2 m
	REVIEWED BY:	COMPLETE: 94/02/28
	Fig. No:	Page 2 of 2

94/03/28 04:38PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-67
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1904+575	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 MATERIAL							0.0
	SANDY GRAVEL –trace of silt							
1.0								1.0
	END HOLE at 1.3m –refusal twice at 1.3m –spruce, willow and poplar cover							
2.0								2.0
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0

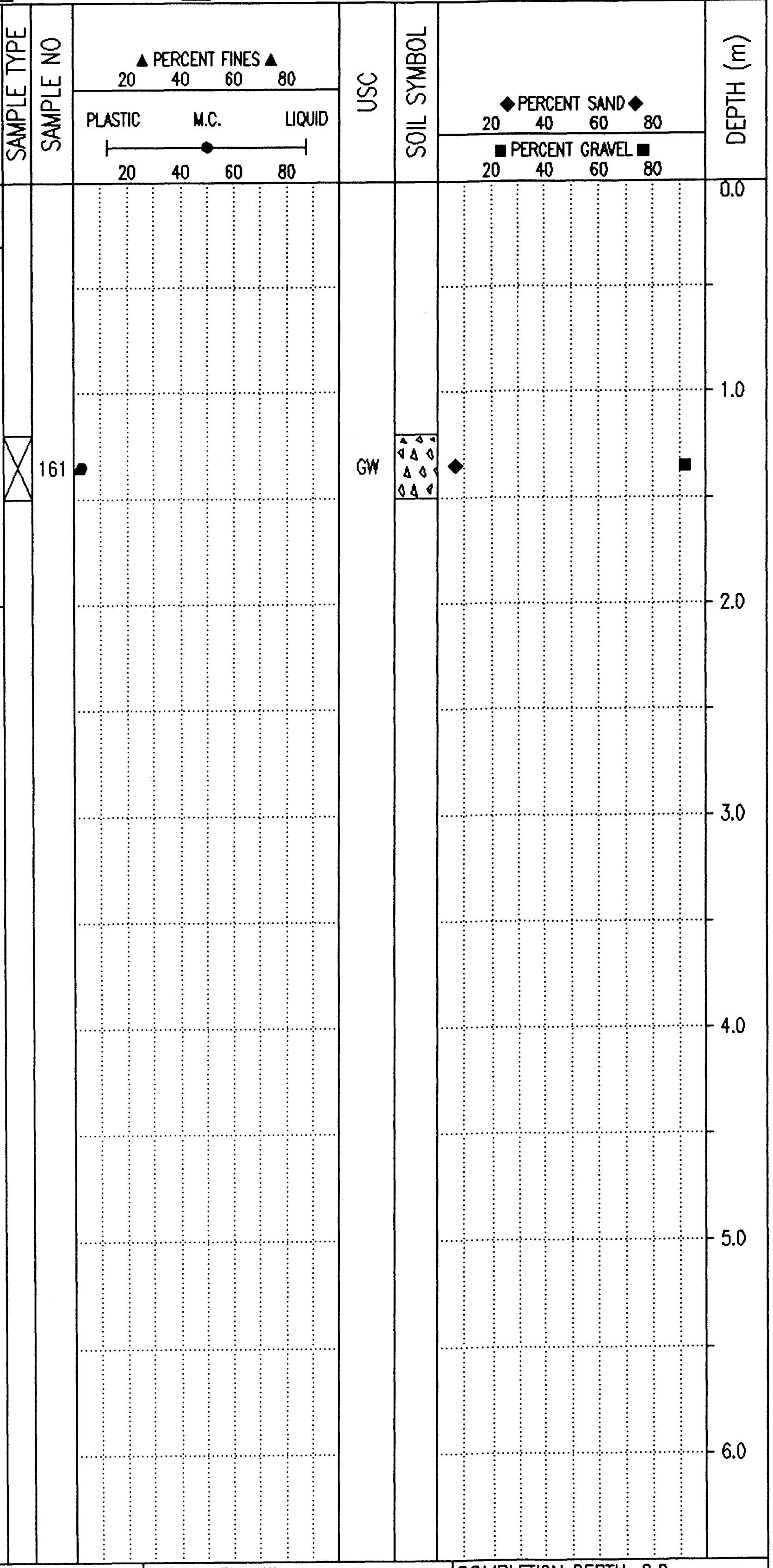
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 1.3 m
	REVIEWED BY:	COMPLETE: 92/08/07
	Fig. No:	Page 1 of 1

93/11/12 02:36PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-66
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1904+600	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION
0.0	ORGANIC MATERIAL
	WELL-GRADED GRAVEL (GW) -brown -damp -hard drilling -refusal at 1.5m
2.0	END HOLE at 2.0m -refusal -spruce and poplar cover

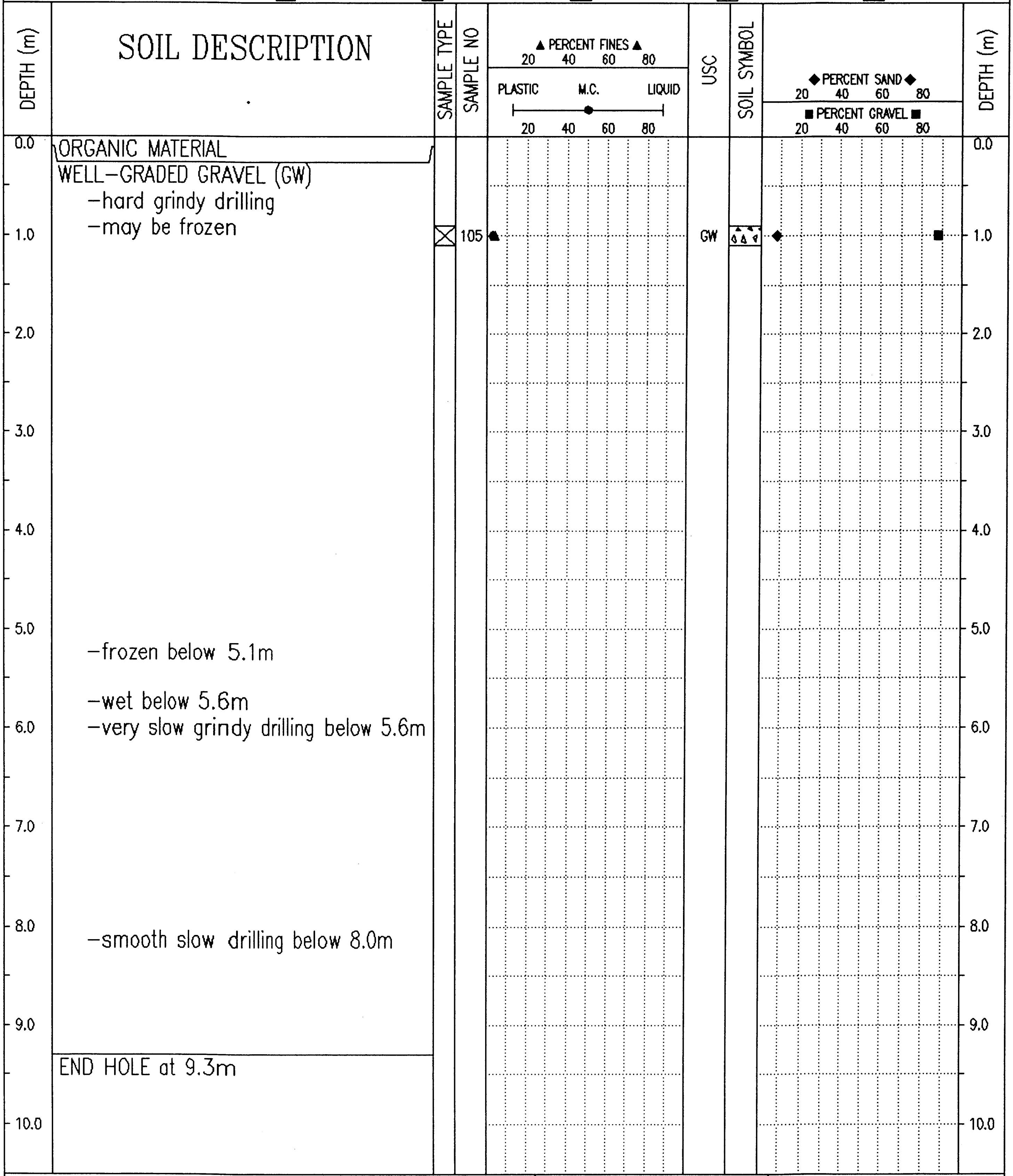


Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 2.0 m
	REVIEWED BY:	COMPLETE: 92/08/07
	Fig. No:	Page 1 of 1

93/11/12 02:35PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-41
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1904+600	ELEVATION: 0.00 (m)

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



Depth (m)	Soil Description	Sample Type	Sample No	USC
0.0	ORGANIC MATERIAL			
	WELL-GRADED GRAVEL (GW) -hard grindy drilling -may be frozen			
1.0		☒	105	GW
5.0	-frozen below 5.1m			
6.0	-wet below 5.6m -very slow grindy drilling below 5.6m			
8.0	-smooth slow drilling below 8.0m			
9.3	END HOLE at 9.3m			

Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 9.3 m
	REVIEWED BY:	COMPLETE: 93/09/08
	Fig. No:	Page 1 of 1

93/11/10 03:35PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-41
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1904+600	ELEVATION: 0.00 (m)

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

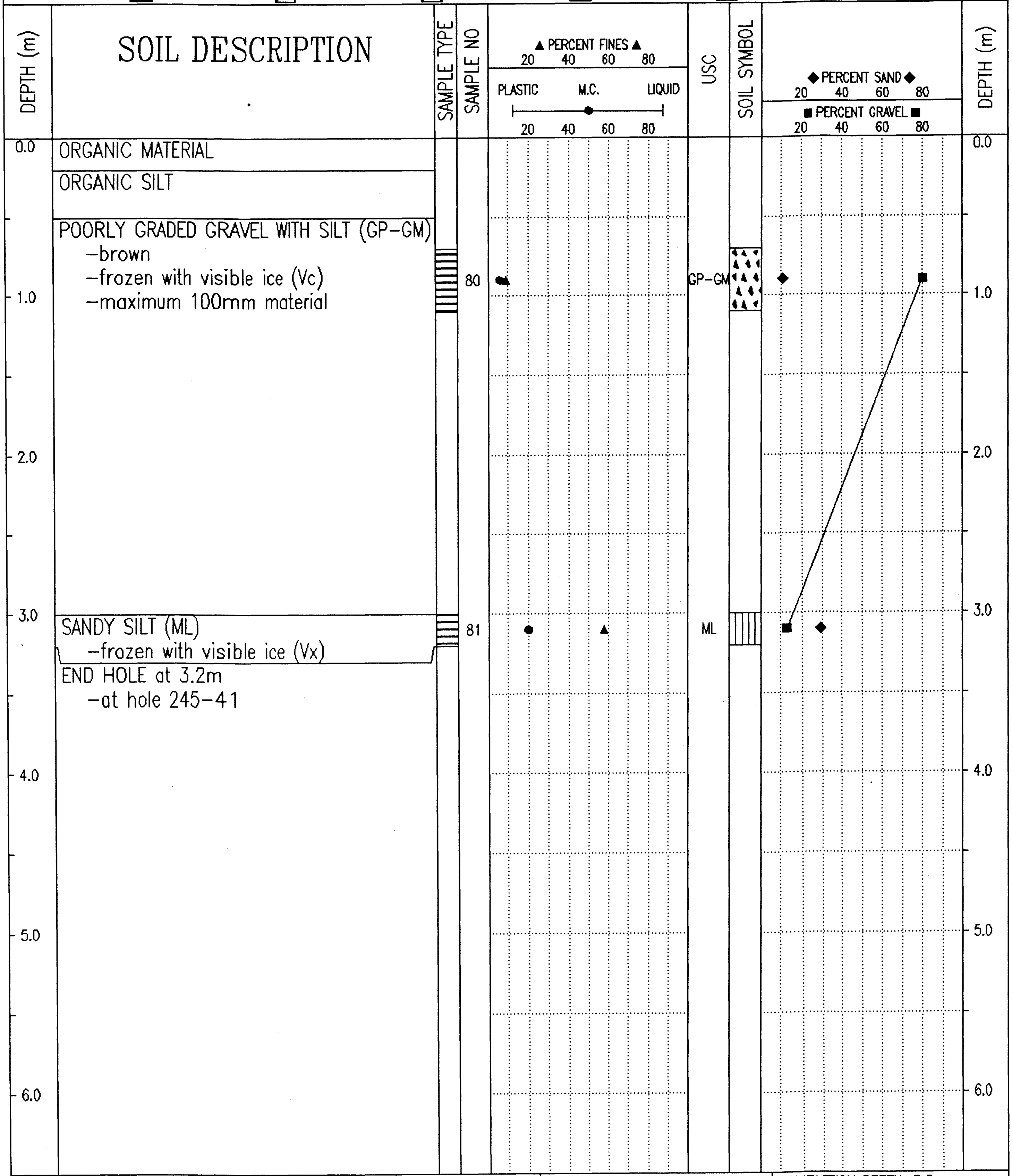
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
6.5								6.5
7.5								7.5
	-smooth slow drilling below 8.0m							
8.5								8.5
	END HOLE at 9.3m							
9.5								9.5
10.5								10.5
11.5								11.5
12.5								12.5

Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 9.3 m
	REVIEWED BY:	COMPLETE: 93/09/08
	Fig. No:	Page 2 of 2

93/11/05 11:48AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 257-33
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1904+600	ELEVATION: 0.00 (m)

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



ORGANIC MATERIAL

ORGANIC SILT

POORLY GRADED GRAVEL WITH SILT (GP-GM)
- brown
- frozen with visible ice (Vc)
- maximum 100mm material

SANDY SILT (ML)
- frozen with visible ice (Vx)

END HOLE at 3.2m
- at hole 245-41

Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 3.2 m
	REVIEWED BY:	COMPLETE: 93/10/02
	Fig. No:	Page 1 of 1

93/10/28 10:20AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-42
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1904+640	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 MATERIAL							0.0
	SILTY SAND -some pebbles							
1.0	SILTY GRAVEL -grindy drilling -smooth drilling below 1.3m							1.0
2.0	-frozen below 1.9m -grindy drilling below 2.0m							2.0
3.0								3.0
4.0	END HOLE at 3.9m							4.0
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 3.9 m
	REVIEWED BY:	COMPLETE: 93/09/09
	Fig. No:	Page 1 of 1

93/11/05 11:49AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-65
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1904+725	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◧ CORE

DEPTH (m)

SOIL DESCRIPTION

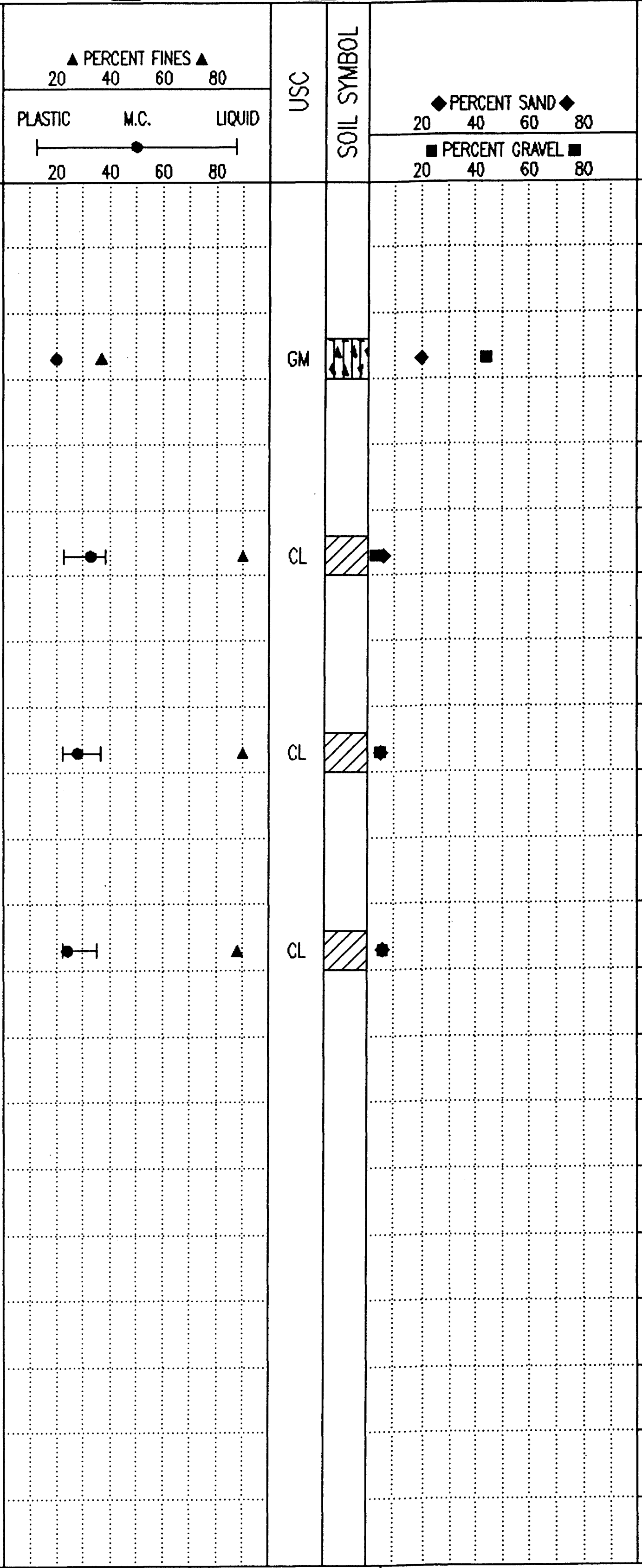
ORGANIC MATERIAL

SILTY GRAVEL WITH SAND (GM)
-light brown
-frozen with visible ice (Vx)
-easy drilling

LEAN CLAY (CL)
-gray
-frozen with visible ice (Vx)
-easy drilling

END HOLE at 9.0m
-spruce cover

SAMPLE TYPE	SAMPLE NO	USC
☒	157	GM
☒	158	CL
☒	159	CL
☒	160	CL



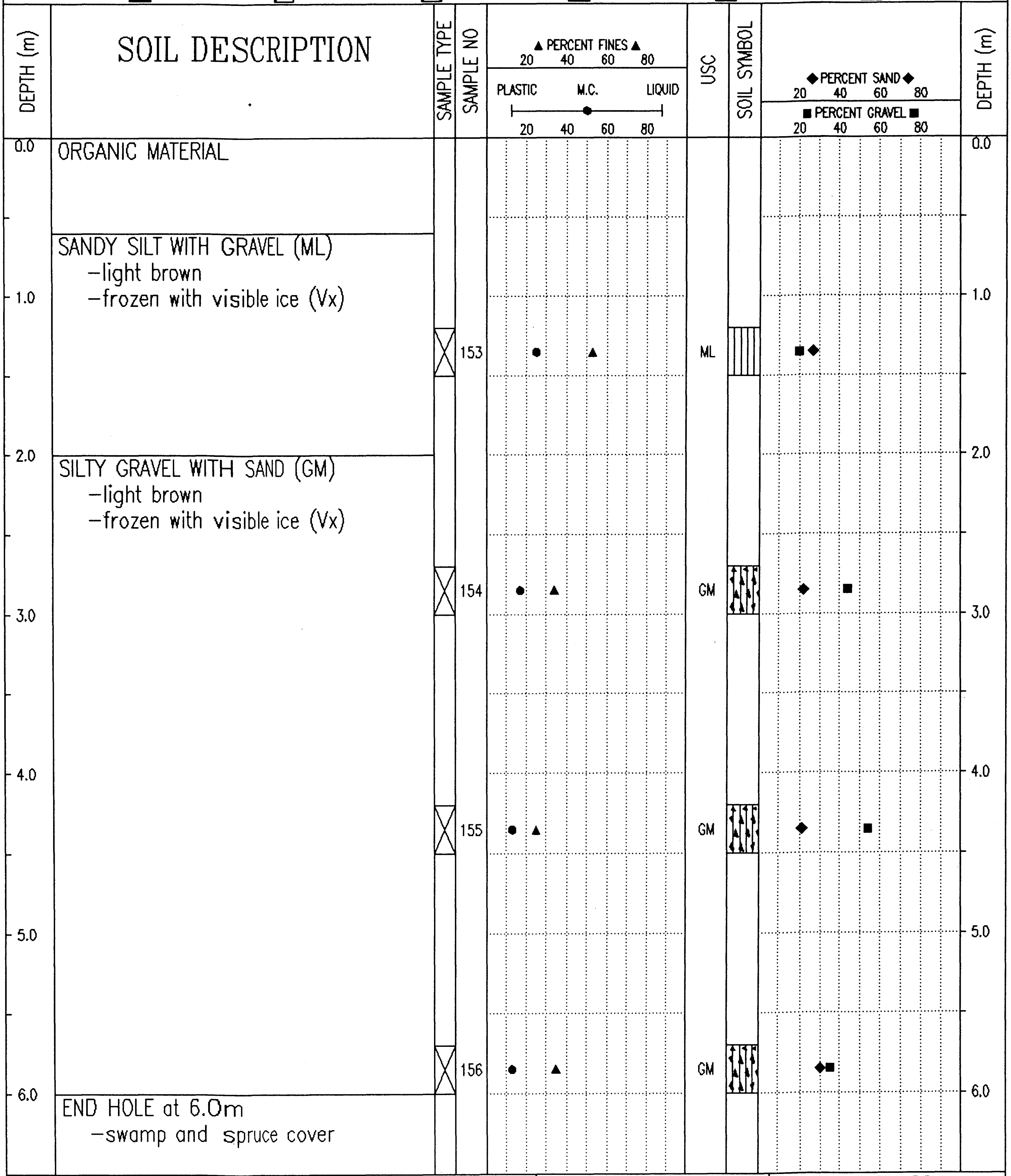
DEPTH (m) 0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 9.0 m
	REVIEWED BY:	COMPLETE: 92/08/07
	Fig. No:	Page 1 of 1

93/11/12 02:33PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-64
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1904+825	ELEVATION: 0.00 (m)

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



SOIL DESCRIPTION

ORGANIC MATERIAL

SANDY SILT WITH GRAVEL (ML)
 -light brown
 -frozen with visible ice (Vx)

SILTY GRAVEL WITH SAND (GM)
 -light brown
 -frozen with visible ice (Vx)

END HOLE at 6.0m
 -swamp and spruce cover

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 6.0 m
	REVIEWED BY:	COMPLETE: 92/08/07
	Fig. No:	Page 1 of 1

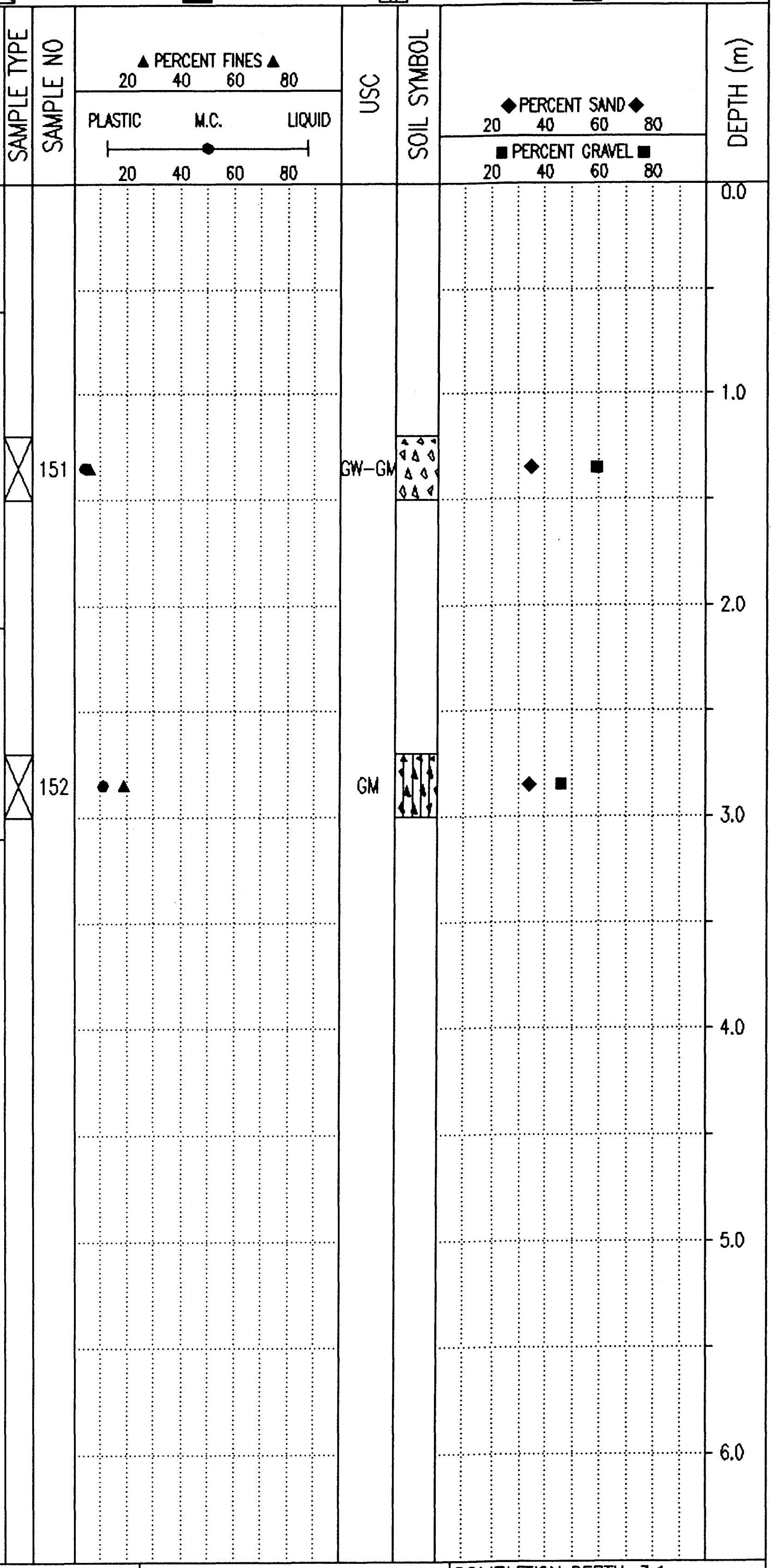
93/11/12 02:32PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-63
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1904+925	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ☰ BULK ‖ TUBE ▌ CORE

DEPTH (m)	SOIL DESCRIPTION
0.0	ORGANIC MATERIAL
	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -dry -hard drilling
2.0	SILTY GRAVEL WITH SAND (GM) -brown -damp
3.0	END HOLE at 3.1m -refusal -spruce and willow cover

DEPTH (m): 0.0, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0

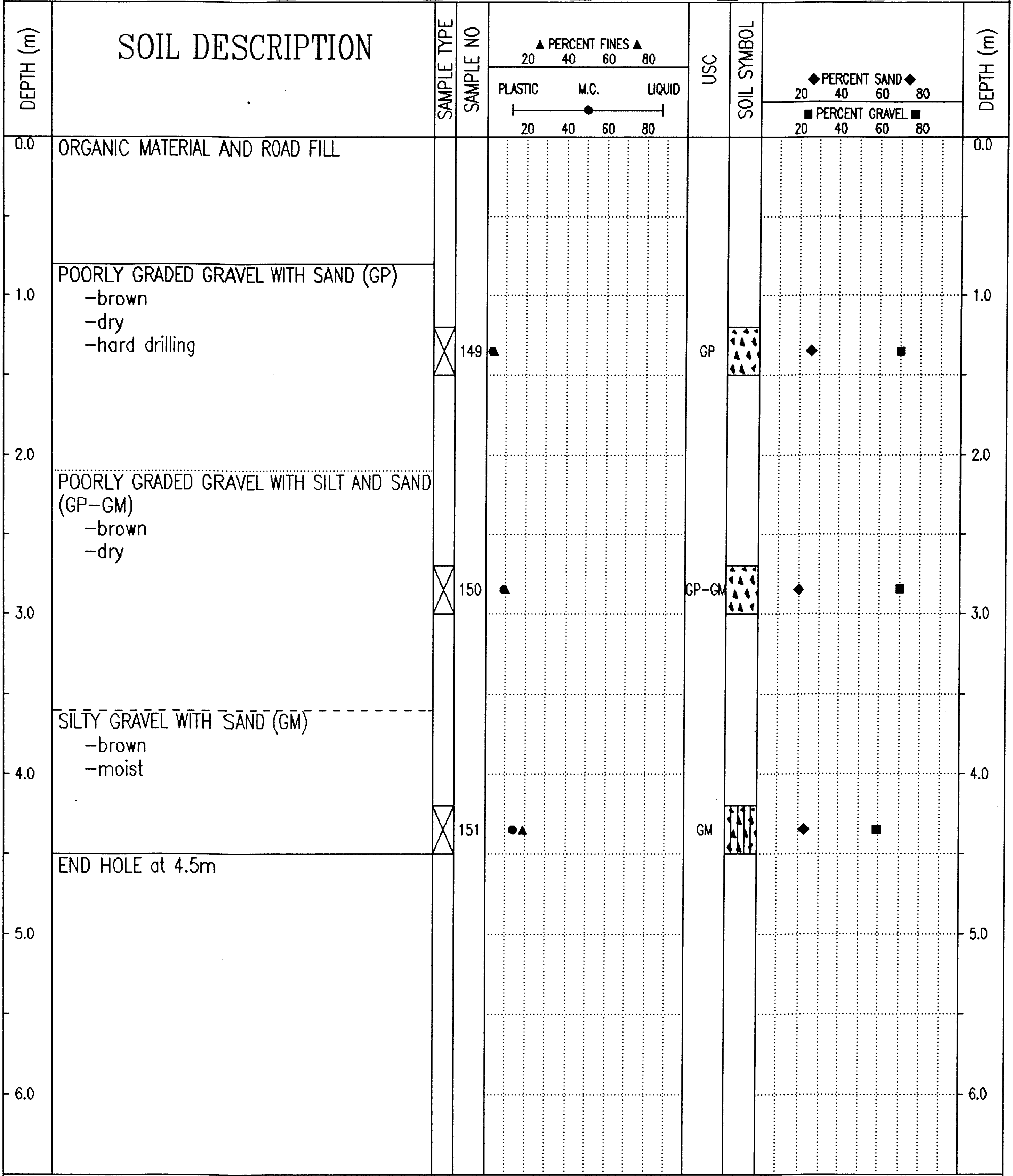


Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 3.1 m
	REVIEWED BY:	COMPLETE: 92/08/06
	Fig. No:	Page 1 of 1

93/11/12 02:30PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-62
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1905+050	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◨ CORE



ORGANIC MATERIAL AND ROAD FILL

POORLY GRADED GRAVEL WITH SAND (GP)
- brown
- dry
- hard drilling

POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM)
- brown
- dry

SILTY GRAVEL WITH SAND (GM)
- brown
- moist

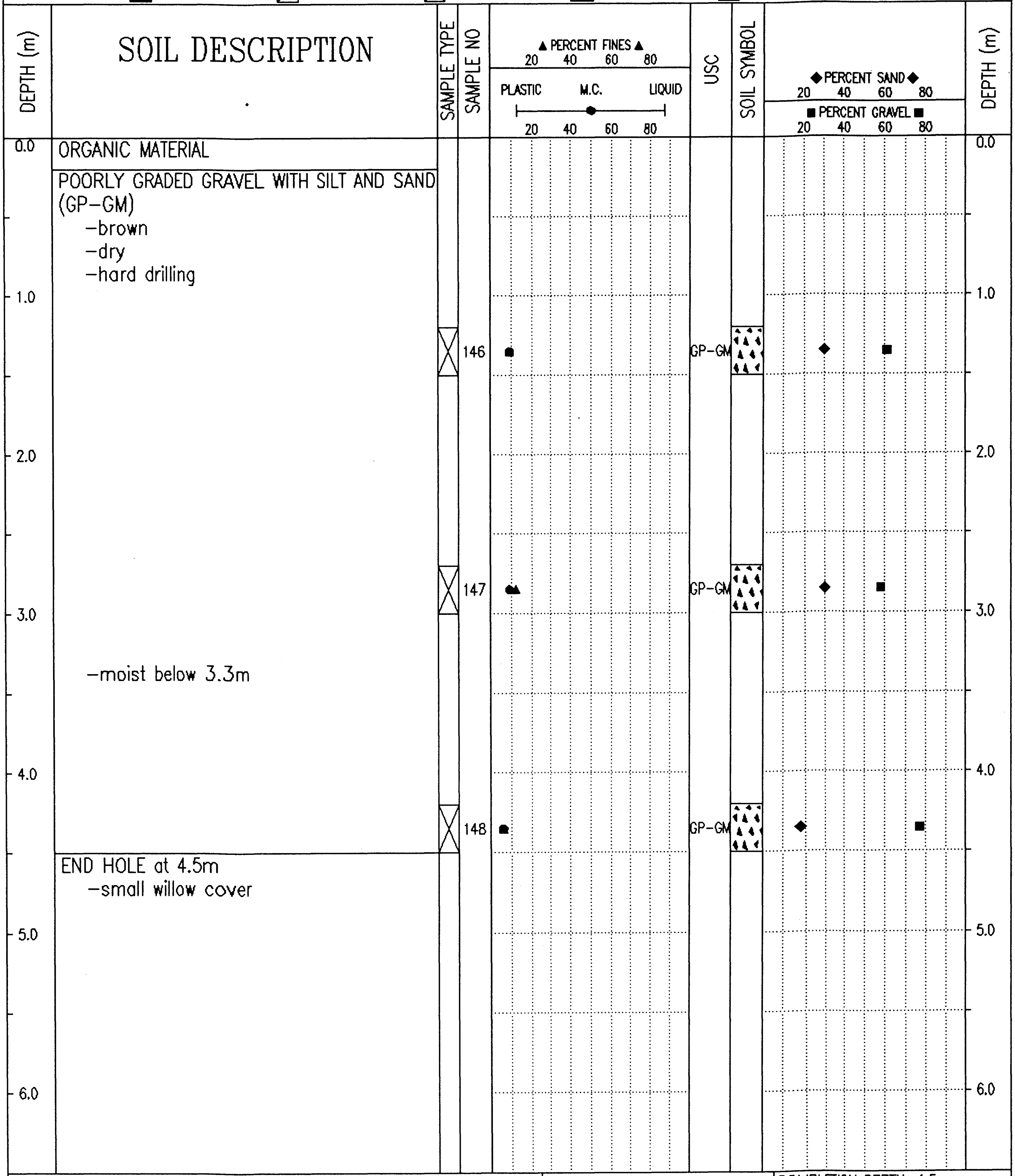
END HOLE at 4.5m

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/06
	Fig. No:	Page 1 of 1

93/11/12 02:29PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-61
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1905+150	ELEVATION: 0.00 (m)

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



SOIL DESCRIPTION

0.0 ORGANIC MATERIAL

POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM)
- brown
- dry
- hard drilling
- moist below 3.3m

END HOLE at 4.5m
- small willow cover

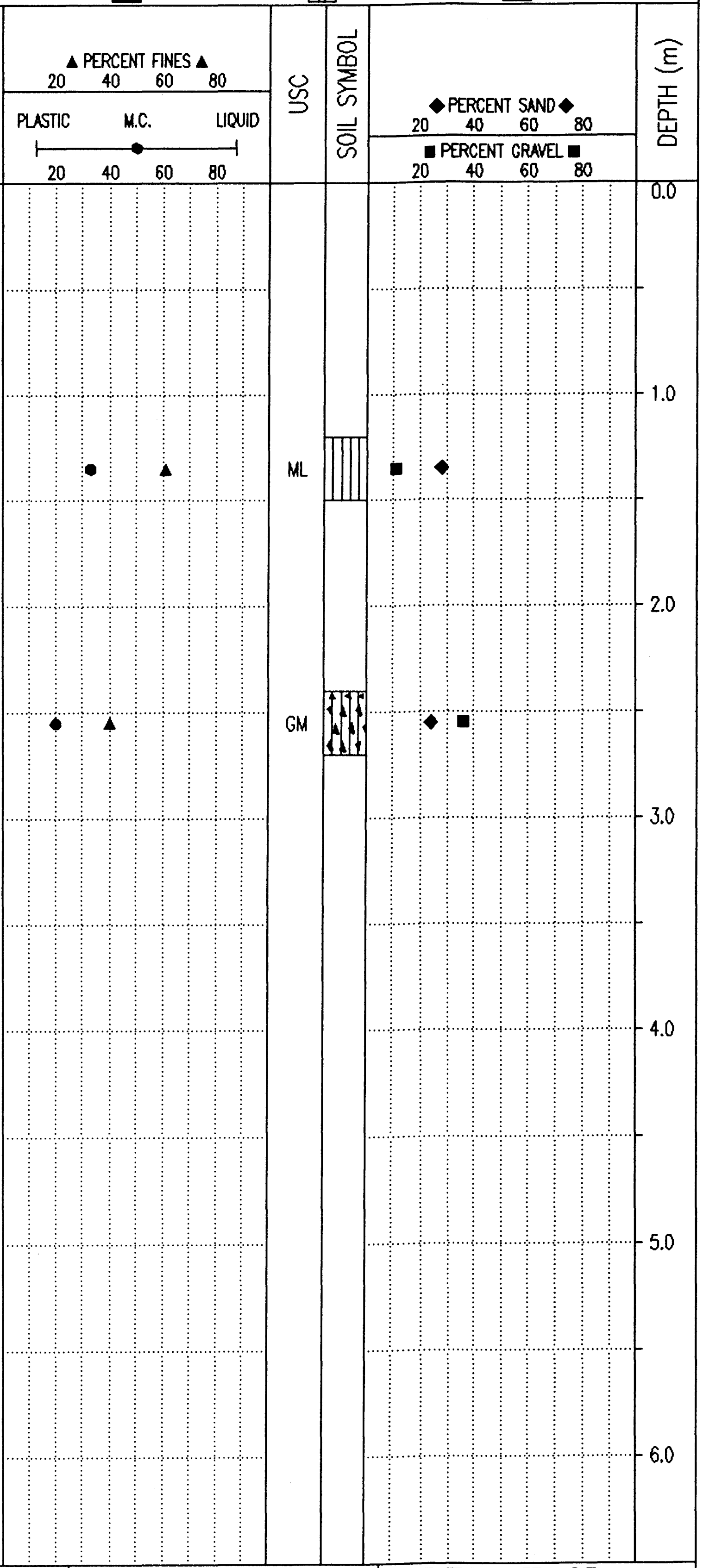
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/06
	Fig. No:	Page 1 of 1

93/11/12 02:27PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-60
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1905+300 o/s 7m Lt	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◩ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
	SANDY SILT (ML) -dark brown -damp -organic	☒	144	ML
2.0	SILTY GRAVEL WITH SAND (GM) -dark brown -wet -organic -refusal at 2.4m	☒	145	GM
3.0	END HOLE at 2.7m -refusal -spruce and willow cover			

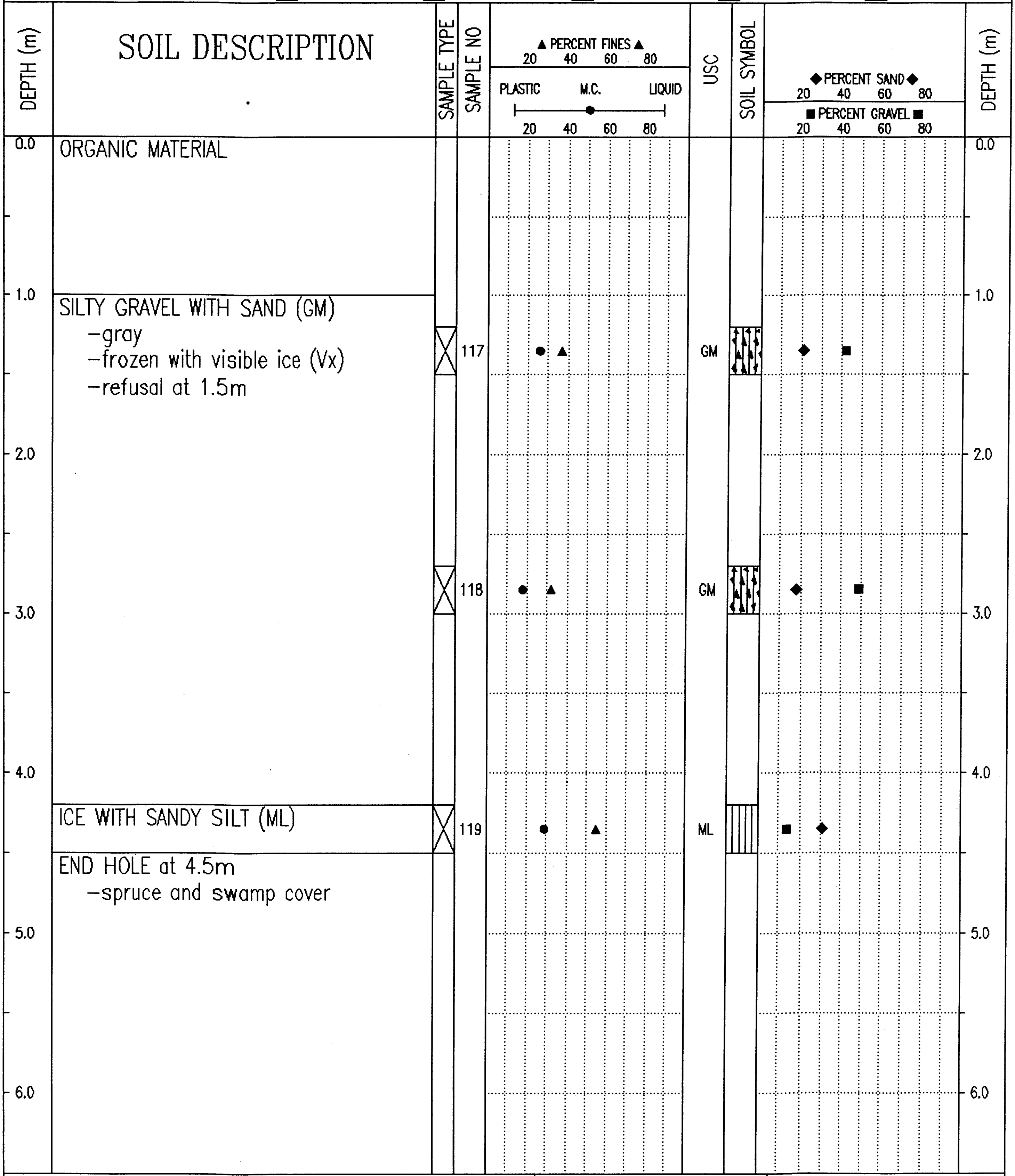


Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 2.7 m
	REVIEWED BY:	COMPLETE: 92/08/06
	Fig. No:	Page 1 of 1

93/11/12 02:26PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-50
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: See Plan	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⧄ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◨ CORE



ORGANIC MATERIAL

SILTY GRAVEL WITH SAND (GM)
- gray
- frozen with visible ice (Vx)
- refusal at 1.5m

ICE WITH SANDY SILT (ML)

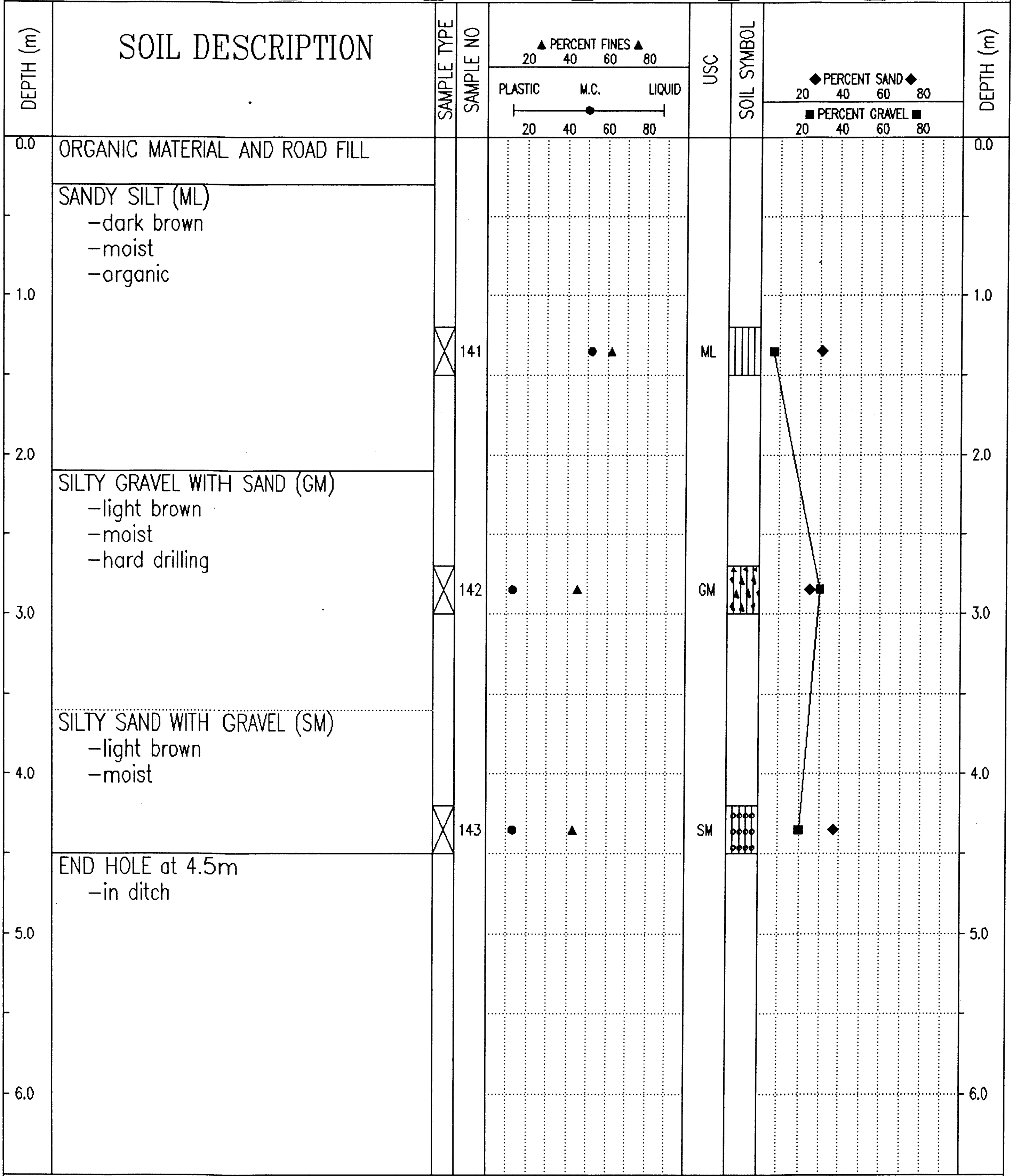
END HOLE at 4.5m
- spruce and swamp cover

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/06
	Fig. No:	Page 1 of 1

93/12/10 03:27PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-59
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: See Plan	ELEVATION: 0.00 (m)

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



ORGANIC MATERIAL AND ROAD FILL

SANDY SILT (ML)
- dark brown
- moist
- organic

SILTY GRAVEL WITH SAND (GM)
- light brown
- moist
- hard drilling

SILTY SAND WITH GRAVEL (SM)
- light brown
- moist

END HOLE at 4.5m
- in ditch

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/06
	Fig. No:	Page 1 of 1

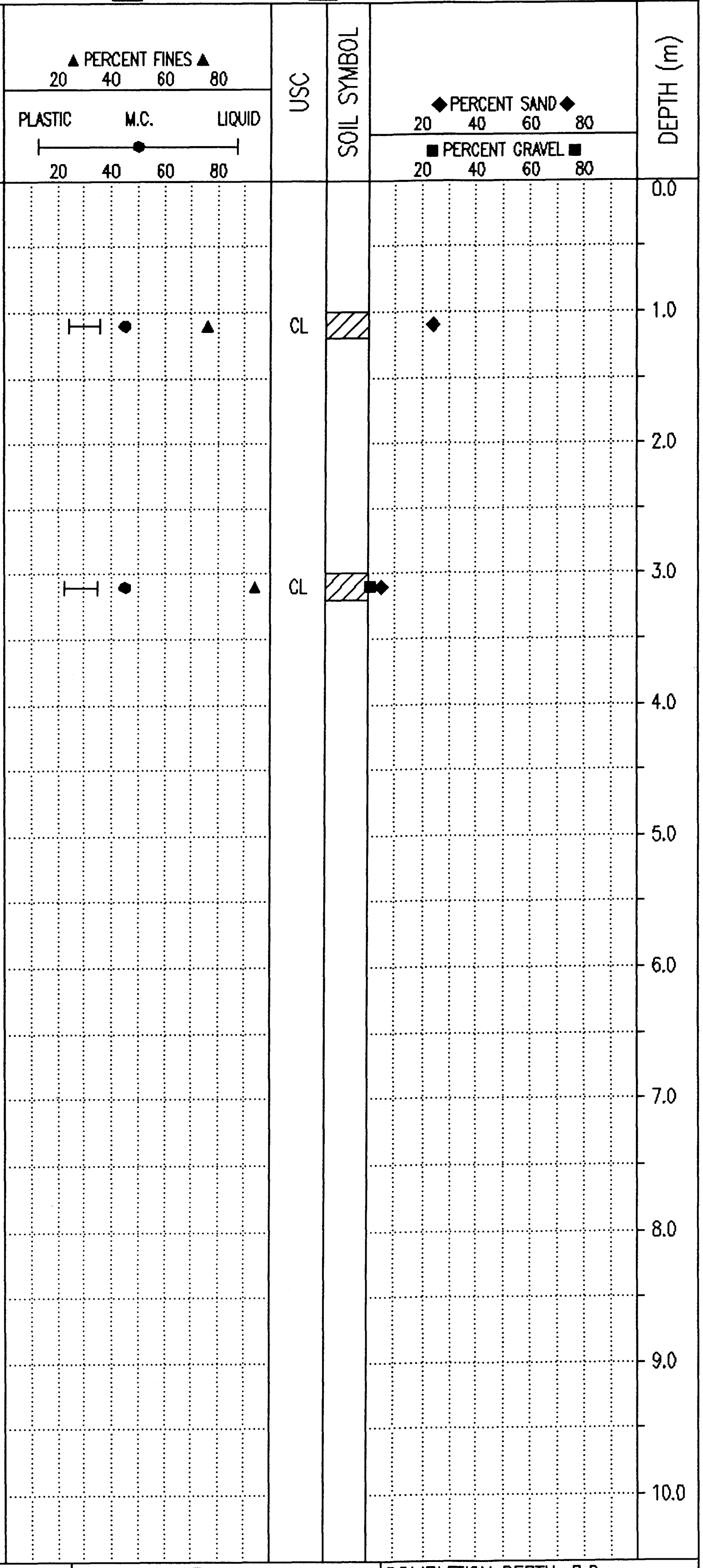
93/10/04 01:33PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 244-00
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1905+600 o/s 15m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ☒ AUGER ☰ BULK ◫ TUBE ◧ CORE

SOIL DESCRIPTION

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
	LEAN CLAY WITH SAND (CL) –frozen with visible ice			
1.0		☒	1	CL
2.0	LEAN CLAY (CL)			
3.0		☒	2	CL
4.0				
5.0	SANDY SILT –some stones			
6.0	–cobbles below 6.0m			
7.0				
8.0	END HOLE at 8.2m –refusal			
9.0				
10.0				

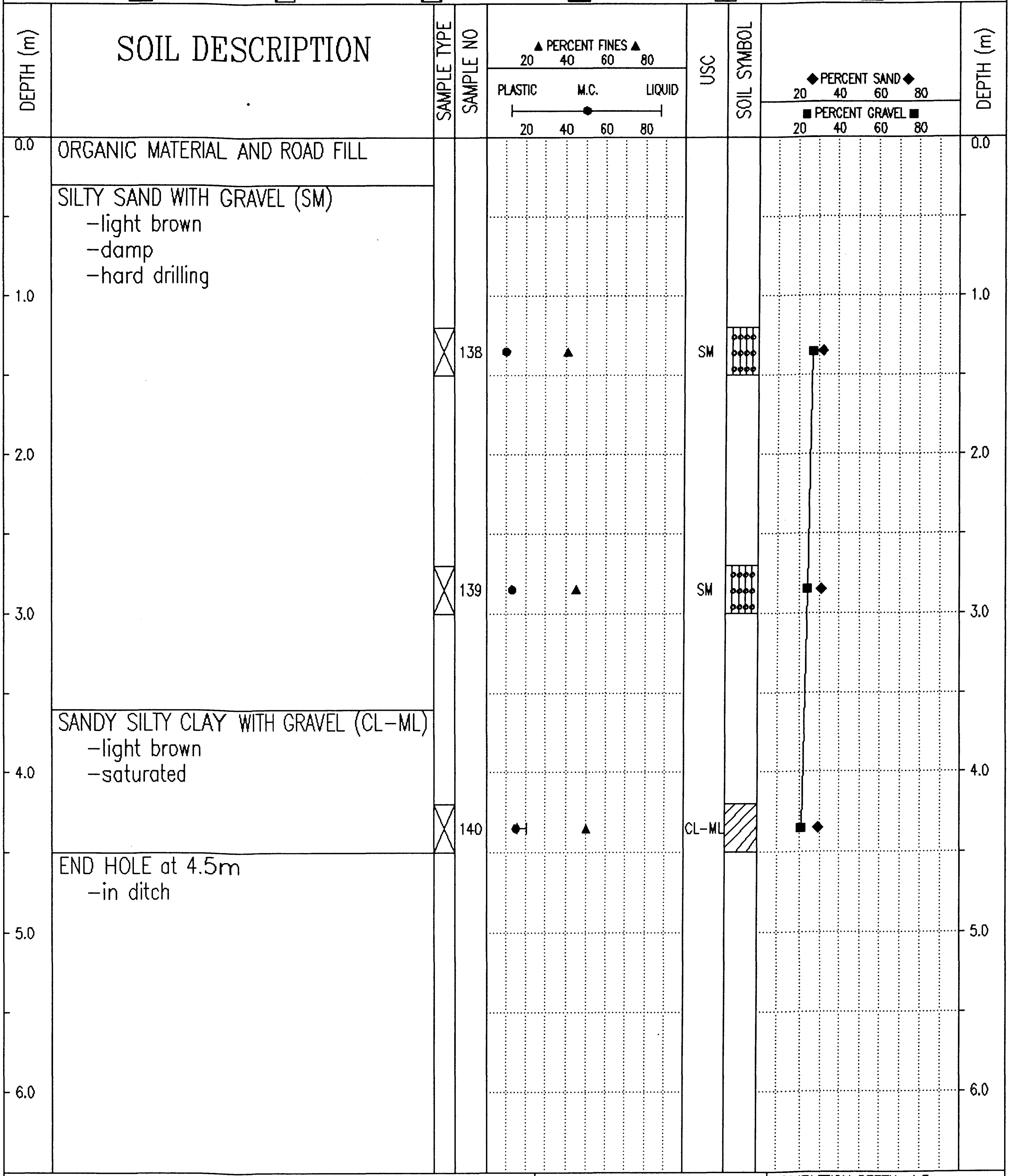


Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 8.2 m
	REVIEWED BY:	COMPLETE: 93/09/01
	Fig. No:	Page 1 of 1

93/09/23 03:45PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-58
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: See Plan	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⧄ S.P.T. ☒ AUGER ☰ BULK ◫ TUBE ◧ CORE



SOIL DESCRIPTION

ORGANIC MATERIAL AND ROAD FILL

SILTY SAND WITH GRAVEL (SM)
- light brown
- damp
- hard drilling

SANDY SILTY CLAY WITH GRAVEL (CL-ML)
- light brown
- saturated

END HOLE at 4.5m
- in ditch

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/06
	Fig. No:	Page 1 of 1

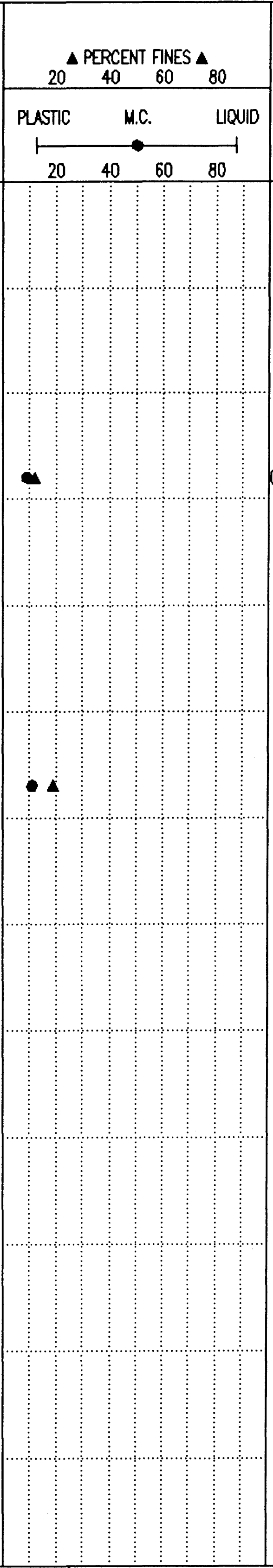
93/10/04 01:45PM

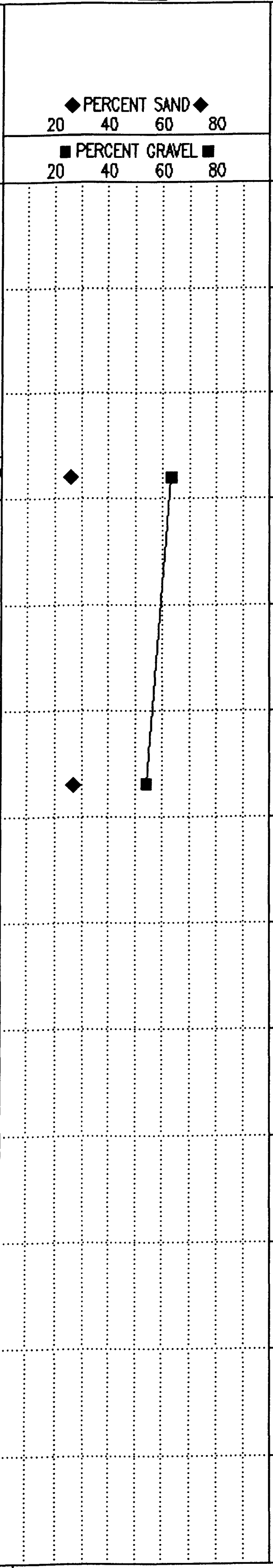
SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-49
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: See Plan	ELEVATION: 0.00 (m)

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

SOIL DESCRIPTION

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -frozen with visible ice (Vx) -hard drilling			
1.0		☒	115	GP-GM
2.0	SILTY GRAVEL WITH SAND (GM) -light brown -frozen with visible ice (Vx)			
		☒	116	GM
3.0	END HOLE at 3.0m -refusal -spruce, poplar, swampy cover			
4.0				
5.0				
6.0				





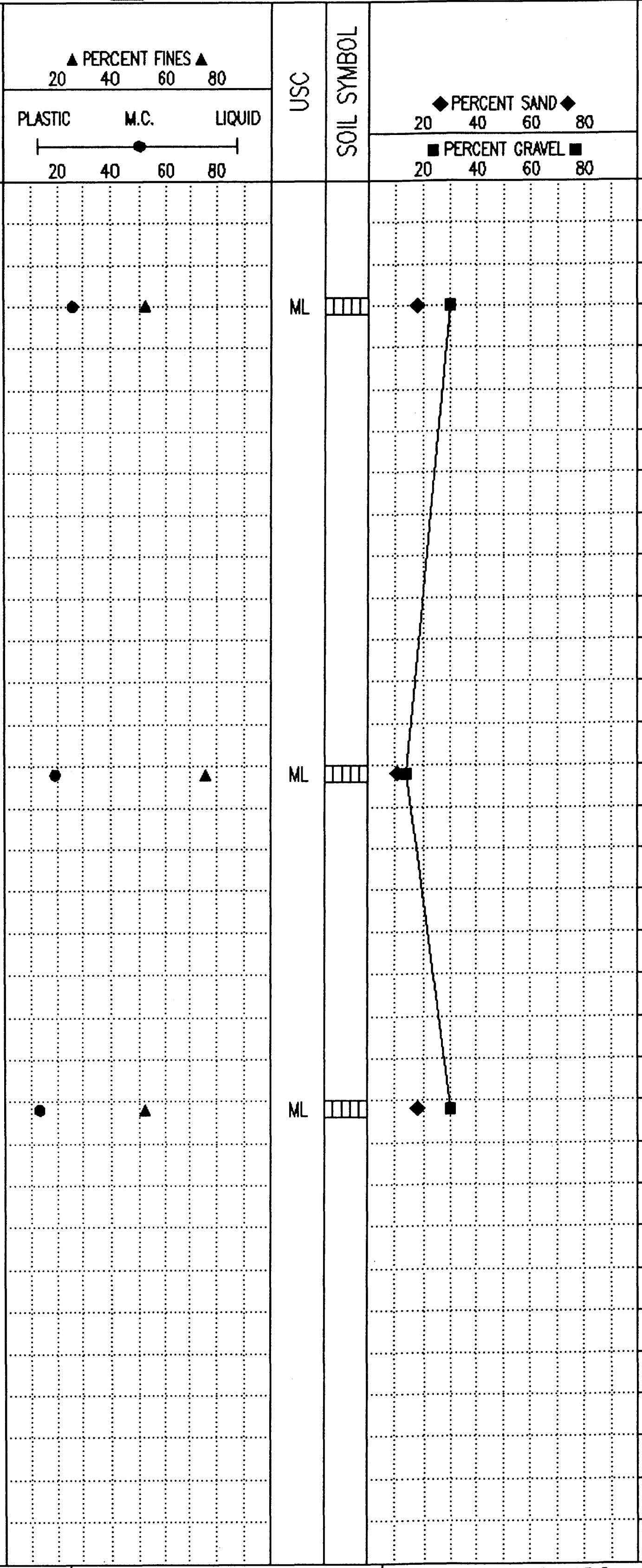
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 3.0 m
	REVIEWED BY:	COMPLETE: 92/06/22
	Fig. No:	Page 1 of 1

93/10/04 01:36PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 244-01
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1905+675 o/s 15m Lt.	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 MATERIAL				
	GRAVELLY SILT WITH SAND TO SILT WITH GRAVEL (ML) -brown -wet -frozen with visible ice below 1.5m -smooth drilling below 1.5m	☒	3	ML	▥
	-grinding action at 4.2m -smooth drilling below 4.8m -grinding action below 6.2m	☒	4	ML	▥
	-smooth drilling below 7.8m -grinding action below 8.6m -smooth drilling below 9.8m	☒	5	ML	▥
	-grinding action below 11.5m				
12.2	END HOLE at 12.2m -refusal				



Government of Yukon
Transportation Engineering

LOGGED BY: TF	COMPLETION DEPTH: 12.2 m
REVIEWED BY:	COMPLETE: 93/09/01
Fig. No:	Page 1 of 1

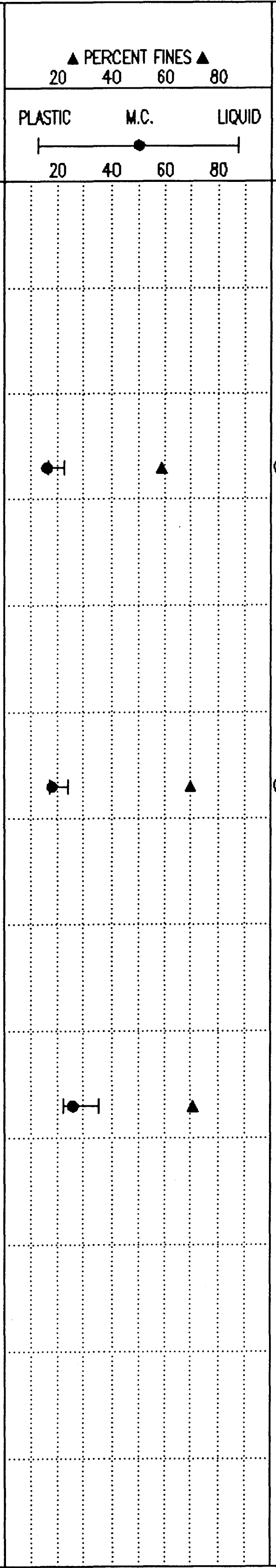
93/09/30 09:42AM

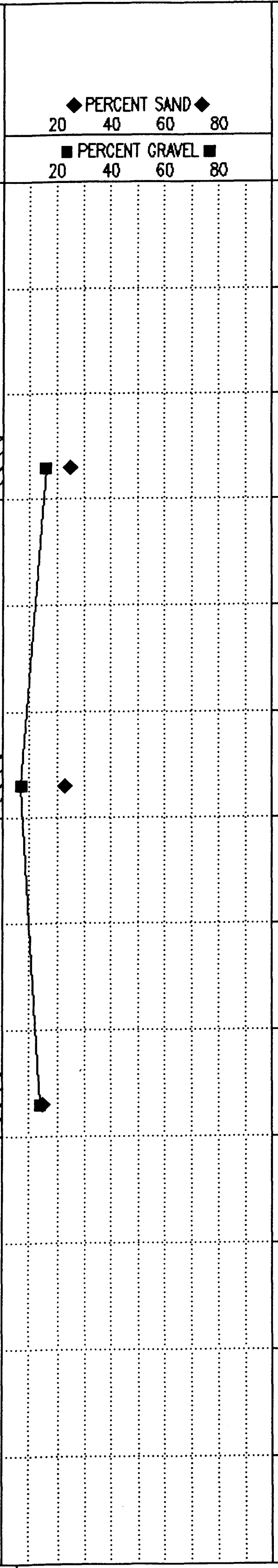
SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-57
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: See Plan	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◸ S.P.T. ☒ AUGER ☰ BULK ◫ TUBE ▌ CORE

DEPTH (m): 0.0, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0

SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
ORGANIC MATERIAL AND ROAD FILL			
SANDY SILTY CLAY WITH GRAVEL (CL-ML) -light brown -damp -easy drilling	☒	135	CL-ML
SANDY SILTY CLAY (CL-ML) -light brown -damp	☒	136	CL-ML
LEAN CLAY WITH SAND (CL) -light brown -frozen with visible ice (Vx)	☒	137	CL
END HOLE at 4.5m -in ditch			





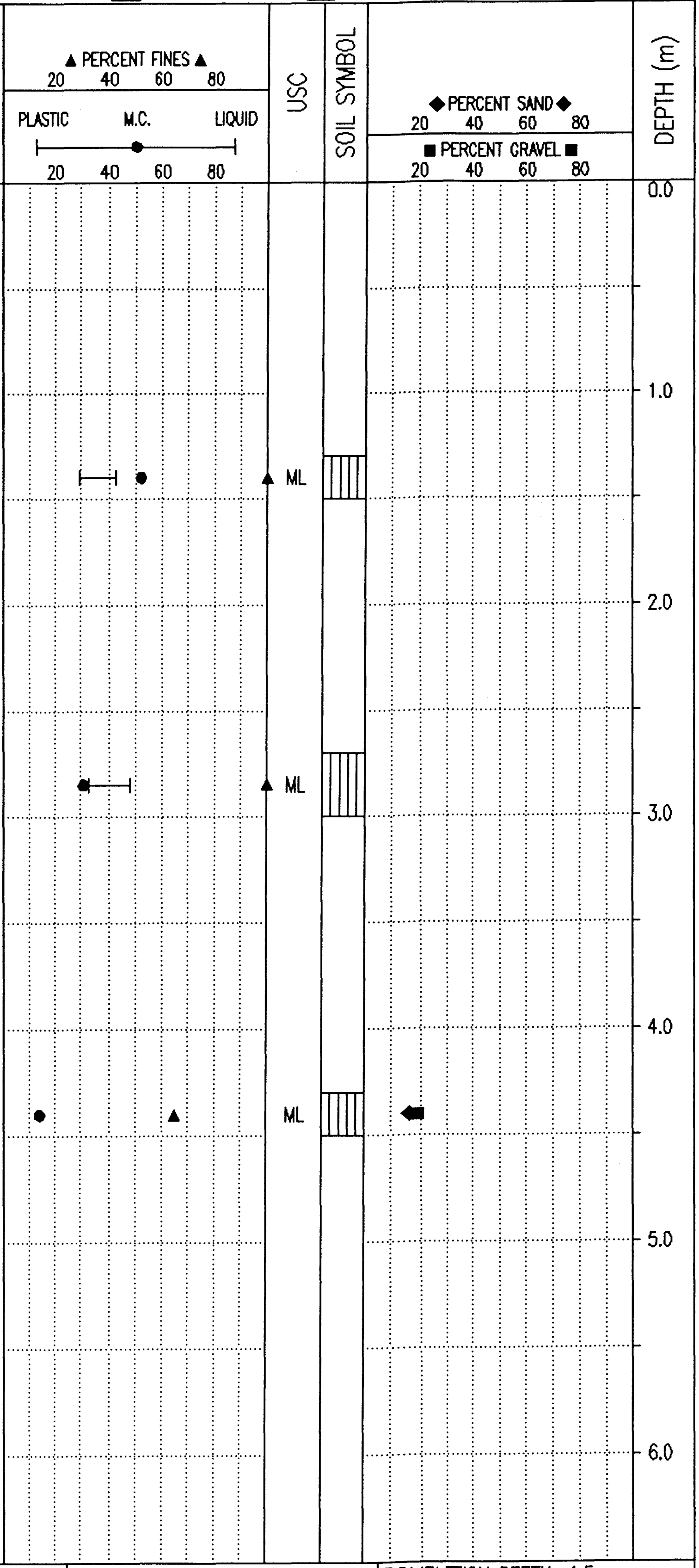
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/06
	Fig. No:	Page 1 of 1

93/10/04 01:44PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-48
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	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	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SILT (ML) -brown -frozen with visible ice crystals (Vx) -easy drilling	☒	112	ML	▥
		☒	113	ML	▥
	GRAVELLY SILT WITH SAND (ML) -hard drilling	☒	114	ML	▥
	END HOLE at 4.5m -spruce cover				



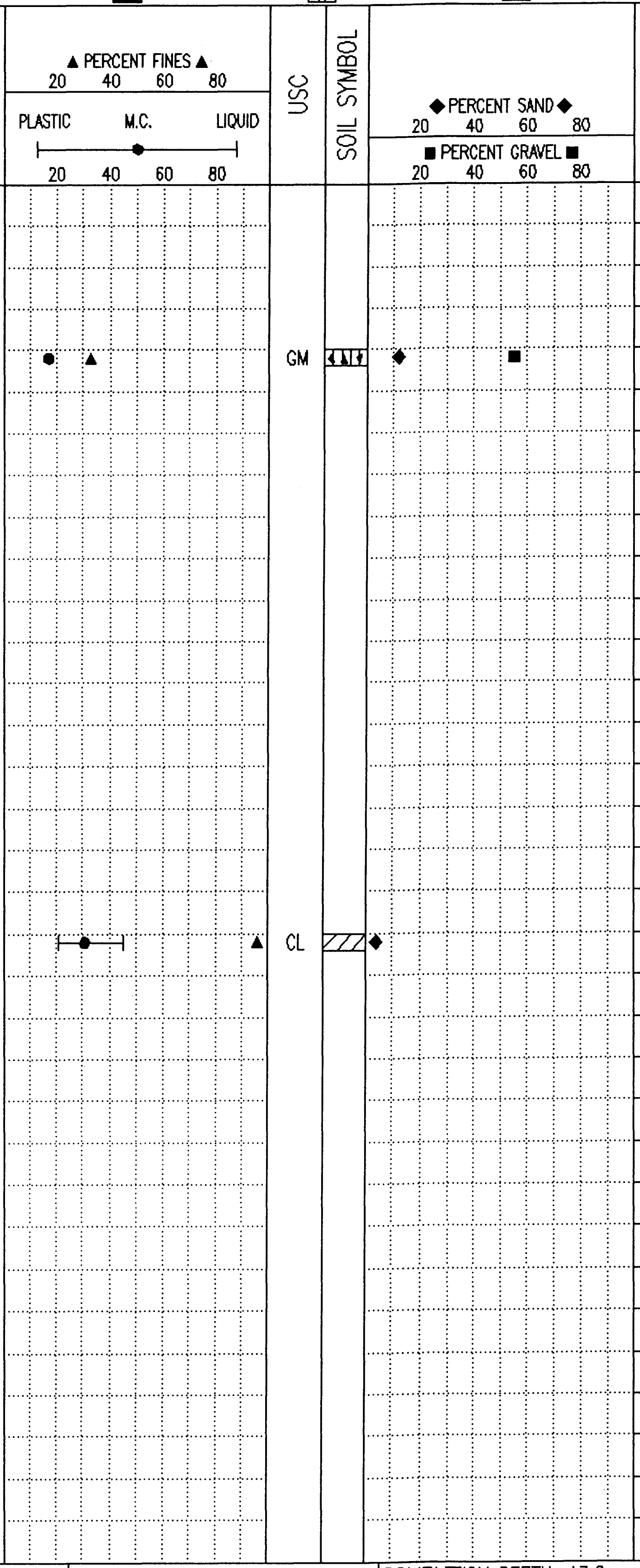
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/06/10
	Fig. No:	Page 1 of 1

93/10/04 02:04PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 244-02
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1905+750 o/s 15m Lt.	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 MATERIAL -frozen				
1.0	SILTY GRAVEL (GM)				
2.0		☒	6	GM	
2.2	LEAN CLAY (CL) -gray -frozen with visible ice -smooth drilling				
9.0		☒	7	CL	▨
13.0	END HOLE at 13.0m				



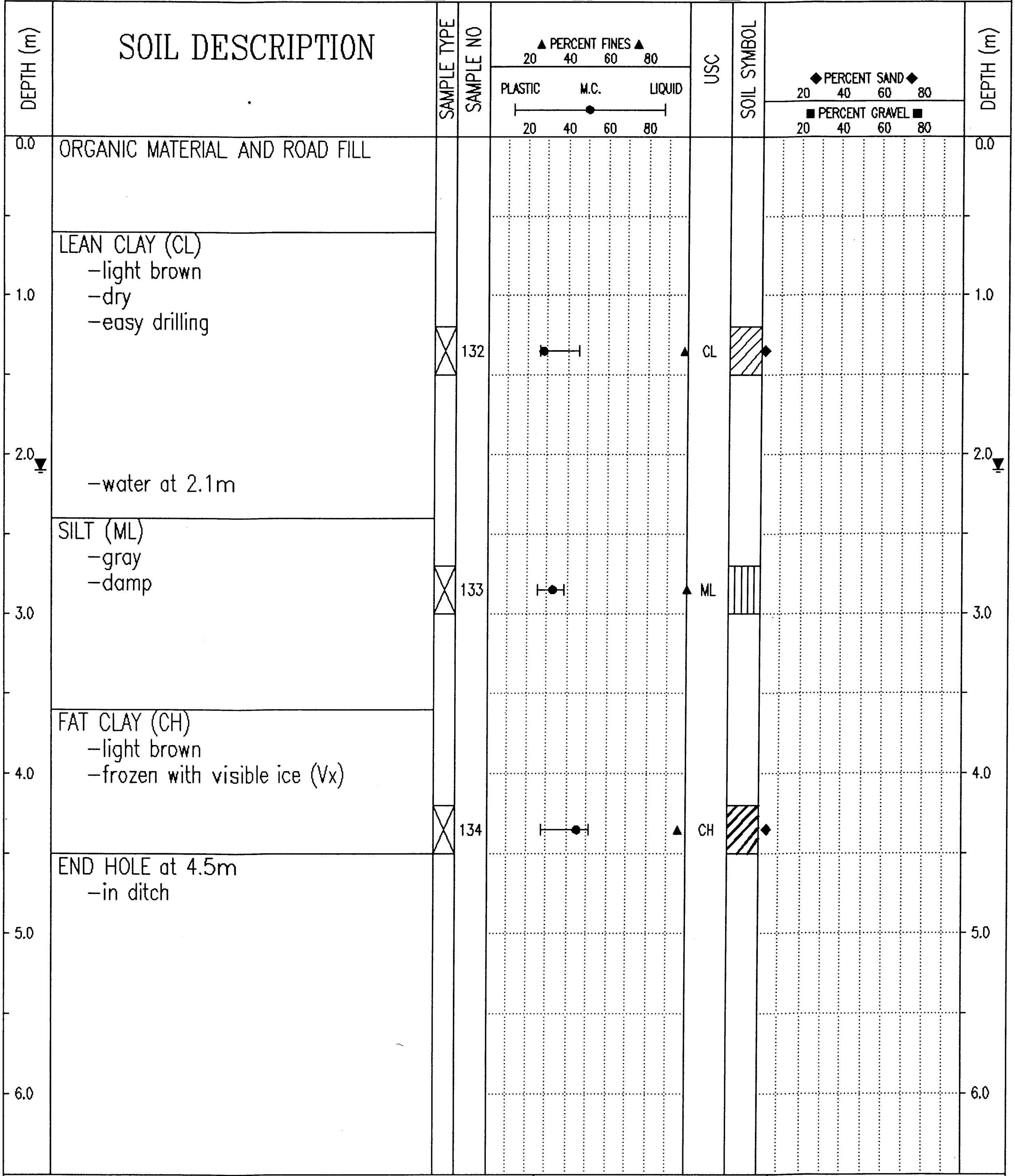
DEPTH (m): 0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0 13.0 14.0 15.0 16.0

Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 13.0 m
	REVIEWED BY:	COMPLETE: 93/09/01
	Fig. No:	Page 1 of 1

93/09/30 08:41AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-56
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: See Plan	ELEVATION: 0.00 (m)

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



SOIL DESCRIPTION

ORGANIC MATERIAL AND ROAD FILL

LEAN CLAY (CL)
- light brown
- dry
- easy drilling
- water at 2.1m

SILT (ML)
- gray
- damp

FAT CLAY (CH)
- light brown
- frozen with visible ice (Vx)

END HOLE at 4.5m
- in ditch

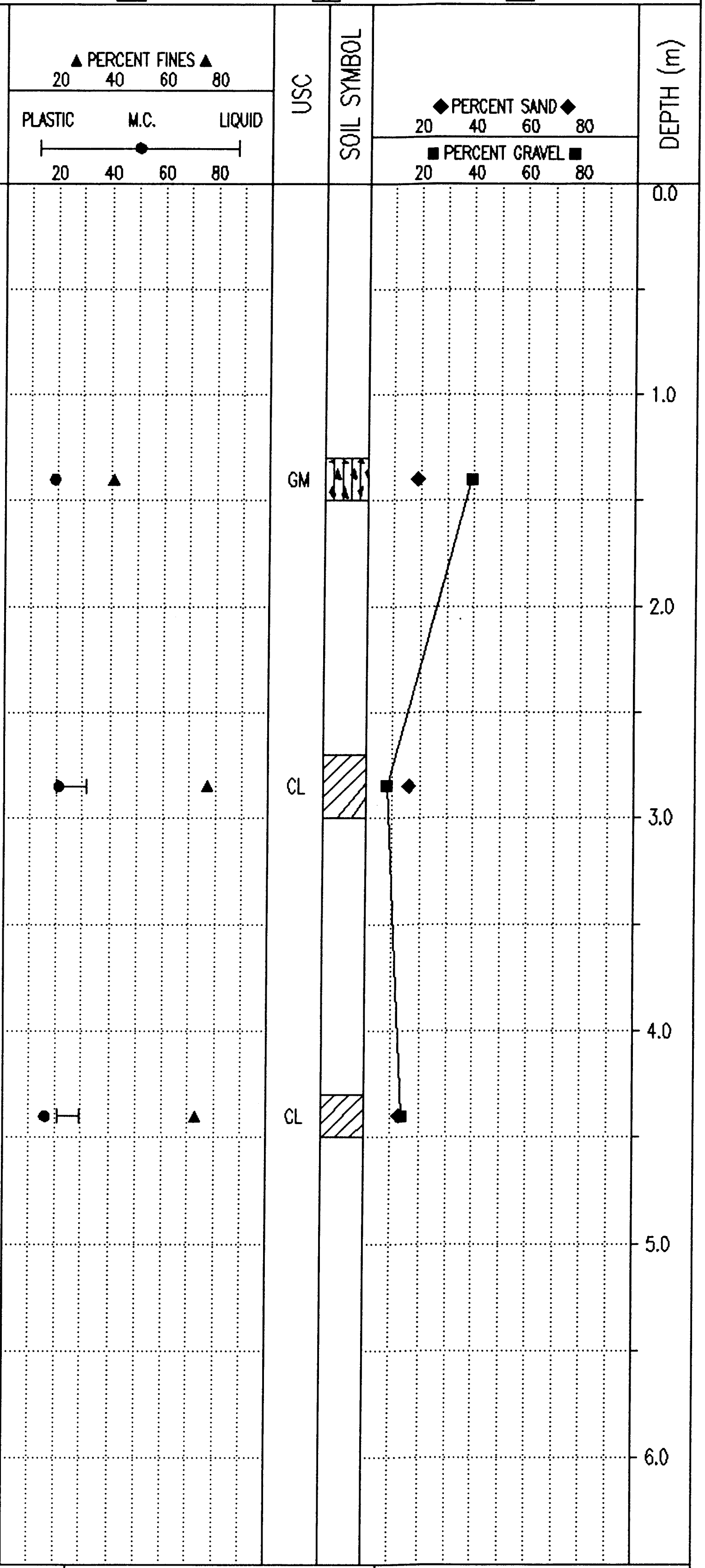
Government of Yukon	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
Transportation Engineering	REVIEWED BY:	COMPLETE: 92/08/06
	Fig. No:	Page 1 of 1

93/10/04 01:42PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-47
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	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	USC
0.0	ORGANIC MATERIAL			
	SILTY GRAVEL WITH SAND (GM) –frozen with visible ice crystals (Vx)	AUGER	109	GM
2.0	LEAN CLAY WITH SAND (CL) –gray –frozen with visible ice crystals (Vx) –easy drilling	AUGER	110	CL
	LEAN CLAY WITH GRAVEL (CL) –frozen with visible ice crystals (Vx) –maximum 40mm material augered up –hard drilling	AUGER	111	CL
4.5	END HOLE at 4.5m –spruce cover			



Government of Yukon
Transportation Engineering

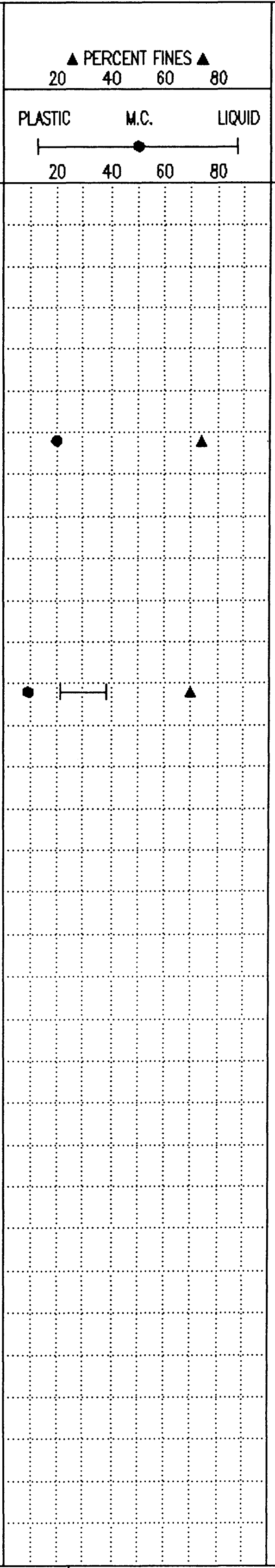
LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
REVIEWED BY:	COMPLETE: 92/06/10
Fig. No:	Page 1 of 1

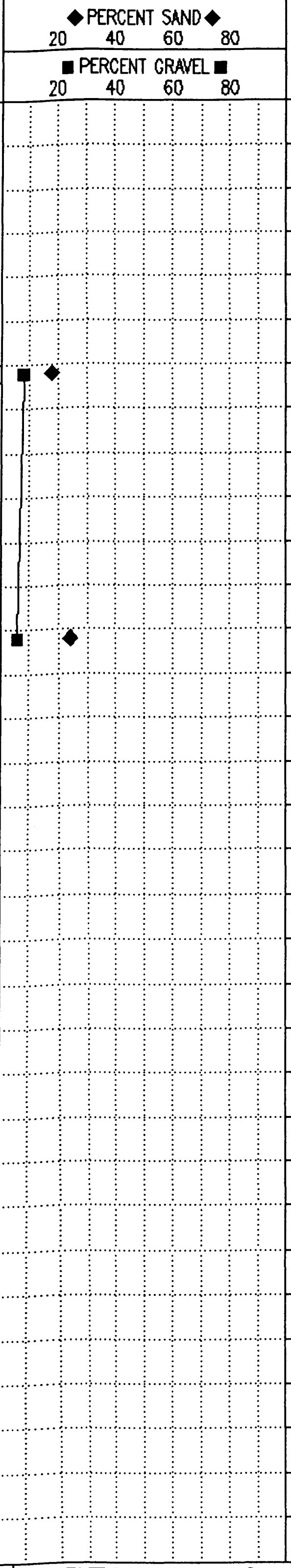
93/10/04 02:03PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 244-03
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1905+825 o/s 15m Lt.	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 MATERIAL -frozen with visible ice				
1.5	SILT WITH SAND (ML) -brown -frozen -smooth drilling -grinding action, visible ice below 3.0m				
3.0		☒	8	ML	▥
5.0	SANDY LEAN CLAY (CL) -gray -frozen -smooth drilling				
6.0		☒	9	CL	▨
11.0	END HOLE at 11.0m				





DEPTH (m): 0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0 13.0 14.0 15.0 16.0

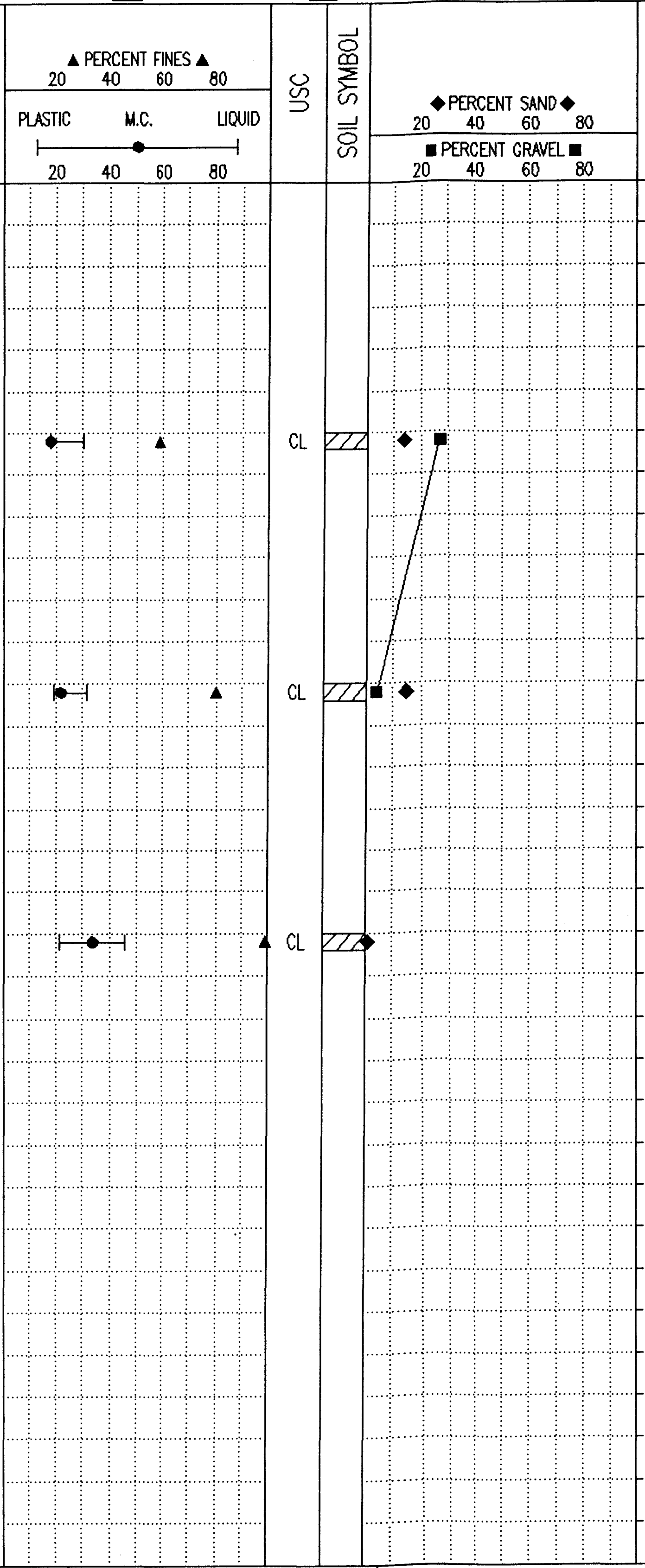
Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 11.0 m
	REVIEWED BY:	COMPLETE: 93/09/01
	Fig. No:	Page 1 of 1

93/09/30 08:43AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 244-04
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1905+900 o/s 15m Lt.	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 MATERIAL -frozen				
1.0	GRAVELLY LEAN CLAY (CL) -brown -frozen -grinding action -smooth drilling below 2.2m				
3.0	-grinding action below 3.2m	☒	10	CL	▨
4.0	LEAN CLAY WITH SAND (CL) -gray -frozen -smooth drilling				
6.0		☒	11	CL	▨
8.0	-visible ice below 7.6m				
9.0	LEAN CLAY (CL) -brown -frozen with visible ice -smooth drilling	☒	12	CL	▨
11.0	END HOLE at 11.0m				



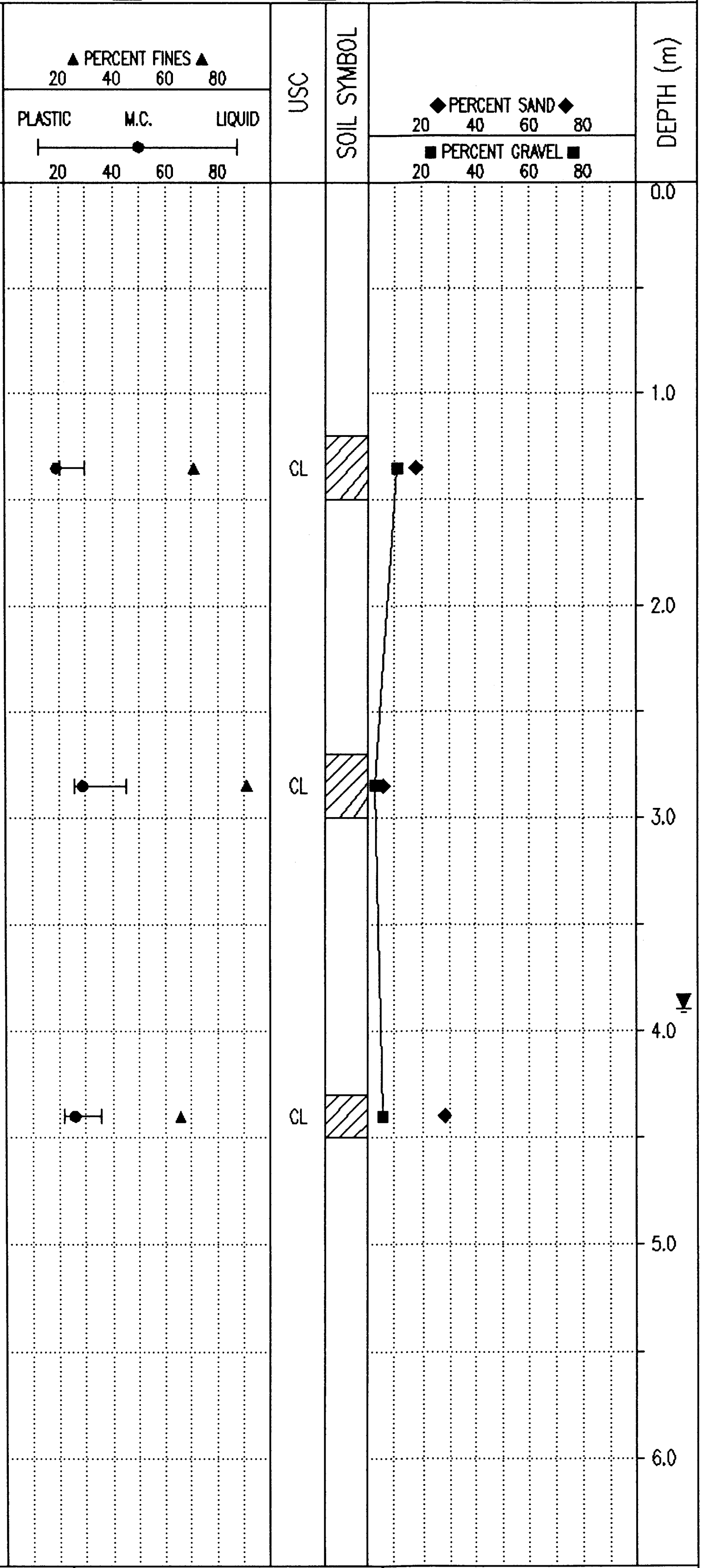
Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 11.0 m
	REVIEWED BY:	COMPLETE: 93/09/01
	Fig. No:	Page 1 of 1

93/10/04 10:31AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-55
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: See Plan	ELEVATION: 0.00 (m)

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

SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
ORGANIC MATERIAL			
LEAN CLAY WITH SAND (CL) -brown -moist -easy drilling			
	☒	129	CL
LEAN CLAY (CL) -gray -moist	☒	130	CL
SANDY LEAN CLAY (CL) -damp -water below 3.9m	☒	131	CL
END HOLE at 4.5m -spruce and willow cover			



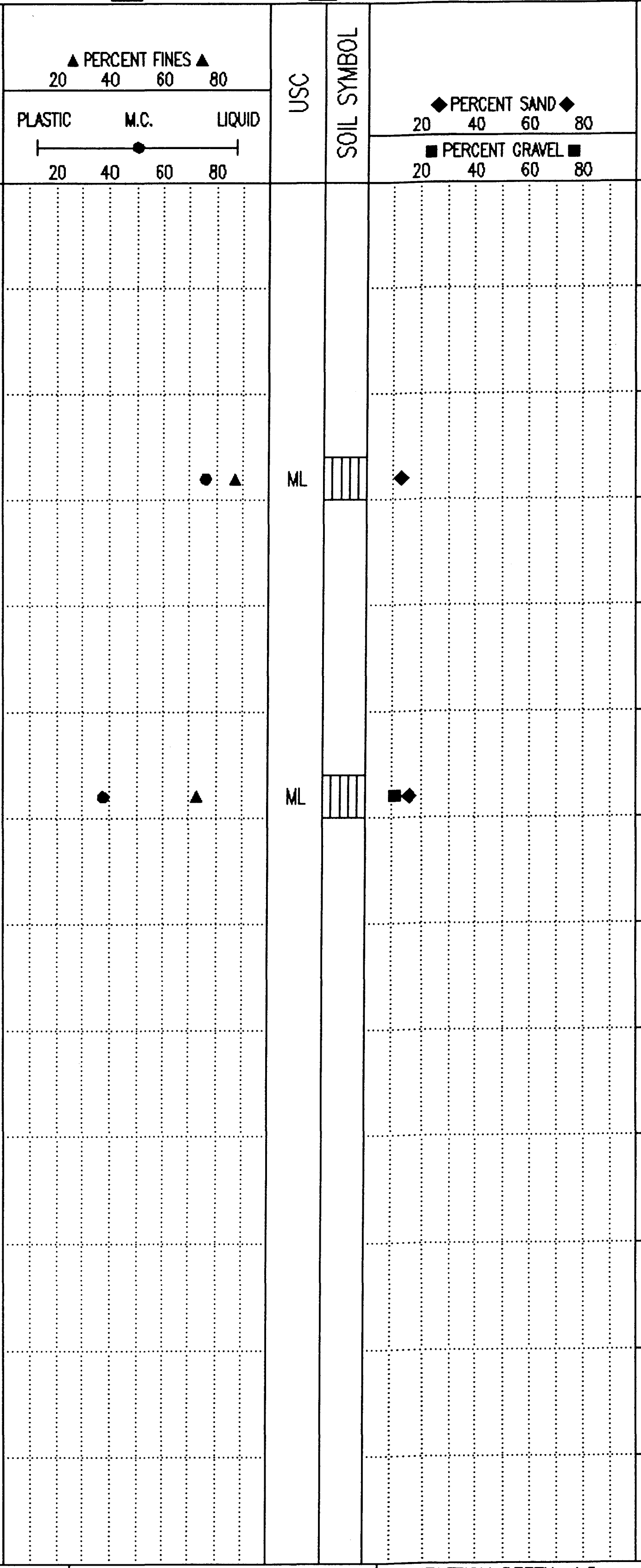
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/06
	Fig. No:	Page 1 of 1

93/10/04 01:41PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-46
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	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	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SILT (ML) -gray -frozen with visible ice crystals (Vx) -easy drilling				
		☒	107	ML	▥
	SILT WITH SAND (ML) -gray -frozen (Nb)				
		☒	108	ML	▥
	GRAVEL -maximum 50mm material augered up -hard drilling				
4.0	END HOLE at 4.0m -small spruce cover				



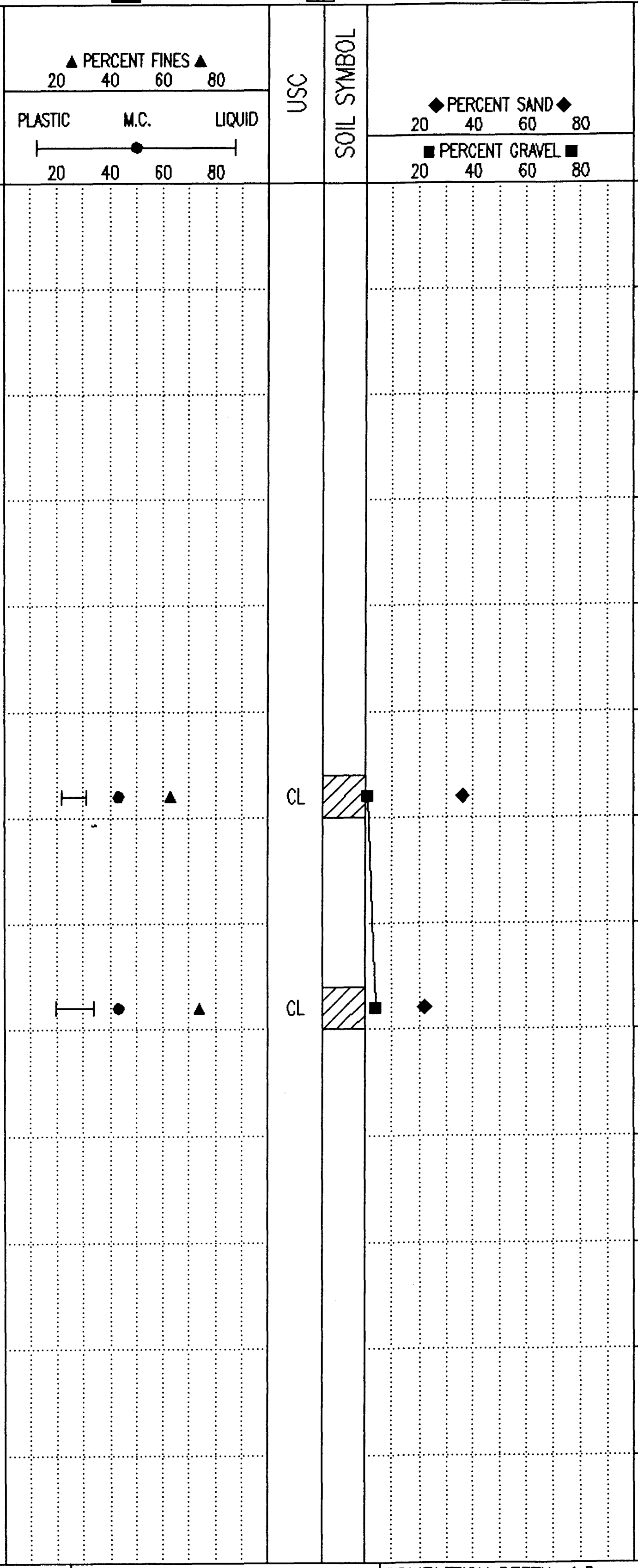
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.0 m
	REVIEWED BY:	COMPLETE: 92/06/10
	Fig. No:	Page 1 of 1

93/10/04 02:01PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 244-05
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1905+975 o/s 15m Lt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	DEPTH (m)
0.0	ORGANIC MATERIAL -frozen				0.0
1.0	ICE -smooth drilling				1.0
2.0	SANDY LEAN CLAY (CL) -brown -grinding drilling -frozen -smooth drilling below 2.6m				2.0
		☒	13	CL	
3.0					3.0
	LEAN CLAY WITH SAND (CL) -brown -frozen with visible ice				
		☒	14	CL	
4.0	END HOLE at 4.0m				4.0
5.0					5.0
6.0					6.0



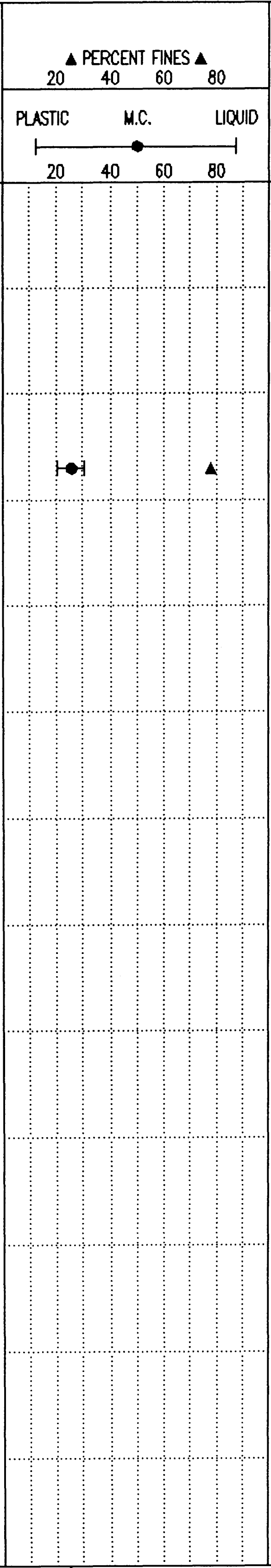
Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 4.0 m
	REVIEWED BY:	COMPLETE: 93/09/01
	Fig. No:	Page 1 of 1

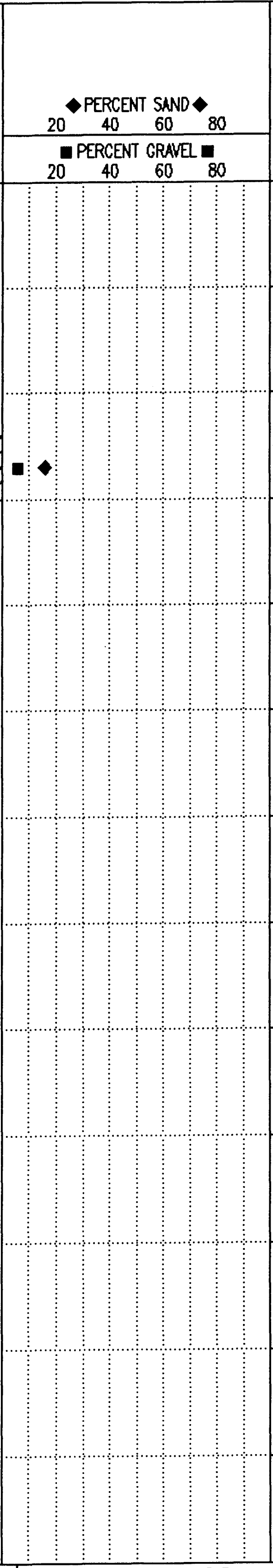
93/09/30 08:46AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-54
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm Dia. SOLID STEM AUGER	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	USC	SOIL SYMBOL	DEPTH (m)
0.0	ORGANIC MATERIAL					0.0
	LEAN CLAY WITH SAND (CL) -brown -frozen with visible ice (Vx)					
1.0						1.0
		☒	128	CL	▨	
	-first refusal at 1.8m					
2.0	END HOLE at 2.0m -refusal -spruce and swamp cover					2.0
3.0						3.0
4.0						4.0
5.0						5.0
6.0						6.0





Government of Yukon
Transportation Engineering

LOGGED BY: AW	COMPLETION DEPTH: 2.0 m
REVIEWED BY:	COMPLETE: 92/08/06
Fig. No:	Page 1 of 1

93/10/04 01:39PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-45
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	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	ORGANIC CLAY -frozen (Nf)							0.0
1.0								1.0
	ICE AND ORGANIC MATERIAL	☒	106	●	OL			
	END HOLE at 1.7m -refusal -small spruce cover							
2.0								2.0
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0

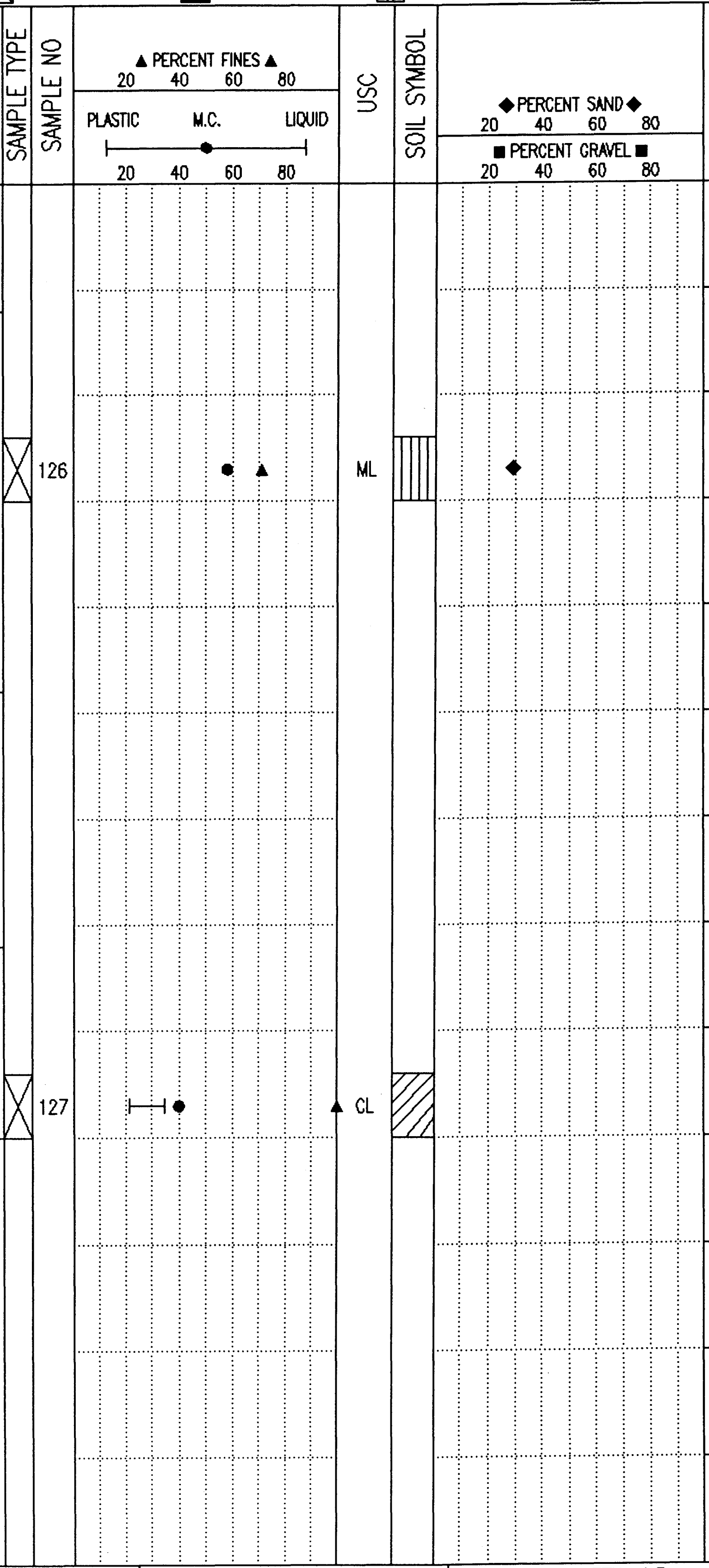
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 1.7 m
	REVIEWED BY:	COMPLETE: 92/06/10
	Fig. No:	Page 1 of 1

93/10/04 02:00PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-53
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: See Plan	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◩ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◨ CORE

DEPTH (m)	SOIL DESCRIPTION
0.0	ORGANIC MATERIAL
	SILT WITH SAND (ML) -brown -frozen with visible ice (Vx)
	ICE WITH SOIL
	LEAN CLAY (CL) -gray -frozen with visible ice (Vx)
	END HOLE at 4.5m -spruce and swamp cover



Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/06
	Fig. No:	Page 1 of 1

93/10/04 01:38PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-44
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	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	ORGANIC MATERIAL –frozen with visible ice lenses (Vr)							0.0
1.0	ICE							1.0
2.0								2.0
	END HOLE at 2.2m –small spruce cover							
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0

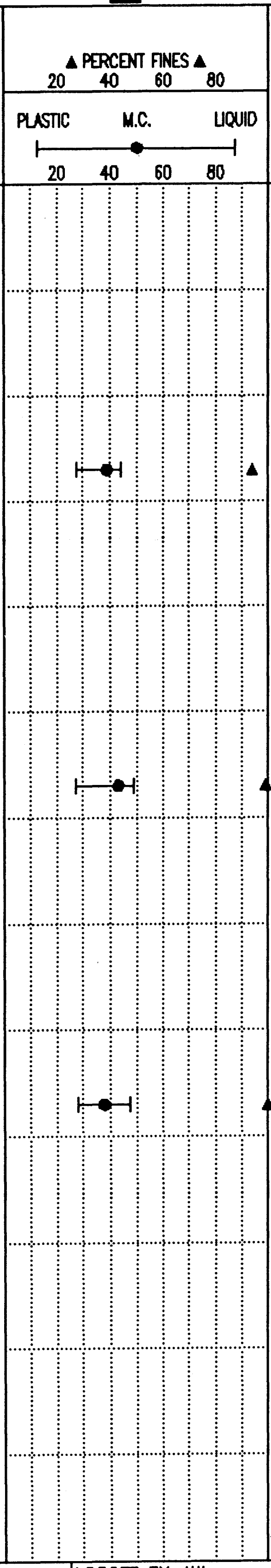
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 2.2 m
	REVIEWED BY:	COMPLETE: 92/06/10
	Fig. No:	Page 1 of 1

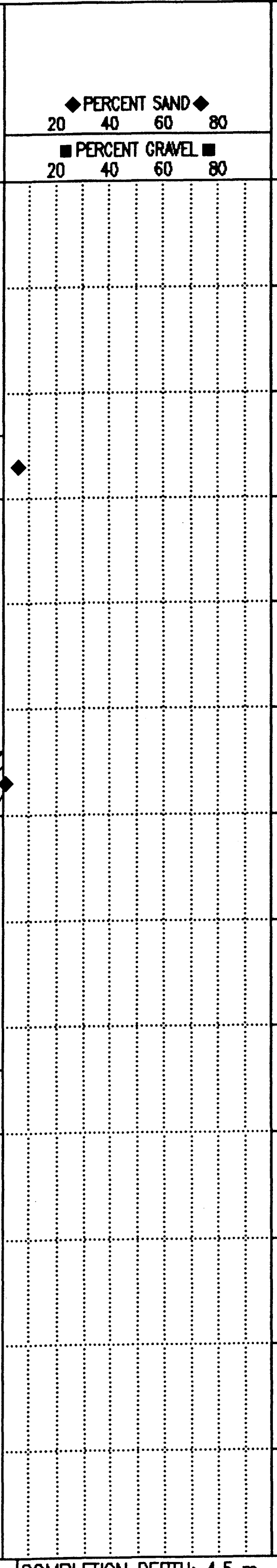
93/10/04 01:58PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-52
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm Dia. SOLID STEM AUGER	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	USC
0.0	ORGANIC MATERIAL			
	SILT (ML) -light brown -frozen (Nb)	☒	123	ML
	LEAN CLAY (CL) -light brown	☒	124	CL
	SILT (ML) -gray	☒	125	ML
	3END HOLE at 4.5m -willow, spruce and poplar cover			



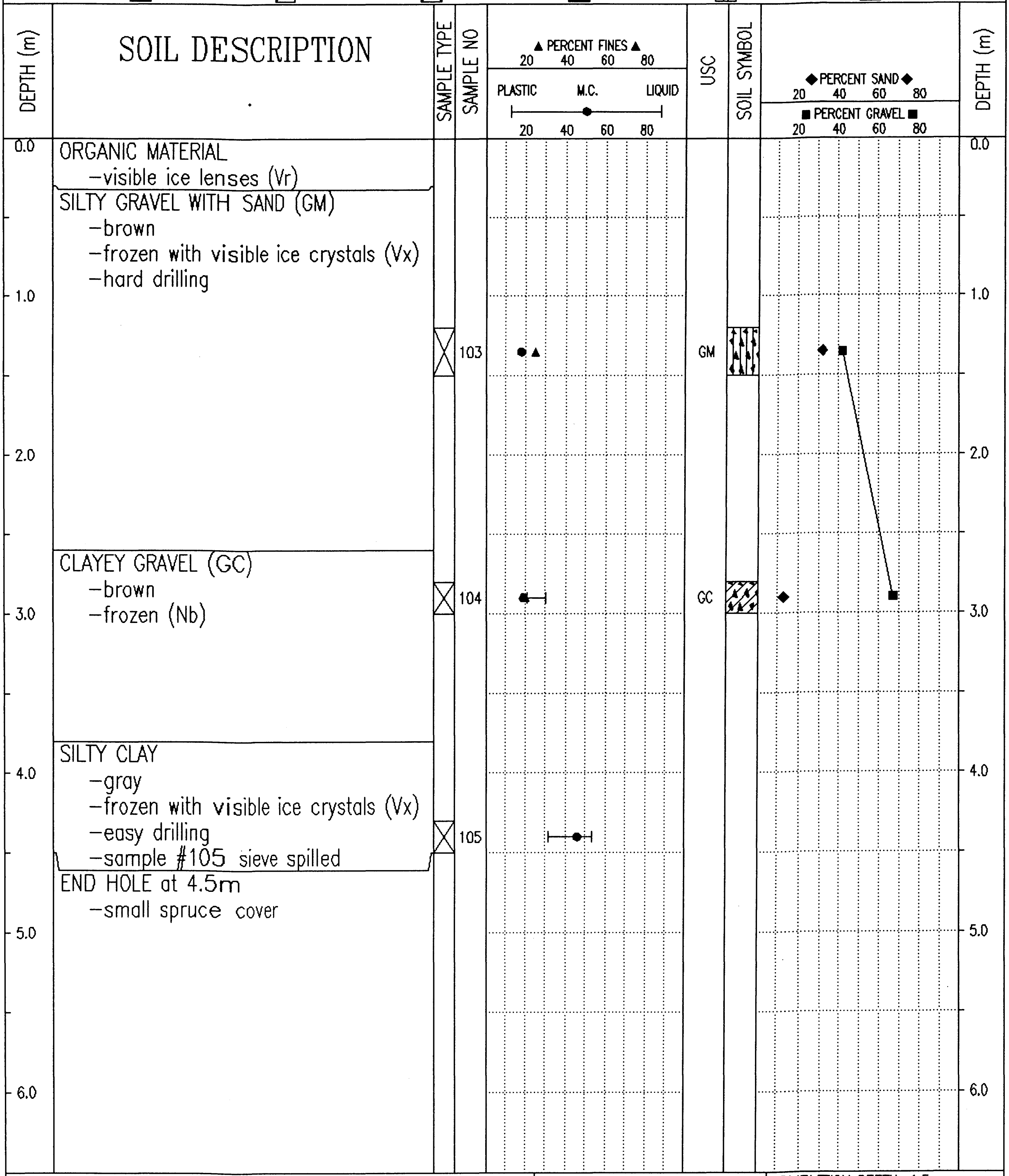


Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/06
	Fig. No:	Page 1 of 1

94/03/28 04:48PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-43
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: See Plan	ELEVATION: 0.00 (m)

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



ORGANIC MATERIAL
- visible ice lenses (Vr)

SILTY GRAVEL WITH SAND (GM)
- brown
- frozen with visible ice crystals (Vx)
- hard drilling

CLAYEY GRAVEL (GC)
- brown
- frozen (Nb)

SILTY CLAY
- gray
- frozen with visible ice crystals (Vx)
- easy drilling
- sample #105 sieve spilled

END HOLE at 4.5m
- small spruce cover

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	REVIEWED BY:	COMPLETE: 92/06/10
Transportation Engineering	Fig. No:	Page 1 of 1

93/10/04 01:57PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-51
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: See Plan	ELEVATION: 0.00 (m)

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

DEPTH (m)

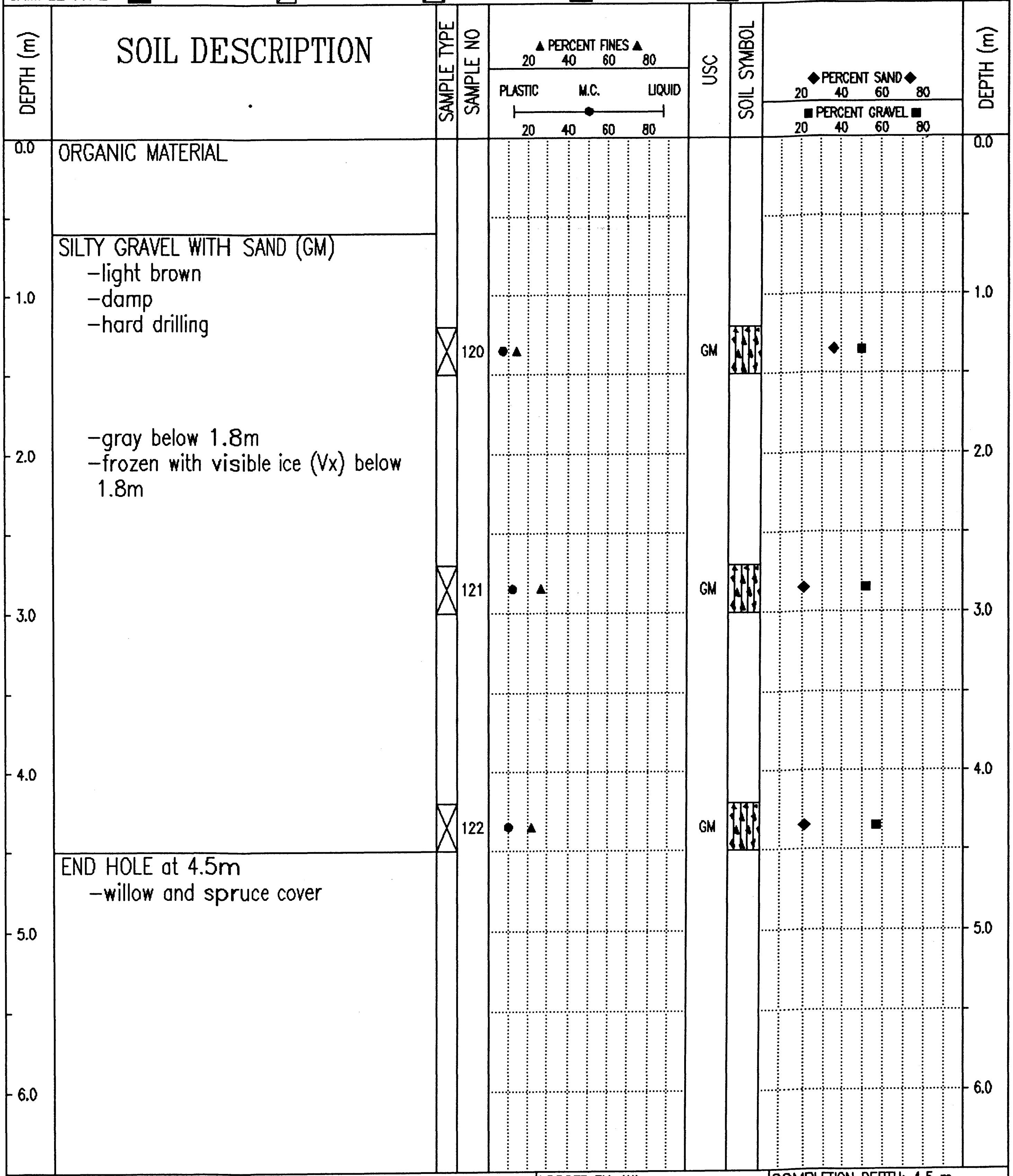
SOIL DESCRIPTION

0.0 ORGANIC MATERIAL

SILTY GRAVEL WITH SAND (GM)
- light brown
- damp
- hard drilling

- gray below 1.8m
- frozen with visible ice (Vx) below 1.8m

END HOLE at 4.5m
- willow and spruce cover



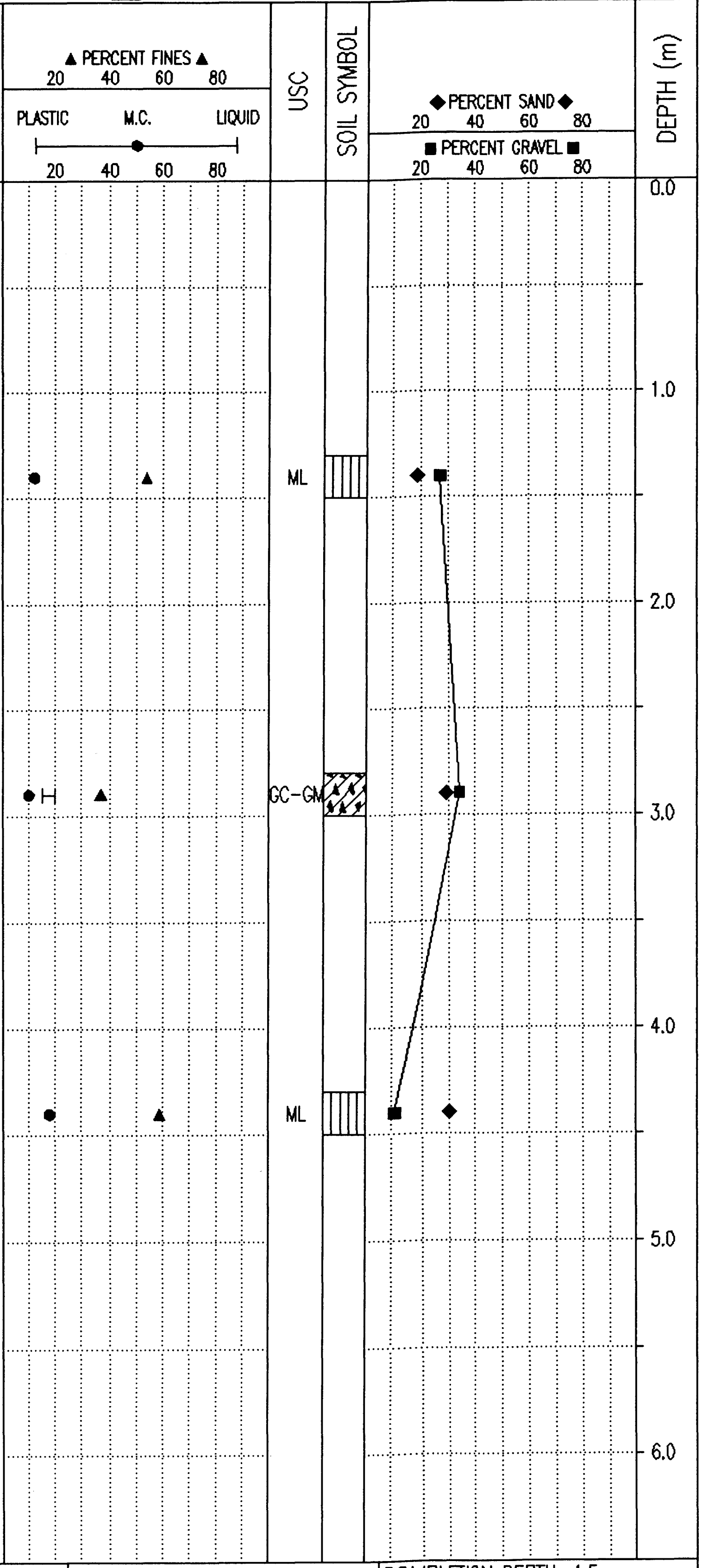
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/06
	Fig. No:	Page 1 of 1

94/03/28 04:50PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-42
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	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	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	GRAVELLY SILT WITH SAND (ML) –brown –moist –hard drilling				
1.0					
		☒	100	ML	▥
2.0	SILTY, CLAYEY GRAVEL WITH SAND (GC–GM) –brown –moist				
3.0		☒	101	GC–GM	▨
	SANDY SILT (ML) –gray –frozen (Nb) –easier drilling				
4.0					
		☒	102	ML	▥
	END HOLE at 4.5m –poplar and birch cover				
5.0					
6.0					

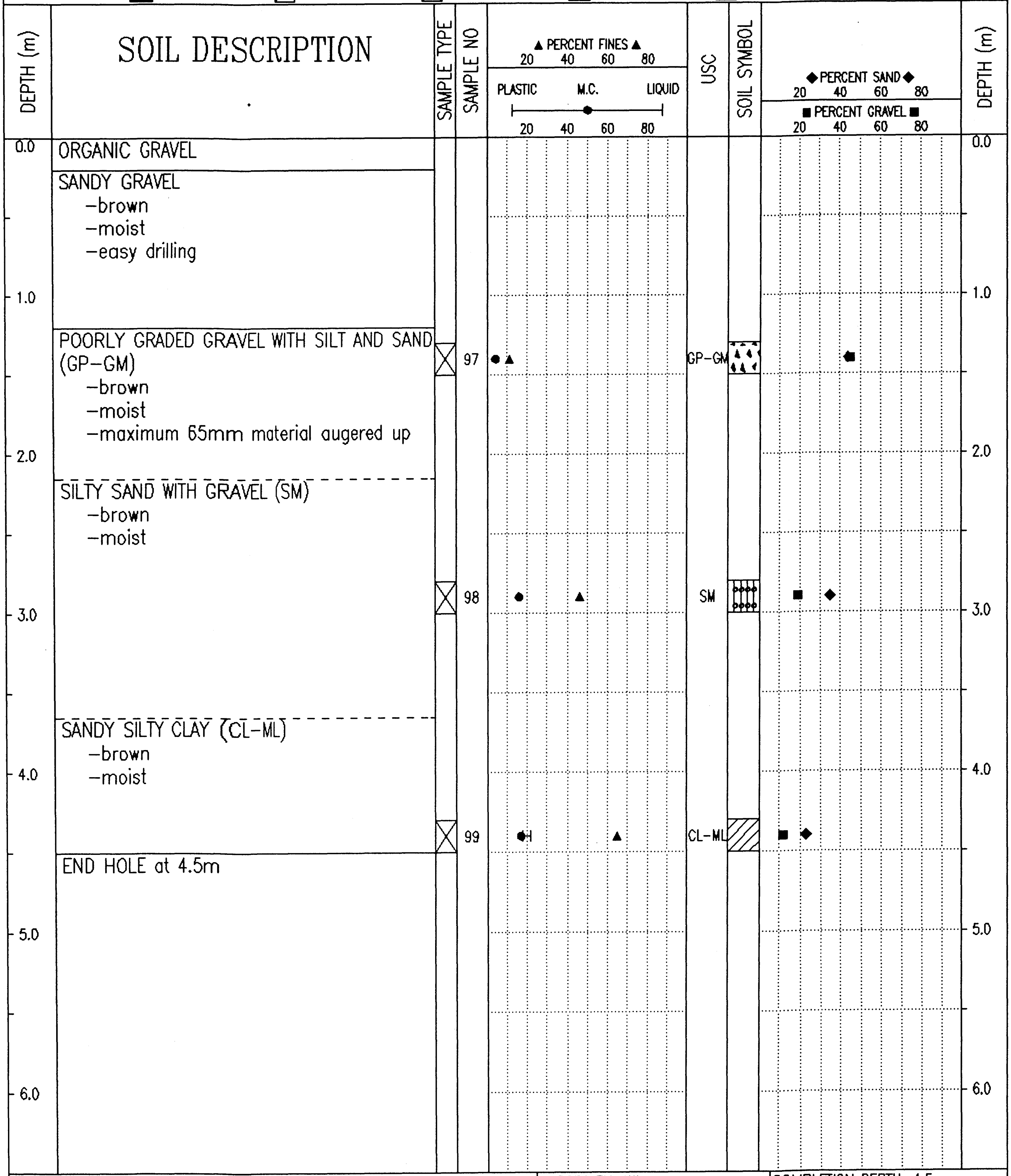


Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/06/10
	Fig. No:	Page 1 of 1

93/10/04 01:56PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-41
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA R1906+400 o/s 10m Lt	ELEVATION: 0.00 (m)

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



SOIL DESCRIPTION

ORGANIC GRAVEL

SANDY GRAVEL
- brown
- moist
- easy drilling

POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM)
- brown
- moist
- maximum 65mm material augered up

SILTY SAND WITH GRAVEL (SM)
- brown
- moist

SANDY SILTY CLAY (CL-ML)
- brown
- moist

END HOLE at 4.5m

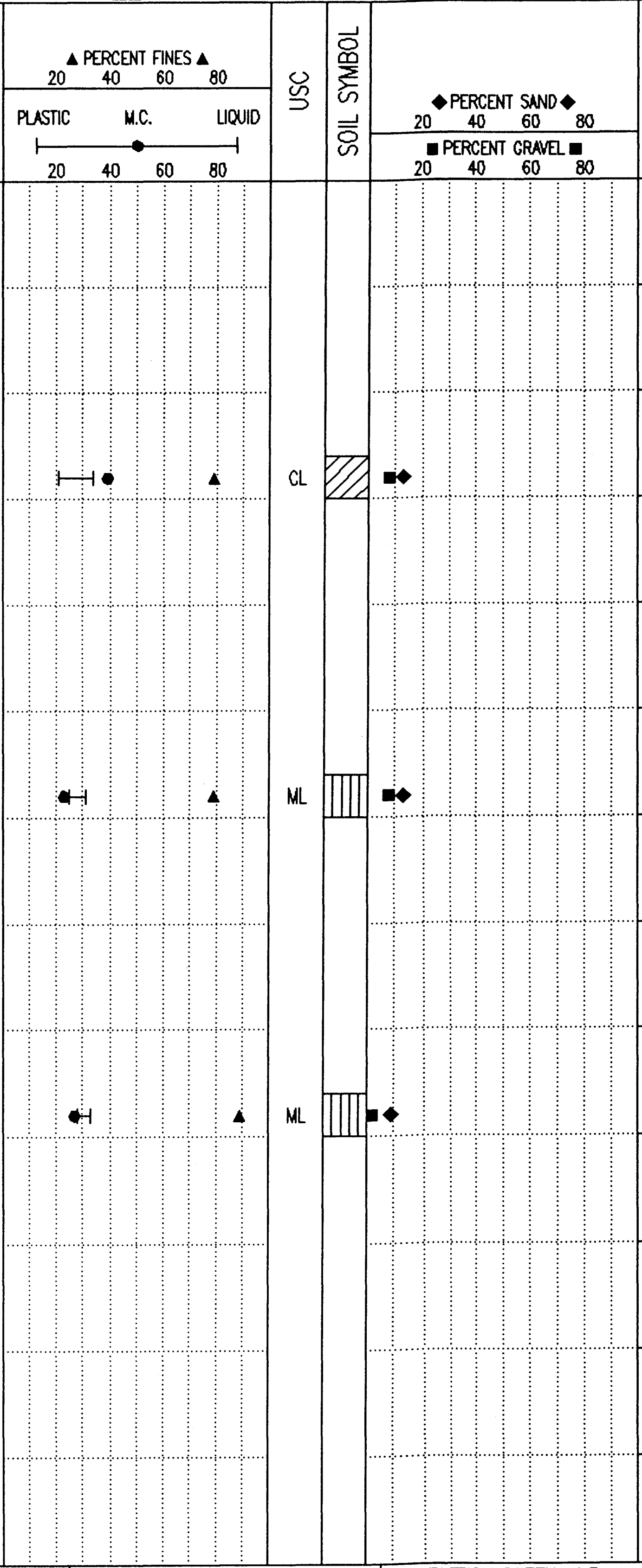
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/06/10
	Fig. No:	Page 1 of 1

93/11/12 01:07PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-40
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1906+500 o/s 2m Lt	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ⊟ BULK ▥ TUBE ◨ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	DEPTH (m)
0.0	ORGANIC MATERIAL				0.0
	LEAN CLAY WITH SAND (CL) -brown -frozen with visible ice crystals (Vx) -easy drilling				
1.0					1.0
		☒	94	CL	
2.0					2.0
	SILT WITH SAND (ML) -gray -frozen with visible ice lenses (Vr)				
3.0		☒	95	ML	3.0
	SILT (ML) -gray -frozen with visible ice lenses (Vr)				
4.0					4.0
		☒	96	ML	
	END HOLE at 4.5m -spruce cover				
5.0					5.0
6.0					6.0



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Transportation Engineering

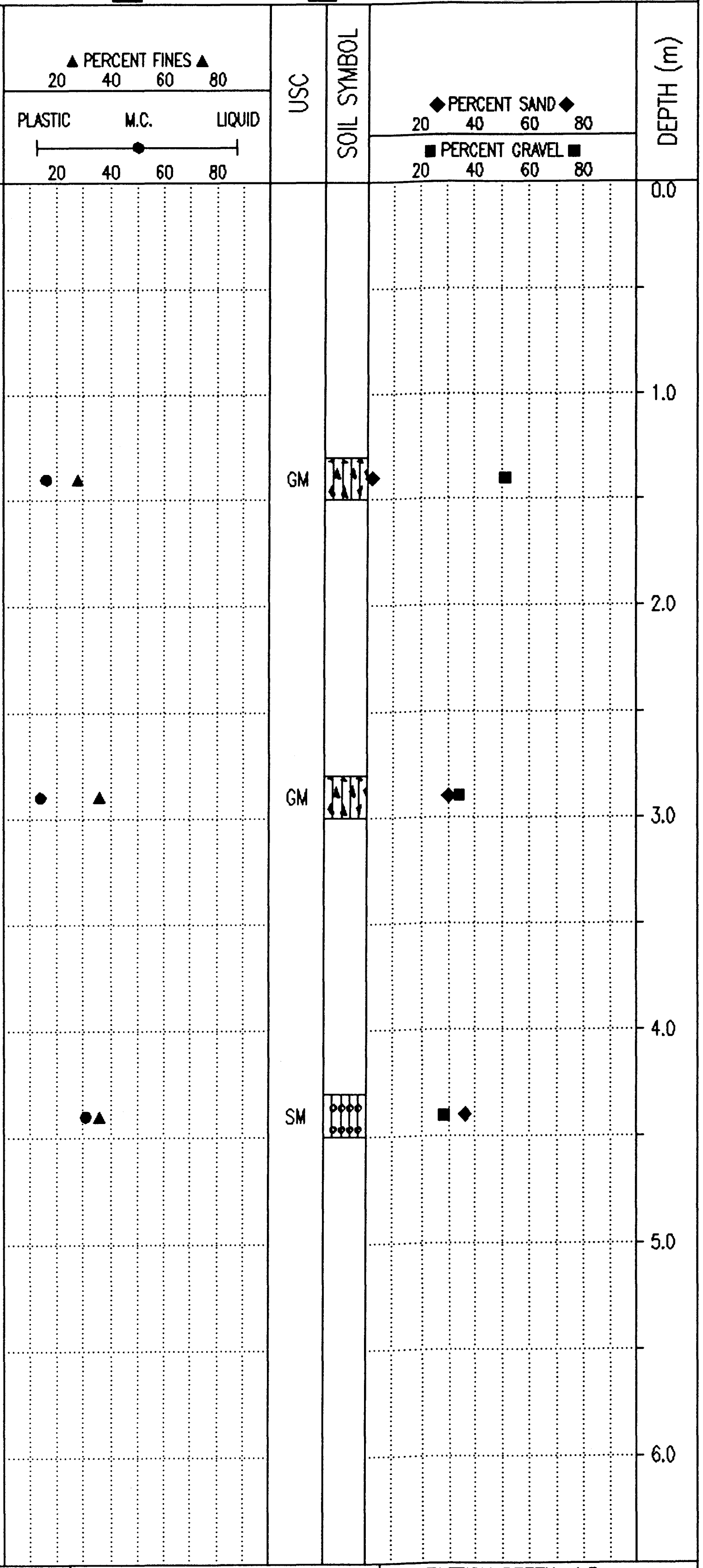
LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
REVIEWED BY:	COMPLETE: 92/06/10
Fig. No:	Page 1 of 1

93/11/12 01:05PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-39
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1906+600 o/s 3m Lt	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO
0.0	ORGANIC MATERIAL −frozen (Nb)		
1.0	SILTY GRAVEL WITH SAND (GM) −brown −frozen with visible ice crystals (Vx) −hard drilling		
		☒	91
2.0			
		☒	92
3.0			
	ICE		
4.0	SILTY SAND WITH GRAVEL (SM) −gray −frozen with visible ice crystals (Vx)		
		☒	93
	END HOLE at 4.5m −spruce cover		
5.0			
6.0			



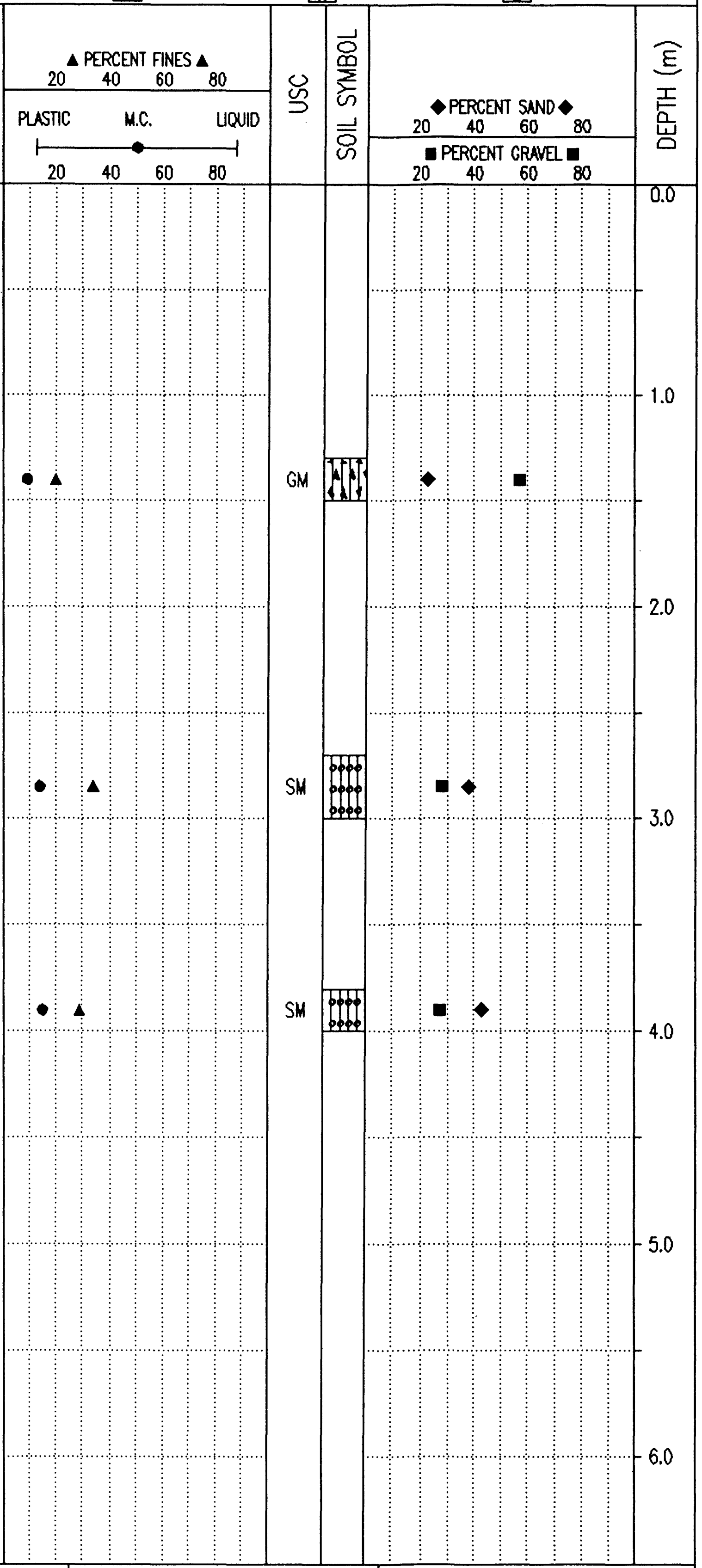
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/06/10
	Fig. No:	Page 1 of 1

93/11/12 01:04PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-38
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1906+700	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL -frozen with visible ice crystals (Vx)			
1.0	SILTY GRAVEL WITH SAND (GM) -gray -frozen with ice lenses (Vr)	☒	88	GM
2.0	SILTY SAND WITH GRAVEL (SM) -frozen with visible ice lenses (Vr)	☒	89	SM
		☒	90	SM
4.0	END HOLE at 4.0m -refusal -spruce cover			
5.0				
6.0				

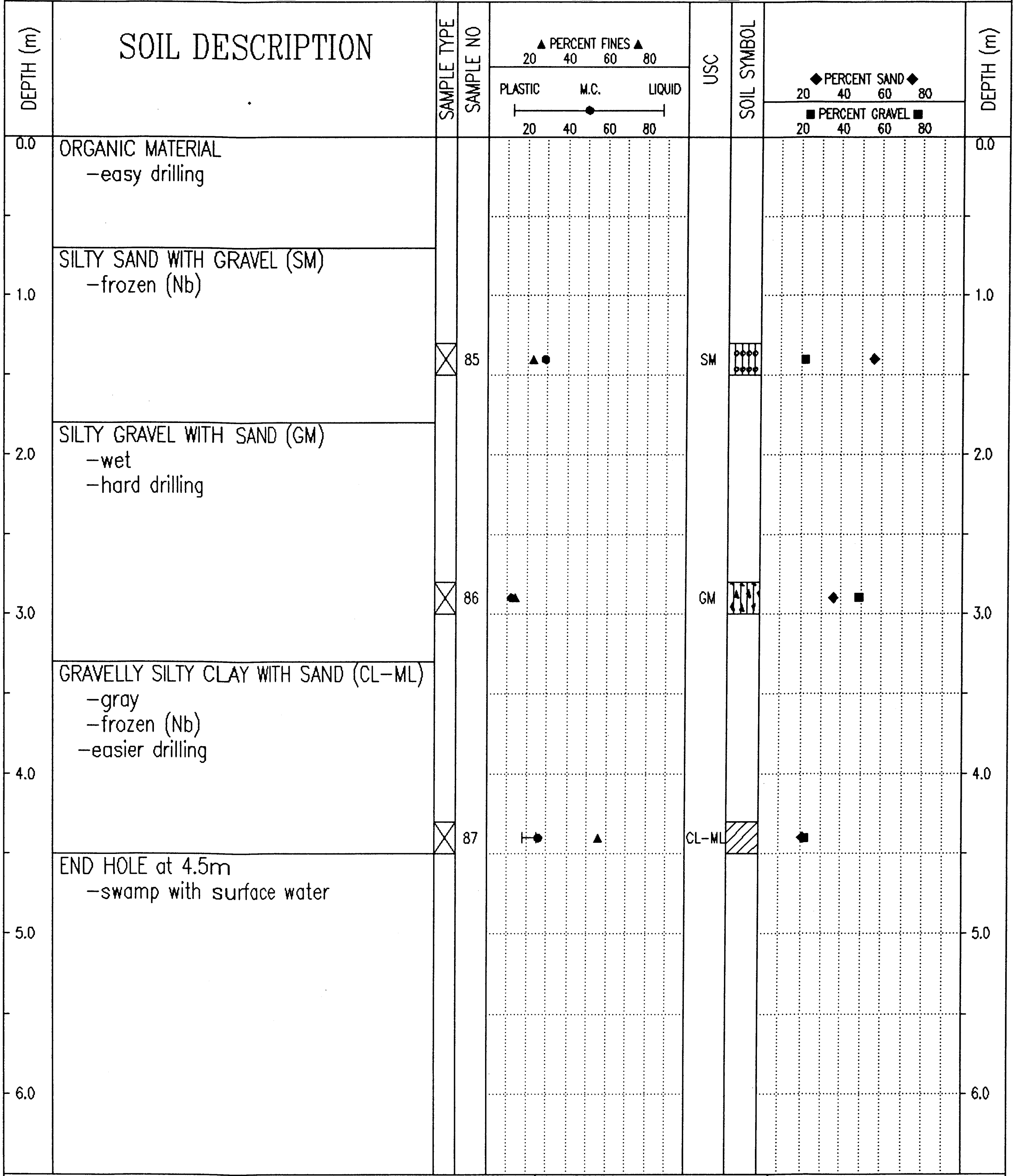


Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.0 m
	REVIEWED BY:	COMPLETE: 92/06/09
	Fig. No:	Page 1 of 1

93/11/12 01:02PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-37
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1906+800	ELEVATION: 0.00 (m)

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



ORGANIC MATERIAL
-easy drilling

SILTY SAND WITH GRAVEL (SM)
-frozen (Nb)

SILTY GRAVEL WITH SAND (GM)
-wet
-hard drilling

GRAVELLY SILTY CLAY WITH SAND (CL-ML)
-gray
-frozen (Nb)
-easier drilling

END HOLE at 4.5m
-swamp with surface water

SAMPLE NO	USC
85	SM
86	GM
87	CL-ML

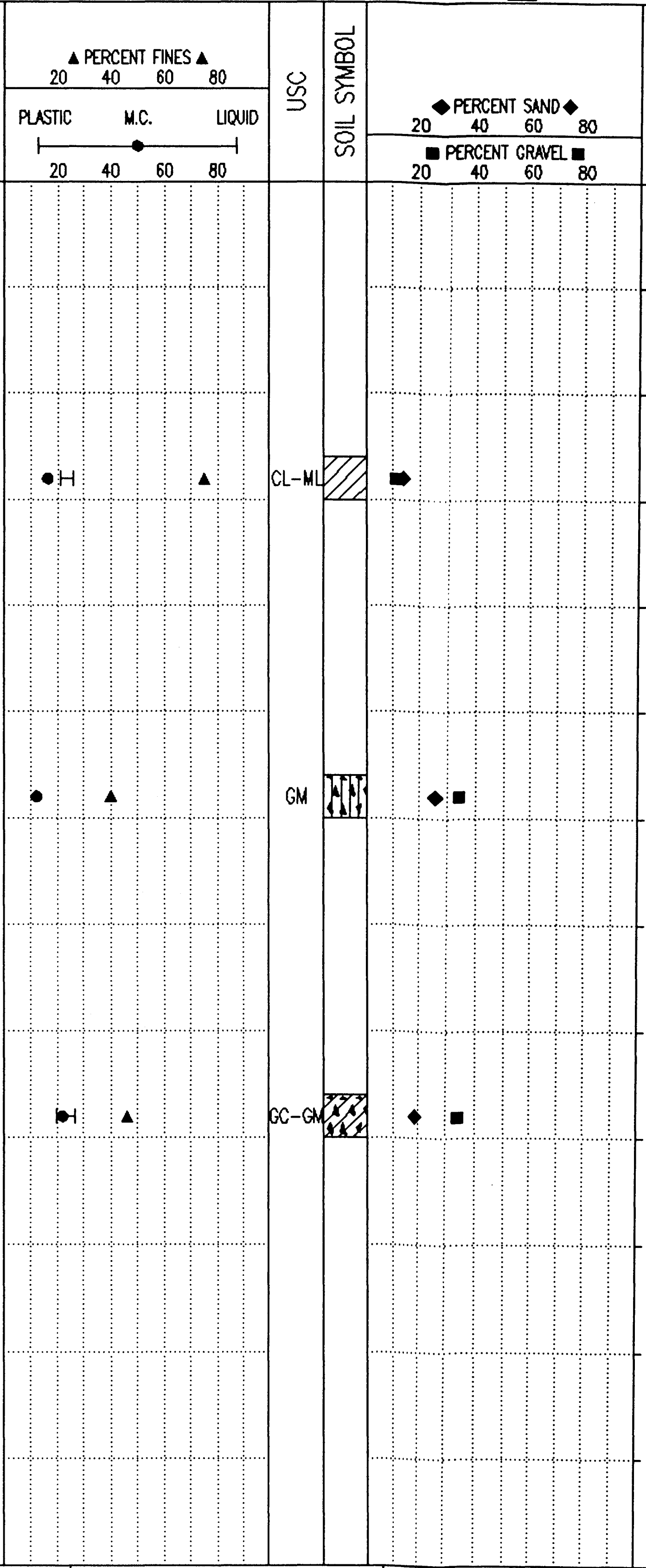
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/06/09
	Fig. No:	Page 1 of 1

93/11/12 01:01PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-36
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1906+900 o/s 7m Rt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
	SILTY CLAY WITH SAND (CL-ML) -gray -frozen (Nb) -hard drilling			
1.0				
		☒	82	CL-ML
2.0				
	SILTY GRAVEL WITH SAND (GM) -gray -damp			
		☒	83	GM
3.0				
	SILTY, CLAYEY GRAVEL WITH SAND (GC-GM) -gray -damp			
4.0				
		☒	84	GC-GM
	END HOLE at 4.5m			
5.0				
6.0				



Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/06/09
	Fig. No:	Page 1 of 1

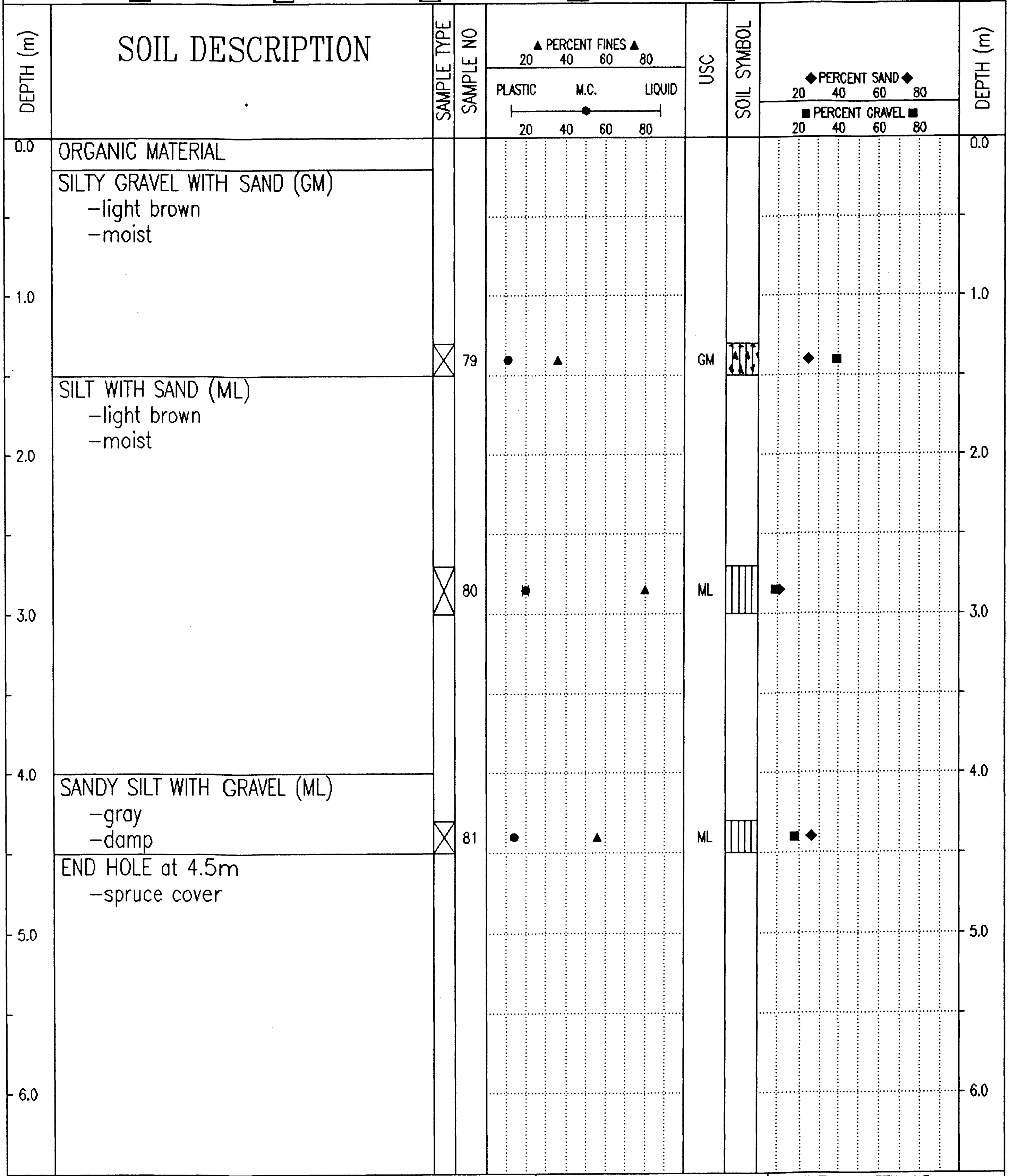
93/11/12 12:59PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-35
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1907+000 o/s 14m Rt.	ELEVATION: 0.00 (m)

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

SOIL DESCRIPTION

SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
ORGANIC MATERIAL			
SILTY GRAVEL WITH SAND (GM) -light brown -moist	☒	79	GM
SILT WITH SAND (ML) -light brown -moist	☒	80	ML
SANDY SILT WITH GRAVEL (ML) -gray -damp	☒	81	ML
END HOLE at 4.5m -spruce cover			



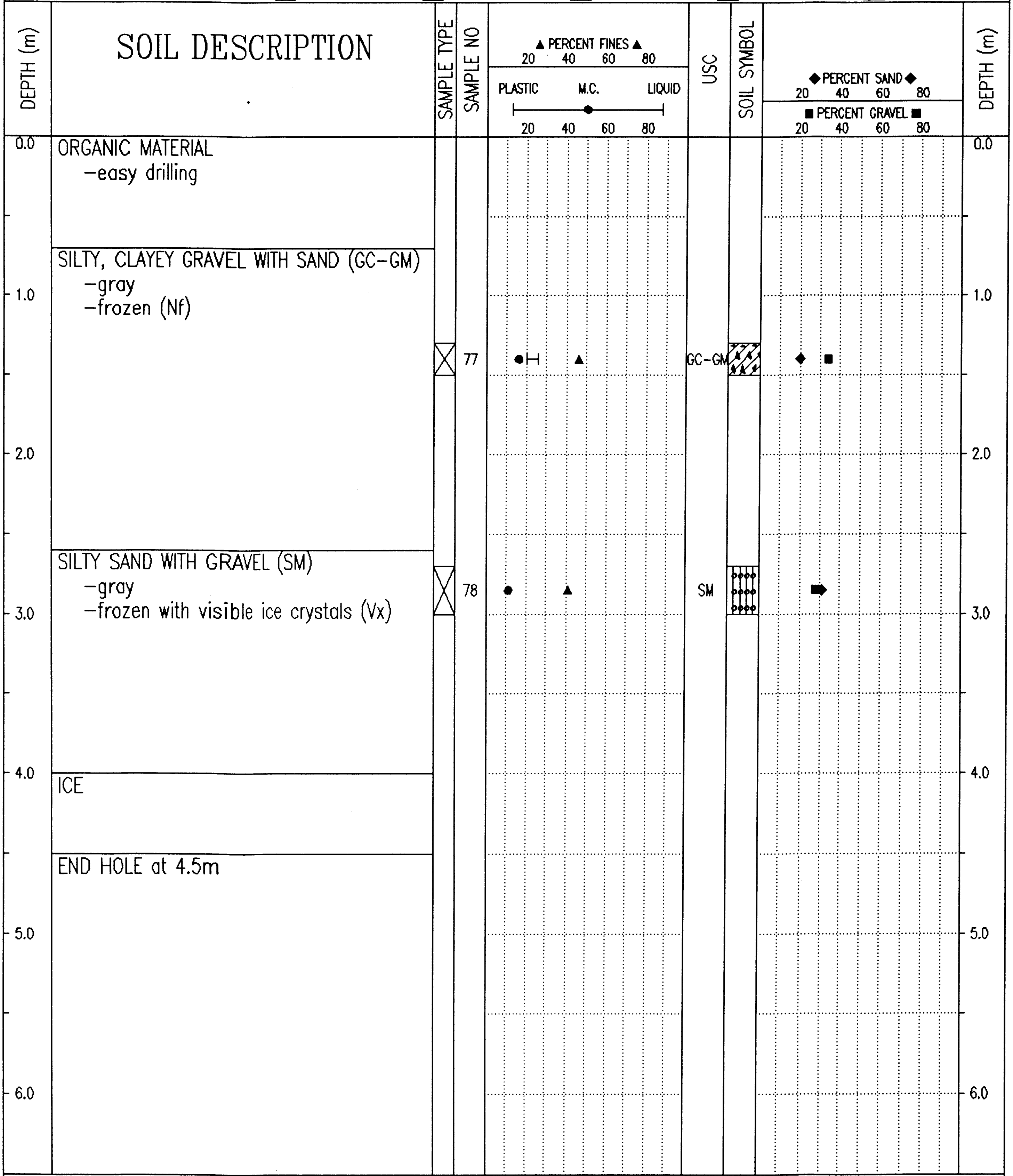
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/06/09
	Fig. No:	Page 1 of 1

93/11/12 12:58PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-34
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1907+100 o/s 3m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◿ S.P.T. ☒ AUGER ☰ BULK ◫ TUBE ◨ CORE

SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
ORGANIC MATERIAL –easy drilling			
SILTY, CLAYEY GRAVEL WITH SAND (GC-GM) –gray –frozen (Nf)	☒	77	GC-GM
SILTY SAND WITH GRAVEL (SM) –gray –frozen with visible ice crystals (Vx)	☒	78	SM
ICE			
END HOLE at 4.5m			



Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/06/09
	Fig. No:	Page 1 of 1

93/11/12 12:56PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-33
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1907+200	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 MATERIAL -frozen with visible ice crystals (Vx)							0.0
	SILTY GRAVEL WITH SAND (GM) -frozen with visible ice crystals (Vx)							
1.0								1.0
		☒	76	● ▲	GM		◆ ■	
2.0	END HOLE at 2.0m -refusal							2.0
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 2.0 m
	REVIEWED BY:	COMPLETE: 92/06/09
	Fig. No:	Page 1 of 1

93/11/12 12:54PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	BOREHOLE No. 175-32
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1907+300	ELEVATION 0.000 (m)

SAMPLE TYPE ■ RETURN ◩ S.P.T. ☒ AUGER ▩ BULK ▯ TUBE ◨ CORE

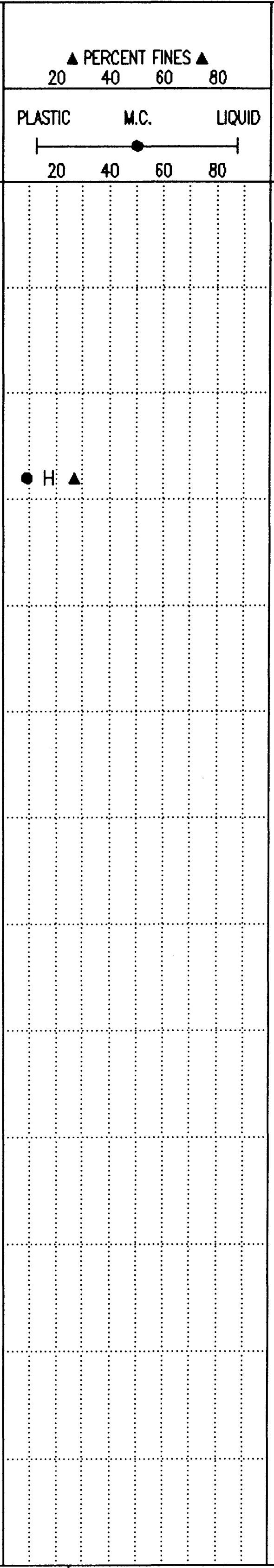
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲PERCENT FINES▲ 20 40 60 80 PLASTIC M.C. LIQUID 20 40 60 80	USC	PERMAFROST DESCRIPTION	DEPTH (m)
0.0	SANDY GRAVEL						0.0
	END HOLE at 0.5m -refusal						
-1.0							-1.0
-2.0							-2.0
-3.0							-3.0
-4.0							-4.0
-5.0							-5.0
-6.0							-6.0

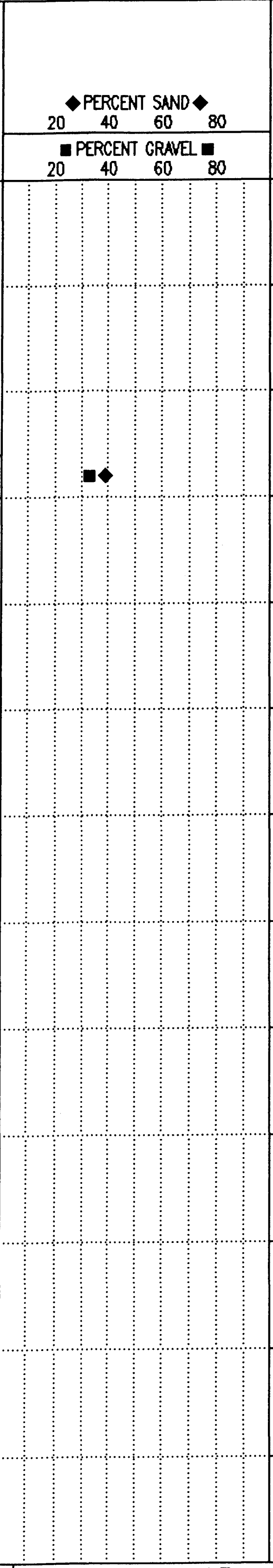
Public Works Canada Whitehorse, Yukon Territory.	COMPLETION DEPTH 0.5 m		COMPLETE 92/06/09
	LOGGED BY AW	DWG NO.	Page 1 of 1

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-01
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1907+504 o/s 2m Lt.	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 MATERIAL					0.0
	SILTY SAND WITH GRAVEL (SM) -brown -moist -grindy drilling					
1.0	-first refusal at 0.9m -second refusal at 1.0m					1.0
		☒ AUGER	1	SM	▥	
	END HOLE at 1.7m -refusal at 1.7m					
2.0						2.0
3.0						3.0
4.0						4.0
5.0						5.0
6.0						6.0





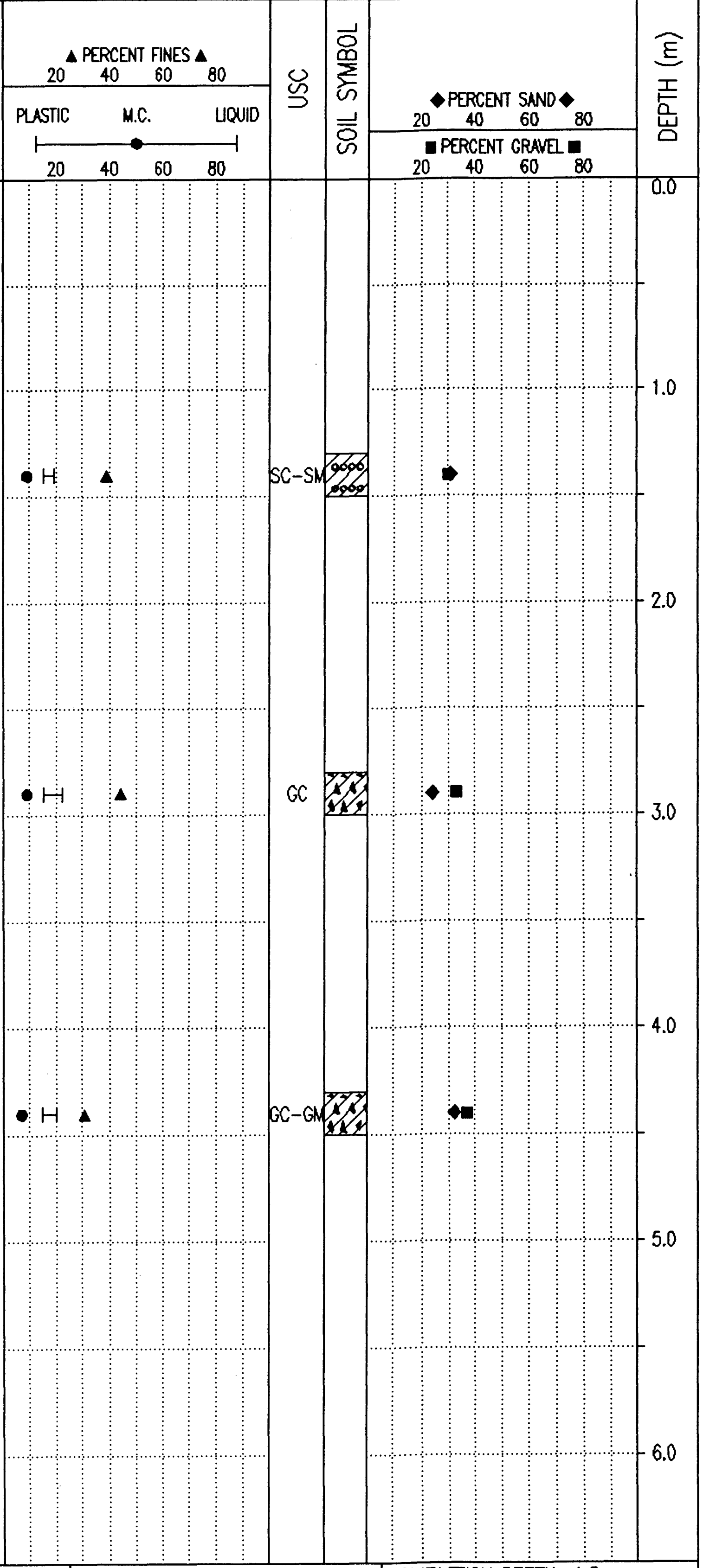
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 1.7 m
	REVIEWED BY:	COMPLETE: 91/08/09
	Fig. No:	Page 1 of 1

93/11/10 04:11PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-02
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1907+600 o/s 7m Lt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
	SILTY, CLAYEY SAND WITH GRAVEL (SC-SM) -brown -wet -smooth drilling -grindy drilling below 0.8m			
1.0				
		☒	2	SC-SM
2.0	CLAYEY GRAVEL WITH SAND (GC) -brown -moist			
3.0		☒	3	GC
	SILTY, CLAYEY GRAVEL WITH SAND (GC-GM) -brown -damp -tight jumpy noisy drilling			
4.0		☒	4	GC-GM
	END HOLE at 4.6m			
5.0				
6.0				

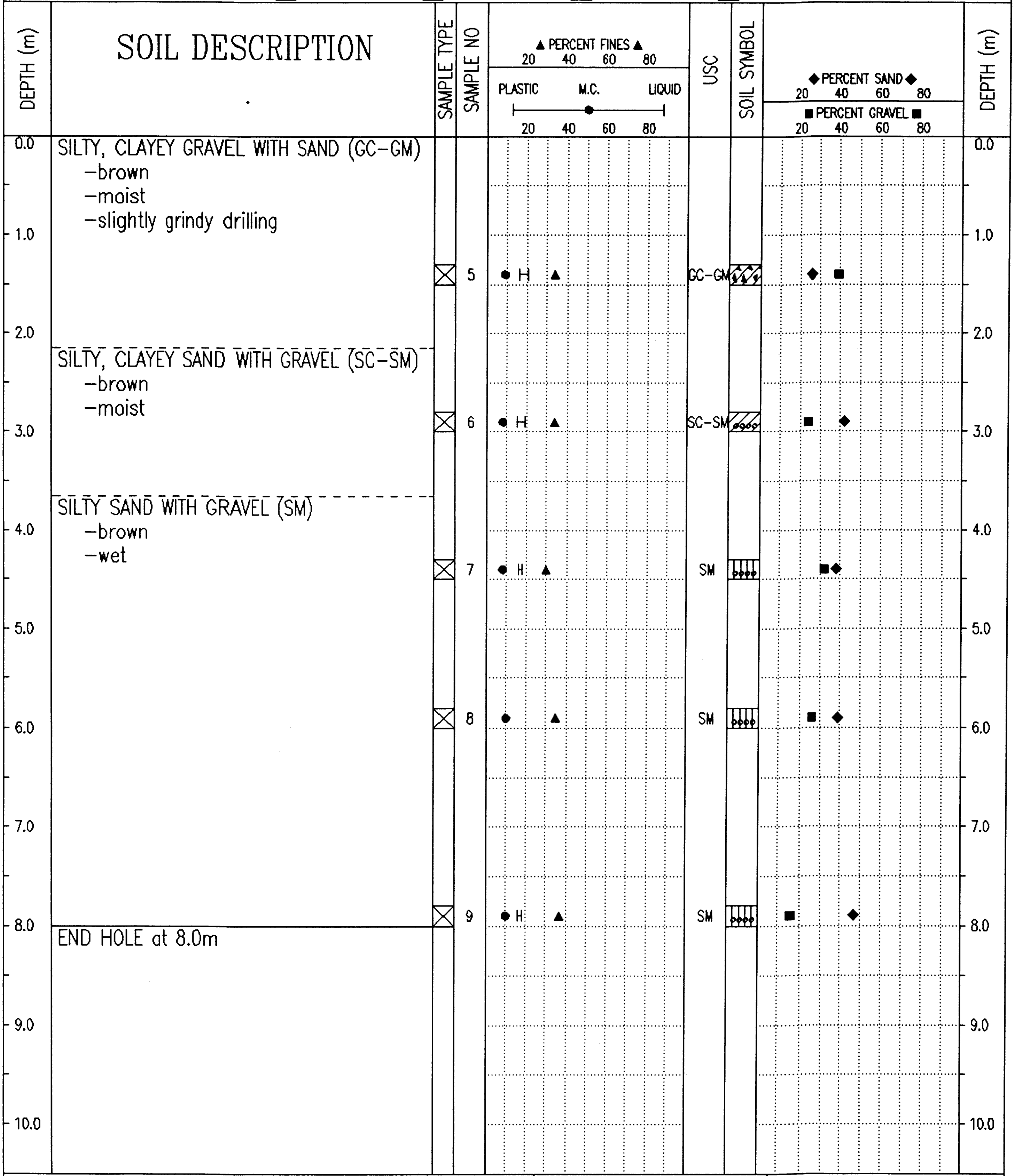


Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/09
	Fig. No:	Page 1 of 1

93/11/10 04:12PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-03
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1907+700 o/s 7m Lt.	ELEVATION: 0.00 (m)

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



SOIL DESCRIPTION

0.0 SILTY, CLAYEY GRAVEL WITH SAND (GC-GM)
- brown
- moist
- slightly grindy drilling

2.2 SILTY, CLAYEY SAND WITH GRAVEL (SC-SM)
- brown
- moist

3.7 SILTY SAND WITH GRAVEL (SM)
- brown
- wet

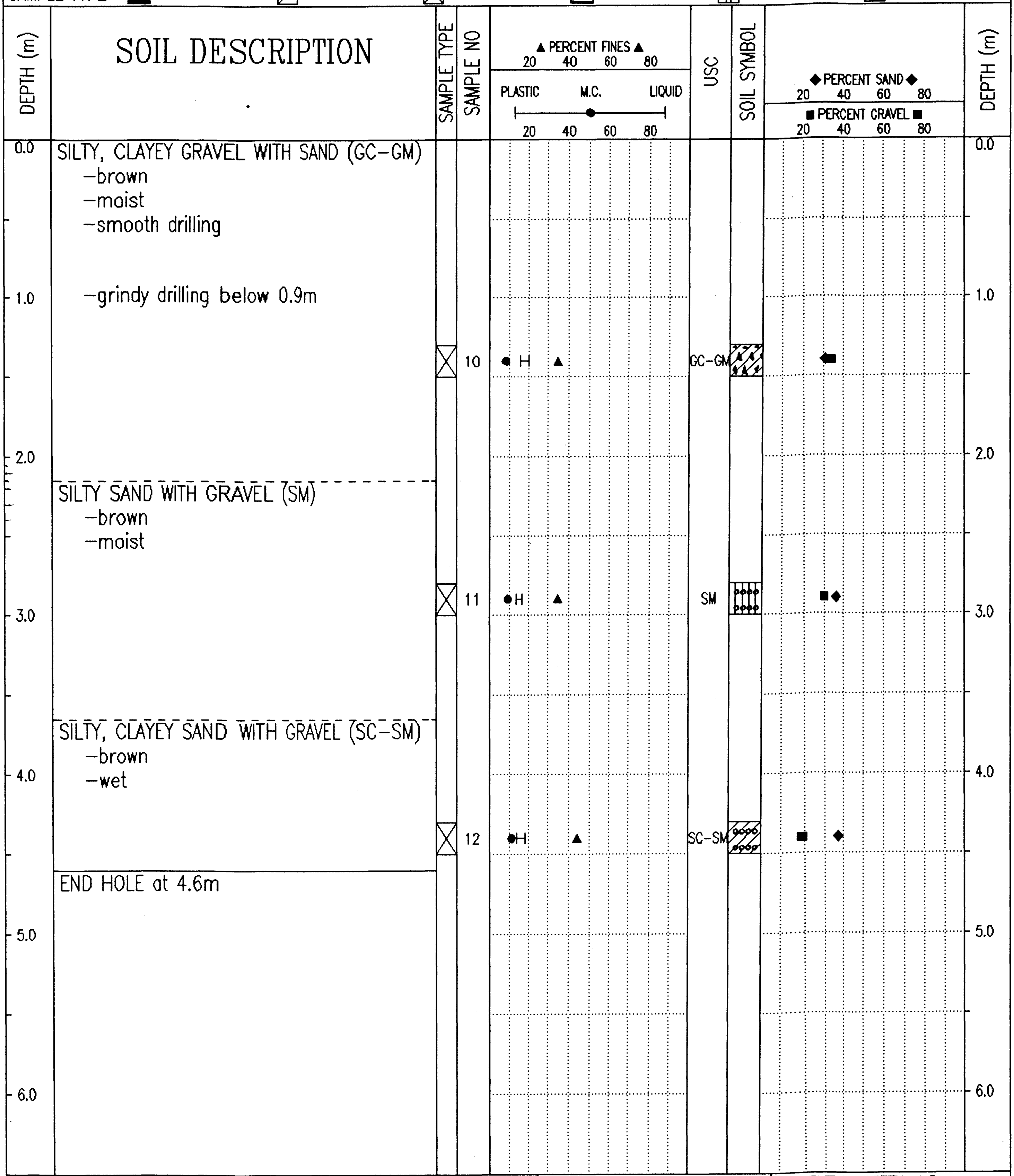
8.0 END HOLE at 8.0m

Government of Yukon	LOGGED BY: DT	COMPLETION DEPTH: 8.0 m
Transportation Engineering	REVIEWED BY:	COMPLETE: 91/08/09
	Fig. No:	Page 1 of 1

93/11/10 04:17PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-04
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1907+800 o/s 8m Lt.	ELEVATION: 0.00 (m)

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



SILTY, CLAYEY GRAVEL WITH SAND (GC-GM)
- brown
- moist
- smooth drilling
- grindy drilling below 0.9m

SILTY SAND WITH GRAVEL (SM)
- brown
- moist

SILTY, CLAYEY SAND WITH GRAVEL (SC-SM)
- brown
- wet

END HOLE at 4.6m

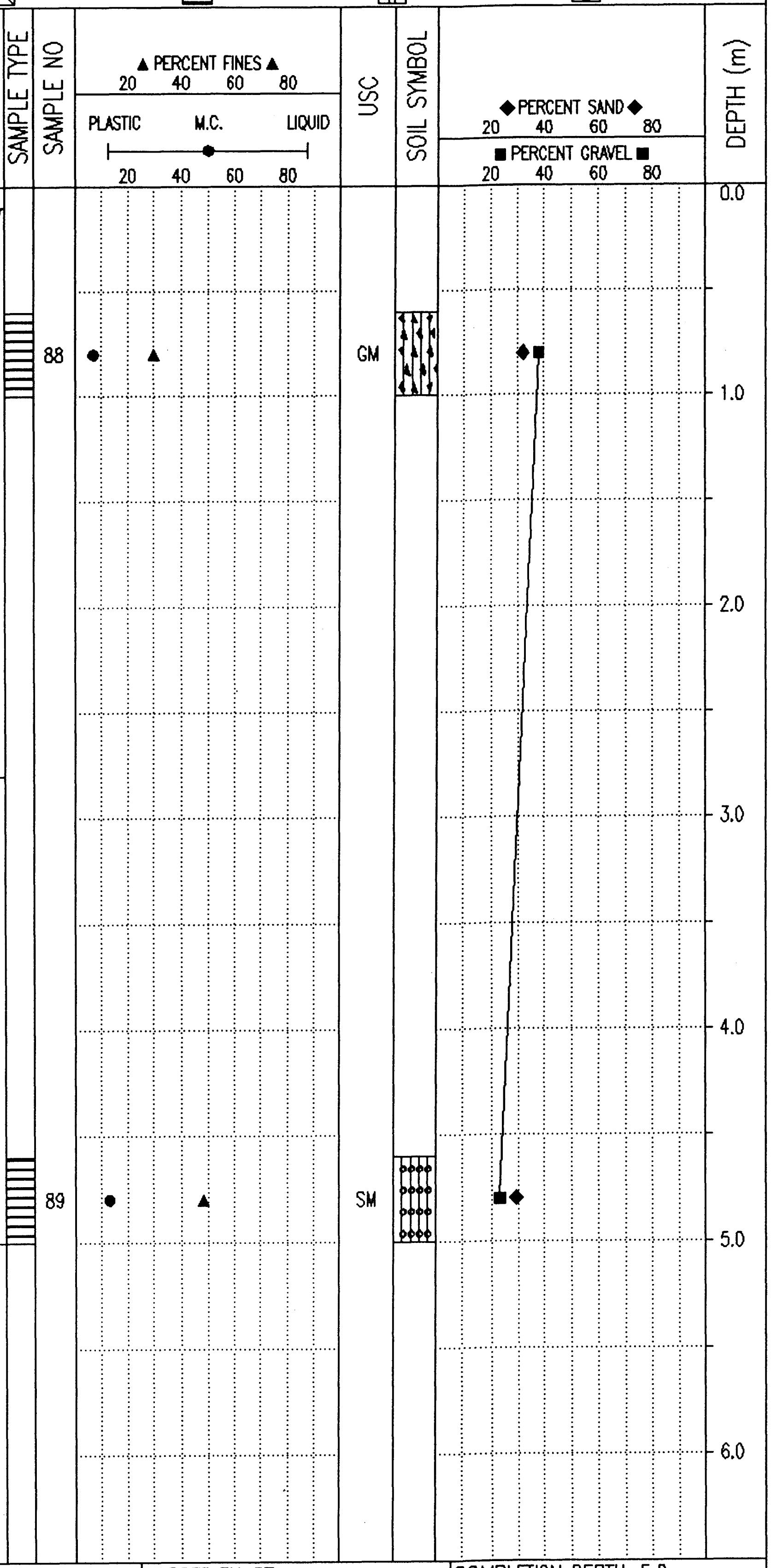
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/09
	Fig. No:	Page 1 of 1

93/11/10 04:18PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 258-37
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1907+800 o/s 20m Lt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION
0.0	ORGANIC MATERIAL
	SILTY GRAVEL WITH SAND (GM) -brown -moist -cobbles and boulders
1.0	
2.0	
3.0	SILTY SAND WITH GRAVEL (SM) -light brown -moist to wet -cobbles and boulders
4.0	
5.0	END HOLE at 5.0m -in old pit
6.0	



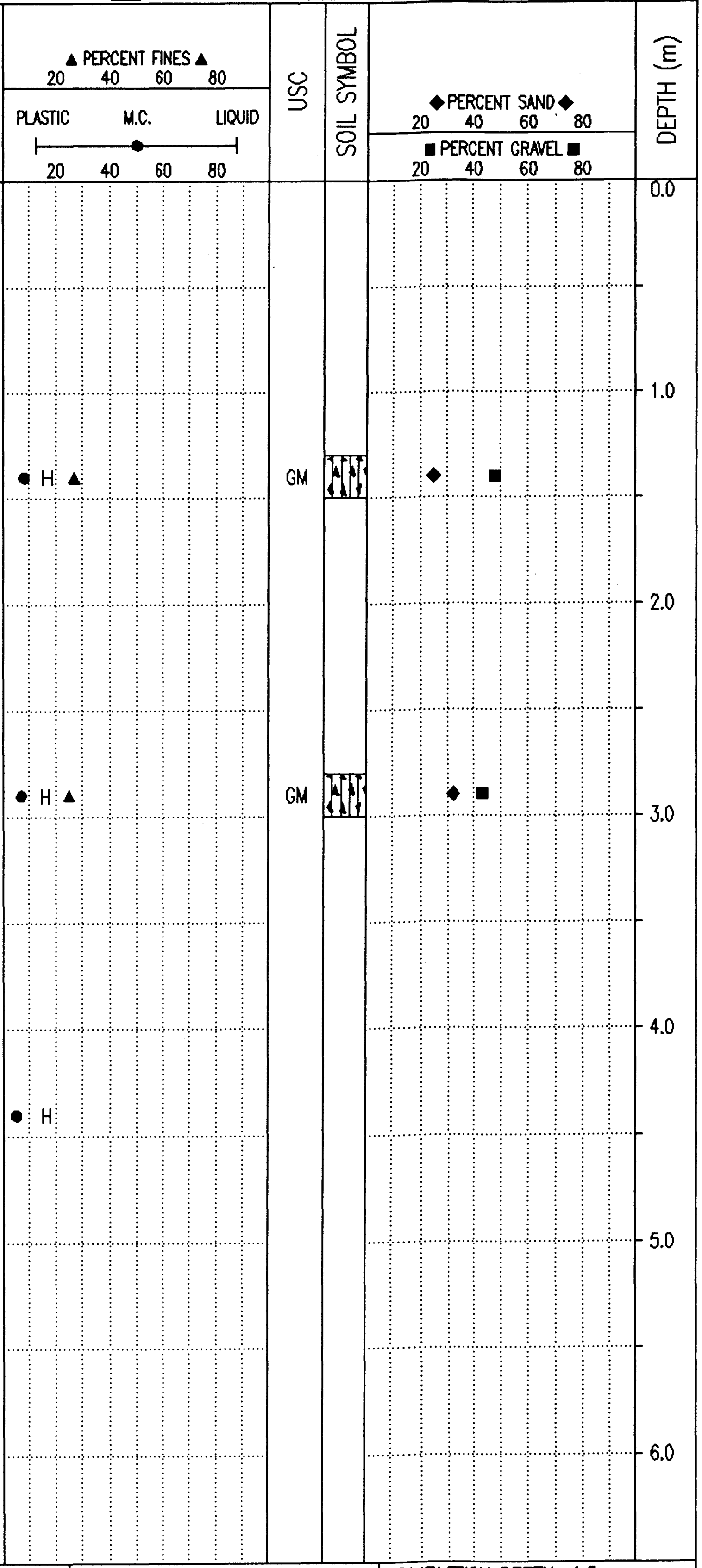
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 5.0 m
	REVIEWED BY:	COMPLETE: 93/10/03
	Fig. No:	Page 1 of 1

93/10/28 09:00AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-05
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1907+900 o/s 17m Lt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	SILTY GRAVEL WITH SAND (GM) -brown -moist -slightly grindy drilling			
		☒	13	GM
		☒	14	GM
		☒	15	
	END HOLE at 4.6m			



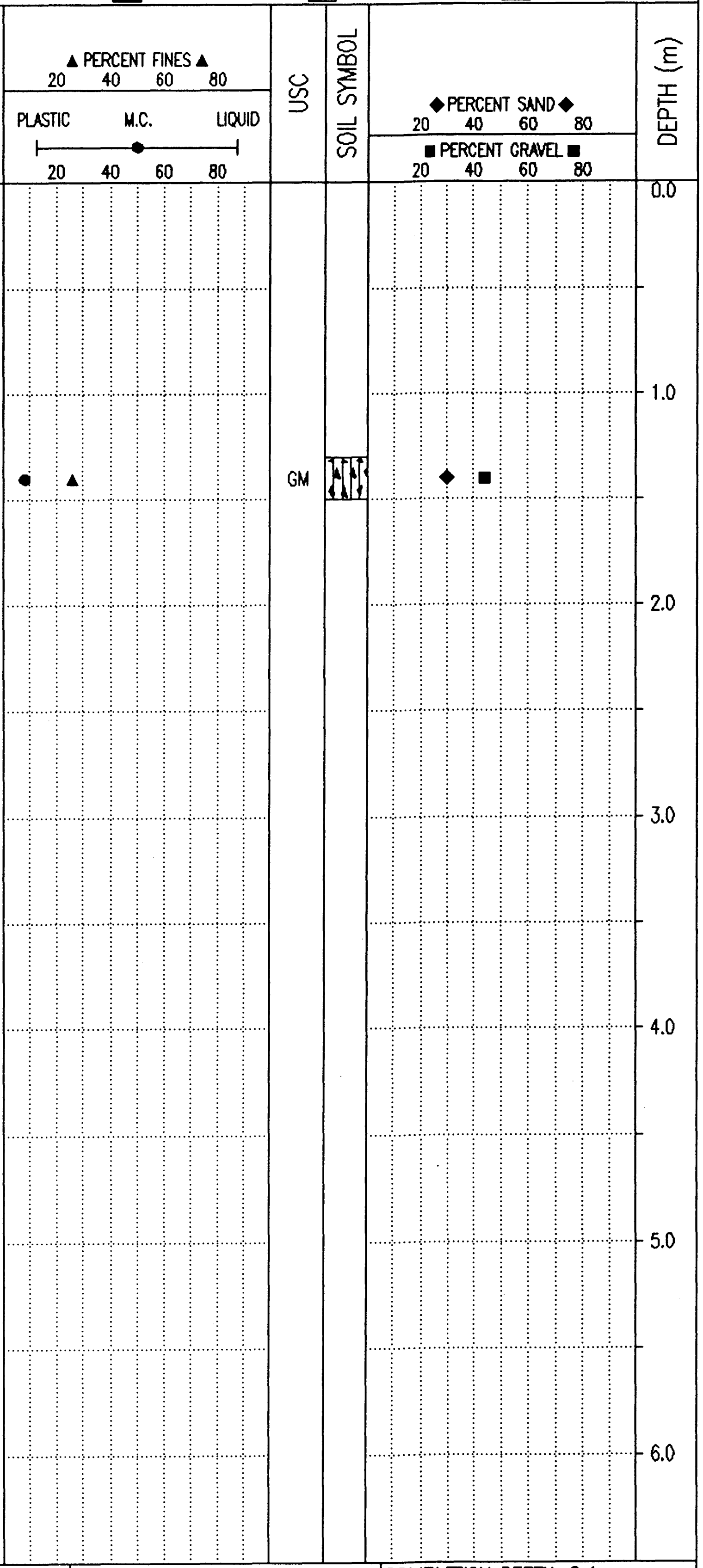
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/09
	Fig. No:	Page 1 of 1

93/11/10 04:20PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-06
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1908+000 o/s 5m Lt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
	SILTY GRAVEL WITH SAND (GM) -brown -moist -smooth drilling			
1.0	-grindy drilling below 0.9m -first refusal at 1.2m	☒	16	GM
2.0				
	END HOLE at 2.4m -refusal			
3.0				
4.0				
5.0				
6.0				



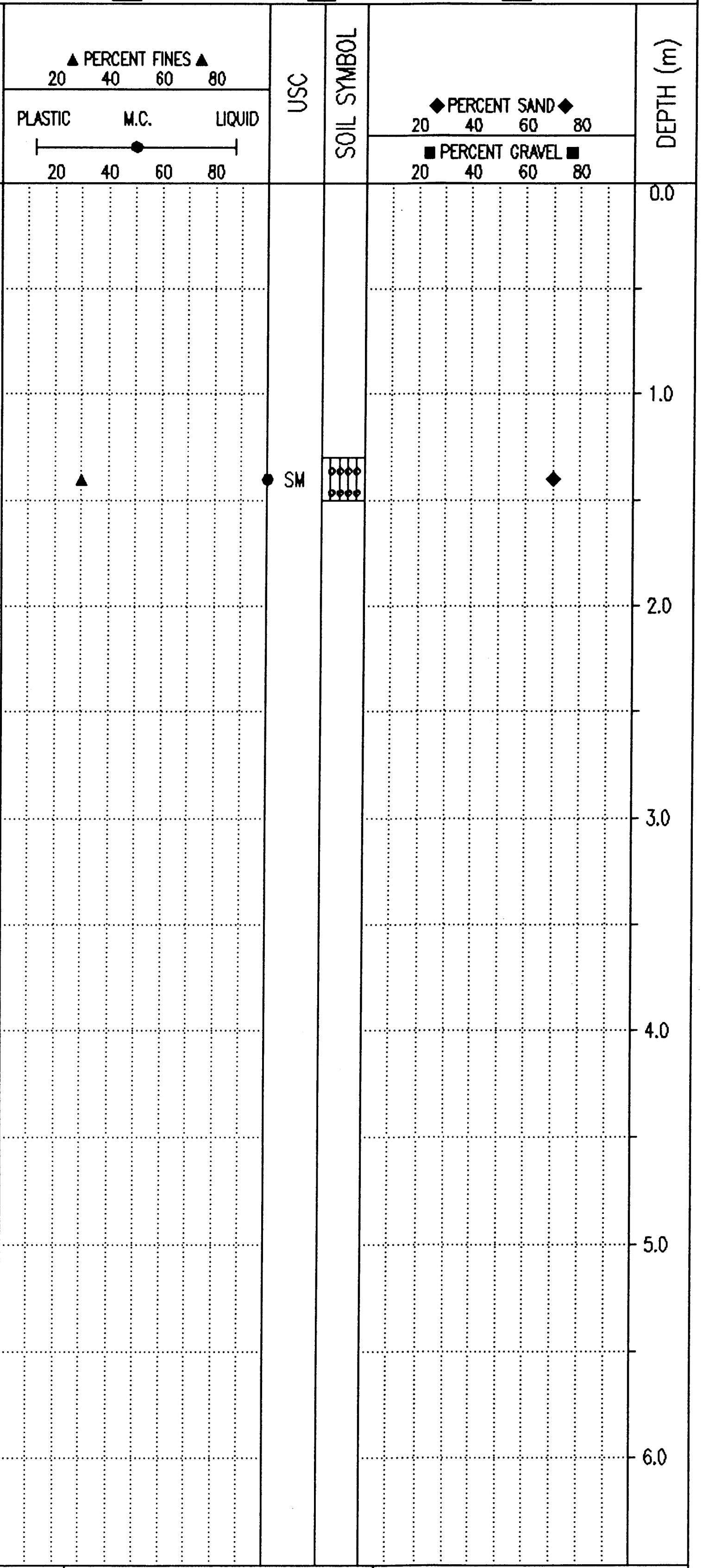
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 2.4 m
	REVIEWED BY:	COMPLETE: 91/08/09
	Fig. No:	Page 1 of 1

93/11/10 04:21PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-07
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1908+100 o/s 4m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◨ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
	ORGANIC MATERIAL -silty sand (SM) -frozen with large ice crystals below 1.1m	☒	17	SM
5.1	END HOLE at 5.1m			



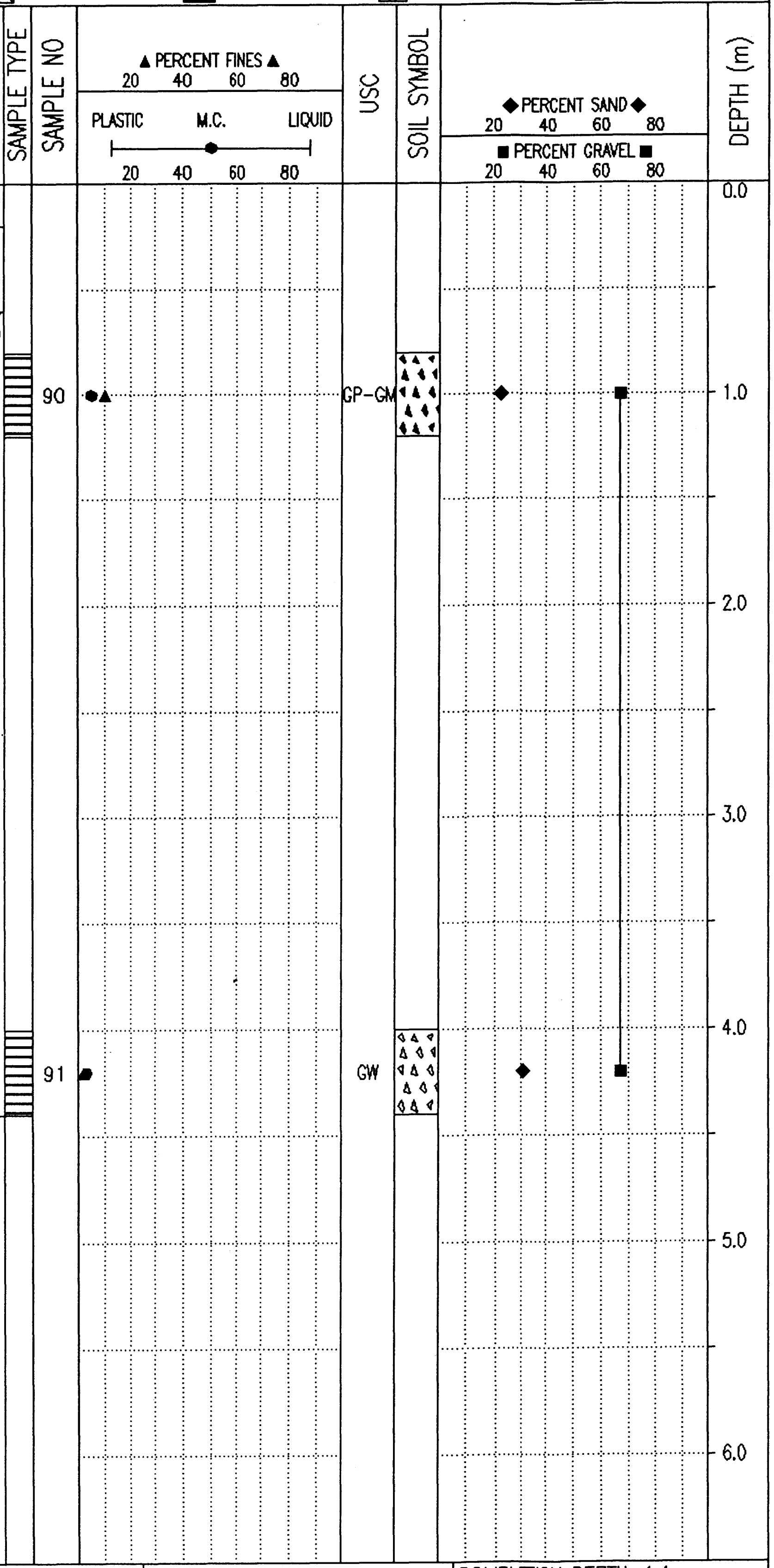
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 5.1 m
	REVIEWED BY:	COMPLETE: 91/08/10
	Fig. No:	Page 1 of 1

93/11/10 04:23PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 258-38
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1908+100 o/s 10m Lt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION
0.0	ORGANIC MATERIAL
	GRAVELLY SILT -brown -moist
1.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -moist -maximum 300mm material -estimate 15% +100mm
2.0	
3.0	WELL-GRADED GRAVEL WITH SAND (GW) -brown -moist -maximum 300mm material -estimate 15% +100mm
4.0	
	END HOLE at 4.4m -frozen at 4.4m
5.0	
6.0	

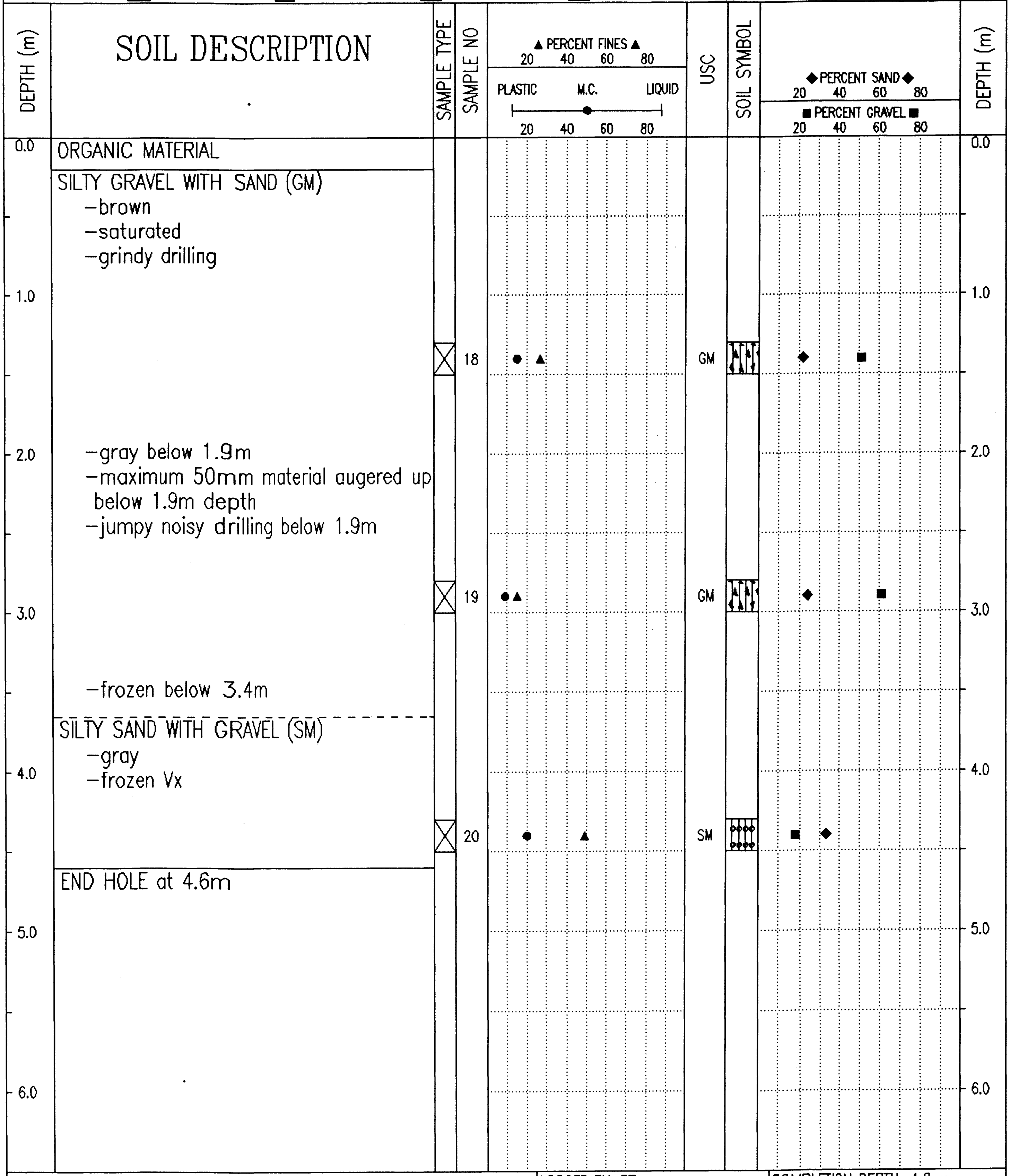


Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.4 m
	REVIEWED BY:	COMPLETE: 93/10/03
	Fig. No:	Page 1 of 1

93/10/28 09:01AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-08
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1908+200 o/s 3m Lt.	ELEVATION: 0.00 (m)

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



Depth (m)	Soil Description
0.0	ORGANIC MATERIAL
	SILTY GRAVEL WITH SAND (GM) -brown -saturated -grindy drilling -gray below 1.9m -maximum 50mm material augered up below 1.9m depth -jumpy noisy drilling below 1.9m -frozen below 3.4m
	SILTY SAND WITH GRAVEL (SM) -gray -frozen Vx
4.6	END HOLE at 4.6m

Sample Type	Sample No	USC
☒	18	GM
☒	19	GM
☒	20	SM

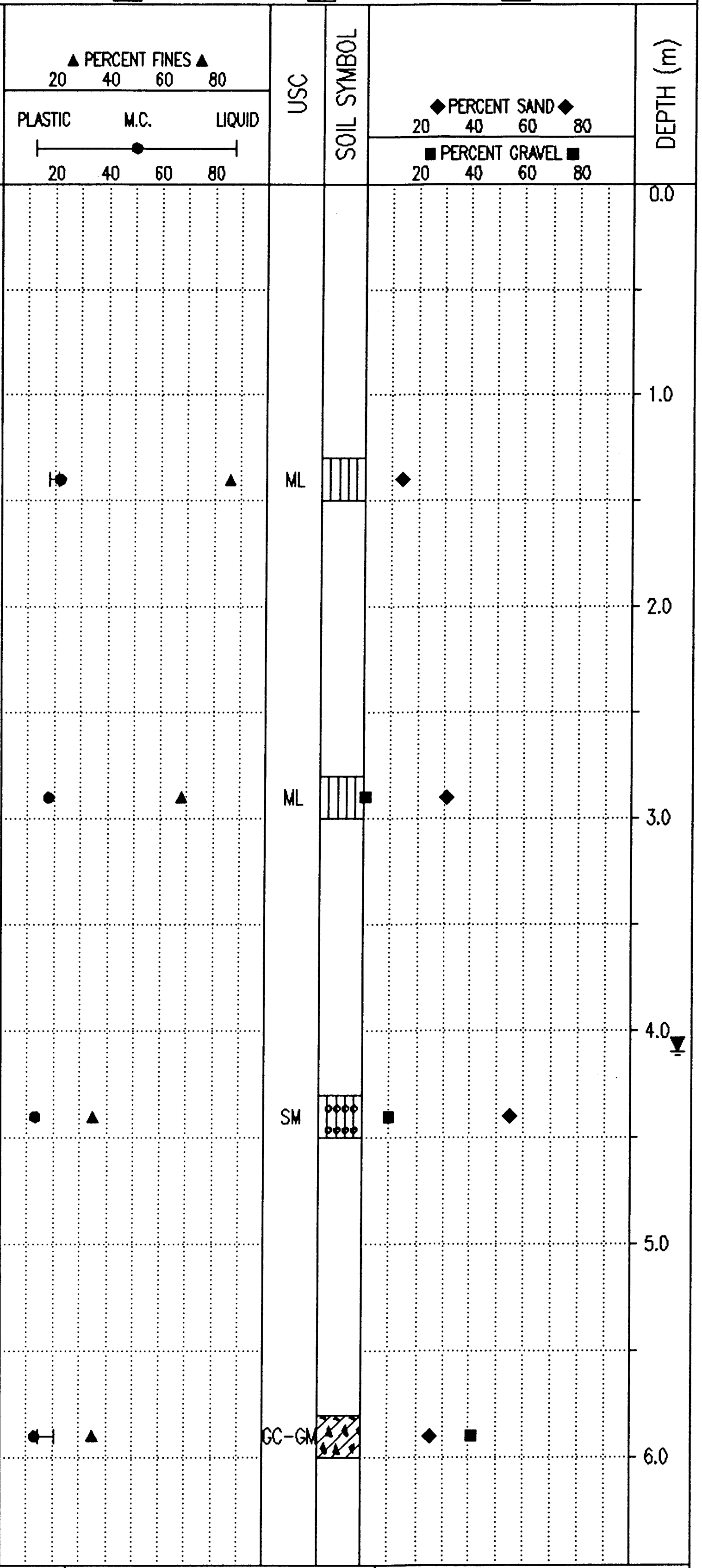
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/10
	Fig. No:	Page 1 of 1

93/11/10 04:24PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-09
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1908+300 o/s 3m Lt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	SILT (ML) -brown -saturated -smooth drilling			
1.0				
		☒	21	ML
2.0	SANDY SILT (ML) -brown -saturated			
3.0		☒	22	ML
4.0 ▼	SILTY SAND (SM) -gray -free water -grindy drilling			
		☒	23	SM
5.0	SILTY, CLAYEY GRAVEL WITH SAND (GC-GM) -dark gray -free water -maximum 50mm material augered up			
		☒	24	GC-GM
6.0	END HOLE at 6.0m			



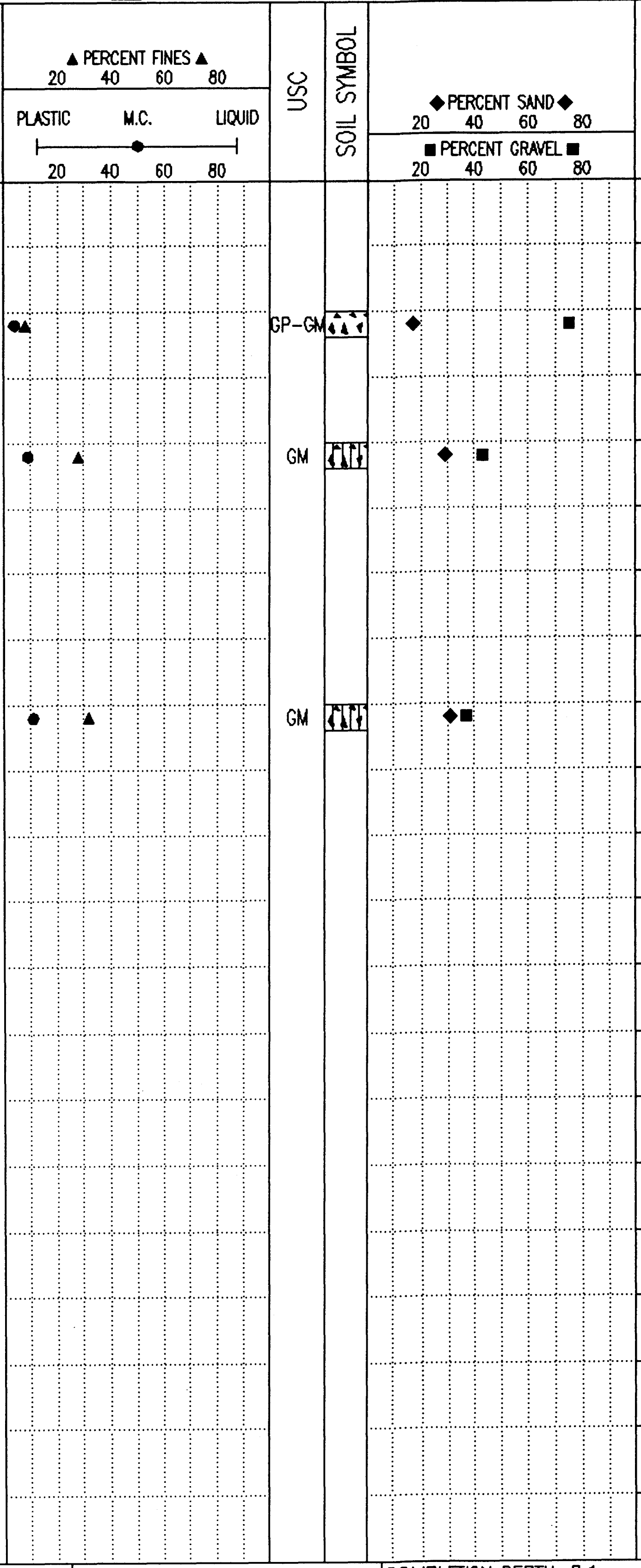
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 6.0 m
	REVIEWED BY:	COMPLETE: 91/08/10
	Fig. No:	Page 1 of 1

93/11/10 04:26PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 244-12
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1908+300 o/s 2m Rt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	DEPTH (m)
0.0	ORGANIC MATERIAL				0.0
	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -fines not retained				
1.0		☒	30	GP-GM	1.0
	SILTY GRAVEL WITH SAND (GM) -wet -some fines lost				
2.0		☒	31	GM	2.0
	-grindy drilling below 2.6m				
3.0					3.0
	-saturated below 3.3m -smooth drilling below 3.3m -grindy drilling below 3.7m				
4.0		☒	32	GM	4.0
5.0	-smooth but harder drilling below 5.0m				5.0
6.0▼	-water below 6.0m				6.0▼
7.0					7.0
8.0	END HOLE at 8.1m -refusal				8.0
9.0					9.0
10.0					10.0

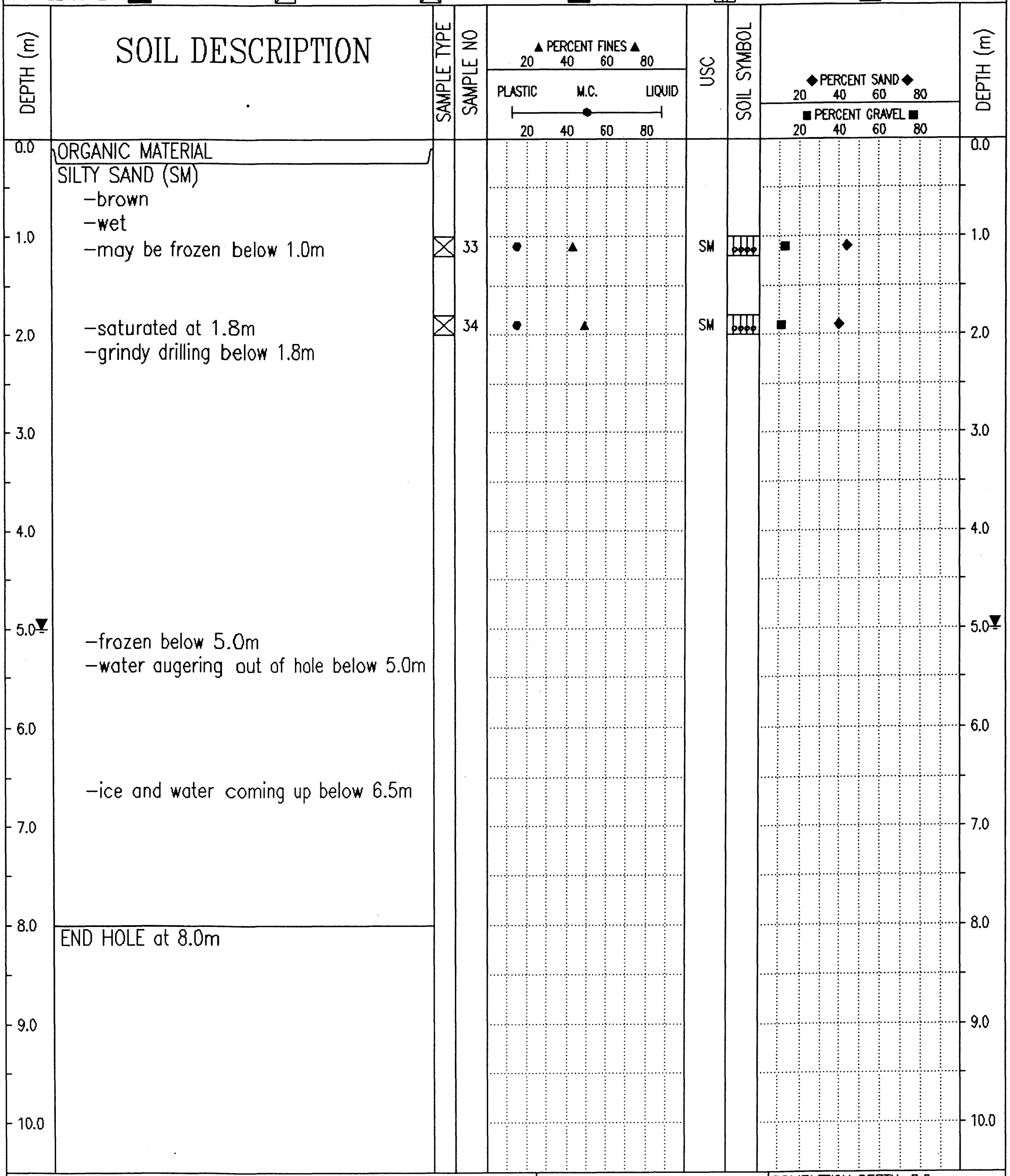


Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 8.1 m
	REVIEWED BY:	COMPLETE: 93/09/02
	Fig. No:	Page 1 of 1

93/11/10 03:13PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 244-13
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1908+400	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◿ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◧ CORE



ORGANIC MATERIAL

SILTY SAND (SM)
- brown
- wet
- may be frozen below 1.0m
- saturated at 1.8m
- grindy drilling below 1.8m
- frozen below 5.0m
- water augering out of hole below 5.0m
- ice and water coming up below 6.5m

END HOLE at 8.0m

Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 8.0 m
	REVIEWED BY:	COMPLETE: 93/09/02
	Fig. No:	Page 1 of 1

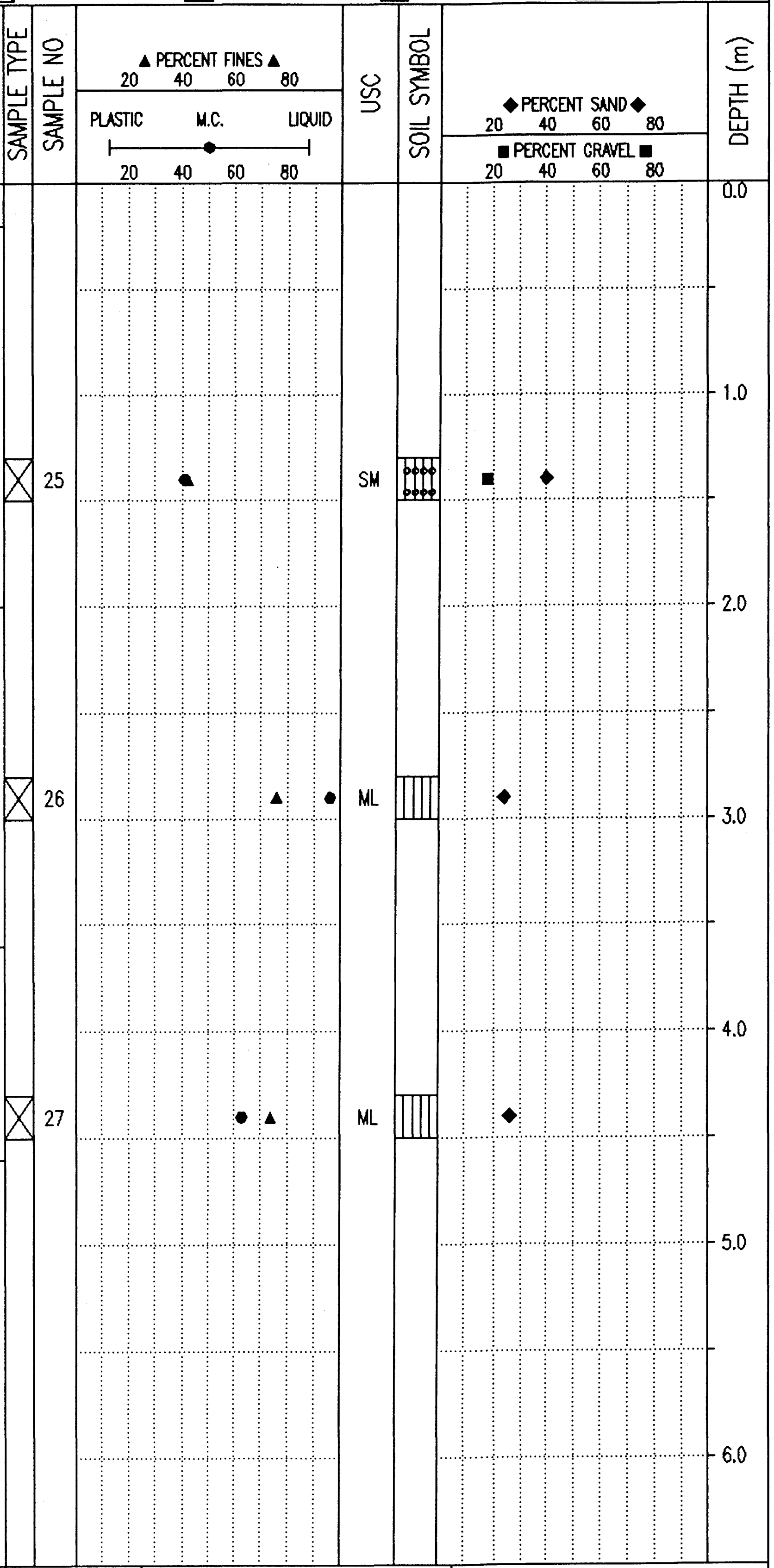
93/11/10 03:15PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-10
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1908+400 o/s 7m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◨ CORE

SOIL DESCRIPTION

DEPTH (m)	SOIL DESCRIPTION
0.0	ORGANIC MATERIAL
	SILTY SAND WITH GRAVEL (SM) -gray -frozen, no visible ice -organic -smooth drilling
2.0	SILT WITH SAND (ML) -brown -frozen with visible ice crystals -organic
	ICE WITH SOIL -silt with sand (ML)
	END HOLE at 4.6m



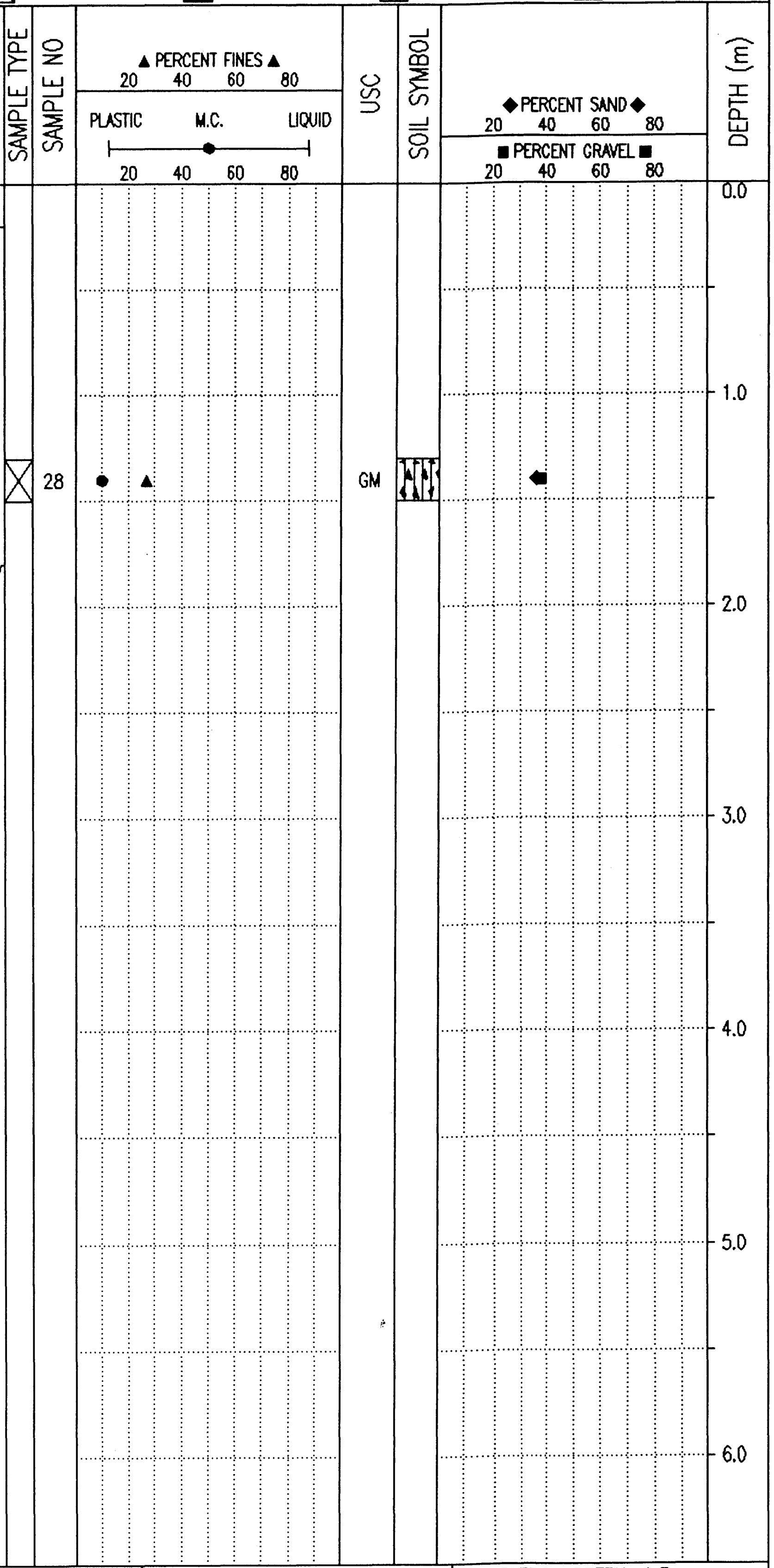
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/10
	Fig. No:	Page 1 of 1

93/11/10 04:27PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-11
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1908+500 o/s 2m Lt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION
0.0	ORGANIC MATERIAL
	SILTY GRAVEL WITH SAND (GM) -brown -frozen, no visible ice
1.0	
	-first refusal at 1.7m
2.0	END HOLE at 1.8m -refusal -boulders to 200mm on surface
3.0	
4.0	
5.0	
6.0	

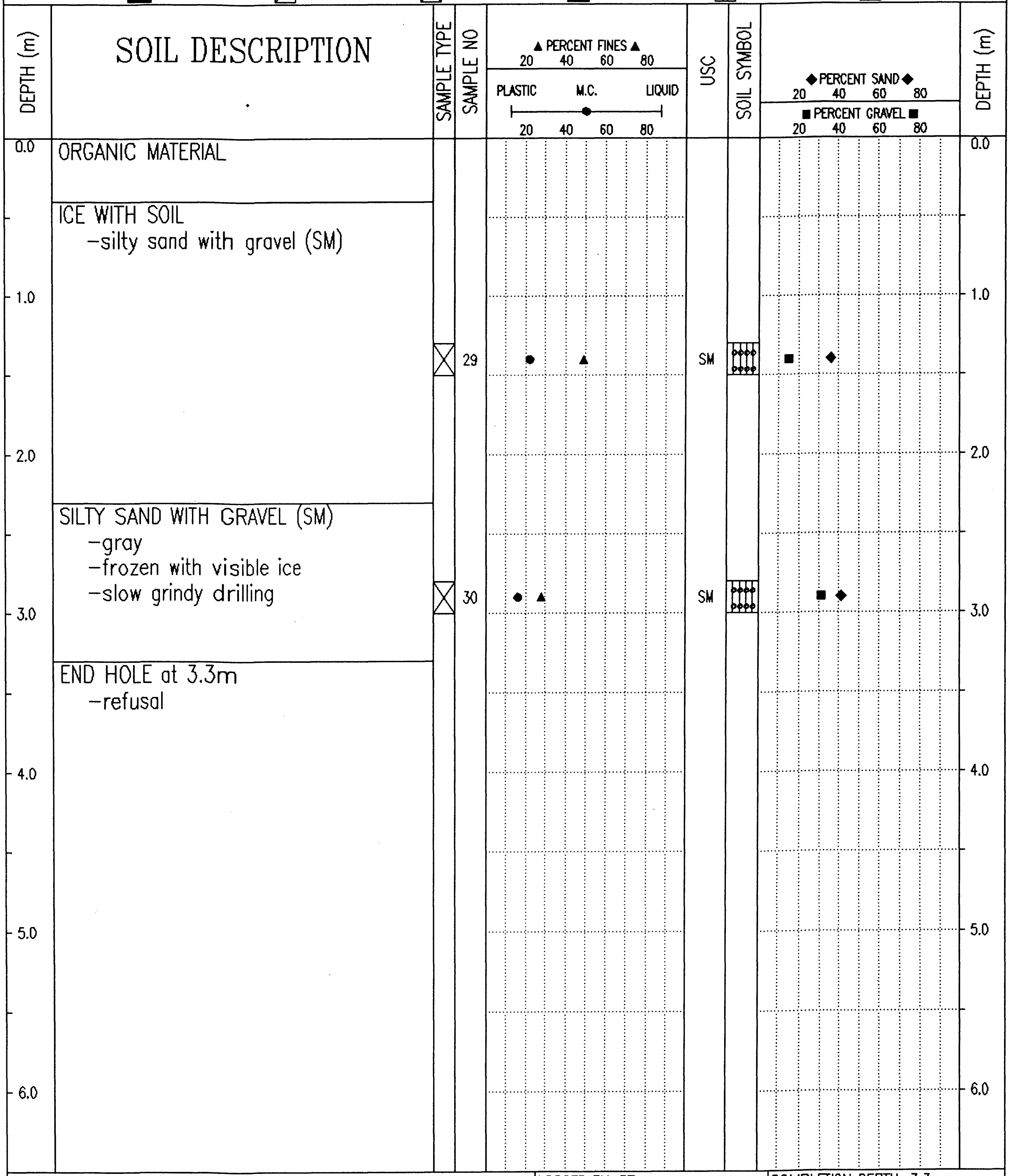


Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 1.8 m
	REVIEWED BY:	COMPLETE: 91/08/10
	Fig. No:	Page 1 of 1

93/11/10 04:29PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-12
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1908+600	ELEVATION: 0.00 (m)

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



SOIL DESCRIPTION

ORGANIC MATERIAL

ICE WITH SOIL
-silty sand with gravel (SM)

SILTY SAND WITH GRAVEL (SM)
-gray
-frozen with visible ice
-slow grindy drilling

END HOLE at 3.3m
-refusal

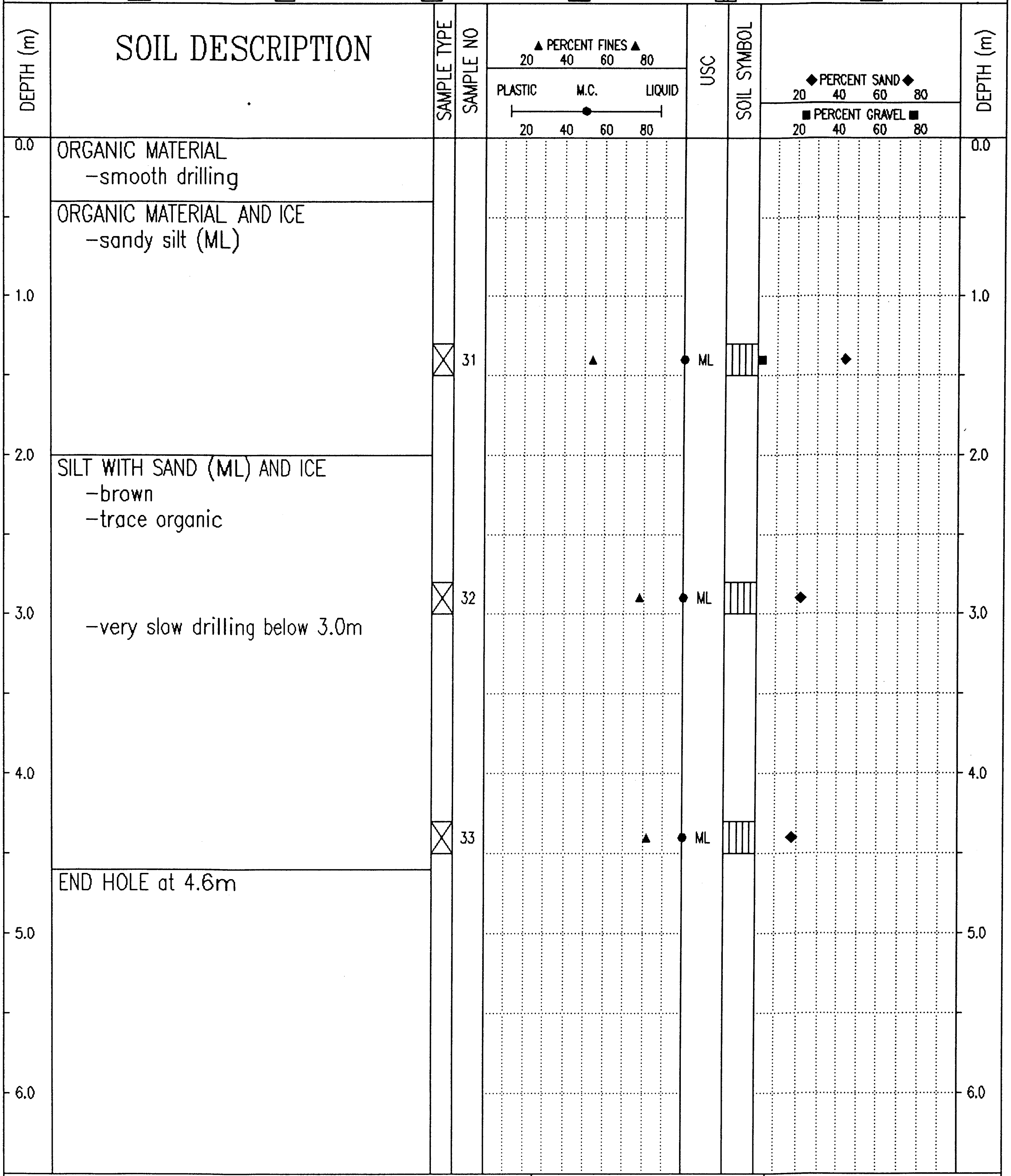
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 3.3 m
	REVIEWED BY:	COMPLETE: 91/08/10
	Fig. No:	Page 1 of 1

93/11/10 04:30PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-13
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1908+700 o/s 2m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◩ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◨ CORE

SOIL DESCRIPTION



ORGANIC MATERIAL
-smooth drilling

ORGANIC MATERIAL AND ICE
-sandy silt (ML)

SILT WITH SAND (ML) AND ICE
-brown
-trace organic

-very slow drilling below 3.0m

END HOLE at 4.6m

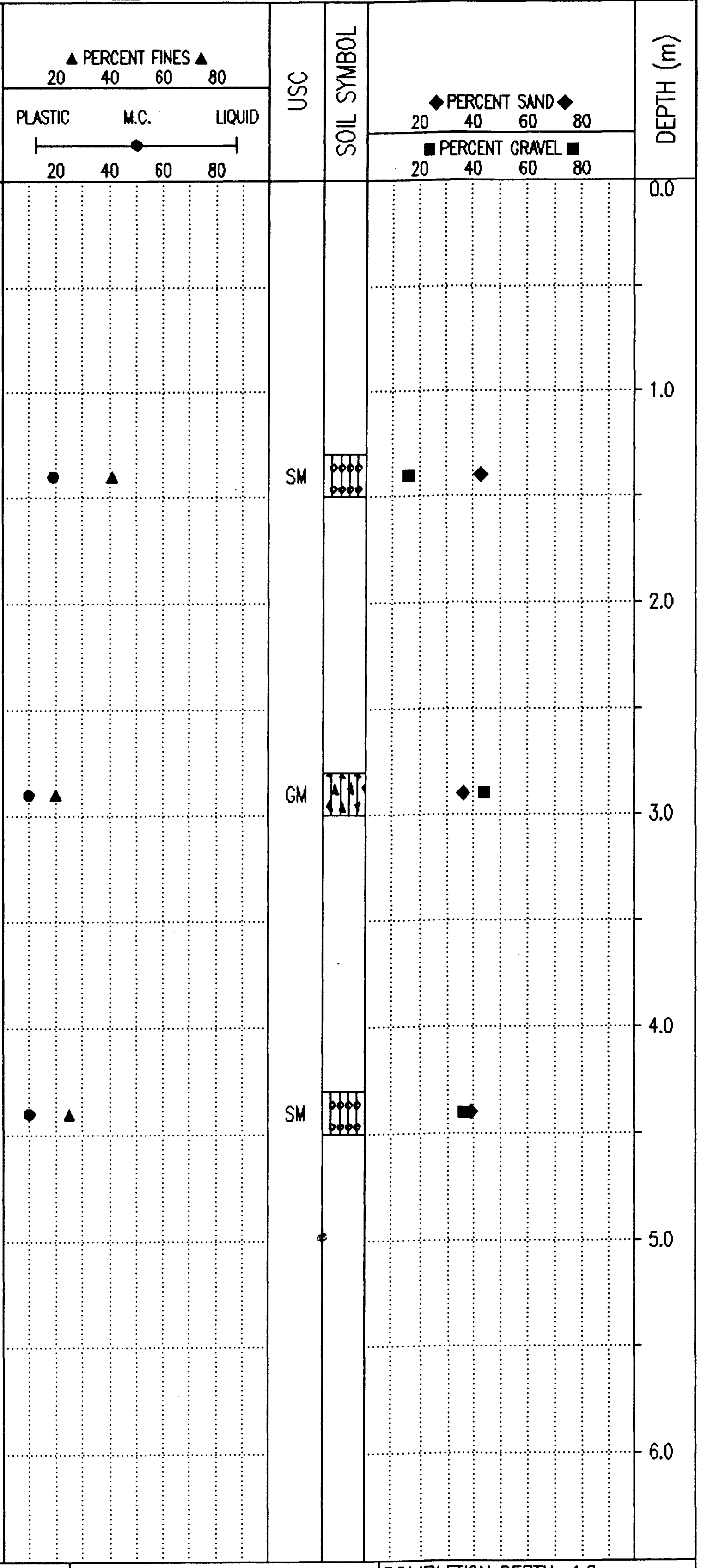
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/10
	Fig. No:	Page 1 of 1

93/11/10 04:32PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-14
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1908+800 o/s 2m Lt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
	SILTY ORGANIC MATERIAL -black			
1.0	SILTY SAND WITH GRAVEL (SM) -brown -moist	☒	34	SM
	SILTY GRAVEL WITH SAND (GM) -gray -frozen, no visible ice -grindy drilling	☒	35	GM
	SILTY SAND WITH GRAVEL (SM) -gray -frozen, no visible ice	☒	36	SM
	END HOLE at 4.6m			



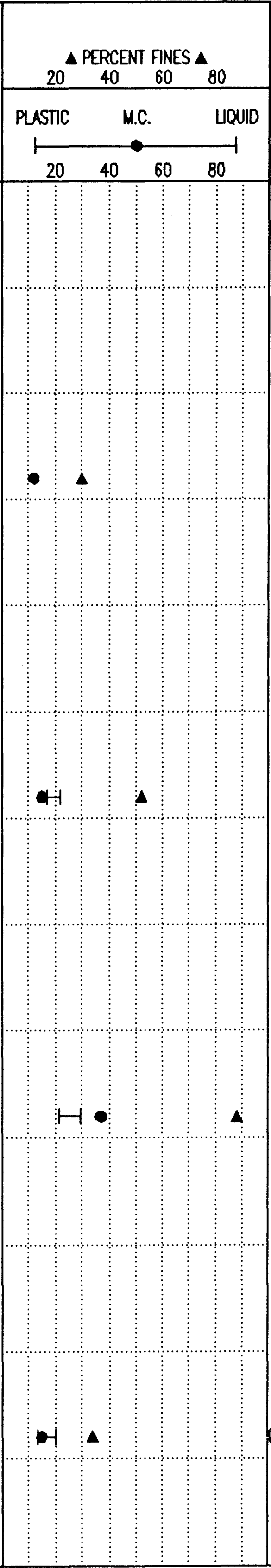
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/10
	Fig. No:	Page 1 of 1

93/11/10 04:33PM

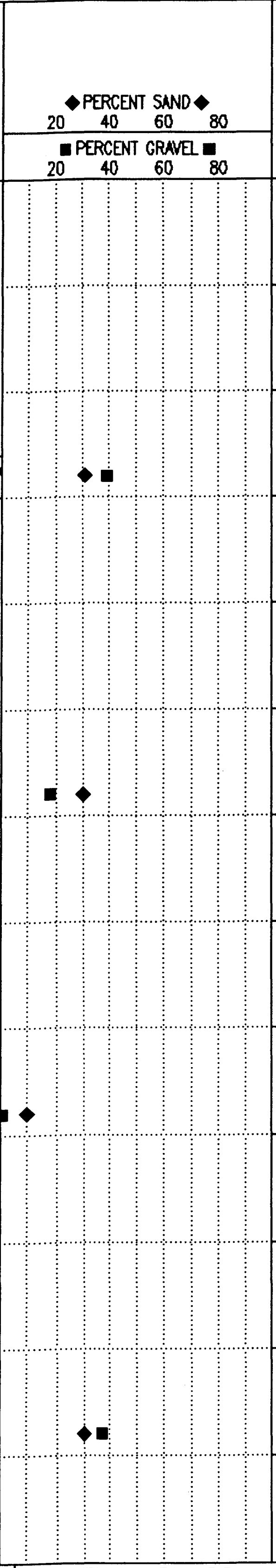
SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-15
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1908+900	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	SILTY GRAVEL WITH SAND (GM) -brown -saturated -smooth drilling			
1.0	-grindy drilling below 0.9m			
		☒	37	GM
2.0				
	SANDY SILTY CLAY WITH GRAVEL (CL-ML) -brown -saturated			
		☒	38	CL-ML
3.0				
▼	LEAN CLAY (CL) -brown -free water			
4.0	-frozen with visible ice crystals below 4.0m depth			
		☒	39	CL
5.0				
	SILTY, CLAYEY GRAVEL WITH SAND (GC-GM) -brown -frozen with visible ice crystals			
		☒	40	GC-GM
6.0	END HOLE at 6.0m			



SOIL SYMBOL



DEPTH (m): 0.0, 1.0, 2.0, 3.0, ▼, 4.0, 5.0, 6.0

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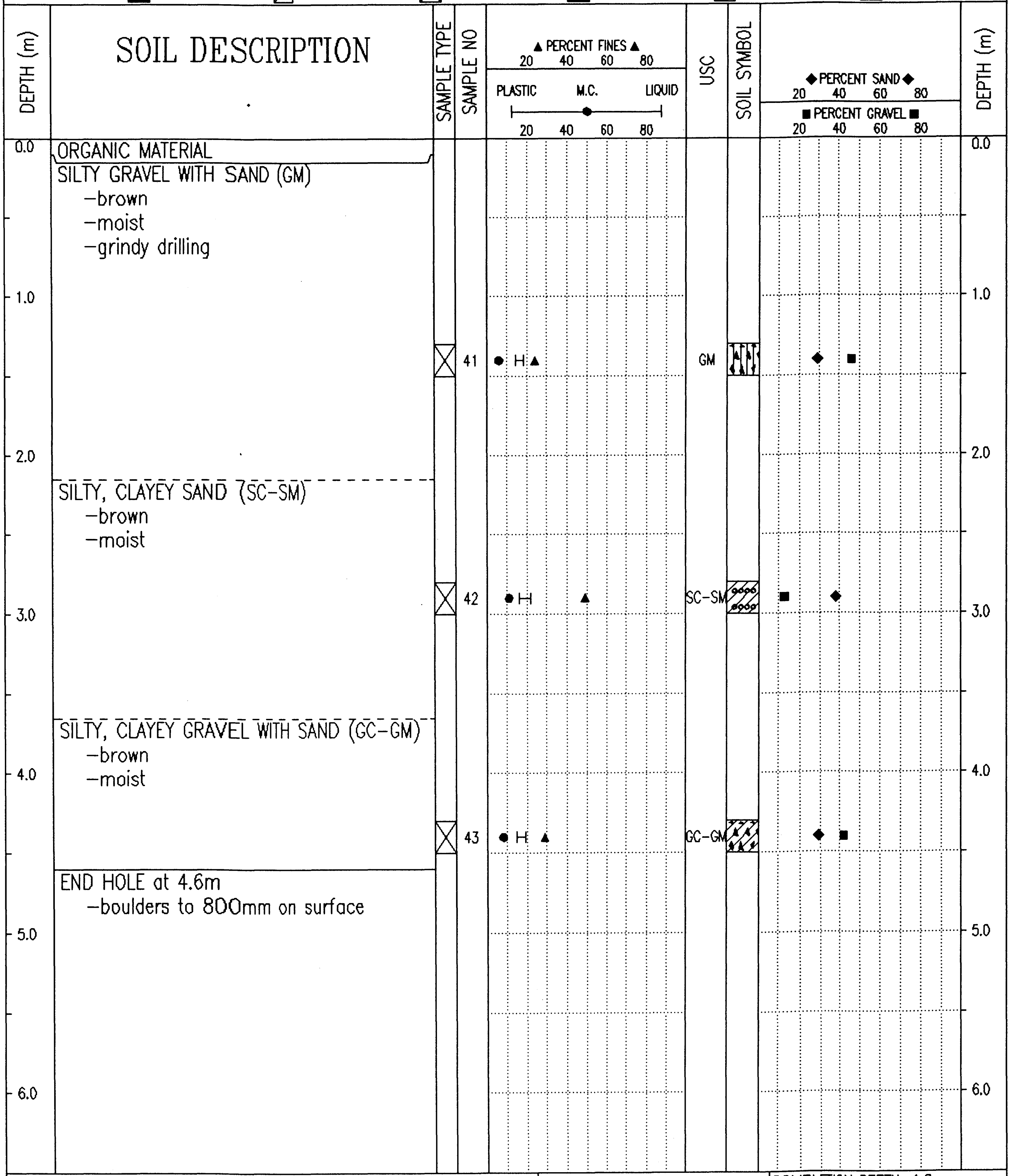
	REVIEWED BY:	COMPLETE: 91/08/10
	Fig. No:	Page 1 of 1

93/11/10 04:35PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-16
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1909+000	ELEVATION: 0.00 (m)

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



ORGANIC MATERIAL

SILTY GRAVEL WITH SAND (GM)
- brown
- moist
- grindy drilling

SILTY, CLAYEY SAND (SC-SM)
- brown
- moist

SILTY, CLAYEY GRAVEL WITH SAND (GC-GM)
- brown
- moist

END HOLE at 4.6m
- boulders to 800mm on surface

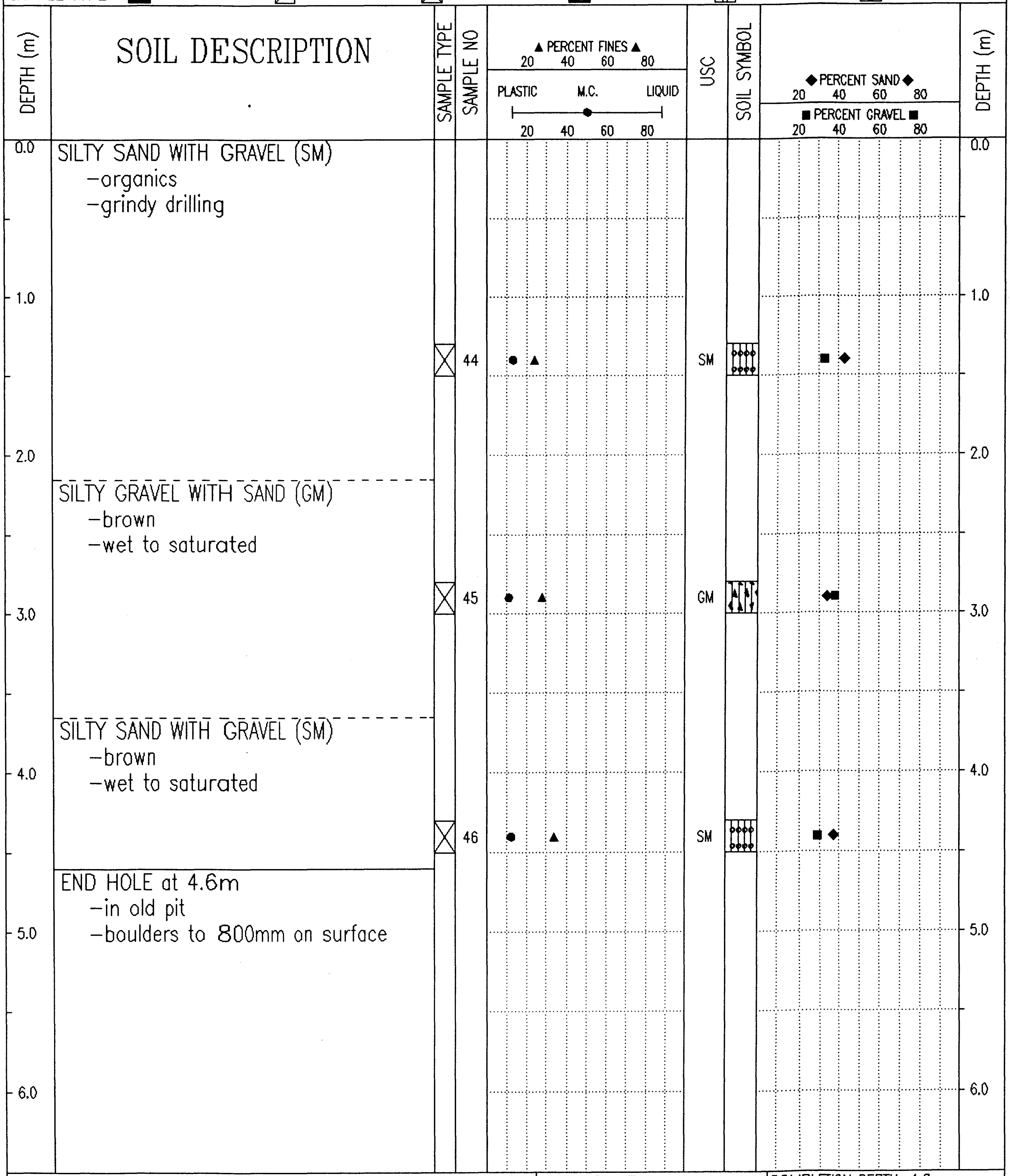
SAMPLE TYPE	SAMPLE NO	USC
☒	41	GM
☒	42	SC-SM
☒	43	GC-GM

Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/10
	Fig. No:	Page 1 of 1

93/11/10 04:37PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-17
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1909+100	ELEVATION: 0.00 (m)

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



SOIL DESCRIPTION

SILTY SAND WITH GRAVEL (SM)
- organics
- grindy drilling

SILTY GRAVEL WITH SAND (GM)
- brown
- wet to saturated

SILTY SAND WITH GRAVEL (SM)
- brown
- wet to saturated

END HOLE at 4.6m
- in old pit
- boulders to 800mm on surface

SAMPLE TYPE	SAMPLE NO	USC
☒	44	SM
☒	45	GM
☒	46	SM

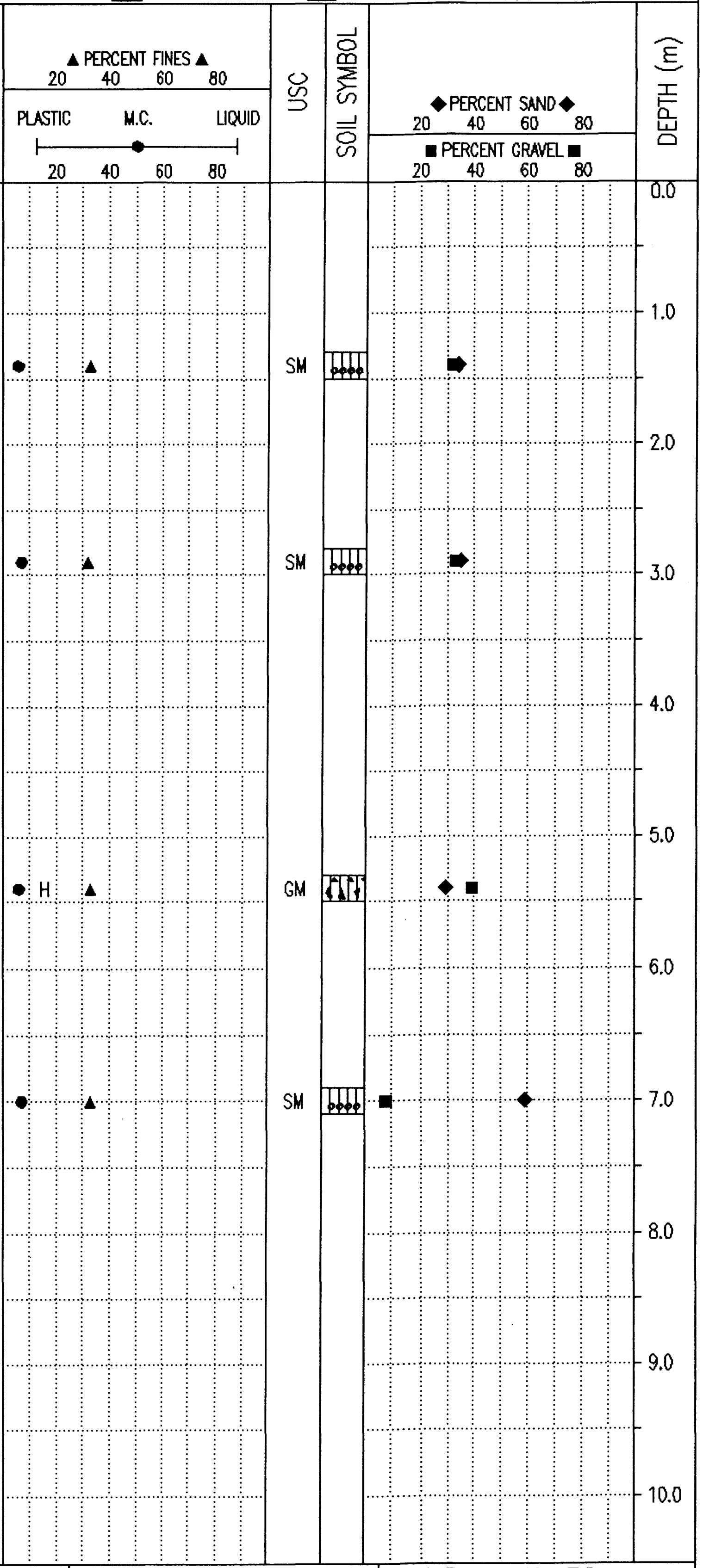
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/10
	Fig. No:	Page 1 of 1

93/11/12 09:14AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-18
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1909+203 o/s 2m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◿ S.P.T. ☒ AUGER ▤ BULK ◫ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	SILTY SAND WITH GRAVEL (SM) -brown -moist -grindy drilling			
		☒	47	SM
		☒	48	SM
	SILTY GRAVEL WITH SAND (GM) -brown -moist -grindy drilling			
		☒	49	GM
6.0	SILTY SAND (SM) -brown -moist -smooth drilling			
7.0		☒	49A	SM
	END HOLE at 7.2m -on bladed ridge top			

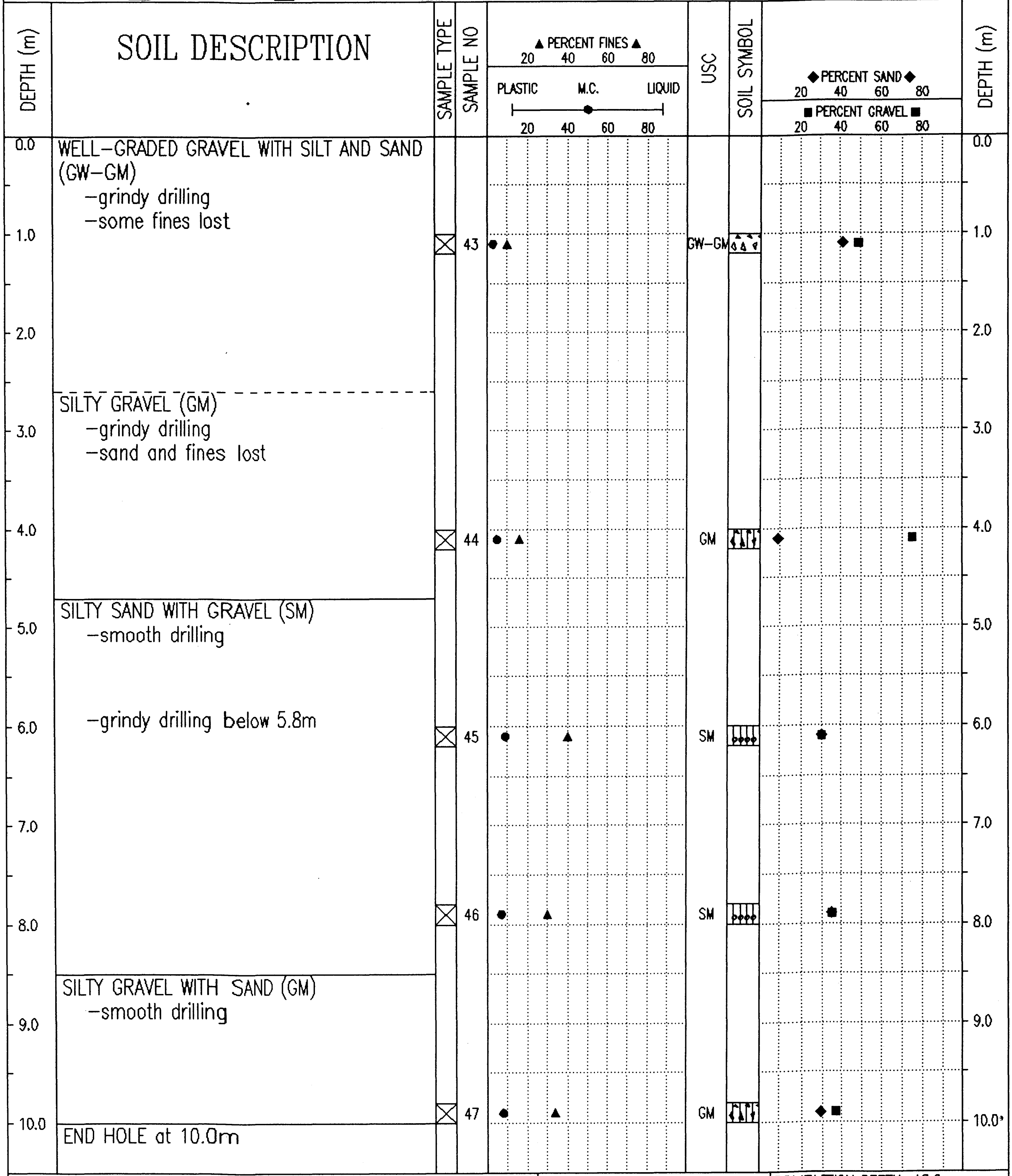


Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 7.2 m
	REVIEWED BY:	COMPLETE: 91/08/10
	Fig. No:	Page 1 of 1

94/01/17 02:50PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 244-17
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1909+203	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◨ CORE



WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM)
-grindy drilling
-some fines lost

SILTY GRAVEL (GM)
-grindy drilling
-sand and fines lost

SILTY SAND WITH GRAVEL (SM)
-smooth drilling

-grindy drilling below 5.8m

SILTY GRAVEL WITH SAND (GM)
-smooth drilling

END HOLE at 10.0m

Sample No	Sample Type	USC
43	AUGER	GW-GM
44	AUGER	GM
45	AUGER	SM
46	AUGER	SM
47	AUGER	GM

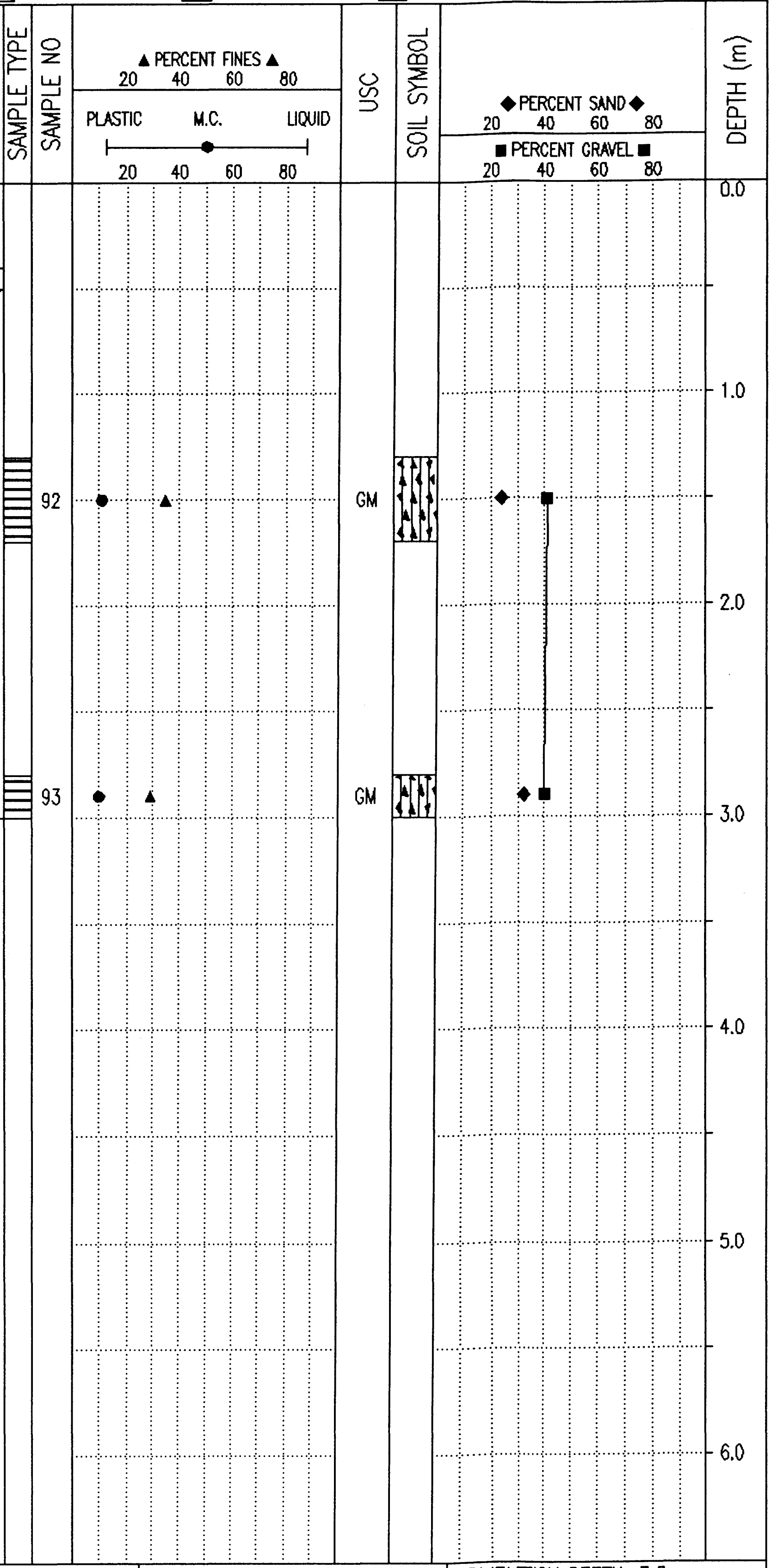
Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 10.0 m
	REVIEWED BY:	COMPLETE: 93/09/03
	Fig. No:	Page 1 of 1

93/11/10 03:17PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 258-39
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1909+300	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE NO	USC
0.0	ORGANIC MATERIAL		
	ORGANIC SILT		
	SILTY GRAVEL WITH SAND (GM) -light gray brown -frozen (Vx) with many large ice lenses -cobbles		
1.0			
		92	GM
2.0	-less ice below 2.0m		
		93	GM
3.0	END HOLE at 3.0m -refusal		
4.0			
5.0			
6.0			



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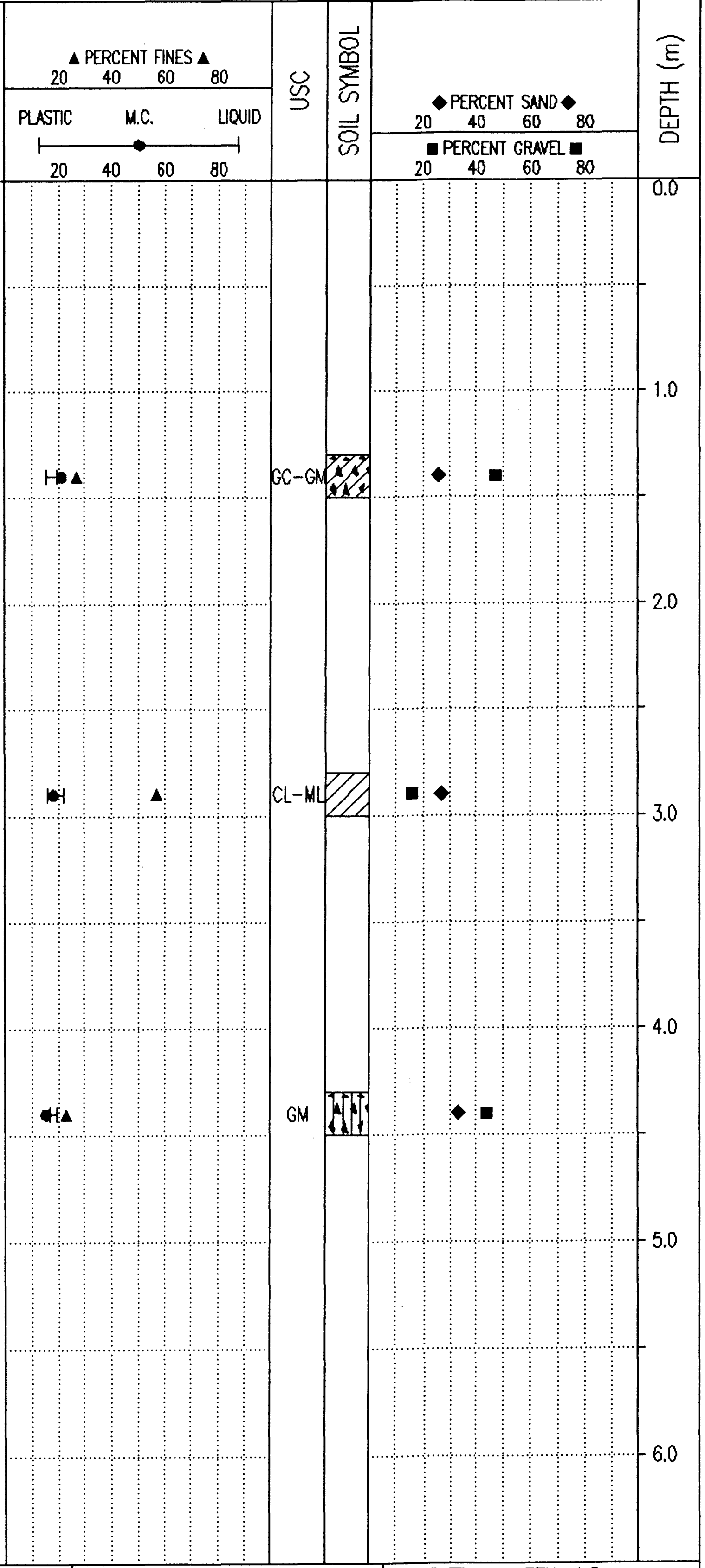
LOGGED BY: DT	COMPLETION DEPTH: 3.0 m
REVIEWED BY:	COMPLETE: 93/10/03
Fig. No:	Page 1 of 1

93/10/28 09:03AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-20
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1909+300 o/s 2m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ☒ AUGER ☰ BULK ◫ TUBE ◨ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
	SILTY, CLAYEY GRAVEL WITH SAND (GC-GM) -brown -frozen with visible ice			
1.0				
		☒	53	GC-GM
	-jumpy grindy drilling at 1.7m			
2.0				
	SANDY SILTY CLAY WITH GRAVEL (CL-ML) -brown -frozen with visible ice crystals			
3.0		☒	54	CL-ML
	SILTY GRAVEL WITH SAND (GM) -brown -frozen with visible ice crystals			
4.0				
		☒	55	GM
	END HOLE at 4.6m			
5.0				
6.0				



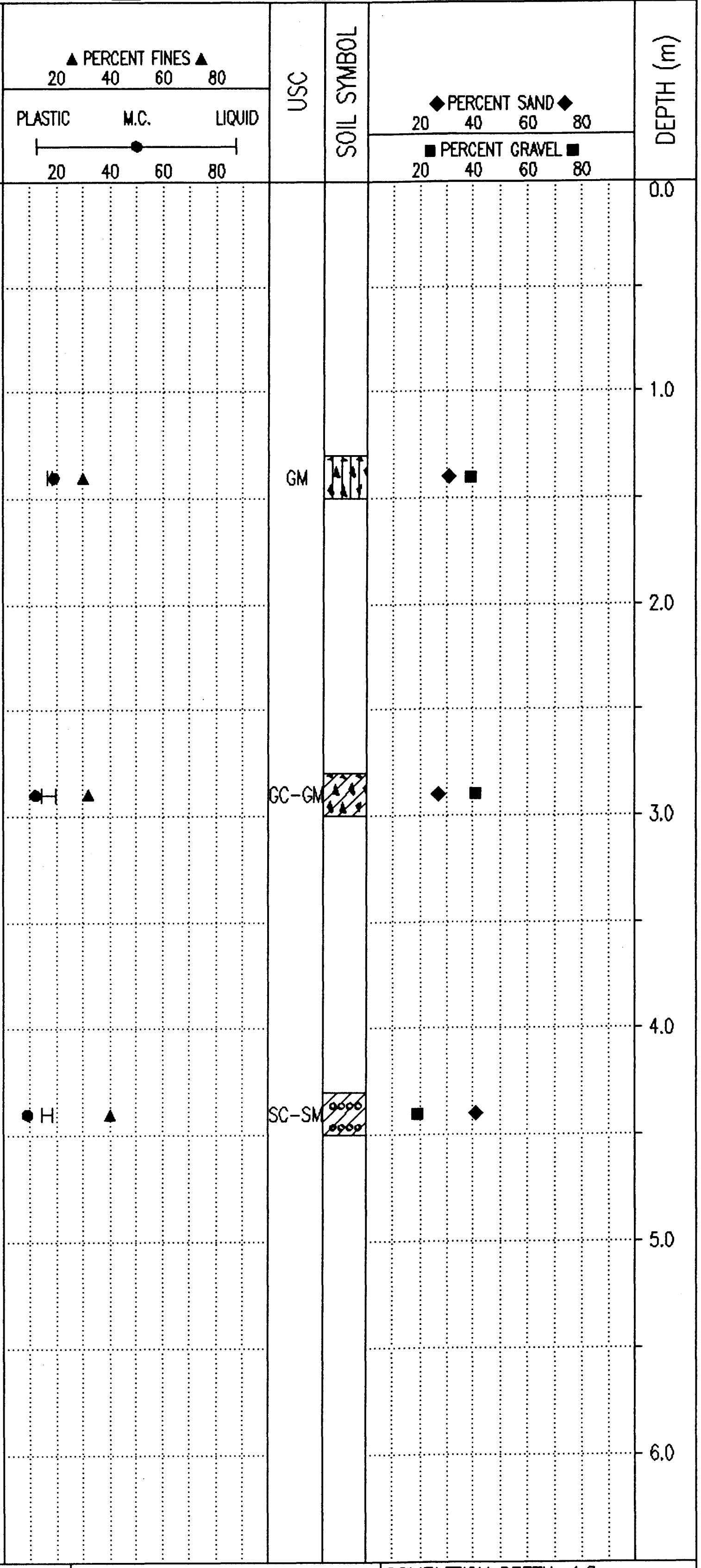
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/11
	Fig. No:	Page 1 of 1

93/11/12 09:19AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-21
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1909+400	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
	SILTY GRAVEL WITH SAND (GM) -brown -grindy drilling			
1.0	-frozen with visible ice crystals below 0.9m	☒	56	GM
	-first refusal at 1.6m			
2.0	SILTY, CLAYEY GRAVEL WITH SAND (GC-GM) -brown -frozen, no visible ice			
3.0		☒	57	GC-GM
4.0	SILTY, CLAYEY SAND WITH GRAVEL (SC-SM) -gray -frozen, no visible ice	☒	58	SC-SM
	END HOLE at 4.6m			
5.0				
6.0				



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Transportation Engineering

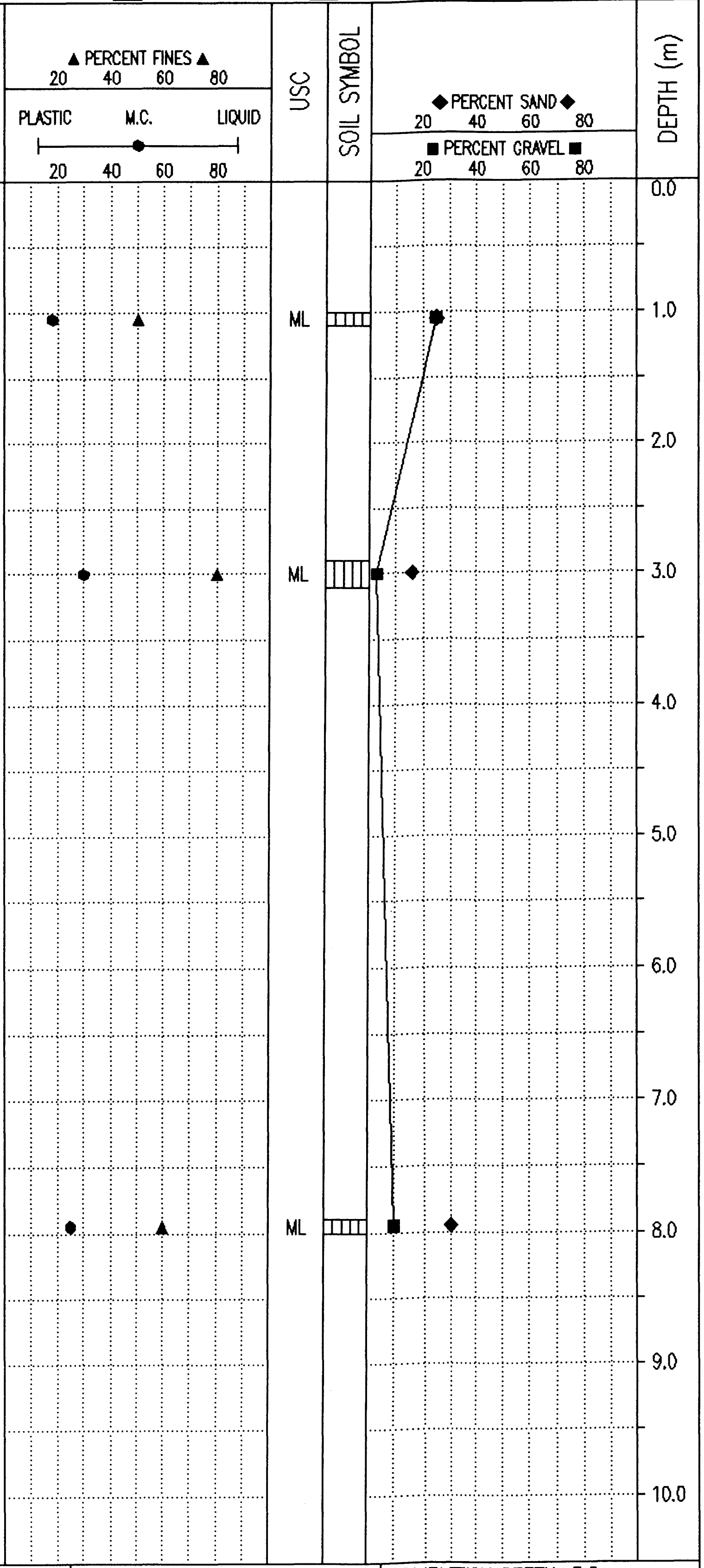
LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
REVIEWED BY:	COMPLETE: 91/08/11
Fig. No:	Page 1 of 1

93/11/12 09:20AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 244-18
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1909+450	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 MATERIAL				
	ICE				
1.0	SANDY SILT WITH GRAVEL (ML) -frozen with visible ice	☒	48	ML	▥
2.0	SILT WITH SAND TO SANDY SILT (ML) -frozen with visible ice -smooth drilling				
3.0		☒	49	ML	▥
4.0					
5.0	ICE				
	GRAVELLY SANDY SILT -frozen -smooth drilling				
6.0					
	-grindy drilling below 6.5m				
7.0	-smooth drilling below 6.8m				
	-grindy drilling below 7.6m				
8.0		☒	50	ML	▥
	END HOLE at 8.0m				
9.0					
10.0					



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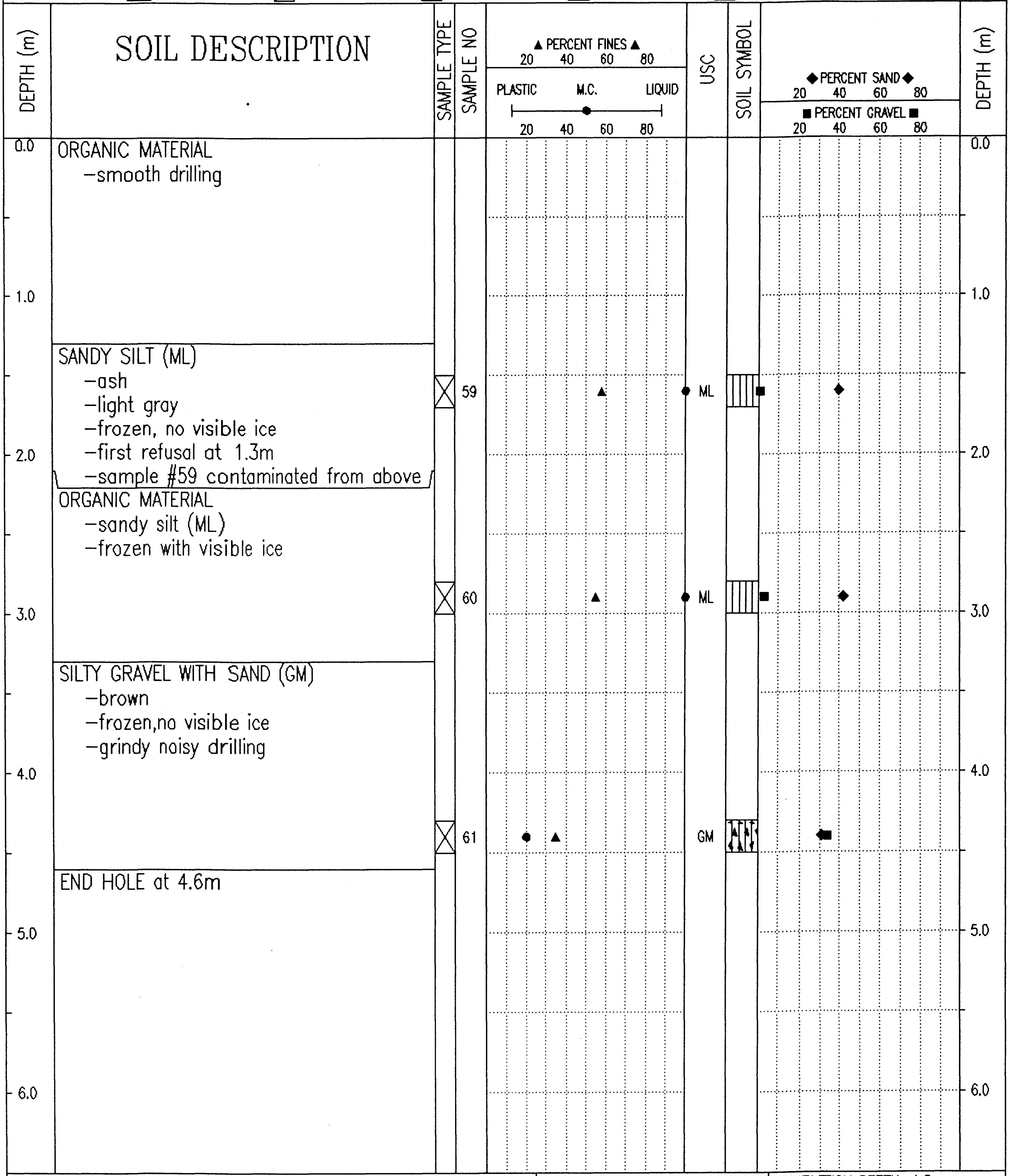
LOGGED BY: TF	COMPLETION DEPTH: 8.0 m
REVIEWED BY:	COMPLETE: 93/09/03
Fig. No:	Page 1 of 1

93/09/30 09:13AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-22
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1909+500 o/s 2m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◨ CORE



SOIL DESCRIPTION

Depth (m)	Soil description	Sample no	USC
0.0	ORGANIC MATERIAL -smooth drilling		
	SANDY SILT (ML) -ash -light gray -frozen, no visible ice -first refusal at 1.3m -sample #59 contaminated from above	59	ML
	ORGANIC MATERIAL -sandy silt (ML) -frozen with visible ice	60	ML
	SILTY GRAVEL WITH SAND (GM) -brown -frozen,no visible ice -grindy noisy drilling	61	GM
	END HOLE at 4.6m		

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Transportation Engineering	REVIEWED BY:	COMPLETE: 91/08/11
	Fig. No:	Page 1 of 1

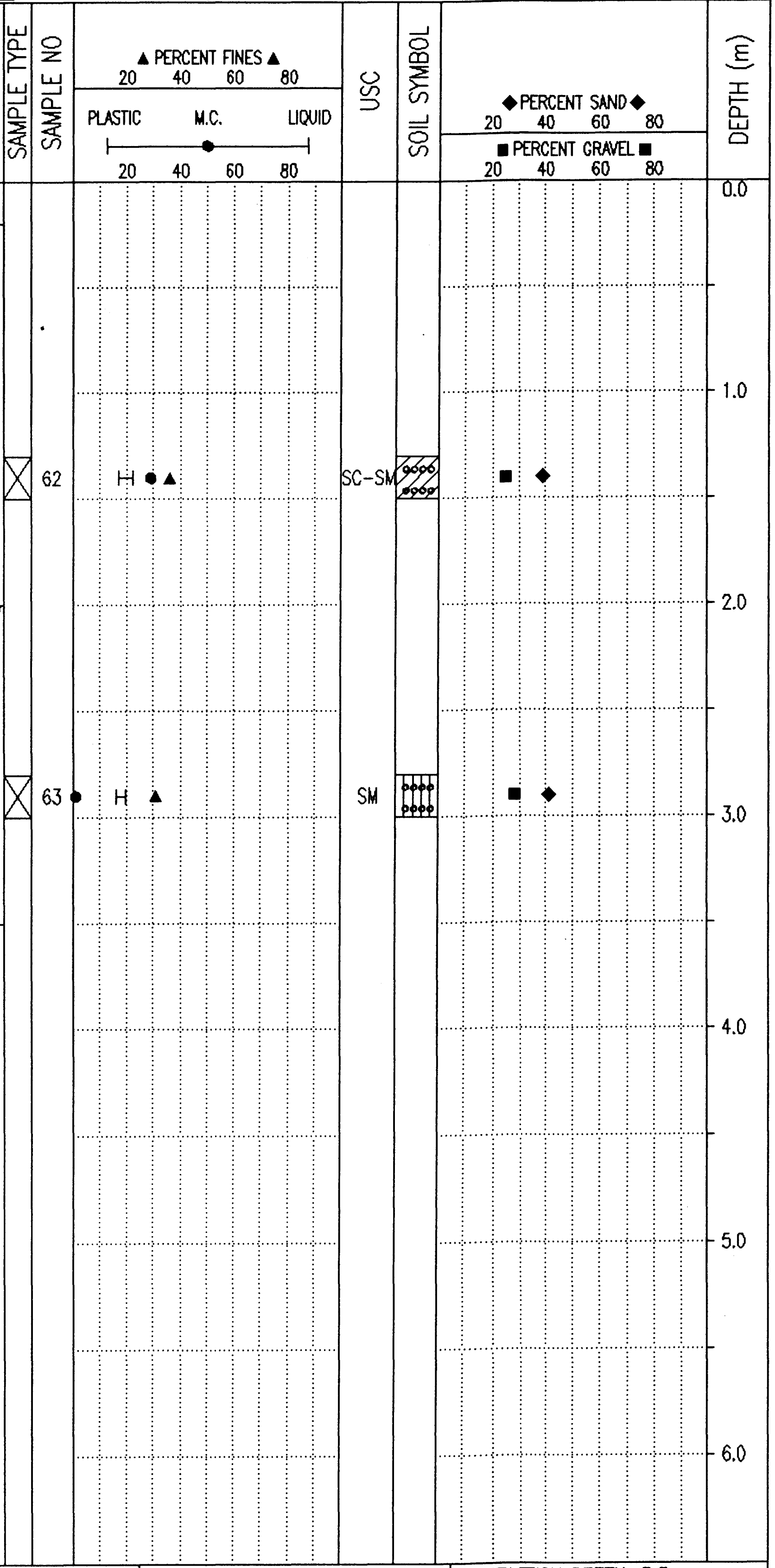
93/11/12 09:22AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-23
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1909+600 o/s 2m Rt.	ELEVATION: 0.00 (m)

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

SOIL DESCRIPTION

DEPTH (m)	SOIL DESCRIPTION
0.0	ORGANIC MATERIAL
	ICE + SOIL -silty, clayey sand with gravel(SC-SM)
2.0	-first refusal at 2.0m
	SILTY SAND WITH GRAVEL (SM) -brown -frozen, no visible ice
3.5	END HOLE at 3.5m -refusal



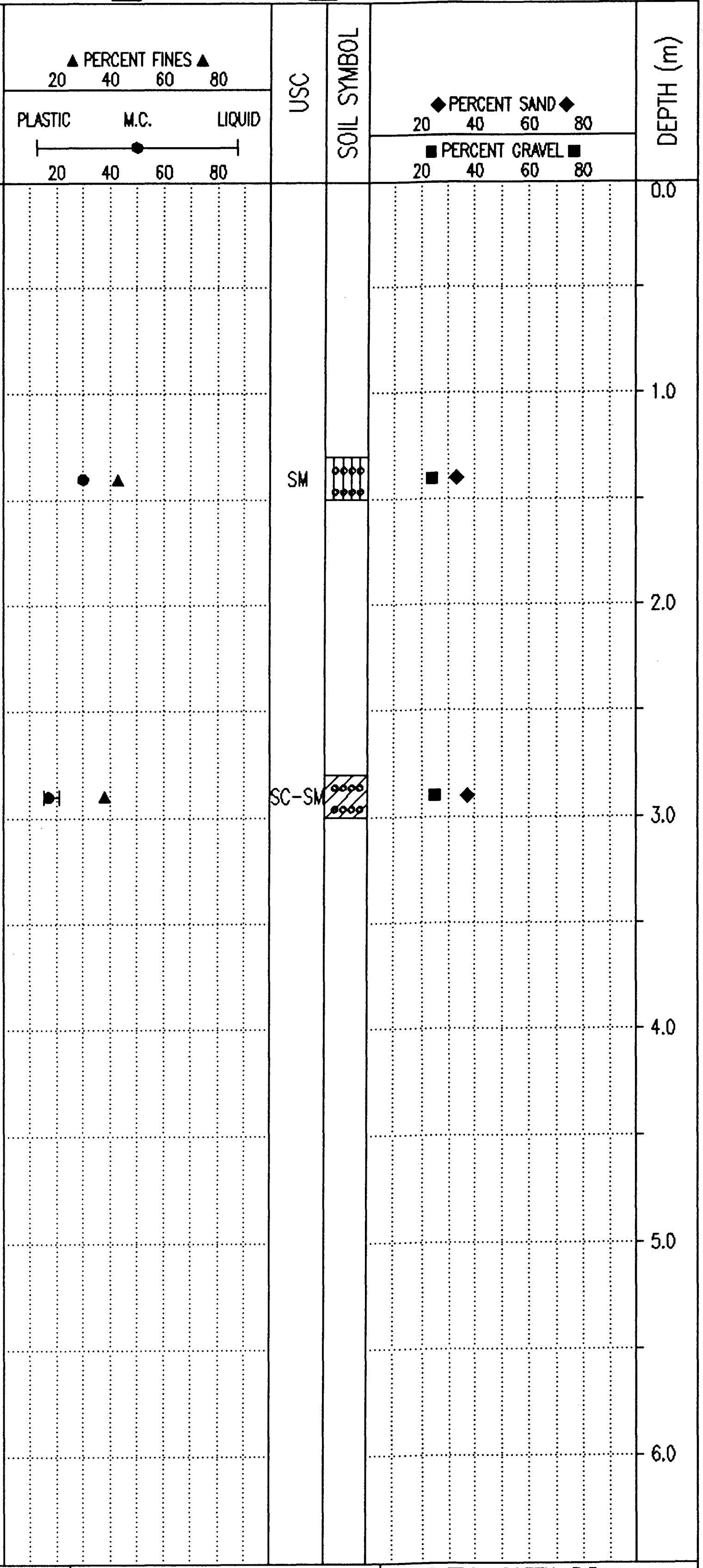
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 3.5 m
	REVIEWED BY:	COMPLETE: 91/08/11
	Fig. No:	Page 1 of 1

93/11/12 09:23AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 145-143
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1909+675	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
	SILTY SAND WITH GRAVEL (SM) -gray -frozen with visible ice Vx			
1.0		☒	398	SM
2.0	SILTY, CLAYEY SAND WITH GRAVEL (SC-SM) -brown -frozen Nb -slow grindy drilling			
3.0		☒	399	SC-SM
	END HOLE at 3.3m -refusal			
4.0				
5.0				
6.0				



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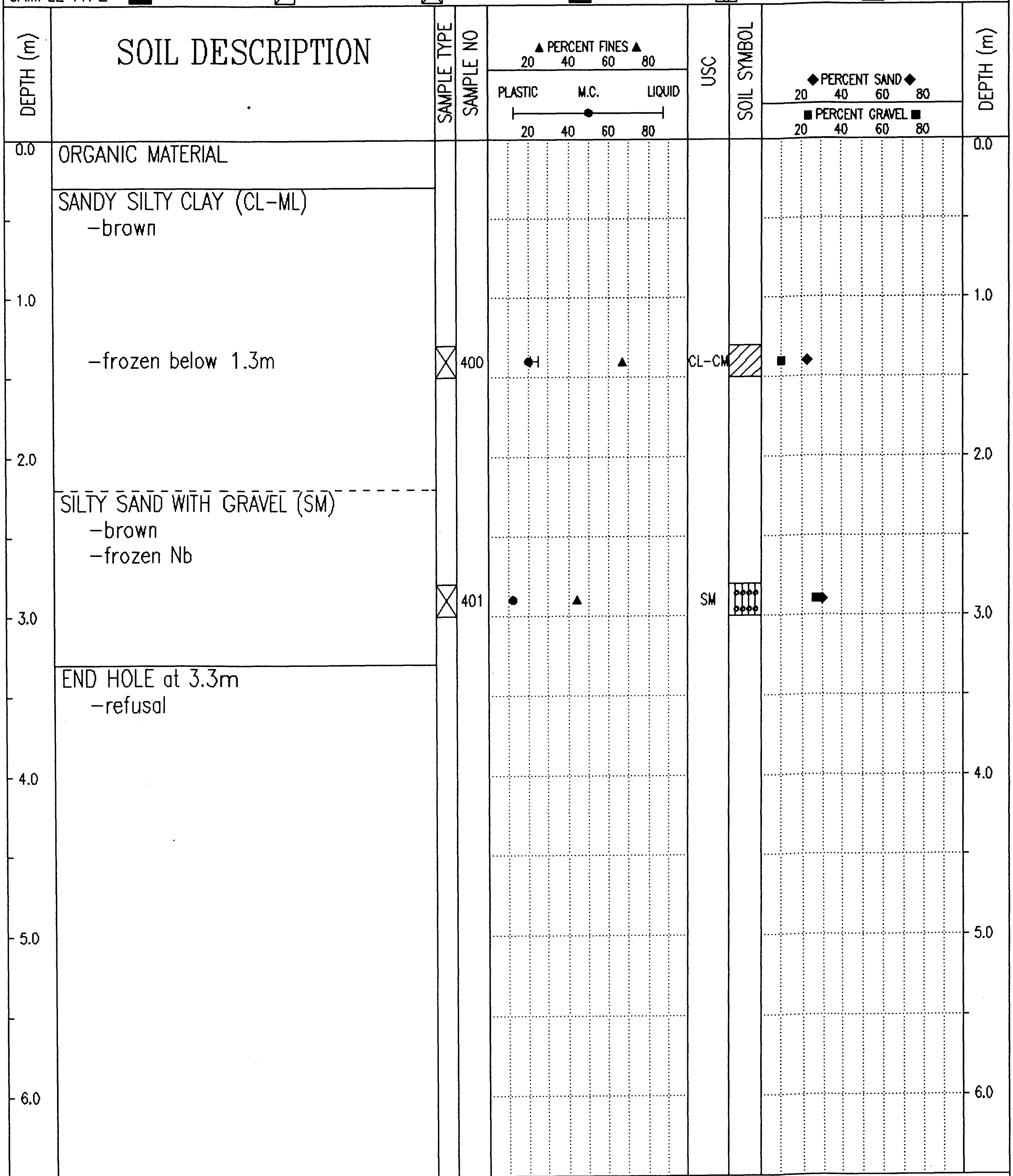
LOGGED BY:	COMPLETION DEPTH: 3.3 m
REVIEWED BY: DT	COMPLETE: 91/09/07
Fig. No:	Page 1 of 1

93/11/12 11:48AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 145-144
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1909+775 o/s 2m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◨ CORE



DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
	SANDY SILTY CLAY (CL-ML) -brown			
	-frozen below 1.3m	☒	400	CL-CM
	SILTY SAND WITH GRAVEL (SM) -brown -frozen Nb			
		☒	401	SM
	END HOLE at 3.3m -refusal			

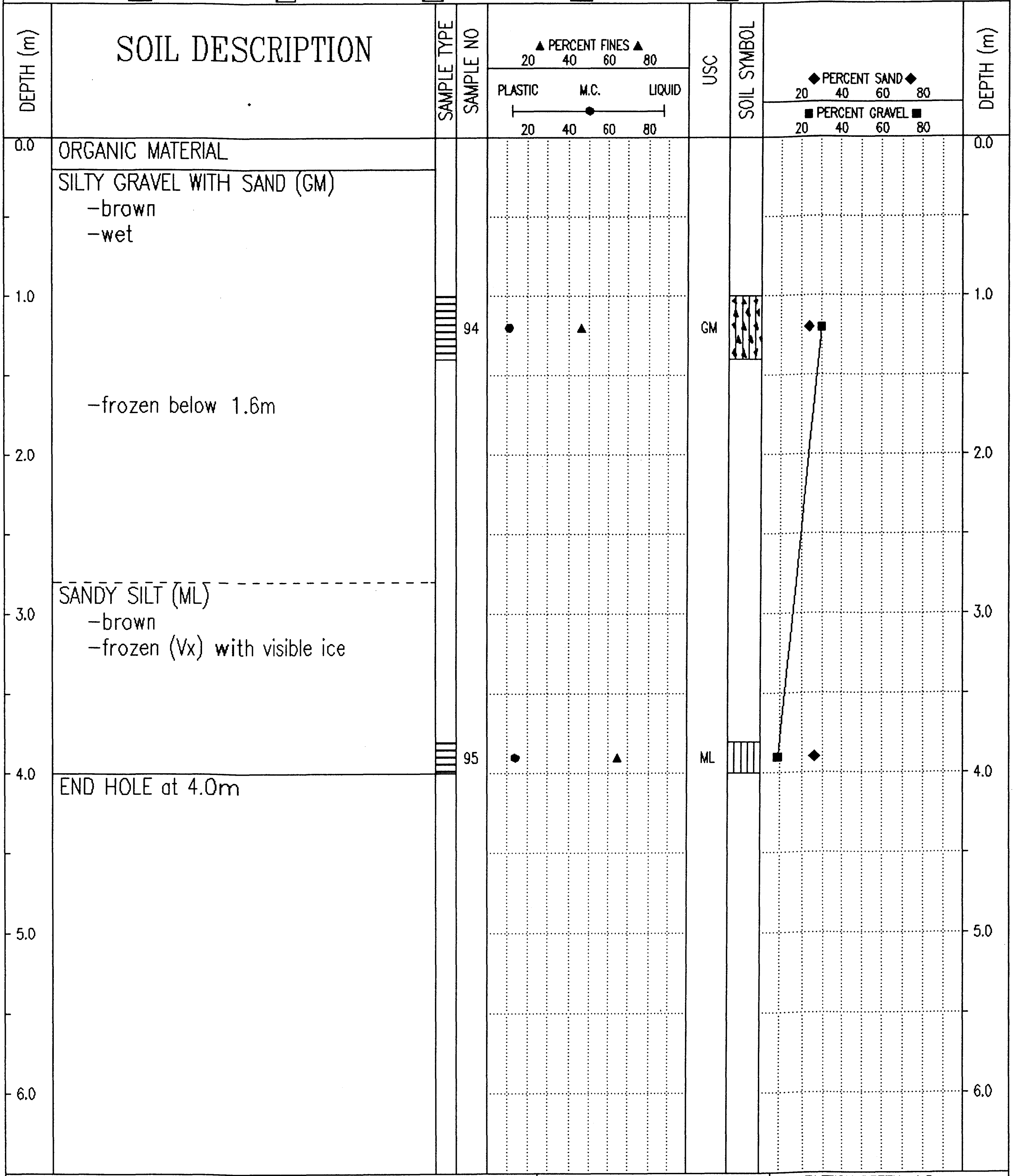
Government of Yukon
Transportation Engineering

LOGGED BY:	COMPLETION DEPTH: 3.3 m
REVIEWED BY: DT	COMPLETE: 91/09/07
Fig. No:	Page 1 of 1

93/11/12 11:50AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 258-40
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1909+800	ELEVATION: 0.00 (m)

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



ORGANIC MATERIAL

SILTY GRAVEL WITH SAND (GM)
- -brown
- -wet
- -frozen below 1.6m

SANDY SILT (ML)
- -brown
- -frozen (Vx) with visible ice

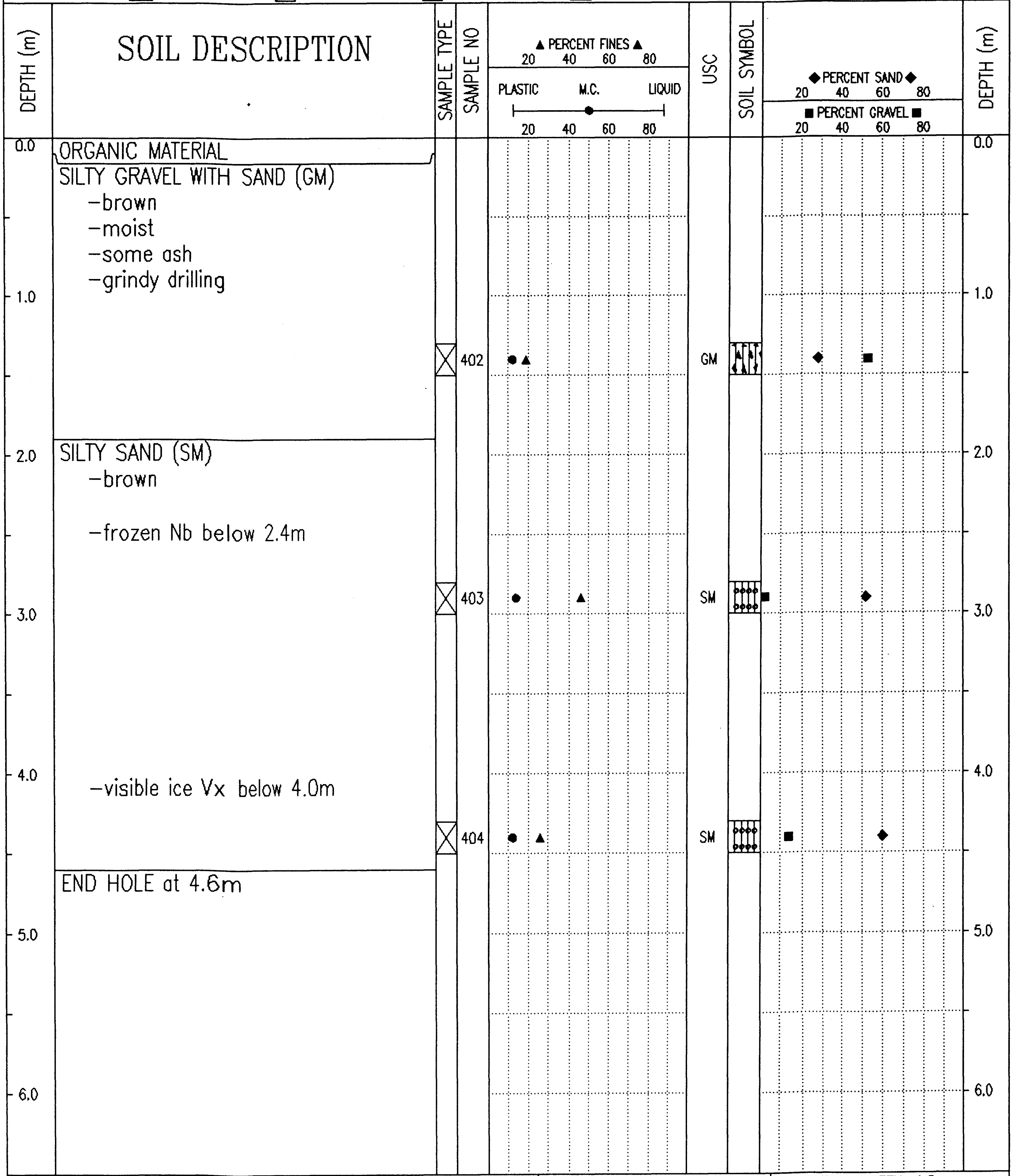
END HOLE at 4.0m

Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.0 m
	REVIEWED BY:	COMPLETE: 93/10/03
	Fig. No:	Page 1 of 1

93/10/28 09:04AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 145-145
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1909+880 o/s 2m Lt.	ELEVATION: 0.00 (m)

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



0.0 ORGANIC MATERIAL

SILTY GRAVEL WITH SAND (GM)
- brown
- moist
- some ash
- grindy drilling

2.0 SILTY SAND (SM)
- brown
- frozen Nb below 2.4m
- visible ice Vx below 4.0m

END HOLE at 4.6m

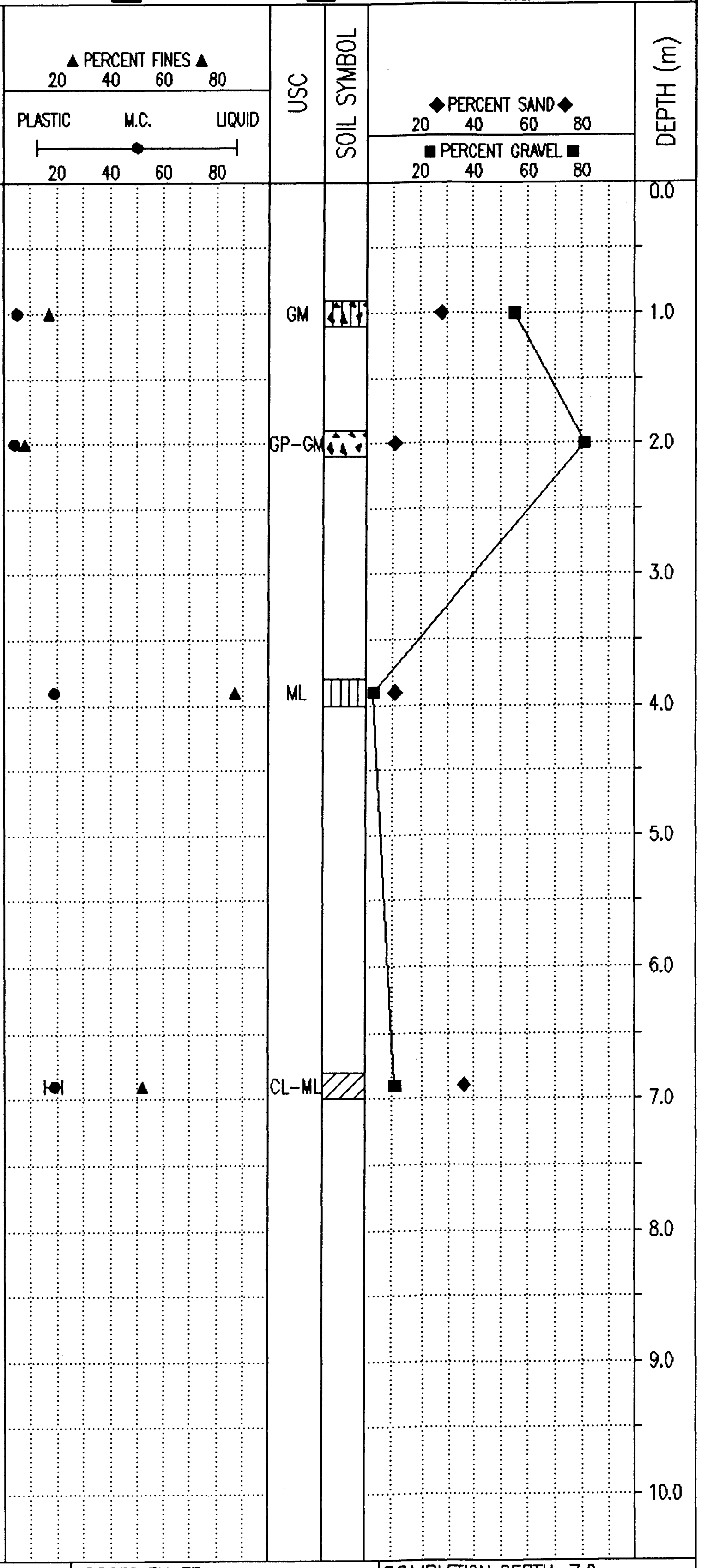
Government of Yukon Transportation Engineering	LOGGED BY: REVIEWED BY: DT Fig. No:	COMPLETION DEPTH: 4.6 m COMPLETE: 91/09/07 Page 1 of 1

93/11/12 11:51AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-34
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1909+900 o/s 18m Rt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ROAD FILL			
	SILTY GRAVEL WITH SAND (GM) —grindy drilling			
1.0		☒	93	GM
	POORLY GRADED GRAVEL WITH SILT (GP—GM) —grindy drilling			
2.0		☒	94	GP—GM
	SILT (ML) —damp —smooth drilling			
4.0		☒	95	ML
	SANDY SILTY CLAY (CL—ML) —frozen —smooth drilling			
7.0		☒	96	CL—ML
	END HOLE at 7.0m —in ditch			



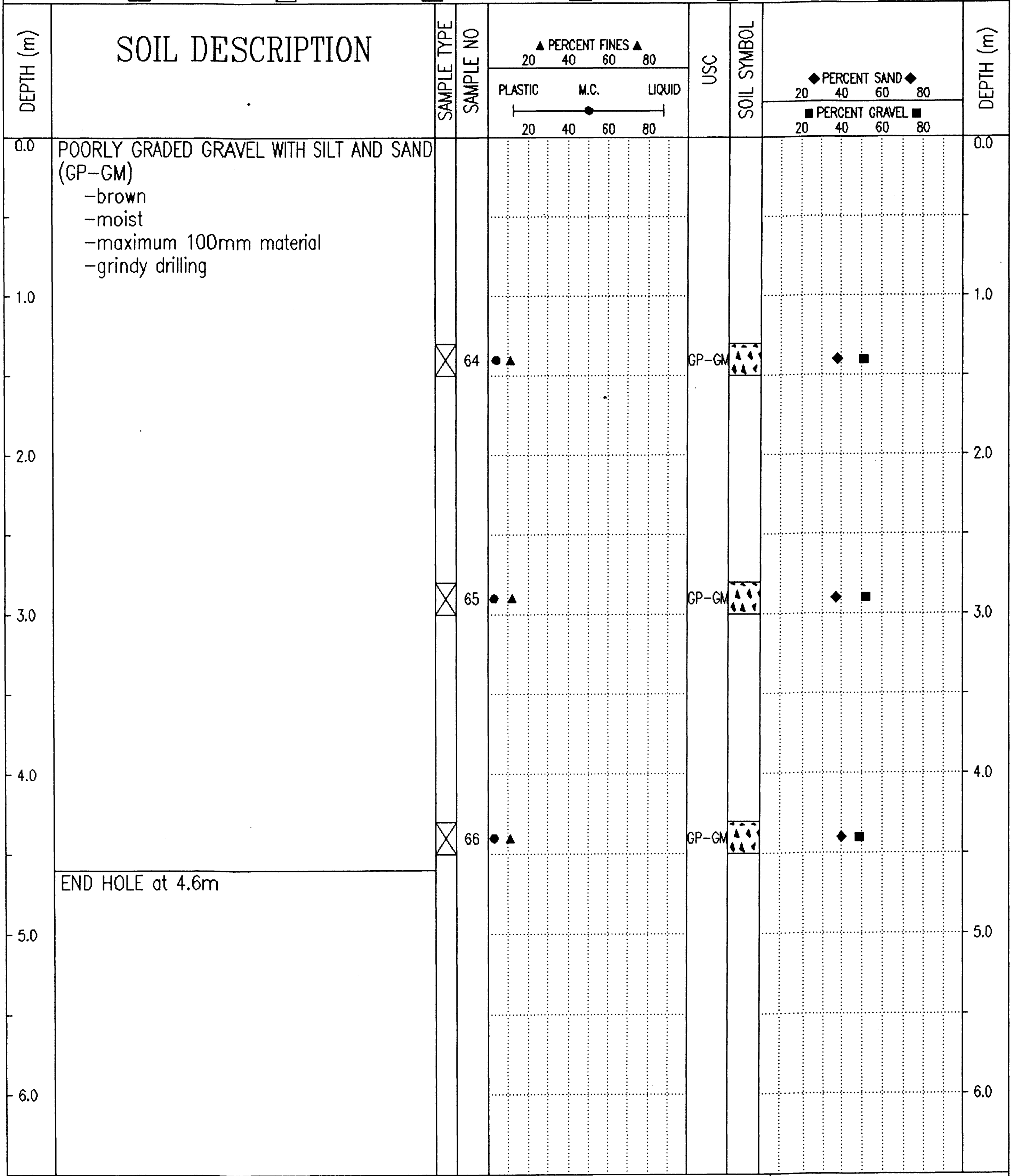
Government of Yukon
Transportation Engineering

LOGGED BY: TF	COMPLETION DEPTH: 7.0 m
REVIEWED BY:	COMPLETE: 93/09/07
Fig. No:	Page 1 of 1

93/11/05 11:36AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-24
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1909+985 o/s 2m Rt.	ELEVATION: 0.00 (m)

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



SOIL DESCRIPTION

POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM)
- brown
- moist
- maximum 100mm material
- grindy drilling

END HOLE at 4.6m

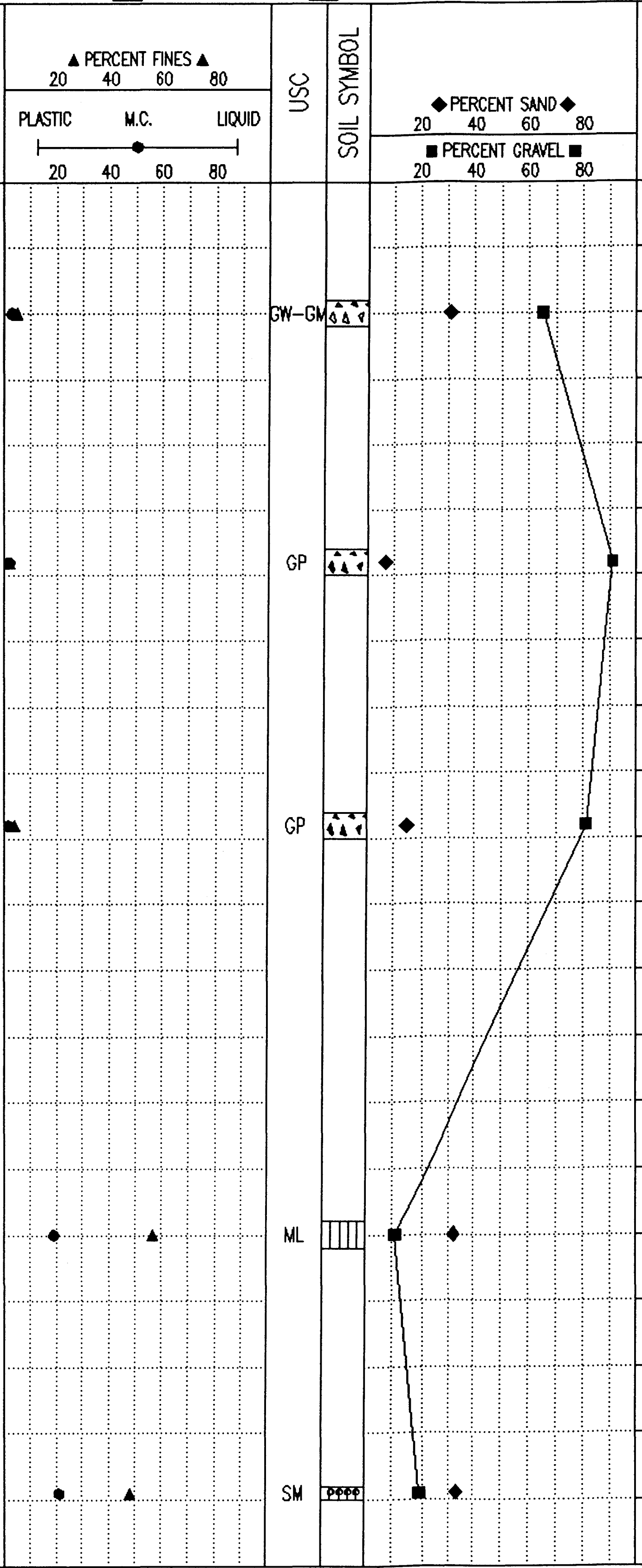
Government of Yukon	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
Transportation Engineering	REVIEWED BY:	COMPLETE: 91/08/13
	Fig. No:	Page 1 of 1

93/11/12 09:25AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 244-19
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1910+075	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -grindy drilling			
1.0		☒	51	GW-GM
2.0	POORLY GRADED GRAVEL TO POORLY GRADED GRAVEL WITH SAND (GP) -grindy drilling			
3.0		☒	52	GP
5.0		☒	53	GP
6.3	SANDY SILT (ML) -smooth drilling			
8.0		☒	54	ML
9.0	SILTY SAND WITH GRAVEL (SM) -smooth drilling			
10.0		☒	55	SM
10.0	END HOLE at 10.0m			



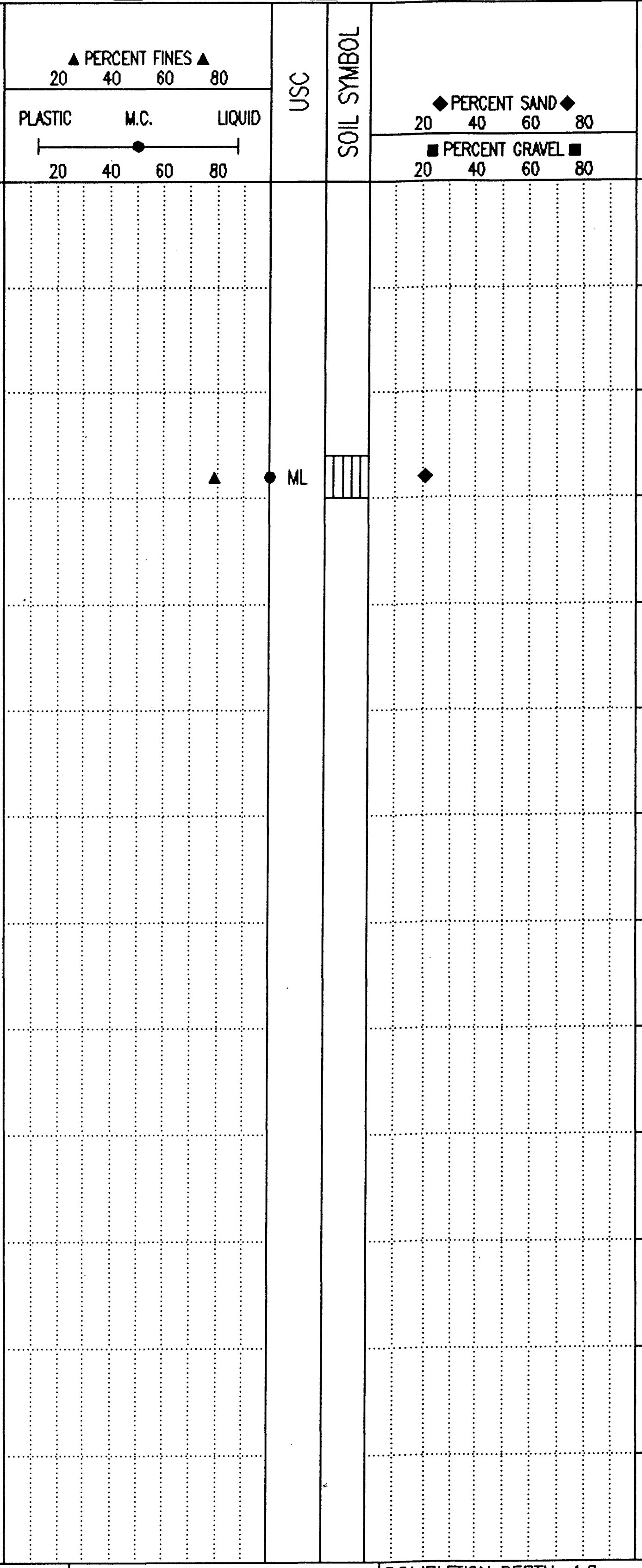
Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 10.0 m
	REVIEWED BY:	COMPLETE: 93/09/03
	Fig. No:	Page 1 of 1

93/09/30 09:15AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 145-149
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1910+175 o/s 2m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL -saturated			
	ORGANIC SILT -brown -frozen Nf below 0.9m	☒	410	ML
2.0	ICE			
	ORGANIC MATERIAL AND ICE			
	END HOLE at 4.6m -water on surface			



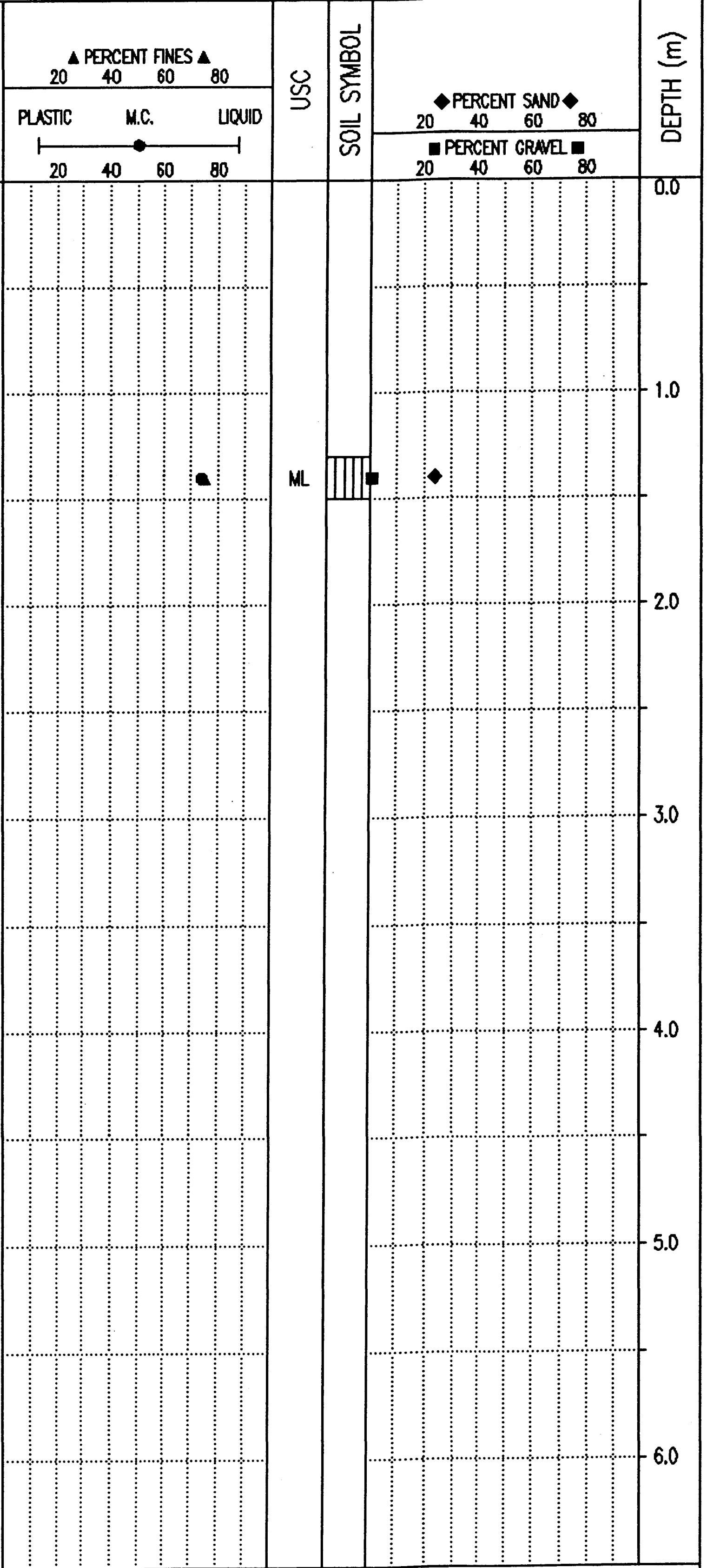
Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 4.6 m
	REVIEWED BY: DT	COMPLETE: 91/09/07
	Fig. No:	Page 1 of 1

93/11/12 11:57AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 145-148
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1910+240 o/s 2m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◸ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◨ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO
0.0	ORGANIC MATERIAL		
	SILT WITH SAND (ML) -dark brown -some organics		
1.0	-frozen Nf below 0.9m		
		☒	409
	-grindy drilling at 1.7m		
2.0			
	-first refusal at 2.4m		
	END HOLE at 2.6m -refusal		
3.0			
4.0			
5.0			
6.0			



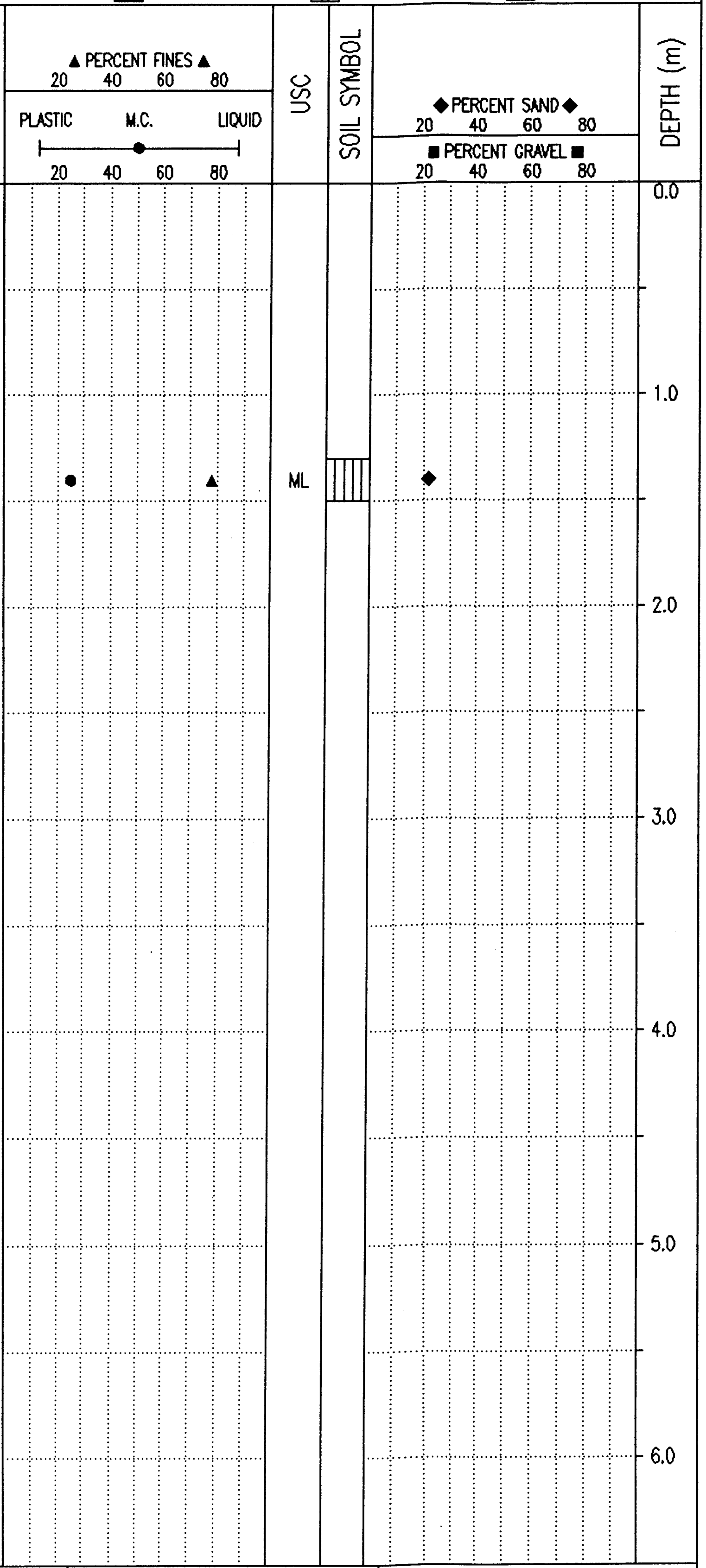
Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 2.6 m
	REVIEWED BY: DT	COMPLETE: 91/09/07
	Fig. No:	Page 1 of 1

94/03/25 04:08PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 145-147
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1910+305 o/s 2m Rt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO
0.0	ORGANIC MATERIAL		
	SILT WITH SAND (ML) -brown gray		
1.0	-grindy drilling at 0.9m -smooth drilling at 1.1m -frozen Nb below 1.3m	☒	408
2.0	END HOLE at 1.8m -refusal twice at 1.8m		
3.0			
4.0			
5.0			
6.0			

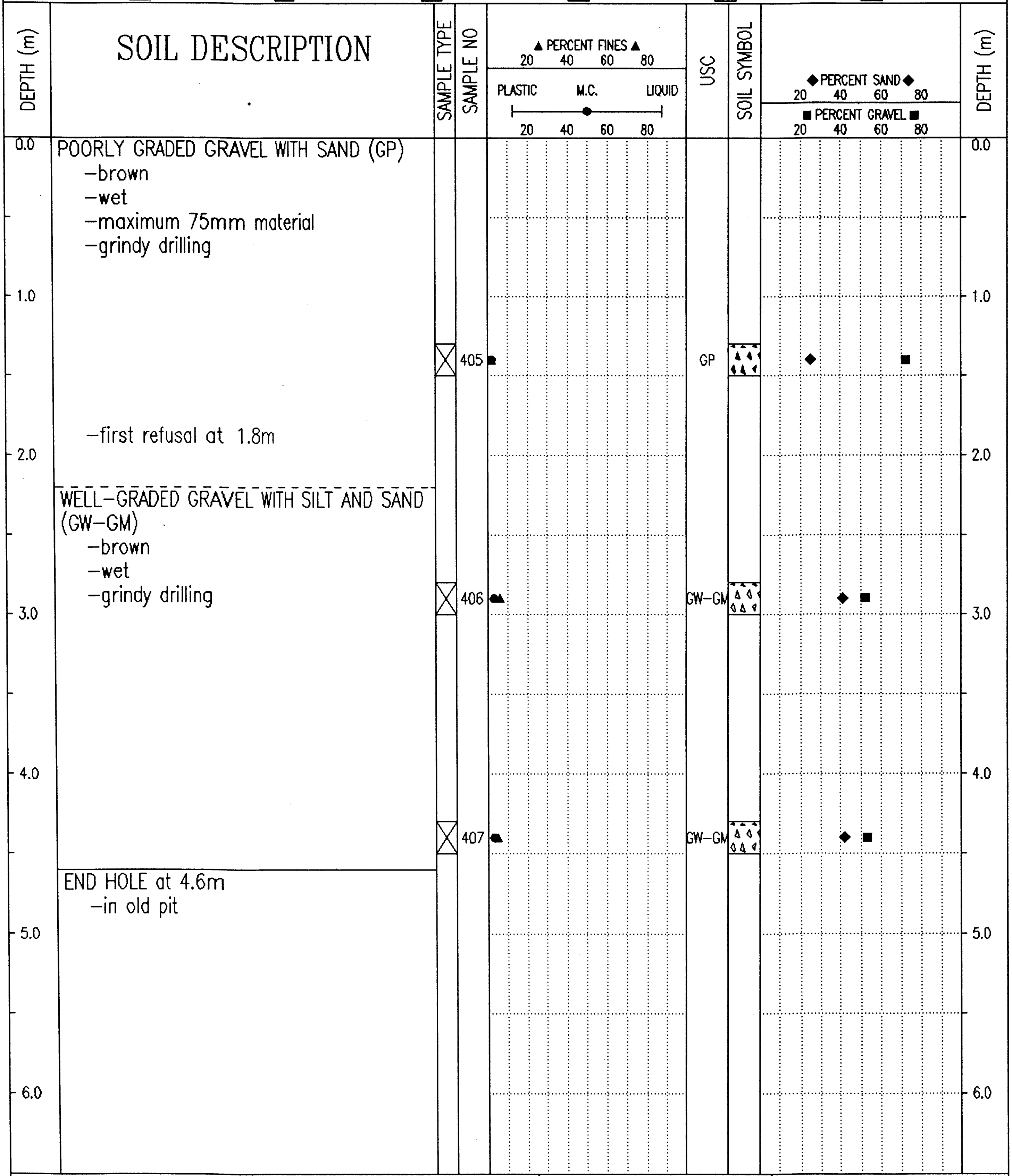


Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 1.8 m
	REVIEWED BY: DT	COMPLETE: 91/09/07
	Fig. No:	Page 1 of 1

93/11/12 11:54AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 145-146
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1910+350	ELEVATION: 0.00 (m)

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



0.0 POORLY GRADED GRAVEL WITH SAND (GP)
- brown
- wet
- maximum 75mm material
- grindy drilling
- first refusal at 1.8m

WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM)
- brown
- wet
- grindy drilling

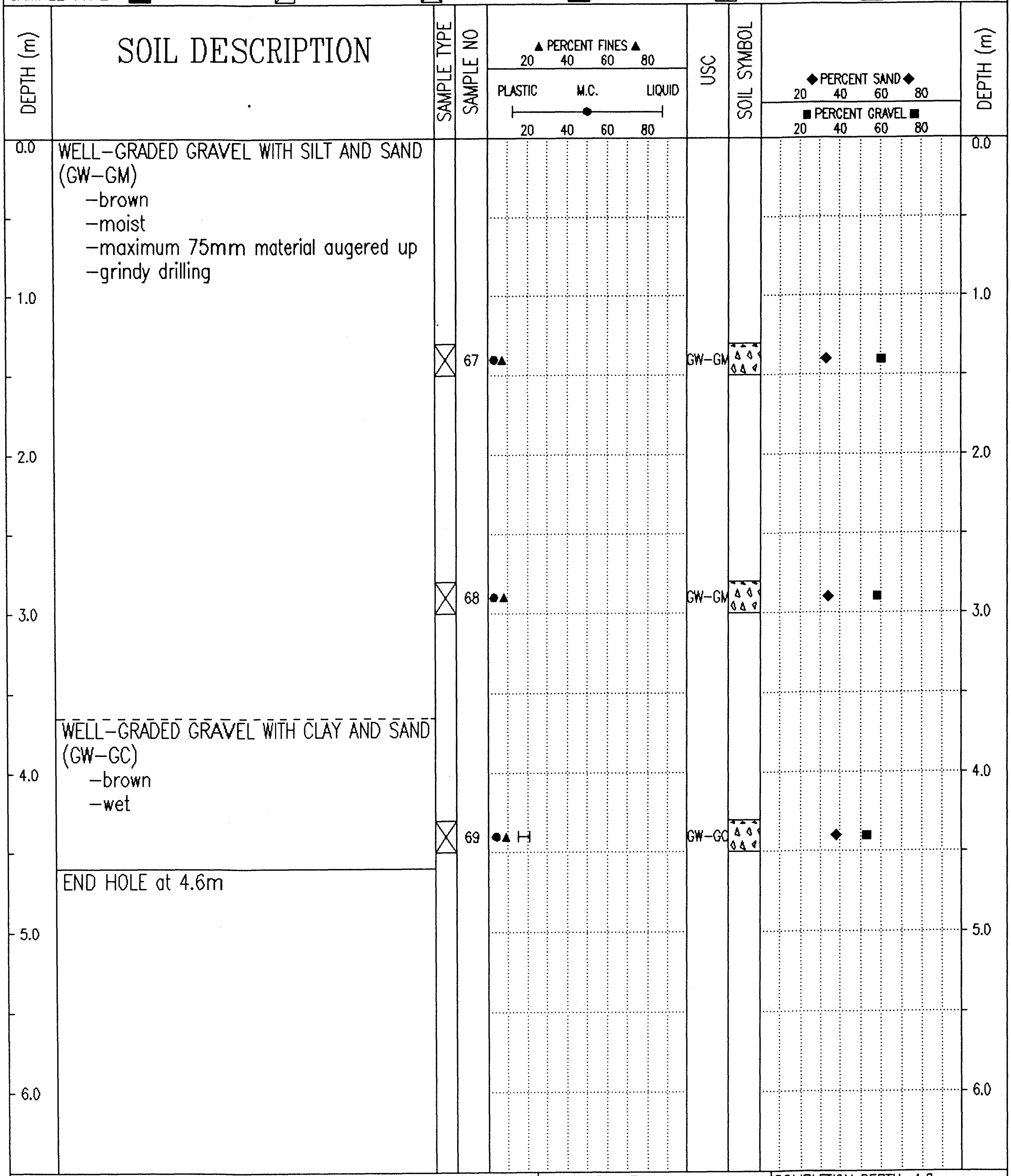
END HOLE at 4.6m
- in old pit

Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 4.6 m
	REVIEWED BY: DT	COMPLETE: 91/09/07
	Fig. No:	Page 1 of 1

93/11/12 11:53AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-25
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1910+450 o/s 8m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▧ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◧ CORE



WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM)

- -brown
- -moist
- -maximum 75mm material augered up
- -grindy drilling

WELL-GRADED GRAVEL WITH CLAY AND SAND (GW-GC)

- -brown
- -wet

END HOLE at 4.6m

SAMPLE NO	USC
67	GW-GM
68	GW-GM
69	GW-GC

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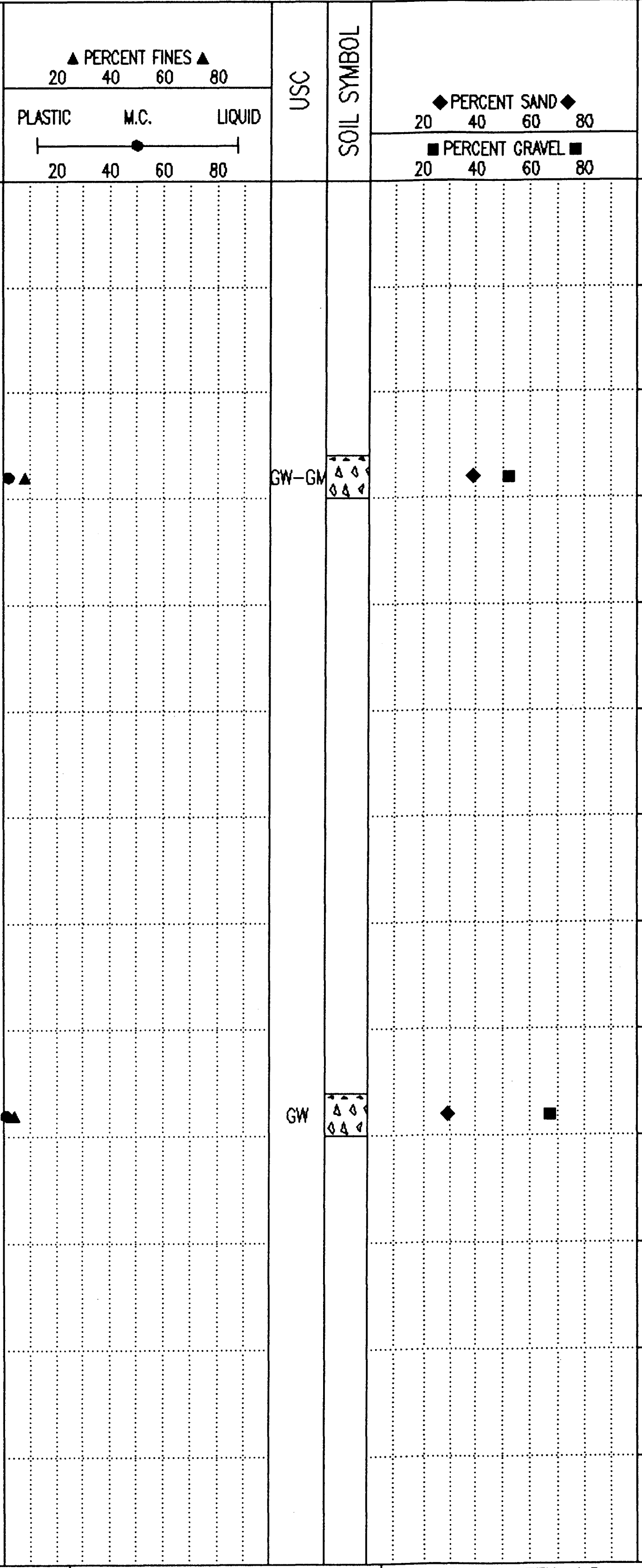
REVIEWED BY:	COMPLETE: 91/08/13
Fig. No:	Page 1 of 1

93/11/12 09:27AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-26
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1910+550 o/s 5m Lt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	SANDY ORGANIC SILT -red brown			
	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -damp -maximum 75mm material augered up			
1.0		☒	70	GW-GM
	-first refusal at 1.6m -very rough slow grindy drilling below 1.7m			
2.0				
3.0	WELL-GRADED GRAVEL WITH SAND (GW) -brown -damp			
4.0		☒	71	GW
	END HOLE at 4.6m -NOTE: broke off auger at 2m			
5.0				
6.0				

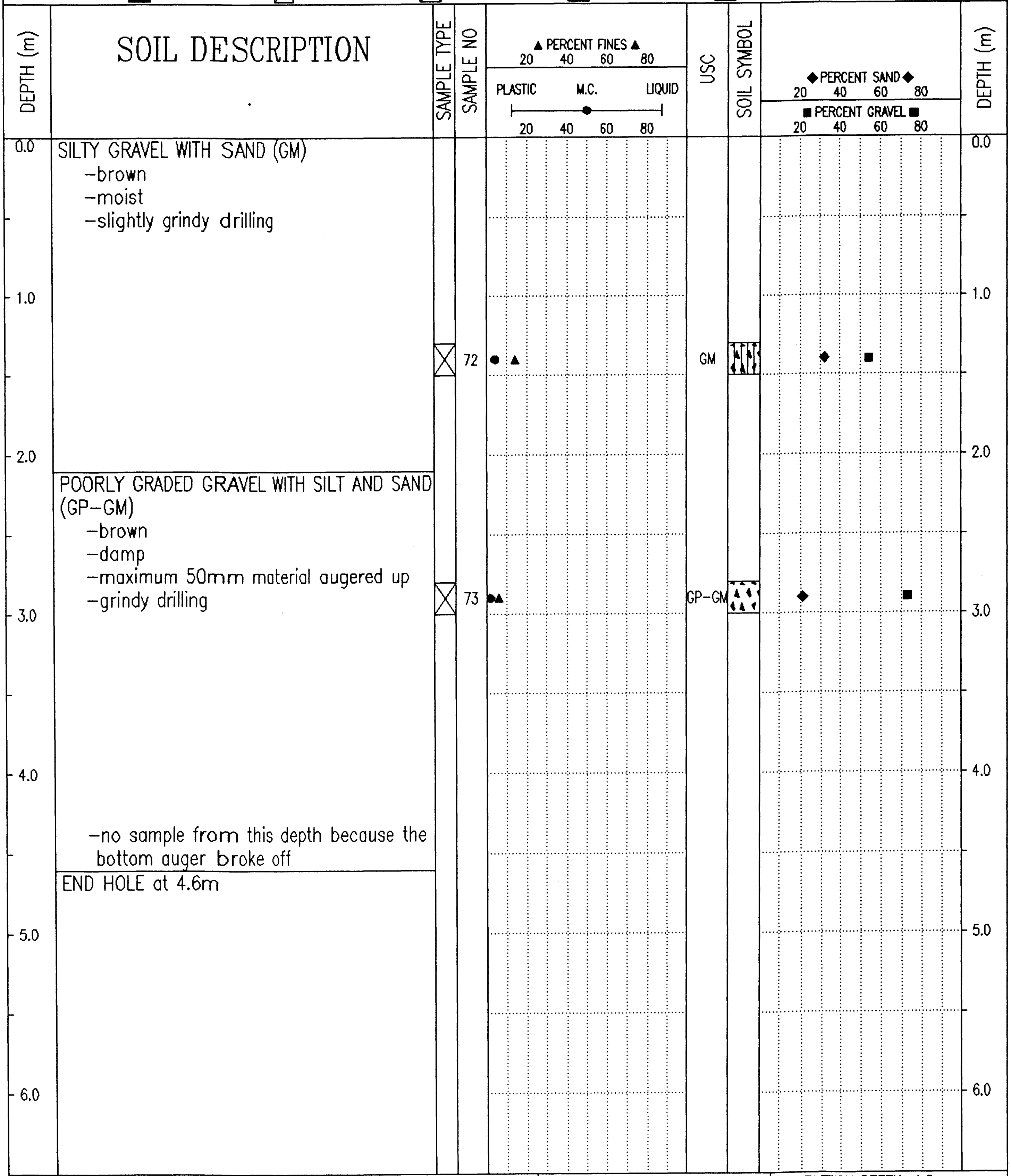


Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/13
	Fig. No:	Page 1 of 1

93/11/12 09:28AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-27
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1910+650 o/s 5m Lt.	ELEVATION: 0.00 (m)

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



SILTY GRAVEL WITH SAND (GM)
- brown
- moist
- slightly grindy drilling

POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM)
- brown
- damp
- maximum 50mm material augered up
- grindy drilling

- no sample from this depth because the bottom auger broke off

END HOLE at 4.6m

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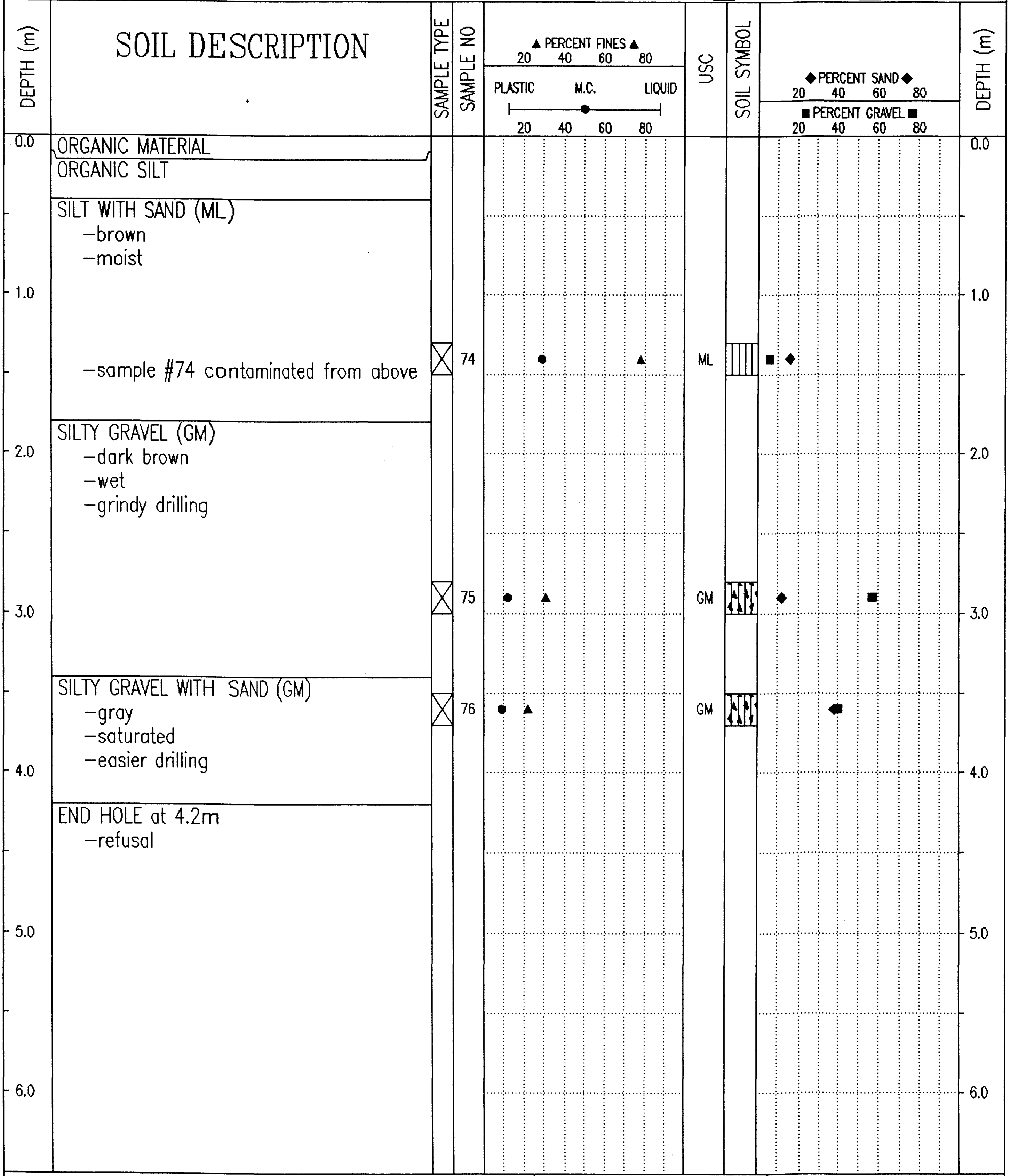
REVIEWED BY:	COMPLETE: 91/08/13
Fig. No:	Page 1 of 1

93/11/12 09:30AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-28
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1910+752 o/s 7m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◫ CORE



SOIL DESCRIPTION

ORGANIC MATERIAL

ORGANIC SILT

SILT WITH SAND (ML)
- brown
- moist
- sample #74 contaminated from above

SILTY GRAVEL (GM)
- dark brown
- wet
- grindy drilling

SILTY GRAVEL WITH SAND (GM)
- gray
- saturated
- easier drilling

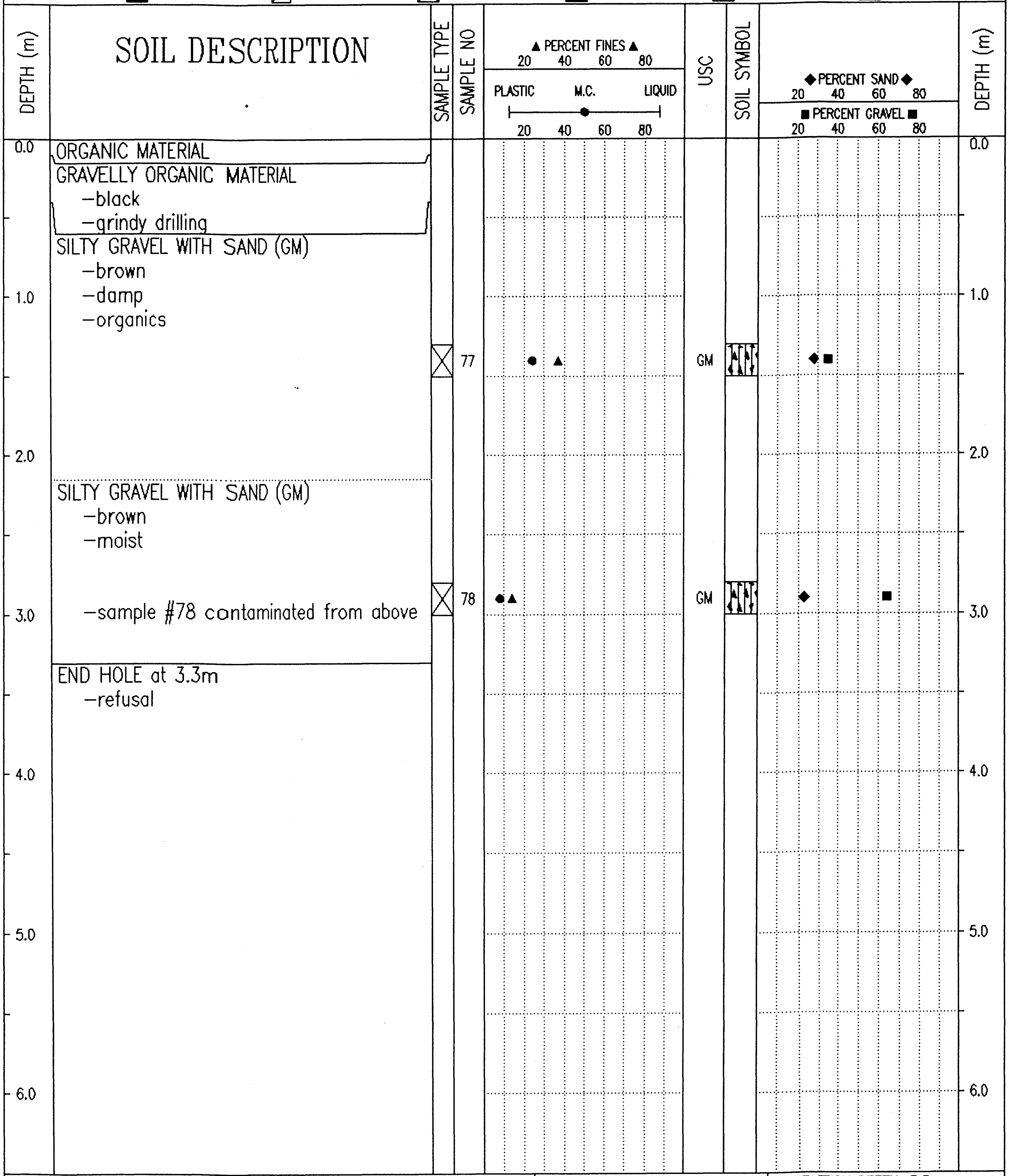
END HOLE at 4.2m
- refusal

Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.2 m
	REVIEWED BY:	COMPLETE: 91/08/13
	Fig. No:	Page 1 of 1

93/11/12 09:31AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-29
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1910+852 o/s 9m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◩ S.P.T. ☒ AUGER ☰ BULK ◫ TUBE ◨ CORE



ORGANIC MATERIAL

GRAVELLY ORGANIC MATERIAL
- black
- grindy drilling

SILTY GRAVEL WITH SAND (GM)
- brown
- damp
- organics

SILTY GRAVEL WITH SAND (GM)
- brown
- moist
- sample #78 contaminated from above

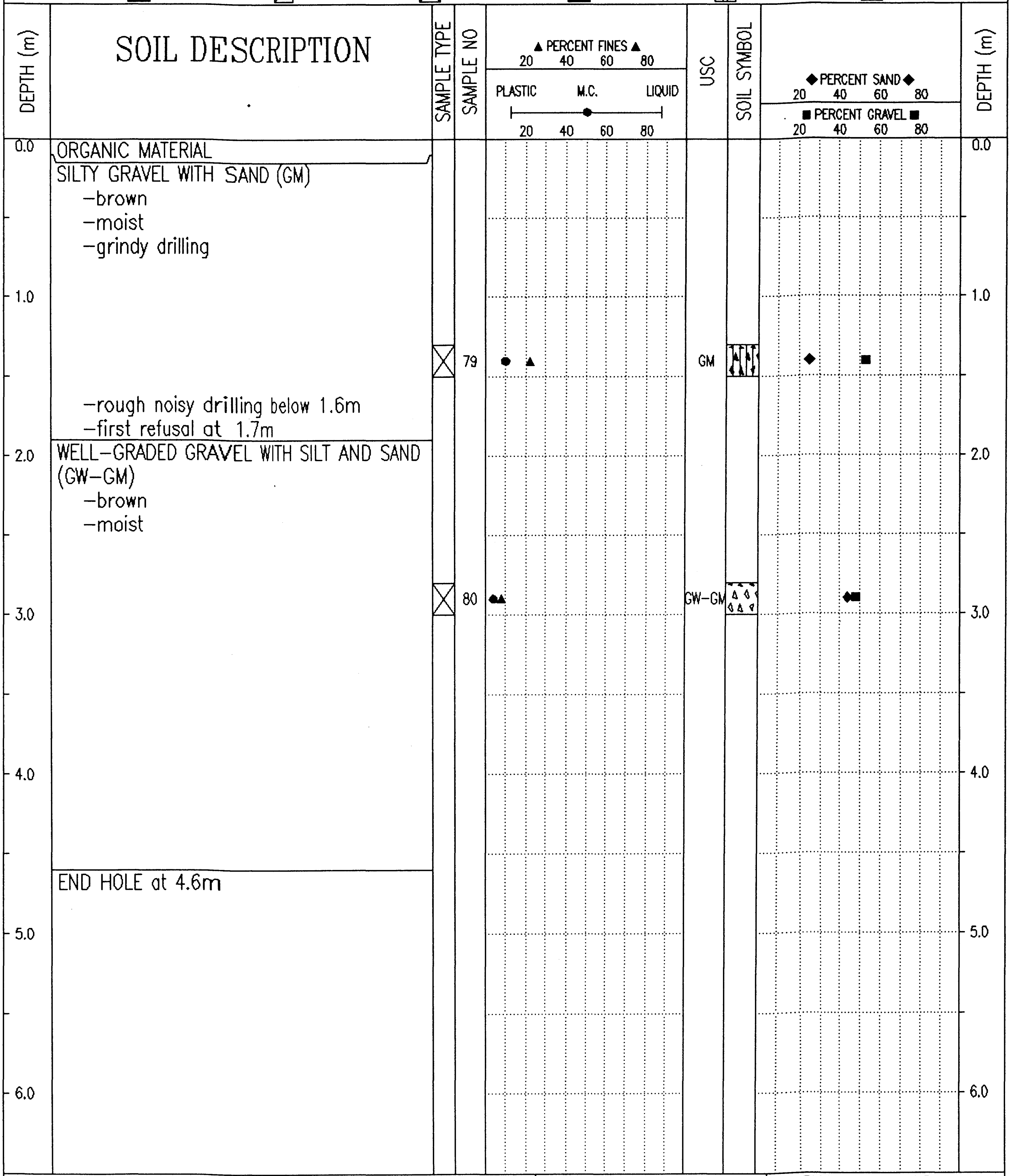
END HOLE at 3.3m
- refusal

Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 3.3 m
	REVIEWED BY:	COMPLETE: 91/08/13
	Fig. No:	Page 1 of 1

93/11/12 09:33AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-30
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1910+975 o/s 2m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◧ CORE



ORGANIC MATERIAL

SILTY GRAVEL WITH SAND (GM)
- brown
- moist
- grindy drilling
- rough noisy drilling below 1.6m
- first refusal at 1.7m

WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM)
- brown
- moist

END HOLE at 4.6m

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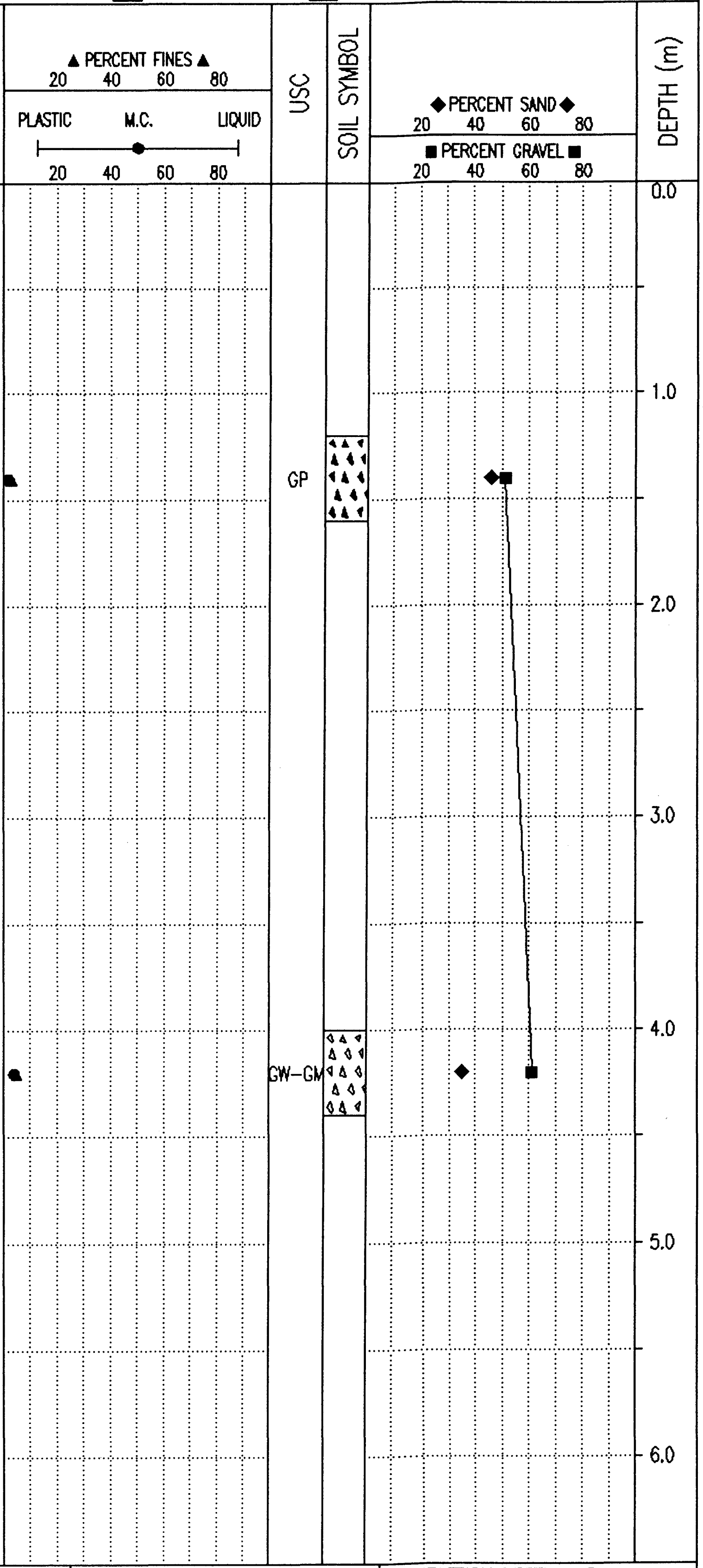
	REVIEWED BY:	COMPLETE: 91/08/13
	Fig. No:	Page 1 of 1

93/11/12 09:34AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 258-41
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1910+975 o/s 5m Rt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
	SILT -brown -moist -trace of sand			
1.0	POORLY GRADED GRAVEL WITH SAND (GP) -brown -moist -maximum 200mm material -estimate 15% +100mm	BULK	96	GP
2.0				
3.0	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -moist -maximum 200mm material -estimate 15% +100mm			
4.0		BULK	97	GW-GM
	END HOLE at 4.6m			
5.0				
6.0				

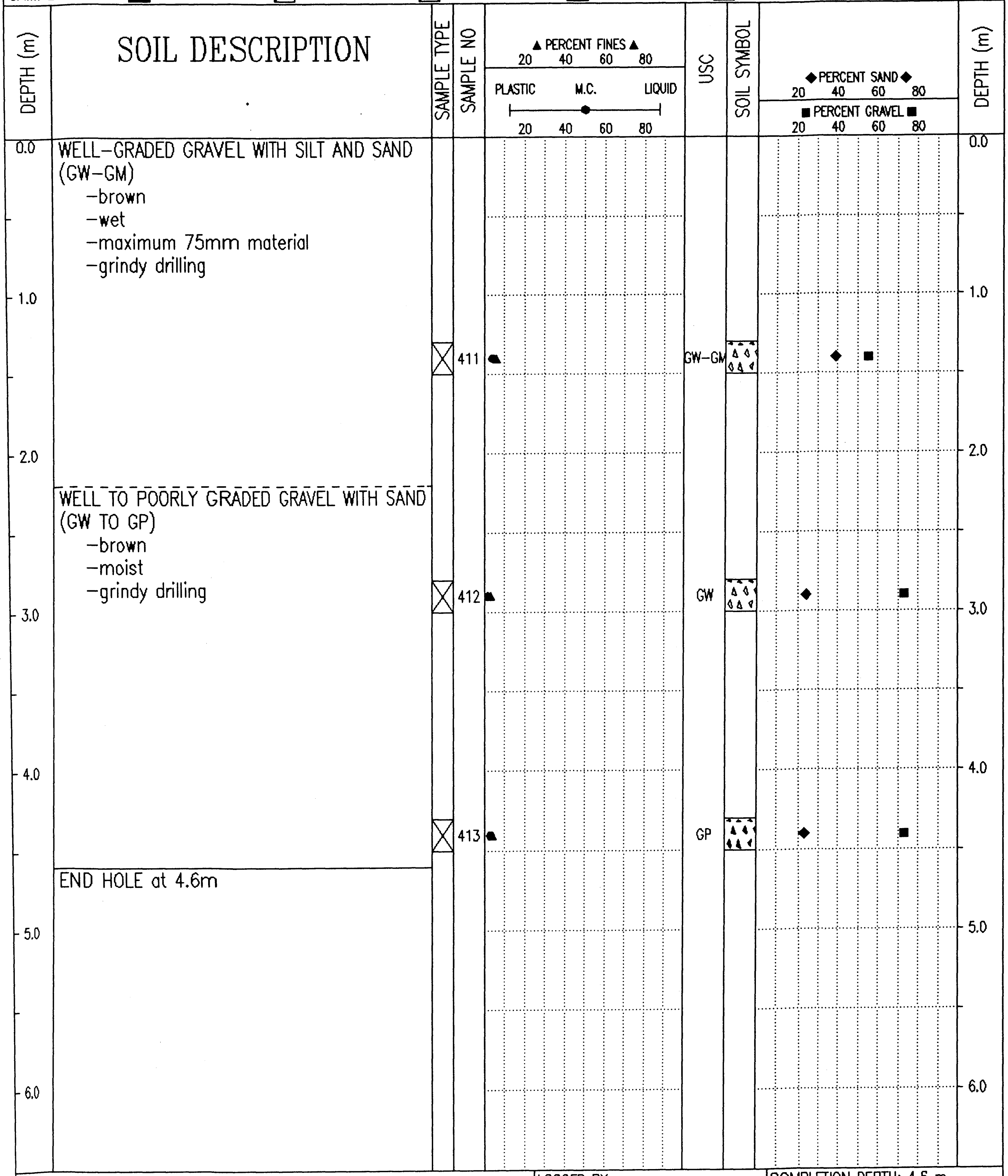


Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 93/10/03
	Fig. No:	Page 1 of 1

93/10/28 09:06AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 145-150
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1911+175 o/s 10m Rt.	ELEVATION: 0.00 (m)

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



0.0 WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM)
- brown
- wet
- maximum 75mm material
- grindy drilling

WELL TO POORLY GRADED GRAVEL WITH SAND (GW TO GP)
- brown
- moist
- grindy drilling

END HOLE at 4.6m

SAMPLE TYPE	SAMPLE NO	USC
AUGER	411	GW-GM
AUGER	412	GW
AUGER	413	GP

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	REVIEWED BY: DT	COMPLETE: 91/09/07
	Fig. No:	Page 1 of 1

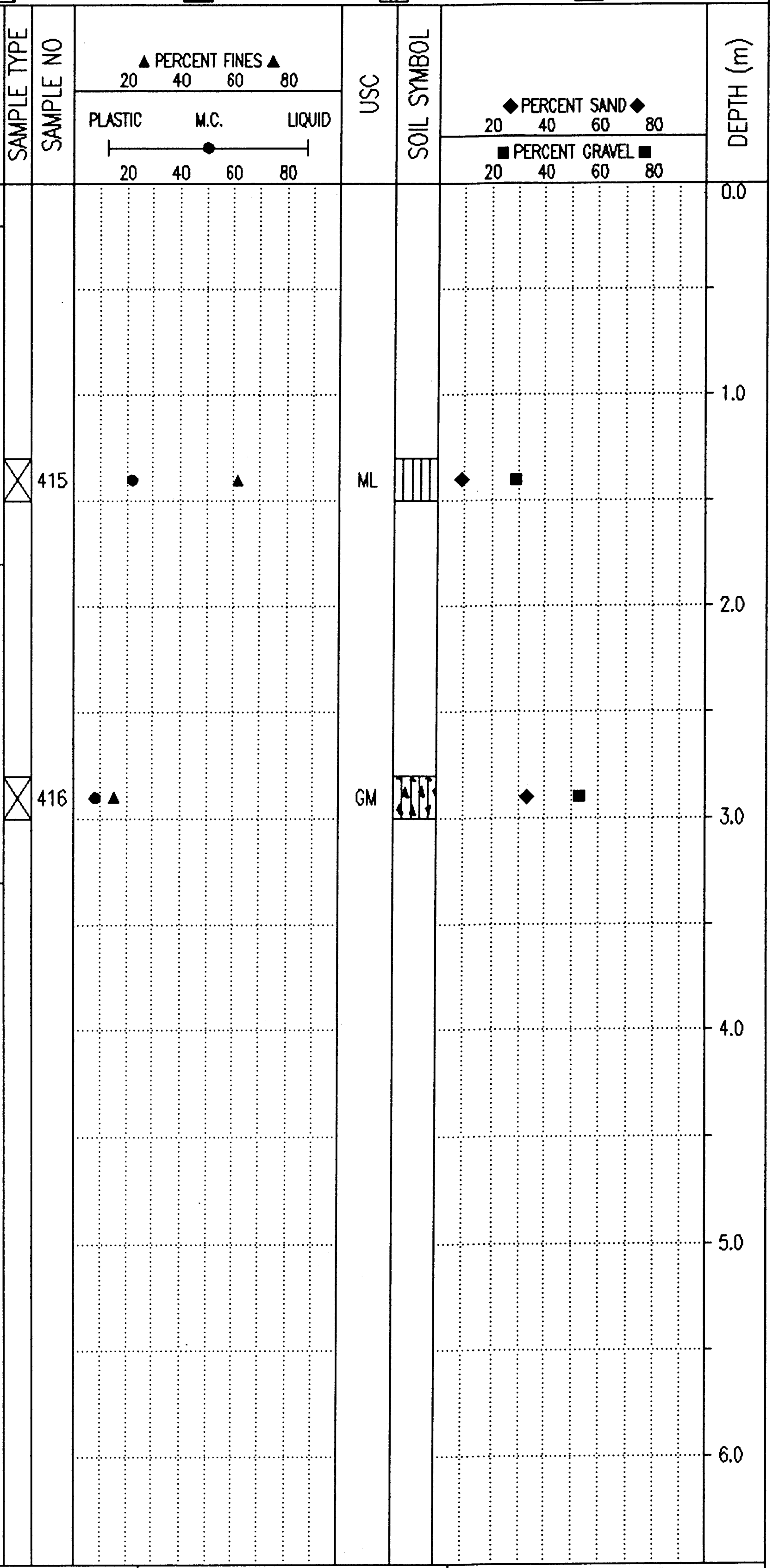
93/11/12 11:59AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 145-152
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1911+400 o/s 2m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▱ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ▌ CORE

DEPTH (m)	SOIL DESCRIPTION
0.0	ORGANIC MATERIAL
	GRAVELLY SILT (ML) -frozen with visible ice below 0.9m
	SILTY GRAVEL WITH SAND (GM) -brown -frozen Nf -grindy drilling
	END HOLE at 3.3m -refusal

Depth scale: 0.0, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0



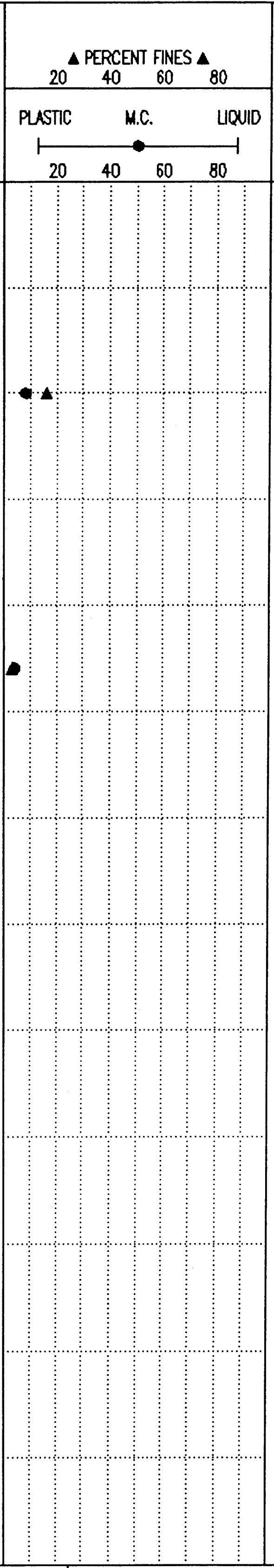
Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 3.3 m
	REVIEWED BY: DT	COMPLETE: 91/09/07
	Fig. No:	Page 1 of 1

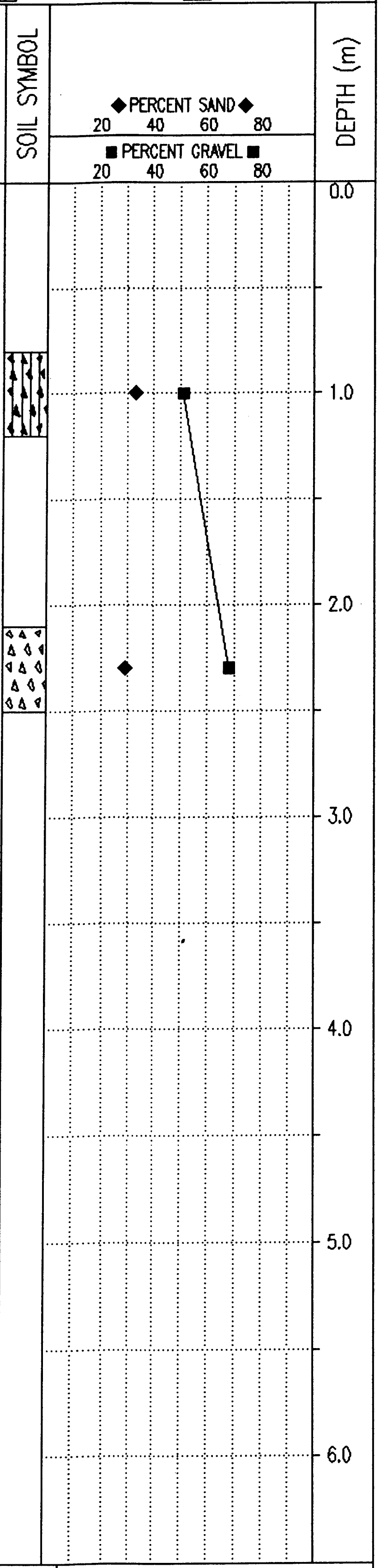
93/11/12 12:02PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 258-42
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1911+425	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◨ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
	SILTY GRAVEL WITH SAND (GM) -brown -some cobbles -frozen with visible ice (Vx) below 0.5m			
1.0		☰	98	GM
	WELL-GRADED GRAVEL WITH SAND (GW) -brown -frozen with visible ice (Vx) -maximum 100mm material			
2.0				
		☰	99	GW
	END HOLE at 2.7m			
3.0				
4.0				
5.0				
6.0				





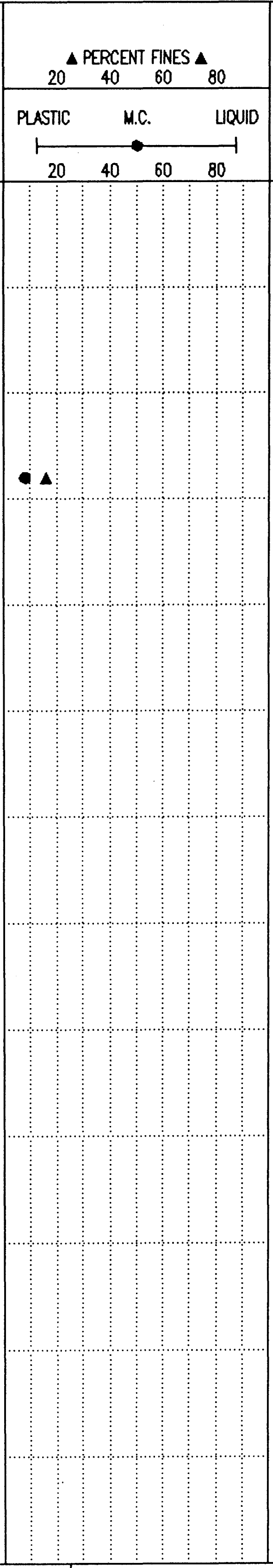
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 2.7 m
	REVIEWED BY:	COMPLETE: 93/10/03
	Fig. No:	Page 1 of 1

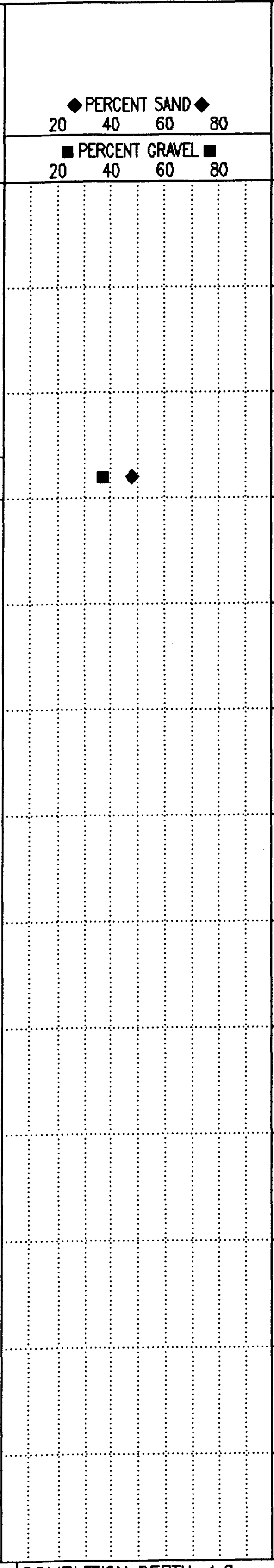
93/11/01 11:14AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 145-153
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1911+500	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
	SILT -brown			
1.0	-frozen Vx below 0.9m			
	SILTY SAND WITH GRAVEL (SM) -brown -frozen Nf -grindy drilling	☒	417	SM
	END HOLE at 1.6m -refusal			
2.0				
3.0				
4.0				
5.0				
6.0				





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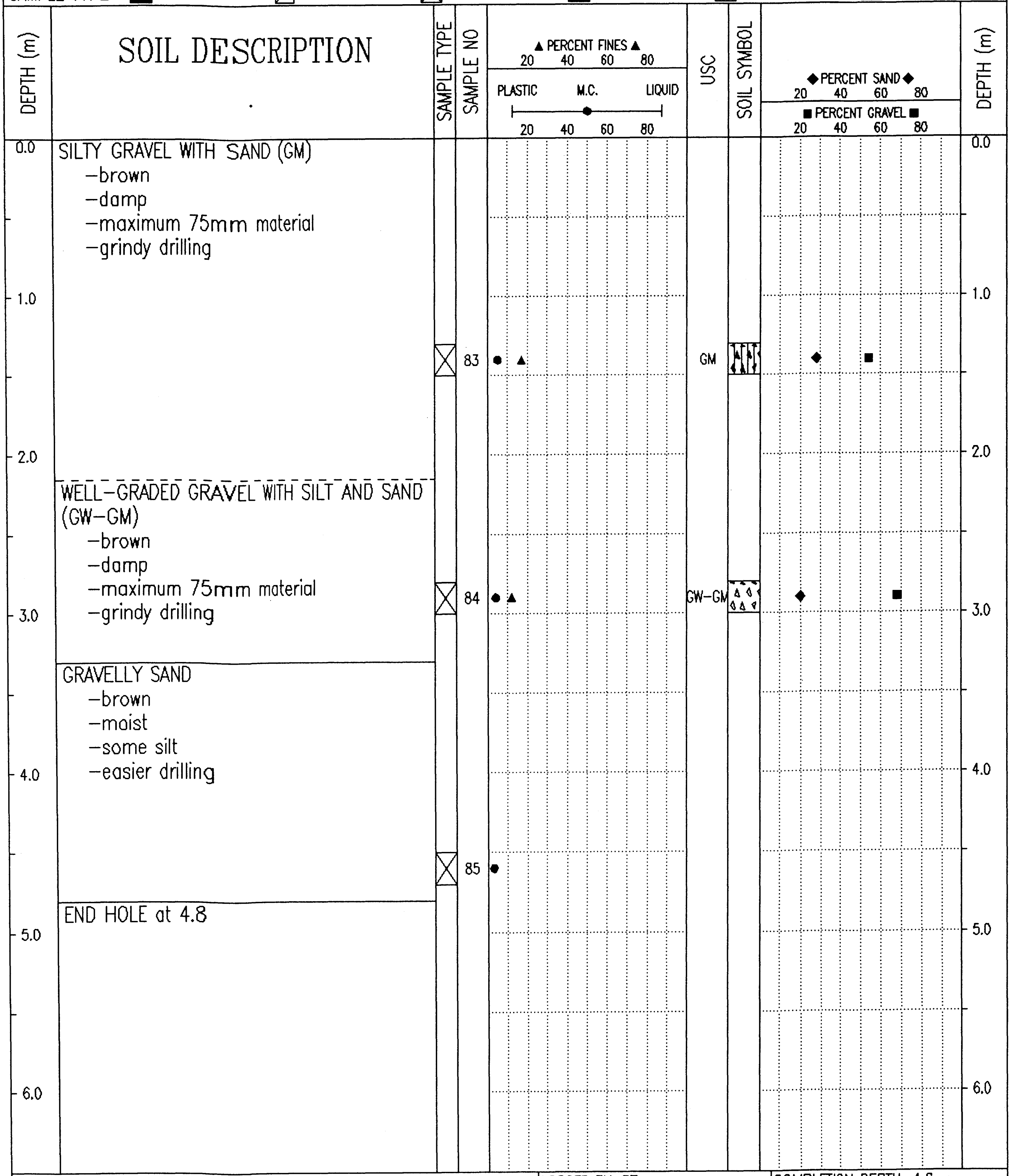
LOGGED BY:	COMPLETION DEPTH: 1.6 m
REVIEWED BY: DT	COMPLETE: 91/09/07
Fig. No:	Page 1 of 1

93/11/12 12:03PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-32
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1911+650	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⧄ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◨ CORE



SOIL DESCRIPTION

0.0 SILTY GRAVEL WITH SAND (GM)
- brown
- damp
- maximum 75mm material
- grindy drilling

WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM)
- brown
- damp
- maximum 75mm material
- grindy drilling

GRAVELLY SAND
- brown
- moist
- some silt
- easier drilling

END HOLE at 4.8

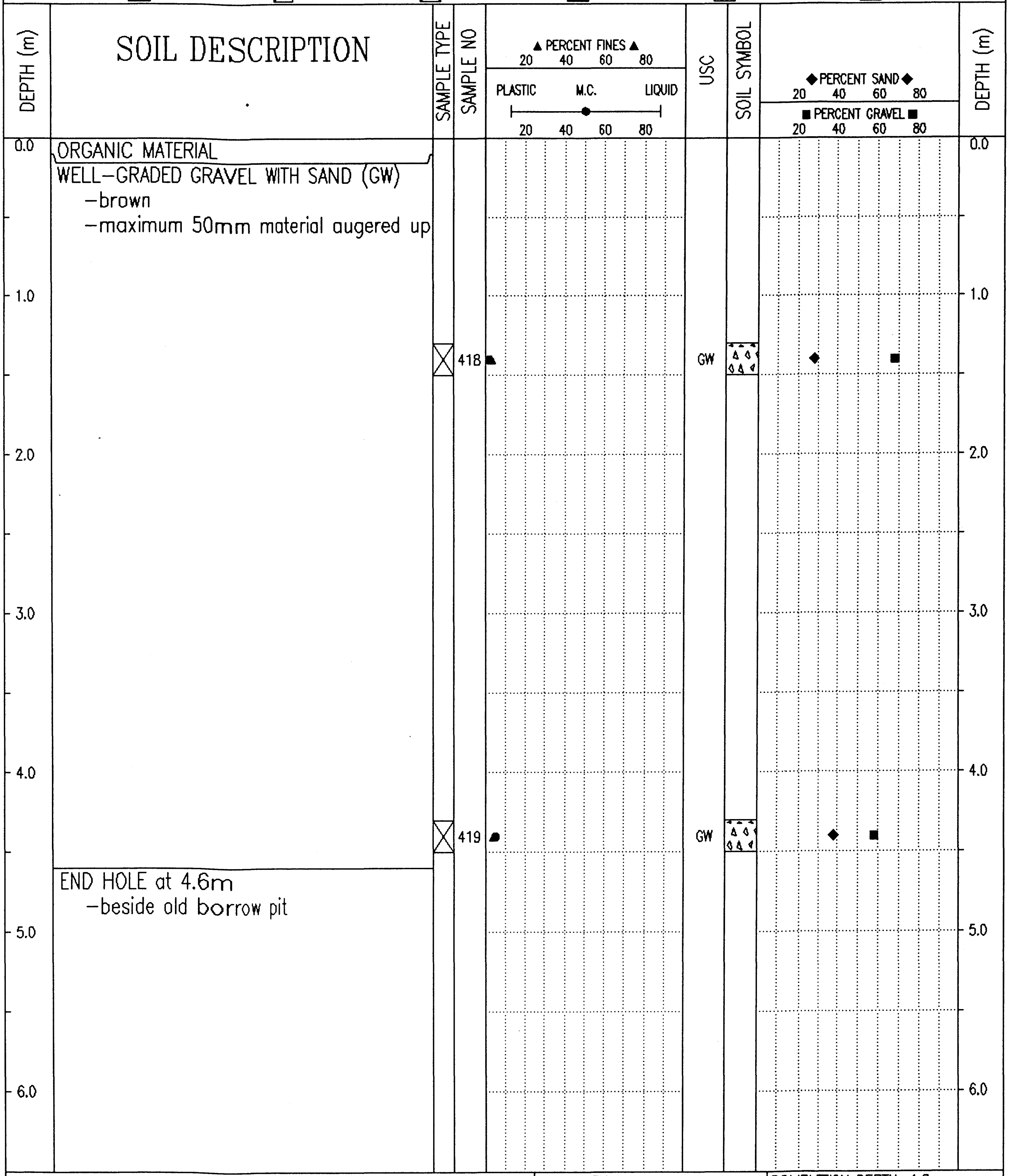
SAMPLE TYPE	SAMPLE NO	USC
AUGER	83	GM
AUGER	84	GW-GM
AUGER	85	

Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/13
	Fig. No:	Page 1 of 1

93/11/12 09:37AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 145-154
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1911+750 o/s 4m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ⊟ BULK ◫ TUBE ◧ CORE



ORGANIC MATERIAL

WELL-GRADED GRAVEL WITH SAND (GW)
- brown
- maximum 50mm material augered up

END HOLE at 4.6m
- beside old borrow pit

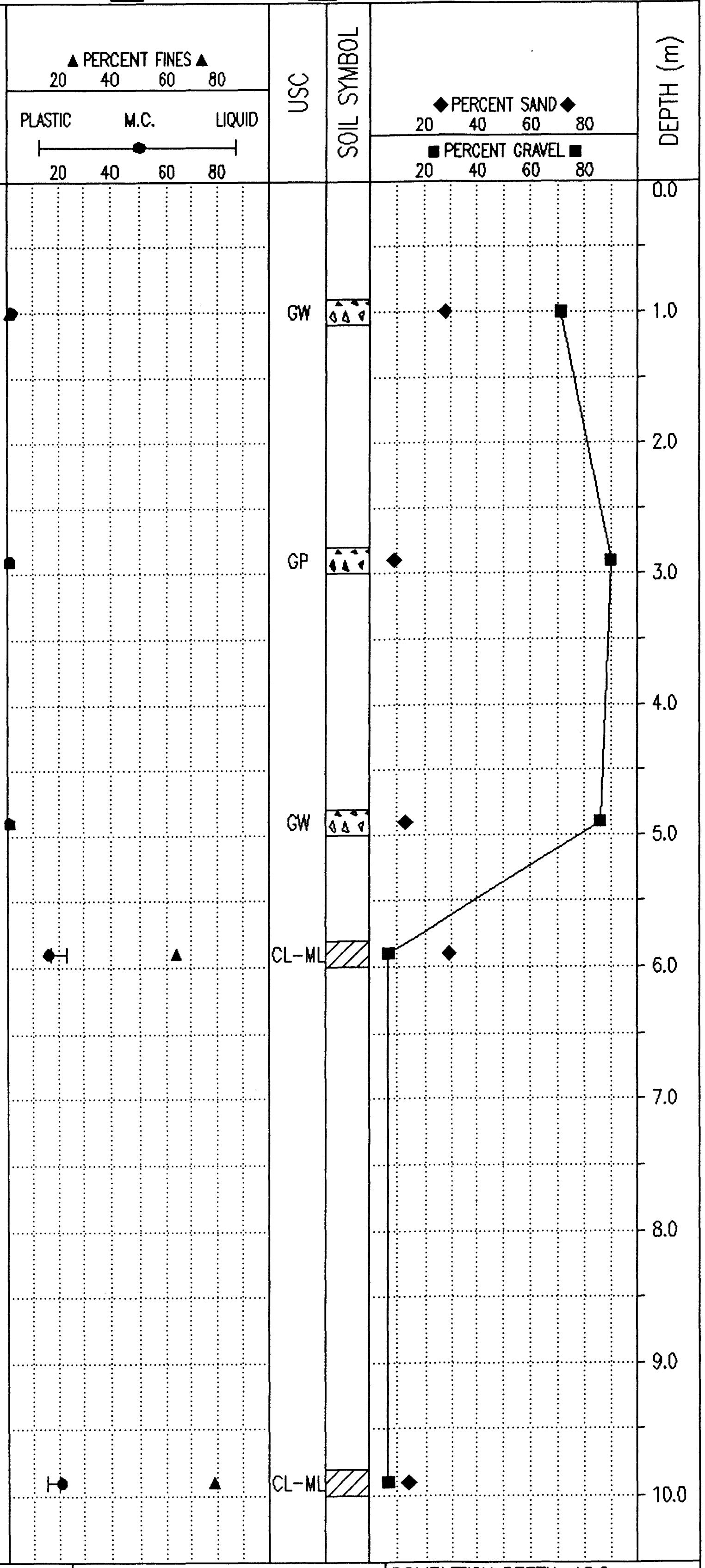
Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 4.6 m
	REVIEWED BY: DT	COMPLETE: 91/09/07
	Fig. No:	Page 1 of 1

93/11/12 12:05PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 244-20
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1911+800	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	WELL-GRADED GRAVEL WITH SAND (GW) -grindy drilling			
1.0		☒	56	GW
2.0	POORLY TO WELL-GRADED GRAVEL (GP TO GW) -grindy drilling -very few fines augering up			
3.0		☒	57	GP
5.0		☒	58	GW
	SANDY SILTY CLAY (CL-ML) -wet -smooth drilling -frozen (Nb) below 5.3m			
6.0		☒	59	CL-ML
8.0	SILTY CLAY WITH SAND (CL-ML) -wet -smooth drilling			
10.0		☒	60	CL-ML
	END HOLE at 10.0m			



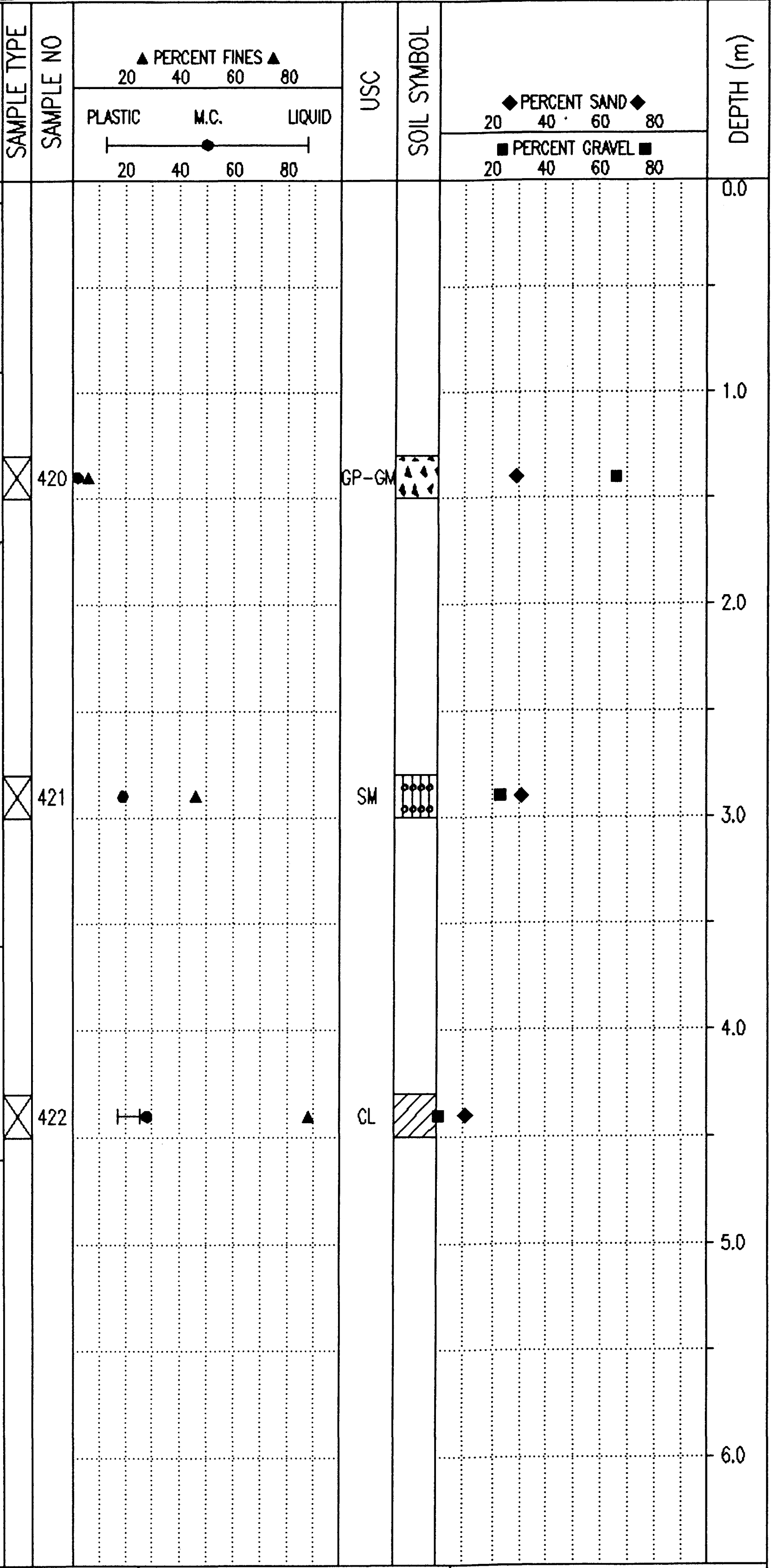
Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 10.0 m
	REVIEWED BY:	COMPLETE: 93/09/03
	Fig. No:	Page 1 of 1

93/10/04 10:36AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 145-155
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1911+850 o/s 4m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION
0.0	ORGANIC MATERIAL
	SANDY SILT -brown -moist -trace of gravel
1.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -damp -maximum 50mm material augered up -grindy drilling
2.0	SILTY SAND WITH GRAVEL (SM) -brown -saturated -smooth drilling
3.0	
4.0	LEAN CLAY (CL) -brown -saturated -frozen Vx below 4.2m
	END HOLE at 4.6m
5.0	
6.0	



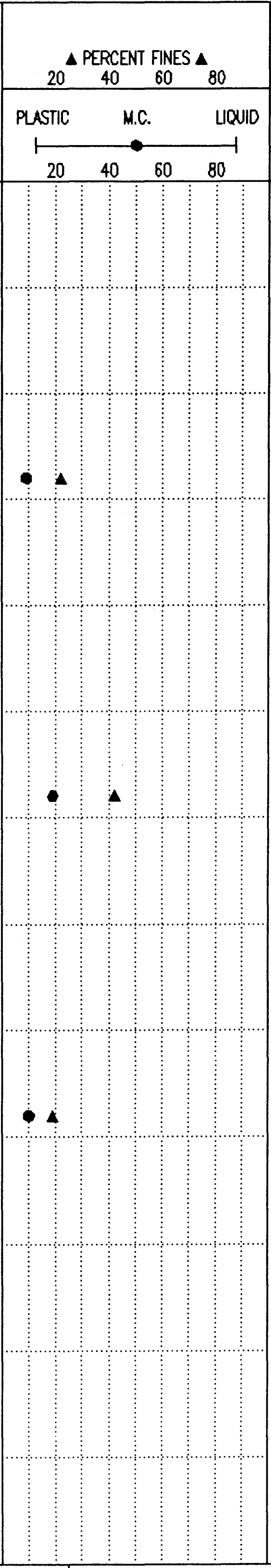
Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 4.6 m
	REVIEWED BY: DT	COMPLETE: 91/09/07
	Fig. No:	Page 1 of 1

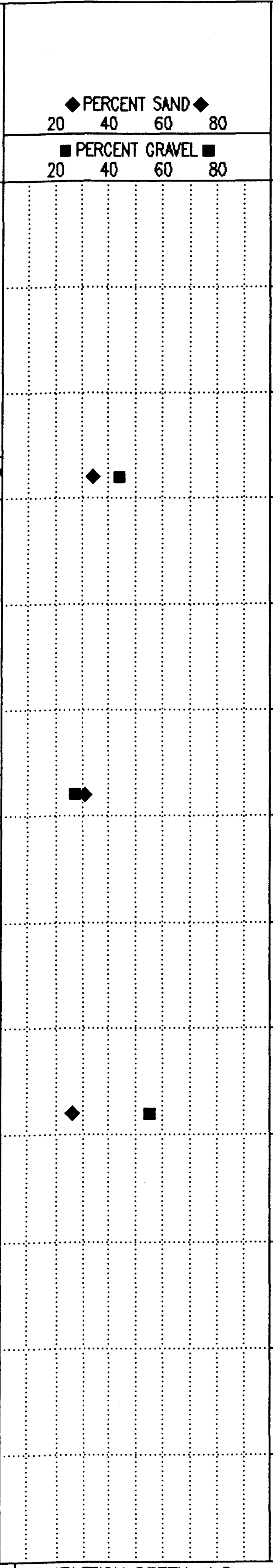
93/11/12 12:06PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-33
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1911+925	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ROAD FILL			
1.0	SILTY GRAVEL WITH SAND (GM) -brown -moist -some organics	☒	86	GM
2.0	SILTY SAND WITH GRAVEL (SM) -some organics	☒	87	SM
3.0	SILTY GRAVEL WITH SAND (GM) -brown -saturated -maximum 50mm material augered up -rough noisy jumpy drilling	☒	88	GM
4.0				
4.6	END HOLE at 4.6m			
5.0				
6.0				





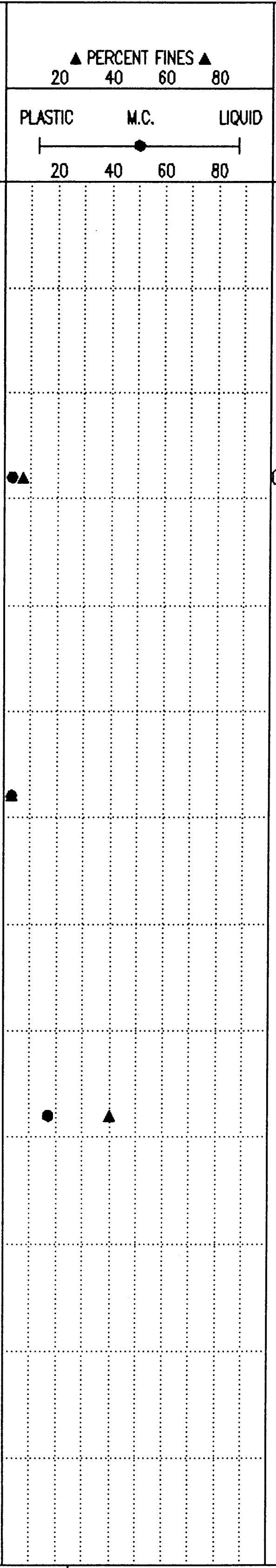
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/13
	Fig. No:	Page 1 of 1

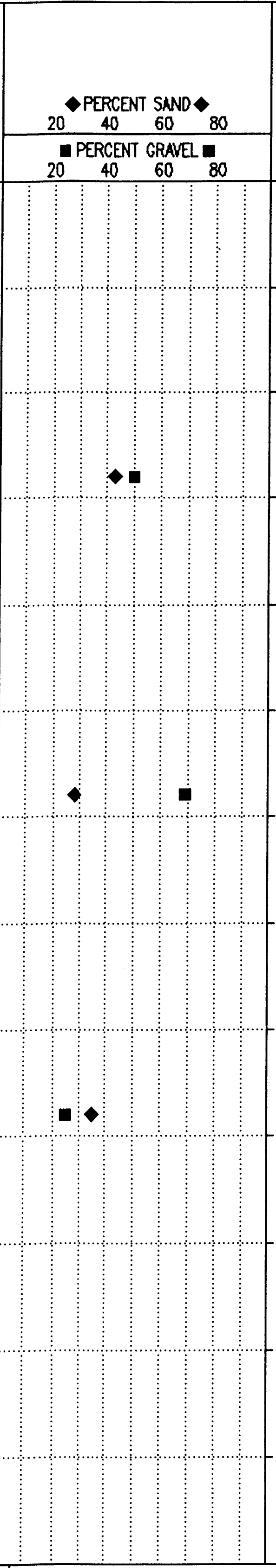
93/11/12 09:39AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-34
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1912+003	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◩ S.P.T. ☒ AUGER ⊟ BULK ▥ TUBE ◨ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -damp -grindy drilling			
1.0		☒	89	GP-GM
2.0	POORLY GRADED GRAVEL WITH SAND (GP) -brown -damp -maximum 50mm material augered up -noisy grindy drilling			
3.0		☒	90	GP
4.0	SILTY SAND WITH GRAVEL (SM) -brown -saturated -easy drilling -sample #91 contaminated from above	☒	91	SM
5.0	END HOLE at 4.6m -in old side borrow			
6.0				





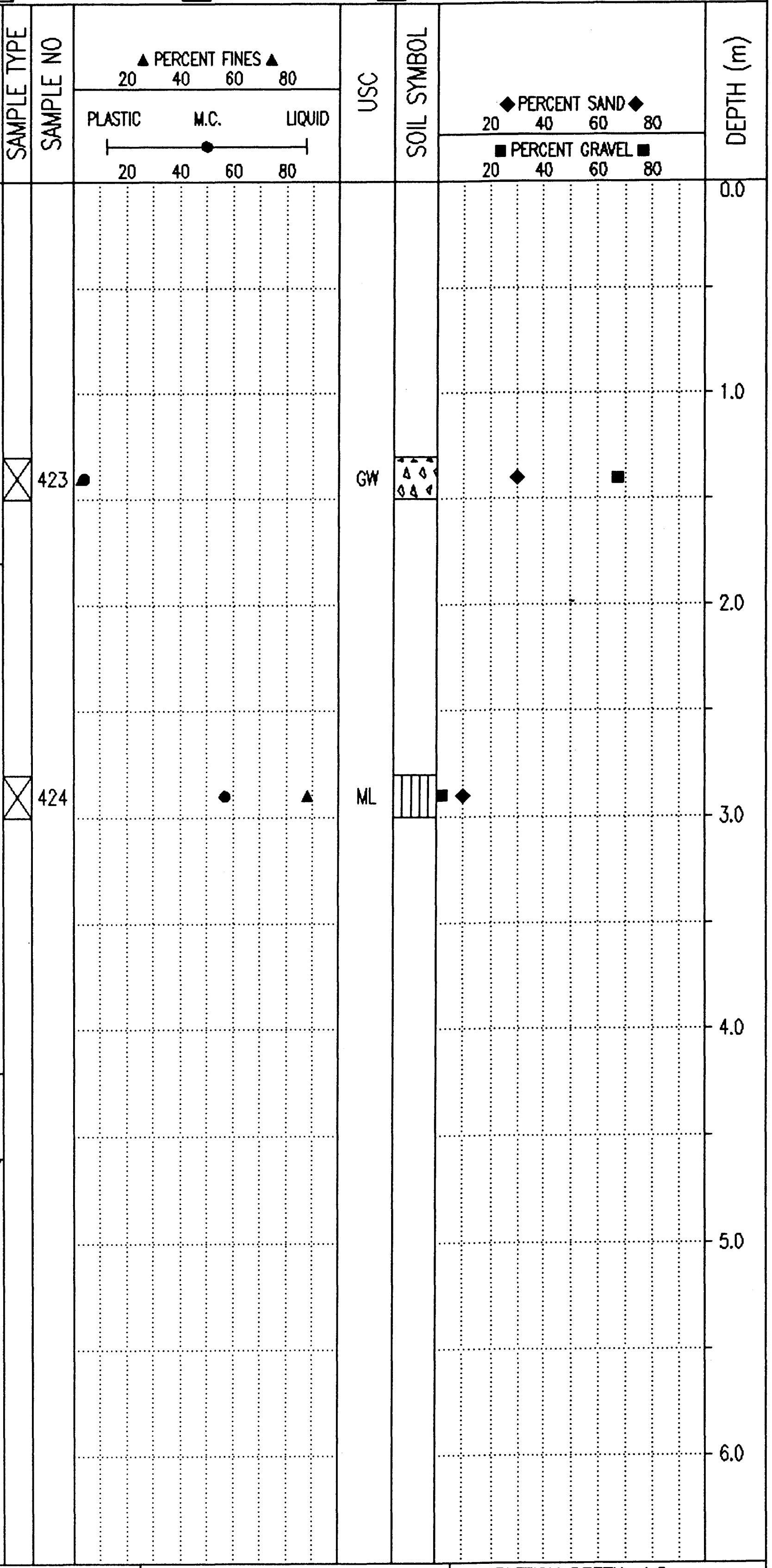
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/13
	Fig. No:	Page 1 of 1

93/11/12 09:40AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 145-156
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1912+075	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION
0.0	WELL-GRADED GRAVEL WITH SAND (GW) -brown -wet -maximum 75mm material augered up -slow grindy drilling
1.8	SILT (ML) -gray and brown -wet -smooth drilling -possibly frozen and melted augering up, saturated, no sample recovered at 3.7m
4.2	SILTY SAND -gray -some gravel
4.6	END HOLE at 4.6m -in old borrow pit



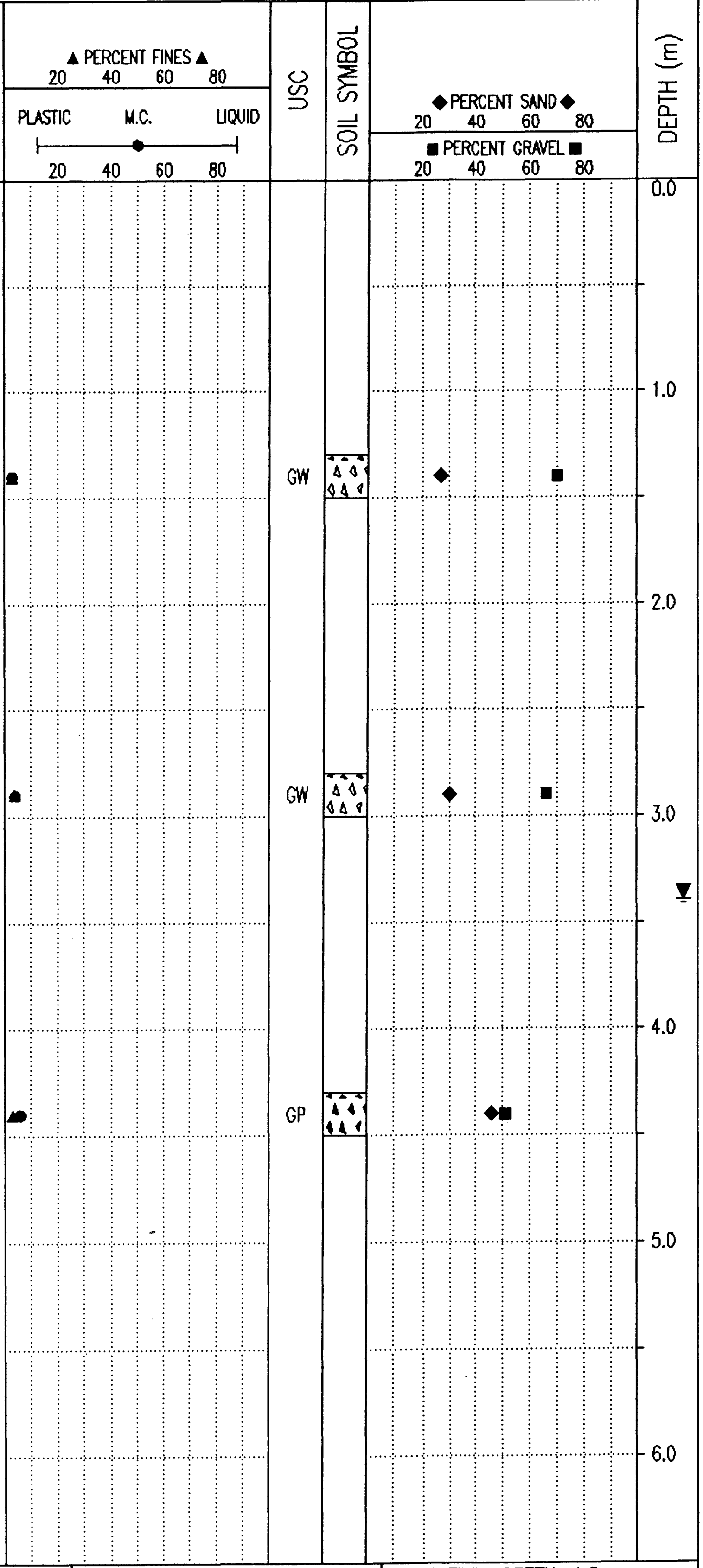
Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 4.6 m
	REVIEWED BY: DT	COMPLETE: 91/09/08
	Fig. No:	Page 1 of 1

93/11/12 12:08PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 145-157
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1912+100 o/s 55m Rt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO
0.0	WELL TO POORLY GRADED GRAVEL WITH SAND (GW TO GP) -brown -wet -maximum 75mm material augered up -grindy drilling		
1.0			
		☒	425
2.0			
		☒	426
3.0			
▼	-saturated below 3.4m -smooth drilling below 3.4m		
4.0			
		☒	427
	END HOLE at 4.6m -possibly water table at 3.4m -in old borrow pit		
5.0			
6.0			



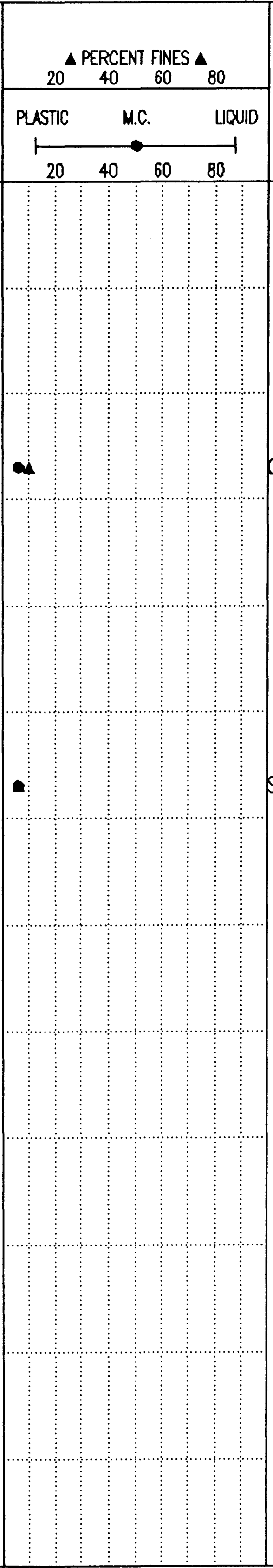
Government of Yukon Transportation Engineering	LOGGED BY: REVIEWED BY: DT Fig. No:	COMPLETION DEPTH: 4.6 m COMPLETE: 91/09/08 Page 1 of 1

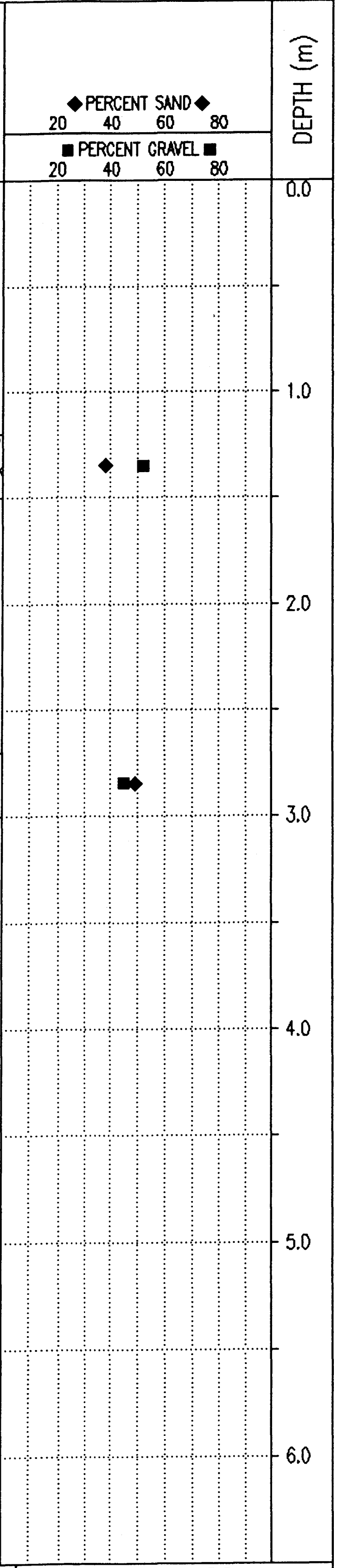
93/11/12 12:09PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-31
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1912+200 o/s 21m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◿ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ▌CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -moist -hard drilling	☒	74	GW-GM
2.0	WELL-GRADED SAND WITH SILT AND GRAVEL (SW-SM) -brown -moist -hard drilling	☒	75	SW-SM
3.0	END HOLE at 3.0m -refusal -in swamp -surface water may have affected sample moisture contents			





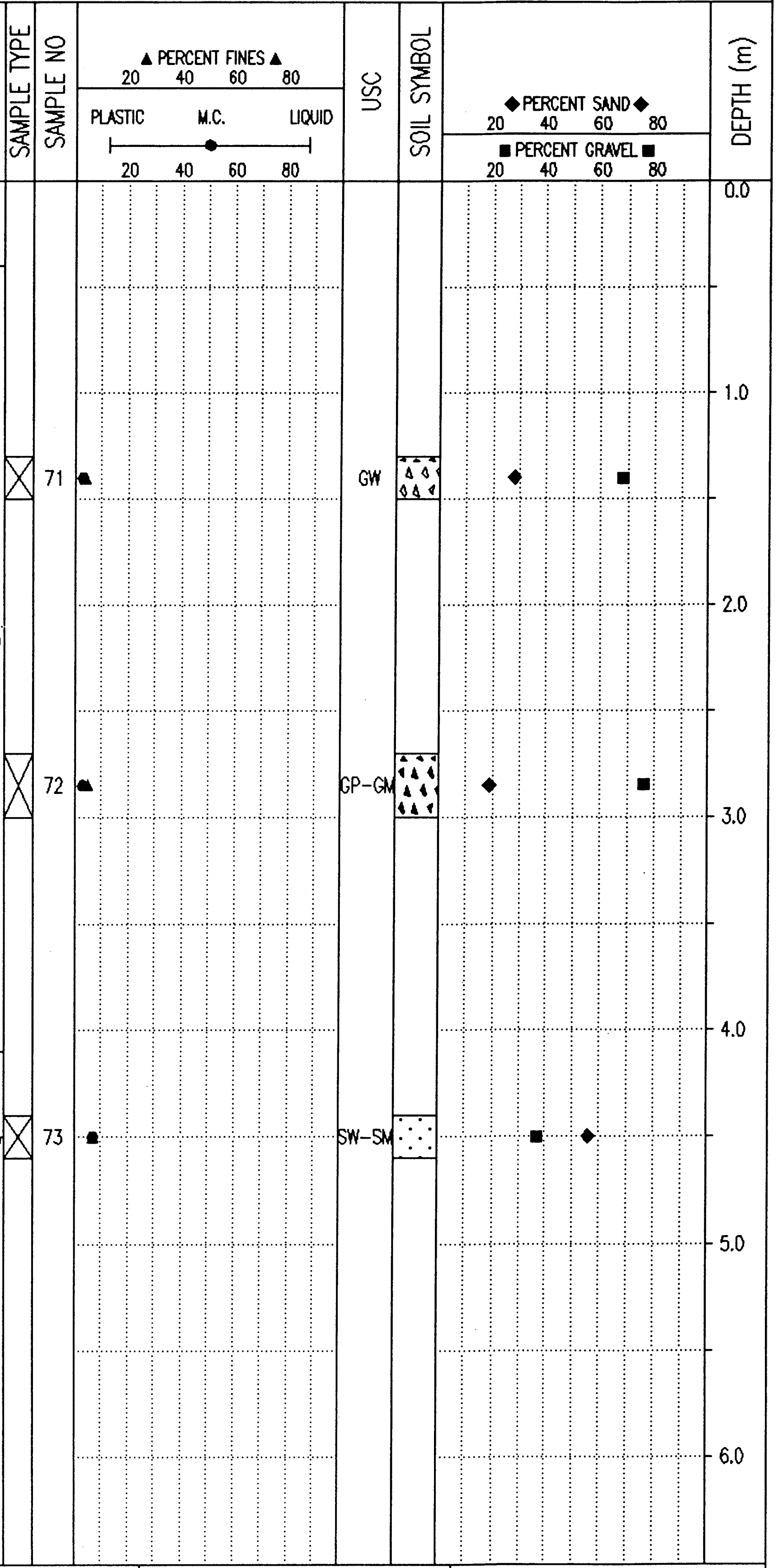
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 3.0 m
	REVIEWED BY:	COMPLETE: 92/06/08
	Fig. No:	Page 1 of 1

93/11/12 12:53PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-30
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1912+300 o/s 3m Lt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION
0.0	ORGANIC MATERIAL
	WELL-GRADED GRAVEL WITH SAND (GW) -brown -moist -hard drilling -maximum 75mm material augered up
1.0	
2.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -moist
3.0	
4.0	WELL-GRADED SAND WITH SILT AND GRAVEL (SW-SM) -brown -damp
	END HOLE at 4.5m -spruce cover
5.0	
6.0	



Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/06/08
	Fig. No:	Page 1 of 1

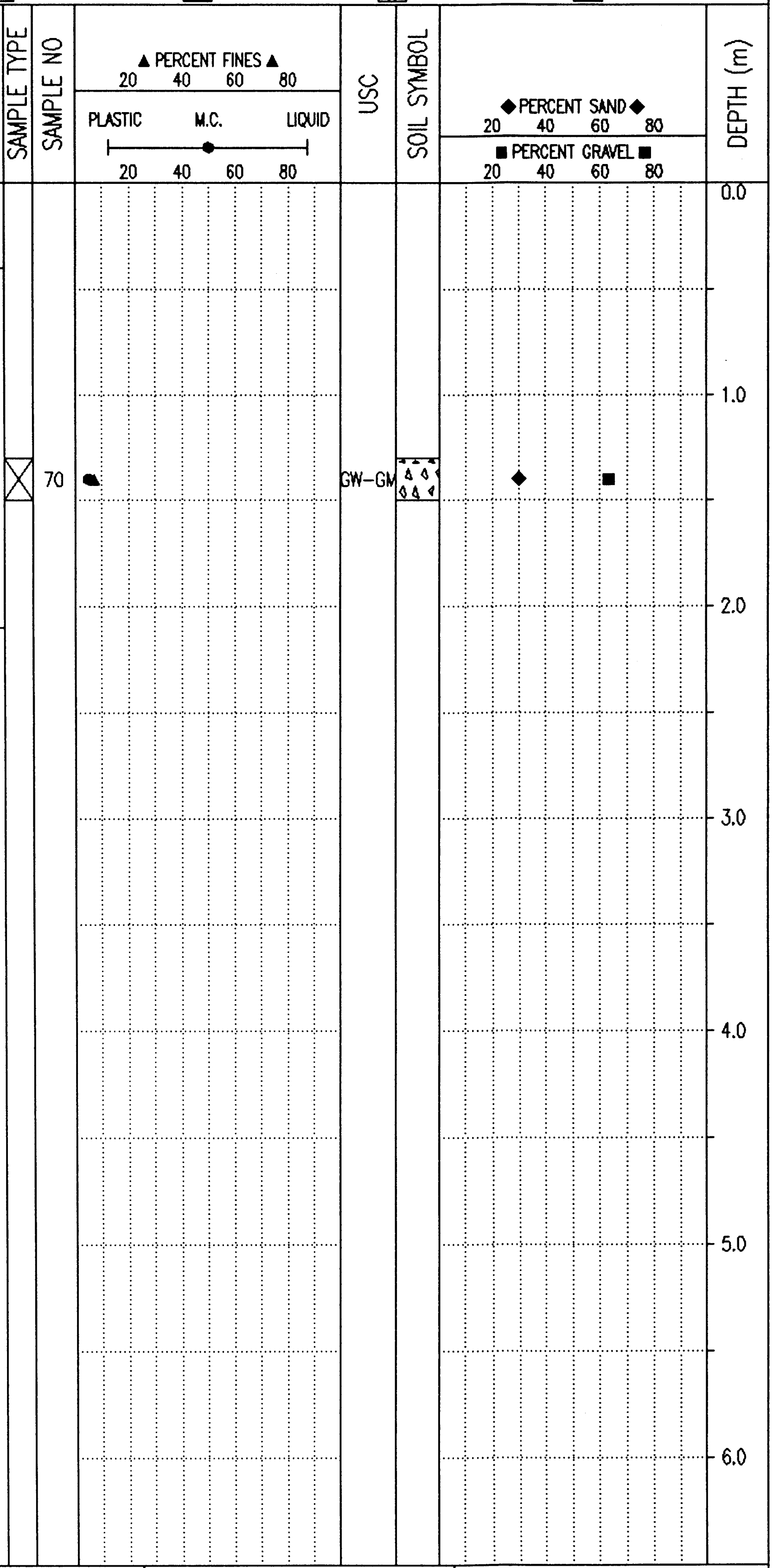
93/11/12 12:51PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-29
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1912+400	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◨ CORE

SOIL DESCRIPTION

DEPTH (m)	SOIL DESCRIPTION
0.0	ORGANIC MATERIAL
	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -dry -hard drilling -maximum 50mm material augered up
2.0	END HOLE at 2.1m -refusal -spruce cover



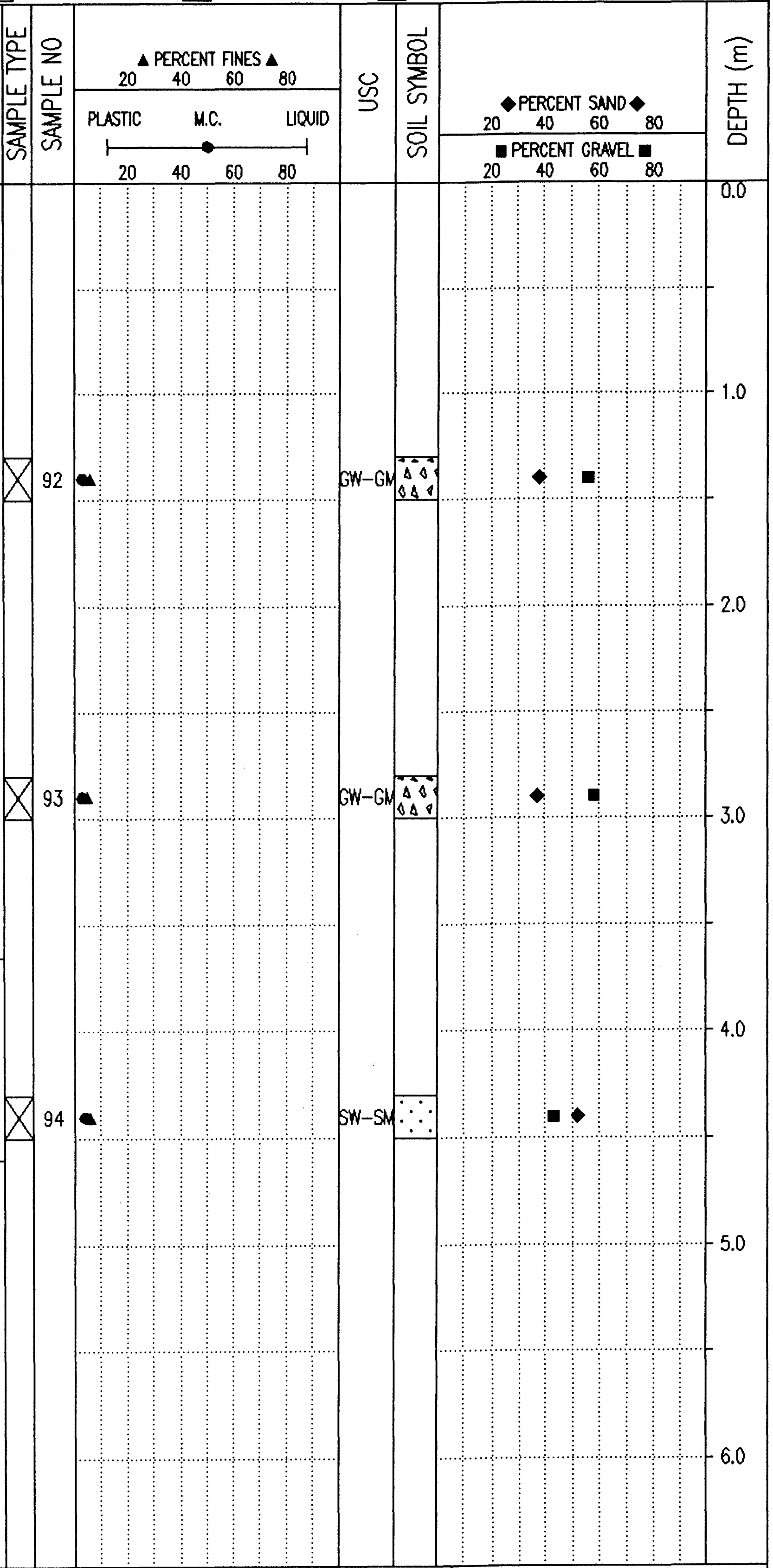
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 2.1 m
	REVIEWED BY:	COMPLETE: 92/06/08
	Fig. No:	Page 1 of 1

93/11/12 12:50PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-35
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1912+600 o/s 2m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◸ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◨ CORE

DEPTH (m)	SOIL DESCRIPTION
0.0	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -damp -maximum 50mm material augered up -grindy drilling
1.0	
2.0	
3.0	
4.0	WELL-GRADED SAND WITH SILT AND GRAVEL (SW-SM) -brown -wet
	END HOLE at 4.6m
5.0	
6.0	



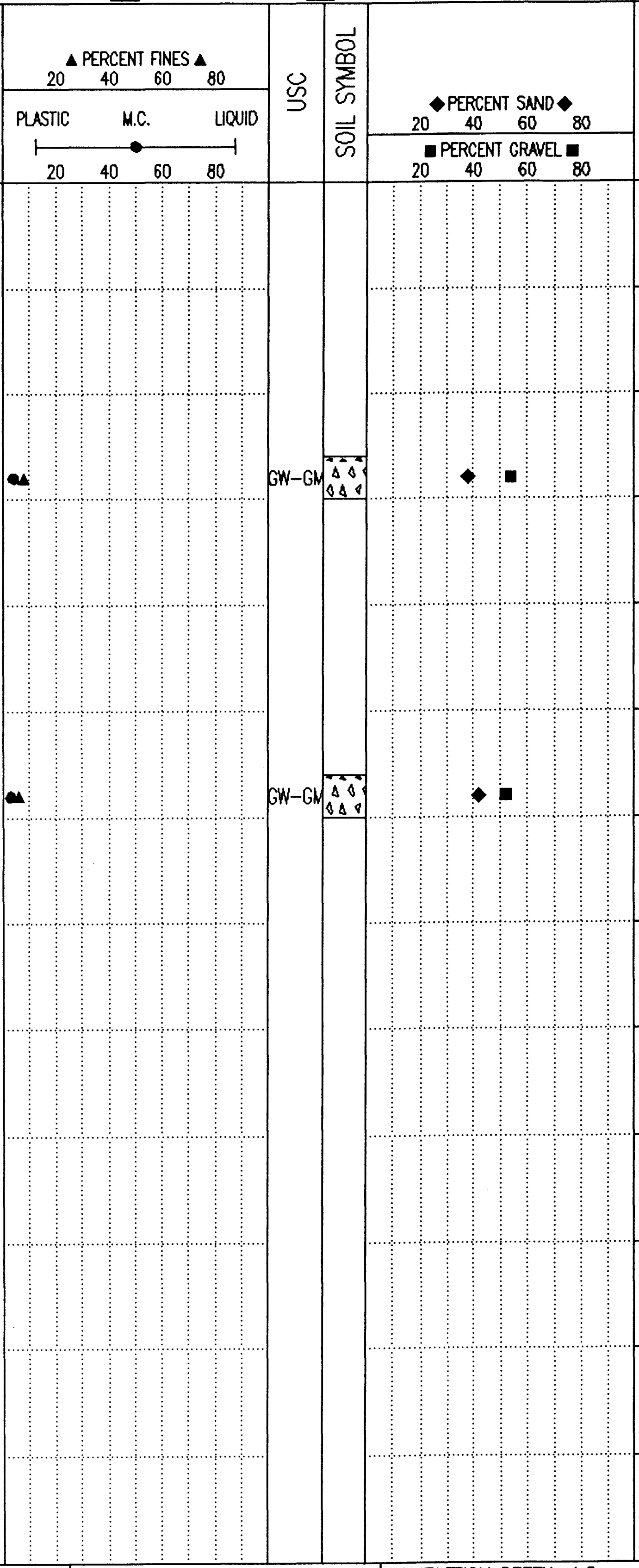
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/13
	Fig. No:	Page 1 of 1

93/11/12 09:42AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-36
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1912+700 o/s 2m Lt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -damp -maximum 50mm material augered up -grindy drilling			
1.0				
		☒	95	GW-GM
2.0	-noisy grindy drilling below 1.9m			
		☒	96	GW-GM
3.0				
4.0				
	SILT? -saturated -no sample recovered			
	END HOLE at 4.6m			
5.0				
6.0				



Government of Yukon
Transportation Engineering

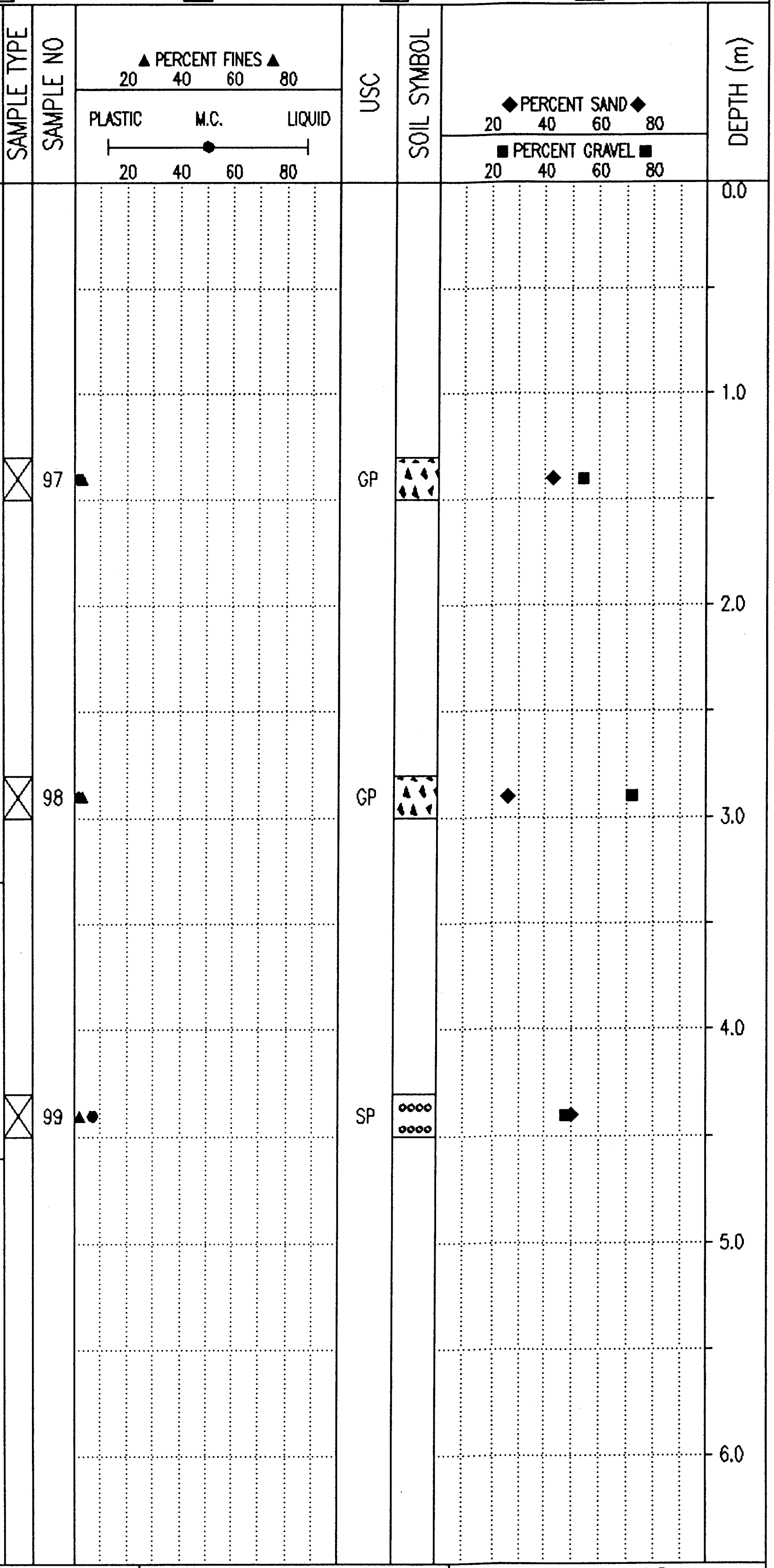
LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
REVIEWED BY:	COMPLETE: 91/08/13
Fig. No:	Page 1 of 1

93/11/12 09:44AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-37
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1912+800	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◩ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◨ CORE

DEPTH (m)	SOIL DESCRIPTION
0.0	POORLY GRADED GRAVEL WITH SAND (GP) -brown -damp -maximum 75mm material augered up -grindy drilling
3.3	POORLY GRADED SAND WITH GRAVEL (SP) -brown -wet to saturated -easier drilling
4.6	END HOLE at 4.6m -drilled in old pit area



Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/14
	Fig. No:	Page 1 of 1

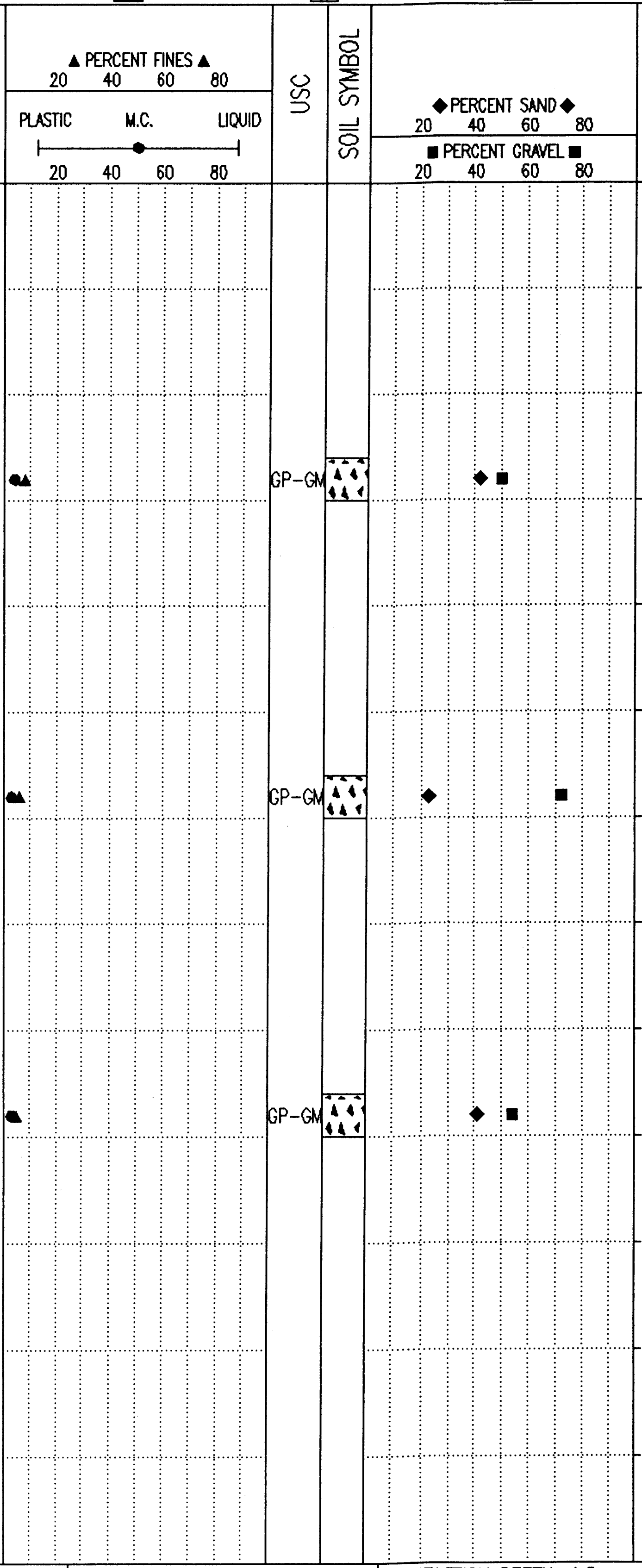
93/11/12 09:45AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-38
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1912+900 o/s 3m Rt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION
0.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -damp -slightly grindy drilling
2.0	-moist below 1.9m -maximum 75mm material augered up -grindy drilling below 1.9m
4.6	END HOLE at 4.6m

SAMPLE TYPE	SAMPLE NO	USC
☒	100	GP-GM
☒	101	GP-GM
☒	102	GP-GM



DEPTH (m): 0.0, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0

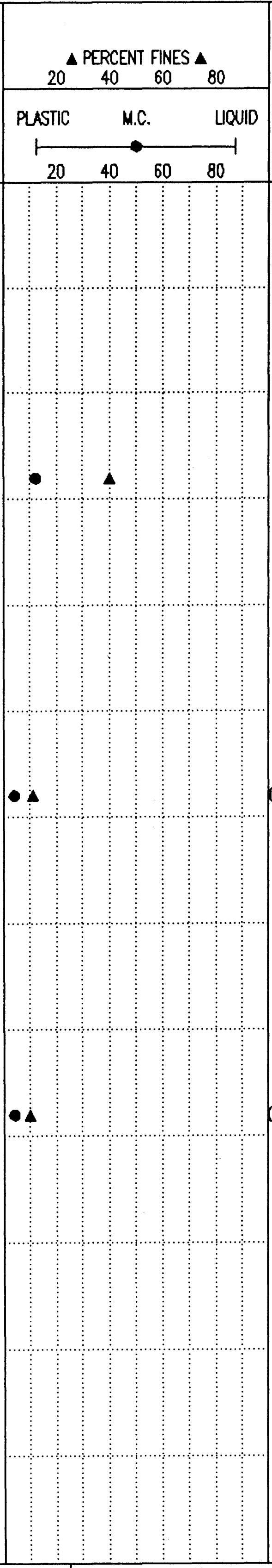
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/14
	Fig. No:	Page 1 of 1

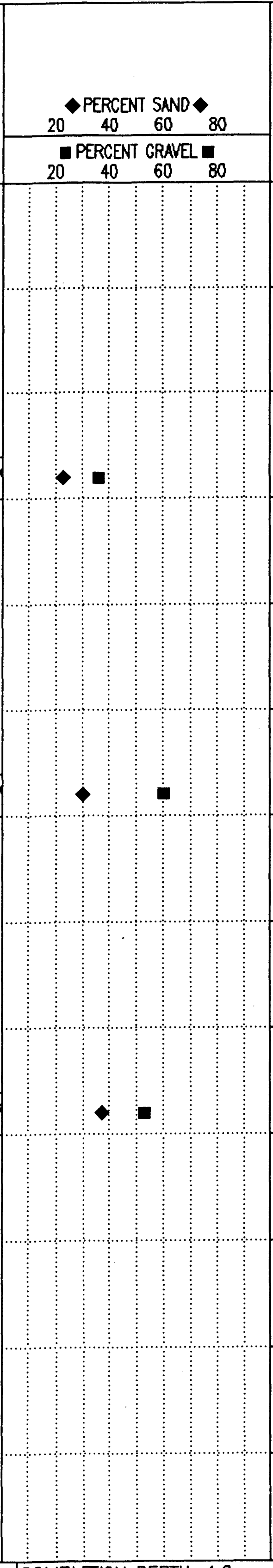
93/11/12 09:47AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-39
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1913+000 o/s 6m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◩ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◨ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	SILTY GRAVEL WITH SAND (GM) -brown -damp -grindy drilling			
		☒	103	GM
2.0	POORLY TO WELL-GRADED GRAVEL WITH SILT AND SAND (GP-GM TO GW-GM) -brown -moist -maximum 75mm material augered up -noisy jumpy drilling			
		☒	104	GP-GM
		☒	105	GW-GM
	END HOLE at 4.6m			





DEPTH (m): 0.0, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0

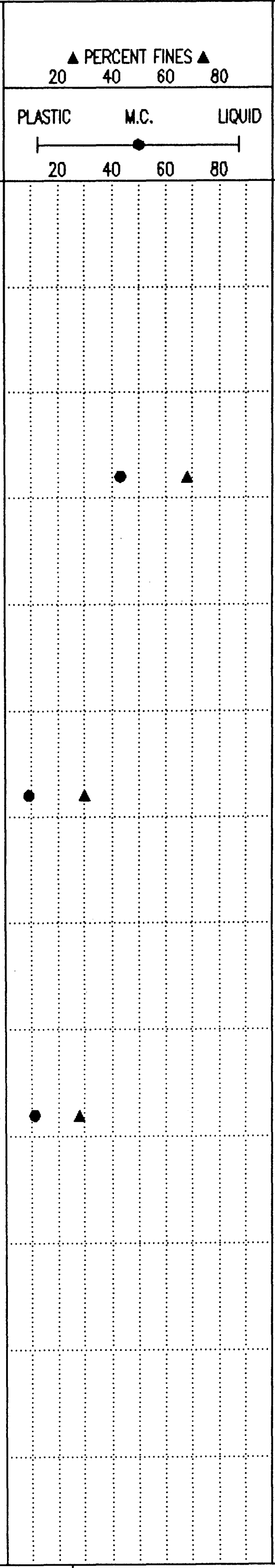
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/14
	Fig. No:	Page 1 of 1

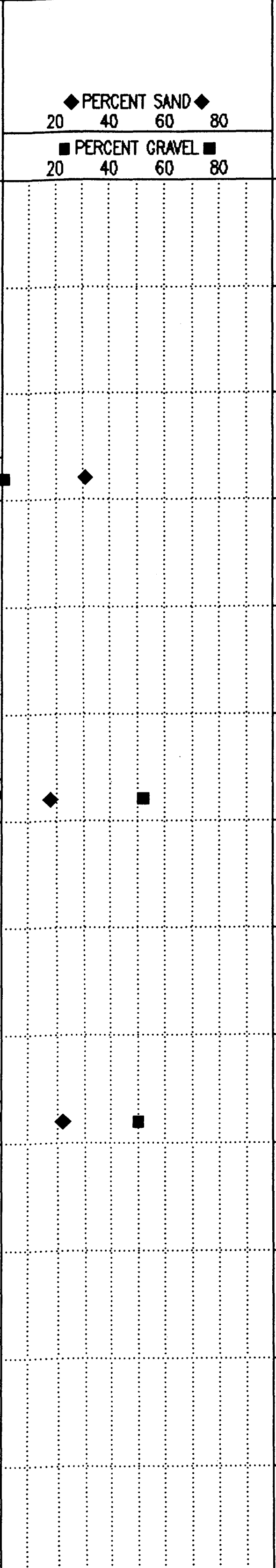
93/11/12 09:48AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-40
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1913+100 o/s 16m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⧄ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◨ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	GRAVELLY SILT -old road material			
1.0	SANDY SILT (ML) -brown -moist -organic -smooth drilling	☒	106	ML
2.0	SILTY GRAVEL WITH SAND (GM) -brown -moist -grindy drilling	☒	107	GM
3.9	-saturated below 3.9m -easy drilling below 3.9m -sample #108 contaminated from above	☒	108	GM
4.6	END HOLE at 4.6m -water at 3.9m			





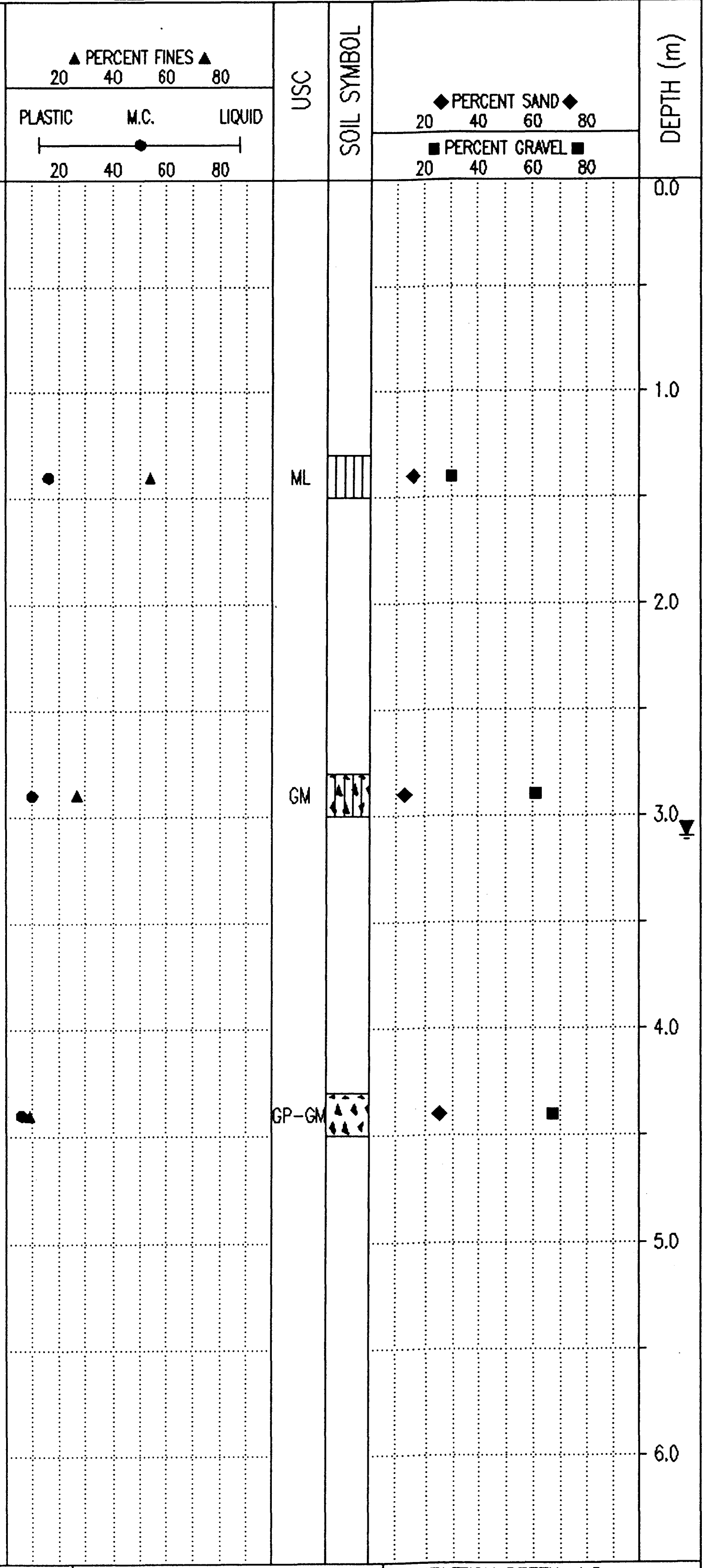
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/14
	Fig. No:	Page 1 of 1

93/11/12 09:50AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-41
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1913+200 o/s 4m Rt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
	SILTY ORGANIC MATERIAL -smooth drilling			
	GRAVELLY SILT WITH SAND (ML) -brown -saturated			
1.0				
		☒	109	ML
2.0				
	SILTY GRAVEL (GM) -brown -saturated			
	-sample #110 contaminated from above	☒	110	GM
3.0 ▼				
	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -saturated -maximum 50mm material			
4.0				
	-sample #111 washed during recovery	☒	111	GP-GM
	END HOLE at 4.6m -water at 3.1m			
5.0				
6.0				



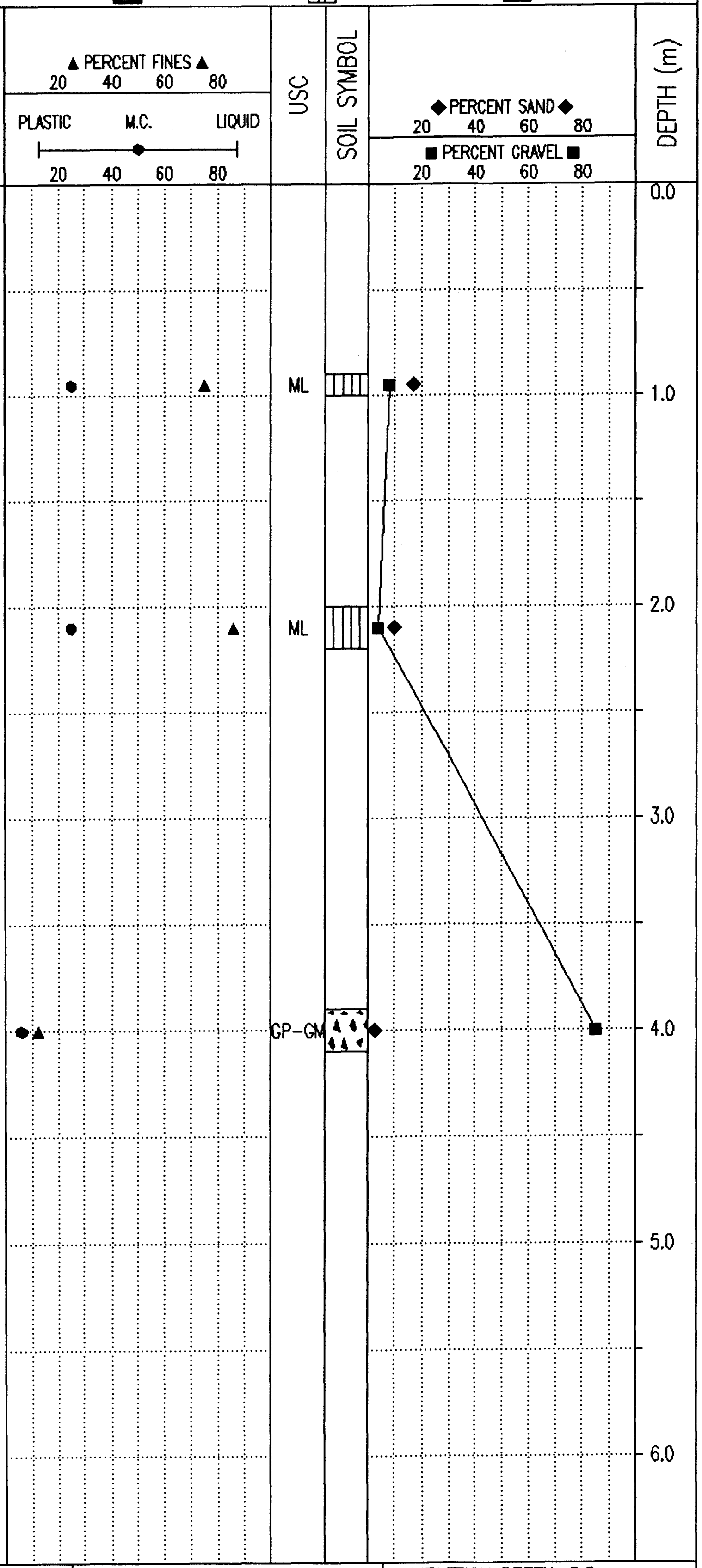
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/14
	Fig. No:	Page 1 of 1

93/11/12 09:51AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 244-21
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1913+250	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
	SILT WITH SAND TO SILT (ML) —easy drilling			
1.0		☒	60	ML
2.0		☒	61	ML
3.0	POORLY GRADED GRAVEL WITH SILT (GP-GM) —hard grindy drilling			
4.0		☒	62	GP-GM
5.0				
6.0	END HOLE at 6.0m —refusal			



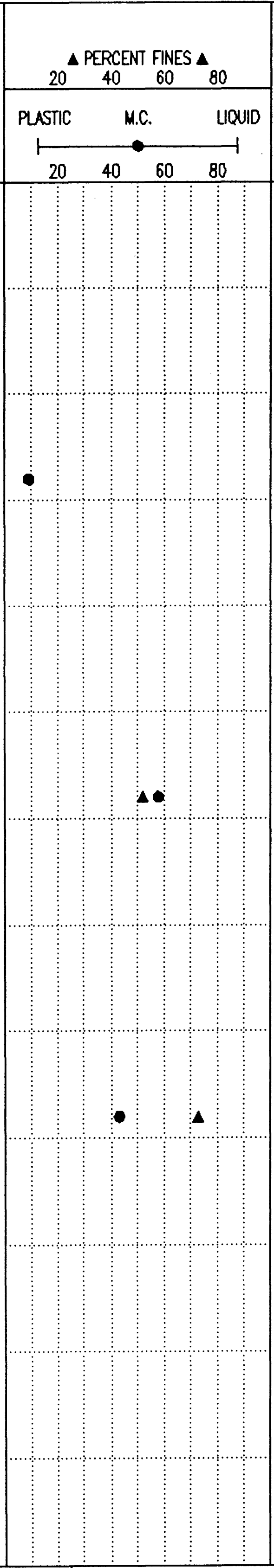
Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 6.0 m
	REVIEWED BY:	COMPLETE: 93/09/04
	Fig. No:	Page 1 of 1

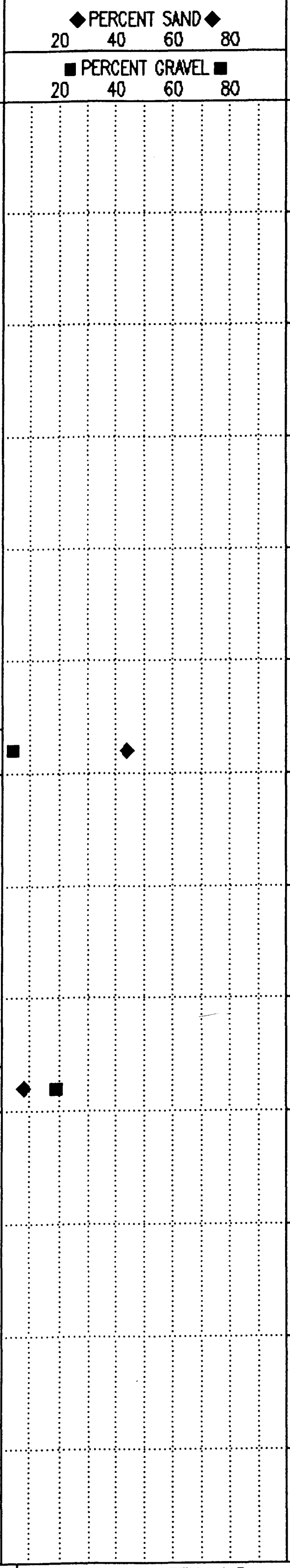
93/10/01 02:20PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-42
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1913+300	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◸ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ▌ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	DEPTH (m)
0.0	GRAVELLY SILT -brown -saturated -some sand -possible road fill				0.0
1.0					1.0
		☒ AUGER	112		
2.0	SANDY SILT & ORGANIC (OL) -frozen, no visible ice				2.0
		☒ AUGER	113	OL	
3.0					3.0
4.0	SILT -frozen, visible ice crystals -gray -some organic and gravel				4.0
		☒ AUGER	114	OL	
	END HOLE at 4.6m -on old road shoulder				
5.0					5.0
6.0					6.0





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Transportation Engineering

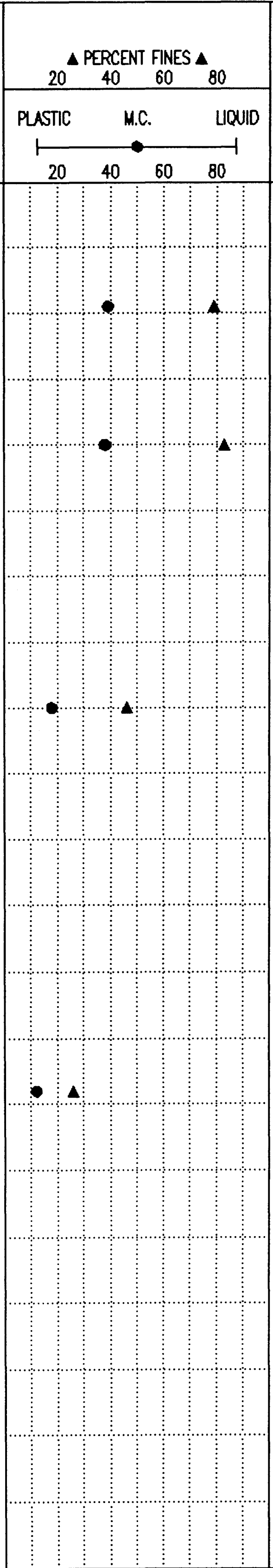
LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
REVIEWED BY:	COMPLETE: 91/08/14
Fig. No:	Page 1 of 1

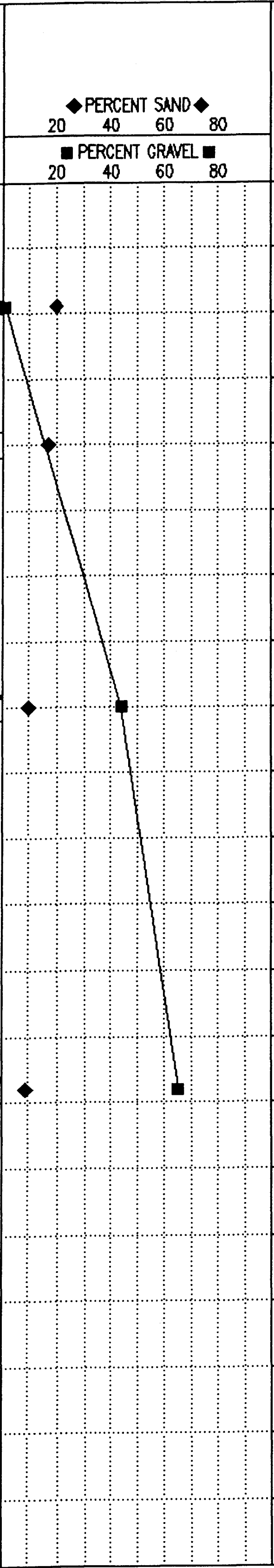
93/11/12 09:53AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 244-22
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1913+350 o/s 9m Rt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
	SILT WITH SAND (ML) –easy drilling			
1.0		☒	63	ML
	–organics below 1.2m			
2.0		☒	64	ML
3.0	SILTY GRAVEL (GM)			
4.0		☒	65	GM
5.0				
6.0				
7.0		☒	66	GM
	END HOLE at 7.0m			
8.0				
9.0				
10.0				





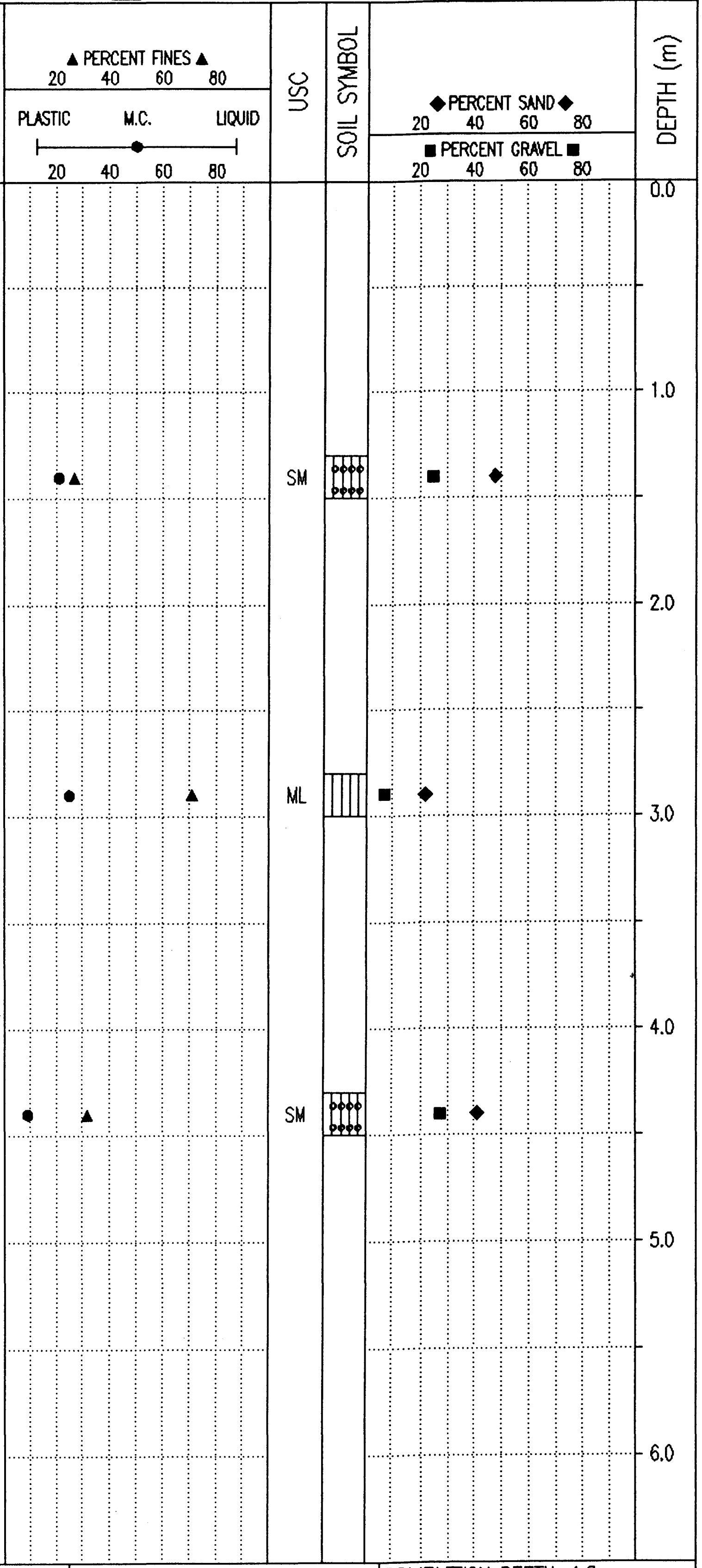
Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 7.0 m
	REVIEWED BY:	COMPLETE: 93/09/04
	Fig. No:	Page 1 of 1

93/10/01 02:22PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-43
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1913+412 o/s 7m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◩ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	SILTY SAND WITH GRAVEL (SM) -brown black -moist -some organics -smooth drilling			
		☒	115	SM
2.0	SILT WITH SAND (ML) -brown -saturated			
3.0		☒	116	ML
4.0	SILTY SAND WITH GRAVEL (SM) -gray -saturated -slightly grindy drilling			
		☒	117	SM
	END HOLE at 4.6m			
5.0				
6.0				

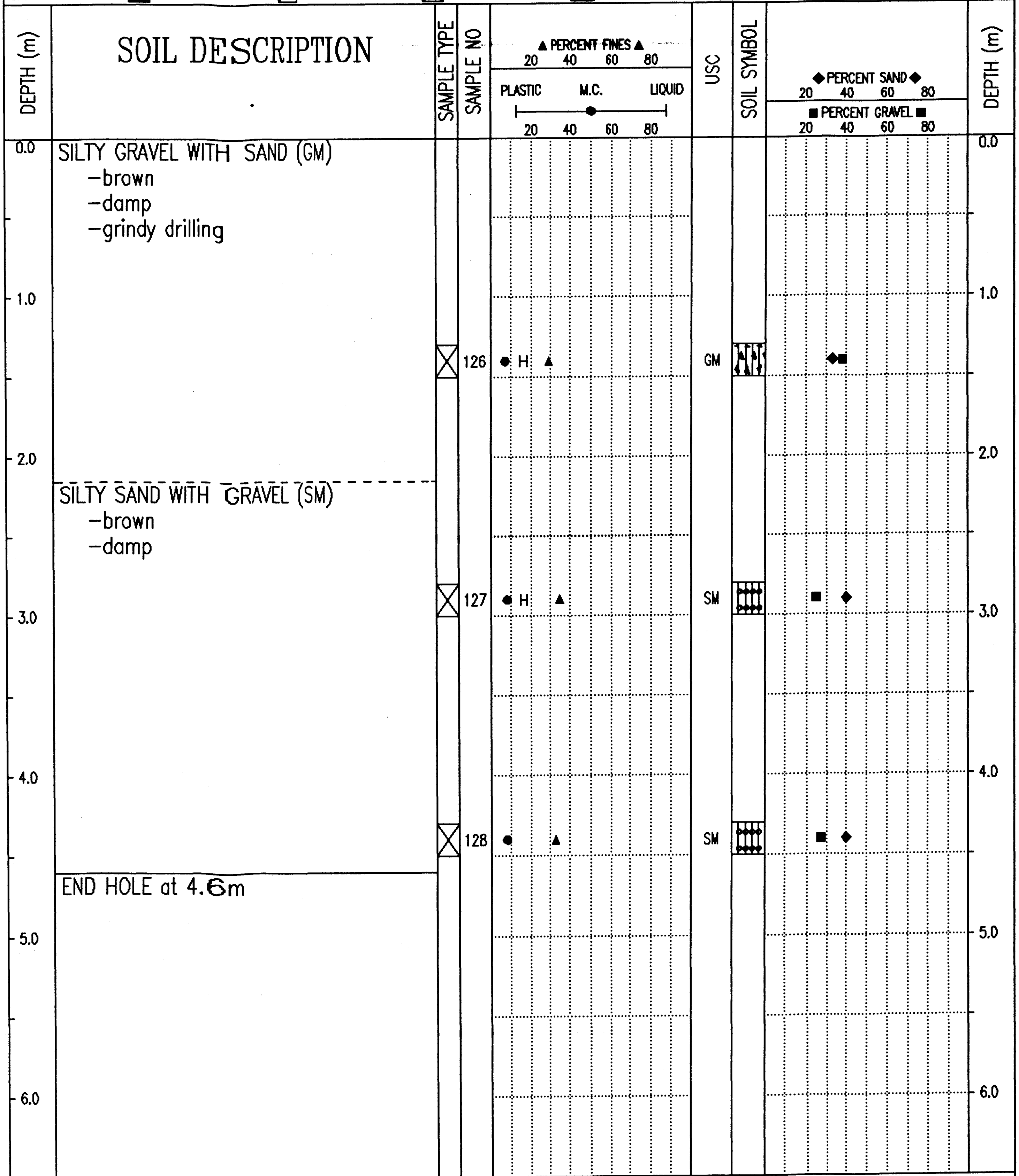


Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/14
	Fig. No:	Page 1 of 1

93/11/12 09:56AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 141-47
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1913+500 o/s 7m Lt.	ELEVATION: 0.00 (m)

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



SILTY GRAVEL WITH SAND (GM)
- brown
- damp
- grindy drilling

SILTY SAND WITH GRAVEL (SM)
- brown
- damp

END HOLE at 4.6m

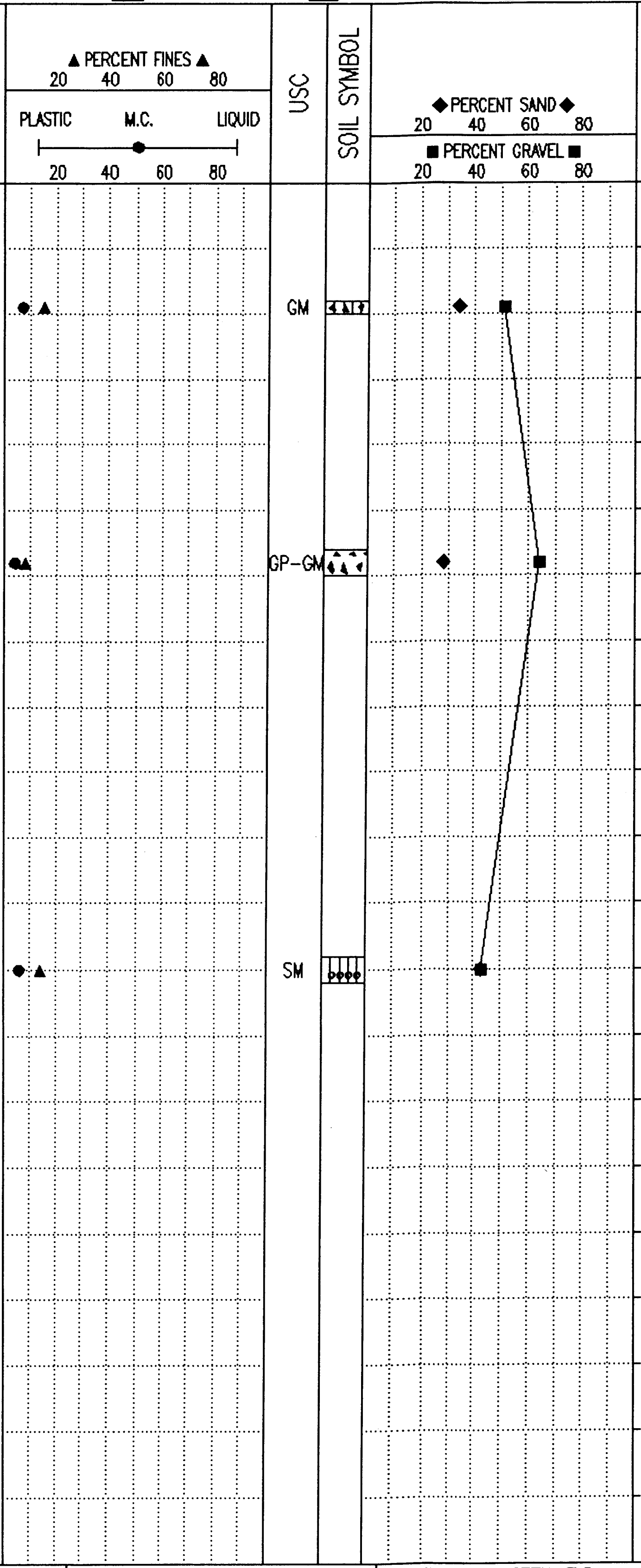
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/14
	Fig. No:	Page 1 of 1

94/03/25 04:06PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 244-23
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1913+575 o/s 3m Lt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	DEPTH (m)
0.0	SILTY GRAVEL WITH SAND (GM) -organics -road fill -easy drilling				0.0
1.0		☒	67	GM	1.0
2.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -easy drilling				2.0
3.0		☒	68	GP-GM	3.0
4.0					4.0
5.0					5.0
	SILTY SAND WITH GRAVEL (SM) -easy grindy drilling				
6.0▼	-water below 6.0m	☒	69	SM	6.0▼
7.0	END HOLE at 7.0m				7.0
8.0					8.0
9.0					9.0
10.0					10.0



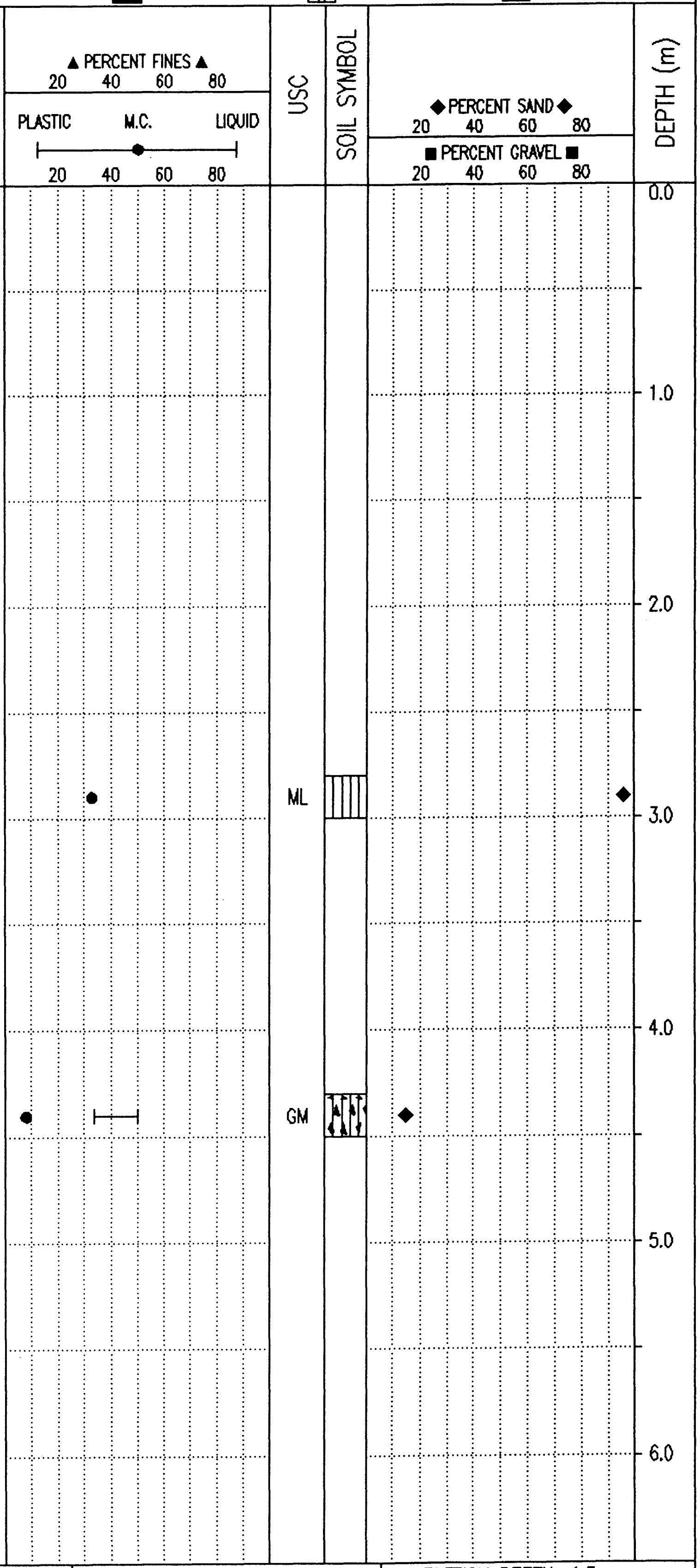
Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 7.0 m
	REVIEWED BY:	COMPLETE: 93/09/04
	Fig. No:	Page 1 of 1

93/10/01 02:23PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-28
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1913+600 o/s 7m Lt	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◿ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◫ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO
0.0	ORGANIC MATERIAL		
	SILTY CLAY -brown -frozen with visible ice crystals (Vx) -easy drilling -sample #67 lost in transit	☒	67
	SILT (ML) -gray -frozen (Nb)	☒	68
	SILTY GRAVEL WITH SAND (GM) -brown -damp	☒	69
	END HOLE at 4.5m		

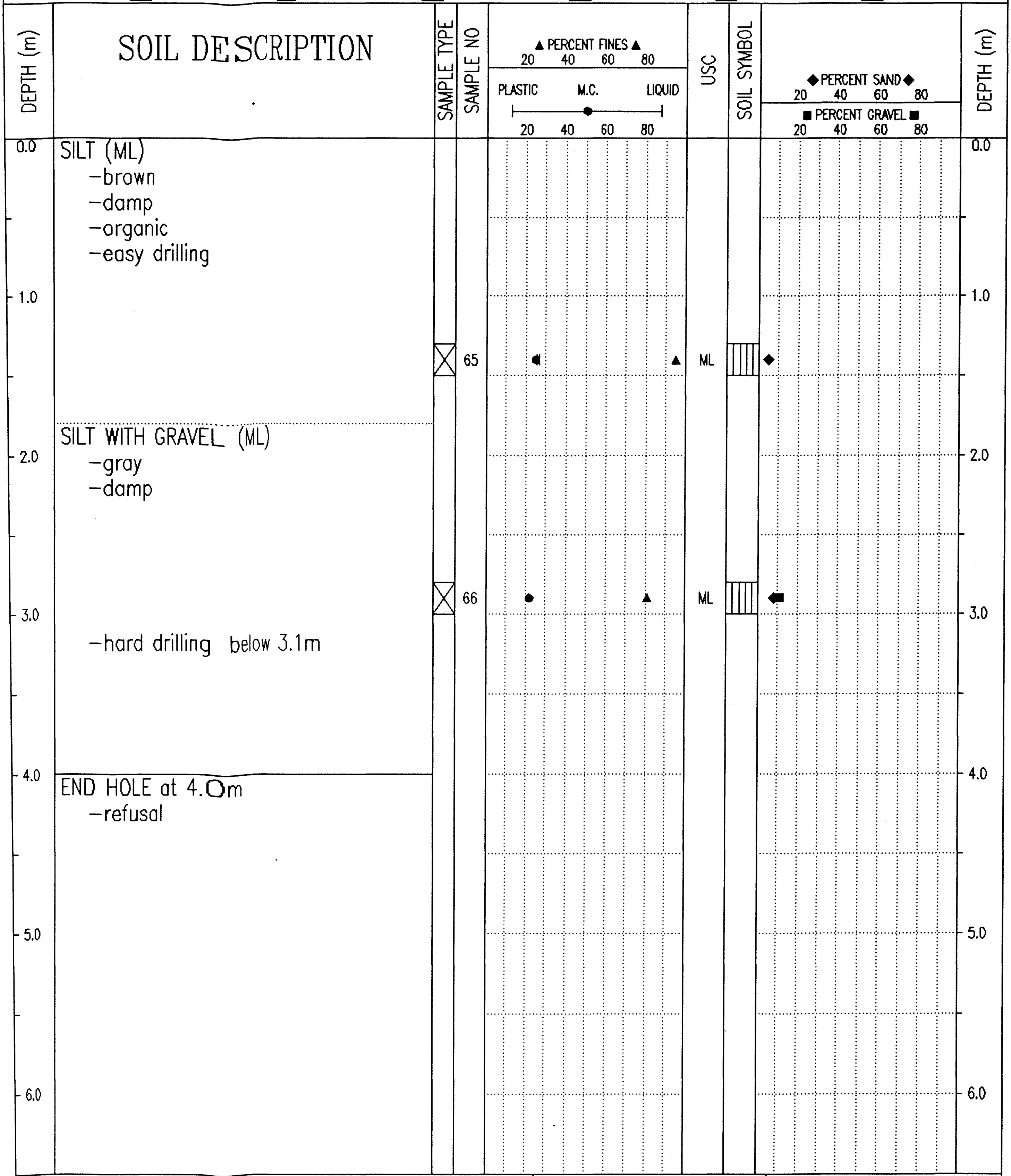


Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/06/08
	Fig. No:	Page 1 of 1

93/11/12 12:48PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-27
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1913+700 o/s 3m Lt	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◨ CORE



SILT (ML)
- brown
- damp
- organic
- easy drilling

SILT WITH GRAVEL (ML)
- gray
- damp
- hard drilling below 3.1m

END HOLE at 4.0m
- refusal

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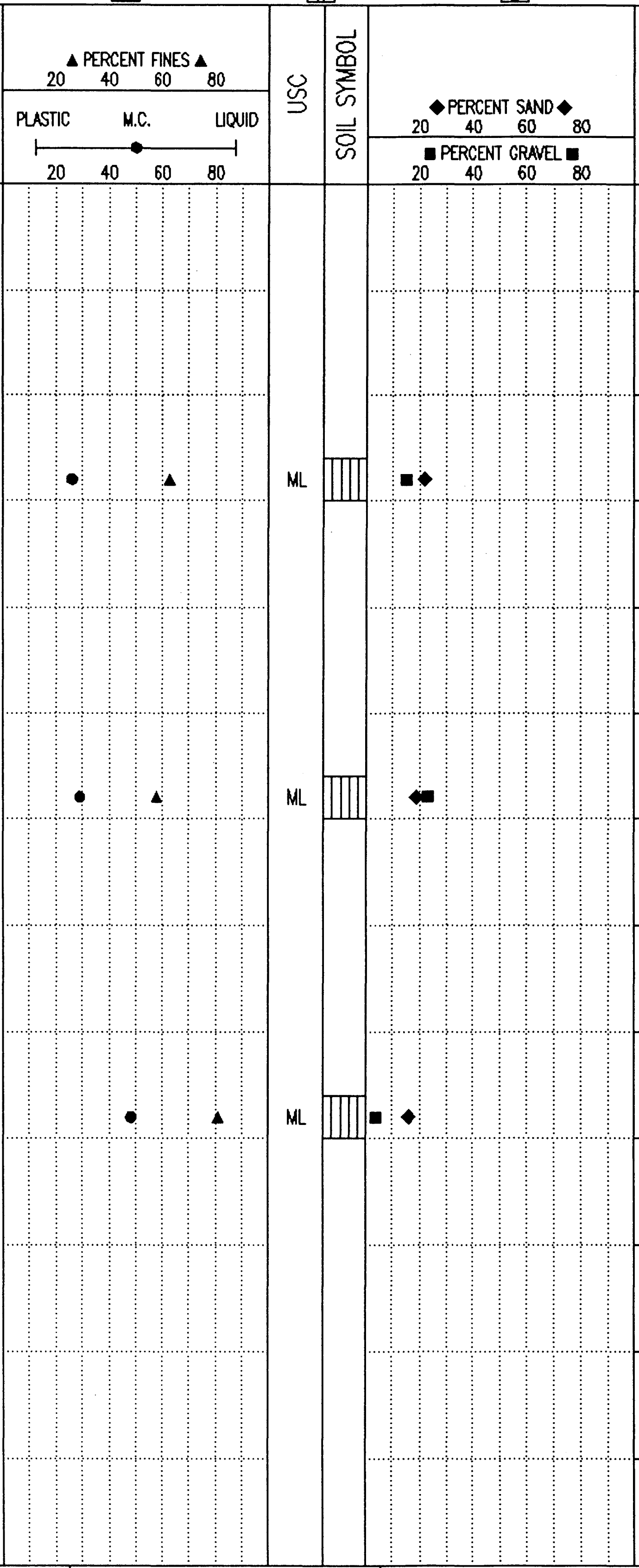
	REVIEWED BY:	COMPLETE: 92/06/08
	Fig. No:	Page 1 of 1

93/11/12 12:47PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 141-48
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1913+808 o/s 2m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◫ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL -black			
	SANDY SILT WITH GRAVEL (ML) -brown -saturated -smooth drilling			
		☒	129	ML
2.0	GRAVELLY SILT WITH SAND (ML) -brown -frozen with visible ice crystals below 2.4m			
		☒	130	ML
	SILT WITH SAND (ML) -brown -visible ice lenses, well bonded			
		☒	131	ML
	END HOLE at 4.6m			



DEPTH (m): 0.0, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0

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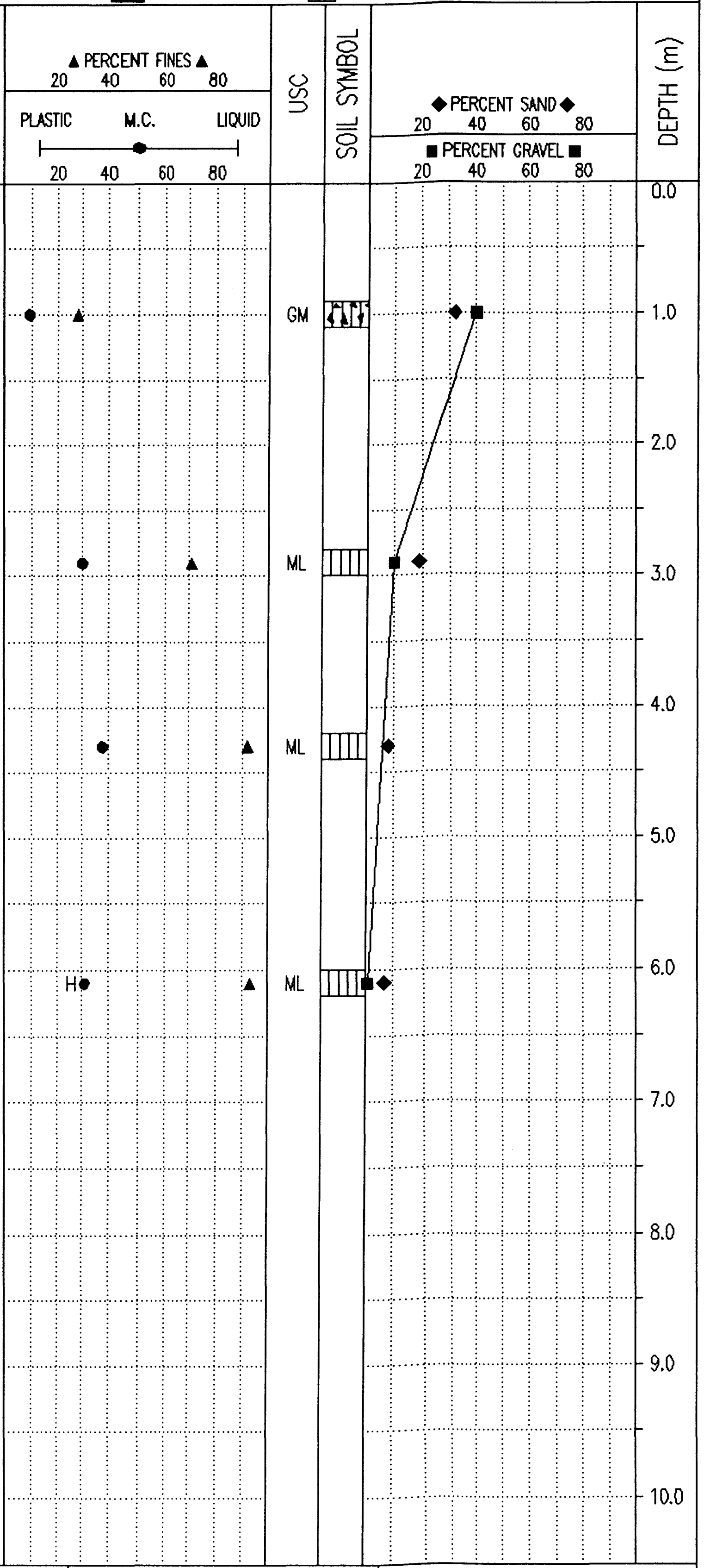
	REVIEWED BY: DT	COMPLETE: 91/08/14
	Fig. No:	Page 1 of 1

93/11/12 11:30AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 244-24
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1913+850 o/s 2m Lt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	SILTY GRAVEL WITH SAND (GM) -grindy drilling			
1.0		☒	70	GM
2.0				
2.5	SILT WITH SAND (ML) -wet -smooth easy drilling			
3.0		☒	71	ML
4.0	SILT (ML) -smooth easy drilling -frozen			
4.3		☒	72	ML
6.0		☒	73	ML
7.0	END HOLE at 7.0m			
8.0				
9.0				
10.0				



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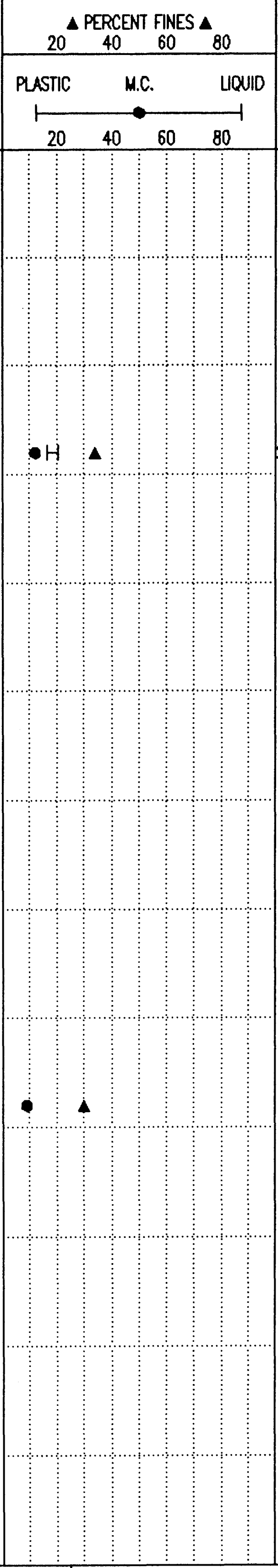
	REVIEWED BY:	COMPLETE: 93/09/04
	Fig. No:	Page 1 of 1

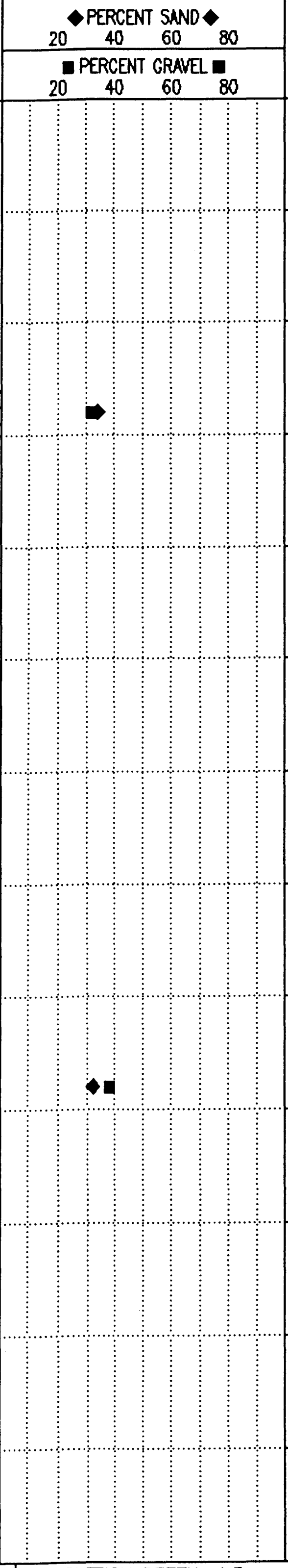
93/10/04 10:37AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175–26
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1913+900 o/s 10m Lt	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 MATERIAL –easy drilling					0.0
1.0						1.0
	SILTY, CLAYEY SAND WITH GRAVEL (SC–SM) –dry	☒	62	SC–SM		
2.0						2.0
	SILTY GRAVEL WITH SAND (GM) –wet –harder drilling					
3.0						3.0
4.0						4.0
	–easy drilling below 4.2m	☒	64	GM		
	END HOLE at 4.5m					
5.0						5.0
6.0						6.0





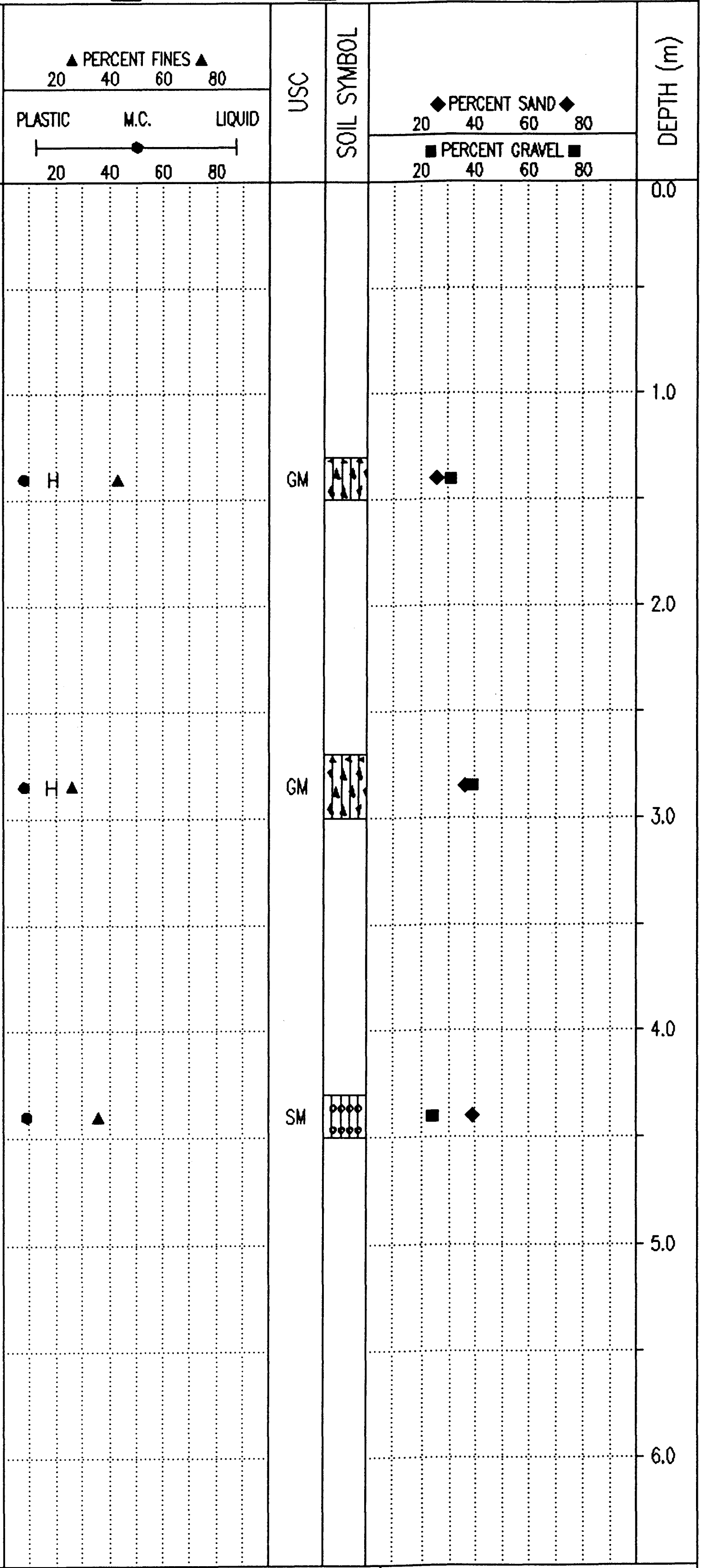
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/06/08
	Fig. No:	Page 1 of 1

93/11/12 12:45PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-25
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1914+000 o/s 8m Lt	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL -easy drilling			
1.0	SILTY GRAVEL WITH SAND (GM) -brown -moist -harder drilling -maximum 38mm material augered up	☒	59	GM
		☒	60	GM
4.0	SILTY SAND WITH GRAVEL (SM) -gray -moist -easy drilling	☒	61	SM
	END HOLE at 4.5m			



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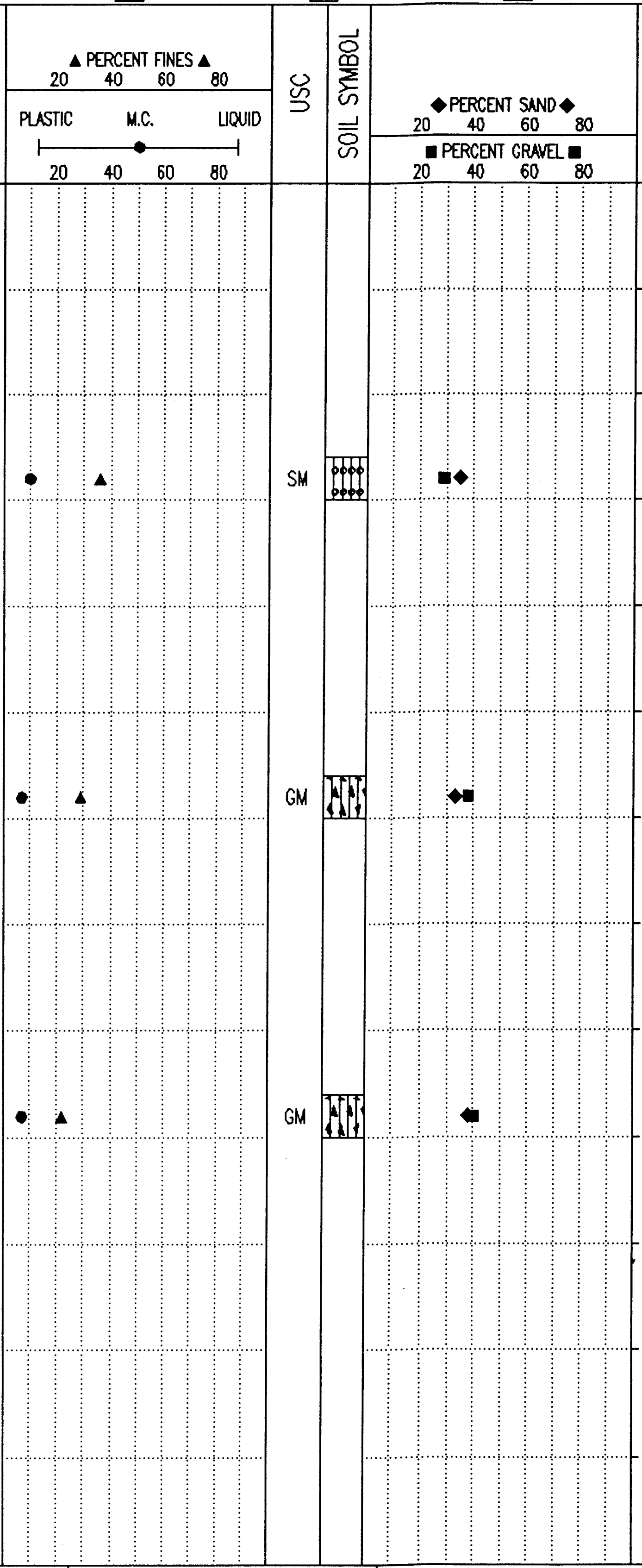
REVIEWED BY:	COMPLETE: 92/06/08
Fig. No:	Page 1 of 1

93/11/12 12:44PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 141-49
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1914+075 o/s 8m Lt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	SILTY SAND WITH GRAVEL (SM) -brown -moist -first refusal at 0.3m			
1.0		☒	132	SM
2.0	SILTY GRAVEL WITH SAND (GM) -brown -wet			
3.0		☒	133	GM
	-saturated below 3.65m			
4.0		☒	134	GM
	END HOLE at 4.6m -in old pit			
5.0				
6.0				



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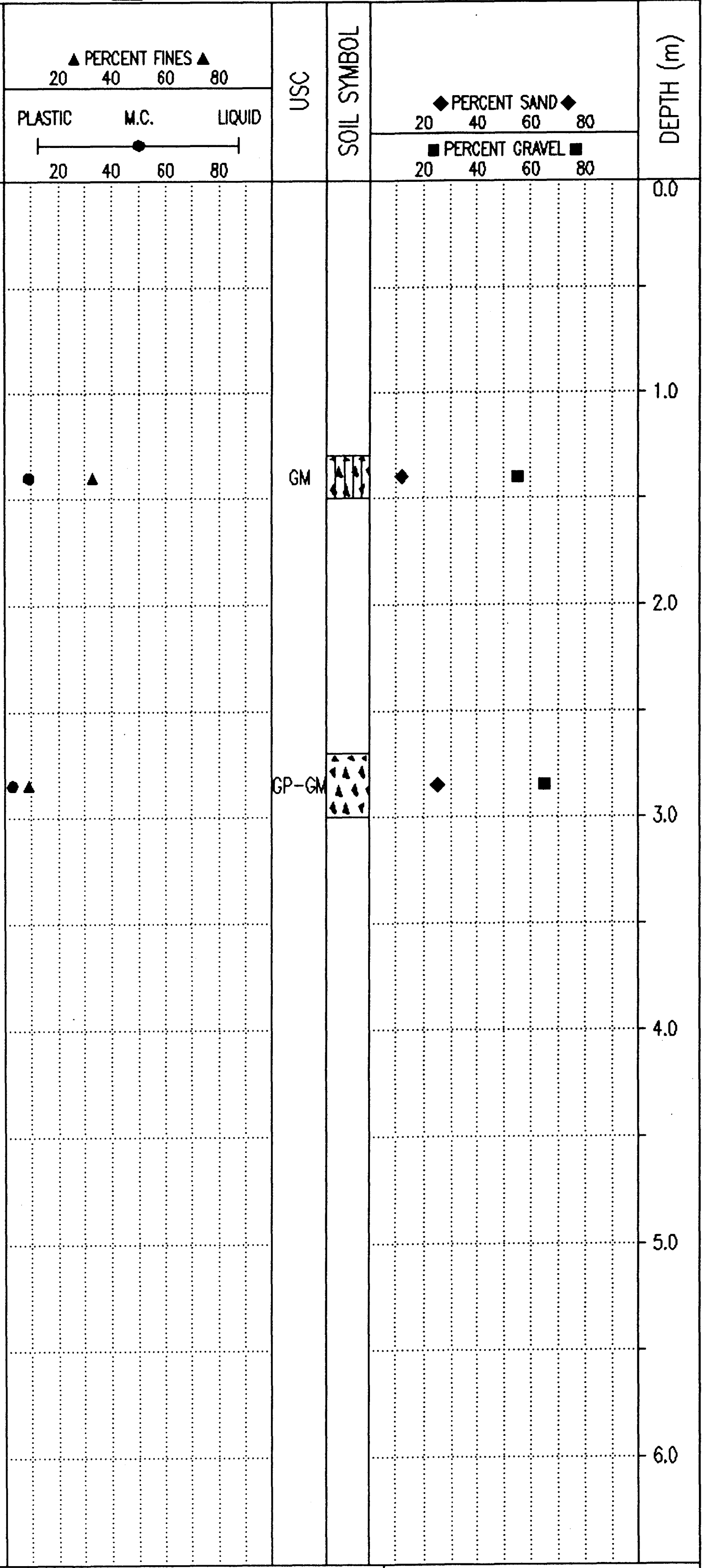
	REVIEWED BY: DT	COMPLETE: 91/08/14
	Fig. No:	Page 1 of 1

93/11/12 11:31AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-24
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1914+075 o/s 90m Lt	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	SILTY GRAVEL (GM) –brown –damp –hard drilling			
1.0		☒	57	GM
2.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP–GM) –brown –moist			
3.0		☒	58	GP–GM
4.0	END HOLE at 4.0m –refusal			
5.0				
6.0				

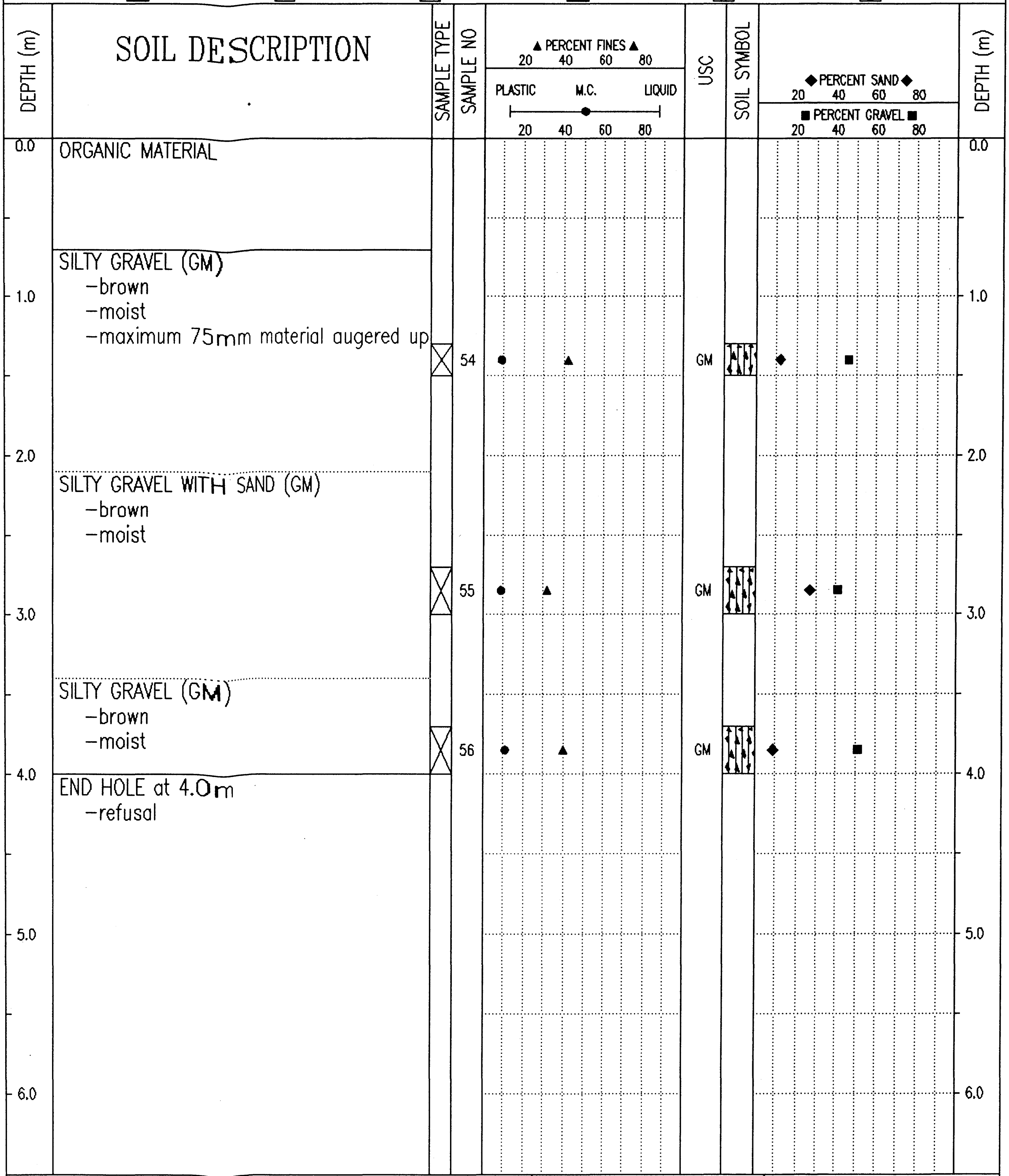


Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.0 m
	REVIEWED BY:	COMPLETE: 92/06/08
	Fig. No:	Page 1 of 1

93/11/12 12:42PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 174-23
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1914+125 o/s 100m Lt	ELEVATION: 0.00 (m)

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



SOIL DESCRIPTION

0.0 ORGANIC MATERIAL

SILTY GRAVEL (GM)
- brown
- moist
- maximum 75mm material augered up

Sample 54 — GM

SILTY GRAVEL WITH SAND (GM)
- brown
- moist

Sample 55 — GM

SILTY GRAVEL (GM)
- brown
- moist

Sample 56 — GM

END HOLE at 4.0m
- refusal

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.0 m
	REVIEWED BY:	COMPLETE: 92/06/08
	Fig. No:	Page 1 of 1

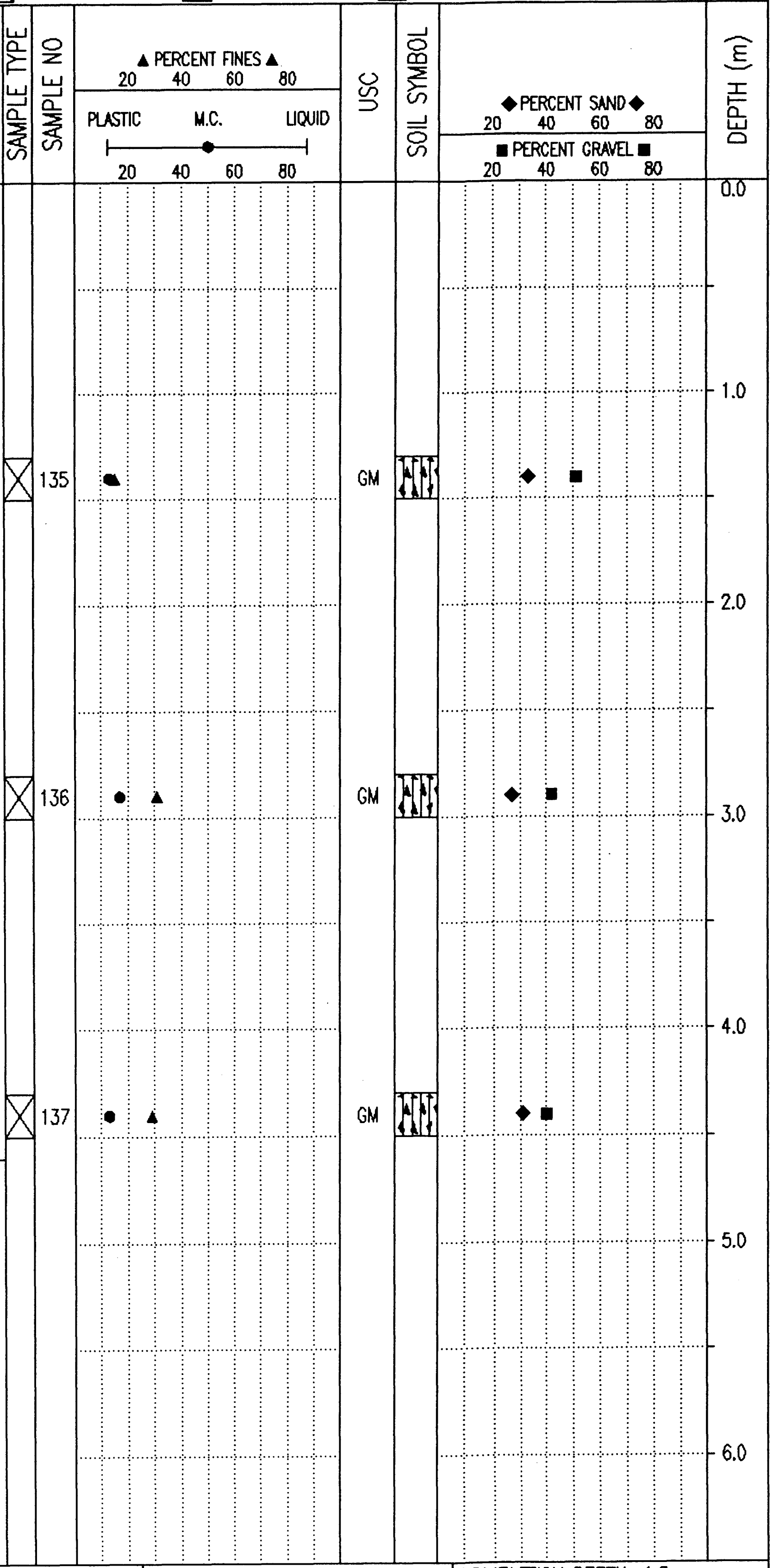
93/11/12 12:41PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 141-50
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1914+275 o/s 5m Rt.	ELEVATION: 0.00 (m)

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

SOIL DESCRIPTION

DEPTH (m)	SOIL DESCRIPTION
0.0	SILTY GRAVEL WITH SAND (GM) -brown -damp -some organics -grindy drilling
2.0	-wet below 2.15m
4.0	-saturated below 3.65m -no more organics below 3.65m
	END HOLE at 4.6m



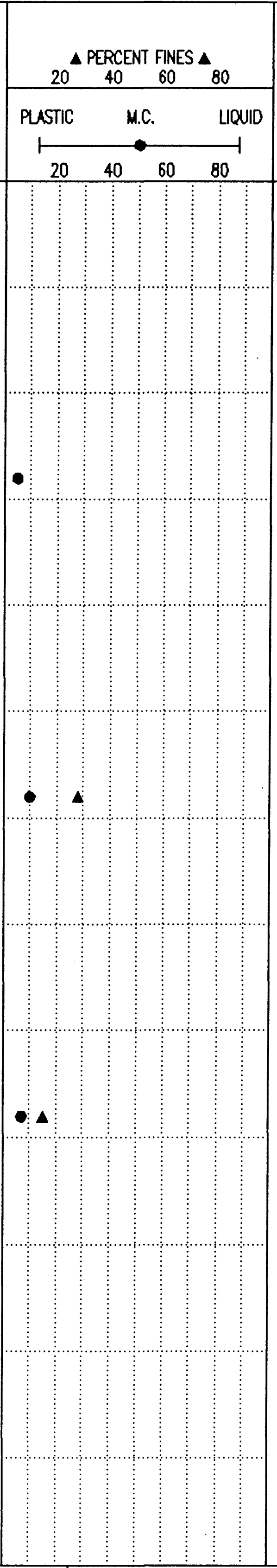
Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 4.6 m
	REVIEWED BY: DT	COMPLETE: 91/08/14
	Fig. No:	Page 1 of 1

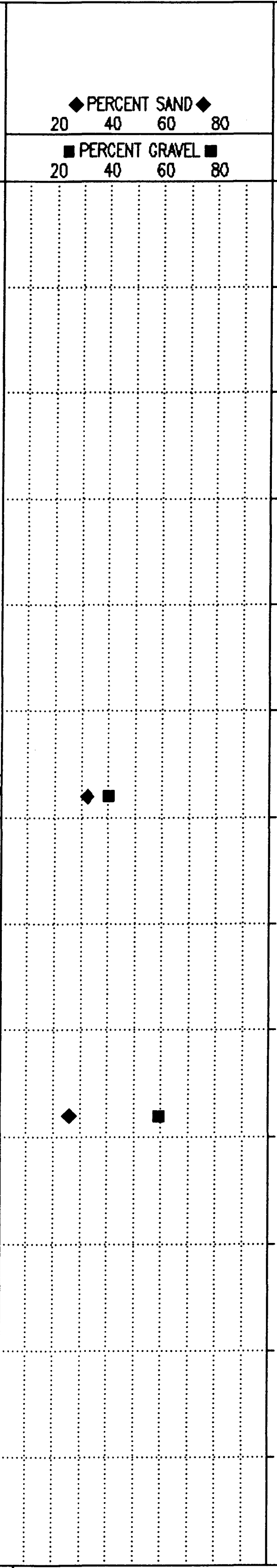
93/11/12 11:33AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 141-51
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1914+375 o/s 2m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ⊟ BULK ◫ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	SANDY SILTY GRAVEL -brown -damp -maximum 50mm material -possibly road fill			
1.0		☒	138	
1.6	SILTY GRAVEL WITH SAND (GM) -brown -moist			
2.0				
3.0		☒	139	GM
3.6	-saturated below 3.6m -soft drilling below 3.6m			
4.0		☒	140	GM
4.6	END HOLE at 4.6m			
5.0				
6.0				



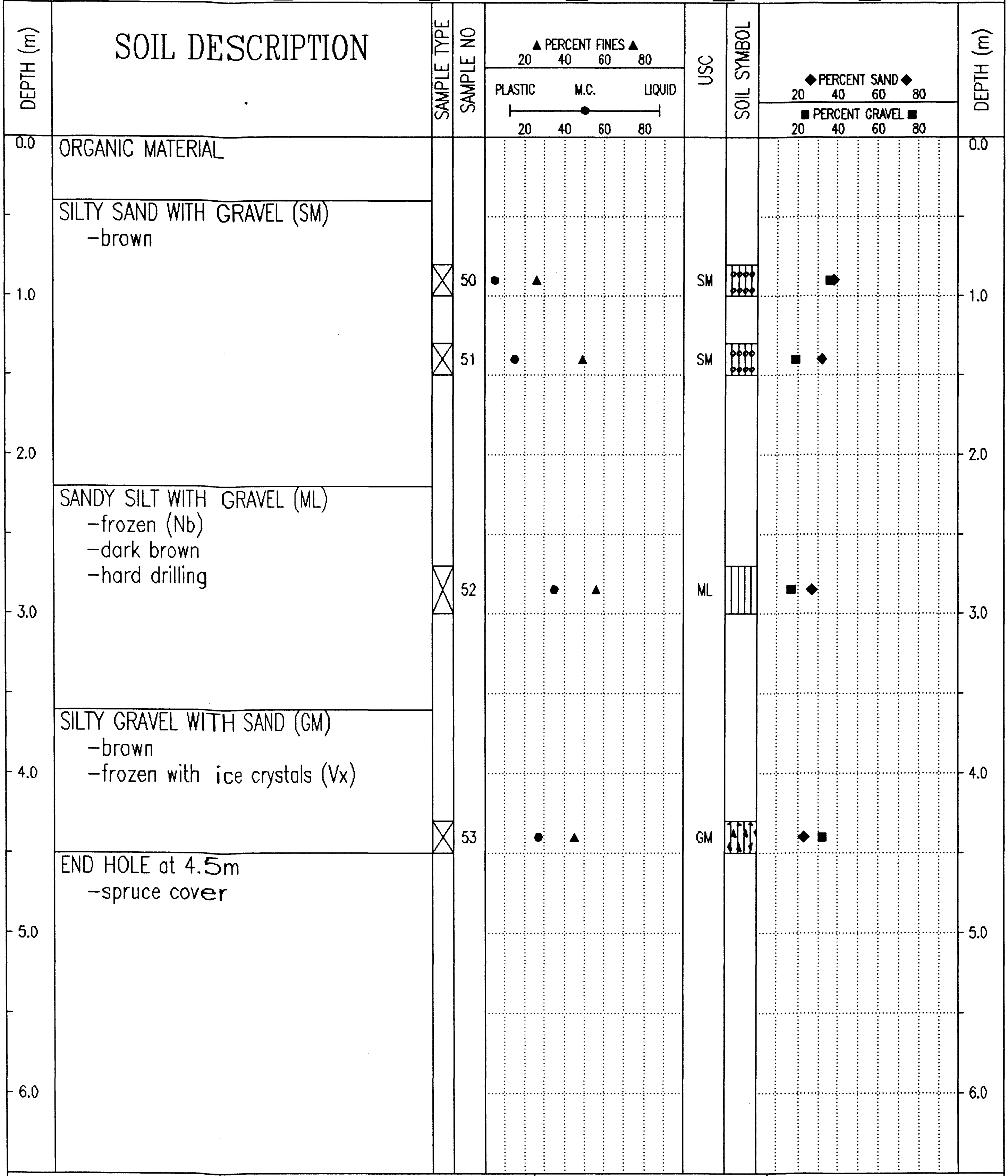


Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 4.6 m
	REVIEWED BY: DT	COMPLETE: 91/08/14
	Fig. No:	Page 1 of 1

93/11/12 11:34AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 174-22
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1914+475 o/s 30m Lt	ELEVATION: 0.00 (m)

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



ORGANIC MATERIAL

SILTY SAND WITH GRAVEL (SM)
-brown

SANDY SILT WITH GRAVEL (ML)
-frozen (Nb)
-dark brown
-hard drilling

SILTY GRAVEL WITH SAND (GM)
-brown
-frozen with ice crystals (Vx)

END HOLE at 4.5m
-spruce cover

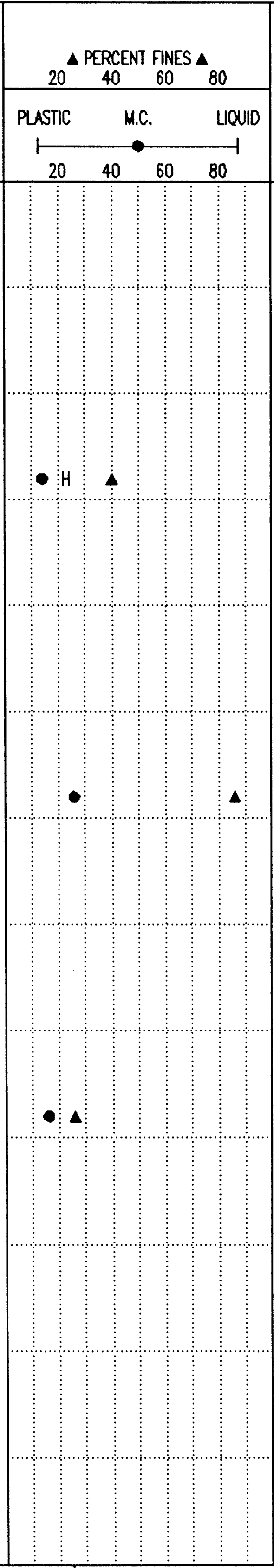
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/06/08
	Fig. No:	Page 1 of 1

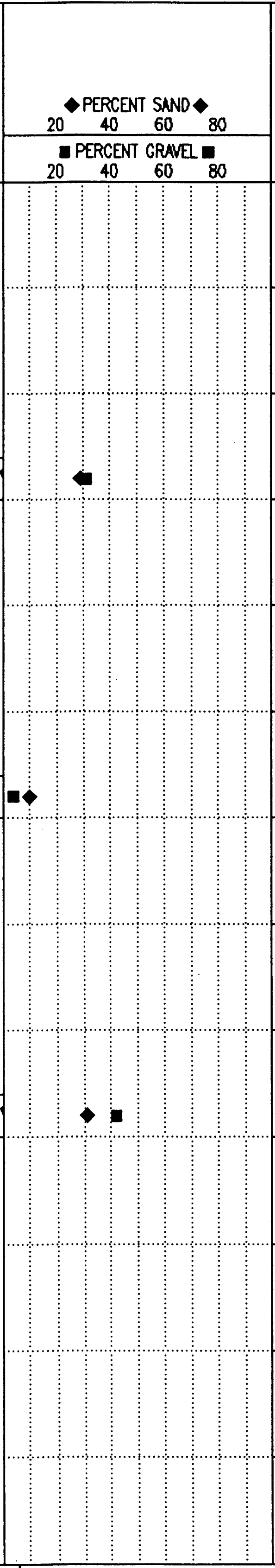
93/11/12 12:39PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 174-21
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1914+575 o/s 25m Lt	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◨ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
	SILTY GRAVEL WITH SAND (GM) -frozen with ice crystals (Vx)			
1.0		☒	47	GM
2.0	SILT (ML) -frozen (Nb)			
3.0		☒	48	ML
4.0	ICE WITH SOIL	☒	49	GM
5.0	END HOLE at 4.5m -spruce cover			
6.0				





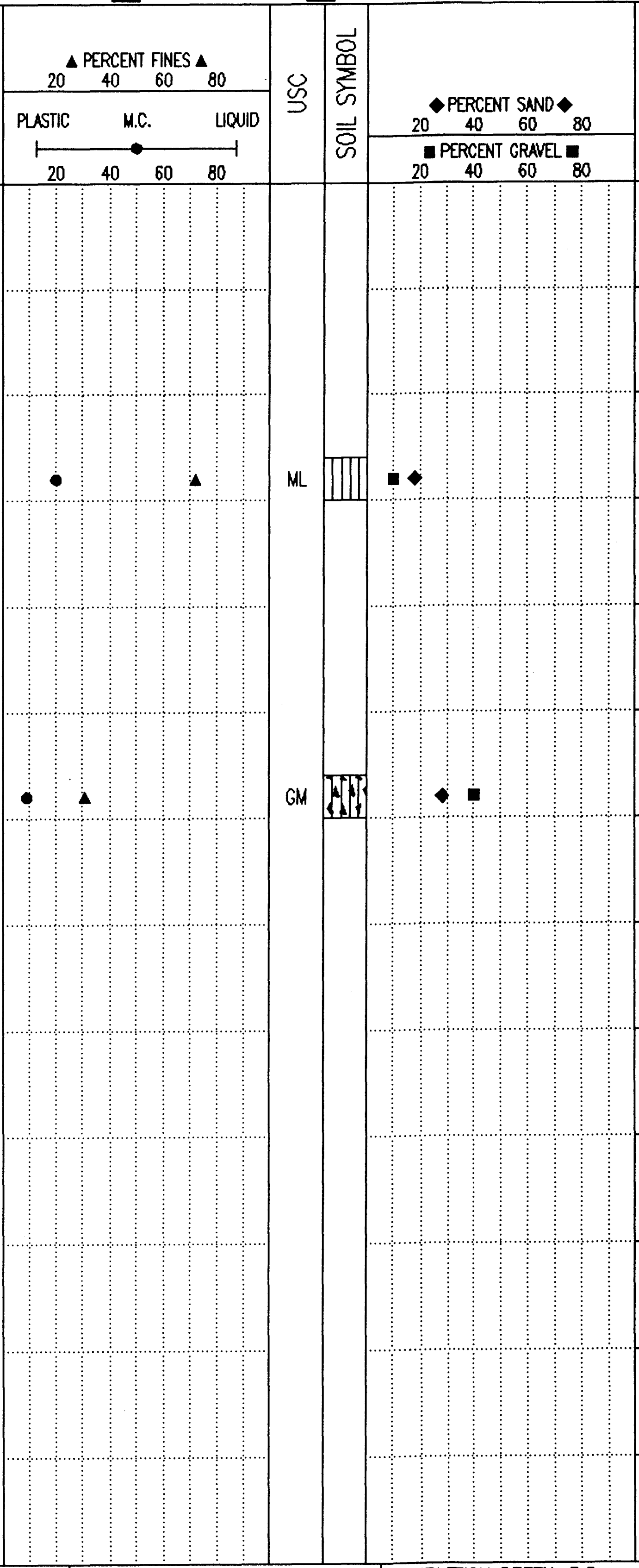
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/06/08
	Fig. No:	Page 1 of 1

93/11/12 12:38PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 141-52
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1914+625 o/s 3m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◨ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL -black			
	SILT WITH SAND (ML) -brown -wet -smooth drilling			
1.0		☒	141	ML
2.0	SILTY GRAVEL WITH SAND (GM) -brown -wet			
3.0		☒	142	GM
4.0	END HOLE at 3.9m -refusal			
5.0				
6.0				



DEPTH (m): 0.0, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0

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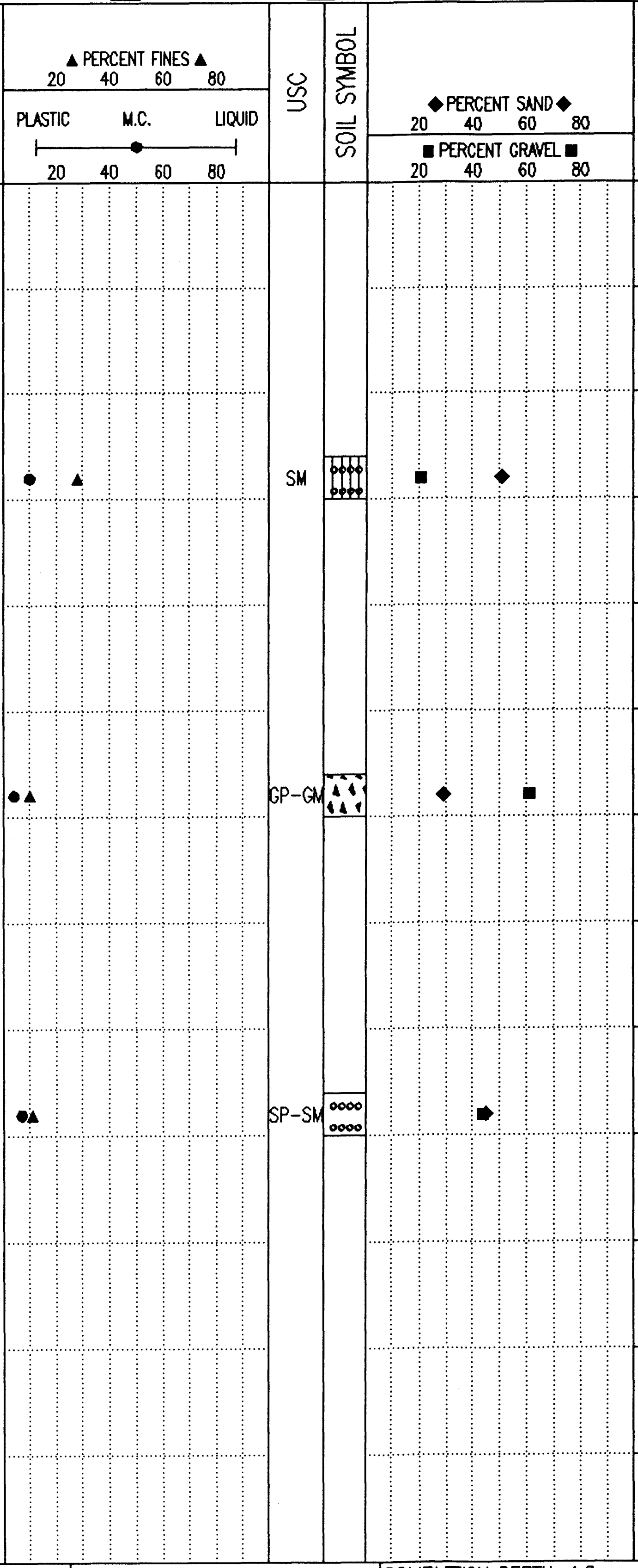
LOGGED BY:	COMPLETION DEPTH: 3.9 m
REVIEWED BY: DT	COMPLETE: 91/08/14
Fig. No:	Page 1 of 1

93/11/12 11:36AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 141-53
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1914+725 o/s 5m Lt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	GRAVELLY SANDY SILT -brown -damp -old road fill			
1.0	SILTY SAND WITH GRAVEL (SM) -brown -damp	AUGER	143	SM
2.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -damp	AUGER	144	GP-GM
3.0				
4.0	POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM) -brown -wet	AUGER	145	SP-SM
5.0	END HOLE at 4.6m			
6.0				



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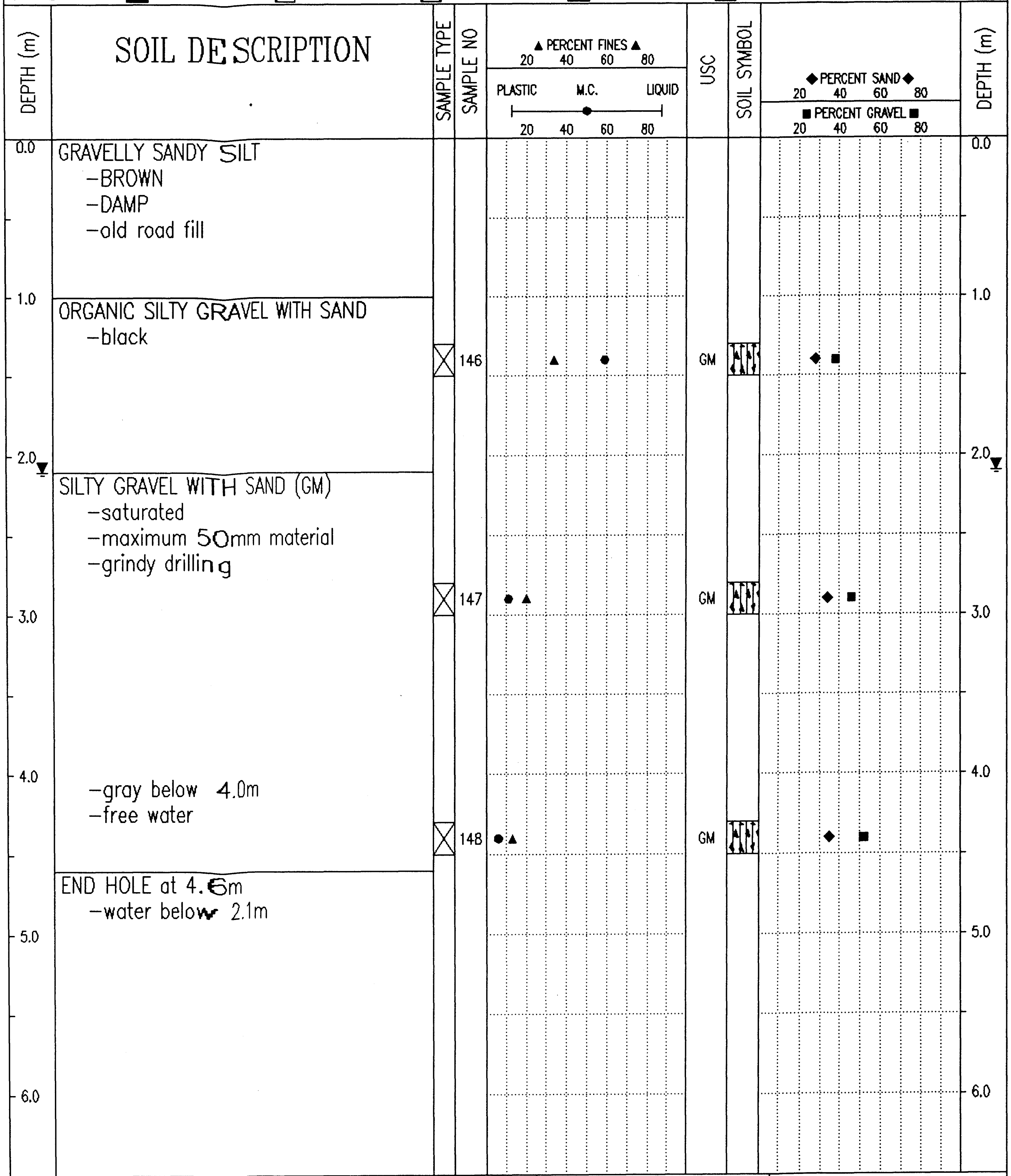
LOGGED BY:	COMPLETION DEPTH: 4.6 m
REVIEWED BY: DT	COMPLETE: 91/08/14
Fig. No:	Page 1 of 1

93/11/12 11:37AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 141-54
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1914+825	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⧄ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ▌ CORE



0.0 GRAVELLY SANDY SILT
- BROWN
- DAMP
- old road fill

1.0 ORGANIC SILTY GRAVEL WITH SAND
- black

2.0 SILTY GRAVEL WITH SAND (GM)
- saturated
- maximum 50mm material
- grindy drilling
- gray below 4.0m
- free water

END HOLE at 4.6m
- water below 2.1m

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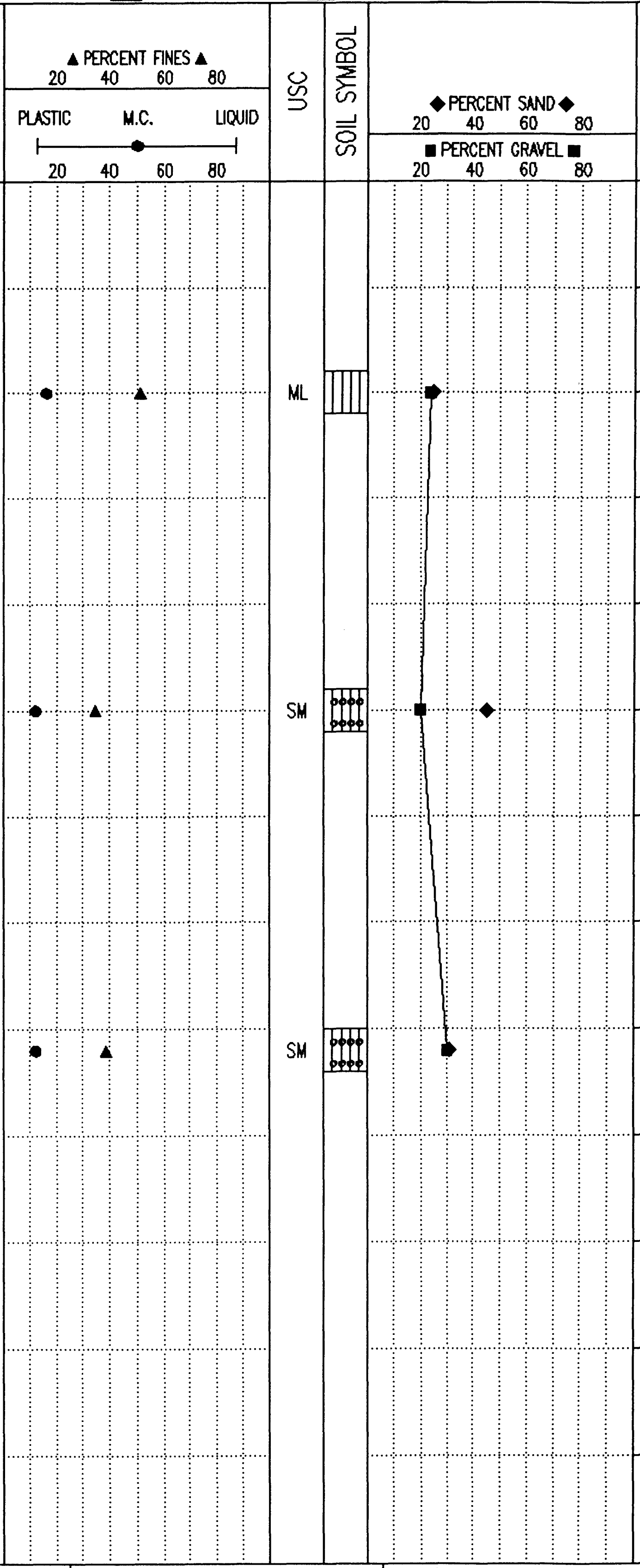
	REVIEWED BY: DT	COMPLETE: 91/08/14
	Fig. No:	Page 1 of 1

93/11/12 11:39AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 244-28
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1914+850 o/s 3m Lt.	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
	SANDY SILT WITH GRAVEL (ML) -wet -easy drilling			
1.0		☒	80	ML
	SILTY SAND WITH GRAVEL (SM) -wet -easy drilling			
2.0				
		☒	81	SM
3.0				
4.0		☒	82	SM
5.0				
6.0	END HOLE at 6.0m			



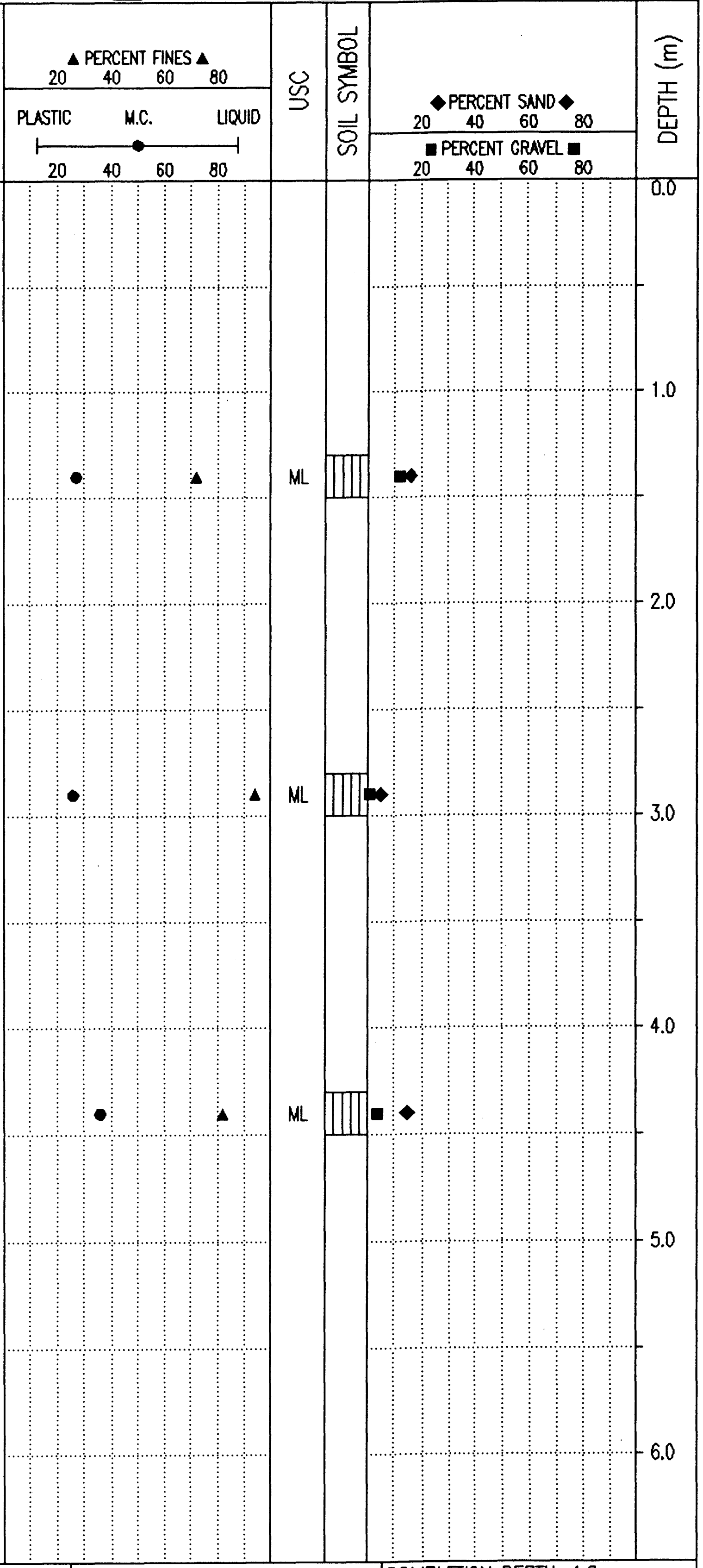
Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 6.0 m
	REVIEWED BY:	COMPLETE: 93/09/04
	Fig. No:	Page 1 of 1

93/10/01 02:31PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 141-55
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1914+925 o/s 2m Lt.	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 MATERIAL				
	SILT WITH SAND (OL) -organic -brown -wet -smooth drilling				
1.0					
		☒	149	ML	▥
2.0					
	SILT (ML) -gray -wet				
		☒	150	ML	▥
3.0					
	SILT WITH SAND (OL) -organic -gray -wet				
4.0					
		☒	151	ML	▥
	END HOLE at 4.6m				
5.0					
6.0					



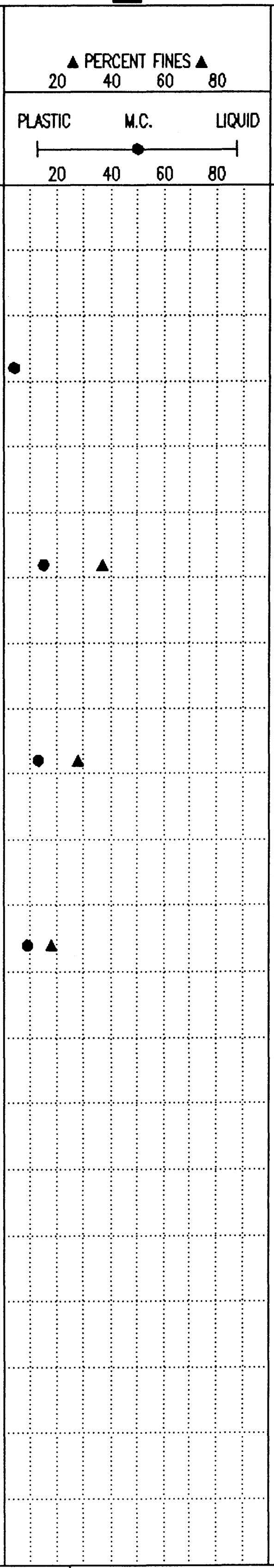
Government of Yukon Transportation Engineering	LOGGED BY: REVIEWED BY: DT Fig. No:	COMPLETION DEPTH: 4.6 m COMPLETE: 91/08/14 Page 1 of 1

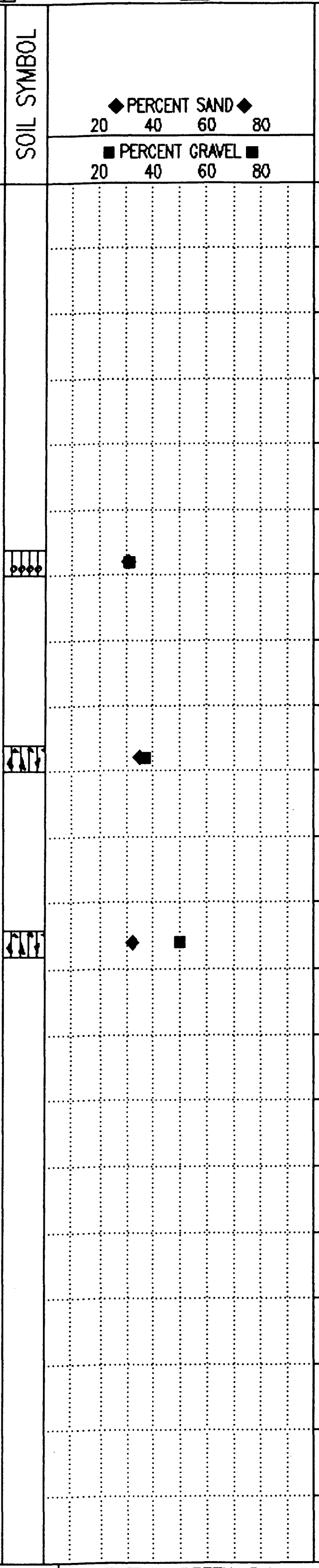
93/11/12 11:40AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 141-56
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1915+030 o/s 1m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◨ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0–2.1	GRAVELLY SANDY SILT -brown -damp -road fill -noisy jumpy drilling	☒	152	
2.1–3.5	SILTY SAND WITH GRAVEL (SM) -black -wet -organic -smooth drilling	☒	153	SM
3.5–6.1	SILTY GRAVEL WITH SAND (GM) -gray -saturated	☒	154	GM
	-frozen with visible ice crystals below 5.3m	☒	155	GM
6.1	END HOLE at 6.1m -on old road			





DEPTH (m): 0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0

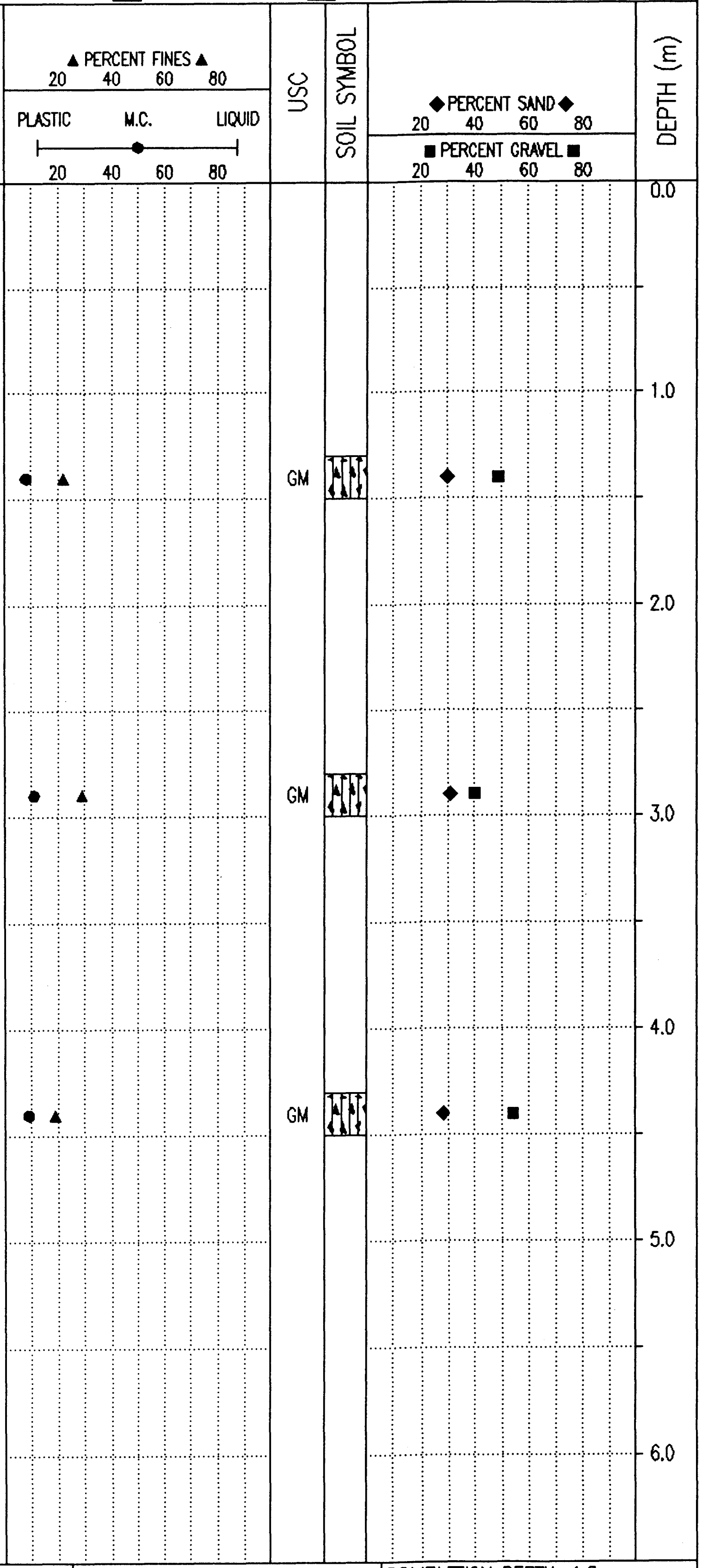
Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 6.1 m
	REVIEWED BY: DT	COMPLETE: 91/08/15
	Fig. No:	Page 1 of 1

93/11/12 11:42AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 141-57
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1915+125 o/s 6m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ☰ BULK ◫ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	SILTY GRAVEL WITH SAND (GM) -brown -damp -trace of organics -grindy drilling			
1.0		☒	156	GM
2.0	-smooth drilling below 1.8m -wet below 2.2m -slightly grindy drilling below 2.2m			
3.0		☒	157	GM
4.0	-saturated below 4.0m	☒	158	GM
	END HOLE at 4.6m -on old road			
5.0				
6.0				



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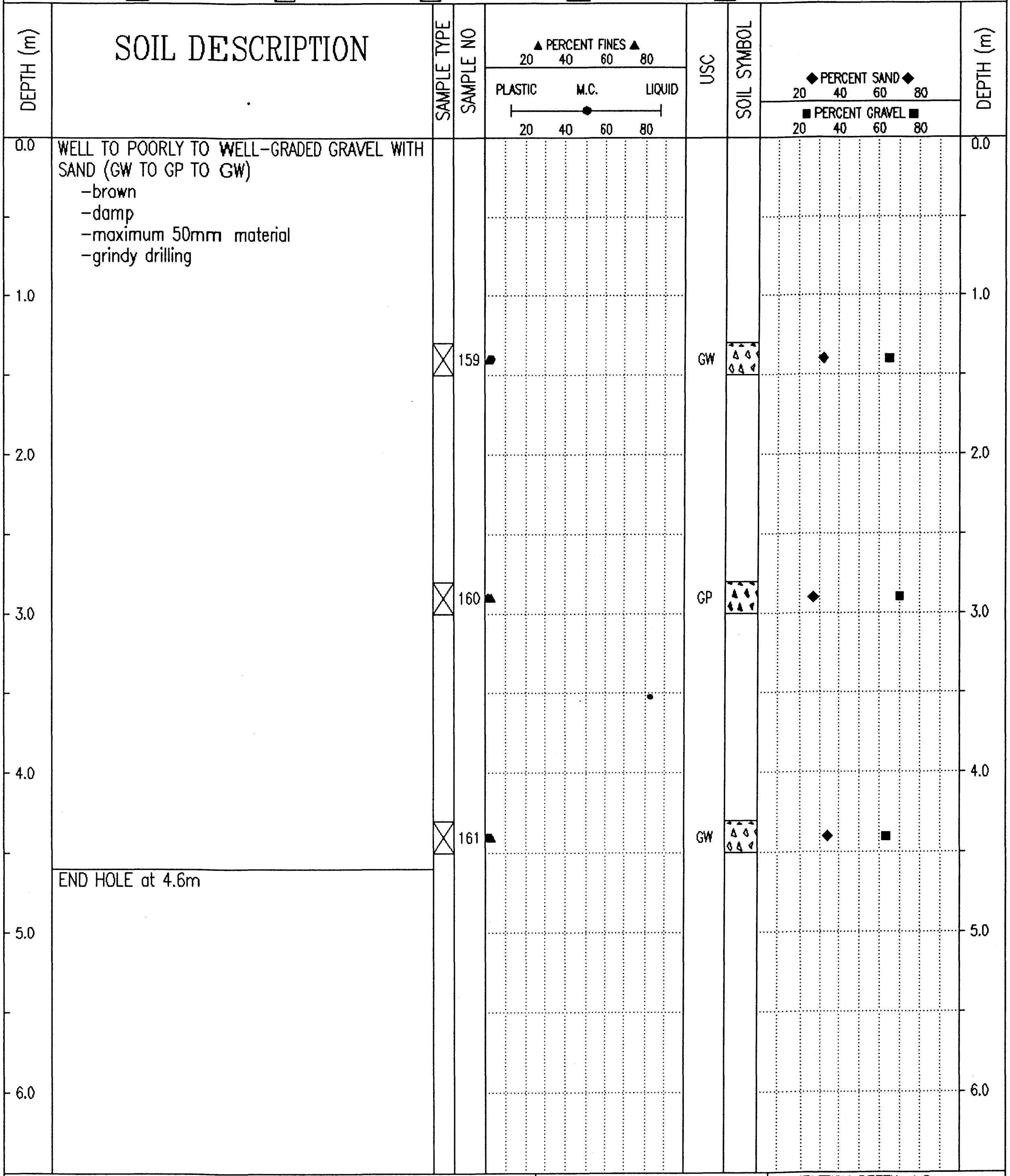
LOGGED BY:	COMPLETION DEPTH: 4.6 m
REVIEWED BY: DT	COMPLETE: 91/08/15
Fig. No:	Page 1 of 1

93/11/12 11:44AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 141-58
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1915+225	ELEVATION: 0.00 (m)

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



WELL TO POORLY TO WELL-GRADED GRAVEL WITH SAND (GW TO GP TO GW)
-brown
-damp
-maximum 50mm material
-grindy drilling

END HOLE at 4.6m

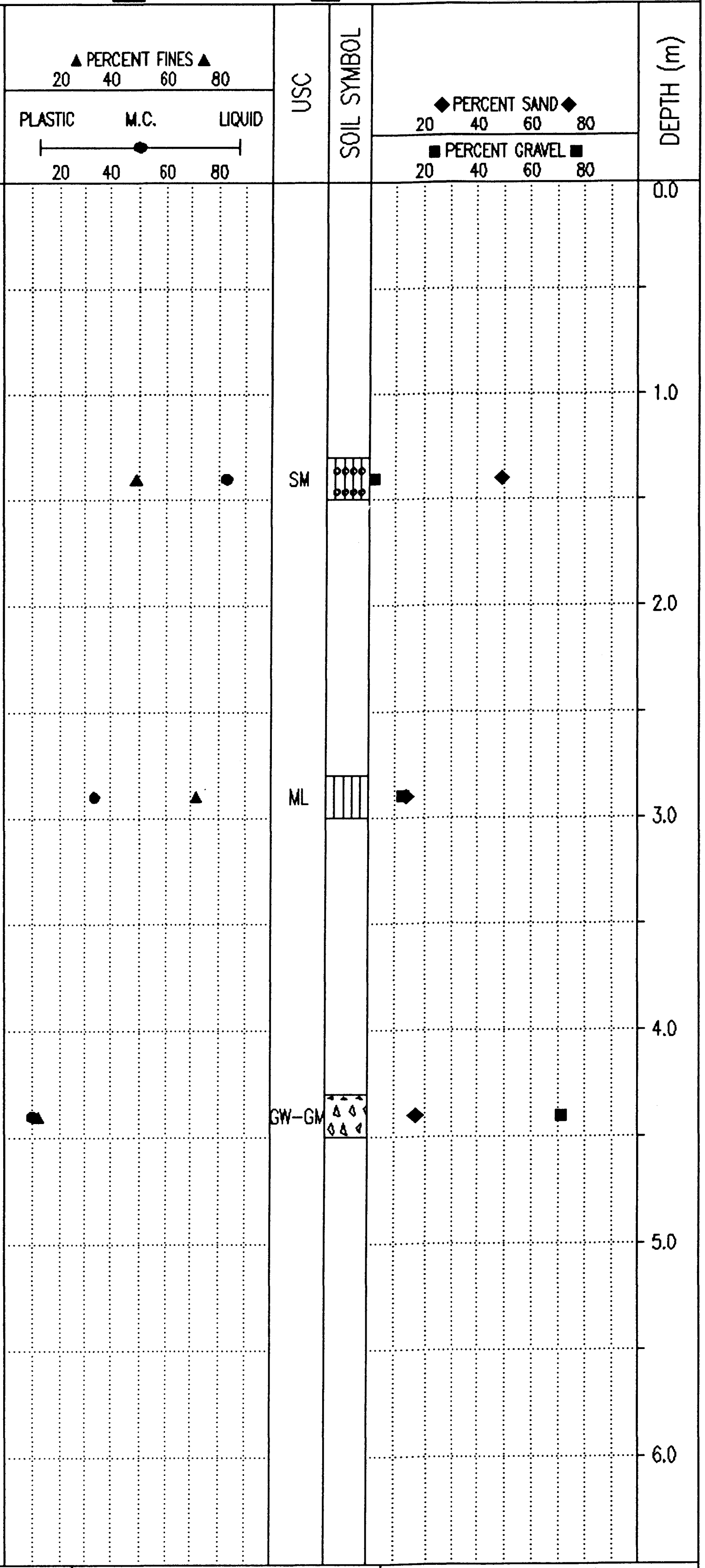
Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 4.6 m
	REVIEWED BY: DT	COMPLETE: 91/08/15
	Fig. No:	Page 1 of 1

93/11/12 11:45AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 141-59
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1915+325	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO
0.0	SANDY GRAVEL -brown -saturated -road fill		
1.0	SILTY SAND (SM) -highly organic -black -wet to saturated	☒	162
2.0	SILT WITH SAND (ML) -gray -saturated -trace of organics	☒	163
3.0			
4.0	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -saturated -maximum 50mm material -grindy drilling	☒	164
	END HOLE at 4.6m		
5.0			
6.0			

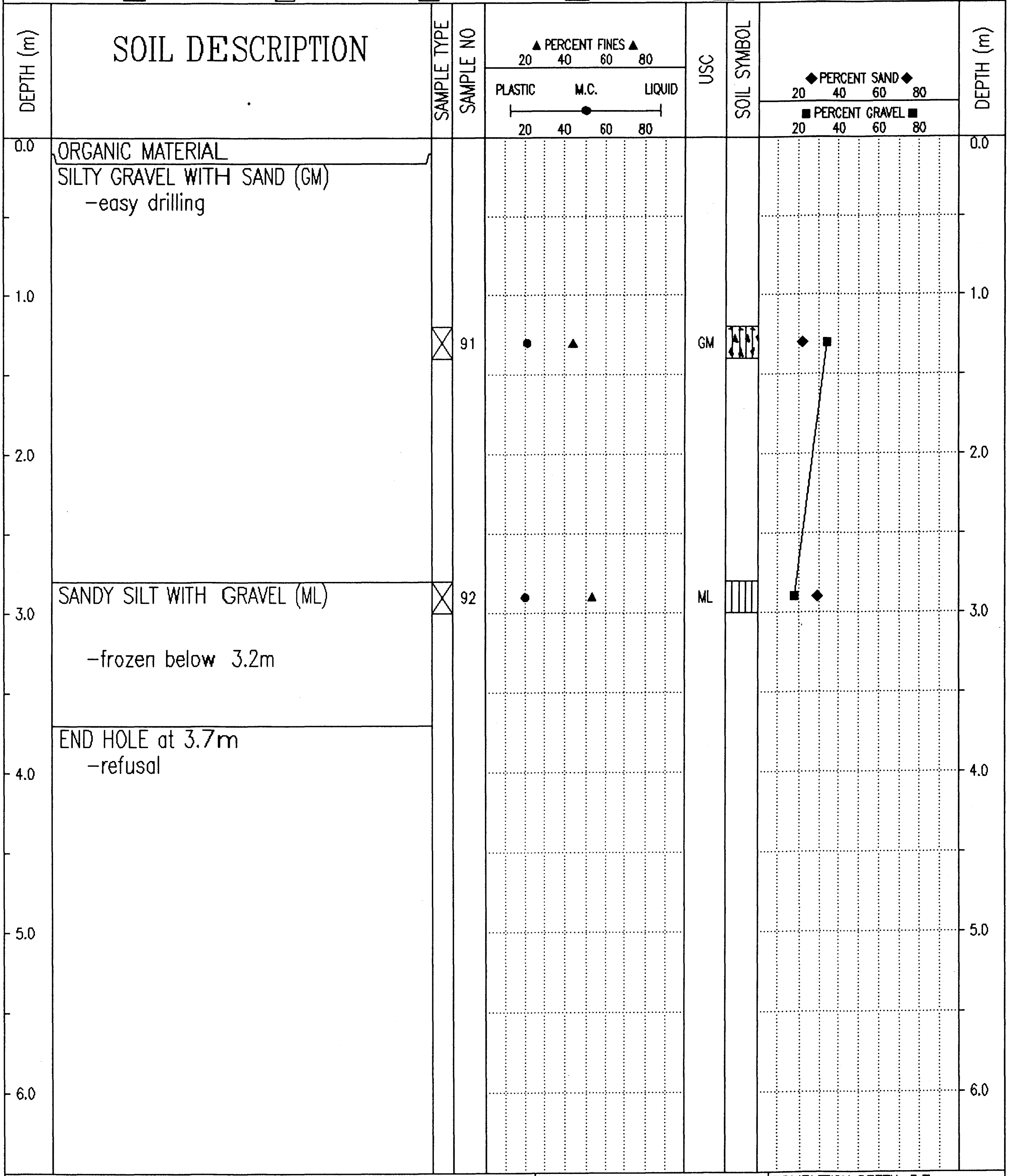


Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 4.6 m
	REVIEWED BY: DT	COMPLETE: 91/08/15
	Fig. No:	Page 1 of 1

93/11/12 11:47AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-33
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1915+375	ELEVATION: 0.00 (m)

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



0.0 ORGANIC MATERIAL

SILTY GRAVEL WITH SAND (GM)
-easy drilling

SANDY SILT WITH GRAVEL (ML)

-frozen below 3.2m

END HOLE at 3.7m
-refusal

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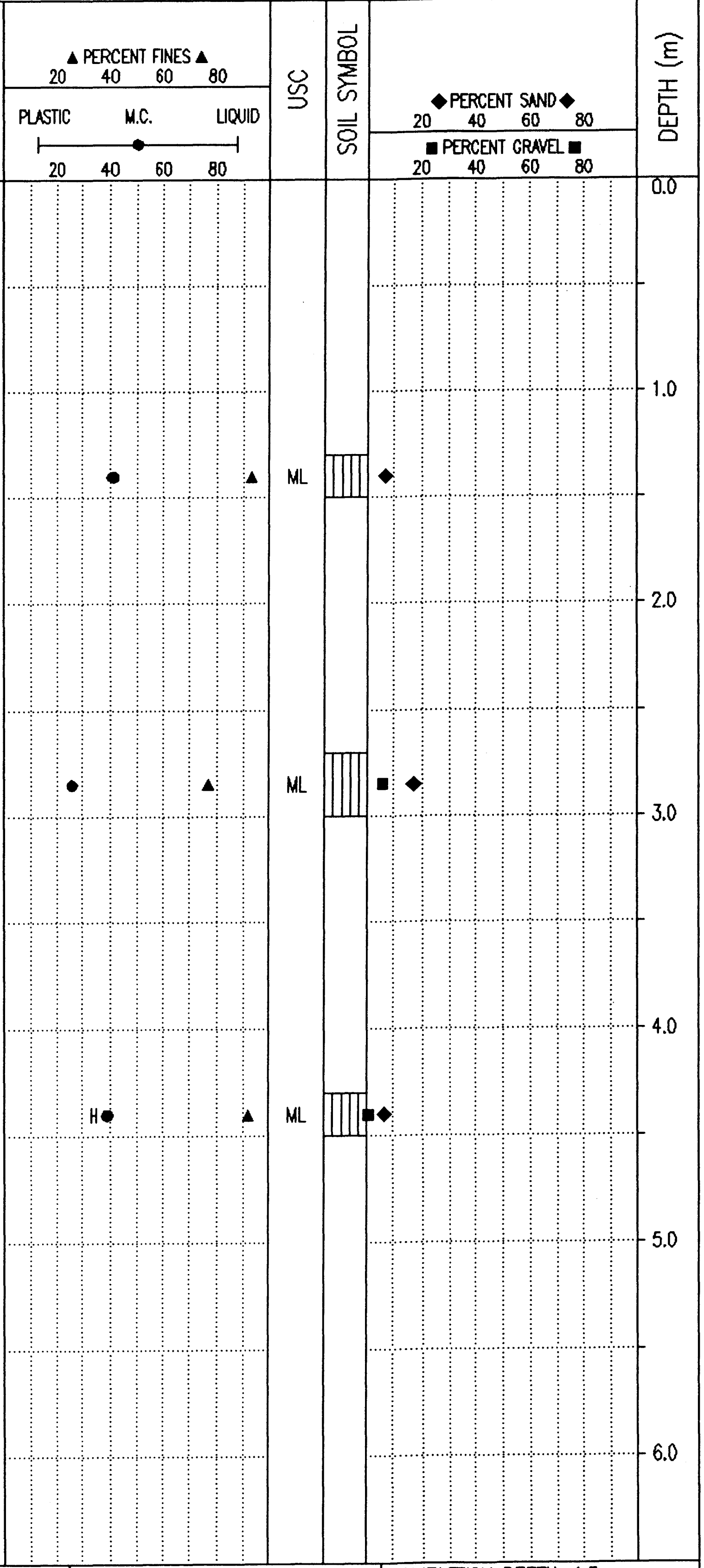
	REVIEWED BY:	COMPLETE: 93/09/07
	Fig. No:	Page 1 of 1

93/11/05 11:34AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 174-20
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1915+425 o/s 2m Rt	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
1.0	SILT (ML) -brown -damp -easy drilling	☒	44	ML
	SILT WITH SAND (ML) -gray -damp -harder drilling	☒	45	ML
	SILT (ML) -gray -damp	☒	46	ML
	END HOLE at 4.5m			



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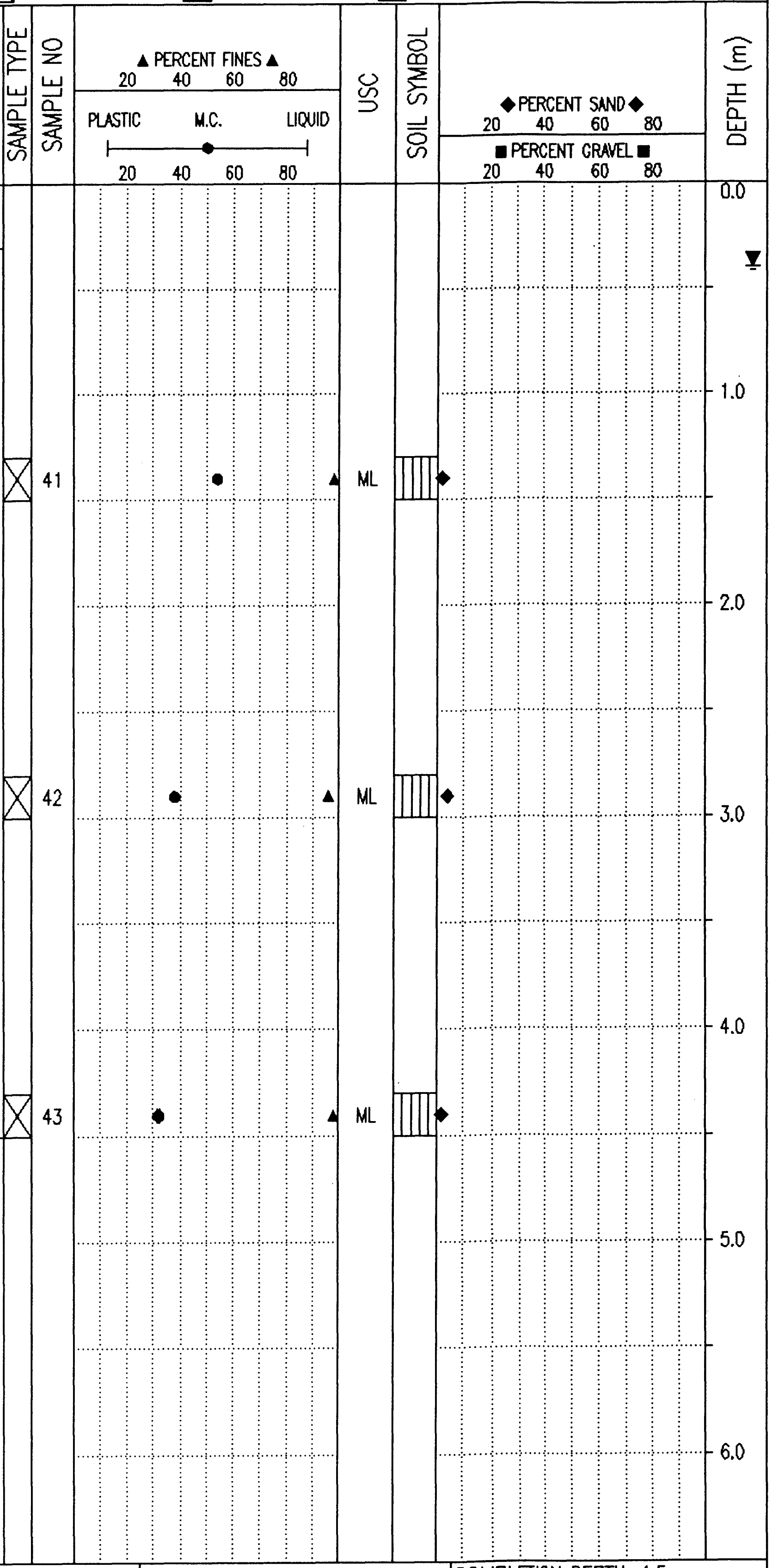
	REVIEWED BY:	COMPLETE: 92/06/06
	Fig. No:	Page 1 of 1

93/11/12 12:36PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 174-19
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1915+525 o/s 15m Lt	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION
0.0	ORGANIC MATERIAL –frozen (Nf)
▼	SILT (ML) –brown –wet –water at 0.4m –easy drilling
1.0	
2.0	
3.0	–gray below 2.8m –frozen with ice lenses below 2.8m (Vr)
4.0	
	END HOLE at 4.5m
5.0	
6.0	



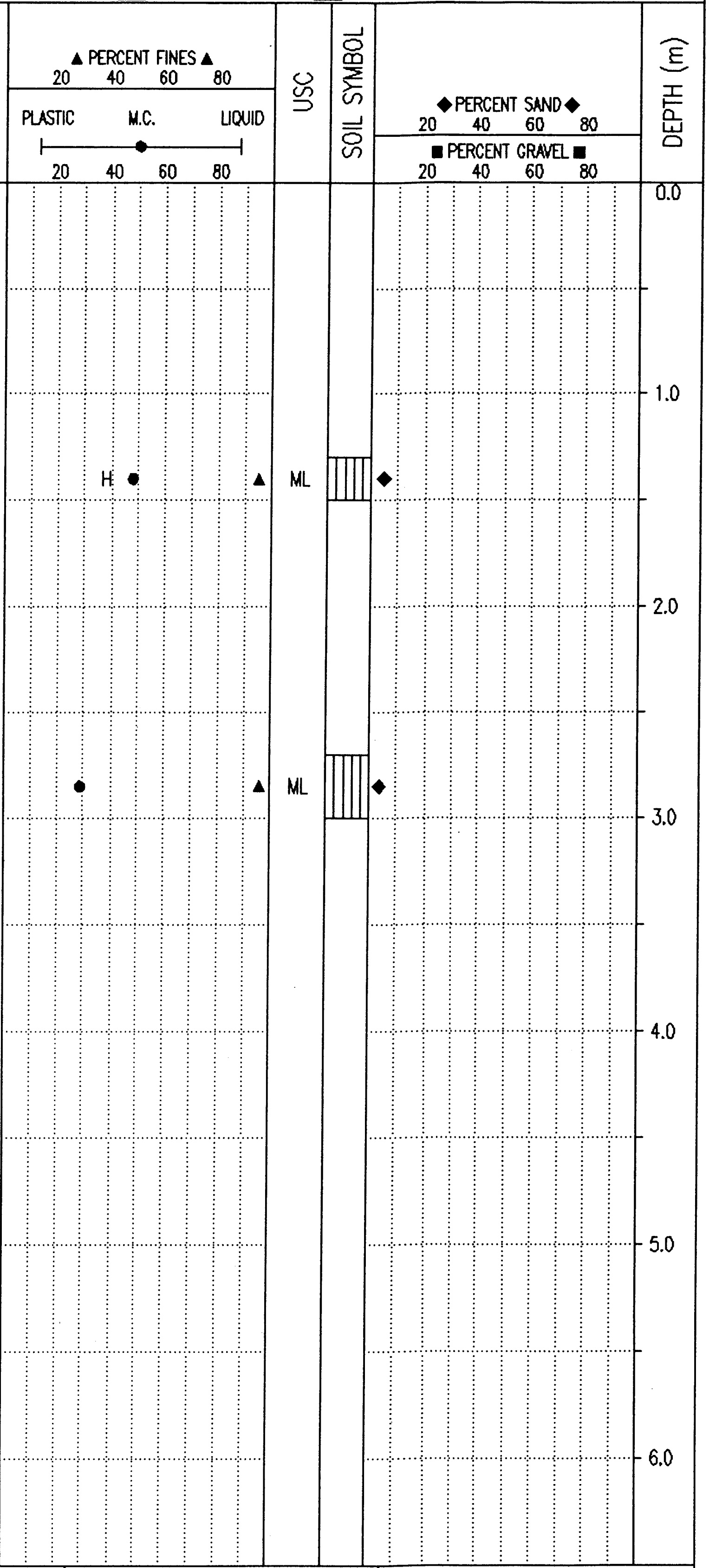
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/06/06
	Fig. No:	Page 1 of 1

93/11/12 12:35PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 174-18
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1915+625 o/s 20m Lt	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 MATERIAL -visible ice (Vx) -easy drilling				
0.6	SILT (ML) -gray -frozen with visible ice (Vx)				
1.4		☒	39	ML	▥
2.2	-harder drilling below 2.2m				
2.8		☒	40	ML	▥
3.0	ICE WITH SOIL				
4.5	END HOLE at 4.5m				



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LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
REVIEWED BY:	COMPLETE: 92/06/06
Fig. No:	Page 1 of 1

93/11/12 12:33PM

HIGHWAY CONSTRUCTION

km 1893.7 to km 1915.7
ALASKA HIGHWAY, Y.T.
VOLUME 2
GRAIN SIZE SUMMARIES
CENTRELINE TESTING

This Data Package prepared for project viewing:

April, 1994

Transportation Engineering Branch
Geotechnical Services
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GEOTECHNICAL INVESTIGATION
HIGHWAY CONSTRUCTION
km 1893.7 to km 1915.7, ALASKA HIGHWAY, Y.T.
CENTRELINE TESTING

CONTENTS

INTRODUCTION

Investigation notes, classification methods and legends.

VOLUME 1
CENTRELINE TESTING

Subsurface exploration and testing report sheets are provided. The reports for the centreline holes are arranged according to project location, starting at km 1893+700 and increasing to km 1915+625.

Auger Testing

1991	TEST HOLES 1 to 18 & 20	shown with prefix 139-
	TEST HOLES 21 to 43	shown with prefix 140-
	TEST HOLES 47 to 59	shown with prefix 141-
	TEST HOLES 143 to 157	shown with prefix 145-
1992	TEST HOLES 18 to 23	shown with prefix 174-
	TEST HOLES 24 to 48	shown with prefix 175-
	TEST HOLES 49 to 70	shown with prefix 194-
	TEST HOLES 71 to 76 & 80	shown with prefix 195-
	TEST HOLES 87 to 95	shown with prefix 195-
	TEST HOLES 96 to 110	shown with prefix 196-
	TEST HOLES 117 to 120	shown with prefix 196-
	TEST HOLES 121 to 145	shown with prefix 197-
	TEST HOLES 146 to 169	shown with prefix 198-
	TEST HOLES 182 to 183	shown with prefix 207-
1993	TEST HOLES 00 to 05	shown with prefix 244-
	TEST HOLES 12 to 13	shown with prefix 244-
	TEST HOLES 17 to 24 & 28	shown with prefix 244-
	TEST HOLES 33, 34, 41 & 42	shown with prefix 245-
	TEST HOLES 45 to 59	shown with prefix 245-

Backhoe Testing

1993	TEST HOLES 16 to 29 & 33	shown with prefix 257-
	TEST HOLES 37 to 42	shown with prefix 258-
	TEST HOLES 30 to 31	shown with prefix 274-

Air Rotary Testing

1994	TEST HOLE 6	shown with prefix 281-

GEOTECHNICAL INVESTIGATION
HIGHWAY CONSTRUCTION
km 1893.7 to km 1915.7, ALASKA HIGHWAY, Y.T.
CENTRELINE TESTING

CONTENTS (Cont'd)

VOLUME 2
GRAIN SIZE SUMMARIES

VOLUME 3
GRANULAR AND BORROW TESTING

Km 1895.5 LHS

Testing results bound separately.

Km 1902 LHS

Auger Testing		
1991	TEST HOLES 21 to 23	shown with prefix 138-
EBA Backhoe Testing		
1992	TEST HOLES 30 & 31	shown with prefix EBA-
Air Rotary Testing		
1994	TEST HOLES 30 to 46	shown with prefix 284-

Km 1904 LHS

EBA Backhoe Testing		
1992	TEST HOLES 32 to 34	shown with prefix EBA-
Air Rotary Testing		
1993	TEST HOLES 35 to 40	shown with prefix 245-
	TEST HOLES 30 to 32	shown with prefix 257-
1994	TEST HOLES 13 to 29	shown with prefix 281-, 282-, & 284-

Km 1904 RHS

Backhoe Testing		
1993	TEST HOLES 41 to 44	shown with prefix 274- and 275-
Air Rotary Testing		
1993	TEST HOLES 123 to 128	shown with prefix 219-
1994	TEST HOLES 7 to 12	shown with prefix 281-

Km 1907 RHS

Auger testing		
1993	TEST HOLES 6 to 11	shown with prefix 244-
Backhoe Testing		
1993	TEST HOLES 34 to 36	shown with prefix 257-
	TEST HOLES 37 to 40	shown with prefix 274-

Km 1915.4 LHS

Backhoe Testing		
1993	TEST HOLES 43 to 46	shown with prefix 258-
	TEST HOLES 32 to 36	shown with prefix 274-

GEOTECHNICAL INVESTIGATION
HIGHWAY CONSTRUCTION
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INTRODUCTION

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GEOTECHNICAL INVESTIGATION DATA

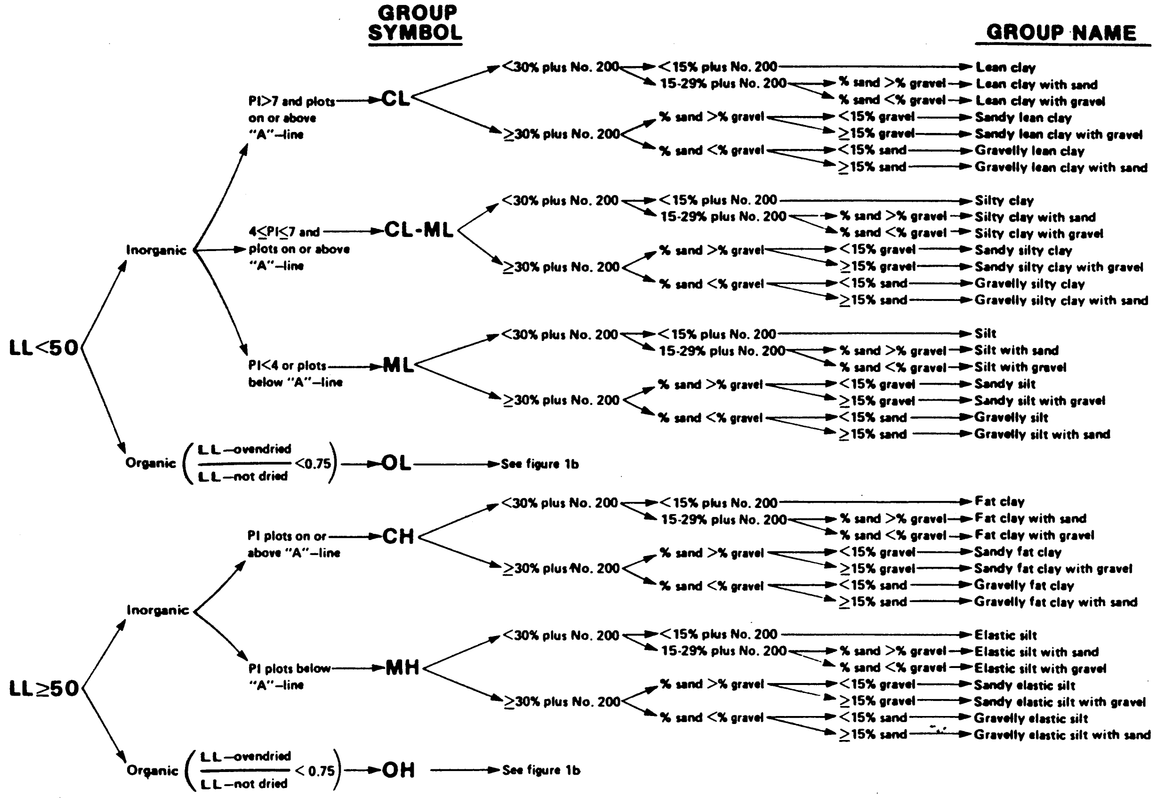
This geotechnical investigation data is provided to assist in the interpretation of soil conditions encountered within this project area. The data presented was prepared solely for Departmental designing and estimating purposes.

The description of material/soil description shown on the subsurface exploration and test reports is a textural description based on identification of retrieved material by the field drilling technician at the time of investigation. This description may be modified following laboratory testing and classification of selected samples. The system used is based on the ASTM standards for identification and classification of soils. Permafrost classifications and groundwater levels are indicated as detected at time of drilling, unless otherwise noted. Changes in moisture or frost conditions should be anticipated depending on the season, time lapse or amount of development work done since the date of investigation.

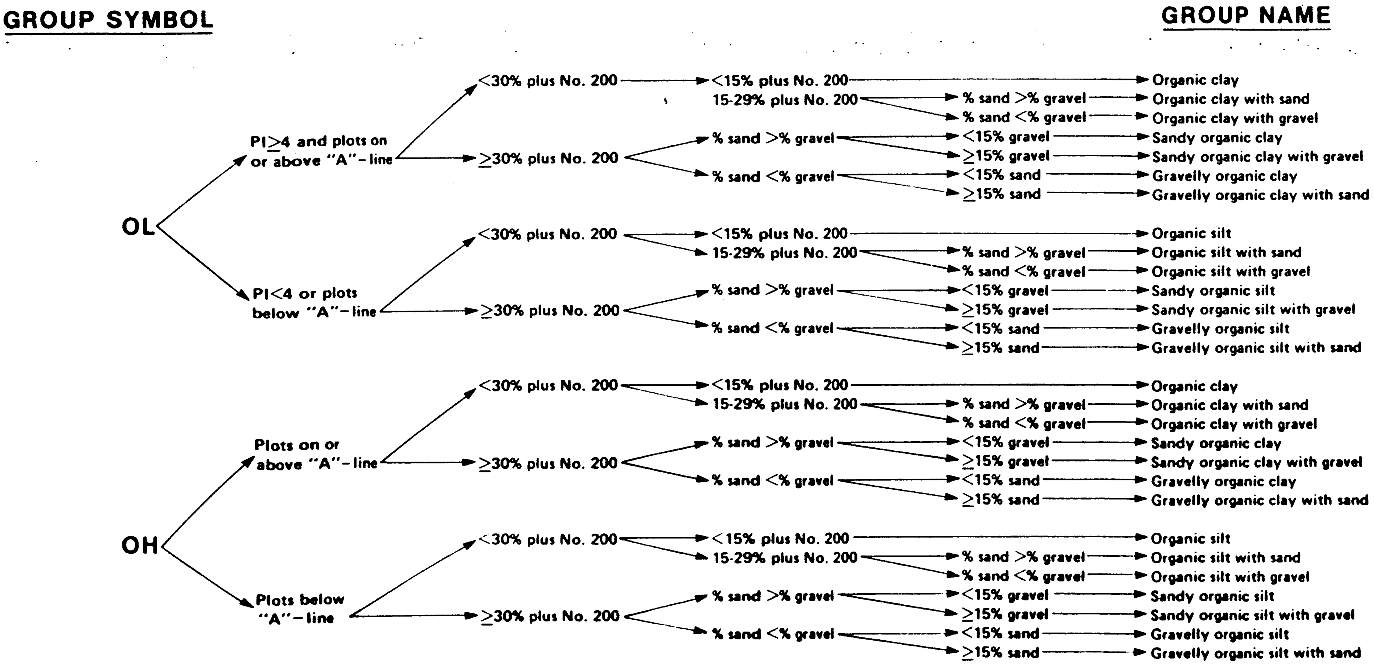
The sample identification and laboratory testing data is provided to give detailed physical properties of selected retrieved samples within the subsurface profile. ***These tests may be conducted on disturbed samples and may exhibit properties different from the native materials.*** The sample classification may also vary from the soil description due to variations within the sampled strata or because of changes resulting from the sampling method or excavation equipment used.

These descriptions are not intended to be conclusive as to the nature of any material encountered, or to conditions between or around the test borings/pits.

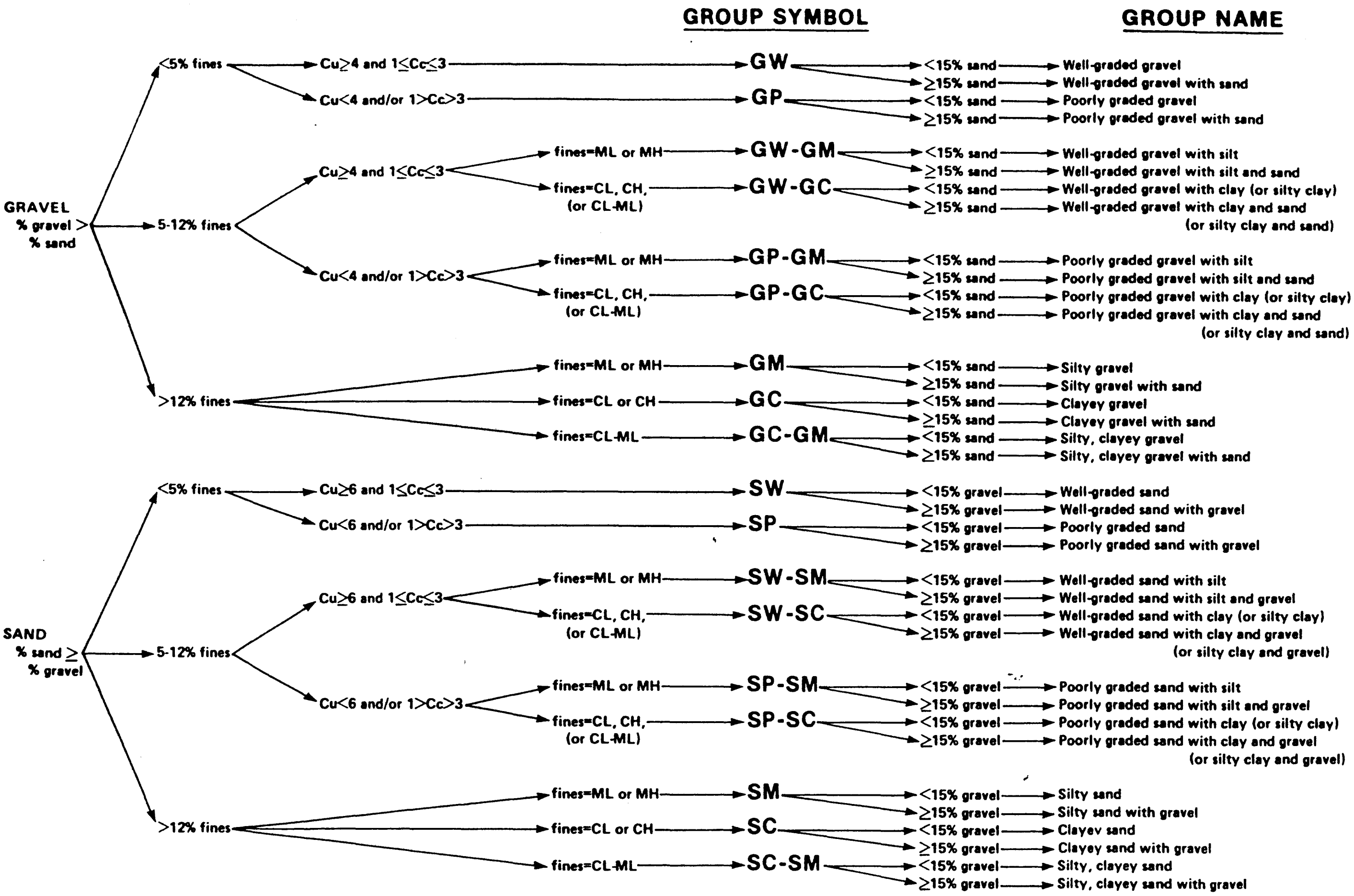
It is recommended that a site inspection, combined with consideration of the regional geology and climatic conditions be conducted. An evaluation of the investigation methods and development work done since the time of investigation should be done prior to interpreting the subsurface conditions for construction purposes.



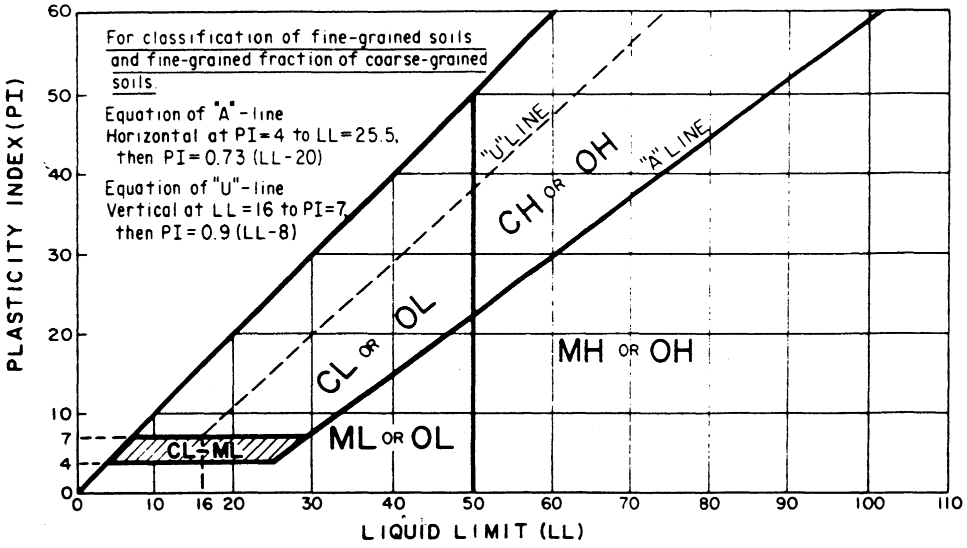
Flow chart for classifying fine-grained soil.



Flow chart for classifying organic soil.



Flow chart for classifying coarse-grained soil.



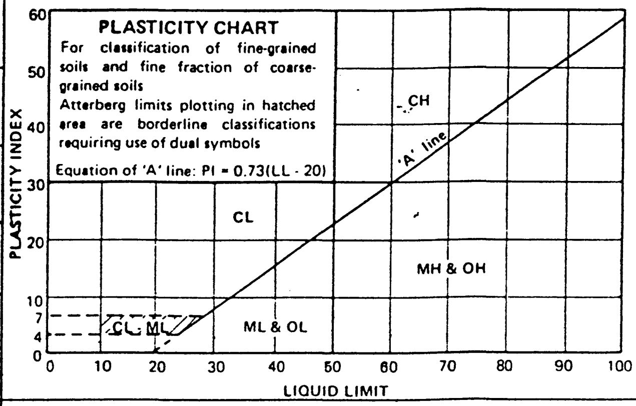
Plasticity chart.

CRITERIA FOR ASSIGNING GROUP SYMBOLS AND GROUP NAMES USING LABORATORY TESTS [a]				SOIL CLASSIFICATION	
				GROUP SYMBOL	GROUP NAME [b]
COARSE-GRAINED SOILS more than 50% retained on No. 200 sieve	GRAVELS More than 50% of coarse fraction retained on No. 4 sieve	CLEAN GRAVELS Less than 5% fines [c]	$C_u \geq 4$ and $1 \leq C_c \leq 3$ [e]	GW	Well-graded gravel [f]
			$C_u < 4$ and/or $1 > C_c > 3$ [e]	GP	Poorly graded gravel [f]
		GRAVELS WITH FINES More than 12% fines [c]	Fines classify as ML or MH	GM	Silty gravel [f,g,h]
			Fines classify as CL or CH	GC	Clayey gravel [f,g,h]
	SANDS 50% or more of coarse fraction passes No. 4 sieve	CLEAN SANDS Less than 5% fines [d]	$C_u \geq 6$ and $1 \leq C_c \leq 3$ [e]	SW	Well-graded sand [i]
			$C_u < 6$ and/or $1 > C_c > 3$ [e]	SP	Poorly graded sand [i]
		SANDS WITH FINES More than 12% fines [d]	Fines classify as ML or MH	SM	Silty sand [g,h,i]
			Fines classify as CL or CH	SC	Clayey sand [g,h,i]
FINE-GRAINED SOILS 50% or more passed the No. 200 sieve	SILTS AND CLAYS Liquid limit less than 50%	inorganic	PI > 7 and plots on or above "A" line [j]	CL	Lean clay [k,l,m]
			PI < 4 or plots below "A" line [j]	ML	Silt [k,l,m]
		organic	$\frac{\text{Liquid limit - oven dried}}{\text{Liquid limit - not dried}} < 0.75$	OL	Organic clay [k, l, m, n] Organic silt [k, l, m, o]
	SILTS AND CLAYS Liquid limit 50% or more	inorganic	PI plots on or above "A" line	CH	Fat clay [k,l,m]
			PI plots below "A" line	MH	Elastic silt [k,l,m]
		organic	$\frac{\text{Liquid limit - oven dried}}{\text{Liquid limit - not dried}} < 0.75$	OH	Organic clay [k, l, m, p] Organic silt [k, l, m, q]
Highly organic soils		Primarily organic matter, dark in color, and organic odor		PT	Peat

a. Based on the material passing the 3-in (75-mm) sieve.
b. If field sample contained cobbles and/or boulders, add "with cobbles and/or boulders" to group name.
c. Gravels with 5 to 12% fines require dual symbols
   GW-GM well graded gravel with silt
   GW-GC well graded gravel with clay
   GP-GM poorly graded gravel with silt
   GP-GC poorly graded gravel with clay
d. Sands with 5 to 12% fines require dual symbols
   SW-SM well graded sand with silt
   SW-SC well graded sand with clay
   SP-SM poorly graded sand with silt
   SP-SC poorly graded sand with clay
e. $C_u = D_{60}/D_{10}$ $\quad C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$
f. If soil contains $\geq$ 15% sand, add "with sand" to group name.
g. If fines classify as CL-ML, use dual symbol GC-GM, SC-SM.
h. If fines are organic, add "with organic fines" to group name.
i. If soil contains $\geq$ 15% gravel, add "with gravel" to group name.
j. If Atterberg limits plot in hatched area, soil is a CL-ML, silty clay.
k. If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel" whichever is predominant.
l. If soil contains $\geq$ 30% plus No. 200, predominantly sand, add "sandy" to group name.
m. If soil contains $\overline{>}$ 30% plus No. 200, predominantly gravel, add "gravelly" to group name.
n. PI $\geq$ 4 and plots on or above "A" line.
o. PI $\overline{<}$ 4 or plots below "A" line.
p. PI plots on or above "A" line.
q. PI plots below "A" line.

Soil classification chart

UNIFIED SOIL CLASSIFICATION†

MAJOR DIVISIONS			GROUP SYMBOLS	TYPICAL NAMES	CLASSIFICATION CRITERIA		
COARSE-GRAINED SOILS More than 50% retained on No. 200 sieve*	GRAVELS 50% or more of coarse fraction retained on No. 4 sieve	CLEAN GRAVELS	GW	Well-graded gravels and gravel-sand mixtures, little or no fines	Classification on basis of percentage of fines Less than 5% pass No. 200 sieve GW, GP, SW, SP More than 12% pass No. 200 sieve GM, GC, SM, SC 5% to 12% pass No. 200 sieve Borderline classification requiring use of dual symbols	$C_u = D_{60}/D_{10}$ Greater than 4 $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ Between 1 and 3	
			GP	Poorly-graded gravels and gravel-sand mixtures, little or no fines		Not meeting both criteria for GW	
		GRAVELS WITH FINES	GM	Silty gravels, gravel-sand-silt mixtures		Atterberg limits plot below 'A' line or plasticity index less than 4	Atterberg limits plotting in hatched area are borderline classifications requiring use of dual symbols
			GC	Clayey gravels, gravel-sand clay mixtures		Atterberg limits plot above 'A' line and plasticity index greater than 7	
	SANDS More than 50% of coarse fraction passes No. 4 sieve	CLEAN SANDS	SW	Well-graded sands and gravelly sands, little or no fines		$C_u = D_{60}/D_{10}$ Greater than 6 $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ Between 1 and 3	
			SP	Poorly-graded sands and gravelly sands, little or no fines		Not meeting both criteria for SW	
		SANDS WITH FINES	SM	Silty sands, sand-silt mixtures		Atterberg limits plot below 'A' line or plasticity index less than 4	Atterberg limits plotting in hatched area are borderline classifications requiring use of dual symbols
			SC	Clayey sands, sand-clay mixtures		Atterberg limits plot above 'A' line and plasticity index greater than 7	
FINE-GRAINED SOILS 50% or more passes No. 200 sieve*	SILTS AND CLAYS	Liquid limit 50% or less	ML	Inorganic silts, very fine sands, rock flour, silty or clayey fine sands			
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays			
			OL	Organic silts and organic silty clays of low plasticity			
	SILTS AND CLAYS	Liquid limit greater than 50%	MH	Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts			
			CH	Inorganic clay of high plasticity, fat clays			
			OH	Organic clays of medium to high plasticity			
HIGHLY ORGANIC SOILS			PT	Peat, muck and other highly organic soils	*Based on the material passing the 3 in. (75 mm) sieve †ASTM Designation D 2487, for identification procedure see D 2488		

PLASTICITY CHART

For classification of fine-grained soils and fine fraction of coarse-grained soils

Atterberg limits plotting in hatched area are borderline classifications requiring use of dual symbols

Equation of 'A' line: PI = 0.73(LL - 20)

GROUND ICE DESCRIPTION

ICE NOT VISIBLE

GROUP SYMBOLS	SYMBOLS	SUBGROUP DESCRIPTION	
N	Nf	Poorly-bonded or friable	▨
	Nbn	No excess ice, well-bonded	▨
	Nbe	Excess ice, well-bonded	▨

NOTE:

1. *Dual symbols are used to indicate borderline or mixed ice classifications*
2. *Visual estimates of ice contents indicated on borehole logs ± 5%*
3. *This system of ground ice description has been modified from NRC Technical Memo 79, Guide to the Field Description of Permafrost for Engineering Purposes*

LEGEND

Soil ▨ Ice ■

VISIBLE ICE LESS THAN 50% BY VOLUME

GROUP SYMBOLS	SYMBOLS	SUBGROUP DESCRIPTION	
V	Vx	Individual ice crystals or inclusions	▨
	Vc	Ice coatings on particles	▨
	Vr	Random or irregularly oriented ice formations	▨
	Vs	Stratified or distinctly oriented ice formations	▨

VISIBLE ICE GREATER THAN 50% BY VOLUME

ICE	ICE + Soil Type	Ice with soil inclusions	■
	ICE	Ice without soil inclusions (greater than 25 mm (1 in.) thick)	■

	BOUNDARY LINES ON DRILL LOGS	TEST HOLE NO: 3
ENGINEERING–CAPITAL		Project No:
		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	BOUNDARY LINES							0.0
	A solid line is used when a definite soil change is logged and a depth is known.							
1.0	A dashed line is used when a definite soil change is noted either by the field log or the sample test results and the depth of change is unknown.							1.0
2.0	A dotted line is used when a gradual or gradational change is noted by field notes and sample test results.							2.0
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 6.0 m
	REVIEWED BY:	COMPLETE: / /
	Fig. No:	Page 1 of 1

93/12/13 04:36PM

PROJECT NUMBER:	745927	HOLE NUMBER:	139-01
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	SEGMENT 17		
PROJECT LOCATION:	A/H KM 1904-1932		
DRILL UNIT:	17-225 & 17-174		
HOLE LOCATION:	1907+504 O/S 2M LT		
LOGGED BY:	DT	DATE COMPLETED:	91.08.09

FIELD NO: 1
LAB NO: 4360
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	90
19.0	87
12.7	80
9.5	76
4.76	67
2.38	--
2.00	59
1.19	--
0.841	52
0.595	--
0.42	46
0.297	--
0.177	--
0.149	37
0.074	27

M.C.(%): 9

LIMITS
LIQUID: 18.9
PLASTIC: 15.7
P.I.: 3.2

% GRAVEL: 33
% SAND: 39
% FINES: 27

CLASSIFICATION:
SILTY SAND WITH
GRAVEL (SM)

PROJECT NUMBER: 745927
HOLE NUMBER: 139-02
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1907+600 O/S 7M LT
LOGGED BY: DT
DATE COMPLETED: 91.08.09

FIELD NO: 2
LAB NO: 4361
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	90
19.0	85
12.7	79
9.5	75
4.76	70
2.38	--
2.00	65
1.19	--
0.841	60
0.595	--
0.42	56
0.297	--
0.177	--
0.149	49
0.074	39

M.C.(%): 9

LIMITS
LIQUID: 19.4
PLASTIC: 15.0
P.I.: 4.4

% GRAVEL: 30
% SAND: 31
% FINES: 39

CLASSIFICATION:
SILTY, CLAYEY SAND WITH GRAVEL (SC-SM)

FIELD NO: 3
LAB NO: 4362
DEPTH: 2.8-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	87
19.0	81
12.7	77
9.5	73
4.76	67
2.38	--
2.00	63
1.19	--
0.841	59
0.595	--
0.42	56
0.297	--
0.177	--
0.149	50
0.074	44

M.C.(%): 9

LIMITS
LIQUID: 22.5
PLASTIC: 15.4
P.I.: 7.1

% GRAVEL: 33
% SAND: 24
% FINES: 44

CLASSIFICATION:
CLAYEY GRAVEL WITH SAND (GC)

FIELD NO: 4
LAB NO: 4363
DEPTH: 4.3-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	100
38.1	90
25.4	90
19.0	86
12.7	77
9.5	73
4.76	63
2.38	--
2.00	54
1.19	--
0.841	48
0.595	--
0.42	43
0.297	--
0.177	--
0.149	36
0.074	31

M.C.(%): 7

LIMITS
LIQUID: 20.2
PLASTIC: 14.6
P.I.: 5.6

% GRAVEL: 37
% SAND: 32
% FINES: 31

CLASSIFICATION:
SILTY, CLAYEY GRAVEL WITH SAND (GC-GM)

PROJECT NUMBER: 745927 HOLE NUMBER: 139-03
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1907+700 O/S 7M LT
LOGGED BY: DT DATE COMPLETED: 91.08.09

FIELD NO:	5	FIELD NO:	6	FIELD NO:	7	FIELD NO:	8
LAB NO:	4364	LAB NO:	4365	LAB NO:	4366	LAB NO:	4367
DEPTH:	1.3-1.5	DEPTH:	2.8-3.0	DEPTH:	4.3-4.5	DEPTH:	5.8-6.0
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--	101.6	--	101.6	--
76.2	--	76.2	--	76.2	--	76.2	--
50.8	--	50.8	--	50.8	--	50.8	100
38.1	100	38.1	--	38.1	100	38.1	90
25.4	84	25.4	100	25.4	96	25.4	90
19.0	78	19.0	98	19.0	91	19.0	90
12.7	71	12.7	93	12.7	83	12.7	87
9.5	68	9.5	88	9.5	77	9.5	83
4.76	61	4.76	76	4.76	68	4.76	74
2.38	--	2.38	--	2.38	--	2.38	--
2.00	55	2.00	66	2.00	60	2.00	66
1.19	--	1.19	--	1.19	--	1.19	--
0.841	51	0.841	58	0.841	52	0.841	58
0.595	--	0.595	--	0.595	--	0.595	--
0.42	47	0.42	52	0.42	46	0.42	52
0.297	--	0.297	--	0.297	--	0.297	--
0.177	--	0.177	--	0.177	--	0.177	--
0.149	41	0.149	43	0.149	38	0.149	45
0.074	34	0.074	34	0.074	30	0.074	35
M.C.(%):	9	M.C.(%):	8	M.C.(%):	8	M.C.(%):	10
LIMITS		LIMITS		LIMITS		LIMITS	
LIQUID:	20.4	LIQUID:	19.1	LIQUID:	17.9	LIQUID:	--
PLASTIC:	16.2	PLASTIC:	15.0	PLASTIC:	16.2	PLASTIC:	--
P.I.:	4.2	P.I.:	4.1	P.I.:	1.7	P.I.:	TRACE
% GRAVEL:	39	% GRAVEL:	24	% GRAVEL:	32	% GRAVEL:	26
% SAND:	26	% SAND:	42	% SAND:	38	% SAND:	39
% FINES:	34	% FINES:	34	% FINES:	30	% FINES:	35
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILTY, CLAYEY GRAVEL WITH SAND (GC-GM)		SILTY, CLAYEY SAND WITH GRAVEL (SC-SM)		SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)	

PROJECT NUMBER:	745927	HOLE NUMBER:	139-03
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	SEGMENT 17		
PROJECT LOCATION:	A/H KM 1904-1932		
DRILL UNIT:	17-225 & 17-174		
HOLE LOCATION:	1907+700 O/S 7M LT		
LOGGED BY:	DT	DATE COMPLETED:	91.08.09

FIELD NO:	9
LAB NO:	4368
DEPTH:	7.8-8.0
TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	--
25.4	100
19.0	99
12.7	96
9.5	93
4.76	84
2.38	--
2.00	74
1.19	--
0.841	65
0.595	--
0.42	58
0.297	--
0.177	--
0.149	45
0.074	37

M.C.(%):	10

LIMITS

LIQUID:	18.5
PLASTIC:	16.0
P.I.:	2.5

% GRAVEL:	16
% SAND:	47
% FINES:	37

CLASSIFICATION:
SILTY SAND WITH
GRAVEL (SM)

PROJECT NUMBER:	745927	HOLE NUMBER:	139-04
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	SEGMENT 17		
PROJECT LOCATION:	A/H KM 1904-1932		
DRILL UNIT:	17-225 & 17-174		
HOLE LOCATION:	1907+800 O/S 8M LT		
LOGGED BY:	DT	DATE COMPLETED:	91.08.09

FIELD NO: 10
LAB NO: 4369
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	100
38.1	91
25.4	80
19.0	80
12.7	76
9.5	72
4.76	66
2.38	--
2.00	61
1.19	--
0.841	57
0.595	--
0.42	53
0.297	--
0.177	--
0.149	45
0.074	35

M.C. (%): 8

LIMITS
LIQUID: 19.9
PLASTIC: 15.5
P.I.: 4.4

% GRAVEL: 34
% SAND: 31
% FINES: 35

CLASSIFICATION:
SILTY, CLAYEY GRAVEL WITH SAND (GC-GM)

FIELD NO: 11
LAB NO: 4370
DEPTH: 2.8-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	95
19.0	91
12.7	83
9.5	78
4.76	70
2.38	--
2.00	64
1.19	--
0.841	50
0.595	--
0.42	40
0.297	--
0.177	--
0.149	35
0.074	35

M.C. (%): 9

LIMITS
LIQUID: 16.7
PLASTIC: 13.5
P.I.: 3.2

% GRAVEL: 30
% SAND: 36
% FINES: 35

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

FIELD NO: 12
LAB NO: 4371
DEPTH: 4.3-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	96
19.0	96
12.7	92
9.5	88
4.76	81
2.38	--
2.00	74
1.19	--
0.841	67
0.595	--
0.42	62
0.297	--
0.177	--
0.149	53
0.074	44

M.C. (%): 11

LIMITS
LIQUID: 18.5
PLASTIC: 14.0
P.I.: 4.5

% GRAVEL: 19
% SAND: 37
% FINES: 44

CLASSIFICATION:
SILTY, CLAYEY SAND WITH GRAVEL (SC-SM)

PROJECT NUMBER:	745927	HOLE NUMBER:	139-05
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	SEGMENT 17		
PROJECT LOCATION:	A/H KM 1904-1932		
DRILL UNIT:	17-225 & 17-174		
HOLE LOCATION:	1907+900 O/S 17M LT		
LOGGED BY:	DT	DATE COMPLETED:	91.08.09

FIELD NO:	13	FIELD NO:	14	FIELD NO:	15
LAB NO:	4372	LAB NO:	4373	LAB NO:	4374
DEPTH:	1.3-1.5	DEPTH:	2.8-3.0	DEPTH:	4.3-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER
				NO SEIVE	

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--	101.6	--
76.2	--	76.2	--	76.2	--
50.8	100	50.8	100	50.8	--
38.1	78	38.1	91	38.1	--
25.4	74	25.4	91	25.4	--
19.0	67	19.0	82	19.0	--
12.7	61	12.7	73	12.7	--
9.5	58	9.5	67	9.5	--
4.76	52	4.76	57	4.76	--
2.38	--	2.38	--	2.38	--
2.00	48	2.00	49	2.00	--
1.19	--	1.19	--	1.19	--
0.841	44	0.841	43	0.841	--
0.595	--	0.595	--	0.595	--
0.42	40	0.42	38	0.42	--
0.297	--	0.297	--	0.297	--
0.177	--	0.177	--	0.177	--
0.149	33	0.149	31	0.149	--
0.074	27	0.074	25	0.074	--

M.C.(%):	8	M.C.(%):	7	M.C.(%):	5
LIMITS		LIMITS		LIMITS	
LIQUID:	18.9	LIQUID:	17.5	LIQUID:	17.9
PLASTIC:	15.3	PLASTIC:	14.9	PLASTIC:	15.2
P.I.:	3.6	P.I.:	2.6	P.I.:	2.7
% GRAVEL:	48	% GRAVEL:	43	% GRAVEL:	--
% SAND:	25	% SAND:	32	% SAND:	--
% FINES:	27	% FINES:	25	% FINES:	--
CLASSIFICATION: SILTY GRAVEL WITH SAND (GM)		CLASSIFICATION: SILTY GRAVEL WITH SAND (GM)		CLASSIFICATION:	

PROJECT NUMBER:	745927	HOLE NUMBER:	139-06
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	SEGMENT 17		
PROJECT LOCATION:	A/H KM 1904-1932		
DRILL UNIT:	17-225 & 17-174		
HOLE LOCATION:	1908+000 O/S 5M LT		
LOGGED BY:	DT	DATE COMPLETED:	91.08.09

FIELD NO: 16
LAB NO: 4375
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	100
38.1	86
25.4	77
19.0	74
12.7	68
9.5	64
4.76	56
2.38	--
2.00	50
1.19	--
0.841	46
0.595	--
0.42	42
0.297	--
0.177	--
0.149	32
0.074	26

M.C.(%): 8

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

% GRAVEL: 44
% SAND: 30
% FINES: 26

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

PROJECT NUMBER: 745927 HOLE NUMBER: 139-07
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1908+100 O/S 4M LT
LOGGED BY: DT DATE COMPLETED: 91.08.10

FIELD NO: 17
LAB NO: 4376
DEPTH: 1.3-1.5
TYPE: AUGER
ORGANIC

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	--
25.4	--
19.0	--
12.7	--
9.5	100
4.76	100
2.38	--
2.00	98
1.19	--
0.841	64
0.595	--
0.42	49
0.297	--
0.177	--
0.149	39
0.074	30

M.C.(%): 365

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

% GRAVEL: 0
% SAND: 70
% FINES: 30

CLASSIFICATION:
SILTY SAND (SM)

PROJECT NUMBER:	745927	HOLE NUMBER:	139-08
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	SEGMENT 17		
PROJECT LOCATION:	A/H KM 1904-1932		
DRILL UNIT:	17-225 & 17-174		
HOLE LOCATION:	1908+200 O/S 3M LT		
LOGGED BY:	DT	DATE COMPLETED:	91.08.10

FIELD NO:	18	19	20
LAB NO:	4377	4378	4379
DEPTH:	1.3-1.5	2.8-3.0	4.3-4.5
TYPE:	AUGER ORGANIC	AUGER	AUGER

SIEVE SIZE	PERCENT PASSING (18)	PERCENT PASSING (19)	PERCENT PASSING (20)
101.6	--	--	--
76.2	--	--	--
50.8	--	100	--
38.1	100	82	--
25.4	93	60	100
19.0	84	56	94
12.7	71	51	92
9.5	62	46	89
4.76	49	39	82
2.38	--	--	--
2.00	42	36	76
1.19	--	--	--
0.841	37	35	71
0.595	--	--	--
0.42	34	32	66
0.297	--	--	--
0.177	--	--	--
0.149	31	23	61
0.074	27	15	49

M.C.(%):	15	9	20
LIMITS			
LIQUID:	--	--	--
PLASTIC:	--	--	--
P.I.:	TRACE	N.P.	TRACE
% GRAVEL:	51	61	18
% SAND:	22	24	33
% FINES:	27	15	49
CLASSIFICATION:	SILTY GRAVEL WITH SAND (GM)	SILTY GRAVEL WITH SAND (GM)	SILTY SAND WITH GRAVEL (SM)

PROJECT NUMBER: 745927
HOLE NUMBER: 139-09
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1908+300 O/S 3M LT
LOGGED BY: DT
DATE COMPLETED: 91.08.10

FIELD NO:	21	FIELD NO:	22	FIELD NO:	23	FIELD NO:	24
LAB NO:	4380	LAB NO:	4381	LAB NO:	4382	LAB NO:	4383
DEPTH:	1.3-1.5	DEPTH:	2.8-3.0	DEPTH:	4.3-4.5	DEPTH:	5.8-6.0
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--	101.6	--	101.6	--
76.2	--	76.2	--	76.2	--	76.2	--
50.8	--	50.8	--	50.8	--	50.8	100
38.1	--	38.1	--	38.1	100	38.1	85
25.4	--	25.4	--	25.4	96	25.4	85
19.0	--	19.0	100	19.0	96	19.0	80
12.7	--	12.7	99	12.7	93	12.7	73
9.5	100	9.5	99	9.5	92	9.5	64
4.76	100	4.76	99	4.76	90	4.76	59
2.38	--	2.38	--	2.38	--	2.38	--
2.00	100	2.00	98	2.00	88	2.00	57
1.19	--	1.19	--	1.19	--	1.19	--
0.841	99	0.841	98	0.841	86	0.841	54
0.595	--	0.595	--	0.595	--	0.595	--
0.42	99	0.42	97	0.42	81	0.42	51
0.297	--	0.297	--	0.297	--	0.297	--
0.177	--	0.177	--	0.177	--	0.177	--
0.149	95	0.149	92	0.149	49	0.149	40
0.074	86	0.074	68	0.074	35	0.074	35

M.C.(%):	22	M.C.(%):	18	M.C.(%):	13	M.C.(%):	13
LIMITS		LIMITS		LIMITS		LIMITS	
LIQUID:	21.6	LIQUID:	--	LIQUID:	--	LIQUID:	20.6
PLASTIC:	18.0	PLASTIC:	--	PLASTIC:	--	PLASTIC:	14.5
P.I.:	3.6	P.I.:	TRACE	P.I.:	N.P.	P.I.:	6.1
% GRAVEL:	0	% GRAVEL:	1	% GRAVEL:	10	% GRAVEL:	41
% SAND:	14	% SAND:	31	% SAND:	55	% SAND:	25
% FINES:	86	% FINES:	68	% FINES:	35	% FINES:	35
CLASSIFICATION: SILT (ML)		CLASSIFICATION: SANDY SILT (ML)		CLASSIFICATION: SILTY SAND (SM)		CLASSIFICATION: SILTY, CLAYEY GRAVEL WITH SAND (GC-GM)	

PROJECT NUMBER: 745927
HOLE NUMBER: 139-10
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1908+400 O/S 7M RT
LOGGED BY: DT
DATE COMPLETED: 91.08.10

FIELD NO: 25
LAB NO: 4384
DEPTH: 1.3-1.5
TYPE: AUGER
ORGANIC

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	--
25.4	--
19.0	100
12.7	94
9.5	91
4.76	82
2.38	--
2.00	73
1.19	--
0.841	66
0.595	--
0.42	60
0.297	--
0.177	--
0.149	49
0.074	42

M.C.(%): 41

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

% GRAVEL: 18
% SAND: 40
% FINES: 42

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

FIELD NO: 26
LAB NO: 4385
DEPTH: 2.8-3.0
TYPE: AUGER
ORGANIC

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	--
25.4	--
19.0	--
12.7	--
9.5	--
4.76	100
2.38	--
2.00	100
1.19	--
0.841	98
0.595	--
0.42	95
0.297	--
0.177	--
0.149	88
0.074	76

M.C.(%): 96

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

% GRAVEL: 0
% SAND: 24
% FINES: 76

CLASSIFICATION:
SILT WITH SAND (ML)

FIELD NO: 27
LAB NO: 4386
DEPTH: 4.3-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	--
25.4	--
19.0	--
12.7	--
9.5	100
4.76	100
2.38	--
2.00	99
1.19	--
0.841	99
0.595	--
0.42	97
0.297	--
0.177	--
0.149	89
0.074	74

M.C.(%): 63

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

% GRAVEL: 0
% SAND: 26
% FINES: 74

CLASSIFICATION:
SILT WITH SAND (ML)

PROJECT NUMBER:	745927	HOLE NUMBER:	139-11
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	SEGMENT 17		
PROJECT LOCATION:	A/H KM 1904-1932		
DRILL UNIT:	17-225 & 17-174		
HOLE LOCATION:	1908+500 O/S 2M LT		
LOGGED BY:	DT	DATE COMPLETED:	91.08.10

FIELD NO: 28
LAB NO: 4387
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	93
19.0	81
12.7	76
9.5	72
4.76	62
2.38	--
2.00	53
1.19	--
0.841	46
0.595	--
0.42	41
0.297	--
0.177	--
0.149	32
0.074	27

M.C.(%): 10

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

% GRAVEL: 38
% SAND: 36
% FINES: 27

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

PROJECT NUMBER:	745927	HOLE NUMBER:	139-12
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	SEGMENT 17		
PROJECT LOCATION:	A/H KM 1904-1932		
DRILL UNIT:	17-225 & 17-174		
HOLE LOCATION:	1908+600		
LOGGED BY:	DT	DATE COMPLETED:	91.08.10

FIELD NO:	29	FIELD NO:	30
LAB NO:	4388	LAB NO:	4389
DEPTH:	1.3-1.5	DEPTH:	2.8-3.0
TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--
76.2	--	76.2	--
50.8	--	50.8	--
38.1	--	38.1	100
25.4	--	25.4	96
19.0	100	19.0	91
12.7	97	12.7	88
9.5	92	9.5	81
4.76	85	4.76	69
2.38	--	2.38	--
2.00	79	2.00	57
1.19	--	1.19	--
0.841	72	0.841	49
0.595	--	0.595	--
0.42	67	0.42	43
0.297	--	0.297	--
0.177	--	0.177	--
0.149	57	0.149	33
0.074	49	0.074	28

M.C.(%):	22	M.C.(%):	16
LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--
P.I.:	TRACE	P.I.:	TRACE
% GRAVEL:	15	% GRAVEL:	31
% SAND:	36	% SAND:	41
% FINES:	49	% FINES:	28
CLASSIFICATION: SILTY SAND WITH GRAVEL (SM)		CLASSIFICATION: SILTY SAND WITH GRAVEL (SM)	

PROJECT NUMBER: 745927
HOLE NUMBER: 139-13
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1908+700 O/S 2M RT
LOGGED BY: DT
DATE COMPLETED: 91.08.10

FIELD NO: 31
LAB NO: 4390
DEPTH: 1.3-1.5
TYPE: AUGER
ORGANIC

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	--
25.4	--
19.0	--
12.7	--
9.5	100
4.76	98
2.38	--
2.00	88
1.19	--
0.841	78
0.595	--
0.42	72
0.297	--
0.177	--
0.149	61
0.074	54

M.C.(%): 109

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

% GRAVEL: 2
% SAND: 44
% FINES: 54

CLASSIFICATION:
SANDY SILT (ML)

FIELD NO: 32
LAB NO: 4391
DEPTH: 2.8-3.0
TYPE: AUGER
ORGANIC

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	--
25.4	--
19.0	--
12.7	--
9.5	--
4.76	100
2.38	--
2.00	98
1.19	--
0.841	96
0.595	--
0.42	94
0.297	--
0.177	--
0.149	87
0.074	78

M.C.(%): 110

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

% GRAVEL: 0
% SAND: 22
% FINES: 78

CLASSIFICATION:
SILT WITH SAND
(ML)

FIELD NO: 33
LAB NO: 4392
DEPTH: 4.3-4.5
TYPE: AUGER
ORGANIC

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	--
25.4	--
19.0	--
12.7	--
9.5	100
4.76	100
2.38	--
2.00	99
1.19	--
0.841	97
0.595	--
0.42	94
0.297	--
0.177	--
0.149	88
0.074	82

M.C.(%): 136

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

% GRAVEL: 0
% SAND: 18
% FINES: 82

CLASSIFICATION:
SILT WITH SAND
(ML)

PROJECT NUMBER: 745927
HOLE NUMBER: 139-14
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1908+800 O/S 2M LT
LOGGED BY: DT
DATE COMPLETED: 91.08.10

FIELD NO: 34
LAB NO: 4393
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	--
25.4	--
19.0	100
12.7	95
9.5	91
4.76	84
2.38	--
2.00	77
1.19	--
0.841	70
0.595	--
0.42	64
0.297	--
0.177	--
0.149	50
0.074	41

M.C.(%): 19

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

% GRAVEL: 16
% SAND: 43
% FINES: 41

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

FIELD NO: 35
LAB NO: 4394
DEPTH: 2.8-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	80
19.0	79
12.7	72
9.5	67
4.76	56
2.38	--
2.00	46
1.19	--
0.841	39
0.595	--
0.42	34
0.297	--
0.177	--
0.149	25
0.074	20

M.C.(%): 10

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

% GRAVEL: 44
% SAND: 36
% FINES: 20

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

FIELD NO: 36
LAB NO: 4395
DEPTH: 4.3-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	93
19.0	92
12.7	84
9.5	77
4.76	64
2.38	--
2.00	53
1.19	--
0.841	44
0.595	--
0.42	38
0.297	--
0.177	--
0.149	29
0.074	25

M.C.(%): 10

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

% GRAVEL: 36
% SAND: 39
% FINES: 25

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

PROJECT NUMBER:	745927	HOLE NUMBER:	139-15
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	SEGMENT 17		
PROJECT LOCATION:	A/H KM 1904-1932		
DRILL UNIT:	17-225 & 17-174		
HOLE LOCATION:	1908+900		
LOGGED BY:	DT	DATE COMPLETED:	91.08.10

FIELD NO: 37
LAB NO: 4396
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	85
19.0	74
12.7	71
9.5	68
4.76	61
2.38	--
2.00	54
1.19	--
0.841	48
0.595	--
0.42	44
0.297	--
0.177	--
0.149	35
0.074	30

M.C.(%): 12

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

% GRAVEL: 39
% SAND: 31
% FINES: 30

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

FIELD NO: 38
LAB NO: 4397
DEPTH: 2.8-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	98
19.0	95
12.7	91
9.5	88
4.76	82
2.38	--
2.00	76
1.19	--
0.841	71
0.595	--
0.42	66
0.297	--
0.177	--
0.149	57
0.074	52

M.C.(%): 15

LIMITS
LIQUID: 21.9
PLASTIC: 16.8
P.I.: 5.1

% GRAVEL: 18
% SAND: 30
% FINES: 52

CLASSIFICATION:
SANDY SILTY CLAY
WITH GRAVEL
(CL-ML)

FIELD NO: 39
LAB NO: 4398
DEPTH: 4.3-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	--
25.4	--
19.0	--
12.7	--
9.5	100
4.76	99
2.38	--
2.00	97
1.19	--
0.841	95
0.595	--
0.42	94
0.297	--
0.177	--
0.149	91
0.074	88

M.C.(%): 37

LIMITS
LIQUID: 29.5
PLASTIC: 21.3
P.I.: 8.2

% GRAVEL: 1
% SAND: 10
% FINES: 88

CLASSIFICATION:
LEAN CLAY (CL)

FIELD NO: 40
LAB NO: 4399
DEPTH: 5.8-6.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	88
19.0	83
12.7	76
9.5	71
4.76	63
2.38	--
2.00	55
1.19	--
0.841	50
0.595	--
0.42	45
0.297	--
0.177	--
0.149	38
0.074	34

M.C.(%): 15

LIMITS
LIQUID: 20.3
PLASTIC: 13.6
P.I.: 6.7

% GRAVEL: 37
% SAND: 30
% FINES: 34

CLASSIFICATION:
SILTY, CLAYEY
GRAVEL WITH SAND
(GC-GM)

PROJECT NUMBER:	745927	HOLE NUMBER:	139-16
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	SEGMENT 17		
PROJECT LOCATION:	A/H KM 1904-1932		
DRILL UNIT:	17-225 & 17-174		
HOLE LOCATION:	1909+000		
LOGGED BY:	DT	DATE COMPLETED:	91.08.10

FIELD NO:	41	42	43
LAB NO:	4400	4401	4402
DEPTH:	1.3-1.5	2.8-3.0	4.3-4.5
TYPE:	AUGER	AUGER	AUGER

SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING
101.6	--	--	--
76.2	--	--	--
50.8	--	--	100
38.1	100	--	84
25.4	87	--	77
19.0	75	100	70
12.7	67	97	66
9.5	62	94	64
4.76	54	87	58
2.38	--	--	--
2.00	47	78	53
1.19	--	--	--
0.841	41	71	47
0.595	--	--	--
0.42	36	65	43
0.297	--	--	--
0.177	--	--	--
0.149	29	57	37
0.074	24	49	29

M.C.(%):	6	11	8
LIMITS			
LIQUID:	18.2	21.9	19.1
PLASTIC:	14.5	16.2	14.9
P.I.:	3.7	5.7	4.2
% GRAVEL:	46	13	42
% SAND:	29	38	29
% FINES:	24	49	29
CLASSIFICATION:	SILTY GRAVEL WITH SAND (GM)	SILTY, CLAYEY SAND (SC-SM)	SILTY, CLAYEY GRAVEL WITH SAND (GC-GM)

PROJECT NUMBER:	745927	HOLE NUMBER:	139-17
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	SEGMENT 17		
PROJECT LOCATION:	A/H KM 1904-1932		
DRILL UNIT:	17-225 & 17-174		
HOLE LOCATION:	1909+100		
LOGGED BY:	DT	DATE COMPLETED:	91.08.10

FIELD NO:	44	FIELD NO:	45	FIELD NO:	46
LAB NO:	4403	LAB NO:	4404	LAB NO:	4405
DEPTH:	1.3-1.5	DEPTH:	2.8-3.0	DEPTH:	4.3-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--	101.6	--
76.2	--	76.2	--	76.2	--
50.8	100	50.8	--	50.8	--
38.1	90	38.1	100	38.1	100
25.4	85	25.4	94	25.4	90
19.0	85	19.0	86	19.0	89
12.7	79	12.7	77	12.7	83
9.5	76	9.5	71	9.5	79
4.76	67	4.76	62	4.76	71
2.38	--	2.38	--	2.38	--
2.00	57	2.00	54	2.00	63
1.19	--	1.19	--	1.19	--
0.841	49	0.841	48	0.841	55
0.595	--	0.595	--	0.595	--
0.42	41	0.42	42	0.42	49
0.297	--	0.297	--	0.297	--
0.177	--	0.177	--	0.177	--
0.149	30	0.149	34	0.149	41
0.074	24	0.074	28	0.074	34

M.C.(%):	13	M.C.(%):	11	M.C.(%):	12
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	TRACE	P.I.:	TRACE
% GRAVEL:	33	% GRAVEL:	38	% GRAVEL:	29
% SAND:	43	% SAND:	34	% SAND:	37
% FINES:	24	% FINES:	28	% FINES:	34
CLASSIFICATION: SILTY SAND WITH GRAVEL (SM)		CLASSIFICATION: SILTY GRAVEL WITH SAND (GM)		CLASSIFICATION: SILTY SAND WITH GRAVEL (SM)	

PROJECT NUMBER:	745927	HOLE NUMBER:	139-18
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	SEGMENT 17		
PROJECT LOCATION:	A/H KM 1904-1932		
DRILL UNIT:	17-225 & 17-174		
HOLE LOCATION:	1909+203 O/S 2M LT		
LOGGED BY:	DT	DATE COMPLETED:	91.08.10

FIELD NO:	47	FIELD NO:	48	FIELD NO:	49	FIELD NO:	49A
LAB NO:	1406	LAB NO:	4407	LAB NO:	4408	LAB NO:	4409
DEPTH:	1.3-1.5	DEPTH:	2.8-3.0	DEPTH:	5.3-5.5	DEPTH:	6.9-7.1
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--	101.6	--	101.6	--
76.2	--	76.2	--	76.2	--	76.2	--
50.8	--	50.8	--	50.8	--	50.8	--
38.1	100	38.1	100	38.1	100	38.1	--
25.4	94	25.4	91	25.4	93	25.4	--
19.0	81	19.0	87	19.0	86	19.0	100
12.7	79	12.7	78	12.7	73	12.7	98
9.5	75	9.5	74	9.5	68	9.5	97
4.76	68	4.76	67	4.76	61	4.76	92
2.38	--	2.38	--	2.38	--	2.38	--
2.00	61	2.00	59	2.00	56	2.00	84
1.19	--	1.19	--	1.19	--	1.19	--
0.841	55	0.841	53	0.841	51	0.841	75
0.595	--	0.595	--	0.595	--	0.595	--
0.42	50	0.42	48	0.42	47	0.42	66
0.297	--	0.297	--	0.297	--	0.297	--
0.177	--	0.177	--	0.177	--	0.177	--
0.149	40	0.149	38	0.149	38	0.149	44
0.074	33	0.074	32	0.074	33	0.074	33

M.C.(%):	6	M.C.(%):	7	M.C.(%):	6	M.C.(%):	7
LIMITS		LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	17.0	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	14.2	PLASTIC:	--
P.I.:	TRACE	P.I.:	TRACE	P.I.:	2.8	P.I.:	N.P.
% GRAVEL:	32	% GRAVEL:	33	% GRAVEL:	39	% GRAVEL:	8
% SAND:	34	% SAND:	35	% SAND:	29	% SAND:	59
% FINES:	33	% FINES:	32	% FINES:	33	% FINES:	33
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)		SILTY GRAVEL WITH SAND (GM)		SILTY SAND (SM)	

PROJECT NUMBER:	745927	HOLE NUMBER:	139-20
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	SEGMENT 17		
PROJECT LOCATION:	A/H KM 1904-1932		
DRILL UNIT:	17-225 & 17-174		
HOLE LOCATION:	1909+300 O/S 2M RT		
LOGGED BY:	DT	DATE COMPLETED:	91.08.11

FIELD NO:	53	FIELD NO:	54	FIELD NO:	55
LAB NO:	4413	LAB NO:	4414	LAB NO:	4415
DEPTH:	1.3-1.5	DEPTH:	2.8-3.0	DEPTH:	4.3-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--	101.6	--
76.2	--	76.2	--	76.2	--
50.8	100	50.8	--	50.8	--
38.1	81	38.1	100	38.1	100
25.4	77	25.4	97	25.4	97
19.0	77	19.0	96	19.0	92
12.7	65	12.7	92	12.7	76
9.5	61	9.5	90	9.5	69
4.76	53	4.76	84	4.76	56
2.38	--	2.38	--	2.38	--
2.00	46	2.00	79	2.00	45
1.19	--	1.19	--	1.19	--
0.841	41	0.841	73	0.841	38
0.595	--	0.595	--	0.595	--
0.42	37	0.42	69	0.42	33
0.297	--	0.297	--	0.297	--
0.177	--	0.177	--	0.177	--
0.149	32	0.149	63	0.149	26
0.074	27	0.074	57	0.074	23

M.C.(%):	21	M.C.(%):	18	M.C.(%):	15
LIMITS		LIMITS		LIMITS	
LIQUID:	19.4	LIQUID:	22.1	LIQUID:	19.2
PLASTIC:	15.2	PLASTIC:	15.5	PLASTIC:	16.7
P.I.:	4.2	P.I.:	6.6	P.I.:	2.5
% GRAVEL:	47	% GRAVEL:	16	% GRAVEL:	44
% SAND:	26	% SAND:	27	% SAND:	33
% FINES:	27	% FINES:	57	% FINES:	23
CLASSIFICATION: SILTY, CLAYEY GRAVEL WITH SAND (GC-GM)		CLASSIFICATION: SANDY SILTY CLAY WITH GRAVEL (CL-ML)		CLASSIFICATION: SILTY GRAVEL WITH SAND (GM)	

PROJECT NUMBER: 745927 HOLE NUMBER: 140-21
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1909+400
LOGGED BY: DT DATE COMPLETED: 91.08.11

FIELD NO: 56
LAB NO: 4416
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	100
38.1	89
25.4	86
19.0	77
12.7	74
9.5	69
4.76	61
2.38	--
2.00	53
1.19	--
0.841	47
0.595	--
0.42	43
0.297	--
0.177	--
0.149	35
0.074	30

M.C.(%): 19

LIMITS
LIQUID: 18.4
PLASTIC: 16.4
P.I.: 2.0

% GRAVEL: 39
% SAND: 31
% FINES: 30

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

FIELD NO: 57
LAB NO: 4417
DEPTH: 2.8-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	87
19.0	77
12.7	71
9.5	68
4.76	59
2.38	--
2.00	52
1.19	--
0.841	47
0.595	--
0.42	43
0.297	--
0.177	--
0.149	36
0.074	32

M.C.(%): 12

LIMITS
LIQUID: 19.5
PLASTIC: 14.2
P.I.: 5.3

% GRAVEL: 41
% SAND: 27
% FINES: 32

CLASSIFICATION:
SILTY, CLAYEY
GRAVEL WITH SAND
(GC-GM)

FIELD NO: 58
LAB NO: 4418
DEPTH: 4.3-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	--
25.4	100
19.0	98
12.7	95
9.5	92
4.76	81
2.38	--
2.00	70
1.19	--
0.841	62
0.595	--
0.42	56
0.297	--
0.177	--
0.149	46
0.074	40

M.C.(%): 9

LIMITS
LIQUID: 18.2
PLASTIC: 14.2
P.I.: 4.0

% GRAVEL: 19
% SAND: 41
% FINES: 40

CLASSIFICATION:
SILTY, CLAYEY
SAND WITH GRAVEL
(SC-SM)

PROJECT NUMBER: 745927 HOLE NUMBER: 140-22
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1909+500 O/S 2M RT.
LOGGED BY: DT DATE COMPLETED: 91.08.11

FIELD NO:	59	FIELD NO:	60	FIELD NO:	61
LAB NO:	4419	LAB NO:	4420	LAB NO:	4421
DEPTH:	1.5-1.7	DEPTH:	2.8-3.0	DEPTH:	4.3-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER
EST. 75%	ORGANIC	EST. 65%	ORGANIC		

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--	101.6	--
76.2	--	76.2	--	76.2	--
50.8	--	50.8	--	50.8	--
38.1	--	38.1	--	38.1	100
25.4	--	25.4	--	25.4	91
19.0	--	19.0	--	19.0	89
12.7	--	12.7	--	12.7	80
9.5	100	9.5	100	9.5	75
4.76	99	4.76	97	4.76	66
2.38	--	2.38	--	2.38	--
2.00	97	2.00	93	2.00	59
1.19	--	1.19	--	1.19	--
0.841	93	0.841	87	0.841	53
0.595	--	0.595	--	0.595	--
0.42	90	0.42	79	0.42	48
0.297	--	0.297	--	0.297	--
0.177	--	0.177	--	0.177	--
0.149	73	0.149	63	0.149	42
0.074	58	0.074	55	0.074	35

M.C.(%):	104	M.C.(%):	171	M.C.(%):	20
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	TRACE
% GRAVEL:	1	% GRAVEL:	3	% GRAVEL:	34
% SAND:	40	% SAND:	42	% SAND:	31
% FINES:	58	% FINES:	55	% FINES:	35
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SANDY SILT (ML)		SANDY SILT (ML)		SILTY GRAVEL WITH SAND (GM)	

PROJECT NUMBER: 745927 HOLE NUMBER: 140-23
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1909+600 O/S 2M RT.
LOGGED BY: DT DATE COMPLETED: 91.08.11

FIELD NO: 62
LAB NO: 4422
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	--
25.4	--
19.0	100
12.7	90
9.5	85
4.76	75
2.38	--
2.00	65
1.19	--
0.841	57
0.595	--
0.42	51
0.297	--
0.177	--
0.149	43
0.074	36

M.C.(%): 29

LIMITS
LIQUID: 22.4
PLASTIC: 16.9
P.I.: 5.5

% GRAVEL: 25
% SAND: 39
% FINES: 36

CLASSIFICATION:
SILTY, CLAYEY SAND WITH GRAVEL (SC-SM)

FIELD NO: 63
LAB NO: 4423
DEPTH: 2.8-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	--
25.4	--
19.0	100
12.7	92
9.5	88
4.76	72
2.38	--
2.00	59
1.19	--
0.841	50
0.595	--
0.42	44
0.297	--
0.177	--
0.149	37
0.074	31

M.C.(%): 12

LIMITS
LIQUID: 19.7
PLASTIC: 15.9
P.I.: 3.8

% GRAVEL: 28
% SAND: 41
% FINES: 31

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

PROJECT NUMBER: 745927 HOLE NUMBER: 140-24
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1909+985 O/S 2M RT.
LOGGED BY: DT DATE COMPLETED: 91.08.13

FIELD NO:	64	FIELD NO:	65	FIELD NO:	66
LAB NO:	4441	LAB NO:	4442	LAB NO:	4443
DEPTH:	1.3-1.5	DEPTH:	2.8-3.0	DEPTH:	4.3-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--	101.6	--
76.2	--	76.2	--	76.2	--
50.8	100	50.8	--	50.8	100
38.1	87	38.1	100	38.1	86
25.4	87	25.4	97	25.4	79
19.0	77	19.0	86	19.0	75
12.7	69	12.7	73	12.7	68
9.5	61	9.5	64	9.5	63
4.76	49	4.76	48	4.76	51
2.38	--	2.38	--	2.38	--
2.00	38	2.00	37	2.00	38
1.19	--	1.19	--	1.19	--
0.841	31	0.841	30	0.841	29
0.595	--	0.595	--	0.595	--
0.42	25	0.42	25	0.42	24
0.297	--	0.297	--	0.297	--
0.177	--	0.177	--	0.177	--
0.149	17	0.149	16	0.149	14
0.074	11	0.074	12	0.074	11

M.C.(%):	4	M.C.(%):	3	M.C.(%):	3
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	51	% GRAVEL:	52	% GRAVEL:	49
% SAND:	38	% SAND:	37	% SAND:	40
% FINES:	11	% FINES:	12	% FINES:	11
CLASSIFICATION: POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)		CLASSIFICATION: POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)		CLASSIFICATION: POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	

PROJECT NUMBER: 745927 HOLE NUMBER: 140-25
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1910+450 O/S 8M LT.
LOGGED BY: DT DATE COMPLETED: 91.08.13

FIELD NO: 67
LAB NO: 4444
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	100
38.1	93
25.4	81
19.0	73
12.7	62
9.5	55
4.76	40
2.38	--
2.00	29
1.19	--
0.841	20
0.595	--
0.42	14
0.297	--
0.177	--
0.149	9
0.074	7

M.C.(%): 3

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

% GRAVEL: 60
% SAND: 33
% FINES: 7

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

FIELD NO: 68
LAB NO: 4445
DEPTH: 2.8-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	92
19.0	83
12.7	66
9.5	57
4.76	42
2.38	--
2.00	31
1.19	--
0.841	22
0.595	--
0.42	16
0.297	--
0.177	--
0.149	10
0.074	8

M.C.(%): 3

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

% GRAVEL: 58
% SAND: 34
% FINES: 8

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

FIELD NO: 69
LAB NO: 4446
DEPTH: 4.3-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	85
19.0	76
12.7	67
9.5	60
4.76	47
2.38	--
2.00	32
1.19	--
0.841	22
0.595	--
0.42	16
0.297	--
0.177	--
0.149	11
0.074	9

M.C.(%): 4

LIMITS
LIQUID: 20.9
PLASTIC: 15.4
P.I.: 5.5

% GRAVEL: 53
% SAND: 38
% FINES: 9

CLASSIFICATION:
WELL-GRADED GRAVEL WITH CLAY & SAND (GW-GC)

PROJECT NUMBER: 745927 HOLE NUMBER: 140-26
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1910+550 O/S 5M LT.
LOGGED BY: DT DATE COMPLETED: 91.08.13

FIELD NO: 70
LAB NO: 4447
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	83
19.0	78
12.7	67
9.5	61
4.76	48
2.38	--
2.00	37
1.19	--
0.841	27
0.595	--
0.42	19
0.297	--
0.177	--
0.149	11
0.074	8

M.C.(%): 2

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

% GRAVEL: 52
% SAND: 39
% FINES: 8

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

FIELD NO: 71
LAB NO: 4448
DEPTH: 4.3-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	100
50.8	84
38.1	84
25.4	64
19.0	59
12.7	48
9.5	43
4.76	33
2.38	--
2.00	23
1.19	--
0.841	16
0.595	--
0.42	11
0.297	--
0.177	--
0.149	5
0.074	4

M.C.(%): 1

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

% GRAVEL: 67
% SAND: 29
% FINES: 4

CLASSIFICATION:
WELL-GRADED
GRAVEL WITH SAND
(GW)

PROJECT NUMBER: 745927 HOLE NUMBER: 140-27
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1910+650 O/S 5M LT.
LOGGED BY: DT DATE COMPLETED: 91.08.13

FIELD NO: 72
LAB NO: 4449
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	100
38.1	89
25.4	71
19.0	63
12.7	58
9.5	54
4.76	46
2.38	--
2.00	41
1.19	--
0.841	28
0.595	--
0.42	22
0.297	--
0.177	--
0.149	16
0.074	14

M.C.(%): 4

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

% GRAVEL: 54
% SAND: 32
% FINES: 14

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

FIELD NO: 73
LAB NO: 4450
DEPTH: 2.8-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	80
19.0	70
12.7	54
9.5	44
4.76	27
2.38	--
2.00	18
1.19	--
0.841	14
0.595	--
0.42	11
0.297	--
0.177	--
0.149	7
0.074	6

M.C.(%): 2

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

% GRAVEL: 73
% SAND: 21
% FINES: 6

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

PROJECT NUMBER: 745927
HOLE NUMBER: 140-28
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1910+752 O/S 7M LT.
LOGGED BY: DT
DATE COMPLETED: 91.08.13

FIELD NO: 74
LAB NO: 4451
DEPTH: 1.3-1.5
TYPE: AUGER
ORGANICS

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	--
25.4	100
19.0	99
12.7	98
9.5	97
4.76	94
2.38	--
2.00	91
1.19	--
0.841	88
0.595	--
0.42	86
0.297	--
0.177	--
0.149	82
0.074	78

M.C.(%): 29

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

% GRAVEL: 6
% SAND: 16
% FINES: 78

CLASSIFICATION:
SILT WITH SAND (ML)

FIELD NO: 75
LAB NO: 4452
DEPTH: 2.8-3.0
TYPE: AUGER
ORGANICS

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	100
38.1	84
25.4	66
19.0	58
12.7	51
9.5	47
4.76	43
2.38	--
2.00	40
1.19	--
0.841	37
0.595	--
0.42	35
0.297	--
0.177	--
0.149	33
0.074	31

M.C.(%): 12

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

% GRAVEL: 57
% SAND: 12
% FINES: 31

CLASSIFICATION:
SILTY GRAVEL (GM)

FIELD NO: 76
LAB NO: 4453
DEPTH: 3.5-3.7
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	89
19.0	87
12.7	77
9.5	71
4.76	60
2.38	--
2.00	51
1.19	--
0.841	42
0.595	--
0.42	32
0.297	--
0.177	--
0.149	25
0.074	22

M.C.(%): 9

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

% GRAVEL: 40
% SAND: 38
% FINES: 22

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

PROJECT NUMBER: 745927 HOLE NUMBER: 140-29
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1910+852 O/S 9M LT.
LOGGED BY: DT DATE COMPLETED: 91.08.13

FIELD NO: 77
LAB NO: 4454
DEPTH: 1.3-1.5
TYPE: AUGER
ORGANICS

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	80
19.0	72
12.7	70
9.5	69
4.76	65
2.38	--
2.00	61
1.19	--
0.841	55
0.595	--
0.42	51
0.297	--
0.177	--
0.149	44
0.074	37

M.C.(%): 24

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

% GRAVEL: 35
% SAND: 28
% FINES: 37

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

FIELD NO: 78
LAB NO: 4455
DEPTH: 2.8-3.0
TYPE: AUGER
ORGANICS

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	86
19.0	67
12.7	53
9.5	47
4.76	36
2.38	--
2.00	29
1.19	--
0.841	25
0.595	--
0.42	21
0.297	--
0.177	--
0.149	16
0.074	14

M.C.(%): 8

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

% GRAVEL: 64
% SAND: 23
% FINES: 14

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

PROJECT NUMBER: 745927 HOLE NUMBER: 140-30
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1910+975 O/S 2M LT.
LOGGED BY: DT DATE COMPLETED: 91.08.13

FIELD NO: 79
LAB NO: 4456
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	100
38.1	91
25.4	72
19.0	64
12.7	59
9.5	56
4.76	47
2.38	--
2.00	40
1.19	--
0.841	35
0.595	--
0.42	30
0.297	--
0.177	--
0.149	26
0.074	22

M.C.(%): 10

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

% GRAVEL: 53
% SAND: 25
% FINES: 22

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

FIELD NO: 80
LAB NO: 4457
DEPTH: 2.8-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	86
19.0	82
12.7	74
9.5	68
4.76	52
2.38	--
2.00	38
1.19	--
0.841	26
0.595	--
0.42	17
0.297	--
0.177	--
0.149	9
0.074	8

M.C.(%): 4

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

% GRAVEL: 48
% SAND: 44
% FINES: 8

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

PROJECT NUMBER: 745927 HOLE NUMBER: 140-31
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1911+075
LOGGED BY: DT DATE COMPLETED: 91.08.13

FIELD NO: 81
LAB NO: 4458
DEPTH: 1.3-1.5
TYPE: AUGER
ORGANICS

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	--
25.4	100
19.0	98
12.7	93
9.5	90
4.76	84
2.38	--
2.00	78
1.19	--
0.841	74
0.595	--
0.42	70
0.297	--
0.177	--
0.149	65
0.074	61

M.C.(%): 20

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

% GRAVEL: 16
% SAND: 24
% FINES: 61

CLASSIFICATION:
SANDY SILT WITH GRAVEL (ML)

FIELD NO: 82
LAB NO: 4459
DEPTH: 2.8-3.0
TYPE: AUGER
ORGANICS

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	100
38.1	88
25.4	55
19.0	50
12.7	37
9.5	36
4.76	34
2.38	--
2.00	32
1.19	--
0.841	30
0.595	--
0.42	29
0.297	--
0.177	--
0.149	24
0.074	22

M.C.(%): 10

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

% GRAVEL: 66
% SAND: 12
% FINES: 22

CLASSIFICATION:
SILTY GRAVEL (GM)

PROJECT NUMBER: 745927
HOLE NUMBER: 140-32
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1911+650
LOGGED BY: DT
DATE COMPLETED: 91.08.13

FIELD NO: 83
LAB NO: 4460
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	100
38.1	85
25.4	77
19.0	69
12.7	60
9.5	55
4.76	46
2.38	--
2.00	37
1.19	--
0.841	31
0.595	--
0.42	26
0.297	--
0.177	--
0.149	20
0.074	17

M.C.(%): 5

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

% GRAVEL: 54
% SAND: 28
% FINES: 17

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

FIELD NO: 84
LAB NO: 4461
DEPTH: 2.8-3.0
TYPE: AUGER
ORGANICS

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	100
38.1	79
25.4	62
19.0	55
12.7	49
9.5	42
4.76	32
2.38	--
2.00	27
1.19	--
0.841	23
0.595	--
0.42	20
0.297	--
0.177	--
0.149	15
0.074	12

M.C.(%): 4

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

% GRAVEL: 68
% SAND: 20
% FINES: 12

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

FIELD NO: 85
LAB NO: 4462
DEPTH: 4.5-4.7
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	--
25.4	--
19.0	--
12.7	--
9.5	--
4.76	--
2.38	--
2.00	--
1.19	--
0.841	--
0.595	--
0.42	--
0.297	--
0.177	--
0.149	--
0.074	--

M.C.(%): 3

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

% GRAVEL: --
% SAND: --
% FINES: --

CLASSIFICATION:

PROJECT NUMBER: 745927
HOLE NUMBER: 140-33
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1911+925
LOGGED BY: DT
DATE COMPLETED: 91.08.13

FIELD NO: 86
LAB NO: 4463
DEPTH: 1.3-1.5
TYPE: AUGER
ORGANICS

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	100
38.1	84
25.4	78
19.0	75
12.7	69
9.5	65
4.76	56
2.38	--
2.00	47
1.19	--
0.841	39
0.595	--
0.42	33
0.297	--
0.177	--
0.149	26
0.074	22

M.C.(%): 9

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

% GRAVEL: 44
% SAND: 34
% FINES: 22

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

FIELD NO: 87
LAB NO: 4464
DEPTH: 2.8-3.0
TYPE: AUGER
ORGANICS

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	93
19.0	91
12.7	84
9.5	79
4.76	73
2.38	--
2.00	65
1.19	--
0.841	58
0.595	--
0.42	53
0.297	--
0.177	--
0.149	47
0.074	42

M.C.(%): 19

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

% GRAVEL: 27
% SAND: 31
% FINES: 42

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

FIELD NO: 88
LAB NO: 4465
DEPTH: 4.3-4.5
TYPE: AUGER
ORGANICS

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	100
38.1	92
25.4	75
19.0	71
12.7	59
9.5	55
4.76	45
2.38	--
2.00	37
1.19	--
0.841	31
0.595	--
0.42	26
0.297	--
0.177	--
0.149	22
0.074	19

M.C.(%): 10

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

% GRAVEL: 55
% SAND: 26
% FINES: 19

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

PROJECT NUMBER: 745927 HOLE NUMBER: 140-34
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1912+003
LOGGED BY: DT DATE COMPLETED: 91.08.13

FIELD NO: 89
LAB NO: 4466
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	100
38.1	90
25.4	86
19.0	78
12.7	67
9.5	61
4.76	50
2.38	--
2.00	40
1.19	--
0.841	29
0.595	--
0.42	21
0.297	--
0.177	--
0.149	12
0.074	7

M.C.(%): 3

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

% GRAVEL: 50
% SAND: 43
% FINES: 7

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

FIELD NO: 90
LAB NO: 4467
DEPTH: 2.8-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	100
38.1	89
25.4	83
19.0	73
12.7	51
9.5	43
4.76	31
2.38	--
2.00	24
1.19	--
0.841	17
0.595	--
0.42	11
0.297	--
0.177	--
0.149	6
0.074	3

M.C.(%): 3

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

% GRAVEL: 69
% SAND: 28
% FINES: 3

CLASSIFICATION:
POORLY GRADED GRAVEL WITH SAND (GP)

FIELD NO: 91
LAB NO: 4468
DEPTH: 4.3-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	93
19.0	90
12.7	86
9.5	82
4.76	75
2.38	--
2.00	69
1.19	--
0.841	61
0.595	--
0.42	52
0.297	--
0.177	--
0.149	43
0.074	40

M.C.(%): 17

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

% GRAVEL: 25
% SAND: 35
% FINES: 40

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

PROJECT NUMBER:	745927	HOLE NUMBER:	140-35
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	ALASKA HIGHWAY PRE-ENGINEERING		
PROJECT LOCATION:	A/H KM 1904-1932		
DRILL UNIT:	17-225 & 17-174		
HOLE LOCATION:	1912+600 O/S 2M LT.		
LOGGED BY:	DT	DATE COMPLETED:	91.08.13

FIELD NO:	92	FIELD NO:	93	FIELD NO:	94
LAB NO:	4469	LAB NO:	4470	LAB NO:	4471
DEPTH:	1.3-1.5	DEPTH:	2.8-3.0	DEPTH:	4.3-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--	101.6	--
76.2	--	76.2	--	76.2	--
50.8	--	50.8	--	50.8	--
38.1	100	38.1	100	38.1	--
25.4	90	25.4	93	25.4	--
19.0	77	19.0	87	19.0	100
12.7	64	12.7	71	12.7	84
9.5	62	9.5	60	9.5	74
4.76	44	4.76	42	4.76	57
2.38	--	2.38	--	2.38	--
2.00	33	2.00	28	2.00	40
1.19	--	1.19	--	1.19	--
0.841	23	0.841	19	0.841	26
0.595	--	0.595	--	0.595	--
0.42	17	0.42	13	0.42	16
0.297	--	0.297	--	0.297	--
0.177	--	0.177	--	0.177	--
0.149	8	0.149	7	0.149	7
0.074	6	0.074	5	0.074	6

M.C.(%):	3	M.C.(%):	3	M.C.(%):	4
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	56	% GRAVEL:	58	% GRAVEL:	43
% SAND:	38	% SAND:	37	% SAND:	52
% FINES:	6	% FINES:	5	% FINES:	6
CLASSIFICATION:	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)	CLASSIFICATION:	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)	CLASSIFICATION:	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)

PROJECT NUMBER:	745927	HOLE NUMBER:	140-36
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	ALASKA HIGHWAY PRE-ENGINEERING		
PROJECT LOCATION:	A/H KM 1904-1932		
DRILL UNIT:	17-225 & 17-174		
HOLE LOCATION:	1912+700 O/S 2M LT.		
LOGGED BY:	DT	DATE COMPLETED:	91.08.13

FIELD NO: 95
LAB NO: 4472
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	91
19.0	81
12.7	65
9.5	59
4.76	46
2.38	--
2.00	33
1.19	--
0.841	23
0.595	--
0.42	16
0.297	--
0.177	--
0.149	11
0.074	8

M.C.(%): 4

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

% GRAVEL: 54
% SAND: 38
% FINES: 8

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

FIELD NO: 96
LAB NO: 4473
DEPTH: 2.8-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	96
19.0	82
12.7	72
9.5	64
4.76	48
2.38	--
2.00	35
1.19	--
0.841	24
0.595	--
0.42	16
0.297	--
0.177	--
0.149	9
0.074	6

M.C.(%): 3

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

% GRAVEL: 52
% SAND: 42
% FINES: 6

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

PROJECT NUMBER: 745927 HOLE NUMBER: 140-37
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1912+800
LOGGED BY: DT DATE COMPLETED: 91.08.14

FIELD NO:	97	FIELD NO:	98	FIELD NO:	99
LAB NO:	4474	LAB NO:	4475	LAB NO:	4476
DEPTH:	1.3-1.5	DEPTH:	2.8-3.0	DEPTH:	4.3-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--	101.6	--
76.2	--	76.2	--	76.2	--
50.8	--	50.8	--	50.8	--
38.1	100	38.1	100	38.1	100
25.4	88	25.4	83	25.4	93
19.0	83	19.0	76	19.0	81
12.7	71	12.7	56	12.7	74
9.5	62	9.5	46	9.5	66
4.76	46	4.76	28	4.76	52
2.38	--	2.38	--	2.38	--
2.00	32	2.00	19	2.00	40
1.19	--	1.19	--	1.19	--
0.841	18	0.841	12	0.841	26
0.595	--	0.595	--	0.595	--
0.42	10	0.42	7	0.42	14
0.297	--	0.297	--	0.297	--
0.177	--	0.177	--	0.177	--
0.149	4	0.149	4	0.149	4
0.074	3	0.074	3	0.074	2

M.C.(%):	2	M.C.(%):	2	M.C.(%):	7
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	NP
% GRAVEL:	54	% GRAVEL:	72	% GRAVEL:	48
% SAND:	43	% SAND:	26	% SAND:	50
% FINES:	3	% FINES:	3	% FINES:	2
CLASSIFICATION:	POORLY GRADED GRAVEL WITH SAND (GP)	CLASSIFICATION:	POORLY GRADED GRAVEL WITH SAND (GP)	CLASSIFICATION:	POORLY GRADED SAND WITH GRAVEL (SP)

PROJECT NUMBER: 745927 HOLE NUMBER: 140-38
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1912+900 O/S 3M RT.
LOGGED BY: DT DATE COMPLETED: 91.08.14

FIELD NO:	100	FIELD NO:	101	FIELD NO:	102
LAB NO:	4477	LAB NO:	4478	LAB NO:	4479
DEPTH:	1.3-1.5	DEPTH:	2.8-3.0	DEPTH:	4.3-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--	101.6	--
76.2	--	76.2	--	76.2	--
50.8	--	50.8	--	50.8	--
38.1	100	38.1	100	38.1	100
25.4	88	25.4	90	25.4	78
19.0	79	19.0	77	19.0	78
12.7	70	12.7	56	12.7	70
9.5	62	9.5	46	9.5	61
4.76	50	4.76	28	4.76	46
2.38	--	2.38	--	2.38	--
2.00	38	2.00	19	2.00	33
1.19	--	1.19	--	1.19	--
0.841	27	0.841	14	0.841	20
0.595	--	0.595	--	0.595	--
0.42	18	0.42	10	0.42	11
0.297	--	0.297	--	0.297	--
0.177	--	0.177	--	0.177	--
0.149	10	0.149	7	0.149	7
0.074	8	0.074	6	0.074	5

M.C.(%):	4	M.C.(%):	3	M.C.(%):	3
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	TRACE	P.I.:	N.P.
% GRAVEL:	50	% GRAVEL:	72	% GRAVEL:	54
% SAND:	42	% SAND:	23	% SAND:	41
% FINES:	8	% FINES:	6	% FINES:	5
CLASSIFICATION: POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)		CLASSIFICATION: POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)		CLASSIFICATION: POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	

PROJECT NUMBER: 745927 HOLE NUMBER: 140-39
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1913+000 O/S 6M RT.
LOGGED BY: DT DATE COMPLETED: 91.08.14

FIELD NO: 103
LAB NO: 4480
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	90
19.0	88
12.7	74
9.5	69
4.76	64
2.38	--
2.00	59
1.19	--
0.841	55
0.595	--
0.42	51
0.297	--
0.177	--
0.149	46
0.074	40

M.C.(%): 12

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

% GRAVEL: 36
% SAND: 23
% FINES: 40

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

FIELD NO: 104
LAB NO: 4481
DEPTH: 2.8-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	85
19.0	73
12.7	64
9.5	55
4.76	40
2.38	--
2.00	29
1.19	--
0.841	21
0.595	--
0.42	15
0.297	--
0.177	--
0.149	12
0.074	11

M.C.(%): 4

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

% GRAVEL: 60
% SAND: 30
% FINES: 11

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

FIELD NO: 105
LAB NO: 4482
DEPTH: 4.3-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	84
19.0	75
12.7	64
9.5	59
4.76	47
2.38	--
2.00	36
1.19	--
0.841	25
0.595	--
0.42	17
0.297	--
0.177	--
0.149	12
0.074	10

M.C.(%): 4

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

% GRAVEL: 53
% SAND: 37
% FINES: 10

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

PROJECT NUMBER: 745927 HOLE NUMBER: 140-40
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1913+100 O/S 16M RT.
LOGGED BY: DT DATE COMPLETED: 91.08.14

FIELD NO: 106	FIELD NO: 107	FIELD NO: 108
LAB NO: 4483	LAB NO: 4484	LAB NO: 4485
DEPTH: 1.3-1.5	DEPTH: 2.8-3.0	DEPTH: 4.3-4.5
TYPE: AUGER	TYPE: AUGER	TYPE: AUGER
EST. 90% ORGANICS		

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--	101.6	--
76.2	--	76.2	--	76.2	--
50.8	--	50.8	100	50.8	100
38.1	--	38.1	85	38.1	87
25.4	--	25.4	63	25.4	76
19.0	--	19.0	63	19.0	68
12.7	--	12.7	56	12.7	60
9.5	100	9.5	53	9.5	56
4.76	99	4.76	48	4.76	50
2.38	--	2.38	--	2.38	--
2.00	96	2.00	42	2.00	43
1.19	--	1.19	--	1.19	--
0.841	84	0.841	37	0.841	36
0.595	--	0.595	--	0.595	--
0.42	79	0.42	35	0.42	33
0.297	--	0.297	--	0.297	--
0.177	--	0.177	--	0.177	--
0.149	74	0.149	32	0.149	30
0.074	68	0.074	30	0.074	28

M.C.(%): 43	M.C.(%): 9	M.C.(%): 11
LIMITS	LIMITS	LIMITS
LIQUID: --	LIQUID: --	LIQUID: --
PLASTIC: --	PLASTIC: --	PLASTIC: --
P.I.: N.P.	P.I.: TRACE	P.I.: TRACE
% GRAVEL: 1	% GRAVEL: 52	% GRAVEL: 50
% SAND: 31	% SAND: 18	% SAND: 22
% FINES: 68	% FINES: 30	% FINES: 28
CLASSIFICATION: SANDY SILT (ML)	CLASSIFICATION: SILTY GRAVEL WITH SAND (GM)	CLASSIFICATION: SILTY GRAVEL WITH SAND (GM)

PROJECT NUMBER: 745927 HOLE NUMBER: 140-41
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1913+200 O/S 4M RT.
LOGGED BY: DT DATE COMPLETED: 91.08.14

FIELD NO: 109
LAB NO: 4486
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	97
19.0	88
12.7	80
9.5	78
4.76	70
2.38	--
2.00	66
1.19	--
0.841	63
0.595	--
0.42	60
0.297	--
0.177	--
0.149	57
0.074	54

M.C.(%): 16

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

% GRAVEL: 30
% SAND: 16
% FINES: 54

CLASSIFICATION:
GRAVELLY SILT WITH SAND (ML)

FIELD NO: 110
LAB NO: 4487
DEPTH: 2.8-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	100
38.1	91
25.4	79
19.0	65
12.7	55
9.5	47
4.76	39
2.38	--
2.00	36
1.19	--
0.841	33
0.595	--
0.42	31
0.297	--
0.177	--
0.149	29
0.074	27

M.C.(%): 10

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

% GRAVEL: 61
% SAND: 13
% FINES: 27

CLASSIFICATION:
SILTY GRAVEL (GM)

FIELD NO: 111
LAB NO: 4488
DEPTH: 4.3-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	100
38.1	87
25.4	75
19.0	66
12.7	51
9.5	44
4.76	33
2.38	--
2.00	24
1.19	--
0.841	18
0.595	--
0.42	14
0.297	--
0.177	--
0.149	10
0.074	9

M.C.(%): 6

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

% GRAVEL: 67
% SAND: 25
% FINES: 9

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

PROJECT NUMBER: 745927 HOLE NUMBER: 140-42
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1913+300
LOGGED BY: DT DATE COMPLETED: 91.08.14

FIELD NO: 112 LAB NO: 4489 DEPTH: 1.3-1.5 TYPE: AUGER	FIELD NO: 113 LAB NO: 4490 DEPTH: 2.8-3.0 TYPE: AUGER EST. 98% ORGANIC	FIELD NO: 114 LAB NO: 4491 DEPTH: 4.3-4.5 TYPE: AUGER ORGANICS

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--	101.6	--
76.2	--	76.2	--	76.2	--
50.8	--	50.8	--	50.8	100
38.1	--	38.1	--	38.1	84
25.4	--	25.4	--	25.4	84
19.0	--	19.0	--	19.0	84
12.7	--	12.7	--	12.7	83
9.5	--	9.5	100	9.5	82
4.76	--	4.76	96	4.76	81
2.38	--	2.38	--	2.38	--
2.00	--	2.00	93	2.00	80
1.19	--	1.19	--	1.19	--
0.841	--	0.841	80	0.841	78
0.595	--	0.595	--	0.595	--
0.42	--	0.42	74	0.42	77
0.297	--	0.297	--	0.297	--
0.177	--	0.177	--	0.177	--
0.149	--	0.149	59	0.149	75
0.074	--	0.074	52	0.074	73

M.C.(%): 9	M.C.(%): 58	M.C.(%): 43
LIMITS LIQUID: -- PLASTIC: -- P.I.: --	LIMITS LIQUID: -- PLASTIC: -- P.I.: N.P.	LIMITS LIQUID: -- PLASTIC: -- P.I.: NP
% GRAVEL: -- % SAND: -- % FINES: --	% GRAVEL: 4 % SAND: 44 % FINES: 52	% GRAVEL: 19 % SAND: 8 % FINES: 73
CLASSIFICATION:	CLASSIFICATION: SANDY SILT (ML)	CLASSIFICATION: SILT WITH GRAVEL (ML)

PROJECT NUMBER:	745927	HOLE NUMBER:	140-43
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	ALASKA HIGHWAY PRE-ENGINEERING		
PROJECT LOCATION:	A/H KM 1904-1932		
DRILL UNIT:	17-225 & 17-174		
HOLE LOCATION:	1913+412 O/S 7M LT.		
LOGGED BY:	DT	DATE COMPLETED:	91.08.14

FIELD NO:	115	FIELD NO:	116	FIELD NO:	117
LAB NO:	4492	LAB NO:	4493	LAB NO:	4494
DEPTH:	1.3-1.5	DEPTH:	2.8-3.0	DEPTH:	4.3-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER
ORGANICS					

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--	101.6	--
76.2	--	76.2	--	76.2	--
50.8	--	50.8	--	50.8	--
38.1	100	38.1	--	38.1	100
25.4	93	25.4	100	25.4	95
19.0	90	19.0	98	19.0	94
12.7	86	12.7	96	12.7	85
9.5	82	9.5	95	9.5	81
4.76	75	4.76	93	4.76	73
2.38	--	2.38	--	2.38	--
2.00	67	2.00	89	2.00	64
1.19	--	1.19	--	1.19	--
0.841	60	0.841	85	0.841	57
0.595	--	0.595	--	0.595	--
0.42	53	0.42	82	0.42	50
0.297	--	0.297	--	0.297	--
0.177	--	0.177	--	0.177	--
0.149	36	0.149	76	0.149	38
0.074	27	0.074	71	0.074	32

M.C.(%):	21	M.C.(%):	25	M.C.(%):	9
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	TRACE	P.I.:	TRACE
% GRAVEL:	25	% GRAVEL:	7	% GRAVEL:	27
% SAND:	48	% SAND:	22	% SAND:	41
% FINES:	27	% FINES:	71	% FINES:	32
CLASSIFICATION: SILTY SAND WITH GRAVEL (SM)		CLASSIFICATION: SILT WITH SAND (ML)		CLASSIFICATION: SILTY SAND WITH GRAVEL (SM)	

PROJECT NUMBER: 745927 HOLE NUMBER: 141-47
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1913+500 O/S 7M LT.
LOGGED BY: DT DATE COMPLETED: 91.08.14

FIELD NO: 126
LAB NO: 4503
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	100
38.1	90
25.4	81
19.0	79
12.7	72
9.5	69
4.76	62
2.38	--
2.00	56
1.19	--
0.841	50
0.595	--
0.42	45
0.297	--
0.177	--
0.149	37
0.074	29

M.C.(%): 7

LIMITS
LIQUID: 17.9
PLASTIC: 14.4
P.I.: 3.5

% GRAVEL: 38
% SAND: 33
% FINES: 29

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

FIELD NO: 127
LAB NO: 4504
DEPTH: 2.8-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	95
19.0	92
12.7	85
9.5	83
4.76	75
2.38	--
2.00	67
1.19	--
0.841	61
0.595	--
0.42	54
0.297	--
0.177	--
0.149	43
0.074	35

M.C.(%): 8

LIMITS
LIQUID: 18.1
PLASTIC: 14.6
P.I.: 3.5

% GRAVEL: 25
% SAND: 40
% FINES: 35

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

FIELD NO: 128
LAB NO: 4505
DEPTH: 4.3-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	100
38.1	92
25.4	92
19.0	92
12.7	87
9.5	83
4.76	73
2.38	--
2.00	64
1.19	--
0.841	56
0.595	--
0.42	50
0.297	--
0.177	--
0.149	39
0.074	33

M.C.(%): 8

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

% GRAVEL: 27
% SAND: 40
% FINES: 33

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

PROJECT NUMBER: 745927 HOLE NUMBER: 141-48
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1913+808 O/S 2M LT.
LOGGED BY: DT DATE COMPLETED: 91.08.14

FIELD NO: 129
LAB NO: 4506
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	95
19.0	95
12.7	92
9.5	90
4.76	85
2.38	--
2.00	81
1.19	--
0.841	77
0.595	--
0.42	73
0.297	--
0.177	--
0.149	68
0.074	63

M.C.(%): 26

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

% GRAVEL: 15
% SAND: 22
% FINES: 63

CLASSIFICATION:
SANDY SILT WITH GRAVEL (ML)

FIELD NO: 130
LAB NO: 4507
DEPTH: 2.8-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	94
19.0	89
12.7	85
9.5	81
4.76	77
2.38	--
2.00	73
1.19	--
0.841	69
0.595	--
0.42	66
0.297	--
0.177	--
0.149	61
0.074	58

M.C.(%): 29

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

% GRAVEL: 23
% SAND: 19
% FINES: 58

CLASSIFICATION:
GRAVELLY SILT WITH SAND (ML)

FIELD NO: 131
LAB NO: 4508
DEPTH: 4.3-4.5
TYPE: AUGER
EST. 50% ORGANIC

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	--
25.4	--
19.0	100
12.7	98
9.5	98
4.76	96
2.38	--
2.00	94
1.19	--
0.841	90
0.595	--
0.42	88
0.297	--
0.177	--
0.149	84
0.074	81

M.C.(%): 48

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

% GRAVEL: 4
% SAND: 16
% FINES: 81

CLASSIFICATION:
SILT WITH SAND (ML)

PROJECT NUMBER: 745927 HOLE NUMBER: 141-49
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1914+075 O/S 8M LT.
LOGGED BY: DT DATE COMPLETED: 91.08.14

FIELD NO: 132
LAB NO: 4509
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	91
19.0	89
12.7	80
9.5	77
4.76	71
2.38	--
2.00	64
1.19	--
0.841	59
0.595	--
0.42	54
0.297	--
0.177	--
0.149	44
0.074	36

M.C.(%): 10

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

% GRAVEL: 29
% SAND: 35
% FINES: 36

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

FIELD NO: 133
LAB NO: 4510
DEPTH: 2.8-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	--
25.4	100
19.0	82
12.7	77
9.5	67
4.76	62
2.38	--
2.00	55
1.19	--
0.841	49
0.595	--
0.42	44
0.297	--
0.177	--
0.149	39
0.074	29

M.C.(%): 7

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

% GRAVEL: 38
% SAND: 33
% FINES: 29

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

FIELD NO: 134
LAB NO: 4511
DEPTH: 4.3-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	100
38.1	85
25.4	76
19.0	76
12.7	71
9.5	67
4.76	60
2.38	--
2.00	55
1.19	--
0.841	48
0.595	--
0.42	42
0.297	--
0.177	--
0.149	31
0.074	22

M.C.(%): 7

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

% GRAVEL: 40
% SAND: 38
% FINES: 22

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

PROJECT NUMBER: 745927 HOLE NUMBER: 141-50
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1914+275 O/S 5M RT.
LOGGED BY: DT DATE COMPLETED: 91.08.14

FIELD NO:	135	FIELD NO:	136	FIELD NO:	137
LAB NO:	4512	LAB NO:	4513	LAB NO:	4514
DEPTH:	1.3-1.5	DEPTH:	2.8-3.0	DEPTH:	4.3-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--	101.6	--
76.2	--	76.2	--	76.2	--
50.8	--	50.8	100	50.8	--
38.1	100	38.1	87	38.1	100
25.4	84	25.4	83	25.4	88
19.0	77	19.0	77	19.0	85
12.7	65	12.7	69	12.7	74
9.5	60	9.5	65	9.5	69
4.76	49	4.76	58	4.76	60
2.38	--	2.38	--	2.38	--
2.00	38	2.00	52	2.00	52
1.19	--	1.19	--	1.19	--
0.841	29	0.841	46	0.841	45
0.595	--	0.595	--	0.595	--
0.42	24	0.42	42	0.42	40
0.297	--	0.297	--	0.297	--
0.177	--	0.177	--	0.177	--
0.149	18	0.149	36	0.149	34
0.074	15	0.074	31	0.074	29

M.C.(%):	13	M.C.(%):	17	M.C.(%):	13
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	51	% GRAVEL:	42	% GRAVEL:	40
% SAND:	33	% SAND:	27	% SAND:	31
% FINES:	15	% FINES:	31	% FINES:	29
CLASSIFICATION: SILTY GRAVEL WITH SAND (GM)		CLASSIFICATION: SILTY GRAVEL WITH SAND (GM)		CLASSIFICATION: SILTY GRAVEL WITH SAND (GM)	

PROJECT NUMBER: 745927 HOLE NUMBER: 141-51
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1914+375 O/S 2M RT.
LOGGED BY: DT DATE COMPLETED: 91.08.14

FIELD NO:	138	FIELD NO:	139	FIELD NO:	140
LAB NO:	4515	LAB NO:	4516	LAB NO:	4517
DEPTH:	1.3-1.5	DEPTH:	2.8-3.0	DEPTH:	4.3-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

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	--	50.8	84	50.8	83
38.1	--	38.1	84	38.1	83
25.4	--	25.4	84	25.4	79
19.0	--	19.0	82	19.0	65
12.7	--	12.7	73	12.7	56
9.5	--	9.5	68	9.5	49
4.76	--	4.76	60	4.76	41
2.38	--	2.38	--	2.38	--
2.00	--	2.00	54	2.00	34
1.19	--	1.19	--	1.19	--
0.841	--	0.841	48	0.841	29
0.595	--	0.595	--	0.595	--
0.42	--	0.42	43	0.42	25
0.297	--	0.297	--	0.297	--
0.177	--	0.177	--	0.177	--
0.149	--	0.149	35	0.149	18
0.074	--	0.074	28	0.074	15

M.C.(%):	5	M.C.(%):	10	M.C.(%):	7
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	--	P.I.:	TRACE	P.I.:	N.P.
% GRAVEL:	--	% GRAVEL:	40	% GRAVEL:	59
% SAND:	--	% SAND:	32	% SAND:	26
% FINES:	--	% FINES:	28	% FINES:	15
CLASSIFICATION:		CLASSIFICATION: SILTY GRAVEL WITH SAND (GM)		CLASSIFICATION: SILTY GRAVEL WITH SAND (GM)	

PROJECT NUMBER: 745927 HOLE NUMBER: 141-52
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1914+625 O/S 3M RT.
LOGGED BY: DT DATE COMPLETED: 91.08.14

FIELD NO: 141
LAB NO: 4518
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	--
25.4	100
19.0	96
12.7	95
9.5	93
4.76	90
2.38	--
2.00	85
1.19	--
0.841	81
0.595	--
0.42	78
0.297	--
0.177	--
0.149	75
0.074	72

M.C.(%): 20

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

% GRAVEL: 10
% SAND: 18
% FINES: 72

CLASSIFICATION:
SILT WITH SAND
(ML)

FIELD NO: 142
LAB NO: 4519
DEPTH: 2.8-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	86
19.0	86
12.7	71
9.5	67
4.76	60
2.38	--
2.00	54
1.19	--
0.841	48
0.595	--
0.42	43
0.297	--
0.177	--
0.149	37
0.074	31

M.C.(%): 9

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

% GRAVEL: 40
% SAND: 28
% FINES: 31

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

PROJECT NUMBER:	745927	HOLE NUMBER:	141-53
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	ALASKA HIGHWAY PRE-ENGINEERING		
PROJECT LOCATION:	A/H KM 1904-1932		
DRILL UNIT:	17-225 & 17-174		
HOLE LOCATION:	1914+725 O/S 5M LT.		
LOGGED BY:	DT	DATE COMPLETED:	91.08.14

FIELD NO: 143
LAB NO: 4520
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	91
19.0	89
12.7	83
9.5	82
4.76	79
2.38	--
2.00	77
1.19	--
0.841	75
0.595	--
0.42	70
0.297	--
0.177	--
0.149	53
0.074	28

M.C.(%): 10

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

% GRAVEL: 21
% SAND: 51
% FINES: 28

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

FIELD NO: 144
LAB NO: 4521
DEPTH: 2.8-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	100
38.1	83
25.4	66
19.0	56
12.7	50
9.5	45
4.76	39
2.38	--
2.00	34
1.19	--
0.841	30
0.595	--
0.42	26
0.297	--
0.177	--
0.149	17
0.074	10

M.C.(%): 4

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

% GRAVEL: 61
% SAND: 29
% FINES: 10

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

FIELD NO: 145
LAB NO: 4522
DEPTH: 4.3-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	100
38.1	90
25.4	90
19.0	75
12.7	69
9.5	65
4.76	56
2.38	--
2.00	49
1.19	--
0.841	43
0.595	--
0.42	37
0.297	--
0.177	--
0.149	18
0.074	11

M.C.(%): 7

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

% GRAVEL: 44
% SAND: 45
% FINES: 11

CLASSIFICATION:
POORLY GRADED SAND WITH SILT & GRAVEL (SP-SM)

PROJECT NUMBER: 745927 HOLE NUMBER: 141-54
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1914+825
LOGGED BY: DT DATE COMPLETED: 91.08.14

FIELD NO:	146	FIELD NO:	147	FIELD NO:	148
LAB NO:	4523	LAB NO:	4524	LAB NO:	4525
DEPTH:	1.3-1.5	DEPTH:	2.8-3.0	DEPTH:	4.3-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER
ORGANIC					

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--	101.6	--
76.2	--	76.2	--	76.2	--
50.8	--	50.8	100	50.8	--
38.1	100	38.1	92	38.1	100
25.4	75	25.4	89	25.4	85
19.0	71	19.0	82	19.0	78
12.7	66	12.7	70	12.7	65
9.5	65	9.5	65	9.5	59
4.76	62	4.76	54	4.76	48
2.38	--	2.38	--	2.38	--
2.00	57	2.00	44	2.00	40
1.19	--	1.19	--	1.19	--
0.841	52	0.841	37	0.841	33
0.595	--	0.595	--	0.595	--
0.42	48	0.42	32	0.42	27
0.297	--	0.297	--	0.297	--
0.177	--	0.177	--	0.177	--
0.149	40	0.149	24	0.149	17
0.074	34	0.074	20	0.074	13

M.C.(%):	59	M.C.(%):	11	M.C.(%):	6
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	38	% GRAVEL:	46	% GRAVEL:	52
% SAND:	28	% SAND:	34	% SAND:	35
% FINES:	34	% FINES:	20	% FINES:	13
CLASSIFICATION: SILTY GRAVEL WITH SAND (GM)		CLASSIFICATION: SILTY GRAVEL WITH SAND (GM)		CLASSIFICATION: SILTY GRAVEL WITH SAND (GM)	

PROJECT NUMBER: 745927 HOLE NUMBER: 141-55
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1914+925 O/S 2M LT.
LOGGED BY: D DATE COMPLETED: 91.08.14

FIELD NO: 149
LAB NO: 4526
DEPTH: 1.3-1.5
TYPE: AUGER
organic

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	--
25.4	100
19.0	98
12.7	93
9.5	91
4.76	88
2.38	--
2.00	84
1.19	--
0.841	81
0.595	--
0.42	79
0.297	--
0.177	--
0.149	75
0.074	72

M.C.(%): 27

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

% GRAVEL: 12
% SAND: 16
% FINES: 72

CLASSIFICATION:
SILT WITH SAND (ML)

FIELD NO: 150
LAB NO: 4527
DEPTH: 2.8-3.0
TYPE: AUGER
ORGANIC

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	--
25.4	--
19.0	--
12.7	--
9.5	100
4.76	99
2.38	--
2.00	99
1.19	--
0.841	98
0.595	--
0.42	97
0.297	--
0.177	--
0.149	95
0.074	94

M.C.(%): 26

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

% GRAVEL: 1
% SAND: 5
% FINES: 94

CLASSIFICATION:
SILT (ML)

FIELD NO: 151
LAB NO: 4528
DEPTH: 4.3-4.5
TYPE: AUGER
organic

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	--
25.4	--
19.0	100
12.7	98
9.5	98
4.76	96
2.38	--
2.00	94
1.19	--
0.841	91
0.595	--
0.42	89
0.297	--
0.177	--
0.149	85
0.074	82

M.C.(%): 36

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

% GRAVEL: 4
% SAND: 15
% FINES: 82

CLASSIFICATION:
SILT WITH SAND (ML)

PROJECT NUMBER: 745927 HOLE NUMBER: 141-56
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1915+030 O/S 1M LT.
LOGGED BY: DT DATE COMPLETED: 91.08.15

FIELD NO:	152	153	154	155
LAB NO:	4529	4530	4531	4532
DEPTH:	1.3-1.5	2.8-3.0	4.3-4.5	5.7-5.9
TYPE:	AUGER	AUGER ORGANIC	AUGER	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--	101.6	--	101.6	--
76.2	--	76.2	--	76.2	--	76.2	--
50.8	--	50.8	--	50.8	--	50.8	100
38.1	--	38.1	100	38.1	100	38.1	79
25.4	--	25.4	87	25.4	95	25.4	74
19.0	--	19.0	81	19.0	87	19.0	67
12.7	--	12.7	76	12.7	77	12.7	63
9.5	--	9.5	75	9.5	72	9.5	57
4.76	--	4.76	69	4.76	63	4.76	50
2.38	--	2.38	--	2.38	--	2.38	--
2.00	--	2.00	63	2.00	56	2.00	42
1.19	--	1.19	--	1.19	--	1.19	--
0.841	--	0.841	58	0.841	50	0.841	36
0.595	--	0.595	--	0.595	--	0.595	--
0.42	--	0.42	53	0.42	44	0.42	31
0.297	--	0.297	--	0.297	--	0.297	--
0.177	--	0.177	--	0.177	--	0.177	--
0.149	--	0.149	43	0.149	34	0.149	22
0.074	--	0.074	37	0.074	28	0.074	18

M.C.(%):	4	15	13	9
LIMITS				
LIQUID:	--	--	--	--
PLASTIC:	--	--	--	--
P.I.:	--	TRACE	TRACE	TRACE
% GRAVEL:	--	31	37	50
% SAND:	--	31	35	32
% FINES:	--	37	28	18
CLASSIFICATION:		SILTY SAND WITH GRAVEL (SM)	SILTY GRAVEL WITH SAND (GM)	SILTY GRAVEL WITH SAND (GM)

PROJECT NUMBER:	745927	HOLE NUMBER:	141-57
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	ALASKA HIGHWAY PRE-ENGINEERING		
PROJECT LOCATION:	A/H KM 1904-1932		
DRILL UNIT:	17-225 & 17-174		
HOLE LOCATION:	1915+125 O/S 6M LT.		
LOGGED BY:	DT	DATE COMPLETED:	91.08.15

FIELD NO: 156
LAB NO: 4533
DEPTH: 1.3-1.5
TYPE: AUGER
ORGANIC

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	100
38.1	84
25.4	79
19.0	74
12.7	67
9.5	61
4.76	51
2.38	--
2.00	43
1.19	--
0.841	38
0.595	--
0.42	33
0.297	--
0.177	--
0.149	25
0.074	22

M.C.(%): 8

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

% GRAVEL: 49
% SAND: 30
% FINES: 22

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

FIELD NO: 157
LAB NO: 4534
DEPTH: 2.8-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	87
19.0	81
12.7	74
9.5	69
4.76	60
2.38	--
2.00	53
1.19	--
0.841	46
0.595	--
0.42	40
0.297	--
0.177	--
0.149	33
0.074	29

M.C.(%): 11

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

% GRAVEL: 40
% SAND: 31
% FINES: 29

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

FIELD NO: 158
LAB NO: 4535
DEPTH: 4.3-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	100
38.1	80
25.4	76
19.0	66
12.7	61
9.5	56
4.76	46
2.38	--
2.00	39
1.19	--
0.841	33
0.595	--
0.42	28
0.297	--
0.177	--
0.149	21
0.074	19

M.C.(%): 9

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

% GRAVEL: 54
% SAND: 28
% FINES: 19

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

PROJECT NUMBER:	745927	HOLE NUMBER:	141-58
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	ALASKA HIGHWAY PRE-ENGINEERING		
PROJECT LOCATION:	A/H KM 1904-1932		
DRILL UNIT:	17-225 & 17-174		
HOLE LOCATION:	1915+225		
LOGGED BY:	DT	DATE COMPLETED:	91.08.15

FIELD NO:	159	FIELD NO:	160	FIELD NO:	161
LAB NO:	4536	LAB NO:	4537	LAB NO:	4538
DEPTH:	1.3-1.5	DEPTH:	2.8-3.0	DEPTH:	4.3-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--	101.6	--
76.2	--	76.2	--	76.2	--
50.8	--	50.8	--	50.8	100
38.1	100	38.1	100	38.1	85
25.4	79	25.4	84	25.4	78
19.0	70	19.0	70	19.0	67
12.7	57	12.7	56	12.7	57
9.5	47	9.5	43	9.5	50
4.76	35	4.76	30	4.76	37
2.38	--	2.38	--	2.38	--
2.00	25	2.00	22	2.00	25
1.19	--	1.19	--	1.19	--
0.841	17	0.841	16	0.841	17
0.595	--	0.595	--	0.595	--
0.42	10	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	4
0.074	2	0.074	3	0.074	3

M.C.(%):	3	M.C.(%):	2	M.C.(%):	2
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	65	% GRAVEL:	70	% GRAVEL:	63
% SAND:	32	% SAND:	27	% SAND:	34
% FINES:	2	% FINES:	3	% FINES:	3
CLASSIFICATION:	WELL-GRADED GRAVEL WITH SAND (GW)	CLASSIFICATION:	POORLY GRADED GRAVEL WITH SAND (GP)	CLASSIFICATION:	WELL-GRADED GRAVEL WITH SAND (GW)

PROJECT NUMBER: 745927 HOLE NUMBER: 141-59
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-225 & 17-174
HOLE LOCATION: 1915+325
LOGGED BY: DT DATE COMPLETED: 91.08.15

FIELD NO: 162
LAB NO: 4539
DEPTH: 1.3-1.5
TYPE: AUGER
ORGANIC

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	--
25.4	--
19.0	--
12.7	--
9.5	100
4.76	98
2.38	--
2.00	94
1.19	--
0.841	80
0.595	--
0.42	72
0.297	--
0.177	--
0.149	56
0.074	49

M.C.(%): 83

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

% GRAVEL: 2
% SAND: 49
% FINES: 49

CLASSIFICATION:
SILTY SAND (SM)

FIELD NO: 163
LAB NO: 4540
DEPTH: 2.8-3.0
TYPE: AUGER
ORGANIC

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	--
25.4	100
19.0	98
12.7	92
9.5	89
4.76	87
2.38	--
2.00	84
1.19	--
0.841	82
0.595	--
0.42	79
0.297	--
0.177	--
0.149	75
0.074	72

M.C.(%): 34

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

% GRAVEL: 13
% SAND: 14
% FINES: 72

CLASSIFICATION:
SILT WITH SAND (ML)

FIELD NO: 164
LAB NO: 4541
DEPTH: 4.3-4.5
TYPE: AUGER
ORGANIC

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	100
50.8	63
38.1	63
25.4	60
19.0	51
12.7	41
9.5	37
4.76	29
2.38	--
2.00	25
1.19	--
0.841	21
0.595	--
0.42	17
0.297	--
0.177	--
0.149	14
0.074	12

M.C.(%): 10

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

% GRAVEL: 71
% SAND: 17
% FINES: 12

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

PROJECT NUMBER: 745927
HOLE NUMBER: 145-143
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-132
HOLE LOCATION: 1909+675
LOGGED BY: DT
DATE COMPLETED: 91.08.07

FIELD NO: 398	FIELD NO: 399
LAB NO: 5144	LAB NO: 5145
DEPTH: 1.3-1.5	DEPTH: 2.8-3.0
TYPE: AUGER	TYPE: AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--
76.2	--	76.2	--
50.8	--	50.8	--
38.1	--	38.1	--
25.4	100	25.4	100
19.0	89	19.0	97
12.7	85	12.7	94
9.5	83	9.5	86
4.76	76	4.76	75
2.38	--	2.38	--
2.00	69	2.00	67
1.19	--	1.19	--
0.841	64	0.841	60
0.595	--	0.595	--
0.42	59	0.42	54
0.297	--	0.297	--
0.177	--	0.177	--
0.149	49	0.149	44
0.074	43	0.074	38

M.C.(%): 30	M.C.(%): 17
LIMITS	LIMITS
LIQUID: --	LIQUID: 21.1
PLASTIC: --	PLASTIC: 15.3
P.I.: N.P.	P.I.: 5.8
% GRAVEL: 24	% GRAVEL: 25
% SAND: 33	% SAND: 37
% FINES: 43	% FINES: 38
CLASSIFICATION: SILTY SAND WITH GRAVEL (SM)	CLASSIFICATION: SILTY, CLAYEY SAND WITH GRAVEL (SC-SM)

PROJECT NUMBER: 745927 HOLE NUMBER: 145-144
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-132
HOLE LOCATION: 1909+775 O/S 2M LT
LOGGED BY: DT DATE COMPLETED: 91.09.07

FIELD NO: 400
LAB NO: 5146
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	95
19.0	95
12.7	95
9.5	93
4.76	90
2.38	--
2.00	85
1.19	--
0.841	82
0.595	--
0.42	78
0.297	--
0.177	--
0.149	74
0.074	67

M.C.(%): 20

LIMITS
LIQUID: 24.9
PLASTIC: 20.8
P.I.: 4.1

% GRAVEL: 10
% SAND: 23
% FINES: 67

CLASSIFICATION:
SANDY SILTY CLAY
(CL-ML)

FIELD NO: 401
LAB NO: 5147
DEPTH: 2.8-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	86
19.0	86
12.7	82
9.5	79
4.76	73
2.38	--
2.00	67
1.19	--
0.841	62
0.595	--
0.42	58
0.297	--
0.177	--
0.149	54
0.074	44

M.C.(%): 12

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

% GRAVEL: 27
% SAND: 30
% FINES: 44

CLASSIFICATION:
SILTY SAND WITH
GRAVEL (SM)

PROJECT NUMBER: 745927
HOLE NUMBER: 145-145
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-132
HOLE LOCATION: 1909+880 O/S 2M LT
LOGGED BY: DT
DATE COMPLETED: 91.09.07

FIELD NO: 402
LAB NO: 5148
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	100
50.8	81
38.1	81
25.4	75
19.0	68
12.7	62
9.5	57
4.76	47
2.38	--
2.00	40
1.19	--
0.841	35
0.595	--
0.42	31
0.297	--
0.177	--
0.149	23
0.074	19

M.C.(%): 12

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

% GRAVEL: 53
% SAND: 28
% FINES: 19

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

FIELD NO: 403
LAB NO: 5149
DEPTH: 2.8-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	--
25.4	--
19.0	100
12.7	99
9.5	99
4.76	98
2.38	--
2.00	95
1.19	--
0.841	90
0.595	--
0.42	83
0.297	--
0.177	--
0.149	64
0.074	46

M.C.(%): 14

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

% GRAVEL: 2
% SAND: 52
% FINES: 46

CLASSIFICATION:
SILTY SAND (SM)

FIELD NO: 404
LAB NO: 5150
DEPTH: 4.3-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	--
25.4	100
19.0	96
12.7	94
9.5	91
4.76	86
2.38	--
2.00	80
1.19	--
0.841	70
0.595	--
0.42	60
0.297	--
0.177	--
0.149	36
0.074	26

M.C.(%): 12

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

% GRAVEL: 14
% SAND: 60
% FINES: 26

CLASSIFICATION:
SILTY SAND (SM)

PROJECT NUMBER: 745927 HOLE NUMBER: 145-146
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-132
HOLE LOCATION: 1910+350
LOGGED BY: DT DATE COMPLETED: 91.07.07

FIELD NO:	405	FIELD NO:	406	FIELD NO:	407
LAB NO:	5151	LAB NO:	5152	LAB NO:	5153
DEPTH:	1.3-1.5	DEPTH:	2.8-3.0	DEPTH:	4.3-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--	101.6	--
76.2	--	76.2	--	76.2	--
50.8	--	50.8	100	50.8	--
38.1	100	38.1	92	38.1	--
25.4	80	25.4	84	25.4	100
19.0	66	19.0	78	19.0	89
12.7	49	12.7	66	12.7	76
9.5	41	9.5	60	9.5	67
4.76	28	4.76	48	4.76	47
2.38	--	2.38	--	2.38	--
2.00	19	2.00	35	2.00	32
1.19	--	1.19	--	1.19	--
0.841	14	0.841	22	0.841	20
0.595	--	0.595	--	0.595	--
0.42	10	0.42	13	0.42	13
0.297	--	0.297	--	0.297	--
0.177	--	0.177	--	0.177	--
0.149	4	0.149	10	0.149	7
0.074	2	0.074	6	0.074	5

M.C.(%):	2	M.C.(%):	3	M.C.(%):	3
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	72	% GRAVEL:	52	% GRAVEL:	53
% SAND:	25	% SAND:	41	% SAND:	42
% FINES:	2	% FINES:	6	% FINES:	5

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

PROJECT NUMBER: 745927 HOLE NUMBER: 145-147
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-132
HOLE LOCATION: 1910+305 O/S 2M RT
LOGGED BY: DT DATE COMPLETED: 91.09.07

FIELD NO: 408
LAB NO: 5154
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	--
25.4	--
19.0	--
12.7	--
9.5	--
4.76	100
2.38	--
2.00	100
1.19	--
0.841	100
0.595	--
0.42	98
0.297	--
0.177	--
0.149	93
0.074	78

M.C.(%): 25

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

% GRAVEL: 0
% SAND: 22
% FINES: 78

CLASSIFICATION:
SILT WITH SAND
(ML)

PROJECT NUMBER:	745927	HOLE NUMBER:	145-148
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	SEGMENT 17		
PROJECT LOCATION:	A/H KM 1904-1932		
DRILL UNIT:	17-132		
HOLE LOCATION:	1910+240 O/S 2M LT		
LOGGED BY:	DT	DATE COMPLETED:	91.09.07

FIELD NO: 409
LAB NO: 5155
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	--
25.4	--
19.0	--
12.7	--
9.5	100
4.76	99
2.38	--
2.00	99
1.19	--
0.841	98
0.595	--
0.42	96
0.297	--
0.177	--
0.149	93
0.074	75

M.C.(%): 74

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

% GRAVEL: 1
% SAND: 24
% FINES: 75

CLASSIFICATION:
SILT WITH SAND
(ML)

PROJECT NUMBER:	745927	HOLE NUMBER:	145-149
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	SEGMENT 17		
PROJECT LOCATION:	A/H KM 1904-1932		
DRILL UNIT:	17-132		
HOLE LOCATION:	1910+175 O/S 2M RT		
LOGGED BY:	DT	DATE COMPLETED:	91.09.07

FIELD NO: 410
LAB NO: 5156
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	--
25.4	--
19.0	--
12.7	--
9.5	100
4.76	100
2.38	--
2.00	98
1.19	--
0.841	96
0.595	--
0.42	93
0.297	--
0.177	--
0.149	84
0.074	79

M.C.(%): 123

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

% GRAVEL: 0
% SAND: 21
% FINES: 79

CLASSIFICATION:
SILT WITH SAND
(ML)

PROJECT NUMBER: 745927 HOLE NUMBER: 145-150
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-132
HOLE LOCATION: 1911+175 O/S 10M RT
LOGGED BY: DT DATE COMPLETED: 91.09.07

FIELD NO: 411
LAB NO: 5157
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	83
19.0	76
12.7	69
9.5	61
4.76	45
2.38	--
2.00	32
1.19	--
0.841	22
0.595	--
0.42	15
0.297	--
0.177	--
0.149	10
0.074	6

M.C.(%): 4

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

% GRAVEL: 55
% SAND: 39
% FINES: 6

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

FIELD NO: 412
LAB NO: 5158
DEPTH: 2.8-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	100
38.1	63
25.4	56
19.0	51
12.7	41
9.5	37
4.76	27
2.38	--
2.00	19
1.19	--
0.841	12
0.595	--
0.42	8
0.297	--
0.177	--
0.149	4
0.074	3

M.C.(%): 2

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

% GRAVEL: 73
% SAND: 24
% FINES: 3

CLASSIFICATION:
WELL-GRADED GRAVEL WITH SAND (GW)

FIELD NO: 413
LAB NO: 5159
DEPTH: 4.3-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	100
38.1	89
25.4	70
19.0	61
12.7	44
9.5	37
4.76	27
2.38	--
2.00	18
1.19	--
0.841	13
0.595	--
0.42	9
0.297	--
0.177	--
0.149	7
0.074	4

M.C.(%): 3

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

% GRAVEL: 73
% SAND: 23
% FINES: 4

CLASSIFICATION:
POORLY GRADED GRAVEL WITH SAND (GP)

PROJECT NUMBER: 745927 HOLE NUMBER: 145-151
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-132
HOLE LOCATION: 1911+300 O/S 2M RT
LOGGED BY: DT DATE COMPLETED: 91.09.07

FIELD NO: 414
LAB NO: 5160
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	80
19.0	70
12.7	62
9.5	56
4.76	47
2.38	--
2.00	40
1.19	--
0.841	35
0.595	--
0.42	31
0.297	--
0.177	--
0.149	28
0.074	24

M.C.(%): 7

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

% GRAVEL: 53
% SAND: 22
% FINES: 24

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

PROJECT NUMBER: 745927 HOLE NUMBER: 145-152
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-132
HOLE LOCATION: 1911+400 O/S 2M RT
LOGGED BY: DT DATE COMPLETED: 91.09.07

FIELD NO: 415
LAB NO: 5161
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	84
19.0	84
12.7	76
9.5	75
4.76	71
2.38	--
2.00	68
1.19	--
0.841	66
0.595	--
0.42	65
0.297	--
0.177	--
0.149	63
0.074	62

M.C.(%): 22

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

% GRAVEL: 29
% SAND: 9
% FINES: 62

CLASSIFICATION:
GRAVELLY SILT
(ML)

FIELD NO: 416
LAB NO: 5162
DEPTH: 2.8-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	89
19.0	86
12.7	68
9.5	59
4.76	47
2.38	--
2.00	35
1.19	--
0.841	27
0.595	--
0.42	21
0.297	--
0.177	--
0.149	20
0.074	15

M.C.(%): 8

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

% GRAVEL: 53
% SAND: 33
% FINES: 15

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

PROJECT NUMBER:	745927	HOLE NUMBER:	145-153
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	SEGMENT 17		
PROJECT LOCATION:	A/H KM 1904-1932		
DRILL UNIT:	17-132		
HOLE LOCATION:	1911+500		
LOGGED BY:	DT	DATE COMPLETED:	91.09.07

FIELD NO: 417
LAB NO: 5163
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	--
25.4	--
19.0	100
12.7	89
9.5	81
4.76	63
2.38	--
2.00	45
1.19	--
0.841	32
0.595	--
0.42	26
0.297	--
0.177	--
0.149	18
0.074	16

M.C.(%): 8

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

% GRAVEL: 37
% SAND: 48
% FINES: 16

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

PROJECT NUMBER:	745927	HOLE NUMBER:	145-154
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	SEGMENT 17		
PROJECT LOCATION:	A/H KM 1904-1932		
DRILL UNIT:	17-132		
HOLE LOCATION:	1911+750 O/S 4M RT		
LOGGED BY:	DT	DATE COMPLETED:	91.09.07

FIELD NO:	418	FIELD NO:	419
LAB NO:	5164	LAB NO:	5165
DEPTH:	1.3-1.5	DEPTH:	4.3-4.5
TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--
76.2	--	76.2	--
50.8	100	50.8	--
38.1	71	38.1	100
25.4	71	25.4	95
19.0	58	19.0	88
12.7	49	12.7	67
9.5	43	9.5	58
4.76	32	4.76	42
2.38	--	2.38	--
2.00	22	2.00	28
1.19	--	1.19	--
0.841	15	0.841	19
0.595	--	0.595	--
0.42	9	0.42	12
0.297	--	0.297	--
0.177	--	0.177	--
0.149	6	0.149	5
0.074	3	0.074	4

M.C.(%):	2	M.C.(%):	5
LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	68	% GRAVEL:	58
% SAND:	28	% SAND:	38
% FINES:	3	% FINES:	4
CLASSIFICATION: WELL-GRADED GRAVEL WITH SAND (GW)		CLASSIFICATION: WELL-GRADED GRAVEL WITH SAND (GW)	

PROJECT NUMBER: 745927 HOLE NUMBER: 145-155
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: A/H KM 1904-1932
DRILL UNIT: 17-132
HOLE LOCATION: 1911+850 O/S 4M RT
LOGGED BY: DT DATE COMPLETED: 91.09.07

FIELD NO:	420	FIELD NO:	421	FIELD NO:	422
LAB NO:	5166	LAB NO:	5167	LAB NO:	5168
DEPTH:	1.3-1.5	DEPTH:	2.8-3.0	DEPTH:	4.3-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--	101.6	--
76.2	--	76.2	--	76.2	--
50.8	100	50.8	--	50.8	--
38.1	81	38.1	100	38.1	--
25.4	59	25.4	92	25.4	--
19.0	55	19.0	89	19.0	--
12.7	47	12.7	84	12.7	--
9.5	43	9.5	82	9.5	100
4.76	34	4.76	77	4.76	99
2.38	--	2.38	--	2.38	--
2.00	26	2.00	73	2.00	97
1.19	--	1.19	--	1.19	--
0.841	16	0.841	69	0.841	94
0.595	--	0.595	--	0.595	--
0.42	10	0.42	64	0.42	93
0.297	--	0.297	--	0.297	--
0.177	--	0.177	--	0.177	--
0.149	7	0.149	53	0.149	90
0.074	6	0.074	46	0.074	88

M.C.(%):	2	M.C.(%):	19	M.C.(%):	28
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	25.6
PLASTIC:	--	PLASTIC:	--	PLASTIC:	17.1
P.I.:	N.P.	P.I.:	TRACE	P.I.:	8.5
% GRAVEL:	66	% GRAVEL:	23	% GRAVEL:	1
% SAND:	29	% SAND:	31	% SAND:	11
% FINES:	6	% FINES:	46	% FINES:	88
CLASSIFICATION:	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	CLASSIFICATION:	SILTY SAND WITH GRAVEL (SM)	CLASSIFICATION:	LEAN CLAY (CL)

PROJECT NUMBER:	745927	HOLE NUMBER:	145-156
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	SEGMENT 17		
PROJECT LOCATION:	A/H KM 1904-1932		
DRILL UNIT:	17-132		
HOLE LOCATION:	1912+075		
LOGGED BY:	DT	DATE COMPLETED:	91.09.08

FIELD NO:	423	FIELD NO:	424
LAB NO:	5169	LAB NO:	5170
DEPTH:	1.3-1.5	DEPTH:	2.8-3.0
TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--
76.2	--	76.2	--
50.8	--	50.8	--
38.1	100	38.1	--
25.4	73	25.4	--
19.0	65	19.0	--
12.7	53	12.7	100
9.5	45	9.5	99
4.76	33	4.76	98
2.38	--	2.38	--
2.00	22	2.00	95
1.19	--	1.19	--
0.841	13	0.841	92
0.595	--	0.595	--
0.42	7	0.42	90
0.297	--	0.297	--
0.177	--	0.177	--
0.149	4	0.149	89
0.074	3	0.074	88

M.C.(%):	4	M.C.(%):	57
LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	67	% GRAVEL:	2
% SAND:	30	% SAND:	10
% FINES:	3	% FINES:	88
CLASSIFICATION: WELL-GRADED GRAVEL WITH SAND (GW)		CLASSIFICATION: SILT (ML)	

PROJECT NUMBER:	745927	HOLE NUMBER:	145-157
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	SEGMENT 17		
PROJECT LOCATION:	A/H KM 1904-1932		
DRILL UNIT:	17-132		
HOLE LOCATION:	1912+100 O/S 55M RT		
LOGGED BY:	DT	DATE COMPLETED:	91.09.08

FIELD NO:	425	FIELD NO:	426	FIELD NO:	427
LAB NO:	5171	LAB NO:	5172	LAB NO:	5173
DEPTH:	1.3-1.5	DEPTH:	2.8-3.0	DEPTH:	4.3-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--	101.6	--
76.2	--	76.2	--	76.2	--
50.8	--	50.8	--	50.8	--
38.1	100	38.1	100	38.1	100
25.4	65	25.4	74	25.4	91
19.0	59	19.0	68	19.0	86
12.7	49	12.7	53	12.7	73
9.5	43	9.5	46	9.5	63
4.76	30	4.76	34	4.76	49
2.38	--	2.38	--	2.38	--
2.00	20	2.00	24	2.00	34
1.19	--	1.19	--	1.19	--
0.841	14	0.841	16	0.841	19
0.595	--	0.595	--	0.595	--
0.42	10	0.42	10	0.42	10
0.297	--	0.297	--	0.297	--
0.177	--	0.177	--	0.177	--
0.149	5	0.149	5	0.149	4
0.074	3	0.074	4	0.074	3
M.C.(%):	3	M.C.(%):	4	M.C.(%):	6
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	70	% GRAVEL:	66	% GRAVEL:	51
% SAND:	27	% SAND:	30	% SAND:	46
% FINES:	3	% FINES:	4	% FINES:	3
CLASSIFICATION: WELL-GRADED GRAVEL WITH SAND (GW)		CLASSIFICATION: WELL-GRADED GRAVEL WITH SAND (GW)		CLASSIFICATION: POORLY GRADED GRAVEL WITH SAND (GP)	

PROJECT NUMBER: 202101 0304
HOLE NUMBER: 174-18
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 17
DRILL UNIT: 36002
HOLE LOCATION: 1915+625 O/S 20M LT
LOGGED BY: AW
DATE COMPLETED: 92.06.06

FIELD NO: 39
LAB NO: 5794
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	--
5.0	--
2.5	100
2.0	--
1.25	100
0.840	--
0.630	99
0.420	--
0.315	99
0.160	97
0.150	--
0.080	95

M.C.(%): 48

LIMITS
LIQUID: 39.4
PLASTIC: 36.4
P.I.: 3.0

% GRAVEL: 0
% SAND: 5
% FINES: 95

CLASSIFICATION:
SILT (ML)

FIELD NO: 40
LAB NO: 5795
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	--
5.0	--
2.5	100
2.0	--
1.25	100
0.840	--
0.630	100
0.420	--
0.315	99
0.160	98
0.150	--
0.080	96

M.C.(%): 29

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

% GRAVEL: 0
% SAND: 4
% FINES: 96

CLASSIFICATION:
SILT (ML)

PROJECT NUMBER: 202101 0304 HOLE NUMBER: 174-19
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 17
DRILL UNIT: 36002
HOLE LOCATION: 1915+525 O/S 15M LT
LOGGED BY: AW DATE COMPLETED: 92.06.06

FIELD NO:	41	FIELD NO:	42	FIELD NO:	43
LAB NO:	5796	LAB NO:	5797	LAB NO:	5798
DEPTH:	1.3-1.5	DEPTH:	2.8-3.0	DEPTH:	4.3-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--
50.0	--	50.0	--	50.0	--
31.5	--	31.5	--	31.5	--
25.0	--	25.0	--	25.0	--
20.0	--	20.0	--	20.0	--
12.5	--	12.5	--	12.5	--
10.0	--	10.0	--	10.0	--
5.0	--	5.0	100	5.0	--
2.5	--	2.5	100	2.5	100
2.0	--	2.0	--	2.0	--
1.25	--	1.25	100	1.25	100
0.840	--	0.840	--	0.840	--
0.630	100	0.630	100	0.630	99
0.420	--	0.420	--	0.420	--
0.315	100	0.315	99	0.315	99
0.160	99	0.160	98	0.160	99
0.150	--	0.150	--	0.150	--
0.080	98	0.080	96	0.080	98

M.C.(%):	54	M.C.(%):	38	M.C.(%):	32
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	32.7
PLASTIC:	--	PLASTIC:	--	PLASTIC:	31.8
P.I.:	N.P.	P.I.:	N.P.	P.I.:	0.9
% GRAVEL:	0	% GRAVEL:	0	% GRAVEL:	0
% SAND:	2	% SAND:	4	% SAND:	2
% FINES:	98	% FINES:	96	% FINES:	98
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILT (ML)		SILT (ML)		SILT (ML)	

PROJECT NUMBER: 202101 0304 HOLE NUMBER: 174-20
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 17
DRILL UNIT: 36002
HOLE LOCATION: 1915+425 O/S 2M RT
LOGGED BY: AW DATE COMPLETED: 92.06.06

FIELD NO:	44	FIELD NO:	45	FIELD NO:	46
LAB NO:	5799	LAB NO:	5800	LAB NO:	5801
DEPTH:	1.3-1.5	DEPTH:	2.7-3.0	DEPTH:	4.3-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER
ORGANIC					

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--
50.0	--	50.0	--	50.0	--
31.5	--	31.5	--	31.5	--
25.0	--	25.0	--	25.0	--
20.0	--	20.0	100	20.0	100
12.5	--	12.5	99	12.5	99
10.0	--	10.0	98	10.0	99
5.0	--	5.0	94	5.0	99
2.5	100	2.5	92	2.5	99
2.0	--	2.0	--	2.0	--
1.25	100	1.25	89	1.25	99
0.840	--	0.840	--	0.840	--
0.630	99	0.630	86	0.630	99
0.420	--	0.420	--	0.420	--
0.315	98	0.315	83	0.315	98
0.160	97	0.160	80	0.160	97
0.150	--	0.150	--	0.150	--
0.080	93	0.080	77	0.080	92

M.C.(%):	41	M.C.(%):	26	M.C.(%):	39
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	35.1
PLASTIC:	--	PLASTIC:	--	PLASTIC:	33.6
P.I.:	N.P.	P.I.:	N.P.	P.I.:	1.5
% GRAVEL:	0	% GRAVEL:	6	% GRAVEL:	1
% SAND:	7	% SAND:	17	% SAND:	7
% FINES:	93	% FINES:	77	% FINES:	92
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILT (ML)		SILT WITH SAND (ML)		SILT (ML)	

PROJECT NUMBER: 202101 0304 HOLE NUMBER: 174-21
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 17
DRILL UNIT: 36002
HOLE LOCATION: 1914+575 O/S 25M LT
LOGGED BY: AW DATE COMPLETED: 92.06.08

FIELD NO:	47	48	49
LAB NO:	5802	5803	5804
DEPTH:	1.3-1.5	2.8-3.0	4.3-4.5
TYPE:	AUGER	AUGER	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--
50.0	--	50.0	--	50.0	--
31.5	--	31.5	--	31.5	--
25.0	100	25.0	--	25.0	--
20.0	94	20.0	--	20.0	100
12.5	84	12.5	100	12.5	83
10.0	82	10.0	99	10.0	78
5.0	69	5.0	96	5.0	58
2.5	64	2.5	94	2.5	47
2.0	--	2.0	--	2.0	--
1.25	58	1.25	92	1.25	41
0.840	--	0.840	--	0.840	--
0.630	54	0.630	90	0.630	37
0.420	--	0.420	--	0.420	--
0.315	49	0.315	89	0.315	33
0.160	45	0.160	88	0.160	29
0.150	--	0.150	--	0.150	--
0.080	40	0.080	86	0.080	26

M.C.(%):	14	26	16
LIMITS			
LIQUID:	24.0	--	--
PLASTIC:	21.7	--	--
P.I.:	2.3	N.P.	N.P.
% GRAVEL:	31	4	42
% SAND:	29	10	31
% FINES:	40	86	26
CLASSIFICATION:	SILTY GRAVEL WITH SAND (GM)	SILT (ML)	SILTY GRAVEL WITH SAND (GM)

PROJECT NUMBER: 202101 0304 HOLE NUMBER: 174-22
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 17
DRILL UNIT: 36002
HOLE LOCATION: 1914+475 O/S 30M LT
LOGGED BY: AW DATE COMPLETED: 92.06.08

FIELD NO: 50
LAB NO: 5805
DEPTH: 0.8-1.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	96
20.0	92
12.5	83
10.0	77
5.0	64
2.5	57
2.0	--
1.25	49
0.840	--
0.630	43
0.420	--
0.315	37
0.160	31
0.150	--
0.080	26

M.C.(%): 5

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

% GRAVEL: 36
% SAND: 38
% FINES: 26

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

FIELD NO: 51
LAB NO: 5806
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	100
20.0	98
12.5	92
10.0	89
5.0	81
2.5	76
2.0	--
1.25	70
0.840	--
0.630	64
0.420	--
0.315	59
0.160	54
0.150	--
0.080	49

M.C.(%): 15

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

% GRAVEL: 19
% SAND: 32
% FINES: 49

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

FIELD NO: 52
LAB NO: 5807
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	100
12.5	94
10.0	91
5.0	83
2.5	79
2.0	--
1.25	75
0.840	--
0.630	71
0.420	--
0.315	66
0.160	61
0.150	--
0.080	56

M.C.(%): 35

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

% GRAVEL: 17
% SAND: 27
% FINES: 56

CLASSIFICATION:
SANDY SILT WITH GRAVEL (ML)

FIELD NO: 53
LAB NO: 5808
DEPTH: 4.3-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	92
20.0	87
12.5	80
10.0	77
5.0	68
2.5	63
2.0	--
1.25	59
0.840	--
0.630	56
0.420	--
0.315	53
0.160	49
0.150	--
0.080	45

M.C.(%): 27

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

% GRAVEL: 32
% SAND: 23
% FINES: 45

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

PROJECT NUMBER: 202101 0304 HOLE NUMBER: 174-23
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 17
DRILL UNIT: 36002
HOLE LOCATION: 1914+125 O/S 100M LT
LOGGED BY: AW DATE COMPLETED: 92.06.08

FIELD NO: 54
LAB NO: 5809
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	70
20.0	65
12.5	63
10.0	60
5.0	54
2.5	52
2.0	--
1.25	51
0.840	--
0.630	49
0.420	--
0.315	47
0.160	45
0.150	--
0.080	42

M.C.(%): 9

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

% GRAVEL: 46
% SAND: 12
% FINES: 42

CLASSIFICATION:
SILTY GRAVEL (GM)

FIELD NO: 55
LAB NO: 5810
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	96
20.0	86
12.5	75
10.0	70
5.0	59
2.5	53
2.0	--
1.25	49
0.840	--
0.630	44
0.420	--
0.315	39
0.160	35
0.150	--
0.080	32

M.C.(%): 9

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

% GRAVEL: 41
% SAND: 27
% FINES: 32

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

FIELD NO: 56
LAB NO: 5811
DEPTH: 4.3-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	100
20.0	93
12.5	64
10.0	56
5.0	49
2.5	47
2.0	--
1.25	47
0.840	--
0.630	45
0.420	--
0.315	44
0.160	42
0.150	--
0.080	40

M.C.(%): 11

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

% GRAVEL: 51
% SAND: 9
% FINES: 40

CLASSIFICATION:
SILTY GRAVEL (GM)

PROJECT NUMBER: 202101 0304
HOLE NUMBER: 175-24
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: A/H KM 1905-1938
DRILL UNIT: 36002
HOLE LOCATION: 1914+075
LOGGED BY: AW
DATE COMPLETED: 92.06.08

FIELD NO: 57
LAB NO: 5812
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	69
20.0	61
12.5	50
10.0	49
5.0	45
2.5	43
2.0	--
1.25	41
0.840	--
0.630	39
0.420	--
0.315	37
0.160	35
0.150	--
0.080	33

M.C.(%): 9

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

% GRAVEL: 55
% SAND: 12
% FINES: 33

CLASSIFICATION:
SILTY GRAVEL (GM)

FIELD NO: 58
LAB NO: 5813
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	83
20.0	74
12.5	54
10.0	48
5.0	35
2.5	28
2.0	--
1.25	23
0.840	--
0.630	19
0.420	--
0.315	14
0.160	11
0.150	--
0.080	9

M.C.(%): 3

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

% GRAVEL: 65
% SAND: 25
% FINES: 9

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

PROJECT NUMBER: 202101 0304 HOLE NUMBER: 175-25
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: A/H KM 1905-1938
DRILL UNIT: 36002
HOLE LOCATION: 1914+000 O/S 8M LT
LOGGED BY: AW DATE COMPLETED: 92-06-08

FIELD NO: 59
LAB NO: 5814
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	100
20.0	90
12.5	78
10.0	75
5.0	69
2.5	65
2.0	--
1.25	61
0.840	--
0.630	57
0.420	--
0.315	52
0.160	48
0.150	--
0.080	43

M.C.(%): 8

LIMITS
LIQUID: 20.7
PLASTIC: 17.5
P.I.: 3.2

% GRAVEL: 31
% SAND: 26
% FINES: 43

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

FIELD NO: 60
LAB NO: 5815
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	93
20.0	83
12.5	73
10.0	70
5.0	61
2.5	54
2.0	--
1.25	47
0.840	--
0.630	41
0.420	--
0.315	35
0.160	30
0.150	--
0.080	26

M.C.(%): 8

LIMITS
LIQUID: 20.1
PLASTIC: 16.6
P.I.: 3.5

% GRAVEL: 39
% SAND: 36
% FINES: 26

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

FIELD NO: 61
LAB NO: 5816
DEPTH: 4.3-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	100
20.0	96
12.5	87
10.0	83
5.0	76
2.5	69
2.0	--
1.25	62
0.840	--
0.630	56
0.420	--
0.315	50
0.160	42
0.150	--
0.080	36

M.C.(%): 9

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

% GRAVEL: 24
% SAND: 39
% FINES: 36

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

PROJECT NUMBER: 202101 0304 HOLE NUMBER: 175-26
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: A/H KM 1905-1938
DRILL UNIT: 36002
HOLE LOCATION: 1913+900 O/S 10M LT
LOGGED BY: AW DATE COMPLETED: 92.06.08

FIELD NO:	62	FIELD NO:	63	FIELD NO:	64
LAB NO:	5817	LAB NO:	5818	LAB NO:	5819
DEPTH:	1.3-1.5	DEPTH:	2.8-3.0	DEPTH:	4.3-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--
50.0	--	50.0	--	50.0	100
31.5	--	31.5	--	31.5	--
25.0	100	25.0	100	25.0	91
20.0	97	20.0	92	20.0	86
12.5	83	12.5	78	12.5	77
10.0	78	10.0	73	10.0	73
5.0	68	5.0	62	5.0	64
2.5	62	2.5	56	2.5	58
2.0	--	2.0	--	2.0	--
1.25	55	1.25	50	1.25	53
0.840	--	0.840	--	0.840	--
0.630	49	0.630	46	0.630	48
0.420	--	0.420	--	0.420	--
0.315	43	0.315	41	0.315	42
0.160	39	0.160	36	0.160	37
0.150	--	0.150	--	0.150	--
0.080	34	0.080	30	0.080	31

M.C.(%):	12	M.C.(%):	9	M.C.(%):	10
LIMITS		LIMITS		LIMITS	
LIQUID:	20.7	LIQUID:	--	LIQUID:	--
PLASTIC:	16.6	PLASTIC:	--	PLASTIC:	--
P.I.:	4.1	P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	32	% GRAVEL:	38	% GRAVEL:	36
% SAND:	34	% SAND:	32	% SAND:	32
% FINES:	34	% FINES:	30	% FINES:	31
CLASSIFICATION: SILTY, CLAYEY SAND WITH GRAVEL (SC-SM)		CLASSIFICATION: SILTY GRAVEL WITH SAND (GM)		CLASSIFICATION: SILTY GRAVEL WITH SAND (GM)	

PROJECT NUMBER:	202101 0304	HOLE NUMBER:	175-27
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	SEGMENT 17		
PROJECT LOCATION:	A/H KM 1905-1938		
DRILL UNIT:	36002		
HOLE LOCATION:	1913+700 O/S 3M LT		
LOGGED BY:	AW	DATE COMPLETED:	92.06.08

FIELD NO: 65
LAB NO: 5820
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	--
5.0	100
2.5	100
2.0	--
1.25	100
0.840	--
0.630	99
0.420	--
0.315	99
0.160	98
0.150	--
0.080	95

M.C.(%): 25

LIMITS
LIQUID: 26.9
PLASTIC: 25.3
P.I.: 1.6

% GRAVEL: 0
% SAND: 5
% FINES: 95

CLASSIFICATION:
SILT (ML)

FIELD NO: 66
LAB NO: 5821
DEPTH: 2.8-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	95
20.0	93
12.5	91
10.0	90
5.0	89
2.5	88
2.0	--
1.25	86
0.840	--
0.630	85
0.420	--
0.315	84
0.160	82
0.150	--
0.080	81

M.C.(%): 22

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

% GRAVEL: 11
% SAND: 8
% FINES: 81

CLASSIFICATION:
SILT WITH GRAVEL (ML)

PROJECT NUMBER: 202101 0304
HOLE NUMBER: 175-28
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: A/H KM 1905-1938
DRILL UNIT: 36002
HOLE LOCATION: 1913+600 O/S 7M LT
LOGGED BY: AW
DATE COMPLETED: 92.06.08

FIELD NO: 68
LAB NO: 5823
DEPTH: 2.8-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	--
5.0	--
2.5	100
2.0	--
1.25	100
0.840	--
0.630	100
0.420	--
0.315	99
0.160	99
0.150	--
0.080	96

M.C.(%): 33

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

% GRAVEL: 0
% SAND: 4
% FINES: 96

CLASSIFICATION:
SILT (ML)

FIELD NO: 69
LAB NO: 5824
DEPTH: 4.3-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	95
20.0	85
12.5	73
10.0	64
5.0	50
2.5	39
2.0	--
1.25	31
0.840	--
0.630	25
0.420	--
0.315	20
0.160	18
0.150	--
0.080	15

M.C.(%): 8

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

% GRAVEL: 50
% SAND: 34
% FINES: 15

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

PROJECT NUMBER:	202101 0304	HOLE NUMBER:	175-29
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	SEGMENT 17		
PROJECT LOCATION:	A/H KM 1905-1938		
DRILL UNIT:	36002		
HOLE LOCATION:	1912+400		
LOGGED BY:	AW	DATE COMPLETED:	92.06.08

FIELD NO: 70
LAB NO: 5825
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	81
20.0	69
12.5	56
10.0	49
5.0	37
2.5	32
2.0	--
1.25	25
0.840	--
0.630	19
0.420	--
0.315	13
0.160	9
0.150	--
0.080	7

M.C.(%): 5

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

% GRAVEL: 63
% SAND: 30
% FINES: 7

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

PROJECT NUMBER: 202101 0304 HOLE NUMBER: 175-30
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: A/H KM 1905-1938
DRILL UNIT: 36002
HOLE LOCATION: 1912+300 O/S 3M LT
LOGGED BY: AW DATE COMPLETED: 92.06.08

FIELD NO:	71	FIELD NO:	72	FIELD NO:	73
LAB NO:	5826	LAB NO:	5827	LAB NO:	5828
DEPTH:	1.3-1.5	DEPTH:	2.7-3.0	DEPTH:	4.4-4.6
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	100	80.0	100	80.0	--
50.0	64	50.0	88	50.0	100
31.5	--	31.5	--	31.5	--
25.0	64	25.0	44	25.0	91
20.0	62	20.0	40	20.0	91
12.5	48	12.5	33	12.5	85
10.0	42	10.0	30	10.0	80
5.0	32	5.0	24	5.0	63
2.5	26	2.5	20	2.5	48
2.0	--	2.0	--	2.0	--
1.25	20	1.25	16	1.25	35
0.840	--	0.840	--	0.840	--
0.630	14	0.630	12	0.630	23
0.420	--	0.420	--	0.420	--
0.315	8	0.315	8	0.315	14
0.160	5	0.160	6	0.160	10
0.150	--	0.150	--	0.150	--
0.080	4	0.080	5	0.080	7

M.C.(%):	3	M.C.(%):	3	M.C.(%):	7
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	68	% GRAVEL:	76	% GRAVEL:	37
% SAND:	28	% SAND:	19	% SAND:	56
% FINES:	4	% FINES:	5	% FINES:	7
CLASSIFICATION:	WELL-GRADED GRAVEL WITH SAND (GW)	CLASSIFICATION:	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	CLASSIFICATION:	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)

PROJECT NUMBER: 202101 0304 HOLE NUMBER: 175-31
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: A/H KM 1905-1938
DRILL UNIT: 36002
HOLE LOCATION: 1912+200 O/S 21M LT
LOGGED BY: AW DATE COMPLETED: 92.06.08

FIELD NO: 74
LAB NO: 5829
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	85
20.0	76
12.5	69
10.0	61
5.0	48
2.5	39
2.0	--
1.25	29
0.840	--
0.630	21
0.420	--
0.315	15
0.160	12
0.150	--
0.080	10

M.C.(%): 6

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

% GRAVEL: 52
% SAND: 38
% FINES: 10

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

FIELD NO: 75
LAB NO: 5830
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	100
20.0	96
12.5	83
10.0	75
5.0	55
2.5	42
2.0	--
1.25	30
0.840	--
0.630	20
0.420	--
0.315	12
0.160	8
0.150	--
0.080	6

M.C.(%): 6

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

% GRAVEL: 45
% SAND: 49
% FINES: 6

CLASSIFICATION:
WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)

PROJECT NUMBER: 202101 0304   HOLE NUMBER: 175-33
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: A/H KM 1905-1938
DRILL UNIT: 36002
HOLE LOCATION: 1907+200
LOGGED BY: AW   DATE COMPLETED: 92.06.09

FIELD NO: 76
LAB NO: 5831
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	79
20.0	75
12.5	67
10.0	64
5.0	59
2.5	55
2.0	--
1.25	51
0.840	--
0.630	47
0.420	--
0.315	44
0.160	39
0.150	--
0.080	35

M.C.(%): 17

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

% GRAVEL: 41
% SAND: 24
% FINES: 35

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

PROJECT NUMBER:	202101 0304	HOLE NUMBER:	175-34
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	SEGMENT 17		
PROJECT LOCATION:	A/H KM 1905-1938		
DRILL UNIT:	36002		
HOLE LOCATION:	1907+100 O/S 3M RT		
LOGGED BY:	AW	DATE COMPLETED:	92.06.09

FIELD NO: 77
LAB NO: 5832
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	100
50.0	78
31.5	--
25.0	78
20.0	78
12.5	73
10.0	71
5.0	66
2.5	62
2.0	--
1.25	60
0.840	--
0.630	57
0.420	--
0.315	54
0.160	50
0.150	--
0.080	46

M.C.(%): 16

LIMITS
LIQUID: 25.9
PLASTIC: 20.3
P.I.: 5.6

% GRAVEL: 34
% SAND: 20
% FINES: 46

CLASSIFICATION:
SILTY, CLAYEY GRAVEL WITH SAND (GC-GM)

FIELD NO: 78
LAB NO: 5833
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	100
20.0	98
12.5	86
10.0	80
5.0	72
2.5	66
2.0	--
1.25	62
0.840	--
0.630	57
0.420	--
0.315	52
0.160	47
0.150	--
0.080	41

M.C.(%): 11

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

% GRAVEL: 28
% SAND: 31
% FINES: 41

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

PROJECT NUMBER: 202101 0304 HOLE NUMBER: 175-35
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: A/H KM 1905-1938
DRILL UNIT: 36002
HOLE LOCATION: 1907+000 O/S 14M RT
LOGGED BY: AW DATE COMPLETED: 92.06.09

FIELD NO:	79	FIELD NO:	80	FIELD NO:	81
LAB NO:	5834	LAB NO:	5835	LAB NO:	5836
DEPTH:	1.3-1.5	DEPTH:	2.7-3.0	DEPTH:	4.3-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--
50.0	100	50.0	100	50.0	--
31.5	--	31.5	--	31.5	--
25.0	90	25.0	95	25.0	--
20.0	83	20.0	95	20.0	100
12.5	74	12.5	93	12.5	90
10.0	69	10.0	93	10.0	89
5.0	61	5.0	91	5.0	82
2.5	57	2.5	90	2.5	77
2.0	--	2.0	--	2.0	--
1.25	53	1.25	89	1.25	73
0.840	--	0.840	--	0.840	--
0.630	50	0.630	88	0.630	70
0.420	--	0.420	--	0.420	--
0.315	47	0.315	86	0.315	66
0.160	43	0.160	84	0.160	61
0.150	--	0.150	--	0.150	--
0.080	36	0.080	80	0.080	56
M.C.(%):	11	M.C.(%):	20	M.C.(%):	14
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	21.5	LIQUID:	--
PLASTIC:	--	PLASTIC:	18.4	PLASTIC:	--
P.I.:	N.P.	P.I.:	3.1	P.I.:	N.P.
% GRAVEL:	39	% GRAVEL:	9	% GRAVEL:	18
% SAND:	25	% SAND:	11	% SAND:	26
% FINES:	36	% FINES:	80	% FINES:	56
CLASSIFICATION:	SILTY GRAVEL WITH SAND (GM)	CLASSIFICATION:	SILT WITH SAND (ML)	CLASSIFICATION:	SANDY SILT WITH GRAVEL (ML)

PROJECT NUMBER: 202101 0304
HOLE NUMBER: 175-36
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: A/H KM 1905-1938
DRILL UNIT: 36002
HOLE LOCATION: 1906+900 O/S 7M RT
LOGGED BY: AW
DATE COMPLETED: 92.06.09

FIELD NO: 82
LAB NO: 5837
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	100
12.5	95
10.0	92
5.0	89
2.5	86
2.0	--
1.25	84
0.840	--
0.630	81
0.420	--
0.315	79
0.160	77
0.150	--
0.080	75

M.C.(%): 16

LIMITS
LIQUID: 26.1
PLASTIC: 21.0
P.I.: 5.1

% GRAVEL: 11
% SAND: 14
% FINES: 75

CLASSIFICATION:
SILTY CLAY WITH SAND (CL-ML)

FIELD NO: 83
LAB NO: 5838
DEPTH: 2.8-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	100
25.0	88
20.0	80
12.5	77
10.0	75
5.0	66
2.5	61
2.0	--
1.25	56
0.840	--
0.630	52
0.420	--
0.315	47
0.160	43
0.150	--
0.080	40

M.C.(%): 12

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

% GRAVEL: 34
% SAND: 26
% FINES: 40

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

FIELD NO: 84
LAB NO: 5839
DEPTH: 4.3-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	87
20.0	83
12.5	77
10.0	74
5.0	66
2.5	63
2.0	--
1.25	59
0.840	--
0.630	56
0.420	--
0.315	53
0.160	49
0.150	--
0.080	46

M.C.(%): 22

LIMITS
LIQUID: 26.6
PLASTIC: 19.6
P.I.: 7.0

% GRAVEL: 34
% SAND: 19
% FINES: 46

CLASSIFICATION:
SILTY, CLAYEY GRAVEL WITH SAND (GC-GM)

PROJECT NUMBER: 202101 0304
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: A/H KM 1905-1938
DRILL UNIT: 36002
HOLE LOCATION: 1906+800
LOGGED BY: AW
HOLE NUMBER: 175-37
DATE COMPLETED: 92.06.09

FIELD NO: 85
LAB NO: 5840
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	89
20.0	89
12.5	87
10.0	85
5.0	78
2.5	71
2.0	--
1.25	61
0.840	--
0.630	53
0.420	--
0.315	44
0.160	32
0.150	--
0.080	23

M.C.(%): 29

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

% GRAVEL: 22
% SAND: 56
% FINES: 23

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

FIELD NO: 86
LAB NO: 5841
DEPTH: 2.8-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	96
20.0	94
12.5	79
10.0	70
5.0	51
2.5	42
2.0	--
1.25	33
0.840	--
0.630	27
0.420	--
0.315	22
0.160	18
0.150	--
0.080	14

M.C.(%): 12

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

% GRAVEL: 49
% SAND: 36
% FINES: 14

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

FIELD NO: 87
LAB NO: 5842
DEPTH: 4.3-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	100
12.5	89
10.0	85
5.0	78
2.5	73
2.0	--
1.25	69
0.840	--
0.630	66
0.420	--
0.315	62
0.160	59
0.150	--
0.080	56

M.C.(%): 26

LIMITS
LIQUID: 24.9
PLASTIC: 17.9
P.I.: 7.0

% GRAVEL: 22
% SAND: 21
% FINES: 56

CLASSIFICATION:
GRAVELLY SILTY CLAY WITH SAND (CL-ML)

PROJECT NUMBER:	202101 0304	HOLE NUMBER:	175-38
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	SEGMENT 17		
PROJECT LOCATION:	A/H KM 1905-1938		
DRILL UNIT:	36002		
HOLE LOCATION:	1906+700		
LOGGED BY:	AW	DATE COMPLETED:	92.06.09

FIELD NO:	88	FIELD NO:	89	FIELD NO:	90
LAB NO:	5843	LAB NO:	5844	LAB NO:	5845
DEPTH:	1.3-1.5	DEPTH:	2.7-3.0	DEPTH:	3.8-4.0
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--
50.0	100	50.0	100	50.0	--
31.5	--	31.5	--	31.5	--
25.0	75	25.0	94	25.0	100
20.0	69	20.0	94	20.0	97
12.5	59	12.5	86	12.5	87
10.0	54	10.0	82	10.0	83
5.0	43	5.0	72	5.0	73
2.5	38	2.5	64	2.5	65
2.0	--	2.0	--	2.0	--
1.25	32	1.25	58	1.25	56
0.840	--	0.840	--	0.840	--
0.630	29	0.630	52	0.630	48
0.420	--	0.420	--	0.420	--
0.315	26	0.315	46	0.315	41
0.160	22	0.160	40	0.160	35
0.150	--	0.150	--	0.150	--
0.080	20	0.080	34	0.080	29

M.C.(%):	9	M.C.(%):	14	M.C.(%):	15
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	57	% GRAVEL:	28	% GRAVEL:	27
% SAND:	23	% SAND:	38	% SAND:	43
% FINES:	20	% FINES:	34	% FINES:	29
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILTY GRAVEL WITH SAND (GM)		SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)	

PROJECT NUMBER: 202101 0304
HOLE NUMBER: 175-39
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: A/H KM 1905-1938
DRILL UNIT: 36002
HOLE LOCATION: 1906+600 O/S 3M LT
LOGGED BY: AW
DATE COMPLETED: 92.06.10

FIELD NO: 91
LAB NO: 5846
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	77
20.0	70
12.5	57
10.0	55
5.0	49
2.5	45
2.0	--
1.25	41
0.840	--
0.630	38
0.420	--
0.315	35
0.160	31
0.150	--
0.080	28

M.C.(%): 16

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

% GRAVEL: 51
% SAND: 22
% FINES: 28

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

FIELD NO: 92
LAB NO: 5847
DEPTH: 2.8-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	100
20.0	96
12.5	84
10.0	78
5.0	66
2.5	58
2.0	--
1.25	52
0.840	--
0.630	48
0.420	--
0.315	44
0.160	40
0.150	--
0.080	36

M.C.(%): 14

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

% GRAVEL: 34
% SAND: 30
% FINES: 36

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

FIELD NO: 93
LAB NO: 5848
DEPTH: 4.3-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	89
20.0	89
12.5	84
10.0	80
5.0	72
2.5	65
2.0	--
1.25	59
0.840	--
0.630	53
0.420	--
0.315	48
0.160	41
0.150	--
0.080	36

M.C.(%): 31

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

% GRAVEL: 28
% SAND: 36
% FINES: 36

CLASSIFICATION:
SILTY SAND WITH
GRAVEL (SM)

PROJECT NUMBER: 202101 0304 HOLE NUMBER: 175-40
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: A/H KM 1905-1938
DRILL UNIT: 36002
HOLE LOCATION: 1906+500 O/S 2M LT
LOGGED BY: AW DATE COMPLETED: 92.06.10

FIELD NO: 64	FIELD NO: 95	FIELD NO: 96
LAB NO: 5849	LAB NO: 5850	LAB NO: 5851
DEPTH: 1.3-1.5	DEPTH: 2.8-3.0	DEPTH: 4.3-4.5
TYPE: AUGER	TYPE: AUGER	TYPE: AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--
50.0	--	50.0	--	50.0	--
31.5	--	31.5	--	31.5	--
25.0	--	25.0	100	25.0	--
20.0	100	20.0	97	20.0	--
12.5	98	12.5	97	12.5	--
10.0	96	10.0	94	10.0	100
5.0	92	5.0	92	5.0	98
2.5	91	2.5	90	2.5	97
2.0	--	2.0	--	2.0	--
1.25	89	1.25	88	1.25	96
0.840	--	0.840	--	0.840	--
0.630	87	0.630	86	0.630	95
0.420	--	0.420	--	0.420	--
0.315	85	0.315	84	0.315	94
0.160	82	0.160	82	0.160	92
0.150	--	0.150	--	0.150	--
0.080	79	0.080	79	0.080	89

M.C.(%): 39	M.C.(%): 23	M.C.(%): 27
LIMITS	LIMITS	LIMITS
LIQUID: 33.9	LIQUID: 31.3	LIQUID: 33.1
PLASTIC: 21.1	PLASTIC: 25.2	PLASTIC: 28.1
P.I.: 12.8	P.I.: 6.1	P.I.: 5.0
% GRAVEL: 8	% GRAVEL: 8	% GRAVEL: 2
% SAND: 13	% SAND: 13	% SAND: 9
% FINES: 79	% FINES: 79	% FINES: 89
CLASSIFICATION: LEAN CLAY WITH SAND (CL)	CLASSIFICATION: SILT WITH SAND (ML)	CLASSIFICATION: SILT (ML)

PROJECT NUMBER: 202101 0304 HOLE NUMBER: 175-41
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: A/H KM 1905-1938
DRILL UNIT: 36002
HOLE LOCATION: R 1906+400 O/S 10M LT
LOGGED BY: AW DATE COMPLETED: 92.06.10

FIELD NO:	97	FIELD NO:	98	FIELD NO:	99
LAB NO:	5852	LAB NO:	5853	LAB NO:	5854
DEPTH:	1.3-1.5	DEPTH:	2.8-3.0	DEPTH:	4.3-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--
50.0	100	50.0	100	50.0	--
31.5	--	31.5	--	31.5	--
25.0	87	25.0	92	25.0	--
20.0	84	20.0	90	20.0	100
12.5	74	12.5	89	12.5	97
10.0	69	10.0	87	10.0	92
5.0	55	5.0	81	5.0	88
2.5	39	2.5	76	2.5	85
2.0	--	2.0	--	2.0	--
1.25	26	1.25	71	1.25	83
0.840	--	0.840	--	0.840	--
0.630	19	0.630	67	0.630	80
0.420	--	0.420	--	0.420	--
0.315	16	0.315	63	0.315	77
0.160	14	0.160	56	0.160	73
0.150	--	0.150	--	0.150	--
0.080	11	0.080	46	0.080	65

M.C.(%):	4	M.C.(%):	16	M.C.(%):	17
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	22.1
PLASTIC:	--	PLASTIC:	--	PLASTIC:	18.0
P.I.:	N.P.	P.I.:	N.P.	P.I.:	4.1
% GRAVEL:	45	% GRAVEL:	19	% GRAVEL:	12
% SAND:	44	% SAND:	35	% SAND:	23
% FINES:	11	% FINES:	46	% FINES:	65
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)		SILTY SAND WITH GRAVEL (SM)		SANDY SILTY CLAY (CL-ML)	

PROJECT NUMBER: 202101 0304 HOLE NUMBER: 175-42
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: A/H KM 1905-1938
DRILL UNIT: 36002
HOLE LOCATION: R 1906+300
LOGGED BY: AW DATE COMPLETED: 92.06.10

FIELD NO:	100	FIELD NO:	101	FIELD NO:	102
LAB NO:	5855	LAB NO:	5856	LAB NO:	5857
DEPTH:	1.3-1.5	DEPTH:	2.8-3.0	DEPTH:	4.3-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--
50.0	100	50.0	100	50.0	--
31.5	--	31.5	--	31.5	--
25.0	84	25.0	93	25.0	100
20.0	81	20.0	93	20.0	99
12.5	77	12.5	84	12.5	97
10.0	76	10.0	79	10.0	95
5.0	73	5.0	66	5.0	89
2.5	72	2.5	60	2.5	85
2.0	--	2.0	--	2.0	--
1.25	69	1.25	55	1.25	82
0.840	--	0.840	--	0.840	--
0.630	68	0.630	51	0.630	80
0.420	--	0.420	--	0.420	--
0.315	66	0.315	47	0.315	77
0.160	62	0.160	42	0.160	72
0.150	--	0.150	--	0.150	--
0.080	54	0.080	37	0.080	59

M.C.(%):	12	M.C.(%):	10	M.C.(%):	18
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	20.1	LIQUID:	--
PLASTIC:	--	PLASTIC:	15.0	PLASTIC:	--
P.I.:	N.P.	P.I.:	5.1	P.I.:	N.P.
% GRAVEL:	27	% GRAVEL:	34	% GRAVEL:	11
% SAND:	19	% SAND:	29	% SAND:	30
% FINES:	54	% FINES:	37	% FINES:	59
CLASSIFICATION:	GRAVELLY SILT WITH SAND (ML)	CLASSIFICATION:	SILTY, CLAYEY GRAVEL WITH SAND (GC-GM)	CLASSIFICATION:	SANDY SILT (ML)

PROJECT NUMBER: 202101 0304 HOLE NUMBER: 175-43
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: A/H KM 1905-1938
DRILL UNIT: 36002
HOLE LOCATION: R 1906+200
LOGGED BY: AW DATE COMPLETED: 92.06.10

FIELD NO: 103
LAB NO: 5858
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	92
20.0	89
12.5	82
10.0	76
5.0	58
2.5	49
2.0	--
1.25	43
0.840	--
0.630	38
0.420	--
0.315	34
0.160	30
0.150	--
0.080	25

M.C.(%): 18

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

% GRAVEL: 42
% SAND: 32
% FINES: 25

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

FIELD NO: 104
LAB NO: 5859
DEPTH: 2.8-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	100
50.0	52
31.5	--
25.0	44
20.0	44
12.5	39
10.0	37
5.0	33
2.5	31
2.0	--
1.25	28
0.840	--
0.630	26
0.420	--
0.315	24
0.160	22
0.150	--
0.080	20

M.C.(%): 19

LIMITS
LIQUID: 30.2
PLASTIC: 21.2
P.I.: 9.0

% GRAVEL: 67
% SAND: 13
% FINES: 20

CLASSIFICATION:
CLAYEY GRAVEL
(GC)

FIELD NO: 105
LAB NO: 5860
DEPTH: 4.3-4.5
TYPE: AUGER
SPILLED

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	--
5.0	--
2.5	--
2.0	--
1.25	--
0.840	--
0.630	--
0.420	--
0.315	--
0.160	--
0.150	--
0.080	--

M.C.(%): 46

LIMITS
LIQUID: 53.7
PLASTIC: 31.5
P.I.: 22.2

% GRAVEL: --
% SAND: --
% FINES: --

CLASSIFICATION:

PROJECT NUMBER:	202101 0304	HOLE NUMBER:	175-45
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	SEGMENT 17		
PROJECT LOCATION:	A/H KM 1905-1938		
DRILL UNIT:	36002		
HOLE LOCATION:	R 1906+000		
LOGGED BY:	AW	DATE COMPLETED:	92.06.10

FIELD NO: 106
LAB NO: 5861
DEPTH: 1.3-1.5
TYPE: AUGER
ORGANIC MATERIAL

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	--
5.0	--
2.5	--
2.0	--
1.25	--
0.840	--
0.630	--
0.420	--
0.315	--
0.160	--
0.150	--
0.080	--

M.C.(%): 298

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

% GRAVEL: --
% SAND: --
% FINES: --

CLASSIFICATION:

PROJECT NUMBER: 202101 0304
HOLE NUMBER: 175-46
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: A/H KM 1905-1938
DRILL UNIT: 36002
HOLE LOCATION: R 1905+900
LOGGED BY: AW
DATE COMPLETED: 92.06.10

FIELD NO: 107
LAB NO: 5862
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	--
5.0	100
2.5	98
2.0	--
1.25	97
0.840	--
0.630	95
0.420	--
0.315	93
0.160	90
0.150	--
0.080	87

M.C.(%): 76

LIMITS
LIQUID: 40.6
PLASTIC: 36.3
P.I.: 4.3

% GRAVEL: 0
% SAND: 13
% FINES: 87

CLASSIFICATION:
SILT (ML)

FIELD NO: 108
LAB NO: 5863
DEPTH: 2.8-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	100
20.0	96
12.5	95
10.0	92
5.0	89
2.5	87
2.0	--
1.25	85
0.840	--
0.630	82
0.420	--
0.315	80
0.160	77
0.150	--
0.080	73

M.C.(%): 38

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

% GRAVEL: 11
% SAND: 16
% FINES: 73

CLASSIFICATION:
SILT WITH SAND
(ML)

PROJECT NUMBER: 202101 0304
HOLE NUMBER: 175-47
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: A/H KM 1905-1938
DRILL UNIT: 36002
HOLE LOCATION: R 1905+800
LOGGED BY: AW
DATE COMPLETED: 92.06.10

FIELD NO: 109
LAB NO: 5864
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	100
20.0	86
12.5	73
10.0	70
5.0	61
2.5	56
2.0	--
1.25	52
0.840	--
0.630	49
0.420	--
0.315	47
0.160	44
0.150	--
0.080	41

M.C.(%): 19

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

% GRAVEL: 39
% SAND: 19
% FINES: 41

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

FIELD NO: 110
LAB NO: 5865
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	100
20.0	98
12.5	97
10.0	96
5.0	92
2.5	90
2.0	--
1.25	88
0.840	--
0.630	85
0.420	--
0.315	83
0.160	80
0.150	--
0.080	77

M.C.(%): 21

LIMITS
LIQUID: 31.6
PLASTIC: 20.1
P.I.: 11.5

% GRAVEL: 8
% SAND: 16
% FINES: 77

CLASSIFICATION:
LEAN CLAY WITH SAND (CL)

FIELD NO: 111
LAB NO: 5866
DEPTH: 4.3-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	91
20.0	89
12.5	89
10.0	88
5.0	86
2.5	84
2.0	--
1.25	82
0.840	--
0.630	80
0.420	--
0.315	78
0.160	75
0.150	--
0.080	73

M.C.(%): 16

LIMITS
LIQUID: 29.3
PLASTIC: 21.2
P.I.: 8.1

% GRAVEL: 14
% SAND: 13
% FINES: 73

CLASSIFICATION:
LEAN CLAY WITH GRAVEL (CL)

PROJECT NUMBER: 202101 0304
HOLE NUMBER: 175-48
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: A/H KM 1905-1938
DRILL UNIT: 36002
HOLE LOCATION: R 1905+700
LOGGED BY: AW
DATE COMPLETED: 92.06.10

FIELD NO: 112
LAB NO: 5867
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	--
5.0	--
2.5	--
2.0	--
1.25	--
0.840	--
0.630	--
0.420	--
0.315	--
0.160	100
0.150	--
0.080	100

M.C.(%): 52

LIMITS
LIQUID: 42.4
PLASTIC: 29.5
P.I.: 12.9

% GRAVEL: 0
% SAND: 0
% FINES: 100

CLASSIFICATION:
SILT (ML)

FIELD NO: 113
LAB NO: 5868
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	--
5.0	--
2.5	--
2.0	--
1.25	--
0.840	--
0.630	--
0.420	--
0.315	--
0.160	100
0.150	--
0.080	100

M.C.(%): 31

LIMITS
LIQUID: 47.7
PLASTIC: 33.1
P.I.: 14.6

% GRAVEL: 0
% SAND: 0
% FINES: 100

CLASSIFICATION:
SILT (ML)

FIELD NO: 114
LAB NO: 5869
DEPTH: 4.3-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	94
20.0	92
12.5	87
10.0	85
5.0	81
2.5	79
2.0	--
1.25	76
0.840	--
0.630	74
0.420	--
0.315	71
0.160	68
0.150	--
0.080	65

M.C.(%): 14

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

% GRAVEL: 19
% SAND: 16
% FINES: 65

CLASSIFICATION:
GRAVELLY SILT
WITH SAND (ML)

PROJECT NUMBER: 202101 0304
HOLE NUMBER: 194-49
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: ALASKA HIGHWAY KM 1905-1938
DRILL UNIT: 36002
HOLE LOCATION: R1905+600
LOGGED BY: AW
DATE COMPLETED: 92.06.22

FIELD NO:	115	FIELD NO:	116
LAB NO:	6536	LAB NO:	6537
DEPTH:	1.3-1.5	DEPTH:	2.7-3.0
TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--
80.0	--	80.0	--
50.0	100	50.0	100
31.5	--	31.5	--
25.0	83	25.0	87
20.0	76	20.0	83
12.5	62	12.5	64
10.0	55	10.0	60
5.0	37	5.0	46
2.5	30	2.5	39
2.0	--	2.0	--
1.25	23	1.25	32
0.840	--	0.840	--
0.630	19	0.630	28
0.420	--	0.420	--
0.315	16	0.315	24
0.160	14	0.160	21
0.150	--	0.150	--
0.080	12	0.080	19

M.C.(%):	9	M.C.(%):	11
LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	63	% GRAVEL:	54
% SAND:	26	% SAND:	27
% FINES:	12	% FINES:	19
CLASSIFICATION: POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)		CLASSIFICATION: SILTY GRAVEL WITH SAND (GM)	

PROJECT NUMBER: 202101 0304 HOLE NUMBER: 194-50
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: ALASKA HIGHWAY KM 1905-1938
DRILL UNIT: 36002
HOLE LOCATION: R1905+500
LOGGED BY: AW DATE COMPLETED: 92.08.06

FIELD NO:	117	FIELD NO:	118	FIELD NO:	119
LAB NO:	6538	LAB NO:	6539	LAB NO:	6540
DEPTH:	1.2-1.5	DEPTH:	2.7-3.0	DEPTH:	4.2-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--
50.0	--	50.0	100	50.0	--
31.5	--	31.5	--	31.5	--
25.0	100	25.0	68	25.0	--
20.0	79	20.0	68	20.0	100
12.5	69	12.5	61	12.5	96
10.0	63	10.0	58	10.0	95
5.0	58	5.0	51	5.0	86
2.5	55	2.5	48	2.5	81
2.0	--	2.0	--	2.0	--
1.25	51	1.25	44	1.25	75
0.840	--	0.840	--	0.840	--
0.630	48	0.630	41	0.630	70
0.420	--	0.420	--	0.420	--
0.315	45	0.315	39	0.315	66
0.160	41	0.160	36	0.160	61
0.150	--	0.150	--	0.150	--
0.080	37	0.080	32	0.080	55

M.C.(%):	26	M.C.(%):	18	M.C.(%):	29
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	TRACE	P.I.:	N.P.	P.I.:	TRACE
% GRAVEL:	42	% GRAVEL:	49	% GRAVEL:	14
% SAND:	21	% SAND:	18	% SAND:	31
% FINES:	37	% FINES:	32	% FINES:	55
CLASSIFICATION: SILTY GRAVEL WITH SAND (GM)		CLASSIFICATION: SILTY GRAVEL WITH SAND (GM)		CLASSIFICATION: SANDY SILT (ML)	

PROJECT NUMBER: 202101 0304 HOLE NUMBER: 194-51
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: ALASKA HIGHWAY KM 1905-1938
DRILL UNIT: 36002
HOLE LOCATION: 1906+300
LOGGED BY: AW DATE COMPLETED: 92.08.06

FIELD NO: 120
LAB NO: 6541
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	93
20.0	82
12.5	67
10.0	60
5.0	50
2.5	45
2.0	--
1.25	38
0.840	--
0.630	34
0.420	--
0.315	30
0.160	21
0.150	--
0.080	14

M.C.(%): 7

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

% GRAVEL: 50
% SAND: 36
% FINES: 14

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

FIELD NO: 121
LAB NO: 6542
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	77
20.0	66
12.5	61
10.0	57
5.0	48
2.5	44
2.0	--
1.25	40
0.840	--
0.630	37
0.420	--
0.315	34
0.160	31
0.150	--
0.080	27

M.C.(%): 12

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

% GRAVEL: 52
% SAND: 21
% FINES: 27

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

FIELD NO: 122
LAB NO: 6543
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	100
50.0	76
31.5	--
25.0	64
20.0	59
12.5	52
10.0	50
5.0	43
2.5	40
2.0	--
1.25	35
0.840	--
0.630	32
0.420	--
0.315	29
0.160	26
0.150	--
0.080	22

M.C.(%): 10

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

% GRAVEL: 57
% SAND: 21
% FINES: 22

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

PROJECT NUMBER:	202101 0304	HOLE NUMBER:	194-52
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	SEGMENT 17		
PROJECT LOCATION:	ALASKA HIGHWAY KM 1905-1938		
DRILL UNIT:	36002		
HOLE LOCATION:	1906+200		
LOGGED BY:	AW	DATE COMPLETED:	92.08.06

FIELD NO: 123
LAB NO: 6544
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	100
5.0	100
2.5	100
2.0	--
1.25	99
0.840	--
0.630	98
0.420	--
0.315	97
0.160	96
0.150	--
0.080	94

M.C.(%): 39

LIMITS
LIQUID: 44.2
PLASTIC: 27.9
P.I.: 16.3

% GRAVEL: 0
% SAND: 6
% FINES: 94

CLASSIFICATION:
SILT (ML)

FIELD NO: 124
LAB NO: 6545
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	--
5.0	--
2.5	100
2.0	--
1.25	100
0.840	--
0.630	99
0.420	--
0.315	99
0.160	99
0.150	--
0.080	99

M.C.(%): 43

LIMITS
LIQUID: 48.4
PLASTIC: 27.1
P.I.: 21.3

% GRAVEL: 0
% SAND: 1
% FINES: 99

CLASSIFICATION:
LEAN CLAY (CL)

FIELD NO: 125
LAB NO: 6546
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	--
5.0	--
2.5	--
2.0	--
1.25	--
0.840	--
0.630	--
0.420	--
0.315	--
0.160	100
0.150	--
0.080	100

M.C.(%): 38

LIMITS
LIQUID: 47.4
PLASTIC: 28.2
P.I.: 19.2

% GRAVEL: 0
% SAND: 0
% FINES: 100

CLASSIFICATION:
SILT (ML)

PROJECT NUMBER: 202101 0304
HOLE NUMBER: 194-53
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: ALASKA HIGHWAY KM 1905-1938
DRILL UNIT: 36002
HOLE LOCATION: 1906+100
LOGGED BY: AW
DATE COMPLETED: 92.08.06

FIELD NO: 126
LAB NO: 6547
DEPTH: 1.2-1.5
TYPE: AUGER
ORGANICS

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	--
5.0	100
2.5	98
2.0	--
1.25	96
0.840	--
0.630	92
0.420	--
0.315	85
0.160	78
0.150	--
0.080	71

M.C.(%): 58

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

% GRAVEL: 0
% SAND: 29
% FINES: 71

CLASSIFICATION:
SILT WITH SAND (ML)

FIELD NO: 127
LAB NO: 6548
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	--
5.0	--
2.5	--
2.0	--
1.25	--
0.840	--
0.630	--
0.420	--
0.315	--
0.160	100
0.150	--
0.080	100

M.C.(%): 40

LIMITS
LIQUID: 34.9
PLASTIC: 21.4
P.I.: 13.5

% GRAVEL: 0
% SAND: 0
% FINES: 100

CLASSIFICATION:
LEAN CLAY (CL)

PROJECT NUMBER:	202101 0304	HOLE NUMBER:	194-54
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	SEGMENT 17		
PROJECT LOCATION:	ALASKA HIGHWAY KM 1905-1938		
DRILL UNIT:	36002		
HOLE LOCATION:	1906+000		
LOGGED BY:	AW	DATE COMPLETED:	92.08.06

FIELD NO: 128
LAB NO: 6549
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	100
12.5	99
10.0	97
5.0	94
2.5	93
2.0	--
1.25	90
0.840	--
0.630	88
0.420	--
0.315	85
0.160	82
0.150	--
0.080	78

M.C.(%): 26

LIMITS
LIQUID: 31.0
PLASTIC: 20.6
P.I.: 10.4

% GRAVEL: 6
% SAND: 16
% FINES: 78

CLASSIFICATION:
LEAN CLAY WITH
SAND (CL)

PROJECT NUMBER: 202101 0304 HOLE NUMBER: 194-55
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: ALASKA HIGHWAY KM 1905-1938
DRILL UNIT: 36002
HOLE LOCATION: 1905+900
LOGGED BY: AW DATE COMPLETED: 92.08.06

FIELD NO:	129	FIELD NO:	130	FIELD NO:	131
LAB NO:	6550	LAB NO:	6551	LAB NO:	6552
DEPTH:	1.2-1.5	DEPTH:	2.7-3.0	DEPTH:	4.3-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--
50.0	--	50.0	--	50.0	--
31.5	--	31.5	--	31.5	--
25.0	--	25.0	--	25.0	--
20.0	100	20.0	100	20.0	100
12.5	96	12.5	99	12.5	97
10.0	93	10.0	99	10.0	97
5.0	89	5.0	97	5.0	94
2.5	87	2.5	97	2.5	90
2.0	--	2.0	--	2.0	--
1.25	84	1.25	96	1.25	86
0.840	--	0.840	--	0.840	--
0.630	82	0.630	96	0.630	81
0.420	--	0.420	--	0.420	--
0.315	79	0.315	95	0.315	74
0.160	75	0.160	93	0.160	70
0.150	--	0.150	--	0.150	--
0.080	71	0.080	91	0.080	66

M.C.(%):	19	M.C.(%):	29	M.C.(%):	26
LIMITS		LIMITS		LIMITS	
LIQUID:	30.1	LIQUID:	45.1	LIQUID:	35.9
PLASTIC:	20.7	PLASTIC:	26.1	PLASTIC:	22.0
P.I.:	9.4	P.I.:	19.0	P.I.:	13.9
% GRAVEL:	11	% GRAVEL:	3	% GRAVEL:	6
% SAND:	18	% SAND:	6	% SAND:	28
% FINES:	71	% FINES:	91	% FINES:	66
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
LEAN CLAY WITH SAND (CL)		LEAN CLAY (CL)		SANDY LEAN CLAY (CL)	

PROJECT NUMBER: 202101 0304 HOLE NUMBER: 194-56
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: ALASKA HIGHWAY KM 1905-1938
DRILL UNIT: 36002
HOLE LOCATION: 1905+800
LOGGED BY: AW DATE COMPLETED: 92.08.06

FIELD NO: 132
LAB NO: 6553
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	100
5.0	100
2.5	100
2.0	--
1.25	100
0.840	--
0.630	99
0.420	--
0.315	99
0.160	98
0.150	--
0.080	98

M.C.(%): 28

LIMITS
LIQUID: 45.7
PLASTIC: 26.3
P.I.: 19.4

% GRAVEL: 0
% SAND: 2
% FINES: 98

CLASSIFICATION:
LEAN CLAY (CL)

FIELD NO: 133
LAB NO: 6554
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	--
5.0	--
2.5	--
2.0	--
1.25	--
0.840	--
0.630	--
0.420	--
0.315	--
0.160	100
0.150	--
0.080	100

M.C.(%): 33

LIMITS
LIQUID: 38.5
PLASTIC: 25.3
P.I.: 13.2

% GRAVEL: 0
% SAND: 0
% FINES: 100

CLASSIFICATION:
SILT (ML)

FIELD NO: 134
LAB NO: 6555
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	100
5.0	100
2.5	99
2.0	--
1.25	99
0.840	--
0.630	99
0.420	--
0.315	98
0.160	97
0.150	--
0.080	96

M.C.(%): 45

LIMITS
LIQUID: 51.4
PLASTIC: 27.6
P.I.: 23.8

% GRAVEL: 0
% SAND: 4
% FINES: 96

CLASSIFICATION:
FAT CLAY (CH)

PROJECT NUMBER: 202101 0304 HOLE NUMBER: 194-57
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: ALASKA HIGHWAY KM 1905-1938
DRILL UNIT: 36002
HOLE LOCATION: 1905+700 O/S 10M LT
LOGGED BY: AW DATE COMPLETED: 92.08.06

FIELD NO:	135	FIELD NO:	136	FIELD NO:	137
LAB NO:	6556	LAB NO:	6557	LAB NO:	6558
DEPTH:	1.2-1.5	DEPTH:	2.7-3.0	DEPTH:	4.2-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--
50.0	--	50.0	--	50.0	100
31.5	--	31.5	--	31.5	--
25.0	100	25.0	--	25.0	92
20.0	95	20.0	100	20.0	90
12.5	92	12.5	98	12.5	89
10.0	90	10.0	97	10.0	88
5.0	84	5.0	93	5.0	86
2.5	81	2.5	91	2.5	84
2.0	--	2.0	--	2.0	--
1.25	77	1.25	87	1.25	81
0.840	--	0.840	--	0.840	--
0.630	73	0.630	84	0.630	79
0.420	--	0.420	--	0.420	--
0.315	70	0.315	80	0.315	77
0.160	65	0.160	75	0.160	74
0.150	--	0.150	--	0.150	--
0.080	59	0.080	70	0.080	71

M.C.(%):	16	M.C.(%):	18	M.C.(%):	26
LIMITS		LIMITS		LIMITS	
LIQUID:	22.9	LIQUID:	24.0	LIQUID:	35.9
PLASTIC:	16.6	PLASTIC:	17.2	PLASTIC:	22.4
P.I.:	6.3	P.I.:	6.8	P.I.:	13.5
% GRAVEL:	16	% GRAVEL:	7	% GRAVEL:	14
% SAND:	25	% SAND:	23	% SAND:	15
% FINES:	59	% FINES:	70	% FINES:	71
CLASSIFICATION: SANDY SILTY CLAY WITH GRAVEL (CL-ML)		CLASSIFICATION: SANDY SILTY CLAY (CL-ML)		CLASSIFICATION: LEAN CLAY WITH SAND (CL)	

PROJECT NUMBER:	202101 0304	HOLE NUMBER:	194-58
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	SEGMENT 17		
PROJECT LOCATION:	ALASKA HIGHWAY KM 1905-1938		
DRILL UNIT:	36002		
HOLE LOCATION:	1905+600 O/S 18M LT		
LOGGED BY:	AW	DATE COMPLETED:	92.08.06

FIELD NO: 138
LAB NO: 6559
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	95
20.0	91
12.5	85
10.0	81
5.0	73
2.5	69
2.0	--
1.25	63
0.840	--
0.630	58
0.420	--
0.315	53
0.160	47
0.150	--
0.080	41

M.C.(%): 10

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

% GRAVEL: 27
% SAND: 32
% FINES: 41

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

FIELD NO: 139
LAB NO: 6560
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	97
20.0	93
12.5	87
10.0	84
5.0	76
2.5	73
2.0	--
1.25	67
0.840	--
0.630	62
0.420	--
0.315	57
0.160	51
0.150	--
0.080	45

M.C.(%): 13

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

% GRAVEL: 24
% SAND: 31
% FINES: 45

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

FIELD NO: 140
LAB NO: 6561
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	100
12.5	92
10.0	87
5.0	79
2.5	75
2.0	--
1.25	69
0.840	--
0.630	65
0.420	--
0.315	61
0.160	55
0.150	--
0.080	50

M.C.(%): 15

LIMITS
LIQUID: 20.7
PLASTIC: 15.7
P.I.: 5.0

% GRAVEL: 21
% SAND: 29
% FINES: 50

CLASSIFICATION:
SANDY SILTY CLAY WITH GRAVEL (CL-ML)

FIELD NO: ERR
LAB NO:
DEPTH:
TYPE: ERR

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	--
5.0	--
2.5	--
2.0	--
1.25	--
0.840	--
0.630	--
0.420	--
0.315	--
0.160	--
0.150	--
0.080	--

M.C.(%): --

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

% GRAVEL: --
% SAND: --
% FINES: --

CLASSIFICATION:

PROJECT NUMBER: 202101 0304 HOLE NUMBER: 194-59
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 17
PROJECT LOCATION: ALASKA HIGHWAY KM 1905-1938
DRILL UNIT: 36002
HOLE LOCATION: 1905+525 O/S 13M LT
LOGGED BY: AW DATE COMPLETED: 92.08.06

FIELD NO:	141	FIELD NO:	142	FIELD NO:	143
LAB NO:	6562	LAB NO:	6563	LAB NO:	6564
DEPTH:	1.2-1.5	DEPTH:	2.7-3.0	DEPTH:	4.2-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER
ORGANIC					

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--
50.0	--	50.0	100	50.0	--
31.5	--	31.5	--	31.5	--
25.0	--	25.0	87	25.0	100
20.0	100	20.0	84	20.0	98
12.5	98	12.5	82	12.5	91
10.0	98	10.0	78	10.0	89
5.0	93	5.0	70	5.0	80
2.5	90	2.5	67	2.5	74
2.0	--	2.0	--	2.0	--
1.25	86	1.25	62	1.25	67
0.840	--	0.840	--	0.840	--
0.630	82	0.630	58	0.630	61
0.420	--	0.420	--	0.420	--
0.315	77	0.315	54	0.315	56
0.160	69	0.160	50	0.160	49
0.150	--	0.150	--	0.150	--
0.080	62	0.080	45	0.080	43

M.C.(%):	52	M.C.(%):	13	M.C.(%):	13
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	TRACE
% GRAVEL:	7	% GRAVEL:	30	% GRAVEL:	20
% SAND:	31	% SAND:	25	% SAND:	37
% FINES:	62	% FINES:	45	% FINES:	43
CLASSIFICATION:	SANDY SILT (ML)	CLASSIFICATION:	SILTY GRAVEL WITH SAND (GM)	CLASSIFICATION:	SILTY SAND WITH GRAVEL (SM)

PROJECT NUMBER:	202101 0304	HOLE NUMBER:	194-60
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	SEGMENT 17		
PROJECT LOCATION:	ALASKA HIGHWAY KM 1905-1938		
DRILL UNIT:	36002		
HOLE LOCATION:	1905+300 O/S 7M LT		
LOGGED BY:	AW	DATE COMPLETED:	92.08.06

FIELD NO:	144	145
LAB NO:	6565	6566
DEPTH:	1.2-1.5	2.4-2.7
TYPE:	AUGER ORGANIC	AUGER

SIEVE SIZE	PERCENT PASSING (144)	PERCENT PASSING (145)
100.0	--	--
80.0	--	--
50.0	--	100
31.5	--	--
25.0	--	86
20.0	100	78
12.5	94	72
10.0	93	70
5.0	89	64
2.5	87	62
2.0	--	--
1.25	84	58
0.840	--	--
0.630	81	55
0.420	--	--
0.315	77	51
0.160	70	46
0.150	--	--
0.080	61	40

M.C.(%):	33	20
LIMITS		
LIQUID:	--	--
PLASTIC:	--	--
P.I.:	N.P.	N.P.
% GRAVEL:	11	36
% SAND:	28	24
% FINES:	61	40
CLASSIFICATION:	SANDY SILT (ML)	SILTY GRAVEL WITH SAND (GM)

PROJECT NUMBER: 202101 0303 HOLE NUMBER: 194-61
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 16
PROJECT LOCATION: ALASKA HIGHWAY KM 1882-1905
DRILL UNIT: 36002
HOLE LOCATION: 1905+150
LOGGED BY: AW DATE COMPLETED: 92.08.06

FIELD NO: 146
LAB NO: 6567
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	79
20.0	76
12.5	62
10.0	56
5.0	39
2.5	31
2.0	--
1.25	25
0.840	--
0.630	20
0.420	--
0.315	15
0.160	11
0.150	--
0.080	9

M.C.(%): 9

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

% GRAVEL: 61
% SAND: 30
% FINES: 9

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

FIELD NO: 147
LAB NO: 6568
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	100
50.0	80
31.5	--
25.0	69
20.0	66
12.5	57
10.0	52
5.0	42
2.5	35
2.0	--
1.25	29
0.840	--
0.630	23
0.420	--
0.315	18
0.160	15
0.150	--
0.080	12

M.C.(%): 9

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

% GRAVEL: 58
% SAND: 30
% FINES: 12

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

FIELD NO: 147
LAB NO: 6569
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	100
50.0	46
31.5	--
25.0	39
20.0	38
12.5	32
10.0	30
5.0	23
2.5	19
2.0	--
1.25	16
0.840	--
0.630	12
0.420	--
0.315	9
0.160	7
0.150	--
0.080	6

M.C.(%): 6

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

% GRAVEL: 77
% SAND: 18
% FINES: 6

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

PROJECT NUMBER: 202101 0303 HOLE NUMBER: 194-62
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 16
PROJECT LOCATION: ALASKA HIGHWAY KM 1882-1905
DRILL UNIT: 36002
HOLE LOCATION: 1905+050
LOGGED BY: AW DATE COMPLETED: 92.08.06

FIELD NO: 149
LAB NO: 6570
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	72
20.0	65
12.5	47
10.0	40
5.0	30
2.5	24
2.0	--
1.25	18
0.840	--
0.630	12
0.420	--
0.315	8
0.160	5
0.150	--
0.080	4

M.C.(%): 3

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

% GRAVEL: 70
% SAND: 26
% FINES: 4

CLASSIFICATION:
POORLY GRADED GRAVEL WITH SAND (GP)

FIELD NO: 150
LAB NO: 6571
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	49
20.0	46
12.5	38
10.0	37
5.0	30
2.5	26
2.0	--
1.25	22
0.840	--
0.630	18
0.420	--
0.315	15
0.160	12
0.150	--
0.080	10

M.C.(%): 9

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

% GRAVEL: 70
% SAND: 20
% FINES: 10

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

FIELD NO: 151
LAB NO: 6572
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	100
50.0	82
31.5	--
25.0	63
20.0	58
12.5	51
10.0	48
5.0	41
2.5	37
2.0	--
1.25	33
0.840	--
0.630	30
0.420	--
0.315	26
0.160	22
0.150	--
0.080	19

M.C.(%): 14

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

% GRAVEL: 59
% SAND: 23
% FINES: 19

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

PROJECT NUMBER: 202101 0303 HOLE NUMBER: 194-63
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 16
PROJECT LOCATION: ALASKA HIGHWAY KM 1882-1905
DRILL UNIT: 36002
HOLE LOCATION: 1904+925
LOGGED BY: AW DATE COMPLETED: 92.08.06

FIELD NO: 151
LAB NO: 6573
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	79
20.0	72
12.5	58
10.0	53
5.0	41
2.5	33
2.0	--
1.25	25
0.840	--
0.630	18
0.420	--
0.315	12
0.160	8
0.150	--
0.080	6

M.C.(%): 4

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

% GRAVEL: 59
% SAND: 35
% FINES: 6

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

FIELD NO: 152
LAB NO: 6574
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	81
20.0	75
12.5	67
10.0	62
5.0	54
2.5	48
2.0	--
1.25	42
0.840	--
0.630	37
0.420	--
0.315	31
0.160	25
0.150	--
0.080	19

M.C.(%): 11

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

% GRAVEL: 46
% SAND: 34
% FINES: 19

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

PROJECT NUMBER: 202101 0303 HOLE NUMBER: 194-64
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 16
PROJECT LOCATION: ALASKA HIGHWAY KM 1882-1905
DRILL UNIT: 36002
HOLE LOCATION: 1904+825
LOGGED BY: AW DATE COMPLETED: 92.08.07

FIELD NO: 153
LAB NO: 6575
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	100
20.0	95
12.5	92
10.0	88
5.0	80
2.5	73
2.0	--
1.25	67
0.840	--
0.630	63
0.420	--
0.315	60
0.160	57
0.150	--
0.080	53

M.C.(%): 25

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

% GRAVEL: 20
% SAND: 27
% FINES: 53

CLASSIFICATION:
SANDY SILT WITH GRAVEL (ML)

FIELD NO: 154
LAB NO: 6576
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	94
20.0	84
12.5	70
10.0	66
5.0	56
2.5	50
2.0	--
1.25	46
0.840	--
0.630	43
0.420	--
0.315	40
0.160	37
0.150	--
0.080	34

M.C.(%): 17

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

% GRAVEL: 44
% SAND: 22
% FINES: 34

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

FIELD NO: 155
LAB NO: 6577
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	70
20.0	67
12.5	56
10.0	53
5.0	46
2.5	42
2.0	--
1.25	39
0.840	--
0.630	35
0.420	--
0.315	32
0.160	29
0.150	--
0.080	25

M.C.(%): 13

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

% GRAVEL: 54
% SAND: 21
% FINES: 25

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

FIELD NO: 156
LAB NO: 6578
DEPTH: 5.7-6.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	85
20.0	85
12.5	77
10.0	72
5.0	65
2.5	60
2.0	--
1.25	55
0.840	--
0.630	50
0.420	--
0.315	46
0.160	41
0.150	--
0.080	35

M.C.(%): 13

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

% GRAVEL: 35
% SAND: 30
% FINES: 35

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

PROJECT NUMBER:	202101 0303	HOLE NUMBER:	194-65
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	SEGMENT 16		
PROJECT LOCATION:	ALASKA HIGHWAY KM 1882-1905		
DRILL UNIT:	36002		
HOLE LOCATION:	1904+725		
LOGGED BY:	AW	DATE COMPLETED:	92.08.07

FIELD NO:	157	FIELD NO:	158	FIELD NO:	159	FIELD NO:	160
LAB NO:	6579	LAB NO:	6580	LAB NO:	6581	LAB NO:	6582
DEPTH:	1.2-1.5	DEPTH:	207-3.0	DEPTH:	4.2-4.5	DEPTH:	5.7-6.0
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--	80.0	--
50.0	100	50.0	--	50.0	--	50.0	--
31.5	--	31.5	--	31.5	--	31.5	--
25.0	71	25.0	--	25.0	--	25.0	100
20.0	71	20.0	--	20.0	100	20.0	97
12.5	66	12.5	100	12.5	97	12.5	96
10.0	64	10.0	98	10.0	96	10.0	95
5.0	56	5.0	97	5.0	95	5.0	94
2.5	52	2.5	96	2.5	94	2.5	93
2.0	--	2.0	--	2.0	--	2.0	--
1.25	49	1.25	95	1.25	93	1.25	92
0.840	--	0.840	--	0.840	--	0.840	--
0.630	46	0.630	94	0.630	93	0.630	91
0.420	--	0.420	--	0.420	--	0.420	--
0.315	43	0.315	93	0.315	92	0.315	90
0.160	40	0.160	92	0.160	91	0.160	89
0.150	--	0.150	--	0.150	--	0.150	--
0.080	37	0.080	90	0.080	90	0.080	88

M.C.(%):	20	M.C.(%):	33	M.C.(%):	28	M.C.(%):	24
LIMITS		LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	38.3	LIQUID:	36.4	LIQUID:	35.1
PLASTIC:	--	PLASTIC:	22.7	PLASTIC:	22.2	PLASTIC:	22.4
P.I.:	N.P.	P.I.:	15.6	P.I.:	14.2	P.I.:	12.7
% GRAVEL:	44	% GRAVEL:	3	% GRAVEL:	5	% GRAVEL:	6
% SAND:	20	% SAND:	6	% SAND:	5	% SAND:	6
% FINES:	37	% FINES:	90	% FINES:	90	% FINES:	88
CLASSIFICATION: SILTY GRAVEL WITH SAND (GM)		CLASSIFICATION: LEAN CLAY (CL)		CLASSIFICATION: LEAN CLAY (CL)		CLASSIFICATION: LEAN CLAY (CL)	

PROJECT NUMBER: 202101 0303 HOLE NUMBER: 194-66
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 16
PROJECT LOCATION: ALASKA HIGHWAY KM 1882-1905
DRILL UNIT: 36002
HOLE LOCATION: 1904+600
LOGGED BY: AW DATE COMPLETED: 92.08.07

FIELD NO: 161
LAB NO: 6583
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	58
20.0	48
12.5	28
10.0	22
5.0	8
2.5	5
2.0	--
1.25	4
0.840	--
0.630	3
0.420	--
0.315	3
0.160	2
0.150	--
0.080	2

M.C.(%): 3

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

% GRAVEL: 92
% SAND: 7
% FINES: 2

CLASSIFICATION:
WELL-GRADED
GRAVEL (GW)

PROJECT NUMBER: 202101 0303 HOLE NUMBER: 194-68
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 16
PROJECT LOCATION: ALASKA HIGHWAY KM 1882-1905
DRILL UNIT: 36002
HOLE LOCATION: 1904+550
LOGGED BY: AW DATE COMPLETED: 92.08.07

FIELD NO:	162	FIELD NO:	163	FIELD NO:	164	FIELD NO:	165
LAB NO:	6584	LAB NO:	6585	LAB NO:	6586	LAB NO:	6587
DEPTH:	1.2-1.5	DEPTH:	2.7-3.0	DEPTH:	4.2-4.5	DEPTH:	5.7-6.0
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--	80.0	--
50.0	100	50.0	100	50.0	100	50.0	--
31.5	--	31.5	--	31.5	--	31.5	--
25.0	91	25.0	94	25.0	71	25.0	100
20.0	89	20.0	94	20.0	65	20.0	88
12.5	81	12.5	89	12.5	56	12.5	74
10.0	77	10.0	86	10.0	52	10.0	70
5.0	70	5.0	77	5.0	46	5.0	59
2.5	65	2.5	71	2.5	42	2.5	54
2.0	--	2.0	--	2.0	--	2.0	--
1.25	62	1.25	67	1.25	40	1.25	51
0.840	--	0.840	--	0.840	--	0.840	--
0.630	59	0.630	64	0.630	38	0.630	48
0.420	--	0.420	--	0.420	--	0.420	--
0.315	56	0.315	59	0.315	35	0.315	45
0.160	52	0.160	53	0.160	31	0.160	40
0.150	--	0.150	--	0.150	--	0.150	--
0.080	46	0.080	46	0.080	27	0.080	35

M.C.(%):	10	M.C.(%):	11	M.C.(%):	10	M.C.(%):	10
LIMITS		LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	30	% GRAVEL:	23	% GRAVEL:	54	% GRAVEL:	41
% SAND:	24	% SAND:	31	% SAND:	19	% SAND:	24
% FINES:	46	% FINES:	46	% FINES:	27	% FINES:	35
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILTY GRAVEL WITH SAND (GM)		SILTY SAND WITH GRAVEL (SM)		SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)	

PROJECT NUMBER: 202101 0303
HOLE NUMBER: 194-69
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 16
PROJECT LOCATION: ALASKA HIGHWAY KM 1882-1905
DRILL UNIT: 36002
HOLE LOCATION: 1904+475
LOGGED BY: AW
DATE COMPLETED: 92.08.07

FIELD NO: 166
LAB NO: 6588
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	71
20.0	66
12.5	61
10.0	58
5.0	51
2.5	48
2.0	--
1.25	45
0.840	--
0.630	43
0.420	--
0.315	41
0.160	38
0.150	--
0.080	34

M.C.(%): 16

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

% GRAVEL: 49
% SAND: 17
% FINES: 34

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

FIELD NO: 167
LAB NO: 6589
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	66
20.0	61
12.5	52
10.0	49
5.0	42
2.5	38
2.0	--
1.25	36
0.840	--
0.630	34
0.420	--
0.315	31
0.160	28
0.150	--
0.080	24

M.C.(%): 10

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

% GRAVEL: 58
% SAND: 18
% FINES: 24

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

PROJECT NUMBER: 202101 0303 HOLE NUMBER: 194-70
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 16
PROJECT LOCATION: ALASKA HIGHWAY KM 1882-1905
DRILL UNIT: 36002
HOLE LOCATION: 1904+350
LOGGED BY: AW DATE COMPLETED: 92.08.07

FIELD NO: 168
LAB NO: 6590
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	93
20.0	90
12.5	78
10.0	72
5.0	62
2.5	56
2.0	--
1.25	52
0.840	--
0.630	48
0.420	--
0.315	44
0.160	38
0.150	--
0.080	32

M.C.(%): 15

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

% GRAVEL: 38
% SAND: 30
% FINES: 32

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

PROJECT NUMBER: 202101 0303 HOLE NUMBER: 195-71
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 16
PROJECT LOCATION: ALASKA HIGHWAY KM 1882-1905
DRILL UNIT: 36002
HOLE LOCATION: 1904+250
LOGGED BY: AW DATE COMPLETED: 92.08.07

FIELD NO: 169
LAB NO: 6591
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	69
20.0	62
12.5	48
10.0	42
5.0	30
2.5	22
2.0	--
1.25	16
0.840	--
0.630	10
0.420	--
0.315	5
0.160	3
0.150	--
0.080	3

M.C.(%): 3

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

% GRAVEL: 70
% SAND: 27
% FINES: 3

CLASSIFICATION:
WELL-GRADED
GRAVEL WITH SAND
(GW)

FIELD NO: 170
LAB NO: 6592
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	84
20.0	80
12.5	71
10.0	64
5.0	44
2.5	32
2.0	--
1.25	24
0.840	--
0.630	17
0.420	--
0.315	11
0.160	6
0.150	--
0.080	3

M.C.(%): 5

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

% GRAVEL: 56
% SAND: 40
% FINES: 3

CLASSIFICATION:
WELL-GRADED
GRAVEL WITH SAND
(GW)

PROJECT NUMBER:	202101 0303	HOLE NUMBER:	195-72
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	SEGMENT 16		
PROJECT LOCATION:	ALASKA HIGHWAY KM 1882-1905		
DRILL UNIT:	36002		
HOLE LOCATION:	1904+150		
LOGGED BY:	AW	DATE COMPLETED:	92.08.07

FIELD NO:	171	FIELD NO:	172.00	FIELD NO:	173.00
LAB NO:	6593	LAB NO:	6594	LAB NO:	6595
DEPTH:	1.2-1.5	DEPTH:	2.7-3.0	DEPTH:	4.2-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--
50.0	100	50.0	100	50.0	100
31.5	--	31.5	--	31.5	--
25.0	83	25.0	92	25.0	89
20.0	66	20.0	80	20.0	77
12.5	54	12.5	72	12.5	70
10.0	48	10.0	64	10.0	60
5.0	37	5.0	49	5.0	42
2.5	30	2.5	38	2.5	31
2.0	--	2.0	--	2.0	--
1.25	23	1.25	27	1.25	21
0.840	--	0.840	--	0.840	--
0.630	16	0.630	19	0.630	14
0.420	--	0.420	--	0.420	--
0.315	10	0.315	12	0.315	9
0.160	7	0.160	8	0.160	6
0.150	--	0.150	--	0.150	--
0.080	6	0.080	7	0.080	5

M.C.(%):	3	M.C.(%):	3.00	M.C.(%):	3.00
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	63	% GRAVEL:	51.00	% GRAVEL:	58.00
% SAND:	31	% SAND:	42.00	% SAND:	38.00
% FINES:	6	% FINES:	7.00	% FINES:	5.00
CLASSIFICATION: WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)		CLASSIFICATION: WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)		CLASSIFICATION: WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)	

PROJECT NUMBER: 202101 0303 HOLE NUMBER: 195-73
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 16
PROJECT LOCATION: ALASKA HIGHWAY KM 1882-1905
DRILL UNIT: 36002
HOLE LOCATION: 1904+050
LOGGED BY: AW DATE COMPLETED: 92.08.07

FIELD NO: 174
LAB NO: 6596
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	62
20.0	54
12.5	43
10.0	39
5.0	30
2.5	24
2.0	--
1.25	18
0.840	--
0.630	12
0.420	--
0.315	8
0.160	6
0.150	--
0.080	4

M.C.(%): 2

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

% GRAVEL: 70
% SAND: 26
% FINES: 4

CLASSIFICATION:
WELL-GRADED GRAVEL WITH SAND (GW)

FIELD NO: 175
LAB NO: 6597
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	81
20.0	70
12.5	58
10.0	49
5.0	31
2.5	22
2.0	--
1.25	16
0.840	--
0.630	10
0.420	--
0.315	6
0.160	4
0.150	--
0.080	4

M.C.(%): 2

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

% GRAVEL: 69
% SAND: 27
% FINES: 4

CLASSIFICATION:
WELL-GRADED GRAVEL WITH SAND (GW)

FIELD NO: 176
LAB NO: 6598
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	58
20.0	50
12.5	37
10.0	32
5.0	23
2.5	17
2.0	--
1.25	12
0.840	--
0.630	9
0.420	--
0.315	6
0.160	4
0.150	--
0.080	3

M.C.(%): 2

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

% GRAVEL: 77
% SAND: 20
% FINES: 3

CLASSIFICATION:
POORLY GRADED GRAVEL WITH SAND (GP)

PROJECT NUMBER: 202101 0303 HOLE NUMBER: 195-74
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 16
PROJECT LOCATION: ALASKA HIGHWAY KM 1882-1905
DRILL UNIT: 36002
HOLE LOCATION: 1903+950 O/S 6M RT
LOGGED BY: AW DATE COMPLETED: 92.08.07

FIELD NO: 177
LAB NO: 6599
DEPTH: 1.2-1.4
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	78
20.0	65
12.5	41
10.0	36
5.0	25
2.5	19
2.0	--
1.25	14
0.840	--
0.630	11
0.420	--
0.315	8
0.160	6
0.150	--
0.080	5

M.C.(%): 3

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

% GRAVEL: 75
% SAND: 19
% FINES: 5

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

PROJECT NUMBER: 202101 0303 HOLE NUMBER: 195-75
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 16
PROJECT LOCATION: ALASKA HIGHWAY KM 1882-1905
DRILL UNIT: 36002
HOLE LOCATION: 1903+850 O/S 5M RT
LOGGED BY: AW DATE COMPLETED: 92.08.07

FIELD NO: 178
LAB NO: 6600
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	100
50.0	77
31.5	--
25.0	56
20.0	46
12.5	34
10.0	29
5.0	21
2.5	17
2.0	--
1.25	13
0.840	--
0.630	9
0.420	--
0.315	5
0.160	3
0.150	--
0.080	2

M.C.(%): 2

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

% GRAVEL: 79
% SAND: 19
% FINES: 2

CLASSIFICATION:
POORLY GRADED GRAVEL WITH SAND (GP)

FIELD NO: 179
LAB NO: 6601
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	100
50.0	78
31.5	--
25.0	64
20.0	59
12.5	48
10.0	43
5.0	31
2.5	25
2.0	--
1.25	18
0.840	--
0.630	12
0.420	--
0.315	7
0.160	5
0.150	--
0.080	3

M.C.(%): 2

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

% GRAVEL: 69
% SAND: 28
% FINES: 3

CLASSIFICATION:
WELL-GRADED GRAVEL WITH SAND (GW)

FIELD NO: 180
LAB NO: 6602
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	74
20.0	58
12.5	49
10.0	44
5.0	35
2.5	27
2.0	--
1.25	20
0.840	--
0.630	14
0.420	--
0.315	9
0.160	6
0.150	--
0.080	4

M.C.(%): 2

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

% GRAVEL: 65
% SAND: 30
% FINES: 4

CLASSIFICATION:
WELL-GRADED GRAVEL WITH SAND (GW)

PROJECT NUMBER: 202101 0303 HOLE NUMBER: 195-76
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 16
PROJECT LOCATION: ALASKA HIGHWAY KM 1882-1905
DRILL UNIT: 36002
HOLE LOCATION: 1903+750 O/S 6M RT
LOGGED BY: AW DATE COMPLETED: 92.08.07

FIELD NO: 181
LAB NO: 6603
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	70
20.0	64
12.5	44
10.0	38
5.0	26
2.5	20
2.0	--
1.25	15
0.840	--
0.630	10
0.420	--
0.315	6
0.160	4
0.150	--
0.080	3

M.C.(%): 3

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

% GRAVEL: 74
% SAND: 24
% FINES: 3

CLASSIFICATION:
POORLY GRADED GRAVEL WITH SAND (GP)

FIELD NO: 182
LAB NO: 6604
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	73
20.0	59
12.5	47
10.0	42
5.0	32
2.5	25
2.0	--
1.25	18
0.840	--
0.630	12
0.420	--
0.315	8
0.160	5
0.150	--
0.080	3

M.C.(%): 2

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

% GRAVEL: 68
% SAND: 28
% FINES: 3

CLASSIFICATION:
WELL-GRADED GRAVEL WITH SAND (GW)

FIELD NO: 183
LAB NO: 6605
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	77
20.0	65
12.5	48
10.0	43
5.0	32
2.5	25
2.0	--
1.25	19
0.840	--
0.630	13
0.420	--
0.315	8
0.160	5
0.150	--
0.080	4

M.C.(%): 2

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

% GRAVEL: 68
% SAND: 28
% FINES: 4

CLASSIFICATION:
WELL-GRADED GRAVEL WITH SAND (GW)

PROJECT NUMBER: 202101 0303 HOLE NUMBER: 195-80
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 16
PROJECT LOCATION: ALASKA HIGHWAY KM 1882-1905
DRILL UNIT: 36002
HOLE LOCATION: 1903+650
LOGGED BY: AW DATE COMPLETED: 92.08.07

FIELD NO:	186	FIELD NO:	187	FIELD NO:	188
LAB NO:	6666	LAB NO:	6667	LAB NO:	6668
DEPTH:	1.2-1.5	DEPTH:	2.7-3.0	DEPTH:	4.2-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	100	80.0	--
50.0	100	50.0	63	50.0	100
31.5	--	31.5	--	31.5	--
25.0	85	25.0	60	25.0	85
20.0	73	20.0	56	20.0	83
12.5	55	12.5	50	12.5	73
10.0	50	10.0	45	10.0	68
5.0	38	5.0	35	5.0	53
2.5	32	2.5	28	2.5	44
2.0	--	2.0	--	2.0	--
1.25	27	1.25	23	1.25	36
0.840	--	0.840	--	0.840	--
0.630	24	0.630	19	0.630	29
0.420	--	0.420	--	0.420	--
0.315	21	0.315	15	0.315	22
0.160	16	0.160	11	0.160	15
0.150	--	0.150	--	0.150	--
0.080	12	0.080	7	0.080	11

M.C.(%):	4	M.C.(%):	3	M.C.(%):	5
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	62	% GRAVEL:	65	% GRAVEL:	47
% SAND:	26	% SAND:	28	% SAND:	41
% FINES:	12	% FINES:	7	% FINES:	11
CLASSIFICATION: WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)		CLASSIFICATION: WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)		CLASSIFICATION: WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)	

PROJECT NUMBER: 202101 0303 HOLE NUMBER: 195-87
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 16
PROJECT LOCATION: ALASKA HIGHWAY KM 1882-1905
DRILL UNIT: 36002
HOLE LOCATION: 1903+550 O/S 7M RT
LOGGED BY: AW DATE COMPLETED: 92.08.10

FIELD NO:	194	FIELD NO:	195	FIELD NO:	196
LAB NO:	6674	LAB NO:	6675	LAB NO:	6676
DEPTH:	1.2-1.5	DEPTH:	2.7-3.0	DEPTH:	4.2-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	100	80.0	--
50.0	--	50.0	73	50.0	--
31.5	--	31.5	--	31.5	--
25.0	100	25.0	61	25.0	100
20.0	88	20.0	54	20.0	97
12.5	73	12.5	44	12.5	95
10.0	65	10.0	38	10.0	92
5.0	46	5.0	29	5.0	88
2.5	35	2.5	22	2.5	85
2.0	--	2.0	--	2.0	--
1.25	24	1.25	16	1.25	82
0.840	--	0.840	--	0.840	--
0.630	14	0.630	11	0.630	80
0.420	--	0.420	--	0.420	--
0.315	8	0.315	8	0.315	78
0.160	6	0.160	5	0.160	68
0.150	--	0.150	--	0.150	--
0.080	6	0.080	4	0.080	47
M.C.(%):	2	M.C.(%):	2	M.C.(%):	13
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	54	% GRAVEL:	71	% GRAVEL:	12
% SAND:	41	% SAND:	25	% SAND:	41
% FINES:	6	% FINES:	4	% FINES:	47
CLASSIFICATION: WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)		CLASSIFICATION: WELL-GRADED GRAVEL WITH SAND (GW)		CLASSIFICATION: SILTY SAND (SM)	

PROJECT NUMBER: 202101 0303 HOLE NUMBER: 195-88
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 16
PROJECT LOCATION: ALASKA HIGHWAY KM 1882-1905
DRILL UNIT: 36002
HOLE LOCATION: 1903+450 O/S 8M RT
LOGGED BY: AW DATE COMPLETED: 92.08.10

FIELD NO: 197	FIELD NO: 198	FIELD NO: 199
LAB NO: 6677	LAB NO: 6678	LAB NO: 6679
DEPTH: 1.2-1.5	DEPTH: 2.7-3.0	DEPTH: 4.2-4.5
TYPE: AUGER	TYPE: AUGER	TYPE: AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--
50.0	100	50.0	100	50.0	100
31.5	--	31.5	--	31.5	--
25.0	88	25.0	88	25.0	80
20.0	83	20.0	73	20.0	67
12.5	66	12.5	55	12.5	52
10.0	59	10.0	46	10.0	45
5.0	46	5.0	25	5.0	32
2.5	39	2.5	29	2.5	27
2.0	--	2.0	--	2.0	--
1.25	31	1.25	24	1.25	22
0.840	--	0.840	--	0.840	--
0.630	21	0.630	18	0.630	17
0.420	--	0.420	--	0.420	--
0.315	10	0.315	12	0.315	11
0.160	5	0.160	8	0.160	8
0.150	--	0.150	--	0.150	--
0.080	3	0.080	6	0.080	6

M.C.(%): 2	M.C.(%): 3	M.C.(%): 5
LIMITS	LIMITS	LIMITS
LIQUID: --	LIQUID: --	LIQUID: --
PLASTIC: --	PLASTIC: --	PLASTIC: --
P.I.: N.P.	P.I.: N.P.	P.I.: N.P.
% GRAVEL: 54	% GRAVEL: 75	% GRAVEL: 68
% SAND: 43	% SAND: 19	% SAND: 27
% FINES: 3	% FINES: 6	% FINES: 6
CLASSIFICATION: POORLY GRADED GRAVEL WITH SAND (GP)	CLASSIFICATION: POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	CLASSIFICATION: POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)

PROJECT NUMBER: 202101 0303
HOLE NUMBER: 195-89
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 16
PROJECT LOCATION: ALASKA HIGHWAY KM 1882-1905
DRILL UNIT: 36002
HOLE LOCATION: 1903+350 O/S 10M RT
LOGGED BY: AW
DATE COMPLETED: 92.08.10

FIELD NO: 200
LAB NO: 6680
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	100
20.0	87
12.5	75
10.0	68
5.0	59
2.5	52
2.0	--
1.25	47
0.840	--
0.630	43
0.420	--
0.315	37
0.160	31
0.150	--
0.080	26

M.C.(%): 9

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

% GRAVEL: 41
% SAND: 33
% FINES: 26

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

FIELD NO: 201
LAB NO: 6681
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	90
20.0	86
12.5	82
10.0	78
5.0	63
2.5	56
2.0	--
1.25	50
0.840	--
0.630	44
0.420	--
0.315	38
0.160	31
0.150	--
0.080	25

M.C.(%): 8

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

% GRAVEL: 37
% SAND: 39
% FINES: 25

CLASSIFICATION:
SILTY SAND WITH
GRAVEL (SM)

FIELD NO: 202
LAB NO: 6682
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	67
20.0	63
12.5	53
10.0	48
5.0	40
2.5	35
2.0	--
1.25	31
0.840	--
0.630	28
0.420	--
0.315	23
0.160	19
0.150	--
0.080	15

M.C.(%): 8

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

% GRAVEL: 60
% SAND: 26
% FINES: 15

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

PROJECT NUMBER: 202101 0303 HOLE NUMBER: 195-90
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 16
PROJECT LOCATION: ALASKA HIGHWAY KM 1882-1905
DRILL UNIT: 36002
HOLE LOCATION: 1903+250 O/S 6M RT
LOGGED BY: AW DATE COMPLETED: 92.08.10

FIELD NO: 203
LAB NO: 6683
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	55
20.0	48
12.5	40
10.0	36
5.0	27
2.5	22
2.0	--
1.25	17
0.840	--
0.630	13
0.420	--
0.315	8
0.160	4
0.150	--
0.080	2

M.C.(%): 2

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

% GRAVEL: 73
% SAND: 25
% FINES: 2

CLASSIFICATION:
POORLY GRADED GRAVEL WITH SAND (GP)

FIELD NO: 204
LAB NO: 6684
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	100
50.0	76
31.5	--
25.0	54
20.0	50
12.5	41
10.0	38
5.0	29
2.5	22
2.0	--
1.25	17
0.840	--
0.630	12
0.420	--
0.315	8
0.160	4
0.150	--
0.080	3

M.C.(%): 2

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

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

CLASSIFICATION:
WELL-GRADED GRAVEL WITH SAND (GW)

FIELD NO: 205
LAB NO: 6685
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	92
20.0	84
12.5	65
10.0	60
5.0	44
2.5	34
2.0	--
1.25	26
0.840	--
0.630	19
0.420	--
0.315	12
0.160	7
0.150	--
0.080	4

M.C.(%): 3

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

% GRAVEL: 56
% SAND: 39
% FINES: 4

CLASSIFICATION:
WELL-GRADED GRAVEL WITH SAND (GW)

PROJECT NUMBER: 202101 0303 HOLE NUMBER: 195-91
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 16
PROJECT LOCATION: ALASKA HIGHWAY KM 1882-1905
DRILL UNIT: 36002
HOLE LOCATION: 1903+150 O/S 2M RT
LOGGED BY: AW DATE COMPLETED: 92.08.10

FIELD NO: 206
LAB NO: 6686
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	77
20.0	71
12.5	57
10.0	51
5.0	38
2.5	29
2.0	--
1.25	22
0.840	--
0.630	15
0.420	--
0.315	9
0.160	6
0.150	--
0.080	4

M.C.(%): 2

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

% GRAVEL: 62
% SAND: 34
% FINES: 4

CLASSIFICATION:
WELL-GRADED GRAVEL WITH SAND (GW)

FIELD NO: 207
LAB NO: 6687
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	76
20.0	73
12.5	65
10.0	62
5.0	57
2.5	52
2.0	--
1.25	48
0.840	--
0.630	43
0.420	--
0.315	38
0.160	32
0.150	--
0.080	24

M.C.(%): 7

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

% GRAVEL: 43
% SAND: 33
% FINES: 24

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

FIELD NO: 208
LAB NO: 6688
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	94
20.0	81
12.5	74
10.0	70
5.0	57
2.5	49
2.0	--
1.25	42
0.840	--
0.630	35
0.420	--
0.315	29
0.160	23
0.150	--
0.080	17

M.C.(%): 5

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

% GRAVEL: 43
% SAND: 40
% FINES: 17

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

PROJECT NUMBER: 202101 0303 HOLE NUMBER: 195-92
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 16
PROJECT LOCATION: ALASKA HIGHWAY KM 1882-1905
DRILL UNIT: 36002
HOLE LOCATION: 1903+050 O/S 6M RT
LOGGED BY: AW DATE COMPLETED: 92.08.10

FIELD NO: 209
LAB NO: 6689
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	88
20.0	70
12.5	51
10.0	45
5.0	31
2.5	24
2.0	--
1.25	19
0.840	--
0.630	14
0.420	--
0.315	9
0.160	6
0.150	--
0.080	4

M.C.(%): 2

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

% GRAVEL: 69
% SAND: 26
% FINES: 4

CLASSIFICATION:
POORLY GRADED GRAVEL WITH SAND (GP)

FIELD NO: 210
LAB NO: 6690
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	100
50.0	81
31.5	--
25.0	69
20.0	66
12.5	53
10.0	50
5.0	39
2.5	33
2.0	--
1.25	28
0.840	--
0.630	20
0.420	--
0.315	10
0.160	6
0.150	--
0.080	5

M.C.(%): 3

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

% GRAVEL: 61
% SAND: 34
% FINES: 5

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

FIELD NO: 211
LAB NO: 6691
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	82
20.0	78
12.5	66
10.0	60
5.0	44
2.5	36
2.0	--
1.25	29
0.840	--
0.630	22
0.420	--
0.315	12
0.160	7
0.150	--
0.080	5

M.C.(%): 3

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

% GRAVEL: 56
% SAND: 39
% FINES: 5

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

PROJECT NUMBER: 202101 0303 HOLE NUMBER: 195-93
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 16
PROJECT LOCATION: ALASKA HIGHWAY KM 1882-1905
DRILL UNIT: 36002
HOLE LOCATION: 1902+850 O/S 7M RT
LOGGED BY: AW DATE COMPLETED: 92.08.10

FIELD NO: 212
LAB NO: 6692
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	61
20.0	56
12.5	45
10.0	38
5.0	27
2.5	20
2.0	--
1.25	15
0.840	--
0.630	12
0.420	--
0.315	9
0.160	6
0.150	--
0.080	4

M.C.(%): 2

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

% GRAVEL: 73
% SAND: 23
% FINES: 4

CLASSIFICATION:
POORLY GRADED GRAVEL WITH SAND (GP)

FIELD NO: 213
LAB NO: 6693
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	71
20.0	71
12.5	54
10.0	48
5.0	34
2.5	25
2.0	--
1.25	19
0.840	--
0.630	14
0.420	--
0.315	10
0.160	7
0.150	--
0.080	5

M.C.(%): 2

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

% GRAVEL: 66
% SAND: 29
% FINES: 5

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

PROJECT NUMBER: 202101 0303 HOLE NUMBER: 195-94
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 16
PROJECT LOCATION: ALASKA HIGHWAY KM 1882-1905
DRILL UNIT: 36002
HOLE LOCATION: 1902+850 O/S 8M RT
LOGGED BY: AW DATE COMPLETED: 92.08.10

FIELD NO: 214	FIELD NO: 215	FIELD NO: 216
LAB NO: 6694	LAB NO: 6695	LAB NO: 6696
DEPTH: 1.2-1.5	DEPTH: 2.7-3.0	DEPTH: 4.2-4.5
TYPE: AUGER	TYPE: AUGER ONE +50MM ROCK	TYPE: AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--
50.0	100	50.0	100	50.0	100
31.5	--	31.5	--	31.5	--
25.0	84	25.0	93	25.0	51
20.0	79	20.0	93	20.0	51
12.5	67	12.5	84	12.5	43
10.0	58	10.0	75	10.0	39
5.0	41	5.0	55	5.0	28
2.5	32	2.5	42	2.5	22
2.0	--	2.0	--	2.0	--
1.25	24	1.25	32	1.25	17
0.840	--	0.840	--	0.840	--
0.630	18	0.630	24	0.630	13
0.420	--	0.420	--	0.420	--
0.315	12	0.315	16	0.315	9
0.160	8	0.160	12	0.160	7
0.150	--	0.150	--	0.150	--
0.080	6	0.080	9	0.080	5

M.C.(%): 3	M.C.(%): 3	M.C.(%): 2
LIMITS	LIMITS	LIMITS
LIQUID: --	LIQUID: --	LIQUID: --
PLASTIC: --	PLASTIC: --	PLASTIC: --
P.I.: N.P.	P.I.: N.P.	P.I.: N.P.
% GRAVEL: 59	% GRAVEL: 45	% GRAVEL: 72
% SAND: 36	% SAND: 46	% SAND: 23
% FINES: 6	% FINES: 9	% FINES: 5
CLASSIFICATION: WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)	CLASSIFICATION: WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)	CLASSIFICATION: POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)

PROJECT NUMBER: 202101 0303 HOLE NUMBER: 195-95
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 16
PROJECT LOCATION: ALASKA HIGHWAY KM 1882-1905
DRILL UNIT: 36002
HOLE LOCATION: 1902+750 O/S 5M RT
LOGGED BY: AW DATE COMPLETED: 92.08.10

FIELD NO:	217	FIELD NO:	218	FIELD NO:	219
LAB NO:	6697	LAB NO:	6698	LAB NO:	6699
DEPTH:	1.2-1.5	DEPTH:	2.7-3.0	DEPTH:	4.2-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--
50.0	100	50.0	--	50.0	100
31.5	--	31.5	--	31.5	--
25.0	72	25.0	100	25.0	86
20.0	63	20.0	91	20.0	81
12.5	43	12.5	72	12.5	65
10.0	39	10.0	65	10.0	58
5.0	27	5.0	45	5.0	45
2.5	21	2.5	33	2.5	36
2.0	--	2.0	--	2.0	--
1.25	16	1.25	24	1.25	27
0.840	--	0.840	--	0.840	--
0.630	10	0.630	16	0.630	18
0.420	--	0.420	--	0.420	--
0.315	5	0.315	10	0.315	10
0.160	3	0.160	7	0.160	6
0.150	--	0.150	--	0.150	--
0.080	2	0.080	5	0.080	5

M.C.(%):	2	M.C.(%):	3	M.C.(%):	2
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	73	% GRAVEL:	55	% GRAVEL:	55
% SAND:	25	% SAND:	40	% SAND:	41
% FINES:	2	% FINES:	5	% FINES:	5
CLASSIFICATION: POORLY GRADED GRAVEL WITH SAND (GP)		CLASSIFICATION: WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)		CLASSIFICATION: POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	

PROJECT NUMBER: 202101 0312
HOLE NUMBER: 196-96
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1902+650
LOGGED BY: AW
DATE COMPLETED: 92.08.10

FIELD NO: 220
LAB NO: 6700
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	80
20.0	71
12.5	55
10.0	50
5.0	39
2.5	32
2.0	--
1.25	25
0.840	--
0.630	18
0.420	--
0.315	10
0.160	6
0.150	--
0.080	4

M.C.(%): 3

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

% GRAVEL: 61
% SAND: 35
% FINES: 4

CLASSIFICATION:
POORLY GRADED GRAVEL WITH SAND (GP)

FIELD NO: 221
LAB NO: 6701
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	79
20.0	72
12.5	56
10.0	51
5.0	40
2.5	32
2.0	--
1.25	26
0.840	--
0.630	20
0.420	--
0.315	14
0.160	9
0.150	--
0.080	7

M.C.(%): 3

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

% GRAVEL: 60
% SAND: 33
% FINES: 7

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

FIELD NO: 222
LAB NO: 6702
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	100
50.0	50
31.5	--
25.0	42
20.0	38
12.5	30
10.0	27
5.0	20
2.5	16
2.0	--
1.25	13
0.840	--
0.630	10
0.420	--
0.315	7
0.160	5
0.150	--
0.080	4

M.C.(%): 2

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

% GRAVEL: 80
% SAND: 16
% FINES: 4

CLASSIFICATION:
POORLY GRADED GRAVEL WITH SAND (GP)

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 196-101
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1902+100
LOGGED BY: AW DATE COMPLETED: 92.08.11

FIELD NO: 230
LAB NO: 6710
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	75
20.0	64
12.5	46
10.0	41
5.0	31
2.5	22
2.0	--
1.25	14
0.840	--
0.630	8
0.420	--
0.315	5
0.160	4
0.150	--
0.080	3

M.C.(%): 7

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

% GRAVEL: 69
% SAND: 28
% FINES: 3

CLASSIFICATION:
WELL-GRADED
GRAVEL WITH SAND
(GW)

PROJECT NUMBER: 202101 0312
HOLE NUMBER: 196-102
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1902+000
LOGGED BY: AW
DATE COMPLETED: 92.08.11

FIELD NO: 231
LAB NO: 6711
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	66
20.0	63
12.5	44
10.0	40
5.0	29
2.5	24
2.0	--
1.25	17
0.840	--
0.630	11
0.420	--
0.315	6
0.160	4
0.150	--
0.080	3

M.C.(%): 4

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

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

CLASSIFICATION:
WELL-GRADED GRAVEL WITH SAND (GW)

FIELD NO: 232
LAB NO: 6712
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	79
20.0	69
12.5	53
10.0	48
5.0	38
2.5	31
2.0	--
1.25	25
0.840	--
0.630	16
0.420	--
0.315	7
0.160	3
0.150	--
0.080	2

M.C.(%): 5

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

% GRAVEL: 62
% SAND: 36
% FINES: 2

CLASSIFICATION:
POORLY GRADED GRAVEL WITH SAND (GP)

FIELD NO: 233
LAB NO: 6713
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	84
20.0	76
12.5	70
10.0	61
5.0	56
2.5	49
2.0	--
1.25	42
0.840	--
0.630	--
0.420	--
0.315	33
0.160	27
0.150	--
0.080	21

M.C.(%): 7

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

% GRAVEL: 44
% SAND: 35
% FINES: 21

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 196-103
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1901+900 O/S 3M RT
LOGGED BY: AW DATE COMPLETED: 92.08.11

FIELD NO: 234	FIELD NO: 235	FIELD NO: 236
LAB NO: 6714	LAB NO: 6715	LAB NO: 6716
DEPTH: 1.2-1.5	DEPTH: 2.7-3.0	DEPTH: 4.2-4.5
TYPE: AUGER	TYPE: AUGER	TYPE: AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--
50.0	100	50.0	--	50.0	--
31.5	--	31.5	--	31.5	--
25.0	65	25.0	--	25.0	--
20.0	59	20.0	--	20.0	--
12.5	47	12.5	--	12.5	--
10.0	43	10.0	100	10.0	100
5.0	30	5.0	100	5.0	100
2.5	22	2.5	99	2.5	100
2.0	--	2.0	--	2.0	--
1.25	15	1.25	99	1.25	100
0.840	--	0.840	--	0.840	--
0.630	9	0.630	98	0.630	99
0.420	--	0.420	--	0.420	--
0.315	5	0.315	96	0.315	92
0.160	3	0.160	19	0.160	34
0.150	--	0.150	--	0.150	--
0.080	3	0.080	3	0.080	5

M.C.(%): 3	M.C.(%): 23	M.C.(%): 23
LIMITS	LIMITS	LIMITS
LIQUID: --	LIQUID: --	LIQUID: --
PLASTIC: --	PLASTIC: --	PLASTIC: --
P.I.: N.P.	P.I.: N.P.	P.I.: N.P.
% GRAVEL: 70	% GRAVEL: 0	% GRAVEL: 0
% SAND: 28	% SAND: 97	% SAND: 95
% FINES: 3	% FINES: 3	% FINES: 5
CLASSIFICATION: WELL-GRADED GRAVEL WITH SAND (GW)	CLASSIFICATION: POORLY GRADED SAND (SP)	CLASSIFICATION: POORLY GRADED SAND WITH SILT (SP-SM)

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 196-104
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1901+800 O/S 8M RT
LOGGED BY: AW DATE COMPLETED: 92.08.11

FIELD NO:	237	FIELD NO:	238	FIELD NO:	239
LAB NO:	6717	LAB NO:	6718	LAB NO:	6719
DEPTH:	1.2-1.5	DEPTH:	2.7-3.0	DEPTH:	4.2-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--
50.0	100	50.0	100	50.0	--
31.5	--	31.5	--	31.5	--
25.0	90	25.0	83	25.0	100
20.0	70	20.0	76	20.0	94
12.5	45	12.5	66	12.5	86
10.0	39	10.0	56	10.0	84
5.0	25	5.0	37	5.0	78
2.5	15	2.5	27	2.5	75
2.0	--	2.0	--	2.0	--
1.25	9	1.25	19	1.25	72
0.840	--	0.840	--	0.840	--
0.630	5	0.630	12	0.630	70
0.420	--	0.420	--	0.420	--
0.315	2	0.315	7	0.315	68
0.160	2	0.160	4	0.160	67
0.150	--	0.150	--	0.150	--
0.080	1	0.080	3	0.080	67

M.C.(%):	2	M.C.(%):	3	M.C.(%):	15
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	75	% GRAVEL:	63	% GRAVEL:	22
% SAND:	24	% SAND:	34	% SAND:	12
% FINES:	1	% FINES:	3	% FINES:	67
CLASSIFICATION: WELL-GRADED GRAVEL WITH SAND (GW)		CLASSIFICATION: WELL-GRADED GRAVEL WITH SAND (GW)		CLASSIFICATION: GRAVELLY SILT (ML)	

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 196-105
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1901+700 O/S 7M RT
LOGGED BY: AW DATE COMPLETED: 92.08.11

FIELD NO: 240
LAB NO: 6720
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	76
20.0	61
12.5	50
10.0	45
5.0	33
2.5	26
2.0	--
1.25	21
0.840	--
0.630	16
0.420	--
0.315	9
0.160	4
0.150	--
0.080	2

M.C.(%): 3

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

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

CLASSIFICATION:
WELL-GRADED GRAVEL WITH SAND (GW)

FIELD NO: 241
LAB NO: 6721
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	75
20.0	66
12.5	57
10.0	54
5.0	43
2.5	36
2.0	--
1.25	30
0.840	--
0.630	22
0.420	--
0.315	12
0.160	5
0.150	--
0.080	3

M.C.(%): 4

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

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

CLASSIFICATION:
POORLY GRADED GRAVEL WITH SAND (GP)

FIELD NO: 242
LAB NO: 6722
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	100
20.0	96
12.5	82
10.0	74
5.0	57
2.5	48
2.0	--
1.25	40
0.840	--
0.630	34
0.420	--
0.315	29
0.160	26
0.150	--
0.080	23

M.C.(%): 7

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

% GRAVEL: 43
% SAND: 33
% FINES: 23

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 196-106
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1901+600 O/S 6M RT
LOGGED BY: AW DATE COMPLETED: 92.08.11

FIELD NO:	243	FIELD NO:	244	FIELD NO:	245
LAB NO:	6723	LAB NO:	6724	LAB NO:	6725
DEPTH:	1.2-1.5	DEPTH:	2.7-3.0	DEPTH:	4.2-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--
50.0	100	50.0	--	50.0	100
31.5	--	31.5	--	31.5	--
25.0	77	25.0	100	25.0	95
20.0	62	20.0	92	20.0	92
12.5	45	12.5	82	12.5	84
10.0	37	10.0	73	10.0	76
5.0	24	5.0	50	5.0	55
2.5	19	2.5	39	2.5	43
2.0	--	2.0	--	2.0	--
1.25	13	1.25	31	1.25	33
0.840	--	0.840	--	0.840	--
0.630	8	0.630	22	0.630	23
0.420	--	0.420	--	0.420	--
0.315	5	0.315	13	0.315	12
0.160	3	0.160	7	0.160	5
0.150	--	0.150	--	0.150	--
0.080	3	0.080	5	0.080	3

M.C.(%):	2	M.C.(%):	3	M.C.(%):	6
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	76	% GRAVEL:	50	% GRAVEL:	45
% SAND:	22	% SAND:	45	% SAND:	52
% FINES:	3	% FINES:	5	% FINES:	3
CLASSIFICATION: POORLY GRADED GRAVEL WITH SAND (GP)		CLASSIFICATION: POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)		CLASSIFICATION: POORLY GRADED SAND WITH GRAVEL (SP)	

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 196-107
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1901+500 O/S 8M RT
LOGGED BY: AW DATE COMPLETED: 92.08.11

FIELD NO: 246
LAB NO: 6726
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	100
5.0	99
2.5	96
2.0	--
1.25	91
0.840	--
0.630	83
0.420	--
0.315	74
0.160	64
0.150	--
0.080	47

M.C.(%): 14

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

% GRAVEL: 1
% SAND: 52
% FINES: 47

CLASSIFICATION:
SILTY SAND (SM)

FIELD NO: 247
LAB NO: 6727
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	--
5.0	100
2.5	100
2.0	--
1.25	100
0.840	--
0.630	99
0.420	--
0.315	99
0.160	99
0.150	--
0.080	89

M.C.(%): 17

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

% GRAVEL: 0
% SAND: 11
% FINES: 89

CLASSIFICATION:
SILT (ML)

FIELD NO: 248
LAB NO: 6728
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	100
12.5	99
10.0	99
5.0	98
2.5	96
2.0	--
1.25	94
0.840	--
0.630	92
0.420	--
0.315	90
0.160	90
0.150	--
0.080	88

M.C.(%): 21

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

% GRAVEL: 2
% SAND: 10
% FINES: 88

CLASSIFICATION:
SILT (ML)

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 PROJECT NUMBER:     202101 0312        HOLE NUMBER:     196-108
 CLIENT:             SHAKWAK PROJECT
 PROJECT NAME:       ALASKA HIGHWAY RE-CONSTRUCTION
 PROJECT LOCATION:   SEGMENT 16
 DRILL UNIT:         36002
 HOLE LOCATION:      1901+400 O/S 14M RT
 LOGGED BY:          AW                 DATE COMPLETED:  92.08.11

===========================================================================
                   |                  |                  |
 FIELD NO:    249  | FIELD NO:    250 | FIELD NO:    251 |
 LAB NO:  6729     | LAB NO:  6730    | LAB NO:  6731    |
 DEPTH:   1.2-1.5  | DEPTH:   2.7-3.0 | DEPTH:   4.2-4.5 |
 TYPE:    AUGER    | TYPE:    AUGER   | TYPE:    AUGER   |
                   |                  |                  |
                   |                  |                  |
 SIEVE    |PERCENT | SIEVE   |PERCENT | SIEVE   |PERCENT |
 SIZE     |PASSING | SIZE    |PASSING | SIZE    |PASSING |
 ----------------- | ---------------- | ---------------- |
 100.0    |   --   | 100.0   |   --   | 100.0   |   --   |
  80.0    |   --   |  80.0   |   --   |  80.0   |   --   |
  50.0    |  100   |  50.0   |  100   |  50.0   |  100   |
  31.5    |   --   |  31.5   |   --   |  31.5   |   --   |
  25.0    |   91   |  25.0   |   84   |  25.0   |   97   |
  20.0    |   75   |  20.0   |   76   |  20.0   |   96   |
  12.5    |   60   |  12.5   |   64   |  12.5   |   93   |
  10.0    |   52   |  10.0   |   56   |  10.0   |   92   |
   5.0    |   37   |   5.0   |   40   |   5.0   |   89   |
   2.5    |   28   |   2.5   |   31   |   2.5   |   87   |
   2.0    |   --   |   2.0   |   --   |   2.0   |   --   |
   1.25   |   21   |   1.25  |   23   |   1.25  |   85   |
   0.840  |   --   |   0.840 |   --   |   0.840 |   --   |
   0.630  |   14   |   0.630 |   16   |   0.630 |   83   |
   0.420  |   --   |   0.420 |   --   |   0.420 |   --   |
   0.315  |   8    |   0.315 |   9    |   0.315 |   61   |
   0.160  |   4    |   0.160 |   5    |   0.160 |   8    |
   0.150  |   --   |   0.150 |   --   |   0.150 |   --   |
   0.080  |   3    |   0.080 |   3    |   0.080 |   3    |
                   |                  |                  |
 M.C.(%):       2  | M.C.(%):       3 | M.C.(%):      16 |
                   |                  |                  |
      LIMITS       |      LIMITS      |      LIMITS      |
 LIQUID:       --  | LIQUID:       -- | LIQUID:       -- |
 PLASTIC:      --  | PLASTIC:      -- | PLASTIC:      -- |
 P.I.:       N.P.  | P.I.:       N.P. | P.I.:       N.P. |
                   |                  |                  |
                   |                  |                  |
 % GRAVEL:     63  | % GRAVEL:     60 | % GRAVEL:     11 |
 % SAND:       35  | % SAND:       37 | % SAND:       86 |
 % FINES:       3  | % FINES:       3 | % FINES:       3 |
                   |                  |                  |
 CLASSIFICATION:   | CLASSIFICATION:  | CLASSIFICATION:  |
 WELL-GRADED       | WELL-GRADED      | POORLY GRADED    |
 GRAVEL WITH SAND  | GRAVEL WITH SAND | SAND (SP)        |
 (GW)              | (GW)             |                  |
===========================================================================
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PROJECT NUMBER: 202101 0312 HOLE NUMBER: 196-109
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1901+300 O/S 12M RT
LOGGED BY: AW DATE COMPLETED: 92.08.11

FIELD NO: 252
LAB NO: 6732
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	81
20.0	81
12.5	71
10.0	62
5.0	50
2.5	41
2.0	--
1.25	32
0.840	--
0.630	23
0.420	--
0.315	15
0.160	12
0.150	--
0.080	10

M.C.(%): 5

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

% GRAVEL: 50
% SAND: 40
% FINES: 10

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

FIELD NO: 253
LAB NO: 6733
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	100
50.0	77
31.5	--
25.0	37
20.0	35
12.5	34
10.0	33
5.0	28
2.5	24
2.0	--
1.25	19
0.840	--
0.630	14
0.420	--
0.315	11
0.160	9
0.150	--
0.080	8

M.C.(%): 5

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

% GRAVEL: 72
% SAND: 20
% FINES: 8

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

FIELD NO: 254
LAB NO: 6734
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	100
20.0	95
12.5	84
10.0	79
5.0	62
2.5	52
2.0	--
1.25	41
0.840	--
0.630	30
0.420	--
0.315	14
0.160	7
0.150	--
0.080	5

M.C.(%): 8

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

% GRAVEL: 38
% SAND: 57
% FINES: 5

CLASSIFICATION:
POORLY GRADED SAND WITH SILT & GRAVEL (SP-SM)

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 196-110
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1901+200 O/S 8M RT
LOGGED BY: AW DATE COMPLETED: 92.08.11

FIELD NO:	254	FIELD NO:	255	FIELD NO:	256
LAB NO:	6735	LAB NO:	6736	LAB NO:	6737
DEPTH:	1.2-1.5	DEPTH:	2.7-3.0	DEPTH:	4.2-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--
50.0	100	50.0	100	50.0	100
31.5	--	31.5	--	31.5	--
25.0	90	25.0	71	25.0	73
20.0	89	20.0	59	20.0	68
12.5	72	12.5	50	12.5	58
10.0	67	10.0	46	10.0	53
5.0	48	5.0	33	5.0	39
2.5	35	2.5	25	2.5	29
2.0	--	2.0	--	2.0	--
1.25	24	1.25	17	1.25	20
0.840	--	0.840	--	0.840	--
0.630	16	0.630	12	0.630	13
0.420	--	0.420	--	0.420	--
0.315	10	0.315	8	0.315	9
0.160	7	0.160	6	0.160	6
0.150	--	0.150	--	0.150	--
0.080	6	0.080	5	0.080	5
M.C.(%):	4	M.C.(%):	3	M.C.(%):	3
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	52	% GRAVEL:	67	% GRAVEL:	61
% SAND:	42	% SAND:	28	% SAND:	34
% FINES:	6	% FINES:	5	% FINES:	5
CLASSIFICATION:	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)	CLASSIFICATION:	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)	CLASSIFICATION:	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 196-117
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1901+100 O/S 7M RT
LOGGED BY: AW DATE COMPLETED: 92.08.12

FIELD NO:	259	FIELD NO:	260
LAB NO:	6740	LAB NO:	6741
DEPTH:	1.2-1.5	DEPTH:	2.7-3.0
TYPE:	AUGER	TYPE:	AUGER
ORGANIC		ORGANIC	

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--
80.0	--	80.0	--
50.0	--	50.0	--
31.5	--	31.5	--
25.0	--	25.0	--
20.0	100	20.0	--
12.5	98	12.5	--
10.0	98	10.0	--
5.0	98	5.0	100
2.5	96	2.5	96
2.0	--	2.0	--
1.25	95	1.25	93
0.840	--	0.840	--
0.630	94	0.630	90
0.420	--	0.420	--
0.315	91	0.315	87
0.160	85	0.160	82
0.150	--	0.150	--
0.080	79	0.080	79

M.C.(%):	72	M.C.(%):	97
LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	2	% GRAVEL:	0
% SAND:	19	% SAND:	21
% FINES:	79	% FINES:	79
CLASSIFICATION: SILT WITH SAND (ML)		CLASSIFICATION: SILT WITH SAND (ML)	

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 196-118
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1901+000 O/S 5M RT
LOGGED BY: AW DATE COMPLETED: 92.08.12

FIELD NO: 261
LAB NO: 6742
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	100
12.5	95
10.0	93
5.0	88
2.5	86
2.0	--
1.25	84
0.840	--
0.630	83
0.420	--
0.315	81
0.160	76
0.150	--
0.080	70

M.C.(%): 34

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

% GRAVEL: 12
% SAND: 19
% FINES: 70

CLASSIFICATION:
SANDY SILT (ML)

FIELD NO: 262
LAB NO: 6743
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	42
20.0	36
12.5	17
10.0	14
5.0	9
2.5	8
2.0	--
1.25	7
0.840	--
0.630	7
0.420	--
0.315	6
0.160	6
0.150	--
0.080	5

M.C.(%): 8

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

% GRAVEL: 91
% SAND: 4
% FINES: 5

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

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 196-119
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1900+900 O/S 5M RT
LOGGED BY: AW DATE COMPLETED: 92.08.12

FIELD NO: 263
LAB NO: 6744
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	--
5.0	100
2.5	100
2.0	--
1.25	99
0.840	--
0.630	97
0.420	--
0.315	95
0.160	91
0.150	--
0.080	81

M.C.(%): 38

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

% GRAVEL: 0
% SAND: 19
% FINES: 81

CLASSIFICATION:
SILT WITH SAND (ML)

FIELD NO: 264
LAB NO: 6745
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	100
12.5	99
10.0	99
5.0	99
2.5	98
2.0	--
1.25	95
0.840	--
0.630	91
0.420	--
0.315	83
0.160	67
0.150	--
0.080	48

M.C.(%): 20

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

% GRAVEL: 1
% SAND: 51
% FINES: 48

CLASSIFICATION:
SILTY SAND (SM)

FIELD NO: 265
LAB NO: 6746
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	--
5.0	100
2.5	100
2.0	--
1.25	99
0.840	--
0.630	98
0.420	--
0.315	96
0.160	94
0.150	--
0.080	90

M.C.(%): 36

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

% GRAVEL: 0
% SAND: 10
% FINES: 90

CLASSIFICATION:
SILT (ML)

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 196-120
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1900+800 O/S 5M RT
LOGGED BY: AW DATE COMPLETED: 92.08.12

FIELD NO: 266
LAB NO: 6747
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	63
20.0	59
12.5	53
10.0	50
5.0	43
2.5	38
2.0	--
1.25	34
0.840	--
0.630	31
0.420	--
0.315	27
0.160	24
0.150	--
0.080	21

M.C.(%): 9

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

% GRAVEL: 57
% SAND: 22
% FINES: 21

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

FIELD NO: 267
LAB NO: 6748
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	40
20.0	40
12.5	35
10.0	32
5.0	25
2.5	20
2.0	--
1.25	17
0.840	--
0.630	13
0.420	--
0.315	10
0.160	8
0.150	--
0.080	7

M.C.(%): 4

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

% GRAVEL: 75
% SAND: 19
% FINES: 7

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

FIELD NO: 267A
LAB NO: 6773
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	68
20.0	63
12.5	50
10.0	44
5.0	32
2.5	25
2.0	--
1.25	20
0.840	--
0.630	16
0.420	--
0.315	13
0.160	10
0.150	--
0.080	9

M.C.(%): 5

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

% GRAVEL: 68
% SAND: 23
% FINES: 9

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

PROJECT NUMBER:	202101 0312	HOLE NUMBER:	197-121
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	ALASKA HIGHWAY RE-CONSTRUCTION		
PROJECT LOCATION:	SEGMENT 16		
DRILL UNIT:	36002		
HOLE LOCATION:	1900+700 O/S 4M RT		
LOGGED BY:	AW	DATE COMPLETED:	92.08.12

FIELD NO: 268
LAB NO: 6749
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	83
20.0	71
12.5	60
10.0	57
5.0	51
2.5	47
2.0	--
1.25	44
0.840	--
0.630	41
0.420	--
0.315	35
0.160	27
0.150	--
0.080	20

M.C.(%): 10

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

% GRAVEL: 49
% SAND: 31
% FINES: 20

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

FIELD NO: 269
LAB NO: 6750
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	100
50.0	89
31.5	--
25.0	69
20.0	62
12.5	54
10.0	49
5.0	37
2.5	29
2.0	--
1.25	25
0.840	--
0.630	21
0.420	--
0.315	16
0.160	10
0.150	--
0.080	7

M.C.(%): 4

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

% GRAVEL: 63
% SAND: 30
% FINES: 7

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

FIELD NO: 270
LAB NO: 6751
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	93
20.0	91
12.5	83
10.0	82
5.0	75
2.5	68
2.0	--
1.25	57
0.840	--
0.630	45
0.420	--
0.315	30
0.160	14
0.150	--
0.080	7

M.C.(%): 10

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

% GRAVEL: 25
% SAND: 67
% FINES: 7

CLASSIFICATION:
POORLY GRADED
SAND WITH SILT &
GRAVEL (SP-SM)

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 196-97
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1902+550
LOGGED BY: AW DATE COMPLETED: 92.08.11

FIELD NO: 223
LAB NO: 6703
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	80
20.0	76
12.5	64
10.0	58
5.0	44
2.5	34
2.0	--
1.25	25
0.840	--
0.630	18
0.420	--
0.315	13
0.160	9
0.150	--
0.080	7

M.C.(%): 8

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

% GRAVEL: 56
% SAND: 37
% FINES: 7

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

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 196-98
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1902+450
LOGGED BY: AW DATE COMPLETED: 92.08.11

FIELD NO: 224
LAB NO: 6704
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	87
20.0	80
12.5	71
10.0	65
5.0	49
2.5	38
2.0	--
1.25	30
0.840	--
0.630	22
0.420	--
0.315	16
0.160	13
0.150	--
0.080	10

M.C.(%): 9

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

% GRAVEL: 51
% SAND: 39
% FINES: 10

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

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 196-99
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1902+300
LOGGED BY: AW DATE COMPLETED: 92.08.11

FIELD NO: 225	FIELD NO: 226
LAB NO: 6705	LAB NO: 6706
DEPTH: 1.2-1.5	DEPTH: 2.1-2.4
TYPE: AUGER	TYPE: AUGER
ORGANIC	

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--
80.0	--	80.0	--
50.0	--	50.0	--
31.5	--	31.5	--
25.0	--	25.0	--
20.0	--	20.0	100
12.5	--	12.5	89
10.0	--	10.0	82
5.0	100	5.0	65
2.5	100	2.5	53
2.0	--	2.0	--
1.25	99	1.25	41
0.840	--	0.840	--
0.630	98	0.630	31
0.420	--	0.420	--
0.315	95	0.315	23
0.160	91	0.160	19
0.150	--	0.150	--
0.080	85	0.080	16

M.C.(%): 81	M.C.(%): 11
LIMITS	LIMITS
LIQUID: --	LIQUID: --
PLASTIC: --	PLASTIC: --
P.I.: N.P.	P.I.: N.P.
% GRAVEL: 0	% GRAVEL: 35
% SAND: 15	% SAND: 49
% FINES: 85	% FINES: 16
CLASSIFICATION: SILT WITH SAND (ML)	CLASSIFICATION: SILTY SAND WITH GRAVEL (SM)

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 196-100
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1902+200
LOGGED BY: AW DATE COMPLETED: 92.08.11

FIELD NO:	227	FIELD NO:	228	FIELD NO:	229
LAB NO:	6707	LAB NO:	6708	LAB NO:	6709
DEPTH:	1.2-1.5	DEPTH:	2.7-3.0	DEPTH:	4.2-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER
ORGANIC					

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--
50.0	--	50.0	100	50.0	100
31.5	--	31.5	--	31.5	--
25.0	100	25.0	65	25.0	82
20.0	95	20.0	62	20.0	80
12.5	95	12.5	55	12.5	74
10.0	94	10.0	51	10.0	71
5.0	93	5.0	43	5.0	52
2.5	91	2.5	36	2.5	41
2.0	--	2.0	--	2.0	--
1.25	89	1.25	28	1.25	31
0.840	--	0.840	--	0.840	--
0.630	86	0.630	18	0.630	21
0.420	--	0.420	--	0.420	--
0.315	82	0.315	10	0.315	12
0.160	79	0.160	7	0.160	9
0.150	--	0.150	--	0.150	--
0.080	75	0.080	5	0.080	7

M.C.(%):	50	M.C.(%):	6	M.C.(%):	11
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	TRACE	P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	7	% GRAVEL:	57	% GRAVEL:	48
% SAND:	18	% SAND:	37	% SAND:	44
% FINES:	75	% FINES:	5	% FINES:	7
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILT WITH SAND (ML)		POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)		WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)	

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 197-133
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1899+500
LOGGED BY: AW DATE COMPLETED: 92.08.13

FIELD NO:	301	FIELD NO:	302
LAB NO:	6800	LAB NO:	6801
DEPTH:	1.2-1.5	DEPTH:	2.7-3.0
TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--
80.0	--	80.0	--
50.0	100	50.0	100
31.5	--	31.5	--
25.0	60	25.0	56
20.0	49	20.0	54
12.5	40	12.5	41
10.0	36	10.0	37
5.0	27	5.0	28
2.5	21	2.5	24
2.0	--	2.0	--
1.25	16	1.25	20
0.840	--	0.840	--
0.630	13	0.630	17
0.420	--	0.420	--
0.315	9	0.315	14
0.160	6	0.160	12
0.150	--	0.150	--
0.080	5	0.080	9

M.C.(%):	4	M.C.(%):	4
LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	73	% GRAVEL:	72
% SAND:	22	% SAND:	18
% FINES:	5	% FINES:	9
CLASSIFICATION: POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)		CLASSIFICATION: POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 197-134
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1899+400
LOGGED BY: AW DATE COMPLETED: 92.08.13

FIELD NO:	303	FIELD NO:	304	FIELD NO:	305
LAB NO:	6802	LAB NO:	6803	LAB NO:	6804
DEPTH:	1.2-1.5	DEPTH:	2.7-3.0	DEPTH:	4.2-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--
50.0	--	50.0	100	50.0	100
31.5	--	31.5	--	31.5	--
25.0	100	25.0	80	25.0	84
20.0	89	20.0	74	20.0	77
12.5	82	12.5	61	12.5	69
10.0	79	10.0	58	10.0	66
5.0	74	5.0	50	5.0	57
2.5	72	2.5	46	2.5	52
2.0	--	2.0	--	2.0	--
1.25	70	1.25	44	1.25	43
0.840	--	0.840	--	0.840	--
0.630	68	0.630	41	0.630	38
0.420	--	0.420	--	0.420	--
0.315	66	0.315	38	0.315	32
0.160	63	0.160	34	0.160	29
0.150	--	0.150	--	0.150	--
0.080	58	0.080	30	0.080	26

M.C.(%):	15	M.C.(%):	9	M.C.(%):	7
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	26	% GRAVEL:	50	% GRAVEL:	43
% SAND:	16	% SAND:	19	% SAND:	31
% FINES:	58	% FINES:	30	% FINES:	26
CLASSIFICATION:	GRAVELLY SILT WITH SAND (ML)	CLASSIFICATION:	SILTY GRAVEL WITH SAND (GM)	CLASSIFICATION:	SILTY GRAVEL WITH SAND (GM)

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 197-135
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1899+300 O/S 7M RT
LOGGED BY: AW DATE COMPLETED: 92.08.13

FIELD NO: 306
LAB NO: 6805
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	87
20.0	86
12.5	75
10.0	69
5.0	61
2.5	56
2.0	--
1.25	52
0.840	--
0.630	47
0.420	--
0.315	41
0.160	33
0.150	--
0.080	26

M.C.(%): 7

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

% GRAVEL: 39
% SAND: 35
% FINES: 26

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

FIELD NO: 307
LAB NO: 6806
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	82
20.0	80
12.5	71
10.0	70
5.0	63
2.5	59
2.0	--
1.25	55
0.840	--
0.630	52
0.420	--
0.315	47
0.160	41
0.150	--
0.080	34

M.C.(%): 8

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

% GRAVEL: 37
% SAND: 29
% FINES: 34

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 197-136
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1899+200 O/S 10M RT
LOGGED BY: AW DATE COMPLETED: 92.08.13

FIELD NO:	308	309	310
LAB NO:	6807	6808	6809
DEPTH:	1.2-1.5	2.7-3.0	4.2-4.5
TYPE:	AUGER	AUGER	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--
50.0	--	50.0	--	50.0	100
31.5	--	31.5	--	31.5	--
25.0	--	25.0	--	25.0	88
20.0	100	20.0	100	20.0	84
12.5	92	12.5	89	12.5	78
10.0	87	10.0	84	10.0	74
5.0	78	5.0	75	5.0	64
2.5	72	2.5	70	2.5	60
2.0	--	2.0	--	2.0	--
1.25	68	1.25	66	1.25	56
0.840	--	0.840	--	0.840	--
0.630	64	0.630	63	0.630	52
0.420	--	0.420	--	0.420	--
0.315	59	0.315	58	0.315	47
0.160	53	0.160	53	0.160	40
0.150	--	0.150	--	0.150	--
0.080	46	0.080	45	0.080	33

M.C.(%):	11	10	8
LIMITS			
LIQUID:	--	--	--
PLASTIC:	--	--	--
P.I.:	N.P.	N.P.	TRACE
% GRAVEL:	22	25	36
% SAND:	32	30	31
% FINES:	46	45	33
CLASSIFICATION:	SILTY SAND WITH GRAVEL (SM)	SILTY SAND WITH GRAVEL (SM)	SILTY GRAVEL WITH SAND (GM)

PROJECT NUMBER:	202101 0312	HOLE NUMBER:	197-137
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	ALASKA HIGHWAY RE-CONSTRUCTION		
PROJECT LOCATION:	SEGMENT 16		
DRILL UNIT:	36002		
HOLE LOCATION:	1899+100 O/S 10M RT		
LOGGED BY:	AW	DATE COMPLETED:	92.08.13

FIELD NO:	311	FIELD NO:	312	FIELD NO:	313
LAB NO:	6810	LAB NO:	6811	LAB NO:	6812
DEPTH:	1.2-1.5	DEPTH:	2.7-3.0	DEPTH:	4.2-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--
50.0	100	50.0	100	50.0	100
31.5	--	31.5	--	31.5	--
25.0	81	25.0	92	25.0	96
20.0	73	20.0	90	20.0	89
12.5	67	12.5	81	12.5	78
10.0	63	10.0	77	10.0	73
5.0	55	5.0	68	5.0	63
2.5	52	2.5	63	2.5	58
2.0	--	2.0	--	2.0	--
1.25	49	1.25	57	1.25	53
0.840	--	0.840	--	0.840	--
0.630	47	0.630	50	0.630	48
0.420	--	0.420	--	0.420	--
0.315	43	0.315	38	0.315	42
0.160	39	0.160	26	0.160	33
0.150	--	0.150	--	0.150	--
0.080	34	0.080	19	0.080	26

M.C.(%):	6	M.C.(%):	8	M.C.(%):	7
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	45	% GRAVEL:	32	% GRAVEL:	37
% SAND:	22	% SAND:	49	% SAND:	37
% FINES:	34	% FINES:	19	% FINES:	26
CLASSIFICATION:	SILTY GRAVEL WITH SAND (GM)	CLASSIFICATION:	SILTY SAND WITH GRAVEL (SM)	CLASSIFICATION:	SILTY SAND WITH GRAVEL (SM)

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 197-138
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1899+000 O/S 10M RT
LOGGED BY: AW DATE COMPLETED: 92.08.13

FIELD NO: 314
LAB NO: 6813
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	100
20.0	97
12.5	94
10.0	88
5.0	75
2.5	69
2.0	--
1.25	64
0.840	--
0.630	59
0.420	--
0.315	54
0.160	47
0.150	--
0.080	40

M.C.(%): 10

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

% GRAVEL: 25
% SAND: 35
% FINES: 40

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

FIELD NO: 315
LAB NO: 6814
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	86
20.0	83
12.5	78
10.0	76
5.0	69
2.5	65
2.0	--
1.25	62
0.840	--
0.630	60
0.420	--
0.315	56
0.160	52
0.150	--
0.080	47

M.C.(%): 12

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

% GRAVEL: 31
% SAND: 22
% FINES: 47

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

FIELD NO: 316
LAB NO: 6815
DEPTH: 3.9-4.2
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	92
20.0	89
12.5	76
10.0	70
5.0	58
2.5	52
2.0	--
1.25	48
0.840	--
0.630	45
0.420	--
0.315	42
0.160	37
0.150	--
0.080	32

M.C.(%): 10

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

% GRAVEL: 42
% SAND: 26
% FINES: 32

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 197-139
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1898+850 O/S 10M RT
LOGGED BY: AW DATE COMPLETED: 92.08.13

FIELD NO: 317
LAB NO: 6816
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	100
50.0	72
31.5	--
25.0	72
20.0	69
12.5	57
10.0	55
5.0	47
2.5	42
2.0	--
1.25	38
0.840	--
0.630	35
0.420	--
0.315	32
0.160	28
0.150	--
0.080	24

M.C.(%): 5

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

% GRAVEL: 53
% SAND: 23
% FINES: 24

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

FIELD NO: 318
LAB NO: 6817
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	100
20.0	97
12.5	85
10.0	81
5.0	71
2.5	66
2.0	--
1.25	61
0.840	--
0.630	57
0.420	--
0.315	52
0.160	45
0.150	--
0.080	38

M.C.(%): 10

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

% GRAVEL: 29
% SAND: 33
% FINES: 38

CLASSIFICATION:
SILTY SAND WITH
GRAVEL (SM)

FIELD NO: 319
LAB NO: 6818
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	100
12.5	98
10.0	94
5.0	88
2.5	85
2.0	--
1.25	83
0.840	--
0.630	80
0.420	--
0.315	77
0.160	73
0.150	--
0.080	67

M.C.(%): 19

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

% GRAVEL: 12
% SAND: 21
% FINES: 67

CLASSIFICATION:
SANDY SILT (ML)

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 197-140
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1898+725 O/S 7M RT
LOGGED BY: AW DATE COMPLETED: 92.08.13

FIELD NO: 320
LAB NO: 6819
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	82
20.0	75
12.5	68
10.0	64
5.0	53
2.5	48
2.0	--
1.25	42
0.840	--
0.630	36
0.420	--
0.315	29
0.160	22
0.150	--
0.080	17

M.C.(%): 7

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

% GRAVEL: 47
% SAND: 36
% FINES: 17

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 197-141
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1898+625 O/S 20M RT
LOGGED BY: AW DATE COMPLETED: 92.08.13

FIELD NO: 321
LAB NO: 6820
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	94
20.0	87
12.5	70
10.0	66
5.0	57
2.5	51
2.0	--
1.25	47
0.840	--
0.630	42
0.420	--
0.315	37
0.160	31
0.150	--
0.080	25

M.C.(%): 7

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

% GRAVEL: 43
% SAND: 32
% FINES: 25

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

FIELD NO: 322
LAB NO: 6821
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	72
20.0	59
12.5	49
10.0	46
5.0	36
2.5	30
2.0	--
1.25	25
0.840	--
0.630	21
0.420	--
0.315	18
0.160	14
0.150	--
0.080	11

M.C.(%): 8

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

% GRAVEL: 64
% SAND: 24
% FINES: 11

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

FIELD NO: 323
LAB NO: 6822
DEPTH: 4.2-4.5
TYPE: AUGER
SPILLED

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	--
5.0	--
2.5	--
2.0	--
1.25	--
0.840	--
0.630	--
0.420	--
0.315	--
0.160	--
0.150	--
0.080	--

M.C.(%): 7

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

% GRAVEL: --
% SAND: --
% FINES: --

CLASSIFICATION:

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 197-142
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1898+525 O/S 20M RT
LOGGED BY: AW DATE COMPLETED: 92.08.13

FIELD NO: 324
LAB NO: 6823
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	80
20.0	77
12.5	60
10.0	55
5.0	45
2.5	38
2.0	--
1.25	33
0.840	--
0.630	29
0.420	--
0.315	25
0.160	21
0.150	--
0.080	18

M.C.(%): 11

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

% GRAVEL: 55
% SAND: 27
% FINES: 18

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 197-143
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1898+400 O/S 20M RT
LOGGED BY: AW DATE COMPLETED: 92.08.13

FIELD NO:	325	FIELD NO:	326	FIELD NO:	327
LAB NO:	6824	LAB NO:	6825	LAB NO:	6826
DEPTH:	1.2-1.5	DEPTH:	2.7-3.0	DEPTH:	4.2-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	100
50.0	100	50.0	--	50.0	75
31.5	--	31.5	--	31.5	--
25.0	60	25.0	100	25.0	68
20.0	52	20.0	94	20.0	64
12.5	48	12.5	91	12.5	56
10.0	45	10.0	88	10.0	53
5.0	38	5.0	81	5.0	47
2.5	33	2.5	75	2.5	42
2.0	--	2.0	--	2.0	--
1.25	29	1.25	70	1.25	38
0.840	--	0.840	--	0.840	--
0.630	25	0.630	66	0.630	34
0.420	--	0.420	--	0.420	--
0.315	21	0.315	59	0.315	30
0.160	16	0.160	50	0.160	26
0.150	--	0.150	--	0.150	--
0.080	13	0.080	42	0.080	23

M.C.(%):	13	M.C.(%):	20	M.C.(%):	15
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	62	% GRAVEL:	19	% GRAVEL:	53
% SAND:	24	% SAND:	39	% SAND:	24
% FINES:	13	% FINES:	42	% FINES:	23
CLASSIFICATION: SILTY GRAVEL WITH SAND (GM)		CLASSIFICATION: SILTY SAND WITH GRAVEL (SM)		CLASSIFICATION: SILTY GRAVEL WITH SAND (GM)	

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 197-144
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1898+300 O/S 20M RT
LOGGED BY: AW DATE COMPLETED: 92.08.18

FIELD NO:	328	FIELD NO:	329	FIELD NO:	330
LAB NO:	6888	LAB NO:	6889	LAB NO:	6890
DEPTH:	1.2-1.5	DEPTH:	2.7-3.0	DEPTH:	4.2-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--
50.0	--	50.0	--	50.0	100
31.5	--	31.5	--	31.5	--
25.0	100	25.0	100	25.0	95
20.0	96	20.0	98	20.0	92
12.5	86	12.5	93	12.5	89
10.0	80	10.0	89	10.0	85
5.0	69	5.0	83	5.0	80
2.5	62	2.5	77	2.5	75
2.0	--	2.0	--	2.0	--
1.25	55	1.25	72	1.25	70
0.840	--	0.840	--	0.840	--
0.630	50	0.630	66	0.630	65
0.420	--	0.420	--	0.420	--
0.315	44	0.315	61	0.315	62
0.160	38	0.160	55	0.160	58
0.150	--	0.150	--	0.150	--
0.080	33	0.080	50	0.080	52

M.C.(%):	17	M.C.(%):	25	M.C.(%):	12
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	31	% GRAVEL:	17	% GRAVEL:	20
% SAND:	36	% SAND:	33	% SAND:	28
% FINES:	33	% FINES:	50	% FINES:	52
CLASSIFICATION: SILTY SAND WITH GRAVEL (SM)		CLASSIFICATION: SANDY SILT WITH GRAVEL (ML)		CLASSIFICATION: SANDY SILT WITH GRAVEL (ML)	

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 197-145
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1898+200 O/S 10M RT
LOGGED BY: AW DATE COMPLETED: 92.08.18

FIELD NO: 331
LAB NO: 6891
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	94
20.0	88
12.5	77
10.0	76
5.0	66
2.5	60
2.0	--
1.25	54
0.840	--
0.630	50
0.420	--
0.315	45
0.160	39
0.150	--
0.080	34

M.C.(%): 12

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

% GRAVEL: 34
% SAND: 33
% FINES: 34

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

FIELD NO: 332
LAB NO: 6892
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	98
20.0	98
12.5	92
10.0	90
5.0	79
2.5	73
2.0	--
1.25	68
0.840	--
0.630	63
0.420	--
0.315	56
0.160	50
0.150	--
0.080	44

M.C.(%): 13

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

% GRAVEL: 21
% SAND: 36
% FINES: 44

CLASSIFICATION:
SILTY SAND WITH
GRAVEL (SM)

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 197-122
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1900+600 O/S 3M RT
LOGGED BY: AW DATE COMPLETED: 92.08.12

FIELD NO:	271	FIELD NO:	272	FIELD NO:	273
LAB NO:	6752	LAB NO:	6753	LAB NO:	6754
DEPTH:	1.2-1.5	DEPTH:	2.7-3.0	DEPTH:	4.2-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--
50.0	--	50.0	100	50.0	100
31.5	--	31.5	--	31.5	--
25.0	100	25.0	88	25.0	69
20.0	98	20.0	82	20.0	60
12.5	77	12.5	67	12.5	51
10.0	69	10.0	60	10.0	46
5.0	45	5.0	43	5.0	35
2.5	35	2.5	34	2.5	29
2.0	--	2.0	--	2.0	--
1.25	27	1.25	27	1.25	23
0.840	--	0.840	--	0.840	--
0.630	21	0.630	20	0.630	18
0.420	--	0.420	--	0.420	--
0.315	14	0.315	14	0.315	13
0.160	9	0.160	9	0.160	8
0.150	--	0.150	--	0.150	--
0.080	5	0.080	6	0.080	6

M.C.(%):	4	M.C.(%):	3	M.C.(%):	4
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	55	% GRAVEL:	57	% GRAVEL:	65
% SAND:	39	% SAND:	37	% SAND:	29
% FINES:	5	% FINES:	6	% FINES:	6
CLASSIFICATION: WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)		CLASSIFICATION: WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)		CLASSIFICATION: WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)	

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 PROJECT NUMBER:      202101 0312        HOLE NUMBER:      197-123
 CLIENT:              SHAKWAK PROJECT
 PROJECT NAME:        ALASKA HIGHWAY RE-CONSTRUCTION
 PROJECT LOCATION:    SEGMENT 16
 DRILL UNIT:          36002
 HOLE LOCATION:       1900+500
 LOGGED BY:           AW                 DATE COMPLETED:   92.08.12

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                     |                  |                  |
 FIELD NO:     274   | FIELD NO:    275 | FIELD NO:    276 |
 LAB NO:   6755      | LAB NO:  6774    | LAB NO:  6775    |
 DEPTH:    1.2-1.5   | DEPTH:   2.7-3.0 | DEPTH:   4.2-4.5 |
 TYPE:     AUGER     | TYPE:    AUGER   | TYPE:    AUGER   |
                     |                  |                  |
                     |                  |                  |
 SIEVE    |PERCENT   | SIEVE   |PERCENT | SIEVE   |PERCENT |
 SIZE     |PASSING   | SIZE    |PASSING | SIZE    |PASSING |
 ---------------     | --------------   | --------------   |
 100.0    |   --     | 100.0   |   --   | 100.0   |   --   |
  80.0    |  100     |  80.0   |   --   |  80.0   |   --   |
  50.0    |   82     |  50.0   |  100   |  50.0   |  100   |
  31.5    |   --     |  31.5   |   --   |  31.5   |   --   |
  25.0    |   76     |  25.0   |   60   |  25.0   |   65   |
  20.0    |   72     |  20.0   |   54   |  20.0   |   61   |
  12.5    |   54     |  12.5   |   51   |  12.5   |   54   |
  10.0    |   49     |  10.0   |   45   |  10.0   |   52   |
   5.0    |   37     |   5.0   |   37   |   5.0   |   44   |
   2.5    |   29     |   2.5   |   31   |   2.5   |   39   |
   2.0    |   --     |   2.0   |   --   |   2.0   |   --   |
   1.25   |   22     |   1.25  |   25   |   1.25  |   33   |
   0.840  |   --     |   0.840 |   --   |   0.840 |   --   |
   0.630  |   15     |   0.630 |   19   |   0.630 |   28   |
   0.420  |   --     |   0.420 |   --   |   0.420 |   --   |
   0.315  |   9      |   0.315 |   14   |   0.315 |   23   |
   0.160  |   6      |   0.160 |   11   |   0.160 |   18   |
   0.150  |   --     |   0.150 |   --   |   0.150 |   --   |
   0.080  |   5      |   0.080 |   9    |   0.080 |   14   |
                     |                  |                  |
 M.C.(%):        4   | M.C.(%):       5 | M.C.(%):       7 |
                     |                  |                  |
      LIMITS         |      LIMITS      |      LIMITS      |
 LIQUID:        --   | LIQUID:       -- | LIQUID:       -- |
 PLASTIC:       --   | PLASTIC:      -- | PLASTIC:      -- |
 P.I.:        N.P.   | P.I.:       N.P. | P.I.:       N.P. |
                     |                  |                  |
                     |                  |                  |
 % GRAVEL:      63   | % GRAVEL:     63 | % GRAVEL:     56 |
 % SAND:        33   | % SAND:       28 | % SAND:       31 |
 % FINES:        5   | % FINES:       9 | % FINES:      14 |
                     |                  |                  |
 CLASSIFICATION:     | CLASSIFICATION:  | CLASSIFICATION:  |
 WELL-GRADED         | WELL-GRADED      | SILTY GRAVEL     |
 GRAVEL WITH SILT    | GRAVEL WITH SILT | WITH SAND (GM)   |
 & SAND (GW-GM)      | & SAND (GW-GM)   |                  |
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PROJECT NUMBER: 202101 0312 HOLE NUMBER: 197-124
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1900+400
LOGGED BY: AW DATE COMPLETED: 92.08.12

FIELD NO:	277	FIELD NO:	278	FIELD NO:	279
LAB NO:	6776	LAB NO:	6777	LAB NO:	6778
DEPTH:	1.2-1.5	DEPTH:	2.7-3.0	DEPTH:	4.2-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	100	80.0	--
50.0	100	50.0	76	50.0	--
31.5	--	31.5	--	31.5	--
25.0	73	25.0	63	25.0	--
20.0	66	20.0	59	20.0	100
12.5	62	12.5	48	12.5	99
10.0	59	10.0	44	10.0	97
5.0	53	5.0	35	5.0	95
2.5	49	2.5	30	2.5	92
2.0	--	2.0	--	2.0	--
1.25	44	1.25	25	1.25	89
0.840	--	0.840	--	0.840	--
0.630	40	0.630	21	0.630	85
0.420	--	0.420	--	0.420	--
0.315	31	0.315	15	0.315	78
0.160	17	0.160	9	0.160	61
0.150	--	0.150	--	0.150	--
0.080	9	0.080	6	0.080	41
M.C.(%):	8	M.C.(%):	4	M.C.(%):	17
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	47	% GRAVEL:	65	% GRAVEL:	5
% SAND:	44	% SAND:	29	% SAND:	54
% FINES:	9	% FINES:	6	% FINES:	41
CLASSIFICATION: POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)		CLASSIFICATION: WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)		CLASSIFICATION: SILTY SAND (SM)	

PROJECT NUMBER:	202101 0312	HOLE NUMBER:	197-125
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	ALASKA HIGHWAY RE-CONSTRUCTION		
PROJECT LOCATION:	SEGMENT 16		
DRILL UNIT:	36002		
HOLE LOCATION:	1900+300		
LOGGED BY:	AW	DATE COMPLETED:	92.08.12

FIELD NO:	280	FIELD NO:	281	FIELD NO:	282
LAB NO:	6779	LAB NO:	6780	LAB NO:	6781
DEPTH:	1.2-1.5	DEPTH:	2.7-3.0	DEPTH:	4.2-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--
50.0	--	50.0	100	50.0	100
31.5	--	31.5	--	31.5	--
25.0	100	25.0	79	25.0	51
20.0	84	20.0	74	20.0	48
12.5	77	12.5	61	12.5	41
10.0	76	10.0	56	10.0	36
5.0	75	5.0	44	5.0	27
2.5	73	2.5	37	2.5	22
2.0	--	2.0	--	2.0	--
1.25	72	1.25	32	1.25	18
0.840	--	0.840	--	0.840	--
0.630	70	0.630	28	0.630	15
0.420	--	0.420	--	0.420	--
0.315	67	0.315	22	0.315	12
0.160	62	0.160	15	0.160	9
0.150	--	0.150	--	0.150	--
0.080	51	0.080	11	0.080	7

M.C.(%):	18	M.C.(%):	5	M.C.(%):	4
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	25	% GRAVEL:	56	% GRAVEL:	73
% SAND:	23	% SAND:	33	% SAND:	21
% FINES:	51	% FINES:	11	% FINES:	7
CLASSIFICATION:	GRAVELLY SILT WITH SAND (ML)	CLASSIFICATION:	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)	CLASSIFICATION:	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)

PROJECT NUMBER:	202101 0312	HOLE NUMBER:	197-126
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	ALASKA HIGHWAY RE-CONSTRUCTION		
PROJECT LOCATION:	SEGMENT 16		
DRILL UNIT:	36002		
HOLE LOCATION:	1900+200		
LOGGED BY:	AW	DATE COMPLETED:	92.08.12

FIELD NO: 283	FIELD NO: 284	FIELD NO: 285
LAB NO: 6782	LAB NO: 6783	LAB NO: 6784
DEPTH: 1.2-1.5	DEPTH: 2.7-3.0	DEPTH: 4.2-4.5
TYPE: AUGER	TYPE: AUGER	TYPE: AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--
50.0	--	50.0	100	50.0	100
31.5	--	31.5	--	31.5	--
25.0	--	25.0	70	25.0	77
20.0	100	20.0	67	20.0	68
12.5	96	12.5	52	12.5	58
10.0	96	10.0	48	10.0	53
5.0	94	5.0	37	5.0	42
2.5	93	2.5	30	2.5	37
2.0	--	2.0	--	2.0	--
1.25	90	1.25	25	1.25	33
0.840	--	0.840	--	0.840	--
0.630	87	0.630	20	0.630	29
0.420	--	0.420	--	0.420	--
0.315	82	0.315	16	0.315	25
0.160	71	0.160	13	0.160	20
0.150	--	0.150	--	0.150	--
0.080	61	0.080	10	0.080	15

M.C.(%): 32	M.C.(%): 7	M.C.(%): 9
LIMITS	LIMITS	LIMITS
LIQUID: --	LIQUID: --	LIQUID: --
PLASTIC: --	PLASTIC: --	PLASTIC: --
P.I.: N.P.	P.I.: N.P.	P.I.: N.P.
% GRAVEL: 6	% GRAVEL: 63	% GRAVEL: 58
% SAND: 33	% SAND: 26	% SAND: 27
% FINES: 61	% FINES: 10	% FINES: 15
CLASSIFICATION: SANDY SILT (ML)	CLASSIFICATION: POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	CLASSIFICATION: SILTY GRAVEL WITH SAND (GM)

PROJECT NUMBER:	202101 0312	HOLE NUMBER:	197-127
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	ALASKA HIGHWAY RE-CONSTRUCTION		
PROJECT LOCATION:	SEGMENT 16		
DRILL UNIT:	36002		
HOLE LOCATION:	1900+100		
LOGGED BY:	AW	DATE COMPLETED:	92.08.12

FIELD NO: 286
LAB NO: 6785
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	63
20.0	56
12.5	43
10.0	40
5.0	35
2.5	32
2.0	--
1.25	29
0.840	--
0.630	25
0.420	--
0.315	20
0.160	14
0.150	--
0.080	10

M.C.(%): 5

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

% GRAVEL: 65
% SAND: 25
% FINES: 10

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

FIELD NO: 287
LAB NO: 6786
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	100
50.0	69
31.5	--
25.0	54
20.0	48
12.5	42
10.0	38
5.0	29
2.5	25
2.0	--
1.25	21
0.840	--
0.630	17
0.420	--
0.315	12
0.160	9
0.150	--
0.080	7

M.C.(%): 5

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

% GRAVEL: 71
% SAND: 22
% FINES: 7

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

FIELD NO: 288
LAB NO: 6787
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	91
20.0	82
12.5	65
10.0	59
5.0	46
2.5	37
2.0	--
1.25	30
0.840	--
0.630	23
0.420	--
0.315	16
0.160	11
0.150	--
0.080	8

M.C.(%): 5

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

% GRAVEL: 54
% SAND: 38
% FINES: 8

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

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 197-128
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1900+000
LOGGED BY: AW DATE COMPLETED: 92.08.12

FIELD NO:	289	FIELD NO:	290	FIELD NO:	291
LAB NO:	6788	LAB NO:	6789	LAB NO:	6790
DEPTH:	1.2-1.5	DEPTH:	2.7-3.0	DEPTH:	4.2-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	100
50.0	100	50.0	100	50.0	69
31.5	--	31.5	--	31.5	--
25.0	85	25.0	77	25.0	50
20.0	66	20.0	68	20.0	47
12.5	51	12.5	51	12.5	42
10.0	47	10.0	47	10.0	39
5.0	38	5.0	37	5.0	31
2.5	32	2.5	30	2.5	26
2.0	--	2.0	--	2.0	--
1.25	26	1.25	23	1.25	20
0.840	--	0.840	--	0.840	--
0.630	21	0.630	17	0.630	15
0.420	--	0.420	--	0.420	--
0.315	15	0.315	11	0.315	11
0.160	11	0.160	8	0.160	8
0.150	--	0.150	--	0.150	--
0.080	8	0.080	6	0.080	6

M.C.(%):	5	M.C.(%):	4	M.C.(%):	5
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	62	% GRAVEL:	63	% GRAVEL:	69
% SAND:	30	% SAND:	31	% SAND:	25
% FINES:	8	% FINES:	6	% FINES:	6
CLASSIFICATION: WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)		CLASSIFICATION: WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)		CLASSIFICATION: WELL-GRADED GRAVEL WITH SILT (GW-GM) & SAND	

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 PROJECT NUMBER:       202101 0312        HOLE NUMBER:      197-129
 CLIENT:               SHAKWAK PROJECT
 PROJECT NAME:         ALASKA HIGHWAY RE-CONSTRUCTION
 PROJECT LOCATION:     SEGMENT 16
 DRILL UNIT:           36002
 HOLE LOCATION:        1899+900
 LOGGED BY:            AW                 DATE COMPLETED:   92.08.12

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                    |                    |                    |
 FIELD NO:     292  | FIELD NO:     293  | FIELD NO:     294  |
 LAB NO:   6791     | LAB NO:   6792     | LAB NO:   6793     |
 DEPTH:    1.2-1.5  | DEPTH:    2.7-3.0  | DEPTH:    4.2-4.5  |
 TYPE:     AUGER    | TYPE:     AUGER    | TYPE:     AUGER    |
                    | ORGANIC            |                    |
                    |                    |                    |
 SIEVE   |PERCENT   | SIEVE   |PERCENT   | SIEVE   |PERCENT   |
 SIZE    |PASSING   | SIZE    |PASSING   | SIZE    |PASSING   |
 ----------------   | ----------------   | ----------------   |
 100.0   |    --    | 100.0   |    --    | 100.0   |    --    |
  80.0   |    --    |  80.0   |    --    |  80.0   |    --    |
  50.0   |   100    |  50.0   |   100    |  50.0   |   100    |
  31.5   |    --    |  31.5   |    --    |  31.5   |    --    |
  25.0   |    88    |  25.0   |    93    |  25.0   |    62    |
  20.0   |    76    |  20.0   |    93    |  20.0   |    58    |
  12.5   |    61    |  12.5   |    75    |  12.5   |    48    |
  10.0   |    57    |  10.0   |    71    |  10.0   |    45    |
   5.0   |    46    |   5.0   |    61    |   5.0   |    38    |
   2.5   |    39    |   2.5   |    56    |   2.5   |    35    |
   2.0   |    --    |   2.0   |    --    |   2.0   |    --    |
   1.25  |    34    |   1.25  |    50    |   1.25  |    32    |
   0.840 |    --    |   0.840 |    --    |   0.840 |    --    |
   0.630 |    31    |   0.630 |    45    |   0.630 |    30    |
   0.420 |    --    |   0.420 |    --    |   0.420 |    --    |
   0.315 |    27    |   0.315 |    39    |   0.315 |    27    |
   0.160 |    23    |   0.160 |    34    |   0.160 |    23    |
   0.150 |    --    |   0.150 |    --    |   0.150 |    --    |
   0.080 |    19    |   0.080 |    32    |   0.080 |    20    |
                    |                    |                    |
 M.C.(%):       10  | M.C.(%):       60  | M.C.(%):        7  |
                    |                    |                    |
     LIMITS         |      LIMITS        |      LIMITS        |
 LIQUID:        --  | LIQUID:        --  | LIQUID:        --  |
 PLASTIC:       --  | PLASTIC:       --  | PLASTIC:       --  |
 P.I.:        N.P.  | P.I.:        N.P.  | P.I.:        N.P.  |
                    |                    |                    |
 % GRAVEL:      54  | % GRAVEL:      39  | % GRAVEL:      62  |
 % SAND:        27  | % SAND:        29  | % SAND:        19  |
 % FINES:       19  | % FINES:       32  | % FINES:       20  |
                    |                    |                    |
 CLASSIFICATION:    | CLASSIFICATION:    | CLASSIFICATION:    |
 SILTY GRAVEL       | SILTY GRAVEL       | SILTY GRAVEL       |
 WITH SAND (GM)     | WITH SAND (GM)     | WITH SAND (GM)     |
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PROJECT NUMBER:	202101 0312	HOLE NUMBER:	197-130
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	ALASKA HIGHWAY RE-CONSTRUCTION		
PROJECT LOCATION:	SEGMENT 16		
DRILL UNIT:	36002		
HOLE LOCATION:	1899+800		
LOGGED BY:	AW	DATE COMPLETED:	92.08.12

FIELD NO: 295
LAB NO: 6794
DEPTH: 1.2-1.5
TYPE: AUGER
ORGANIC

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	--
5.0	100
2.5	98
2.0	--
1.25	91
0.840	--
0.630	83
0.420	--
0.315	74
0.160	66
0.150	--
0.080	61

M.C.(%): 172

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

% GRAVEL: 0
% SAND: 39
% FINES: 61

CLASSIFICATION:
SANDY SILT (ML)

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 197-131
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1899+700
LOGGED BY: AW DATE COMPLETED: 92.08.12

FIELD NO: 296
LAB NO: 6795
DEPTH: 1.2-1.5
TYPE: AUGER
ORGANIC, SPILLED

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	--
5.0	--
2.5	--
2.0	--
1.25	--
0.840	--
0.630	--
0.420	--
0.315	--
0.160	--
0.150	--
0.080	--

M.C.(%): 52

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

% GRAVEL: --
% SAND: --
% FINES: --

CLASSIFICATION:

FIELD NO: 297
LAB NO: 6796
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	80
20.0	71
12.5	59
10.0	53
5.0	37
2.5	29
2.0	--
1.25	20
0.840	--
0.630	15
0.420	--
0.315	13
0.160	11
0.150	--
0.080	10

M.C.(%): 10

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

% GRAVEL: 63
% SAND: 27
% FINES: 10

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

FIELD NO: 298
LAB NO: 6797
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	100
12.5	86
10.0	77
5.0	57
2.5	45
2.0	--
1.25	36
0.840	--
0.630	29
0.420	--
0.315	24
0.160	20
0.150	--
0.080	17

M.C.(%): 7

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

% GRAVEL: 43
% SAND: 40
% FINES: 17

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

PROJECT NUMBER:	202101 0312	HOLE NUMBER:	197-132
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	ALASKA HIGHWAY RE-CONSTRUCTION		
PROJECT LOCATION:	SEGMENT 16		
DRILL UNIT:	36002		
HOLE LOCATION:	1899+600		
LOGGED BY:	AW	DATE COMPLETED:	92.08.12

FIELD NO:	299	FIELD NO:	300
LAB NO:	6798	LAB NO:	6799
DEPTH:	1.2-1.5	DEPTH:	4.2-4.5
TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--
80.0	--	80.0	100
50.0	--	50.0	67
31.5	--	31.5	--
25.0	--	25.0	60
20.0	100	20.0	58
12.5	98	12.5	56
10.0	98	10.0	53
5.0	96	5.0	49
2.5	95	2.5	47
2.0	--	2.0	--
1.25	94	1.25	46
0.840	--	0.840	--
0.630	93	0.630	45
0.420	--	0.420	--
0.315	91	0.315	44
0.160	80	0.160	42
0.150	--	0.150	--
0.080	65	0.080	40

M.C.(%):	37	M.C.(%):	21
LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	4	% GRAVEL:	51
% SAND:	32	% SAND:	10
% FINES:	65	% FINES:	40
CLASSIFICATION:		CLASSIFICATION:	
SANDY SILT (ML)		SILTY GRAVEL (GM)	

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 198-155
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1897+150
LOGGED BY: AW DATE COMPLETED: 92.08.18

FIELD NO: 355
LAB NO: 6915
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	100
20.0	93
12.5	79
10.0	78
5.0	68
2.5	62
2.0	--
1.25	57
0.840	--
0.630	54
0.420	--
0.315	50
0.160	45
0.150	--
0.080	40

M.C.(%): 11

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

% GRAVEL: 32
% SAND: 28
% FINES: 40

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

FIELD NO: 536
LAB NO: 6916
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	85
20.0	79
12.5	69
10.0	65
5.0	56
2.5	51
2.0	--
1.25	47
0.840	--
0.630	44
0.420	--
0.315	41
0.160	37
0.150	--
0.080	31

M.C.(%): 8

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

% GRAVEL: 44
% SAND: 24
% FINES: 31

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

FIELD NO: 357
LAB NO: 6917
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	82
20.0	81
12.5	76
10.0	73
5.0	64
2.5	58
2.0	--
1.25	54
0.840	--
0.630	50
0.420	--
0.315	47
0.160	42
0.150	--
0.080	36

M.C.(%): 10

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

% GRAVEL: 36
% SAND: 28
% FINES: 36

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 198-156
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1897+050
LOGGED BY: AW DATE COMPLETED: 92.08.18

FIELD NO: 358
LAB NO: 6918
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	100
12.5	96
10.0	94
5.0	84
2.5	78
2.0	--
1.25	72
0.840	--
0.630	65
0.420	--
0.315	59
0.160	53
0.150	--
0.080	47

M.C.(%): 26

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

% GRAVEL: 16
% SAND: 37
% FINES: 47

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

FIELD NO: 359
LAB NO: 6919
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	72
20.0	64
12.5	59
10.0	57
5.0	48
2.5	43
2.0	--
1.25	40
0.840	--
0.630	38
0.420	--
0.315	35
0.160	33
0.150	--
0.080	29

M.C.(%): 11

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

% GRAVEL: 52
% SAND: 19
% FINES: 29

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

FIELD NO: 360
LAB NO: 6920
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	92
20.0	92
12.5	81
10.0	78
5.0	69
2.5	63
2.0	--
1.25	58
0.840	--
0.630	53
0.420	--
0.315	49
0.160	42
0.150	--
0.080	35

M.C.(%): 10

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

% GRAVEL: 31
% SAND: 34
% FINES: 35

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 198-157
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1896+950
LOGGED BY: AW DATE COMPLETED: 92.08.19

FIELD NO:	361	362	363
LAB NO:	6943	6944	6945
DEPTH:	1.2-1.5	2.7-3.0	4.2-4.5
TYPE:	AUGER	AUGER	AUGER

SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING
100.0	--	--	--
80.0	--	--	--
50.0	--	--	100
31.5	--	--	--
25.0	100	--	85
20.0	89	100	83
12.5	83	97	80
10.0	80	89	74
5.0	74	78	67
2.5	69	73	63
2.0	--	--	--
1.25	66	68	59
0.840	--	--	--
0.630	62	65	55
0.420	--	--	--
0.315	55	61	50
0.160	47	56	45
0.150	--	--	--
0.080	41	48	43

M.C.(%):	11	13	14
LIMITS			
LIQUID:	--	--	--
PLASTIC:	--	--	--
P.I.:	N.P.	N.P.	TRACE
% GRAVEL:	26	22	33
% SAND:	33	30	24
% FINES:	41	48	43
CLASSIFICATION:	SILTY SAND WITH GRAVEL (SM)	SILTY SAND WITH GRAVEL (SM)	SILTY GRAVEL WITH SAND (GM)

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 198-158
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1896+850 O/S 10M RT
LOGGED BY: AW DATE COMPLETED: 92.08.19

FIELD NO: 364	FIELD NO: 365	FIELD NO: 366
LAB NO: 6946	LAB NO: 6947	LAB NO: 6948
DEPTH: 1.2-1.5	DEPTH: 2.7-3.0	DEPTH: 4.2-4.5
TYPE: AUGER	TYPE: AUGER ORGANIC	TYPE: AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--
50.0	--	50.0	--	50.0	--
31.5	--	31.5	--	31.5	--
25.0	--	25.0	--	25.0	--
20.0	--	20.0	--	20.0	--
12.5	100	12.5	--	12.5	--
10.0	100	10.0	--	10.0	--
5.0	99	5.0	100	5.0	100
2.5	97	2.5	100	2.5	100
2.0	--	2.0	--	2.0	--
1.25	93	1.25	96	1.25	99
0.840	--	0.840	--	0.840	--
0.630	78	0.630	72	0.630	94
0.420	--	0.420	--	0.420	--
0.315	42	0.315	41	0.315	59
0.160	22	0.160	27	0.160	36
0.150	--	0.150	--	0.150	--
0.080	14	0.080	20	0.080	23

M.C.(%): 15	M.C.(%): 14	M.C.(%): 11
LIMITS	LIMITS	LIMITS
LIQUID: --	LIQUID: --	LIQUID: --
PLASTIC: --	PLASTIC: --	PLASTIC: --
P.I.: N.P.	P.I.: N.P.	P.I.: N.P.
% GRAVEL: 1	% GRAVEL: 0	% GRAVEL: 0
% SAND: 85	% SAND: 80	% SAND: 77
% FINES: 14	% FINES: 20	% FINES: 23
CLASSIFICATION: SILTY SAND (SM)	CLASSIFICATION: SILTY SAND (SM)	CLASSIFICATION: SILTY SAND (SM)

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===========================================================================
 PROJECT NUMBER:       202101 0312         HOLE NUMBER:      198-159
 CLIENT:               SHAKWAK PROJECT
 PROJECT NAME:         ALASKA HIGHWAY RE-CONSTRUCTION
 PROJECT LOCATION:     SEGMENT 16
 DRILL UNIT:           36002
 HOLE LOCATION:        1896+750 O/S 7M RT
 LOGGED BY:            AW                  DATE COMPLETED:   92.08.19

===========================================================================

 FIELD NO:    367     FIELD NO:    368
 LAB NO:   6949       LAB NO:   6950
 DEPTH:    1.2-1.5    DEPTH:    2.7-3.0
 TYPE:     AUGER      TYPE:     AUGER
 ORGANIC


 SIEVE    |PERCENT    SIEVE    |PERCENT
 SIZE     |PASSING    SIZE     |PASSING
 ---------------      ---------------
 100.0    |   --      100.0    |   --
  80.0    |   --       80.0    |   --
  50.0    |   --       50.0    |   --
  31.5    |   --       31.5    |   --
  25.0    |   --       25.0    |   --
  20.0    |   --       20.0    |   --
  12.5    |   --       12.5    |   --
  10.0    |   --       10.0    |   --
   5.0    |  100        5.0    |  100
   2.5    |   99        2.5    |  100
   2.0    |   --        2.0    |   --
   1.25   |   97        1.25   |  100
   0.840  |   --        0.840  |   --
   0.630  |   94        0.630  |   93
   0.420  |   --        0.420  |   --
   0.315  |   87        0.315  |   49
   0.160  |   76        0.160  |   21
   0.150  |   --        0.150  |   --
   0.080  |   60        0.080  |   13


 M.C.(%):       58    M.C.(%):       14

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


 % GRAVEL:       0    % GRAVEL:       0
 % SAND:        40    % SAND:        87
 % FINES:       60    % FINES:       13

 CLASSIFICATION:      CLASSIFICATION:
 SANDY SILT (ML)      SILTY SAND (SM)


===========================================================================
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PROJECT NUMBER: 202101 0312 HOLE NUMBER: 198-160
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1896+650 O/S 8M RT
LOGGED BY: AW DATE COMPLETED: 92.08.19

FIELD NO: 369
LAB NO: 6951
DEPTH: 1.2-1.5
TYPE: AUGER
ORGANIC

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	100
5.0	98
2.5	92
2.0	--
1.25	84
0.840	--
0.630	77
0.420	--
0.315	68
0.160	61
0.150	--
0.080	56

M.C.(%): 115

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

% GRAVEL: 2
% SAND: 42
% FINES: 56

CLASSIFICATION:
SANDY SILT (ML)

PROJECT NUMBER:	202101 0312	HOLE NUMBER:	198-161
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	ALASKA HIGHWAY RE-CONSTRUCTION		
PROJECT LOCATION:	SEGMENT 16		
DRILL UNIT:	36002		
HOLE LOCATION:	1896+550 O/S 8M RT		
LOGGED BY:	AW	DATE COMPLETED:	92.08.19

FIELD NO: 370
LAB NO: 6952
DEPTH: 1.2-1.5
TYPE: AUGER
ORGANIC

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	100
5.0	100
2.5	99
2.0	--
1.25	97
0.840	--
0.630	88
0.420	--
0.315	62
0.160	37
0.150	--
0.080	28

M.C.(%): 32

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

% GRAVEL: 0
% SAND: 72
% FINES: 28

CLASSIFICATION:
SILTY SAND (SM)

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=============================================================================
 PROJECT NUMBER:     202101 0312        HOLE NUMBER:      198-162
 CLIENT:             SHAKWAK PROJECT
 PROJECT NAME:       ALASKA HIGHWAY RE-CONSTRUCTION
 PROJECT LOCATION:   SEGMENT 16
 DRILL UNIT:         36002
 HOLE LOCATION:      1896+450 O/S 6M RT
 LOGGED BY:          AW                 DATE COMPLETED:  92.08.19

=============================================================================
                    |                  |                  |
 FIELD NO:    371   | FIELD NO:    372 | FIELD NO:    373 |
 LAB NO:  6953      | LAB NO:  6954    | LAB NO:  6955    |
 DEPTH:   1.2-1.5   | DEPTH:   2.7-3.0 | DEPTH:   4.2-4.5 |
 TYPE:    AUGER     | TYPE:    AUGER   | TYPE:    AUGER   |
                    |                  |                  |
                    |                  |                  |
 SIEVE   |PERCENT   | SIEVE   |PERCENT | SIEVE   |PERCENT |
 SIZE    |PASSING   | SIZE    |PASSING | SIZE    |PASSING |
 ----------------   | ---------------- | ---------------- |
 100.0   |   --     | 100.0   |   --   | 100.0   |   --   |
  80.0   |   --     |  80.0   |   --   |  80.0   |   --   |
  50.0   |  100     |  50.0   |  100   |  50.0   |   --   |
  31.5   |   --     |  31.5   |   --   |  31.5   |   --   |
  25.0   |   96     |  25.0   |   81   |  25.0   |  100   |
  20.0   |   90     |  20.0   |   71   |  20.0   |   97   |
  12.5   |   71     |  12.5   |   61   |  12.5   |   92   |
  10.0   |   64     |  10.0   |   53   |  10.0   |   91   |
   5.0   |   49     |   5.0   |   40   |   5.0   |   85   |
   2.5   |   41     |   2.5   |   33   |   2.5   |   81   |
   2.0   |   --     |   2.0   |   --   |   2.0   |   --   |
   1.25  |   35     |   1.25  |   28   |   1.25  |   78   |
   0.840 |   --     |   0.840 |   --   |   0.840 |   --   |
   0.630 |   29     |   0.630 |   24   |   0.630 |   74   |
   0.420 |   --     |   0.420 |   --   |   0.420 |   --   |
   0.315 |   18     |   0.315 |   19   |   0.315 |   69   |
   0.160 |   11     |   0.160 |   14   |   0.160 |   66   |
   0.150 |   --     |   0.150 |   --   |   0.150 |   --   |
   0.080 |   8      |   0.080 |   10   |   0.080 |   62   |
                    |                  |                  |
 M.C.(%):     10    | M.C.(%):     10  | M.C.(%):     22  |
                    |                  |                  |
      LIMITS        |      LIMITS      |      LIMITS      |
 LIQUID:       --   | LIQUID:      --  | LIQUID:    28.8  |
 PLASTIC:      --   | PLASTIC:     --  | PLASTIC:   18.2  |
 P.I.:       N.P.   | P.I.:      N.P.  | P.I.:      10.6  |
                    |                  |                  |
                    |                  |                  |
 % GRAVEL:     51   | % GRAVEL:    60  | % GRAVEL:    15  |
 % SAND:       41   | % SAND:      30  | % SAND:      23  |
 % FINES:       8   | % FINES:     10  | % FINES:     62  |
                    |                  |                  |
 CLASSIFICATION:    | CLASSIFICATION:  | CLASSIFICATION:  |
 POORLY GRADED      | WELL-GRADED      | SANDY LEAN CLAY  |
 GRAVEL WITH SILT   | GRAVEL WITH SILT | WITH GRAVEL (CL) |
 & SAND (GP-GM)     | & SAND (GW-GM)   |                  |
=============================================================================
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PROJECT NUMBER: 202101 0312 HOLE NUMBER: 198-163
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1896+350
LOGGED BY: AW DATE COMPLETED: 92.08.19

FIELD NO: 374
LAB NO: 6956
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	100
10.0	100
5.0	99
2.5	98
2.0	--
1.25	94
0.840	--
0.630	84
0.420	--
0.315	51
0.160	20
0.150	--
0.080	11

M.C.(%): 11

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

% GRAVEL: 1
% SAND: 88
% FINES: 11

CLASSIFICATION:
POORLY GRADED
SAND WITH SILT
(SP-SM)

FIELD NO: 375
LAB NO: 6957
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	100
20.0	87
12.5	81
10.0	79
5.0	69
2.5	59
2.0	--
1.25	45
0.840	--
0.630	27
0.420	--
0.315	12
0.160	6
0.150	--
0.080	3

M.C.(%): 9

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

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

CLASSIFICATION:
POORLY GRADED
SAND WITH GRAVEL
(SP)

FIELD NO: 376
LAB NO: 6958
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	100
20.0	92
12.5	82
10.0	77
5.0	62
2.5	46
2.0	--
1.25	33
0.840	--
0.630	22
0.420	--
0.315	12
0.160	6
0.150	--
0.080	3

M.C.(%): 7

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

% GRAVEL: 38
% SAND: 59
% FINES: 3

CLASSIFICATION:
POORLY GRADED
SAND WITH GRAVEL
(SP)

PROJECT NUMBER:	202101 0312	HOLE NUMBER:	198-164
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	ALASKA HIGHWAY RE-CONSTRUCTION		
PROJECT LOCATION:	SEGMENT 16		
DRILL UNIT:	36002		
HOLE LOCATION:	1896+250		
LOGGED BY:	AW	DATE COMPLETED:	92.08.19

FIELD NO: 377
LAB NO: 6959
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	100
10.0	100
5.0	99
2.5	98
2.0	--
1.25	97
0.840	--
0.630	96
0.420	--
0.315	93
0.160	77
0.150	--
0.080	48

M.C.(%): 21

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

% GRAVEL: 1
% SAND: 51
% FINES: 48

CLASSIFICATION:
SILTY SAND (SM)

FIELD NO: 378
LAB NO: 6960
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	95
20.0	95
12.5	90
10.0	86
5.0	75
2.5	66
2.0	--
1.25	55
0.840	--
0.630	43
0.420	--
0.315	29
0.160	14
0.150	--
0.080	7

M.C.(%): 12

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

% GRAVEL: 25
% SAND: 68
% FINES: 7

CLASSIFICATION:
POORLY GRADED SAND WITH SILT & GRAVEL (SP-SM)

FIELD NO: 379
LAB NO: 6961
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	87
20.0	82
12.5	74
10.0	69
5.0	56
2.5	46
2.0	--
1.25	36
0.840	--
0.630	27
0.420	--
0.315	18
0.160	9
0.150	--
0.080	4

M.C.(%): 8

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

% GRAVEL: 44
% SAND: 51
% FINES: 4

CLASSIFICATION:
POORLY GRADED SAND WITH GRAVEL (SP)

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 198-165
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1896+150 O/S 5M LT
LOGGED BY: AW DATE COMPLETED: 92.08.19

FIELD NO:	380	FIELD NO:	381	FIELD NO:	382
LAB NO:	6962	LAB NO:	6963	LAB NO:	6964
DEPTH:	1.2-1.5	DEPTH:	2.7-3.0	DEPTH:	4.2-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--
50.0	100	50.0	100	50.0	--
31.5	--	31.5	--	31.5	--
25.0	85	25.0	72	25.0	--
20.0	75	20.0	65	20.0	100
12.5	63	12.5	56	12.5	96
10.0	56	10.0	52	10.0	92
5.0	42	5.0	42	5.0	74
2.5	32	2.5	34	2.5	54
2.0	--	2.0	--	2.0	--
1.25	23	1.25	25	1.25	35
0.840	--	0.840	--	0.840	--
0.630	16	0.630	18	0.630	22
0.420	--	0.420	--	0.420	--
0.315	10	0.315	12	0.315	12
0.160	6	0.160	8	0.160	6
0.150	--	0.150	--	0.150	--
0.080	4	0.080	6	0.080	4

M.C.(%):	4	M.C.(%):	4	M.C.(%):	7
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	58	% GRAVEL:	58	% GRAVEL:	26
% SAND:	37	% SAND:	36	% SAND:	70
% FINES:	4	% FINES:	6	% FINES:	4
CLASSIFICATION: WELL-GRADED GRAVEL WITH SAND (GW)		CLASSIFICATION: POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)		CLASSIFICATION: WELL-GRADED SAND WITH GRAVEL (SW)	

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 198-166
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1896+050 O/S 5M LT
LOGGED BY: AW DATE COMPLETED: 92.08.19

FIELD NO: 384
LAB NO: 6965
DEPTH: 1.2-1.5
TYPE: AUGER
ORGANIC

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	97
20.0	84
12.5	69
10.0	59
5.0	42
2.5	30
2.0	--
1.25	19
0.840	--
0.630	12
0.420	--
0.315	7
0.160	4
0.150	--
0.080	3

M.C.(%): 4

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

% GRAVEL: 58
% SAND: 39
% FINES: 3

CLASSIFICATION:
WELL-GRADED GRAVEL WITH SAND (GW)

FIELD NO: 385
LAB NO: 6966
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	92
20.0	92
12.5	87
10.0	84
5.0	76
2.5	72
2.0	--
1.25	69
0.840	--
0.630	65
0.420	--
0.315	62
0.160	57
0.150	--
0.080	51

M.C.(%): 16

LIMITS
LIQUID: 25.9
PLASTIC: 16.4
P.I.: 9.5

% GRAVEL: 24
% SAND: 26
% FINES: 51

CLASSIFICATION:
SANDY LEAN CLAY WITH GRAVEL (CL)

FIELD NO: 386
LAB NO: 6967
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	100
12.5	94
10.0	93
5.0	92
2.5	90
2.0	--
1.25	88
0.840	--
0.630	85
0.420	--
0.315	83
0.160	80
0.150	--
0.080	71

M.C.(%): 25

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

% GRAVEL: 8
% SAND: 20
% FINES: 71

CLASSIFICATION:
SILT WITH SAND (ML)

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 198-167
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1895+950
LOGGED BY: AW DATE COMPLETED: 92.08.19

FIELD NO: 387
LAB NO: 6968
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	88
20.0	80
12.5	64
10.0	59
5.0	48
2.5	40
2.0	--
1.25	33
0.840	--
0.630	27
0.420	--
0.315	20
0.160	13
0.150	--
0.080	8

M.C.(%): 5

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

% GRAVEL: 52
% SAND: 39
% FINES: 8

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

FIELD NO: 388
LAB NO: 6969
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	95
20.0	94
12.5	91
10.0	90
5.0	85
2.5	80
2.0	--
1.25	75
0.840	--
0.630	68
0.420	--
0.315	57
0.160	39
0.150	--
0.080	26

M.C.(%): 14

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

% GRAVEL: 15
% SAND: 59
% FINES: 26

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

FIELD NO: 389
LAB NO: 6970
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	96
20.0	92
12.5	78
10.0	70
5.0	51
2.5	36
2.0	--
1.25	24
0.840	--
0.630	15
0.420	--
0.315	9
0.160	5
0.150	--
0.080	4

M.C.(%): 5

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

% GRAVEL: 49
% SAND: 48
% FINES: 4

CLASSIFICATION:
WELL-GRADED GRAVEL WITH SAND (GW)

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 198-146
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1898+100 O/S 6M RT
LOGGED BY: AW DATE COMPLETED: 92.08.18

FIELD NO: 333
LAB NO: 6893
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	100
20.0	89
12.5	76
10.0	71
5.0	58
2.5	51
2.0	--
1.25	44
0.840	--
0.630	38
0.420	--
0.315	32
0.160	27
0.150	--
0.080	24

M.C.(%): 11

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

% GRAVEL: 42
% SAND: 34
% FINES: 24

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

FIELD NO: 334
LAB NO: 6894
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	93
20.0	84
12.5	78
10.0	73
5.0	66
2.5	60
2.0	--
1.25	56
0.840	--
0.630	52
0.420	--
0.315	48
0.160	42
0.150	--
0.080	36

M.C.(%): 8

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

% GRAVEL: 34
% SAND: 29
% FINES: 36

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

FIELD NO: 335
LAB NO: 6895
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	100
20.0	96
12.5	79
10.0	75
5.0	61
2.5	50
2.0	--
1.25	39
0.840	--
0.630	32
0.420	--
0.315	28
0.160	24
0.150	--
0.080	20

M.C.(%): 8

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

% GRAVEL: 39
% SAND: 41
% FINES: 20

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 198-147
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1898+000 O/S 5M RT
LOGGED BY: AW DATE COMPLETED: 92.08.18

FIELD NO: 336
LAB NO: 6896
DEPTH: 1.2-1.5
TYPE: AUGER
ORGANIC

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	92
20.0	92
12.5	89
10.0	87
5.0	83
2.5	80
2.0	--
1.25	75
0.840	--
0.630	69
0.420	--
0.315	64
0.160	57
0.150	--
0.080	52

M.C.(%): 88

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

% GRAVEL: 17
% SAND: 31
% FINES: 52

CLASSIFICATION:
SANDY SILT WITH GRAVEL (ML)

FIELD NO: 337
LAB NO: 6897
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	100
12.5	94
10.0	91
5.0	81
2.5	73
2.0	--
1.25	68
0.840	--
0.630	63
0.420	--
0.315	57
0.160	50
0.150	--
0.080	43

M.C.(%): 11

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

% GRAVEL: 19
% SAND: 38
% FINES: 43

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

FIELD NO: 338
LAB NO: 6898
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	71
20.0	71
12.5	67
10.0	63
5.0	57
2.5	52
2.0	--
1.25	48
0.840	--
0.630	45
0.420	--
0.315	41
0.160	36
0.150	--
0.080	31

M.C.(%): 11

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

% GRAVEL: 43
% SAND: 26
% FINES: 31

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 198-148
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1897+900 O/S 6M RT
LOGGED BY: AW DATE COMPLETED: 92.08.18

FIELD NO: 339
LAB NO: 6899
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	99
20.0	96
12.5	83
10.0	81
5.0	69
2.5	61
2.0	--
1.25	53
0.840	--
0.630	45
0.420	--
0.315	37
0.160	30
0.150	--
0.080	26

M.C.(%): 9

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

% GRAVEL: 31
% SAND: 43
% FINES: 26

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

FIELD NO: 340
LAB NO: 6900
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	92
20.0	81
12.5	66
10.0	61
5.0	53
2.5	48
2.0	--
1.25	44
0.840	--
0.630	38
0.420	--
0.315	30
0.160	26
0.150	--
0.080	23

M.C.(%): 19

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

% GRAVEL: 47
% SAND: 30
% FINES: 23

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

FIELD NO: 341
LAB NO: 6901
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	95
20.0	92
12.5	89
10.0	87
5.0	78
2.5	71
2.0	--
1.25	64
0.840	--
0.630	56
0.420	--
0.315	48
0.160	40
0.150	--
0.080	35

M.C.(%): 14

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

% GRAVEL: 22
% SAND: 44
% FINES: 35

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 198-149
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1897+800 O/S 8M RT
LOGGED BY: AW DATE COMPLETED: 92.08.18

FIELD NO: 342
LAB NO: 6902
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	87
20.0	87
12.5	76
10.0	72
5.0	61
2.5	55
2.0	--
1.25	49
0.840	--
0.630	44
0.420	--
0.315	39
0.160	33
0.150	--
0.080	29

M.C.(%): 13

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

% GRAVEL: 39
% SAND: 32
% FINES: 29

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

FIELD NO: 343
LAB NO: 6903
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	100
20.0	98
12.5	94
10.0	91
5.0	84
2.5	79
2.0	--
1.25	75
0.840	--
0.630	70
0.420	--
0.315	64
0.160	57
0.150	--
0.080	47

M.C.(%): 12

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

% GRAVEL: 16
% SAND: 37
% FINES: 47

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

FIELD NO: 344
LAB NO: 6904
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	90
20.0	87
12.5	74
10.0	68
5.0	58
2.5	51
2.0	--
1.25	46
0.840	--
0.630	41
0.420	--
0.315	37
0.160	32
0.150	--
0.080	26

M.C.(%): 8

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

% GRAVEL: 42
% SAND: 32
% FINES: 26

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

PROJECT NUMBER:	202101 0312	HOLE NUMBER:	198-150
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	ALASKA HIGHWAY RE-CONSTRUCTION		
PROJECT LOCATION:	SEGMENT 16		
DRILL UNIT:	36002		
HOLE LOCATION:	1897+675 O/S 8M RT		
LOGGED BY:	AW	DATE COMPLETED:	92.08.18

FIELD NO: 345
LAB NO: 6905
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	92
20.0	88
12.5	78
10.0	75
5.0	68
2.5	62
2.0	--
1.25	56
0.840	--
0.630	51
0.420	--
0.315	46
0.160	41
0.150	--
0.080	36

M.C.(%): 22

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

% GRAVEL: 32
% SAND: 32
% FINES: 36

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

FIELD NO: 346
LAB NO: 6906
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	100
20.0	89
12.5	80
10.0	79
5.0	70
2.5	64
2.0	--
1.25	59
0.840	--
0.630	54
0.420	--
0.315	48
0.160	42
0.150	--
0.080	36

M.C.(%): 10

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

% GRAVEL: 30
% SAND: 34
% FINES: 36

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 198-151
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1897+550 O/S 8M RT
LOGGED BY: AW DATE COMPLETED: 92.08.18

FIELD NO: 347
LAB NO: 6907
DEPTH: 1.2-1.5
TYPE: AUGER
SPILLED

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	--
5.0	--
2.5	--
2.0	--
1.25	--
0.840	--
0.630	--
0.420	--
0.315	--
0.160	--
0.150	--
0.080	--

M.C.(%): 13

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

% GRAVEL: --
% SAND: --
% FINES: --

CLASSIFICATION:

FIELD NO: 348
LAB NO: 6908
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	89
20.0	84
12.5	75
10.0	69
5.0	60
2.5	53
2.0	--
1.25	48
0.840	--
0.630	44
0.420	--
0.315	39
0.160	34
0.150	--
0.080	29

M.C.(%): 12

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

% GRAVEL: 40
% SAND: 31
% FINES: 29

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 198-152
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1897+450 O/S 6M RT
LOGGED BY: AW DATE COMPLETED: 92.08.18

FIELD NO: 349
LAB NO: 6909
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	61
20.0	38
12.5	28
10.0	24
5.0	17
2.5	13
2.0	--
1.25	11
0.840	--
0.630	9
0.420	--
0.315	8
0.160	6
0.150	--
0.080	5

M.C.(%): 6

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

% GRAVEL: 83
% SAND: 12
% FINES: 5

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

PROJECT NUMBER:	202101 0312	HOLE NUMBER:	198-153
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	ALASKA HIGHWAY RE-CONSTRUCTION		
PROJECT LOCATION:	SEGMENT 16		
DRILL UNIT:	36002		
HOLE LOCATION:	1897+350 O/S 6M RT		
LOGGED BY:	AW	DATE COMPLETED:	92.08.18

FIELD NO: 350
LAB NO: 6910
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	100
20.0	96
12.5	90
10.0	87
5.0	81
2.5	78
2.0	--
1.25	76
0.840	--
0.630	74
0.420	--
0.315	71
0.160	67
0.150	--
0.080	62

M.C.(%): 15

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

% GRAVEL: 19
% SAND: 19
% FINES: 62

CLASSIFICATION:
SANDY SILT WITH GRAVEL (ML)

FIELD NO: 351
LAB NO: 6911
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	86
20.0	81
12.5	75
10.0	70
5.0	62
2.5	58
2.0	--
1.25	55
0.840	--
0.630	52
0.420	--
0.315	49
0.160	45
0.150	--
0.080	40

M.C.(%): 11

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

% GRAVEL: 38
% SAND: 22
% FINES: 40

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

PROJECT NUMBER:	202101 0312	HOLE NUMBER:	198-154
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	ALASKA HIGHWAY RE-CONSTRUCTION		
PROJECT LOCATION:	SEGMENT 16		
DRILL UNIT:	36002		
HOLE LOCATION:	1897+250 O/S 5M RT		
LOGGED BY:	AW	DATE COMPLETED:	92.08.18

FIELD NO: 352
LAB NO: 6912
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	100
20.0	94
12.5	85
10.0	80
5.0	69
2.5	63
2.0	--
1.25	59
0.840	--
0.630	55
0.420	--
0.315	51
0.160	45
0.150	--
0.080	39

M.C.(%): 9

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

% GRAVEL: 31
% SAND: 31
% FINES: 39

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

FIELD NO: 353
LAB NO: 6913
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	93
20.0	90
12.5	84
10.0	80
5.0	71
2.5	64
2.0	--
1.25	59
0.840	--
0.630	56
0.420	--
0.315	51
0.160	46
0.150	--
0.080	39

M.C.(%): 9

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

% GRAVEL: 29
% SAND: 32
% FINES: 39

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

FIELD NO: 354
LAB NO: 6914
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	95
20.0	91
12.5	85
10.0	81
5.0	70
2.5	64
2.0	--
1.25	60
0.840	--
0.630	56
0.420	--
0.315	52
0.160	47
0.150	--
0.080	40

M.C.(%): 11

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

% GRAVEL: 30
% SAND: 30
% FINES: 40

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

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===========================================================================
 PROJECT NUMBER:    092-202101-0312-193HOLE NUMBER:     244-02
 CLIENT:            ENGINEERING-CAPITAL
 PROJECT NAME:      SHAKWAK PROJECT
 PROJECT LOCATION:  SEGMENT 16
 DRILL UNIT:        CME
 HOLE LOCATION:     1905+750 O/S 15M LT
 LOGGED BY:         TF                 DATE COMPLETED:  93.09.01

===========================================================================
                   |                  |
 FIELD NO:       6 | FIELD NO:      7 |
 LAB NO:  953      | LAB NO:  954     |
 DEPTH:   2.0-2.2  | DEPTH:   9.0-9.2 |
 TYPE:    AUGER    | TYPE:    AUGER   |
                   |                  |
                   |                  |
 SIEVE   |PERCENT  | SIEVE   |PERCENT |
 SIZE    |PASSING  | SIZE    |PASSING |
 ---------------   | ---------------  |
 100.0   |   --    | 100.0   |   --   |
  80.0   |  100    |  80.0   |   --   |
  50.0   |   74    |  50.0   |   --   |
  31.5   |   --    |  31.5   |   --   |
  25.0   |   53    |  25.0   |   --   |
  20.0   |   52    |  20.0   |   --   |
  12.5   |   48    |  12.5   |   --   |
  10.0   |   46    |  10.0   |   --   |
   5.0   |   45    |   5.0   |  100   |
   2.5   |   43    |   2.5   |  100   |
   2.0   |   --    |   2.0   |   --   |
   1.25  |   41    |   1.25  |   99   |
   0.840 |   --    |   0.840 |   --   |
   0.630 |   40    |   0.630 |   98   |
   0.420 |   --    |   0.420 |   --   |
   0.315 |   37    |   0.315 |   97   |
   0.160 |   35    |   0.160 |   96   |
   0.150 |   --    |   0.150 |   --   |
   0.080 |   33    |   0.080 |   96   |
                   |                  |
 M.C.(%):      17  | M.C.(%):      31 |
                   |                  |
      LIMITS       |     LIMITS       |
 LIQUID:       --  | LIQUID:     44.9 |
 PLASTIC:      --  | PLASTIC:    20.8 |
 P.I.:       N.P.  | P.I.:       24.1 |
                   |                  |
                   |                  |
 % GRAVEL:     55  | % GRAVEL:      0 |
 % SAND:       12  | % SAND:        4 |
 % FINES:      33  | % FINES:      96 |
                   |                  |
 CLASSIFICATION:   | CLASSIFICATION:  |
 SILTY GRAVEL (GM) | LEAN CLAY (CL)   |
                   |                  |
===========================================================================
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```
|==========================================================================|
| PROJECT NUMBER:    092-202101-0312-193HOLE NUMBER:     244-03            |
| CLIENT:            ENGINEERING-CAPITAL                                   |
| PROJECT NAME:      SHAKWAK PROJECT                                       |
| PROJECT LOCATION:  SEGMENT 16                                            |
| DRILL UNIT:        CME                                                   |
| HOLE LOCATION:     1905+825 O/S 15M LT                                   |
| LOGGED BY:         TF                  DATE COMPLETED:  93.09.01         |
|                                                                          |
|==========================================================================|
|                   |                  |                                    |
| FIELD NO:       8 | FIELD NO:      9 |                                    |
| LAB NO:  955      | LAB NO:  956     |                                    |
| DEPTH:   3.0-3.2  | DEPTH:   6.0-6.2 |                                    |
| TYPE:    AUGER    | TYPE:    AUGER   |                                    |
|                   |                  |                                    |
|                   |                  |                                    |
| SIEVE   |PERCENT  | SIEVE   |PERCENT |                                    |
| SIZE    |PASSING  | SIZE    |PASSING |                                    |
| ----------------  | ---------------- |                                    |
| 100.0   |   --    | 100.0   |   --   |                                    |
|  80.0   |   --    |  80.0   |   --   |                                    |
|  50.0   |   --    |  50.0   |   --   |                                    |
|  31.5   |   --    |  31.5   |   --   |                                    |
|  25.0   |  100    |  25.0   |   --   |                                    |
|  20.0   |   95    |  20.0   |  100   |                                    |
|  12.5   |   94    |  12.5   |   97   |                                    |
|  10.0   |   93    |  10.0   |   95   |                                    |
|   5.0   |   92    |   5.0   |   94   |                                    |
|   2.5   |   90    |   2.5   |   92   |                                    |
|   2.0   |   --    |   2.0   |   --   |                                    |
|   1.25  |   88    |   1.25  |   90   |                                    |
|   0.840 |   --    |   0.840 |   --   |                                    |
|   0.630 |   86    |   0.630 |   86   |                                    |
|   0.420 |   --    |   0.420 |   --   |                                    |
|   0.315 |   82    |   0.315 |   79   |                                    |
|   0.160 |   78    |   0.160 |   74   |                                    |
|   0.150 |   --    |   0.150 |   --   |                                    |
|   0.080 |   74    |   0.080 |   70   |                                    |
|                   |                  |                                    |
| M.C.(%):       20 | M.C.(%):       9 |                                    |
|                   |                  |                                    |
|      LIMITS       |      LIMITS      |                                    |
| LIQUID:        -- | LIQUID:     38.4 |                                    |
| PLASTIC:       -- | PLASTIC:    21.5 |                                    |
| P.I.:        N.P. | P.I.:       16.9 |                                    |
|                   |                  |                                    |
|                   |                  |                                    |
| % GRAVEL:       8 | % GRAVEL:      6 |                                    |
| % SAND:        18 | % SAND:       24 |                                    |
| % FINES:       74 | % FINES:      70 |                                    |
|                   |                  |                                    |
| CLASSIFICATION:   | CLASSIFICATION:  |                                    |
| SILT WITH SAND    | SANDY LEAN CLAY  |                                    |
| (ML)              | (CL)             |                                    |
|                   |                  |                                    |
|==========================================================================|
```

PROJECT NUMBER: 092-202101-0312-193HOLE NUMBER: 244-04
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK PROJECT
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: CME
HOLE LOCATION: 1905+900 O/S 15M LT
LOGGED BY: TF DATE COMPLETED: 93.09.01

FIELD NO: 10
LAB NO: 957
DEPTH: 3.0-3.2
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	88
20.0	84
12.5	79
10.0	77
5.0	73
2.5	72
2.0	--
1.25	70
0.840	--
0.630	68
0.420	--
0.315	66
0.160	62
0.150	--
0.080	59

M.C.(%): 18

LIMITS
LIQUID: 30.4
PLASTIC: 17.9
P.I.: 12.5

% GRAVEL: 27
% SAND: 14
% FINES: 59

CLASSIFICATION:
GRAVELLY LEAN CLAY (CL)

FIELD NO: 11
LAB NO: 958
DEPTH: 6.0-6.2
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	100
12.5	98
10.0	97
5.0	96
2.5	95
2.0	--
1.25	93
0.840	--
0.630	91
0.420	--
0.315	88
0.160	84
0.150	--
0.080	80

M.C.(%): 22

LIMITS
LIQUID: 31.9
PLASTIC: 19.2
P.I.: 12.7

% GRAVEL: 4
% SAND: 15
% FINES: 80

CLASSIFICATION:
LEAN CLAY WITH SAND (CL)

FIELD NO: 12
LAB NO: 959
DEPTH: 9.0-9.2
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	--
5.0	--
2.5	100
2.0	--
1.25	100
0.840	--
0.630	100
0.420	--
0.315	99
0.160	99
0.150	--
0.080	99

M.C.(%): 34

LIMITS
LIQUID: 45.6
PLASTIC: 21.3
P.I.: 24.3

% GRAVEL: 0
% SAND: 1
% FINES: 99

CLASSIFICATION:
LEAN CLAY (CL)

```
==========================================================================
 PROJECT NUMBER:     092-202101-0312-193HOLE NUMBER:     244-05
 CLIENT:             ENGINEERING-CAPITAL
 PROJECT NAME:       SHAKWAK PROJECT
 PROJECT LOCATION:   SEGMENT 16
 DRILL UNIT:         CME
 HOLE LOCATION:      1905+975 O/S 15M LT
 LOGGED BY:          TF                 DATE COMPLETED:  93.09.01

==========================================================================
                   |                  |
 FIELD NO:      13 | FIELD NO:      14|
 LAB NO:   960     | LAB NO:   961    |
 DEPTH:    2.8-3.0 | DEPTH:    3.8-4.0|
 TYPE:     AUGER   | TYPE:     AUGER  |
                   |                  |
                   |                  |
 SIEVE    |PERCENT | SIEVE    |PERCENT|
 SIZE     |PASSING | SIZE     |PASSING|
 ---------------   | ---------------  |
 100.0    |   --   | 100.0    |   --  |
  80.0    |   --   |  80.0    |   --  |
  50.0    |   --   |  50.0    |   --  |
  31.5    |   --   |  31.5    |   --  |
  25.0    |   --   |  25.0    |   --  |
  20.0    |   --   |  20.0    |   --  |
  12.5    |  100   |  12.5    |  100  |
  10.0    |   99   |  10.0    |   98  |
   5.0    |   99   |   5.0    |   96  |
   2.5    |   97   |   2.5    |   94  |
   2.0    |   --   |   2.0    |   --  |
   1.25   |   92   |   1.25   |   91  |
   0.840  |   --   |   0.840  |   --  |
   0.630  |   80   |   0.630  |   88  |
   0.420  |   --   |   0.420  |   --  |
   0.315  |   75   |   0.315  |   84  |
   0.160  |   69   |   0.160  |   79  |
   0.150  |   --   |   0.150  |   --  |
   0.080  |   63   |   0.080  |   74  |
                   |                  |
 M.C.(%):       43 | M.C.(%):       43|
                   |                  |
     LIMITS        |     LIMITS       |
 LIQUID:      31.1 | LIQUID:      34.0|
 PLASTIC:     21.7 | PLASTIC:     19.8|
 P.I.:         9.4 | P.I.:        14.2|
                   |                  |
                   |                  |
 % GRAVEL:       1 | % GRAVEL:       4|
 % SAND:        36 | % SAND:        22|
 % FINES:       63 | % FINES:       74|
                   |                  |
 CLASSIFICATION:   | CLASSIFICATION:  |
 SANDY LEAN CLAY   | LEAN CLAY WITH   |
 (CL)              | SAND (CL)        |
                   |                  |
==========================================================================
```

PROJECT NUMBER: 092-202101-0312-193HOLE NUMBER: 244-12
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK PROJECT
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: CME 750
HOLE LOCATION: 1908+300 O/S 2M RT
LOGGED BY: TF DATE COMPLETED: 93.09.02

FIELD NO:	30	FIELD NO:	31	FIELD NO:	32
LAB NO:	977	LAB NO:	978	LAB NO:	979
DEPTH:	1.0-1.2	DEPTH:	2.0-2.2	DEPTH:	4.0-4.2
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--
50.0	100	50.0	100	50.0	100
31.5	--	31.5	--	31.5	--
25.0	56	25.0	83	25.0	93
20.0	45	20.0	80	20.0	89
12.5	39	12.5	72	12.5	78
10.0	33	10.0	67	10.0	72
5.0	25	5.0	57	5.0	63
2.5	20	2.5	51	2.5	56
2.0	--	2.0	--	2.0	--
1.25	16	1.25	47	1.25	51
0.840	--	0.840	--	0.840	--
0.630	14	0.630	43	0.630	47
0.420	--	0.420	--	0.420	--
0.315	12	0.315	39	0.315	42
0.160	10	0.160	34	0.160	37
0.150	--	0.150	--	0.150	--
0.080	8	0.080	28	0.080	32

M.C.(%):	4	M.C.(%):	9	M.C.(%):	11
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	TRACE
% GRAVEL:	75	% GRAVEL:	43	% GRAVEL:	37
% SAND:	17	% SAND:	29	% SAND:	31
% FINES:	8	% FINES:	28	% FINES:	32
CLASSIFICATION:	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	CLASSIFICATION:	SILTY GRAVEL WITH SAND (GM)	CLASSIFICATION:	SILTY GRAVEL WITH SAND (GM)

PROJECT NUMBER: 092-202101-0312-193HOLE NUMBER: 244-13
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK PROJECT
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: CME 750
HOLE LOCATION: 1908+400
LOGGED BY: TF DATE COMPLETED: 93.09.02

FIELD NO: 33
LAB NO: 980
DEPTH: 1.0-1.2
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	100
12.5	94
10.0	92
5.0	87
2.5	81
2.0	--
1.25	76
0.840	--
0.630	71
0.420	--
0.315	64
0.160	55
0.150	--
0.080	43

M.C.(%): 15

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

% GRAVEL: 13
% SAND: 44
% FINES: 43

CLASSIFICATION:
SILTY SAND (SM)

FIELD NO: 34
LAB NO: 981
DEPTH: 1.8-2.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	100
12.5	97
10.0	95
5.0	89
2.5	83
2.0	--
1.25	77
0.840	--
0.630	72
0.420	--
0.315	66
0.160	58
0.150	--
0.080	49

M.C.(%): 15

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

% GRAVEL: 11
% SAND: 40
% FINES: 49

CLASSIFICATION:
SILTY SAND (SM)

```
===========================================================================
PROJECT NUMBER:    092-202101-0312-193HOLE NUMBER:     244-17
CLIENT:            ENGINEERING-CAPITAL
PROJECT NAME:      SHAKWAK PROJECT
PROJECT LOCATION:  SEGMENT 16
DRILL UNIT:        CME 750
HOLE LOCATION:     1909+203
LOGGED BY:         TF                 DATE COMPLETED:  93.09.03

===========================================================================
FIELD NO:     43  | FIELD NO:     44  | FIELD NO:     45  | FIELD NO:     46
LAB NO:  991      | LAB NO:  992      | LAB NO:  993      | LAB NO:  994
DEPTH:   1.0-1.2  | DEPTH:   4.0-4.2  | DEPTH:   6.0-6.2  | DEPTH:   7.8-8.0
TYPE:    AUGER    | TYPE:    AUGER    | TYPE:    AUGER    | TYPE:    AUGER


SIEVE   |PERCENT  | SIEVE   |PERCENT  | SIEVE   |PERCENT  | SIEVE   |PERCENT
SIZE    |PASSING  | SIZE    |PASSING  | SIZE    |PASSING  | SIZE    |PASSING
----------------  | ----------------  | ----------------  | ----------------
100.0   |   --    | 100.0   |   --    | 100.0   |   --    | 100.0   |   --
 80.0   |   --    |  80.0   |   --    |  80.0   |   --    |  80.0   |   --
 50.0   |  100    |  50.0   |  100    |  50.0   |  100    |  50.0   |   --
 31.5   |   --    |  31.5   |   --    |  31.5   |   --    |  31.5   |   --
 25.0   |   88    |  25.0   |   91    |  25.0   |   97    |  25.0   |  100
 20.0   |   81    |  20.0   |   77    |  20.0   |   91    |  20.0   |   98
 12.5   |   73    |  12.5   |   50    |  12.5   |   88    |  12.5   |   92
 10.0   |   67    |  10.0   |   36    |  10.0   |   83    |  10.0   |   88
  5.0   |   51    |   5.0   |   25    |   5.0   |   70    |   5.0   |   65
  2.5   |   40    |   2.5   |   24    |   2.5   |   64    |   2.5   |   53
  2.0   |   --    |   2.0   |   --    |   2.0   |   --    |   2.0   |   --
  1.25  |   31    |   1.25  |   23    |   1.25  |   60    |   1.25  |   47
  0.840 |   --    |   0.840 |   --    |   0.840 |   --    |   0.840 |   --
  0.630 |   25    |   0.630 |   22    |   0.630 |   57    |   0.630 |   44
  0.420 |   --    |   0.420 |   --    |   0.420 |   --    |   0.420 |   --
  0.315 |   19    |   0.315 |   20    |   0.315 |   52    |   0.315 |   40
  0.160 |   14    |   0.160 |   18    |   0.160 |   46    |   0.160 |   36
  0.150 |   --    |   0.150 |   --    |   0.150 |   --    |   0.150 |   --
  0.080 |   10    |   0.080 |   16    |   0.080 |   40    |   0.080 |   30

M.C.(%):        3 | M.C.(%):        5 | M.C.(%):        9 | M.C.(%):        7

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


% GRAVEL:      49 | % GRAVEL:      75 | % GRAVEL:      30 | % GRAVEL:      35
% SAND:        41 | % SAND:         9 | % SAND:        30 | % SAND:        35
% FINES:       10 | % FINES:       16 | % FINES:       40 | % FINES:       30

CLASSIFICATION:   | CLASSIFICATION:  | CLASSIFICATION:   | CLASSIFICATION:
WELL-GRADED       | SILTY GRAVEL (GM) | SILTY SAND WITH   | SILTY SAND WITH
GRAVEL WITH SILT  |                   | GRAVEL (SM)       | GRAVEL (SM)
& SAND (GW-GM)    |                   |                   |
===========================================================================
```

PROJECT NUMBER:	092-202101-0312-193	HOLE NUMBER:	244-17
CLIENT:	ENGINEERING-CAPITAL		
PROJECT NAME:	SHAKWAK PROJECT		
PROJECT LOCATION:	SEGMENT 16		
DRILL UNIT:	CME 750		
HOLE LOCATION:	1909+203		
LOGGED BY:	TF	DATE COMPLETED:	93.09.03

FIELD NO: 47
LAB NO: 995
DEPTH: 9.8-10.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	86
20.0	78
12.5	71
10.0	69
5.0	63
2.5	59
2.0	--
1.25	54
0.840	--
0.630	51
0.420	--
0.315	46
0.160	40
0.150	--
0.080	34

M.C.(%): 8

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

% GRAVEL: 37
% SAND: 29
% FINES: 34

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

```
==========================================================================
 PROJECT NUMBER:     092-202101-0312-193HOLE NUMBER:     244-18
 CLIENT:             ENGINEERING-CAPITAL
 PROJECT NAME:       SHAKWAK PROJECT
 PROJECT LOCATION:   SEGMENT 16
 DRILL UNIT:         CME 750
 HOLE LOCATION:      1905+450
 LOGGED BY:          TF                 DATE COMPLETED:  93.09.03

==========================================================================

 FIELD NO:     48   | FIELD NO:     49   | FIELD NO:     50   |
 LAB NO:  996       | LAB NO:  997       | LAB NO:  998       |
 DEPTH:   1.0-1.1   | DEPTH:   2.9-3.1   | DEPTH:   7.9-8.0   |
 TYPE:    AUGER     | TYPE:    AUGER     | TYPE:    AUGER     |
                    |                    |                    |
                    |                    |                    |
 SIEVE   |PERCENT   | SIEVE   |PERCENT   | SIEVE   |PERCENT   |
 SIZE    |PASSING   | SIZE    |PASSING   | SIZE    |PASSING   |
 ----------------   | ----------------   | ----------------   |
 100.0   |   --     | 100.0   |   --     | 100.0   |   --     |
  80.0   |   --     |  80.0   |   --     |  80.0   |   --     |
  50.0   |   --     |  50.0   |   --     |  50.0   |   --     |
  31.5   |   --     |  31.5   |   --     |  31.5   |   --     |
  25.0   |  100     |  25.0   |   --     |  25.0   |  100     |
  20.0   |   96     |  20.0   |  100     |  20.0   |   98     |
  12.5   |   89     |  12.5   |   99     |  12.5   |   97     |
  10.0   |   85     |  10.0   |   99     |  10.0   |   96     |
   5.0   |   75     |   5.0   |   97     |   5.0   |   90     |
   2.5   |   71     |   2.5   |   95     |   2.5   |   84     |
   2.0   |   --     |   2.0   |   --     |   2.0   |   --     |
   1.25  |   67     |   1.25  |   93     |   1.25  |   79     |
   0.840 |   --     |   0.840 |   --     |   0.840 |   --     |
   0.630 |   64     |   0.630 |   92     |   0.630 |   75     |
   0.420 |   --     |   0.420 |   --     |   0.420 |   --     |
   0.315 |   60     |   0.315 |   89     |   0.315 |   71     |
   0.160 |   55     |   0.160 |   86     |   0.160 |   66     |
   0.150 |   --     |   0.150 |   --     |   0.150 |   --     |
   0.080 |   50     |   0.080 |   80     |   0.080 |   60     |
                    |                    |                    |
 M.C.(%):       18  | M.C.(%):       30  | M.C.(%):       25  |
                    |                    |                    |
      LIMITS        |      LIMITS        |      LIMITS        |
 LIQUID:       --   | LIQUID:       --   | LIQUID:       --   |
 PLASTIC:      --   | PLASTIC:      --   | PLASTIC:      --   |
 P.I.:       N.P.   | P.I.:      TRACE   | P.I.:      TRACE   |
                    |                    |                    |
                    |                    |                    |
 % GRAVEL:      25  | % GRAVEL:       3  | % GRAVEL:      10  |
 % SAND:        25  | % SAND:        16  | % SAND:        30  |
 % FINES:       50  | % FINES:       80  | % FINES:       60  |
                    |                    |                    |
 CLASSIFICATION:    | CLASSIFICATION:    | CLASSIFICATION:    |
 SANDY SILT WITH    | SILT WITH SAND     | SANDY SILT (ML)    |
 GRAVEL (ML)        | (ML)               |                    |
                    |                    |                    |
==========================================================================
```

PROJECT NUMBER: 092-202101-0312-193
HOLE NUMBER: 244-19
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK PROJECT
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: CME 750
HOLE LOCATION: 1910+075
LOGGED BY: TF
DATE COMPLETED: 93.09.03

FIELD NO: 51
LAB NO: 999
DEPTH: 0.9-1.1
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	72
20.0	65
12.5	55
10.0	49
5.0	35
2.5	27
2.0	--
1.25	21
0.840	--
0.630	16
0.420	--
0.315	10
0.160	6
0.150	--
0.080	5

M.C.(%): 3

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

% GRAVEL: 65
% SAND: 31
% FINES: 5

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

FIELD NO: 52
LAB NO: 1000
DEPTH: 2.8-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	86
20.0	62
12.5	31
10.0	23
5.0	9
2.5	6
2.0	--
1.25	6
0.840	--
0.630	5
0.420	--
0.315	4
0.160	3
0.150	--
0.080	2

M.C.(%): 2

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

% GRAVEL: 91
% SAND: 7
% FINES: 2

CLASSIFICATION:
POORLY GRADED GRAVEL (GP)

FIELD NO: 53
LAB NO: 1001
DEPTH: 4.8-5.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	100
20.0	81
12.5	51
10.0	38
5.0	19
2.5	13
2.0	--
1.25	10
0.840	--
0.630	9
0.420	--
0.315	7
0.160	5
0.150	--
0.080	4

M.C.(%): 2

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

% GRAVEL: 81
% SAND: 15
% FINES: 4

CLASSIFICATION:
POORLY GRADED GRAVEL WITH SAND (GP)

FIELD NO: 54
LAB NO: 1002
DEPTH: 7.9-8.1
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	100
12.5	99
10.0	96
5.0	89
2.5	83
2.0	--
1.25	78
0.840	--
0.630	74
0.420	--
0.315	68
0.160	62
0.150	--
0.080	57

M.C.(%): 19

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

% GRAVEL: 11
% SAND: 32
% FINES: 57

CLASSIFICATION:
SANDY SILT (ML)

PROJECT NUMBER:	092-202101-0312-193	HOLE NUMBER:	244-19
CLIENT:	ENGINEERING-CAPITAL		
PROJECT NAME:	SHAKWAK PROJECT		
PROJECT LOCATION:	SEGMENT 16		
DRILL UNIT:	CME 750		
HOLE LOCATION:	1910+075		
LOGGED BY:	TF	DATE COMPLETED:	93.09.03

FIELD NO:	55
LAB NO:	1003
DEPTH:	9.9-10.0
TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	100
20.0	93
12.5	88
10.0	85
5.0	81
2.5	74
2.0	--
1.25	68
0.840	--
0.630	62
0.420	--
0.315	56
0.160	52
0.150	--
0.080	48

M.C.(%): 21

LIMITS

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

% GRAVEL:	19
% SAND:	33
% FINES:	48

CLASSIFICATION:
SILTY SAND WITH
GRAVEL (SM)

PROJECT NUMBER:	092-202101-0312-193	HOLE NUMBER:	244-20
CLIENT:	ENGINEERING-CAPITAL		
PROJECT NAME:	SHAKWAK PROJECT		
PROJECT LOCATION:	SEGMENT 16		
DRILL UNIT:	CME 750		
HOLE LOCATION:	1911+800		
LOGGED BY:	TF	DATE COMPLETED:	93.09.03

FIELD NO: 56
LAB NO: 1004
DEPTH: 0.9-1.1
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	100
50.0	76
31.5	--
25.0	71
20.0	62
12.5	49
10.0	43
5.0	29
2.5	18
2.0	--
1.25	10
0.840	--
0.630	6
0.420	--
0.315	3
0.160	2
0.150	--
0.080	1

M.C.(%): 2

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

% GRAVEL: 71
% SAND: 28
% FINES: 1

CLASSIFICATION:
WELL-GRADED GRAVEL WITH SAND (GW)

FIELD NO: 57
LAB NO: 1005
DEPTH: 2.8-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	94
20.0	74
12.5	50
10.0	32
5.0	10
2.5	4
2.0	--
1.25	4
0.840	--
0.630	3
0.420	--
0.315	2
0.160	2
0.150	--
0.080	1

M.C.(%): 1

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

% GRAVEL: 90
% SAND: 9
% FINES: 1

CLASSIFICATION:
POORLY GRADED GRAVEL (GP)

FIELD NO: 58
LAB NO: 1006
DEPTH: 4.8-5.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	85
20.0	66
12.5	35
10.0	27
5.0	14
2.5	9
2.0	--
1.25	6
0.840	--
0.630	5
0.420	--
0.315	3
0.160	2
0.150	--
0.080	1

M.C.(%): 1

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

% GRAVEL: 86
% SAND: 13
% FINES: 1

CLASSIFICATION:
WELL-GRADED GRAVEL (GW)

FIELD NO: 59
LAB NO: 1007
DEPTH: 5.8-6.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	100
12.5	99
10.0	98
5.0	93
2.5	85
2.0	--
1.25	77
0.840	--
0.630	72
0.420	--
0.315	68
0.160	66
0.150	--
0.080	64

M.C.(%): 16

LIMITS
LIQUID: 23.3
PLASTIC: 16.8
P.I.: 6.5

% GRAVEL: 7
% SAND: 29
% FINES: 64

CLASSIFICATION:
SANDY SILTY CLAY (CL-ML)

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 198-168
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1895+850
LOGGED BY: AW DATE COMPLETED: 92.08.19

FIELD NO: 390	FIELD NO: 391	FIELD NO: 392
LAB NO: 6971	LAB NO: 6972	LAB NO: 6973
DEPTH: 1.2-1.5	DEPTH: 2.7-3.0	DEPTH: 4.2-4.5
TYPE: AUGER	TYPE: AUGER	TYPE: AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	100	80.0	--
50.0	100	50.0	92	50.0	--
31.5	--	31.5	--	31.5	--
25.0	81	25.0	51	25.0	100
20.0	78	20.0	45	20.0	96
12.5	66	12.5	38	12.5	91
10.0	61	10.0	34	10.0	86
5.0	47	5.0	26	5.0	67
2.5	39	2.5	21	2.5	49
2.0	--	2.0	--	2.0	--
1.25	30	1.25	16	1.25	32
0.840	--	0.840	--	0.840	--
0.630	23	0.630	12	0.630	20
0.420	--	0.420	--	0.420	--
0.315	16	0.315	9	0.315	12
0.160	12	0.160	7	0.160	7
0.150	--	0.150	--	0.150	--
0.080	9	0.080	5	0.080	5

M.C.(%): 7	M.C.(%): 4	M.C.(%): 8
LIMITS	LIMITS	LIMITS
LIQUID: --	LIQUID: --	LIQUID: --
PLASTIC: --	PLASTIC: --	PLASTIC: --
P.I.: N.P.	P.I.: N.P.	P.I.: N.P.
% GRAVEL: 53	% GRAVEL: 74	% GRAVEL: 33
% SAND: 38	% SAND: 21	% SAND: 62
% FINES: 9	% FINES: 5	% FINES: 5
CLASSIFICATION: WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)	CLASSIFICATION: POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	CLASSIFICATION: WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)

PROJECT NUMBER: 202101 0312 HOLE NUMBER: 198-169
CLIENT: SHAKWAK PROJECT
PROJECT NAME: ALASKA HIGHWAY RE-CONSTRUCTION
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: 36002
HOLE LOCATION: 1895+750
LOGGED BY: AW DATE COMPLETED: 92.08.19

FIELD NO: 393
LAB NO: 6974
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	63
20.0	58
12.5	49
10.0	46
5.0	37
2.5	31
2.0	--
1.25	24
0.840	--
0.630	16
0.420	--
0.315	8
0.160	5
0.150	--
0.080	4

M.C.(%): 5

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

% GRAVEL: 63
% SAND: 33
% FINES: 4

CLASSIFICATION:
POORLY GRADED GRAVEL WITH SAND (GP)

FIELD NO: 394
LAB NO: 6975
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	87
20.0	84
12.5	72
10.0	68
5.0	52
2.5	40
2.0	--
1.25	26
0.840	--
0.630	15
0.420	--
0.315	8
0.160	5
0.150	--
0.080	4

M.C.(%): 5

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

% GRAVEL: 48
% SAND: 48
% FINES: 4

CLASSIFICATION:
POORLY GRADED SAND WITH GRAVEL (SP)

FIELD NO: 395
LAB NO: 6976
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	100
20.0	98
12.5	86
10.0	82
5.0	68
2.5	54
2.0	--
1.25	38
0.840	--
0.630	25
0.420	--
0.315	18
0.160	12
0.150	--
0.080	7

M.C.(%): 8

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

% GRAVEL: 32
% SAND: 61
% FINES: 7

CLASSIFICATION:
WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)

PROJECT NUMBER: 202101 0103
HOLE NUMBER: 207-182
CLIENT: SHAKWAK PROJECT
PROJECT NAME: SEGMENT 16
PROJECT LOCATION: A/H KM 1895-1916
DRILL UNIT:
HOLE LOCATION: 1895+650
LOGGED BY: AW
DATE COMPLETED: 92.08.21

FIELD NO: 427
LAB NO: 7011
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	87
20.0	79
12.5	71
10.0	63
5.0	52
2.5	43
2.0	--
1.25	34
0.840	--
0.630	24
0.420	--
0.315	13
0.160	6
0.150	--
0.080	3

M.C.(%): 5

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

% GRAVEL: 48
% SAND: 48
% FINES: 3

CLASSIFICATION:
POORLY GRADED SAND WITH GRAVEL (SP)

FIELD NO: 428
LAB NO: 7012
DEPTH: 2.7-3.0
TYPE: AUGER
ORGANICS

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	--
5.0	100
2.5	100
2.0	--
1.25	99
0.840	--
0.630	98
0.420	--
0.315	90
0.160	63
0.150	--
0.080	40

M.C.(%): 28

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

% GRAVEL: 0
% SAND: 60
% FINES: 40

CLASSIFICATION:
SILTY SAND (SM)

FIELD NO: 429
LAB NO: 7013
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	100
5.0	98
2.5	97
2.0	--
1.25	95
0.840	--
0.630	94
0.420	--
0.315	92
0.160	89
0.150	--
0.080	87

M.C.(%): 30

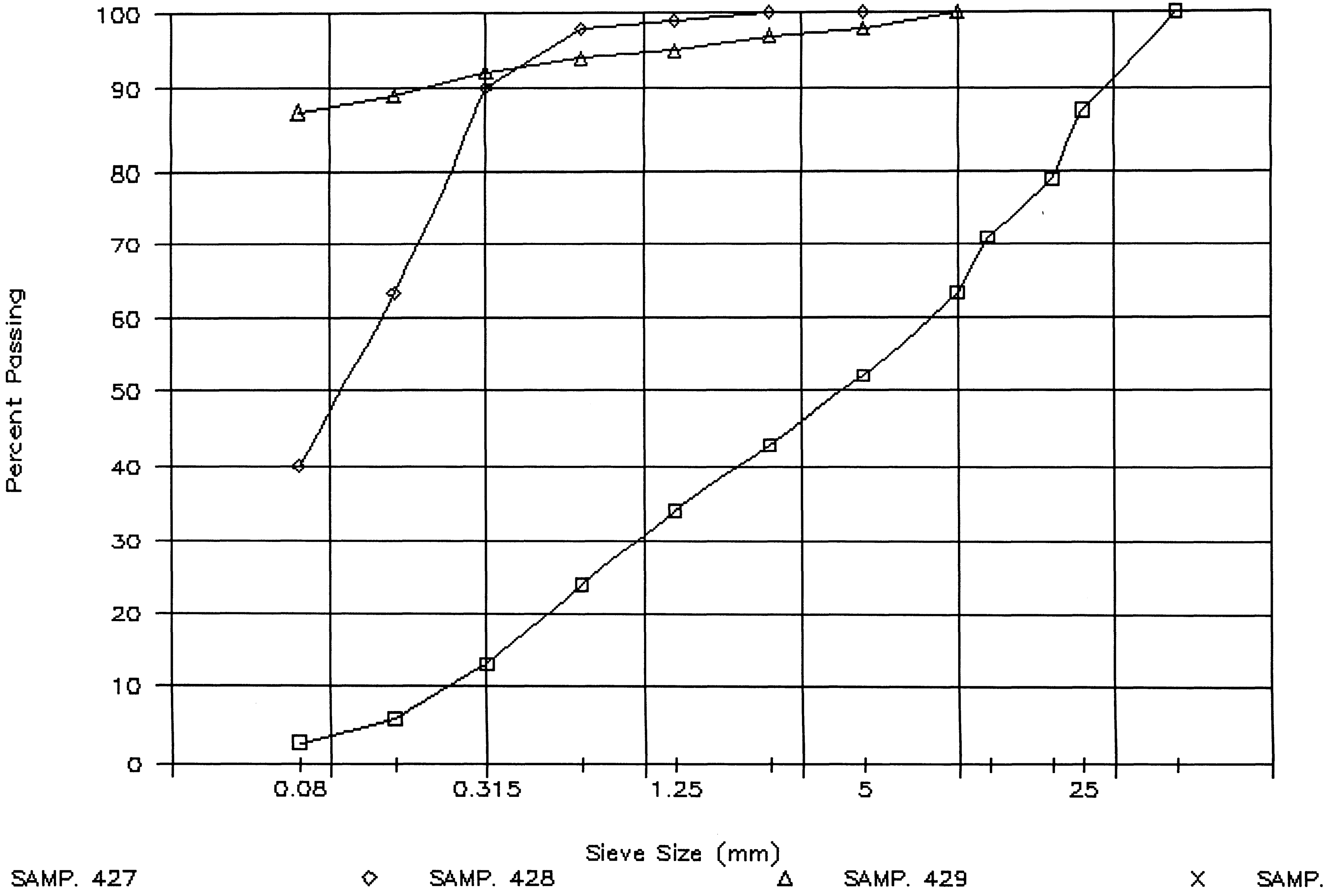
LIMITS
LIQUID: 41.1
PLASTIC: 24.6
P.I.: 16.5

% GRAVEL: 2
% SAND: 11
% FINES: 87

CLASSIFICATION:
LEAN CLAY (CL)

Y.T.G. TRANSPORTATION ENGINEERING

Grain Size Analysis — Hole 207–182



PROJECT NUMBER:	202101 0103	HOLE NUMBER:	207-183
CLIENT:	SHAKWAK PROJECT		
PROJECT NAME:	SEGMENT 16		
PROJECT LOCATION:	A/H KM 1895-1916		
DRILL UNIT:			
HOLE LOCATION:	1895+500		
LOGGED BY:	AW	DATE COMPLETED:	92.08.21

FIELD NO: 430
LAB NO: 7014
DEPTH: 1.2-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	88
20.0	88
12.5	87
10.0	86
5.0	80
2.5	70
2.0	--
1.25	59
0.840	--
0.630	46
0.420	--
0.315	34
0.160	24
0.150	--
0.080	17

M.C.(%): 9

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

% GRAVEL: 20
% SAND: 62
% FINES: 17

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

FIELD NO: 431
LAB NO: 7015
DEPTH: 2.7-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	82
20.0	78
12.5	66
10.0	61
5.0	46
2.5	36
2.0	--
1.25	27
0.840	--
0.630	19
0.420	--
0.315	10
0.160	6
0.150	--
0.080	4

M.C.(%): 8

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

% GRAVEL: 54
% SAND: 42
% FINES: 4

CLASSIFICATION:
POORLY GRADED GRAVEL WITH SAND (GP)

FIELD NO: 432
LAB NO: 7016
DEPTH: 4.2-4.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	95
20.0	93
12.5	82
10.0	78
5.0	70
2.5	65
2.0	--
1.25	60
0.840	--
0.630	56
0.420	--
0.315	52
0.160	46
0.150	--
0.080	40

M.C.(%): 12

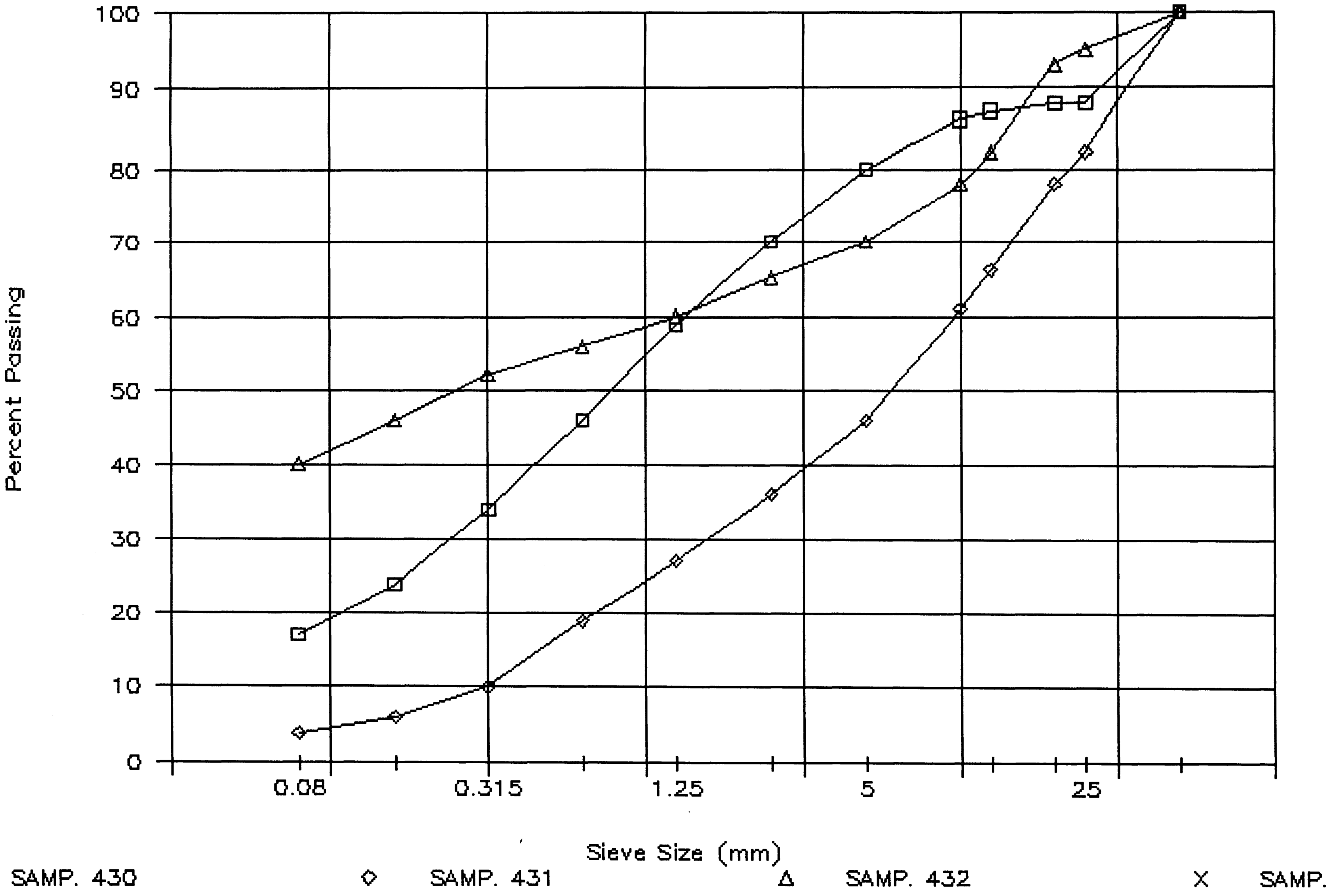
LIMITS
LIQUID: --
PLASTIC: --
P.I.: N.P.

% GRAVEL: 30
% SAND: 29
% FINES: 40

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

Y.T.G. TRANSPORTATION ENGINEERING

Grain Size Analysis — Hole 207–183



PROJECT NUMBER: 092-202101-0312-193HOLE NUMBER: 244-0
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK PROJECT
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: CME
HOLE LOCATION: 1905+600 O/S 15M LT
LOGGED BY: TF DATE COMPLETED: 93.09.01

FIELD NO: 1
LAB NO: 948
DEPTH: 1.0-1.2
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	--
5.0	100
2.5	97
2.0	--
1.25	95
0.840	--
0.630	92
0.420	--
0.315	87
0.160	82
0.150	--
0.080	76

M.C.(%): 45

LIMITS
LIQUID: 36.1
PLASTIC: 24.2
P.I.: 11.9

% GRAVEL: 0
% SAND: 24
% FINES: 76

CLASSIFICATION:
LEAN CLAY WITH SAND (CL)

FIELD NO: 2
LAB NO: 949
DEPTH: 3.0-3.2
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	100
12.5	99
10.0	99
5.0	99
2.5	98
2.0	--
1.25	98
0.840	--
0.630	97
0.420	--
0.315	97
0.160	95
0.150	--
0.080	94

M.C.(%): 45

LIMITS
LIQUID: 35.1
PLASTIC: 22.5
P.I.: 12.6

% GRAVEL: 1
% SAND: 5
% FINES: 94

CLASSIFICATION:
LEAN CLAY (CL)

PROJECT NUMBER: 092-202101-0312-193HOLE NUMBER: 244-1
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK PROJECT
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: CME
HOLE LOCATION: 1905+675 O/S 15M LT
LOGGED BY: TF DATE COMPLETED: 93.09.01

FIELD NO:	3	FIELD NO:	4	FIELD NO:	5
LAB NO:	950	LAB NO:	951	LAB NO:	952
DEPTH:	1.4-1.6	DEPTH:	7.0-7.2	DEPTH:	11.0-11.
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--
50.0	100	50.0	100	50.0	100
31.5	--	31.5	--	31.5	--
25.0	92	25.0	94	25.0	85
20.0	84	20.0	92	20.0	80
12.5	79	12.5	87	12.5	79
10.0	75	10.0	87	10.0	76
5.0	70	5.0	86	5.0	70
2.5	66	2.5	85	2.5	67
2.0	--	2.0	--	2.0	--
1.25	63	1.25	84	1.25	64
0.840	--	0.840	--	0.840	--
0.630	60	0.630	83	0.630	61
0.420	--	0.420	--	0.420	--
0.315	57	0.315	81	0.315	59
0.160	53	0.160	78	0.160	55
0.150	--	0.150	--	0.150	--
0.080	52	0.080	76	0.080	52
M.C.(%):	26	M.C.(%):	19	M.C.(%):	13
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	TRACE	P.I.:	N.P.
% GRAVEL:	30	% GRAVEL:	14	% GRAVEL:	30
% SAND:	18	% SAND:	11	% SAND:	18
% FINES:	52	% FINES:	76	% FINES:	52
CLASSIFICATION:	GRAVELLY SILT WITH SAND (ML)	CLASSIFICATION:	SILT WITH GRAVEL (ML)	CLASSIFICATION:	GRAVELLY SILT WITH SAND (ML)

PROJECT NUMBER: 092-202101-0312-193HOLE NUMBER: 244-20
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK PROJECT
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: CME 750
HOLE LOCATION: 1911+800
LOGGED BY: TF DATE COMPLETED: 93.09.03

FIELD NO: 60
LAB NO: 1008
DEPTH: 9.8-10.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	100
20.0	96
12.5	94
10.0	94
5.0	93
2.5	92
2.0	--
1.25	90
0.840	--
0.630	88
0.420	--
0.315	86
0.160	84
0.150	--
0.080	79

M.C.(%): 21

LIMITS
LIQUID: 20.3
PLASTIC: 15.4
P.I.: 4.9

% GRAVEL: 7
% SAND: 14
% FINES: 79

CLASSIFICATION:
SILTY CLAY WITH
SAND (CL-ML)

```
===========================================================================
 PROJECT NUMBER:     092-202101-0312-193HOLE NUMBER:     944-21
 CLIENT:             ENGINEERING-CAPITAL
 PROJECT NAME:       SHAKWAK PROJECT
 PROJECT LOCATION:   SEGMENT 16
 DRILL UNIT:         CME 750
 HOLE LOCATION:      1913+250
 LOGGED BY:          TF                 DATE COMPLETED:  93.09.04

===========================================================================
                    |                  |                  |
 FIELD NO:      60  | FIELD NO:     61 | FIELD NO:     62 |
 LAB NO:   1009     | LAB NO:  1010    | LAB NO:  1011    |
 DEPTH:    0.9-1.0  | DEPTH:   2.0-2.2 | DEPTH:   3.9-4.1 |
 TYPE:     AUGER    | TYPE:    AUGER   | TYPE:    AUGER   |
                    | ORGANICS         |                  |
                    |                  |                  |
                    |                  |                  |
 SIEVE   |PERCENT   | SIEVE   |PERCENT | SIEVE   |PERCENT |
 SIZE    |PASSING   | SIZE    |PASSING | SIZE    |PASSING |
 ----------------   | ---------------- | ---------------- |
 100.0   |   --     | 100.0   |   --   | 100.0   |   --   |
  80.0   |   --     |  80.0   |   --   |  80.0   |   --   |
  50.0   |   --     |  50.0   |   --   |  50.0   |  100   |
  31.5   |   --     |  31.5   |   --   |  31.5   |   --   |
  25.0   |  100     |  25.0   |   --   |  25.0   |   58   |
  20.0   |   95     |  20.0   |  100   |  20.0   |   43   |
  12.5   |   95     |  12.5   |   98   |  12.5   |   22   |
  10.0   |   95     |  10.0   |   98   |  10.0   |   19   |
   5.0   |   92     |   5.0   |   96   |   5.0   |   15   |
   2.5   |   89     |   2.5   |   95   |   2.5   |   14   |
   2.0   |   --     |   2.0   |   --   |   2.0   |   --   |
   1.25  |   86     |   1.25  |   93   |   1.25  |   14   |
   0.840 |   --     |   0.840 |   --   |   0.840 |   --   |
   0.630 |   83     |   0.630 |   92   |   0.630 |   13   |
   0.420 |   --     |   0.420 |   --   |   0.420 |   --   |
   0.315 |   81     |   0.315 |   91   |   0.315 |   13   |
   0.160 |   79     |   0.160 |   89   |   0.160 |   12   |
   0.150 |   --     |   0.150 |   --   |   0.150 |   --   |
   0.080 |   75     |   0.080 |   86   |   0.080 |   12   |
                    |                  |                  |
 M.C.(%):       25  | M.C.(%):      25 | M.C.(%):       6 |
                    |                  |                  |
      LIMITS        |      LIMITS      |      LIMITS      |
 LIQUID:        --  | LIQUID:       -- | LIQUID:       -- |
 PLASTIC:       --  | PLASTIC:      -- | PLASTIC:      -- |
 P.I.:        N.P.  | P.I.:       N.P. | P.I.:       N.P. |
                    |                  |                  |
                    |                  |                  |
 % GRAVEL:       8  | % GRAVEL:      4 | % GRAVEL:     85 |
 % SAND:        17  | % SAND:       10 | % SAND:        3 |
 % FINES:       75  | % FINES:      86 | % FINES:      12 |
                    |                  |                  |
 CLASSIFICATION:    | CLASSIFICATION:  | CLASSIFICATION:  |
 SILT WITH SAND     | SILT (ML)        | POORLY GRADED    |
 (ML)               |                  | GRAVEL WITH SILT |
                    |                  | (GP-GM)          |
===========================================================================
```

PROJECT NUMBER: 092-202101-0312-193
HOLE NUMBER: 244-22
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK PROJECT
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: CME 750
HOLE LOCATION: 1913+350 O/S 9M RT
LOGGED BY: TF
DATE COMPLETED: 93.09.04

FIELD NO: 63
LAB NO: 1012
DEPTH: 0.9-1.0
TYPE: AUGER
ORGANICS

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	100
5.0	99
2.5	97
2.0	--
1.25	93
0.840	--
0.630	89
0.420	--
0.315	86
0.160	83
0.150	--
0.080	79

M.C.(%): 39

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

% GRAVEL: 1
% SAND: 20
% FINES: 79

CLASSIFICATION:
SILT WITH SAND (ML)

FIELD NO: 64
LAB NO: 1013
DEPTH: 1.9-2.1
TYPE: AUGER
ORGANICS

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	100
5.0	100
2.5	99
2.0	--
1.25	97
0.840	--
0.630	95
0.420	--
0.315	94
0.160	90
0.150	--
0.080	83

M.C.(%): 38

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

% GRAVEL: 0
% SAND: 17
% FINES: 83

CLASSIFICATION:
SILT WITH SAND (ML)

FIELD NO: 65
LAB NO: 1014
DEPTH: 3.9-4.1
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	63
20.0	63
12.5	59
10.0	58
5.0	56
2.5	55
2.0	--
1.25	53
0.840	--
0.630	52
0.420	--
0.315	50
0.160	49
0.150	--
0.080	46

M.C.(%): 18

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

% GRAVEL: 44
% SAND: 10
% FINES: 46

CLASSIFICATION:
SILTY GRAVEL (GM)

FIELD NO: 66
LAB NO: 1015
DEPTH: 6.8-7.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	86
20.0	52
12.5	41
10.0	37
5.0	35
2.5	34
2.0	--
1.25	32
0.840	--
0.630	31
0.420	--
0.315	30
0.160	28
0.150	--
0.080	26

M.C.(%): 12

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

% GRAVEL: 65
% SAND: 9
% FINES: 26

CLASSIFICATION:
SILTY GRAVEL (GM)

PROJECT NUMBER: 092-202101-0312-193HOLE NUMBER: 244-23
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK PROJECT
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: CME 750
HOLE LOCATION: 1913+575 O/S 3M LT
LOGGED BY: TF DATE COMPLETED: 93.09.04

FIELD NO: 67
LAB NO: 1016
DEPTH: 0.9-1.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	93
20.0	83
12.5	70
10.0	62
5.0	49
2.5	41
2.0	--
1.25	34
0.840	--
0.630	28
0.420	--
0.315	22
0.160	18
0.150	--
0.080	15

M.C.(%): 7

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

% GRAVEL: 51
% SAND: 34
% FINES: 15

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

FIELD NO: 68
LAB NO: 1017
DEPTH: 2.8-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	94
20.0	85
12.5	58
10.0	51
5.0	36
2.5	28
2.0	--
1.25	23
0.840	--
0.630	19
0.420	--
0.315	13
0.160	10
0.150	--
0.080	8

M.C.(%): 4

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

% GRAVEL: 64
% SAND: 28
% FINES: 8

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

FIELD NO: 69
LAB NO: 1018
DEPTH: 5.9-6.1
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	100
20.0	90
12.5	79
10.0	73
5.0	57
2.5	46
2.0	--
1.25	43
0.840	--
0.630	32
0.420	--
0.315	25
0.160	19
0.150	--
0.080	14

M.C.(%): 6

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

% GRAVEL: 43
% SAND: 43
% FINES: 14

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

PROJECT NUMBER: 092-202101-0312-193HOLE NUMBER: 244-24
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK PROJECT
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: CME 750
HOLE LOCATION: 1913+850 O/S 2M LT
LOGGED BY: TF DATE COMPLETED: 93.09.04

FIELD NO: 70
LAB NO: 1019
DEPTH: 0.9-1.1
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	86
20.0	77
12.5	71
10.0	68
5.0	60
2.5	52
2.0	--
1.25	45
0.840	--
0.630	40
0.420	--
0.315	35
0.160	31
0.150	--
0.080	28

M.C.(%): 9

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

% GRAVEL: 40
% SAND: 32
% FINES: 28

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

FIELD NO: 71
LAB NO: 1020
DEPTH: 2.8-3.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	100
20.0	97
12.5	97
10.0	95
5.0	90
2.5	86
2.0	--
1.25	83
0.840	--
0.630	80
0.420	--
0.315	76
0.160	74
0.150	--
0.080	71

M.C.(%): 30

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

% GRAVEL: 10
% SAND: 19
% FINES: 71

CLASSIFICATION:
SILT WITH SAND (ML)

FIELD NO: 72
LAB NO: 1021
DEPTH: 4.2-4.4
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	100
5.0	100
2.5	99
2.0	--
1.25	98
0.840	--
0.630	96
0.420	--
0.315	95
0.160	94
0.150	--
0.080	92

M.C.(%): 38

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

% GRAVEL: 0
% SAND: 8
% FINES: 92

CLASSIFICATION:
SILT (ML)

FIELD NO: 73
LAB NO: 1022
DEPTH: 6.0-6.2
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	100
10.0	100
5.0	99
2.5	99
2.0	--
1.25	97
0.840	--
0.630	96
0.420	--
0.315	95
0.160	94
0.150	--
0.080	93

M.C.(%): 31

LIMITS
LIQUID: 27.1
PLASTIC: 24.3
P.I.: 2.8

% GRAVEL: 1
% SAND: 7
% FINES: 93

CLASSIFICATION:
SILT (ML)

PROJECT NUMBER: 092-202101-0312-193HOLE NUMBER: 244-28
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK PROJECT
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: CME 750
HOLE LOCATION: 1914+850 O/S 3M LT
LOGGED BY: TF DATE COMPLETED: 93.09.04

FIELD NO:	80	FIELD NO:	81	FIELD NO:	82
LAB NO:	1029	LAB NO:	1030	LAB NO:	1031
DEPTH:	0.9-1.1	DEPTH:	2.4-2.6	DEPTH:	4.0-4.2
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--
50.0	100	50.0	--	50.0	100
31.5	--	31.5	--	31.5	--
25.0	93	25.0	--	25.0	88
20.0	93	20.0	100	20.0	85
12.5	91	12.5	89	12.5	78
10.0	84	10.0	87	10.0	75
5.0	76	5.0	80	5.0	70
2.5	71	2.5	72	2.5	66
2.0	--	2.0	--	2.0	--
1.25	68	1.25	66	1.25	62
0.840	--	0.840	--	0.840	--
0.630	64	0.630	60	0.630	58
0.420	--	0.420	--	0.420	--
0.315	60	0.315	51	0.315	52
0.160	56	0.160	42	0.160	46
0.150	--	0.150	--	0.150	--
0.080	51	0.080	35	0.080	39
M.C.(%):	16	M.C.(%):	12	M.C.(%):	12
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	TRACE	P.I.:	N.P.
% GRAVEL:	24	% GRAVEL:	20	% GRAVEL:	30
% SAND:	25	% SAND:	45	% SAND:	31
% FINES:	51	% FINES:	35	% FINES:	39
CLASSIFICATION: SANDY SILT WITH GRAVEL (ML)		CLASSIFICATION: SILTY SAND WITH GRAVEL (SM)		CLASSIFICATION: SILTY SAND WITH GRAVEL (SM)	

PROJECT NUMBER: 092-202101-0312-193HOLE NUMBER: 245-33
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK PROJECT
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: CME 750
HOLE LOCATION: 1915+375
LOGGED BY: TF DATE COMPLETED: 93.09.07

FIELD NO: 91	FIELD NO: 92
LAB NO: 1040	LAB NO: 1041
DEPTH: 1.2-1.4	DEPTH: 2.8-3.0
TYPE: AUGER	TYPE: AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--
80.0	--	80.0	--
50.0	100	50.0	100
31.5	--	31.5	--
25.0	92	25.0	90
20.0	77	20.0	90
12.5	77	12.5	90
10.0	70	10.0	88
5.0	66	5.0	82
2.5	62	2.5	76
2.0	--	2.0	--
1.25	59	1.25	72
0.840	--	0.840	--
0.630	57	0.630	68
0.420	--	0.420	--
0.315	52	0.315	62
0.160	47	0.160	57
0.150	--	0.150	--
0.080	44	0.080	53

M.C.(%): 21	M.C.(%): 20
LIMITS	LIMITS
LIQUID: --	LIQUID: --
PLASTIC: --	PLASTIC: --
P.I.: N.P.	P.I.: N.P.
% GRAVEL: 34	% GRAVEL: 18
% SAND: 22	% SAND: 29
% FINES: 44	% FINES: 53
CLASSIFICATION: SILTY GRAVEL WITH SAND (GM)	CLASSIFICATION: SANDY SILT WITH GRAVEL (ML)

PROJECT NUMBER: 092-202101-0312-193HOLE NUMBER: 245-34
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK PROJECT
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: CME 750
HOLE LOCATION: 1909+900 O/S 18M RT
LOGGED BY: TF DATE COMPLETED: 93.09.07

FIELD NO: 93
LAB NO: 1042
DEPTH: 0.9-1.1
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	89
20.0	77
12.5	65
10.0	59
5.0	45
2.5	37
2.0	--
1.25	32
0.840	--
0.630	28
0.420	--
0.315	24
0.160	21
0.150	--
0.080	17

M.C.(%): 5

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

% GRAVEL: 55
% SAND: 28
% FINES: 17

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

FIELD NO: 94
LAB NO: 1043
DEPTH: 1.9-2.1
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	100
50.0	84
31.5	--
25.0	70
20.0	59
12.5	46
10.0	33
5.0	19
2.5	15
2.0	--
1.25	14
0.840	--
0.630	13
0.420	--
0.315	11
0.160	9
0.150	--
0.080	8

M.C.(%): 4

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

% GRAVEL: 81
% SAND: 11
% FINES: 8

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

FIELD NO: 95
LAB NO: 1044
DEPTH: 3.8-4.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	100
12.5	98
10.0	98
5.0	97
2.5	96
2.0	--
1.25	95
0.840	--
0.630	94
0.420	--
0.315	93
0.160	91
0.150	--
0.080	87

M.C.(%): 19

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

% GRAVEL: 3
% SAND: 11
% FINES: 87

CLASSIFICATION:
SILT (ML)

FIELD NO: 96
LAB NO: 1045
DEPTH: 6.8-7.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	100
12.5	99
10.0	97
5.0	89
2.5	81
2.0	--
1.25	75
0.840	--
0.630	69
0.420	--
0.315	63
0.160	57
0.150	--
0.080	52

M.C.(%): 19

LIMITS
LIQUID: 21.9
PLASTIC: 15.1
P.I.: 6.8

% GRAVEL: 11
% SAND: 36
% FINES: 52

CLASSIFICATION:
SANDY SILTY CLAY (CL-ML)

PROJECT NUMBER: 092-202101-0312-193
HOLE NUMBER: 245-41
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK PROJECT
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: CME 750
HOLE LOCATION: 1904+600
LOGGED BY: TF
DATE COMPLETED: 93.09.08

FIELD NO: 105
LAB NO: 1054
DEPTH: 0.9-1.1
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	83
20.0	64
12.5	38
10.0	26
5.0	12
2.5	7
2.0	--
1.25	6
0.840	--
0.630	6
0.420	--
0.315	5
0.160	5
0.150	--
0.080	4

M.C.(%): 3

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

% GRAVEL: 88
% SAND: 8
% FINES: 4

CLASSIFICATION:
WELL-GRADED
GRAVEL (GW)

PROJECT NUMBER: 092-202101-0312-193
HOLE NUMBER: 245-45
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK PROJECT
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: CME 750
HOLE LOCATION: 1895+600 O/S 4M RT
LOGGED BY: TF
DATE COMPLETED: 93.09.10

FIELD NO: 111
LAB NO: 1060
DEPTH: 0.9-1.1
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	78
20.0	67
12.5	54
10.0	51
5.0	43
2.5	38
2.0	--
1.25	33
0.840	--
0.630	29
0.420	--
0.315	22
0.160	13
0.150	--
0.080	7

M.C.(%): 6

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

% GRAVEL: 57
% SAND: 36
% FINES: 7

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

PROJECT NUMBER: 092-202101-0312-193HOLE NUMBER: 245-46
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK PROJECT
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: CME 750
HOLE LOCATION: 1895+000
LOGGED BY: TF DATE COMPLETED: 93.09.10

FIELD NO:	112	FIELD NO:	113
LAB NO:	1061	LAB NO:	1062
DEPTH:	0.9-1.1	DEPTH:	1.9-2.1
TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--
80.0	--	80.0	--
50.0	--	50.0	--
31.5	--	31.5	--
25.0	--	25.0	--
20.0	--	20.0	--
12.5	--	12.5	--
10.0	--	10.0	--
5.0	100	5.0	100
2.5	99	2.5	97
2.0	--	2.0	--
1.25	99	1.25	94
0.840	--	0.840	--
0.630	98	0.630	91
0.420	--	0.420	--
0.315	95	0.315	88
0.160	79	0.160	84
0.150	--	0.150	--
0.080	61	0.080	78

M.C.(%):	33	M.C.(%):	45
LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	0	% GRAVEL:	0
% SAND:	39	% SAND:	22
% FINES:	61	% FINES:	78
CLASSIFICATION:	SANDY SILT (ML)	CLASSIFICATION:	SILT WITH SAND (ML)

PROJECT NUMBER: 092-202101-0312-193
HOLE NUMBER: 245-47
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK PROJECT
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: CME 750
HOLE LOCATION: 1894+900
LOGGED BY: TF
DATE COMPLETED: 93.09.10

FIELD NO: 114
LAB NO: 1063
DEPTH: 1.8-2.0
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	97
20.0	89
12.5	80
10.0	71
5.0	51
2.5	40
2.0	--
1.25	31
0.840	--
0.630	23
0.420	--
0.315	15
0.160	10
0.150	--
0.080	7

M.C.(%): 6

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

% GRAVEL: 49
% SAND: 44
% FINES: 7

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

FIELD NO: 115
LAB NO: 1064
DEPTH: 3.0-3.2
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	96
20.0	91
12.5	80
10.0	69
5.0	47
2.5	38
2.0	--
1.25	32
0.840	--
0.630	27
0.420	--
0.315	21
0.160	16
0.150	--
0.080	13

M.C.(%): 8

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

% GRAVEL: 53
% SAND: 34
% FINES: 13

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

PROJECT NUMBER: 092-202101-0312-193HOLE NUMBER: 245-48
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK PROJECT
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: CME 750
HOLE LOCATION: 1894+800
LOGGED BY: TF DATE COMPLETED: 93.09.10

FIELD NO:	116	FIELD NO:	117
LAB NO:	1065	LAB NO:	1066
DEPTH:	0.9-1.1	DEPTH:	2.9-3.1
TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--
80.0	--	80.0	--
50.0	100	50.0	100
31.5	--	31.5	--
25.0	92	25.0	81
20.0	84	20.0	62
12.5	70	12.5	48
10.0	60	10.0	39
5.0	43	5.0	16
2.5	33	2.5	9
2.0	--	2.0	--
1.25	26	1.25	7
0.840	--	0.840	--
0.630	20	0.630	6
0.420	--	0.420	--
0.315	15	0.315	5
0.160	12	0.160	4
0.150	--	0.150	--
0.080	10	0.080	3

M.C.(%):	4	M.C.(%):	2
LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	57	% GRAVEL:	84
% SAND:	33	% SAND:	13
% FINES:	10	% FINES:	3
CLASSIFICATION: POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)		CLASSIFICATION: WELL-GRADED GRAVEL (GW)	

PROJECT NUMBER: 092-202101-0312-193HOLE NUMBER: 245-49
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK PROJECT
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: CME 750
HOLE LOCATION: 1894+700
LOGGED BY: TF DATE COMPLETED: 93.09.10

FIELD NO: 118
LAB NO: 1067
DEPTH: 0.8-1.0
TYPE: AUGER
ORGANIC

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	--
5.0	100
2.5	97
2.0	--
1.25	91
0.840	--
0.630	85
0.420	--
0.315	80
0.160	74
0.150	--
0.080	69

M.C.(%): 102

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

% GRAVEL: 0
% SAND: 31
% FINES: 69

CLASSIFICATION:
SANDY SILT (ML)

PROJECT NUMBER: 092-202101-0312-193HOLE NUMBER: 245-50
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK PROJECT
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: CME 750
HOLE LOCATION: 1894+600
LOGGED BY: TF DATE COMPLETED: 93.09.11

FIELD NO:	119	FIELD NO:	120
LAB NO:	1068	LAB NO:	1069
DEPTH:	1.2-1.4	DEPTH:	2.0-2.2
TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--
80.0	--	80.0	--
50.0	--	50.0	--
31.5	--	31.5	--
25.0	--	25.0	--
20.0	--	20.0	--
12.5	--	12.5	--
10.0	--	10.0	--
5.0	100	5.0	100
2.5	100	2.5	98
2.0	--	2.0	--
1.25	99	1.25	97
0.840	--	0.840	--
0.630	98	0.630	96
0.420	--	0.420	--
0.315	97	0.315	94
0.160	95	0.160	89
0.150	--	0.150	--
0.080	87	0.080	75

M.C.(%):	88	M.C.(%):	39
LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	0	% GRAVEL:	0
% SAND:	13	% SAND:	25
% FINES:	87	% FINES:	75
CLASSIFICATION:	SILT (ML)	CLASSIFICATION:	SILT WITH SAND (ML)

PROJECT NUMBER: 092-202101-0312-193HOLE NUMBER: 245-52
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK PROJECT
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: CME 750
HOLE LOCATION: 1894+400 O/S 6M LT
LOGGED BY: TF DATE COMPLETED: 93.09.11

FIELD NO: 121
LAB NO: 1070
DEPTH: 1.3-1.5
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	63
20.0	48
12.5	28
10.0	22
5.0	13
2.5	11
2.0	--
1.25	9
0.840	--
0.630	8
0.420	--
0.315	7
0.160	5
0.150	--
0.080	4

M.C.(%): 3

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

% GRAVEL: 87
% SAND: 9
% FINES: 4

CLASSIFICATION:
POORLY GRADED GRAVEL (GP)

FIELD NO: 122
LAB NO: 1071
DEPTH: 2.4-2.6
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	93
20.0	93
12.5	93
10.0	92
5.0	91
2.5	90
2.0	--
1.25	88
0.840	--
0.630	87
0.420	--
0.315	83
0.160	76
0.150	--
0.080	62

M.C.(%): 26

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

% GRAVEL: 9
% SAND: 29
% FINES: 62

CLASSIFICATION:
SANDY SILT (ML)

FIELD NO: 123
LAB NO: 1072
DEPTH: 4.6-4.8
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	67
20.0	49
12.5	35
10.0	31
5.0	26
2.5	24
2.0	--
1.25	22
0.840	--
0.630	21
0.420	--
0.315	19
0.160	16
0.150	--
0.080	13

M.C.(%): 6

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

% GRAVEL: 74
% SAND: 13
% FINES: 13

CLASSIFICATION:
SILTY GRAVEL (GM)

PROJECT NUMBER: 092-202101-0312-193 HOLE NUMBER: 245-53
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK PROJECT
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: CME 750
HOLE LOCATION: 1894+300 O/S 5M RT
LOGGED BY: TF DATE COMPLETED: 93.09.11

FIELD NO: 124
LAB NO: 1073
DEPTH: 0.9-1.1
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	49
20.0	35
12.5	28
10.0	24
5.0	18
2.5	15
2.0	--
1.25	13
0.840	--
0.630	12
0.420	--
0.315	10
0.160	9
0.150	--
0.080	8

M.C.(%): 5

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

% GRAVEL: 82
% SAND: 10
% FINES: 8

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

FIELD NO: 125
LAB NO: 1074
DEPTH: 2.9-3.1
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	86
20.0	71
12.5	42
10.0	32
5.0	24
2.5	23
2.0	--
1.25	22
0.840	--
0.630	21
0.420	--
0.315	19
0.160	14
0.150	--
0.080	10

M.C.(%): 7

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

% GRAVEL: 76
% SAND: 13
% FINES: 10

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

FIELD NO: 126
LAB NO: 1075
DEPTH: 4.7-4.9
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	86
20.0	77
12.5	64
10.0	58
5.0	48
2.5	41
2.0	--
1.25	37
0.840	--
0.630	33
0.420	--
0.315	27
0.160	19
0.150	--
0.080	13

M.C.(%): 6

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

% GRAVEL: 52
% SAND: 34
% FINES: 13

CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)

PROJECT NUMBER: 092-202101-0312-193HOLE NUMBER: 245-54
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK PROJECT
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: CME 750
HOLE LOCATION: 1894+200 O/S 5M RT
LOGGED BY: TF DATE COMPLETED: 93.09.11

FIELD NO:	127	FIELD NO:	128	FIELD NO:	129
LAB NO:	1076	LAB NO:	1077	LAB NO:	1078
DEPTH:	0.8-1.0	DEPTH:	1.9-2.1	DEPTH:	4.6-4.8
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--	100.0	--
80.0	--	80.0	--	80.0	--
50.0	100	50.0	--	50.0	100
31.5	--	31.5	--	31.5	--
25.0	92	25.0	--	25.0	65
20.0	81	20.0	100	20.0	55
12.5	75	12.5	98	12.5	41
10.0	68	10.0	96	10.0	37
5.0	55	5.0	89	5.0	30
2.5	47	2.5	85	2.5	27
2.0	--	2.0	--	2.0	--
1.25	40	1.25	82	1.25	25
0.840	--	0.840	--	0.840	--
0.630	31	0.630	79	0.630	22
0.420	--	0.420	--	0.420	--
0.315	21	0.315	75	0.315	20
0.160	14	0.160	66	0.160	17
0.150	--	0.150	--	0.150	--
0.080	11	0.080	46	0.080	13

M.C.(%):	8	M.C.(%):	20	M.C.(%):	6
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	45	% GRAVEL:	11	% GRAVEL:	70
% SAND:	45	% SAND:	43	% SAND:	17
% FINES:	11	% FINES:	46	% FINES:	13
CLASSIFICATION: POORLY GRADED SAND WITH SILT & GRAVEL (SP-SM)		CLASSIFICATION: SILTY SAND (SM)		CLASSIFICATION: SILTY GRAVEL WITH SAND (GM)	

PROJECT NUMBER: 092-202101-0312-193
HOLE NUMBER: 245-55
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK PROJECT
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: CME 750
HOLE LOCATION: 1894+100
LOGGED BY: TF
DATE COMPLETED: 93.09.11

FIELD NO:	130	131	132
LAB NO:	1079	1080	1081
DEPTH:	0.8-1.0	2.9-3.1	4.8-5.0
TYPE:	AUGER	AUGER	AUGER

SIEVE SIZE	PERCENT PASSING (130)	PERCENT PASSING (131)	PERCENT PASSING (132)
100.0	--	--	--
80.0	--	--	--
50.0	100	100	100
31.5	--	--	--
25.0	61	85	95
20.0	59	68	85
12.5	52	50	63
10.0	48	43	55
5.0	37	28	39
2.5	30	21	31
2.0	--	--	--
1.25	24	16	25
0.840	--	--	--
0.630	19	13	20
0.420	--	--	--
0.315	13	9	16
0.160	9	7	13
0.150	--	--	--
0.080	7	5	10

M.C.(%):	9	4	8
LIMITS			
LIQUID:	--	--	--
PLASTIC:	--	--	--
P.I.:	N.P.	N.P.	N.P.
% GRAVEL:	63	72	61
% SAND:	30	23	29
% FINES:	7	5	10
CLASSIFICATION:	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)

PROJECT NUMBER: 092-202101-0312-193HOLE NUMBER: 245-56
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK PROJECT
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: CME 750
HOLE LOCATION: 1894+000 O/S 7M RT
LOGGED BY: TF DATE COMPLETED: 93.09.11

FIELD NO: 133
LAB NO: 1082
DEPTH: 1.2-1.4
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	--
5.0	100
2.5	98
2.0	--
1.25	97
0.840	--
0.630	95
0.420	--
0.315	93
0.160	90
0.150	--
0.080	84

M.C.(%): 39

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

% GRAVEL: 0
% SAND: 16
% FINES: 84

CLASSIFICATION:
SILT WITH SAND
(ML)

PROJECT NUMBER: 092-202101-0312-193HOLE NUMBER: 245-57
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK PROJECT
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: CME 750
HOLE LOCATION: 1893+900
LOGGED BY: TF DATE COMPLETED: 93.09.11

FIELD NO: 134
LAB NO: 1083
DEPTH: 0.9-1.1
TYPE: AUGER
ORGANIC

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	100
12.5	95
10.0	91
5.0	81
2.5	75
2.0	--
1.25	68
0.840	--
0.630	63
0.420	--
0.315	56
0.160	48
0.150	--
0.080	40

M.C.(%): 43

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

% GRAVEL: 19
% SAND: 41
% FINES: 40

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

FIELD NO: 135
LAB NO: 1084
DEPTH: 4.2-4.4
TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	100
12.5	94
10.0	88
5.0	77
2.5	71
2.0	--
1.25	65
0.840	--
0.630	61
0.420	--
0.315	56
0.160	49
0.150	--
0.080	41

M.C.(%): 26

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

% GRAVEL: 23
% SAND: 36
% FINES: 41

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

PROJECT NUMBER: 092-202101-0312-193HOLE NUMBER: 257-16
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: BACKHOE: CAT 235
HOLE LOCATION: 1897+150 O/S 10M RT
LOGGED BY: DT DATE COMPLETED: 93.09.30

FIELD NO: 50
LAB NO: 1570
DEPTH: 2.1-2.5
TYPE: BULK

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	100
50.0	81
31.5	--
25.0	67
20.0	62
12.5	56
10.0	53
5.0	42
2.5	35
2.0	--
1.25	28
0.840	--
0.630	23
0.420	--
0.315	18
0.160	14
0.150	--
0.080	9

M.C.(%): 6

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

% GRAVEL: 58
% SAND: 33
% FINES: 9

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

FIELD NO: 51
LAB NO: 1569
DEPTH: 4.6-5.0
TYPE: BULK

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	97
20.0	88
12.5	78
10.0	72
5.0	61
2.5	55
2.0	--
1.25	51
0.840	--
0.630	48
0.420	--
0.315	43
0.160	34
0.150	--
0.080	25

M.C.(%): 10

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

% GRAVEL: 39
% SAND: 36
% FINES: 25

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

PROJECT NUMBER: 092-202101-0312-193HOLE NUMBER: 257-17
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: BACKHOE: CAT 235
HOLE LOCATION: 1897+450 O/S 30M RT
LOGGED BY: DT DATE COMPLETED: 93.09.30

FIELD NO: 52
LAB NO: 1571
DEPTH: 1.8-2.2
TYPE: BULK

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	100
50.0	78
31.5	--
25.0	72
20.0	67
12.5	59
10.0	55
5.0	46
2.5	40
2.0	--
1.25	37
0.840	--
0.630	34
0.420	--
0.315	31
0.160	27
0.150	--
0.080	23

M.C.(%): 11

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

% GRAVEL: 54
% SAND: 23
% FINES: 23

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

FIELD NO: 53
LAB NO: 1572
DEPTH: 4.2-4.6
TYPE: BULK

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	87
20.0	80
12.5	67
10.0	61
5.0	50
2.5	45
2.0	--
1.25	41
0.840	--
0.630	38
0.420	--
0.315	33
0.160	28
0.150	--
0.080	23

M.C.(%): 7

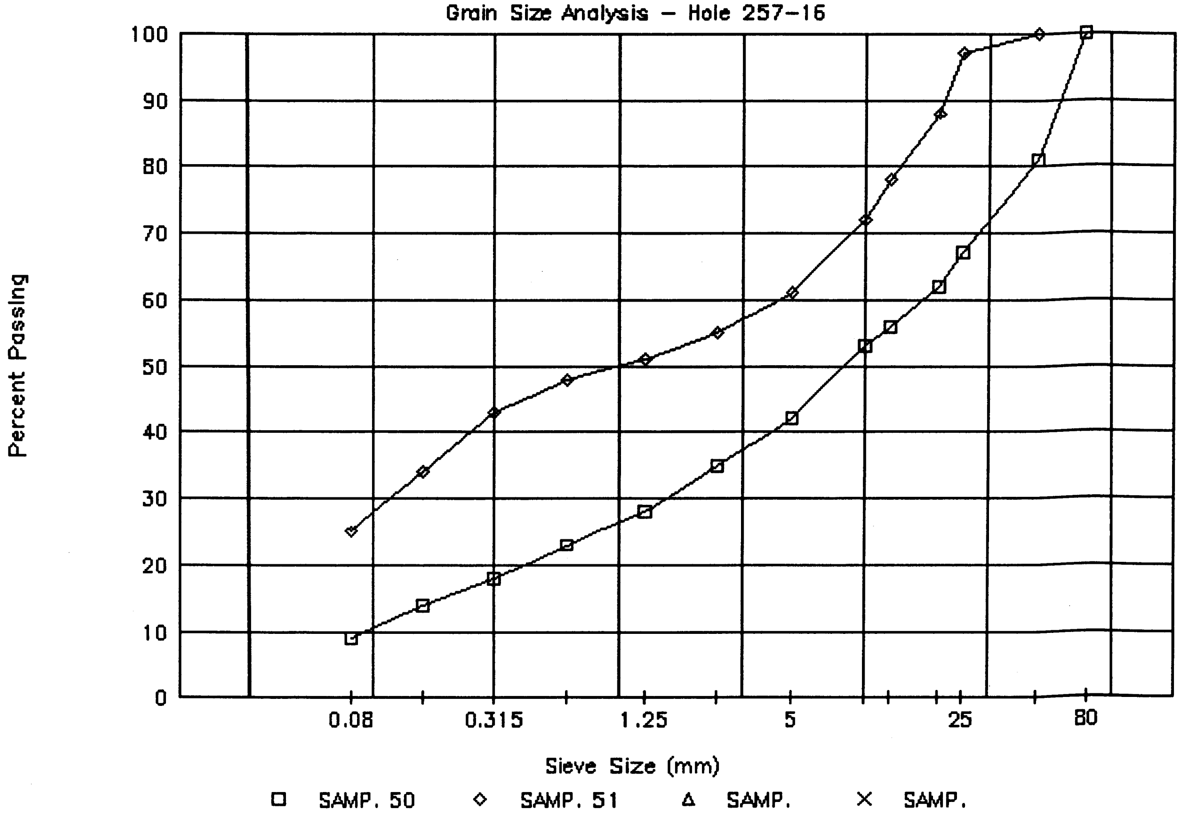
LIMITS
LIQUID: --
PLASTIC: --
P.I.: N.P.

% GRAVEL: 50
% SAND: 28
% FINES: 23

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

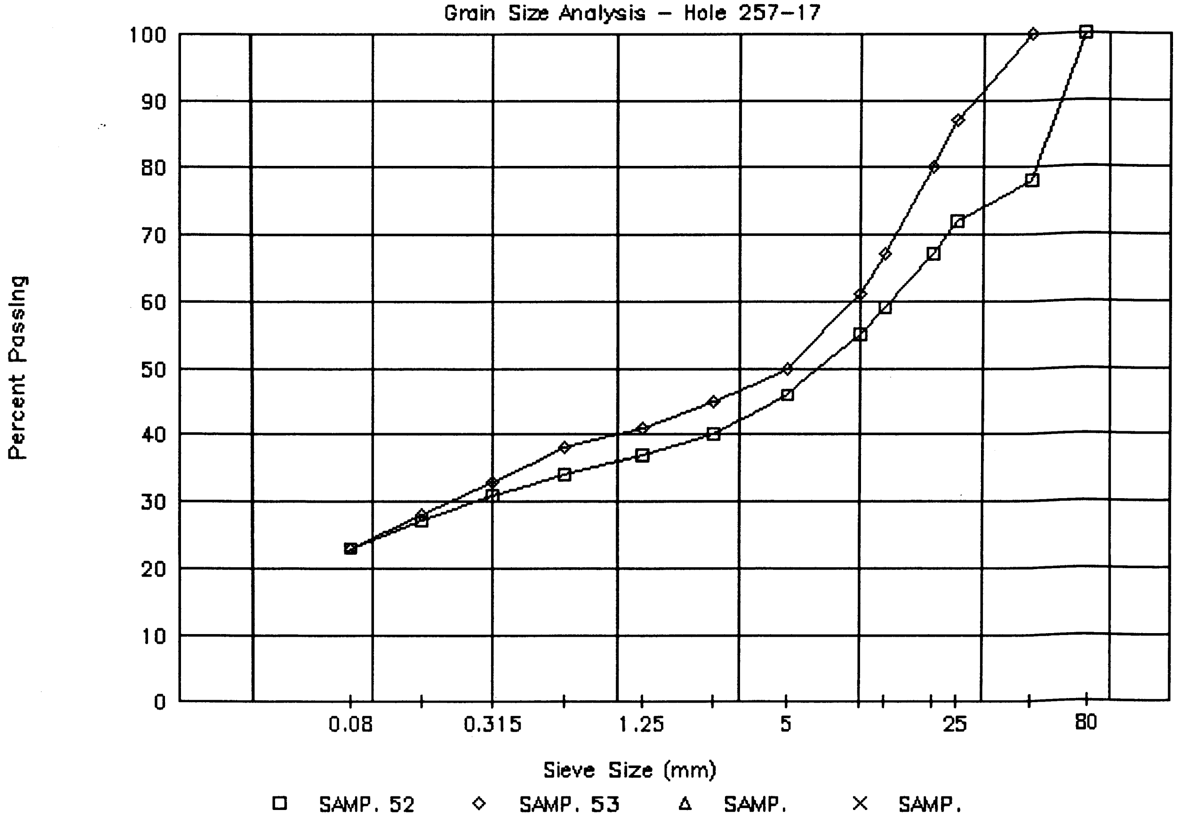
Y.T.G. TRANSPORTATION ENGINEERING

Grain Size Analysis – Hole 257-16



Y.T.G. TRANSPORTATION ENGINEERING

Grain Size Analysis – Hole 257-17



PROJECT NUMBER: 092-202101-0312-193HOLE NUMBER: 257-18
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: BACKHOE: CAT 235
HOLE LOCATION: 1897+750 O/S 20M RT
LOGGED BY: DT DATE COMPLETED: 93.09.30

FIELD NO:	54	FIELD NO:	55
LAB NO:	1573	LAB NO:	1574
DEPTH:	2.8-3.2	DEPTH:	4.2-4.6
TYPE:	BULK	TYPE:	BULK

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--
80.0	100	80.0	--
50.0	84	50.0	100
31.5	--	31.5	--
25.0	72	25.0	61
20.0	66	20.0	57
12.5	59	12.5	51
10.0	55	10.0	46
5.0	46	5.0	37
2.5	39	2.5	29
2.0	--	2.0	--
1.25	34	1.25	23
0.840	--	0.840	--
0.630	30	0.630	17
0.420	--	0.420	--
0.315	27	0.315	13
0.160	24	0.160	11
0.150	--	0.150	--
0.080	20	0.080	10

M.C.(%):	9	M.C.(%):	9
LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	54	% GRAVEL:	63
% SAND:	26	% SAND:	26
% FINES:	20	% FINES:	10
CLASSIFICATION:	SILTY GRAVEL WITH SAND (GM)	CLASSIFICATION:	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)

PROJECT NUMBER: 092-202101-0312-193HOLE NUMBER: 257-19
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: BACKHOE: CAT 235
HOLE LOCATION: 1898+900 O/S 20M RT
LOGGED BY: DT DATE COMPLETED: 93.09.30

FIELD NO: 56
LAB NO: 1575
DEPTH: 1.9-2.3
TYPE: BULK

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	89
20.0	83
12.5	70
10.0	65
5.0	57
2.5	53
2.0	--
1.25	49
0.840	--
0.630	45
0.420	--
0.315	41
0.160	35
0.150	--
0.080	29

M.C.(%): 10

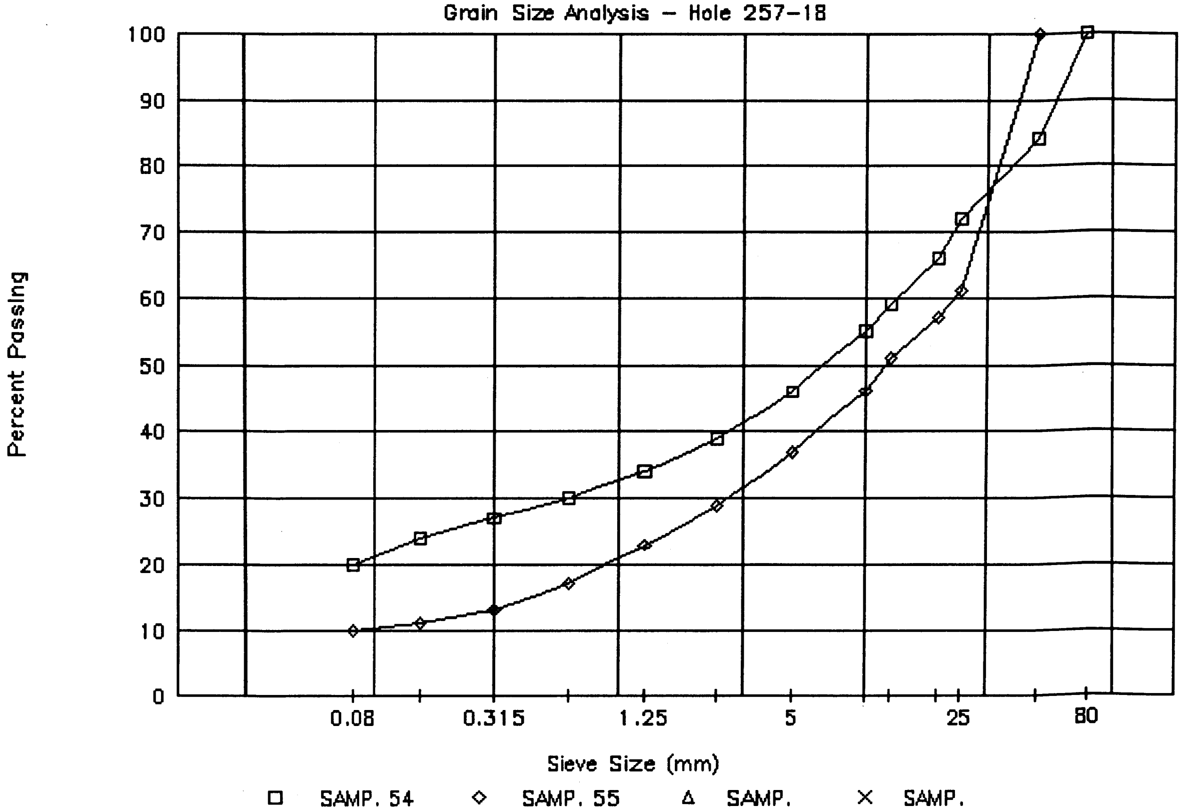
LIMITS
LIQUID: --
PLASTIC: --
P.I.: N.P.

% GRAVEL: 43
% SAND: 28
% FINES: 29

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

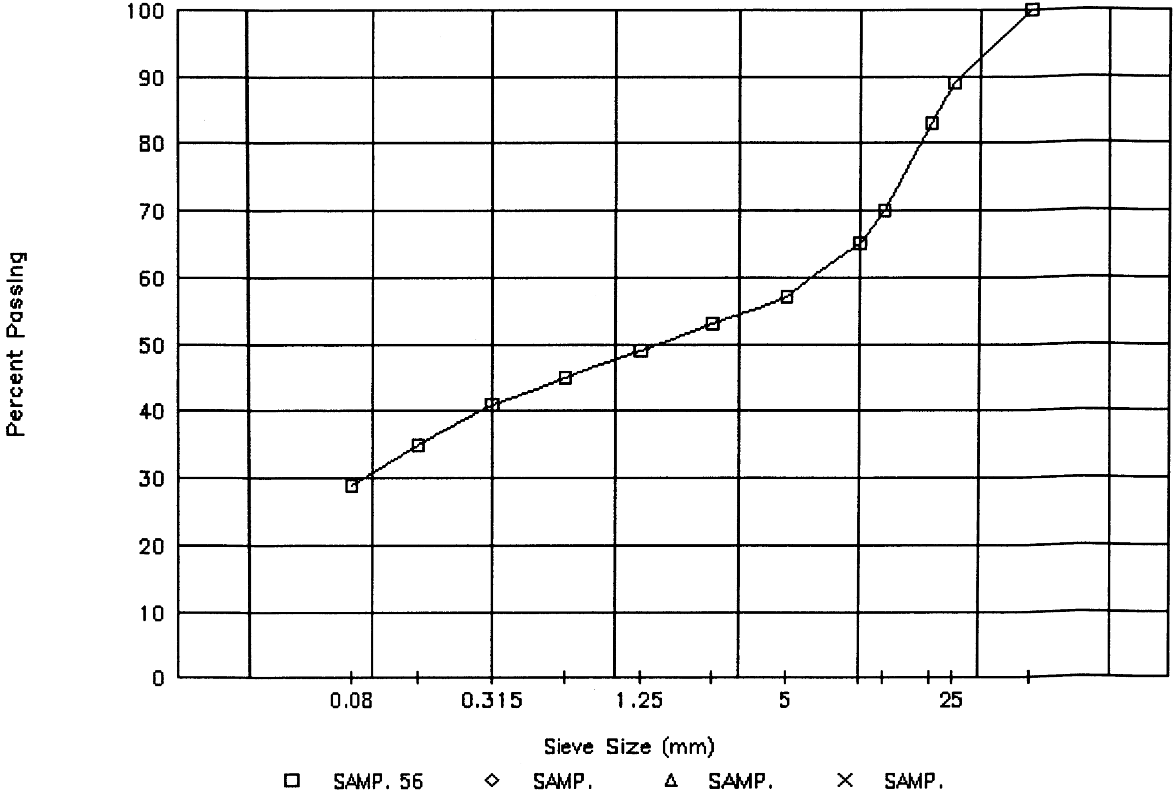
Y.T.G. TRANSPORTATION ENGINEERING

Grain Size Analysis – Hole 257-18



Y.T.G. TRANSPORTATION ENGINEERING

Grain Size Analysis – Hole 257-19



PROJECT NUMBER: 092-202101-0312-193HOLE NUMBER: 257-20
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: BACKHOE: CAT 235
HOLE LOCATION: 1899+100 O/S
LOGGED BY: DT DATE COMPLETED: 93.09.30

FIELD NO: 57
LAB NO: 1576
DEPTH: 2.0-2.4
TYPE: BULK

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	--
5.0	--
2.5	--
2.0	--
1.25	100
0.840	--
0.630	100
0.420	--
0.315	100
0.160	99
0.150	--
0.080	88

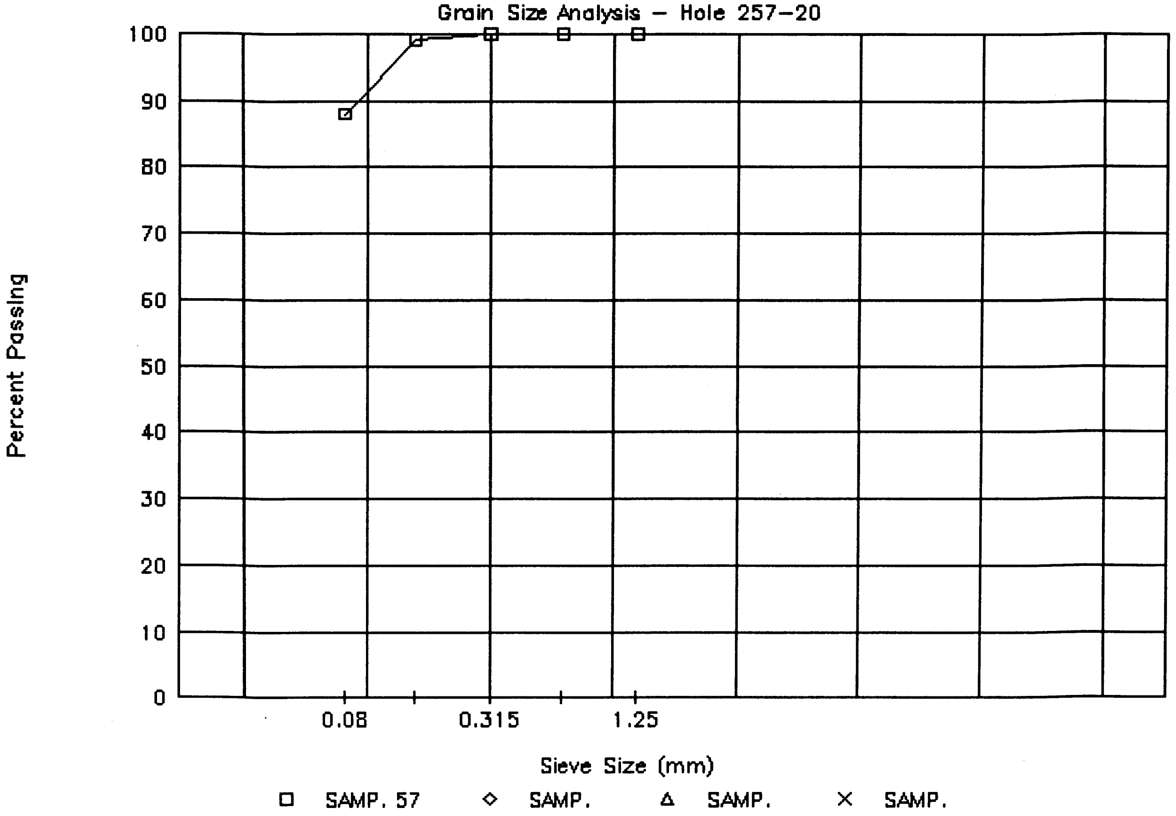
M.C.(%): 31

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

% GRAVEL: 0
% SAND: 12
% FINES: 88

CLASSIFICATION:
SILT (ML)

Y.T.G. TRANSPORTATION ENGINEERING



PROJECT NUMBER: 092-202101-0312-193HOLE NUMBER: 257-22
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: BACKHOE: CAT 235
HOLE LOCATION: 1899+500 O/S 25M RT
LOGGED BY: DT DATE COMPLETED: 93.10.01

FIELD NO:	58	FIELD NO:	59
LAB NO:	1788	LAB NO:	1789
DEPTH:	1.2-1.4	DEPTH:	4.2-4.6
TYPE:	BULK	TYPE:	BULK
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--
80.0	--	80.0	--
50.0	100	50.0	--
31.5	--	31.5	--
25.0	55	25.0	--
20.0	52	20.0	100
12.5	47	12.5	99
10.0	42	10.0	99
5.0	33	5.0	98
2.5	26	2.5	98
2.0	--	2.0	--
1.25	22	1.25	97
0.840	--	0.840	--
0.630	16	0.630	97
0.420	--	0.420	--
0.315	11	0.315	96
0.160	8	0.160	96
0.150	--	0.150	--
0.080	6	0.080	95
M.C.(%):	5	M.C.(%):	25
LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	67	% GRAVEL:	2
% SAND:	26	% SAND:	4
% FINES:	6	% FINES:	95
CLASSIFICATION:	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)	CLASSIFICATION:	SILT (ML)

PROJECT NUMBER:	092-202101-0312-193	HOLE NUMBER:	257-23
CLIENT:	ENGINEERING-CAPITAL		
PROJECT NAME:	SHAKWAK		
PROJECT LOCATION:	SEGMENT 16		
DRILL UNIT:	BACKHOE: CAT 235		
HOLE LOCATION:	1900+125 O/S 35M RT		
LOGGED BY:	DT	DATE COMPLETED:	93.10.01

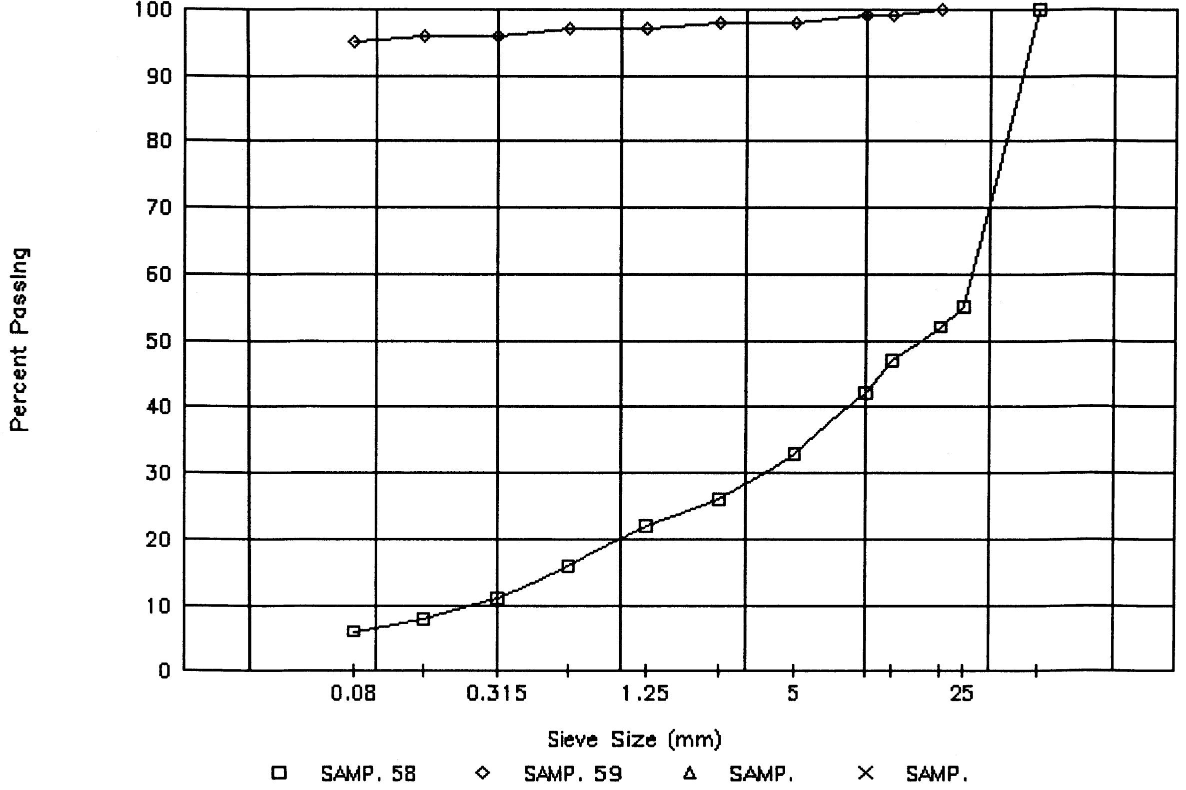
FIELD NO:	60	FIELD NO:	61
LAB NO:	1790	LAB NO:	1791
DEPTH:	0.6-1.0	DEPTH:	4.0-4.4
TYPE:	BULK	TYPE:	BULK

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--
80.0	--	80.0	100
50.0	100	50.0	88
31.5	--	31.5	--
25.0	35	25.0	59
20.0	33	20.0	51
12.5	27	12.5	39
10.0	24	10.0	35
5.0	18	5.0	24
2.5	13	2.5	17
2.0	--	2.0	--
1.25	9	1.25	11
0.840	--	0.840	--
0.630	6	0.630	8
0.420	--	0.420	--
0.315	5	0.315	4
0.160	4	0.160	3
0.150	--	0.150	--
0.080	4	0.080	2

M.C.(%):	4	M.C.(%):	3
LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	82	% GRAVEL:	76
% SAND:	15	% SAND:	21
% FINES:	4	% FINES:	2
CLASSIFICATION:		CLASSIFICATION:	
POORLY GRADED GRAVEL WITH SAND (GP)		WELL-GRADED GRAVEL WITH SAND (GW)	

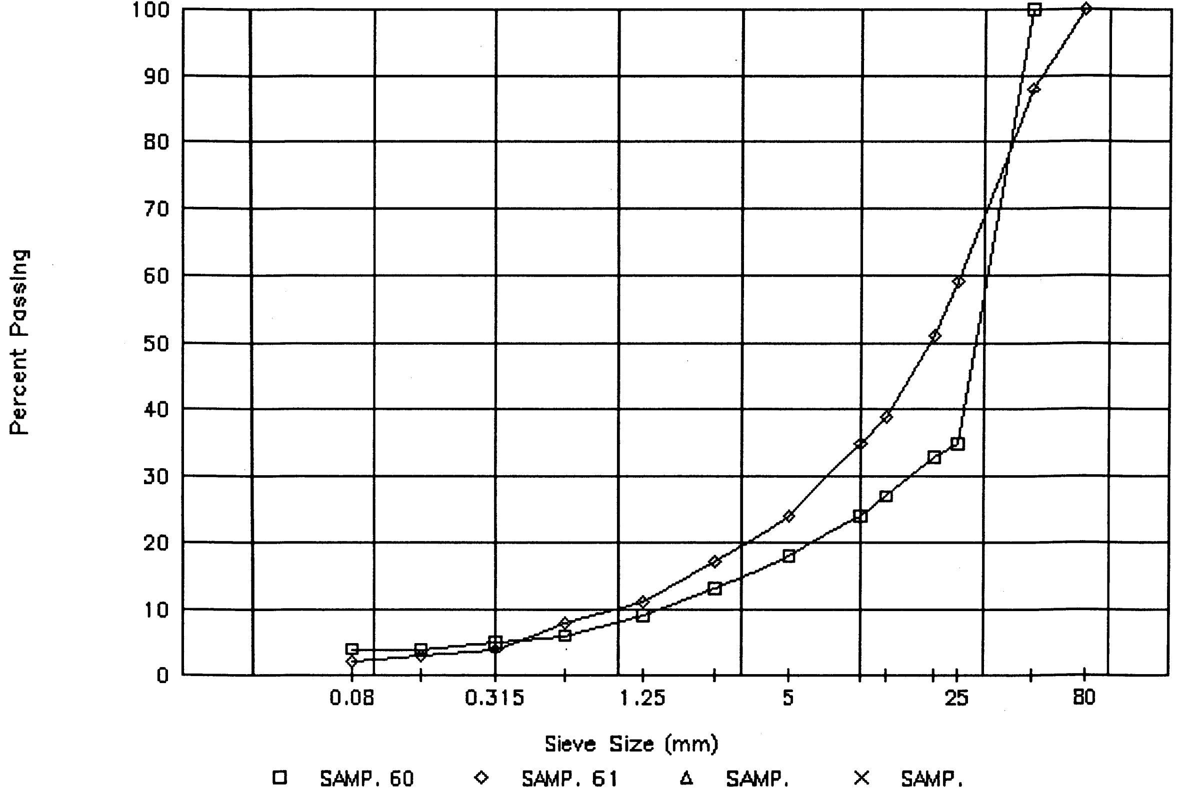
Y.T.G. TRANSPORTATION ENGINEERING

Grain Size Analysis – Hole 257-22



Y.T.G. TRANSPORTATION ENGINEERING

Grain Size Analysis – Hole 257-23



PROJECT NUMBER: 092-202101-0312-193HOLE NUMBER: 257-24
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: BACKHOE: CAT 235
HOLE LOCATION: 1900+250 O/S 15M RT
LOGGED BY: DT DATE COMPLETED: 93.10.01

FIELD NO: 62	FIELD NO: 63
LAB NO: 1792	LAB NO: 1793
DEPTH: 1.6-2.0	DEPTH: 3.6-4.0
TYPE: BULK	TYPE: BULK

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--
80.0	100	80.0	100
50.0	83	50.0	81
31.5	--	31.5	--
25.0	51	25.0	67
20.0	45	20.0	59
12.5	39	12.5	47
10.0	36	10.0	41
5.0	30	5.0	29
2.5	24	2.5	23
2.0	--	2.0	--
1.25	19	1.25	17
0.840	--	0.840	--
0.630	14	0.630	13
0.420	--	0.420	--
0.315	9	0.315	8
0.160	6	0.160	5
0.150	--	0.150	--
0.080	5	0.080	4

M.C.(%): 5	M.C.(%): 6
LIMITS	LIMITS
LIQUID: --	LIQUID: --
PLASTIC: --	PLASTIC: --
P.I.: N.P.	P.I.: N.P.
% GRAVEL: 70	% GRAVEL: 71
% SAND: 25	% SAND: 26
% FINES: 5	% FINES: 4
CLASSIFICATION: WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)	CLASSIFICATION: POORLY GRADED GRAVEL WITH SAND (GP)

PROJECT NUMBER: 092-202101-0312-193
HOLE NUMBER: 257-25
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: BACKHOE: CAT 235
HOLE LOCATION: 1902+800 O/S 10M RT
LOGGED BY: DT
DATE COMPLETED: 93.10.01

FIELD NO: 64
LAB NO: 1794
DEPTH: 1.6-2.0
TYPE: BULK

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	88
20.0	80
12.5	66
10.0	59
5.0	42
2.5	30
2.0	--
1.25	21
0.840	--
0.630	15
0.420	--
0.315	9
0.160	5
0.150	--
0.080	4

M.C.(%): 5

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

% GRAVEL: 58
% SAND: 38
% FINES: 4

CLASSIFICATION:
WELL-GRADED GRAVEL WITH SAND (GW)

FIELD NO: 65
LAB NO: 1795
DEPTH: 4.4-4.8
TYPE: BULK

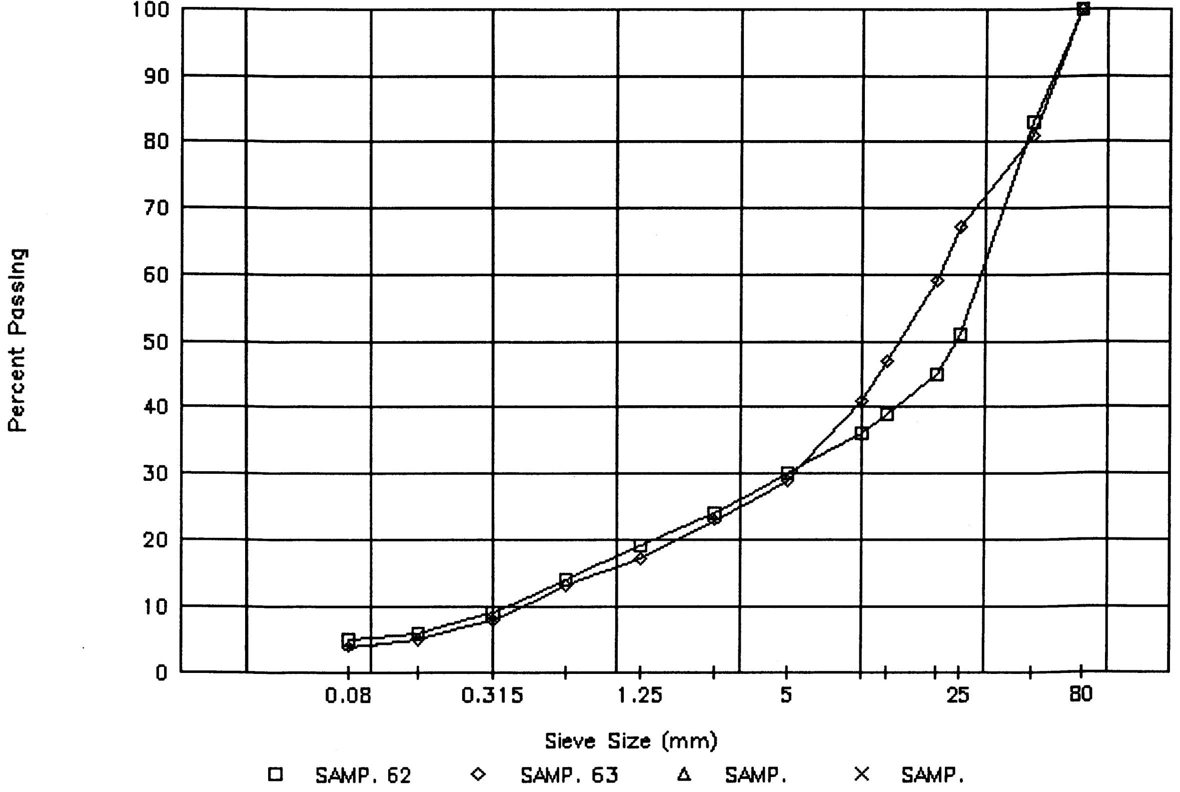
SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	82
20.0	76
12.5	58
10.0	50
5.0	35
2.5	25
2.0	--
1.25	17
0.840	--
0.630	12
0.420	--
0.315	7
0.160	4
0.150	--
0.080	3

M.C.(%): 3

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

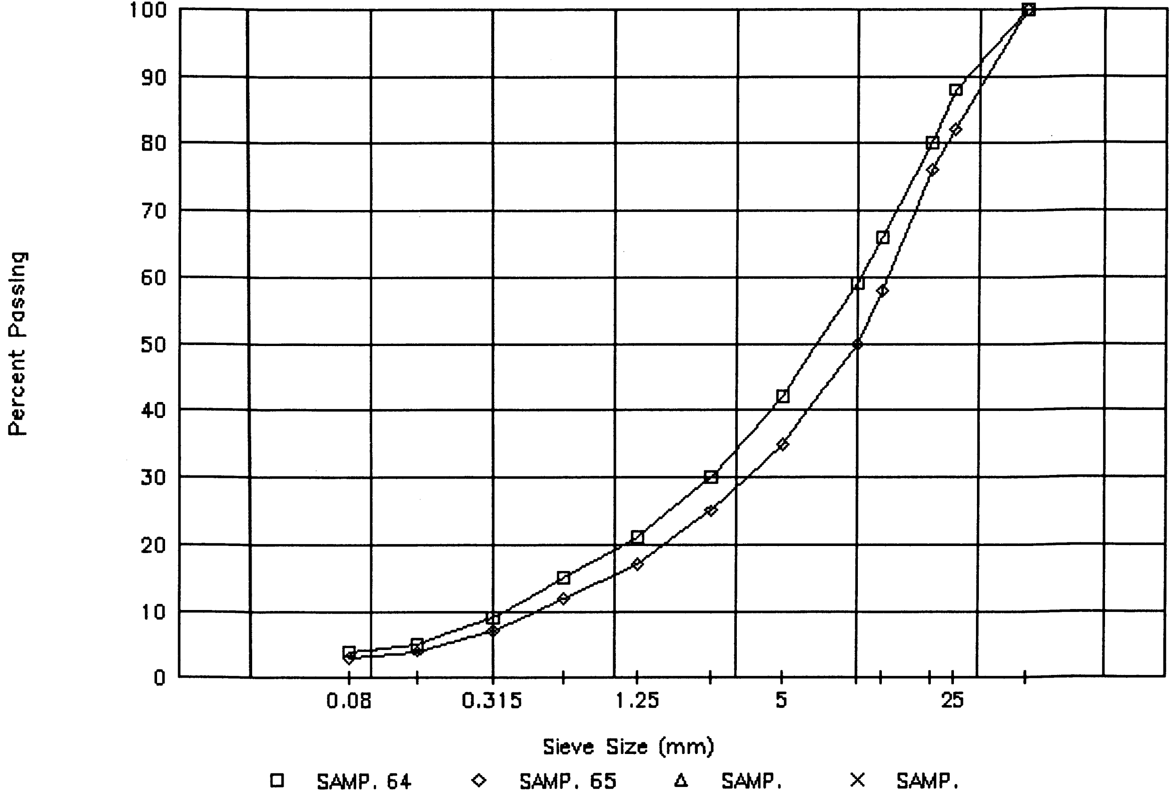
% GRAVEL: 65
% SAND: 33
% FINES: 3

CLASSIFICATION:
WELL-GRADED GRAVEL WITH SAND (GW)



Y.T.G. TRANSPORTATION ENGINEERING

Grain Size Analysis – Hole 257-24



Y.T.G. TRANSPORTATION ENGINEERING

Grain Size Analysis – Hole 257-25

PROJECT NUMBER:	092-202101-0312-193	HOLE NUMBER:	257-26
CLIENT:	ENGINEERING-CAPITAL		
PROJECT NAME:	SHAKWAK		
PROJECT LOCATION:	SEGMENT 16		
DRILL UNIT:	BACKHOE: CAT 235		
HOLE LOCATION:	1902+950 O/S 10M RT		
LOGGED BY:	DT	DATE COMPLETED:	93.10.01

FIELD NO:	66	FIELD NO:	67
LAB NO:	1796	LAB NO:	1797
DEPTH:	1.1-1.5	DEPTH:	4.6-5.0
TYPE:	BULK	TYPE:	BULK

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--
80.0	--	80.0	--
50.0	100	50.0	100
31.5	--	31.5	--
25.0	80	25.0	78
20.0	73	20.0	65
12.5	57	12.5	52
10.0	51	10.0	47
5.0	42	5.0	36
2.5	36	2.5	24
2.0	--	2.0	--
1.25	29	1.25	17
0.840	--	0.840	--
0.630	20	0.630	11
0.420	--	0.420	--
0.315	12	0.315	6
0.160	7	0.160	3
0.150	--	0.150	--
0.080	5	0.080	2

M.C.(%):	2	M.C.(%):	2
LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	58	% GRAVEL:	64
% SAND:	37	% SAND:	34
% FINES:	5	% FINES:	2
CLASSIFICATION:	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	CLASSIFICATION:	WELL-GRADED GRAVEL WITH SAND (GW)

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 PROJECT NUMBER:     092-202101-0312-193HOLE NUMBER:     257-27
 CLIENT:             ENGINEERING-CAPITAL
 PROJECT NAME:       SHAKWAK
 PROJECT LOCATION:   SEGMENT 16
 DRILL UNIT:         BACKHOE:  CAT 235
 HOLE LOCATION:      1903+050 O/S 15M RT
 LOGGED BY:          DT                 DATE COMPLETED:  93.10.01

=============================================================================
                   |                  |                  |
 FIELD NO:      68 | FIELD NO:      69 | FIELD NO:     70 |
 LAB NO:  1798     | LAB NO:  1799     | LAB NO:  1800     |
 DEPTH:   0.8-1.2  | DEPTH:   1.3-1.4  | DEPTH:   4.3-4.7  |
 TYPE:    BULK     | TYPE:    BULK     | TYPE:    BULK     |
                   |                  |                  |
                   |                  |                  |
 SIEVE   |PERCENT  | SIEVE   |PERCENT | SIEVE   |PERCENT |
 SIZE    |PASSING  | SIZE    |PASSING | SIZE    |PASSING |
 ----------------  | ---------------- | ---------------- |
 100.0   |   --    | 100.0   |   --   | 100.0   |   --   |
  80.0   |  100    |  80.0   |   --   |  80.0   |   --   |
  50.0   |   77    |  50.0   |   --   |  50.0   |  100   |
  31.5   |   --    |  31.5   |   --   |  31.5   |   --   |
  25.0   |   63    |  25.0   |  100   |  25.0   |   67   |
  20.0   |   62    |  20.0   |   97   |  20.0   |   63   |
  12.5   |   50    |  12.5   |   95   |  12.5   |   50   |
  10.0   |   45    |  10.0   |   94   |  10.0   |   45   |
   5.0   |   32    |   5.0   |   92   |   5.0   |   32   |
   2.5   |   25    |   2.5   |   90   |   2.5   |   24   |
   2.0   |   --    |   2.0   |   --   |   2.0   |   --   |
   1.25  |   18    |   1.25  |   86   |   1.25  |   18   |
   0.840 |   --    |   0.840 |   --   |   0.840 |   --   |
   0.630 |   13    |   0.630 |   70   |   0.630 |   13   |
   0.420 |   --    |   0.420 |   --   |   0.420 |   --   |
   0.315 |   10    |   0.315 |   11   |   0.315 |   7    |
   0.160 |   8     |   0.160 |   3    |   0.160 |   4    |
   0.150 |   --    |   0.150 |   --   |   0.150 |   --   |
   0.080 |   7     |   0.080 |   2    |   0.080 |   3    |
                   |                  |                  |
 M.C.(%):        6 | M.C.(%):      18 | M.C.(%):       2 |
                   |                  |                  |
      LIMITS       |      LIMITS      |      LIMITS      |
 LIQUID:        -- | LIQUID:       -- | LIQUID:       -- |
 PLASTIC:       -- | PLASTIC:      -- | PLASTIC:      -- |
 P.I.:        N.P. | P.I.:       N.P. | P.I.:       N.P. |
                   |                  |                  |
 % GRAVEL:      68 | % GRAVEL:      8 | % GRAVEL:     68 |
 % SAND:        25 | % SAND:       89 | % SAND:       30 |
 % FINES:        7 | % FINES:       2 | % FINES:       3 |
                   |                  |                  |
 CLASSIFICATION:   | CLASSIFICATION:  | CLASSIFICATION:  |
 WELL-GRADED       | POORLY GRADED    | WELL-GRADED      |
 GRAVEL WITH SILT  | SAND (SP)        | GRAVEL WITH SAND |
 & SAND (GW-GM)    |                  | (GW)             |
=============================================================================
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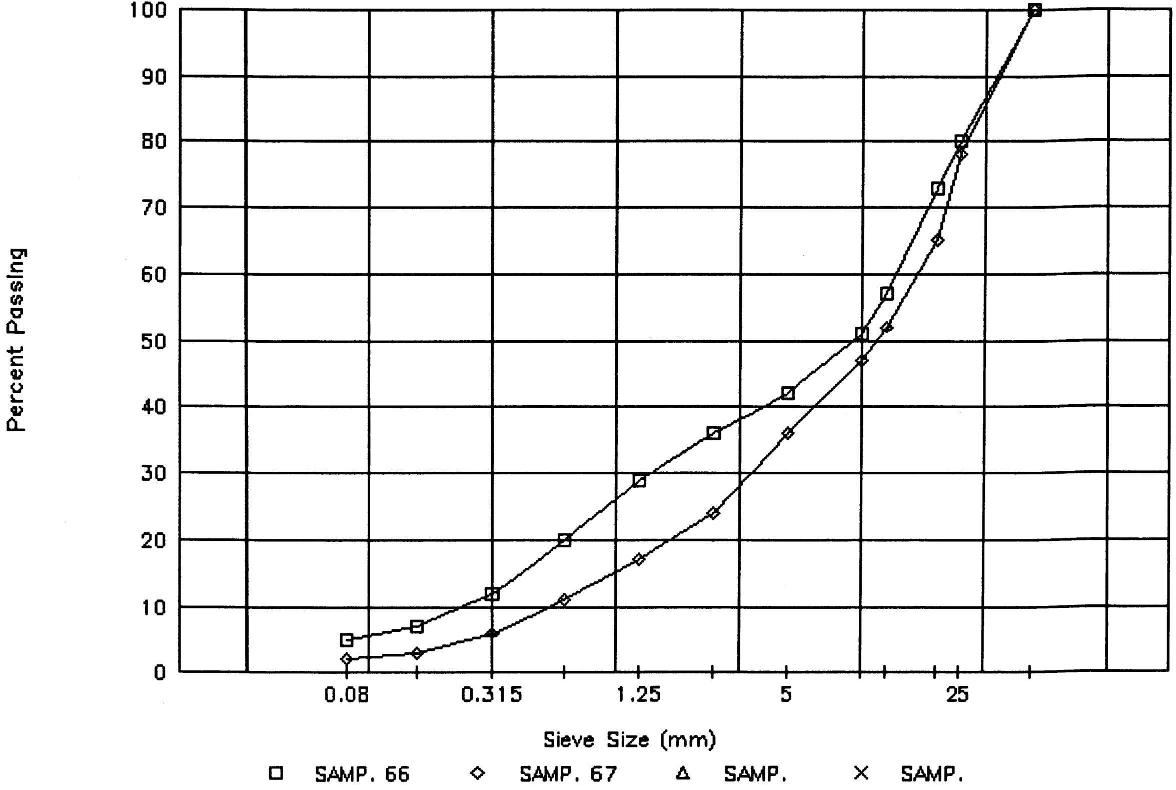
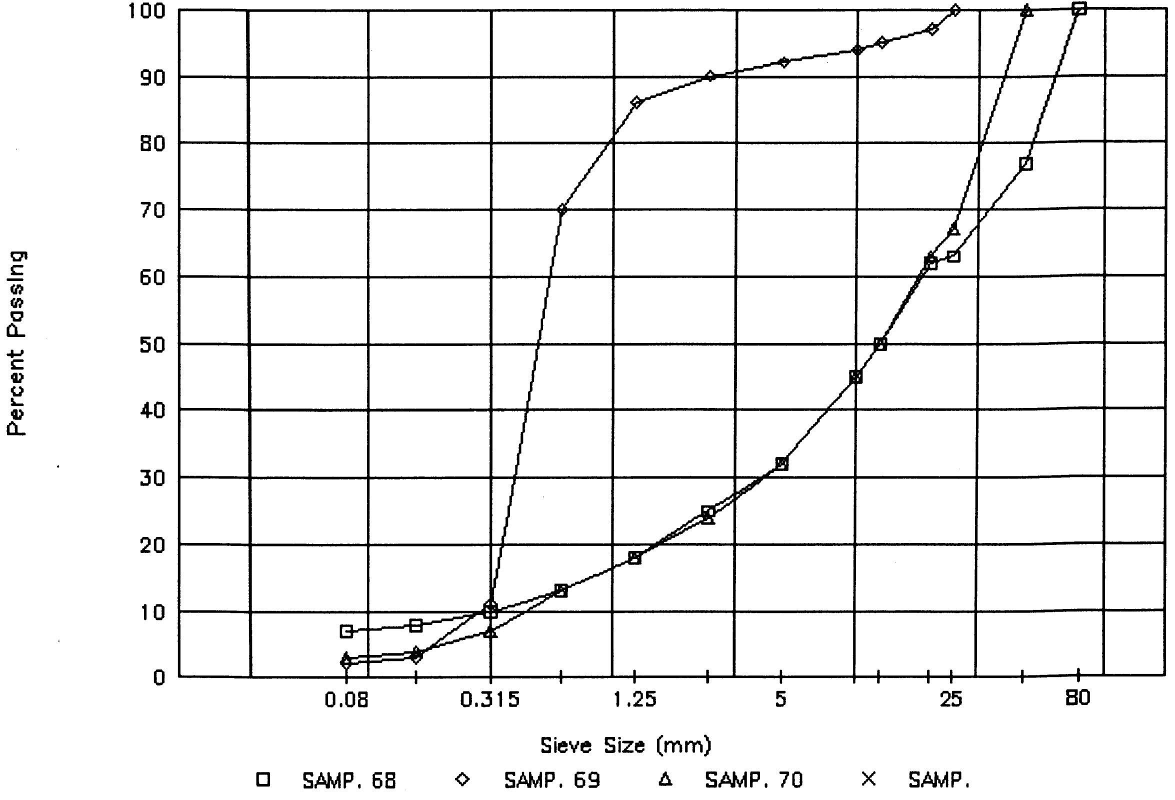
Y.T.G. TRANSPORTATION ENGINEERING

Grain Size Analysis – Hole 257-26



Y.T.G. TRANSPORTATION ENGINEERING

Grain Size Analysis – Hole 257-27



PROJECT NUMBER: 092-202101-0312-193
HOLE NUMBER: 257-28
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: BACKHOE: CAT 235
HOLE LOCATION: 1903+150 O/S 15M RT
LOGGED BY: DT
DATE COMPLETED: 93.10.01

FIELD NO: 71
LAB NO: 1801
DEPTH: 0.6-1.0
TYPE: BULK

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	100
50.0	77
31.5	--
25.0	50
20.0	48
12.5	40
10.0	38
5.0	33
2.5	29
2.0	--
1.25	25
0.840	--
0.630	20
0.420	--
0.315	8
0.160	5
0.150	--
0.080	3

M.C.(%): 7

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

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

CLASSIFICATION:
POORLY GRADED GRAVEL WITH SAND (GP)

FIELD NO: 72
LAB NO: 1802
DEPTH: 4.0-4.4
TYPE: BULK

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	94
20.0	91
12.5	89
10.0	86
5.0	81
2.5	78
2.0	--
1.25	75
0.840	--
0.630	72
0.420	--
0.315	68
0.160	58
0.150	--
0.080	43

M.C.(%): 11

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

% GRAVEL: 19
% SAND: 38
% FINES: 43

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

PROJECT NUMBER: 092-202101-0312-193HOLE NUMBER: 257-29
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: BACKHOE: CAT 235
HOLE LOCATION: 1903+250 O/S 10M RT
LOGGED BY: DT DATE COMPLETED: 93.10.01

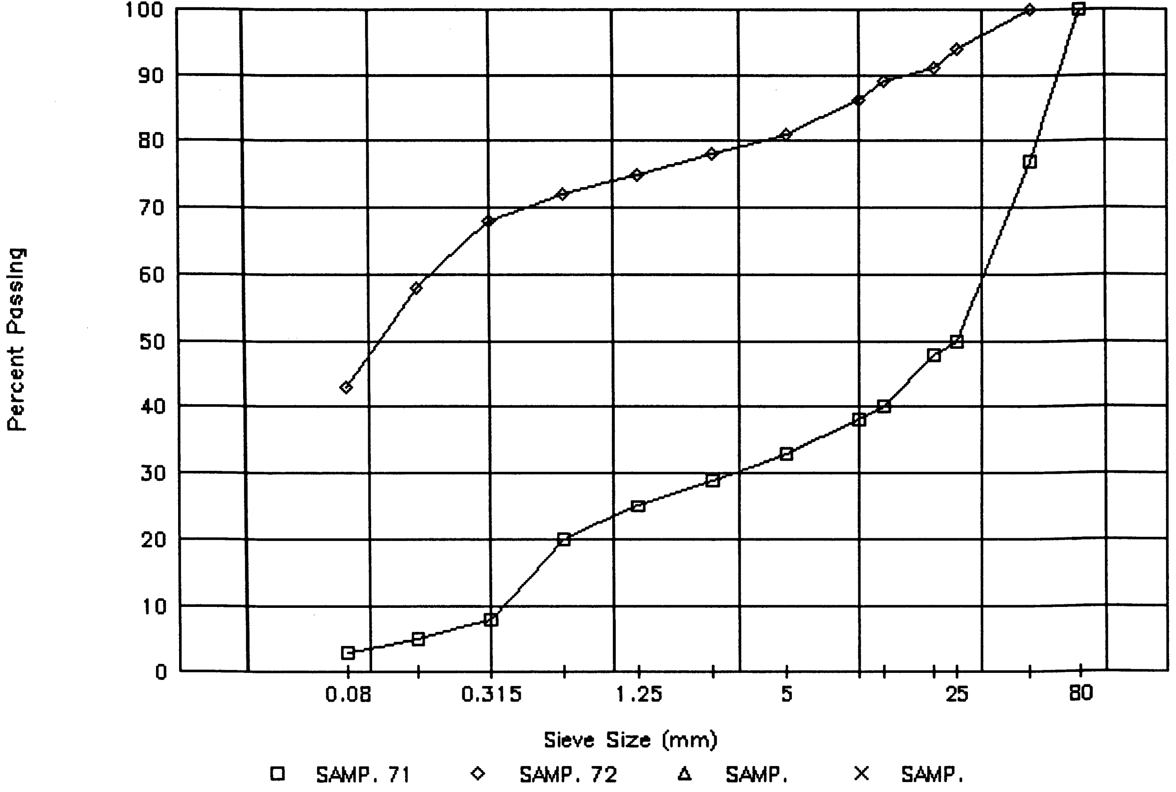
FIELD NO:	73	FIELD NO:	74
LAB NO:	1803	LAB NO:	1804
DEPTH:	1.0-1.4	DEPTH:	4.4-4.8
TYPE:	BULK	TYPE:	BULK

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--
80.0	--	80.0	--
50.0	100	50.0	100
31.5	--	31.5	--
25.0	73	25.0	62
20.0	61	20.0	62
12.5	50	12.5	51
10.0	43	10.0	48
5.0	31	5.0	37
2.5	25	2.5	31
2.0	--	2.0	--
1.25	22	1.25	26
0.840	--	0.840	--
0.630	18	0.630	19
0.420	--	0.420	--
0.315	11	0.315	10
0.160	5	0.160	6
0.150	--	0.150	--
0.080	3	0.080	4

M.C.(%):	2	M.C.(%):	3
LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	69	% GRAVEL:	63
% SAND:	28	% SAND:	34
% FINES:	3	% FINES:	4
CLASSIFICATION: POORLY GRADED GRAVEL WITH SAND (GP)		CLASSIFICATION: POORLY GRADED GRAVEL WITH SAND (GP)	

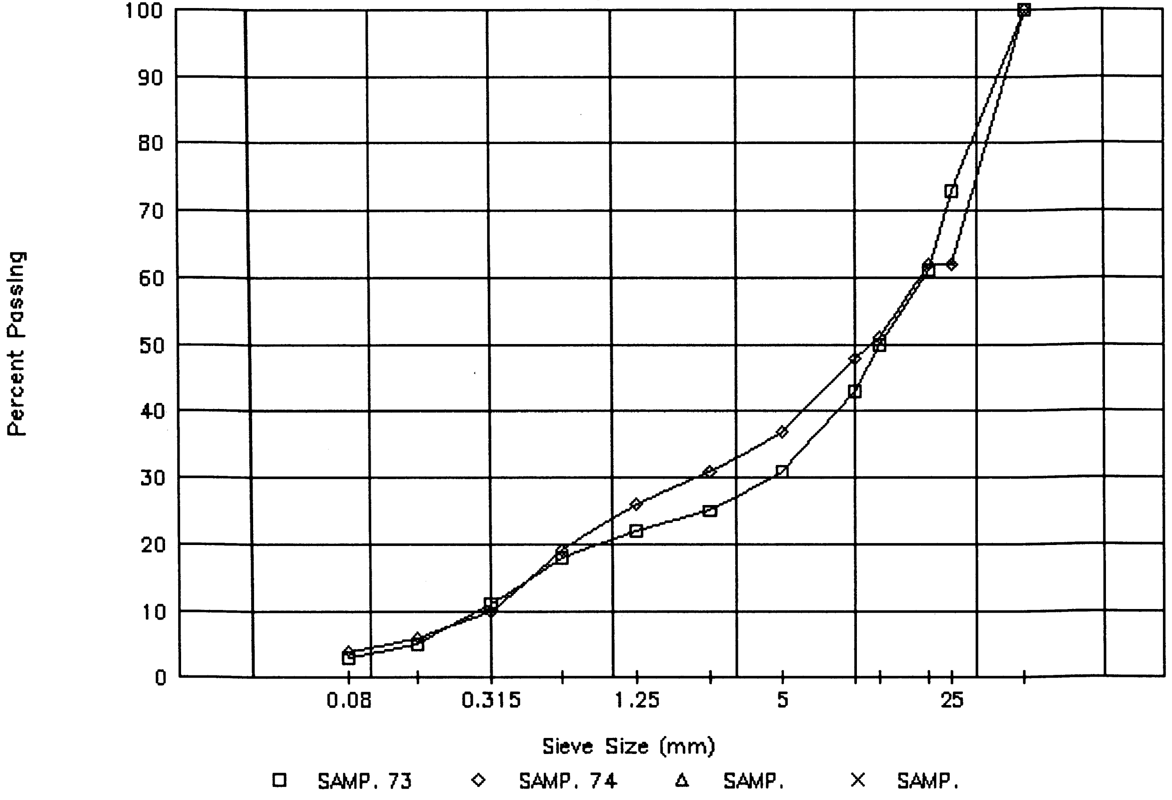
Y.T.G. TRANSPORTATION ENGINEERING

Grain Size Analysis – Hole 257-28



Y.T.G. TRANSPORTATION ENGINEERING

Grain Size Analysis – Hole 257-29



PROJECT NUMBER: 092-202101-0312-193HOLE NUMBER: 257-33
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: BACKHOE: CAT 235
HOLE LOCATION: 1904+600
LOGGED BY: DT
DATE COMPLETED: 93.10.02

FIELD NO: 80
LAB NO: 1810
DEPTH: 0.7-1.1
TYPE: BULK

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	100
50.0	82
31.5	--
25.0	61
20.0	54
12.5	41
10.0	32
5.0	20
2.5	15
2.0	--
1.25	12
0.840	--
0.630	11
0.420	--
0.315	10
0.160	9
0.150	--
0.080	9

M.C.(%): 6

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

% GRAVEL: 80
% SAND: 11
% FINES: 9

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

FIELD NO: 81
LAB NO: 1811
DEPTH: 3.0-3.2
TYPE: BULK

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	100
12.5	95
10.0	91
5.0	87
2.5	84
2.0	--
1.25	82
0.840	--
0.630	79
0.420	--
0.315	72
0.160	64
0.150	--
0.080	58

M.C.(%): 20

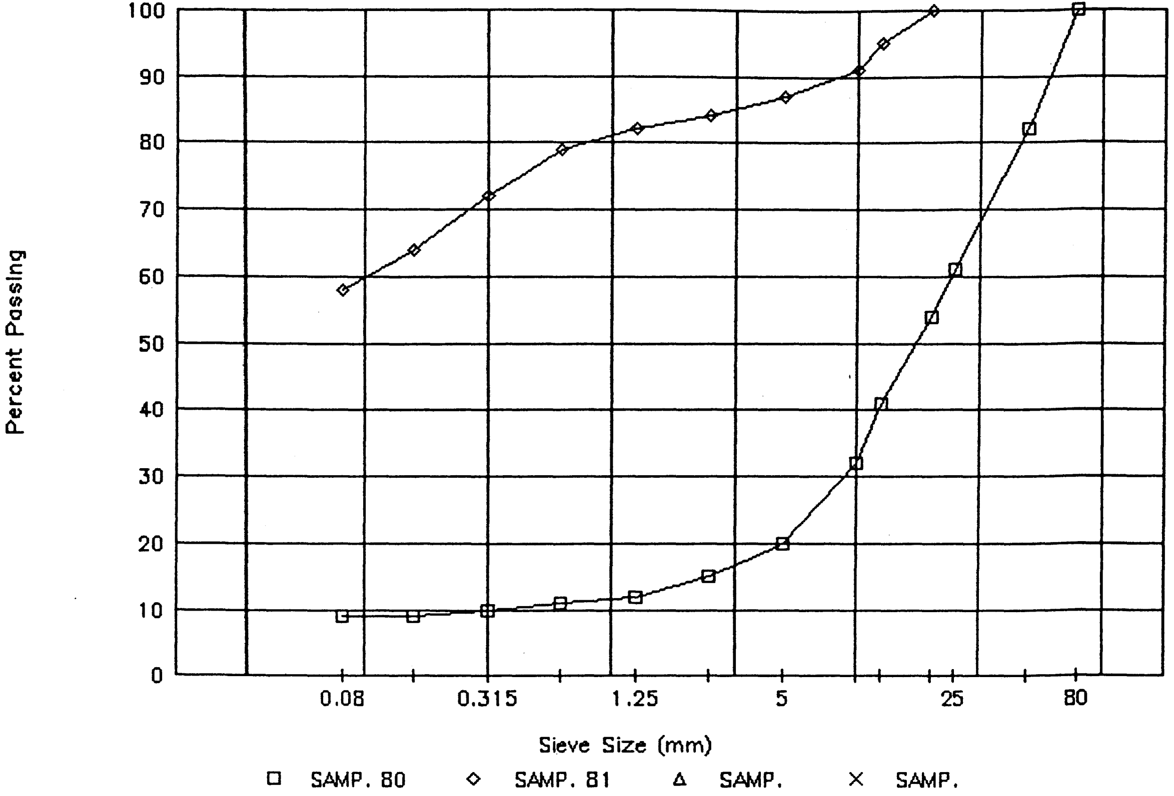
LIMITS
LIQUID: --
PLASTIC: --
P.I.: N.P.

% GRAVEL: 13
% SAND: 29
% FINES: 58

CLASSIFICATION:
SANDY SILT (ML)

Y.T.G. TRANSPORTATION ENGINEERING

Grain Size Analysis – Hole 257-33



PROJECT NUMBER: 092-202101-0312-193 HOLE NUMBER: 258-37
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: BACKHOE: CAT 235
HOLE LOCATION: 1907+800 O/S 20M LT
LOGGED BY: DT DATE COMPLETED: 93.10.03

FIELD NO: 88	FIELD NO: 89
LAB NO: 1818	LAB NO: 1819
DEPTH: 0.6-1.0	DEPTH: 4.6-5.0
TYPE: BULK	TYPE: BULK

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	--	100.0	--
80.0	--	80.0	--
50.0	100	50.0	100
31.5	--	31.5	--
25.0	94	25.0	92
20.0	85	20.0	88
12.5	75	12.5	84
10.0	71	10.0	82
5.0	62	5.0	77
2.5	57	2.5	73
2.0	--	2.0	--
1.25	53	1.25	69
0.840	--	0.840	--
0.630	49	0.630	65
0.420	--	0.420	--
0.315	44	0.315	60
0.160	38	0.160	54
0.150	--	0.150	--
0.080	30	0.080	48

M.C.(%): 7	M.C.(%): 13
LIMITS	LIMITS
LIQUID: --	LIQUID: --
PLASTIC: --	PLASTIC: --
P.I.: N.P.	P.I.: N.P.
% GRAVEL: 38	% GRAVEL: 23
% SAND: 32	% SAND: 29
% FINES: 30	% FINES: 48
CLASSIFICATION: SILTY GRAVEL WITH SAND (GM)	CLASSIFICATION: SILTY SAND WITH GRAVEL (SM)

PROJECT NUMBER: 092-202101-0312-193
HOLE NUMBER: 258-38
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: BACKHOE: CAT 235
HOLE LOCATION: 1908+100 O/S 10M LT
LOGGED BY: DT
DATE COMPLETED: 93.10.03

FIELD NO: 90
LAB NO: 1820
DEPTH: 0.8-1.2
TYPE: BULK

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	47
20.0	44
12.5	38
10.0	37
5.0	33
2.5	28
2.0	--
1.25	23
0.840	--
0.630	19
0.420	--
0.315	15
0.160	12
0.150	--
0.080	10

M.C.(%): 5

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

% GRAVEL: 67
% SAND: 23
% FINES: 10

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

FIELD NO: 91
LAB NO: 1821
DEPTH: 4.0-4.4
TYPE: BULK

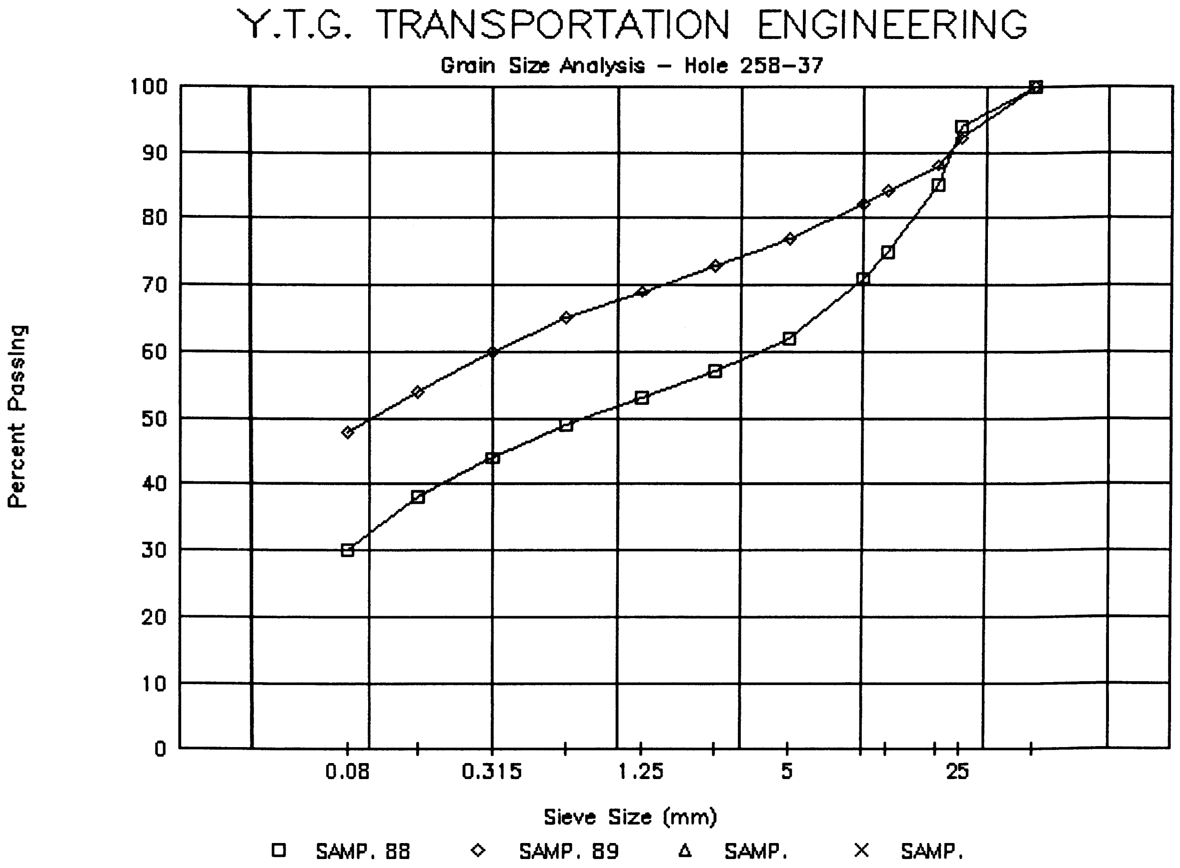
SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	76
20.0	63
12.5	51
10.0	47
5.0	33
2.5	25
2.0	--
1.25	17
0.840	--
0.630	11
0.420	--
0.315	6
0.160	3
0.150	--
0.080	2

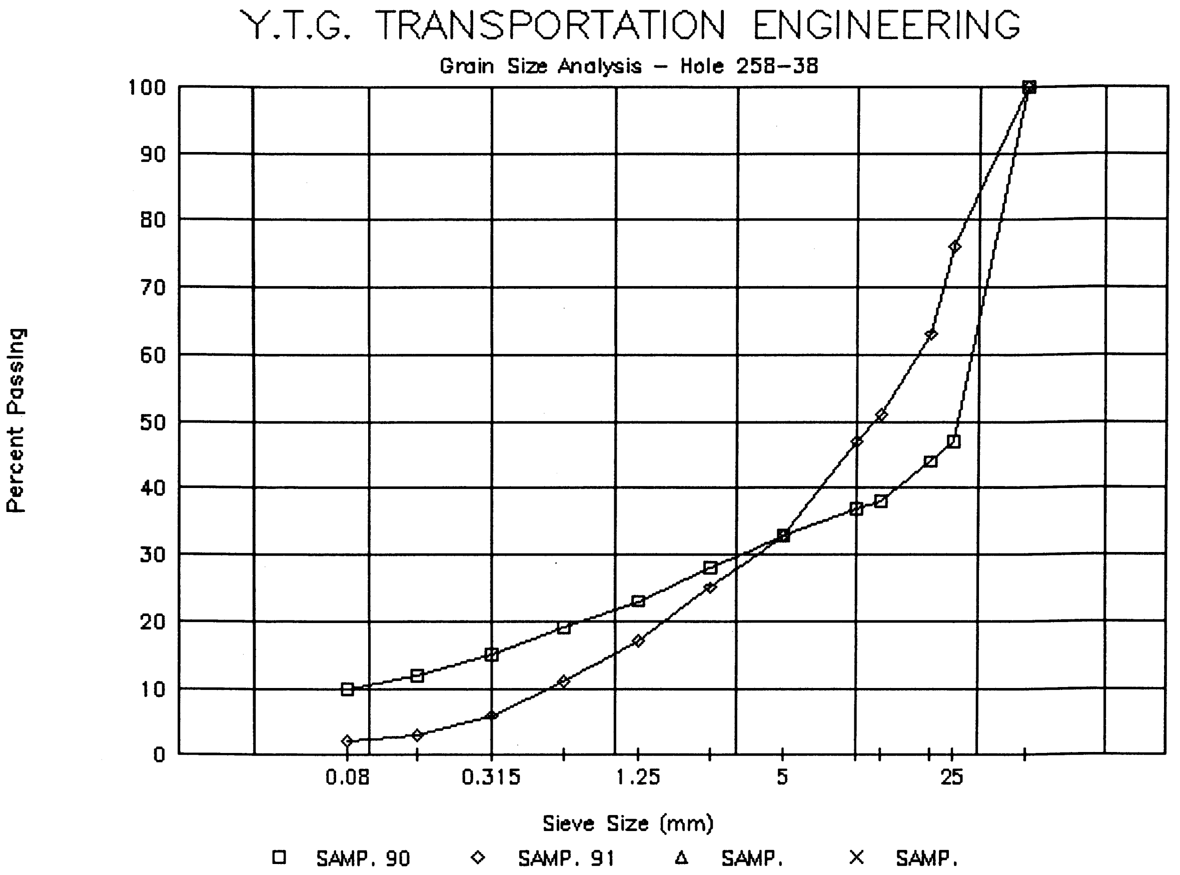
M.C.(%): 3

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

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

CLASSIFICATION:
WELL-GRADED GRAVEL WITH SAND (GW)


Y.T.G. TRANSPORTATION ENGINEERING
Grain Size Analysis – Hole 258-37
Percent Passing
100
90
80
70
60
50
40
30
20
10
0
0.08
0.315
1.25
5
25
Sieve Size (mm)
□ SAMP. 88
◇ SAMP. 89
△ SAMP.
× SAMP.


Y.T.G. TRANSPORTATION ENGINEERING
Grain Size Analysis – Hole 258-38
Percent Passing
100
90
80
70
60
50
40
30
20
10
0
0.08
0.315
1.25
5
25
Sieve Size (mm)
□ SAMP. 90
◇ SAMP. 91
△ SAMP.
× SAMP.

PROJECT NUMBER: 092-202101-0312-193HOLE NUMBER: 258-39
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: BACKHOE: CAT 235
HOLE LOCATION: 1909+300
LOGGED BY: DT
DATE COMPLETED: 93.10.03

FIELD NO: 92
LAB NO: 1822
DEPTH: 1.3-1.7
TYPE: BULK

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	76
20.0	71
12.5	68
10.0	65
5.0	59
2.5	55
2.0	--
1.25	52
0.840	--
0.630	48
0.420	--
0.315	44
0.160	40
0.150	--
0.080	35

M.C.(%): 11

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

% GRAVEL: 41
% SAND: 24
% FINES: 35

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

FIELD NO: 93
LAB NO: 1823
DEPTH: 2.8-3.0
TYPE: BULK

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	100
31.5	--
25.0	83
20.0	79
12.5	70
10.0	68
5.0	60
2.5	55
2.0	--
1.25	51
0.840	--
0.630	47
0.420	--
0.315	41
0.160	34
0.150	--
0.080	29

M.C.(%): 10

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

% GRAVEL: 40
% SAND: 32
% FINES: 29

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

PROJECT NUMBER: 092-202101-0312-193
HOLE NUMBER: 258-40
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: BACKHOE: CAT 235
HOLE LOCATION: 1909+800
LOGGED BY: DT
DATE COMPLETED: 93.10.03

FIELD NO: 94
LAB NO: 1824
DEPTH: 1.0-1.4
TYPE: BULK

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	100
20.0	83
12.5	83
10.0	76
5.0	70
2.5	67
2.0	--
1.25	64
0.840	--
0.630	60
0.420	--
0.315	56
0.160	51
0.150	--
0.080	46

M.C.(%): 11

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

% GRAVEL: 30
% SAND: 24
% FINES: 46

CLASSIFICATION:
SILTY GRAVEL
WITH SAND (GM)

FIELD NO: 95
LAB NO: 1825
DEPTH: 3.8-4
TYPE: BULK

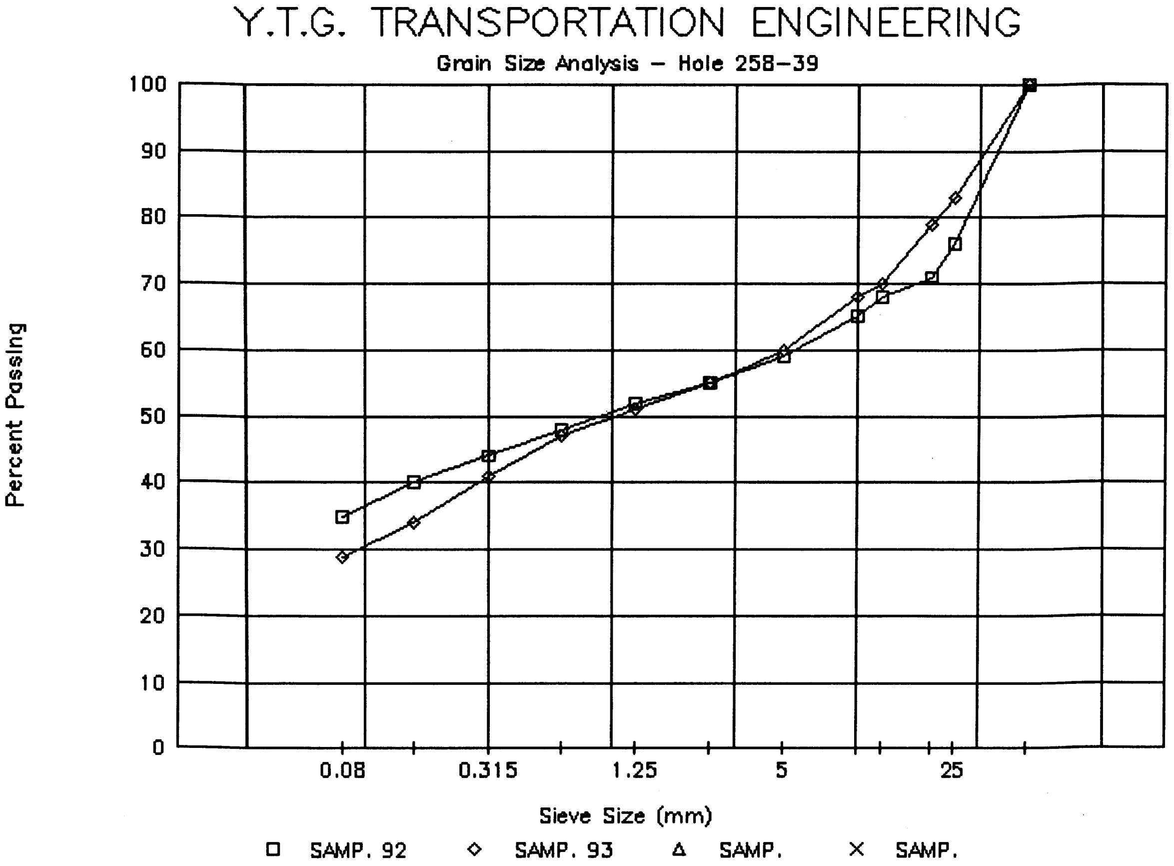
SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	100
12.5	98
10.0	95
5.0	91
2.5	87
2.0	--
1.25	84
0.840	--
0.630	81
0.420	--
0.315	76
0.160	71
0.150	--
0.080	65

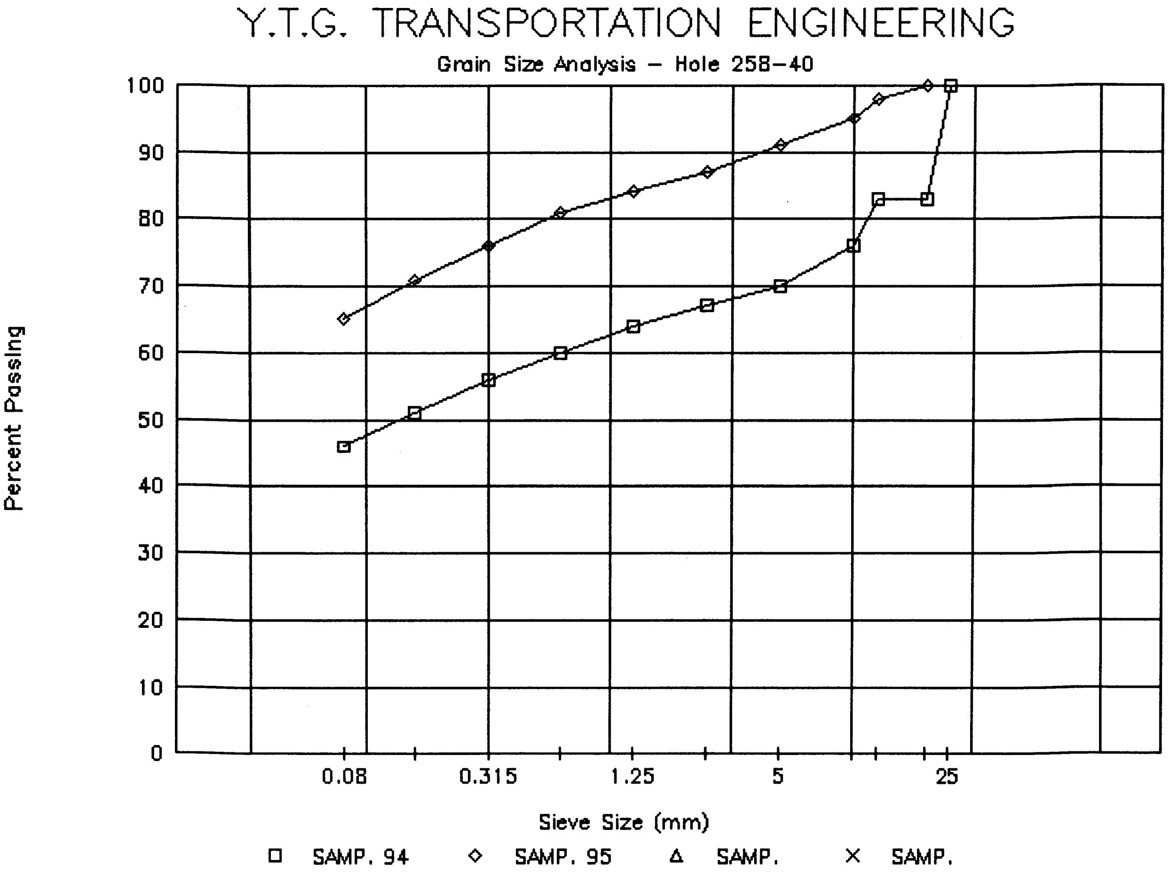
M.C.(%): 14

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

% GRAVEL: 9
% SAND: 26
% FINES: 65

CLASSIFICATION:
SANDY SILT (ML)

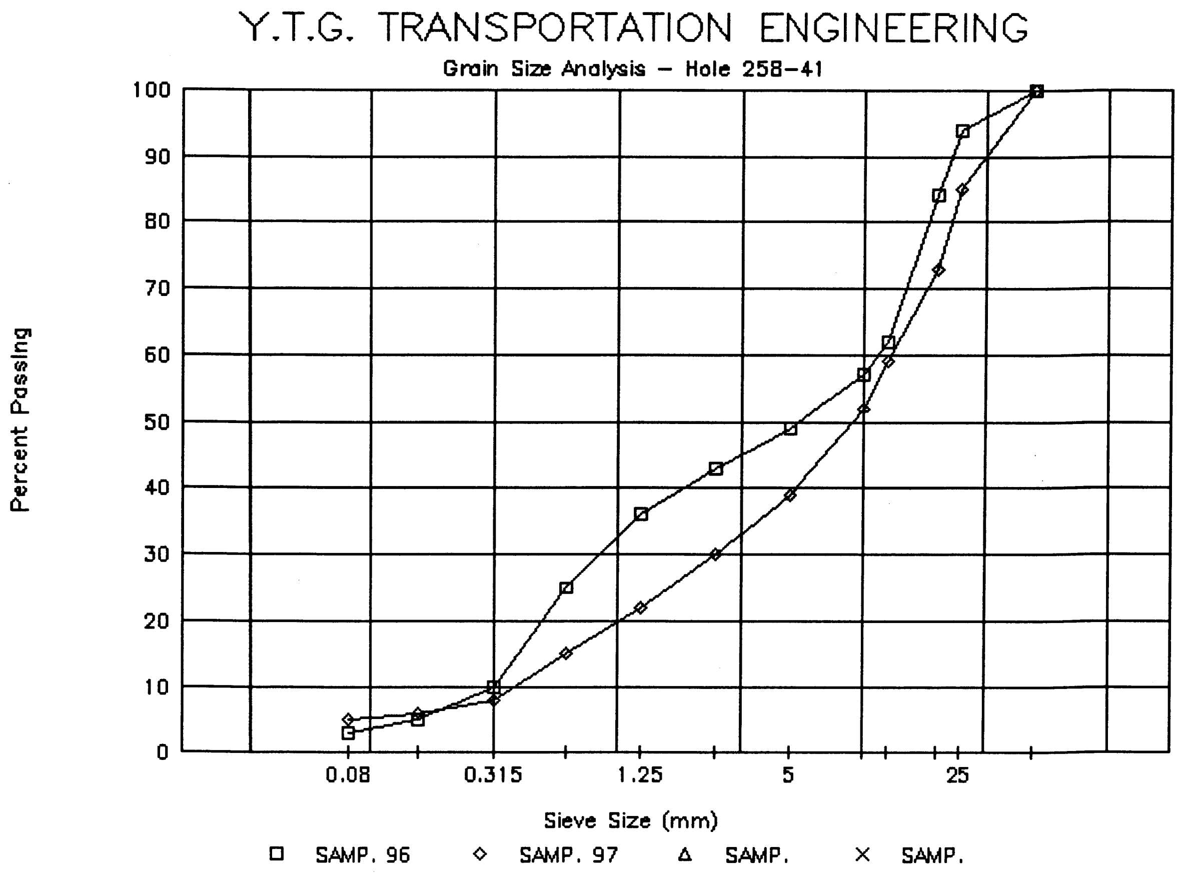

Y.T.G. TRANSPORTATION ENGINEERING
Grain Size Analysis – Hole 258-39
Percent Passing
100
90
80
70
60
50
40
30
20
10
0
0.08
0.315
1.25
5
25
Sieve Size (mm)
□ SAMP. 92
◇ SAMP. 93
△ SAMP.
× SAMP.

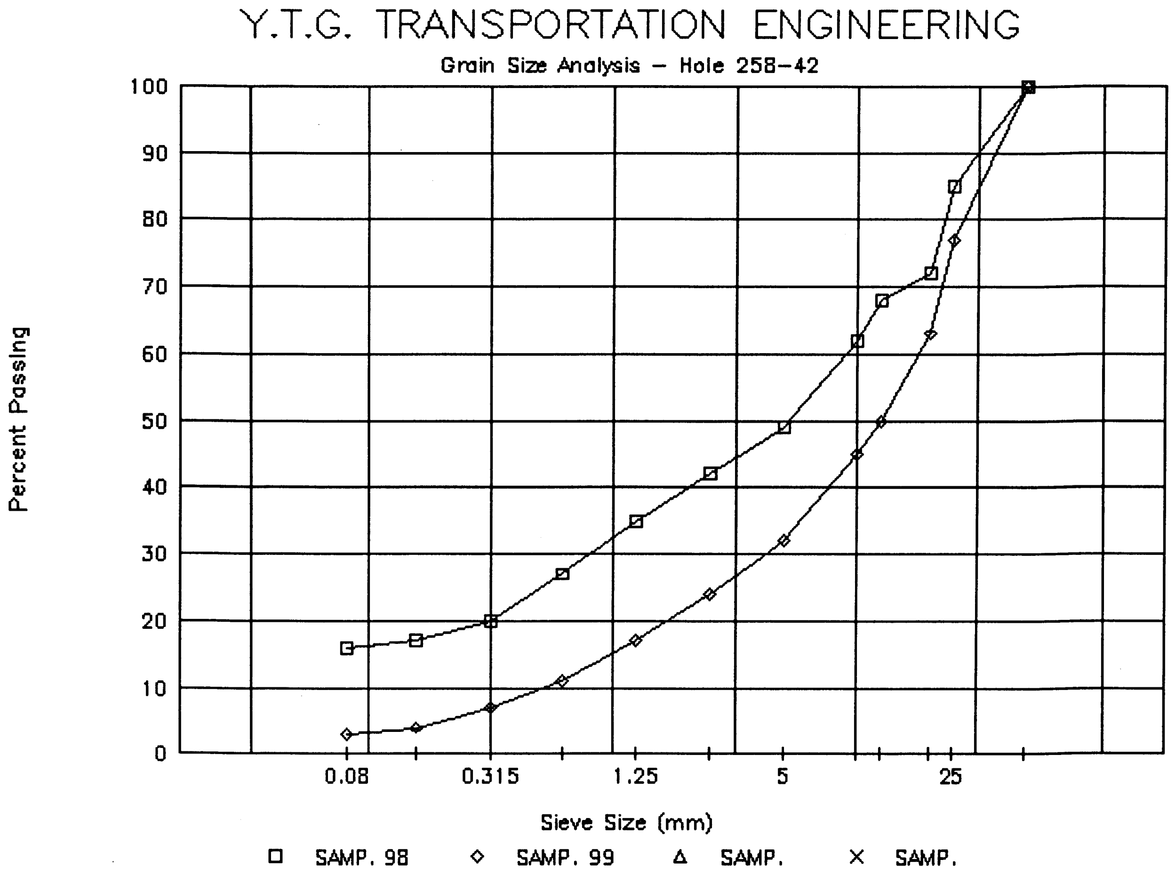

Y.T.G. TRANSPORTATION ENGINEERING
Grain Size Analysis – Hole 258-40
Percent Passing
100
90
80
70
60
50
40
30
20
10
0
0.08
0.315
1.25
5
25
Sieve Size (mm)
□ SAMP. 94
◇ SAMP. 95
△ SAMP.
× SAMP.

```
|===========================================================================|
| PROJECT NUMBER:    092-202101-0312-193HOLE NUMBER:     258-41             |
| CLIENT:            ENGINEERING-CAPITAL                                    |
| PROJECT NAME:      SHAKWAK                                                |
| PROJECT LOCATION:  SEGMENT 16                                             |
| DRILL UNIT:        BACKHOE:  CAT 235                                      |
| HOLE LOCATION:     1910+975 O/S 5M RT                                     |
| LOGGED BY:         DT                 DATE COMPLETED:  93.10.03           |
|                                                                           |
|===========================================================================|
|                   |                  |                                      |
| FIELD NO:     96  | FIELD NO:     97 |                                      |
| LAB NO:  1826     | LAB NO:  1827    |                                      |
| DEPTH:   1.2-1.6  | DEPTH:   4.0-4.4 |                                      |
| TYPE:    BULK     | TYPE:    BULK    |                                      |
|                   |                  |                                      |
|                   |                  |                                      |
| SIEVE   |PERCENT  | SIEVE   |PERCENT |                                      |
| SIZE    |PASSING  | SIZE    |PASSING |                                      |
| ----------------  | ---------------- |                                      |
| 100.0   |   --    | 100.0   |   --   |                                      |
|  80.0   |   --    |  80.0   |   --   |                                      |
|  50.0   |  100    |  50.0   |  100   |                                      |
|  31.5   |   --    |  31.5   |   --   |                                      |
|  25.0   |   94    |  25.0   |   85   |                                      |
|  20.0   |   84    |  20.0   |   73   |                                      |
|  12.5   |   62    |  12.5   |   59   |                                      |
|  10.0   |   57    |  10.0   |   52   |                                      |
|   5.0   |   49    |   5.0   |   39   |                                      |
|   2.5   |   43    |   2.5   |   30   |                                      |
|   2.0   |   --    |   2.0   |   --   |                                      |
|   1.25  |   36    |   1.25  |   22   |                                      |
|   0.840 |   --    |   0.840 |   --   |                                      |
|   0.630 |   25    |   0.630 |   15   |                                      |
|   0.420 |   --    |   0.420 |   --   |                                      |
|   0.315 |   10    |   0.315 |   8    |                                      |
|   0.160 |   5     |   0.160 |   6    |                                      |
|   0.150 |   --    |   0.150 |   --   |                                      |
|   0.080 |   3     |   0.080 |   5    |                                      |
|                   |                  |                                      |
| M.C.(%):       2  | M.C.(%):       4 |                                      |
|                   |                  |                                      |
|      LIMITS       |      LIMITS      |                                      |
| LIQUID:      --   | LIQUID:      --  |                                      |
| PLASTIC:     --   | PLASTIC:     --  |                                      |
| P.I.:       N.P.  | P.I.:       N.P. |                                      |
|                   |                  |                                      |
| % GRAVEL:     51  | % GRAVEL:     61 |                                      |
| % SAND:       46  | % SAND:       35 |                                      |
| % FINES:       3  | % FINES:       5 |                                      |
|                   |                  |                                      |
| CLASSIFICATION:   | CLASSIFICATION:  |                                      |
| POORLY GRADED     | WELL-GRADED      |                                      |
| GRAVEL WITH SAND  | GRAVEL WITH SILT |                                      |
| (GP)              | & SAND (GW-GM)   |                                      |
|===========================================================================|
```

```
==========================================================================
 PROJECT NUMBER:     092-202101-0312-193HOLE NUMBER:     258-42
 CLIENT:             ENGINEERING-CAPITAL
 PROJECT NAME:       SHAKWAK
 PROJECT LOCATION:   SEGMENT 16
 DRILL UNIT:         BACKHOE:  CAT 235
 HOLE LOCATION:      1911+425
 LOGGED BY:          DT                 DATE COMPLETED:  93.10.03

==========================================================================
                   |                  |
 FIELD NO:     98  | FIELD NO:     99 |
 LAB NO:  1828     | LAB NO:  1829    |
 DEPTH:   0.8-1.2  | DEPTH:   2.1-2.5 |
 TYPE:    BULK     | TYPE:    BULK    |
                   |                  |
                   |                  |
 SIEVE    |PERCENT | SIEVE   |PERCENT |
 SIZE     |PASSING | SIZE    |PASSING |
 ----------------- | ---------------- |
 100.0    |   --   | 100.0   |   --   |
  80.0    |   --   |  80.0   |   --   |
  50.0    |  100   |  50.0   |  100   |
  31.5    |   --   |  31.5   |   --   |
  25.0    |   85   |  25.0   |   77   |
  20.0    |   72   |  20.0   |   63   |
  12.5    |   68   |  12.5   |   50   |
  10.0    |   62   |  10.0   |   45   |
   5.0    |   49   |   5.0   |   32   |
   2.5    |   42   |   2.5   |   24   |
   2.0    |   --   |   2.0   |   --   |
   1.25   |   35   |   1.25  |   17   |
   0.840  |   --   |   0.840 |   --   |
   0.630  |   27   |   0.630 |   11   |
   0.420  |   --   |   0.420 |   --   |
   0.315  |   20   |   0.315 |   7    |
   0.160  |   17   |   0.160 |   4    |
   0.150  |   --   |   0.150 |   --   |
   0.080  |   16   |   0.080 |   3    |
                   |                  |
 M.C.(%):        8 | M.C.(%):       4 |
                   |                  |
      LIMITS       |      LIMITS      |
 LIQUID:       --  | LIQUID:       -- |
 PLASTIC:      --  | PLASTIC:      -- |
 P.I.:       N.P.  | P.I.:       N.P. |
                   |                  |
                   |                  |
 % GRAVEL:      51 | % GRAVEL:     68 |
 % SAND:        33 | % SAND:       29 |
 % FINES:       16 | % FINES:       3  |
                   |                  |
 CLASSIFICATION:   | CLASSIFICATION:  |
 SILTY GRAVEL      | WELL-GRADED      |
 WITH SAND (GM)    | GRAVEL WITH SAND |
                   | (GW)             |
==========================================================================
```


Y.T.G. TRANSPORTATION ENGINEERING
Grain Size Analysis – Hole 258-41
Percent Passing
100
90
80
70
60
50
40
30
20
10
0
0.08
0.315
1.25
5
25
Sieve Size (mm)
□ SAMP. 96
◇ SAMP. 97
△ SAMP.
× SAMP.


Y.T.G. TRANSPORTATION ENGINEERING
Grain Size Analysis – Hole 258-42
Percent Passing
100
90
80
70
60
50
40
30
20
10
0
0.08
0.315
1.25
5
25
Sieve Size (mm)
□ SAMP. 98
◇ SAMP. 99
△ SAMP.
× SAMP.

PROJECT NUMBER: 092-202101-0312-193HOLE NUMBER: 274-30
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK PROJECT
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: BACKHOE: CAT 235
HOLE LOCATION: 1895+350
LOGGED BY: DT DATE COMPLETED: 93.11.11

FIELD NO: 36
LAB NO: 2254
DEPTH: 0.6-1.0
TYPE: BULK

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	--
5.0	100
2.5	100
2.0	--
1.25	100
0.840	--
0.630	99
0.420	--
0.315	95
0.160	74
0.150	--
0.080	57

M.C.(%): 71

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

% GRAVEL: 0
% SAND: 43
% FINES: 57

CLASSIFICATION:
SANDY SILT (ML)

PROJECT NUMBER: 092-202101-0312-193 HOLE NUMBER: 274-31
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK PROJECT
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: BACKHOE: CAT 235
HOLE LOCATION: 1895+350
LOGGED BY: DT DATE COMPLETED: 93.11.11

FIELD NO: 37
LAB NO: 2255
DEPTH: 0.7-1.0
TYPE: BULK

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	--
12.5	--
10.0	--
5.0	100
2.5	100
2.0	--
1.25	99
0.840	--
0.630	97
0.420	--
0.315	93
0.160	84
0.150	--
0.080	66

M.C.(%): 90

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

% GRAVEL: 0
% SAND: 34
% FINES: 66

CLASSIFICATION:
SANDY SILT (ML)

PROJECT NUMBER: 092-202101-0312 HOLE NUMBER: 281-06
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK PROJECT
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: SCHRAMM
HOLE LOCATION: SEE PLAN
LOGGED BY: DT DATE COMPLETED: 94-02-28

FIELD NO: 6
LAB NO: 11
DEPTH: 0.9-1.4
TYPE: RETURN

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	100
12.5	95
10.0	87
5.0	55
2.5	32
2.0	--
1.25	18
0.840	--
0.630	11
0.420	--
0.315	7
0.160	5
0.150	--
0.080	3

M.C.(%): 3

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

% GRAVEL: 45
% SAND: 52
% FINES: 3

CLASSIFICATION:
WELL-GRADED SAND WITH GRAVEL (SW)

FIELD NO: 7
LAB NO: 12
DEPTH: 4.0-4.3
TYPE: RETURN

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	100
12.5	99
10.0	97
5.0	88
2.5	77
2.0	--
1.25	68
0.840	--
0.630	61
0.420	--
0.315	54
0.160	47
0.150	--
0.080	40

M.C.(%): 13

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

% GRAVEL: 12
% SAND: 48
% FINES: 40

CLASSIFICATION:
SILTY SAND (SM)

FIELD NO: 8
LAB NO: 13
DEPTH: 9.5-9.9
TYPE: RETURN

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	100
12.5	98
10.0	96
5.0	84
2.5	73
2.0	--
1.25	65
0.840	--
0.630	59
0.420	--
0.315	54
0.160	48
0.150	--
0.080	42

M.C.(%): 9

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

% GRAVEL: 16
% SAND: 42
% FINES: 42

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

FIELD NO: 9
LAB NO: 14
DEPTH: 11.9-12.3
TYPE: RETURN

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	100
12.5	99
10.0	97
5.0	86
2.5	74
2.0	--
1.25	64
0.840	--
0.630	56
0.420	--
0.315	50
0.160	43
0.150	--
0.080	37

M.C.(%): 8

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

% GRAVEL: 14
% SAND: 48
% FINES: 37

CLASSIFICATION:
SILTY SAND (SM)

PROJECT NUMBER: 092-202101-0312 HOLE NUMBER: 281-06
CLIENT: ENGINEERING-CAPITAL
PROJECT NAME: SHAKWAK PROJECT
PROJECT LOCATION: SEGMENT 16
DRILL UNIT: SCHRAMM
HOLE LOCATION: SEE PLAN
LOGGED BY: DT DATE COMPLETED: 94-02-28

FIELD NO: 10
LAB NO: 15
DEPTH: 13.7-14.2
TYPE: RETURN

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	100
12.5	96
10.0	91
5.0	67
2.5	48
2.0	--
1.25	36
0.840	--
0.630	28
0.420	--
0.315	23
0.160	20
0.150	--
0.080	18

M.C.(%): 4

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

% GRAVEL: 33
% SAND: 49
% FINES: 18

CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)

FIELD NO: 11
LAB NO: 16
DEPTH: 14,9-15.2
TYPE: RETURN

SIEVE SIZE	PERCENT PASSING
100.0	--
80.0	--
50.0	--
31.5	--
25.0	--
20.0	100
12.5	97
10.0	92
5.0	72
2.5	55
2.0	--
1.25	39
0.840	--
0.630	24
0.420	--
0.315	17
0.160	14
0.150	--
0.080	12

M.C.(%): 4

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

% GRAVEL: 28
% SAND: 61
% FINES: 12

CLASSIFICATION:
WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)