

# GEOTECHNICAL INVESTIGATIONS

Highway Construction  
Km 1674.0 to 1684.4  
Alaska Highway #1  
Yukon, 2002-2003  
**Volume 1 of 2**

The logo for Yukon, featuring the word "Yukon" in a bold, black, sans-serif font. The letter "Y" is stylized with a diagonal stroke that extends upwards and to the left.

Community and Transportation Services  
Transportation Engineering Branch

**Geotechnical Services**

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HIGHWAY CONSTRUCTION

GEOTECHNICAL INVESTIGATION  
Km 1674.0 to 1684.4  
YUKON, 2002-2003

ALASKA HIGHWAY #1

Highway Construction  
Km 1674.0 to 1684.4  
Alaska Highway #1  
Yukon, 2002-2003  
**Volume 1 of 2**

This Data Package prepared for project viewing:

December, 2001

Transportation Engineering Branch  
Geotechnical Services  
461 Range Road  
Whitehorse, Yukon



## CONTENTS

### Volume 1 of 2

#### INTRODUCTION

Investigation notes, classification methods and legends.

#### 2000 & 2001 CENTRELINE TESTING ALASKA HIGHWAY

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

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

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

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

## CONTENTS (continued)

### Volume 2 of 2

#### 1978 CENTRELINE TESTING ALASKA HIGHWAY

A Test Hole Location Reference Table and Subsurface Exploration & Testing Report Sheets are provided.

The reports for the centreline holes are arranged according to project location, starting at Km 1673+993 and increasing to Km 1684+415.

1978	TEST HOLES 169 to 301	shown with no prefix
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**IMPORTANT NOTE:** Due to alignment revisions subsequent to the 1978 centreline testing the test hole locations indicated on the 1978 Subsurface Exploration and Testing Report sheets are invalid. Utilize the Test Hole Location Reference Table provided in order to determine the test hole locations relevant to the current alignment.

#### QUARRY SOURCE Km 1674 RHS ALASKA HIGHWAY

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

##### **Air Rotary Drill Testing**

2000	TEST HOLES 866 to 869, 873 to 883	shown with prefix 576-
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#### GRANULAR SOURCE Km 1691.3 RHS ALASKA HIGHWAY (Silver Creek)

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

##### **Backhoe Testing**

1991	TEST PITS 05	shown with prefix 152-
1992	TEST PITS 18 & 19	shown with prefix EBA-
2001	TEST PITS 1521, 1522, 1530, 1537 to 1543	shown with prefix 583-
2001	TEST PITS 1544, 1551, & 1552	shown with prefix 584

##### **Auger Testing**

2001	TEST HOLES 1509 & 1510	shown with prefix 581-
2001	TEST HOLES 1518	shown with prefix 582-

HIGHWAY CONSTRUCTION

## GEOTECHNICAL INVESTIGATION

Km 1674.0 to 1684.4  
YUKON, 2002-2003

ALASKA HIGHWAY #1

# INTRODUCTION



### GEOTECHNICAL INVESTIGATION DATA

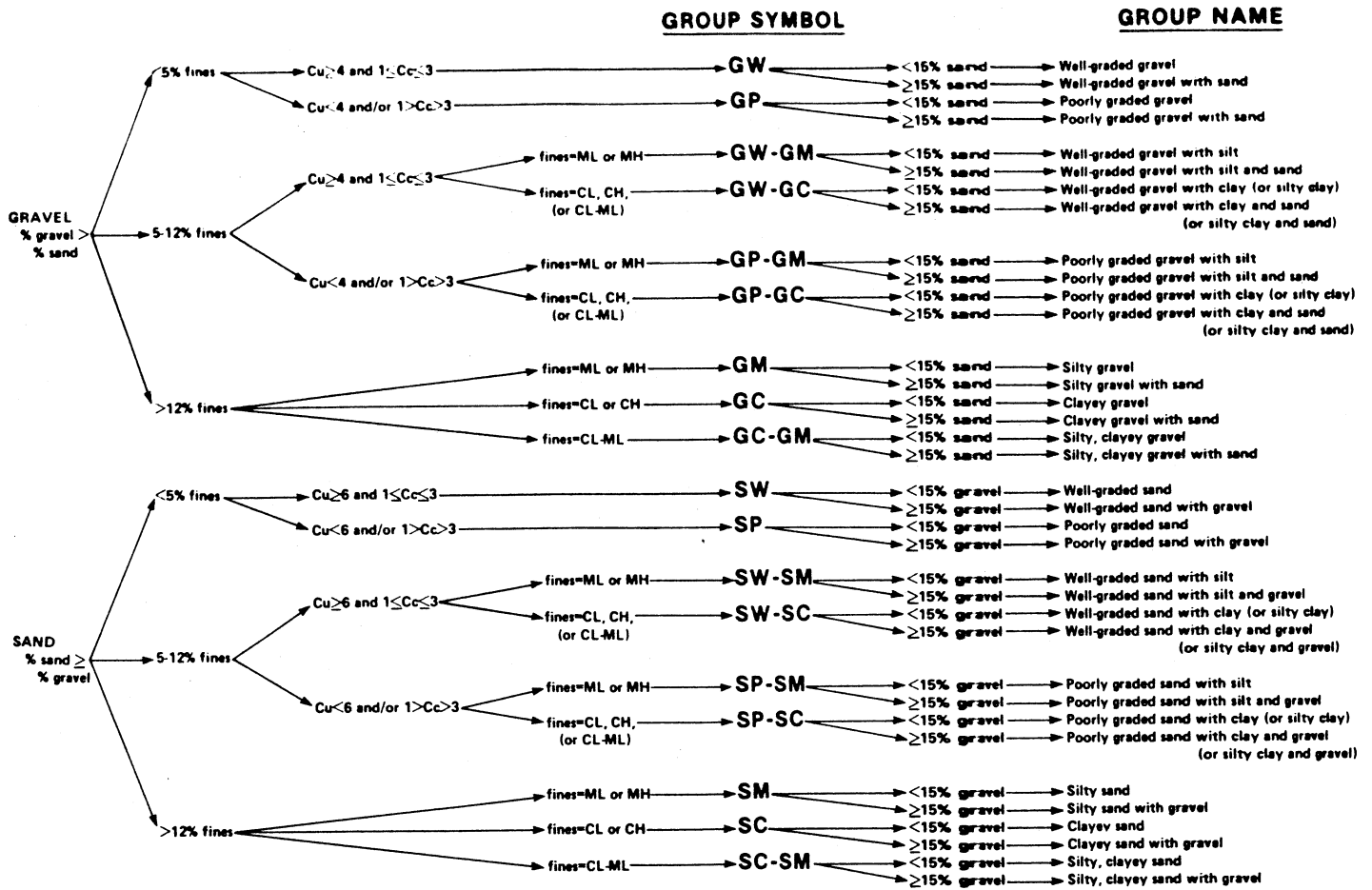
This geotechnical investigation data is provided to assist in the interpretation of soil conditions encountered within this project area. The data presented was prepared solely for Departmental designing and estimating purposes.

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.

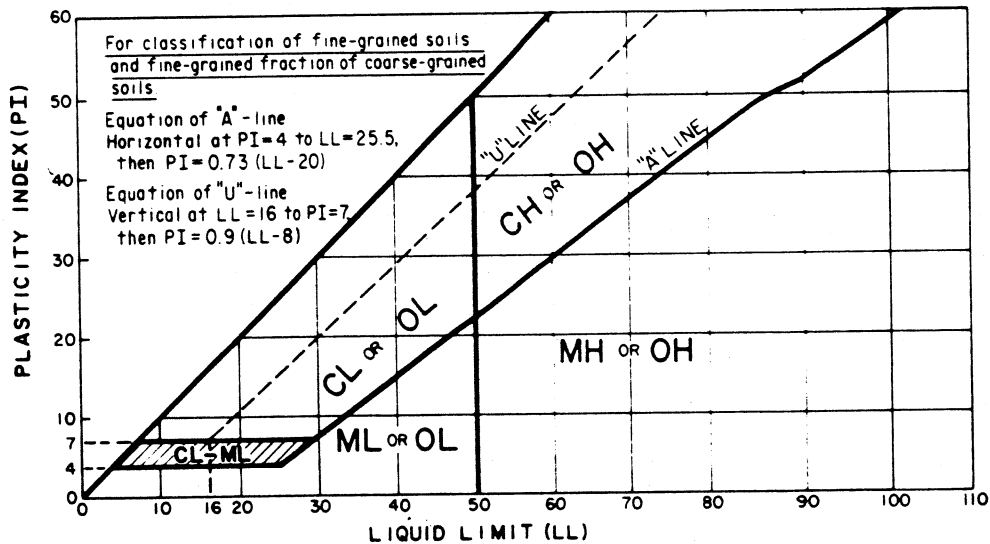
The sample identification and laboratory testing data is provided to give detailed physical properties of selected retrieved samples within the subsurface profile. ***These tests may be conducted on disturbed samples and may exhibit properties different from the native materials. The sample classification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

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.

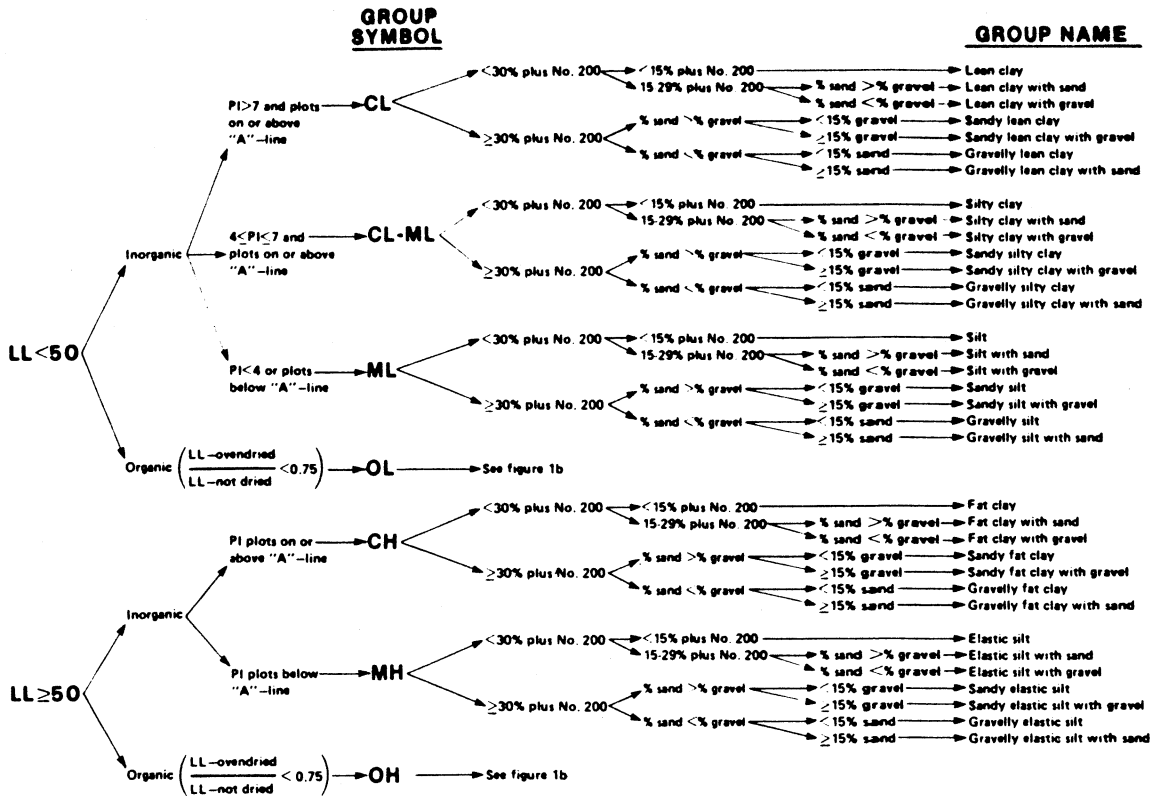
It is recommended that a site inspection, combined with consideration of the regional geology and climatic conditions be conducted. An evaluation of the investigation methods and development work done since the time of investigation should be done prior to interpreting the subsurface conditions at the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



Flow chart for classifying coarse-grained soil.



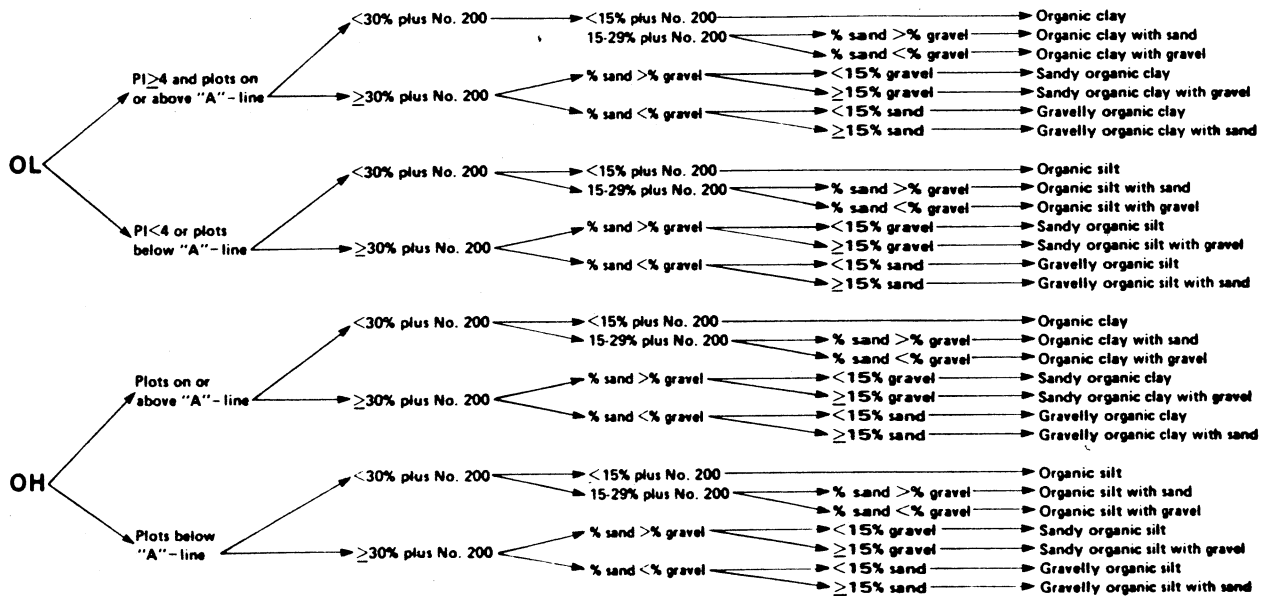
Plasticity chart.



Flow chart for classifying fine-grained soil.

**GROUP SYMBOL**

**GROUP NAME**



Flow chart for classifying organic soil.

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

- Based on the material passing the 3-in (75-mm) sieve.
- If field sample contained cobbles and/or boulders, add "with cobbles and/or boulders" to group name.
- 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
- 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
- $C_u = D_{60}/D_{10}$        $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$
- If soil contains  $\geq 15\%$  sand, add "with sand" to group name.
- If fines classify as CL-ML, use dual symbol GC-GM, SC-SM.
- If fines are organic, add "with organic fines" to group name.
- If soil contains  $> 15\%$  gravel, add "with gravel" to group name.
- If Atterberg limits plot in hatched area, soil is a CL-ML, silty clay.
- If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel" whichever is predominant.
- If soil contains  $> 30\%$  plus No. 200, predominantly sand, add "sandy" to group name.
- If soil contains  $\geq 30\%$  plus No. 200, predominantly gravel, add "gravelly" to group name.
- PI > 4 and plots on or above "A" line.
- PI < 4 or plots below "A" line.
- PI plots on or above "A" line.
- PI plots below "A" line.

### Soil classification chart

# UNIFIED SOIL CLASSIFICATION

MAJOR DIVISIONS		GROUP SYMBOLS	TYPICAL NAMES	CLASSIFICATION CRITERIA	
<b>COARSE-GRAINED SOILS</b> More than 50% retained on No. 200 sieve*	<b>GRAVELS</b> 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	
		GRAVELS WITH FINES	GP	Poorly-graded gravels and gravel-sand mixtures, little or no fines	
		<b>SANDS</b> More than 50% of coarse fraction passes No. 4 sieve	CLEAN SANDS	SW	Well-graded sands and gravelly sands, little or no fines
			SANDS WITH FINES	SP	Poorly-graded sands and gravelly sands, little or no fines
	<b>FINE-GRAINED SOILS</b> 50% or more passes No. 200 sieve*	<b>SILTS AND CLAYS</b> 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	
		<b>SILTS AND CLAYS</b> 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		

**Classification on basis of percentage of fines**  
 GW, GP, SW, SP  
 GM, GC, SM, SC  
 Borderline classification requiring use of dual symbols

**Classification on basis of percentage of fines**  
 Less than 5% pass No. 200 sieve  
 More than 12% pass No. 200 sieve  
 5% to 12% pass No. 200 sieve

**Classification Criteria:**

$C_u = D_{60}/D_{10}$  Greater than 4  
 $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$  Between 1 and 3

Not meeting both criteria for GW

Atterberg limits plot below 'A' line or plasticity index less than 4

Atterberg limits plot above 'A' line and plasticity index greater than 7

Atterberg limits plotting in hatched area are borderline classifications requiring use of dual symbols

$C_u = D_{60}/D_{10}$  Greater than 6  
 $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$  Between 1 and 3

Not meeting both criteria for SW

Atterberg limits plot below 'A' line or plasticity index less than 4

Atterberg limits plot above 'A' line and plasticity index greater than 7

Atterberg limits plotting in hatched area are borderline classifications requiring use of dual symbols

**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:  $PI = 0.73(LL - 20)$

\*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	IMAGE
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	IMAGE
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

GROUP SYMBOLS	SYMBOLS	SUBGROUP DESCRIPTION	IMAGE
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  $\pm 5\%$
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		<input type="checkbox"/> RETURN	<input checked="" type="checkbox"/> S.P.T.	<input checked="" type="checkbox"/> AUGER	<input type="checkbox"/> BULK	<input type="checkbox"/> TUBE	<input type="checkbox"/> CORE			
DEPTH (m)	SOIL DESCRIPTION			SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 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	A triangle over two lines indicates water level detected at the time of drilling, unless otherwise noted									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				

HIGHWAY CONSTRUCTION

GEOTECHNICAL INVESTIGATION

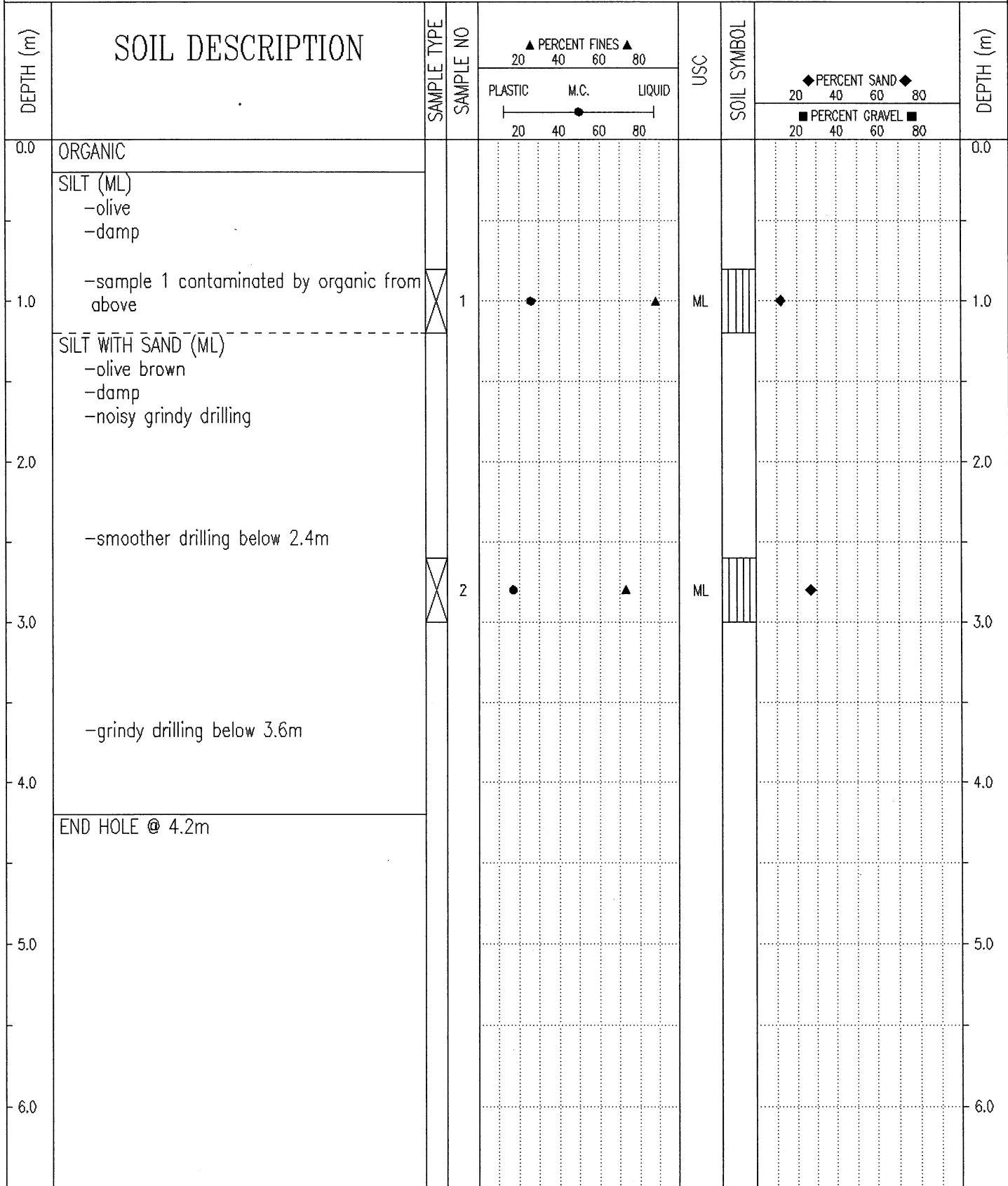
Km 1674.0 to 1684.4  
YUKON, 2002-2003

ALASKA HIGHWAY #1

**2000 & 2001 CENTRELINE TESTING  
1673+875 to 1684+450  
ALASKA HIGHWAY**



SUBSURFACE EXPLORATION & TEST REPORT	Shakwak Seg 9 Alaska Highway	TEST HOLE NO: 586-888
ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1673+875	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN	<input checked="" type="checkbox"/> S.P.T.
	<input checked="" type="checkbox"/> AUGER	<input type="checkbox"/> BULK
	<input type="checkbox"/> TUBE	<input type="checkbox"/> CORE

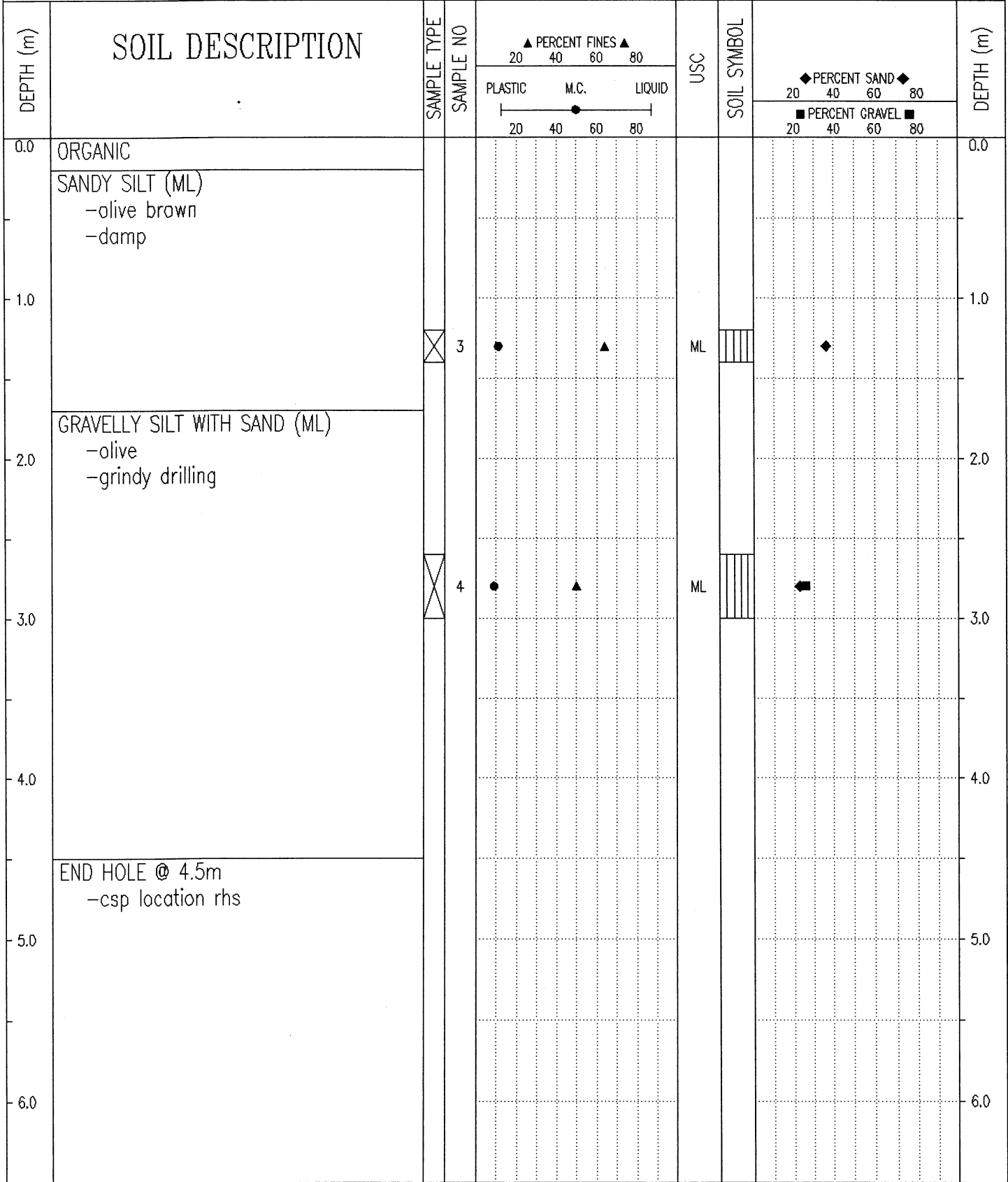


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REVIEWED BY:  
Fig. No:

COMPLETION DEPTH: 4.2 m  
COMPLETE: 01/03/27

SUBSURFACE EXPLORATION & TEST REPORT	Shakwak Seg 9 Alaska Highway	TEST HOLE NO: 586-889
ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1673+950	ELEVATION: 0.00 (m)
SAMPLE TYPE <input checked="" type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE		

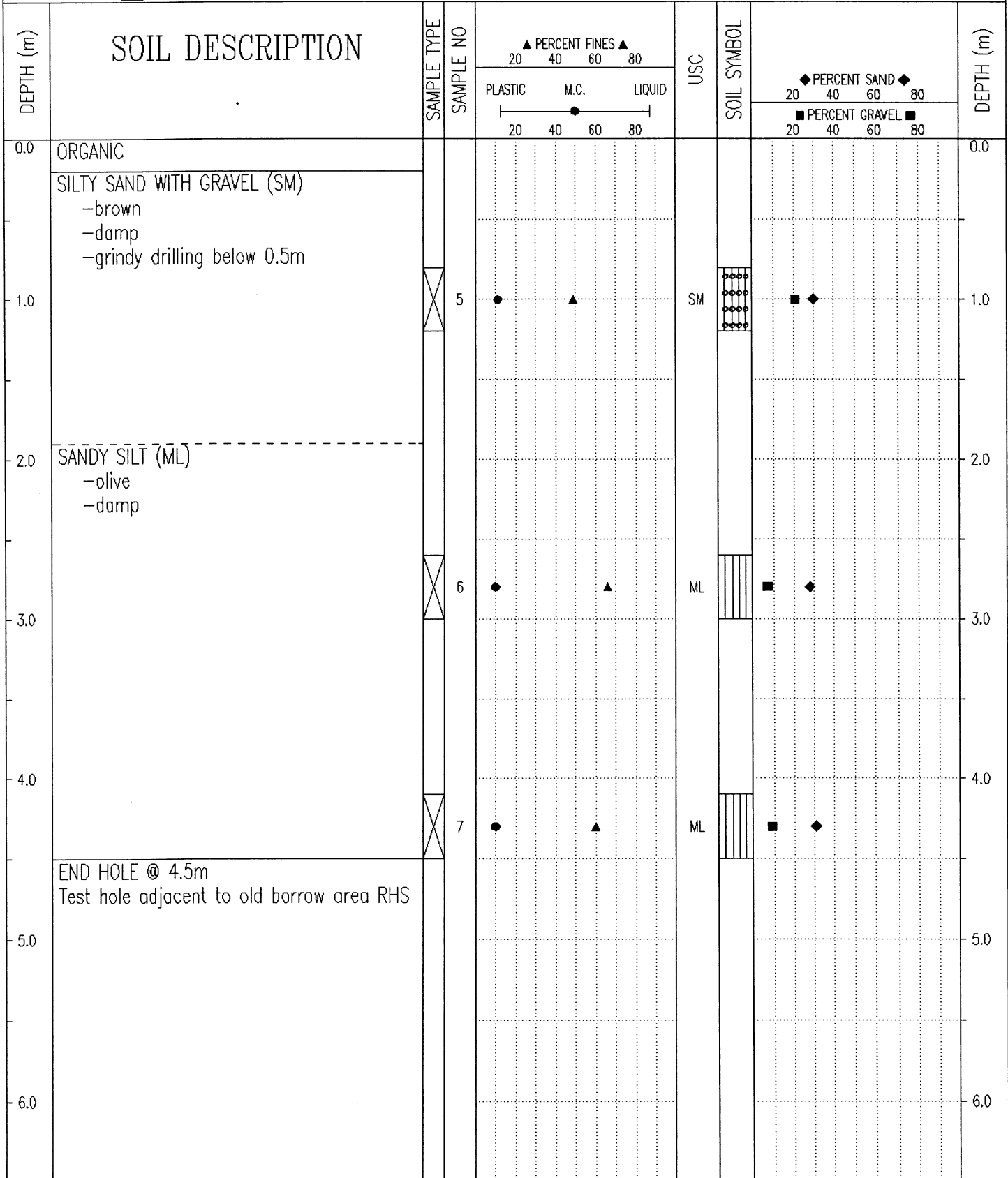


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REVIEWED BY:  
Fig. No:

COMPLETION DEPTH: 4.5 m  
COMPLETE: 01/03/27  
Page 1 of 1

SUBSURFACE EXPLORATION & TEST REPORT	Shakwak Seg 9 Alaska Highway	TEST HOLE NO: 586-890
ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1674+075	ELEVATION: 0.00 (m)
SAMPLE TYPE <input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE		



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LOGGED BY: K.J	COMPLETION DEPTH: 4.5 m
REVIEWED BY:	COMPLETE: 01/03/27
Fig. No:	Page 1 of 1

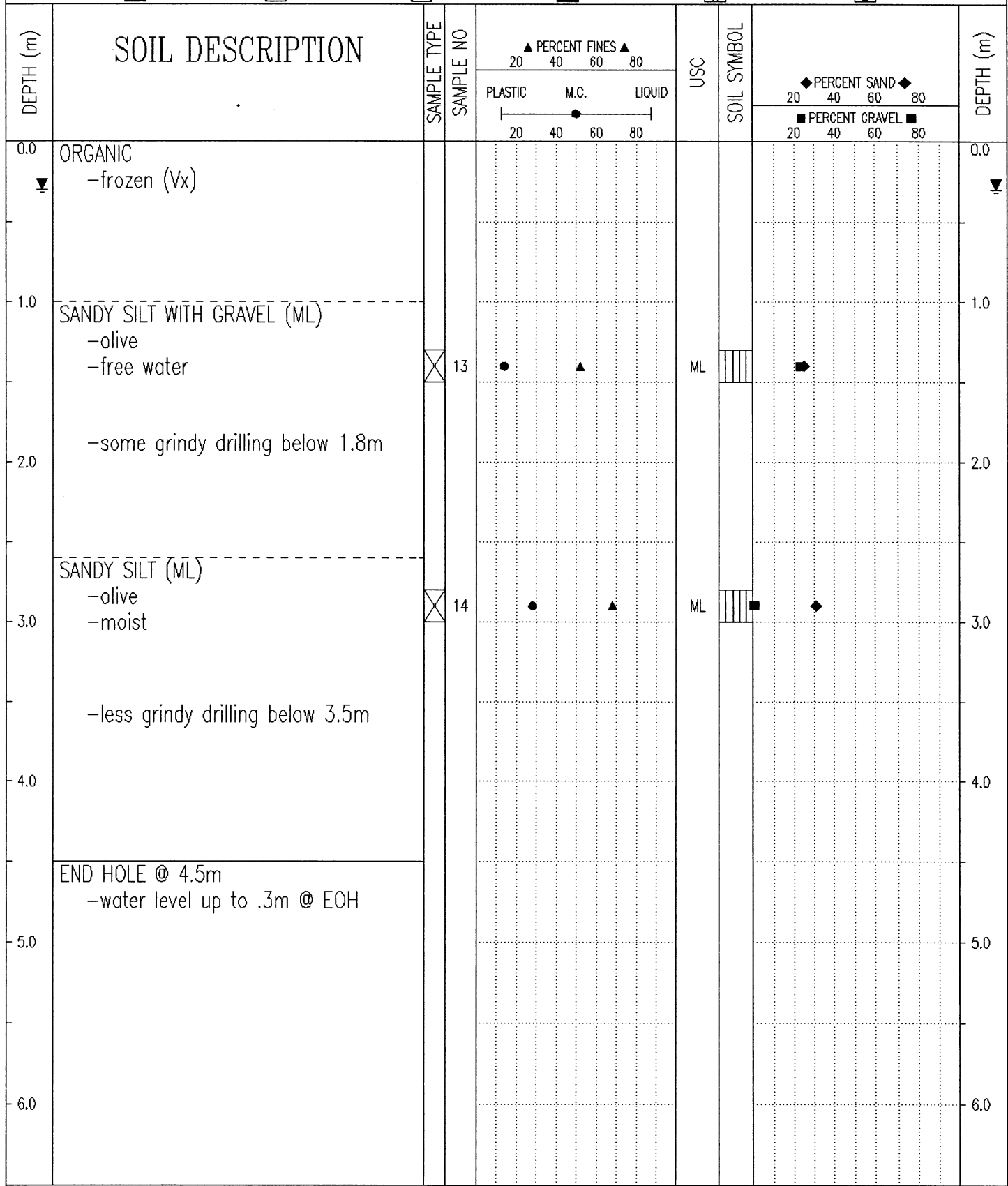
SUBSURFACE EXPLORATION & TEST REPORT		Shakwak Seg 9 Alaska Highway		TEST HOLE NO: 586-891							
ENGINEERING CAPITAL		KM 1694-1692 A/H		Project No: 092-202101-0363							
NODWELL B 40L 6" AUGER		LOCATION:1674+150		ELEVATION: 0.00 (m)							
SAMPLE TYPE		S.P.T.		AUGER		BULK		TUBE		CORE	
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)			
0.0	ORGANIC							0.0			
0.0 - 1.0	SILTY GRAVEL WITH SAND (GM) -olive brown -damp -maximum 50mm material augered up -grindy drilling		8	● ▲	GM	▲ ◆ ■		1.0			
1.0 - 2.0	SANDY SILT WITH GRAVEL TO SANDY SILT (ML) -olive -damp -smoother drilling		9	● ▲	ML	■ ◆		2.0			
2.0 - 4.0			10	● ▲	ML	■ ◆		4.0			
4.0 - 4.5	END HOLE @ 4.5m							4.5			

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Fig. No:

COMPLETION DEPTH: 4.5 m  
COMPLETE: 01/03/27

SUBSURFACE EXPLORATION & TEST REPORT		Shakwak Seg 9 Alaska Highway		TEST HOLE NO: 586-892								
ENGINEERING CAPITAL		KM 1694-1692 A/H		Project No: 092-202101-0363								
NODWELL B 40L 6" AUGER		LOCATION:1674+300		ELEVATION: 0.00 (m)								
SAMPLE TYPE <input checked="" type="checkbox"/> RETURN		<input checked="" type="checkbox"/> S.P.T.		<input checked="" type="checkbox"/> AUGER								
		<input type="checkbox"/> BULK		<input type="checkbox"/> TUBE								
				<input type="checkbox"/> CORE								
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲			USC	SOIL SYMBOL	◆ PERCENT SAND ◆			DEPTH (m)
				PLASTIC	M.C.	LIQUID			PERCENT GRAVEL ■			
0.0	ORGANIC -frozen (Vx) -smooth easy drilling										0.0	
1.0	SILTY SAND (SM) -olive -wet	<input checked="" type="checkbox"/>	11	●	▲		SM	○	■	◆	1.0	
2.0	-some gravel below 1.7m -grindy drilling below 1.7m -saturated below 1.7m	<input checked="" type="checkbox"/>	12	●	▲		SM	○	■	◆	2.0	
3.0											3.0	
4.0	-moist below 3.5m										4.0	
5.0	END HOLE @ 4.5m										5.0	
6.0											6.0	
Government of Yukon Transportation Engineering				LOGGED BY: K.J		COMPLETION DEPTH: 4.5 m						
				REVIEWED BY:		COMPLETE: 01/03/27						
				Fig. No:		Page 1 of 1						

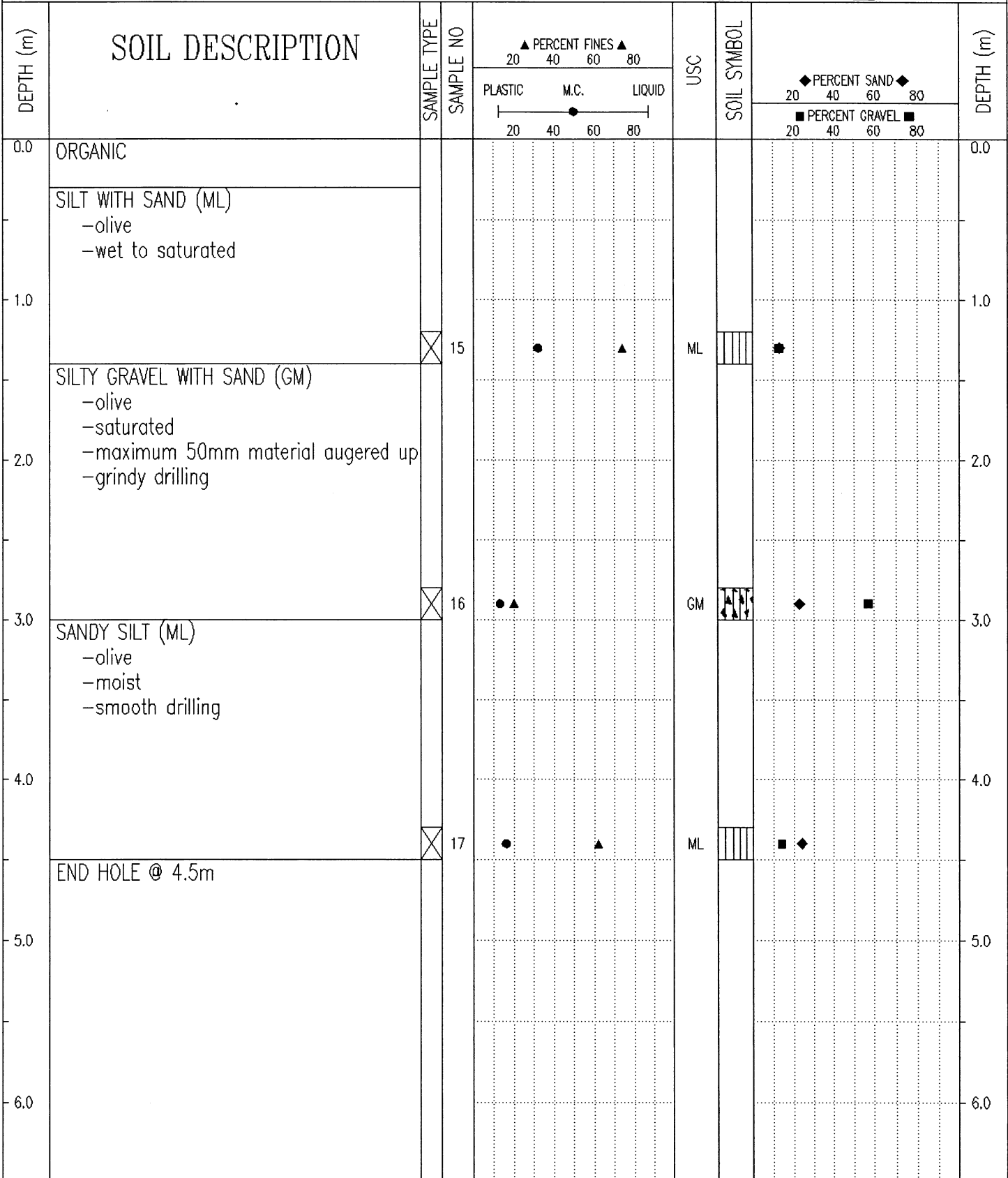


SUBSURFACE EXPLORATION & TEST REPORT      Shakwak Seg 9 Alaska Highway      TEST HOLE NO: 586-894

ENGINEERING CAPITAL      KM 1894-1892 A/H      Project No: 092-202101-0363

NODWELL B 40L 6" AUGER      LOCATION:1674+500      ELEVATION: 0.00 (m)

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



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COMPLETION DEPTH: 4.5 m

REVIEWED BY:

COMPLETE: 01/03/27

Fig. No:

Page 1 of 1

SUBSURFACE EXPLORATION & TEST REPORT		Shakwak Seg 9 Alaska Highway		TEST HOLE NO: 586-895									
ENGINEERING CAPITAL		KM 1694-1692 A/H		Project No: 092-202101-0363									
NODWELL B 40L 6" AUGER		LOCATION:1674+600		ELEVATION: 0.00 (m)									
SAMPLE TYPE <input checked="" type="checkbox"/> RETURN		<input checked="" type="checkbox"/> S.P.T.		<input checked="" type="checkbox"/> AUGER									
		<input type="checkbox"/> BULK		<input type="checkbox"/> TUBE									
				<input type="checkbox"/> CORE									
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES			USC	SOIL SYMBOL	PERCENT SAND		PERCENT GRAVEL		DEPTH (m)
				PLASTIC	M.C.	LIQUID			20	40	60	80	
0.0	ORGANIC											0.0	
0.0 - 1.0	SILT & GRAVEL -brown -humid -grindy drilling												
1.0 - 2.0	SILT WITH SAND TO SILT (ML) -olive -humid -smooth drilling	<input checked="" type="checkbox"/>	18	●		▲	ML	▨	→				
2.0 - 3.0													
3.0 - 4.0	-damp below 2.9m	<input checked="" type="checkbox"/>	19	●		▲	ML	▨	→	◆	■		
4.0 - 5.0	SILTY GRAVEL WITH SAND (GM) -olive -damp	<input checked="" type="checkbox"/>	20	●		▲	GM	▨	→	◆	■		
5.0 - 6.0	END HOLE @ 4.4m												

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Fig. No:

COMPLETION DEPTH: 4.4 m  
COMPLETE: 01/03/28

SUBSURFACE EXPLORATION & TEST REPORT		Shakwak Seg 9 Alaska Highway		TEST HOLE NO: 586-896								
ENGINEERING CAPITAL		KM 1694-1692 A/H		Project No: 092-202101-0363								
NODWELL B 40L 6" AUGER		LOCATION:1674+700		ELEVATION: 0.00 (m)								
SAMPLE TYPE		<input checked="" type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE										
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES ▲			USC	SOIL SYMBOL	PERCENT SAND ◆			DEPTH (m)
				PLASTIC	M.C.	LIQUID			20	40	60	
0.0	ORGANIC SANDY SILT WITH GRAVEL (ML) -olive -damp -slightly grindy drilling	<input checked="" type="checkbox"/>	21	●	▲		ML	▨	■	◆		0.0
3.0	SILTY GRAVEL WITH SAND (GM) -olive -damp -maximum 80mm material augered up -grindy drilling	<input checked="" type="checkbox"/>	22	●	▲		GM	▨	◆	■		3.0
4.5	END HOLE @ 4.5m											4.5

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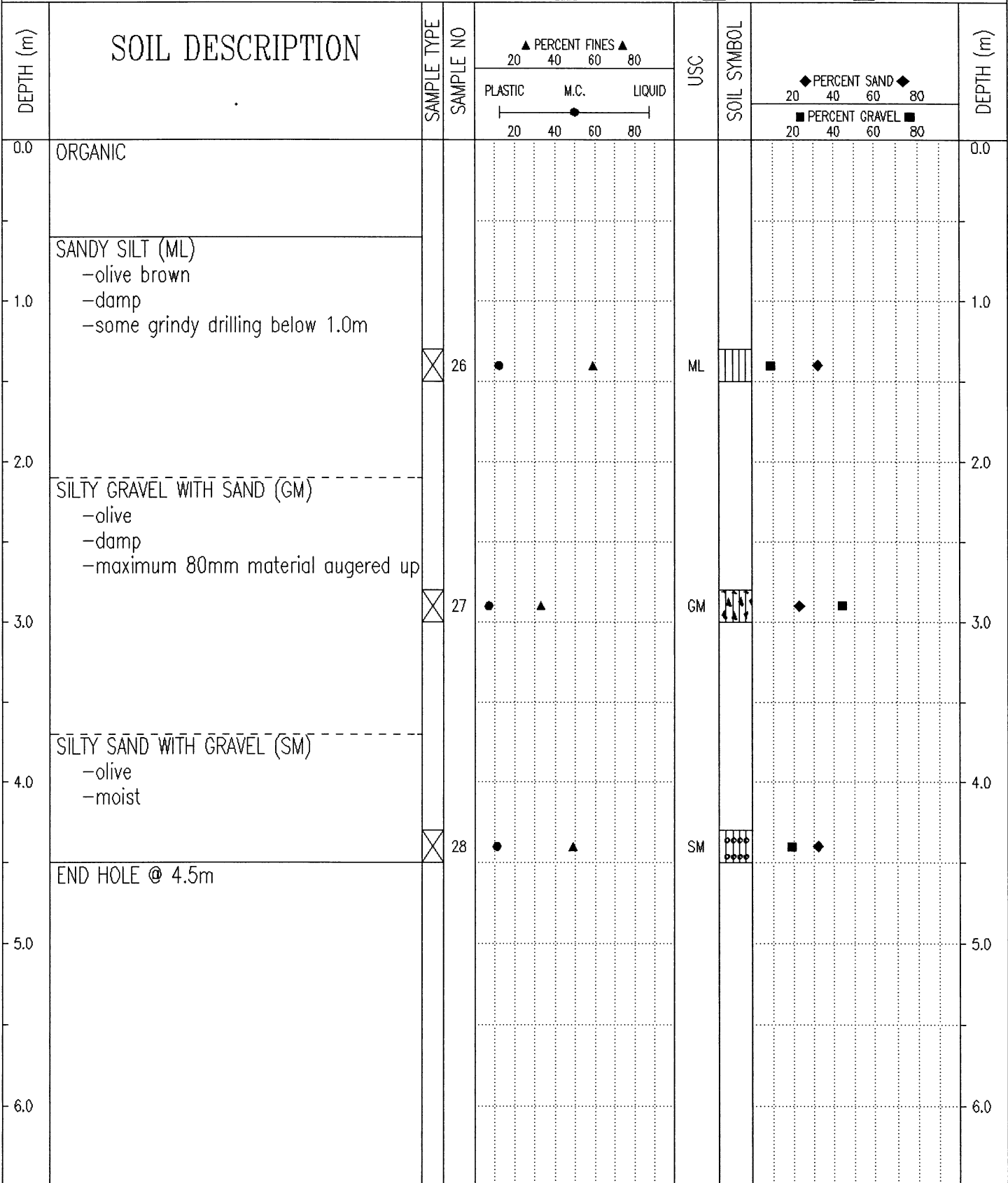
SUBSURFACE EXPLORATION & TEST REPORT		Shakwak Seg 9 Alaska Highway		TEST HOLE NO: 586-897								
ENGINEERING CAPITAL		KM 1694-1692 A/H		Project No: 092-202101-0363								
NODWELL B 40L 6" AUGER		LOCATION:1674+805		ELEVATION: 0.00 (m)								
SAMPLE TYPE		<input checked="" type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE										
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲			USC	SOIL SYMBOL	◆ PERCENT SAND ◆			DEPTH (m)
				PLASTIC	M.C.	LIQUID			20	40	60	
0.0	ORGANIC -old stripping pile material											0.0
1.0	SILTY SAND WITH GRAVEL (SM) -brown -humid											1.0
2.0	SANDY SILT (ML) -olive -moist -grindy drilling											2.0
3.0		<input checked="" type="checkbox"/>	23	●	▲		SM	◻◻◻◻◻◻◻◻◻◻	■	◆		3.0
4.0	SILTY GRAVEL WITH SAND (GM) -olive -moist											4.0
5.0		<input checked="" type="checkbox"/>	24	●	▲		ML	▨▨▨▨▨▨▨▨▨▨	■	◆		5.0
6.0	SILTY GRAVEL WITH SAND (GM) -olive -moist											6.0
7.0	END HOLE @ 4.5m	<input checked="" type="checkbox"/>	25	●	▲		GM	▨▨▨▨▨▨▨▨▨▨	■	◆		7.0

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COMPLETION DEPTH: 4.5 m  
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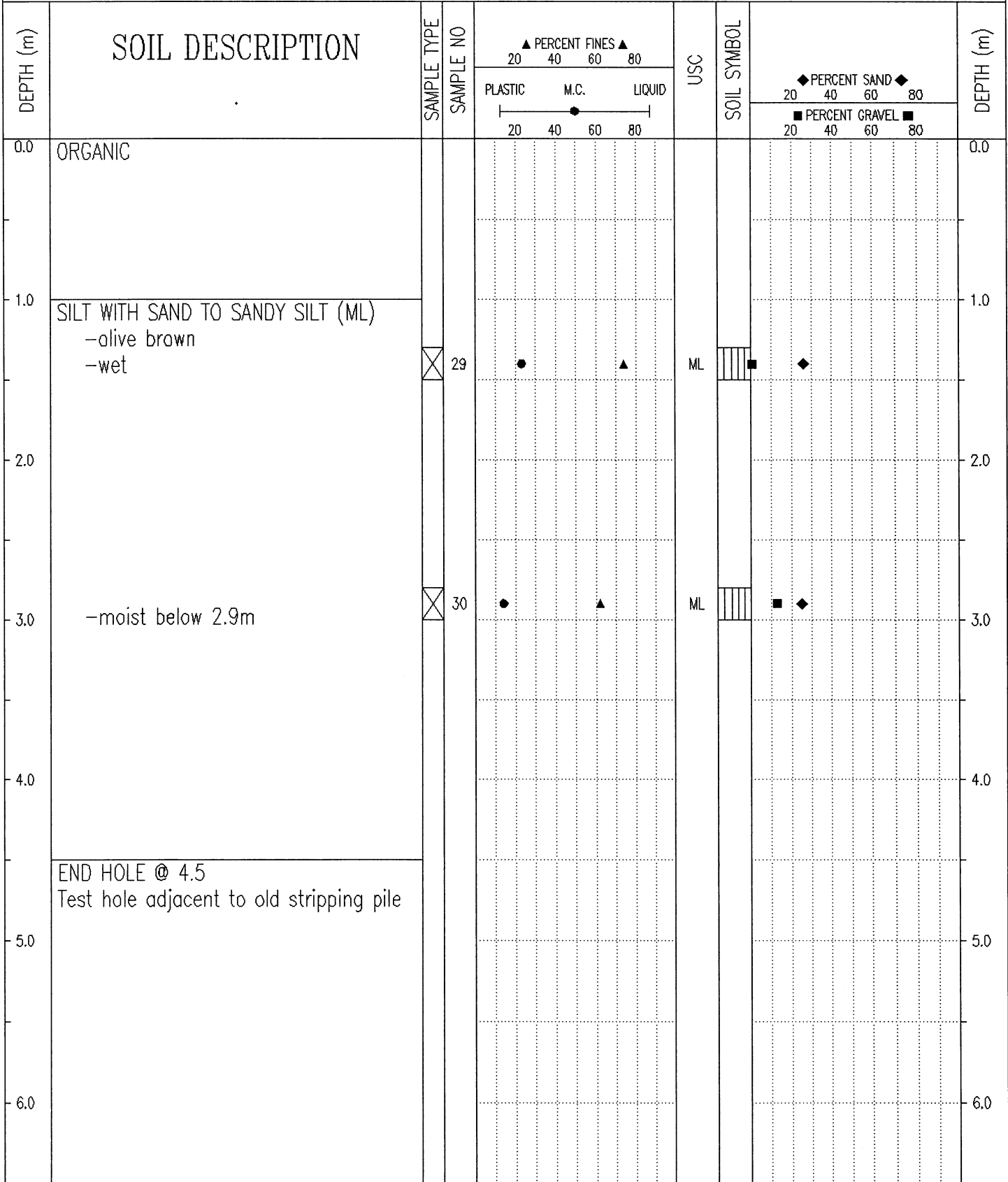
SUBSURFACE EXPLORATION & TEST REPORT	Shakwak Seg 9 Alaska Highway	TEST HOLE NO: 586-898
ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1674+900	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE	



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



01/10/26 01:19PM

SUBSURFACE EXPLORATION & TEST REPORT		Shakwak Seg 9 Alaska Highway		TEST HOLE NO: 586-900						
ENGINEERING CAPITAL		KM 1694-1692 A/H		Project No: 092-202101-0363						
NODWELL B 40L 6" AUGER		LOCATION:1675+100		ELEVATION: 0.00 (m)						
SAMPLE TYPE		<input checked="" type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE								
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES		USC	SOIL SYMBOL	PERCENT SAND & GRAVEL		DEPTH (m)
				PLASTIC	M.C.			PERCENT SAND	PERCENT GRAVEL	
0.0	ORGANIC AND SILT									0.0
0.0 - 1.0	SILTY GRAVEL WITH SAND (GM) -olive -moist									
1.0										
2.0										
2.0 - 3.0	SILTY SAND WITH GRAVEL TO SANDY SILT WITH GRAVEL (SM)-(ML) -olive -wet -smooth drilling									
3.0										
4.0										
4.0 - 4.5	END HOLE @ 4.5m Test hole on small stripping pile adjacent to CPS location									
4.5										
5.0										
6.0										
Government of Yukon Transportation Engineering				LOGGED BY: K.J REVIEWED BY: Fig. No:		COMPLETION DEPTH: 4.5 m COMPLETE: 01/03/28 Page 1 of 1				

SUBSURFACE EXPLORATION & TEST REPORT		Shakwak Seg 9 Alaska Highway		TEST HOLE NO: 586-901							
ENGINEERING CAPITAL		KM 1694-1692 A/H		Project No: 092-202101-0363							
NODWELL B 40L 6" AUGER		LOCATION:1675+200		ELEVATION: 0.00 (m)							
SAMPLE TYPE <input checked="" type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE											
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES		USC	SOIL SYMBOL	PERCENT SAND		PERCENT GRAVEL	DEPTH (m)
				PLASTIC	M.C.			20	40		
0.0	ORGANIC										0.0
1.0	SILT WITH SOME ORGANICS (ML) -dark brown -moist	<input checked="" type="checkbox"/>	34			ML					1.0
2.0	SILTY GRAVEL WITH SAND (GM) -olive -wet to saturated -maximum 50mm material augered up -grindy drilling										2.0
3.0		<input checked="" type="checkbox"/>	35			GM					3.0
4.0	SANDY SILT (ML) -greyish olive -moist -smooth drilling										4.0
5.0	END HOLE @ 4.5m Note: unable to collar t.h. at .2m, install new bit and move 5m upchain	<input checked="" type="checkbox"/>	36			ML					5.0
6.0											6.0
Government of Yukon Transportation Engineering				LOGGED BY: KJJ		COMPLETION DEPTH: 4.5 m					
				REVIEWED BY:		COMPLETE: 01/03/28					
				Fig. No:		Page 1 of 1					

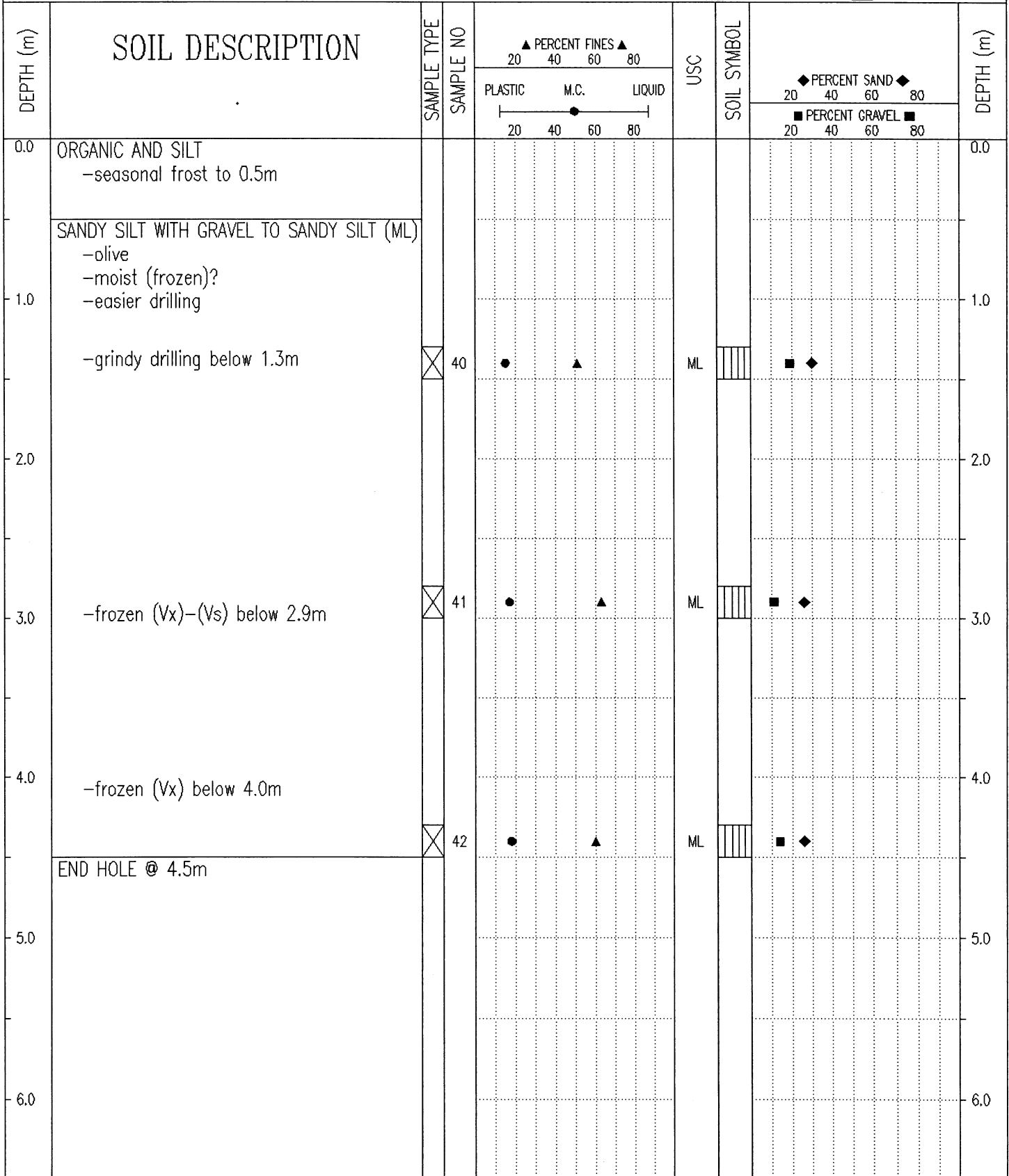
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ENGINEERING CAPITAL		KM 1694-1692 A/H		Project No: 092-202101-0363											
NODWELL B 40L 6" AUGER		LOCATION:1675+300		ELEVATION: 0.00 (m)											
SAMPLE TYPE <input checked="" type="checkbox"/> RETURN		<input checked="" type="checkbox"/> S.P.T.		<input checked="" type="checkbox"/> AUGER											
		<input type="checkbox"/> BULK		<input type="checkbox"/> TUBE											
				<input type="checkbox"/> CORE											
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES			USC	SOIL SYMBOL	PERCENT SAND			PERCENT GRAVEL			DEPTH (m)
				PLASTIC	M.C.	LIQUID			20	40	60	80	20	40	
0.0	ORGANIC													0.0	
0.0 - 4.5	SILTY SAND WITH GRAVEL (SM) -brown -frozen Vx -seasonal frost to 0.4m -smooth drilling below .4m -some grindy drilling below .8m														
1.0														1.0	
2.0														2.0	
3.0														3.0	
4.0	SILTY GRAVEL WITH SAND (GM) -olive -wet													4.0	
4.5	END HOLE @ 4.5m													4.5	
5.0														5.0	
6.0														6.0	

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SUBSURFACE EXPLORATION & TEST REPORT	Shakwak Seg 9 Alaska Highway	TEST HOLE NO: 586-903
ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1675+400	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE	

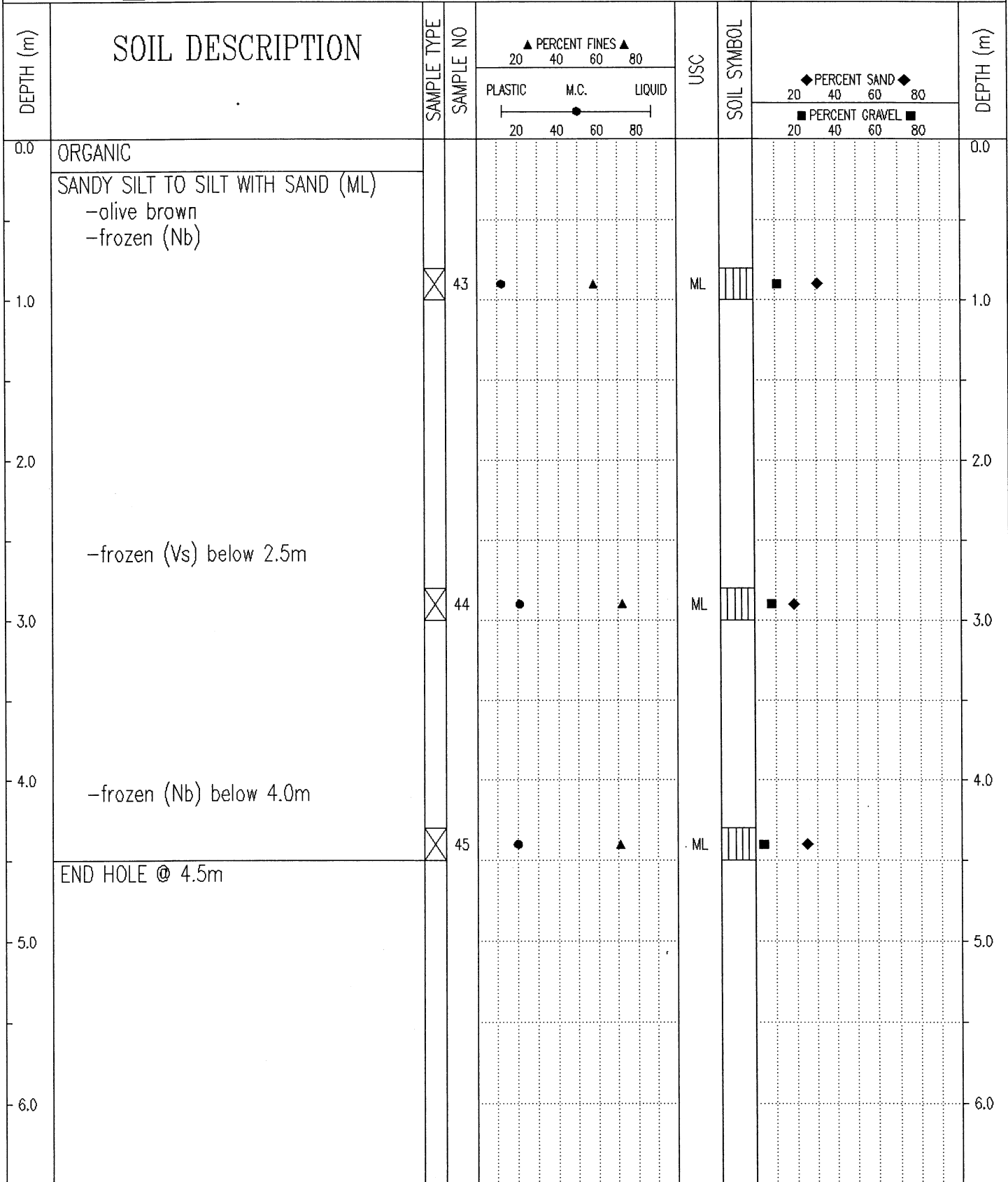


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COMPLETION DEPTH: 4.5 m  
COMPLETE: 01/03/28

SUBSURFACE EXPLORATION & TEST REPORT	Shakwak Seg 9 Alaska Highway	TEST HOLE NO: 586-904
ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1675+500	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE	

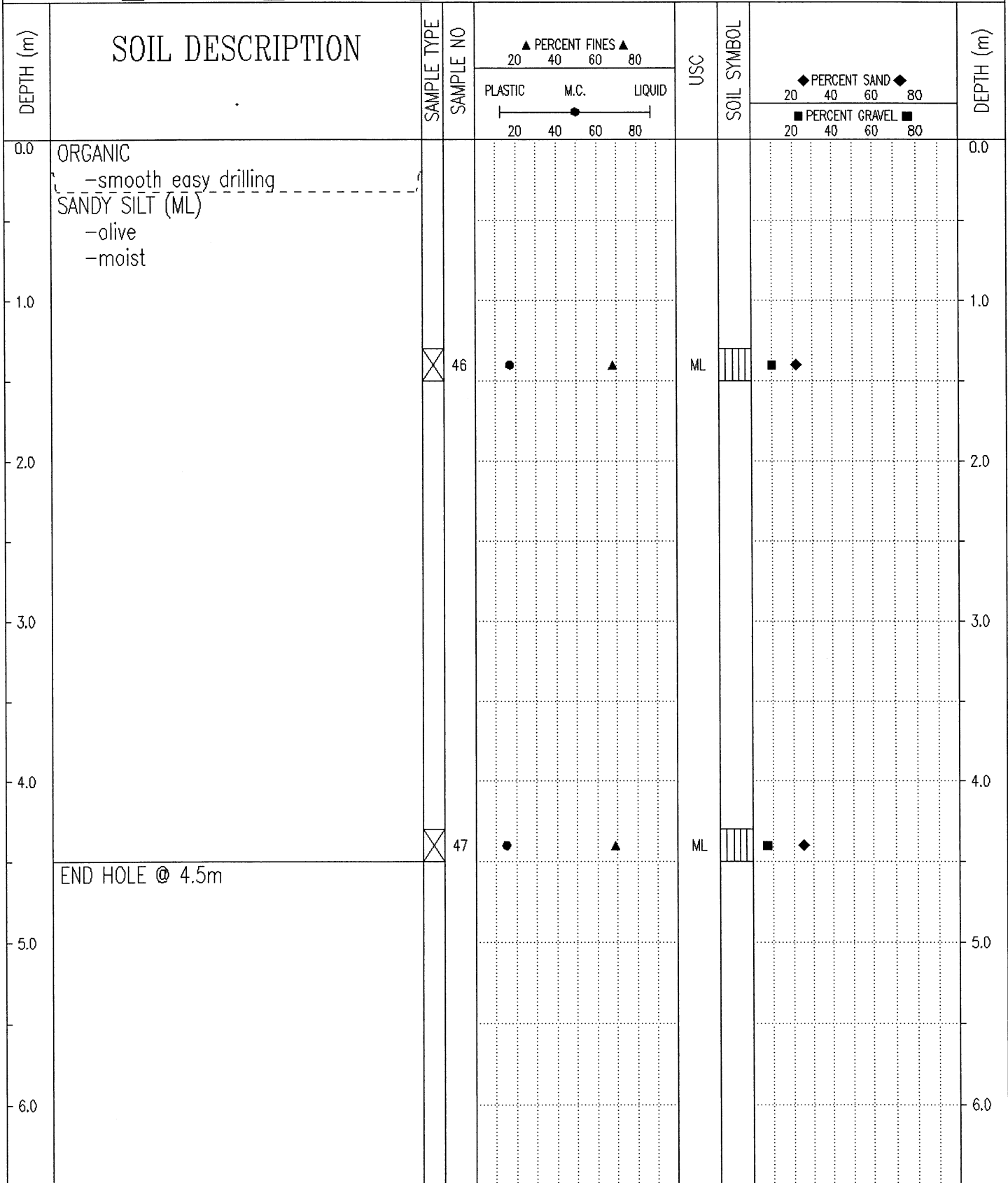


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COMPLETION DEPTH: 4.5 m  
COMPLETE: 01/03/28

SUBSURFACE EXPLORATION & TEST REPORT	Shakwak Seg 9 Alaska Highway	TEST HOLE NO: 586-905
ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1675+600	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN	<input checked="" type="checkbox"/> S.P.T.
	<input checked="" type="checkbox"/> AUGER	<input type="checkbox"/> BULK
	<input type="checkbox"/> TUBE	<input type="checkbox"/> CORE



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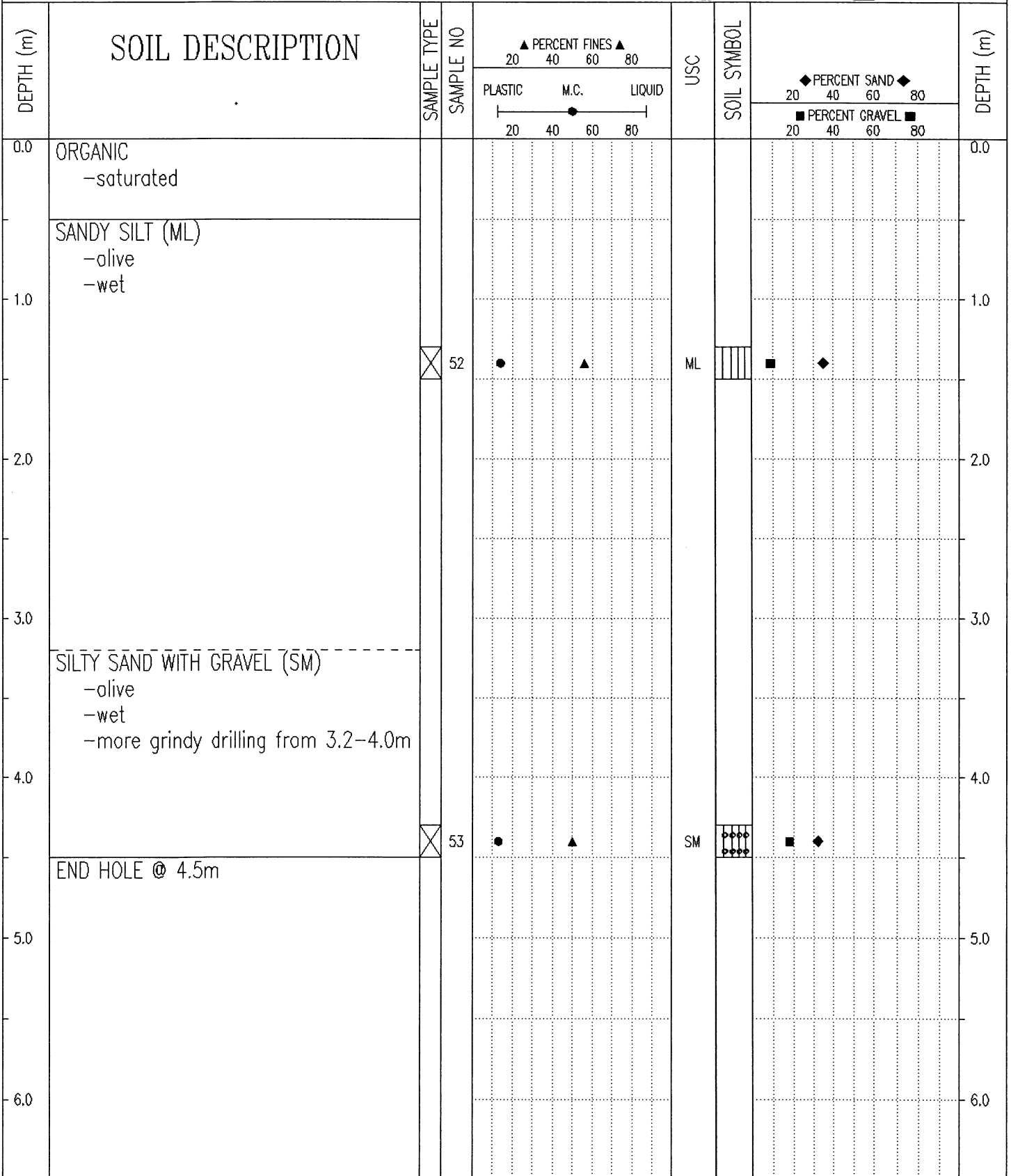
SUBSURFACE EXPLORATION & TEST REPORT		Shakwak Seg 9 Alaska Highway		TEST HOLE NO: 586-906			
ENGINEERING CAPITAL		KM 1694-1692 A/H		Project No: 092-202101-0363			
NODWELL B 40L 6" AUGER		LOCATION:1675+675		ELEVATION: 0.00 (m)			
SAMPLE TYPE <input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE							
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲	USC	SOIL SYMBOL	DEPTH (m)
				PLASTIC                      M.C.                      LIQUID  -----●-----  20                      40                      60                      80			
0.0	ORGANIC -free water						0.0
1.0	SANDY SILT (ML) -olive -moist	<input checked="" type="checkbox"/>	48	●                      ▲	ML	▨                      ◆	1.0
2.0							2.0
3.0	-moist to wet below 2.8m -sample 49 contaminated by organic and water from above	<input checked="" type="checkbox"/>	49	●                      ▲	ML	▨                      ◆	3.0
4.0							4.0
5.0	END HOLE @ 4.5m	<input checked="" type="checkbox"/>	50	●                      ▲	ML	▨                      ◆	5.0
6.0							6.0
Government of Yukon Transportation Engineering				LOGGED BY: K.J REVIEWED BY: Fig. No:		COMPLETION DEPTH: 4.5 m COMPLETE: 01/03/28	

SUBSURFACE EXPLORATION & TEST REPORT		Shakwak Seg 9 Alaska Highway		TEST HOLE NO: 586-907						
ENGINEERING CAPITAL		KM 1694-1692 A/H		Project No: 092-202101-0363						
NODWELL B 40L 6" AUGER		LOCATION:1675+790		ELEVATION: 0.00 (m)						
SAMPLE TYPE <input checked="" type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE										
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲		USC	SOIL SYMBOL	◆ PERCENT SAND ◆		DEPTH (m)
				PLASTIC	M.C.			LIQUID	20	
0.0	ICE -seasonal glaciation									0.0
1.0										1.0
2.0	ORGANIC WITH SAND AND GRAVEL -original ground @ 1.5m -free water -grindy drilling									2.0
3.0	-no sample recovered material washed away									3.0
4.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM)									4.0
5.0	-blackish olive -free water -maximum 50mm material augered up -sample 51 contaminated from above END HOLE @ 4.5m -culvert location Note: water level at 1.0m @ EOH	<input checked="" type="checkbox"/>	51				GP-GM			5.0
6.0										6.0

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SUBSURFACE EXPLORATION & TEST REPORT	Shakwak Seg 9 Alaska Highway	TEST HOLE NO: 586-908
ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1675+900	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE	



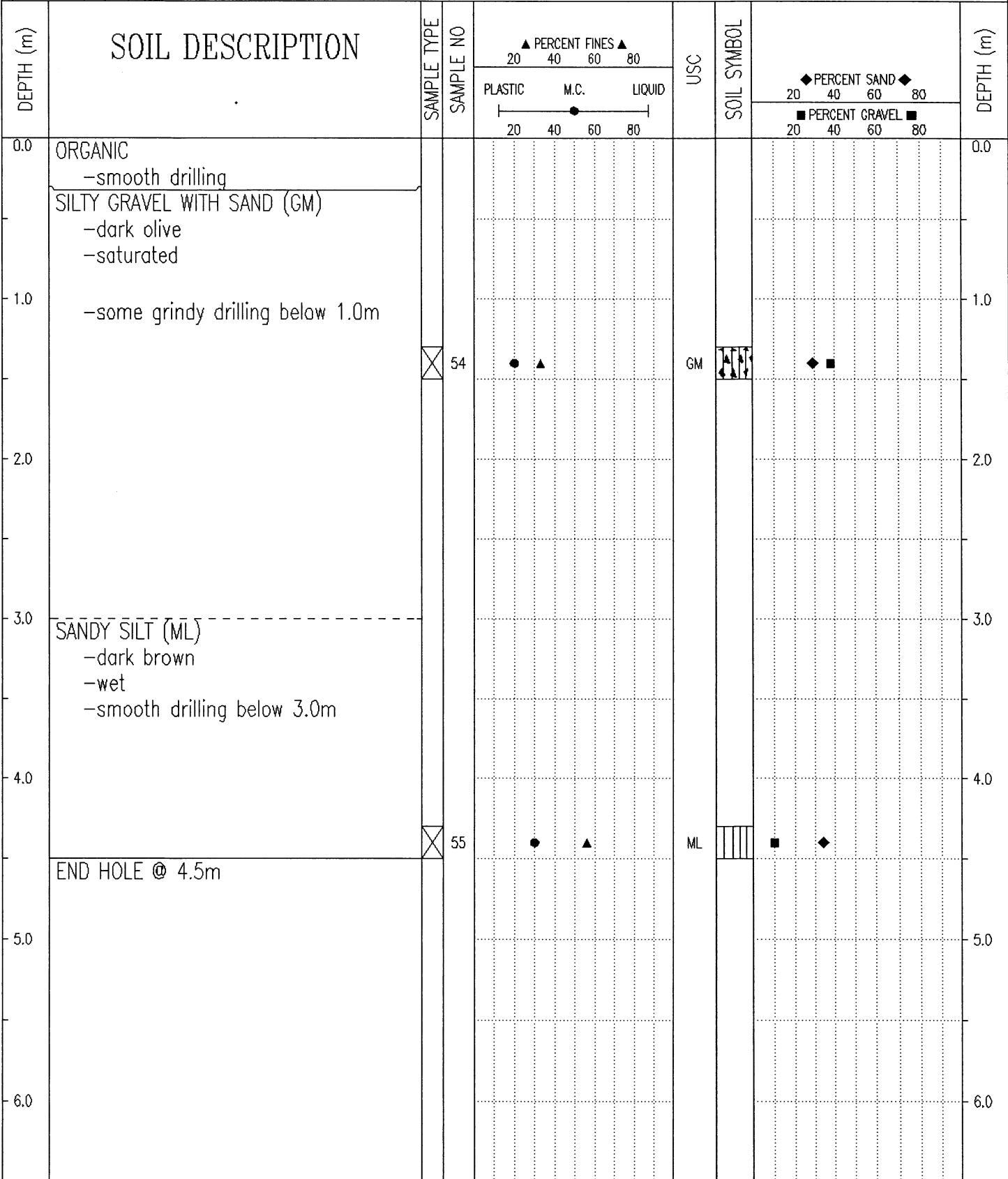
Government of Yukon Transportation Engineering	LOGGED BY: K.J	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 01/03/28
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SUBSURFACE EXPLORATION & TEST REPORT      Shakwak Seg 9 Alaska Highway      TEST HOLE NO: 586-909

ENGINEERING CAPITAL      KM 1694-1692 A/H      Project No: 092-202101-0363

NODWELL B 40L 6" AUGER      LOCATION:1676+000      ELEVATION: 0.00 (m)

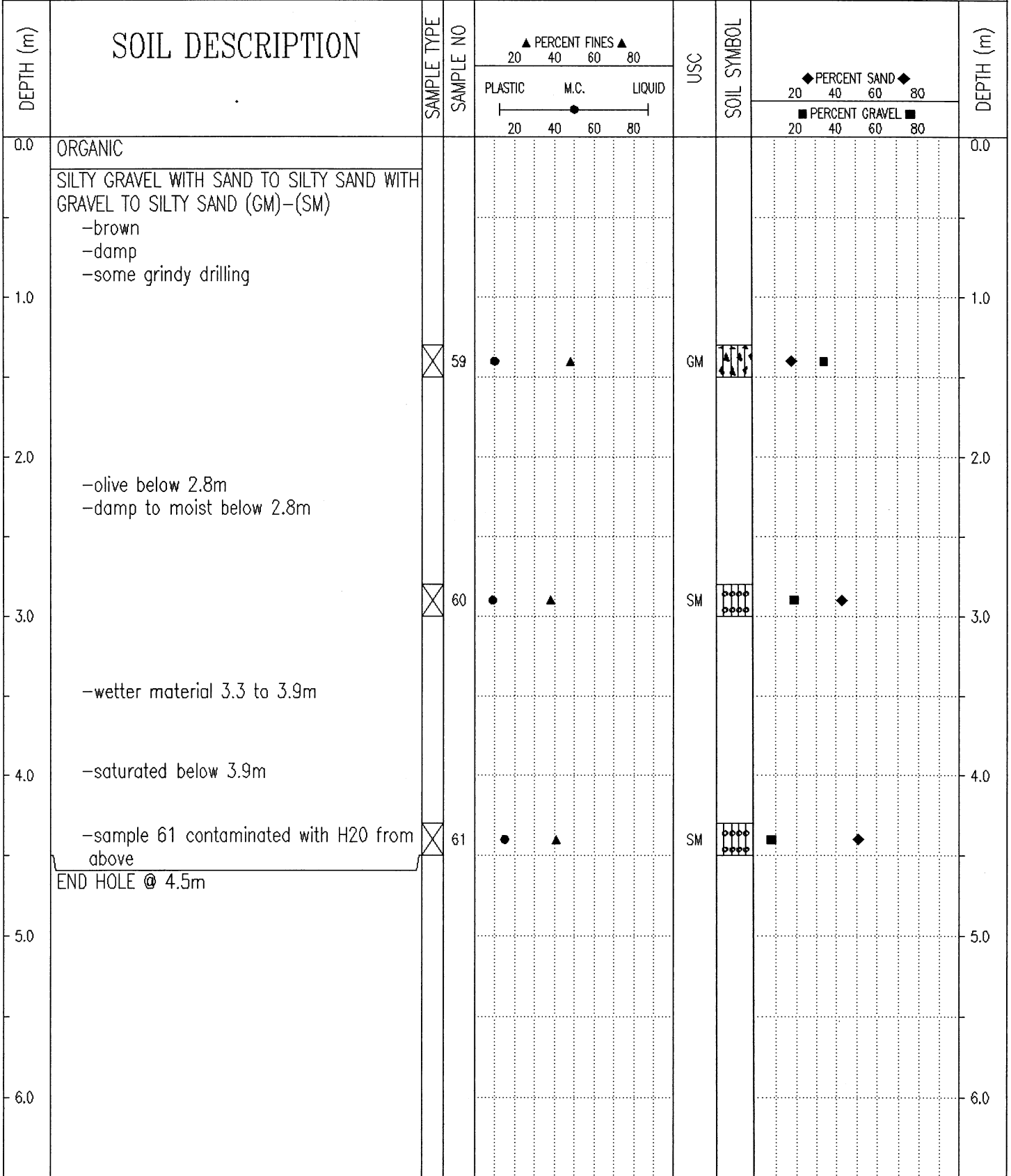
SAMPLE TYPE    RETURN    S.P.T.    AUGER    BULK    TUBE    CORE



<p>Government of Yukon Transportation Engineering</p>	LOGGED BY: K.J	COMPLETION DEPTH: 4.5 m
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SUBSURFACE EXPLORATION & TEST REPORT		Shakwak Seg 9 Alaska Highway		TEST HOLE NO: 586-910							
ENGINEERING CAPITAL		KM 1694-1692 A/H		Project No: 092-202101-0363							
NODWELL B 40L 6" AUGER		LOCATION:1676+100		ELEVATION: 0.00 (m)							
SAMPLE TYPE <input checked="" type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE											
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES		USC	SOIL SYMBOL	PERCENT SAND		PERCENT GRAVEL	DEPTH (m)
				PLASTIC	M.C.			20	40		
0.0	ICE -seasonal glaciation										0.0
1.0	ORGANIC WITH SILT AND ICE -frozen										1.0
2.0	-sample 56 - 116% moisture -soft smooth easy drilling below 1.5m	<input checked="" type="checkbox"/>	56			ML					2.0
3.0	ORGANIC WITH SILT, SAND, AND GRAVEL -dark grey -saturated -some grindy drilling below 2.3m -more grindy below 3.0M	<input checked="" type="checkbox"/>	57			ML					3.0
4.0	SILTY GRAVEL WITH SAND (GM) -dark grey -free water -maximum 80mm material augered up	<input checked="" type="checkbox"/>	58			GM					4.0
5.0	END HOLE @ 4.5m -culvert location										5.0
6.0											6.0
Government of Yukon Transportation Engineering				LOGGED BY: K.J		COMPLETION DEPTH: 4.5 m					
				REVIEWED BY:		COMPLETE: 01/03/29					
				Fig. No:				Page 1 of 1			

SUBSURFACE EXPLORATION & TEST REPORT	Shakwak Seg 9 Alaska Highway	TEST HOLE NO: 586-911
ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1676+200	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE	

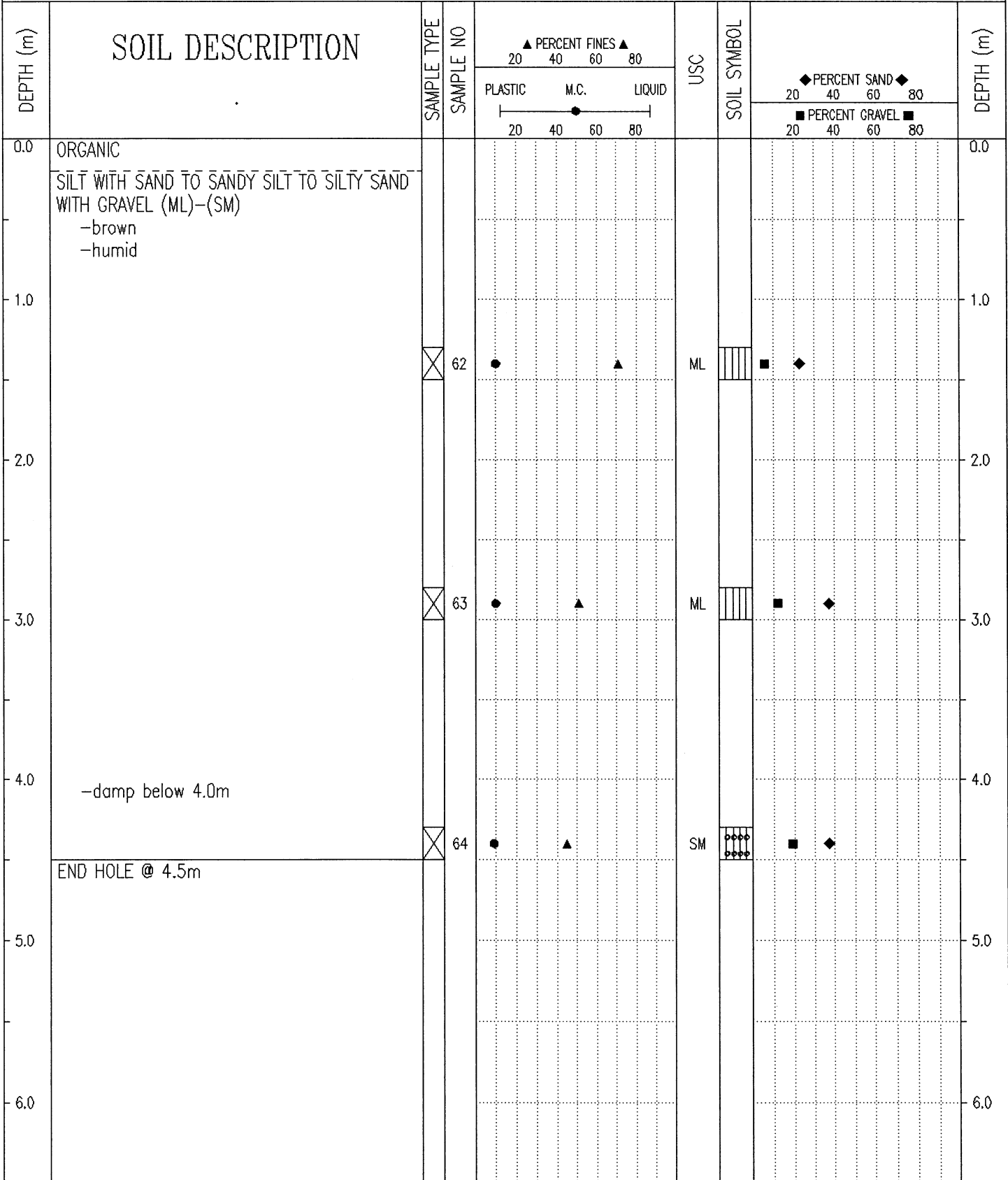


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COMPLETION DEPTH: 4.5 m  
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SUBSURFACE EXPLORATION & TEST REPORT	Shakwak Seg 9 Alaska Highway	TEST HOLE NO: 586-912
ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1676+300	ELEVATION: 0.00 (m)
SAMPLE TYPE <input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE		

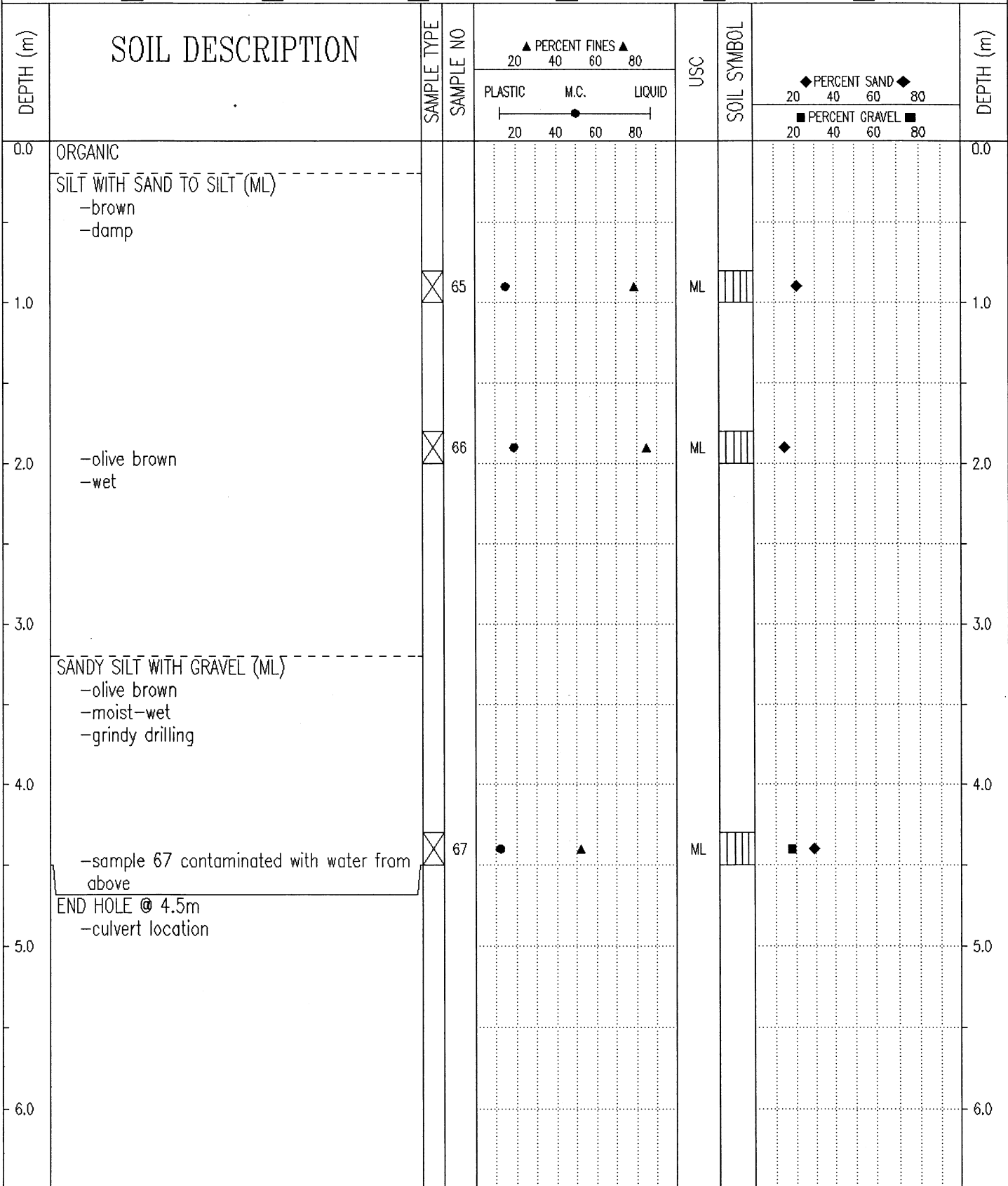


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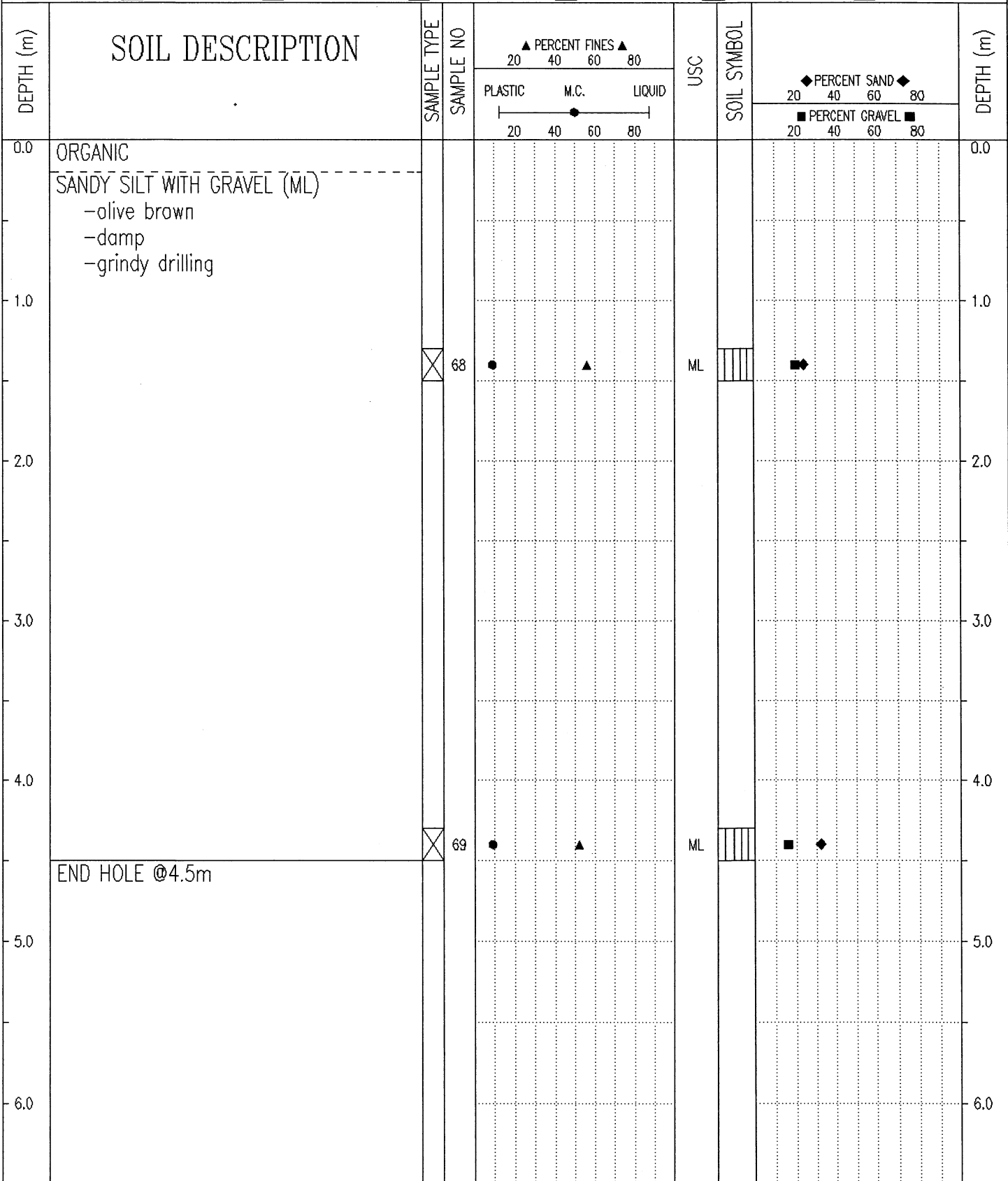
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COMPLETE: 01/03/29

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ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1676+355	ELEVATION: 0.00 (m)
SAMPLE TYPE <input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE		



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SUBSURFACE EXPLORATION & TEST REPORT	Shakwak Seg 9 Alaska Highway	TEST HOLE NO: 587-914
ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1676+425	ELEVATION: 0.00 (m)
SAMPLE TYPE <input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE		

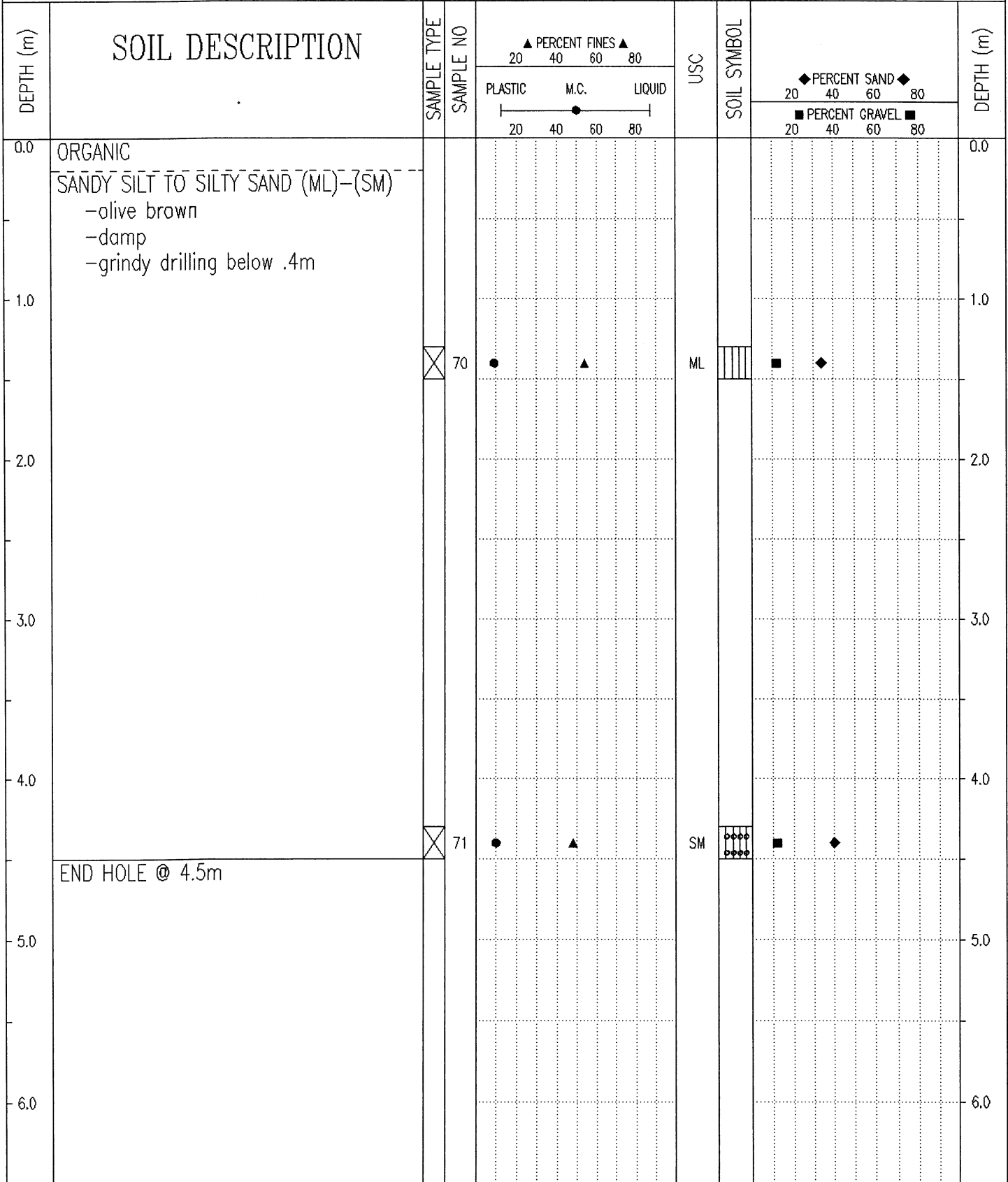


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COMPLETION DEPTH: 4.5 m  
COMPLETE: 01/03/29

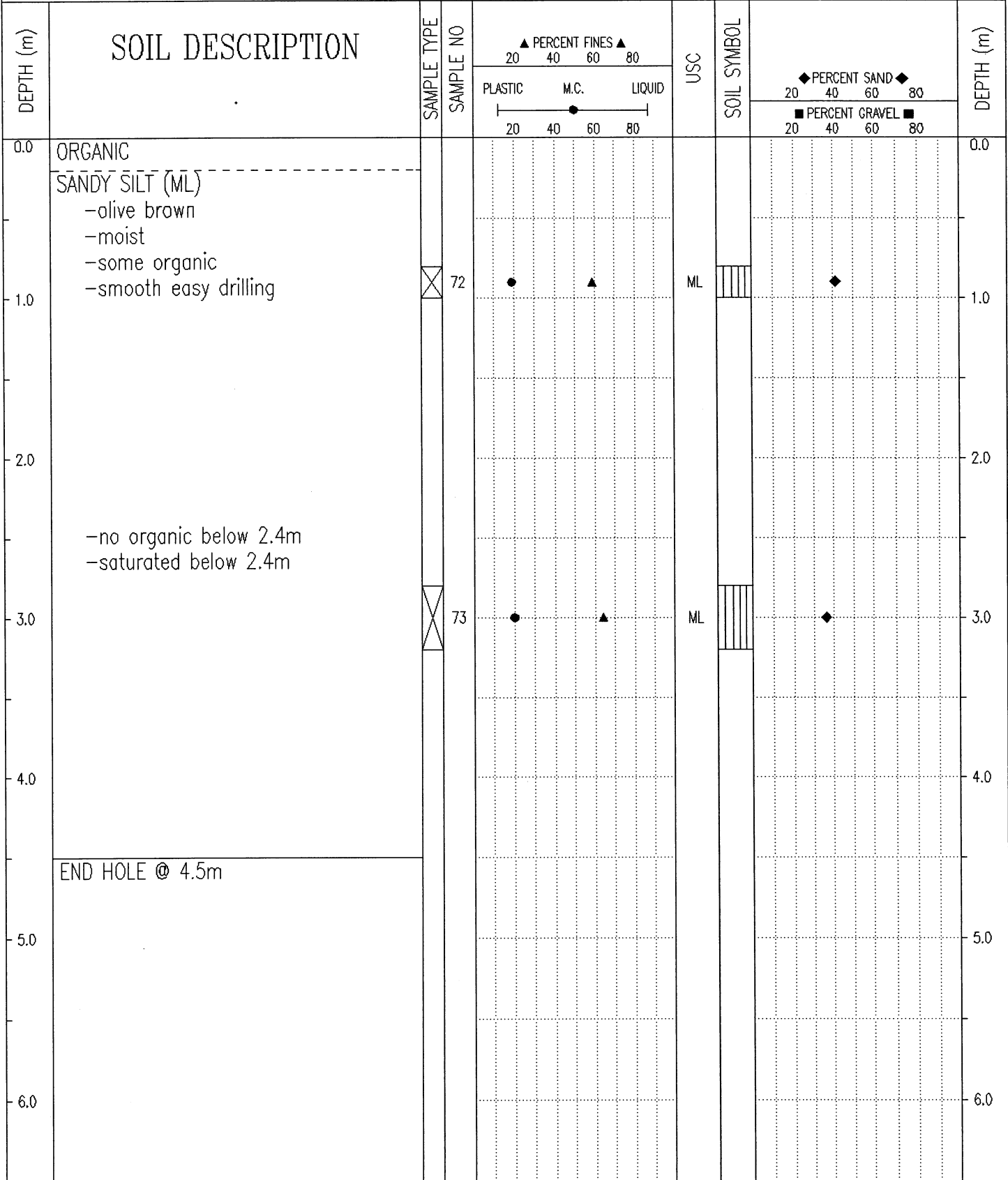
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ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1676+500	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE	



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SUBSURFACE EXPLORATION & TEST REPORT	Shakwak Seg 9 Alaska Highway	TEST HOLE NO: 587-916
ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1676+550	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN	<input checked="" type="checkbox"/> S.P.T.
	<input checked="" type="checkbox"/> AUGER	<input type="checkbox"/> BULK
	<input type="checkbox"/> TUBE	<input type="checkbox"/> CORE

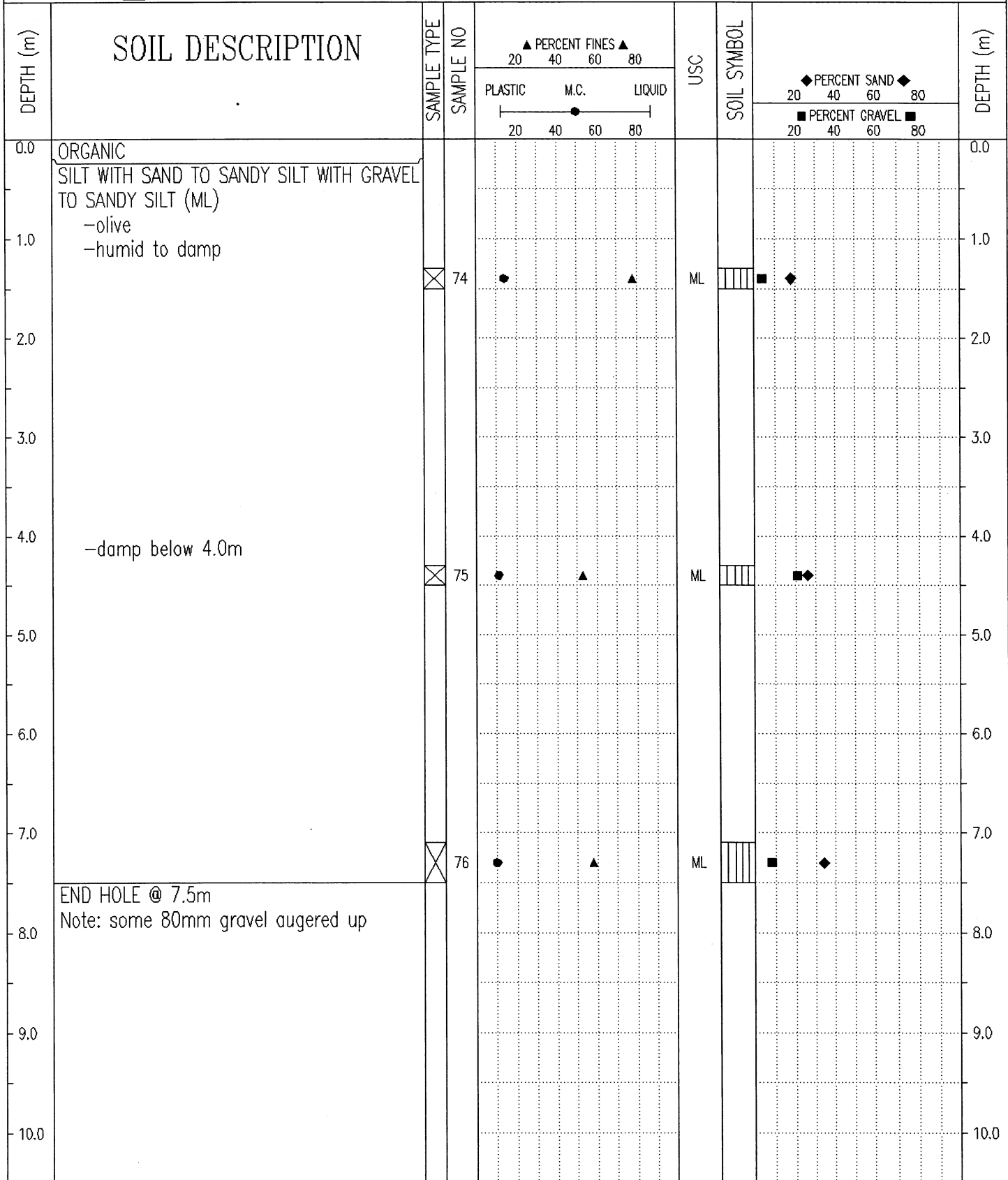


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Fig. No:

COMPLETION DEPTH: 4.5 m  
COMPLETE: 01/03/29

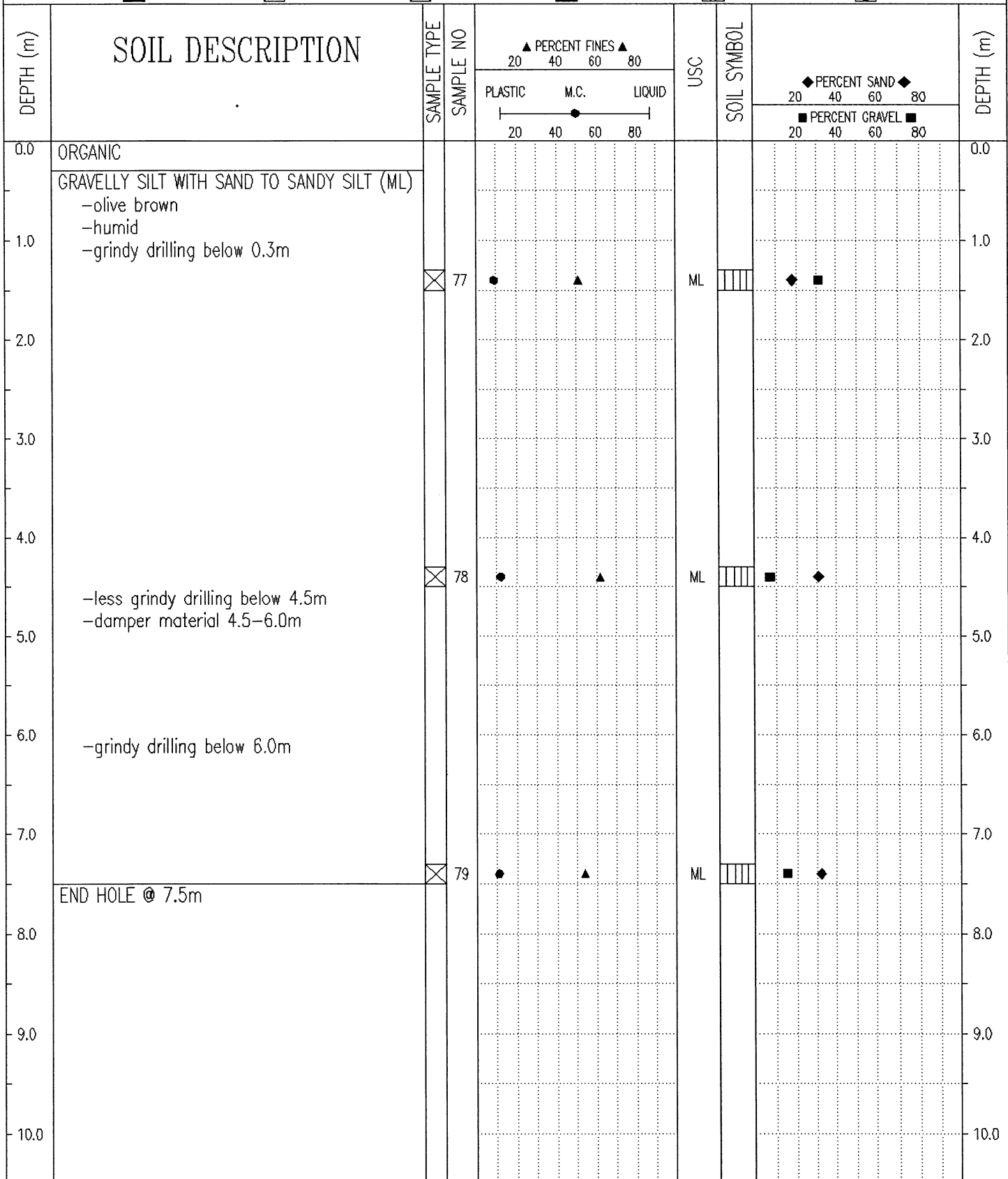
SUBSURFACE EXPLORATION & TEST REPORT	Shakwak Seg 9 Alaska Highway	TEST HOLE NO: 587-917
ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1676+675 17M RIGHT	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN	<input checked="" type="checkbox"/> S.P.T.
	<input checked="" type="checkbox"/> AUGER	<input type="checkbox"/> BULK
	<input type="checkbox"/> TUBE	<input type="checkbox"/> CORE



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 Transportation Engineering

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Fig. No:	Page 1 of 1

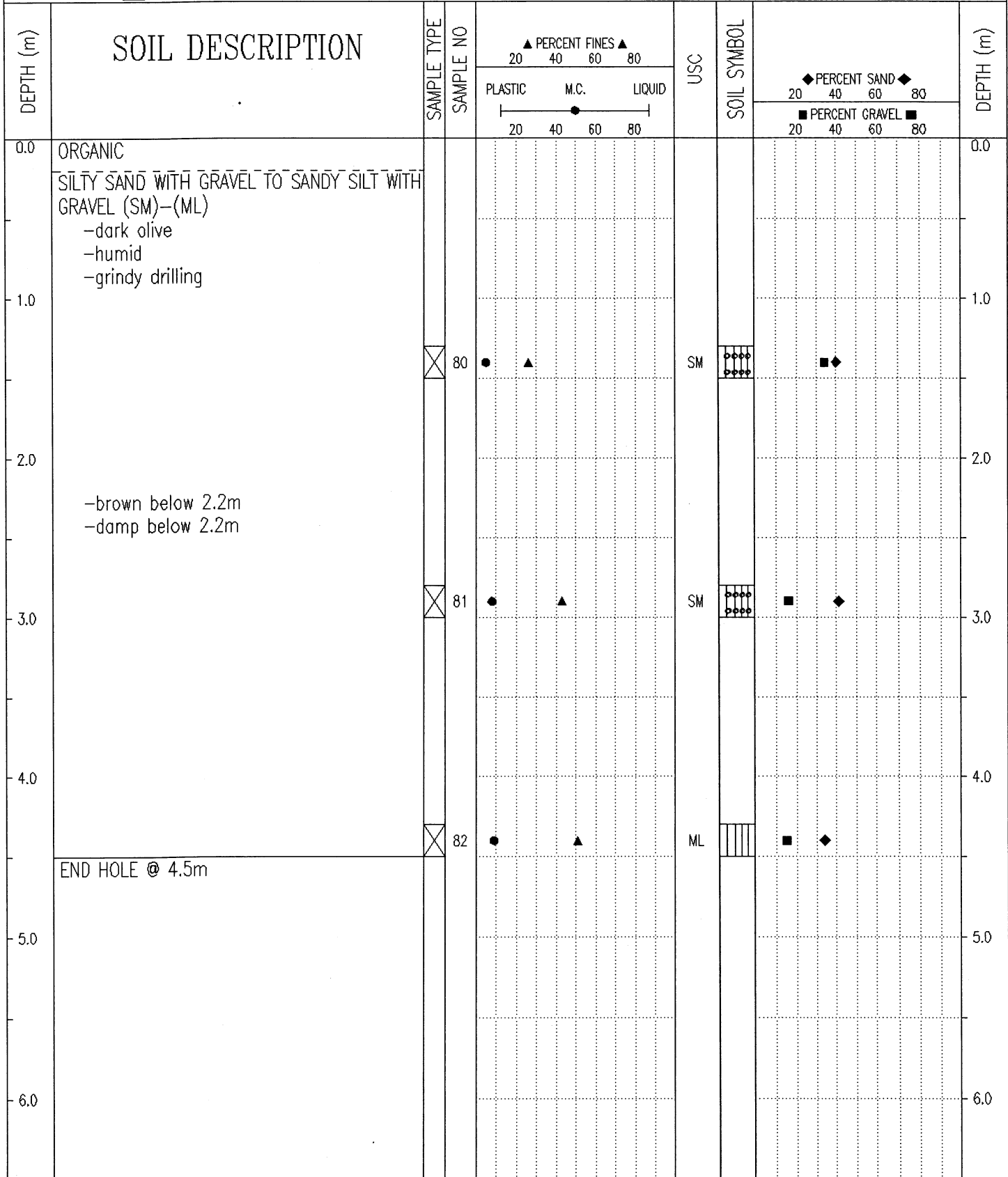
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ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1676+750 35M RIGHT	ELEVATION: 0.00 (m)
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	<input type="checkbox"/> TUBE	<input type="checkbox"/> CORE



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REVIEWED BY:	COMPLETE: 01/03/29
Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION & TEST REPORT	Shakwak Seg 9 Alaska Highway	TEST HOLE NO: 587-919
ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1676+825	ELEVATION: 0.00 (m)
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	<input checked="" type="checkbox"/> AUGER	<input type="checkbox"/> BULK
	<input type="checkbox"/> TUBE	<input type="checkbox"/> CORE



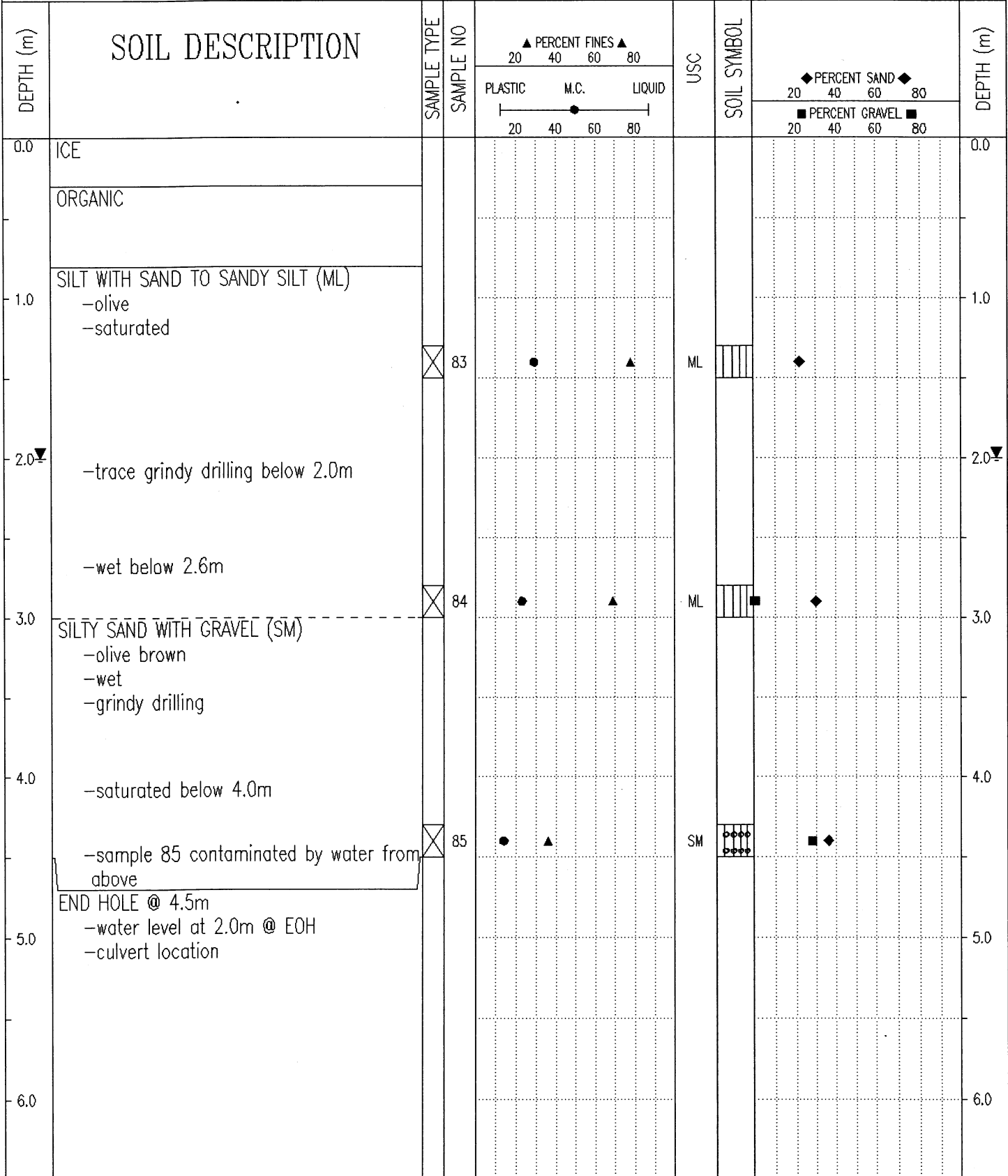
Government of Yukon Transportation Engineering	LOGGED BY: K.J	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 01/03/29
	Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION & TEST REPORT      Shakwak Seg 9 Alaska Highway      TEST HOLE NO: 587-920

ENGINEERING CAPITAL      KM 1694-1692 A/H      Project No: 092-202101-0363

NODWELL B 40L 6" AUGER      LOCATION:1676+925      ELEVATION: 0.00 (m)

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



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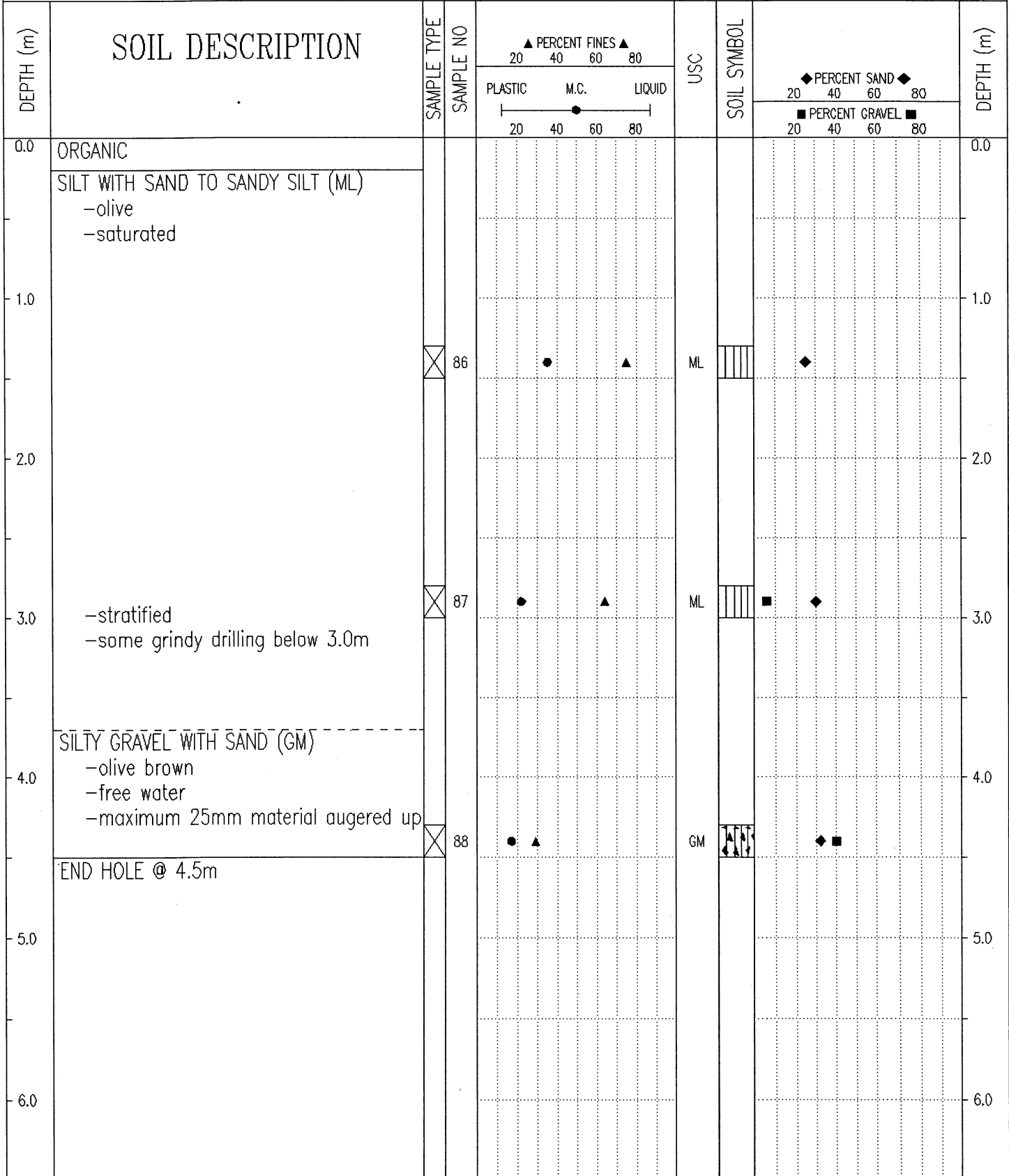
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 REVIEWED BY:      COMPLETE: 01/03/30  
 Fig. No:      Page 1 of 1

SUBSURFACE EXPLORATION & TEST REPORT      Shakwak Seg 9 Alaska Highway      TEST HOLE NO: 587-921

ENGINEERING CAPITAL      KM 1694-1692 A/H      Project No: 092-202101-0363

NODWELL B 40L 6" AUGER      LOCATION:1677+000      ELEVATION: 0.00 (m)

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



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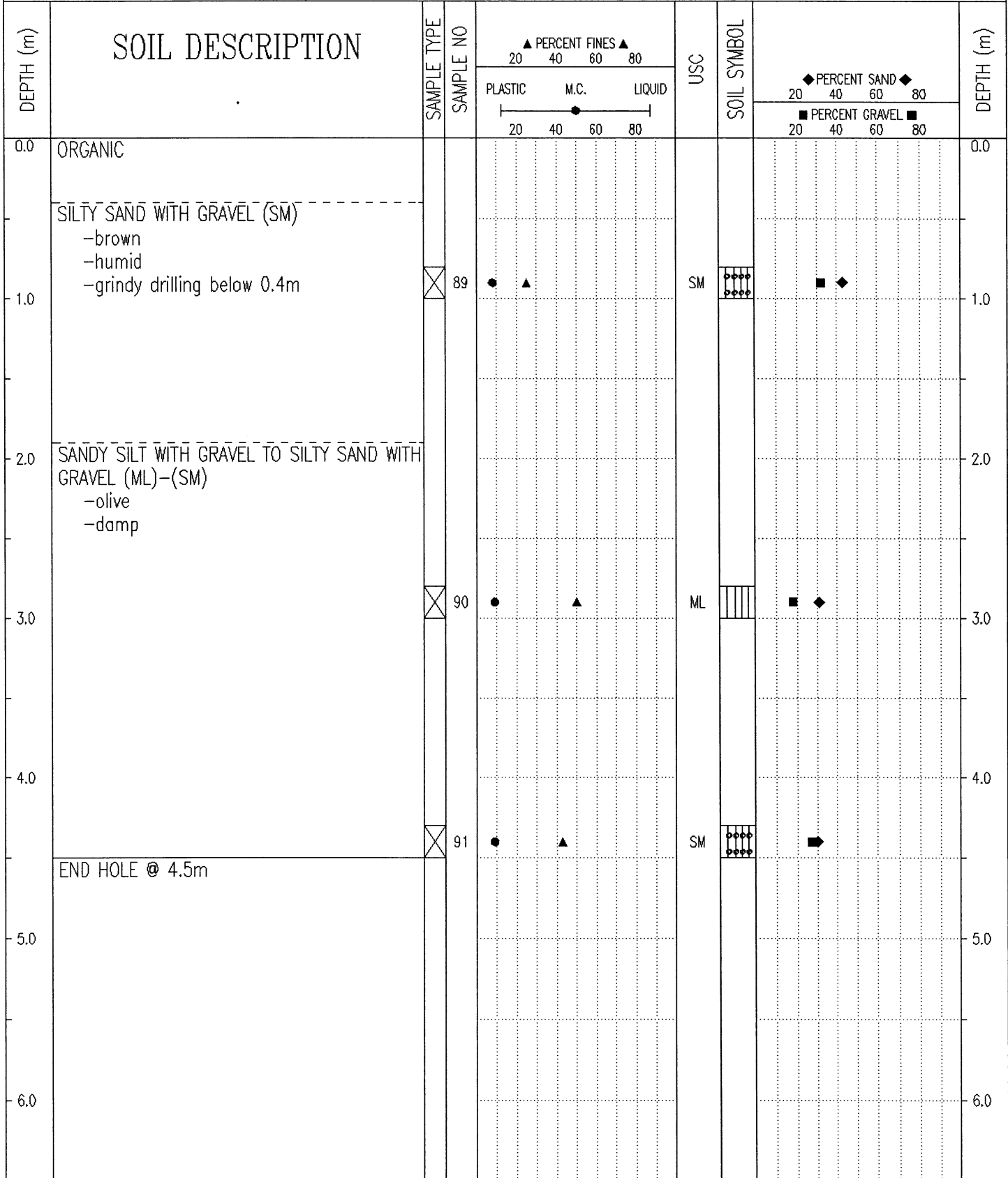
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 REVIEWED BY:      COMPLETE: 01/03/30  
 Fig. No:      Page 1 of 1

SUBSURFACE EXPLORATION & TEST REPORT      Shakwak Seg 9 Alaska Highway      TEST HOLE NO: 587-922

ENGINEERING CAPITAL      KM 1694-1692 A/H      Project No: 092-202101-0363

NODWELL B 40L 6" AUGER      LOCATION:1677+150      ELEVATION: 0.00 (m)

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



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REVIEWED BY:

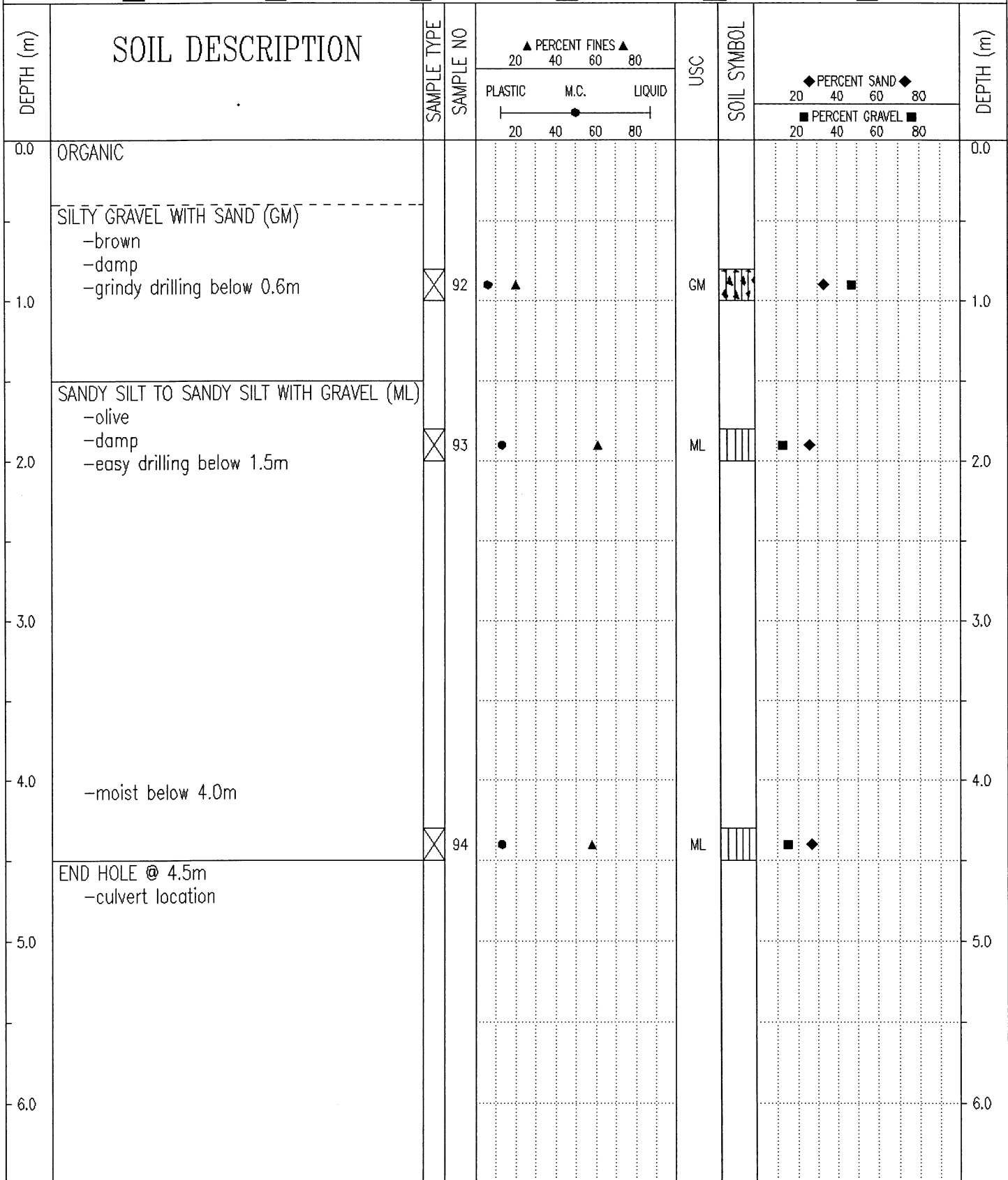
Fig. No:

COMPLETION DEPTH: 4.5 m

COMPLETE: 01/03/30

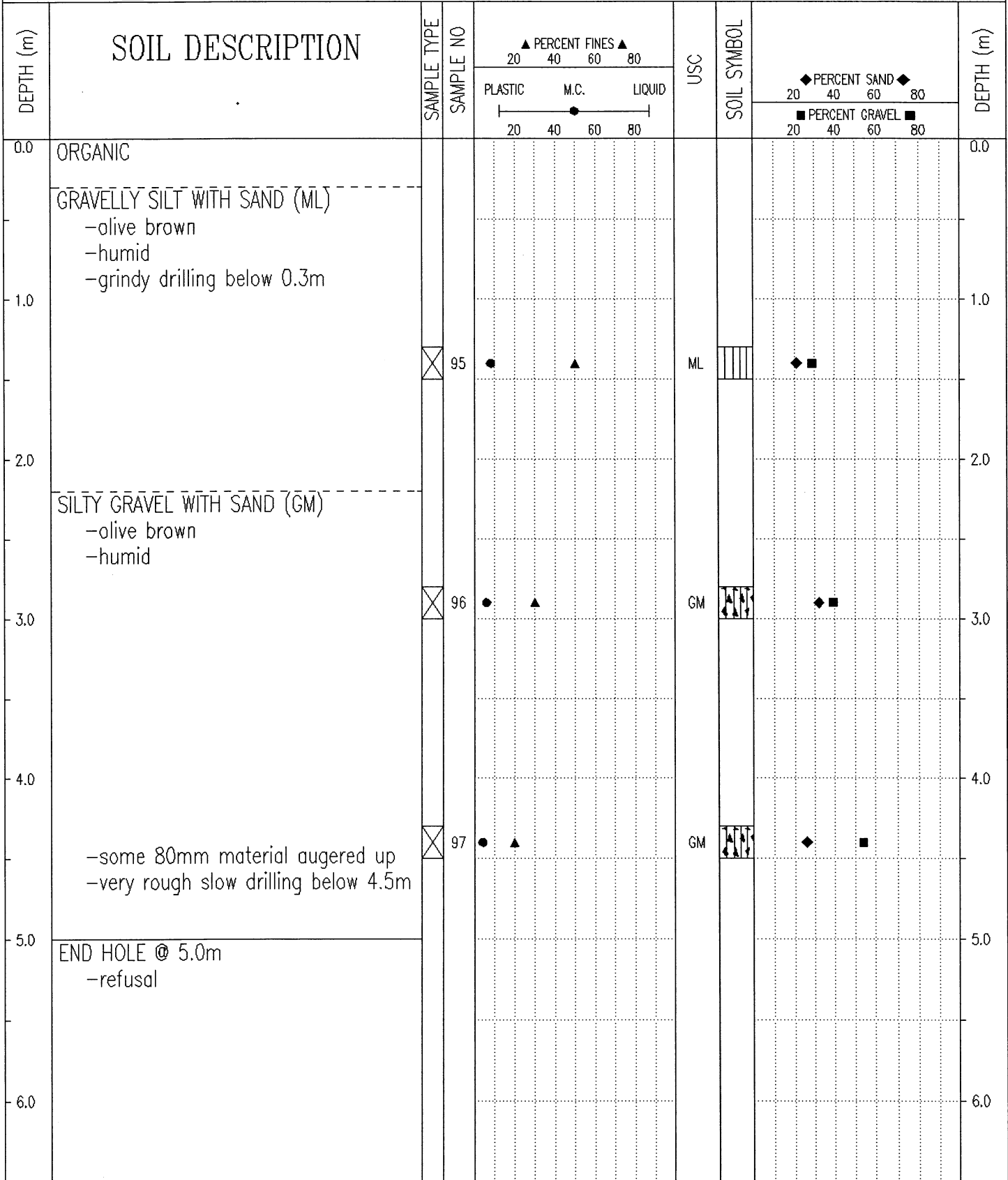
Page 1 of 1

SUBSURFACE EXPLORATION & TEST REPORT	Shakwak Seg 9 Alaska Highway	TEST HOLE NO: 587-923
ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1677+230	ELEVATION: 0.00 (m)
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	REVIEWED BY:	COMPLETE: 01/03/30
	Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION & TEST REPORT	Shakwak Seg 9 Alaska Highway	TEST HOLE NO: 587-924
ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1677+275 35M RIGHT	ELEVATION: 0.00 (m)
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COMPLETION DEPTH: 5.0 m

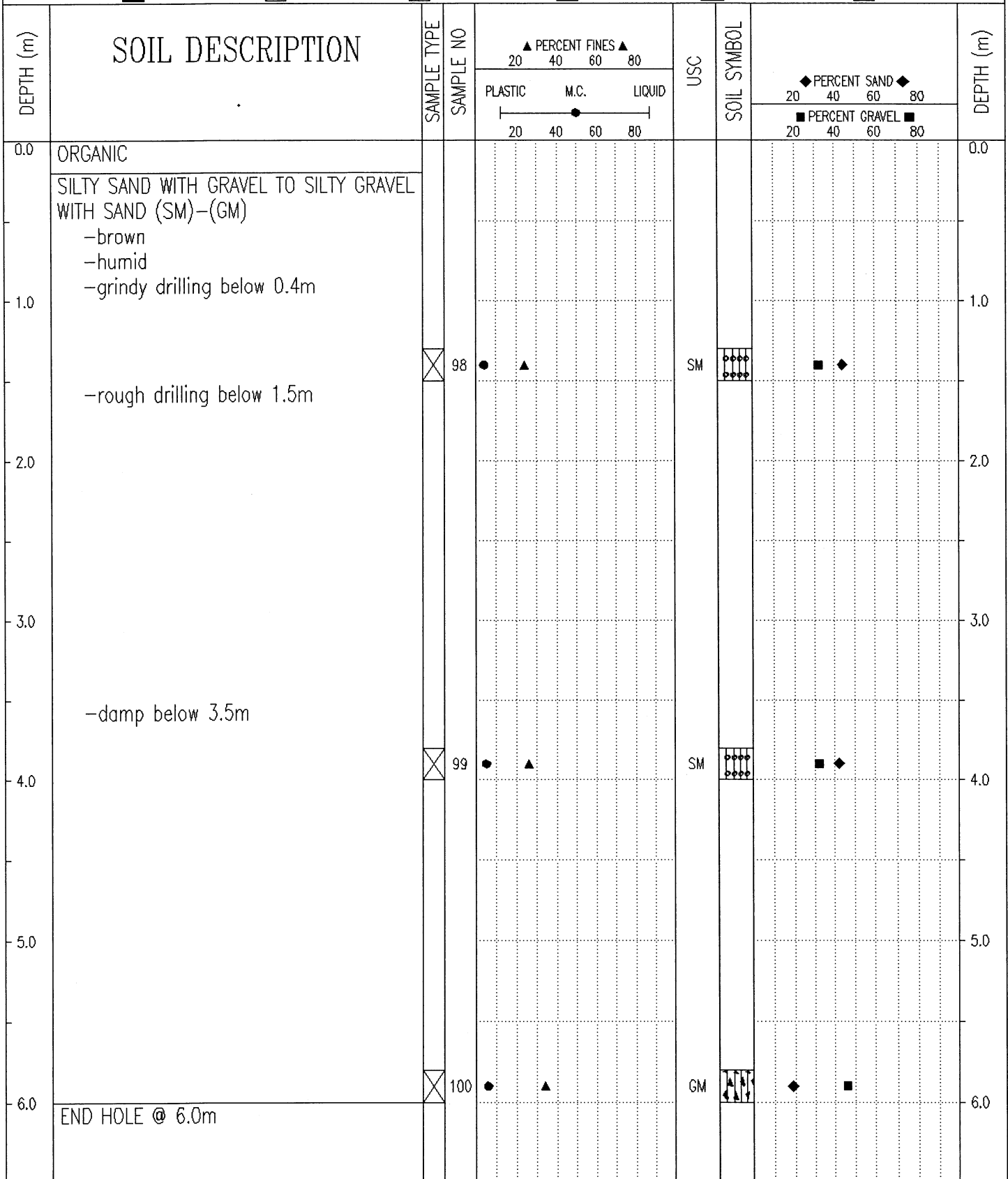
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COMPLETE: 01/03/30

Fig. No:

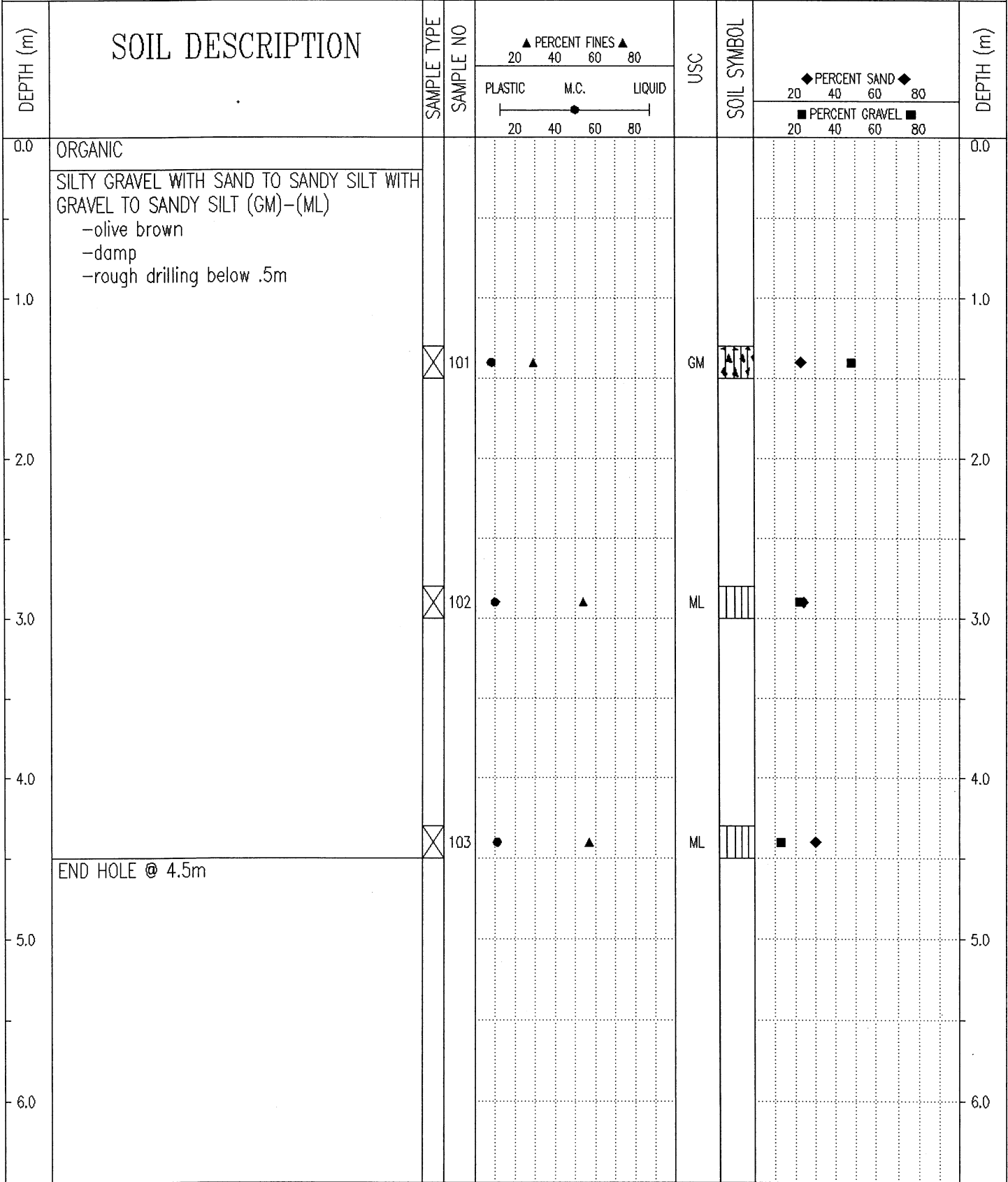
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SUBSURFACE EXPLORATION & TEST REPORT	Shakwak Seg 9 Alaska Highway	TEST HOLE NO: 587-925
ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1677+305 15M RIGHT	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN	<input checked="" type="checkbox"/> S.P.T.
	<input checked="" type="checkbox"/> AUGER	<input type="checkbox"/> BULK
	<input type="checkbox"/> TUBE	<input type="checkbox"/> CORE



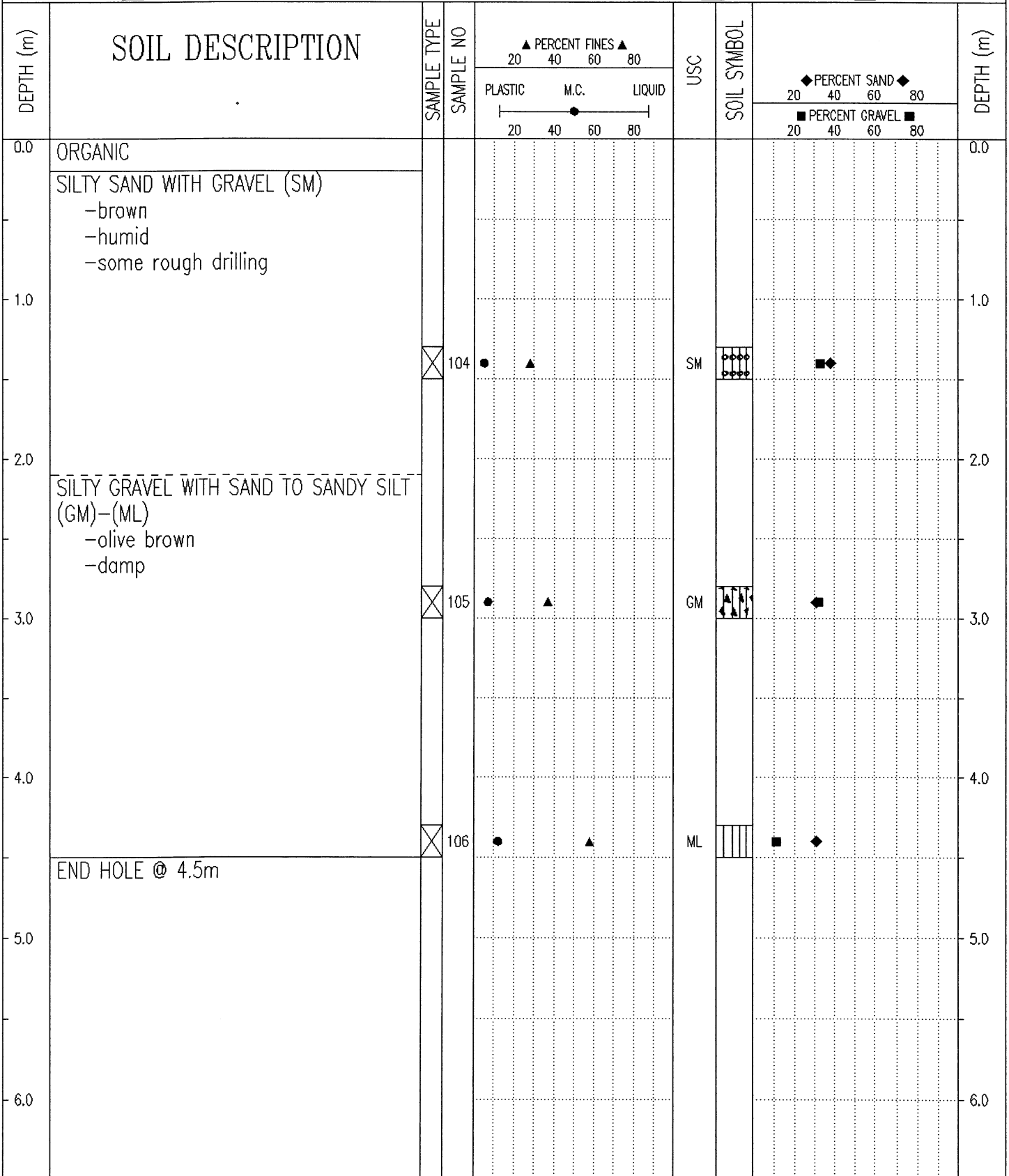
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	REVIEWED BY:	COMPLETE: 01/03/30
	Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION & TEST REPORT	Shakwak Seg 9 Alaska Highway	TEST HOLE NO: 588-926
ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1677+400	ELEVATION: 0.00 (m)
SAMPLE TYPE <input checked="" type="checkbox"/> RETURN	<input checked="" type="checkbox"/> S.P.T.	<input checked="" type="checkbox"/> AUGER
	<input type="checkbox"/> BULK	<input type="checkbox"/> TUBE
		<input type="checkbox"/> CORE



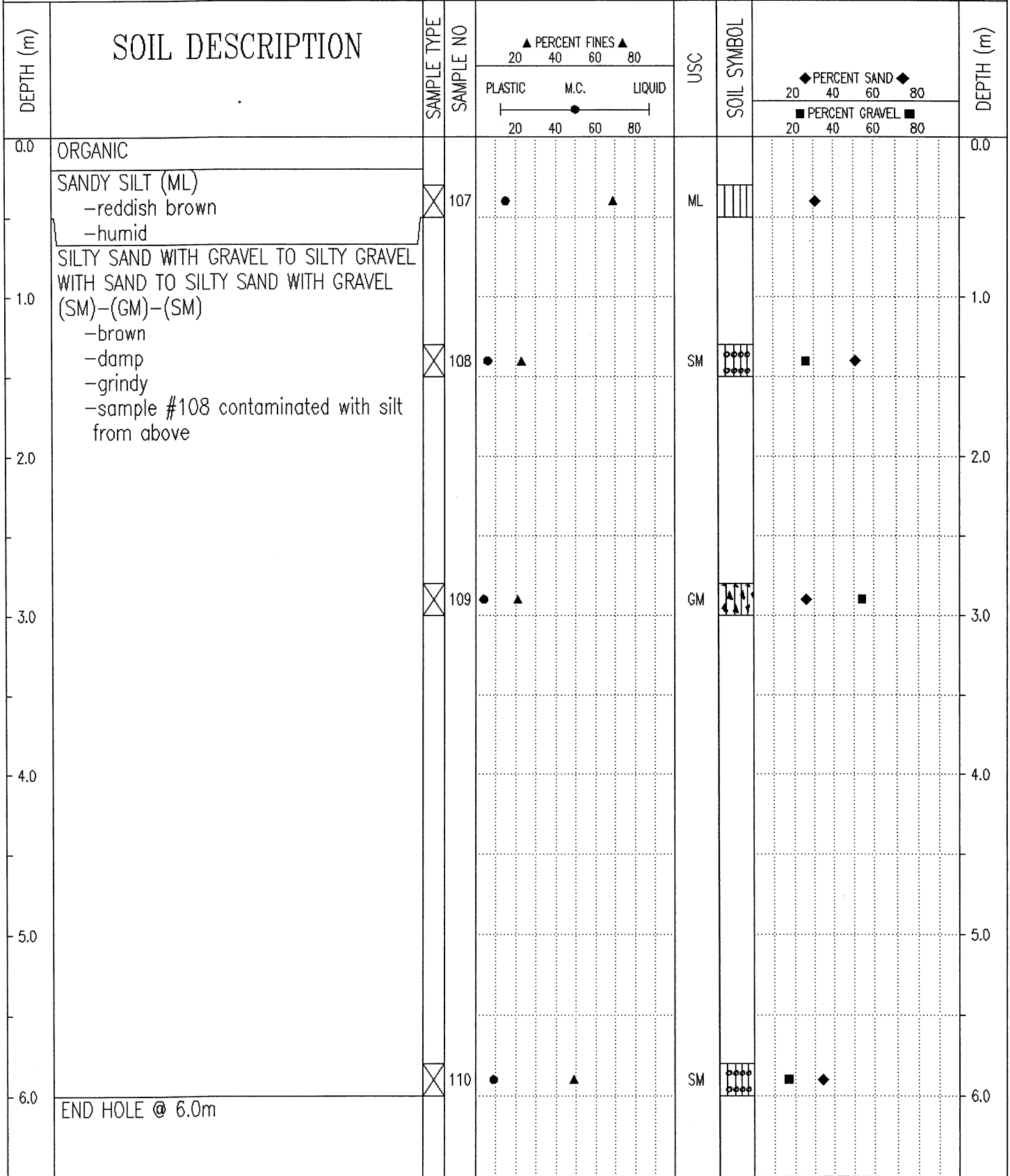
Government of Yukon Transportation Engineering	LOGGED BY: K.J	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 01/04/02
	Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION & TEST REPORT	Shakwak Seg 9 Alaska Highway	TEST HOLE NO: 588-927
ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1677+500	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN	<input checked="" type="checkbox"/> S.P.T.
	<input checked="" type="checkbox"/> AUGER	<input type="checkbox"/> BULK
	<input type="checkbox"/> TUBE	<input type="checkbox"/> CORE



Government of Yukon Transportation Engineering	LOGGED BY: K.J	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 01/04/02
	Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION & TEST REPORT	Shakwak Seg 9 Alaska Highway	TEST HOLE NO: 588-928
ENGINEERING CAPITAL	KM 1694-1892 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1677+600	ELEVATION: 0.00 (m)
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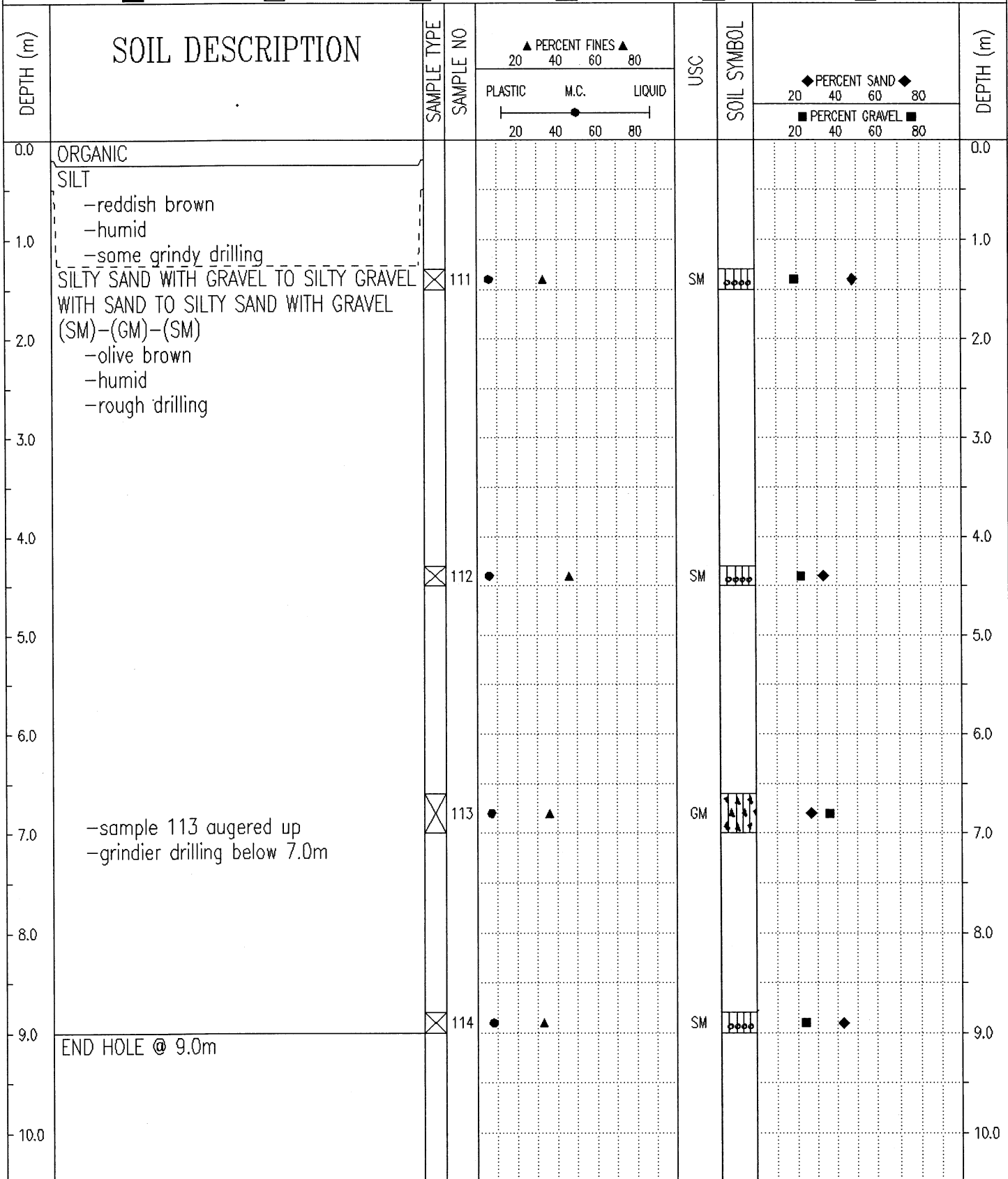


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REVIEWED BY:  
Fig. No:

COMPLETION DEPTH: 6.0 m  
COMPLETE: 01/04/02

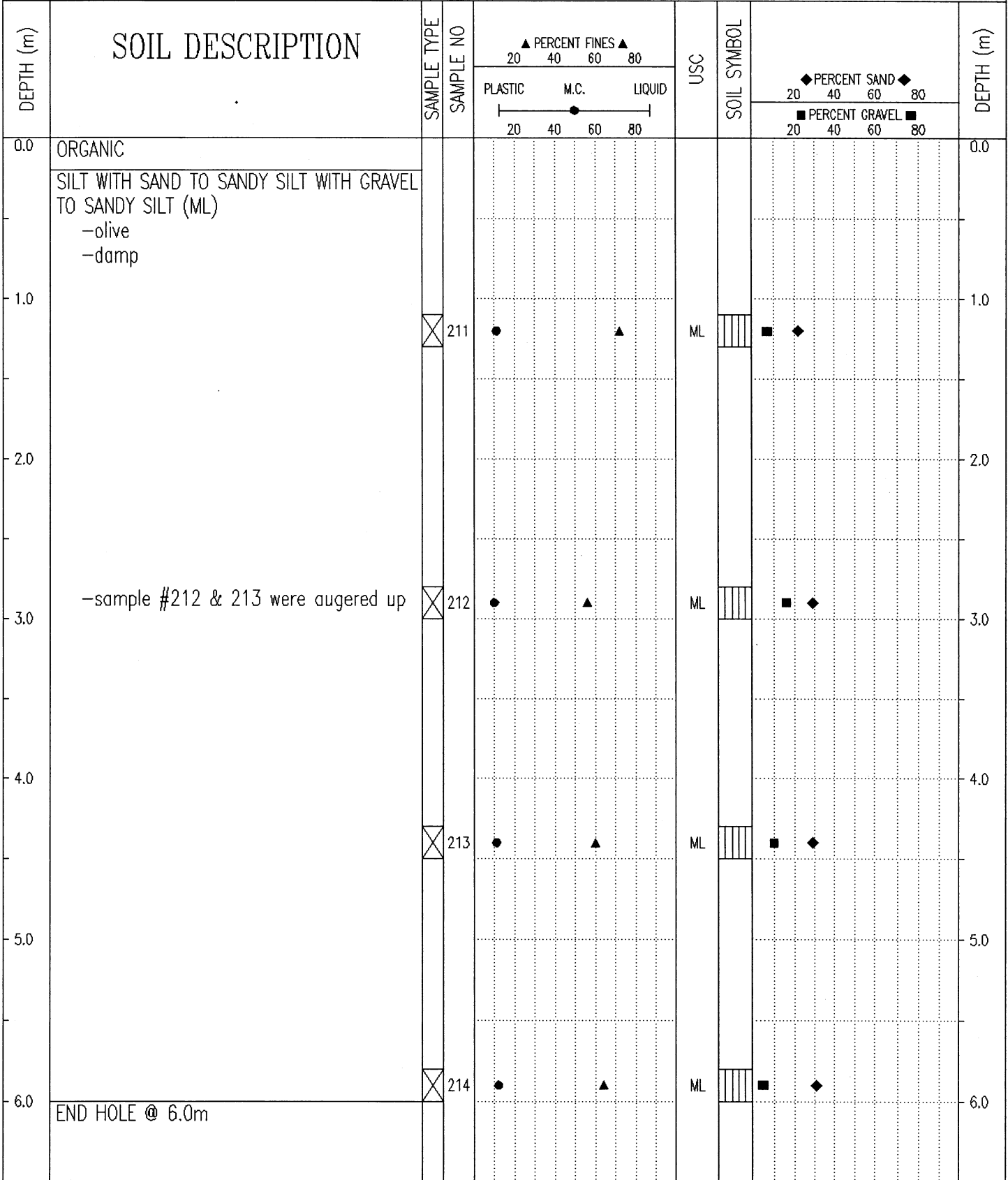
SUBSURFACE EXPLORATION & TEST REPORT	Shakwak Seg 9 Alaska Highway	TEST HOLE NO: 588-929
ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1677+675	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN	<input checked="" type="checkbox"/> S.P.T.
	<input checked="" type="checkbox"/> AUGER	<input type="checkbox"/> BULK
	<input type="checkbox"/> TUBE	<input type="checkbox"/> CORE



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LOGGED BY: K.J	COMPLETION DEPTH: 9.0 m
REVIEWED BY:	COMPLETE: 01/04/02
Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION & TEST REPORT	SHAKWAK SEG 9	TEST HOLE NO: 594-979
ENGINEERING CAPITAL	KM 1674 - 1684 A/H	Project No: 092-202101-0363
D-4 CAT B-30 MOBILE DRILL	LOCATION: 1677+900 35M RT	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE	



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REVIEWED BY:  
Fig. No:

COMPLETION DEPTH: 6.0 m  
COMPLETE: 01/04/20  
Page 1 of 1

SUBSURFACE EXPLORATION & TEST REPORT		SHAKWAK SEG 9		TEST HOLE NO: 594-978						
ENGINEERING CAPITAL		KM 1674 - 1684 A/H		Project No: 092-202101-0363						
D-4 CAT B-30 MOBILE DRILL		LOCATION: 1678+000		ELEVATION: 0.00 (m)						
SAMPLE TYPE		<input checked="" type="checkbox"/> RETURN	<input checked="" type="checkbox"/> S.P.T.	<input checked="" type="checkbox"/> AUGER	<input type="checkbox"/> BULK	<input type="checkbox"/> TUBE	<input type="checkbox"/> CORE			
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲		USC	SOIL SYMBOL	◆ PERCENT SAND ◆		DEPTH (m)
				PLASTIC	M.C.			LIQUID	20	
0.0	ORGANIC GRAVELLY SAND WITH SILT -brown -damp -frost level @ 0.4m									0.0
1.0	SANDY SILT (ML) -olive brown -damp	<input checked="" type="checkbox"/>	209	●	▲	ML	▨	■	◆	1.0
2.0										2.0
3.0										3.0
4.0										4.0
5.0										5.0
6.0	-no change in drilling 0.4 to EOH END HOLE @ 6.0m	<input checked="" type="checkbox"/>	210	●	▲	ML	▨	■	◆	6.0
Government of Yukon Transportation Engineering				LOGGED BY: K.J. REVIEWED BY: Fig. No:		COMPLETION DEPTH: 6.0 m COMPLETE: 01/04/20 Page 1 of 1				

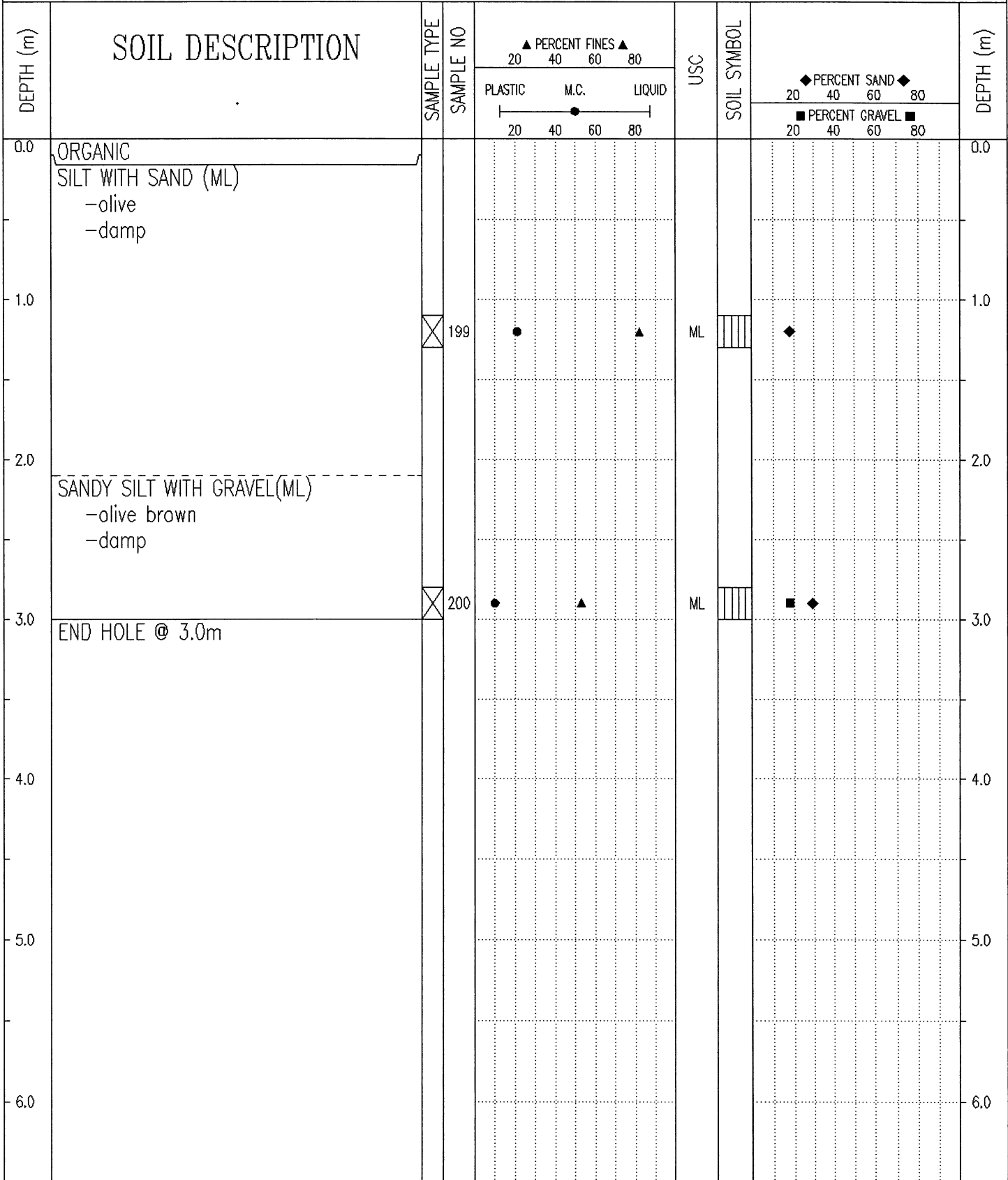
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ENGINEERING CAPITAL		KM 1674 - 1684 A/H		Project No: 092-202101-0363						
D-4 CAT B-30 MOBILE DRILL		LOCATION: 1678+100		ELEVATION: 0.00 (m)						
SAMPLE TYPE		<input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE								
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 PLASTIC M.C. LIQUID  -----●-----  20 40 60 80		USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 ■ PERCENT GRAVEL ■ 20 40 60 80		DEPTH (m)
0.0	ORGANIC									0.0
0.0	SILTY SAND WITH GRAVEL TO SANDY SILT (SM)-(ML)									0.0
1.0	-olive brown									1.0
1.0	-damp									1.0
2.0										2.0
3.0										3.0
3.0	END HOLE @ 3.0m									3.0
4.0										4.0
5.0										5.0
6.0										6.0
Government of Yukon				LOGGED BY: K.J.		COMPLETION DEPTH: 3.0 m				
Transportation Engineering				REVIEWED BY:		COMPLETE: 01/04/20				
				Fig. No:		Page 1 of 1				

SUBSURFACE EXPLORATION & TEST REPORT		SHAKWAK SEG 9		TEST HOLE NO: 594-976					
ENGINEERING CAPITAL		KM 1674 - 1684 A/H		Project No: 092-202101-0363					
D-4 CAT B-30 MOBILE DRILL		LOCATION: 1678+250		ELEVATION: 0.00 (m)					
SAMPLE TYPE <input type="checkbox"/> RETURN		<input checked="" type="checkbox"/> S.P.T.		<input checked="" type="checkbox"/> AUGER					
				<input type="checkbox"/> BULK					
				<input type="checkbox"/> TUBE					
				<input type="checkbox"/> CORE					
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES			USC	SOIL SYMBOL	DEPTH (m)
				PLASTIC	M.C.	LIQUID			
0.0	ORGANIC SANDY SILT WITH GRAVEL TO SILTY SAND WITH GRAVEL (ML)-(SM) -olive brown -damp								0.0
1.0		<input checked="" type="checkbox"/>	205	●	▲		SM	■ ◆	1.0
2.0									2.0
3.0	END HOLE @ 3.0m	<input checked="" type="checkbox"/>	206	●	▲		SM	■ ◆	3.0
4.0									4.0
5.0									5.0
6.0									6.0
Government of Yukon Transportation Engineering				LOGGED BY: K.J.		COMPLETION DEPTH: 3.0 m			
				REVIEWED BY:		COMPLETE: 01/04/20			
				Fig. No:		Page 1 of 1			

SUBSURFACE EXPLORATION & TEST REPORT		SHAKWAK SEG 9		TEST HOLE NO: 594-975								
ENGINEERING CAPITAL		KM 1674 - 1684 A/H		Project No: 092-202101-0363								
D-4 CAT B-30 MOBILE DRILL		LOCATION: 1678+400		ELEVATION: 0.00 (m)								
SAMPLE TYPE <input checked="" type="checkbox"/> RETURN		<input checked="" type="checkbox"/> S.P.T.		<input checked="" type="checkbox"/> AUGER								
		<input type="checkbox"/> BULK		<input type="checkbox"/> TUBE								
				<input type="checkbox"/> CORE								
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES ▲			USC	SOIL SYMBOL	PERCENT SAND ◆			DEPTH (m)
				PLASTIC	M.C.	LIQUID			20	40	60	
0.0	ORGANIC SILTY GRAVEL WITH SAND (GM) -brown -damp											0.0
1.0		<input checked="" type="checkbox"/>	203	●	▲		GM	◄				1.0
2.0												2.0
3.0	-olive brown below 2.5m	<input checked="" type="checkbox"/>	204	●	▲		GM	◆	■			3.0
4.0	END HOLE @ 3.0m											4.0
5.0												5.0
6.0												6.0
Government of Yukon Transportation Engineering				LOGGED BY: K.J. REVIEWED BY: Fig. No:				COMPLETION DEPTH: 3.0 m COMPLETE: 01/04/20 Page 1 of 1				

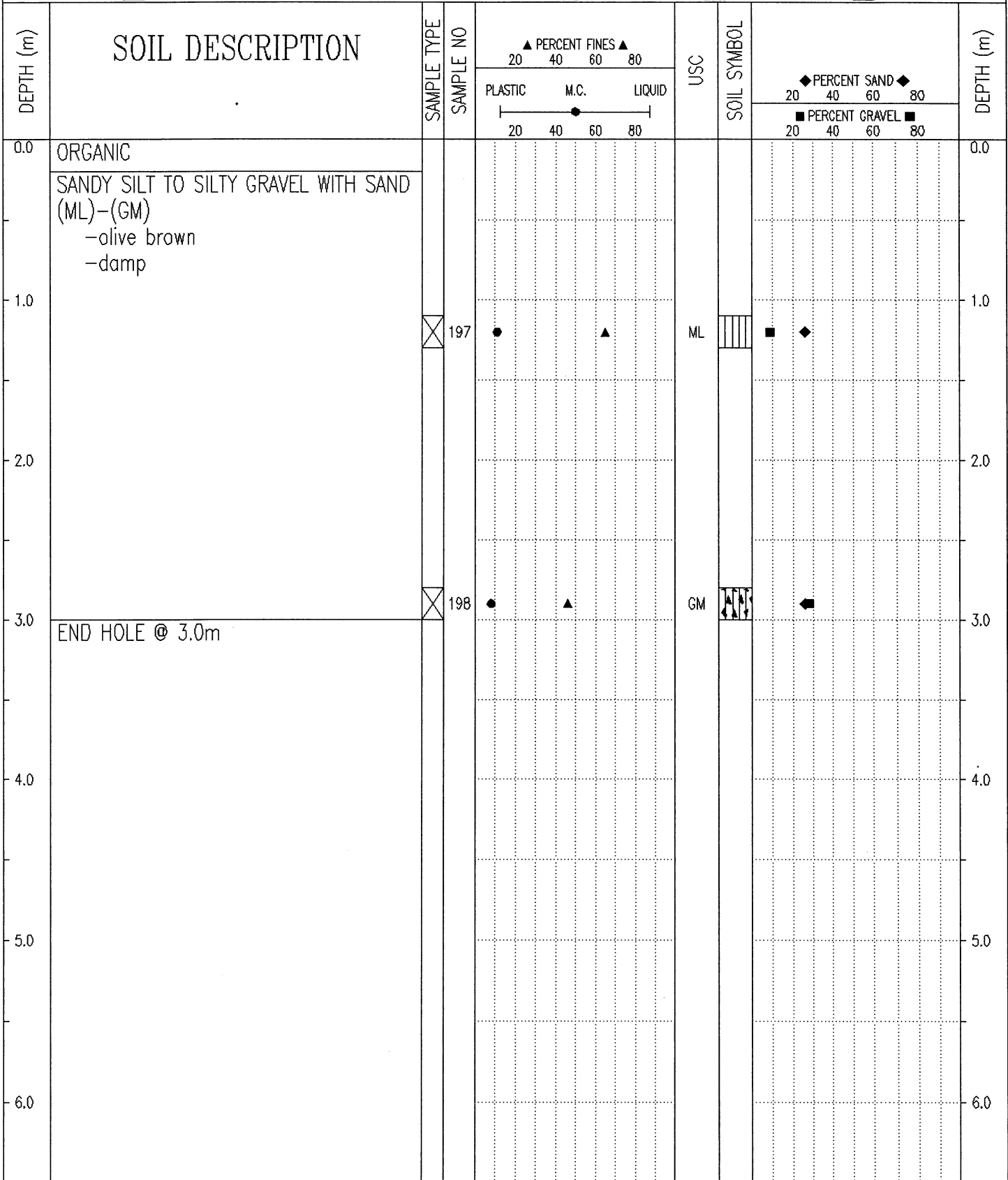
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ENGINEERING CAPITAL		KM 1674 - 1684 A/H		Project No: 092-202101-0363								
D-4 CAT B-30 MOBILE DRILL		LOCATION: 1678+550 30M RT		ELEVATION: 0.00 (m)								
SAMPLE TYPE <input checked="" type="checkbox"/> RETURN		<input checked="" type="checkbox"/> S.P.T.		<input checked="" type="checkbox"/> AUGER								
		<input type="checkbox"/> BULK		<input type="checkbox"/> TUBE								
				<input type="checkbox"/> CORE								
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲			USC	SOIL SYMBOL	◆ PERCENT SAND ◆			DEPTH (m)
				PLASTIC	M.C.	LIQUID			PERCENT GRAVEL ■			
0.0	ORGANIC SILTY SAND WITH GRAVEL TO SILTY SAND (SM) -olive brown -damp										0.0	
1.0		<input checked="" type="checkbox"/>	201	●	▲		SM	○	◆		1.0	
2.0											2.0	
3.0	END HOLE @ 3.0m	<input checked="" type="checkbox"/>	202	●	▲		SM	○	◆		3.0	
4.0											4.0	
5.0											5.0	
6.0											6.0	
Government of Yukon Transportation Engineering				LOGGED BY: K.J.		COMPLETION DEPTH: 3.0 m						
				REVIEWED BY:		COMPLETE: 01/04/20						
				Fig. No:		Page 1 of 1						

SUBSURFACE EXPLORATION & TEST REPORT	SHAKWAK SEG 9	TEST HOLE NO: 593-973
ENGINEERING CAPITAL	KM 1674 - 1684 A/H	Project No: 092-202101-0363
D-4 CAT B-30 MOBILE DRILL	LOCATION:1678+625 LHS	ELEVATION: 0.00 (m)
SAMPLE TYPE <input checked="" type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE		



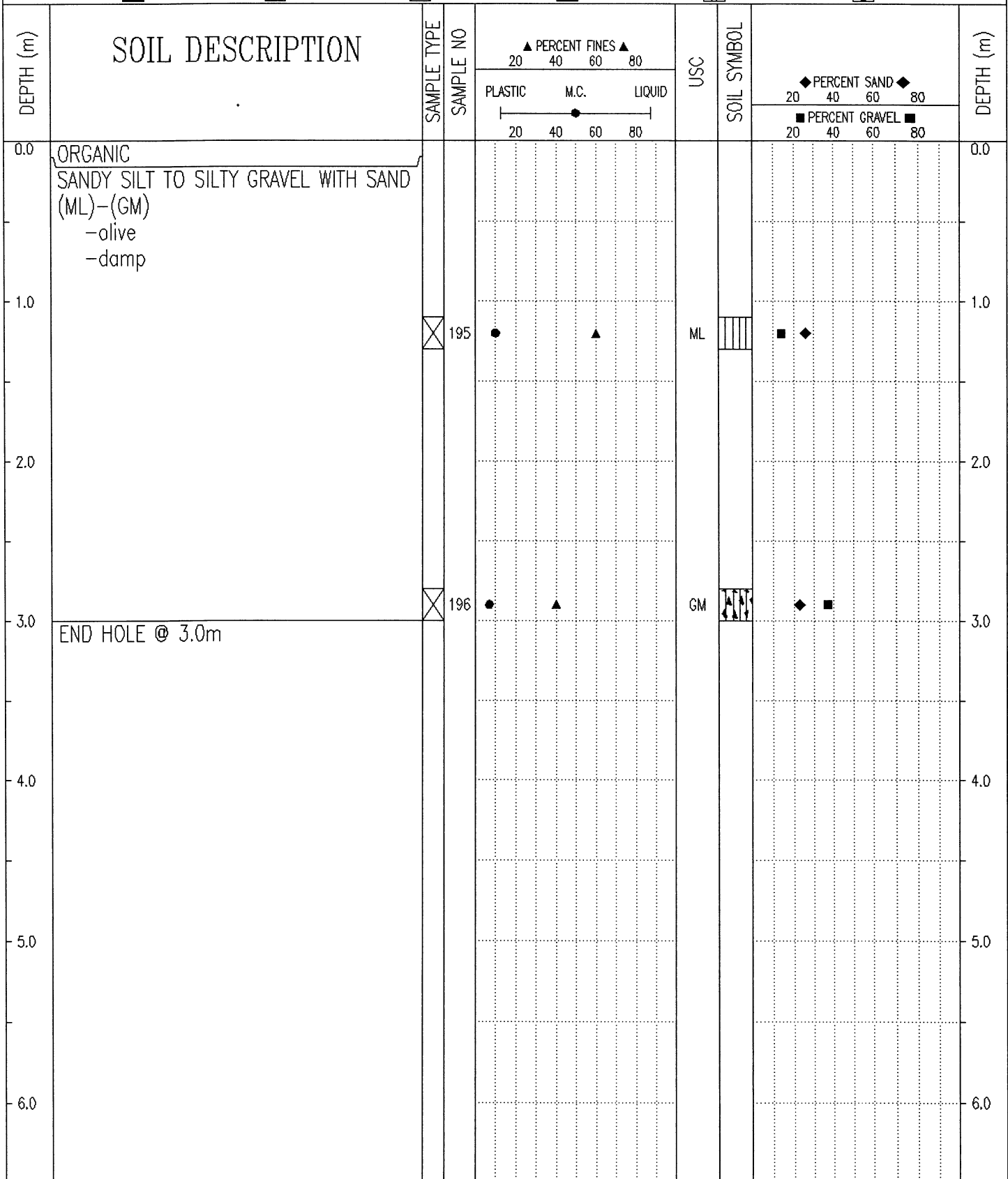
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	REVIEWED BY:	COMPLETE: 01/04/20
	Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION & TEST REPORT	SHAKWAK SEG 9	TEST HOLE NO: 593-972
ENGINEERING CAPITAL	KM 1674 - 1684 A/H	Project No: 092-202101-0363
D-4 CAT B-30 MOBILE DRILL	LOCATION:1678+735	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN	<input checked="" type="checkbox"/> S.P.T.
	<input checked="" type="checkbox"/> AUGER	<input type="checkbox"/> BULK
	<input type="checkbox"/> TUBE	<input type="checkbox"/> CORE



Government of Yukon Transportation Engineering	LOGGED BY: K.J.	COMPLETION DEPTH: 3.0 m
	REVIEWED BY:	COMPLETE: 01/04/20
	Fig. No:	Page 1 of 1

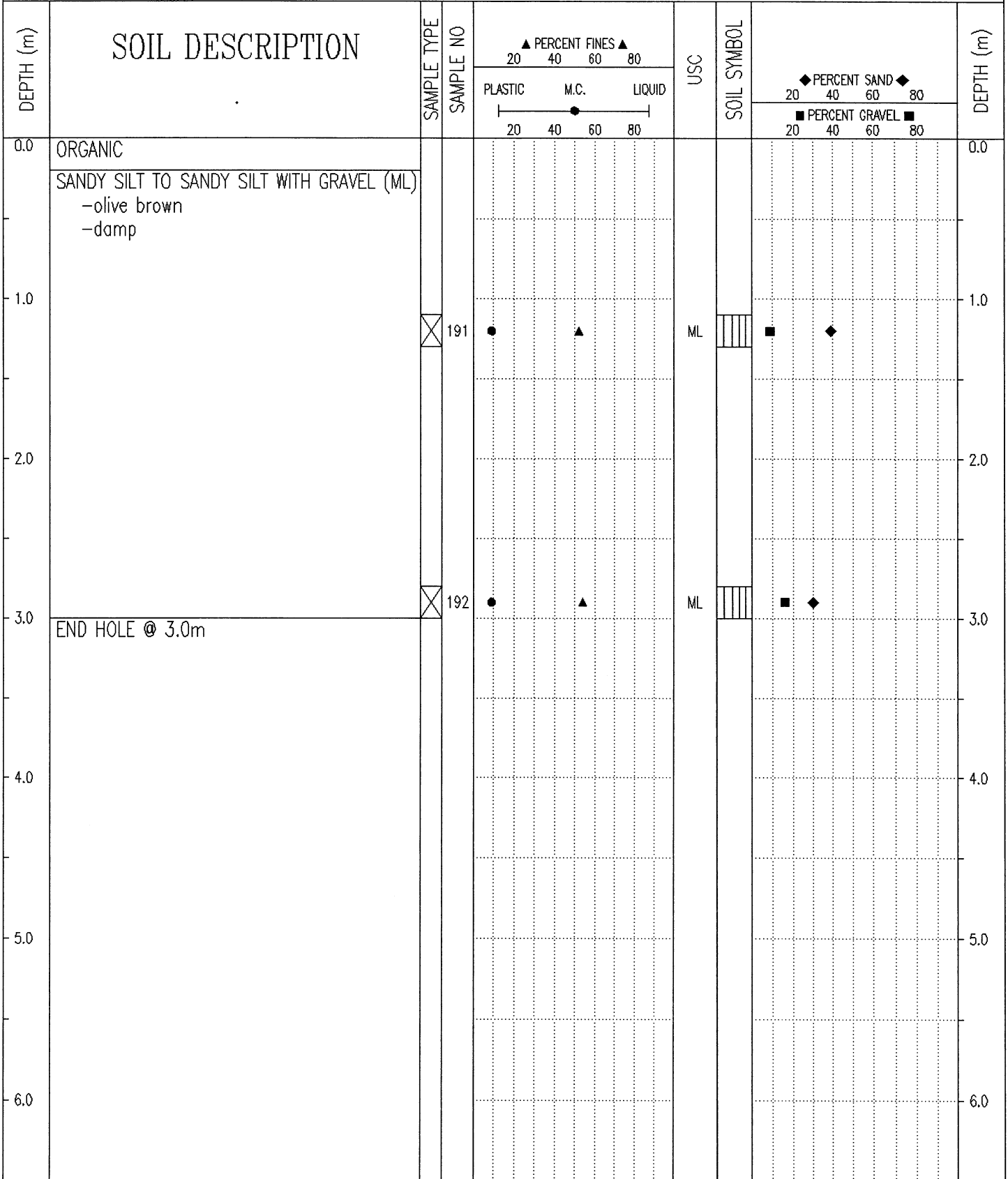
SUBSURFACE EXPLORATION & TEST REPORT	SHAKWAK SEG 9	TEST HOLE NO: 593-971
ENGINEERING CAPITAL	KM 1674 - 1684 A/H	Project No: 092-202101-0363
D-4 CAT B-30 MOBILE DRILL	LOCATION:1678+850	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN	<input checked="" type="checkbox"/> S.P.T.
	<input checked="" type="checkbox"/> AUGER	<input type="checkbox"/> BULK
	<input type="checkbox"/> TUBE	<input type="checkbox"/> CORE



Government of Yukon Transportation Engineering	LOGGED BY: K.J.	COMPLETION DEPTH: 3.0 m
	REVIEWED BY:	COMPLETE: 01/04/20
	Fig. No:	Page 1 of 1

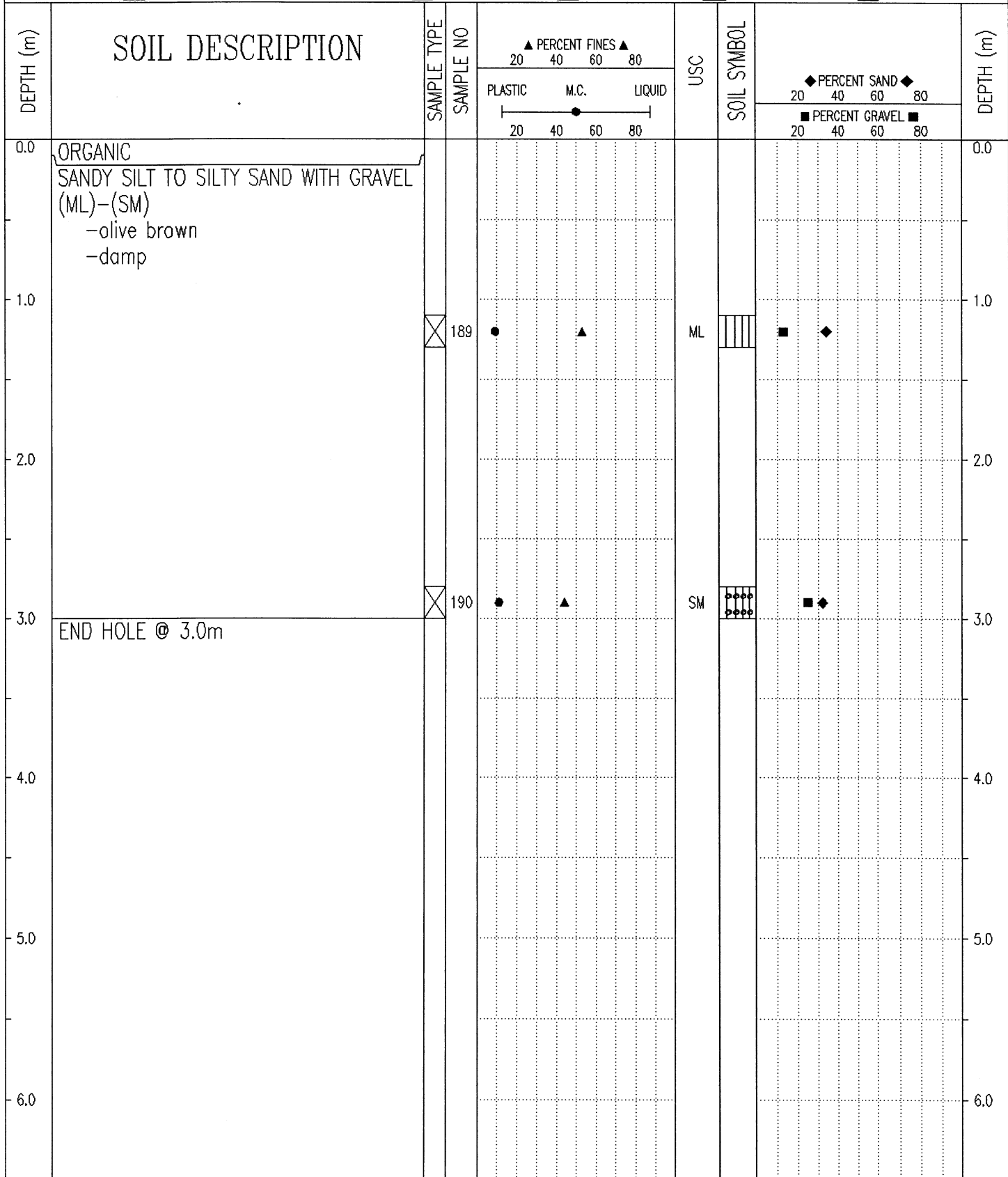
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ENGINEERING CAPITAL		KM 1674 - 1684 A/H		Project No: 092-202101-0363								
D-4 CAT B-30 MOBILE DRILL		LOCATION:1679+000		ELEVATION: 0.00 (m)								
SAMPLE TYPE <input checked="" type="checkbox"/> RETURN		<input checked="" type="checkbox"/> S.P.T.		<input checked="" type="checkbox"/> AUGER								
		<input type="checkbox"/> BULK		<input type="checkbox"/> TUBE								
				<input type="checkbox"/> CORE								
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲			USC	SOIL SYMBOL	◆ PERCENT SAND ◆			DEPTH (m)
				PLASTIC	M.C.	LIQUID			PERCENT GRAVEL ■			
0.0	ORGANIC SANDY SILT TO SILTY GRAVEL WITH SAND (ML)-(GM) -olive brown -damp										0.0	
1.0		<input checked="" type="checkbox"/>	193	●	▲		ML	▨	◆	■	1.0	
2.0											2.0	
3.0	END HOLE @ 3.0m	<input checked="" type="checkbox"/>	194	●	▲		GM	▨	◆	■	3.0	
4.0											4.0	
5.0											5.0	
6.0											6.0	
Government of Yukon Transportation Engineering				LOGGED BY: K.J.				COMPLETION DEPTH: 3.0 m				
				REVIEWED BY:				COMPLETE: 01/04/19				
				Fig. No:				Page 1 of 1				

SUBSURFACE EXPLORATION & TEST REPORT	SHAKWAK SEG 9	TEST HOLE NO: 593-969
ENGINEERING CAPITAL	KM 1674 - 1684 A/H	Project No: 092-202101-0363
D-4 CAT B-30 MOBILE DRILL	LOCATION: 1679+150	ELEVATION: 0.00 (m)
SAMPLE TYPE <input checked="" type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE		



Government of Yukon Transportation Engineering	LOGGED BY: K.J.	COMPLETION DEPTH: 3.0 m
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	Fig. No:	Page 1 of 1

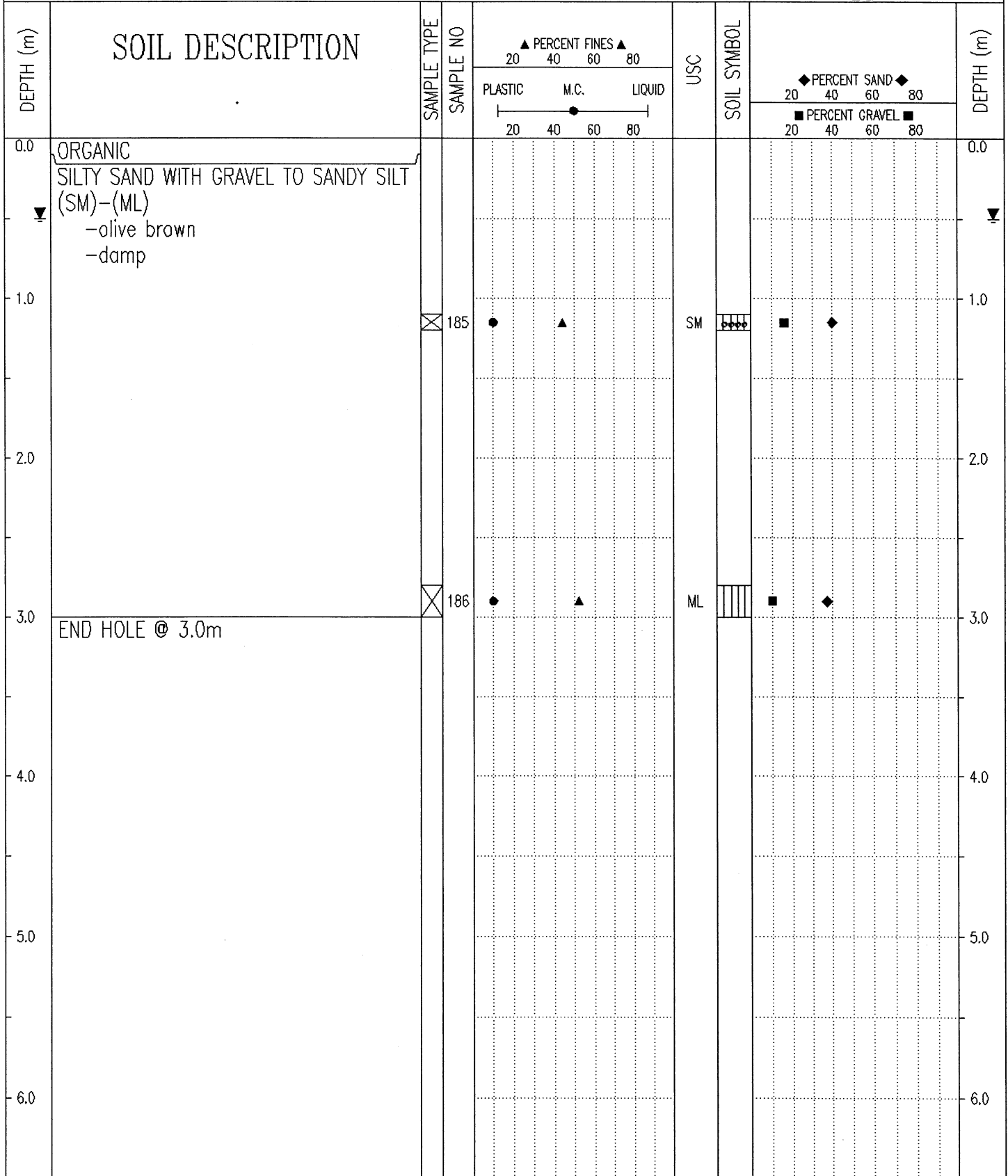
SUBSURFACE EXPLORATION & TEST REPORT	SHAKWAK SEG 9	TEST HOLE NO: 593-968
ENGINEERING CAPITAL	KM 1674 - 1684 A/H	Project No: 092-202101-0363
D-4 CAT B-30 MOBILE DRILL	LOCATION: 1679+300	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN	<input checked="" type="checkbox"/> S.P.T.
	<input checked="" type="checkbox"/> AUGER	<input type="checkbox"/> BULK
	<input type="checkbox"/> TUBE	<input type="checkbox"/> CORE



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	Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION & TEST REPORT		SHAKWAK SEG 9		TEST HOLE NO: 593-967						
ENGINEERING CAPITAL		KM 1674 - 1684 A/H		Project No: 092-202101-0363						
D-4 CAT B-30 MOBILE DRILL		LOCATION: 1679+450		ELEVATION: 0.00 (m)						
SAMPLE TYPE		<input checked="" type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE								
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲		USC	SOIL SYMBOL	◆ PERCENT SAND ◆		DEPTH (m)
				PLASTIC	M.C.			LIQUID	20	
0.0	ORGANIC SANDY SILT TO SANDY SILT WITH GRAVEL (ML) -olive brown -damp									0.0
1.0		<input checked="" type="checkbox"/>	187	●	▲		ML	■	◆	1.0
2.0										2.0
3.0	END HOLE @ 3.0m	<input checked="" type="checkbox"/>	188	●	▲		ML	■	◆	3.0
4.0										4.0
5.0										5.0
6.0										6.0
Government of Yukon Transportation Engineering				LOGGED BY: K.J. REVIEWED BY: Fig. No:		COMPLETION DEPTH: 3.0 m COMPLETE: 01/04/19				

SUBSURFACE EXPLORATION & TEST REPORT	SHAKWAK SEG 9	TEST HOLE NO: 593-966
ENGINEERING CAPITAL	KM 1674 - 1684 A/H	Project No: 092-202101-0363
D-4 CAT B-30 MOBILE DRILL	LOCATION: 1679+600 LHS	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN	<input checked="" type="checkbox"/> S.P.T.
	<input checked="" type="checkbox"/> AUGER	<input type="checkbox"/> BULK
	<input type="checkbox"/> TUBE	<input type="checkbox"/> CORE



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SUBSURFACE EXPLORATION & TEST REPORT      SHAKWAK SEG 9      TEST HOLE NO: 593-965

ENGINEERING CAPITAL      KM 1674 - 1684 A/H      Project No: 092-202101-0363

D-4 CAT B-30 MOBILE DRILL      LOCATION: 1679+635 RHS      ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES ▲			USC	SOIL SYMBOL	PERCENT SAND ◆			DEPTH (m)
				PLASTIC	M.C.	LIQUID			20	40	60	
0.0	ORGANIC -free water											0.0
0.5	SANDY SILT (ML) -olive -saturated											0.5
1.0		<input checked="" type="checkbox"/>	183	●	▲		ML	▨	■	◆		1.0
2.0												2.0
3.0	END HOLE @ 3.0m -culvert location Note: H2O @ 0.5m at completion of hole	<input checked="" type="checkbox"/>	184	●	▲		ML	▨	■	◆		3.0
4.0												4.0
5.0												5.0
6.0												6.0

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SUBSURFACE EXPLORATION & TEST REPORT		SHAKWAK SEG 9		TEST HOLE NO: 593-964						
ENGINEERING CAPITAL		KM 1674 - 1684 A/H		Project No: 092-202101-0363						
D-4 CAT B-30 MOBILE DRILL		LOCATION: 1679+700 RHS		ELEVATION: 0.00 (m)						
SAMPLE TYPE		<input checked="" type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE								
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲		USC	SOIL SYMBOL	◆ PERCENT SAND ◆		DEPTH (m)
				PLASTIC	M.C.			LIQUID	20	
0.0	ORGANIC SILTY SAND WITH GRAVEL TO SANDY SILT (SM)-(ML) -olive -saturated									0.0
1.0			181	●	▲		SM	■	◆	1.0
2.0										2.0
3.0	END HOLE @ 3.0M Note: surface water (+/- 0.15m)		182	●	▲		ML	■	◆	3.0
4.0										4.0
5.0										5.0
6.0										6.0
Government of Yukon Transportation Engineering				LOGGED BY: K.J. REVIEWED BY: Fig. No:		COMPLETION DEPTH: 3.0 m COMPLETE: 01/04/19				

SUBSURFACE EXPLORATION & TEST REPORT		SHAKWAK SEG 9		TEST HOLE NO: 593-963								
ENGINEERING CAPITAL		KM 1674 - 1684 A/H		Project No: 092-202101-0363								
D-4 CAT B-30 MOBILE DRILL		LOCATION: 1679+825		ELEVATION: 0.00 (m)								
SAMPLE TYPE <input checked="" type="checkbox"/> RETURN		<input checked="" type="checkbox"/> S.P.T.		<input checked="" type="checkbox"/> AUGER								
		<input type="checkbox"/> BULK		<input type="checkbox"/> TUBE								
				<input type="checkbox"/> CORE								
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲			USC	SOIL SYMBOL	◆ PERCENT SAND ◆			DEPTH (m)
				PLASTIC	M.C.	LIQUID			20	40	60	
0.0	ORGANIC SILTY SAND WITH GRAVEL (SM) -olive brown -damp											0.0
1.0		<input checked="" type="checkbox"/>	179	●	▲		SM	●●●●	◆			1.0
2.0												2.0
3.0	END HOLE @ 3.0m	<input checked="" type="checkbox"/>	180	●	▲		SM	●●●●	◆			3.0
4.0												4.0
5.0												5.0
6.0												6.0
Government of Yukon Transportation Engineering				LOGGED BY: K.J.				COMPLETION DEPTH: 3.0 m				
				REVIEWED BY:				COMPLETE: 01/04/19				
				Fig. No:				Page 1 of 1				

SUBSURFACE EXPLORATION & TEST REPORT		SHAKWAK SEG 9		TEST HOLE NO: 593-962											
ENGINEERING CAPITAL		KM 1674 - 1684 A/H		Project No: 092-202101-0363											
D-4 CAT B-30 MOBILE DRILL		LOCATION: 1679+975 36M RIGHT		ELEVATION: 0.00 (m)											
SAMPLE TYPE <input checked="" type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE															
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES			USC	SOIL SYMBOL	PERCENT SAND			PERCENT GRAVEL			DEPTH (m)
				PLASTIC	M.C.	LIQUID			20	40	60	80	20	40	
0.0	ORGANIC SANDY SILT TO SILTY GRAVEL WITH SAND (ML)-(GM) -olive brown -damp													0.0	
1.0		<input checked="" type="checkbox"/>	177	●	▲		ML	▨	■	◆				1.0	
2.0														2.0	
3.0	END HOLE @ 3.0m	<input checked="" type="checkbox"/>	178	●	▲		GM	▨	■	◆				3.0	
4.0														4.0	
5.0														5.0	
6.0														6.0	
Government of Yukon Transportation Engineering				LOGGED BY: K.J. REVIEWED BY: Fig. No:				COMPLETION DEPTH: 3.0 m COMPLETE: 01/04/19				Page 1 of 1			

SUBSURFACE EXPLORATION & TEST REPORT		SHAKWAK SEG 9		TEST HOLE NO: 593-961								
ENGINEERING CAPITAL		KM 1674 - 1684 A/H		Project No: 092-202101-0363								
D-4 CAT B-30 MOBILE DRILL		LOCATION: 1680+075 31M RIGHT		ELEVATION: 0.00 (m)								
SAMPLE TYPE <input checked="" type="checkbox"/> RETURN		<input checked="" type="checkbox"/> S.P.T.		<input checked="" type="checkbox"/> AUGER								
		<input type="checkbox"/> BULK		<input type="checkbox"/> TUBE								
				<input type="checkbox"/> CORE								
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES ▲			USC	SOIL SYMBOL	PERCENT SAND ◆			DEPTH (m)
				PLASTIC	M.C.	LIQUID			20	40	60	
0.0	ORGANIC SANDY SILT TO SANDY SILT WITH GRAVEL (ML) -olive brown -damp											0.0
1.0		<input checked="" type="checkbox"/>	175	●	▲		ML	▨	■	◆		1.0
2.0												2.0
3.0	END HOLE @ 3.0m	<input checked="" type="checkbox"/>	176	●	▲		ML	▨	■	◆		3.0
4.0												4.0
5.0												5.0
6.0												6.0
Government of Yukon Transportation Engineering				LOGGED BY: K.J. REVIEWED BY: Fig. No:				COMPLETION DEPTH: 3.0 m COMPLETE: 01/04/19				

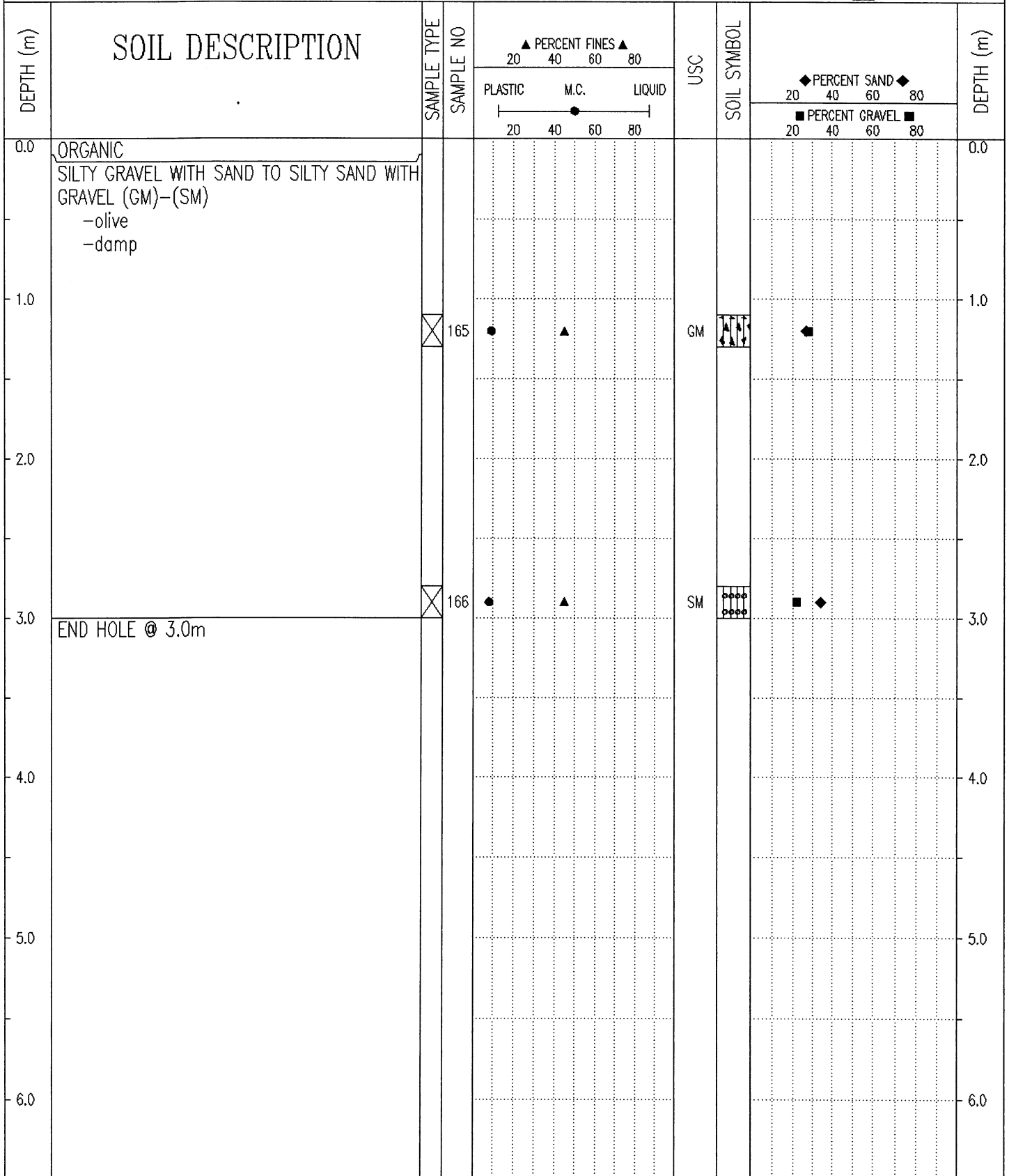
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ENGINEERING CAPITAL		KM 1674 - 1684 A/H		Project No: 092-202101-0363								
D-4 CAT B-30 MOBILE DRILL		LOCATION: 1680+225		ELEVATION: 0.00 (m)								
SAMPLE TYPE <input checked="" type="checkbox"/> RETURN		<input checked="" type="checkbox"/> S.P.T.		<input checked="" type="checkbox"/> AUGER								
		<input type="checkbox"/> BULK		<input type="checkbox"/> TUBE								
				<input type="checkbox"/> CORE								
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES			USC	SOIL SYMBOL	PERCENT SAND			DEPTH (m)
				PLASTIC	M.C.	LIQUID			20	40	60	
0.0	ORGANIC SANDY SILT TO POORLY GRADED GRAVEL WITH SAND (ML)-(GP) -olive brown -damp											0.0
1.0		<input checked="" type="checkbox"/>	173	●	▲		ML	▨	◆	■		1.0
2.0												2.0
3.0	END HOLE @ 3.0m	<input checked="" type="checkbox"/>	174	▲			GP	▨▲	◆	■		3.0
4.0												4.0
5.0												5.0
6.0												6.0
Government of Yukon Transportation Engineering				LOGGED BY: K.J.				COMPLETION DEPTH: 3.0 m				
				REVIEWED BY:				COMPLETE: 01/04/19				
				Fig. No:				Page 1 of 1				

SUBSURFACE EXPLORATION & TEST REPORT		SHAKWAK SEG 9		TEST HOLE NO: 593-959								
ENGINEERING CAPITAL		KM 1674 - 1684 A/H		Project No: 092-202101-0363								
D-4 CAT B-30 MOBILE DRILL		LOCATION: 1680+375 RHS		ELEVATION: 0.00 (m)								
SAMPLE TYPE <input type="checkbox"/> RETURN		<input checked="" type="checkbox"/> S.P.T.		<input checked="" type="checkbox"/> AUGER								
		<input type="checkbox"/> BULK		<input type="checkbox"/> TUBE								
				<input type="checkbox"/> CORE								
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES ▲			USC	SOIL SYMBOL	PERCENT SAND ◆			DEPTH (m)
				PLASTIC	M.C.	LIQUID			20	40	60	
0.0	ORGANIC SANDY SILT TO SILTY GRAVEL WITH SAND (ML)-(GM) -olive -damp											0.0
1.0		<input checked="" type="checkbox"/>	171	●	▲		ML	■	◆			1.0
2.0												2.0
3.0	END HOLE @ 3.0m	<input checked="" type="checkbox"/>	172	●	▲		GM	■	◆	■		3.0
4.0												4.0
5.0												5.0
6.0												6.0
Government of Yukon Transportation Engineering				LOGGED BY: K.J.				COMPLETION DEPTH: 3.0 m				
				REVIEWED BY:				COMPLETE: 01/04/19				
				Fig. No:				Page 1 of 1				

SUBSURFACE EXPLORATION & TEST REPORT		SHAKWAK SEG 9		TEST HOLE NO: 593-958						
ENGINEERING CAPITAL		KM 1674 - 1684 A/H		Project No: 092-202101-0363						
D-4 CAT B-30 MOBILE DRILL		LOCATION: 1680+460 RHS		ELEVATION: 0.00 (m)						
SAMPLE TYPE		<input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE								
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20    40    60    80 PLASTIC    M.C.    LIQUID  -----●-----  20    40    60    80		USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20    40    60    80 ■ PERCENT GRAVEL ■ 20    40    60    80		DEPTH (m)
0.0	ORGANIC								0.0	
	SILTY GRAVEL WITH SAND (GM) -olive brown -damp -maximum 50mm material augered up -grindy drilling below .4m									
1.0		<input checked="" type="checkbox"/>	169	●	▲	GM	◆	■	1.0	
2.0									2.0	
3.0	END HOLE @ 3.0m	<input checked="" type="checkbox"/>	170	●	▲	GM	◆	■	3.0	
4.0									4.0	
5.0									5.0	
6.0									6.0	
Government of Yukon Transportation Engineering				LOGGED BY: K.J. REVIEWED BY: Fig. No:		COMPLETION DEPTH: 3.0 m COMPLETE: 01/04/19 Page 1 of 1				

SUBSURFACE EXPLORATION & TEST REPORT		SHAKWAK SEG 9		TEST HOLE NO: 593-957								
ENGINEERING CAPITAL		KM 1674 - 1684 A/H		Project No: 092-202101-0363								
D-4 CAT B-30 MOBILE DRILL		LOCATION: 1680+575		ELEVATION: 0.00 (m)								
SAMPLE TYPE <input checked="" type="checkbox"/> RETURN		<input checked="" type="checkbox"/> S.P.T.		<input checked="" type="checkbox"/> AUGER								
		<input type="checkbox"/> BULK		<input type="checkbox"/> TUBE								
				<input type="checkbox"/> CORE								
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲			USC	SOIL SYMBOL	◆ PERCENT SAND ◆			DEPTH (m)
				PLASTIC	M.C.	LIQUID			PERCENT GRAVEL ■			
0.0	ORGANIC SILTY SAND WITH GRAVEL (SM) -olive -damp										0.0	
1.0		<input checked="" type="checkbox"/>	168	●	▲		SM	●●●●	■	◆	1.0	
2.0											2.0	
3.0	END HOLE @ 3.0m	<input checked="" type="checkbox"/>	169	●	▲		SM	●●●●	■	◆	3.0	
4.0											4.0	
5.0											5.0	
6.0											6.0	
Government of Yukon Transportation Engineering				LOGGED BY: K.J.				COMPLETION DEPTH: 3.0 m				
				REVIEWED BY:				COMPLETE: 01/04/19				
				Fig. No:				Page 1 of 1				

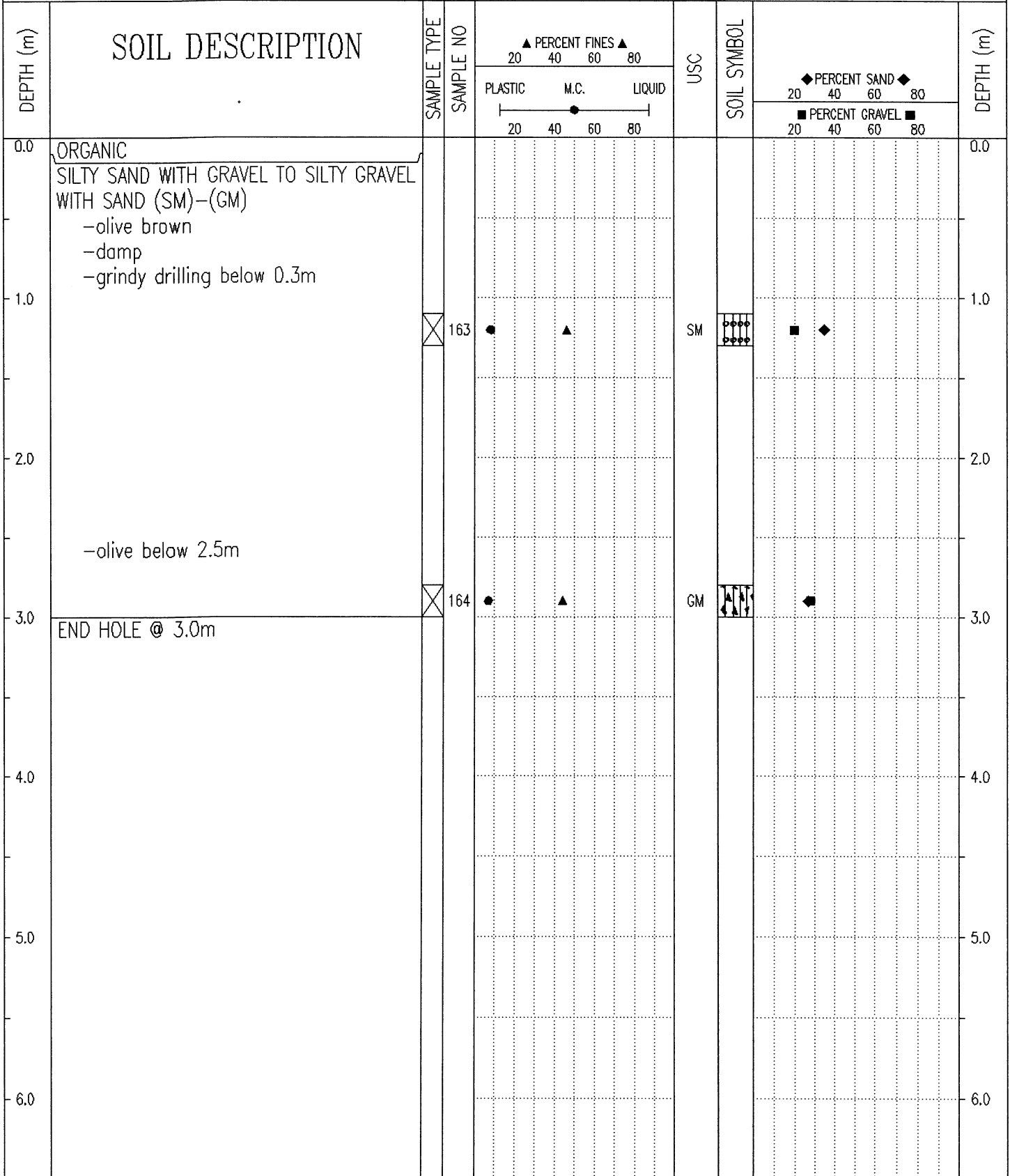
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ENGINEERING CAPITAL	KM 1674 - 1684 A/H	Project No: 092-202101-0363
D-4 CAT B-30 MOBILE DRILL	LOCATION: 1680+675	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN	<input checked="" type="checkbox"/> S.P.T.
	<input checked="" type="checkbox"/> AUGER	<input type="checkbox"/> BULK
	<input type="checkbox"/> TUBE	<input type="checkbox"/> CORE



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SUBSURFACE EXPLORATION & TEST REPORT	SHAKWAK SEG 9	TEST HOLE NO: 593-955
ENGINEERING CAPITAL	KM 1674 - 1684 A/H	Project No: 092-202101-0363
D-4 CAT B-30 MOBILE DRILL	LOCATION: 1680+800	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN	<input checked="" type="checkbox"/> S.P.T.
	<input checked="" type="checkbox"/> AUGER	<input type="checkbox"/> BULK
	<input type="checkbox"/> TUBE	<input type="checkbox"/> CORE

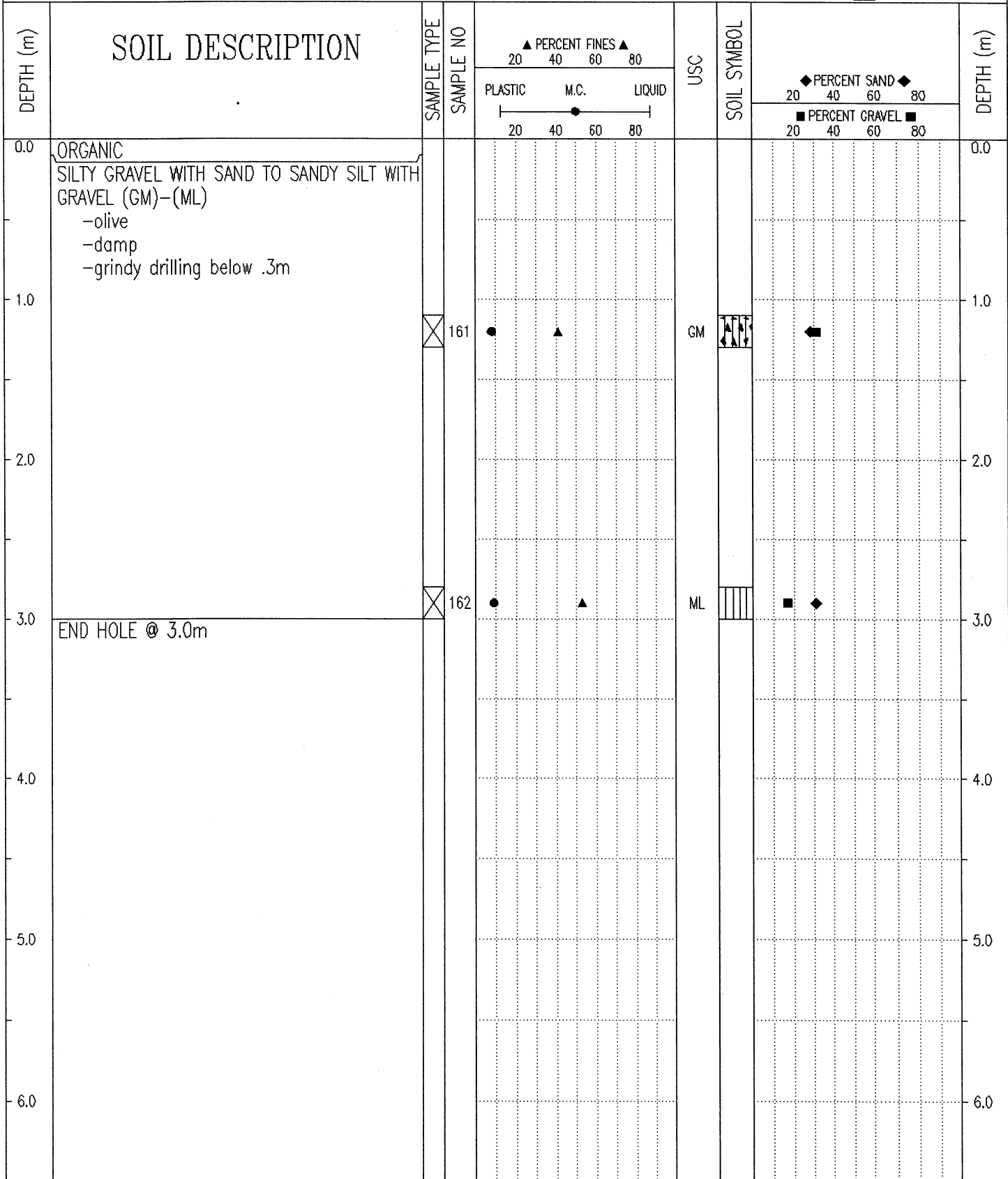


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COMPLETION DEPTH: 3.0 m  
COMPLETE: 01/04/19

SUBSURFACE EXPLORATION & TEST REPORT	SHAKWAK SEG 9	TEST HOLE NO: 593-954
ENGINEERING CAPITAL	KM 1674 - 1684 A/H	Project No: 092-202101-0363
D-4 CAT B-30 MOBILE DRILL	LOCATION: 1680+900	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE	



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	REVIEWED BY:	COMPLETE: 01/04/19
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SUBSURFACE EXPLORATION & TEST REPORT		SHAKWAK SEG 9		TEST HOLE NO: 593-953								
ENGINEERING CAPITAL		KM 1674 - 1684 A/H		Project No: 092-202101-0363								
D-4 CAT B-30 MOBILE DRILL		LOCATION: 1681+000 LHS		ELEVATION: 0.00 (m)								
SAMPLE TYPE <input checked="" type="checkbox"/> RETURN		<input checked="" type="checkbox"/> S.P.T.		<input checked="" type="checkbox"/> AUGER								
		<input type="checkbox"/> BULK		<input type="checkbox"/> TUBE								
				<input type="checkbox"/> CORE								
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES			USC	SOIL SYMBOL	PERCENT SAND			DEPTH (m)
				PLASTIC	M.C.	LIQUID			PERCENT GRAVEL			
0.0	ORGANIC SILTY SAND WITH GRAVEL (SM) -olive -damp -some grindy drilling below 0.7m										0.0	
1.0		<input checked="" type="checkbox"/>	159	●	▲		SM	◼	◆		1.0	
2.0											2.0	
3.0	-damp to moist below 2.5m END HOLE @ 3.0m	<input checked="" type="checkbox"/>	160	●	▲		SM	◼	◆		3.0	
4.0											4.0	
5.0											5.0	
6.0											6.0	
Government of Yukon Transportation Engineering				LOGGED BY: K.J. REVIEWED BY: Fig. No:				COMPLETION DEPTH: 3.0 m COMPLETE: 01/04/19 Page 1 of 1				

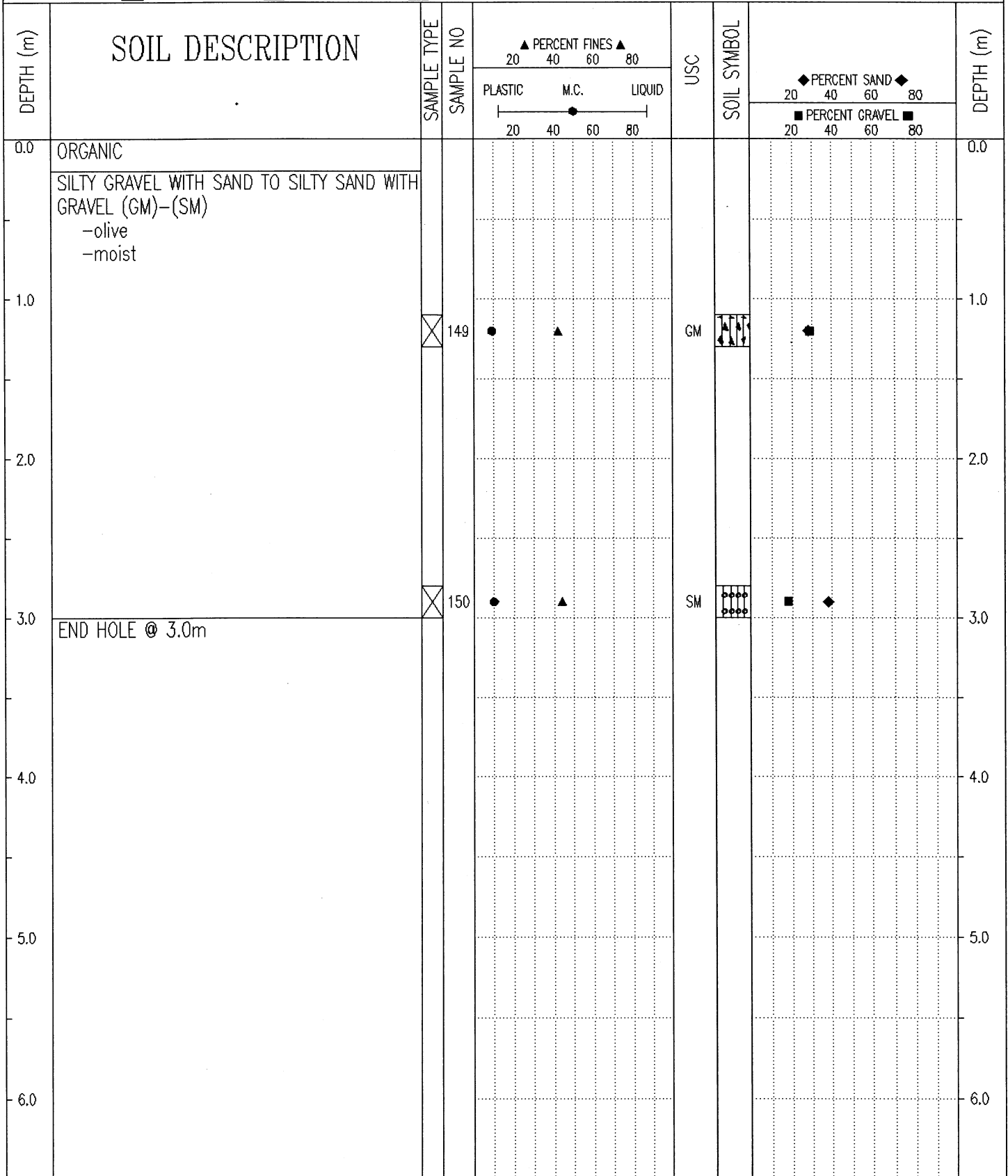
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ENGINEERING CAPITAL		KM 1674 - 1684 A/H		Project No: 092-202101-0363								
D-4 CAT B-30 MOBILE DRILL		LOCATION: 1681+100 LHS		ELEVATION: 0.00 (m)								
SAMPLE TYPE <input checked="" type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE												
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES ▲			USC	SOIL SYMBOL	PERCENT SAND ◆			DEPTH (m)
				PLASTIC	M.C.	LIQUID			PERCENT GRAVEL ■			
0.0	ORGANIC SILTY SAND WITH GRAVEL TO SILTY GRAVEL WITH SAND (SM)-(GM) -olive -moist										0.0	
1.0		<input checked="" type="checkbox"/>	157	●	▲		SM	◆	■		1.0	
2.0											2.0	
3.0	END HOLE @ 3.0m	<input checked="" type="checkbox"/>	158	●	▲		GM	◆	■		3.0	
4.0											4.0	
5.0											5.0	
6.0											6.0	
Government of Yukon Transportation Engineering				LOGGED BY: K.J. REVIEWED BY:		COMPLETION DEPTH: 3.0 m COMPLETE: 01/04/18		Fig. No: <span style="float: right;">Page 1 of 1</span>				

SUBSURFACE EXPLORATION & TEST REPORT		SHAKWAK SEG 9		TEST HOLE NO: 593-951								
ENGINEERING CAPITAL		KM 1674 - 1684 A/H		Project No: 092-202101-0363								
D-4 CAT B-30 MOBILE DRILL		LOCATION: 1681+250 LHS		ELEVATION: 0.00 (m)								
SAMPLE TYPE <input checked="" type="checkbox"/> RETURN		<input checked="" type="checkbox"/> S.P.T.		<input checked="" type="checkbox"/> AUGER								
		<input type="checkbox"/> BULK		<input type="checkbox"/> TUBE								
				<input type="checkbox"/> CORE								
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲			USC	SOIL SYMBOL	◆ PERCENT SAND ◆			DEPTH (m)
				PLASTIC	M.C.	LIQUID			PERCENT GRAVEL ■			
0.0	ORGANIC										0.0	
	SILTY GRAVEL WITH SAND (GM)											
	-olive											
	-damp											
1.0		<input checked="" type="checkbox"/>	155	●	▲		GM	▲▲▲	◆	■	1.0	
2.0											2.0	
3.0	END HOLE @ 3.0m	<input checked="" type="checkbox"/>	156	●	▲		GM	▲▲▲	◆	■	3.0	
4.0											4.0	
5.0											5.0	
6.0											6.0	
Government of Yukon Transportation Engineering				LOGGED BY: K.J.				COMPLETION DEPTH: 3.0 m				
				REVIEWED BY:				COMPLETE: 01/04/18				
				Fig. No:				Page 1 of 1				

SUBSURFACE EXPLORATION & TEST REPORT		SHAKWAK SEG 9		TEST HOLE NO: 593-950						
ENGINEERING CAPITAL		KM 1674 - 1684 A/H		Project No: 092-202101-0363						
D-4 CAT B-30 MOBILE DRILL		LOCATION: 1681+400 LHS		ELEVATION: 0.00 (m)						
SAMPLE TYPE		<input checked="" type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE								
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20    40    60    80 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 SANDY SILT TO SILTY SAND WITH GRAVEL (ML)-(SM) -olive -moist									0.0
1.0		<input checked="" type="checkbox"/>	153	●	▲	ML		■	◆	1.0
2.0										2.0
3.0	END HOLE @ 3.0m	<input checked="" type="checkbox"/>	154	●	▲	SM	oooo oooo	■	◆	3.0
4.0										4.0
5.0										5.0
6.0										6.0
Government of Yukon Transportation Engineering				LOGGED BY: K.J. REVIEWED BY:		COMPLETION DEPTH: 3.0 m COMPLETE: 01/04/18				
				Fig. No:						Page 1 of 1

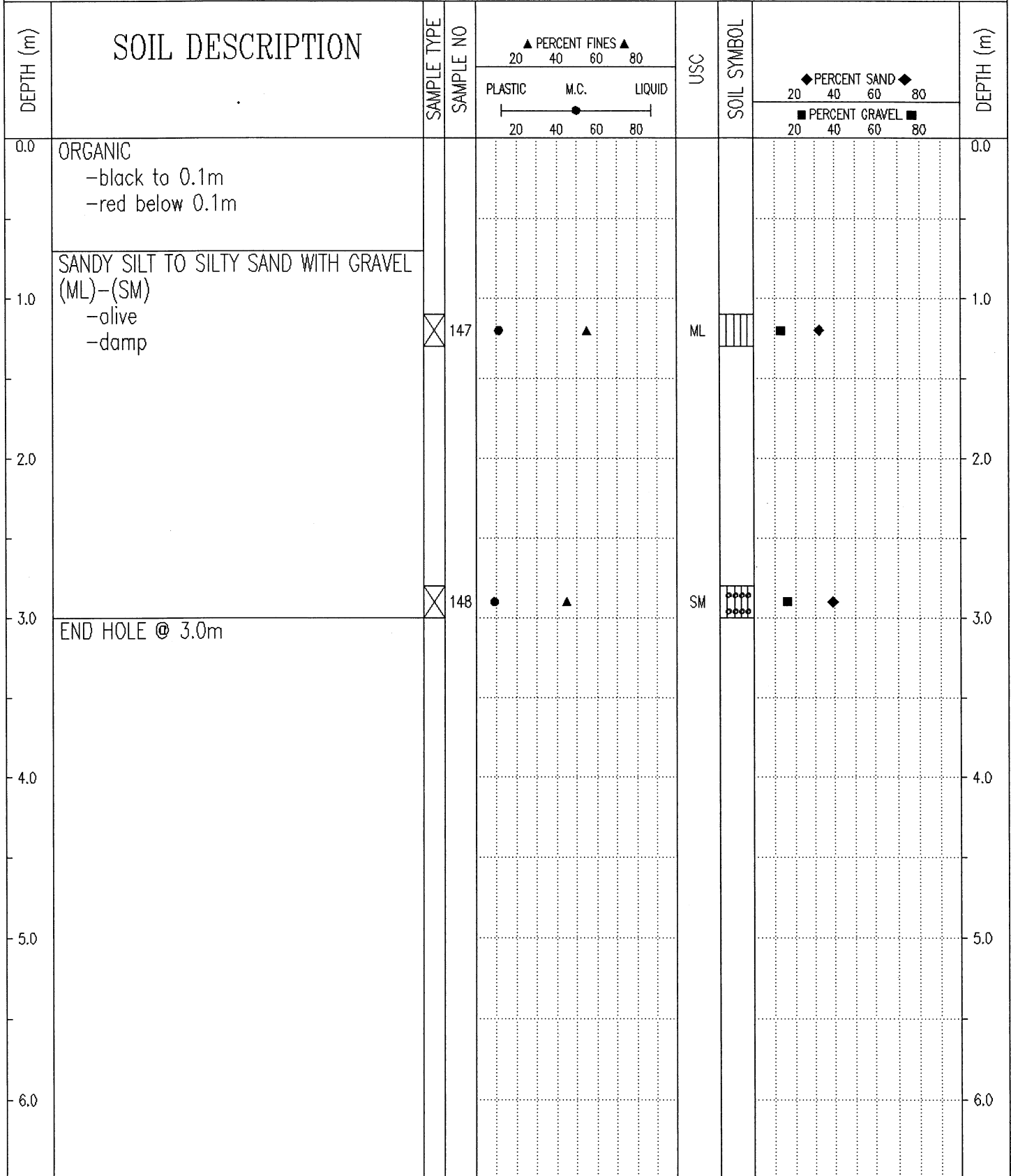
SUBSURFACE EXPLORATION & TEST REPORT		SHAKWAK SEG 9		TEST HOLE NO: 593-949						
ENGINEERING CAPITAL		KM 1674 - 1684 A/H		Project No: 092-202101-0363						
D-4 CAT B-30 MOBILE DRILL		LOCATION: 1681+550 LHS		ELEVATION: 0.00 (m)						
SAMPLE TYPE		<input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE								
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲		USC	SOIL SYMBOL	◆ PERCENT SAND ◆		DEPTH (m)
				PLASTIC	M.C.			LIQUID	20	
0.0	ORGANIC SILTY SAND WITH GRAVEL (SM) -olive -moist									0.0
1.0		<input checked="" type="checkbox"/>	151	●	▲		SM	●		1.0
2.0										2.0
3.0	END HOLE @ 3.0m	<input checked="" type="checkbox"/>	152	●	▲		SM	■ ◆		3.0
4.0										4.0
5.0										5.0
6.0										6.0
Government of Yukon Transportation Engineering				LOGGED BY: K.J. REVIEWED BY:		COMPLETION DEPTH: 3.9 m COMPLETE: 01/04/18				
				Fig. No:		Page 1 of 1				

SUBSURFACE EXPLORATION & TEST REPORT	Shakwak Seg 9 Alaska Highway	TEST HOLE NO: 588-948
ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1681+700 LHS	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE	



Government of Yukon Transportation Engineering	LOGGED BY: K.J	COMPLETION DEPTH: 3.0 m
	REVIEWED BY:	COMPLETE: 01/04/18
	Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION & TEST REPORT	Shakwak Seg 9 Alaska Highway	TEST HOLE NO: 588-947
ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1681+850	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN	<input checked="" type="checkbox"/> S.P.T.
	<input checked="" type="checkbox"/> AUGER	<input type="checkbox"/> BULK
	<input type="checkbox"/> TUBE	<input type="checkbox"/> CORE

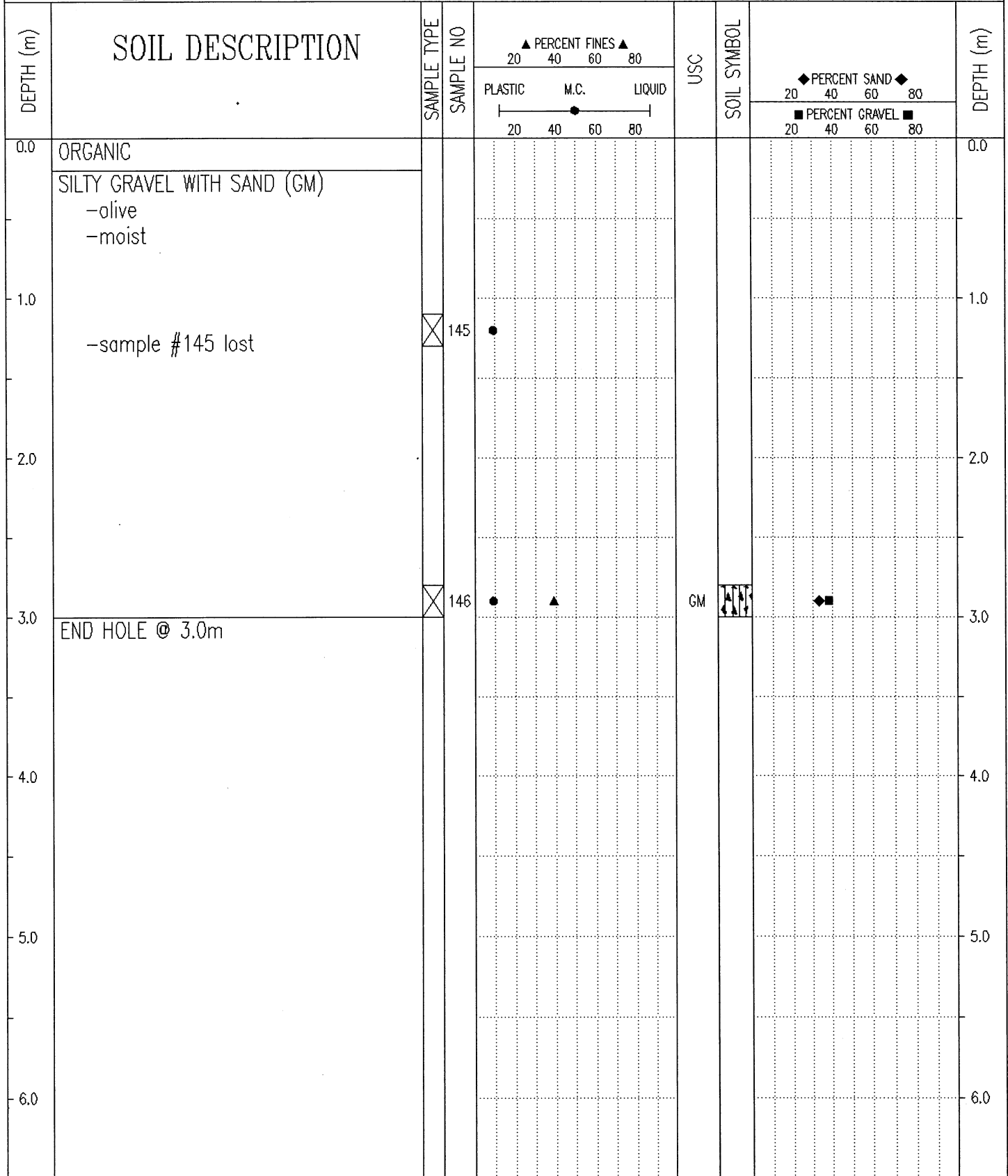


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REVIEWED BY:  
Fig. No:

COMPLETION DEPTH: 3.0 m  
COMPLETE: 01/04/18

SUBSURFACE EXPLORATION & TEST REPORT	Shakwak Seg 9 Alaska Highway	TEST HOLE NO: 588-946
ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1681+950 2M RIGHT	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE	

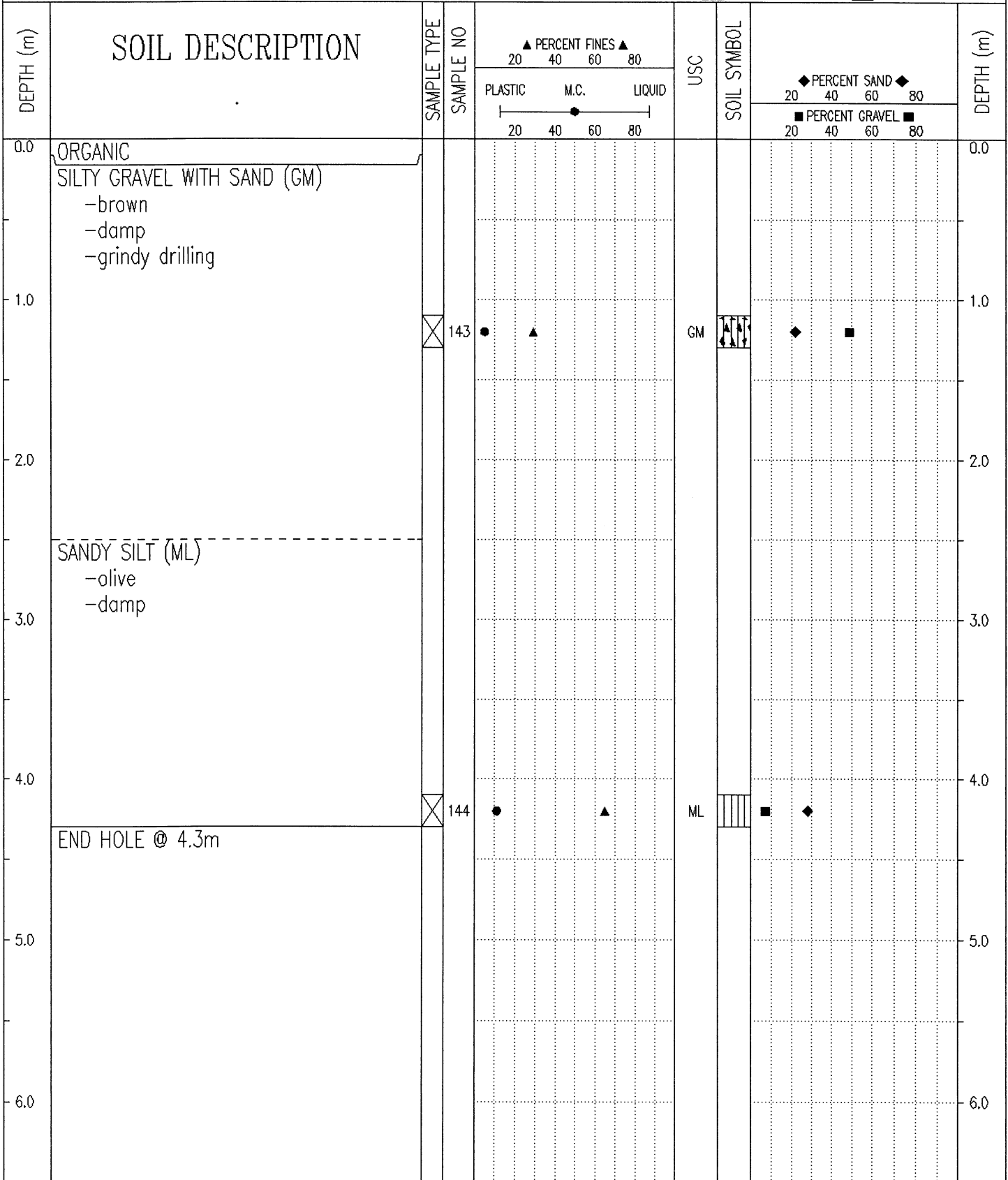


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Fig. No:

COMPLETION DEPTH: 3.0 m  
COMPLETE: 01/04/18

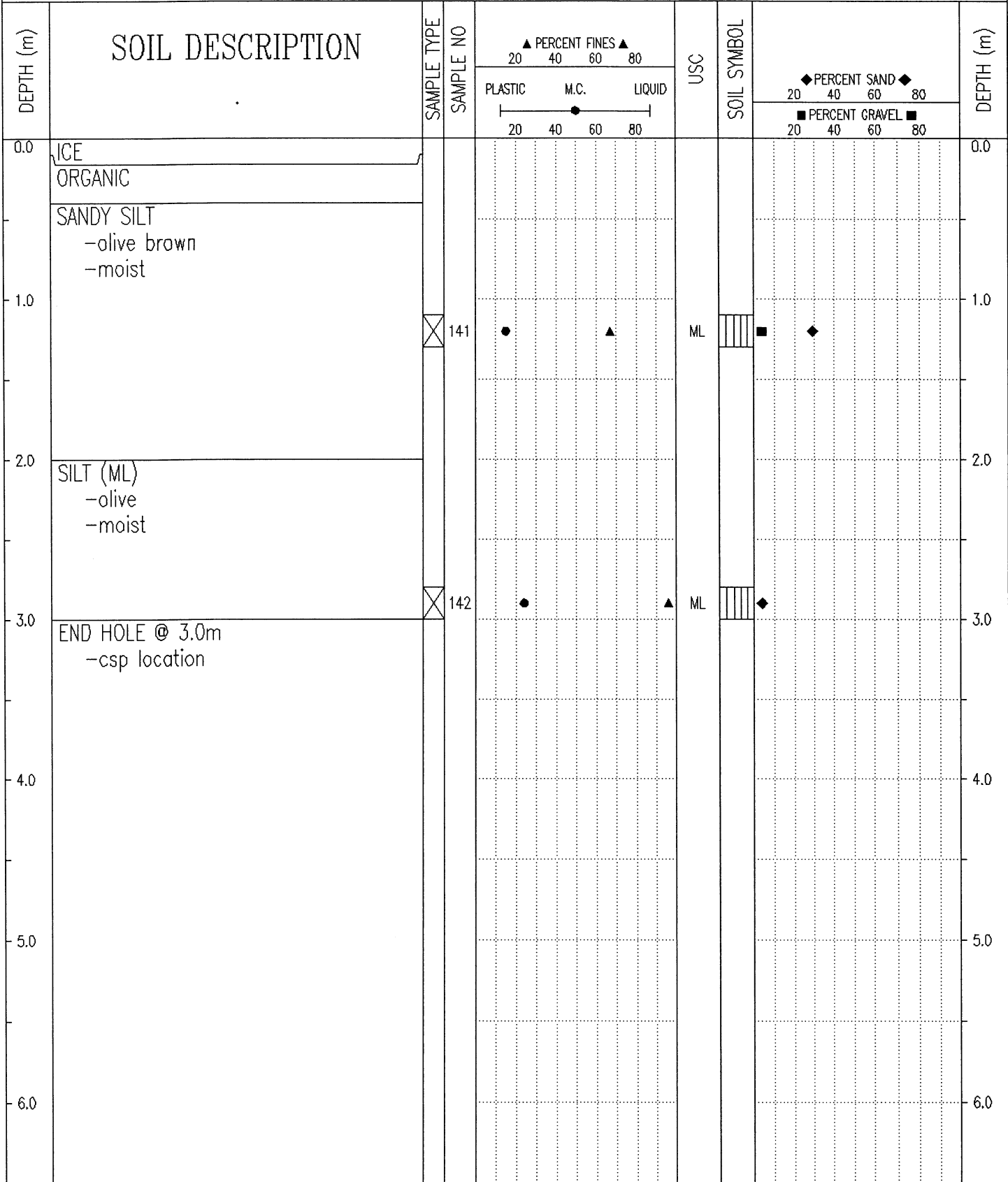
SUBSURFACE EXPLORATION & TEST REPORT	Shakwak Seg 9 Alaska Highway	TEST HOLE NO: 588-945
ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1682+050 2M RIGHT	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE	



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LOGGED BY: K.J	COMPLETION DEPTH: 4.3 m
REVIEWED BY:	COMPLETE: 01/04/18
Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION & TEST REPORT	Shakwak Seg 9 Alaska Highway	TEST HOLE NO: 588-944
ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1682+160	ELEVATION: 0.00 (m)
SAMPLE TYPE <input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE		

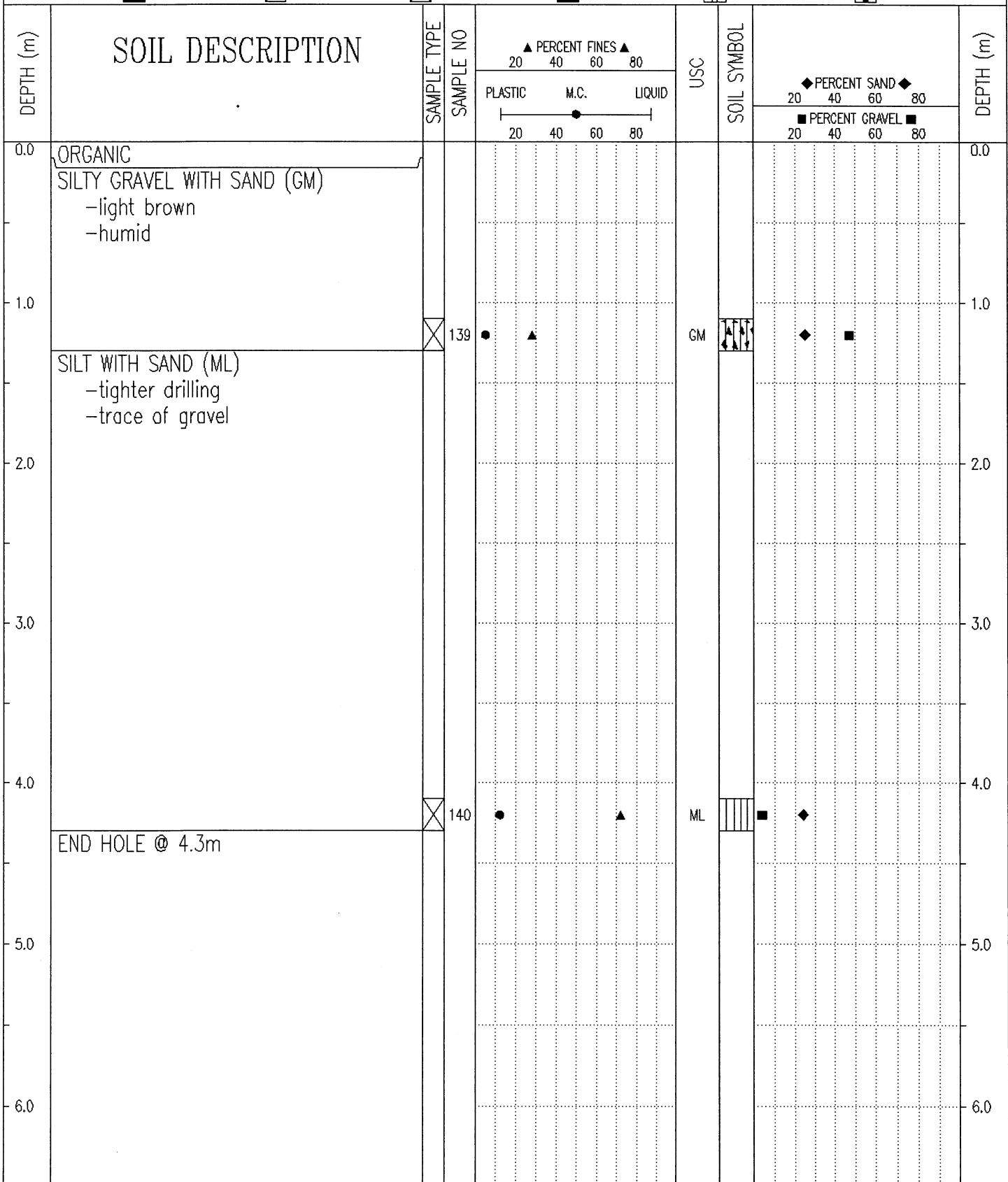


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REVIEWED BY:  
Fig. No:

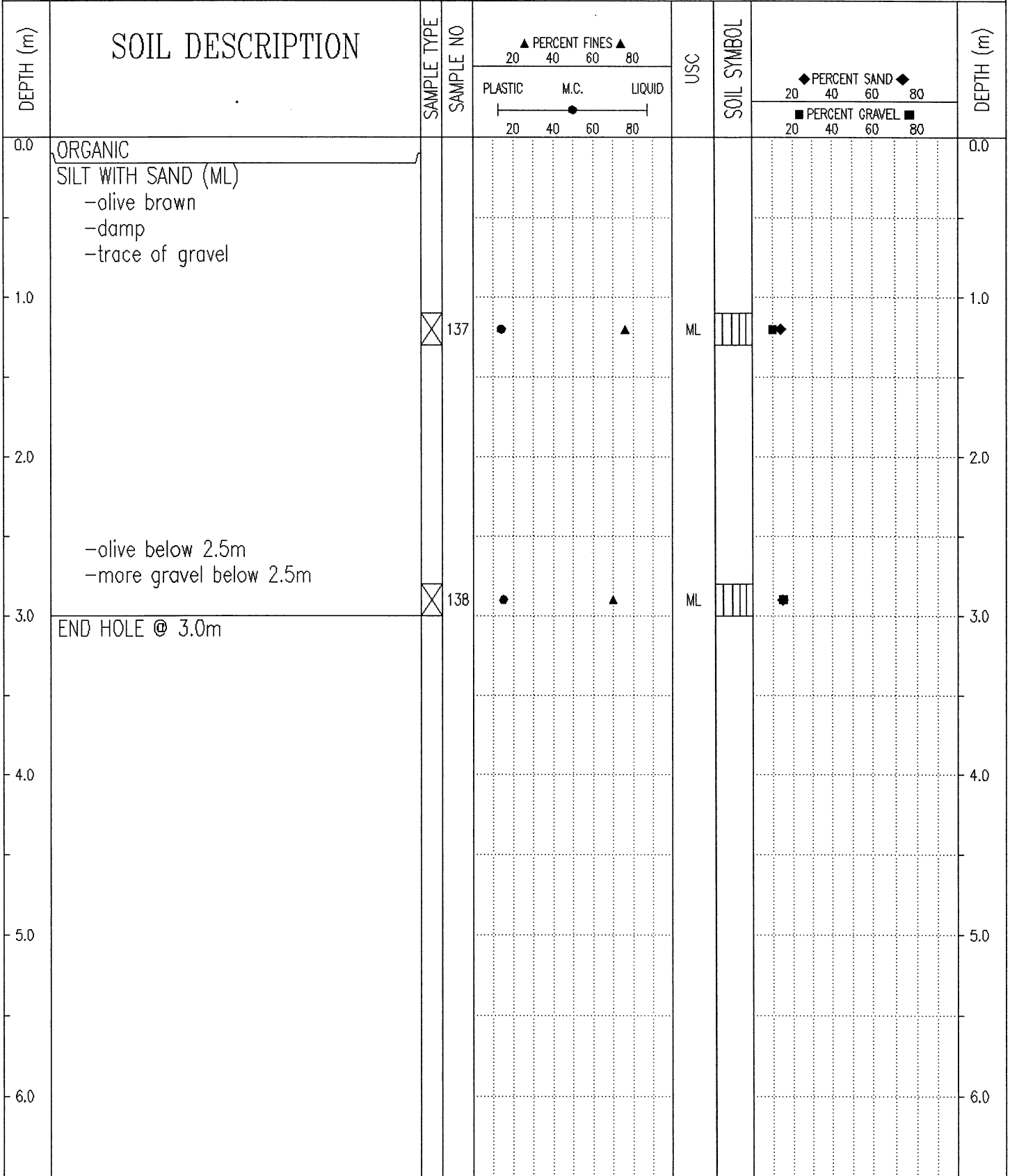
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COMPLETE: 01/04/18

SUBSURFACE EXPLORATION & TEST REPORT	Shakwak Seg 9 Alaska Highway	TEST HOLE NO: 588-943
ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1682+225 1M RIGHT	ELEVATION: 0.00 (m)
SAMPLE TYPE <input checked="" type="checkbox"/> RETURN	<input checked="" type="checkbox"/> S.P.T.	<input checked="" type="checkbox"/> AUGER
	<input type="checkbox"/> BULK	<input type="checkbox"/> TUBE
		<input type="checkbox"/> CORE



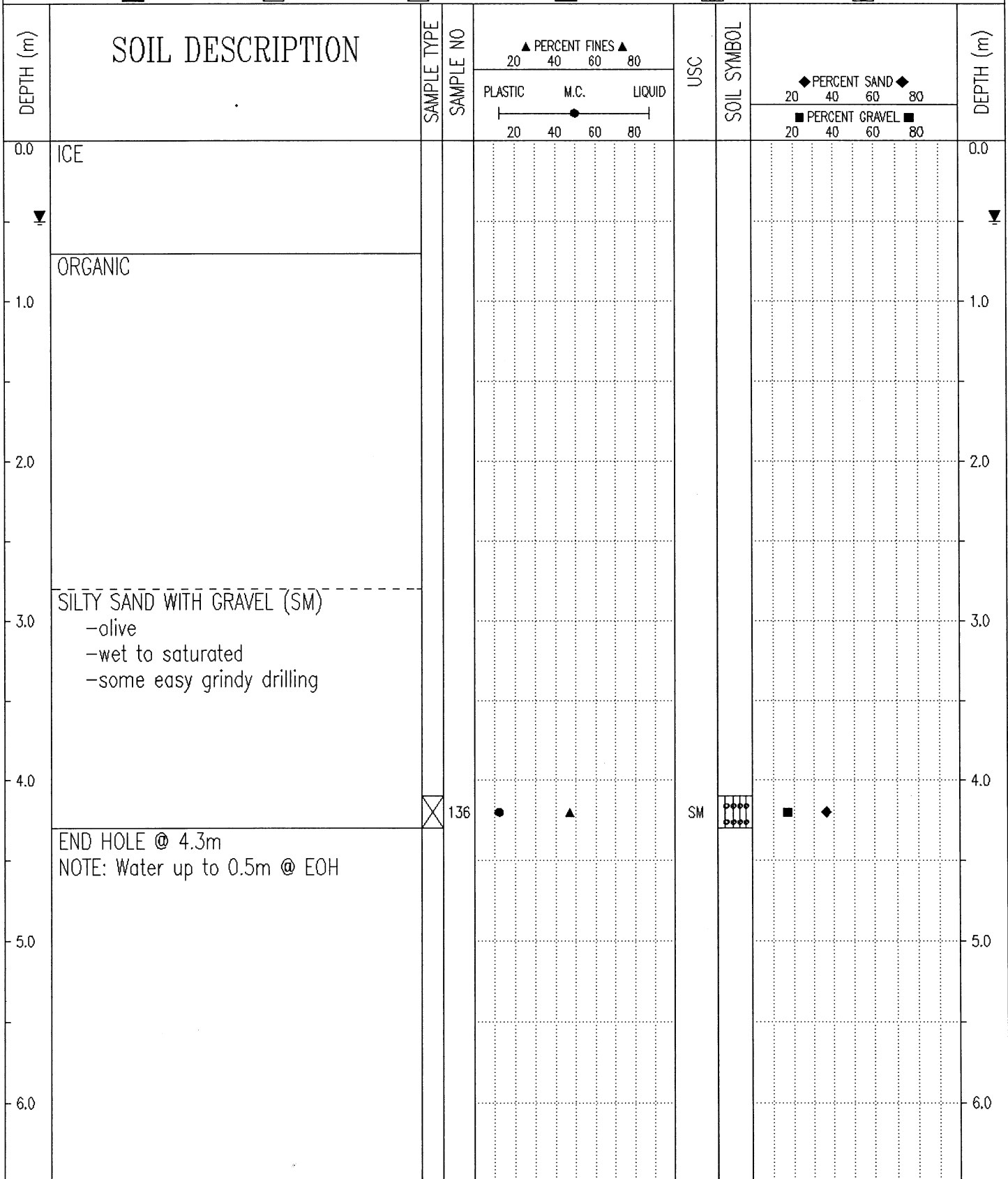
Government of Yukon Transportation Engineering	LOGGED BY: K.J	COMPLETION DEPTH: 4.3 m
	REVIEWED BY:	COMPLETE: 01/04/18
	Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION & TEST REPORT	Shakwak Seg 9 Alaska Highway	TEST HOLE NO: 588-942
ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1682+300 3M RIGHT	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN	<input checked="" type="checkbox"/> S.P.T.
	<input checked="" type="checkbox"/> AUGER	<input type="checkbox"/> BULK
	<input type="checkbox"/> TUBE	<input type="checkbox"/> CORE



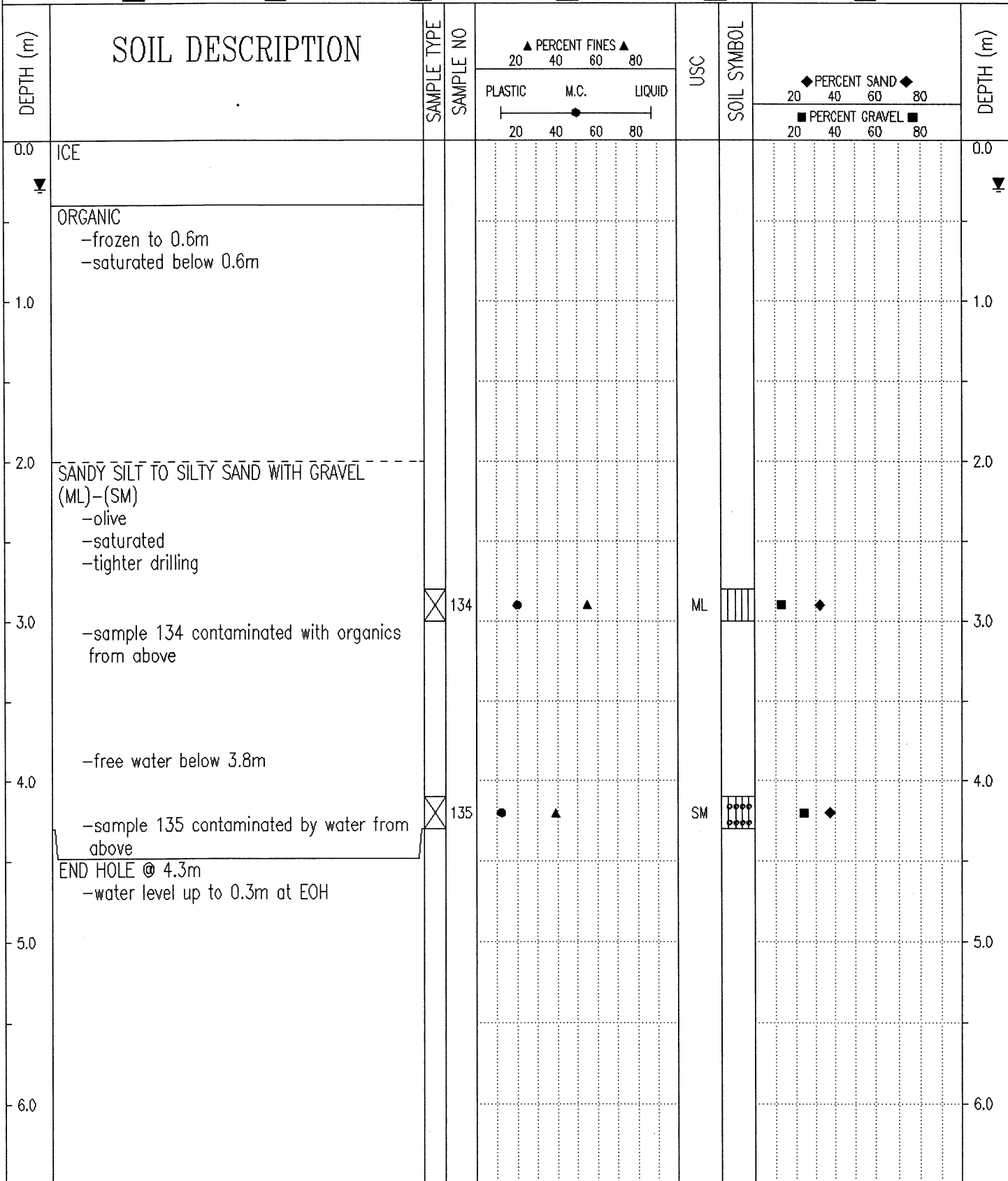
Government of Yukon Transportation Engineering	LOGGED BY: K.J	COMPLETION DEPTH: 3.0 m
	REVIEWED BY:	COMPLETE: 01/04/18
	Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION & TEST REPORT	Shakwak Seg 9 Alaska Highway	TEST HOLE NO: 588-941
ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1682+400 C.L.	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN	<input checked="" type="checkbox"/> S.P.T.
	<input checked="" type="checkbox"/> AUGER	<input type="checkbox"/> BULK
	<input type="checkbox"/> TUBE	<input type="checkbox"/> CORE



Government of Yukon Transportation Engineering	LOGGED BY: K.J	COMPLETION DEPTH: 4.3 m
	REVIEWED BY:	COMPLETE: 01/04/18
	Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION & TEST REPORT	Shakwak Seg 9 Alaska Highway	TEST HOLE NO: 588-940
ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1682+575	ELEVATION: 0.00 (m)
SAMPLE TYPE <input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE		



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REVIEWED BY:	COMPLETE: 01/04/18
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SUBSURFACE EXPLORATION & TEST REPORT	Shakwak Seg 9 Alaska Highway	TEST HOLE NO: 588-939
ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1682+685 RHS	ELEVATION: 0.00 (m)
SAMPLE TYPE <input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE		

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES ▲			USC	SOIL SYMBOL	PERCENT SAND ◆		DEPTH (m)
				PLASTIC	M.C.	LIQUID			20	80	
0.0	ORGANIC -frozen to 0.2m -saturated below 0.2m										0.0
1.0											1.0
2.0	SILTY GRAVEL WITH SAND (GM) -olive -wet to saturated -grindy drilling										2.0
3.0											3.0
4.0											4.0
4.3	END HOLE @ 4.3m -csp location	<input checked="" type="checkbox"/>	133	●	▲		GM	◆	■		4.3
5.0											5.0
6.0											6.0

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Fig. No:

COMPLETION DEPTH: 4.3 m  
COMPLETE: 01/04/18

SUBSURFACE EXPLORATION & TEST REPORT      Shakwak Seg 9 Alaska Highway      TEST HOLE NO: 588-938

ENGINEERING CAPITAL      KM 1694-1692 A/H      Project No: 092-202101-0363

NODWELL B 40L 6" AUGER      LOCATION:1682+725 LHS      ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES ▲			USC	SOIL SYMBOL	PERCENT SAND ◆			DEPTH (m)
				PLASTIC	M.C.	LIQUID			20	40	60	
0.0	ORGANIC -frozen to 0.4m -saturated below 0.4m											0.0
2.0	SILTY GRAVEL WITH SAND (GM) -olive -wet to saturated -trace grindy drilling -smooth drilling below 2.2m											2.0
4.0	-minimal material retained on auger remainder washed off END HOLE @ 4.3m -culvert location	<input checked="" type="checkbox"/>	132	●	▲		GM	◆	■			4.0
5.0												5.0
6.0												6.0

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REVIEWED BY:

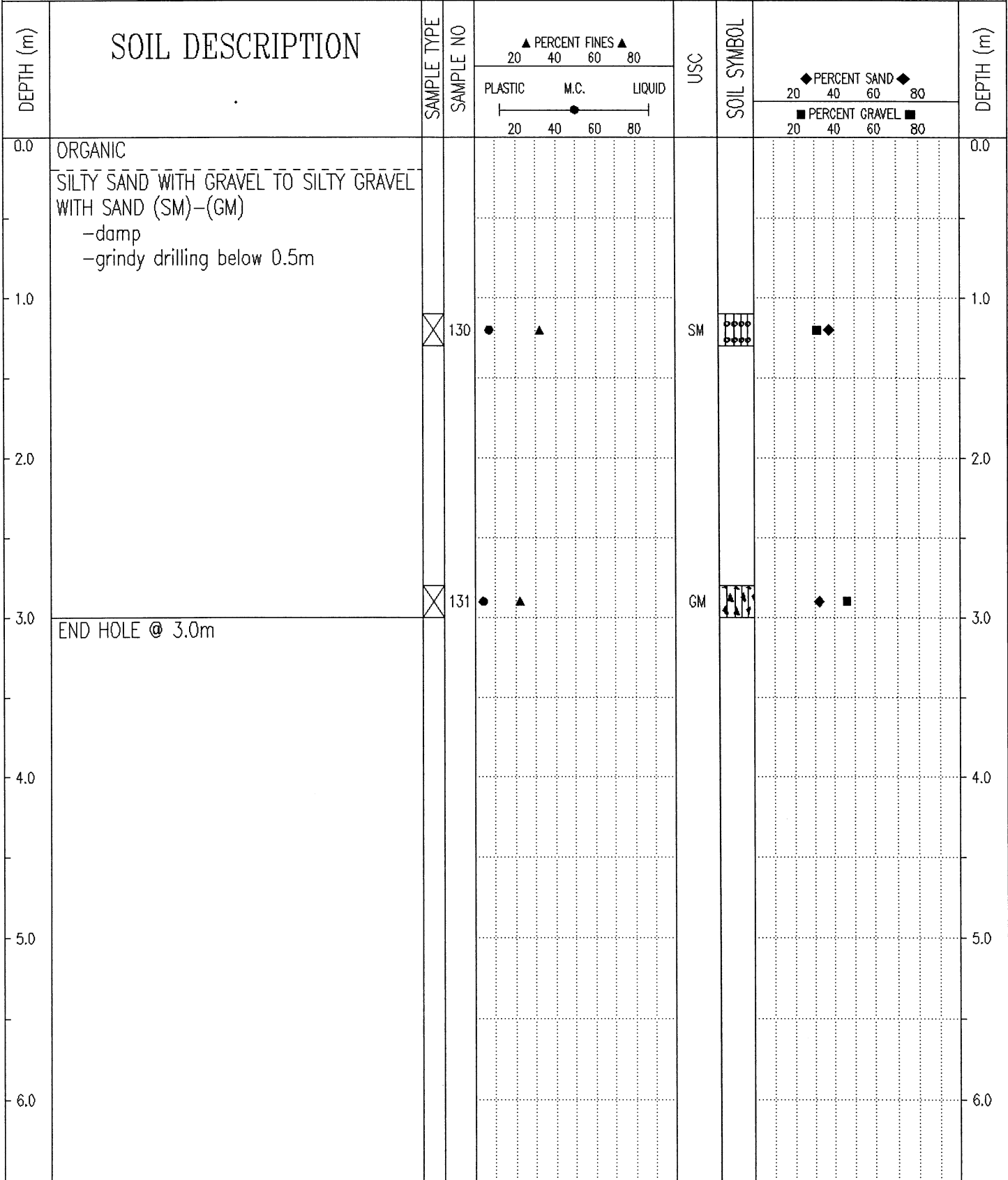
Fig. No:

COMPLETION DEPTH: 4.3 m

COMPLETE: 01/04/18

Page 1 of 1

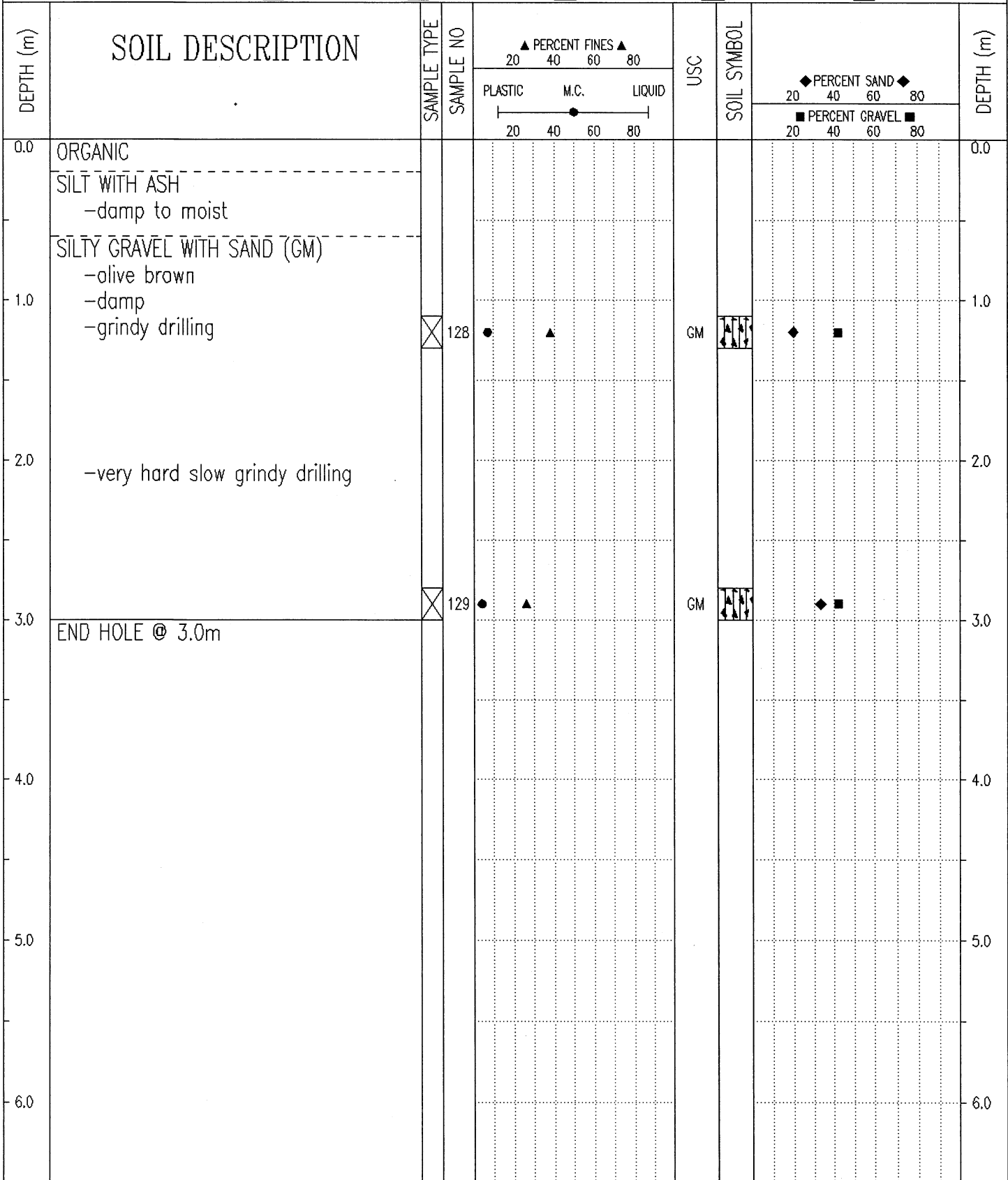
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ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1682+800	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN	<input checked="" type="checkbox"/> S.P.T.
	<input checked="" type="checkbox"/> AUGER	<input type="checkbox"/> BULK
	<input type="checkbox"/> TUBE	<input type="checkbox"/> CORE



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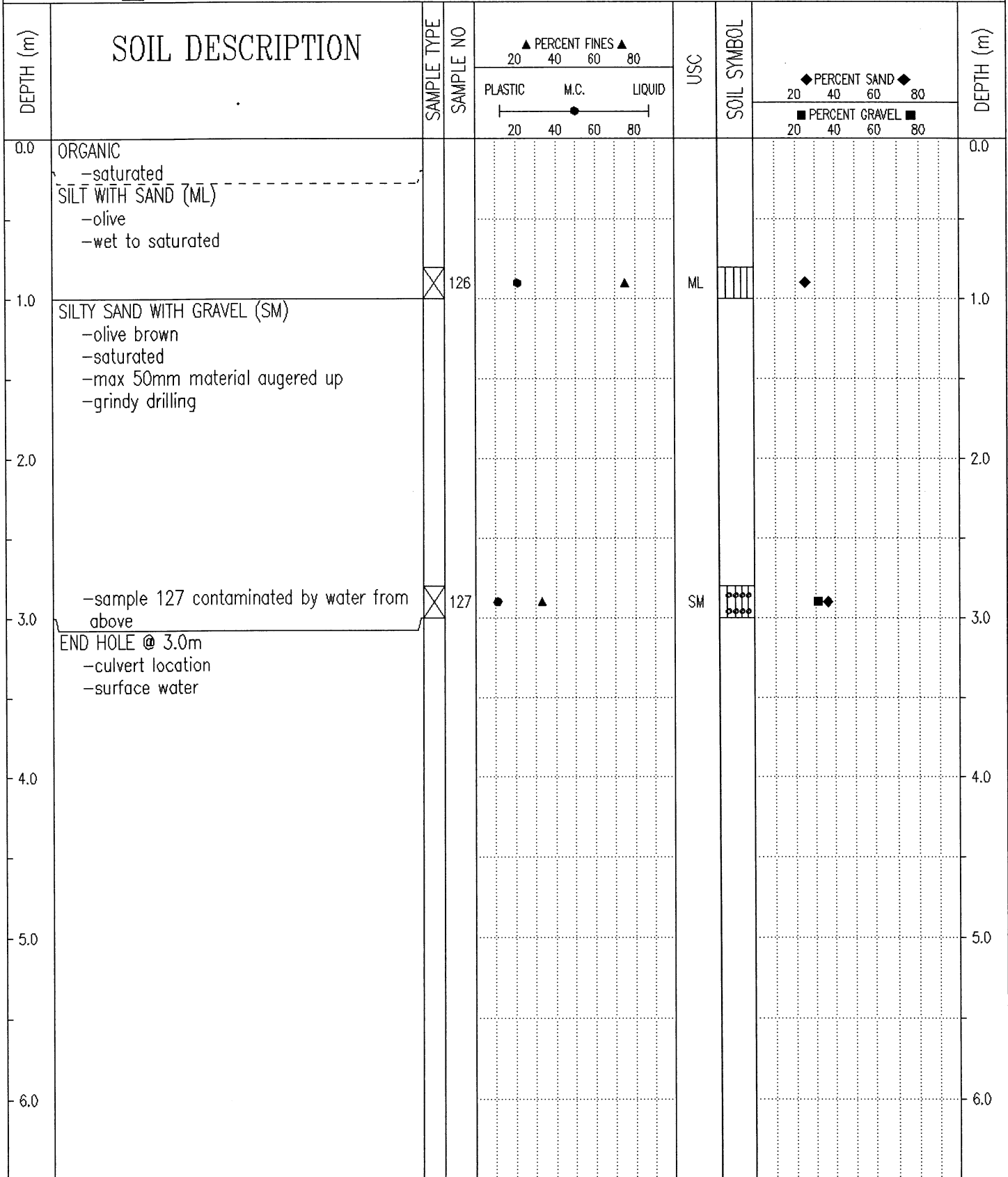
LOGGED BY: K.J	COMPLETION DEPTH: 3.0 m
REVIEWED BY:	COMPLETE: 01/04/17
Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION & TEST REPORT	Shakwak Seg 9 Alaska Highway	TEST HOLE NO: 588-936
ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1682+950	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE	



Government of Yukon Transportation Engineering	LOGGED BY: K.J	COMPLETION DEPTH: 3.0 m
	REVIEWED BY:	COMPLETE: 01/04/17
	Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION & TEST REPORT	Shakwak Seg 9 Alaska Highway	TEST HOLE NO: 588-935
ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1683+050	ELEVATION: 0.00 (m)
SAMPLE TYPE <input checked="" type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE		



Government of Yukon Transportation Engineering	LOGGED BY: K.J	COMPLETION DEPTH: 3.0 m
	REVIEWED BY:	COMPLETE: 01/04/17
	Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION & TEST REPORT	Shakwak Seg 9 Alaska Highway	TEST HOLE NO: 588-934
ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1683+170	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE	

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES			USC	SOIL SYMBOL	PERCENT SAND / GRAVEL			DEPTH (m)
				PLASTIC	M.C.	LIQUID			PERCENT SAND	PERCENT GRAVEL		
0.0	SILTY GRAVEL WITH SAND (GM) -brown -damp										0.0	
1.0		<input checked="" type="checkbox"/>	124	●	▲		GM	▲▲▲	◀		1.0	
2.0											2.0	
3.0	END HOLE @ 3.0m -test hole in bottom of previously excavated area	<input checked="" type="checkbox"/>	125	●			GM	▲▲▲	◀		3.0	
4.0											4.0	
5.0											5.0	
6.0											6.0	

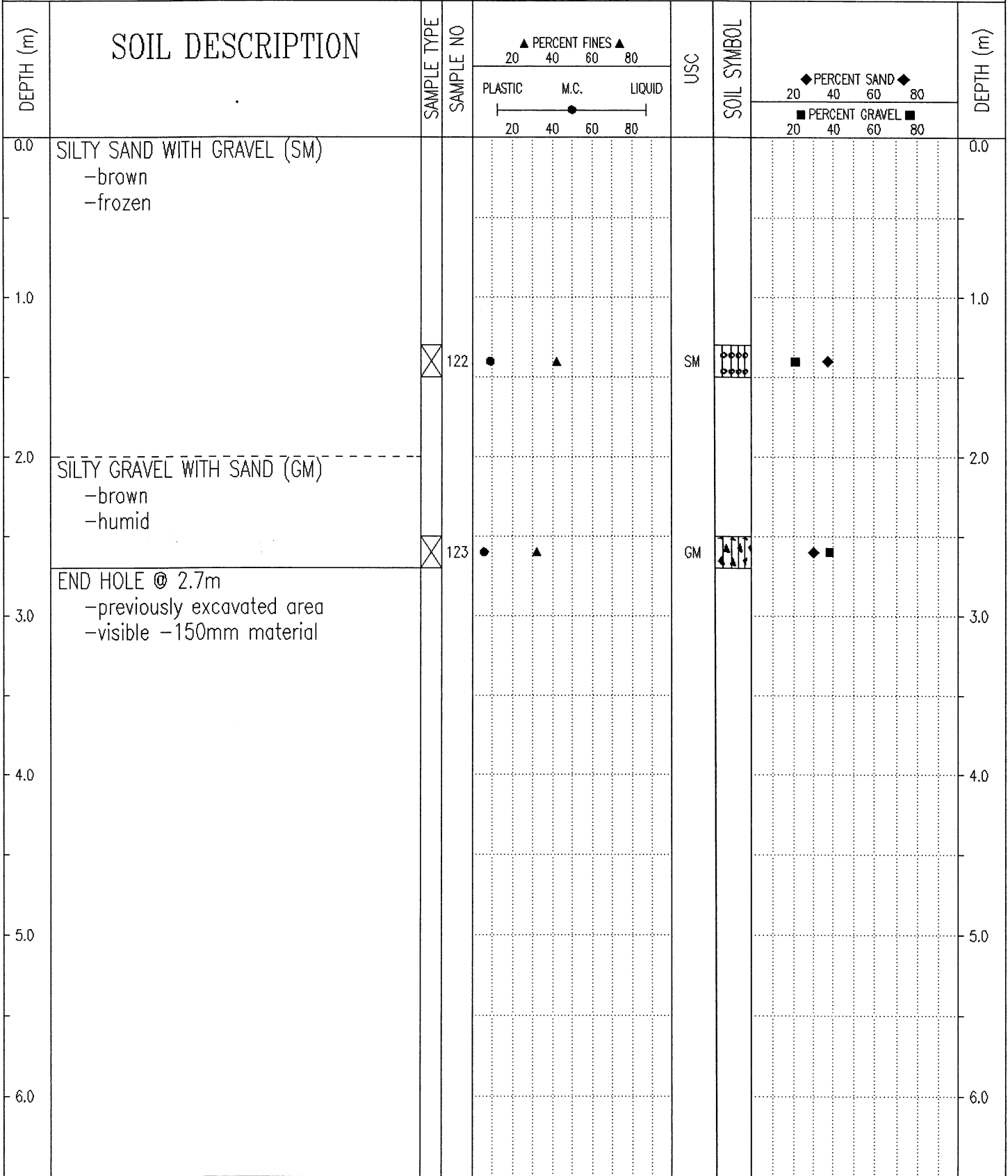
Government of Yukon Transportation Engineering	LOGGED BY: K.J	COMPLETION DEPTH: 3.0 m
	REVIEWED BY:	COMPLETE: 01/04/17
	Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION & TEST REPORT      Shakwak Seg 9 Alaska Highway      TEST HOLE NO: 588-933

ENGINEERING CAPITAL      KM 1694-1692 A/H      Project No: 092-202101-0363

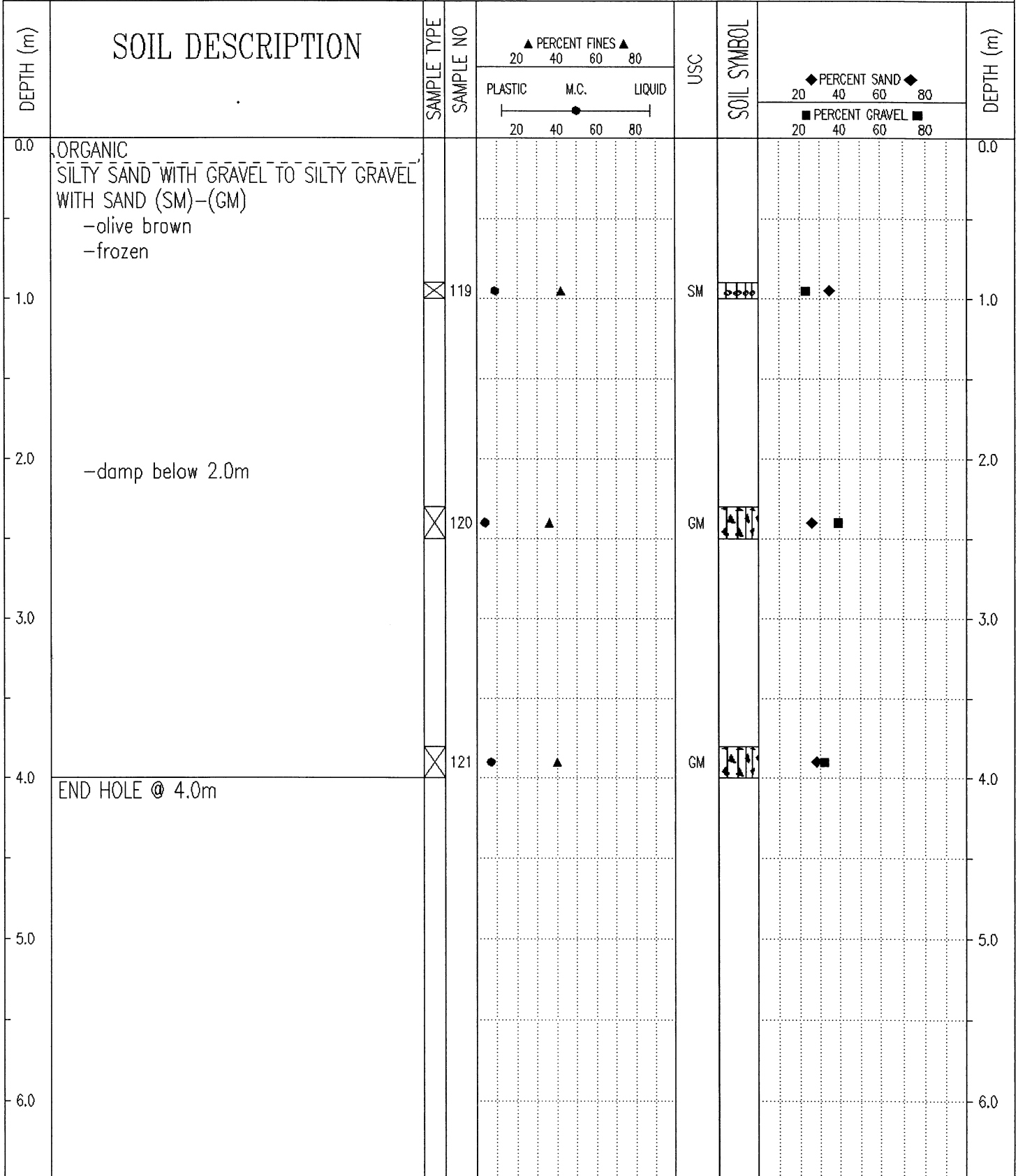
NODWELL B 40L 6" AUGER      LOCATION:1683+300      ELEVATION: 0.00 (m)

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



<p>Government of Yukon Transportation Engineering</p>	LOGGED BY: K.J	COMPLETION DEPTH: 2.7 m
	REVIEWED BY:	COMPLETE: 01/04/17
	Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION & TEST REPORT	Shakwak Seg 9 Alaska Highway	TEST HOLE NO: 588-932
ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1683+470	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN	<input checked="" type="checkbox"/> S.P.T.
	<input checked="" type="checkbox"/> AUGER	<input type="checkbox"/> BULK
	<input type="checkbox"/> TUBE	<input type="checkbox"/> CORE



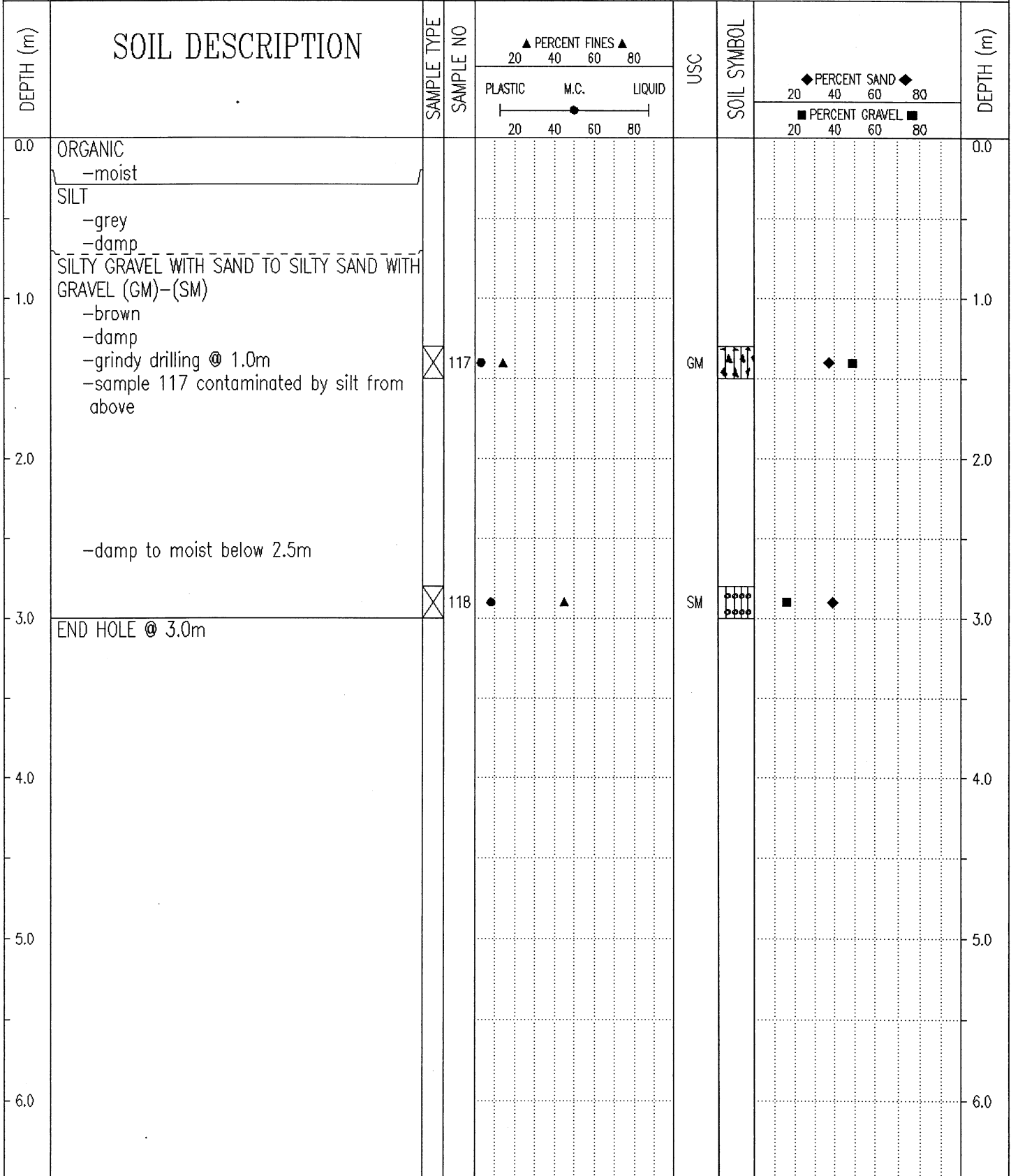
Government of Yukon Transportation Engineering	LOGGED BY: K.J	COMPLETION DEPTH: 4.0 m
	REVIEWED BY:	COMPLETE: 01/04/17
	Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION & TEST REPORT      Shakwak Seg 9 Alaska Highway      TEST HOLE NO: 588-931

ENGINEERING CAPITAL      KM 1694-1692 A/H      Project No: 092-202101-0363

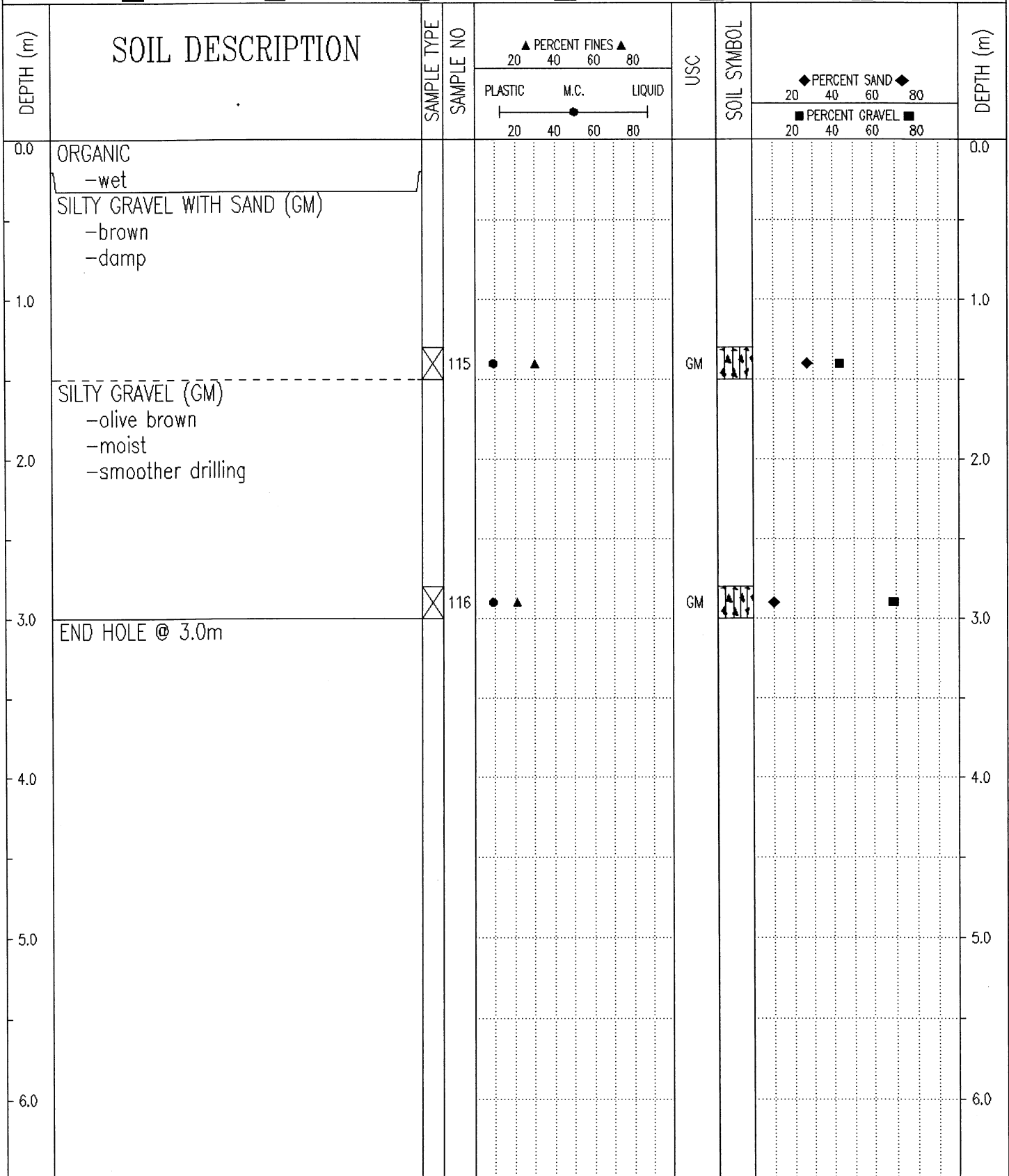
NODWELL B 40L 6" AUGER      LOCATION:1683+575      ELEVATION: 0.00 (m)

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



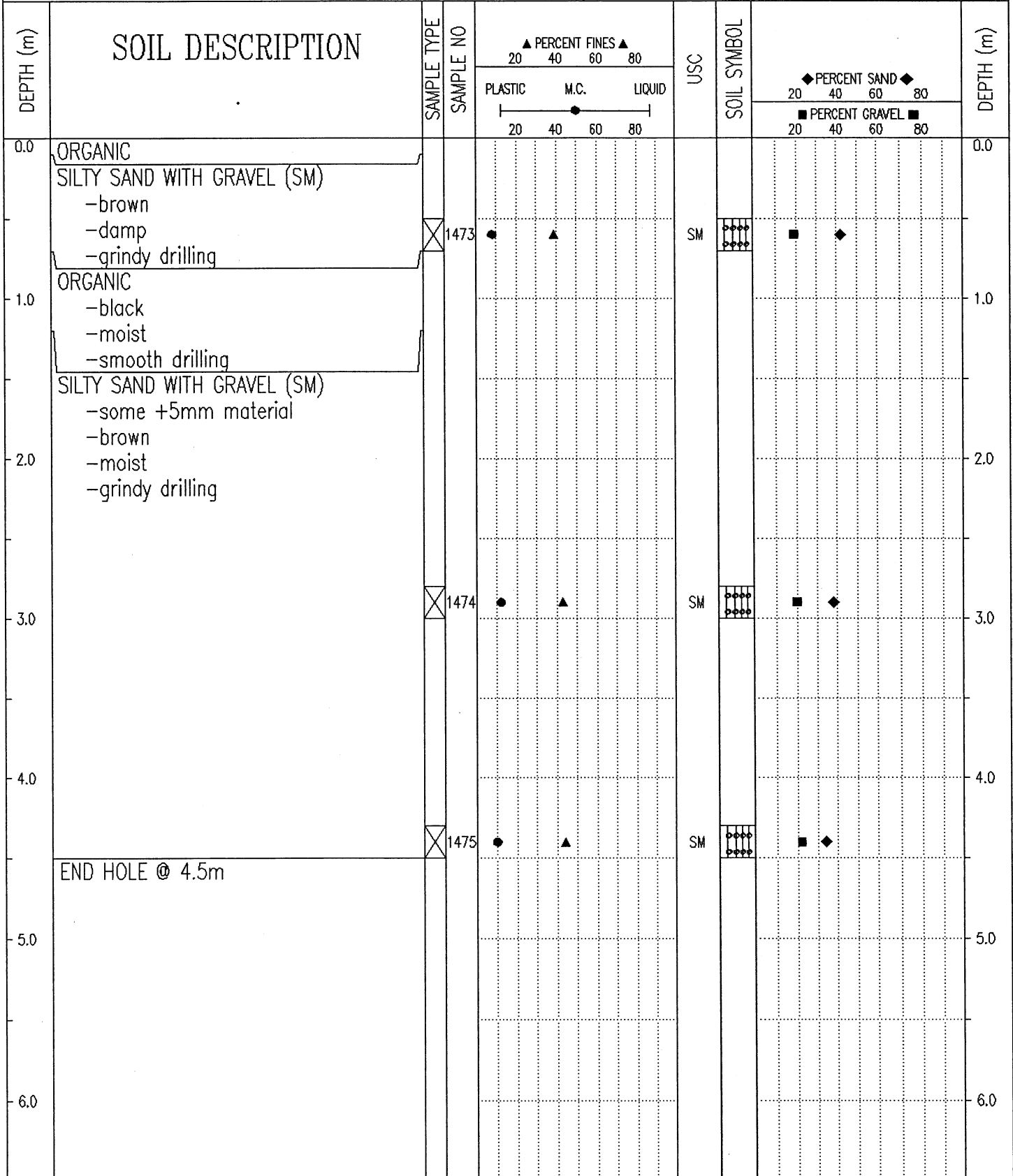
<p>Government of Yukon Transportation Engineering</p>	LOGGED BY: K.J	COMPLETION DEPTH: 3.0 m
	REVIEWED BY:	COMPLETE: 01/04/17
	Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION & TEST REPORT	Shakwak Seg 9 Alaska Highway	TEST HOLE NO: 588-930
ENGINEERING CAPITAL	KM 1694-1692 A/H	Project No: 092-202101-0363
NODWELL B 40L 6" AUGER	LOCATION:1683+675	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN	<input checked="" type="checkbox"/> S.P.T.
	<input checked="" type="checkbox"/> AUGER	<input type="checkbox"/> BULK
	<input type="checkbox"/> TUBE	<input type="checkbox"/> CORE



Government of Yukon Transportation Engineering	LOGGED BY: K.J	COMPLETION DEPTH: 3.0 m
	REVIEWED BY:	COMPLETE: 01/04/17
	Fig. No:	Page 1 of 1

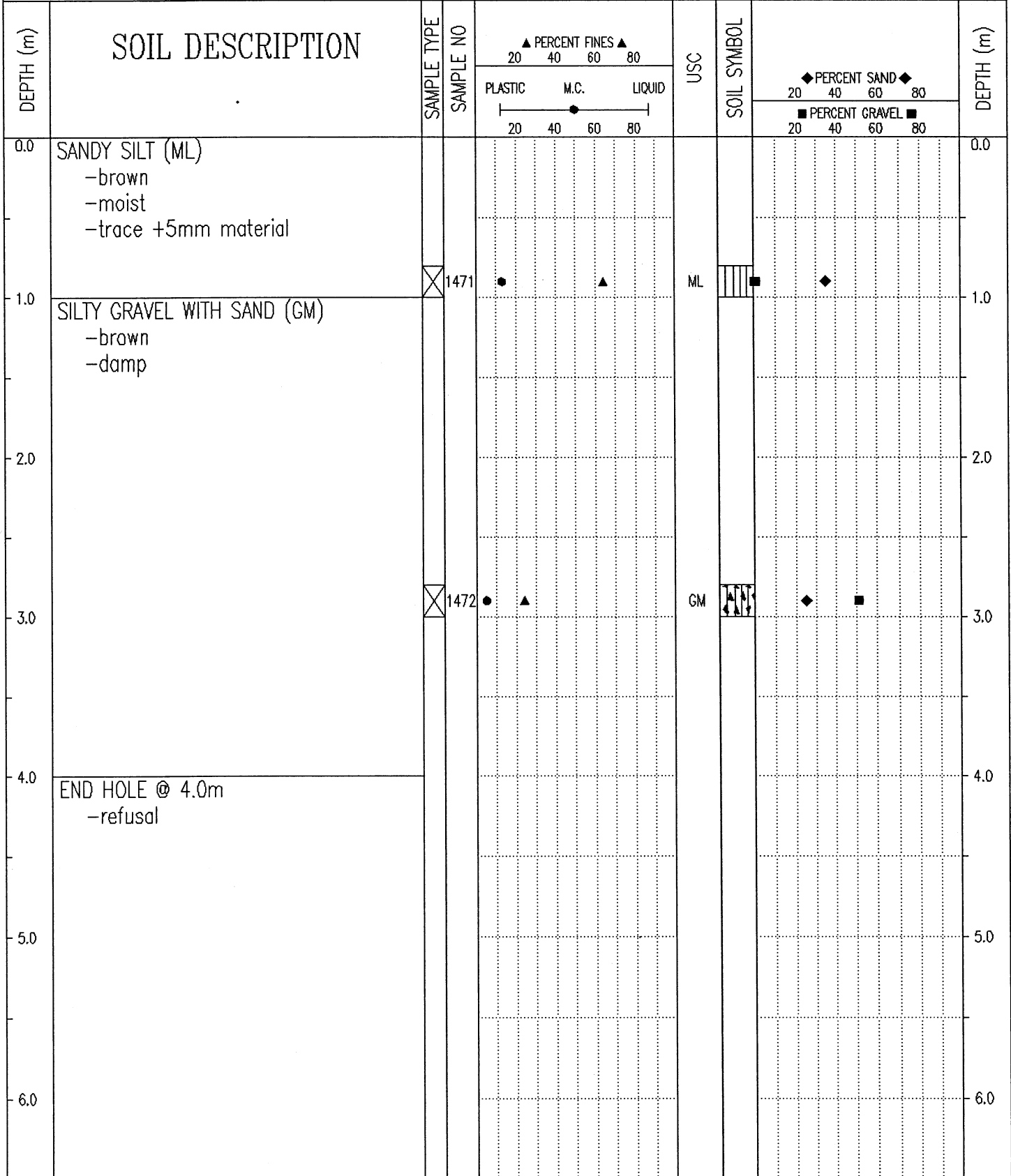
SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEG 9	TEST HOLE NO: 564-1751
ENGINEERING CAPITAL	KM 1664.5-1692.6	Project No: 092-202101-0363
MOBILE B40 L 6" AUGER	LOCATION: KM 1683+650 2M LT	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE	



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LOGGED BY: D.T	COMPLETION DEPTH: 4.5 m
REVIEWED BY:	COMPLETE: 00/07/31
Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEG 9	TEST HOLE NO: 564-1750
ENGINEERING CAPITAL	KM 1664.5-1692.6	Project No: 092-202101-0363
MOBILE B40 L 6" AUGER	LOCATION: KM 1683+750 3M LT	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN	<input checked="" type="checkbox"/> S.P.T.
	<input checked="" type="checkbox"/> AUGER	<input type="checkbox"/> BULK
	<input type="checkbox"/> TUBE	<input type="checkbox"/> CORE

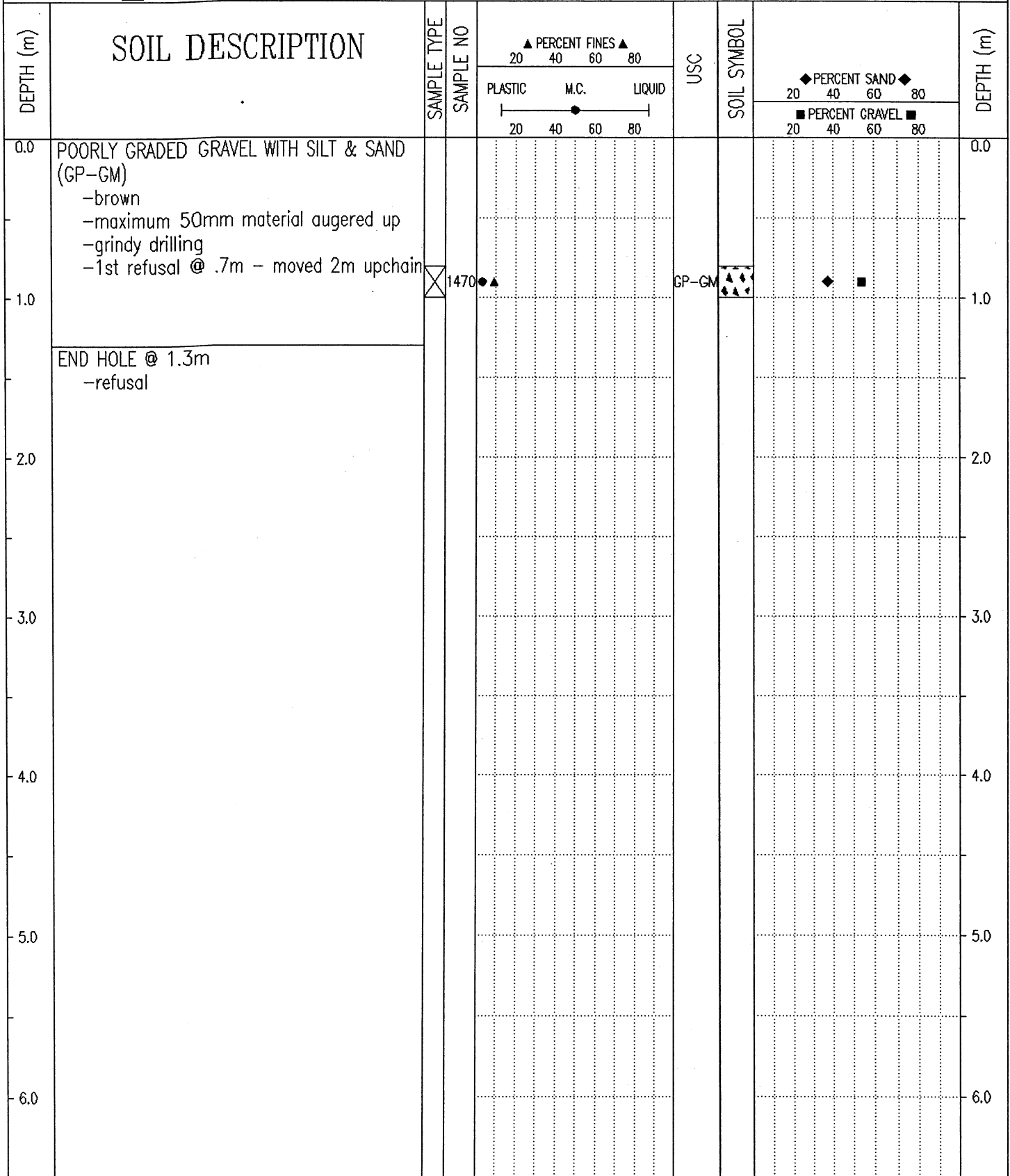


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Transportation Engineering

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

COMPLETION DEPTH: 4.0 m  
COMPLETE: 00/07/31

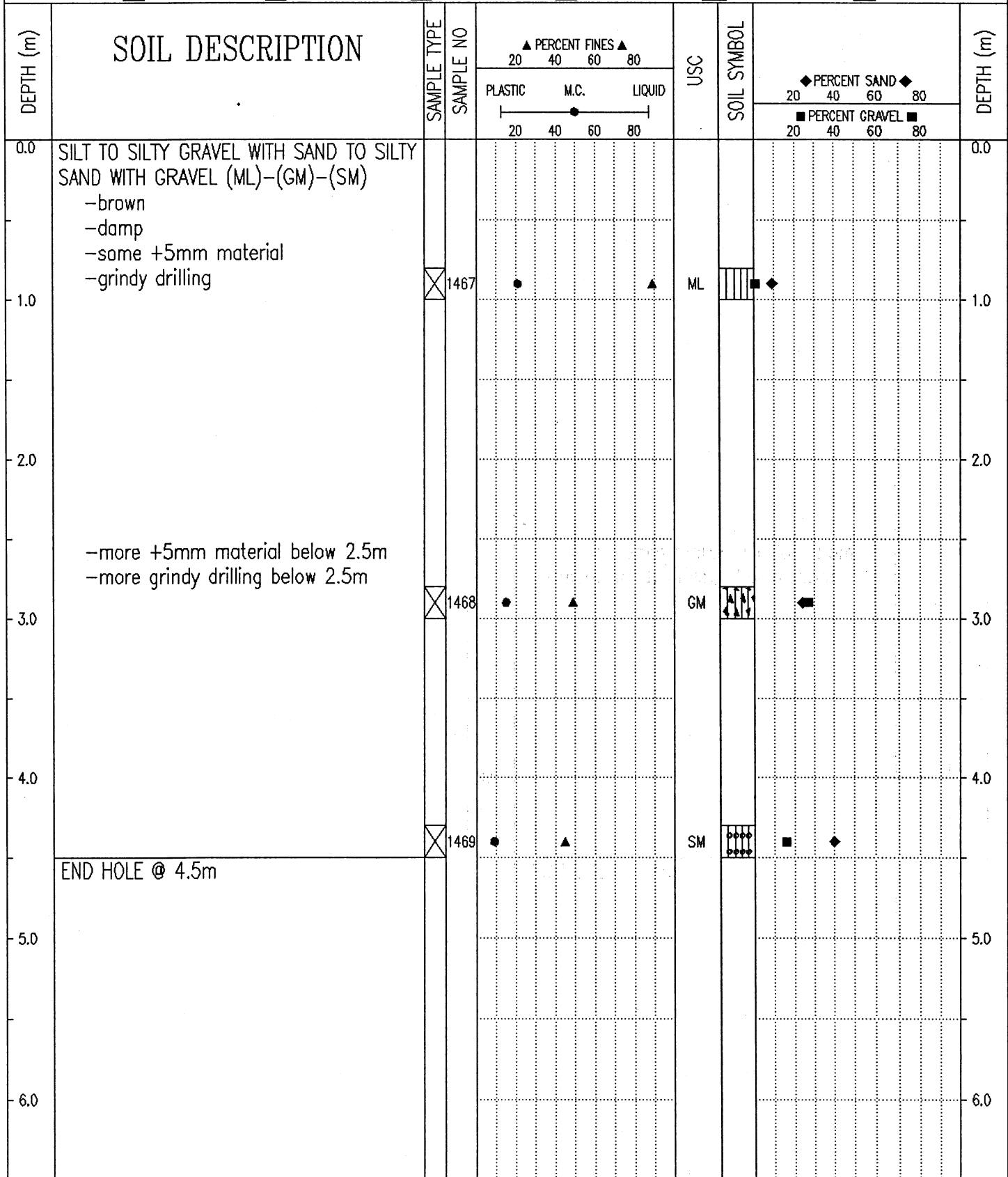
SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEG 9	TEST HOLE NO: 564-1749
ENGINEERING CAPITAL	KM 1664.5-1692.6	Project No: 092-202101-0363
MOBILE B40 L 6" AUGER	LOCATION: KM 1683+850 CENTERLINE	ELEVATION: 0.00 (m)
SAMPLE TYPE <input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE		



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LOGGED BY: D.T	COMPLETION DEPTH: 1.3 m
REVIEWED BY:	COMPLETE: 00/07/31
Fig. No:	Page 1 of 1

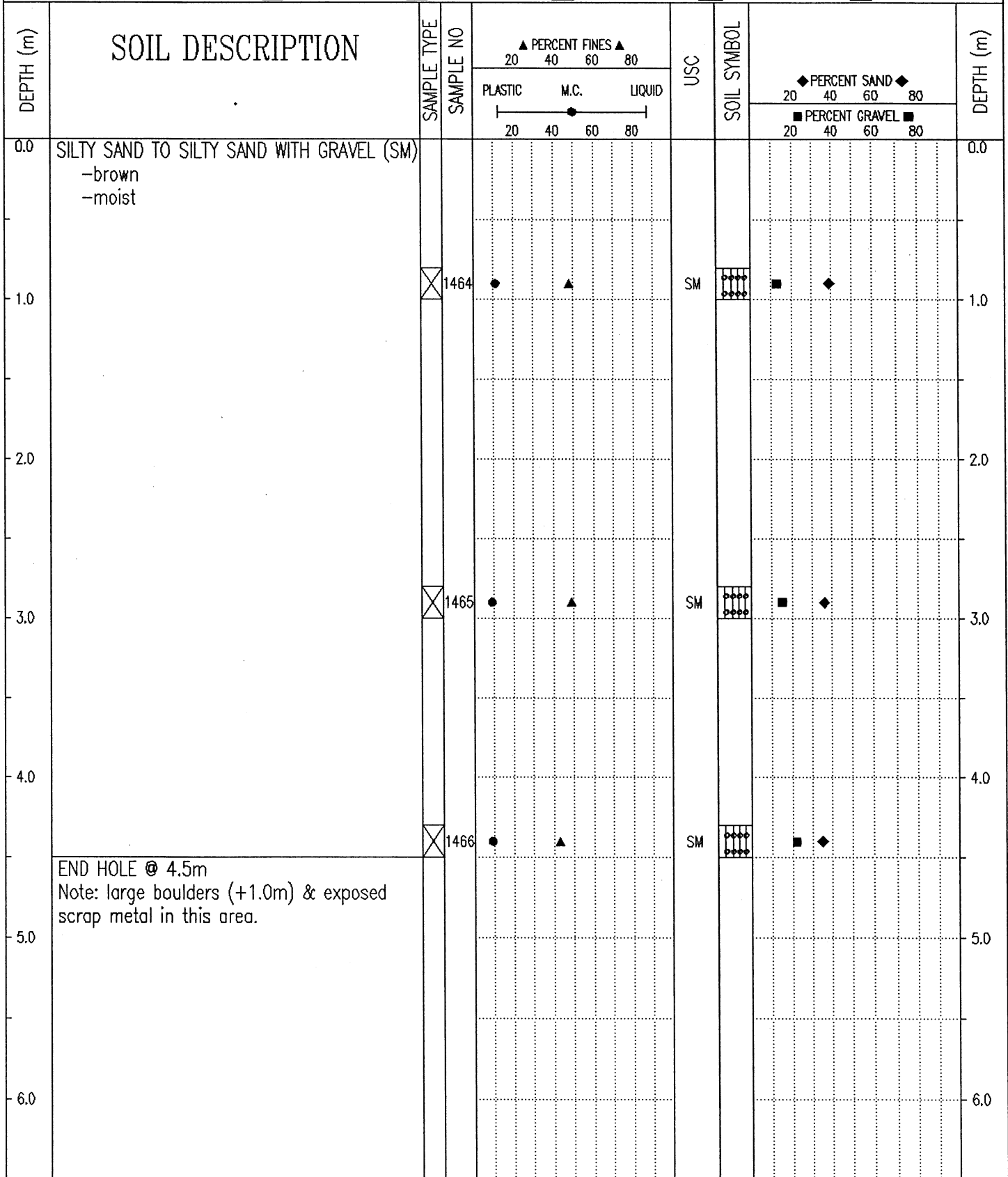
SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEG 9	TEST HOLE NO: 564-1748
ENGINEERING CAPITAL	KM 1664.5-1692.6	Project No: 092-202101-0363
MOBILE B40 L 6" AUGER	LOCATION: 1683+950 2M RT	ELEVATION: 0.00 (m)
SAMPLE TYPE <input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE		



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Transportation Engineering

LOGGED BY: D.T	COMPLETION DEPTH: 4.5 m
REVIEWED BY:	COMPLETE: 00/07/31
Fig. No:	Page 1 of 1

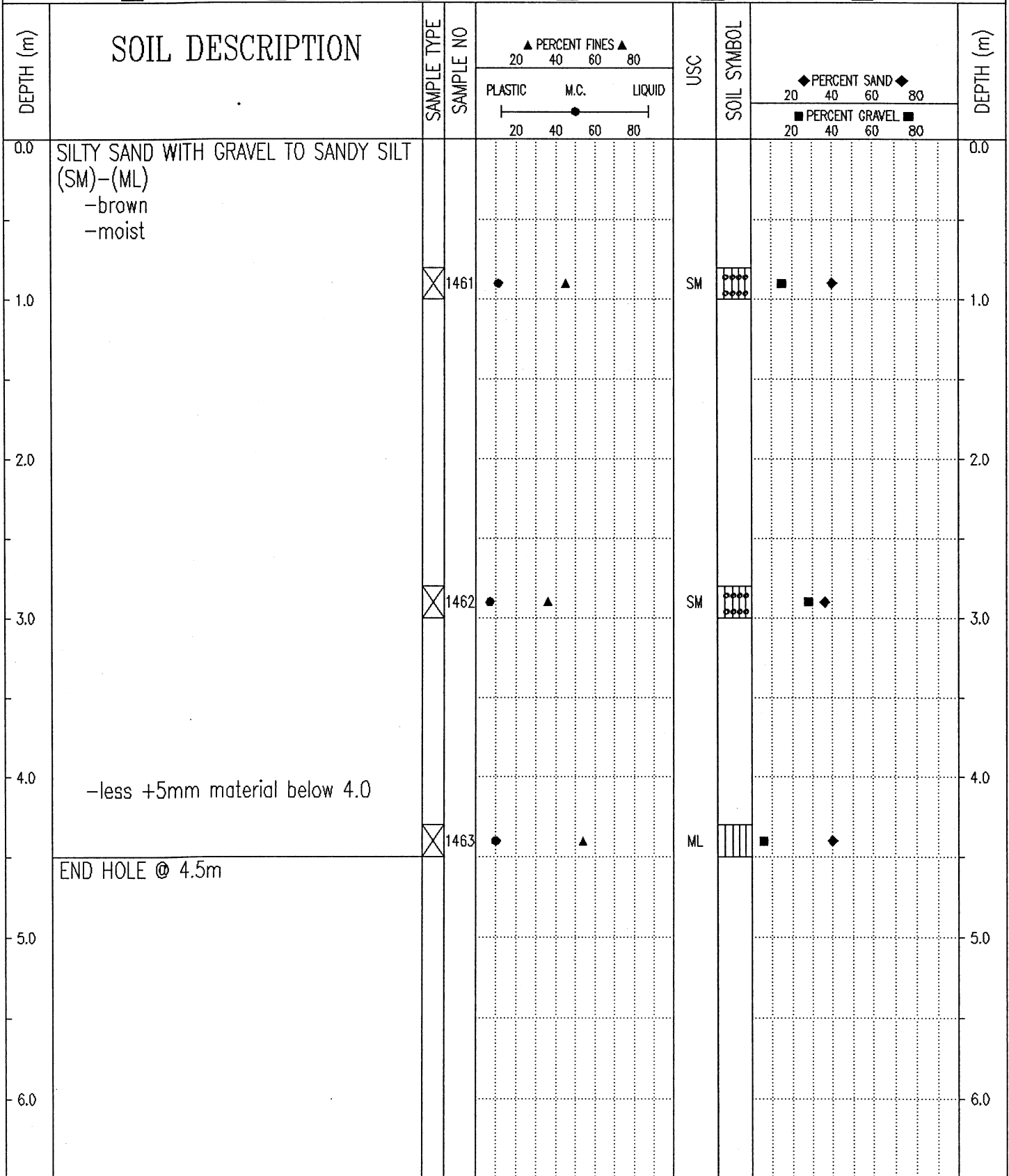
SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEG 9	TEST HOLE NO: 563-1747
ENGINEERING CAPITAL	KM 1664.5-1692.6	Project No: 092-202101-D363
MOBILE B40 L 6" AUGER	LOCATION: 1684+050 5M RT	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN	<input checked="" type="checkbox"/> S.P.T.
	<input checked="" type="checkbox"/> AUGER	<input type="checkbox"/> BULK
	<input type="checkbox"/> TUBE	<input type="checkbox"/> CORE



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Transportation Engineering

LOGGED BY: D.T	COMPLETION DEPTH: 4.5 m
REVIEWED BY:	COMPLETE: 00/07/28
Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEG 9	TEST HOLE NO: 563-1746
ENGINEERING CAPITAL	KM 1664.5-1692.6	Project No: 092-202101-0363
MOBILE B40 L 6" AUGER	LOCATION: 1684+150 5M RT	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN	<input checked="" type="checkbox"/> S.P.T.
	<input checked="" type="checkbox"/> AUGER	<input type="checkbox"/> BULK
	<input type="checkbox"/> TUBE	<input type="checkbox"/> CORE

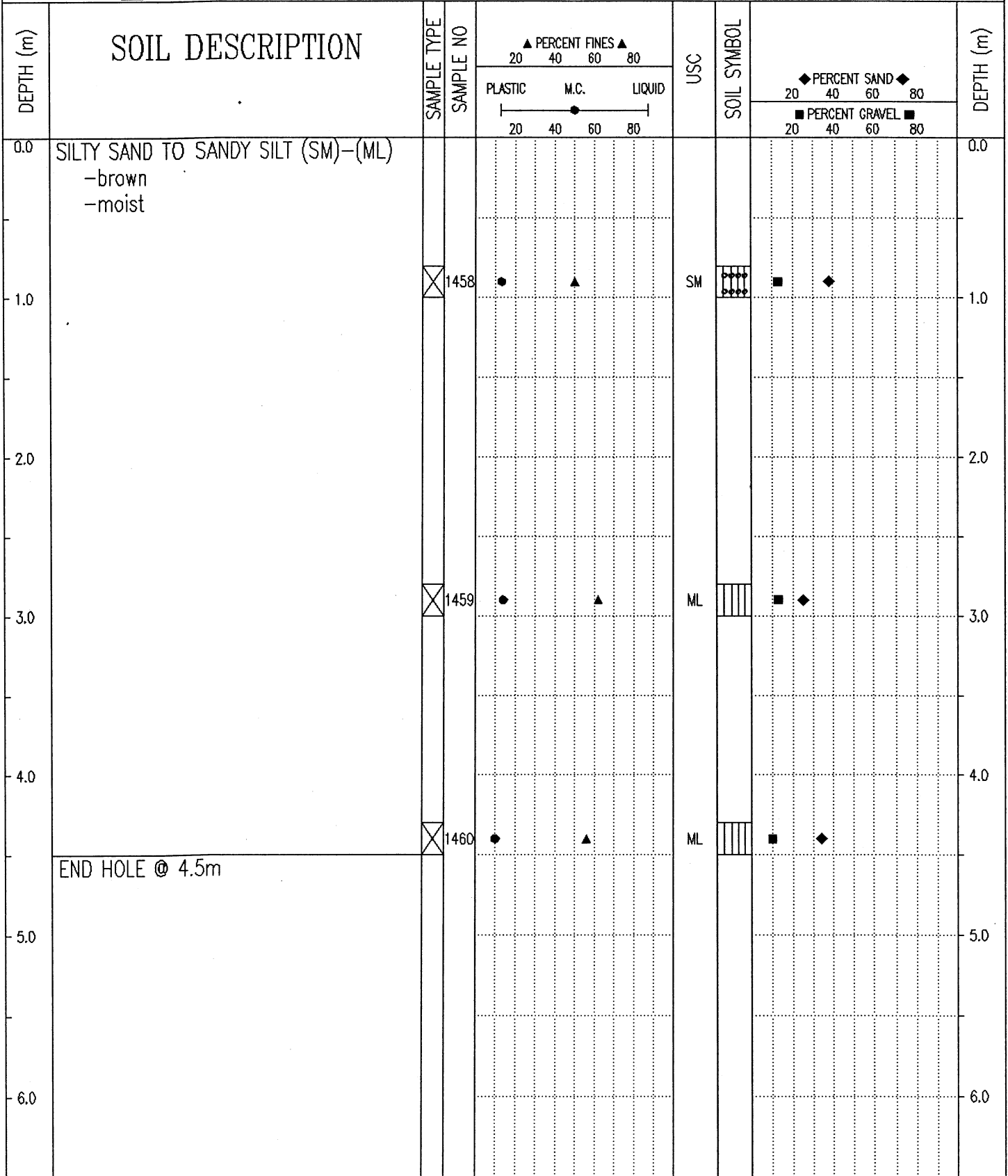


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Transportation Engineering

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

COMPLETION DEPTH: 4.5 m  
COMPLETE: 00/07/28

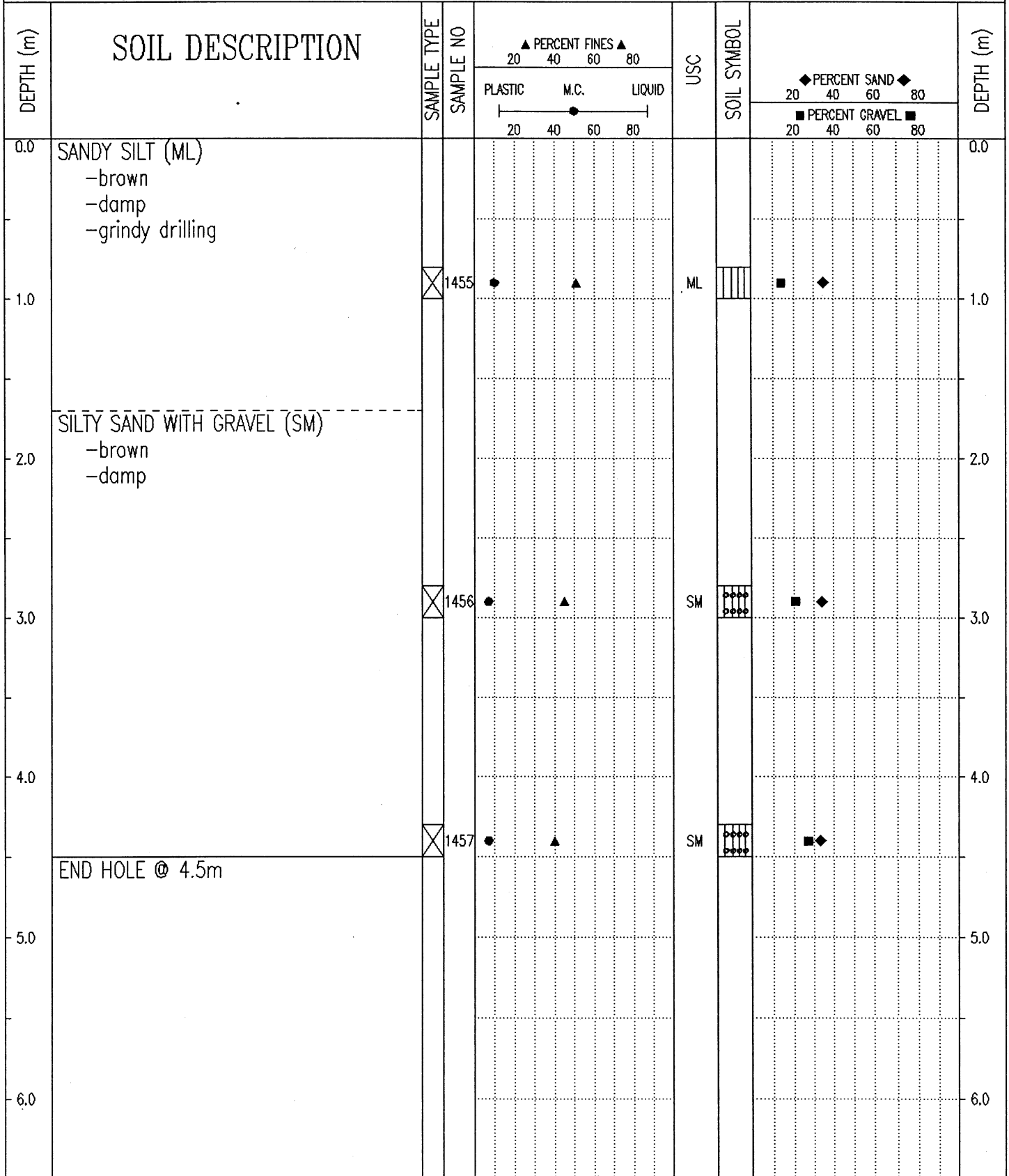
SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEG 9	TEST HOLE NO: 563-1745
ENGINEERING CAPITAL	KM 1664.5-1692.6	Project No: 092-202101-0363
MOBILE B40 L 6" AUGER	LOCATION: 1684+250 5M RT	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN	<input checked="" type="checkbox"/> S.P.T.
	<input checked="" type="checkbox"/> AUGER	<input type="checkbox"/> BULK
	<input type="checkbox"/> TUBE	<input type="checkbox"/> CORE



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LOGGED BY: D.T	COMPLETION DEPTH: 4.5 m
REVIEWED BY:	COMPLETE: 00/07/28
Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEG 9	TEST HOLE NO: 563-1744
ENGINEERING CAPITAL	KM 1684.5-1692.6	Project No: 092-202101-0363
MOBILE B40 L 6" AUGER	LOCATION: 1684+350 5M RT	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN	<input checked="" type="checkbox"/> S.P.T.
	<input checked="" type="checkbox"/> AUGER	<input type="checkbox"/> BULK
	<input type="checkbox"/> TUBE	<input type="checkbox"/> CORE

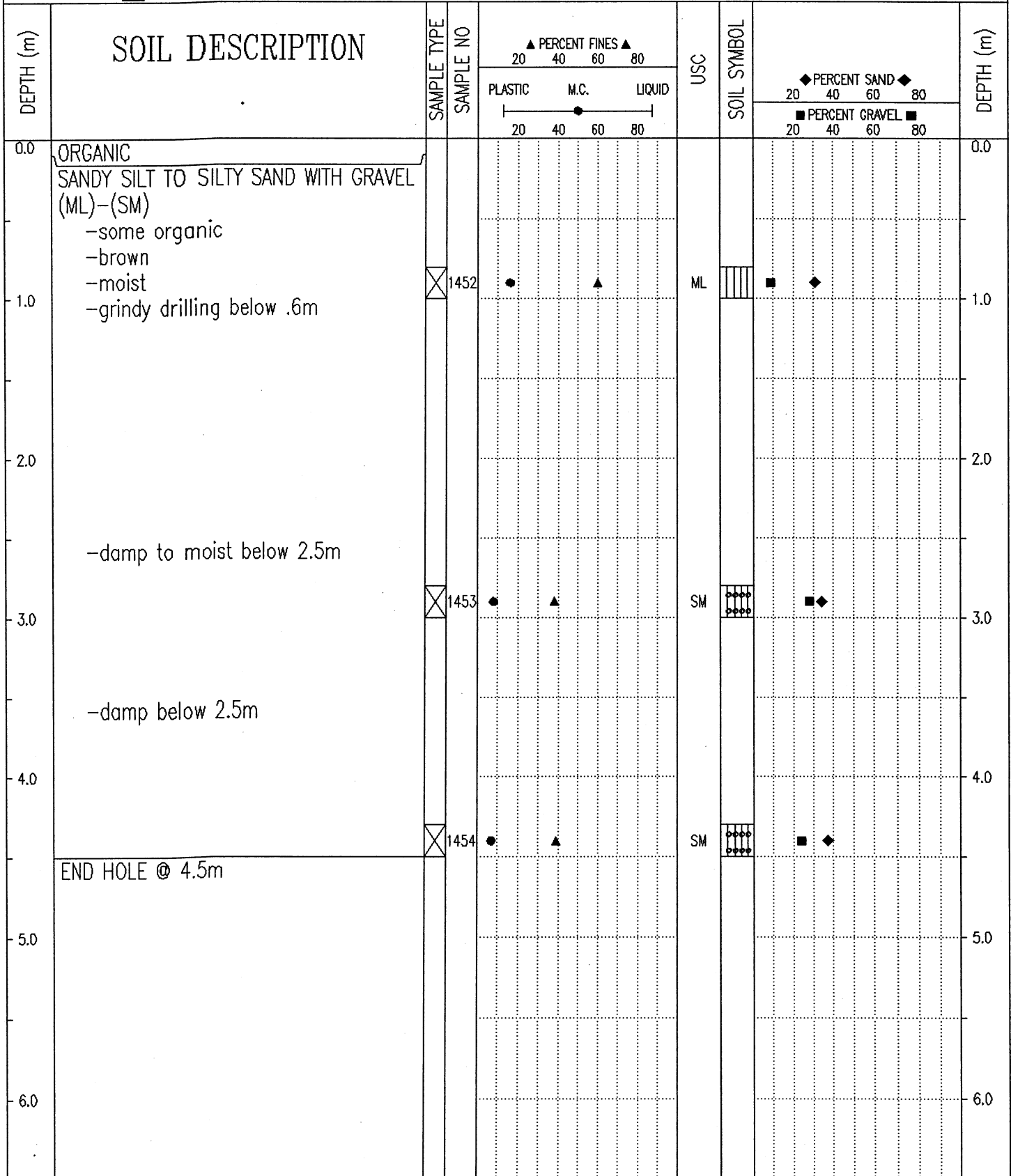


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Transportation Engineering

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

COMPLETION DEPTH: 4.5 m  
COMPLETE: 00/07/28

SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEG 9	TEST HOLE NO: 563-1743
ENGINEERING CAPITAL	KM 1664.5-1692.6	Project No: 092-202101-0363
MOBILE B40 L 6" AUGER	LOCATION: 1684+450 7M RT	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN	<input checked="" type="checkbox"/> S.P.T.
	<input checked="" type="checkbox"/> AUGER	<input type="checkbox"/> BULK
	<input type="checkbox"/> TUBE	<input type="checkbox"/> CORE

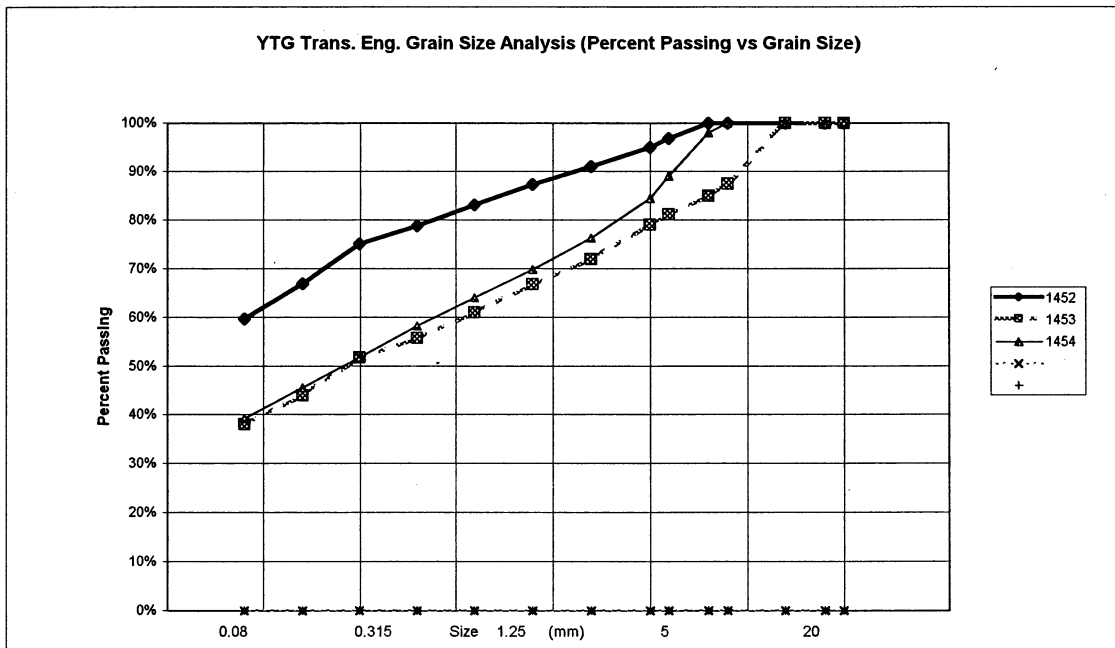


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Transportation Engineering

LOGGED BY: D.T	COMPLETION DEPTH: 4.5 m
REVIEWED BY:	COMPLETE: 00/07/28
Fig. No:	Page 1 of 1

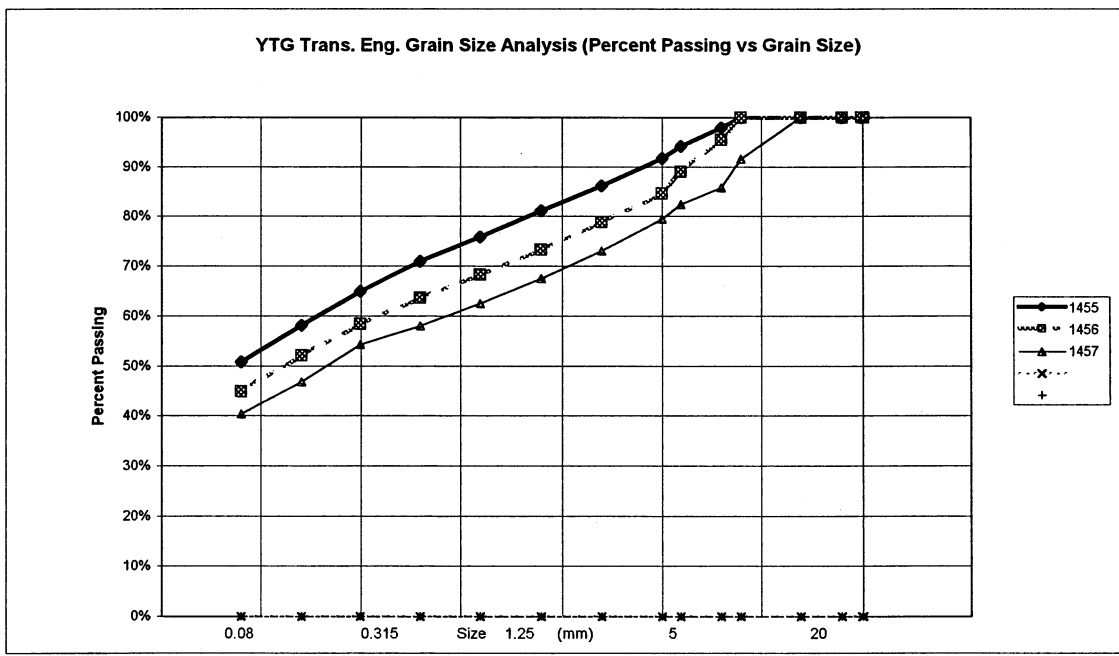
PROJECT NUMBER: 091-202101-0363-1 HOLE No.: 563-1743  
 CLIENT: ENGINEERING-CAPITAL  
 PROJECT NAME: SHAKWAK SEG 9  
 PROJECT LOCATION: KM 1664-1692 A/H  
 DRILL UNIT: Mobile B 40 L  
 LOGGED BY: Doug Trim  
 HOLE LOCATION: 1684+450 7M RT DATE COM 2000/07/28

FIELD NO: 1452		FIELD No. 1453		FIELD No: 1454	
LAB NO: 1898		LAB No. 1899		LAB No: 1900	
DEPTH: 0.8-1.0		DEPTH 2.8-3.0		DEPTH: 4.3-4.5	
TYPE: AUGER		A AUGER		TYPE: AUGER	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%
25.0	100%	25.0	88%	25.0	100%
20.0	100%	20.0	85%	20.0	98%
12.5	97%	12.5	81%	12.5	89%
10.0	95%	10.0	79%	10.0	84%
5.0	91%	5.0	72%	5.0	76%
2.5	87%	2.5	67%	2.5	70%
1.25	83%	1.25	61%	1.25	64%
0.630	79%	0.630	56%	0.630	58%
0.315	75%	0.315	52%	0.315	52%
0.160	67%	0.160	44%	0.160	46%
0.080	60%	0.080	38%	0.080	39%
M.C.(%):	16%	M.C.(%):	8%	M.C.(%):	7%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL	9	% GRAVEL	28	% GRAVEL	24
% SAND:	31	% SAND:	34	% SAND:	37
% FINES:	60	% FINES:	38	% FINES:	39
CLASSIFICATION:	SANDY SILT (ML)	CLASSIFICATION:	SILTY SAND WITH GRAVEL (SM)	CLASSIFICATION:	SILTY SAND WITH GRAVEL (SM)

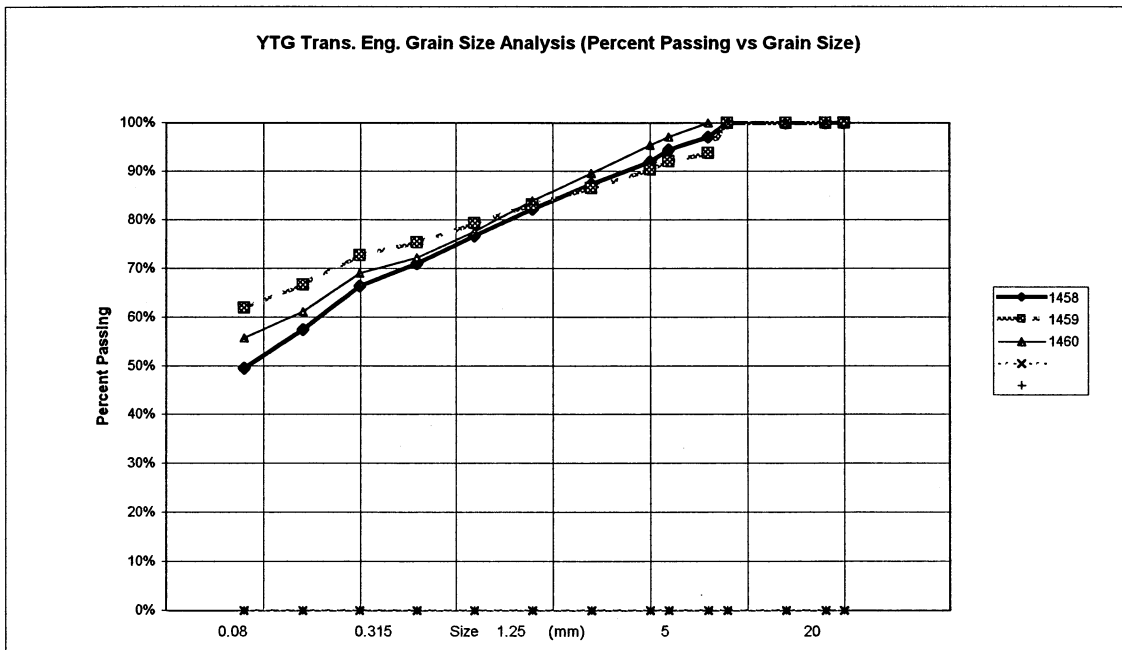


PROJECT NUMBER: 091-202101-0363-1 HOLE No.: 563-1744  
 CLIENT: ENGINEERING-CAPITAL  
 PROJECT NAME: SHAKWAK SEG 9  
 PROJECT LOCATION: KM 1664-1692 A/H  
 DRILL UNIT: Mobile B 40 L  
 LOGGED BY: Doug Trim  
 HOLE LOCATION: 1684+350 5M RT DATE COM 2000/07/28

FIELD NO: 1455		FIELD No. 1456		FIELD No: 1457	
LAB NO: 1901		LAB No. 1902		LAB No: 1903	
DEPTH: 0.8-1.0		DEPTH 2.8-3.0		DEPTH: 4.3-4.5	
TYPE: AUGER		A AUGER		TYPE: AUGER	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%
25.0	100%	25.0	100%	25.0	92%
20.0	98%	20.0	96%	20.0	86%
12.5	94%	12.5	89%	12.5	83%
10.0	92%	10.0	85%	10.0	80%
5.0	86%	5.0	79%	5.0	73%
2.5	81%	2.5	73%	2.5	68%
1.25	76%	1.25	68%	1.25	63%
0.630	71%	0.630	64%	0.630	58%
0.315	65%	0.315	58%	0.315	54%
0.160	58%	0.160	52%	0.160	47%
0.080	51%	0.080	45%	0.080	40%
M.C.(%):	10%	M.C.(%):	7%	M.C.(%):	7%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL	14	% GRAVEL	21	% GRAVEL	27
% SAND:	35	% SAND:	34	% SAND:	33
% FINES:	51	% FINES:	45	% FINES:	40
CLASSIFICATION:	SANDY SILT (ML)	CLASSIFICATION:	SILTY SAND WITH GRAVEL (SM)	CLASSIFICATION:	SILTY SAND WITH GRAVEL (SM)

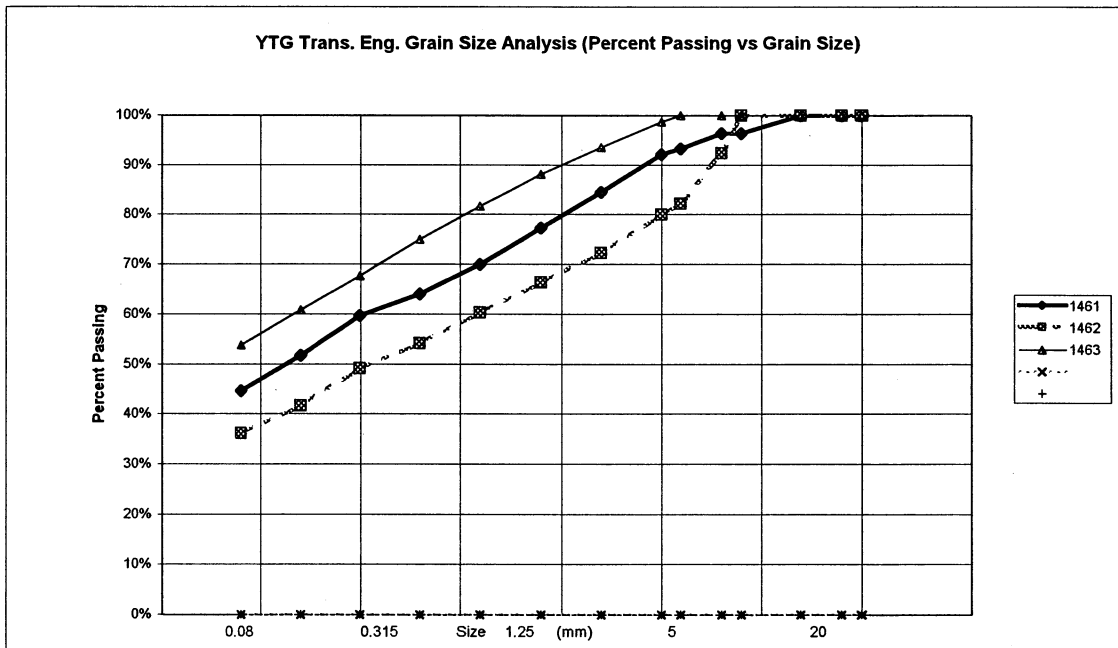


PROJECT NUMBER: 091-202101-0363-1		ENGINEERING-CAPITAL		HOLE No.: 563-1745	
CLIENT: SHAKWAK SEG 9		PROJECT NAME: SHAKWAK SEG 9			
PROJECT LOCATION: KM 1664-1692 A/H		DRILL UNIT: Mobile B 40 L			
LOGGED BY: Doug Trim		HOLE LOCATION: 1684+250 5M RT		DATE COM 2000/07/28	
FIELD NO: 1458		FIELD No. 1459		FIELD No: 1460	
LAB NO: 1904		LAB No. 1905		LAB No: 1906	
DEPTH: 0.8-1.0		DEPTH 2.8-3.0		DEPTH: 4.3-4.5	
TYPE: AUGER		A AUGER		TYPE: AUGER	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%
25.0	100%	25.0	100%	25.0	100%
20.0	97%	20.0	94%	20.0	100%
12.5	95%	12.5	92%	12.5	97%
10.0	92%	10.0	90%	10.0	95%
5.0	87%	5.0	87%	5.0	90%
2.5	82%	2.5	83%	2.5	84%
1.25	77%	1.25	79%	1.25	78%
0.630	71%	0.630	75%	0.630	72%
0.315	66%	0.315	73%	0.315	69%
0.160	57%	0.160	67%	0.160	61%
0.080	50%	0.080	62%	0.080	56%
M.C.(%)	13%	M.C.(%)	14%	M.C.(%)	10%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL	13	% GRAVEL	13	% GRAVEL	10
% SAND:	38	% SAND:	25	% SAND:	34
% FINES:	50	% FINES:	62	% FINES:	56
CLASSIFICATION:	SILTY SAND (SM)	CLASSIFICATION:	SANDY SILT (ML)	CLASSIFICATION:	SANDY SILT (ML)



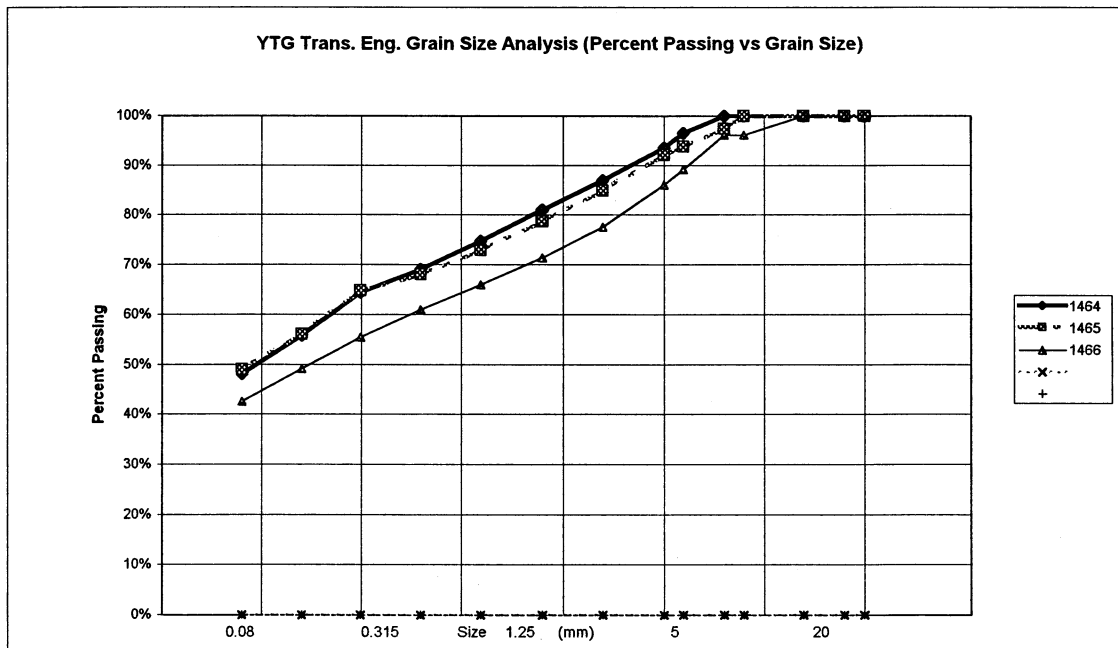
PROJECT NUMBER:	091-202101-0363-1	HOLE No.:	563-1746
CLIENT:	ENGINEERING-CAPITAL		
PROJECT NAME:	SHAKWAK SEG 9		
PROJECT LOCATION:	KM 1664-1692 A/H		
DRILL UNIT:	Mobile B 40 L		
LOGGED BY:	Doug Trim		
HOLE LOCATION:	1684+150 5M RT	DATE COM	2000/07/28

FIELD NO: 1461		FIELD No. 1462		FIELD No: 1463	
LAB NO: 1907		LAB No. 1908		LAB No: 1909	
DEPTH: 0.8-1.0		DEPTH 2.8-3.0		DEPTH: 4.3-4.5	
TYPE: AUGER		A AUGER		TYPE: AUGER	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%
25.0	96%	25.0	100%	25.0	100%
20.0	96%	20.0	92%	20.0	100%
12.5	93%	12.5	82%	12.5	100%
10.0	92%	10.0	80%	10.0	99%
5.0	85%	5.0	72%	5.0	94%
2.5	77%	2.5	66%	2.5	88%
1.25	70%	1.25	60%	1.25	82%
0.630	64%	0.630	54%	0.630	75%
0.315	60%	0.315	49%	0.315	68%
0.160	52%	0.160	42%	0.160	61%
0.080	45%	0.080	36%	0.080	54%
M.C.(%)	11%	M.C.(%)	7%	M.C.(%)	10%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL	15	% GRAVEL	28	% GRAVEL	6
% SAND:	40	% SAND:	36	% SAND:	40
% FINES:	45	% FINES:	36	% FINES:	54
CLASSIFICATION:	SILTY SAND WITH GRAVEL (SM)	CLASSIFICATION:	SILTY SAND WITH GRAVEL (SM)	CLASSIFICATION:	SANDY SILT (ML)



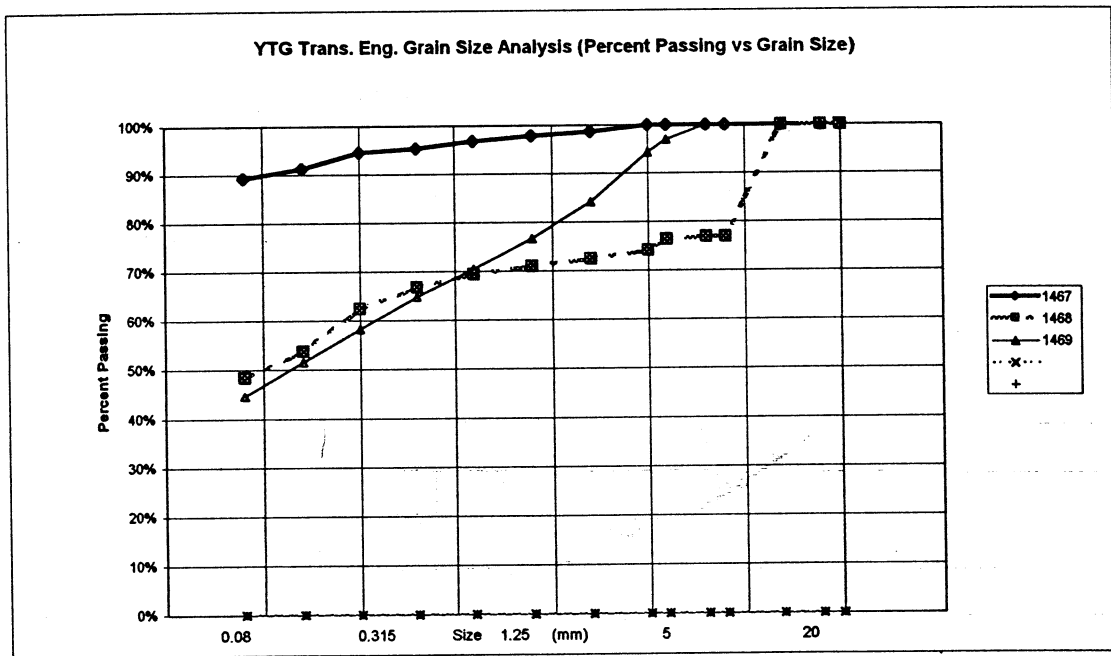
PROJECT NUMBER:	091-202101-0363-1	HOLE No.:	563-1747
CLIENT:	ENGINEERING-CAPITAL		
PROJECT NAME:	SHAKWAK SEG 9		
PROJECT LOCATION:	KM 1664-1692 A/H		
DRILL UNIT:	Mobile B 40 L		
LOGGED BY:	Doug Trim		
HOLE LOCATION:	1684+050 5m rt	DATE COM	2000/07/28

FIELD NO: 1464		FIELD No. 1465		FIELD No: 1466	
LAB NO: 1910		LAB No. 1911		LAB No: 1912	
DEPTH: 0.8-1.0		DEPTH 2.8-3.0		DEPTH: 4.3-4.5	
TYPE: AUGER		A AUGER		TYPE: AUGER	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%
25.0	100%	25.0	100%	25.0	96%
20.0	100%	20.0	97%	20.0	96%
12.5	96%	12.5	94%	12.5	89%
10.0	94%	10.0	92%	10.0	86%
5.0	87%	5.0	85%	5.0	78%
2.5	81%	2.5	79%	2.5	71%
1.25	75%	1.25	73%	1.25	66%
0.630	69%	0.630	68%	0.630	61%
0.315	64%	0.315	65%	0.315	55%
0.160	56%	0.160	56%	0.160	49%
0.080	48%	0.080	49%	0.080	43%
M.C.(%):	11%	M.C.(%):	9%	M.C.(%):	9%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL	13	% GRAVEL	15	% GRAVEL	22
% SAND:	39	% SAND:	36	% SAND:	35
% FINES:	48	% FINES:	49	% FINES:	43
CLASSIFICATION:	SILTY SAND (SM)	CLASSIFICATION:	SILTY SAND WITH GRAVEL (SM)	CLASSIFICATION:	SILTY SAND WITH GRAVEL (SM)

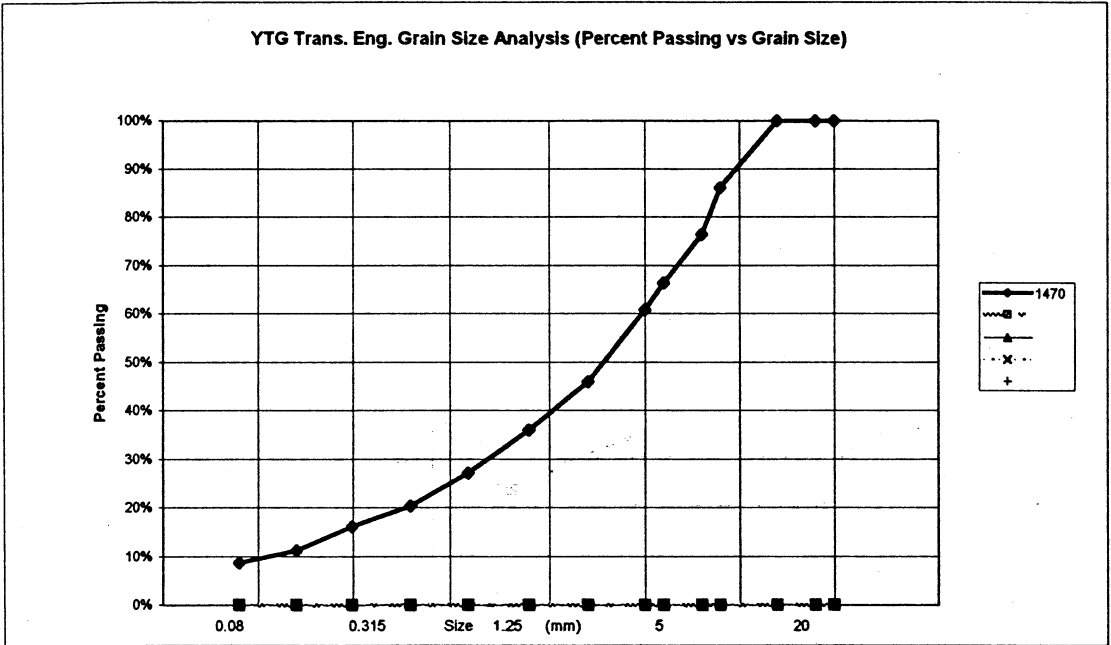


PROJECT NUMBER: 092-202101-0363-1 HOLE No.: 564-1748  
 CLIENT: ENGINEERING-CAPITAL  
 PROJECT NAME: SHAKWAK SEG 9  
 PROJECT LOCATION: KM 1683 ALASKA HWY  
 DRILL UNIT: MOBILE B 40-L  
 LOGGED BY: DOUG TRIM  
 HOLE LOCATION: 1683+950 2M RT DATE COM 2000/07/31

FIELD NO: 1467		FIELD No: 1468		FIELD No: 1469	
LAB NO: 1913		LAB No: 1914		LAB No: 1915	
DEPTH: 0.8-1.0		DEPTH 2.8-3.0		DEPTH: 4.3-4.5	
TYPE: AUGER		A AUGER		TYPE: AUGER	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%
25.0	100%	25.0	77%	25.0	100%
20.0	100%	20.0	77%	20.0	100%
12.5	100%	12.5	76%	12.5	97%
10.0	100%	10.0	74%	10.0	94%
5.0	99%	5.0	73%	5.0	84%
2.5	98%	2.5	71%	2.5	77%
1.25	97%	1.25	70%	1.25	71%
0.630	95%	0.630	67%	0.630	65%
0.315	95%	0.315	63%	0.315	58%
0.160	91%	0.160	54%	0.160	52%
0.080	89%	0.080	49%	0.080	45%
M.C.(%):	21%	M.C.(%):	15%	M.C.(%):	9%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL	1	% GRAVEL	27	% GRAVEL	16
% SAND:	9	% SAND:	24	% SAND:	40
% FINES:	89	% FINES:	49	% FINES:	45
CLASSIFICATION:	SILT (ML)	CLASSIFICATION:	SILTY GRAVEL WITH SAND (GM)	CLASSIFICATION:	SILTY SAND WITH GRAVEL (SM)

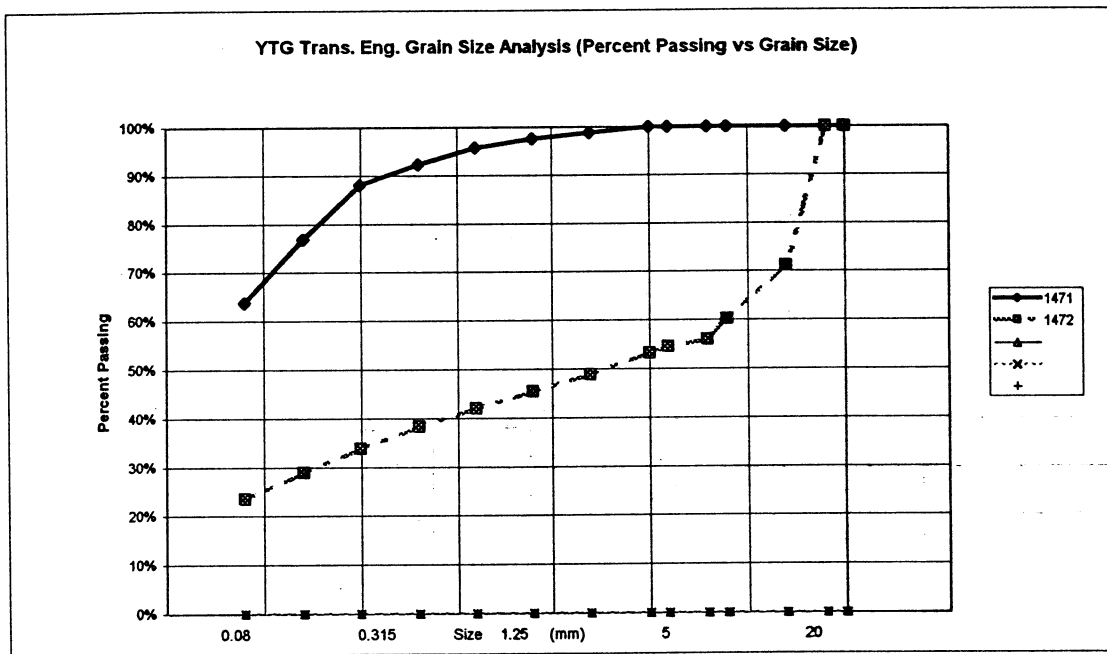


PROJECT NUMBER: 092-202101-0363-1		HOLE No.: 564-1749	
CLIENT: ENGINEERING-CAPITAL			
PROJECT NAME: SHAKWAK SEG 9			
PROJECT LOCATION: KM 1683 ALASKA HWY			
DRILL UNIT: MOBILE B 40-L			
LOGGED BY: DOUG TRIM			
HOLE LOCATION: 1683+850 CENTRELINE		DATE COM 2000/07/31	
=====			
FIELD NO: 1470			
LAB NO: 1916			
DEPTH: 0.8-1.0			
TYPE: AUGER			
=====			
SIEVE SIZE	PERCENT PASSING		
100.0	100%		
80.0	100%		
50.0	100%		
25.0	86%		
20.0	76%		
12.5	66%		
10.0	61%		
5.0	46%		
2.5	36%		
1.25	27%		
0.630	20%		
0.315	16%		
0.160	11%		
0.080	9%		
M.C.(%):	3%		
LIMITS			
LIQUID:	0.0		
PLASTIC:	0.0		
P.I.:	0.0		
% GRAVEL	54		
% SAND:	37		
% FINES:	9		
CLASSIFICATION: POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)			



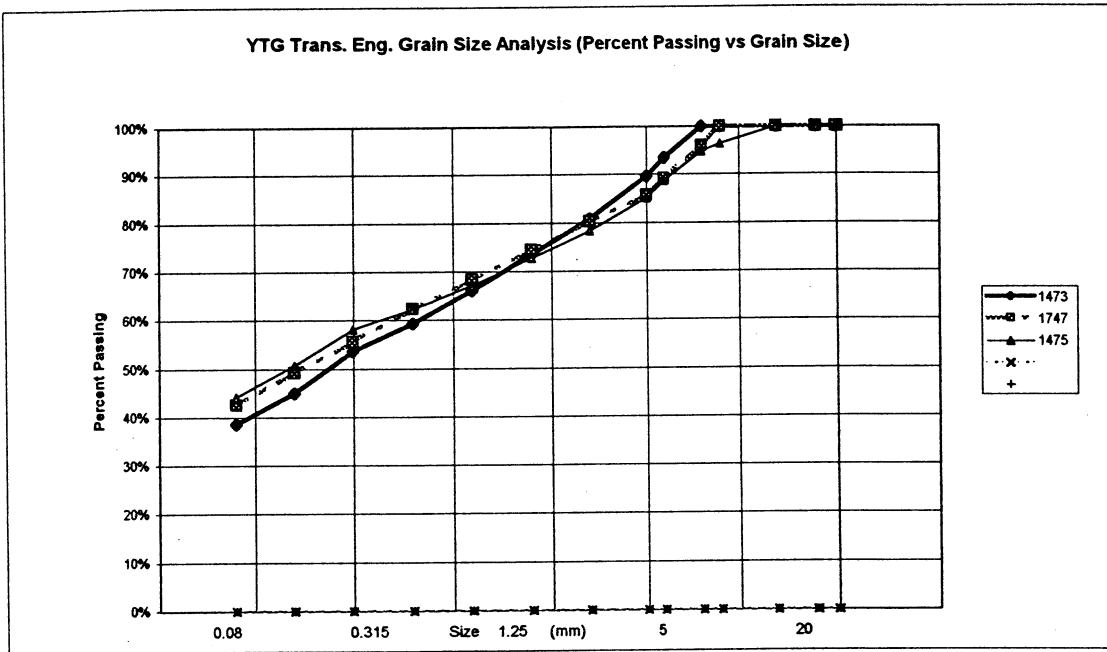
PROJECT NUMBER: 092-202101-0363-1 HOLE No.: 564-1750  
 CLIENT: ENGINEERING-CAPITAL  
 PROJECT NAME: SHAKWAK SEG 9  
 PROJECT LOCATION: KM 1683 ALASKA HWY  
 DRILL UNIT: MOBILE B 40-L  
 LOGGED BY: DOUG TRIM  
 HOLE LOCATION: 1683+750 3M LT DATE COM 2000/07/31

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	71%
25.0	100%	25.0	60%
20.0	100%	20.0	56%
12.5	100%	12.5	55%
10.0	100%	10.0	53%
5.0	99%	5.0	49%
2.5	98%	2.5	46%
1.25	96%	1.25	42%
0.630	92%	0.630	38%
0.315	88%	0.315	34%
0.160	77%	0.160	29%
0.080	64%	0.080	24%
M.C.(%)	13%	M.C.(%)	5%
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL	1	% GRAVEL	51
% SAND:	35	% SAND:	25
% FINES:	64	% FINES:	24
CLASSIFICATION:	SANDY SILT (ML)	CLASSIFICATION:	SILTY GRAVEL WITH SAND (GM)



PROJECT NUMBER: 092-202101-0363-1 HOLE No.: 564-1751  
 CLIENT: ENGINEERING-CAPITAL  
 PROJECT NAME: SHAKWAK SEG 9  
 PROJECT LOCATION: KM 1683 ALASKA HWY  
 DRILL UNIT: MOBILE B 40-L  
 LOGGED BY: DOUG TRIM  
 HOLE LOCATION: 1683+650 2M LT DATE COM 2000/07/31

FIELD No: 1473		FIELD No: 1747		FIELD No: 1475	
LAB No: 1919		LAB No: 1920		LAB No: 1921	
DEPTH: 0.5-0.7		DEPTH: 2.8-3.0		DEPTH: 4.3-4.5	
TYPE: AUGER		A AUGER		AUGER	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%
25.0	100%	25.0	100%	25.0	96%
20.0	100%	20.0	96%	20.0	95%
12.5	94%	12.5	89%	12.5	89%
10.0	90%	10.0	86%	10.0	85%
5.0	81%	5.0	80%	5.0	78%
2.5	74%	2.5	74%	2.5	73%
1.25	66%	1.25	68%	1.25	67%
0.630	59%	0.630	62%	0.630	62%
0.315	54%	0.315	56%	0.315	58%
0.160	45%	0.160	49%	0.160	51%
0.080	39%	0.080	43%	0.080	44%
M.C.(%)	8%	M.C.(%)	12%	M.C.(%)	10%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL	19	% GRAVEL	20	% GRAVEL	22
% SAND:	42	% SAND:	38	% SAND:	34
% FINES:	39	% FINES:	43	% FINES:	44
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILTY SAND WITH GRAVEL	(SM)	SILTY SAND WITH GRAVEL	(SM)	SILTY SAND WITH GRAVEL	(SM)

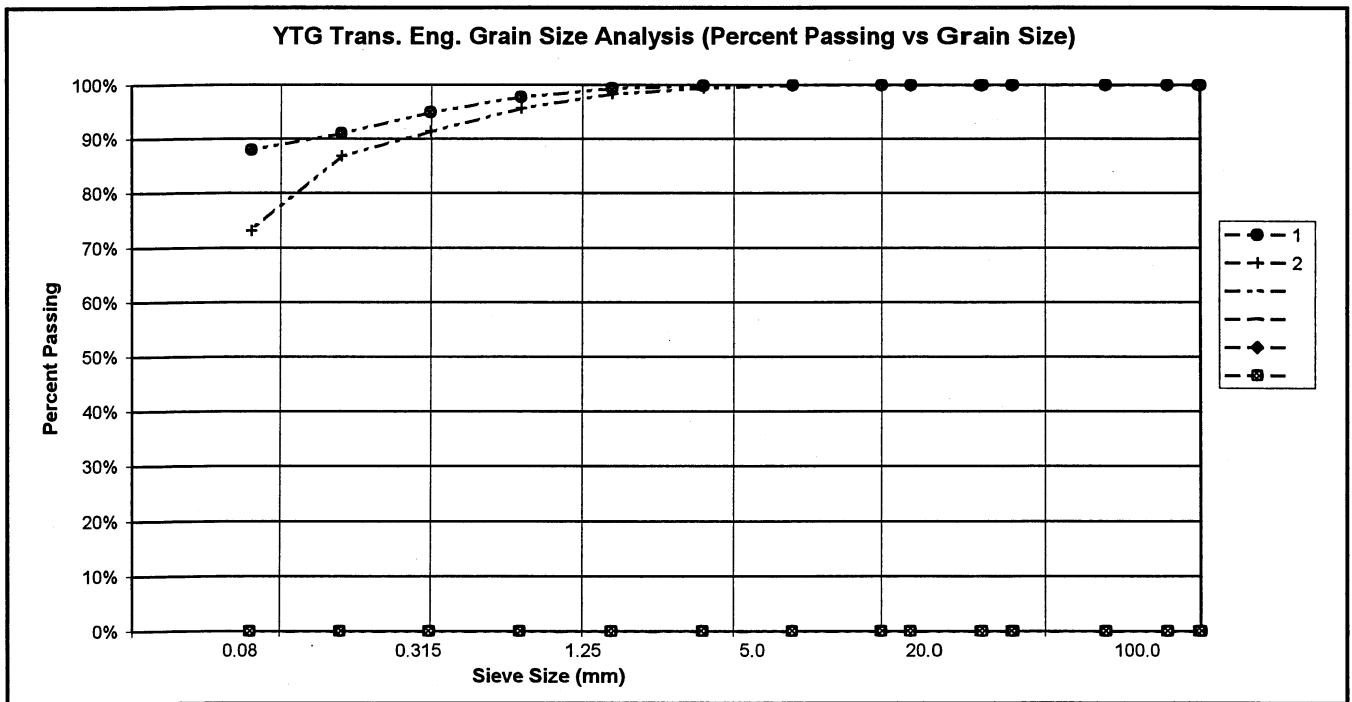


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1673+875  
 LOGGED BY: K.J.

HOLE No.: 586-888

DATE COMP: 2001/03/27

FIELD NO:	1	2			
LAB NO:	173	174			
DEPTH:	0.8-1.2	2.6-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	100%	100%			
20.0	100%	100%			
12.5	100%	100%			
10.0	100%	100%			
5.0	100%	100%			
2.5	100%	99%			
1.25	99%	98%			
0.630	98%	96%			
0.315	95%	91%			
0.160	91%	87%			
0.080	88%	73%			
M.C.(%):	26%	17%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	0	0			
% SAND:	12	27			
% FINES:	88	73			
CLASSIFICATION	SILT (ML)	SILT WITH SAND (ML)			

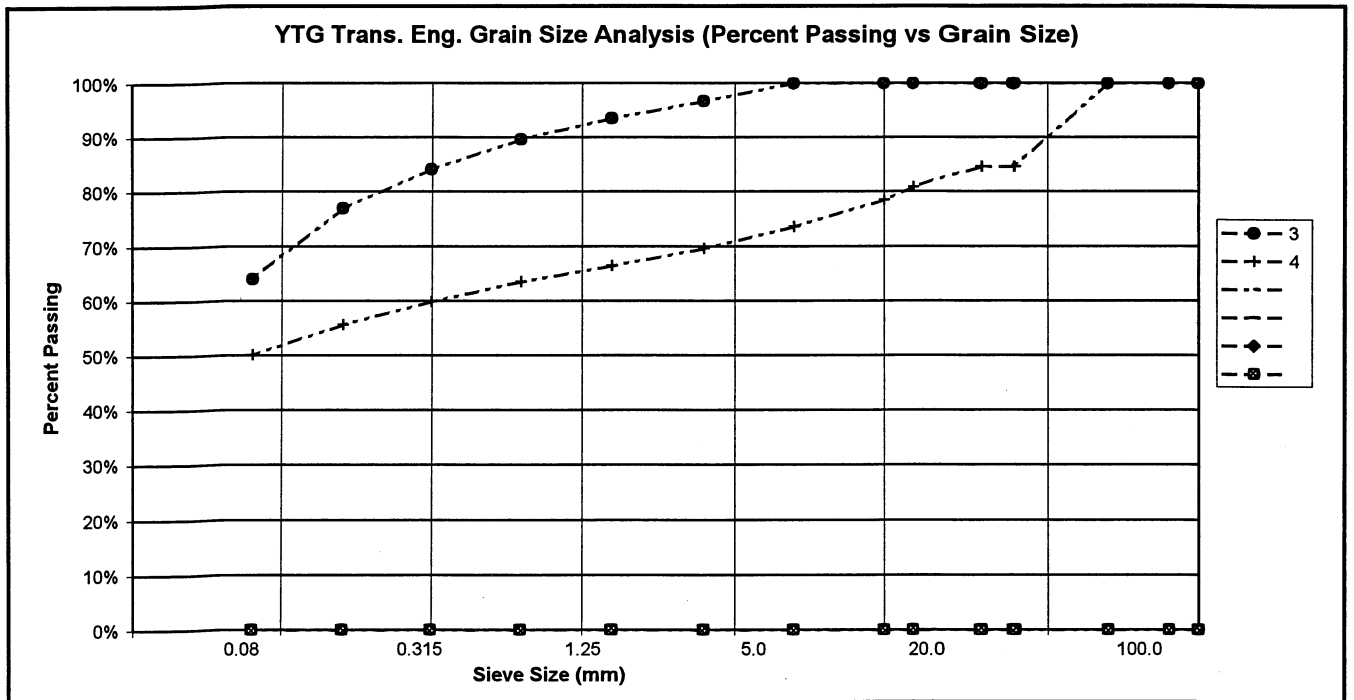


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1673+950  
 LOGGED BY: K.J.

HOLE No.: 586-889

DATE COMP: 2001/03/27

FIELD NO:	3	4			
LAB NO:	175	176			
DEPTH:	1.2-1.4	2.6-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	100%	85%			
20.0	100%	85%			
12.5	100%	81%			
10.0	100%	78%			
5.0	100%	74%			
2.5	97%	70%			
1.25	94%	66%			
0.630	90%	63%			
0.315	84%	60%			
0.160	77%	56%			
0.080	64%	50%			
M.C.(%):	11%	9%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	0	26			
% SAND:	36	23			
% FINES:	64	50			
CLASSIFICATION	SANDY SILT (ML)	GRAVELLY SILT WITH SAND (ML)			

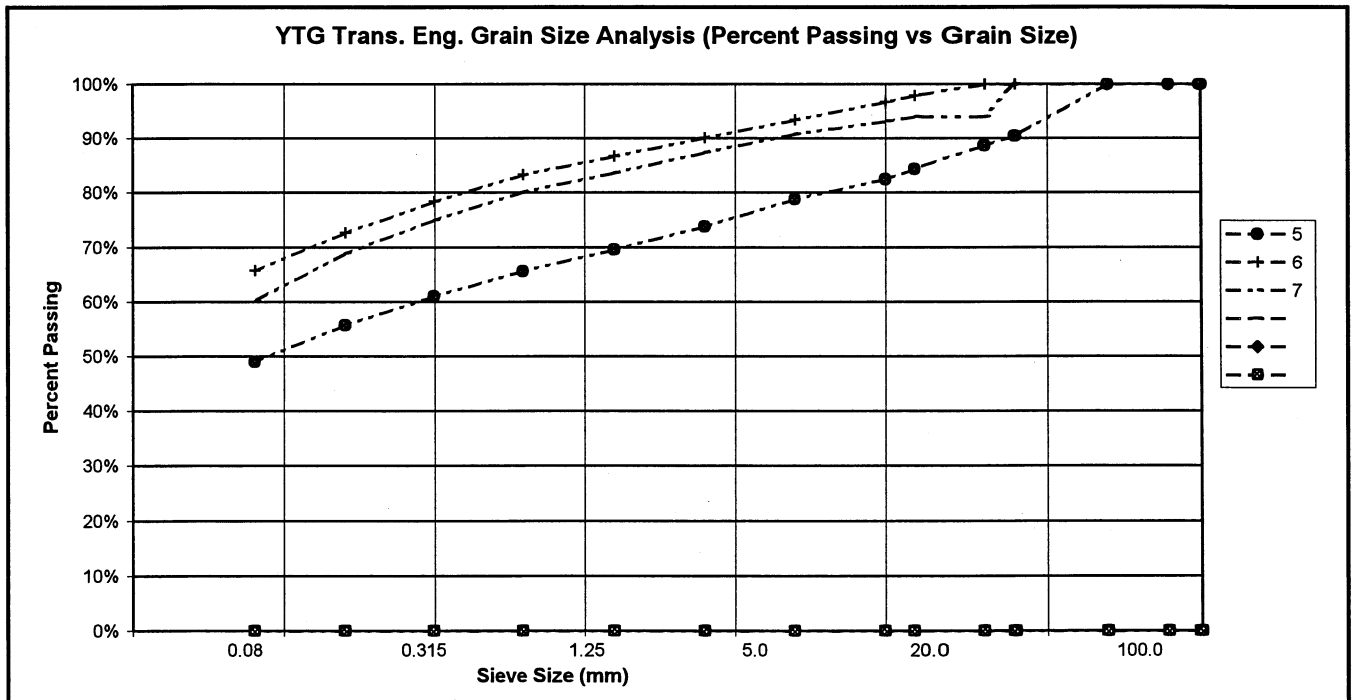


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1674+075  
 LOGGED BY: K.J.

HOLE No.: 586-890

DATE COMP: 2001/03/27

FIELD NO:	5	6	7		
LAB NO:	177	178	179		
DEPTH:	0.8-1.2	2.6-3.0	4.1-4.5		
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%		
80.0	100%	100%	100%		
50.0	100%	100%	100%		
25.0	90%	100%	100%		
20.0	89%	100%	94%		
12.5	84%	98%	94%		
10.0	83%	97%	93%		
5.0	79%	93%	91%		
2.5	74%	90%	87%		
1.25	70%	87%	84%		
0.630	66%	83%	80%		
0.315	61%	78%	75%		
0.160	56%	73%	69%		
0.080	49%	66%	60%		
M.C.(%):	11%	10%	10%		
LIQUID LIMIT:	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0		
% GRAVEL:	21	7	9		
% SAND:	30	28	31		
% FINES:	49	66	60		
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	SANDY SILT (ML)	SANDY SILT (ML)		

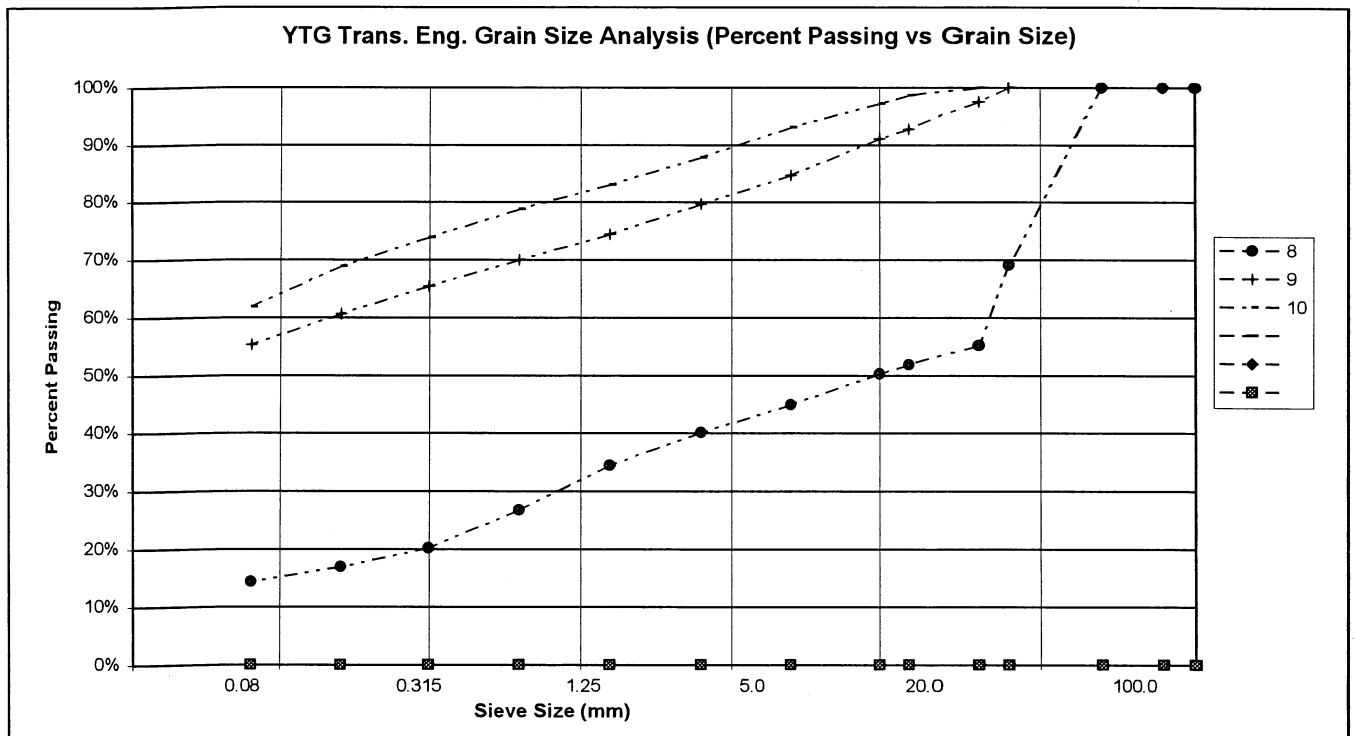


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1674+150  
 LOGGED BY: K.J.

HOLE No.: 586-891

DATE COMP: 2001/03/27

FIELD NO:	8	9	10		
LAB NO:	180	181	182		
DEPTH:	1.2-1.6	2.0-2.2	4.1-4.5		
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%		
80.0	100%	100%	100%		
50.0	100%	100%	100%		
25.0	69%	100%	100%		
20.0	55%	98%	100%		
12.5	52%	93%	99%		
10.0	50%	91%	97%		
5.0	45%	85%	93%		
2.5	40%	80%	88%		
1.25	34%	74%	83%		
0.630	27%	70%	79%		
0.315	20%	65%	74%		
0.160	17%	61%	69%		
0.080	14%	55%	62%		
M.C.(%):	3%	10%	12%		
LIQUID LIMIT:	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0		
% GRAVEL:	55	15	7		
% SAND:	31	29	31		
% FINES:	14	55	62		
CLASSIFICATION	SILTY GRAVEL WITH SAND (GM)	SANDY SILT WITH GRAVEL (ML)	SANDY SILT (ML)		

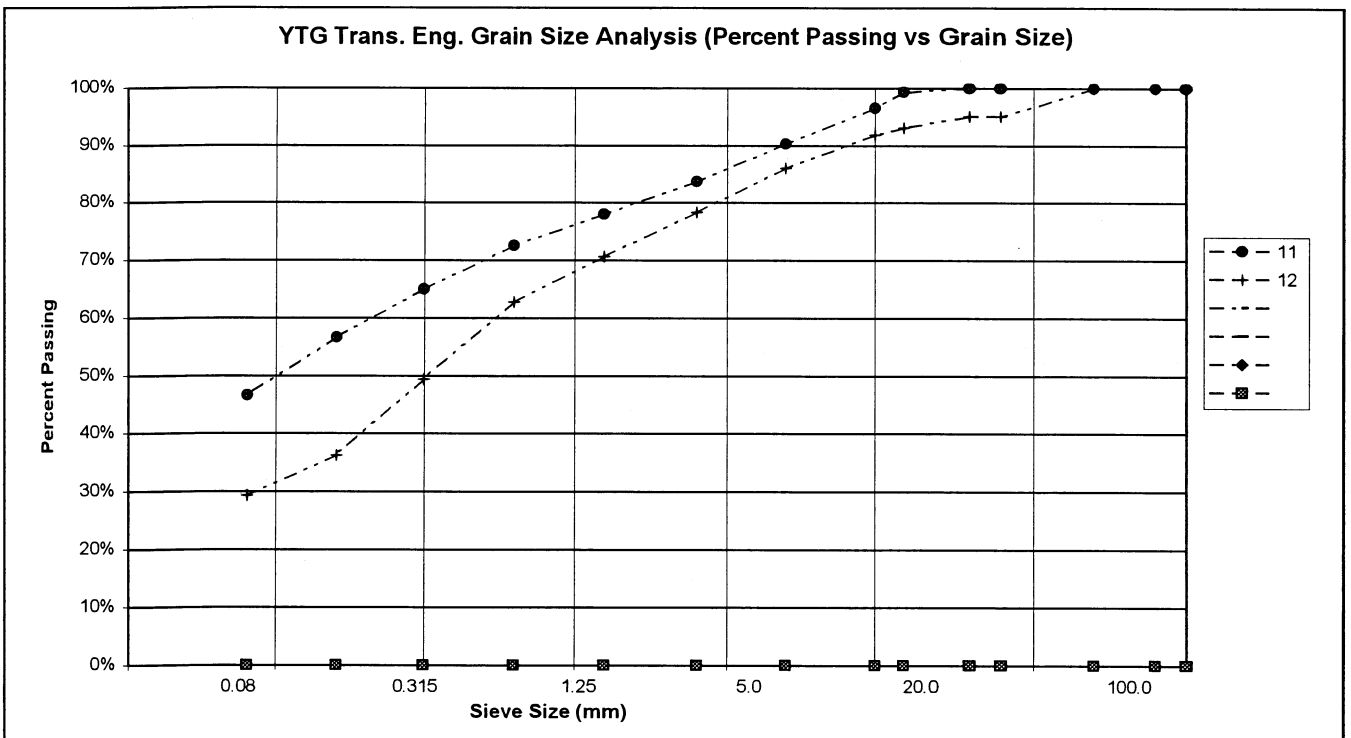


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1674+300  
 LOGGED BY: K.J.

HOLE No.: 586-892

DATE COMP: 2001/03/27

FIELD NO:	11	12				
LAB NO:	183	184				
DEPTH:	1.3-1.5	1.8-2.0				
TYPE:	AUGER	AUGER	AUGER	AUGER		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING				
100.0	100%	100%				
80.0	100%	100%				
50.0	100%	100%				
25.0	100%	95%				
20.0	100%	95%				
12.5	99%	93%				
10.0	96%	92%				
5.0	90%	86%				
2.5	84%	78%				
1.25	78%	71%				
0.630	73%	63%				
0.315	65%	49%				
0.160	57%	36%				
0.080	47%	29%				
M.C.(%):	15%	15%				
LIQUID LIMIT:	0.0	0.0				
PLASTIC LIMIT:	0.0	0.0				
PLASTIC INDEX.:	0.0	0.0				
% GRAVEL:	10	14				
% SAND:	44	57				
% FINES:	47	29				
CLASSIFICATION	SILTY SAND (SM)	SILTY SAND (SM)				

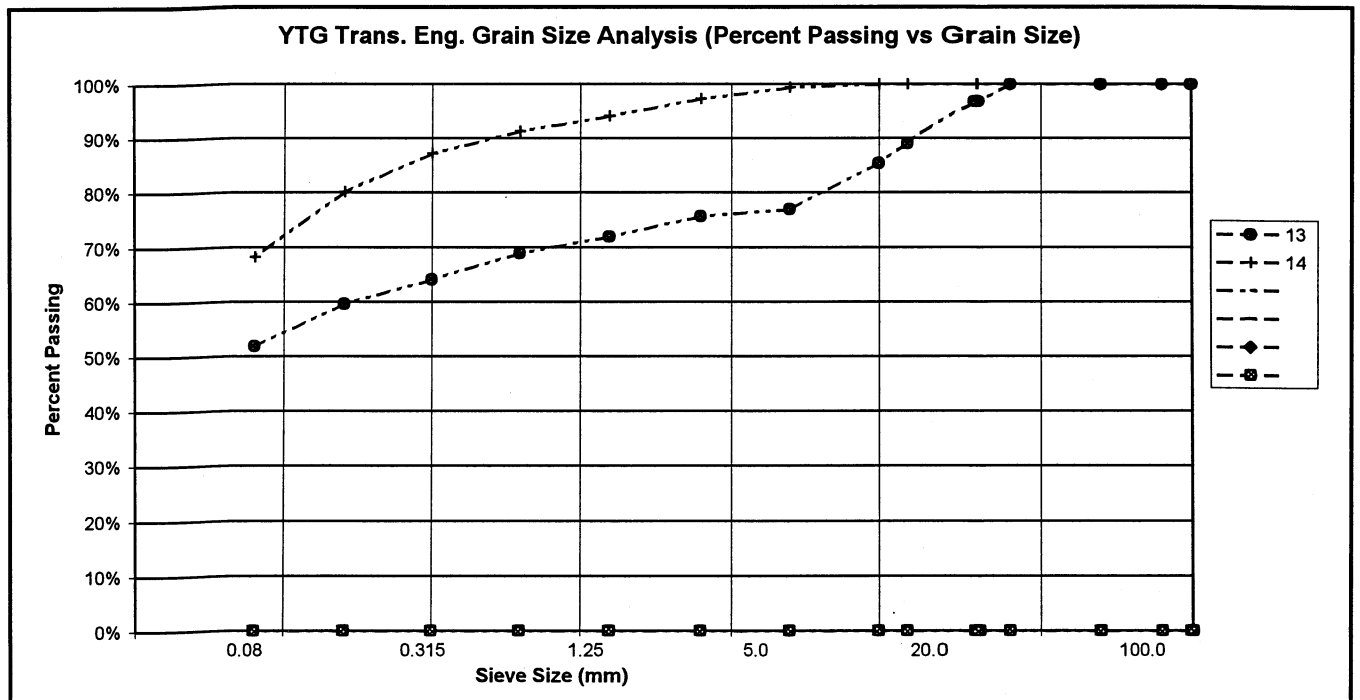


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1674+400  
 LOGGED BY: K.J.

HOLE No.: 586-893

DATE COMP: 2001/03/27

FIELD NO:	13	14			
LAB NO:	185	186			
DEPTH:	1.3-1.5	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	100%	100%			
20.0	97%	100%			
12.5	89%	100%			
10.0	85%	100%			
5.0	77%	99%			
2.5	76%	97%			
1.25	72%	94%			
0.630	69%	91%			
0.315	64%	87%			
0.160	60%	80%			
0.080	52%	68%			
M.C.(%)	14%	28%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	23	1			
% SAND:	25	31			
% FINES:	52	68			
CLASSIFICATION	SANDY SILT WITH GRAVEL (ML)	SANDY SILT (ML)			

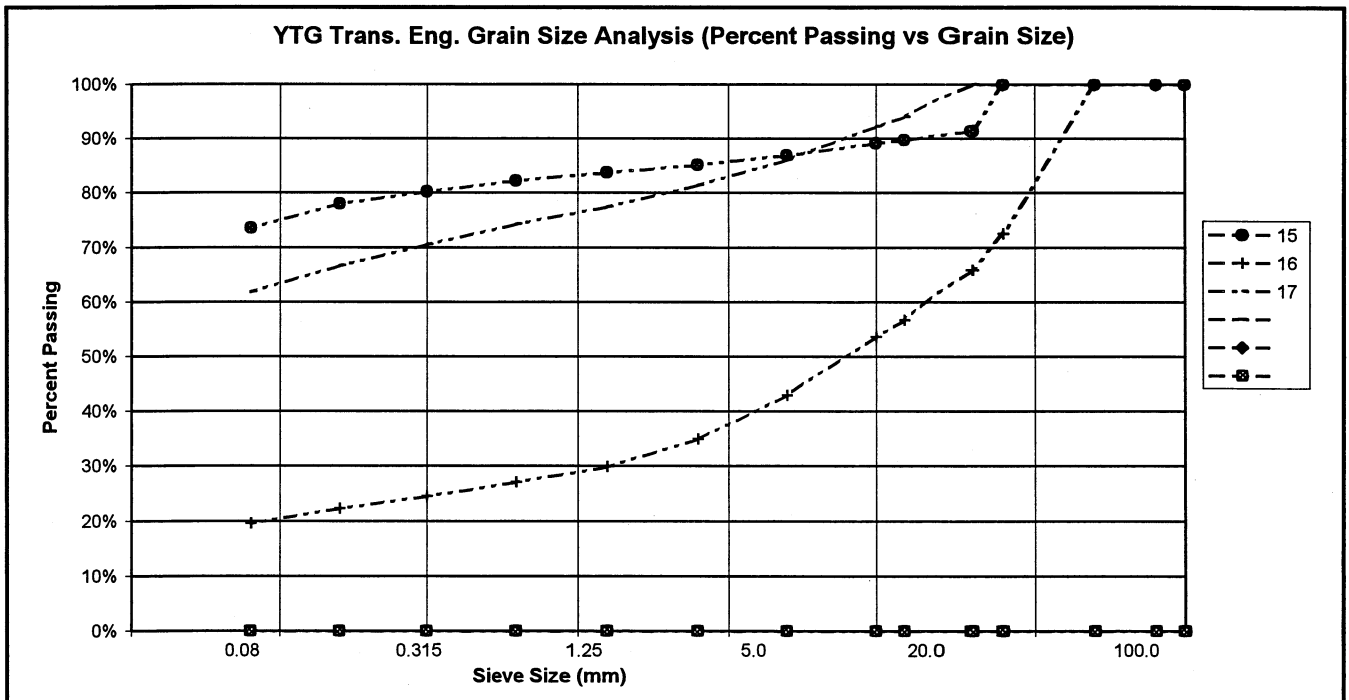


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1674+500  
 LOGGED BY: K.J.

HOLE No.: 586-894

DATE COMP: 2001/03/27

FIELD NO:	15	16	17		
LAB NO:	187	188	189		
DEPTH:	1.2-1.4	2.8-3.0	4.3-4.5		
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%		
80.0	100%	100%	100%		
50.0	100%	100%	100%		
25.0	100%	73%	100%		
20.0	91%	66%	100%		
12.5	90%	57%	94%		
10.0	89%	54%	92%		
5.0	87%	43%	86%		
2.5	85%	35%	82%		
1.25	84%	30%	77%		
0.630	82%	27%	74%		
0.315	80%	24%	71%		
0.160	78%	22%	67%		
0.080	74%	20%	62%		
M.C.(%):	32%	13%	16%		
LIQUID LIMIT:	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0		
% GRAVEL:	13	57	14		
% SAND:	13	23	24		
% FINES:	74	20	62		
CLASSIFICATION	SILT WITH SAND (ML)	SILTY GRAVEL WITH SAND (GM)	SANDY SILT (ML)		

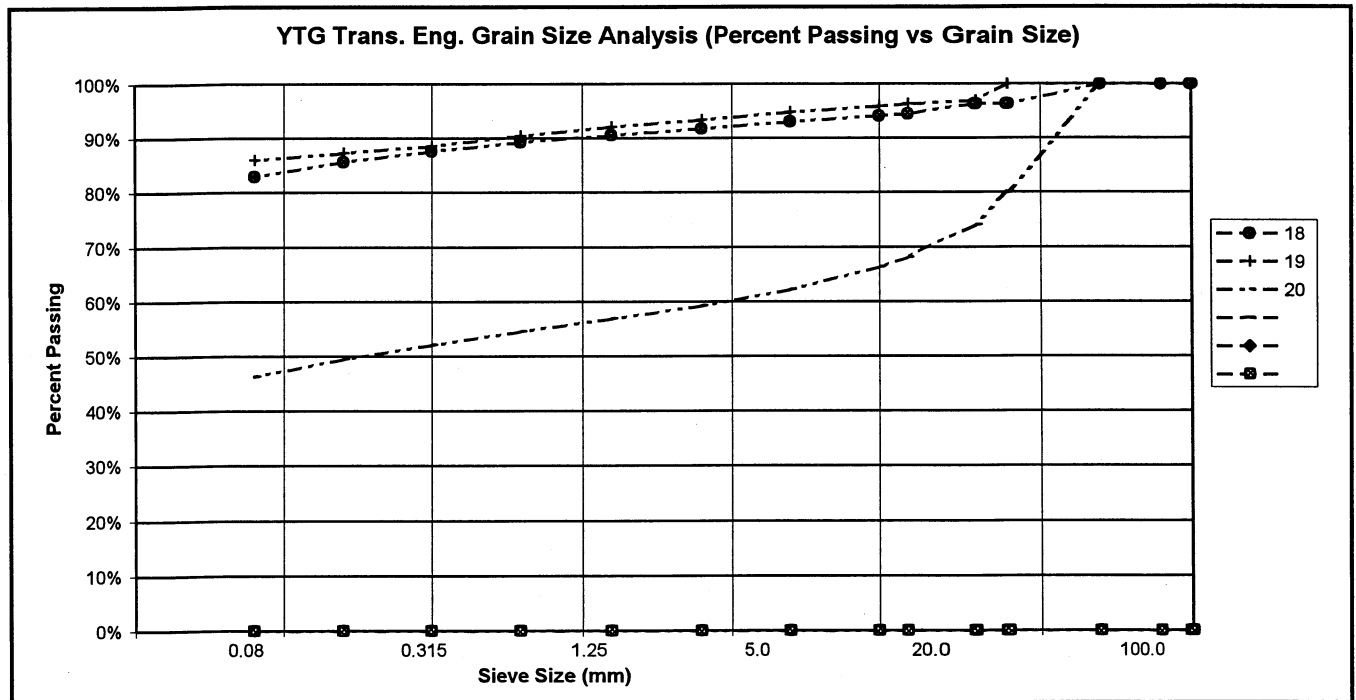


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1674+600  
 LOGGED BY: K.J.

HOLE No.: 586-895

DATE COMP: 2001/03/28

FIELD NO:	18	19	20		
LAB NO:	190	191	192		
DEPTH:	1.3-1.5	2.8-3.0	4.2-4.4		
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%		
80.0	100%	100%	100%		
50.0	100%	100%	100%		
25.0	96%	100%	80%		
20.0	96%	97%	74%		
12.5	94%	96%	68%		
10.0	94%	96%	66%		
5.0	93%	95%	62%		
2.5	92%	93%	59%		
1.25	91%	92%	57%		
0.630	89%	90%	55%		
0.315	88%	89%	52%		
0.160	86%	87%	50%		
0.080	83%	86%	46%		
M.C.(%)	15%	17%	9%		
LIQUID LIMIT:	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0		
% GRAVEL:	7	5	38		
% SAND:	10	9	16		
% FINES:	83	86	46		
CLASSIFICATION	SILT WITH SAND (ML)	SILT (ML)	SILTY GRAVEL WITH SAND (GM)		

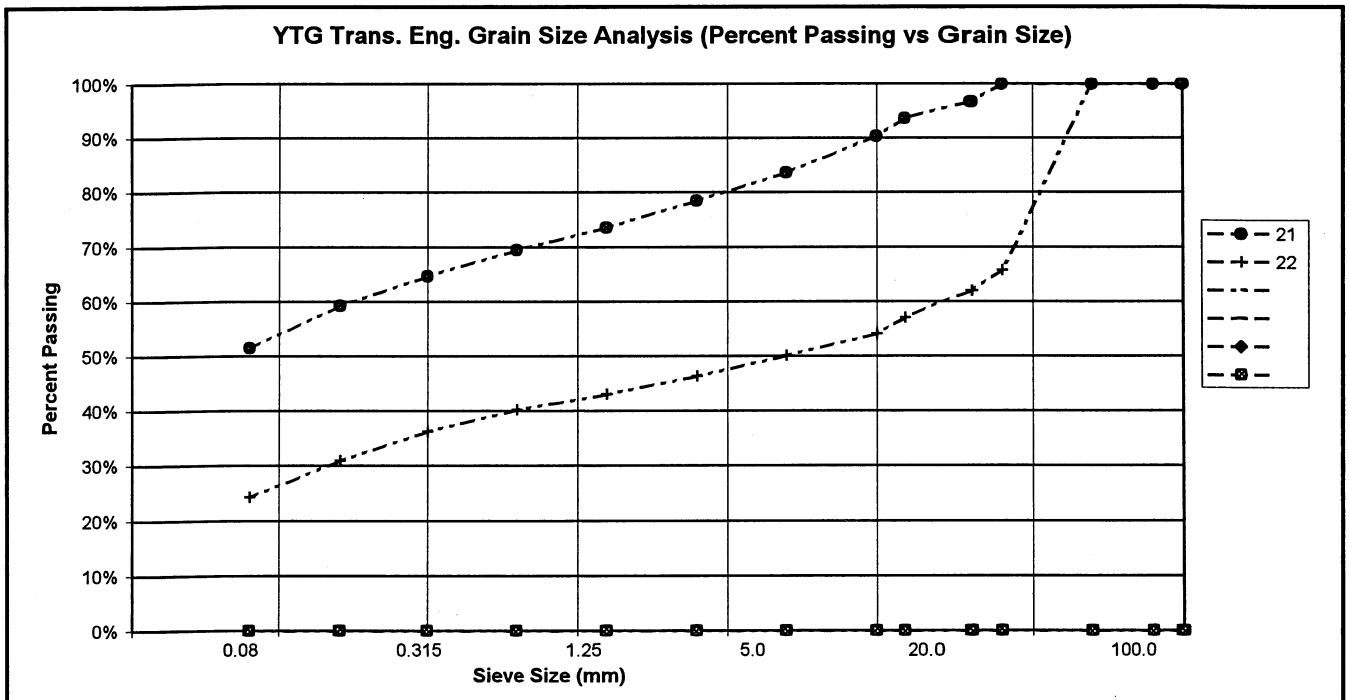


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1674+700  
 LOGGED BY: K.J.

HOLE No.: 586-896

DATE COMP: 2001/03/28

FIELD NO:	21	22			
LAB NO:	193	194			
DEPTH:	1.3-1.5	4.3-4.5			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	100%	66%			
20.0	97%	62%			
12.5	94%	57%			
10.0	90%	54%			
5.0	84%	50%			
2.5	78%	46%			
1.25	74%	43%			
0.630	70%	40%			
0.315	65%	36%			
0.160	59%	31%			
0.080	52%	24%			
M.C.(%)	10%	6%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	16	50			
% SAND:	32	26			
% FINES:	52	24			
CLASSIFICATION	SANDY SILT WITH GRAVEL (ML)	SILTY GRAVEL WITH SAND (GM)			

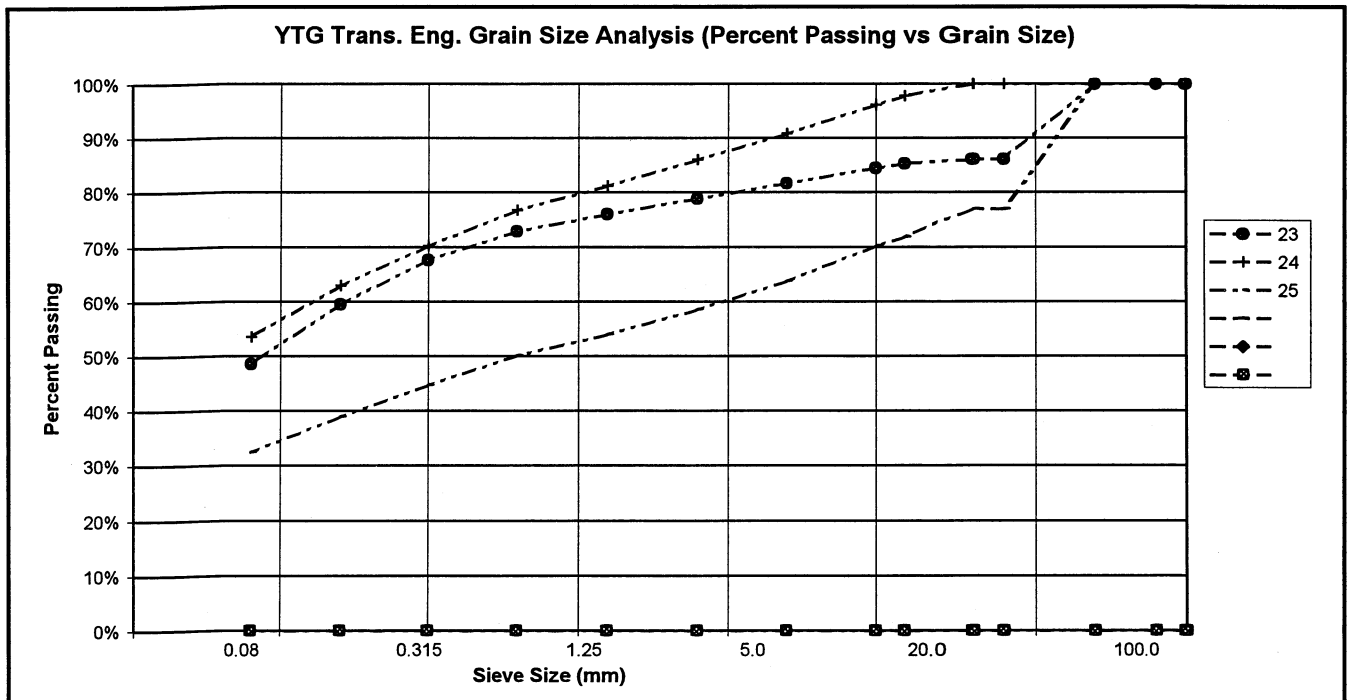


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1674-805  
 LOGGED BY: K.J.

HOLE No.: 586-897

DATE COMP: 2001/03/28

FIELD NO:	23	24	25		
LAB NO:	195	196	197		
DEPTH:	1.3-1.5	2.8-3.0	4.3-4.5		
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%		
80.0	100%	100%	100%		
50.0	100%	100%	100%		
25.0	86%	100%	77%		
20.0	86%	100%	77%		
12.5	85%	98%	72%		
10.0	85%	96%	70%		
5.0	82%	91%	64%		
2.5	79%	86%	59%		
1.25	76%	81%	54%		
0.630	73%	77%	50%		
0.315	68%	70%	45%		
0.160	60%	63%	39%		
0.080	49%	54%	32%		
M.C.(%)	11%	12%	8%		
LIQUID LIMIT:	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0		
% GRAVEL:	18	9	36		
% SAND:	33	37	31		
% FINES:	49	54	32		
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	SANDY SILT (ML)	SILTY GRAVEL WITH SAND (GM)		

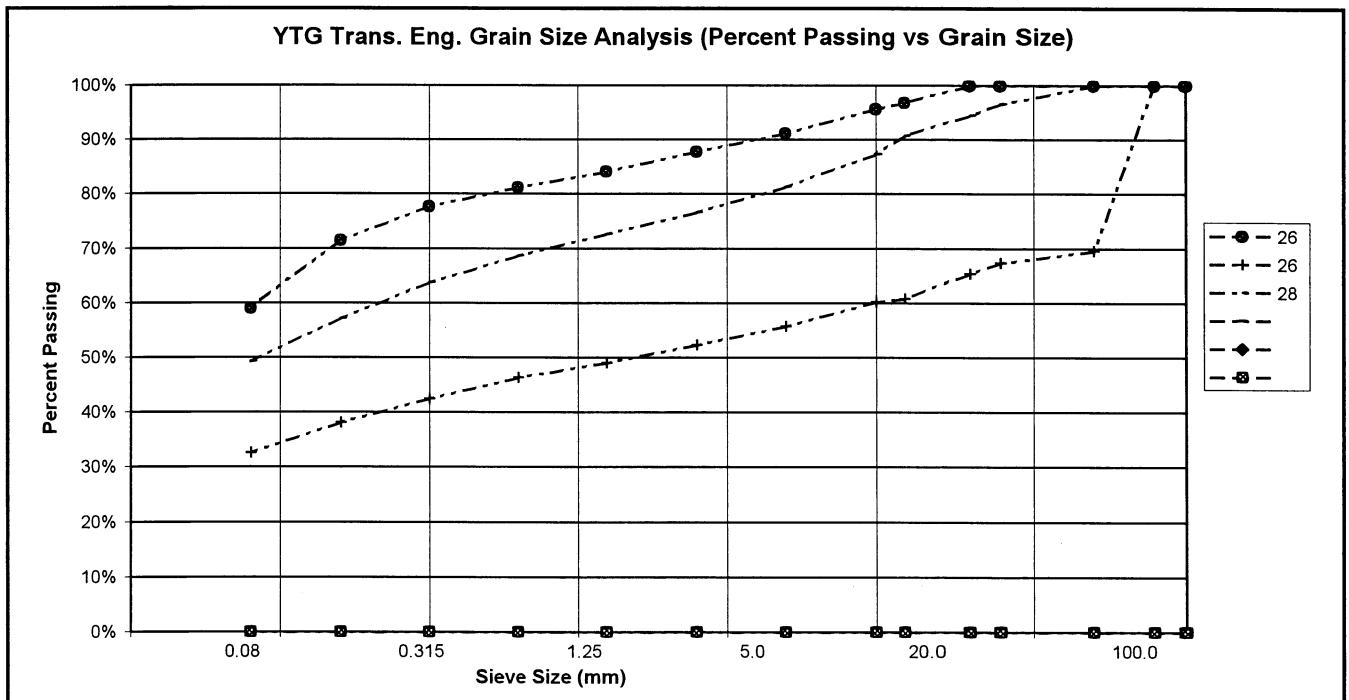


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1674+900  
 LOGGED BY: K.J.

HOLE No.: 586-898

DATE COMP: 2001/03/28

FIELD NO:	26	26	28		
LAB NO:	198	27	200		
DEPTH:	1.3-1.5	2.8-3.0	4.3-4.5		
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%		
80.0	100%	100%	100%		
50.0	100%	70%	100%		
25.0	100%	67%	97%		
20.0	100%	65%	95%		
12.5	97%	61%	91%		
10.0	96%	60%	87%		
5.0	91%	56%	81%		
2.5	88%	52%	77%		
1.25	84%	49%	73%		
0.630	81%	46%	69%		
0.315	78%	43%	64%		
0.160	71%	38%	57%		
0.080	59%	33%	49%		
M.C.(%)	12%	7%	11%		
LIQUID LIMIT:	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0		
% GRAVEL:	9	44	19		
% SAND:	32	23	32		
% FINES:	59	33	49		
CLASSIFICATION	SANDY SILT (ML)	SILTY GRAVEL WITH SAND (GM)	SILTY SAND WITH GRAVEL (SM)		

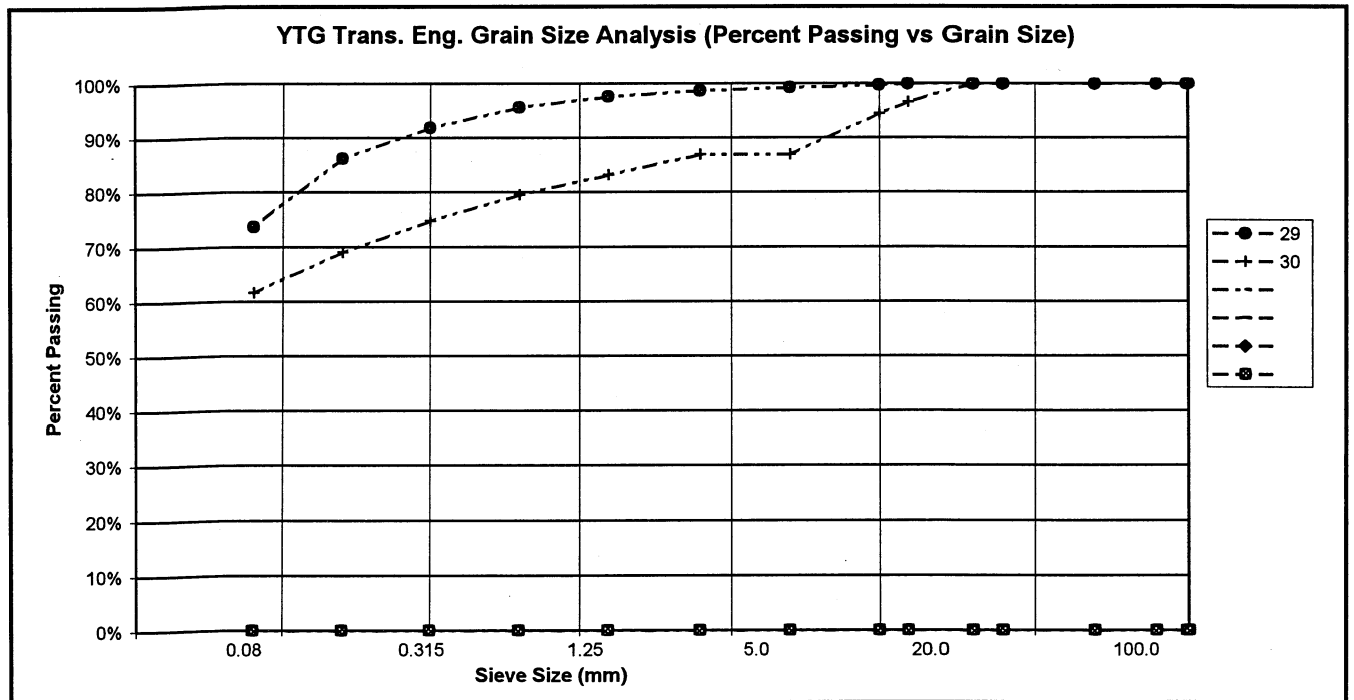


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1675+000  
 LOGGED BY: K.J.

HOLE No.: 586-899

DATE COMP: 2001/03/28

FIELD NO:	29	30			
LAB NO:	201	202			
DEPTH:	1.3-1.5	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	100%	100%			
20.0	100%	100%			
12.5	100%	97%			
10.0	100%	95%			
5.0	99%	87%			
2.5	99%	87%			
1.25	98%	83%			
0.630	96%	80%			
0.315	92%	75%			
0.160	86%	69%			
0.080	74%	62%			
M.C.(%)	23%	14%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	1	13			
% SAND:	26	25			
% FINES:	74	62			
CLASSIFICATION	SILT WITH SAND (ML)	SANDY SILT (ML)			

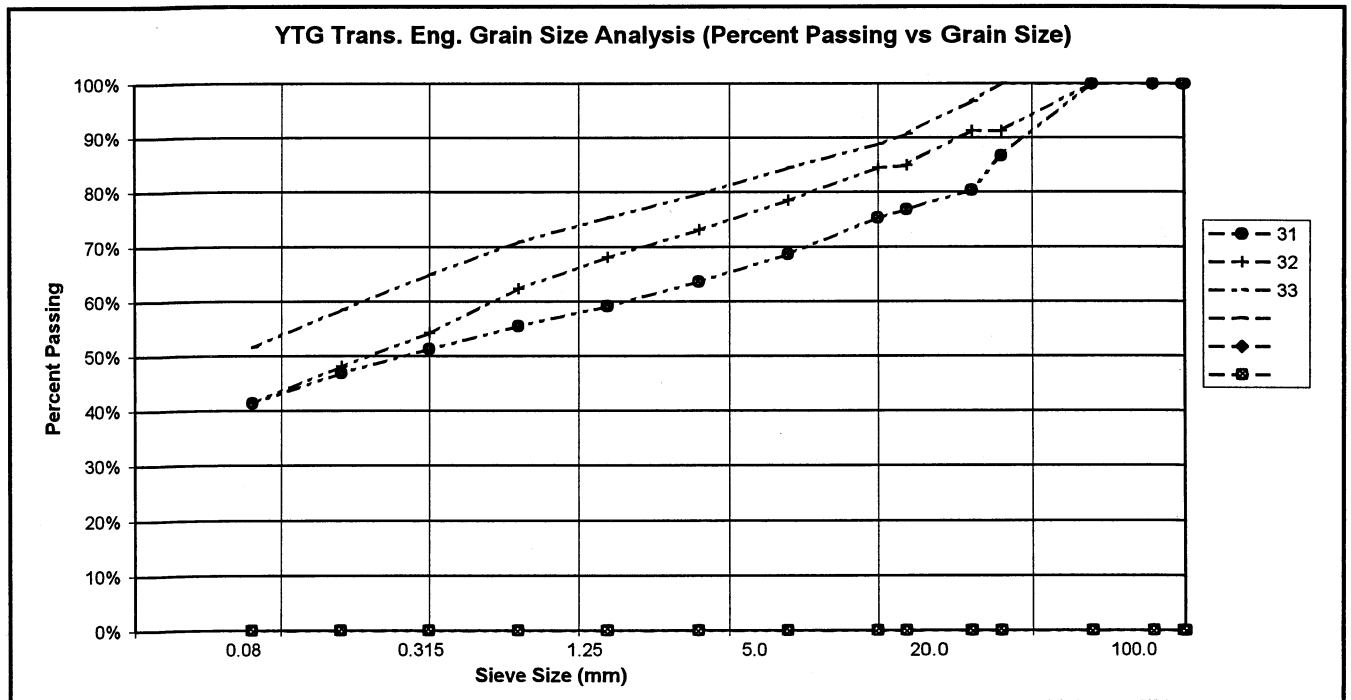


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1675+100  
 LOGGED BY: K.J.

HOLE No.: 586-900

DATE COMP: 2001/03/28

FIELD NO:	31	32	33		
LAB NO:	203	204	205		
DEPTH:	1.3-1.5	2.8-3.0	4.3-4.5		
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%		
80.0	100%	100%	100%		
50.0	100%	100%	100%		
25.0	87%	91%	100%		
20.0	80%	91%	97%		
12.5	77%	85%	91%		
10.0	75%	85%	89%		
5.0	69%	78%	85%		
2.5	64%	73%	80%		
1.25	59%	68%	75%		
0.630	55%	62%	71%		
0.315	51%	54%	65%		
0.160	47%	48%	58%		
0.080	41%	42%	52%		
M.C.(%)	11%	12%	14%		
LIQUID LIMIT:	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0		
% GRAVEL:	31	22	15		
% SAND:	27	37	33		
% FINES:	41	42	52		
CLASSIFICATION	SILTY GRAVEL WITH SAND (GM)	SILTY SAND WITH GRAVEL (SM)	SANDY SILT WITH GRAVEL (ML)		

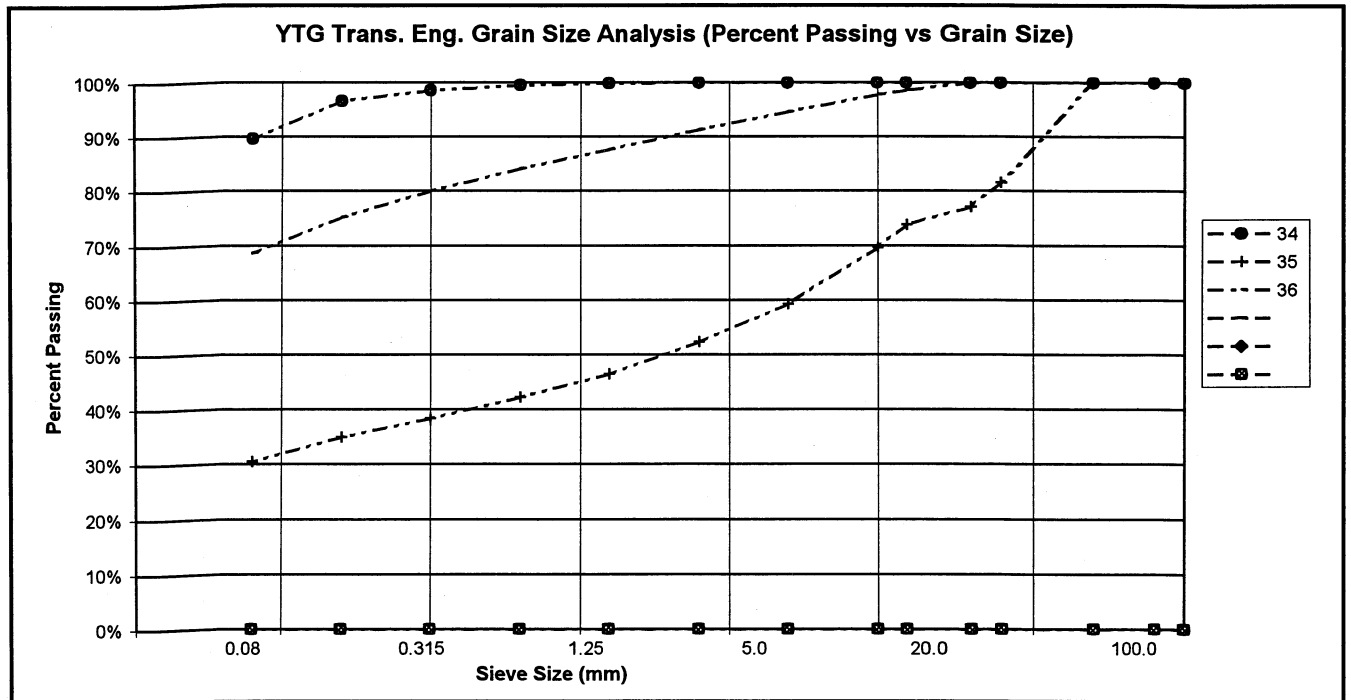


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1675+200  
 LOGGED BY: K.J.

HOLE No.: 586-901

DATE COMP: 2001/03/28

FIELD NO:	34	35	36		
LAB NO:	206	207	208		
DEPTH:	1.3-1.5	2.8-3.0	4.3-4.5		
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%		
80.0	100%	100%	100%		
50.0	100%	100%	100%		
25.0	100%	82%	100%		
20.0	100%	77%	100%		
12.5	100%	74%	99%		
10.0	100%	70%	98%		
5.0	100%	59%	95%		
2.5	100%	52%	91%		
1.25	100%	46%	88%		
0.630	100%	42%	84%		
0.315	99%	38%	80%		
0.160	97%	35%	75%		
0.080	90%	31%	69%		
M.C.(%)	63%	11%	15%		
LIQUID LIMIT:	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0		
% GRAVEL:	0	41	5		
% SAND:	10	29	26		
% FINES:	90	31	69		
CLASSIFICATION	SILT (ML)	SILTY GRAVEL WITH SAND (GM)	SANDY SILT (ML)		

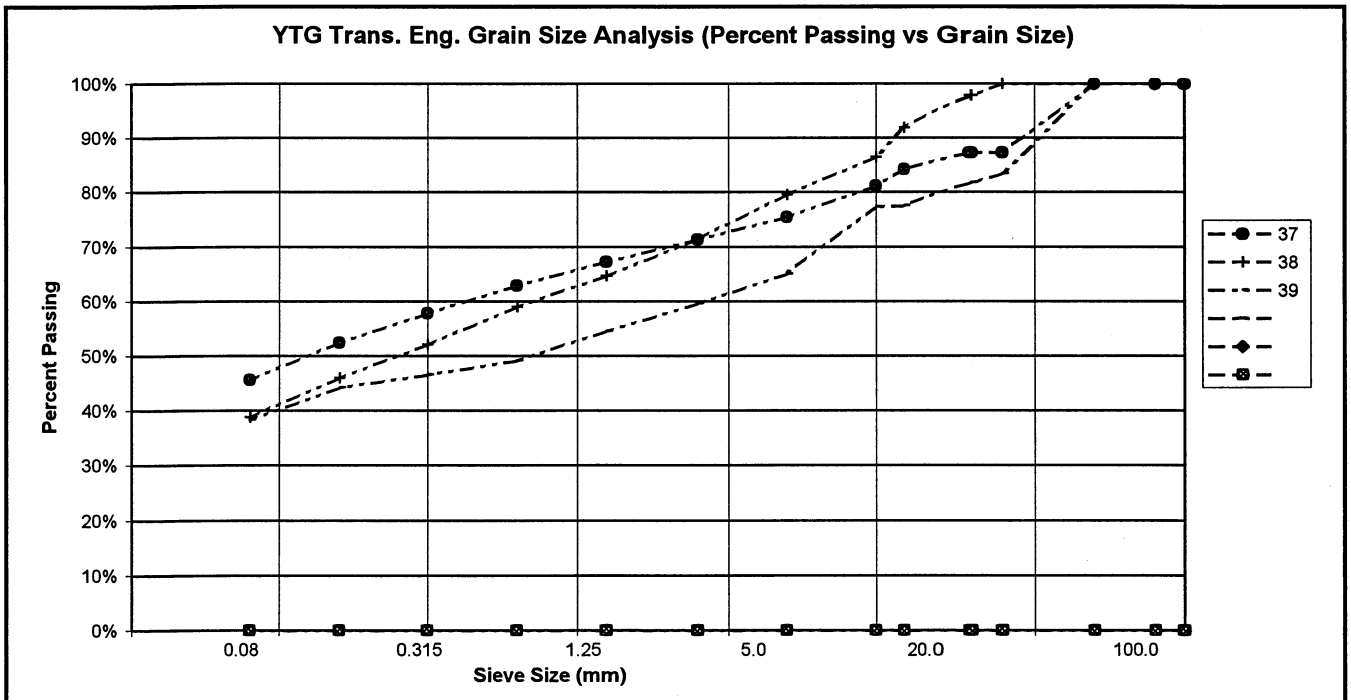


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1675+300  
 LOGGED BY: K.J.

HOLE No.: 586-902

DATE COMP: 2001/03/28

FIELD NO:	37	38	39		
LAB NO:	209	210	211		
DEPTH:	1.3-1.5	2.0-2.2	4.3-4.5		
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%		
80.0	100%	100%	100%		
50.0	100%	100%	100%		
25.0	87%	100%	83%		
20.0	87%	98%	82%		
12.5	84%	92%	78%		
10.0	81%	87%	77%		
5.0	75%	80%	65%		
2.5	71%	71%	60%		
1.25	67%	65%	55%		
0.630	63%	59%	49%		
0.315	58%	52%	47%		
0.160	52%	46%	44%		
0.080	46%	39%	38%		
M.C.(%)	28%	25%	18%		
LIQUID LIMIT:	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0		
PLASTIC INDEX:	0.0	0.0	0.0		
% GRAVEL:	25	20	35		
% SAND:	30	41	27		
% FINES:	46	39	38		
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	SILTY SAND WITH GRAVEL (SM)	SILTY GRAVEL WITH SAND (GM)		

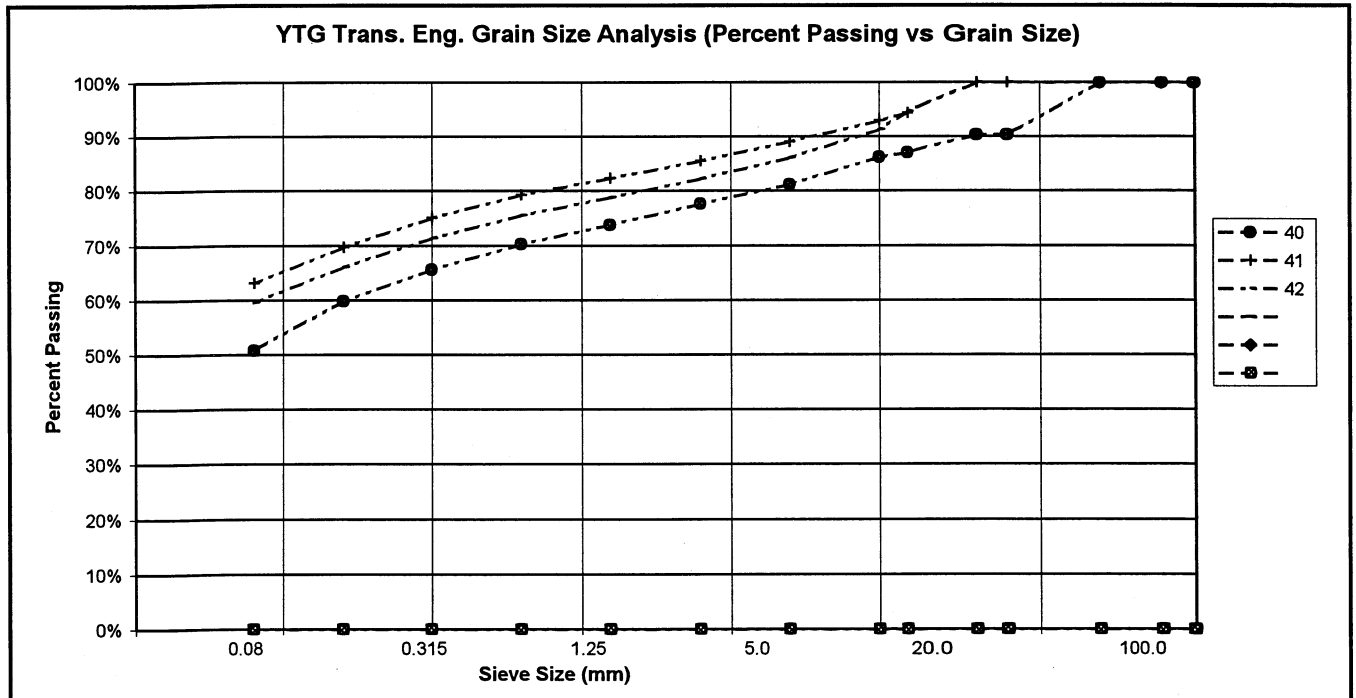


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1675+400  
 LOGGED BY: K.J.

HOLE No.: 586-903

DATE COMP: 2001/03/28

FIELD NO:	40	41	42		
LAB NO:	212	213	214		
DEPTH:	1.3-1.5	2.8-3.0	4.3-4.5		
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%		
80.0	100%	100%	100%		
50.0	100%	100%	100%		
25.0	90%	100%	100%		
20.0	90%	100%	100%		
12.5	87%	94%	95%		
10.0	86%	93%	91%		
5.0	81%	89%	86%		
2.5	78%	86%	82%		
1.25	74%	82%	79%		
0.630	70%	79%	76%		
0.315	66%	75%	71%		
0.160	60%	70%	66%		
0.080	51%	63%	60%		
M.C.(%):	15%	17%	18%		
LIQUID LIMIT:	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0		
% GRAVEL:	19	11	14		
% SAND:	30	26	26		
% FINES:	51	63	60		
CLASSIFICATION	SANDY SILT WITH GRAVEL (ML)	SANDY SILT (ML)	SANDY SILT (ML)		

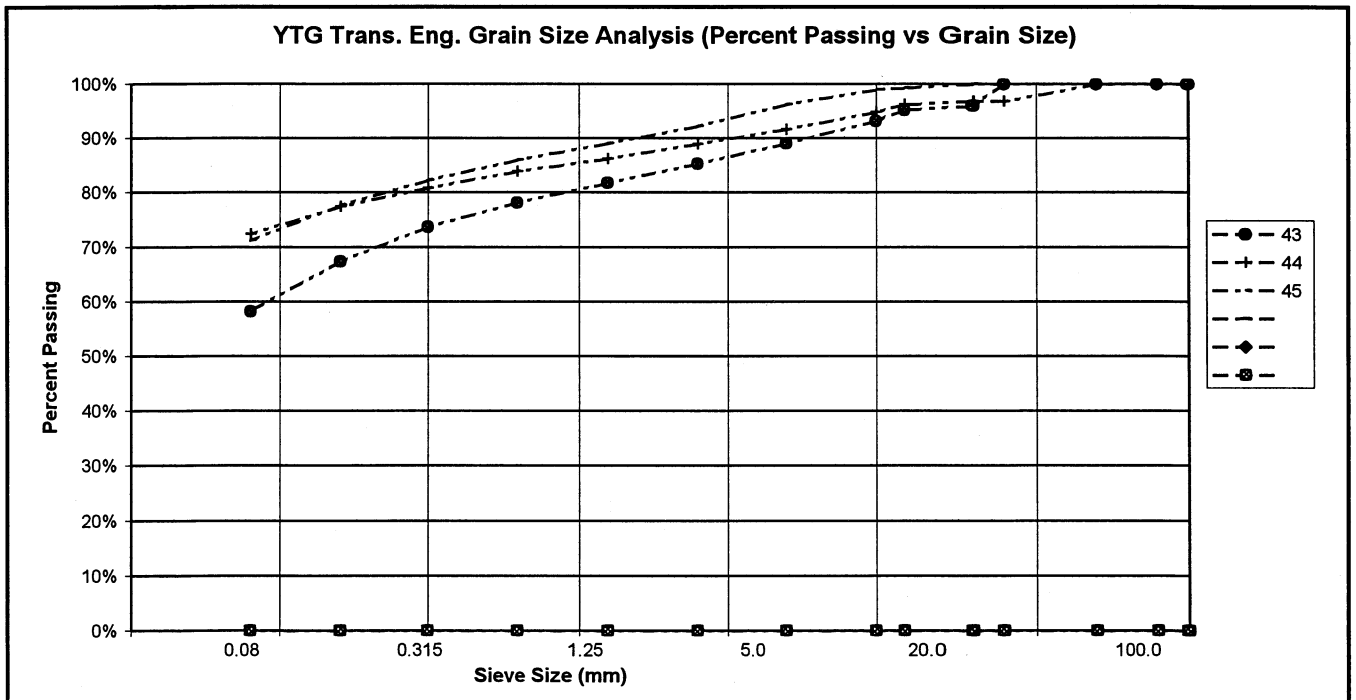


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1675+500  
 LOGGED BY: K.J.

HOLE No.: 586-904

DATE COMP: 2001/03/28

FIELD NO:	43	44	45		
LAB NO:	215	216	217		
DEPTH:	08-1.0	2.8-3.0	4.3-4.5		
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%		
80.0	100%	100%	100%		
50.0	100%	100%	100%		
25.0	100%	97%	100%		
20.0	96%	97%	100%		
12.5	95%	96%	99%		
10.0	93%	95%	99%		
5.0	89%	92%	96%		
2.5	85%	89%	92%		
1.25	82%	86%	89%		
0.630	78%	84%	86%		
0.315	74%	81%	82%		
0.160	67%	77%	78%		
0.080	58%	72%	71%		
M.C.(%)	12%	21%	20%		
LIQUID LIMIT:	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0		
% GRAVEL:	11	8	4		
% SAND:	31	19	25		
% FINES:	58	72	71		
CLASSIFICATION	SANDY SILT (ML)	SILT WITH SAND (ML)	SILT WITH SAND (ML)		

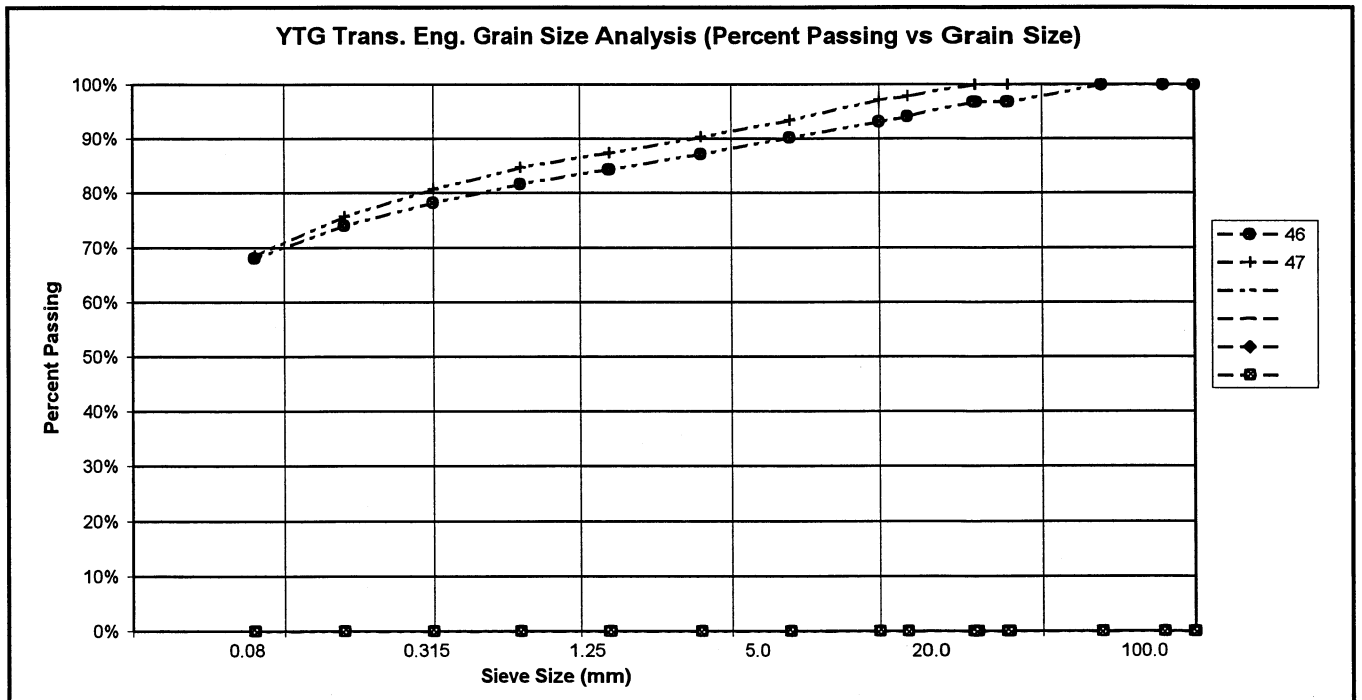


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1675+600  
 LOGGED BY: K.J.

HOLE No.: 586-905

DATE COMP: 2001/03/28

FIELD NO:	46	47			
LAB NO:	218	219			
DEPTH:	1.3-1.5	4.3-4.5			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	97%	100%			
20.0	97%	100%			
12.5	94%	98%			
10.0	93%	97%			
5.0	90%	93%			
2.5	87%	90%			
1.25	84%	87%			
0.630	82%	85%			
0.315	78%	81%			
0.160	74%	76%			
0.080	68%	69%			
M.C.(%):	17%	15%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	10	7			
% SAND:	22	25			
% FINES:	68	69			
CLASSIFICATION	SANDY SILT (ML)	SANDY SILT (ML)			

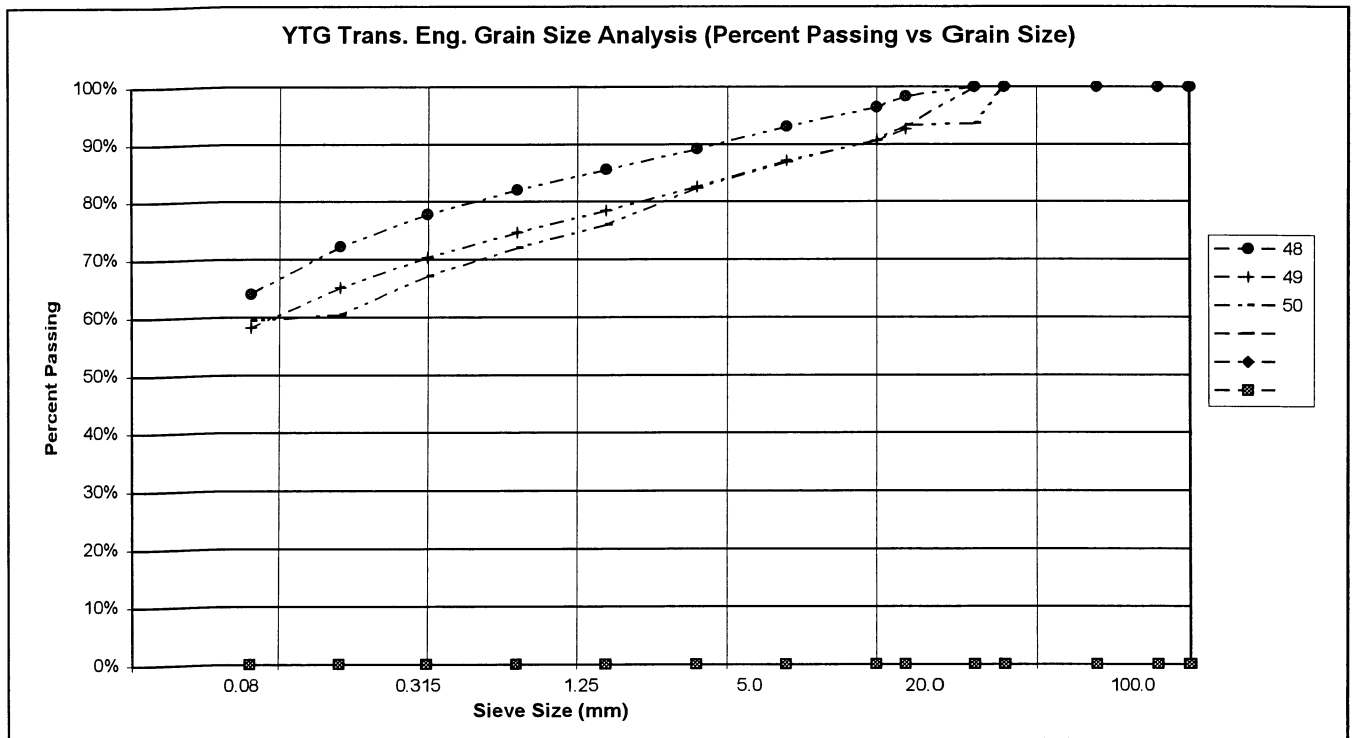


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1675+675  
 LOGGED BY: K.J.

HOLE No.: 586-906

DATE COMP: 2001/03/28

FIELD NO:	48	49	50			
LAB NO:	220	221	222			
DEPTH:	1.3-1.5	2.8-3.0	4.3-4.5			
TYPE:	AUGER	AUGER	AUGER	AUGER		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	100%	100%	100%			
25.0	100%	100%	100%			
20.0	100%	100%	94%			
12.5	98%	93%	93%			
10.0	96%	91%	91%			
5.0	93%	87%	87%			
2.5	89%	83%	82%			
1.25	86%	78%	76%			
0.630	82%	75%	72%			
0.315	78%	70%	67%			
0.160	72%	65%	60%			
0.080	64%	58%	59%			
M.C.(%)	17%	16%	15%			
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX:	0.0	0.0	0.0			
% GRAVEL:	7	13	13			
% SAND:	29	29	28			
% FINES:	64	58	59			
CLASSIFICATION	SANDY SILT (ML)	SANDY SILT (ML)	SANDY SILT (ML)			

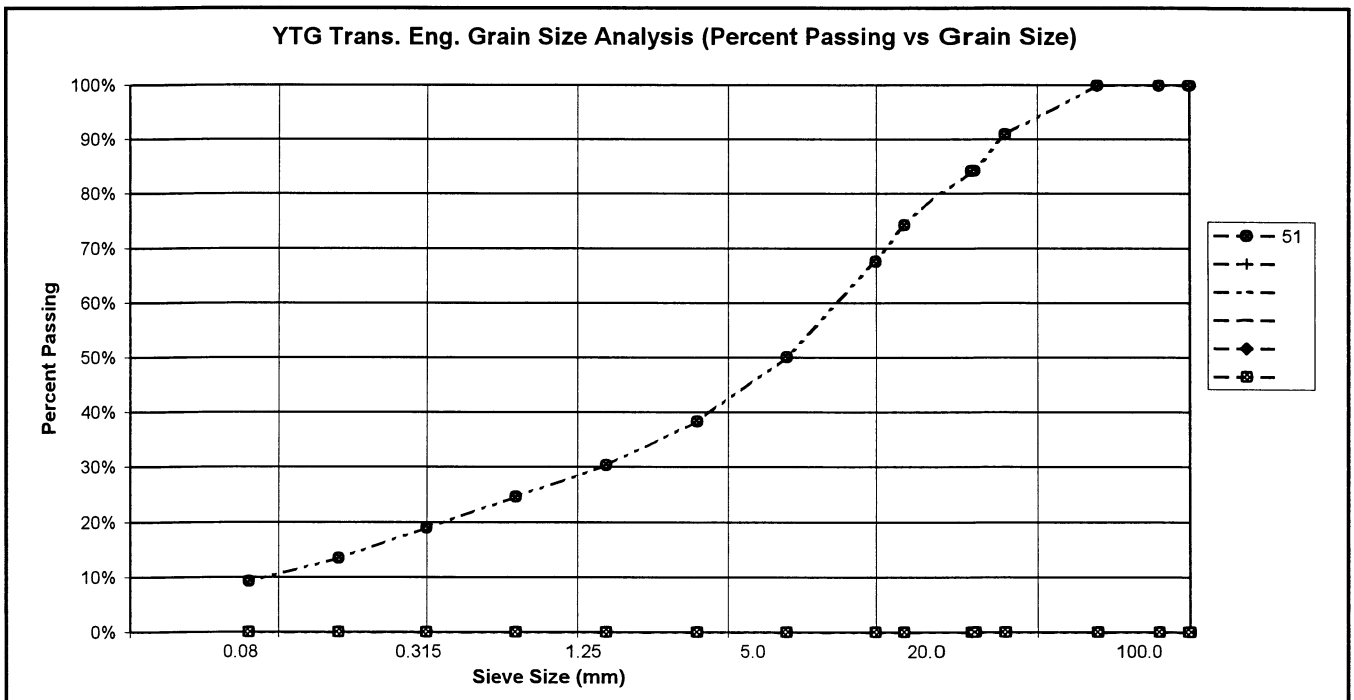


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1675+790  
 LOGGED BY: K.J.

HOLE No.: 586-907

DATE COMP: 2001/03/28

FIELD NO:	51				
LAB NO:	223				
DEPTH:	4.3-4.5				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	91%				
20.0	84%				
12.5	74%				
10.0	68%				
5.0	50%				
2.5	38%				
1.25	30%				
0.630	25%				
0.315	19%				
0.160	14%				
0.080	9%				
M.C.(%)	7%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX:	0.0				
% GRAVEL:	50				
% SAND:	41				
% FINES:	9				
CLASSIFICATION	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)				

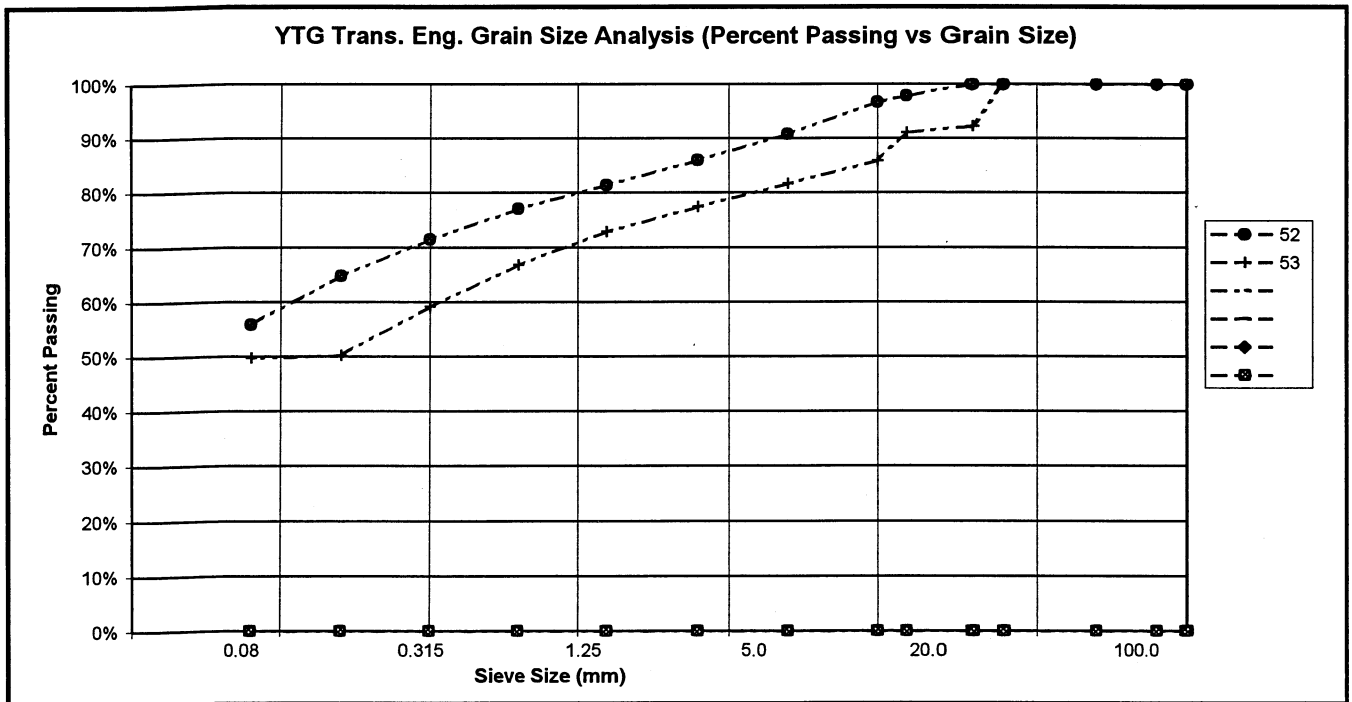


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1675+900  
 LOGGED BY: K.J.

HOLE No.: 586-908

DATE COMP: 2001/03/28

FIELD NO:	52	53			
LAB NO:	224	225			
DEPTH:	1.3-1.5	4.3-4.5			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	100%	100%			
20.0	100%	92%			
12.5	98%	91%			
10.0	97%	86%			
5.0	91%	82%			
2.5	86%	77%			
1.25	81%	73%			
0.630	77%	67%			
0.315	72%	59%			
0.160	65%	50%			
0.080	56%	50%			
M.C.(%)	14%	13%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	9	18			
% SAND:	35	32			
% FINES:	56	50			
CLASSIFICATION	SANDY SILT (ML)	SILTY SAND WITH GRAVEL (SM)			

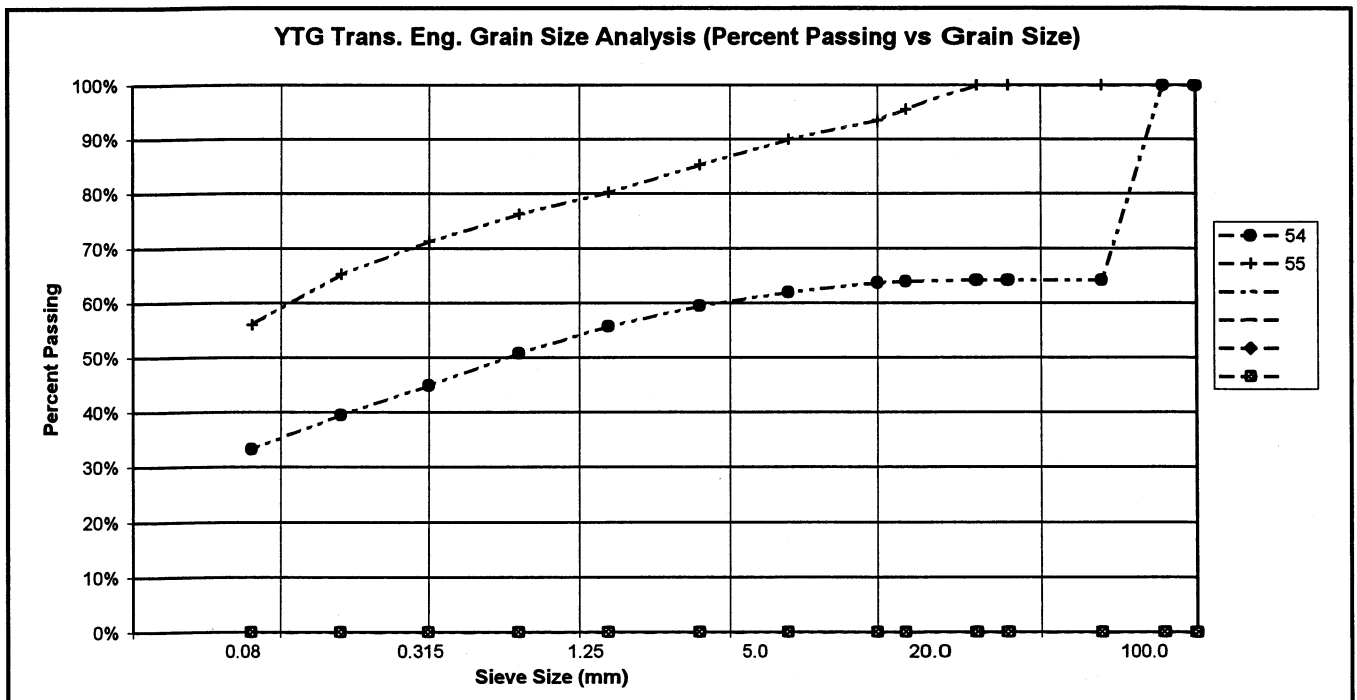


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1676+000  
 LOGGED BY: K.J.

HOLE No.: 586-909

DATE COMP: 03/29/2001

FIELD NO:	54	55			
LAB NO:	226	227			
DEPTH:	1.3-1.5	4.3-4.5			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	64%	100%			
25.0	64%	100%			
20.0	64%	100%			
12.5	64%	96%			
10.0	64%	94%			
5.0	62%	90%			
2.5	60%	85%			
1.25	56%	80%			
0.630	51%	76%			
0.315	45%	71%			
0.160	40%	65%			
0.080	33%	56%			
M.C.(%):	20%	30%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	38	10			
% SAND:	29	34			
% FINES:	33	56			
CLASSIFICATION	SILTY GRAVEL WITH SAND (GM)	SANDY SILT (ML)			

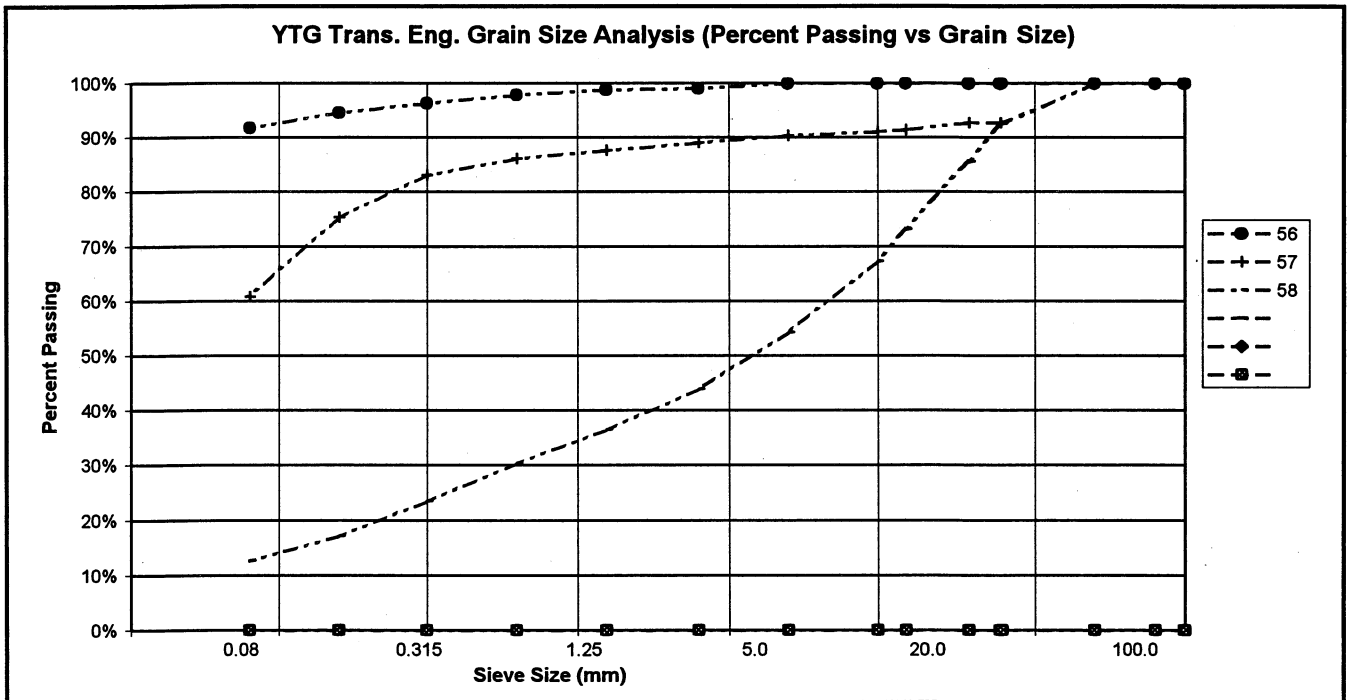


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1676+100  
 LOGGED BY: K.J.

HOLE No.: 586-910

DATE COMP: 03/29/2001

FIELD NO:	56	57	58		
LAB NO:	228	229	230		
DEPTH:	1.3-1.5	2.8-3.0	4.3-4.5		
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%		
80.0	100%	100%	100%		
50.0	100%	100%	100%		
25.0	100%	93%	92%		
20.0	100%	93%	86%		
12.5	100%	91%	73%		
10.0	100%	91%	67%		
5.0	100%	90%	54%		
2.5	99%	89%	44%		
1.25	99%	88%	37%		
0.630	98%	86%	30%		
0.315	96%	83%	24%		
0.160	95%	75%	17%		
0.080	92%	61%	13%		
M.C.(%)	116%	48%	10%		
LIQUID LIMIT:	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0		
% GRAVEL:	0	10	46		
% SAND:	8	30	42		
% FINES:	92	61	13		
CLASSIFICATION	SILT (ML)	SANDY SILT (ML)	SILTY GRAVEL WITH SAND (GM)		

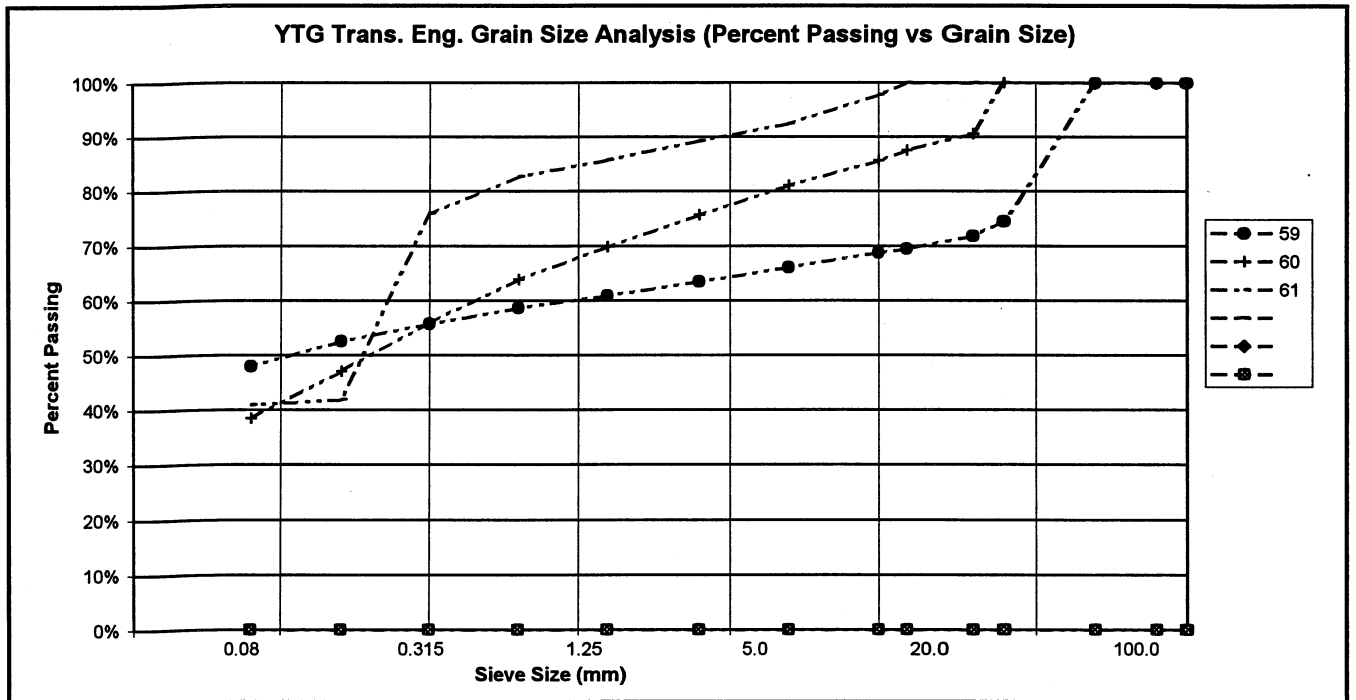


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1676+200  
 LOGGED BY: K.J.

HOLE No.: 586-911

DATE COMP: 03/29/2001

FIELD NO:	59	60	61		
LAB NO:	231	232	233		
DEPTH:	1.3-1.5	2.8-3.0	4.3-4.5		
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%		
80.0	100%	100%	100%		
50.0	100%	100%	100%		
25.0	74%	100%	100%		
20.0	72%	91%	100%		
12.5	69%	88%	100%		
10.0	69%	86%	98%		
5.0	66%	81%	92%		
2.5	64%	76%	89%		
1.25	61%	70%	86%		
0.630	59%	64%	83%		
0.315	56%	56%	76%		
0.160	53%	47%	42%		
0.080	48%	38%	41%		
M.C.(%)	10%	9%	15%		
LIQUID LIMIT:	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0		
% GRAVEL:	34	19	8		
% SAND:	18	43	51		
% FINES:	48	38	41		
CLASSIFICATION	SILTY GRAVEL WITH SAND (GM)	SILTY SAND WITH GRAVEL (SM)	SILTY SAND (SM)		

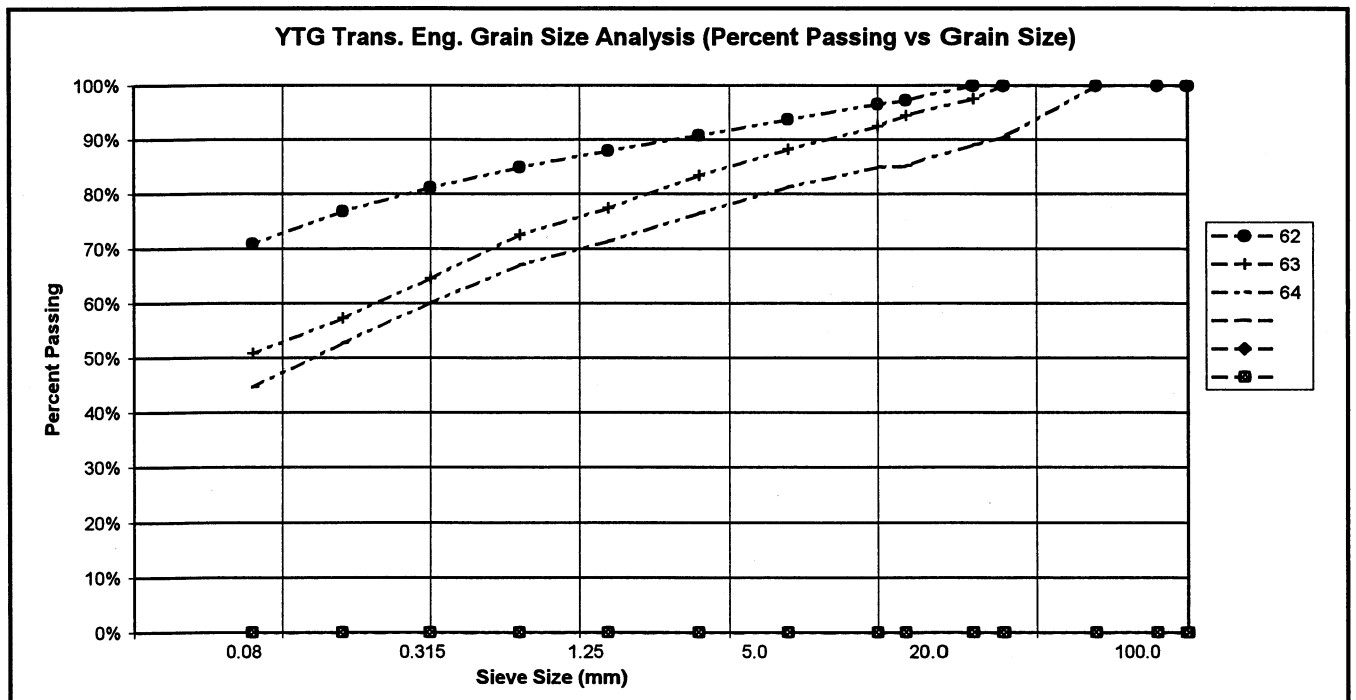


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1676+300  
 LOGGED BY: K.J.

HOLE No.: 586-912

DATE COMP: 03/29/2001

FIELD NO:	62	63	64		
LAB NO:	234	235	236		
DEPTH:	1.3-1.5	2.8-3.0	4.3-4.5		
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%		
80.0	100%	100%	100%		
50.0	100%	100%	100%		
25.0	100%	100%	90%		
20.0	100%	97%	89%		
12.5	97%	94%	85%		
10.0	97%	92%	85%		
5.0	94%	88%	81%		
2.5	91%	83%	76%		
1.25	88%	78%	71%		
0.630	85%	72%	67%		
0.315	81%	65%	60%		
0.160	77%	57%	53%		
0.080	71%	51%	45%		
M.C.(%)	10%	10%	9%		
LIQUID LIMIT:	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0		
% GRAVEL:	6	12	19		
% SAND:	23	37	37		
% FINES:	71	51	45		
CLASSIFICATION	SILT WITH SAND (ML)	SANDY SILT (ML)	SILTY SAND WITH GRAVEL (SM)		

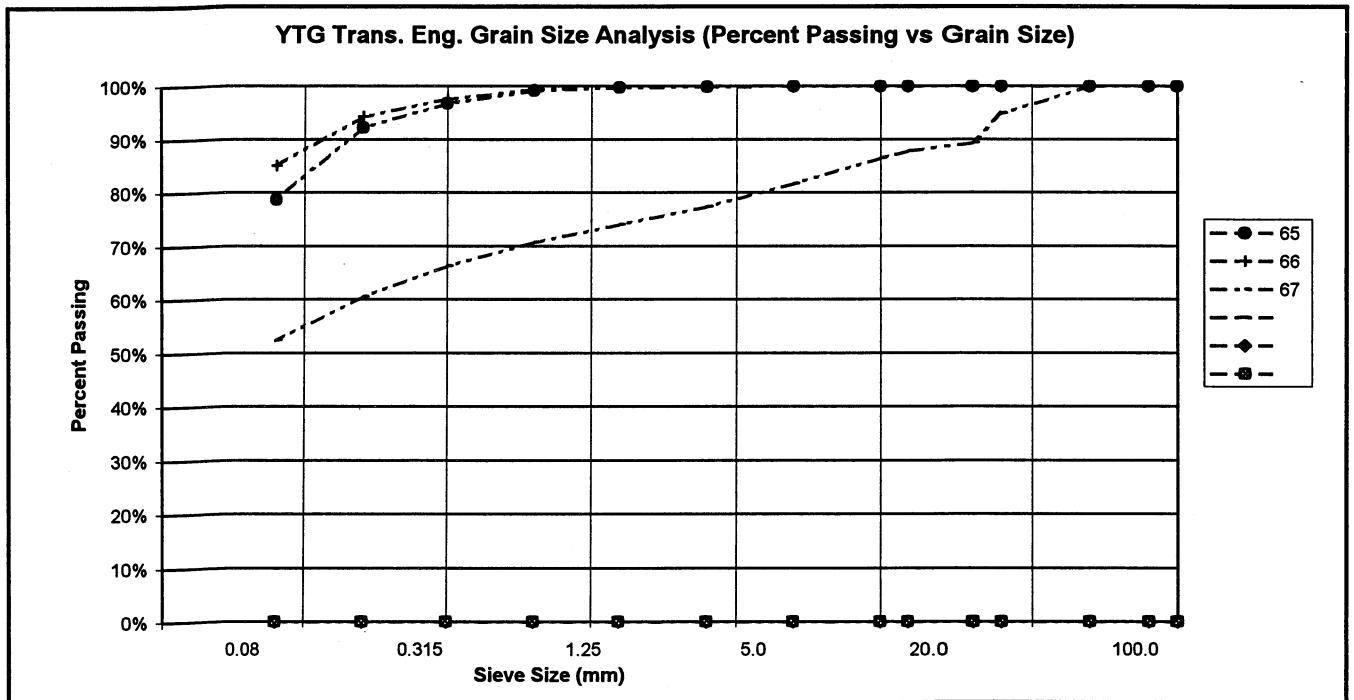


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1676+355  
 LOGGED BY: K.J.

HOLE No.: 587-913

DATE COMP: 03/29/2001

FIELD NO:	65	66	67		
LAB NO:	237	238	239		
DEPTH:	0.8-1.0	1.8-2.0	4.3-4.5		
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%		
80.0	100%	100%	100%		
50.0	100%	100%	100%		
25.0	100%	100%	95%		
20.0	100%	100%	89%		
12.5	100%	100%	88%		
10.0	100%	100%	86%		
5.0	100%	100%	82%		
2.5	100%	100%	77%		
1.25	100%	100%	74%		
0.630	99%	99%	71%		
0.315	97%	98%	66%		
0.160	92%	94%	60%		
0.080	79%	85%	52%		
M.C.(%)	15%	19%	12%		
LIQUID LIMIT:	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0		
% GRAVEL:	0	0	18		
% SAND:	21	15	29		
% FINES:	79	85	52		
CLASSIFICATION	SILT WITH SAND (ML)	SILT (ML)	SANDY SILT WITH GRAVEL (ML)		

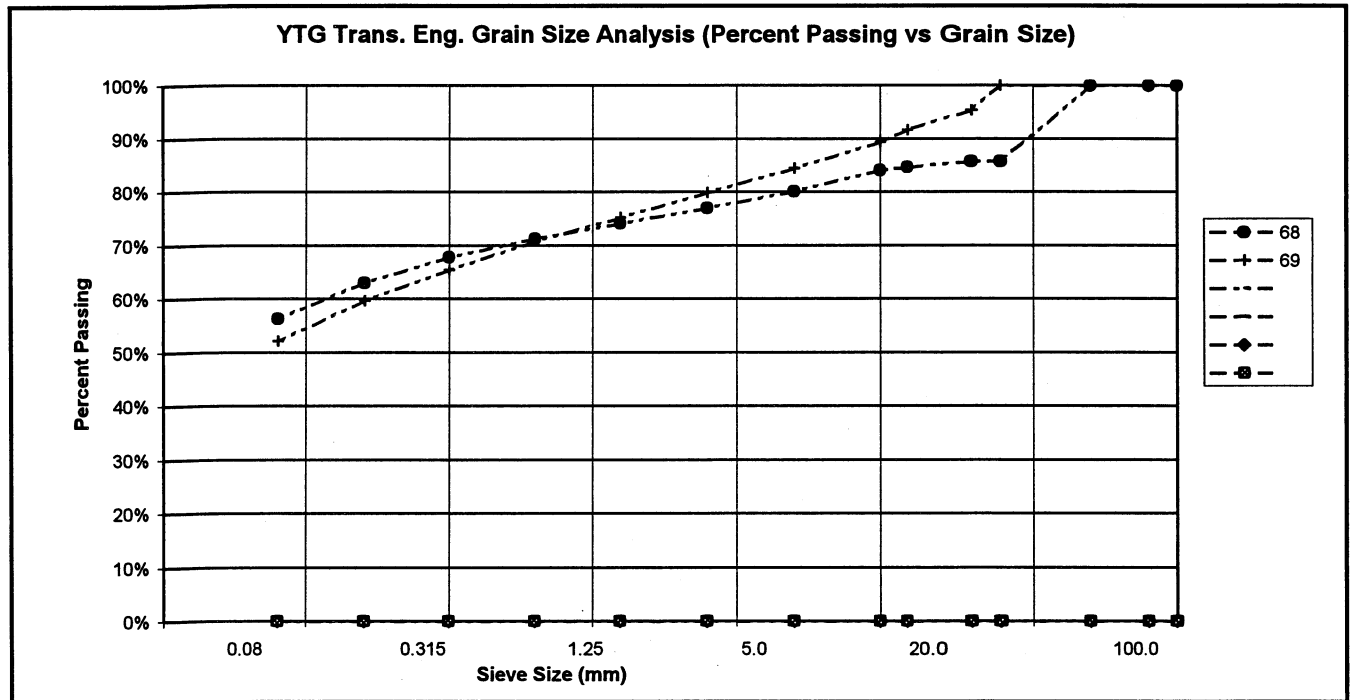


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1676+425  
 LOGGED BY: K.J.

HOLE No.: 587-914

DATE COMP: 03/29/2001

FIELD NO:	68	69			
LAB NO:	240	241			
DEPTH:	1.3-1.5	4.3-4.5			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	86%	100%			
20.0	86%	95%			
12.5	85%	92%			
10.0	84%	89%			
5.0	80%	84%			
2.5	77%	80%			
1.25	74%	75%			
0.630	71%	71%			
0.315	68%	65%			
0.160	63%	60%			
0.080	56%	52%			
M.C.(%):	9%	9%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	20	16			
% SAND:	24	32			
% FINES:	56	52			
CLASSIFICATION	SANDY SILT WITH GRAVEL (ML)	SANDY SILT WITH GRAVEL (ML)			

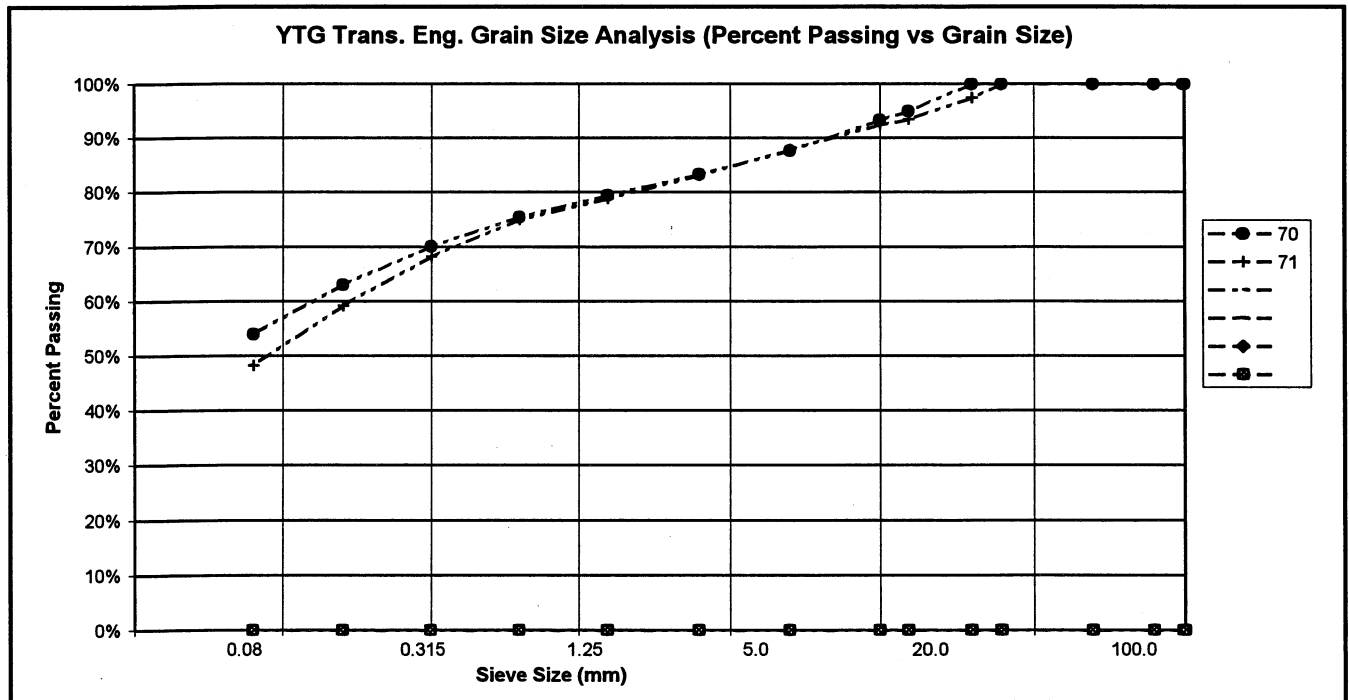


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1676+500  
 LOGGED BY: K.J.

HOLE No.: 587-915

DATE COMP: 03/29/2001

FIELD NO:	70	71			
LAB NO:	242	243			
DEPTH:	1.3-1.5	4.3-4.5			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	100%	100%			
20.0	100%	97%			
12.5	95%	93%			
10.0	93%	92%			
5.0	88%	88%			
2.5	83%	83%			
1.25	79%	79%			
0.630	76%	75%			
0.315	70%	68%			
0.160	63%	59%			
0.080	54%	48%			
M.C.(%)	9%	10%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	12	12			
% SAND:	34	40			
% FINES:	54	48			
CLASSIFICATION	SANDY SILT (ML)	SILTY SAND (SM)			

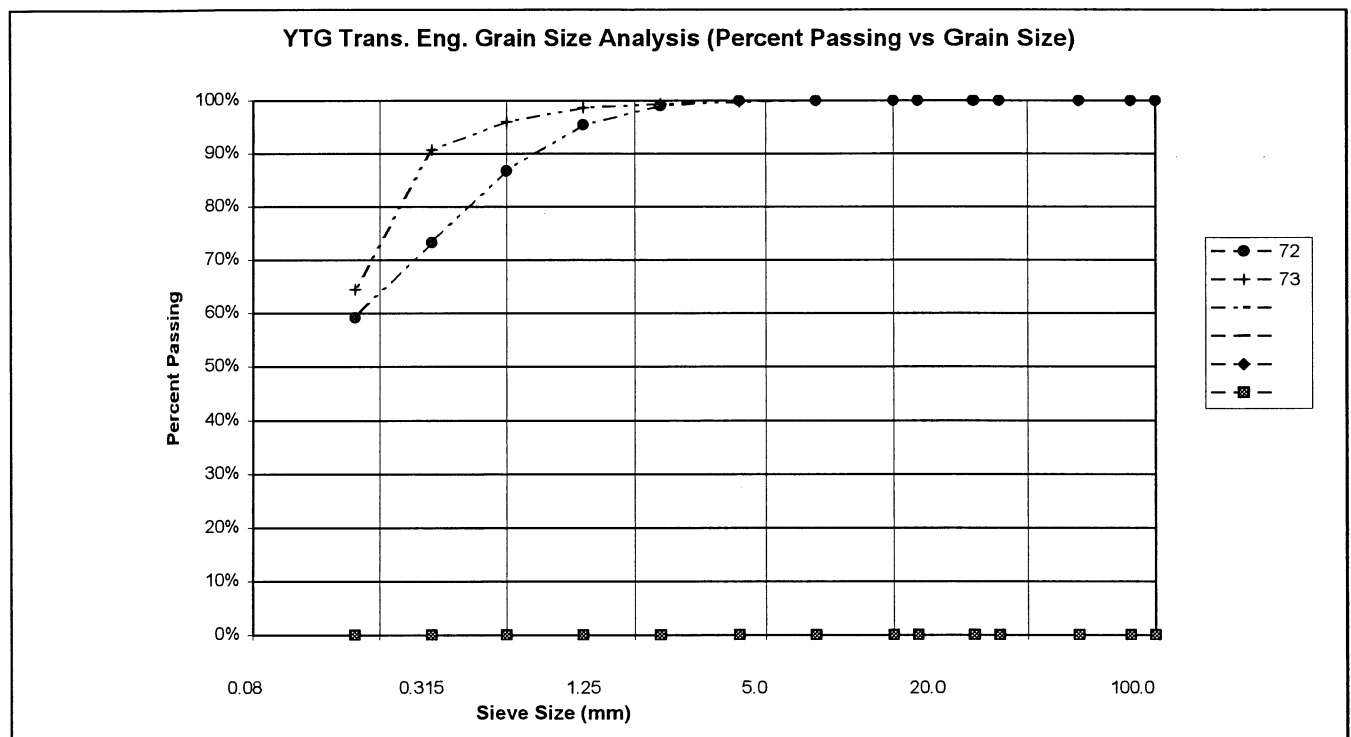


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1676-550  
 LOGGED BY: K.J.

HOLE No.: 587-916

DATE COMP: 2001/03/29

FIELD NO:	72	73			
LAB NO:	244	245			
DEPTH:	8-1.0	2.8-3.2			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	100%	100%			
20.0	100%	100%			
12.5	100%	100%			
10.0	100%	100%			
5.0	100%	100%			
2.5	100%	100%			
1.25	99%	99%			
0.630	95%	99%			
0.315	87%	96%			
0.160	73%	91%			
0.080	59%	64%			
M.C.(%)	19%	20%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	0	0			
% SAND:	41	36			
% FINES:	59	64			
CLASSIFICATION	SANDY SILT (ML)	SANDY SILT (ML)			

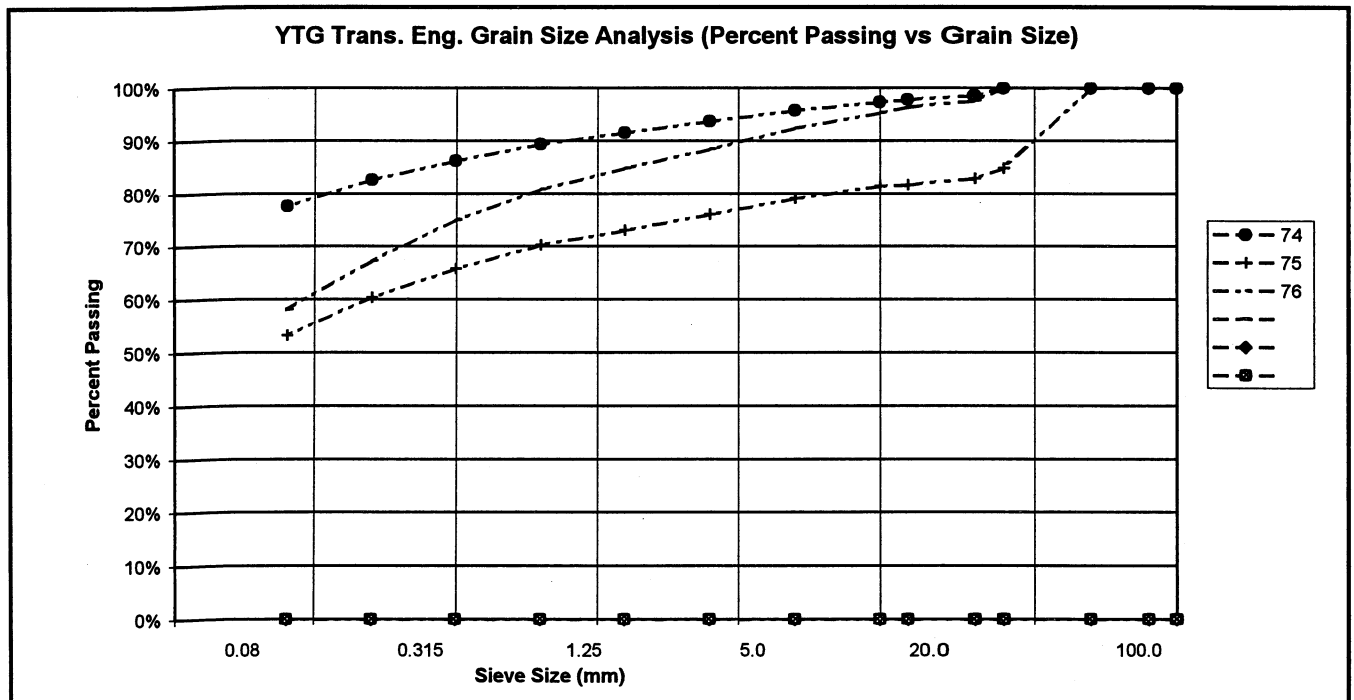


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1676+675  
 LOGGED BY: K.J.

HOLE No.: 587-917

DATE COMP: 03/29/2001

FIELD NO:	74	75	76		
LAB NO:	246	247	248		
DEPTH:	1.3-1.5	4.3-4.5	7.1-7.5		
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%		
80.0	100%	100%	100%		
50.0	100%	100%	100%		
25.0	100%	85%	100%		
20.0	99%	83%	98%		
12.5	98%	82%	96%		
10.0	97%	81%	95%		
5.0	96%	79%	92%		
2.5	94%	76%	88%		
1.25	91%	73%	85%		
0.630	89%	70%	81%		
0.315	86%	66%	75%		
0.160	83%	60%	67%		
0.080	78%	53%	58%		
M.C.(%)	14%	11%	10%		
LIQUID LIMIT:	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0		
% GRAVEL:	4	21	8		
% SAND:	18	26	34		
% FINES:	78	53	58		
CLASSIFICATION	SILT WITH SAND (ML)	SANDY SILT WITH GRAVEL (ML)	SANDY SILT (ML)		

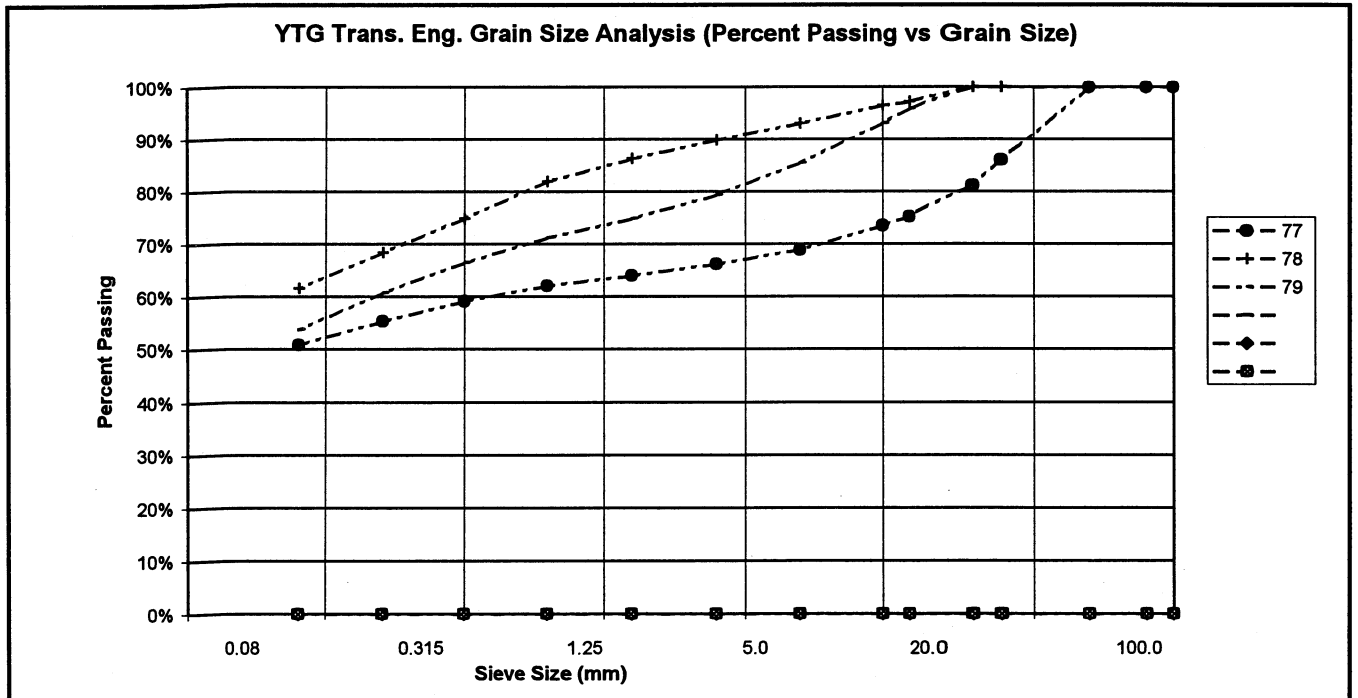


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1676+750  
 LOGGED BY: K.J.

HOLE No.: 587-918

DATE COMP: 03/29/2001

FIELD NO:	77	78	79		
LAB NO:	249	250	251		
DEPTH:	1.3-1.5	4.3-4.5	7.3-7.5		
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%		
80.0	100%	100%	100%		
50.0	100%	100%	100%		
25.0	86%	100%	100%		
20.0	81%	100%	100%		
12.5	75%	97%	96%		
10.0	74%	97%	93%		
5.0	69%	93%	85%		
2.5	66%	90%	79%		
1.25	64%	86%	75%		
0.630	62%	82%	71%		
0.315	59%	75%	67%		
0.160	55%	68%	61%		
0.080	51%	62%	54%		
M.C.(%)	9%	12%	11%		
LIQUID LIMIT:	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0		
PLASTIC INDEX:	0.0	0.0	0.0		
% GRAVEL:	31	7	15		
% SAND:	18	31	32		
% FINES:	51	62	54		
CLASSIFICATION	GRAVELLY SILT WITH SAND (ML)	SANDY SILT (ML)	SANDY SILT (ML)		

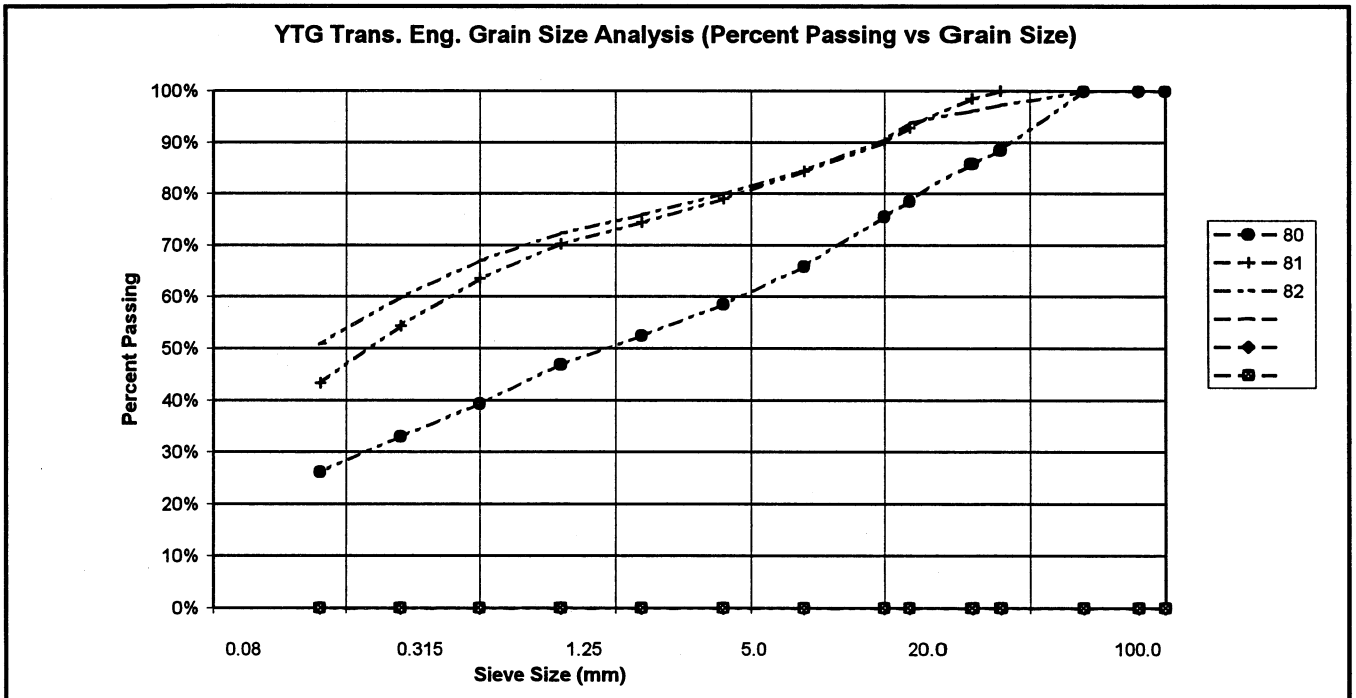


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1676+825  
 LOGGED BY: K.J.

HOLE No.: 587-919

DATE COMP: 03/29/2001

FIELD NO:	80	81	82		
LAB NO:	252	253	254		
DEPTH:	1.3-1.5	2.8-3.0	4.3-4.5		
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%		
80.0	100%	100%	100%		
50.0	100%	100%	100%		
25.0	88%	100%	97%		
20.0	86%	99%	96%		
12.5	79%	93%	94%		
10.0	76%	90%	91%		
5.0	66%	84%	85%		
2.5	59%	79%	80%		
1.25	53%	74%	76%		
0.630	47%	70%	72%		
0.315	39%	64%	67%		
0.160	33%	54%	60%		
0.080	26%	43%	51%		
M.C.(%)	5%	8%	9%		
LIQUID LIMIT:	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0		
% GRAVEL:	34	16	15		
% SAND:	40	41	34		
% FINES:	26	43	51		
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	SILTY SAND WITH GRAVEL (SM)	SANDY SILT WITH GRAVEL (ML)		

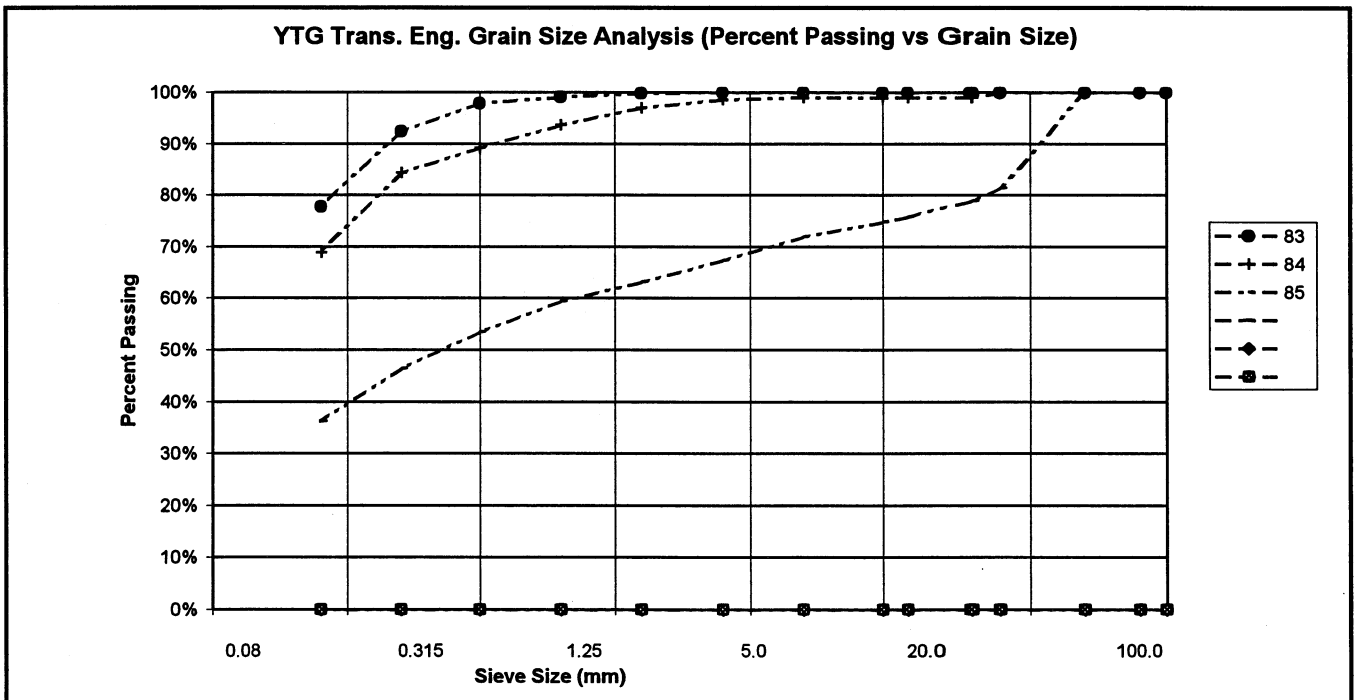


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1676+925  
 LOGGED BY: K.J.

HOLE No.: 587-920

DATE COMP: 03/30/2001

FIELD NO:	83	84	85		
LAB NO:	255	256	257		
DEPTH:	1.3-1.5	2.8-3.0	4.3-4.5		
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%		
80.0	100%	100%	100%		
50.0	100%	100%	100%		
25.0	100%	100%	81%		
20.0	100%	99%	79%		
12.5	100%	99%	76%		
10.0	100%	99%	75%		
5.0	100%	99%	72%		
2.5	100%	99%	67%		
1.25	100%	97%	63%		
0.630	99%	94%	59%		
0.315	98%	89%	53%		
0.160	92%	84%	46%		
0.080	78%	69%	36%		
M.C.(%)	29%	23%	14%		
LIQUID LIMIT:	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0		
PLASTIC INDEX:	0.0	0.0	0.0		
% GRAVEL:	0	1	28		
% SAND:	22	30	36		
% FINES:	78	69	36		
CLASSIFICATION	SILT WITH SAND (ML)	SANDY SILT (ML)	SILTY SAND WITH GRAVEL (SM)		

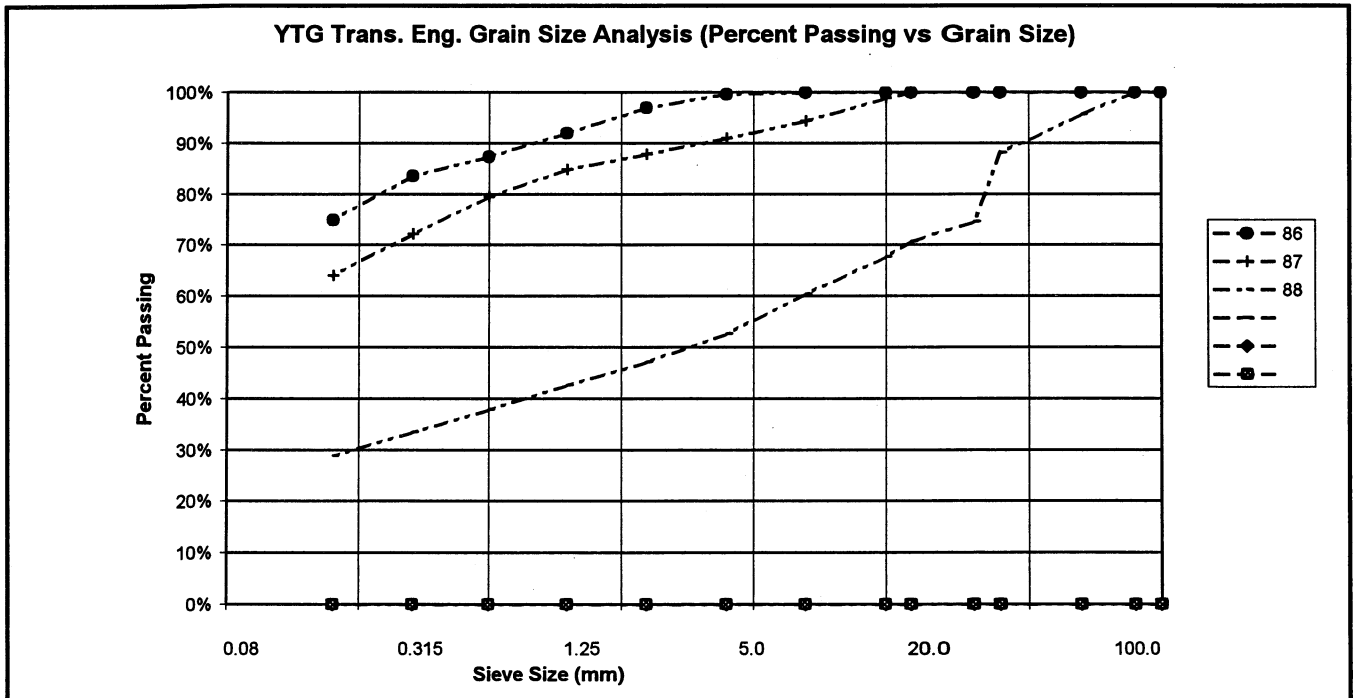


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1677-000  
 LOGGED BY: K.J.

HOLE No.: 587-921

DATE COMP: 03/30/2001

FIELD NO:	86	87	88		
LAB NO:	258	259	260		
DEPTH:	1.3-1.5	2.8-3.0	4.3-4.5		
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%		
80.0	100%	100%	100%		
50.0	100%	100%	96%		
25.0	100%	100%	88%		
20.0	100%	100%	75%		
12.5	100%	100%	71%		
10.0	100%	99%	68%		
5.0	100%	94%	60%		
2.5	100%	91%	53%		
1.25	97%	88%	47%		
0.630	92%	85%	43%		
0.315	87%	79%	38%		
0.160	84%	72%	33%		
0.080	75%	64%	29%		
M.C.(%)	35%	22%	17%		
LIQUID LIMIT:	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0		
PLASTIC INDEX:	0.0	0.0	0.0		
% GRAVEL:	0	6	40		
% SAND:	25	30	32		
% FINES:	75	64	29		
CLASSIFICATION	SILT WITH SAND (ML)	SANDY SILT (ML)	SILTY GRAVEL WITH SAND (GM)		

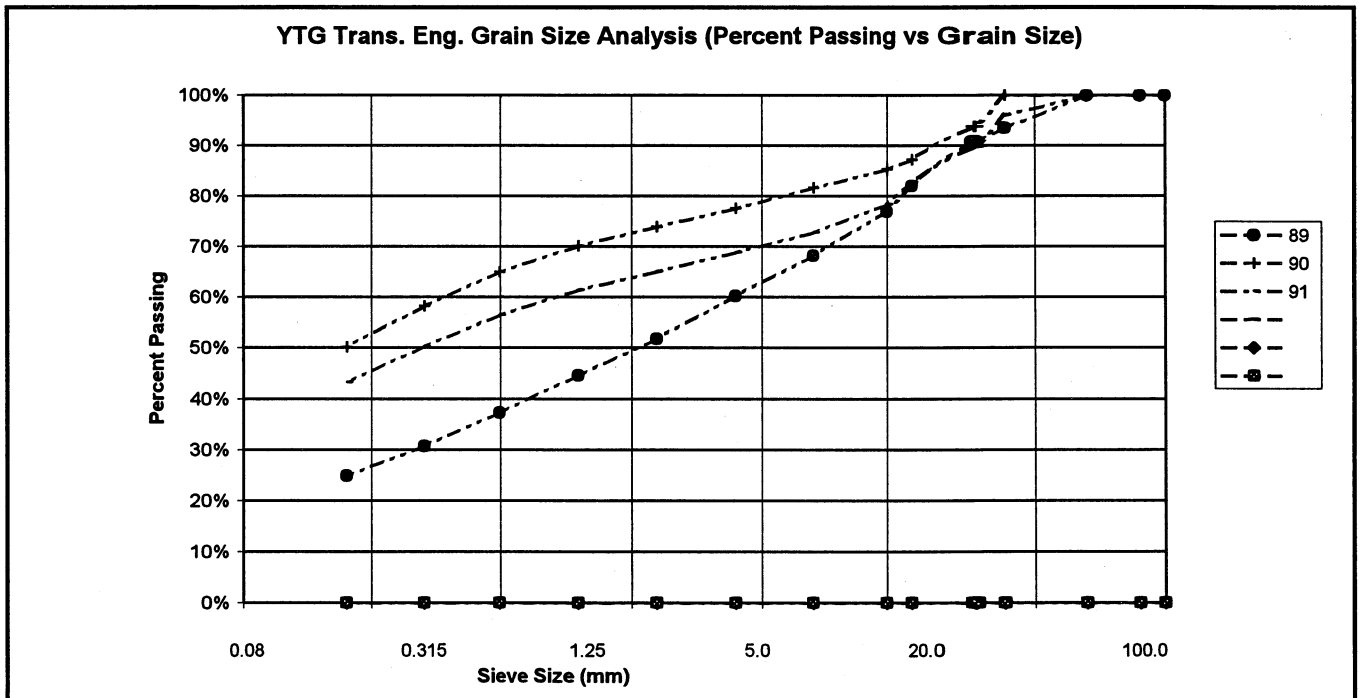


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1677+150  
 LOGGED BY: K.J.

HOLE No.: 587-922

DATE COMP: 03/30/2001

FIELD NO:	89	90	91		
LAB NO:	261	262	263		
DEPTH:	.8-1.0	2.8-3.0	4.3-4.5		
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%		
80.0	100%	100%	100%		
50.0	100%	100%	100%		
25.0	93%	100%	96%		
20.0	91%	94%	90%		
12.5	82%	87%	83%		
10.0	77%	85%	78%		
5.0	68%	82%	73%		
2.5	60%	78%	69%		
1.25	52%	74%	65%		
0.630	45%	70%	61%		
0.315	37%	65%	56%		
0.160	31%	58%	50%		
0.080	25%	50%	43%		
M.C.(%)	8%	9%	9%		
LIQUID LIMIT:	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0		
% GRAVEL:	32	18	27		
% SAND:	43	31	30		
% FINES:	25	50	43		
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	SANDY SILT WITH GRAVEL (ML)	SILTY SAND WITH GRAVEL (SM)		

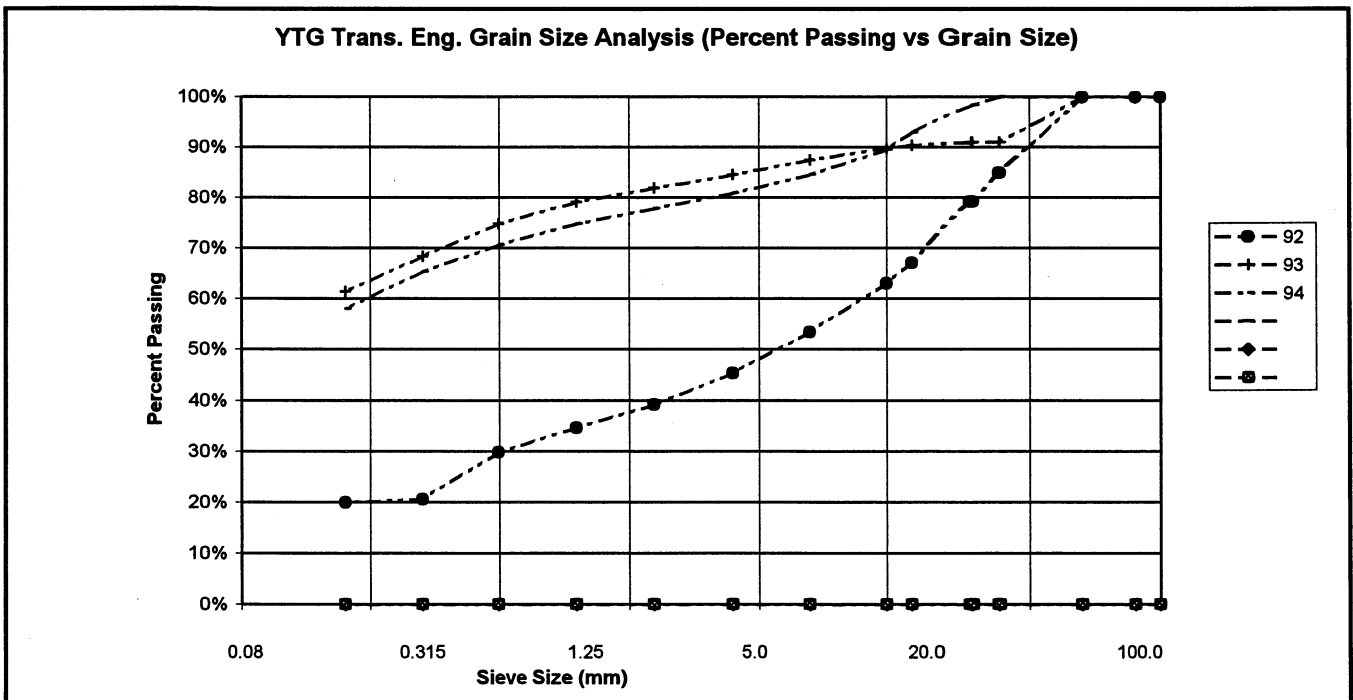


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1677+230  
 LOGGED BY: K.J.

HOLE No.: 587-923

DATE COMP: 03/30/2001

FIELD NO:	92	93	94		
LAB NO:	264	265	266		
DEPTH:	0.8-1.0	1.8-2.0	4.3-4.5		
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%		
80.0	100%	100%	100%		
50.0	100%	100%	100%		
25.0	85%	91%	100%		
20.0	79%	91%	98%		
12.5	67%	90%	93%		
10.0	63%	90%	90%		
5.0	53%	87%	85%		
2.5	45%	85%	81%		
1.25	39%	82%	78%		
0.630	35%	79%	75%		
0.315	30%	75%	71%		
0.160	21%	68%	65%		
0.080	20%	61%	58%		
M.C.(%)	6%	13%	13%		
LIQUID LIMIT:	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0		
PLASTIC INDEX:	0.0	0.0	0.0		
% GRAVEL:	47	13	15		
% SAND:	33	26	27		
% FINES:	20	61	58		
CLASSIFICATION	SILTY GRAVEL WITH SAND (GM)	SANDY SILT (ML)	SANDY SILT WITH GRAVEL (ML)		

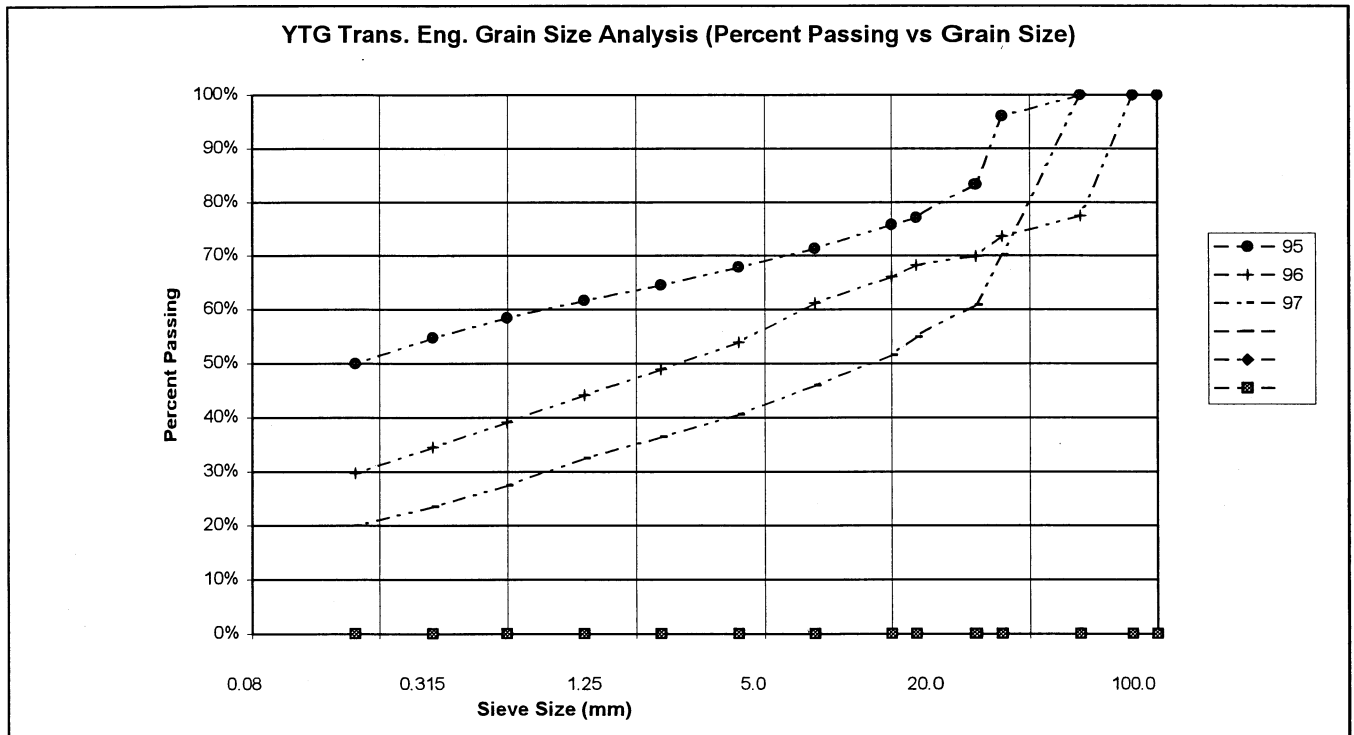


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1677+275 35m RT  
 LOGGED BY: K.J.

HOLE No.: 587-924

DATE COMP: 2001/03/30

FIELD NO:	95	96	97		
LAB NO:	267	268	269		
DEPTH:	1.3-1.5	2.8-3.0	4.3-4.5		
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%		
80.0	100%	100%	100%		
50.0	100%	77%	100%		
25.0	96%	74%	70%		
20.0	83%	70%	61%		
12.5	77%	68%	55%		
10.0	76%	66%	52%		
5.0	71%	61%	46%		
2.5	68%	54%	41%		
1.25	65%	49%	36%		
0.630	62%	44%	32%		
0.315	58%	39%	27%		
0.160	55%	34%	24%		
0.080	50%	30%	20%		
M.C.(%)	8%	6%	4%		
LIQUID LIMIT:	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0		
% GRAVEL:	29	39	54		
% SAND:	21	32	26		
% FINES:	50	30	20		
CLASSIFICATION	GRAVELLY SILT WITH SAND (ML)	SILTY GRAVEL WITH SAND (GM)	SILTY GRAVEL WITH SAND (GM)		

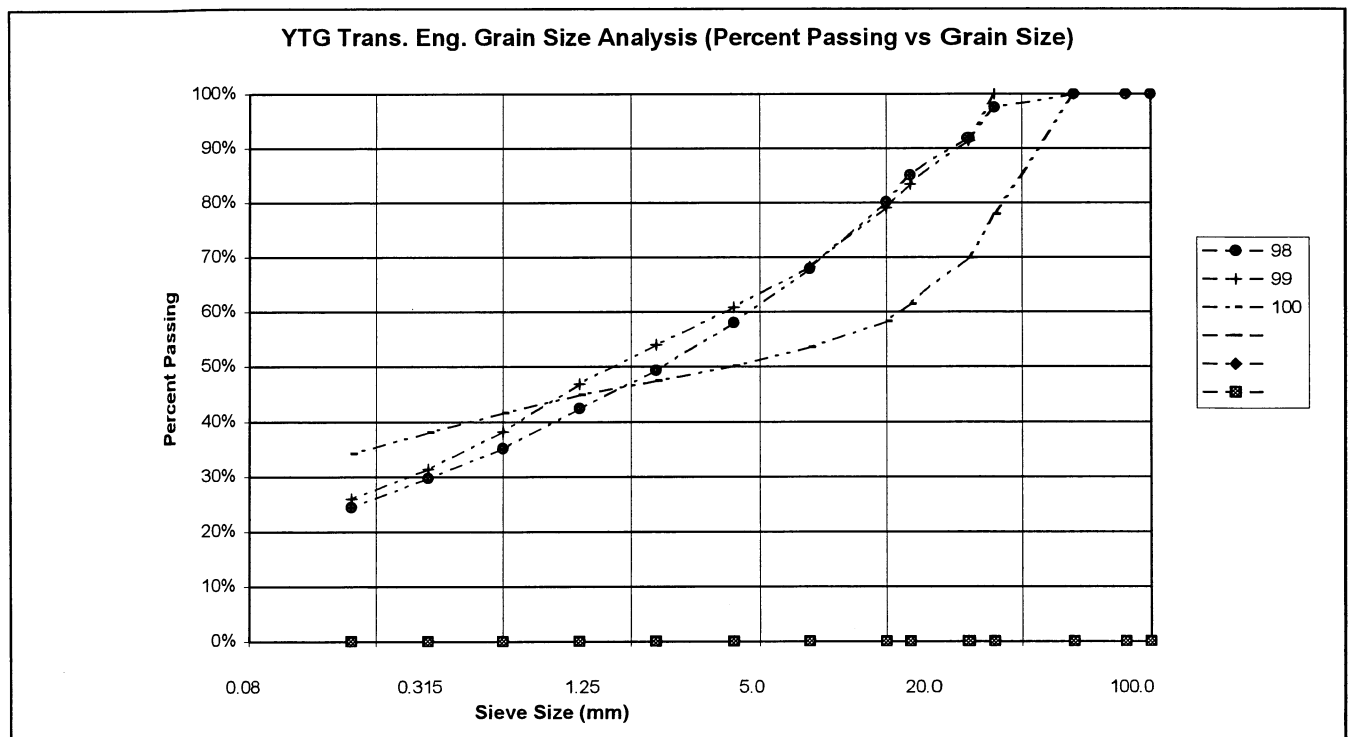


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: 1664.5 - 1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1677+305  
 LOGGED BY: K.J.

HOLE No.: 587-925

DATE COMP: 2001/03/30

FIELD NO:	98	99	100		
LAB NO:	270	271	272		
DEPTH:	1.3-1.5	3.8-4.0	5.8-6.0		
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%		
80.0	100%	100%	100%		
50.0	100%	100%	100%		
25.0	98%	100%	78%		
20.0	92%	91%	70%		
12.5	85%	83%	61%		
10.0	80%	79%	58%		
5.0	68%	68%	54%		
2.5	58%	61%	50%		
1.25	49%	54%	47%		
0.630	42%	47%	45%		
0.315	35%	38%	42%		
0.160	30%	31%	38%		
0.080	24%	26%	34%		
M.C.(%):	4%	5%	6%		
LIQUID LIMIT:	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0		
% GRAVEL:	32	32	46		
% SAND:	44	42	19		
% FINES:	24	26	34		
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	SILTY SAND WITH GRAVEL (SM)	SILTY GRAVEL WITH SAND (GM)		

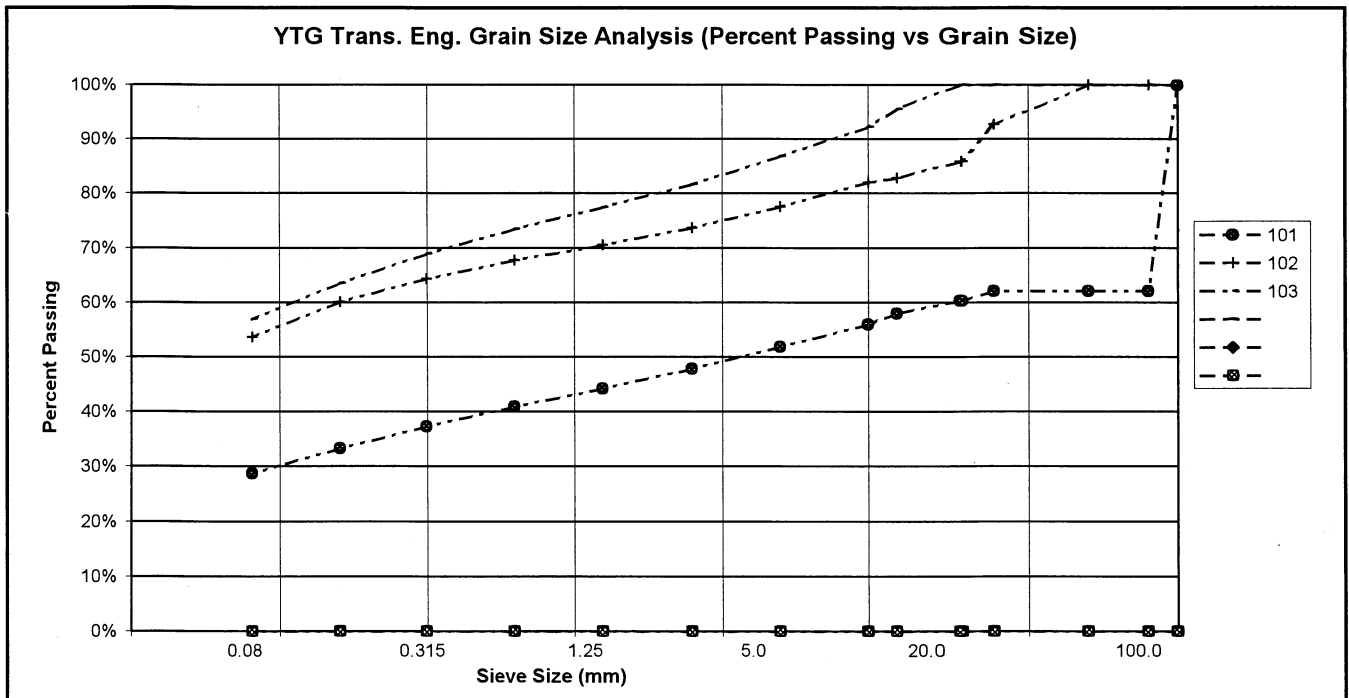


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: 1664.5-1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1677+400  
 LOGGED BY: K.J.

HOLE No.: 588-926

DATE COMP: 2001/04/02

FIELD NO:	101	102	103		
LAB NO:	273	274	275		
DEPTH:	1.3-1.5	2.8-3.0	4.3-4.5		
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%		
80.0	62%	100%	100%		
50.0	62%	100%	100%		
25.0	62%	93%	100%		
20.0	60%	86%	100%		
12.5	58%	83%	96%		
10.0	56%	82%	92%		
5.0	52%	78%	87%		
2.5	48%	74%	82%		
1.25	44%	70%	77%		
0.630	41%	68%	74%		
0.315	37%	64%	69%		
0.160	33%	60%	63%		
0.080	29%	54%	57%		
M.C.(%)	8%	10%	11%		
LIQUID LIMIT:	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0		
PLASTIC INDEX:	0.0	0.0	0.0		
% GRAVEL:	48	22	13		
% SAND:	23	24	30		
% FINES:	29	54	57		
CLASSIFICATION	SILTY GRAVEL WITH SAND (GM)	SANDY SILT WITH GRAVEL (ML)	SANDY SILT (ML)		

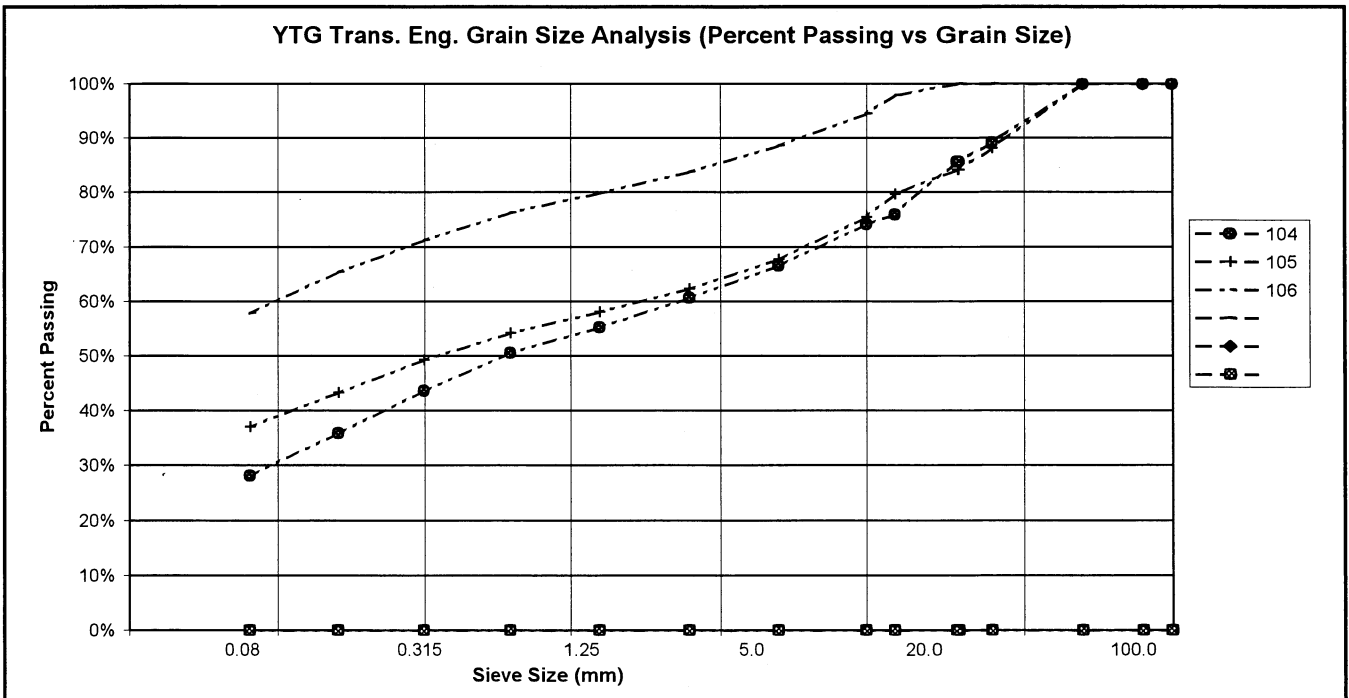


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: 1664.5-1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1677+500  
 LOGGED BY: K.J.

HOLE No.: 588-927

DATE COMP: 2001/04/02

FIELD NO:	104	105	106			
LAB NO:	276	277	278			
DEPTH:	1.3-1.5	2.8-3.0	4.3-4.5			
TYPE:	AUGER	AUGER	AUGER	AUGER		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	100%	100%	100%			
25.0	89%	88%	100%			
20.0	86%	84%	100%			
12.5	76%	80%	98%			
10.0	74%	75%	94%			
5.0	67%	68%	89%			
2.5	61%	62%	84%			
1.25	55%	58%	80%			
0.630	51%	54%	76%			
0.315	44%	49%	71%			
0.160	36%	43%	65%			
0.080	28%	37%	58%			
M.C.(%)	5%	7%	12%			
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	33	32	11			
% SAND:	38	31	31			
% FINES:	28	37	58			
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	SILTY GRAVEL WITH SAND (GM)	SANDY SILT (ML)			

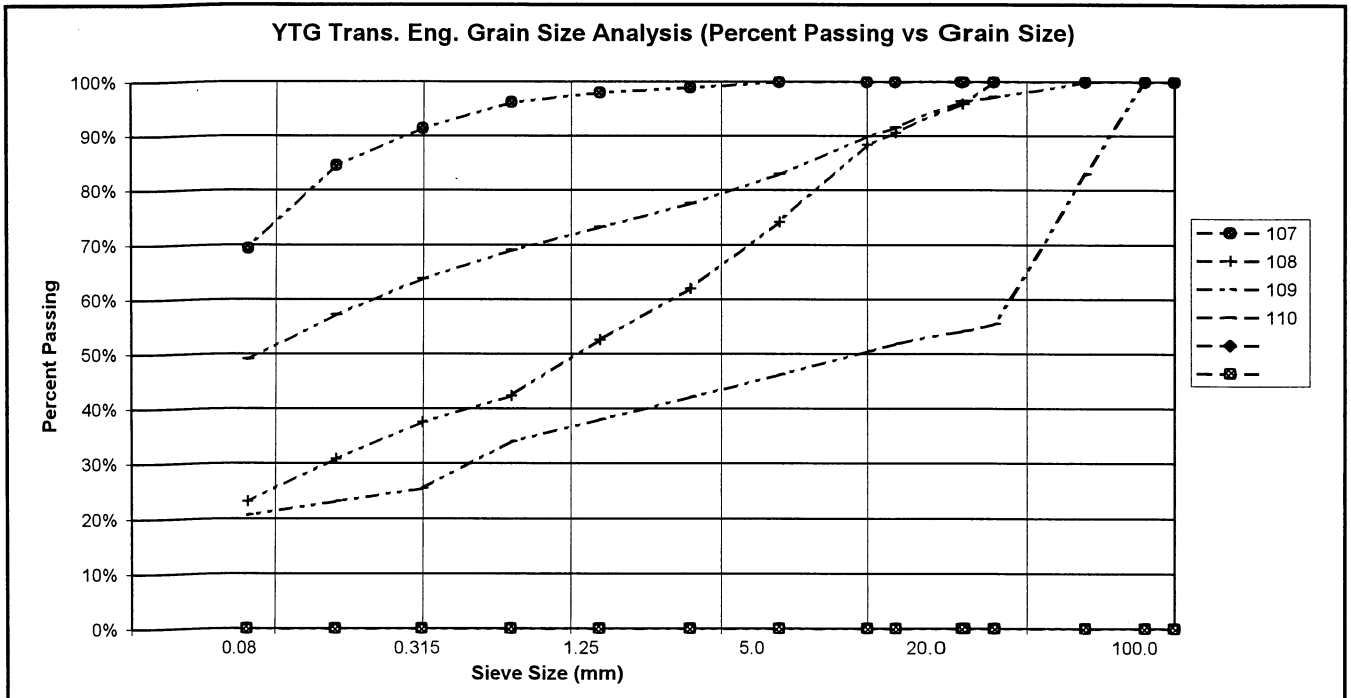


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: 1664.5-1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1677+600  
 LOGGED BY: K.J.

HOLE No.: 588-928

DATE COMP: 2001/04/02

FIELD NO:	107	108	109	110		
LAB NO:	279	280	281	282		
DEPTH:	0.3-0.5	1.3-1.5	2.8-3.0	5.8-6.0		
TYPE:	AUGER	AUGER	AUGER	AUGER		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	100%	83%	100%		
25.0	100%	100%	56%	97%		
20.0	100%	96%	54%	96%		
12.5	100%	91%	52%	92%		
10.0	100%	88%	51%	90%		
5.0	100%	74%	46%	83%		
2.5	99%	62%	42%	78%		
1.25	98%	53%	38%	73%		
0.630	96%	42%	34%	69%		
0.315	91%	38%	25%	64%		
0.160	85%	31%	23%	57%		
0.080	69%	23%	21%	49%		
M.C.(%)	15%	6%	4%	9%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	0	26	54	17		
% SAND:	31	51	25	34		
% FINES:	69	23	21	49		
CLASSIFICATION	SANDY SILT (ML)	SILTY SAND WITH GRAVEL (SM)	SILTY GRAVEL WITH SAND (GM)	SILTY SAND WITH GRAVEL (SM)		

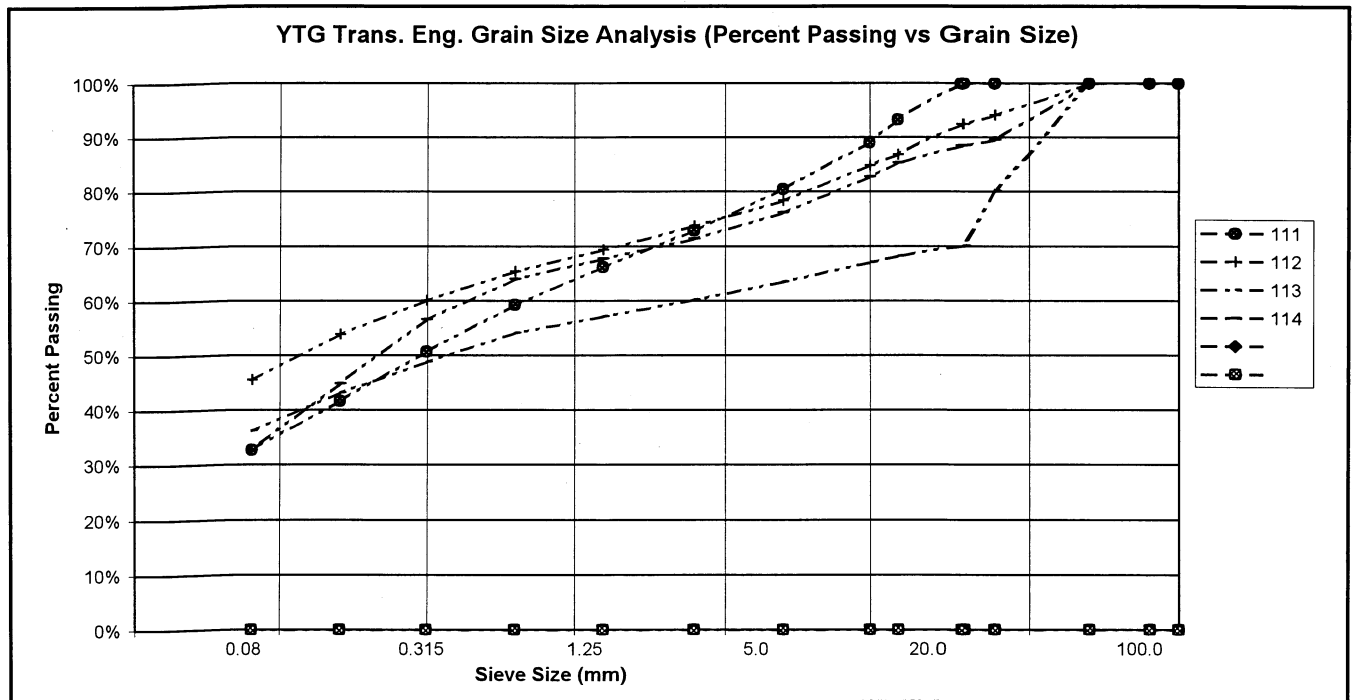


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: 1664.5-1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1677+675  
 LOGGED BY: K.J.

HOLE No.: 588-929

DATE COMP: 2001/04/02

FIELD NO:	111	112	113	114		
LAB NO:	283	284	285	286		
DEPTH:	1.3-1.5	4.3-4.5	6.6-7.0	8.8-9.0		
TYPE:	AUGER	AUGER	AUGER	AUGER		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	100%	100%	100%		
25.0	100%	94%	80%	90%		
20.0	100%	92%	70%	88%		
12.5	93%	87%	68%	85%		
10.0	89%	85%	67%	83%		
5.0	81%	78%	64%	76%		
2.5	73%	74%	60%	71%		
1.25	66%	69%	57%	68%		
0.630	59%	65%	54%	64%		
0.315	51%	60%	49%	57%		
0.160	42%	54%	43%	45%		
0.080	33%	46%	36%	33%		
M.C.(%)	6%	6%	7%	8%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	19	22	36	24		
% SAND:	48	33	27	43		
% FINES:	33	46	36	33		
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	SILTY SAND WITH GRAVEL (SM)	SILTY GRAVEL WITH SAND (GM)	SILTY SAND WITH GRAVEL (SM)		

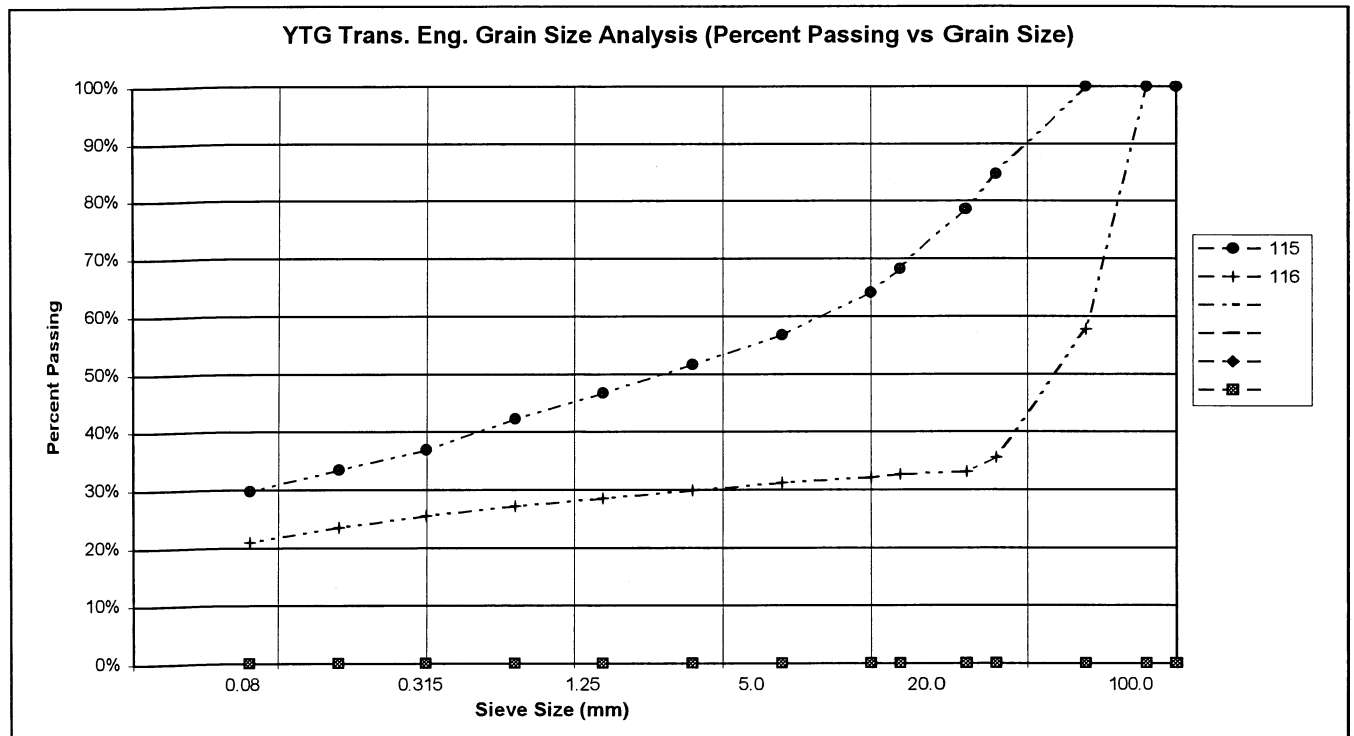


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: 1664.5-1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1683+675  
 LOGGED BY: K.J.

HOLE No.: 588-930

DATE COMP: 2001/04/02

FIELD NO:	115	116				
LAB NO:	359	360				
DEPTH:	1.3-1.5	2.8-3.0				
TYPE:	AUGER	AUGER	AUGER	AUGER		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING				
100.0	100%	100%				
80.0	100%	100%				
50.0	100%	58%				
25.0	85%	36%				
20.0	79%	33%				
12.5	68%	33%				
10.0	64%	32%				
5.0	57%	31%				
2.5	52%	30%				
1.25	47%	29%				
0.630	42%	27%				
0.315	37%	26%				
0.160	33%	23%				
0.080	30%	21%				
M.C.(%):	9%	9%				
LIQUID LIMIT:	0.0	0.0				
PLASTIC LIMIT:	0.0	0.0				
PLASTIC INDEX.:	0.0	0.0				
% GRAVEL:	43	69				
% SAND:	27	10				
% FINES:	30	21				
CLASSIFICATION	SILTY GRAVEL WITH SAND (GM)	SILTY GRAVEL (GM)				

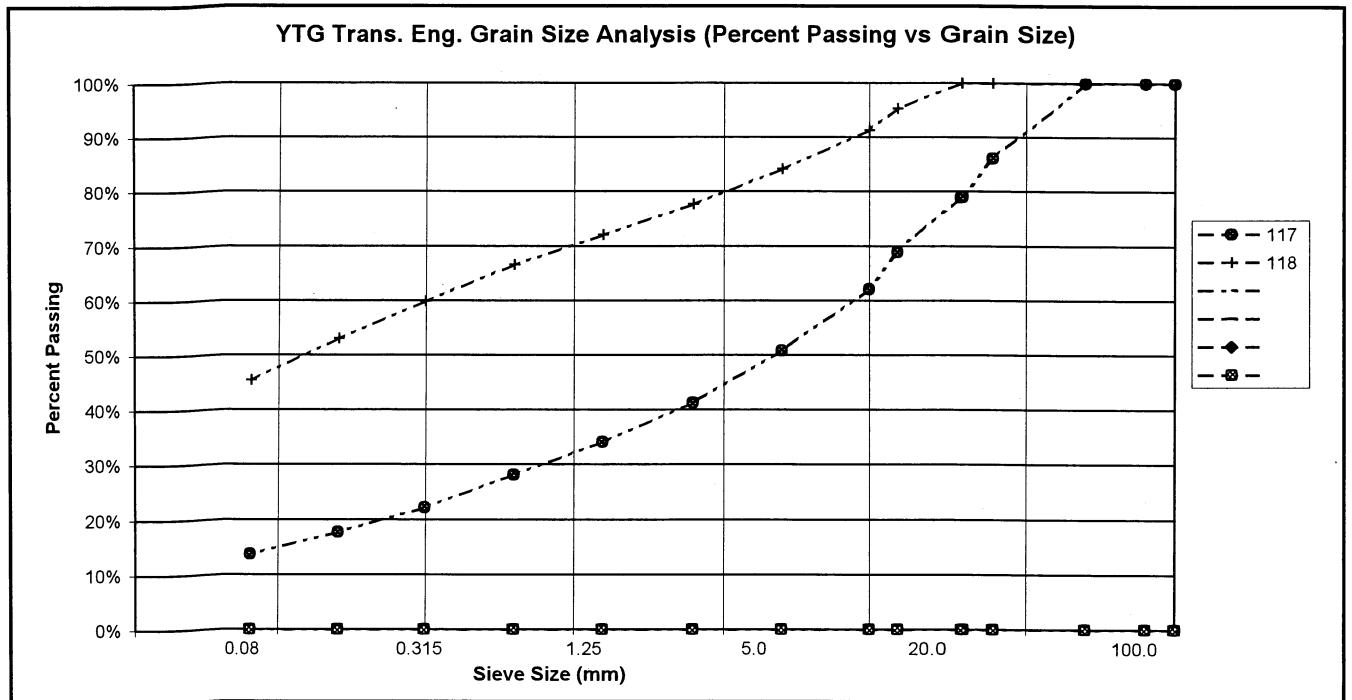


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: 1664.5-1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1683+575  
 LOGGED BY: K.J.

HOLE No.: 588-931

DATE COMP: 2001/04/17

FIELD NO:	117	118			
LAB NO:	361	362			
DEPTH:	1.3-1.5	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	86%	100%			
20.0	79%	100%			
12.5	69%	95%			
10.0	62%	91%			
5.0	51%	84%			
2.5	41%	78%			
1.25	34%	72%			
0.630	28%	67%			
0.315	22%	60%			
0.160	18%	53%			
0.080	14%	45%			
M.C.(%):	3%	8%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	49	16			
% SAND:	37	39			
% FINES:	14	45			
CLASSIFICATION	SILTY GRAVEL WITH SAND (GM)	SILTY SAND WITH GRAVEL (SM)			

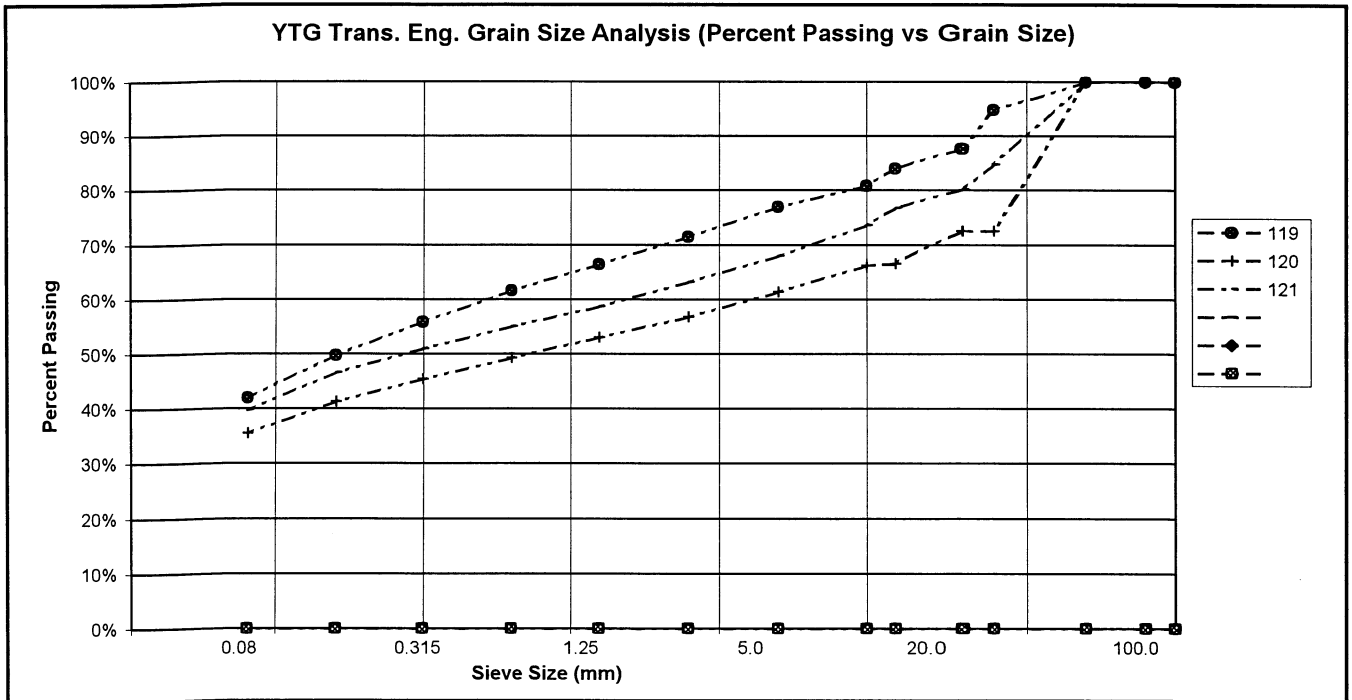


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: 1664.5-1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1683+470  
 LOGGED BY: K.J.

HOLE No.: 588-932

DATE COMP: 2001/04/02

FIELD NO:	119	120	121		
LAB NO:	363	364	365		
DEPTH:	0.9-1.1	2.3-2.5	3.8-4.0		
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%		
80.0	100%	100%	100%		
50.0	100%	100%	100%		
25.0	95%	73%	85%		
20.0	88%	73%	80%		
12.5	84%	67%	77%		
10.0	81%	66%	74%		
5.0	77%	61%	68%		
2.5	72%	57%	63%		
1.25	66%	53%	59%		
0.630	62%	49%	55%		
0.315	56%	45%	51%		
0.160	50%	41%	47%		
0.080	42%	36%	40%		
M.C.(%)	9%	4%	7%		
LIQUID LIMIT:	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0		
PLASTIC INDEX:	0.0	0.0	0.0		
% GRAVEL:	23	39	32		
% SAND:	35	26	28		
% FINES:	42	36	40		
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	SILTY GRAVEL WITH SAND (GM)	SILTY GRAVEL WITH SAND (GM)		

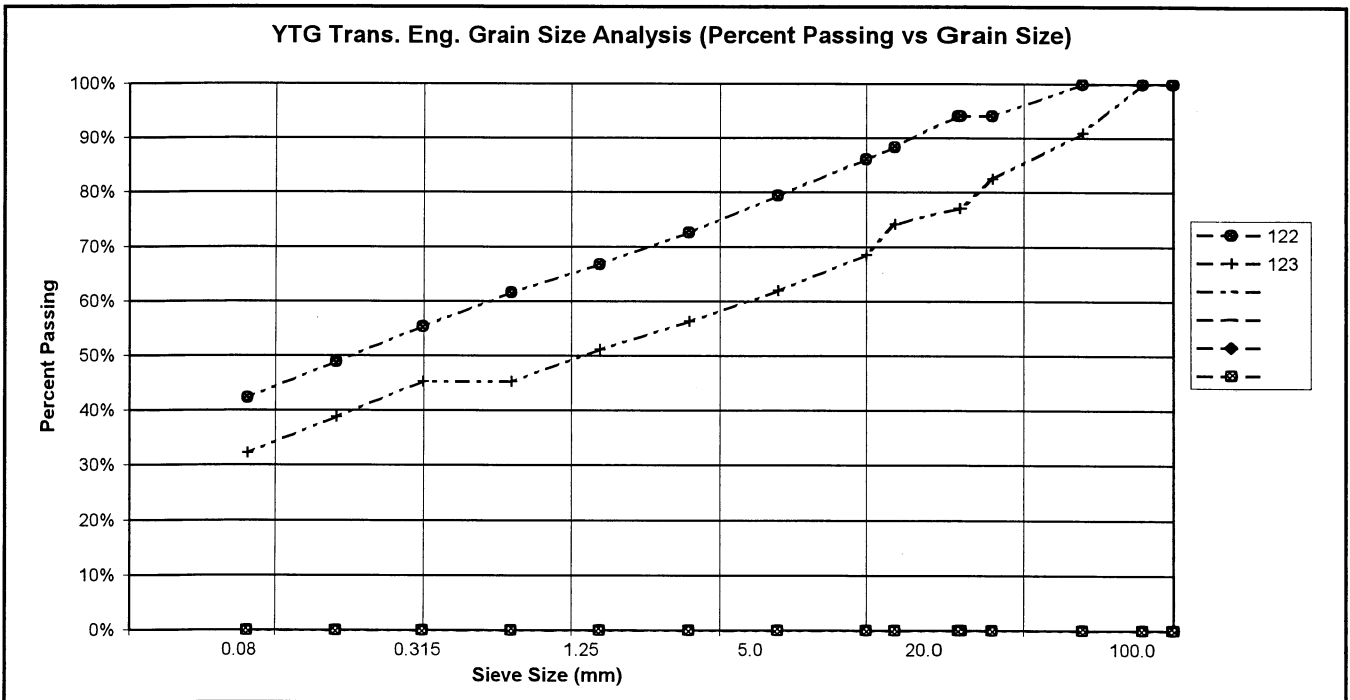


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: 1664.5-1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1683+300  
 LOGGED BY: K.J.

HOLE No.: 588-933

DATE COMP: 2001/04/02

FIELD NO:	122	123			
LAB NO:	366	367			
DEPTH:	1.3-1.5	2.5-2.7			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	91%			
25.0	94%	83%			
20.0	94%	77%			
12.5	88%	74%			
10.0	86%	69%			
5.0	79%	62%			
2.5	73%	56%			
1.25	67%	51%			
0.630	62%	45%			
0.315	55%	45%			
0.160	49%	39%			
0.080	42%	32%			
M.C.(%)	9%	6%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX:	0.0	0.0			
% GRAVEL:	21	38			
% SAND:	37	30			
% FINES:	42	32			
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	SILTY GRAVEL WITH SAND (GM)			

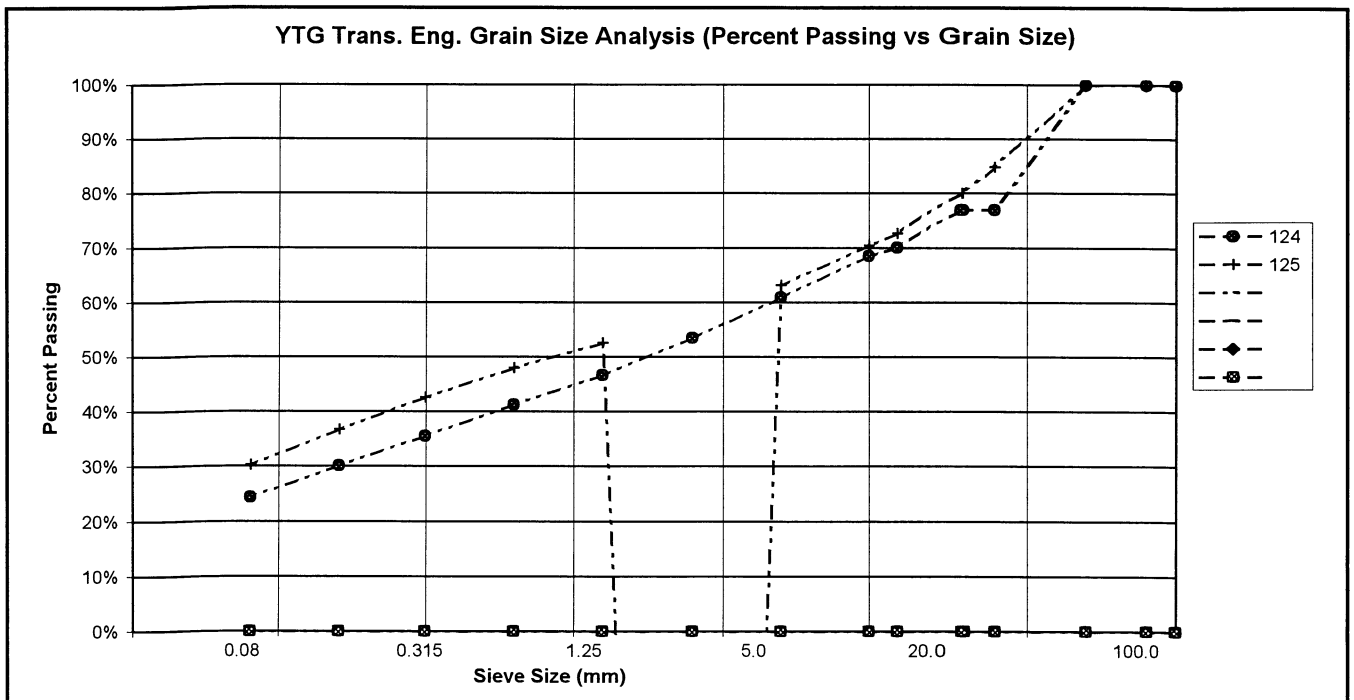


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: 1664.5-1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1683+170  
 LOGGED BY: K.J.

HOLE No.: 588-934

DATE COMP: 2001/04/02

FIELD NO:	124	125			
LAB NO:	368	369			
DEPTH:	1.1-1.3	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	77%	85%			
20.0	77%	80%			
12.5	70%	73%			
10.0	69%	70%			
5.0	61%	63%			
2.5	53%	-316%			
1.25	47%	53%			
0.630	41%	48%			
0.315	36%	43%			
0.160	30%	37%			
0.080	24%	30%			
M.C.(%)	5%	5%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	39	37			
% SAND:	37	33			
% FINES:	24	30			
CLASSIFICATION	SILTY GRAVEL WITH SAND (GM)	SILTY GRAVEL WITH SAND (GM)			

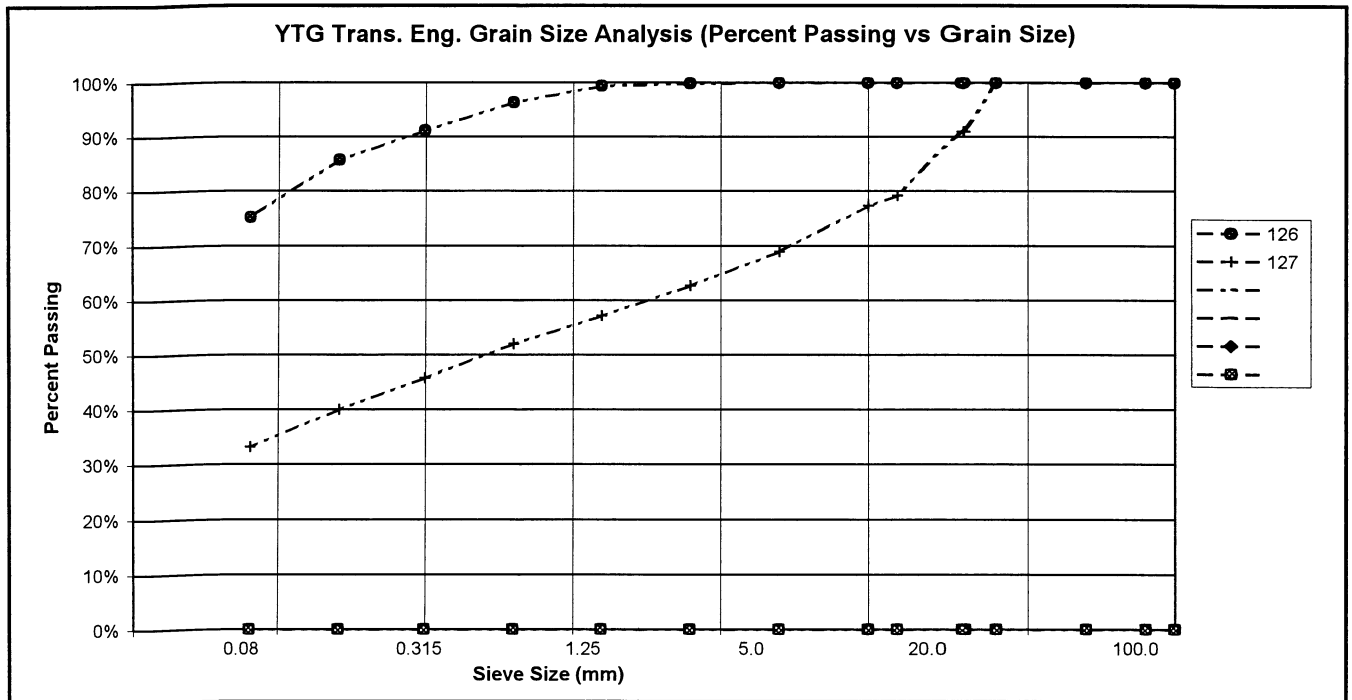


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: 1664.5-1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1683+050  
 LOGGED BY: K.J.

HOLE No.: 588-935

DATE COMP: 2001/04/17

FIELD NO:	126	127			
LAB NO:	370	371			
DEPTH:	0.8-1.0	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	100%	100%			
20.0	100%	91%			
12.5	100%	79%			
10.0	100%	77%			
5.0	100%	69%			
2.5	100%	63%			
1.25	99%	57%			
0.630	96%	52%			
0.315	91%	46%			
0.160	86%	40%			
0.080	75%	33%			
M.C.(%):	21%	11%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX:	0.0	0.0			
% GRAVEL:	0	31			
% SAND:	25	36			
% FINES:	75	33			
CLASSIFICATION	SILT WITH SAND (ML)	SILTY SAND WITH GRAVEL (SM)			

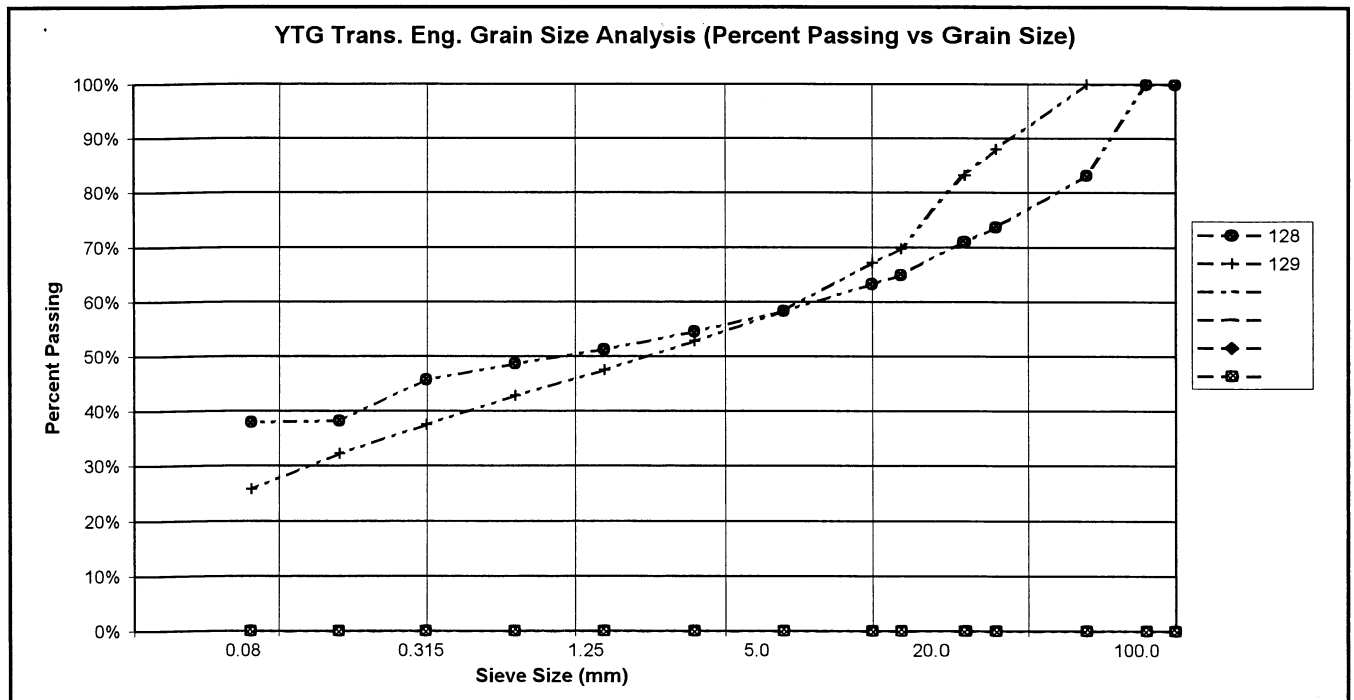


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: 1664.5-1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1682+950  
 LOGGED BY: K.J.

HOLE No.: 588-936

DATE COMP: 2001/04/17

FIELD NO:	128	129			
LAB NO:	372	373			
DEPTH:	1.1-1.3	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	83%	100%			
25.0	74%	88%			
20.0	71%	83%			
12.5	65%	70%			
10.0	63%	67%			
5.0	58%	58%			
2.5	55%	53%			
1.25	51%	48%			
0.630	49%	43%			
0.315	46%	38%			
0.160	38%	32%			
0.080	38%	26%			
M.C.(%)	7%	4%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX:	0.0	0.0			
% GRAVEL:	42	42			
% SAND:	20	33			
% FINES:	38	26			
CLASSIFICATION	SILTY GRAVEL WITH SAND (GM)	SILTY GRAVEL WITH SAND (GM)			

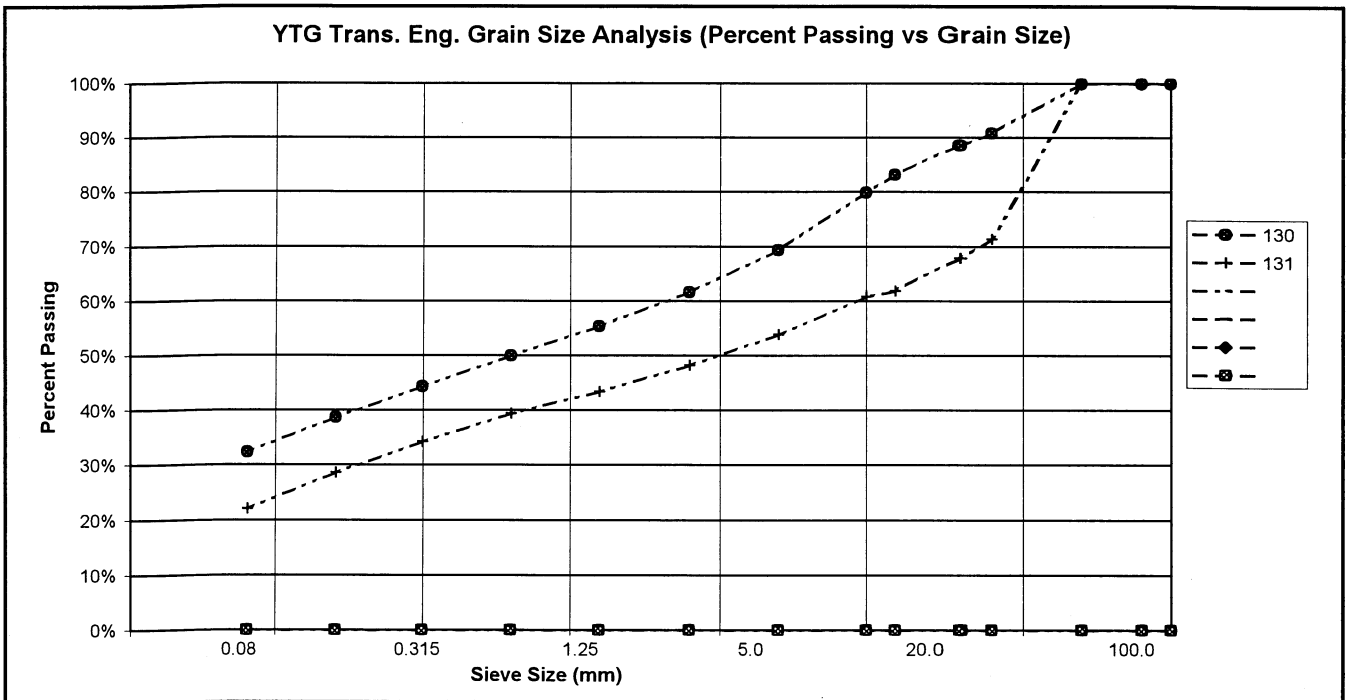


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: 1664.5-1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1682+800  
 LOGGED BY: K.J.

HOLE No.: 588-937

DATE COMP: 2001/04/17

FIELD NO:	130	131				
LAB NO:	374	375				
DEPTH:	1.1-1.3	2.8-3.0				
TYPE:	AUGER	AUGER	AUGER	AUGER		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING				
100.0	100%	100%				
80.0	100%	100%				
50.0	100%	100%				
25.0	91%	71%				
20.0	89%	68%				
12.5	83%	62%				
10.0	80%	61%				
5.0	69%	54%				
2.5	62%	48%				
1.25	55%	43%				
0.630	50%	39%				
0.315	44%	34%				
0.160	39%	29%				
0.080	32%	22%				
M.C.(%):	7%	4%				
LIQUID LIMIT:	0.0	0.0				
PLASTIC LIMIT:	0.0	0.0				
PLASTIC INDEX.:	0.0	0.0				
% GRAVEL:	31	46				
% SAND:	37	32				
% FINES:	32	22				
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	SILTY GRAVEL WITH SAND (GM)				



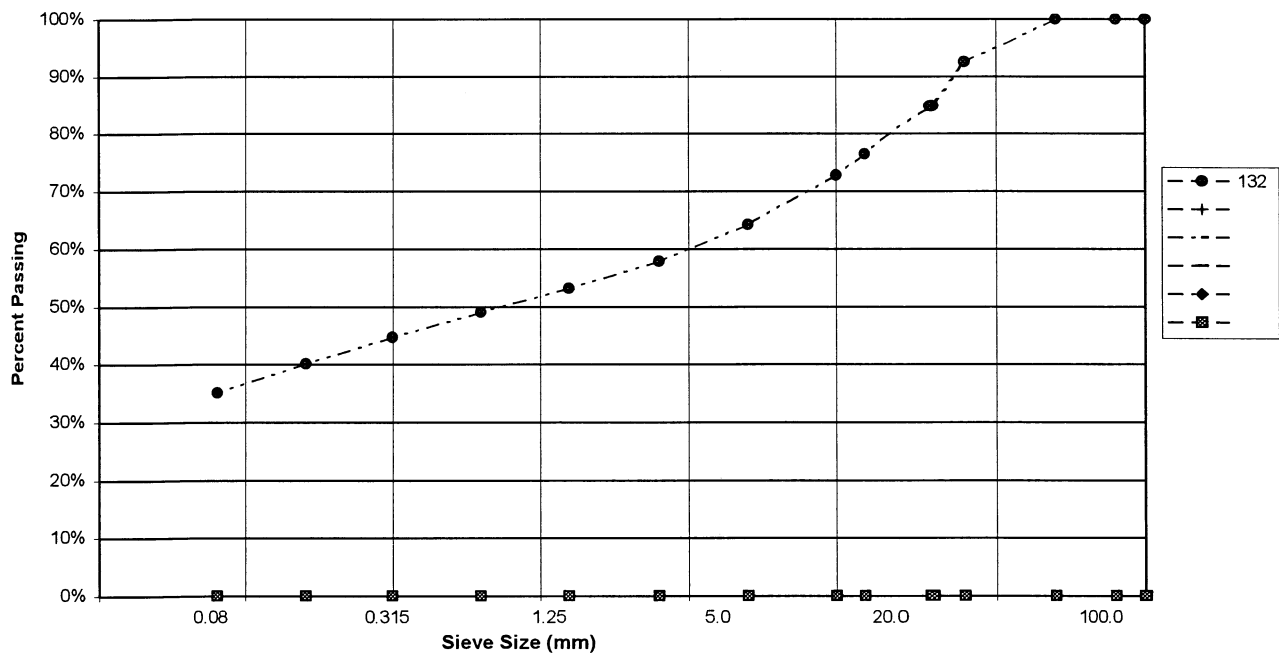
PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: 1664.5-1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1682+725  
 LOGGED BY: K.J.

HOLE No.: 588-938

DATE COMP: 2001/04/17

FIELD NO:	132				
LAB NO:	376				
DEPTH:	4.1-4.3				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	93%				
20.0	85%				
12.5	76%				
10.0	73%				
5.0	64%				
2.5	58%				
1.25	53%				
0.630	49%				
0.315	45%				
0.160	40%				
0.080	35%				
M.C.(%):	11%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	36				
% SAND:	29				
% FINES:	35				
CLASSIFICATION	SILTY GRAVEL WTH SAND (GM)				

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

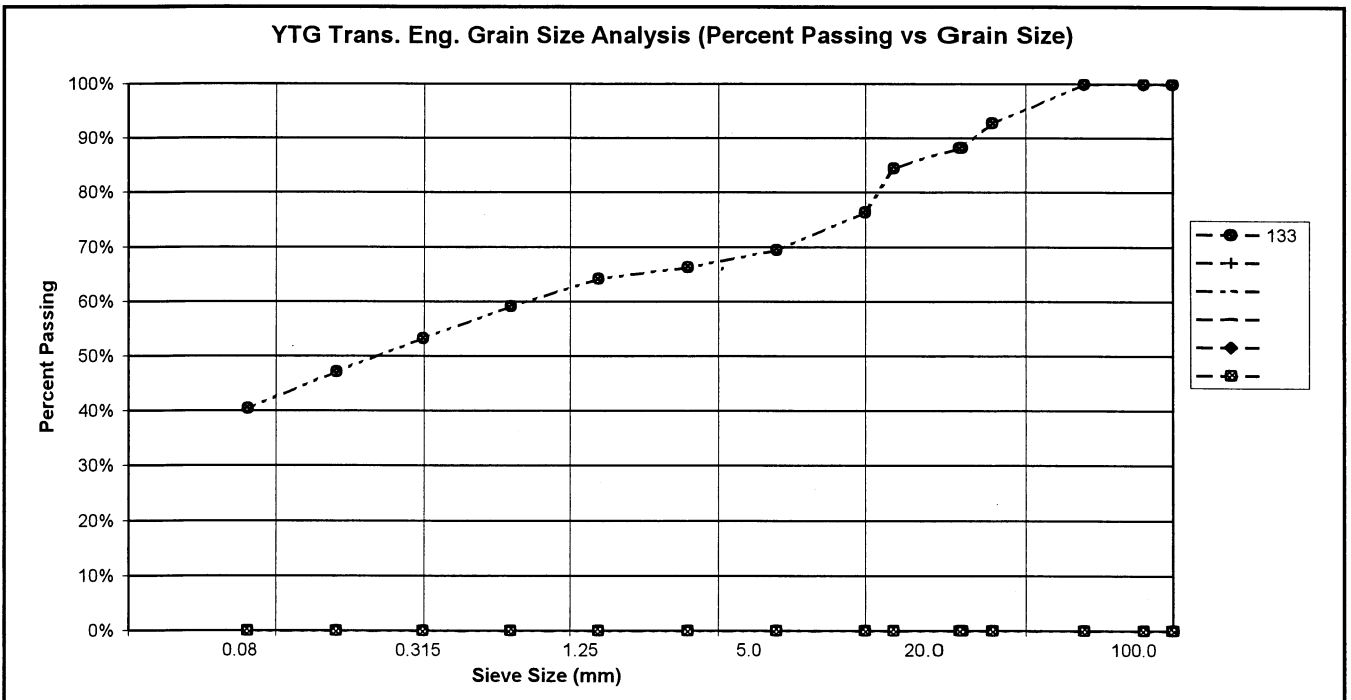


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: 1664.5-1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1682+685  
 LOGGED BY: K.J.

HOLE No.: 588-939

DATE COMP: 2001/04/17

FIELD NO:	133				
LAB NO:	377				
DEPTH:	4.1-4.3				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	93%				
20.0	88%				
12.5	85%				
10.0	76%				
5.0	70%				
2.5	66%				
1.25	64%				
0.630	59%				
0.315	53%				
0.160	47%				
0.080	40%				
M.C.(%)	11%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX:	0.0				
% GRAVEL:	30				
% SAND:	29				
% FINES:	40				
CLASSIFICATION	SILTY GRAVEL WITH SAND (GM)				

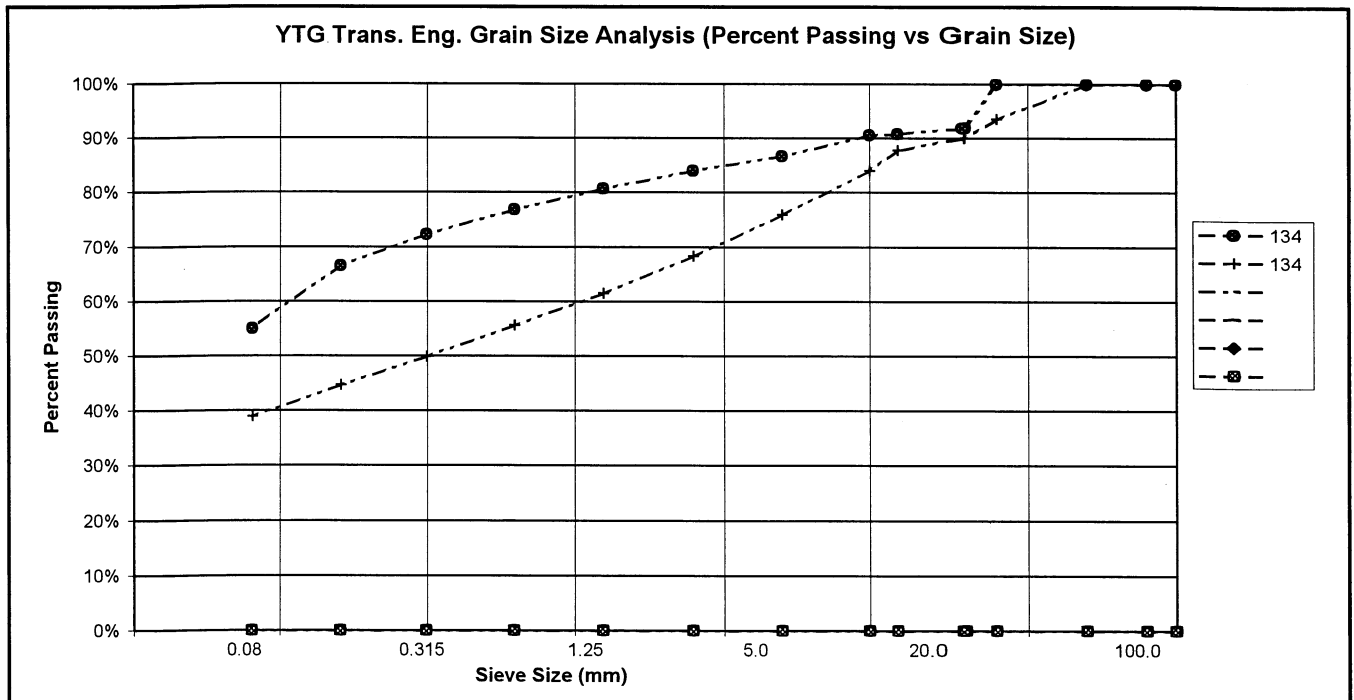


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: 1664.5-1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1682+575  
 LOGGED BY: K.J.

HOLE No.: 588-940

DATE COMP: 2001/04/17

FIELD NO:	134	134			
LAB NO:	378	379			
DEPTH:	2.8-3.0	4.1-4.3			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	100%	93%			
20.0	92%	90%			
12.5	91%	88%			
10.0	91%	84%			
5.0	87%	76%			
2.5	84%	68%			
1.25	81%	62%			
0.630	77%	56%			
0.315	72%	50%			
0.160	67%	45%			
0.080	55%	39%			
M.C.(%):	20%	12%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX:	0.0	0.0			
% GRAVEL:	13	24			
% SAND:	32	37			
% FINES:	55	39			
CLASSIFICATION	SANDY SILT (ML)	SILTY SAND WITH GRAVEL (SM)			

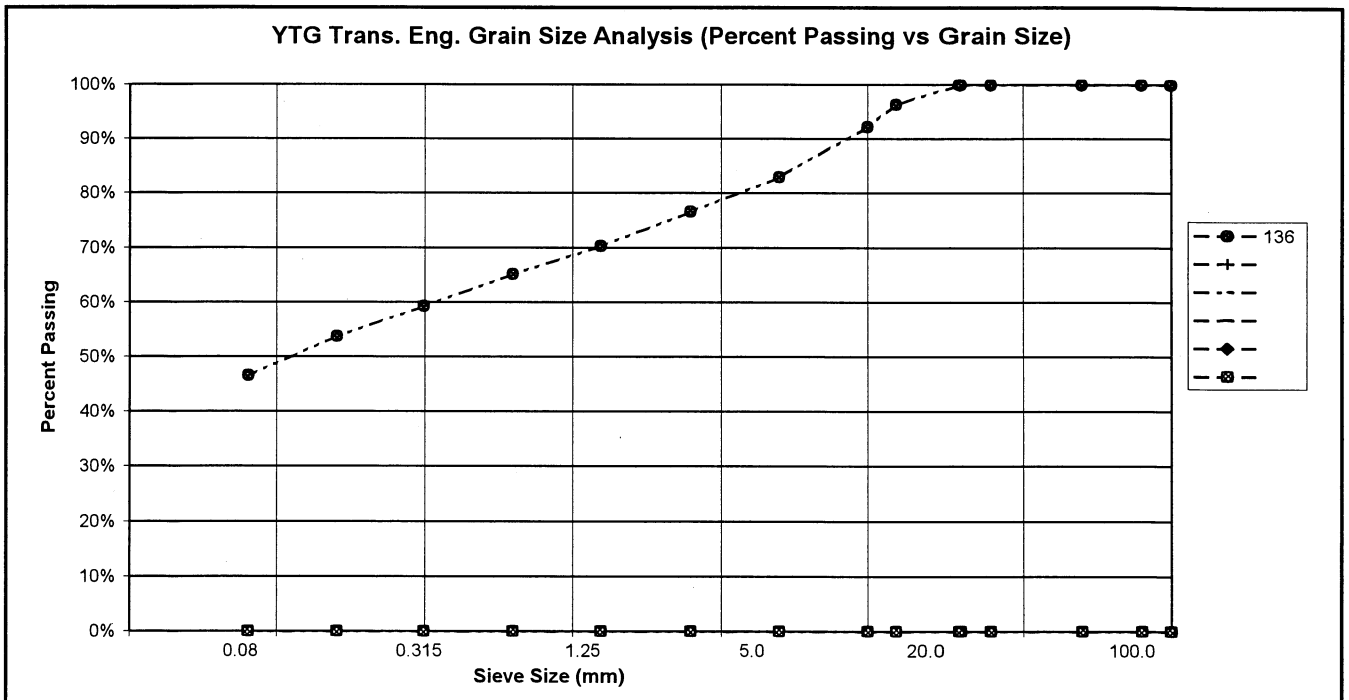


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: 1664.5-1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1682+400 centreline  
 LOGGED BY: K.J.

HOLE No.: 588-941

DATE COMP: 2001/04/17

FIELD NO:	136				
LAB NO:	380				
DEPTH:	4.1-4.3				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	100%				
20.0	100%				
12.5	96%				
10.0	92%				
5.0	83%				
2.5	77%				
1.25	70%				
0.630	65%				
0.315	59%				
0.160	54%				
0.080	47%				
M.C.(%)	12%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	17				
% SAND:	36				
% FINES:	47				
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)				

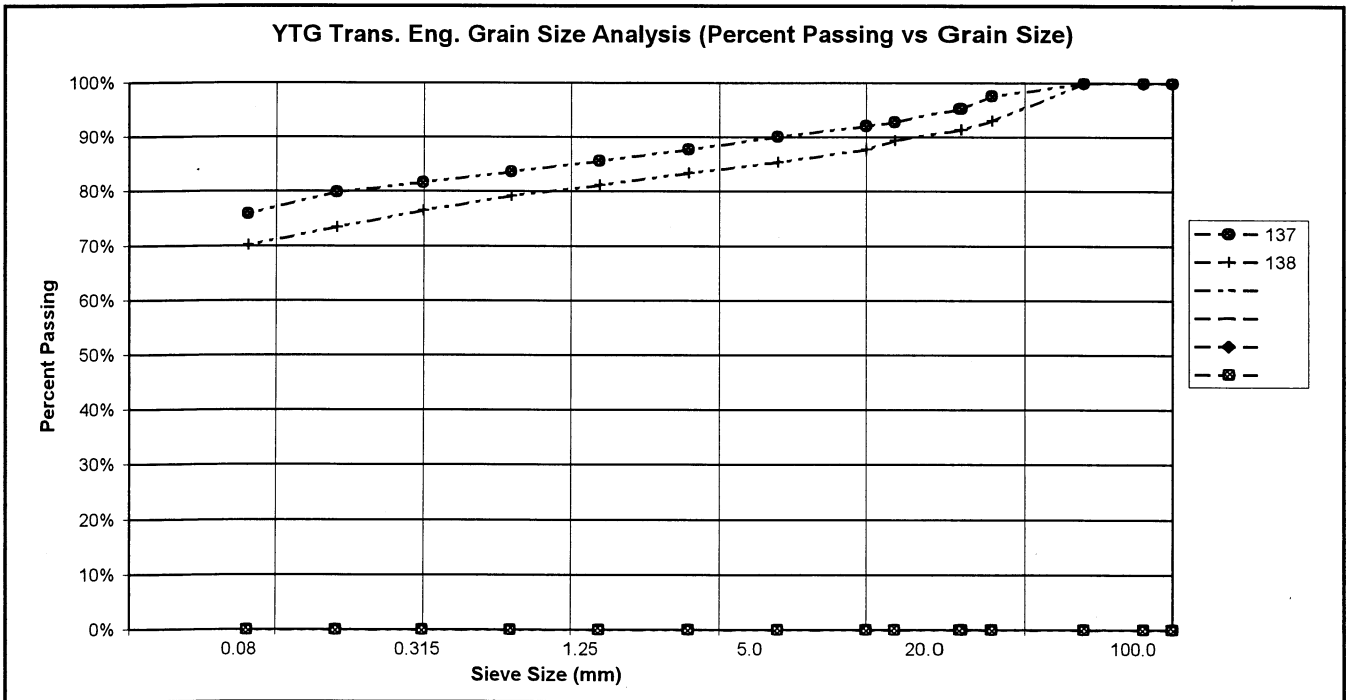


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: 1664.5-1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1682+300  
 LOGGED BY: K.J.

HOLE No.: 588-942

DATE COMP: 2001/04/17

FIELD NO:	137	138				
LAB NO:	381	382				
DEPTH:	1.1-1.3	2.8-3.0				
TYPE:	AUGER	AUGER	AUGER	AUGER		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING				
100.0	100%	100%				
80.0	100%	100%				
50.0	100%	100%				
25.0	98%	93%				
20.0	95%	91%				
12.5	93%	89%				
10.0	92%	88%				
5.0	90%	85%				
2.5	88%	83%				
1.25	86%	81%				
0.630	84%	79%				
0.315	82%	76%				
0.160	80%	73%				
0.080	76%	70%				
M.C.(%):	14%	15%				
LIQUID LIMIT:	0.0	0.0				
PLASTIC LIMIT:	0.0	0.0				
PLASTIC INDEX.:	0.0	0.0				
% GRAVEL:	10	15				
% SAND:	14	15				
% FINES:	76	70				
CLASSIFICATION	SILT WITH SAND (ML)	SILT WITH SAND (ML)				

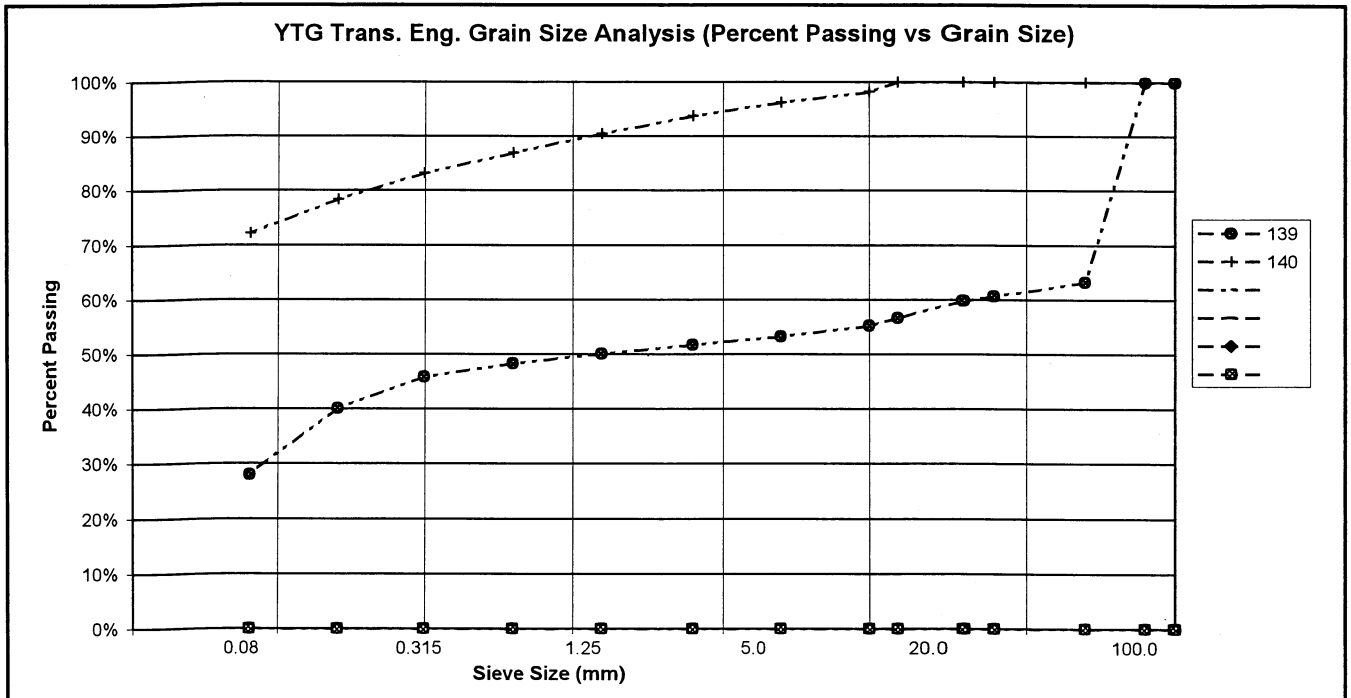


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: 1664.5-1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1682+225 1m RT  
 LOGGED BY: K.J.

HOLE No.: 588-943

DATE COMP: 2001/04/17

FIELD NO:	139	140			
LAB NO:	383	384			
DEPTH:	1.1-1.3	4.1-4.3			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	63%	100%			
25.0	61%	100%			
20.0	60%	100%			
12.5	57%	100%			
10.0	55%	98%			
5.0	53%	96%			
2.5	52%	94%			
1.25	50%	90%			
0.630	48%	87%			
0.315	46%	83%			
0.160	40%	78%			
0.080	28%	72%			
M.C.(%):	5%	12%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	47	4			
% SAND:	25	24			
% FINES:	28	72			
CLASSIFICATION	SILTY GRAVEL WITH SAND (GM)	SILT WITH SAND (ML)			

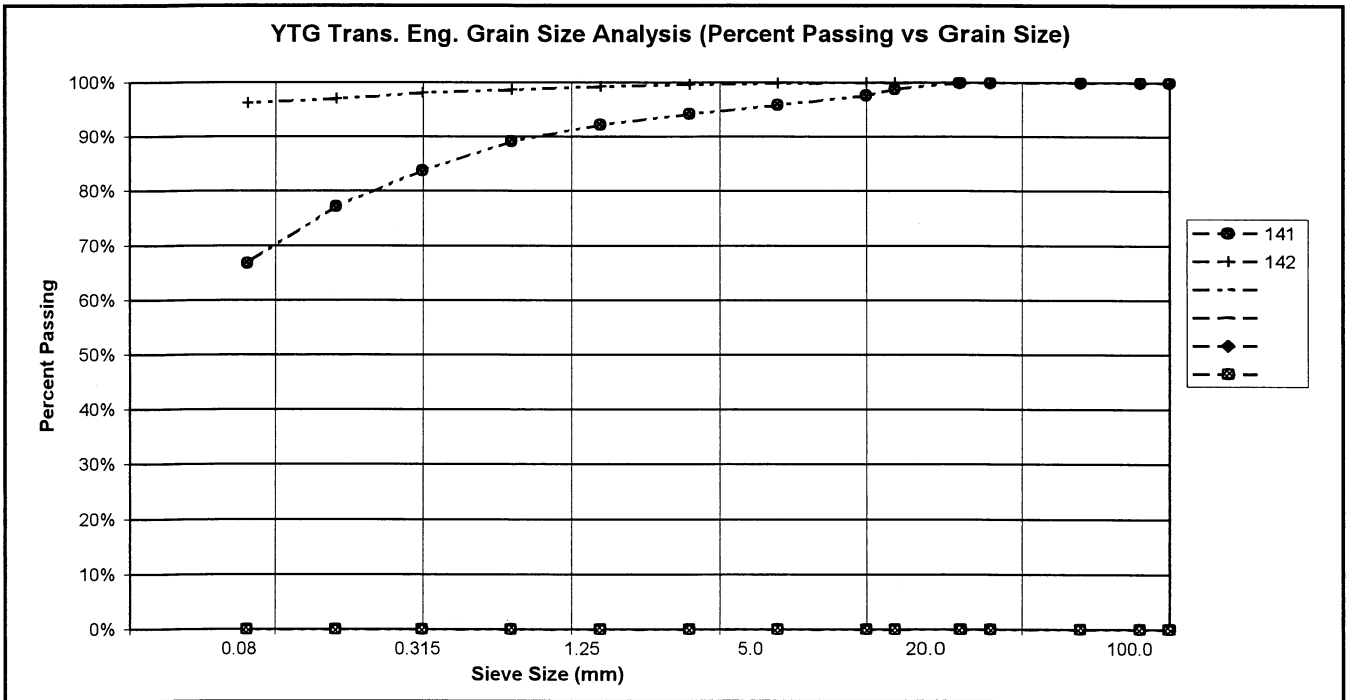


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: 1664.5-1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1682+160  
 LOGGED BY: K.J.

HOLE No.: 588-944

DATE COMP: 2001/04/17

FIELD NO:	141	142			
LAB NO:	385	386			
DEPTH:	1.1-1.3	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	100%	100%			
20.0	100%	100%			
12.5	99%	100%			
10.0	98%	100%			
5.0	96%	100%			
2.5	94%	100%			
1.25	92%	99%			
0.630	89%	99%			
0.315	84%	98%			
0.160	77%	97%			
0.080	67%	96%			
M.C.(%):	15%	24%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX:	0.0	0.0			
% GRAVEL:	4	0			
% SAND:	29	4			
% FINES:	67	96			
CLASSIFICATION	SANDY SILT (ML)	SILT (ML)			

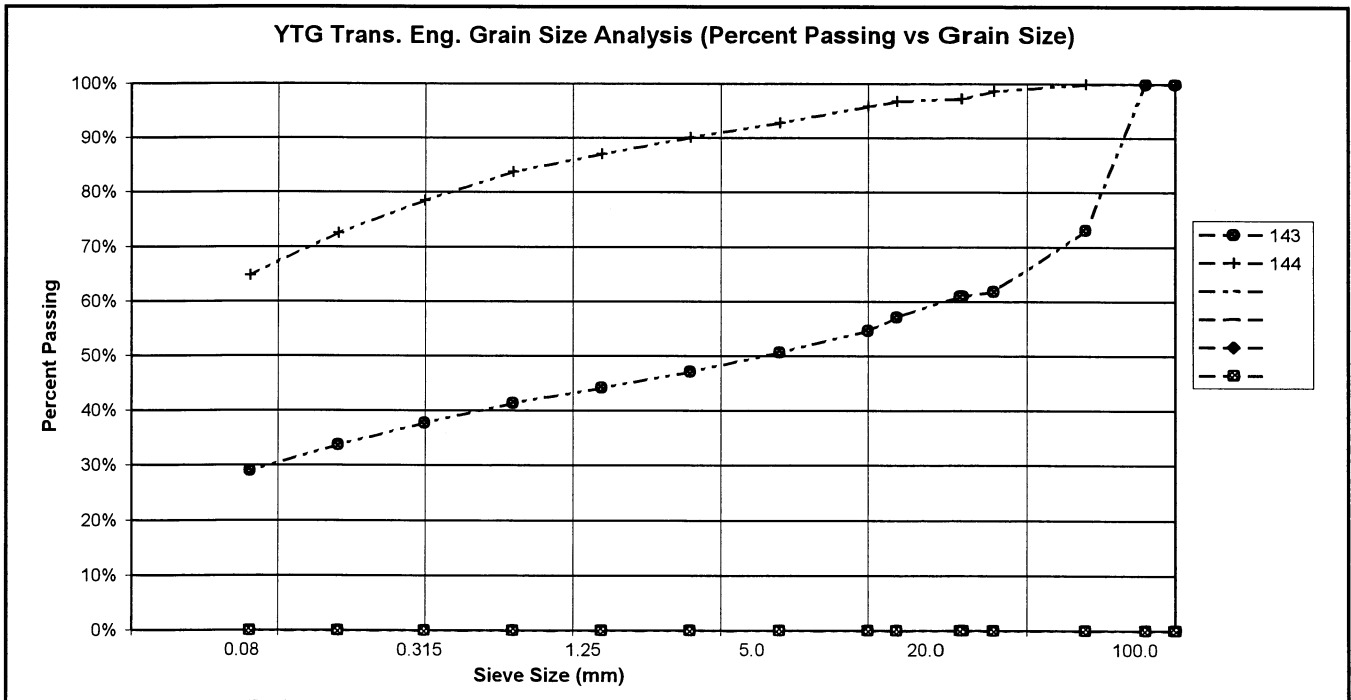


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: 1664.5-1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1682+050 2m RT  
 LOGGED BY: K.J.

HOLE No.: 588-945

DATE COMP: 2001/04/17

FIELD NO:	143	144			
LAB NO:	387	388			
DEPTH:	1.1-1.3	4.1-4.3			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	73%	100%			
25.0	62%	99%			
20.0	61%	97%			
12.5	57%	97%			
10.0	55%	96%			
5.0	51%	93%			
2.5	47%	90%			
1.25	44%	87%			
0.630	41%	84%			
0.315	38%	79%			
0.160	34%	73%			
0.080	29%	65%			
M.C.(%)	5%	11%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX:	0.0	0.0			
% GRAVEL:	49	7			
% SAND:	22	28			
% FINES:	29	65			
CLASSIFICATION	SILTY GRAVEL WITH SAND (GM)	SANDY SILT (ML)			

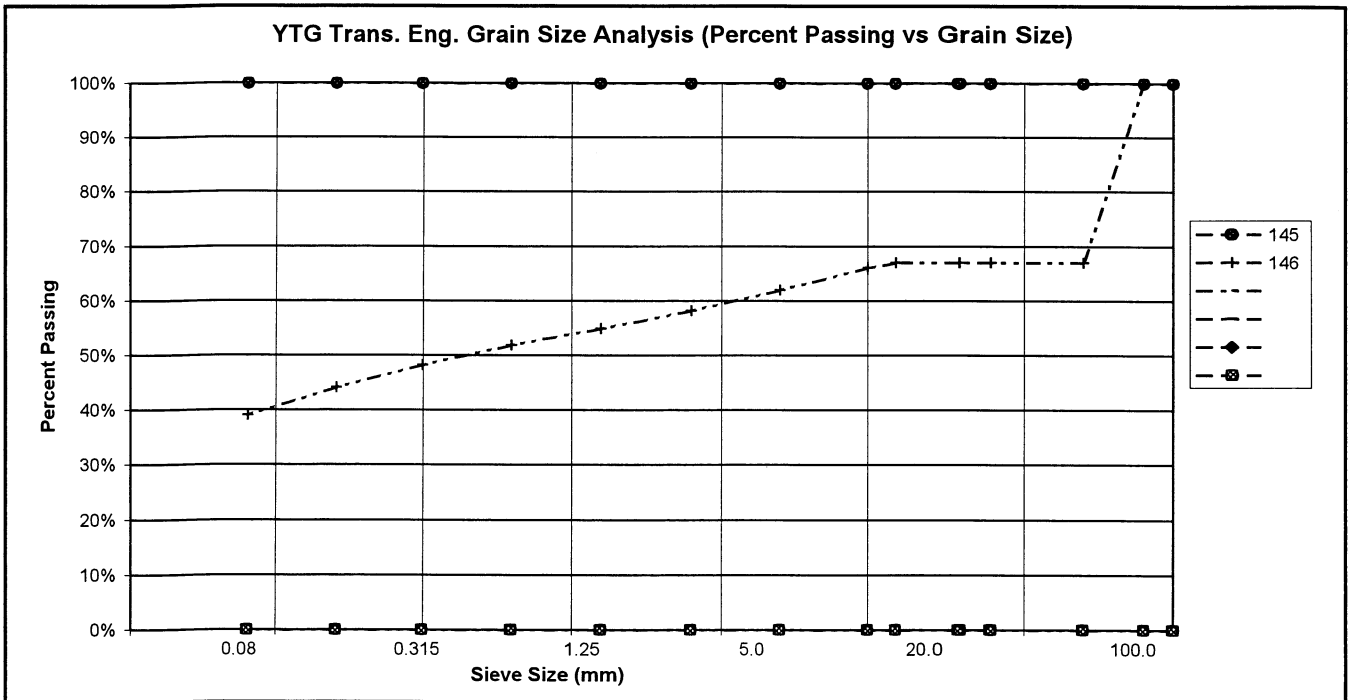


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: 1664.5-1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1681-950 2m RT  
 LOGGED BY: K.J.

HOLE No.: 588-946

DATE COMP: 2001/04/17

FIELD NO:	145	146			
LAB NO:	389	390			
DEPTH:	1.1-1.3	2.8-3.0			
TYPE:	#N/A	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	67%			
25.0	100%	67%			
20.0	100%	67%			
12.5	100%	67%			
10.0	100%	66%			
5.0	100%	62%			
2.5	100%	58%			
1.25	100%	55%			
0.630	100%	52%			
0.315	100%	48%			
0.160	100%	44%			
0.080	100%	39%			
M.C.(%)	9%	9%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX:	0.0	0.0			
% GRAVEL:	0	38			
% SAND:	0	23			
% FINES:	100	39			
CLASSIFICATION	SILT (ML)	SILTY GRAVEL WITH SAND (GM)			

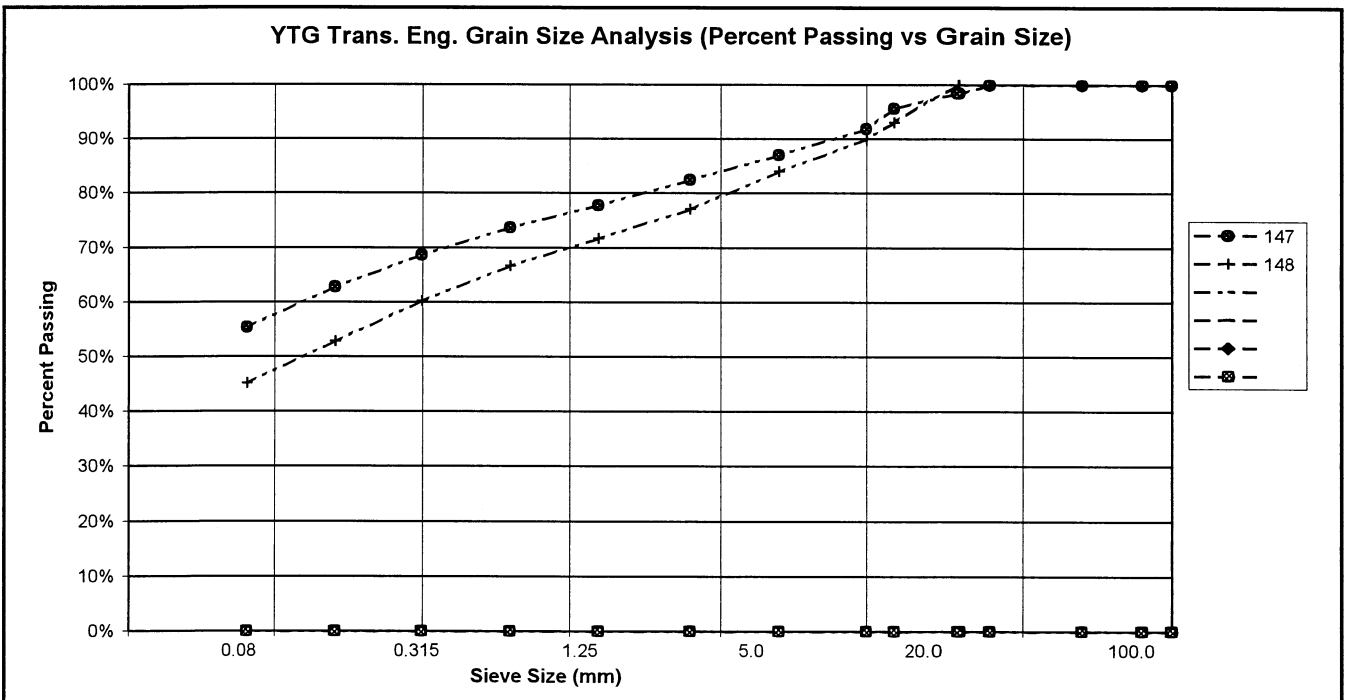


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: 1664.5-1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1681+850 centreline  
 LOGGED BY: K.J.

HOLE No.: 588-947

DATE COMP: 2001/04/17

FIELD NO:	147	148				
LAB NO:	391	392				
DEPTH:	1.1-1.3	2.8-3.0				
TYPE:	AUGER	AUGER	AUGER	AUGER		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING				
100.0	100%	100%				
80.0	100%	100%				
50.0	100%	100%				
25.0	100%	100%				
20.0	98%	100%				
12.5	96%	93%				
10.0	92%	90%				
5.0	87%	84%				
2.5	82%	77%				
1.25	78%	72%				
0.630	74%	67%				
0.315	69%	60%				
0.160	63%	53%				
0.080	55%	45%				
M.C.(%)	11%	9%				
LIQUID LIMIT:	0.0	0.0				
PLASTIC LIMIT:	0.0	0.0				
PLASTIC INDEX.:	0.0	0.0				
% GRAVEL:	13	16				
% SAND:	32	39				
% FINES:	55	45				
CLASSIFICATION	SANDY SILT (ML)	SILTY SAND WITH GRAVEL (SM)				

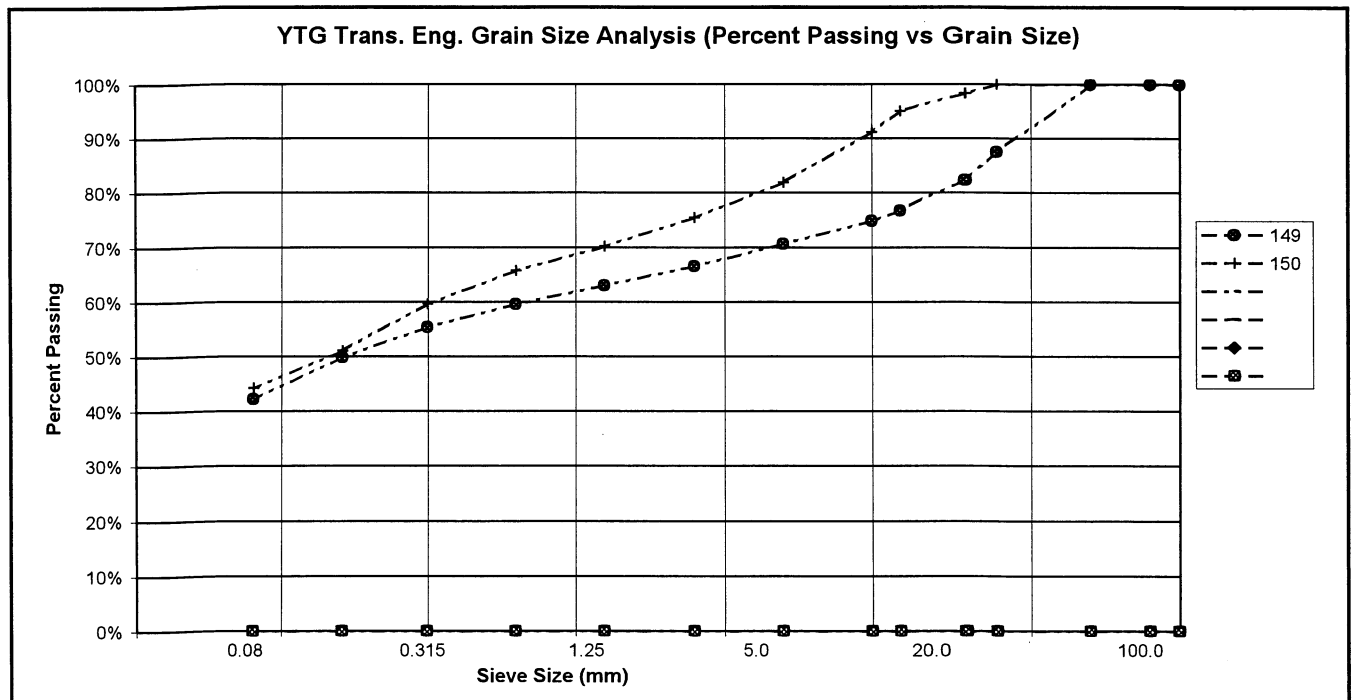


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: 1664.5-1692.6 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1681+700  
 LOGGED BY: K.J.

HOLE No.: 588-948

DATE COMP: 2001/04/17

FIELD NO:	149	150			
LAB NO:	393	394			
DEPTH:	1.1-1.3	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	88%	100%			
20.0	82%	98%			
12.5	77%	95%			
10.0	75%	91%			
5.0	71%	82%			
2.5	66%	75%			
1.25	63%	70%			
0.630	60%	66%			
0.315	55%	60%			
0.160	50%	51%			
0.080	42%	44%			
M.C.(%):	9%	10%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	29	18			
% SAND:	28	38			
% FINES:	42	44			
CLASSIFICATION	SILTY GRAVEL WITH SAND (GM)	SILTY SAND WITH GRAVEL (SM)			

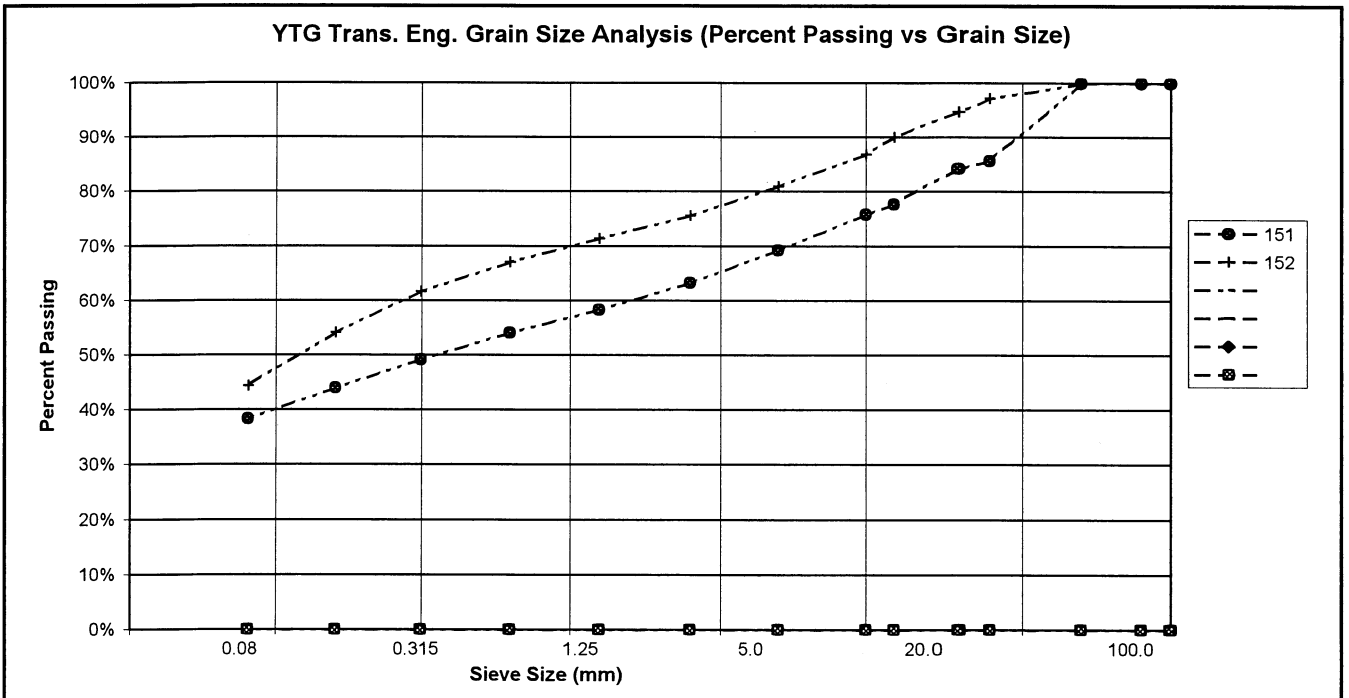


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664-1692 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1681+550 LHS  
 LOGGED BY: KJ

HOLE No.: 593-949

DATE COMP: 2001/04/18

FIELD NO:	151	152			
LAB NO:	395	396			
DEPTH:	1.1-1.3	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	86%	97%			
20.0	84%	95%			
12.5	78%	90%			
10.0	76%	87%			
5.0	69%	81%			
2.5	63%	76%			
1.25	58%	71%			
0.630	54%	67%			
0.315	49%	62%			
0.160	44%	54%			
0.080	38%	44%			
M.C.(%)	8%	9%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	31	19			
% SAND:	31	37			
% FINES:	38	44			
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	SILTY SAND WITH GRAVEL (SM)			

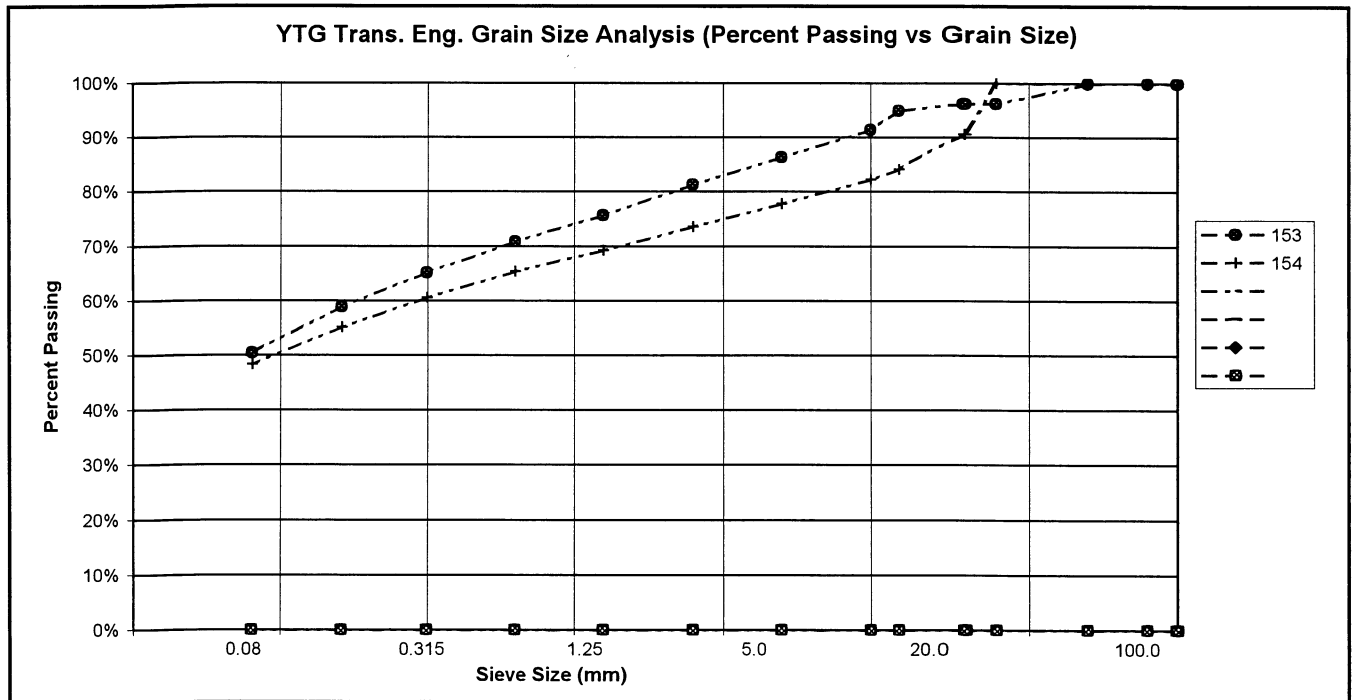


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664-1692 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1681+400 LHS  
 LOGGED BY: KJ

HOLE No.: 593-950

DATE COMP: 2001/04/18

FIELD NO:	153	154			
LAB NO:	397	398			
DEPTH:	1.1-1.3	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	96%	100%			
20.0	96%	91%			
12.5	95%	84%			
10.0	91%	82%			
5.0	86%	78%			
2.5	81%	74%			
1.25	76%	69%			
0.630	71%	65%			
0.315	65%	61%			
0.160	59%	55%			
0.080	50%	48%			
M.C.(%):	10%	10%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	14	22			
% SAND:	36	29			
% FINES:	50	48			
CLASSIFICATION	SANDY SILT (ML)	SILTY SAND WITH GRAVEL (SM)			

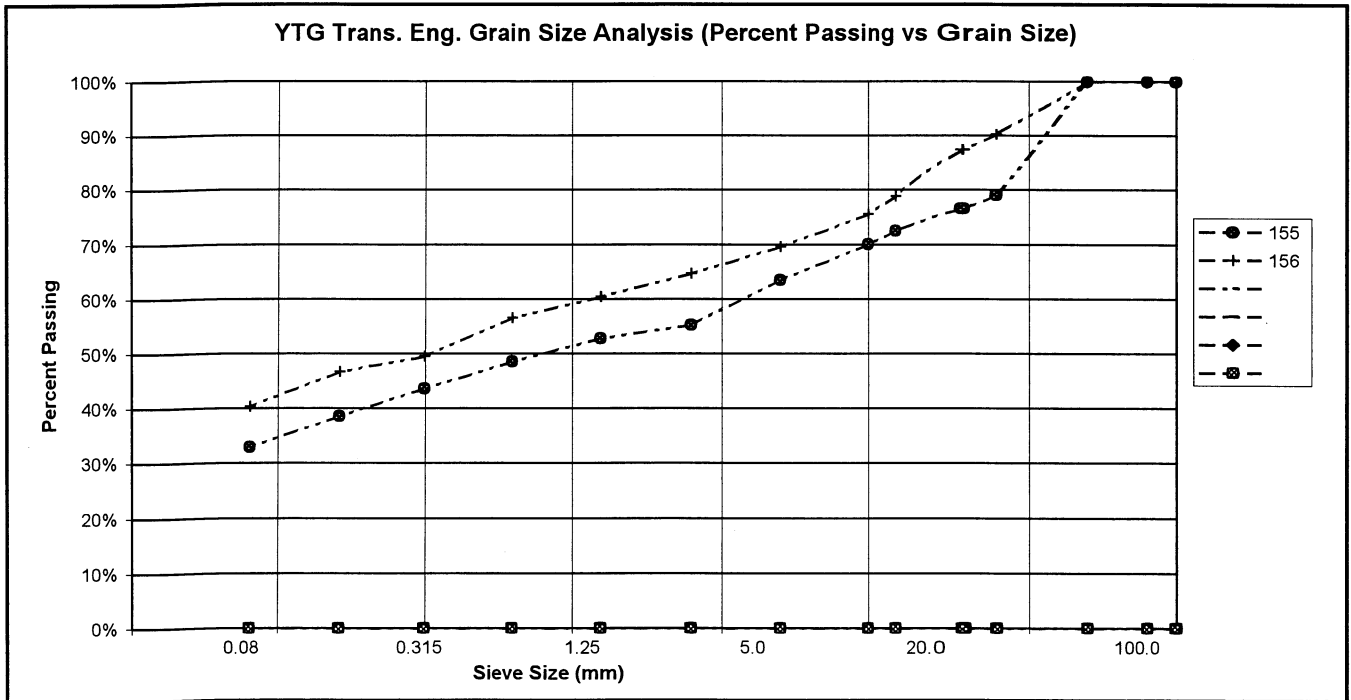


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664-1692 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1681+250 LHS  
 LOGGED BY: KJ

HOLE No.: 593-951

DATE COMP: 2001/04/18

FIELD NO:	155	156			
LAB NO:	399	400			
DEPTH:	1.1-1.3	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	79%	90%			
20.0	77%	87%			
12.5	73%	79%			
10.0	70%	76%			
5.0	64%	70%			
2.5	55%	65%			
1.25	53%	60%			
0.630	49%	57%			
0.315	44%	50%			
0.160	39%	47%			
0.080	33%	40%			
M.C.(%)	6%	7%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	36	30			
% SAND:	31	29			
% FINES:	33	40			
CLASSIFICATION	SILTY GRAVEL WITH SAND (GM)	SILTY GRAVEL WITH SAND (GM)			

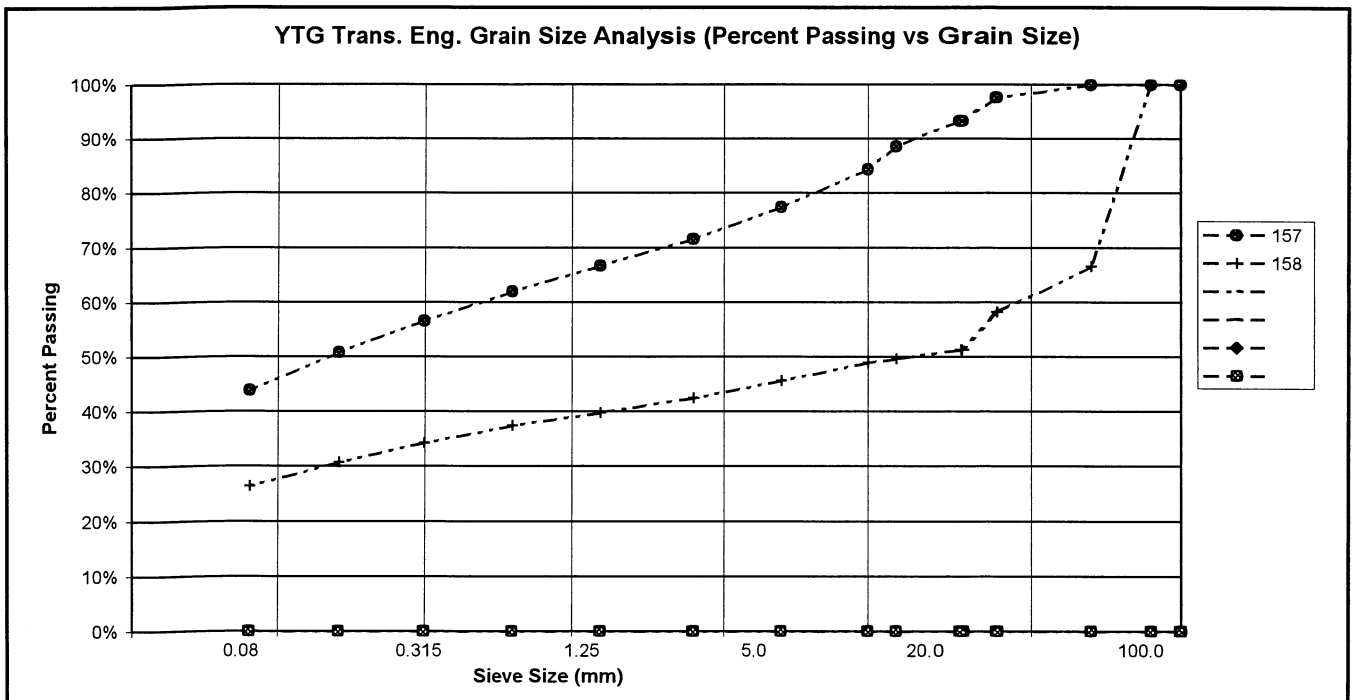


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664-1692 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1681+100  
 LOGGED BY: KJ

HOLE No.: 593-952

DATE COMP: 2001/04/18

FIELD NO:	157	158			
LAB NO:	401	402			
DEPTH:	1.1-1.3	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	67%			
25.0	98%	58%			
20.0	93%	51%			
12.5	89%	50%			
10.0	84%	49%			
5.0	77%	46%			
2.5	72%	43%			
1.25	67%	40%			
0.630	62%	37%			
0.315	57%	34%			
0.160	51%	31%			
0.080	44%	26%			
M.C.(%)	10%	7%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	23	54			
% SAND:	34	19			
% FINES:	44	26			
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	SILTY GRAVEL WITH SAND (GM)			

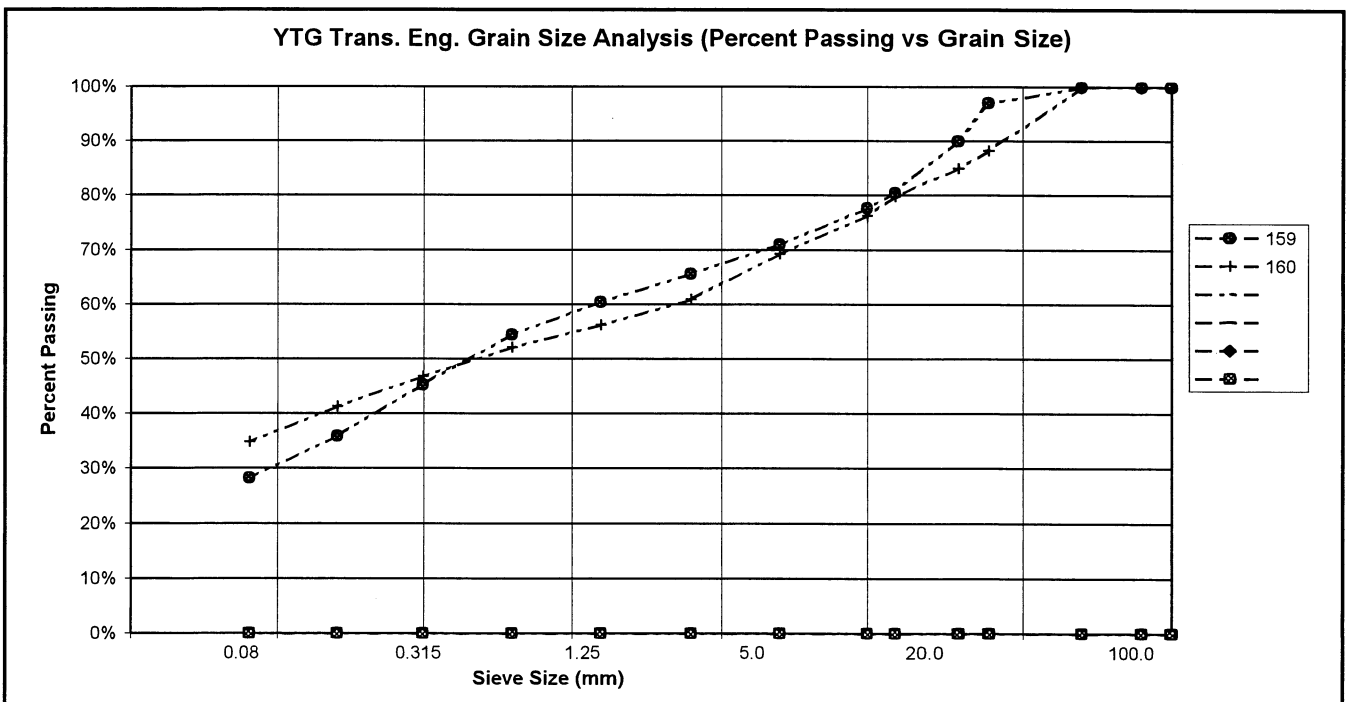


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664-1692 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1681+000  
 LOGGED BY: KJ

HOLE No.: 593-953

DATE COMP: 2001/04/18

FIELD NO:	159	160			
LAB NO:	403	404			
DEPTH:	1.1-1.3	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	97%	88%			
20.0	90%	85%			
12.5	81%	80%			
10.0	78%	76%			
5.0	71%	69%			
2.5	66%	61%			
1.25	60%	56%			
0.630	54%	52%			
0.315	45%	47%			
0.160	36%	41%			
0.080	28%	35%			
M.C.(%):	7%	8%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	29	31			
% SAND:	43	34			
% FINES:	28	35			
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	SILTY SAND WITH GRAVEL (SM)			

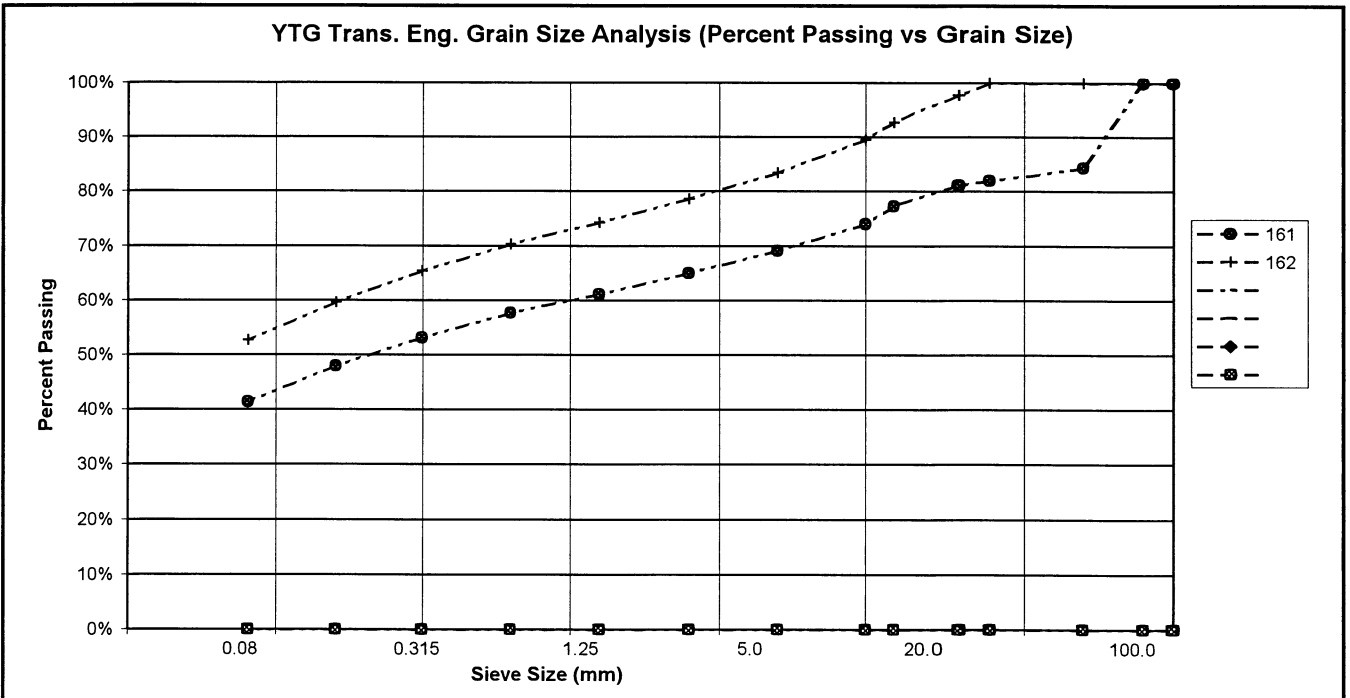


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664-1692 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1680+900  
 LOGGED BY: KJ

HOLE No.: 593-954

DATE COMP: 2001/04/18

FIELD NO:	161	162			
LAB NO:	405	406			
DEPTH:	1.1-1.3	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	84%	100%			
25.0	82%	100%			
20.0	81%	98%			
12.5	77%	93%			
10.0	74%	90%			
5.0	69%	83%			
2.5	65%	79%			
1.25	61%	74%			
0.630	58%	70%			
0.315	53%	65%			
0.160	48%	60%			
0.080	41%	53%			
M.C.(%):	8%	9%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX:	0.0	0.0			
% GRAVEL:	31	17			
% SAND:	28	31			
% FINES:	41	53			
CLASSIFICATION	SILTY GRAVEL WITH SAND (GM)	SANDY SILT WITH GRAVEL (ML)			



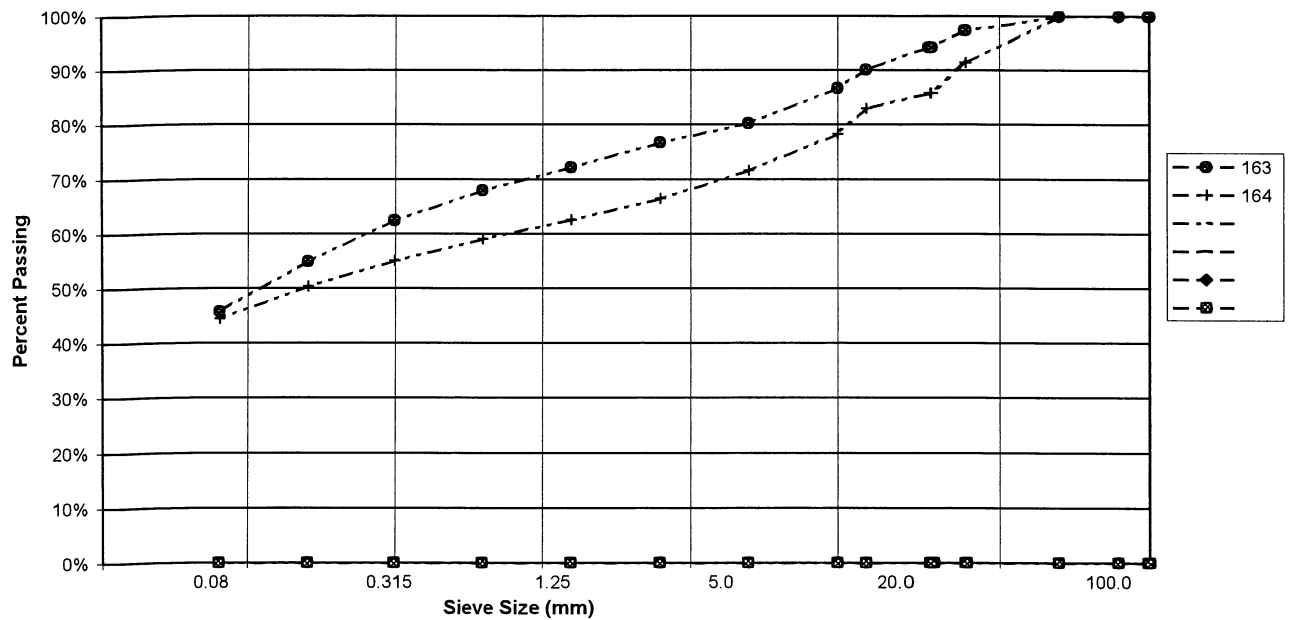
PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664-1692 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1680+800  
 LOGGED BY: KJ

HOLE No.: 593-955

DATE COMP: 2001/04/18

FIELD NO:	163	164			
LAB NO:	407	408			
DEPTH:	1.1-1.3	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	97%	91%			
20.0	94%	86%			
12.5	90%	83%			
10.0	87%	78%			
5.0	80%	72%			
2.5	77%	66%			
1.25	72%	63%			
0.630	68%	59%			
0.315	62%	55%			
0.160	55%	50%			
0.080	46%	44%			
M.C.(%):	8%	7%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX:	0.0	0.0			
% GRAVEL:	20	28			
% SAND:	35	27			
% FINES:	46	44			
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	SILTY GRAVEL WITH SAND (GM)			

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

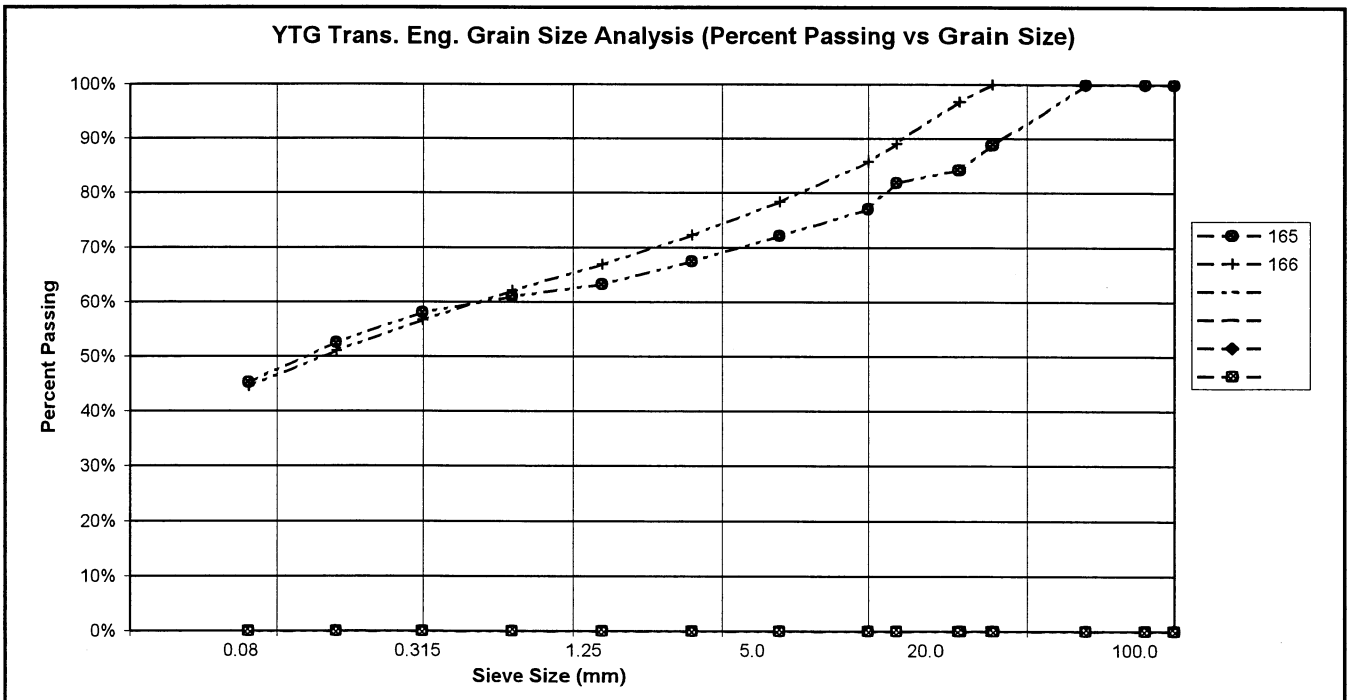


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664-1692 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1680+675  
 LOGGED BY: KJ

HOLE No.: 593-956

DATE COMP: 2001/04/18

FIELD NO:	165	166			
LAB NO:	409	410			
DEPTH:	1.1-1.3	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	89%	100%			
20.0	84%	97%			
12.5	82%	89%			
10.0	77%	86%			
5.0	72%	78%			
2.5	67%	72%			
1.25	63%	67%			
0.630	61%	62%			
0.315	58%	57%			
0.160	53%	51%			
0.080	45%	45%			
M.C.(%)	9%	8%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	28	22			
% SAND:	27	34			
% FINES:	45	45			
CLASSIFICATION	SILTY GRAVEL WITH SAND (GM)	SILTY SAND WITH GRAVEL (SM)			

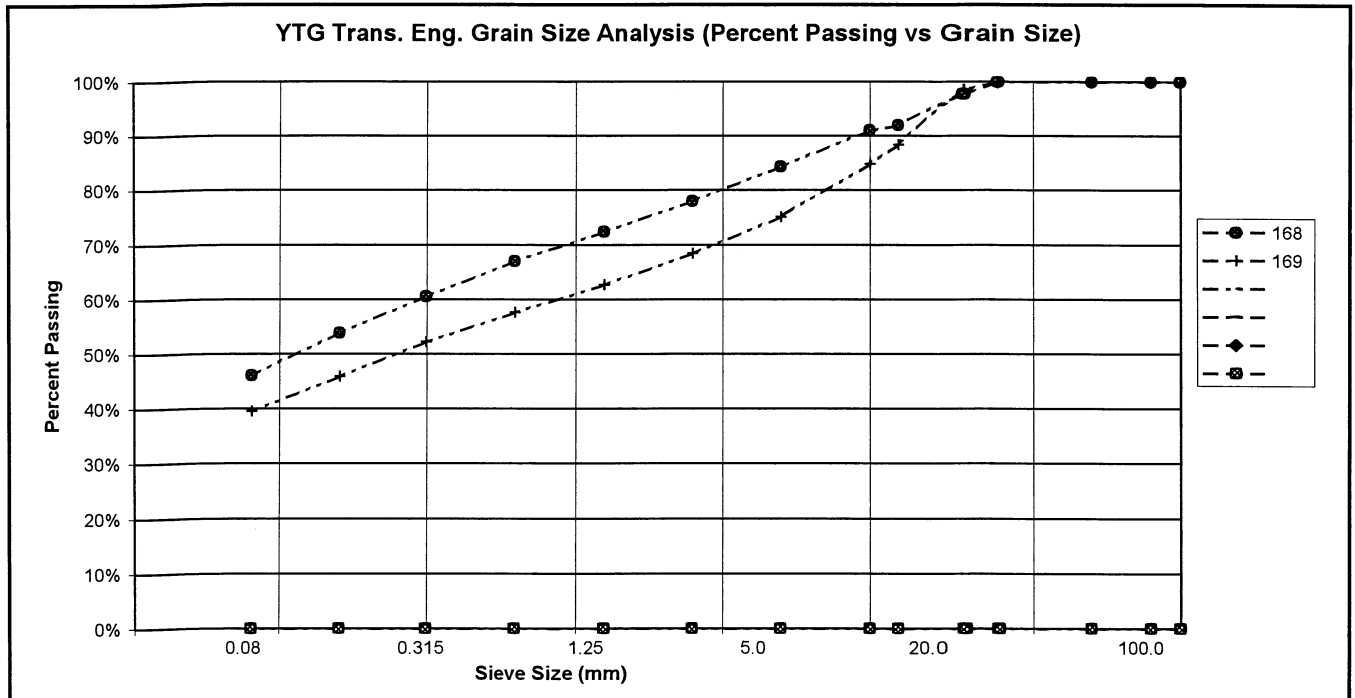


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664-1692 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1680+575  
 LOGGED BY: KJ

HOLE No.: 593-957

DATE COMP: 2001/04/18

FIELD NO:	168	169			
LAB NO:	411	412			
DEPTH:	1.1-1.3	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	100%	100%			
20.0	98%	99%			
12.5	92%	88%			
10.0	91%	85%			
5.0	84%	75%			
2.5	78%	68%			
1.25	72%	63%			
0.630	67%	58%			
0.315	61%	52%			
0.160	54%	46%			
0.080	46%	40%			
M.C.(%)	9%	6%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	16	25			
% SAND:	38	36			
% FINES:	46	40			
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	SILTY SAND WITH GRAVEL (SM)			

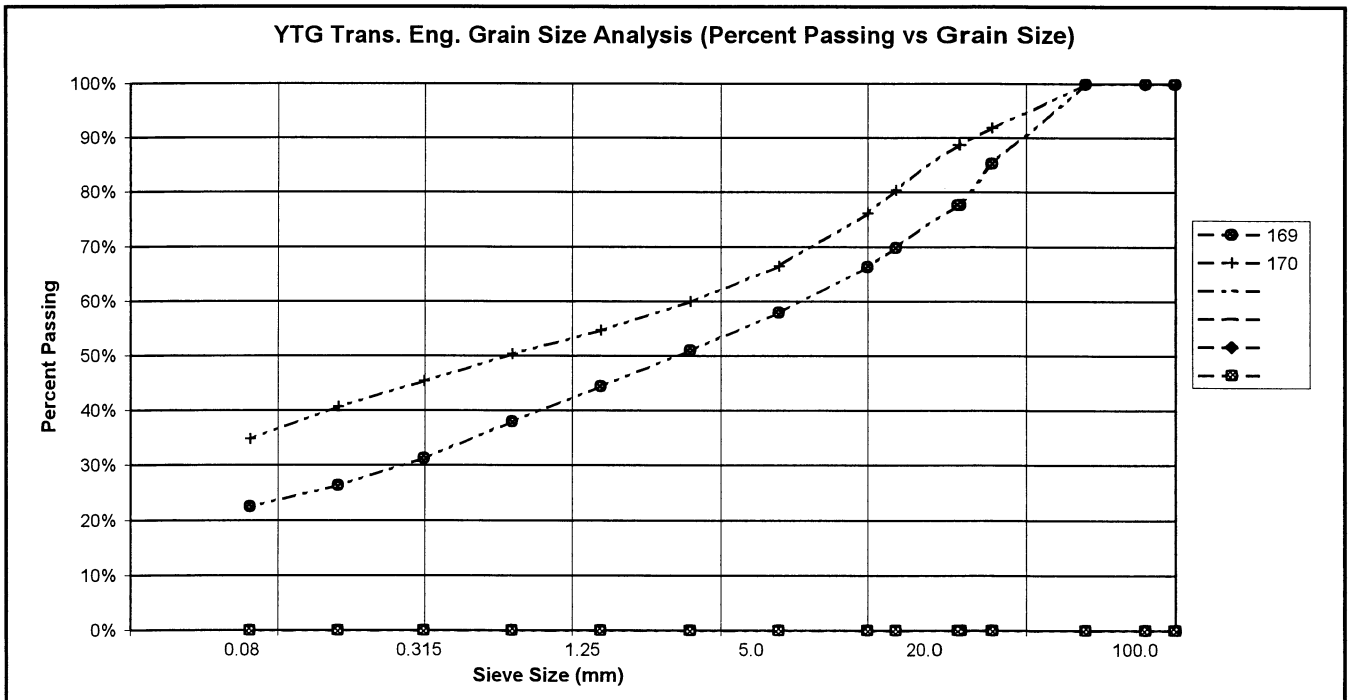


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664-1692 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1680+460  
 LOGGED BY: KJ

HOLE No.: 593-958

DATE COMP: 2001/04/18

FIELD NO:	169	170			
LAB NO:	413	414			
DEPTH:	1.1-1.3	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	85%	92%			
20.0	78%	89%			
12.5	70%	80%			
10.0	66%	76%			
5.0	58%	66%			
2.5	51%	60%			
1.25	44%	55%			
0.630	38%	50%			
0.315	31%	45%			
0.160	26%	41%			
0.080	23%	35%			
M.C.(%):	5%	7%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX:	0.0	0.0			
% GRAVEL:	42	34			
% SAND:	35	32			
% FINES:	23	35			
CLASSIFICATION	SILTY GRAVEL WITH SAND (GM)	SILTY GRAVEL WITH SAND (GM)			

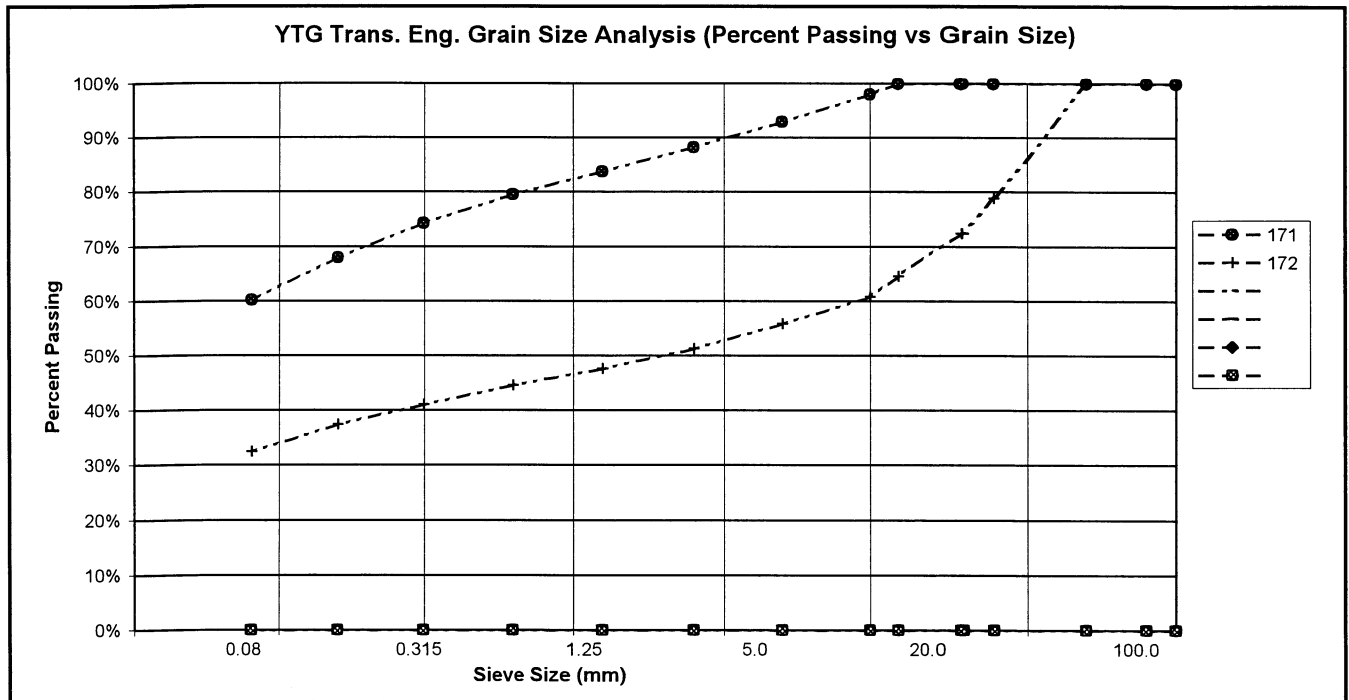


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664-1692 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1680+375  
 LOGGED BY: KJ

HOLE No.: 593-959

DATE COMP: 2001/04/19

FIELD NO:	171	172			
LAB NO:	415	416			
DEPTH:	1.1-1.3	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	100%	79%			
20.0	100%	72%			
12.5	100%	65%			
10.0	98%	61%			
5.0	93%	56%			
2.5	88%	51%			
1.25	84%	48%			
0.630	80%	45%			
0.315	74%	41%			
0.160	68%	37%			
0.080	60%	33%			
M.C.(%):	10%	6%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	7	44			
% SAND:	33	23			
% FINES:	60	33			
CLASSIFICATION	SANDY SILT (ML)	SILTY GRAVEL WITH SAND (GM)			

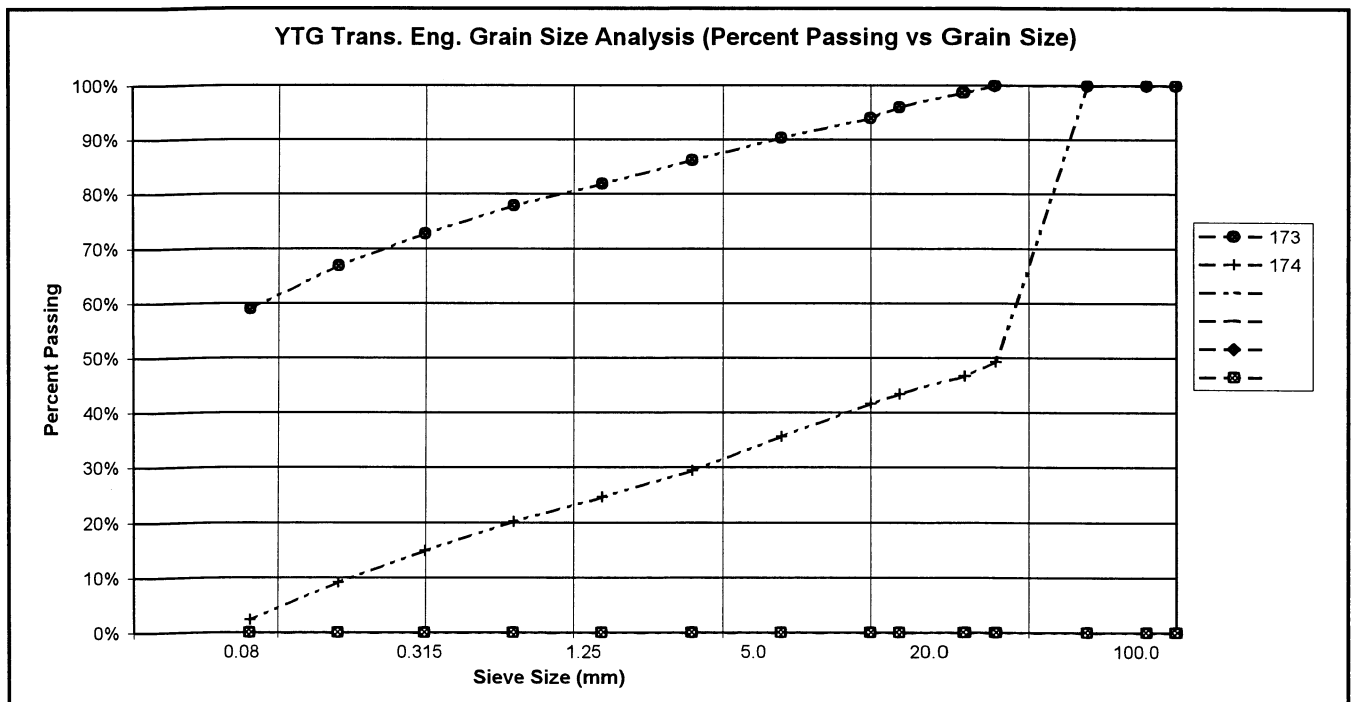


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664-1692 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1680+225  
 LOGGED BY: KJ

HOLE No.: 593-960

DATE COMP: 2001/04/19

FIELD NO:	173	174			
LAB NO:	417	418			
DEPTH:	1.1-1.3	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	100%	49%			
20.0	99%	47%			
12.5	96%	43%			
10.0	94%	42%			
5.0	90%	36%			
2.5	86%	29%			
1.25	82%	25%			
0.630	78%	20%			
0.315	73%	15%			
0.160	67%	9%			
0.080	59%	2%			
M.C.(%):	11%	8%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	10	64			
% SAND:	31	33			
% FINES:	59	2			
CLASSIFICATION	SANDY SILT (ML)	POORLY GRADED GRAVEL WITH SAND (GP)			

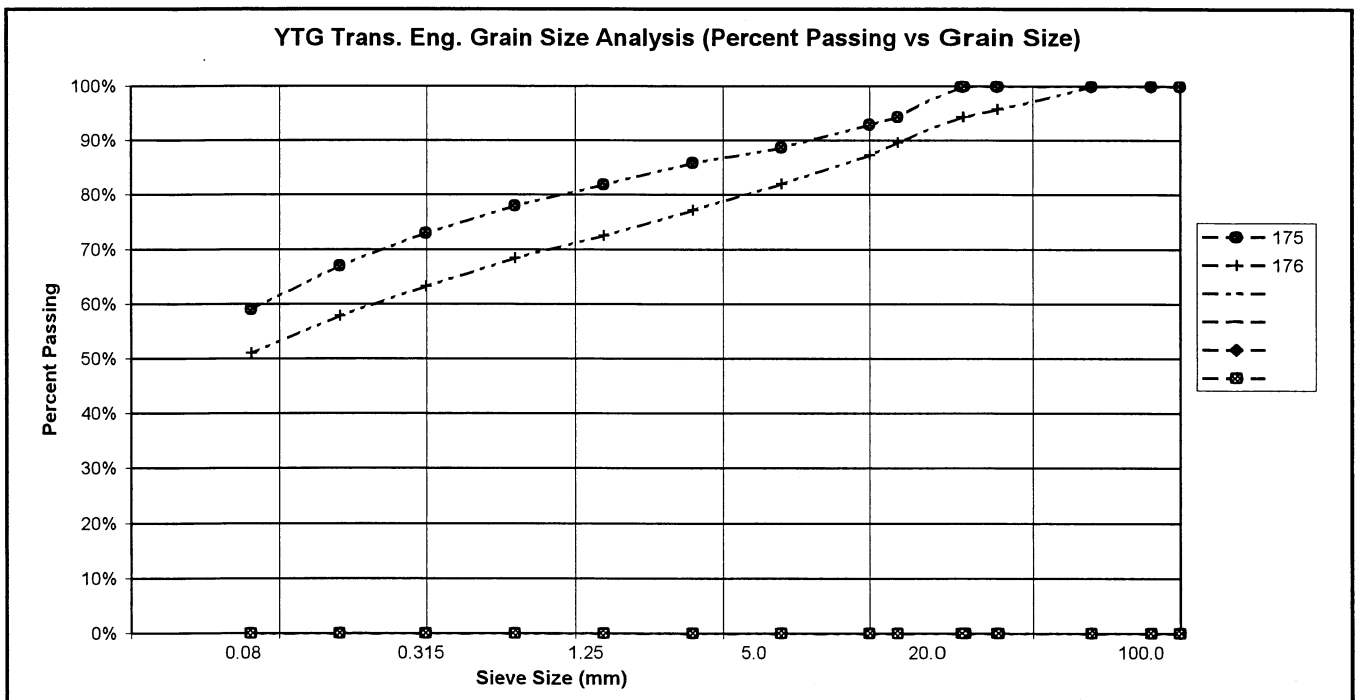


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664-1692 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1680+075  
 LOGGED BY: KJ

HOLE No.: 593-961

DATE COMP: 2001/04/19

FIELD NO:	175	176			
LAB NO:	419	420			
DEPTH:	1.1-1.3	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	100%	96%			
20.0	100%	94%			
12.5	94%	90%			
10.0	93%	87%			
5.0	89%	82%			
2.5	86%	77%			
1.25	82%	73%			
0.630	78%	68%			
0.315	73%	63%			
0.160	67%	58%			
0.080	59%	51%			
M.C.(%)	10%	9%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	11	18			
% SAND:	30	31			
% FINES:	59	51			
CLASSIFICATION	SANDY SILT (ML)	SANDY SILT WITH GRAVEL (ML)			

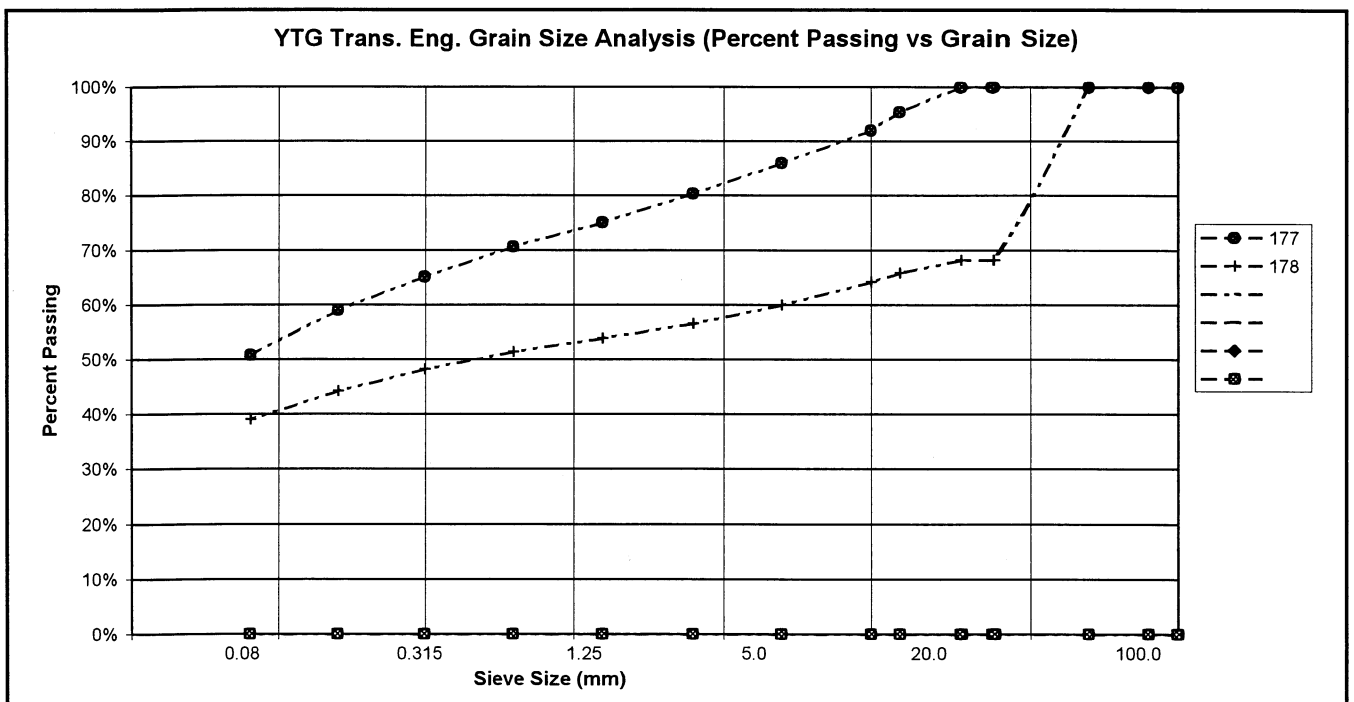


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664-1692 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1679+975  
 LOGGED BY: KJ

HOLE No.: 593-962

DATE COMP: 2001/04/19

FIELD NO:	177	178			
LAB NO:	421	422			
DEPTH:	1.1-1.3	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	100%	68%			
20.0	100%	68%			
12.5	95%	66%			
10.0	92%	64%			
5.0	86%	60%			
2.5	80%	57%			
1.25	75%	54%			
0.630	71%	51%			
0.315	65%	48%			
0.160	59%	44%			
0.080	51%	39%			
M.C.(%)	9%	6%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX:	0.0	0.0			
% GRAVEL:	14	40			
% SAND:	35	21			
% FINES:	51	39			
CLASSIFICATION	SANDY SILT (ML)	SILTY GRAVEL WITH SAND (GM)			

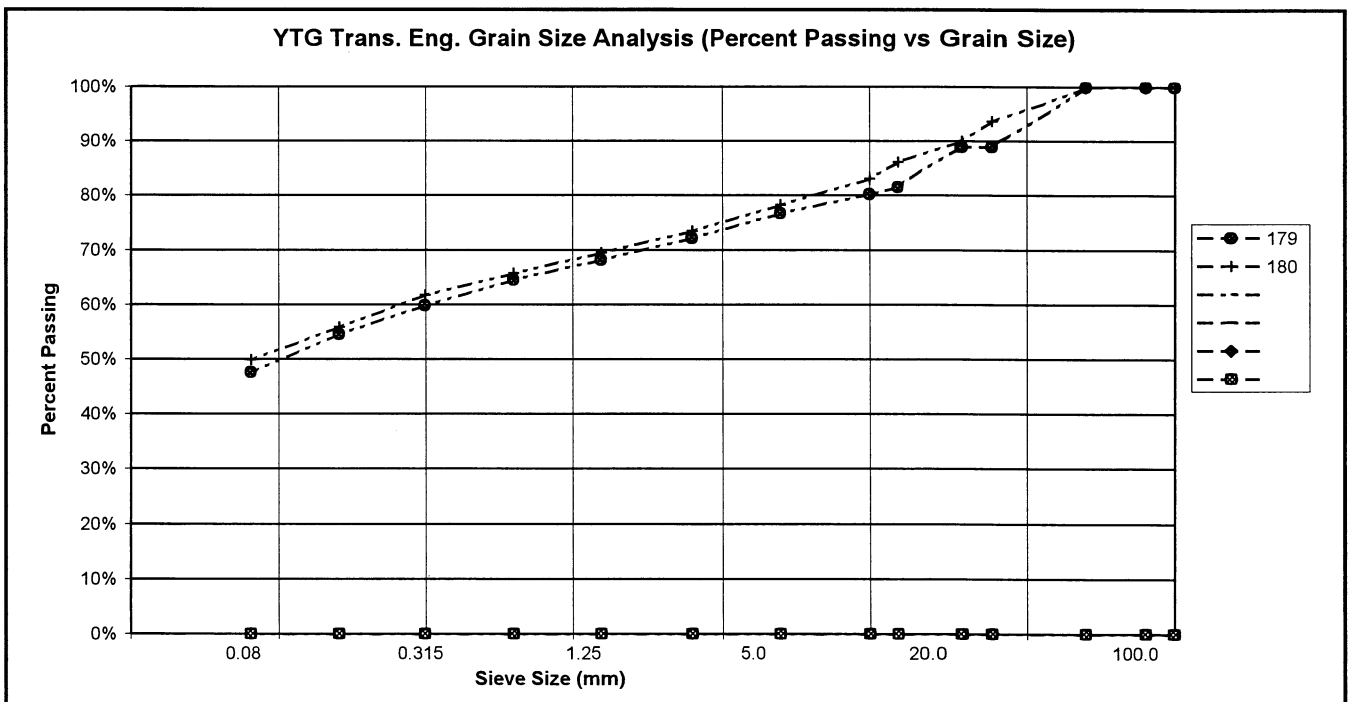


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664-1692 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1679+825  
 LOGGED BY: KJ

HOLE No.: 593-963

DATE COMP: 2001/04/19

FIELD NO:	179	180			
LAB NO:	423	424			
DEPTH:	1.1-1.3	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	89%	94%			
20.0	89%	90%			
12.5	82%	86%			
10.0	80%	83%			
5.0	77%	78%			
2.5	72%	73%			
1.25	68%	69%			
0.630	65%	66%			
0.315	60%	62%			
0.160	55%	56%			
0.080	48%	50%			
M.C.(%):	10%	8%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX:	0.0	0.0			
% GRAVEL:	23	22			
% SAND:	29	28			
% FINES:	48	50			
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	SILTY SAND WITH GRAVEL (SM)			

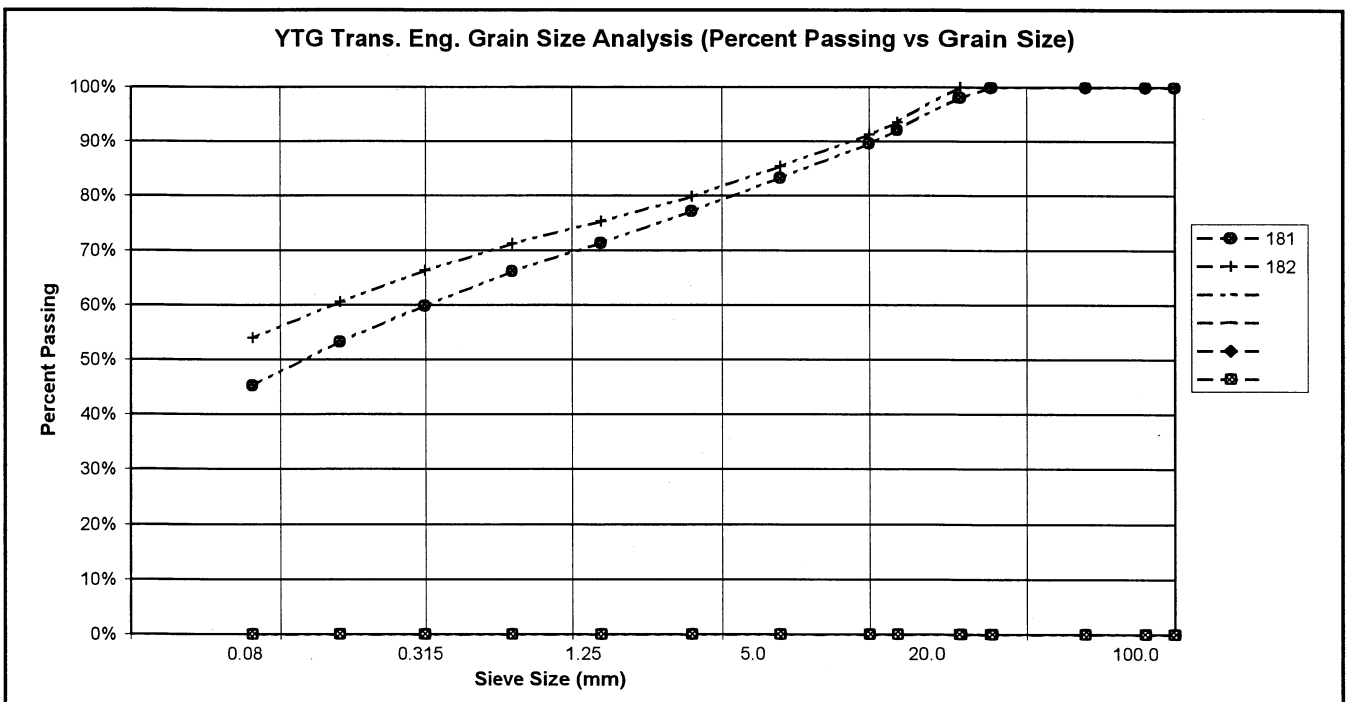


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664-1692 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1679+700  
 LOGGED BY: KJ

HOLE No.: 593-964

DATE COMP: 2001/04/19

FIELD NO:	181	182			
LAB NO:	425	426			
DEPTH:	1.1-1.3	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	100%	100%			
20.0	98%	100%			
12.5	92%	94%			
10.0	90%	91%			
5.0	83%	85%			
2.5	77%	80%			
1.25	71%	75%			
0.630	66%	71%			
0.315	60%	66%			
0.160	53%	61%			
0.080	45%	54%			
M.C.(%):	14%	14%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	17	15			
% SAND:	38	31			
% FINES:	45	54			
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	SANDY SILT (ML)			

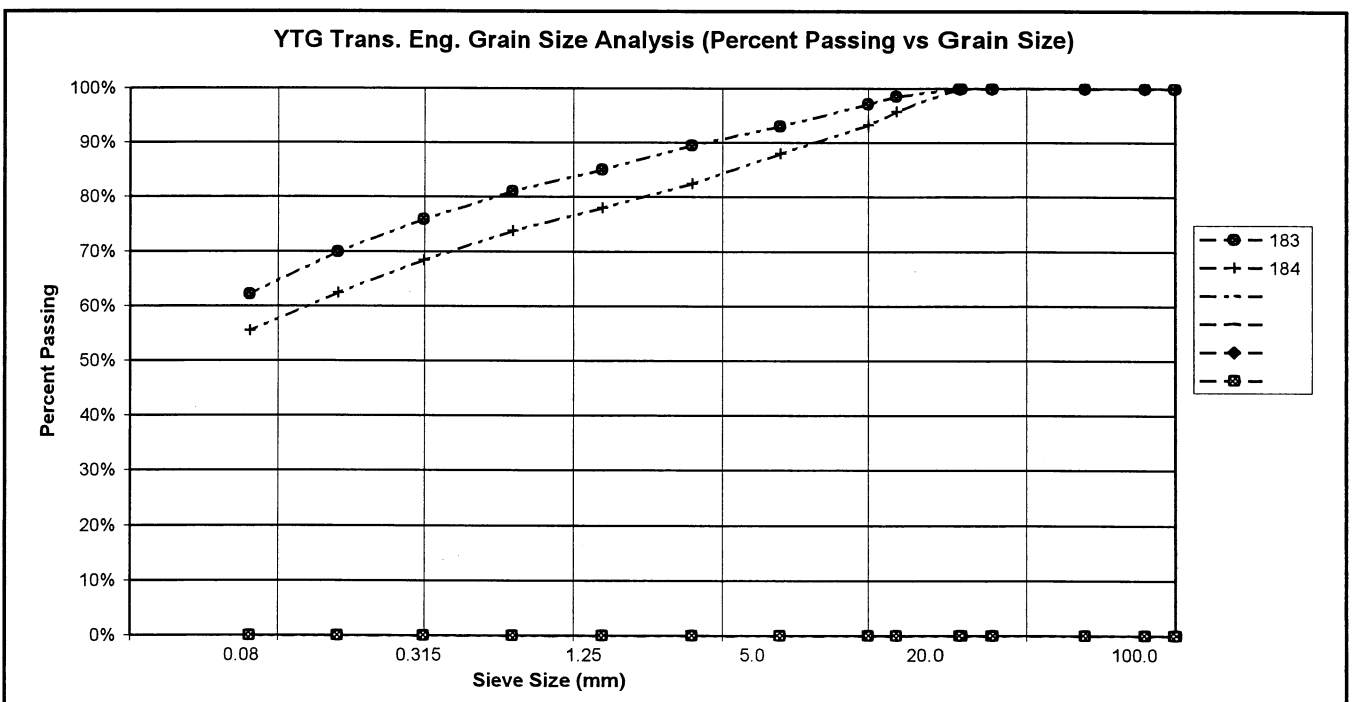


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664-1692 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1679+635  
 LOGGED BY: KJ

HOLE No.: 593-965

DATE COMP: 2001/04/19

FIELD NO:	183	184			
LAB NO:	427	428			
DEPTH:	1.1-1.3	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	100%	100%			
20.0	100%	100%			
12.5	99%	96%			
10.0	97%	93%			
5.0	93%	88%			
2.5	90%	83%			
1.25	85%	78%			
0.630	81%	74%			
0.315	76%	68%			
0.160	70%	62%			
0.080	62%	56%			
M.C.(%)	22%	15%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	7	12			
% SAND:	31	33			
% FINES:	62	56			
CLASSIFICATION	SANDY SILT (ML)	SANDY SILT (ML)			

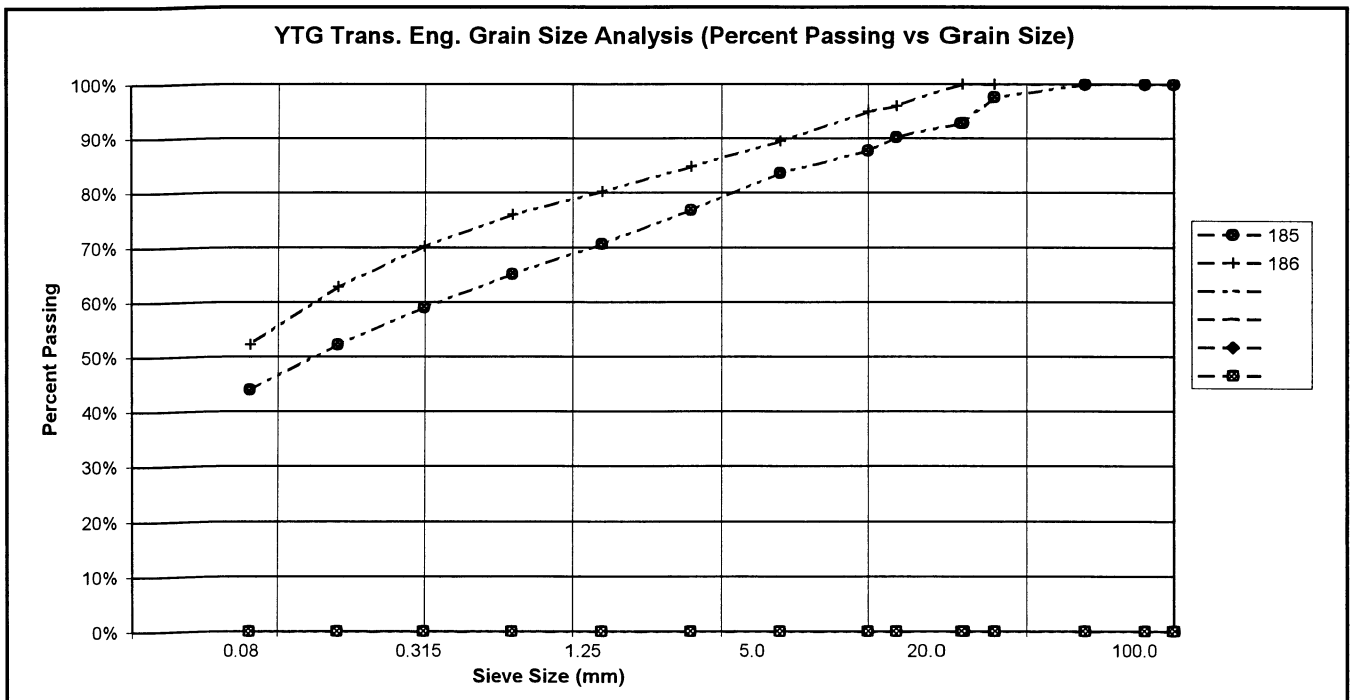


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664-1692 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1679+600  
 LOGGED BY: KJ

HOLE No.: 593-966

DATE COMP: 2001/04/19

FIELD NO:	185	186				
LAB NO:	429	430				
DEPTH:	1.1-1.2	2.8-3.0				
TYPE:	AUGER	AUGER	AUGER	AUGER		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING				
100.0	100%	100%				
80.0	100%	100%				
50.0	100%	100%				
25.0	98%	100%				
20.0	93%	100%				
12.5	90%	96%				
10.0	88%	95%				
5.0	84%	90%				
2.5	77%	85%				
1.25	71%	80%				
0.630	65%	76%				
0.315	59%	70%				
0.160	52%	63%				
0.080	44%	52%				
M.C.(%):	10%	10%				
LIQUID LIMIT:	0.0	0.0				
PLASTIC LIMIT:	0.0	0.0				
PLASTIC INDEX.:	0.0	0.0				
% GRAVEL:	16	10				
% SAND:	40	37				
% FINES:	44	52				
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	SANDY SILT (ML)				

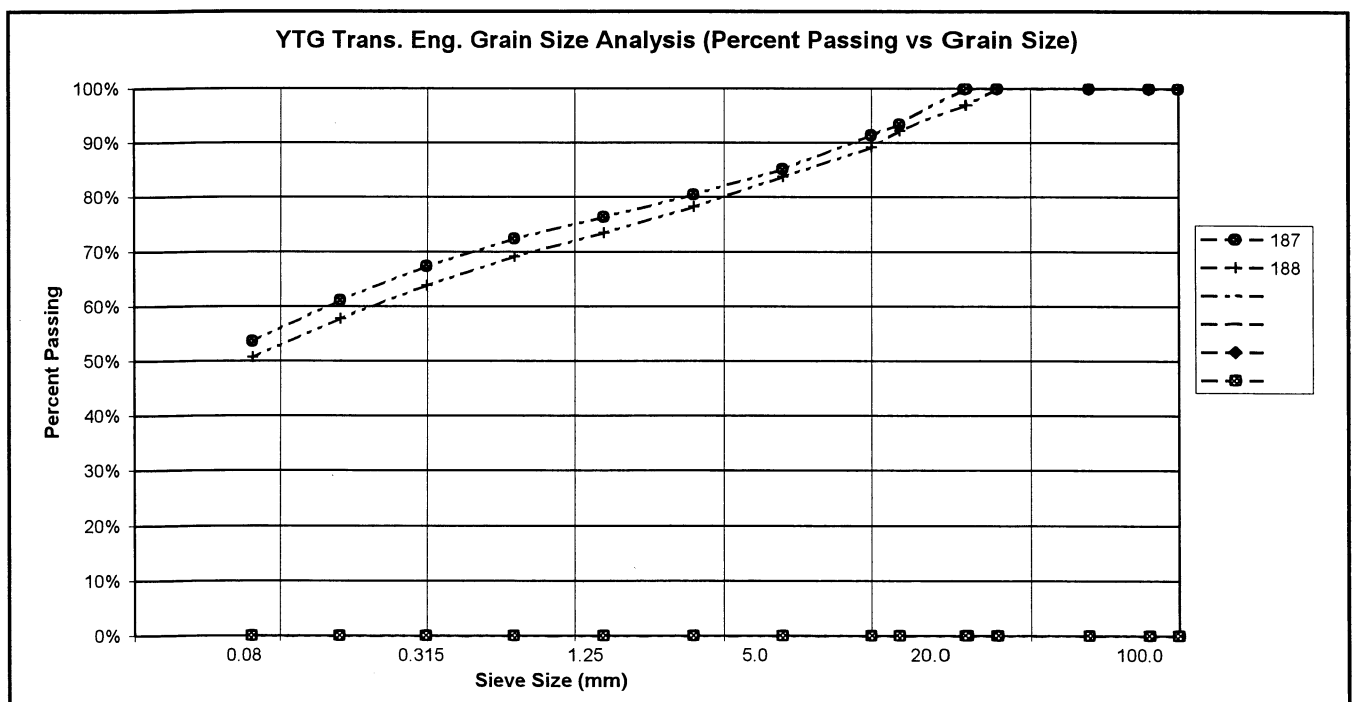


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664-1692 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1679+450  
 LOGGED BY: KJ

HOLE No.: 593-967

DATE COMP: 2001/04/19

FIELD NO:	187	188			
LAB NO:	431	432			
DEPTH:	1.1-1.3	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	100%	100%			
20.0	100%	97%			
12.5	93%	92%			
10.0	91%	89%			
5.0	85%	84%			
2.5	80%	78%			
1.25	76%	74%			
0.630	72%	69%			
0.315	67%	64%			
0.160	61%	58%			
0.080	54%	51%			
M.C.(%):	9%	9%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	15	16			
% SAND:	32	33			
% FINES:	54	51			
CLASSIFICATION	SANDY SILT (ML)	SANDY SILT WITH GRAVEL (ML)			

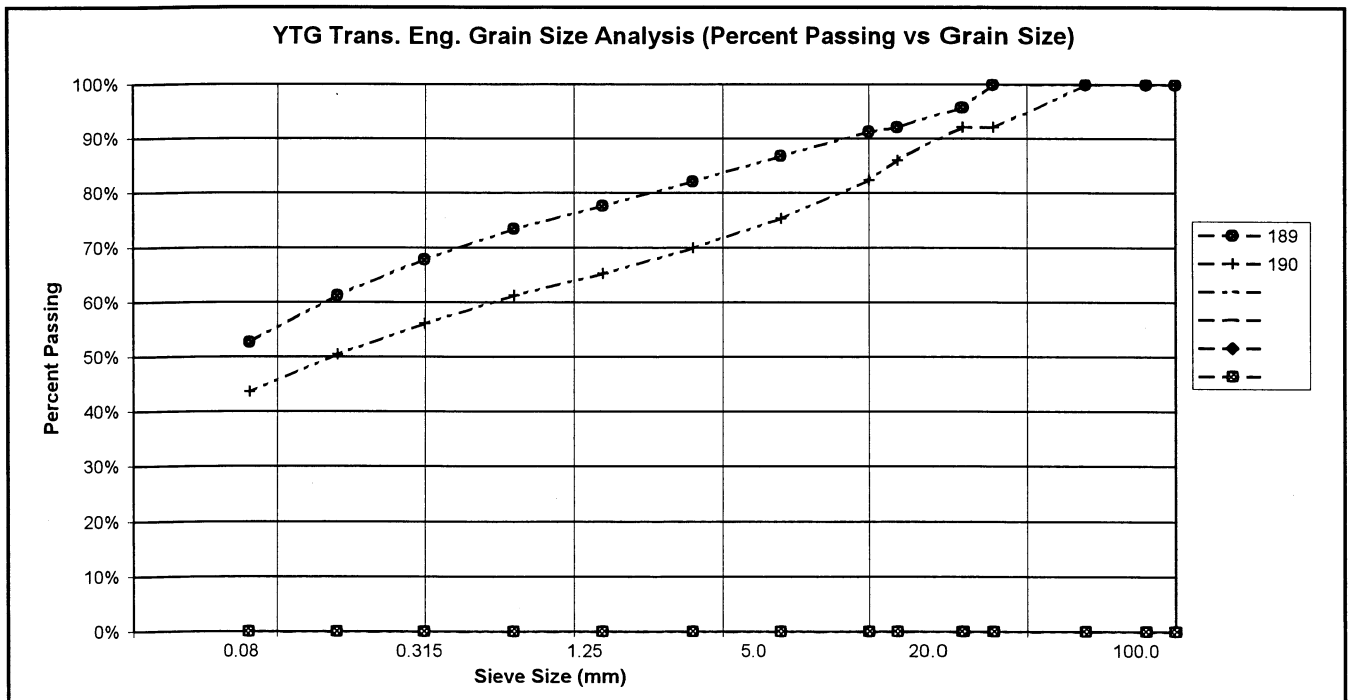


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664-1692 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1679+300  
 LOGGED BY: KJ

HOLE No.: 593-968

DATE COMP: 2001/04/19

FIELD NO:	189	190			
LAB NO:	433	434			
DEPTH:	1.1-1.3	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	100%	92%			
20.0	96%	92%			
12.5	92%	86%			
10.0	91%	82%			
5.0	87%	75%			
2.5	82%	70%			
1.25	78%	65%			
0.630	74%	61%			
0.315	68%	56%			
0.160	61%	51%			
0.080	53%	44%			
M.C.(%):	9%	11%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	13	25			
% SAND:	34	32			
% FINES:	53	44			
CLASSIFICATION	SANDY SILT (ML)	SILTY SAND WITH GRAVEL (SM)			

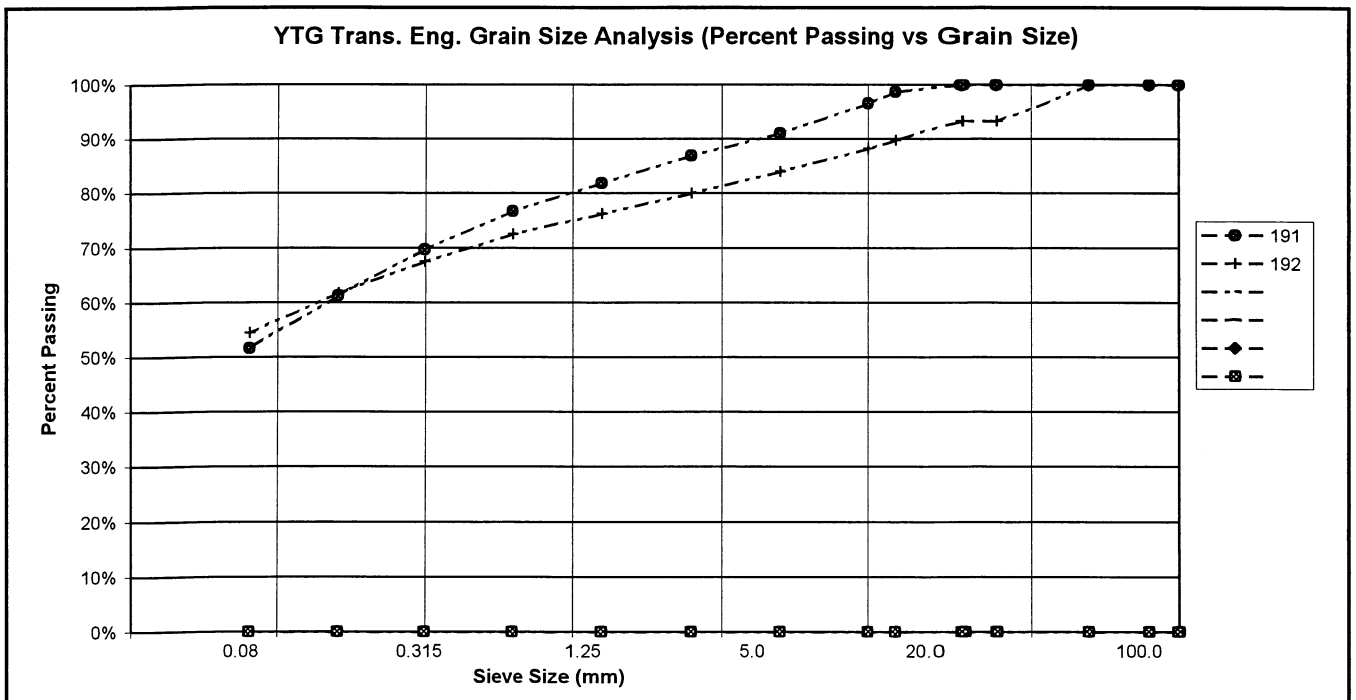


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664-1692 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1679+150  
 LOGGED BY: KJ

HOLE No.: 593-969

DATE COMP: 2001/04/19

FIELD NO:	191	192			
LAB NO:	435	436			
DEPTH:	1.1-1.3	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	100%	93%			
20.0	100%	93%			
12.5	99%	90%			
10.0	97%	88%			
5.0	91%	84%			
2.5	87%	80%			
1.25	82%	76%			
0.630	77%	73%			
0.315	70%	67%			
0.160	61%	62%			
0.080	52%	54%			
M.C.(%)	9%	9%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	9	16			
% SAND:	39	30			
% FINES:	52	54			
CLASSIFICATION	SANDY SILT (ML)	SANDY SILT WITH GRAVEL (ML)			

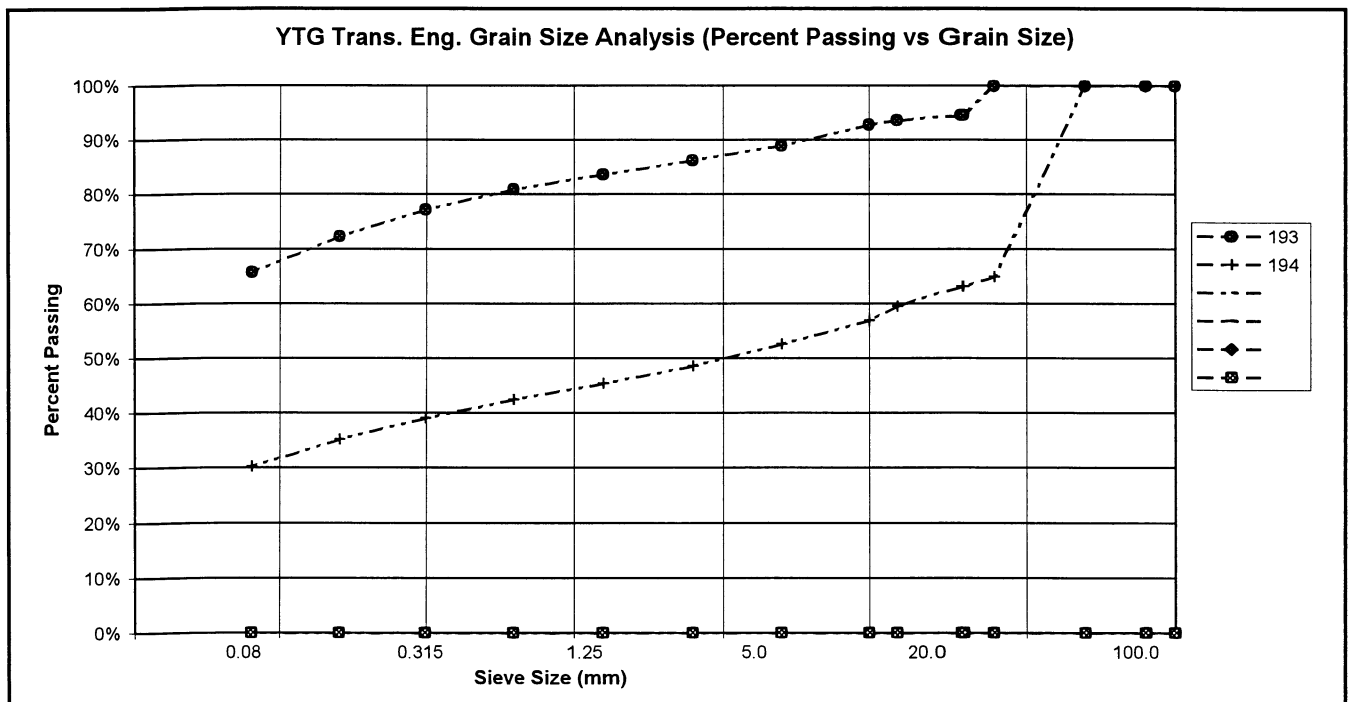


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664-1692 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1679+000  
 LOGGED BY: KJ

HOLE No.: 593-970

DATE COMP: 2001/04/19

FIELD NO:	193	194			
LAB NO:	437	438			
DEPTH:	1.1-1.3	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	100%	65%			
20.0	95%	63%			
12.5	94%	59%			
10.0	93%	57%			
5.0	89%	53%			
2.5	86%	49%			
1.25	84%	45%			
0.630	81%	42%			
0.315	77%	39%			
0.160	72%	35%			
0.080	66%	30%			
M.C.(%)	11%	5%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX:	0.0	0.0			
% GRAVEL:	11	47			
% SAND:	23	22			
% FINES:	66	30			
CLASSIFICATION	SANDY SILT (ML)	SILTY GRAVEL WITH SAND (GM)			

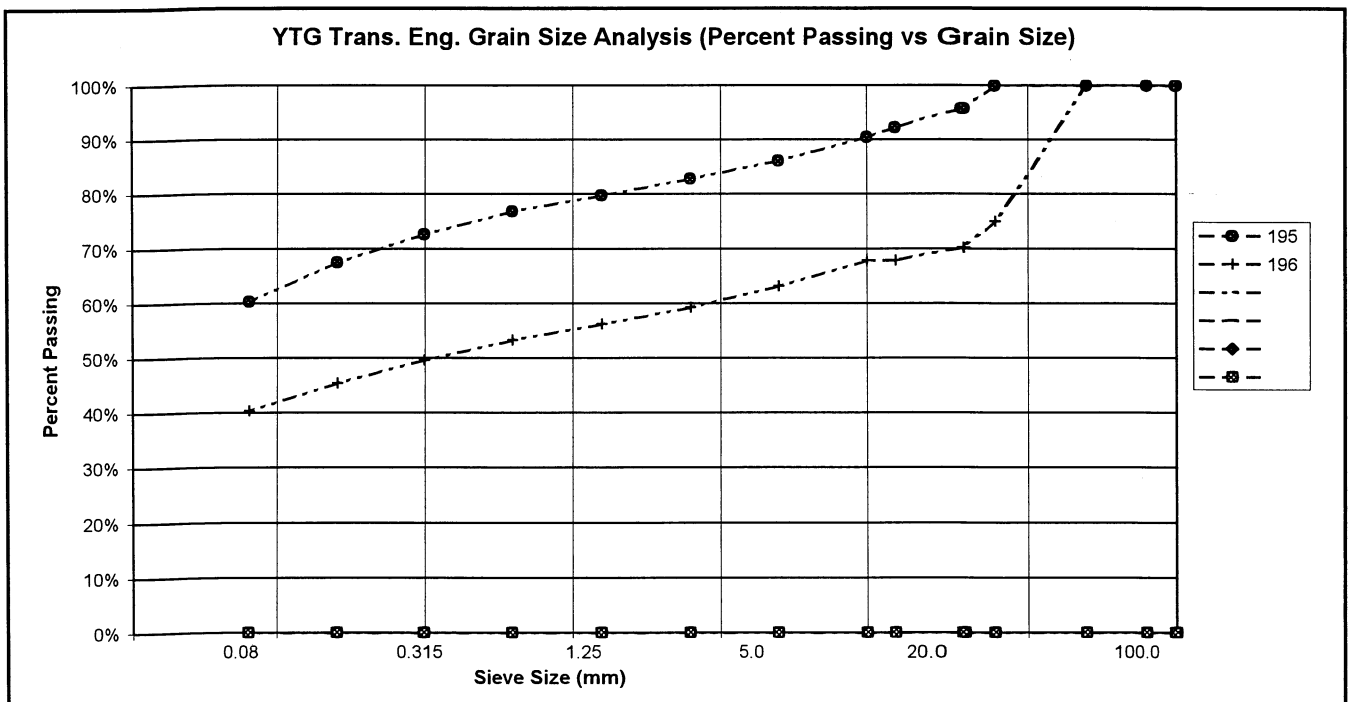


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664-1692 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1678+850  
 LOGGED BY: KJ

HOLE No.: 593-971

DATE COMP: 2001/04/19

FIELD NO:	195	196			
LAB NO:	439	440			
DEPTH:	1.1-1.3	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	100%	75%			
20.0	96%	70%			
12.5	92%	68%			
10.0	91%	68%			
5.0	86%	63%			
2.5	83%	59%			
1.25	80%	56%			
0.630	77%	53%			
0.315	73%	50%			
0.160	68%	45%			
0.080	60%	40%			
M.C.(%):	10%	7%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX:	0.0	0.0			
% GRAVEL:	14	37			
% SAND:	26	23			
% FINES:	60	40			
CLASSIFICATION	SANDY SILT (ML)	SILTY GRAVEL WITH SAND (GM)			

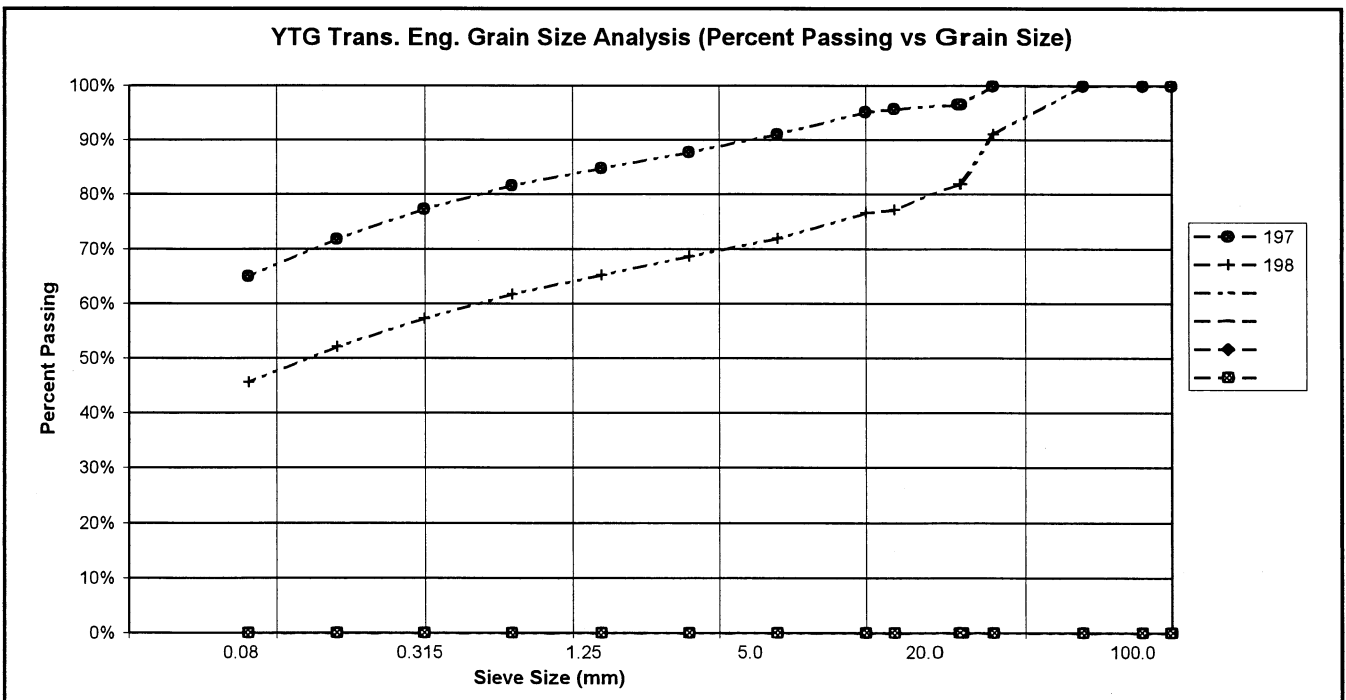


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664-1692 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1678+735  
 LOGGED BY: KJ

HOLE No.: 593-972

DATE COMP: 2001/04/19

FIELD NO:	197	198			
LAB NO:	441	442			
DEPTH:	1.1-1.3	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	100%	91%			
20.0	97%	82%			
12.5	96%	77%			
10.0	95%	77%			
5.0	91%	72%			
2.5	88%	69%			
1.25	85%	65%			
0.630	82%	62%			
0.315	77%	57%			
0.160	72%	52%			
0.080	65%	46%			
M.C.(%):	11%	8%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	9	28			
% SAND:	26	26			
% FINES:	65	46			
CLASSIFICATION	SANDY SILT (ML)	SILTY GRAVEL WITH SAND (GM)			

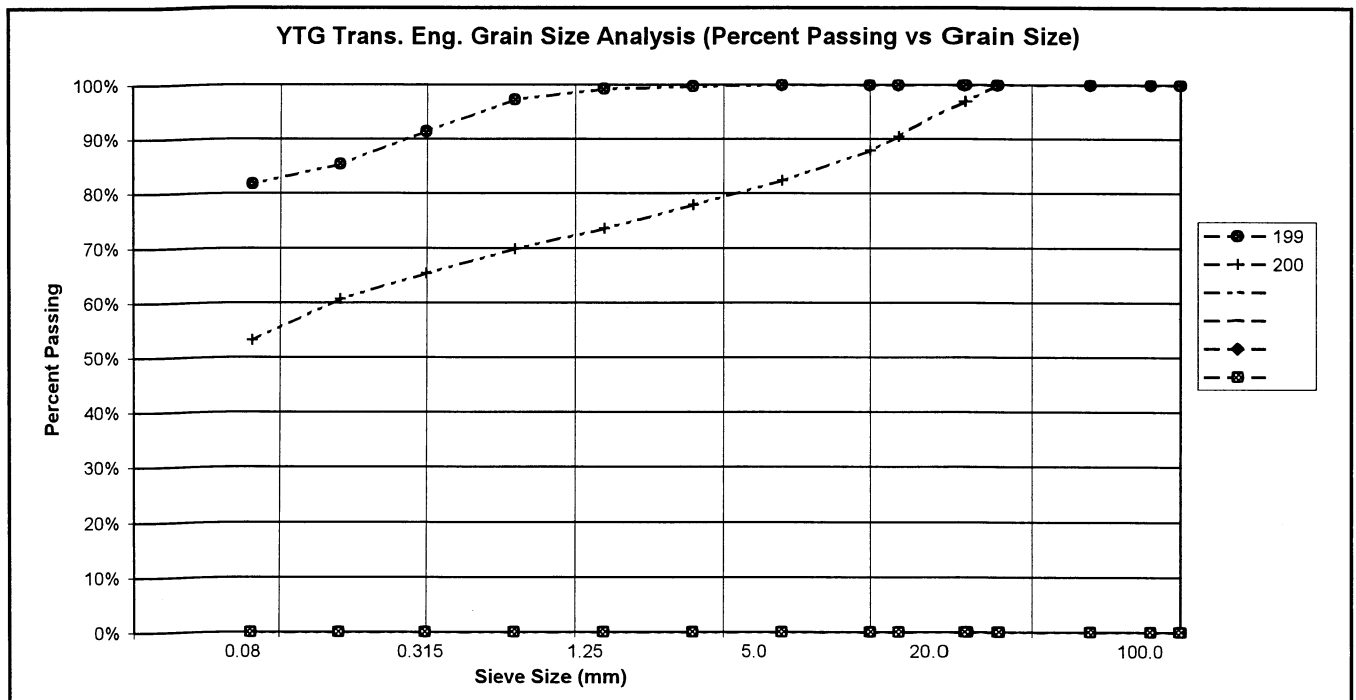


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664-1692 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1678+625  
 LOGGED BY: KJ

HOLE No.: 593-973

DATE COMP: 2001/04/19

FIELD NO:	199	200			
LAB NO:	443	444			
DEPTH:	1.1-1.3	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	100%	100%			
20.0	100%	97%			
12.5	100%	90%			
10.0	100%	88%			
5.0	100%	82%			
2.5	100%	78%			
1.25	99%	74%			
0.630	97%	70%			
0.315	91%	65%			
0.160	85%	61%			
0.080	82%	53%			
M.C.(%):	21%	10%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX:	0.0	0.0			
% GRAVEL:	0	18			
% SAND:	18	29			
% FINES:	82	53			
CLASSIFICATION	SILT WITH SAND (ML)	SANDY SILT WITH GRAVEL (ML)			

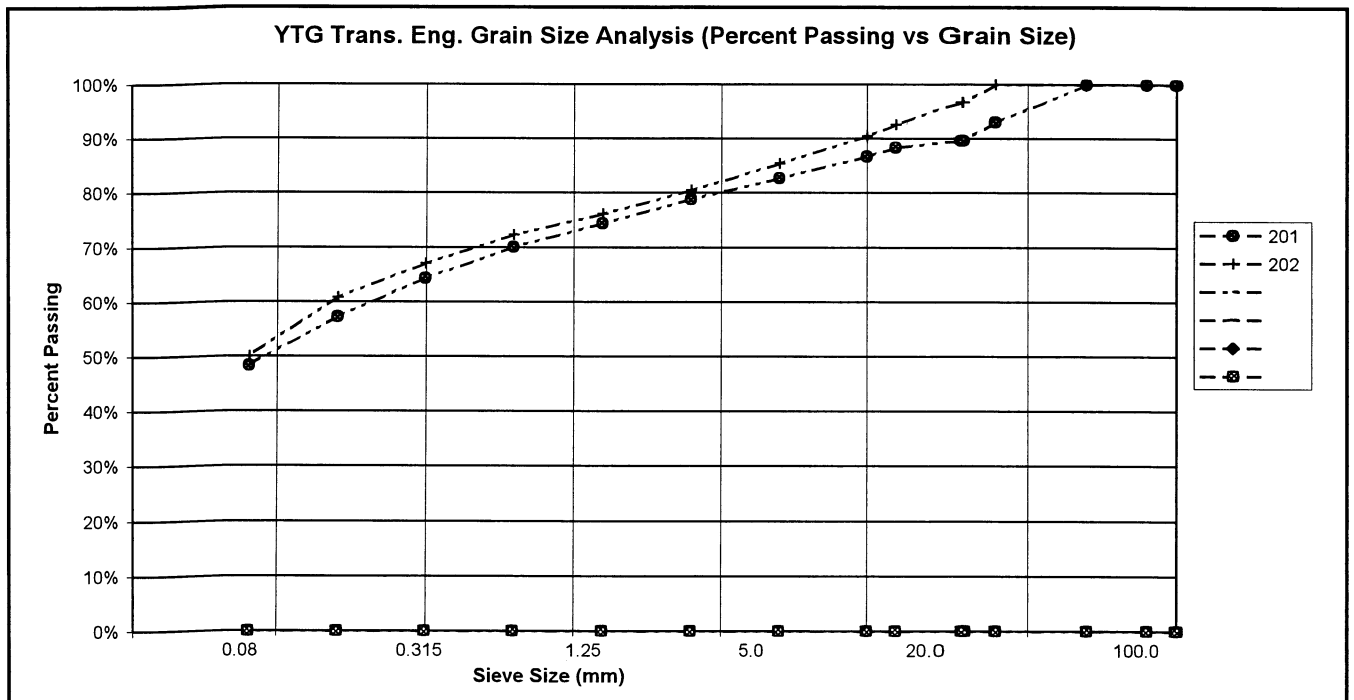


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664-1692 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1678+550 30m RT  
 LOGGED BY: KJ

HOLE No.: 594-974

DATE COMP: 2001/04/20

FIELD NO:	201	202			
LAB NO:	445	446			
DEPTH:	1.1-1.3	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	93%	100%			
20.0	90%	97%			
12.5	88%	93%			
10.0	87%	90%			
5.0	83%	85%			
2.5	79%	81%			
1.25	74%	76%			
0.630	70%	72%			
0.315	64%	67%			
0.160	57%	61%			
0.080	48%	50%			
M.C.(%):	9%	10%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	17	15			
% SAND:	34	35			
% FINES:	48	50			
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	SILTY SAND (SM)			

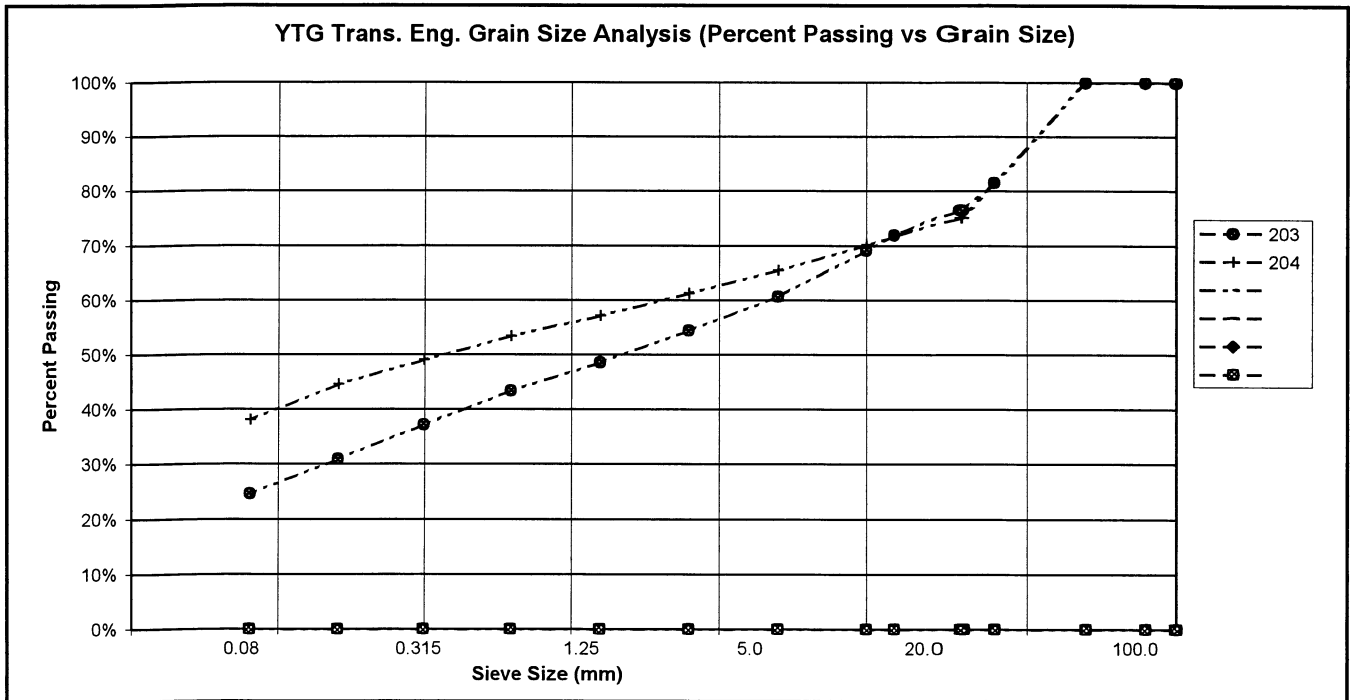


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664-1692 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1678+400  
 LOGGED BY: KJ

HOLE No.: 594-975

DATE COMP: 2001/04/20

FIELD NO:	203	204			
LAB NO:	447	448			
DEPTH:	1.1-1.3	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	82%	82%			
20.0	77%	75%			
12.5	72%	72%			
10.0	69%	70%			
5.0	61%	66%			
2.5	55%	61%			
1.25	49%	57%			
0.630	43%	53%			
0.315	37%	49%			
0.160	31%	45%			
0.080	25%	38%			
M.C.(%):	5%	7%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	39	34			
% SAND:	36	27			
% FINES:	25	38			
CLASSIFICATION	SILTY GRAVEL WITH SAND (GM)	SILTY GRAVEL WITH SAND (GM)			

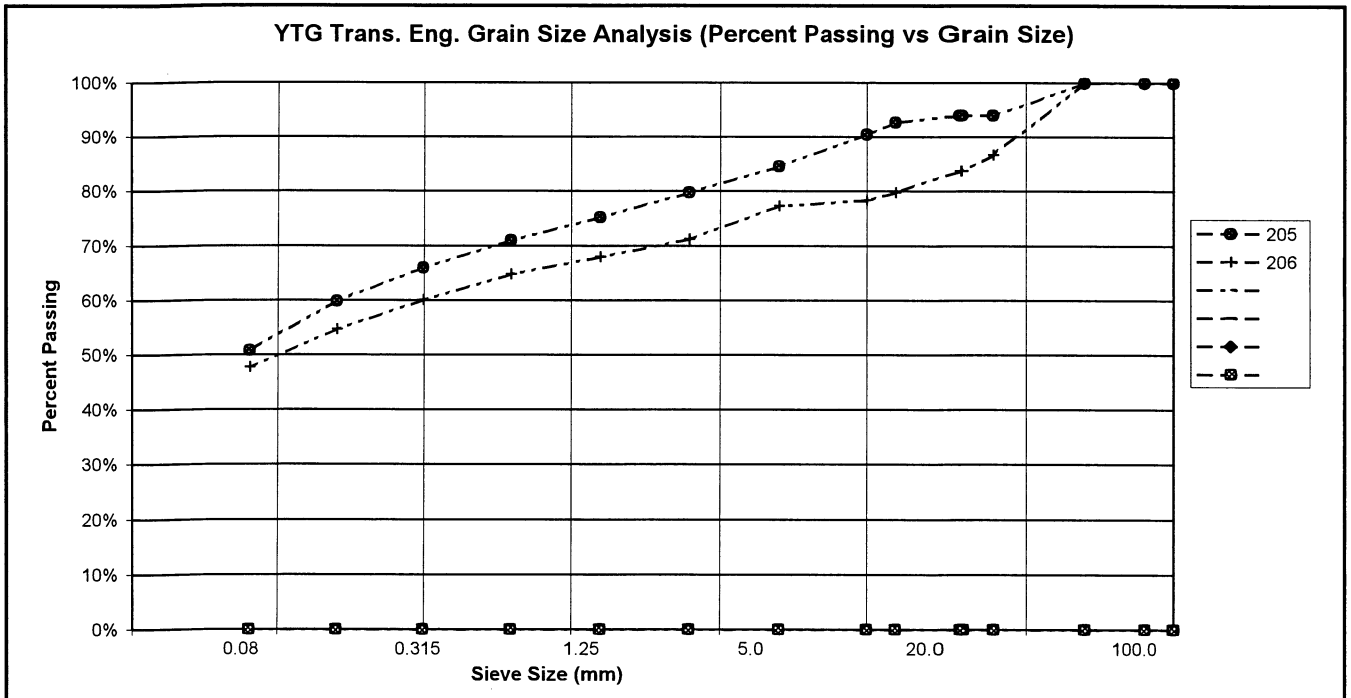


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664-1692 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1678+250  
 LOGGED BY: KJ

HOLE No.: 594-976

DATE COMP: 2001/04/20

FIELD NO:	205	206			
LAB NO:	449	450			
DEPTH:	1.1-1.3	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	94%	87%			
20.0	94%	84%			
12.5	93%	80%			
10.0	91%	78%			
5.0	85%	77%			
2.5	80%	71%			
1.25	75%	68%			
0.630	71%	65%			
0.315	66%	60%			
0.160	60%	55%			
0.080	51%	48%			
M.C.(%):	11%	8%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	15	23			
% SAND:	34	30			
% FINES:	51	48			
CLASSIFICATION	SANDY SILT WITH GRAVEL (ML)	SILTY SAND WITH GRAVEL (SM)			

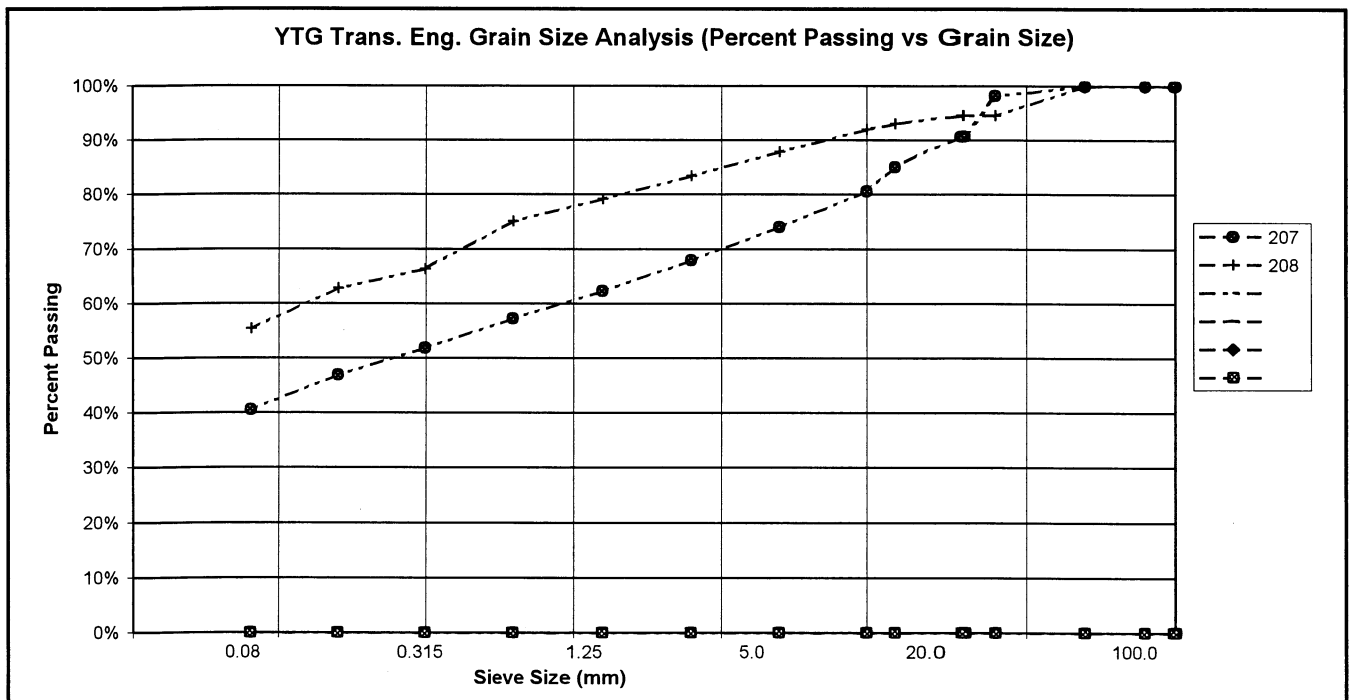


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664-1692 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1678+100  
 LOGGED BY: KJ

HOLE No.: 594-977

DATE COMP: 2001/04/20

FIELD NO:	207	208			
LAB NO:	451	452			
DEPTH:	1.1-1.3	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	98%	95%			
20.0	91%	95%			
12.5	85%	93%			
10.0	81%	92%			
5.0	74%	88%			
2.5	68%	83%			
1.25	62%	79%			
0.630	57%	75%			
0.315	52%	66%			
0.160	47%	63%			
0.080	41%	55%			
M.C.(%):	8%	9%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	26	12			
% SAND:	33	33			
% FINES:	41	55			
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	SANDY SILT (ML)			

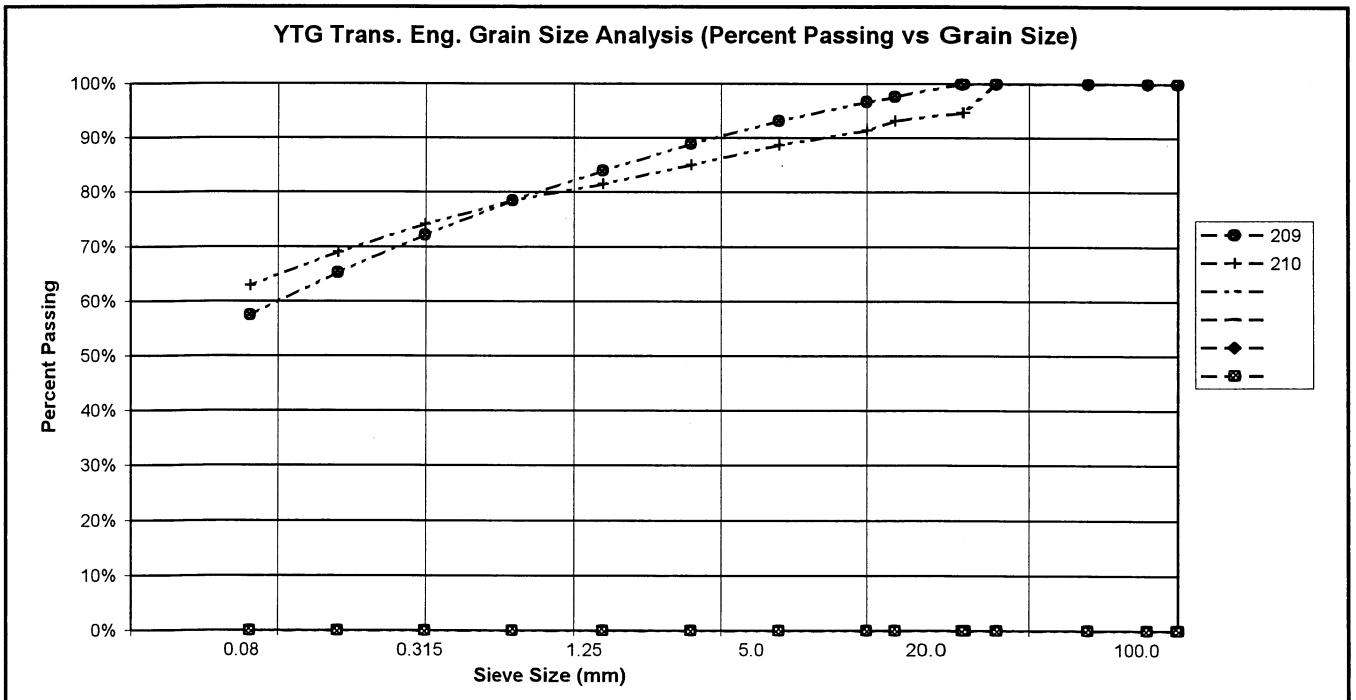


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664-1692 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1678+000  
 LOGGED BY: KJ

HOLE No.: 594-978

DATE COMP: 2001/04/20

FIELD NO:	209	210			
LAB NO:	453	454			
DEPTH:	1.1-1.3	5.8-6.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	100%			
25.0	100%	100%			
20.0	100%	95%			
12.5	98%	93%			
10.0	97%	91%			
5.0	93%	89%			
2.5	89%	85%			
1.25	84%	82%			
0.630	79%	79%			
0.315	72%	74%			
0.160	65%	69%			
0.080	57%	63%			
M.C.(%)	11%	13%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	7	11			
% SAND:	36	26			
% FINES:	57	63			
CLASSIFICATION	SANDY SILT (ML)	SANDY SILT (ML)			

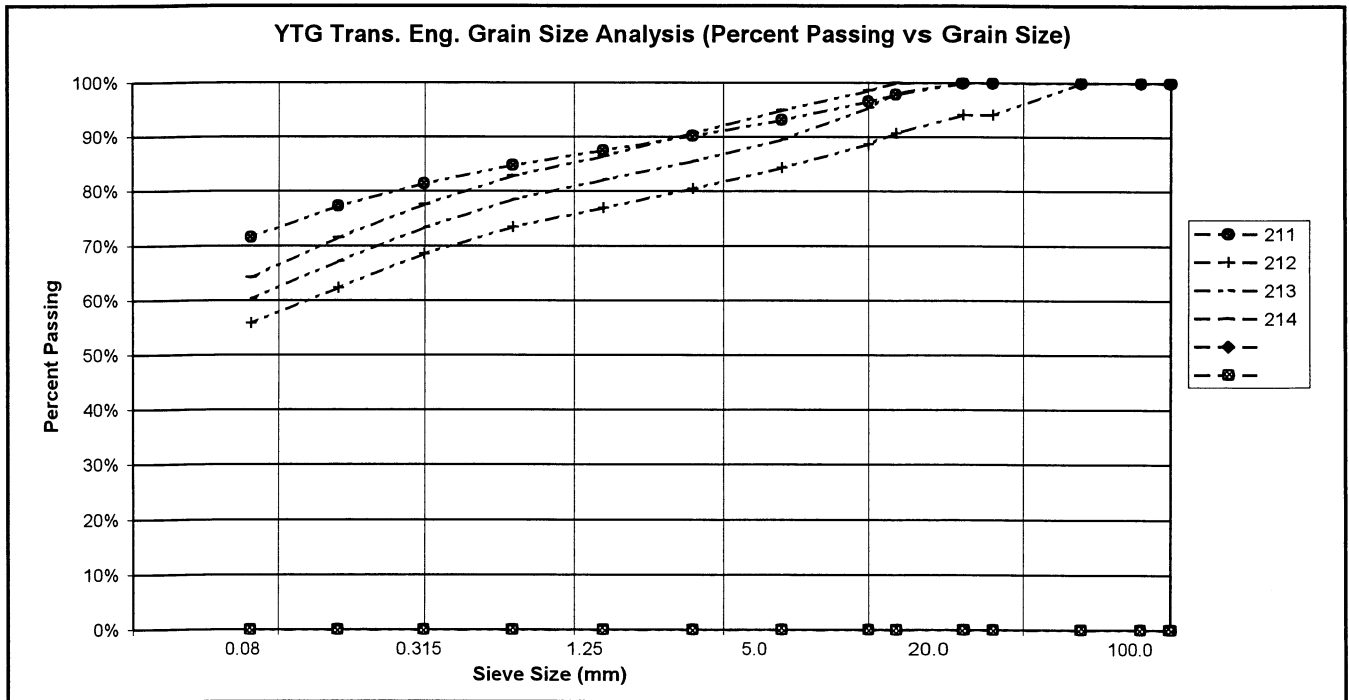


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1664-1692 A/H  
 DRILL UNIT: MOBILE B30 L  
 HOLE LOCATION: 1677+900 35M RT  
 LOGGED BY: KJ

HOLE No.: 594-979

DATE COMP: 2001/04/20

FIELD NO:	211	212	213	214		
LAB NO:	455	456	457	458		
DEPTH:	1.1-1.3	2.8-3.0	4.3-4.5	5.8-6.0		
TYPE:	AUGER	AUGER	AUGER	AUGER		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	100%	100%	100%		
25.0	100%	94%	100%	100%		
20.0	100%	94%	100%	100%		
12.5	98%	91%	98%	100%		
10.0	97%	89%	95%	99%		
5.0	93%	84%	90%	95%		
2.5	90%	80%	86%	91%		
1.25	88%	77%	82%	86%		
0.630	85%	73%	79%	83%		
0.315	81%	68%	73%	78%		
0.160	77%	62%	67%	71%		
0.080	72%	56%	60%	64%		
M.C.(%)	11%	10%	11%	12%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	7	16	10	5		
% SAND:	22	29	29	31		
% FINES:	72	56	60	64		
CLASSIFICATION	SILT WITH SAND (ML)	SANDY SILT WITH GRAVEL (ML)	SANDY SILT (ML)	SANDY SILT (ML)		



# **GEOTECHNICAL INVESTIGATIONS**

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

**Yukon**

Highways and Public Works  
Transportation Engineering Branch

**Geotechnical Services**

BOX 2703, WHITEHORSE, YUKON  
PHONE 867-667-8820 FAX 867-393-6447

**ORIGINAL - Do Not Remove From File**



HIGHWAY CONSTRUCTION

GEOTECHNICAL INVESTIGATION

Km 1674.0 to 1684.3  
YUKON, 2003-2004

ALASKA HIGHWAY #1

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

This Data Package prepared for project viewing:

April, 2003

Transportation Engineering Branch  
Geotechnical Services  
461 Range Road  
Whitehorse, Yukon



**CONTENTS**

**Volume 1 of 2**

**INTRODUCTION**

Investigation notes, classification methods and legends.

**2000 & 2001 CENTRELINE TESTING ALASKA HIGHWAY**

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

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

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

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

## CONTENTS (continued)

### Volume 2 of 2

#### 1978 CENTRELINE TESTING ALASKA HIGHWAY

A Test Hole Location Reference Table and Subsurface Exploration & Testing Report Sheets are provided.

The reports for the centreline holes are arranged according to project location, starting at Km 1673+993 and increasing to Km 1684+415.

1978	TEST HOLES 169 to 301	shown with no prefix
------	-----------------------	----------------------

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

#### QUARRY SOURCE Km 1674 RHS ALASKA HIGHWAY

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

##### **Air Rotary Drill Testing**

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

#### GRANULAR SOURCE Km 1691.3 RHS ALASKA HIGHWAY (Silver City)

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

##### **Auger Testing**

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

##### **Backhoe Testing**

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

HIGHWAY CONSTRUCTION

GEOTECHNICAL INVESTIGATION

Km 1674.0 to 1684.3  
YUKON, 2003-2004

ALASKA HIGHWAY #1

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



## TEST HOLE LOCATION REFERENCE TABLE

Km 1674.0 to 1684.4

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

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

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

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



SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **169**

HOLE LOCATION **1674+022**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78.10.26**

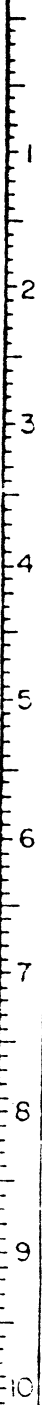
DRILL UNIT

TECHNICIAN **T.M.**

DEPTH (m)	DESCRIPTION OF MATERIAL	SAMPLE DATA							LIQUID LIMIT	PLASTIC LIMIT		
		PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND			% < .005 mm	STD. PENETRATION BLOWS/300 mm
1												
2												
3												
4												
5	END HOLE											
6												
7												
8												
9												
10												

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

LIQUID LIMIT | PLASTIC LIMIT



A/p 1 1988 GM 39 36

0 X WP

A/p 2 1973 CL 4 28 28

0 L X

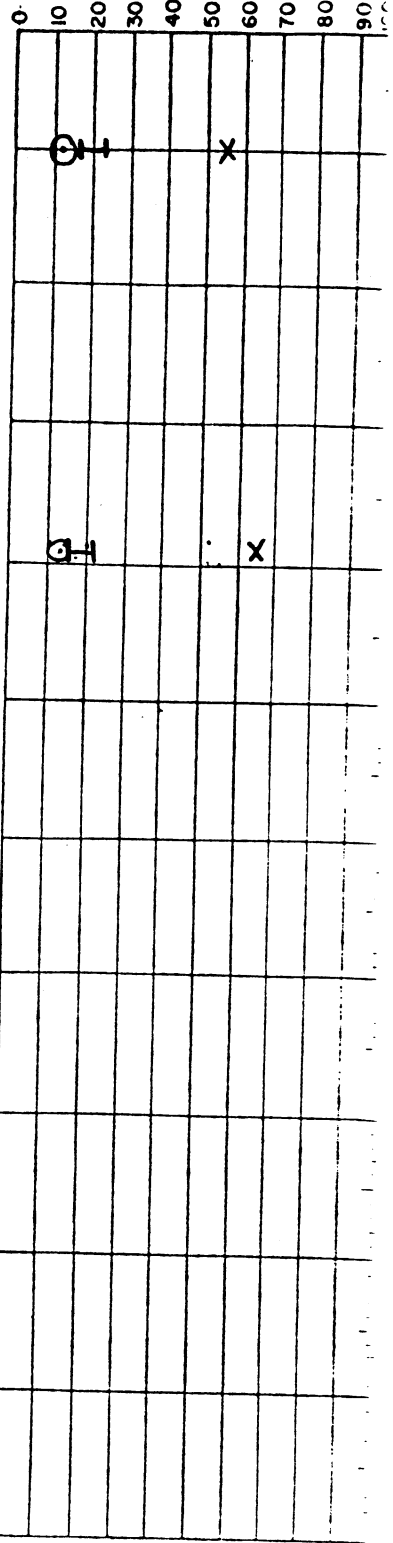


SUBSURFACE EXPLORATION AND TESTING REPORT

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

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	SAMPLE DATA				STD PENETRATION BLOWS/300mm	MOISTURE CONTENT	
						UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm		0 - % MOISTURE CONTENT	X - % < .074mm
1												
1.5			A/P 1	2033	CL-MC	12	34	18		GH	X	
2												
3												
4			A/P 2	1986	CL-MC	11	24			GH	X	
5	END HOLE											
6												
7												
8												
9												
10												

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





### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **172**

HOLE LOCATION **1674+230**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED

DRILL UNIT

TECHNICIAN **T. M.**

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	SAMPLE DATA					STD PENETRATION BLOWS/300mm	0 - % MOISTURE CONTENT X - % < .074mm	LIQUID LIMIT   PLASTIC LIMIT
						UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm				
0													
1													
2													
3													
4													
4.5													
5	END HOLE												
6													
7													
8													
9													
10													

AP 1 1982 SM LB 44

0 X TRACE

AP 2 1990 ML 10 28 20

OH X



SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAIKWAK SEGMENT 9**

HOLE No. **173**

HOLE LOCATION **1674+320**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78.10.27**

DRILL UNIT

TECHNICIAN **TM.**

DEPTH (m.)	DESCRIPTION OF MATERIAL	SAMPLE DATA							MOISTURE CONTENT		
		PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD PENETRATION BLOWS / 300 mm	LIQUID LIMIT
1											
2											
3											
4	END HOLE										
5											
6											
7											
8											
9											
10											

A/P 1 1987 ML 9 36

A/P 2 1993 SM 2 64 6

OH X

OX TRACE

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

LIQUID LIMIT — PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90



### SUBSURFACE EXPLORATION AND TESTING REPORT

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

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	SAMPLE DATA					STD. PENETRATION BLOWS / 300mm	0 - % MOISTURE CONTENT X - % < .074mm LIQUID LIMIT — PLASTIC LIMIT	
						UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm				
0													
0.5													
1.0													
1.5													
2.0													
2.5													
3.0	END HOLE												
3.5													
4.0													
4.5													
5.0													
5.5													
6.0													
6.5													
7.0													
7.5													
8.0													
8.5													
9.0													
9.5													
10.0													

A/p 1      2025 SM      10 44 16

0 10 20 30 40 50 60 70 80 90  
 0      X TRACE



### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **175**

HOLE LOCATION **1674+466**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78.10.27**

DRILL UNIT

TECHNICIAN **T.M**

DEPTH (m.)	DESCRIPTION OF MATERIAL	SAMPLE DATA							STD PENETRATION BLOWS/300mm	0 - % MOISTURE CONTENT X - % < .074mm	LIQUID LIMIT — PLASTIC LIMIT
		PERMA-FROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND			
1											
2											
3											
4											
4.5	END HOLE										
5											
6											
7											
8											
9											
10											

Alp 1 1991 SM 17 48 -

0	10	20	30	40	50	60	70	80	90	100
0			X							

Alp 2 1981 ML 11 31 14

0	10	20	30	40	50	60	70	80	90	100
0				TRACE	X					





### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **17.7**

HOLE LOCATION **1674 + 645**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78-10-30**

DRILL UNIT

TECHNICIAN

**SC.**

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	SAMPLE DATA						STD. PENETRATION BLOWS / 300mm	LIQUID LIMIT	PLASTIC LIMIT
				FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm			
1			A/P 1	2330	CL	17	25	-	10	15	X	
3			A/P 2	2340	CL	3	12		10	15	X	
4			A/P 3	2293	CL	5	19	37	10	15	X	
5	END HOLE											
6												
7												
8												
9												
10												

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

LIQUID LIMIT — PLASTIC LIMIT

1  
2  
3  
4  
5  
6  
7  
8  
9  
10





SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **179**

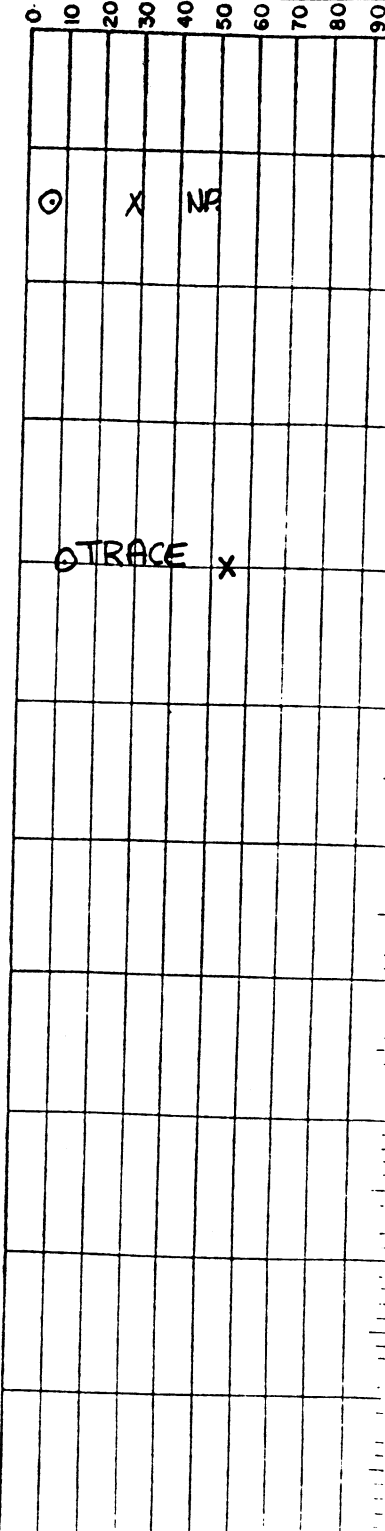
HOLE LOCATION **1674 + 803** ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78-10-30** DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	SAMPLE DATA							STD PENETRATION BLOWS / 300mm	LIQUID LIMIT	PLASTIC LIMIT	
				FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	0 - % MOISTURE CONTENT				X - % < .074 mm
1														
2														
3														
4														
4.5				A/P 1	2074	SM	3	68						
5	END HOLE													
5.5														
6														
6.5														
7														
7.5														
8														
8.5														
9														
9.5														
10														







SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **181**

HOLE LOCATION **1674 + 950**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78-10-30**

DRILL UNIT

TECHNICIAN **S.C.**

SAMPLE DATA

0 - % MOISTURE  
CONTENT

x - % < .074mm

LIQUID LIMIT — PLASTIC LIMIT

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS/300mm	MOISTURE CONTENT	
											0 - %	x - %
1												
1.5												
2												
2.5												
3												
3.5												
4												
4.5												
4.5												
4.5												
5	END HOLE											
6												
7												
8												
9												
10												

A/P 1 2610 CL 4 26 26

OH

X

A/P 2 2550 SM 16 69

OX NP





PUDIC WORKS  
Canada

MATERIALS QUALITY CONTROL LABORATORY  
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **183**

HOLE LOCATION **1675 + 115**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78-10-30**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	SAMPLE DATA				STD. PENETRATION BLOWS / 300 mm	0 - % MOISTURE CONTENT X - % < .074 mm	LIQUID LIMIT	PLASTIC LIMIT
						UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm				
1													
1.5													
1.8													
2.0													
2.2													
2.5													
3.0													
3.5													
4.0													
4.2													
4.5													
4.8													
5.0	END HOLE												
6.0													
7.0													
8.0													
9.0													
10.0													

A/P 1 2179 SM 25 26

⊙ TRACE X

A/P 2 2077 SM 22 48 8

⊙ X TRACE

END HOLE







SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **186**

HOLE LOCATION **1675 + 209**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78-10-30**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	SAMPLE DATA				STD. PENETRATION BLOWS/300mm	0 - % MOISTURE CONTENT X - % < .074 mm	LIQUID LIMIT	PLASTIC LIMIT
						UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm				
1													
2													
3													
4													
5	END HOLE												
6													
7													
8													
9													
10													

A/p 1 2334 CL-ML 6 26

OH X

A/p 2 2078 CL-ML 7 28 20

OH X

A/p 3 2073 CL 22 24 -

OH X







### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9** HOLE No. **189**  
 HOLE LOCATION **1675+550** ELEV. \_\_\_\_\_ DEPTH TO G.W.L. \_\_\_\_\_  
 DATE DRILLED **78.10.30** DRILL UNIT \_\_\_\_\_ TECHNICIAN **S.C.**

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	SAMPLE DATA				STD. PENETRATION BLOWS/300mm	LIQUID LIMIT	PLASTIC LIMIT
						UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm			
0												
1												
2												
3												
3.5												
4												
4.5												
4.8												
5	END HOLE											
6												
7												
8												
9												
10												

A<sub>1</sub>P 1 2346 ML 14 23

⊙ N.P. X

A<sub>1</sub>P 2 2600CL 6 22 31

⊙-H X













### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **195**

HOLE LOCATION **1676+172**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78.10.31**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	SAMPLE DATA				STD PENETRATION BLOWS / 300mm	0 - % MOISTURE CONTENT X - % < .074mm	LIQUID LIMIT — PLASTIC LIMIT
						UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm			
0												
1												
2												
3												
3.1												
3.2												
3.3												
3.4												
3.5												
3.6												
3.7												
3.8												
3.9												
3.95												
4.0												
4.1												
4.2												
4.3												
4.4												
4.5												
4.6												
4.7												
4.8												
4.9												
5.0	END HOLE											
6												
7												
8												
9												
10												

A/p 1 2076 CML 8 31

OT X

A/p 2 2557 SC 13 41 9

o x TRACE











### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION	SHAKWAK SEGMENT 9	HOLE No.	200
HOLE LOCATION	1676 + 487	ELEV.	
DATE DRILLED	78.10.31	DRILL UNIT	TECHNICIAN
			S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	SAMPLE DATA							STD. PENETRATION BLOWS/300mm	0 - % MOISTURE CONTENT X - % < .074mm	LIQUID LIMIT — PLASTIC LIMIT
		PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND			
1											
2											
3											
4											
4.5	END HOLE										
5											
6											
7											
8											
9											
10											

Ap	1	2316	CL-ML	11	26
----	---	------	-------	----	----

0	10	20	30	40	50	60	70	80	90	100
						X				

Ap	2	2318	CL-ML	20	27	21
----	---	------	-------	----	----	----

0	10	20	30	40	50	60	70	80	90	100
						X				









SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9** HOLE No. **205**  
 HOLE LOCATION **1676+ 880** ELEV. \_\_\_\_\_ DEPTH TO G.W.L. \_\_\_\_\_  
 DATE DRILLED **78.10.31** DRILL UNIT \_\_\_\_\_ TECHNICIAN **SC.**

DEPTH (m.)	DESCRIPTION OF MATERIAL	SAMPLE DATA							STD. PENETRATION BLOWS / 300 mm	0 - % MOISTURE CONTENT x - % < .074 mm LIQUID LIMIT — PLASTIC LIMIT
		PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND		
0										
1										
2										
3										
3.1										
3.2										
3.3										
3.4										
3.5										
3.6										
3.7										
3.8										
3.9										
4.0	REFUSAL									
5										
6										
7										
8										
9										
10										

A/P 1 2515 ML 22 24 3

⊙ N.P. X





SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **207**

HOLE LOCATION **1677+020**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78-10-31**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	SAMPLE DATA				STD. PENETRATION BLOWS/300mm	0 - % MOISTURE CONTENT X - % < .074mm	LIQUID LIMIT   PLASTIC LIMIT
						UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm			
0												
1												
2												
3												
3.5												
4												
4.5												
4.8												
5	END HOLE											
6												
7												
8												
9												
10												

A/P 1 2552 ML 6 33

A/P 2 2531 SM 20 30 16

⊙ TRACE X

⊙ X



























SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **220**

HOLE LOCATION **1678+137**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78.11.01**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	SAMPLE DATA				STD PENETRATION BLOWS / 300mm	0 - % MOISTURE CONTENT X - % < .074mm	LIQUID LIMIT	PLASTIC LIMIT
						UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm				
1													
2													
3													
3.5													
4													
4.5													
4.8													
5													
6													
7													
8													
9													
10													

A/P 1 2513 ML 15.7 31.9 21.6

0 10 20 30 40 50 60 70 80 90

A/P 2 2570 CL 14 28

X NP

X







# SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **223**

HOLE LOCATION **1678+368**

ELEV.

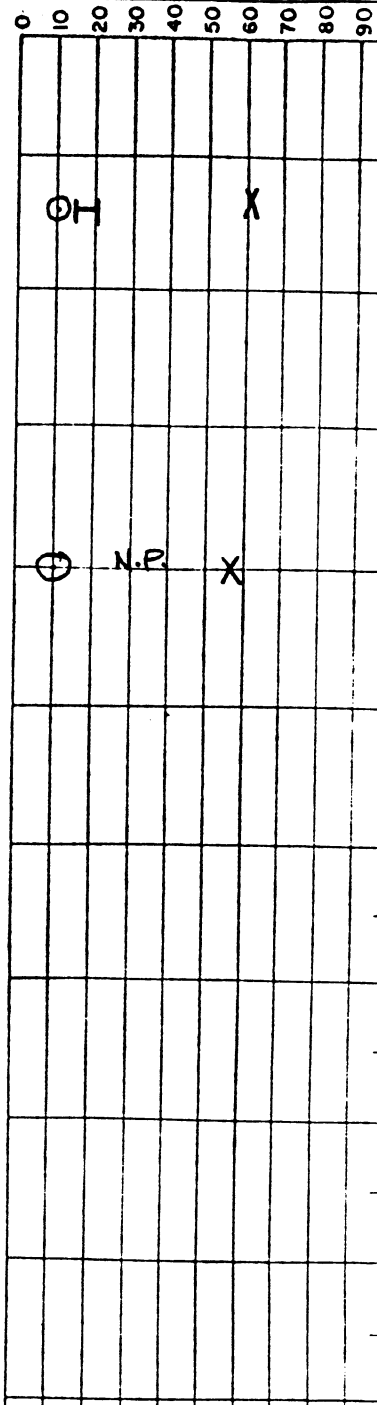
DEPTH TO G.W.L.

DATE DRILLED **78. 11. 01**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m.)	DESCRIPTION OF MATERIAL	SAMPLE DATA							STD PENETRATION BLOWS/300mm	0 - % MOISTURE CONTENT X - % < .074mm	LIQUID LIMIT	PLASTIC LIMIT
		PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND				
1												
2												
3												
4												
4		AIP 1	2488	CL-ML	8	31	24			OH		X
5												
5	END HOLE											
6												
7												
8												
9												
10												





### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **224**

HOLE LOCATION **1678+456**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78.11.01**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m.)	DESCRIPTION OF MATERIAL	SAMPLE DATA												
		PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS / 300mm	LIQUID LIMIT	PLASTIC LIMIT		
0														
1														
2														
3														
3.1														
3.2														
3.3														
3.4														
3.5														
3.6														
3.7														
3.8														
3.9														
3.95														
4.0	END HOLE													
4.1														
5														
6														
7														
8														
9														
10														

A/p 1 2571 SM 31 43 8

0 X NP

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



### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION SHAKWAK SEGMENT 9

HOLE No. 225

HOLE LOCATION 1678 + 538

ELEV.

DEPTH TO G.W.L.

DATE DRILLED 78. 11. 01

DRILL UNIT

TECHNICIAN S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	SAMPLE DATA							MOISTURE CONTENT		
		PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/ 300 mm	0 - % MOISTURE CONTENT
0											
1											
2											
3											
3.1											
3.2											
3.3											
3.4											
3.5											
3.6											
3.7											
3.8											
3.9											
4.0											
4.1											
4.2											
4.3											
4.4											
4.5											
4.6											
4.7											
4.8											
4.9											
5.0											
5.1											
5.2											
5.3											
5.4											
5.5											
5.6											
5.7											
5.8											
5.9											
6.0											
6.1											
6.2											
6.3											
6.4											
6.5											
6.6											
6.7											
6.8											
6.9											
7.0											
7.1											
7.2											
7.3											
7.4											
7.5											
7.6											
7.7											
7.8											
7.9											
8.0											
8.1											
8.2											
8.3											
8.4											
8.5											
8.6											
8.7											
8.8											
8.9											
9.0											
9.1											
9.2											
9.3											
9.4											
9.5											
9.6											
9.7											
9.8											
9.9											
10.0											

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

A.P. 1 2489 GC-GM 30.9 25.3 17.3

OH X

A.P. 2 2690 ML 17 31

OH N.P. X

END HOLE





SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **227**

HOLE LOCATION **1678+695**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78. 11. 01**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m)	DESCRIPTION OF MATERIAL	SAMPLE DATA							MOISTURE CONTENT		
		PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD PENETRATION BLOWS / 300mm	0 - % MOISTURE CONTENT
1											
2											
3			AIP 1	2485 ML	11.2	30.6	16.8			⊕	X
4			AIP 2	2487 GM	27.3	23.4	19.4			⊕	X NP
5	END HOLE										
6											
7											
8											
9											
10											

LIQUID LIMIT — PLASTIC LIMIT





### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **229**

HOLE LOCATION **1678+857**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78.11.01**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m.)	DESCRIPTION OF MATERIAL	SAMPLE DATA							MOISTURE CONTENT			
		PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm	0 - % MOISTURE CONTENT	X - % < .074 mm
1		Ap 1		2553	ML	8	31	3		⊙	N.P.	X
2												
3		Ap 2		2184	ML	8	28			⊙	TRACE	X
4		Ap 3		2481	ML	18 <sup>3</sup>	30 <sup>9</sup>	18 <sup>3</sup>		⊙	X	NP
5	END HOLE											
6												
7												
8												
9												
10												

LIQUID LIMIT — PLASTIC LIMIT



### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **230**

HOLE LOCATION **1678+937**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78.11.01**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	SAMPLE DATA				STD PENETRATION BLOWS/300mm	LIQUID LIMIT	PLASTIC LIMIT
						UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm			
0												
1												
2												
3												
3.5												
4												
4.5												
5	END HOLE											
6												
7												
8												
9												
10												

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

LIQUID LIMIT — PLASTIC LIMIT

A/P 1 2075 ML 7 57

0 X TRACE

A/P 2 2533 ML 9.7 36.8 19.2

0 X NP.





### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **232**

HOLE LOCATION **1679+094**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78.11.01**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m)	DESCRIPTION OF MATERIAL	SAMPLE DATA							MOISTURE CONTENT		
		PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS / 300 mm	0 - % MOISTURE CONTENT
1											
2											
3											
3			Alp 1		2289	SM	20	36	15		
3.5										○	N.P. X
4			Alp 2		2312	SM	13	49			
4	END HOLE									○	N.P. X
5											
6											
7											
8											
9											
10											

LIQUID LIMIT — PLASTIC LIMIT



### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **233**

HOLE LOCATION **679 + 175** ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78.11.01** DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS / 300 mm	MOISTURE CONTENT	
											0 - % MOISTURE CONTENT	X - % < .074 mm
											LIQUID LIMIT	PLASTIC LIMIT
0											0	10
1											20	30
2											40	50
3				Ap 1	2582	GM	42.1	30.3			60	70
4				Ap 2	2500	GM	45.0	39.2			80	90
5	END HOLE											
6												
7												
8												
9												
10												

⊙ x NP

⊙ x NP



### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **234**

HOLE LOCATION **1679+254**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	SAMPLE DATA					STD. PENETRATION BLOWS / 300 mm	0 - % MOISTURE CONTENT X - % < .074mm	LIQUID LIMIT — PLASTIC LIMIT
						UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm				
0													
1													
2													
3													
3.1													
3.2													
3.3													
3.4													
3.5													
3.6													
3.7													
3.8													
3.9													
3.95													
4.0													
4.1													
4.2													
4.3													
4.4													
4.5													
4.6													
4.7													
4.8													
4.9													
5.0													
5.1													
5.2													
5.3													
5.4													
5.5													
5.6													
5.7													
5.8													
5.9													
6.0													
6.1													
6.2													
6.3													
6.4													
6.5													
6.6													
6.7													
6.8													
6.9													
7.0													
7.1													
7.2													
7.3													
7.4													
7.5													
7.6													
7.7													
7.8													
7.9													
8.0													
8.1													
8.2													
8.3													
8.4													
8.5													
8.6													
8.7													
8.8													
8.9													
9.0													
9.1													
9.2													
9.3													
9.4													
9.5													
9.6													
9.7													
9.8													
9.9													
10.0													

A | P | 1 | 2187 | SM | 209329

⊙ X TRACE

END HOLE



### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **235**

HOLE LOCATION **1679+332**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78.11.02**

DRILL UNIT

TECHNICIAN **SC.**

DEPTH (m)	DESCRIPTION OF MATERIAL	SAMPLE DATA								MOISTURE CONTENT		
		PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD PENETRATION BLOWS / 300 mm	0 - % MOISTURE CONTENT	X - % < .074 mm
0												
1												
2												
3		Ap 1	1	2512	GM	53.7	17.6	10.9		⊙	X	NP.
4		Ap 2	2	2177	SM	16	37			⊙	N.A.	X
5	END HOLE											
6												
7												
8												
9												
10												

LIQUID LIMIT — PLASTIC LIMIT



SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **236**

HOLE LOCATION **1679+405**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78.11.02**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m)	DESCRIPTION OF MATERIAL	SAMPLE DATA							MOISTURE CONTENT			
		PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm	0 - % MOISTURE CONTENT	X - % < .074 mm
3.0										0	X	NP.
4.0										0	X	
5.0	END HOLE											

LIQUID LIMIT — PLASTIC LIMIT



SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **237**

HOLE LOCATION **1679+487**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	SAMPLE DATA				STD. PENETRATION BLOWS/300mm	MOISTURE CONTENT	
						UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm		0 - %	X - % < .074 mm
1												
2												
3												
4												
4.5	END HOLE											
5												
6												
7												
8												
9												
10												

A/p 1 2336 SM 24 31 13

TRACE X

A/p 2 2180 CLML 2 34

CH X

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

0 10 20 30 40 50 60 70 80 90







MUDIC WORKS  
Canada

MATERIALS QUALITY CONTROL LABORATORY  
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **240**

HOLE LOCATION **1679+720**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78.11.02**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m.)	DESCRIPTION OF MATERIAL	SAMPLE DATA							STD. PENETRATION BLOWS / 300 mm	0 - % MOISTURE CONTENT X - % < .074 mm LIQUID LIMIT — PLASTIC LIMIT
		PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND		
1										
2										
3										
3.5										
4										
4.5										
4.8										
5	END HOLE									
6										
7										
8										
9										
10										

Alp 1 2519 ML 20' 28.9 18.6

Alp 2 2541 SM 19.2 33.1 17.3

⊙ X NP.  
⊙ X NP.



### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **241**

HOLE LOCATION **1679 + 797**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED

DRILL UNIT

TECHNICIAN **SC.**

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	SAMPLE DATA				STD PENETRATION BLOWS/300mm	0 - % MOISTURE CONTENT X - % < .074mm	LIQUID LIMIT — PLASTIC LIMIT
						UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm			
1												
1.5												
2												
2.5												
3												
3.5												
4												
4.2												
4.5												
4.8												
5	END HOLE											
6												
7												
8												
9												
10												

A/p 1 2475 ML 15.8 24.5 21.5

OH X

A/p 2 2594 SC 20 32

OH X



### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **242**

HOLE LOCATION **1679+870**

ELEV.

DEPTH TO G.W.L.

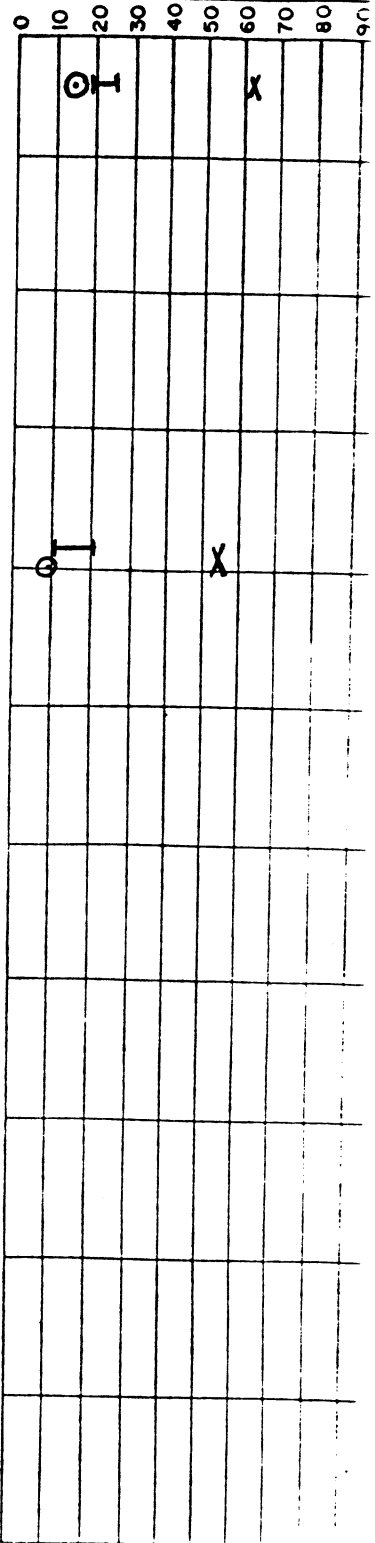
DATE DRILLED **78-11-02**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m)	DESCRIPTION OF MATERIAL	SAMPLE DATA							MOISTURE CONTENT		
		PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD PENETRATION BLOWS/300mm	0 - % MOISTURE CONTENT
1		Ap	1	2523	CL-ML	9.7	27.7	16.4		0	X
4		Ap	2	2518	CL	11.8	32.7	11.5		0	X
5	END HOLE										

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







SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **244**

HOLE LOCATION **1680+010**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78.11.02**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m)	DESCRIPTION OF MATERIAL	SAMPLE DATA							MOISTURE CONTENT		
		PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD. PENETRATION BLOWS / 300mm	0 - % MOISTURE CONTENT
										LIQUID LIMIT	PLASTIC LIMIT
1											
2											
3											
4											
5	END HOLE										
6											
7											
8											
9											
10											

AIP 1 2599 SC 16 36 17

⊙ TRACE X

AIP 2 2327 ML 16 31 19

⊙ NR X



SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **245**

HOLE LOCATION **1690+080**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78.11.08**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m)	DESCRIPTION OF MATERIAL	SAMPLE DATA							MOISTURE CONTENT		
		PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm	0 - % MOISTURE CONTENT
1											
2											
3											
4											
5	END HOLE										
6											
7											
8											
9											
10											

LIQUID LIMIT — PLASTIC LIMIT

AIP 1 2505 SM 17 36 3

0 X NP

AIP 2 2072 ML 4 30

0 TRACE X



### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **246**

HOLE LOCATION **1680+160**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78-11-02**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m.)	DESCRIPTION OF MATERIAL	SAMPLE DATA							STD. PENETRATION BLOWS / 300 mm	LIQUID LIMIT — PLASTIC LIMIT	
		PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND		% < .005 mm	0 - % MOISTURE CONTENT
1											
2											
3											
4											
5	END HOLE										
6											
7											
8											
9											
10											

AIP 1 2311 SM 16 38

○ TRACE X

AIP 2 2591 GM 35<sup>4</sup> 30<sup>8</sup> 11.6

○ H X



SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **247**

HOLE LOCATION **1680+230**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78-11-02**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	SAMPLE DATA				STD. PENETRATION BLOWS/300mm	0 - % MOISTURE CONTENT X - % < .074mm	LIQUID LIMIT — PLASTIC LIMIT
						UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm			
1												
2												
3												
4												
5	END HOLE											
6												
7												
8												
9												
10												

A/p 1 2598 SM 16 37

TRACE X

A/p 2 2342 SM 15 37 16

TRACE X



### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **248**

HOLE LOCATION **1680+369**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78.11.02**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m.)	DESCRIPTION OF MATERIAL	SAMPLE DATA							MOISTURE CONTENT		
		PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS / 300 mm	0 - % MOISTURE CONTENT
1											
1.5											
2											
2.5											
3											
3.5											
4											
4.5											
5											
5.5											
6											
7											
8											
9											
10											

A/P 1 2178 SC 23 32 15

OH X

A/P 2 2343 GM 31 30

TRACE X

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





SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **250**

HOLE LOCATION **1680 + 507**

ELEV.

DEPTH TO G.W.L.

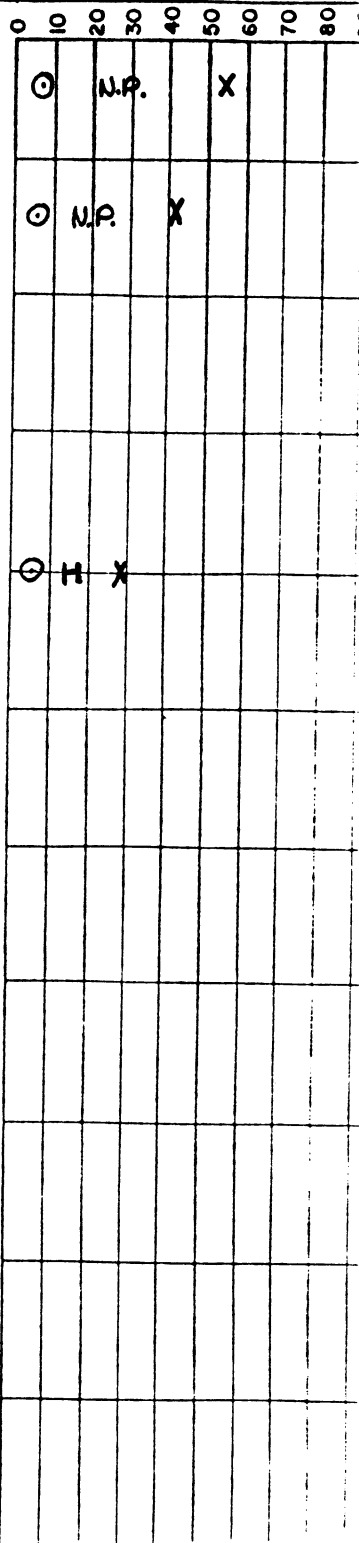
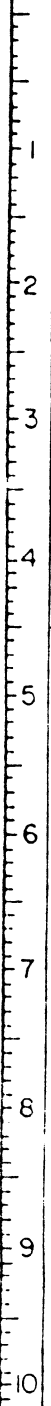
DATE DRILLED **78.11.02**

DRILL UNIT

TECHNICIAN **SC.**

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	SAMPLE DATA						STD. PENETRATION BLOWS/300mm	MOISTURE CONTENT	
				FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm		0 - %	X - % < .074mm
1			AIP 1	2595	ML	13	35			0	N.P.	X
2			AIP 2	2586	SM	30	30	15		0	N.P.	X
4			AIP 3	2562	GC	48	22			0	H	X
5	END HOLE											

LIQUID LIMIT — PLASTIC LIMIT





SUBSURFACE EXPLORATION AND TESTING REPORT

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

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	SAMPLE DATA					STD. PENETRATION BLOWS/300mm	0 - % MOISTURE CONTENT X - % < .074mm	LIQUID LIMIT	PLASTIC LIMIT			
						UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	0					10	20	30
1																	
2																	
3																	
4																	
5	END HOLE																
6																	
7																	
8																	
9																	
10																	



SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **252**

HOLE LOCATION **1680+667**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78.11.02**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m.)	DESCRIPTION OF MATERIAL	SAMPLE DATA							STD. PENETRATION BLOWS / 300 mm	LIQUID LIMIT	PLASTIC LIMIT
		PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND			
1											
1.5											
2											
2.5											
3											
3.5											
4											
4.5											
5											
5.5											
6											
6.5											
7											
7.5											
8											
8.5											
9											
9.5											
10											

AIP 1 2576 SC 20 30

⊙ H X

AIP 2 2335 GC 33 27 14

⊙ TRACE X

END HOLE

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







SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **255**

HOLE LOCATION **1680+900**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78.11.03**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m)	DESCRIPTION OF MATERIAL	SAMPLE DATA							0 - % MOISTURE CONTENT			
		PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS / 300 mm	X - % < .074 mm	LIQUID LIMIT
1												
2												
3												
4												
4												
5	END HOLE											
6												
7												
8												
9												
10												

A1P 1 2547 SM 23 36

⊙ TRACE X

A1P 2 2589 ML 12 32 13

⊙ TRACE X









SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **259**

HOLE LOCATION **1681+217**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78.11.03**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	SAMPLE DATA				STD. PENETRATION BLOWS/300mm	0 - % MOISTURE CONTENT X - % < .074mm	LIQUID LIMIT	PLASTIC LIMIT
						UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm				
1													
2													
3													
4													
5	END HOLE												
6													
7													
8													
9													
10													

Ap 1 2290 SM 21 34

⊙ TRACE X

Ap 2 2291 ML 15 30 16

⊙ TRACE X



### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **260**

HOLE LOCATION **1681+298**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78.11.03**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	SAMPLE DATA				STD. PENETRATION BLOWS/300mm	0 - % MOISTURE CONTENT X - % < .074mm	LIQUID LIMIT — PLASTIC LIMIT
						UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm			
1												
2												
3												
4												
5	END HOLE											
6												
7												
8												
9												
10												

A/p 1 2294 SM 15 35

⊙ TRACE X

A/p 2 2299 SM 24 31 15

⊙ TRACE X



SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **261**

HOLE LOCATION **1681+388**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78.11.03**

DRILL UNIT

TECHNICIAN **SC.**

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	SAMPLE DATA				STD PENETRATION BLOWS/300mm	0 - % MOISTURE CONTENT X - % < .074mm	LIQUID LIMIT	PLASTIC LIMIT
						UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm				
1													
2													
3													
4													
4.5	END HOLE												
5													
6													
7													
8													
9													
10													

A/p 1 2367 ML 14 33 11

G TRACE X

A/p 2 2190 ML 12 29

G TRACE X





SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **263**

HOLE LOCATION **1681+530**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78.11.03**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	SAMPLE DATA					STD. PENETRATION BLOWS / 300 mm	0 - % MOISTURE CONTENT x - % < .074 mm	LIQUID LIMIT — PLASTIC LIMIT
						UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm				
1													
2													
3													
4													
4.5	END HOLE												
5													
6													
7													
8													
9													
10													

Alp 1 2191 ML 11 37

TRACE X

Alp 2 2202 ML 15 33 13

N.P. X



### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **264**

HOLE LOCATION **1681+610**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78.11.03**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m.)	DESCRIPTION OF MATERIAL	SAMPLE DATA							MOISTURE CONTENT		
		PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD PENETRATION BLOWS/300 mm	0 - % MOISTURE CONTENT
1											
2											
3											
4											
4.5	END HOLE										
5											
6											
7											
8											
9											
10											

A/P 1 2371 SM 16.40

0 N.P. X

A/P 2 2201 GM 29 28 12

N.P. 0 X

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





### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **266**

HOLE LOCATION **1681+767**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78.11.06**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	SAMPLE DATA							STD. PENETRATION BLOWS / 300mm	0 - % MOISTURE CONTENT x - % < .074mm	LIQUID LIMIT — PLASTIC LIMIT
				FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm				
1													
2													
3													
4				A1p 2	2196	GM	34	27					
4.5	END HOLE												
5													
6													
7													
8													
9													
10													

⊙ N.P. x





### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKYAK SEGMENT 9**

HOLE No. **268**

HOLE LOCATION **1681+920**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78.11.06**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	SAMPLE DATA				STD PENETRATION BLOWS/300mm	MOISTURE CONTENT									
						UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm		0 - %	X - % < .074mm								
											LIQUID LIMIT	PLASTIC LIMIT								
1											0	10	20	30	40	50	60	70	80	90
2											0	X	N.P.							
3																				
4																				
5	END HOLE																			
6																				
7																				
8																				
9																				
10																				

A/p 1 2581 SM 40 40 3

A/p 2 2236 SM 22 36

0 X N.P.

0 X TRACE

END HOLE



### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION	SHAKWAK SEGMENT 9	HOLE No.	269
HOLE LOCATION	1682+000	ELEV.	
DATE DRILLED	78.11.03	DRILL UNIT	
		TECHNICIAN	S.C.

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	SAMPLE DATA				STD. PENETRATION BLOWS/300mm	0 - % MOISTURE CONTENT X - % < .074mm	LIQUID LIMIT — PLASTIC LIMIT
						UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm			
1												
2												
3												
4												
4.5	END HOLE											
5												
6												
7												
8												
9												
10												

Alp 1	2233	SM	16	36	12
-------	------	----	----	----	----

0	10	20	30	40	50	60	70	80	90
TRACE X									

Alp 2	2159	CL-M	17	25	
-------	------	------	----	----	--

0	10	20	30	40	50	60	70	80	90
CH				X					



### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **270**

HOLE LOCATION **1682+080**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78.11.06**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m)	DESCRIPTION OF MATERIAL	SAMPLE DATA							STD. PENETRATION BLOWS / 300 mm	LIQUID LIMIT	PLASTIC LIMIT
		PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND			
1		Ap	1	2583	ML	16	30	26	0	NP	X
2											
3											
4											
5	END HOLE	Ap	2	2222	CL	4	20	47	0		X
6											
7											
8											
9											
10											

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

LIQUID LIMIT — PLASTIC LIMIT

0 10 20 30 40 50 60 70 80 90









### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **274**

HOLE LOCATION **1682+400**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78.11.03**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m)	DESCRIPTION OF MATERIAL	SAMPLE DATA							LIQUID LIMIT	PLASTIC LIMIT			
		PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND			% < .005mm	STD. PENETRATION BLOWS/300mm	
1													
2													
3													
4													
4.5	END HOLE												
5													
6													
7													
8													
9													
10													

O - % MOISTURE CONTENT  
X - % < .074mm

LIQUID LIMIT — PLASTIC LIMIT

AIP 1 2160 ML 7 24

O H X

AIP 2 2250 SC 31 36 9

O X TRACE









### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **278**

HOLE LOCATION **1682+672**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78.11.07**

DRILL UNIT

TECHNICIAN **SC.**

DEPTH (m)	DESCRIPTION OF MATERIAL	SAMPLE DATA							STD. PENETRATION BLOWS/300mm	0 - % MOISTURE CONTENT x - % < .074mm  LIQUID LIMIT — PLASTIC LIMIT
		PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND		
1										
2										
3										
4										
4.5	END HOLE									
5										
6										
7										
8										
9										
10										

AP 1 2228 GM 40 31

⊙ X NP

AP 2 2353 ML 0 0

⊙ NP.

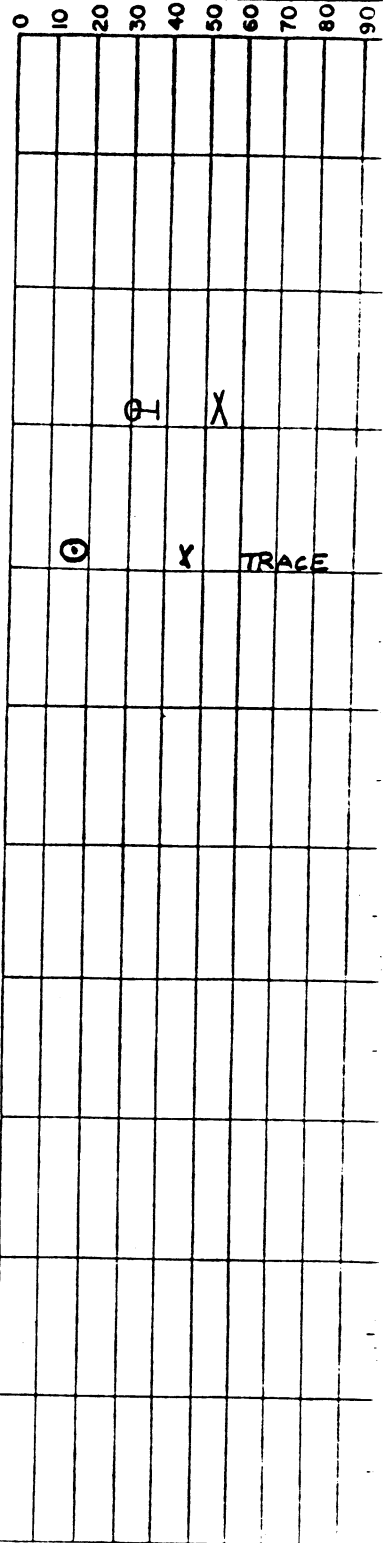




SUBSURFACE EXPLORATION AND TESTING REPORT

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

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	SAMPLE DATA					LIQUID LIMIT	PLASTIC LIMIT	
						UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS / 300 mm			0 - % MOISTURE CONTENT
3			A/P 1	2569	HL-0412.1	35.1							
4			A/P 2	2169	SM	240226	11.3						
5	END HOLE												
6													
7													
8													
9													
10													











### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **284**

HOLE LOCATION **1683+118**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78.11.7**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m.)	DESCRIPTION OF MATERIAL	SAMPLE DATA							MOISTURE CONTENT			
		PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD PENETRATION BLOWS/300mm	0 - % MOISTURE CONTENT	X - % < .074mm
0												
1												
2												
3			Alp 1		2213	GC	34	22		OH	X	
4			Alp 2		2223	GM	35	28	9	⊙	X	NR
5	END HOLE											
6												
7												
8												
9												
10												

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



### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION	<b>SHAKWAK SEGMENT 9</b>	HOLE No.	<b>285</b>
HOLE LOCATION	<b>1683+187</b>	ELEV.	
DATE DRILLED	<b>78.11.07</b>	DRILL UNIT	
		TECHNICIAN	<b>S.C.</b>

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	SAMPLE DATA					STD. PENETRATION BLOWS/300mm	0 - % MOISTURE CONTENT X - % < .074mm LIQUID LIMIT — PLASTIC LIMIT	
						UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm				
1													
2													
3													
4													
4.5	END HOLE												
5													
6													
7													
8													
9													
10													

AP 1 2175 SC 34 45

⊙ X  
I

AP 2 2212 SC 24 35 3

⊙ X TRACE



SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **286**

HOLE LOCATION **1683+245**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78-11-07**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	SAMPLE DATA				STD. PENETRATION BLOWS/300mm	0 - % MOISTURE CONTENT X - % < .074mm LIQUID LIMIT — PLASTIC LIMIT	
						UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm			
1												
2												
3												
4												
4.5	END HOLE											
5												
6												
7												
8												
9												
10												

Alp 1 2260 ML 8 38

0 TRACE X

Alp 2 2262 SC 28 39 6

0 X TRACE



### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION	<b>SHAKWAK SEGMENT 9</b>	HOLE No.	<b>287</b>
HOLE LOCATION	<b>1683+328</b>	ELEV.	
DATE DRILLED	<b>78.11.07</b>	DRILL UNIT	
		TECHNICIAN	<b>S.C.</b>

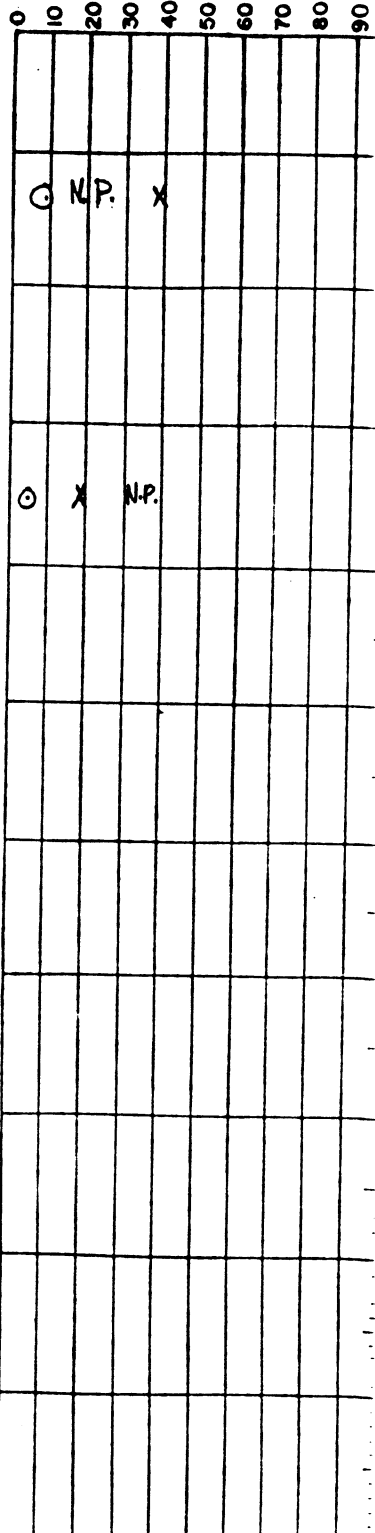
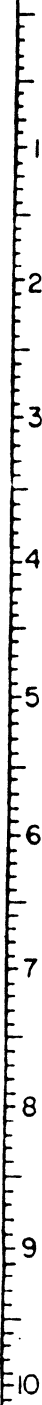
DEPTH (m.)	DESCRIPTION OF MATERIAL	SAMPLE DATA							MOISTURE CONTENT		
		PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS / 300 mm	0 - % MOISTURE CONTENT
1											
2											
3											
4											
4.5	END HOLE										
5											
6											
7											
8											
9											
10											

A/P 1 2241 SM 30 31

0 N.P. X

A/P 2 2210 GM 58 22 2

0 X N.P.





SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION	SHAKWAK SEGMENT 9	HOLE No.	288
HOLE LOCATION	1683+403	ELEV.	
DATE DRILLED	78.11.07	DRILL UNIT	
		TECHNICIAN	S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	SAMPLE DATA				STD. PENETRATION BLOWS/300 mm	LIQUID LIMIT — PLASTIC LIMIT	
						UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm		0 - % MOISTURE CONTENT	x - % < .074 mm
1												
2												
3												
4												
4.5	END HOLE											
5												
6												
7												
8												
9												
10												

AP 1 2302 SM 27 36 7

0 N.P. X

AP 2 2230 GM 44 35

0 X N.P.





SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **290**

HOLE LOCATION **1683+535**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78-11-07**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	SAMPLE DATA				STD PENETRATION BLOWS/300mm	MOISTURE CONTENT		
						UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm		0 - %	X - % < .074mm	
											LIQUID LIMIT	PLASTIC LIMIT	
0													
1													
2													
3													
4													
5	END HOLE												
6													
7													
8													
9													
10													

A/p 1 2476 CL-MU 12 31 3

0 10 20 30 40 50 60 70 80 90

⊕ + X

A/p 2 2162 SM 16 39 -

⊕ X TRACE

A/p 3 2208 GM 50 27 2

⊕ X NP.





### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **292**

HOLE LOCATION **1683+710**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78.11.07**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m.)	DESCRIPTION OF MATERIAL	SAMPLE DATA							LIQUID LIMIT — PLASTIC LIMIT			
		PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm	0 - % MOISTURE CONTENT	X - % < .074 mm
1												
2												
3												
4												
4.5	END HOLE											
5												
6												
7												
8												
9												
10												

Alp 1 2473 GM. 49 35 4

⊙ X N.P.

Alp 2 2234 GM 41 30

⊙ X TRACE.



### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **293**

HOLE LOCATION **1683+795**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78.11.08**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	SAMPLE DATA					STD. PENETRATION BLOWS/300mm	0-% MOISTURE CONTENT X-% < .074mm	LIQUID LIMIT	PLASTIC LIMIT
						UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm					
1														
2														
3														
4														
4.5	END HOLE													
5														
6														
7														
8														
9														
10														

Alp 1 2365 GM 42 41

⊙ X TRACE

Alp 2 2303 SM 13 42 11

⊙ TRACE X



### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAIKWAK SEGMENT 9**

HOLE No. **294**

HOLE LOCATION **1683+865**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78.11.08**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m.)	DESCRIPTION OF MATERIAL	SAMPLE DATA							MOISTURE CONTENT		
		PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300mm	0 - % MOISTURE CONTENT
1											
2											
3											
4											
4.5	END HOLE										
5											
6											
7											
8											
9											
10											

AIP 1 2580 SM 28 45 5

0	10	20	30	40	50	60	70	80	90
○		X		NP					
○		X		NP					

AIP 2 2590 SM 14 60



### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION: **SHAKWAK SEGMENT 9**

HOLE No. **295**

HOLE LOCATION: **1683+939**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED: **78.11.08**

DRILL UNIT

TECHNICIAN: **S.C.**

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	SAMPLE DATA							LIQUID LIMIT	PLASTIC LIMIT
						UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD PENETRATION BLOWS/300 mm	0 - % MOISTURE CONTENT	X - % < .074 mm		
0	REFUSAL													
1														
2														
3														
4														
5														
6														
7														
8														
9														
10														



### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **296**

HOLE LOCATION **1684 ± 0.10**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78-11-08**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	SAMPLE DATA				STD PENETRATION BLOWS/300mm	0 - % MOISTURE CONTENT X - % < .074mm LIQUID LIMIT — PLASTIC LIMIT	
						UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm			
1												
2												
3												
3.5	REFUSAL.											
4												
5												
6												
7												
8												
9												
10												

Alp 1 2306 SM 9 44

0 TRACE X

Alp 2 2263 ML 0 16 61

0 TRACE X



SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAIKWAK SEGMENT 9**

HOLE No. **297.**

HOLE LOCATION **1684+088**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78.11.08**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m.)	DESCRIPTION OF MATERIAL	SAMPLE DATA							MOISTURE CONTENT		
		PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm	STD PENETRATION BLOWS/300mm	0 - % MOISTURE CONTENT
1											
2											
3											
4											
5	END HOLE										
6											
7											
8											
9											
10											

A/P 1 2375 SC 25 31

○ H X

A/P 2 2286 ML 11 24 37

○ N.P. X

LIQUID LIMIT — PLASTIC LIMIT



SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION	SHAKWAK SEGMENT 9	HOLE No.	298
HOLE LOCATION	1684+172	ELEV.	DEPTH TO G.W.L.
DATE DRILLED	78.11.08	DRILL UNIT	TECHNICIAN S.C.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	SAMPLE DATA						STD. PENETRATION BLOWS/300mm	MOISTURE CONTENT	
				FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm		0 - %	X - % < .074mm
1												
2												
3												
4												
4.5												
5	END HOLE											
6												
7												
8												
9												
10												

Alp 1 2471 ML 3 33 11

0 N.P. X

Alp 2 2243 SM 27 44

0 X TRACE

Alp 3 2257 SM 28 35 11

0 X TRACE

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

0 10 20 30 40 50 60 70 80 90



SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **299**

HOLE LOCATION **1684+252**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78.11.08**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	FIELD No.	LAB No.	SAMPLE DATA				STD. PENETRATION BLOWS/300mm	0 - % MOISTURE CONTENT x - % < .074mm LIQUID LIMIT — PLASTIC LIMIT	
						UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005mm			
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												

A/P 1 2300 GM 0 0

⊙ TRACE

A/P 2 2602 SM 22 37 13

⊙ TRACE X



### SUBSURFACE EXPLORATION AND TESTING REPORT

PROJECT/SECTION **SHAKWAK SEGMENT 9**

HOLE No. **300**

HOLE LOCATION **1684+368**

ELEV.

DEPTH TO G.W.L.

DATE DRILLED **78.11.08**

DRILL UNIT

TECHNICIAN **S.C.**

DEPTH (m)	DESCRIPTION OF MATERIAL	PERMAFROST CLASSIFICATION	SAMPLE TYPE	SAMPLE DATA							STD. PENETRATION BLOWS / 300 mm	0 - % MOISTURE CONTENT X - % < .074 mm	LIQUID LIMIT — PLASTIC LIMIT
				FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm				
1													
2													
3													
4													
5	END HOLE												
6													
7													
8													
9													
10													

A/p 1 2167 CL 12 36

OH X

A/p 2 2261 GCGH 30 30 10

OH X



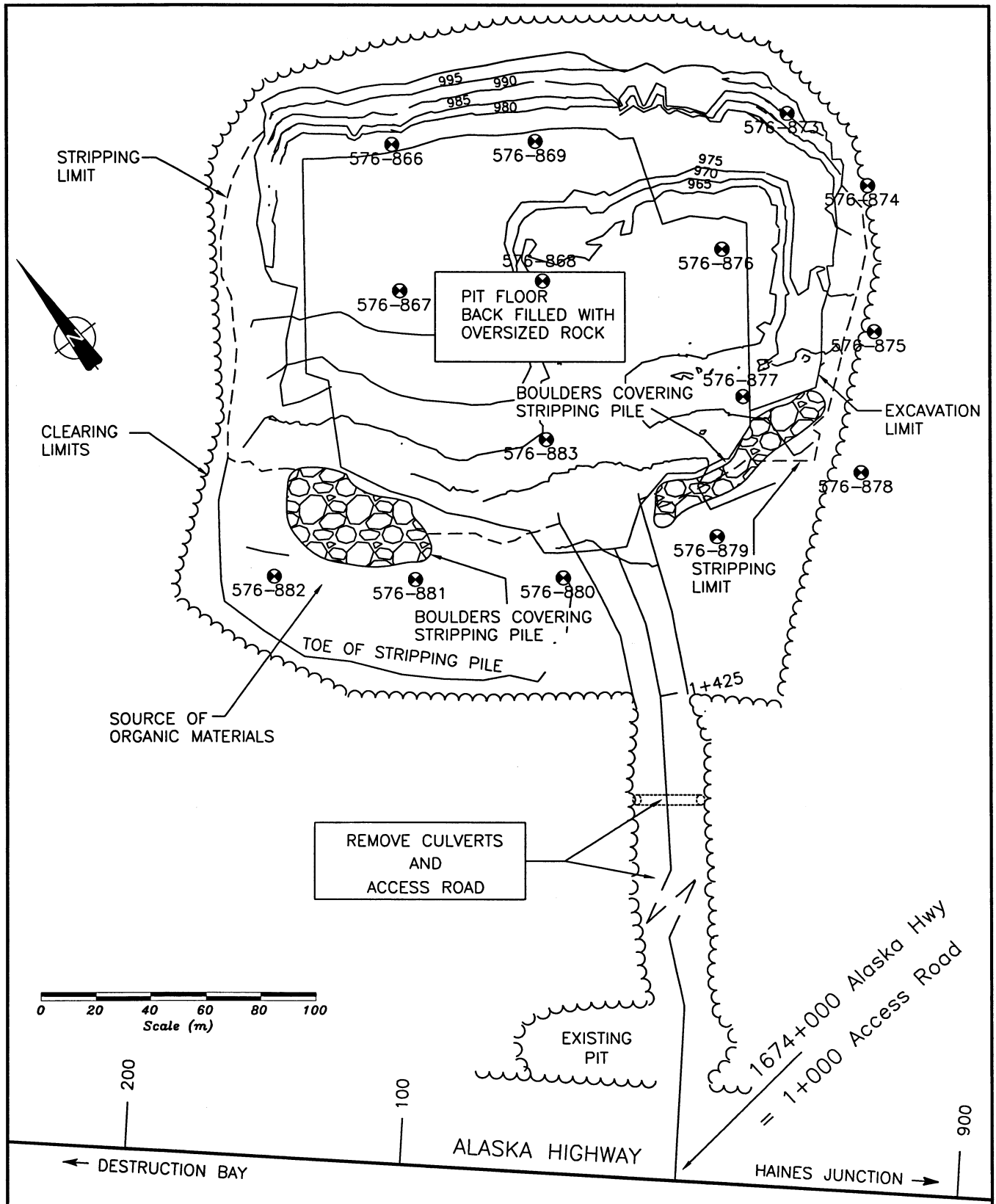
HIGHWAY CONSTRUCTION

**GEOTECHNICAL INVESTIGATION**

Km 1674.0 to 1684.3  
YUKON, 2003-2004

ALASKA HIGHWAY #1

**QUARRY SOURCE TESTING**  
**Km 1674 RHS**  
**ALASKA HIGHWAY**



**Yukon**  
Highways and Public Works

---

Transportation Engineering Branch

SITE PLAN  
ROCK QUARRY  
km 1674 RHS  
ALASKA HIGHWAY, YUKON

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

SUBSURFACE EXPLORATION & TEST REPORT		SHAKWAK SEG 09	TEST HOLE NO: 576-866
ENGINEERING CAPITAL		KM 1674 RHS	Project No: 092-202101-0363
AIR ROTARY		LOCATION: SEE PLAN	ELEVATION: 0.00 (m)
SAMPLE TYPE <input type="checkbox"/> RETURN		<input checked="" type="checkbox"/> S.P.T.	<input checked="" type="checkbox"/> AUGER
		<input type="checkbox"/> BULK	<input type="checkbox"/> TUBE
			<input type="checkbox"/> CORE

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

SUBSURFACE EXPLORATION & TEST REPORT	SHAKWAK SEG 09	TEST HOLE NO: 576-867
ENGINEERING CAPITAL	KM 1674 RHS	Project No: 092-202101-0363
AIR ROTARY	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)
SAMPLE TYPE <input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE		

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

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

SUBSURFACE EXPLORATION & TEST REPORT	SHAKWAK SEG 09	TEST HOLE NO: 576-868
ENGINEERING CAPITAL	KM 1674 RHS	Project No: 092-202101-0363
AIR ROTARY	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)
SAMPLE TYPE <input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE		

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES ▲			USC	SOIL SYMBOL	PERCENT SAND ◆			DEPTH (m)
				20	40	60			80	20	40	
0.0											0.0	
1.0	ROCK @ 1.1m										1.0	
2.0	-slow drilling										2.0	
3.0	-coarse rock chips										3.0	
4.0											4.0	
5.0											5.0	
6.0											6.0	
7.0	END HOLE @ 6.7m										7.0	
8.0	Note: surface rock 10 & 15m rt										8.0	
9.0	-steep slope below test hole										9.0	
10.0	-H2O in hole 3 days after drilling										10.0	
11.0											11.0	
12.0											12.0	
13.0											13.0	
14.0											14.0	
15.0											15.0	
16.0											16.0	

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

SUBSURFACE EXPLORATION & TEST REPORT	SHAKWAK SEG 09	TEST HOLE NO: 576-869
ENGINEERING CAPITAL	KM 1674 RHS	Project No: 092-202101-0363
AIR ROTARY	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)
SAMPLE TYPE <input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE		

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

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

SUBSURFACE EXPLORATION & TEST REPORT	SHAKWAK SEG 09	TEST HOLE NO: 576-873
ENGINEERING CAPITAL	KM 1674 RHS	Project No: 092-202101-0363
AIR ROTARY	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)
SAMPLE TYPE <input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE		

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

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

SUBSURFACE EXPLORATION & TEST REPORT	SHAKWAK SEG 09	TEST HOLE NO: 576-874
ENGINEERING CAPITAL	KM 1674 RHS	Project No: 092-202101-0363
AIR ROTARY	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input type="checkbox"/> RETURN	<input checked="" type="checkbox"/> S.P.T.
	<input checked="" type="checkbox"/> AUGER	<input type="checkbox"/> BULK
	<input type="checkbox"/> TUBE	<input type="checkbox"/> CORE

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

Government of Yukon  
Transportation Engineering

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

SUBSURFACE EXPLORATION & TEST REPORT	SHAKWAK SEG 09	TEST HOLE NO: 576-875
ENGINEERING CAPITAL	KM 1674 RHS	Project No: 092-202101-0363
AIR ROTARY	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)
SAMPLE TYPE <input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE		

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

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

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

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

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

Government of Yukon  
Transportation Engineering

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

SUBSURFACE EXPLORATION & TEST REPORT	SHAKWAK SEG 09	TEST HOLE NO: 576-877
ENGINEERING CAPITAL	KM 1674 RHS	Project No: 092-202101-0363
AIR ROTARY	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE	

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

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

SUBSURFACE EXPLORATION & TEST REPORT	SHAKWAK SEG 09	TEST HOLE NO: 576-878
ENGINEERING CAPITAL	KM 1674 RHS	Project No: 092-202101-0363
AIR ROTARY	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)
SAMPLE TYPE <input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE		

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

SUBSURFACE EXPLORATION & TEST REPORT	SHAKWAK SEG 09	TEST HOLE NO: 576-879
ENGINEERING CAPITAL	KM 1674 RHS	Project No: 092-202101-0363
AIR ROTARY	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)
SAMPLE TYPE <input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE		

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

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Transportation Engineering

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Fig. No:

COMPLETION DEPTH: 10.1 m  
COMPLETE: 00/08/31

SUBSURFACE EXPLORATION & TEST REPORT	SHAKWAK SEG 09	TEST HOLE NO: 576-880
ENGINEERING CAPITAL	KM 1674 RHS	Project No: 092-202101-0363
AIR ROTARY	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE	

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

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REVIEWED BY:  
Fig. No:

COMPLETION DEPTH: 14.0 m  
COMPLETE: 00/09/03

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

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

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

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

SUBSURFACE EXPLORATION & TEST REPORT	SHAKWAK SEG 09	TEST HOLE NO: 576-882
ENGINEERING CAPITAL	KM 1674 RHS	Project No: 092-202101-0363
AIR ROTARY	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)
SAMPLE TYPE <input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE		

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

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LOGGED BY: G.C.  
REVIEWED BY:  
Fig. No:

COMPLETION DEPTH: 10.4 m  
COMPLETE: 00/09/03

SUBSURFACE EXPLORATION & TEST REPORT	SHAKWAK SEG 09	TEST HOLE NO: 576-883
ENGINEERING CAPITAL	KM 1674 RHS	Project No: 092-202101-0363
AIR ROTARY	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)
SAMPLE TYPE <input checked="" type="checkbox"/> RETURN	<input checked="" type="checkbox"/> S.P.T.	<input checked="" type="checkbox"/> AUGER
		<input type="checkbox"/> BULK
		<input type="checkbox"/> TUBE
		<input type="checkbox"/> CORE

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

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Transportation Engineering

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

HIGHWAY CONSTRUCTION

**GEOTECHNICAL INVESTIGATION**

Km 1674.0 to 1684.3  
YUKON, 2003-2004

ALASKA HIGHWAY #1

**GRANULAR SOURCE TESTING**  
**Km 1691.3 RHS**  
**ALASKA HIGHWAY**

## HISTORY OF AGGREGATE PRODUCTION

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

### Average Crusher Run Characteristics of Material Produced

File Number --- 2142-5-70 Contractor --- Nuway Crushing Ltd.  
Stockpile ID --- n/a Commenced --- 92-06-04 Completed --- 92-06-05  
Type of aggregate --- 20 mm B.S.T. Aggregate Type II  
Amount Produced ---  $\pm 2,500 \text{ m}^3$  No. of tests --- 11

Sieve Size mm	- 20.0	12.5	10.0	5.00	2.50	1.25	0.315	0.080
Percent Passing	- 100	83.4	--	49.4	35.6	26.4	10.8	4.8
Moisture Content	- 2.1 %	Standard Proctor						
Fracture	- 70.9 %	Kg/m <sup>3</sup> @ % moisture						

File Number --- 2142-5-70 Contractor --- Nuway Crushing Ltd.  
Stockpile ID --- n/a Commenced --- 92-06-04 Completed --- 92-06-06  
Type of aggregate --- Granular A" Base Course  
Amount Produced ---  $\pm 4,800 \text{ m}^3$  No. of tests --- 22

Sieve Size mm	- 20.0	12.5	10.0	5.00	2.50	1.25	0.315	0.080
Percent Passing	- 99.9	83.0	--	50.3	34.7	27.0	11.3	5.2
Moisture Content	- 2.7 %	Standard Proctor						
Fracture	- 64.3 %	Kg/m <sup>3</sup> @ % moisture						

File Number --- 2145-4 Contractor --- Nuway Crushing Ltd.  
Stockpile ID --- n/a Commenced --- 94-03-22 Completed --- 94-03-26  
Type of aggregate --- Granular "A" Base Course  
Amount Produced ---  $10,252 \text{ m}^3$  No. of tests --- 36

Sieve Size mm	- 20.0	12.5	10.0	5.00	2.50	1.25	0.315	0.080
Percent Passing	- 100	85.5	--	59.0	--	34.4	13.8	5.9
Moisture Content	- 2.4 %	Standard Proctor						
Fracture	- 65.2 %	Kg/m <sup>3</sup> @ % moisture						

File Number --- 2145-4 Contractor --- Nuway Crushing Ltd.  
Stockpile ID --- 1994-27 Commenced --- 94-03-26 Completed --- 94-03-31  
Type of aggregate --- 20 mm B.S.T. Aggregate  
Amount Produced ---  $9,307 \text{ m}^3$  No. of tests --- 40

Sieve Size mm	- 20.0	12.5	10.0	5.00	2.50	1.25	0.315	0.080
Percent Passing	- 100	72.6	--	36.3	26.2	19.0	6.4	4.8
Moisture Content	- 1.6 %	Standard Proctor						
Fracture	- 69.5 %	Kg/m <sup>3</sup> @ % moisture						

**115 G-07 cont'd**

File Number --- 2550-22/01-24 Contractor --- North American Roads (Nuway)  
 Stockpile ID --- n/a Commenced --- 01-07-14 Completed --- 01-08-02  
 Type of aggregate --- Granular "A" Base Course  
 Amount Produced ---  $\pm 44,500 \text{ m}^3$  No. of tests --- 105

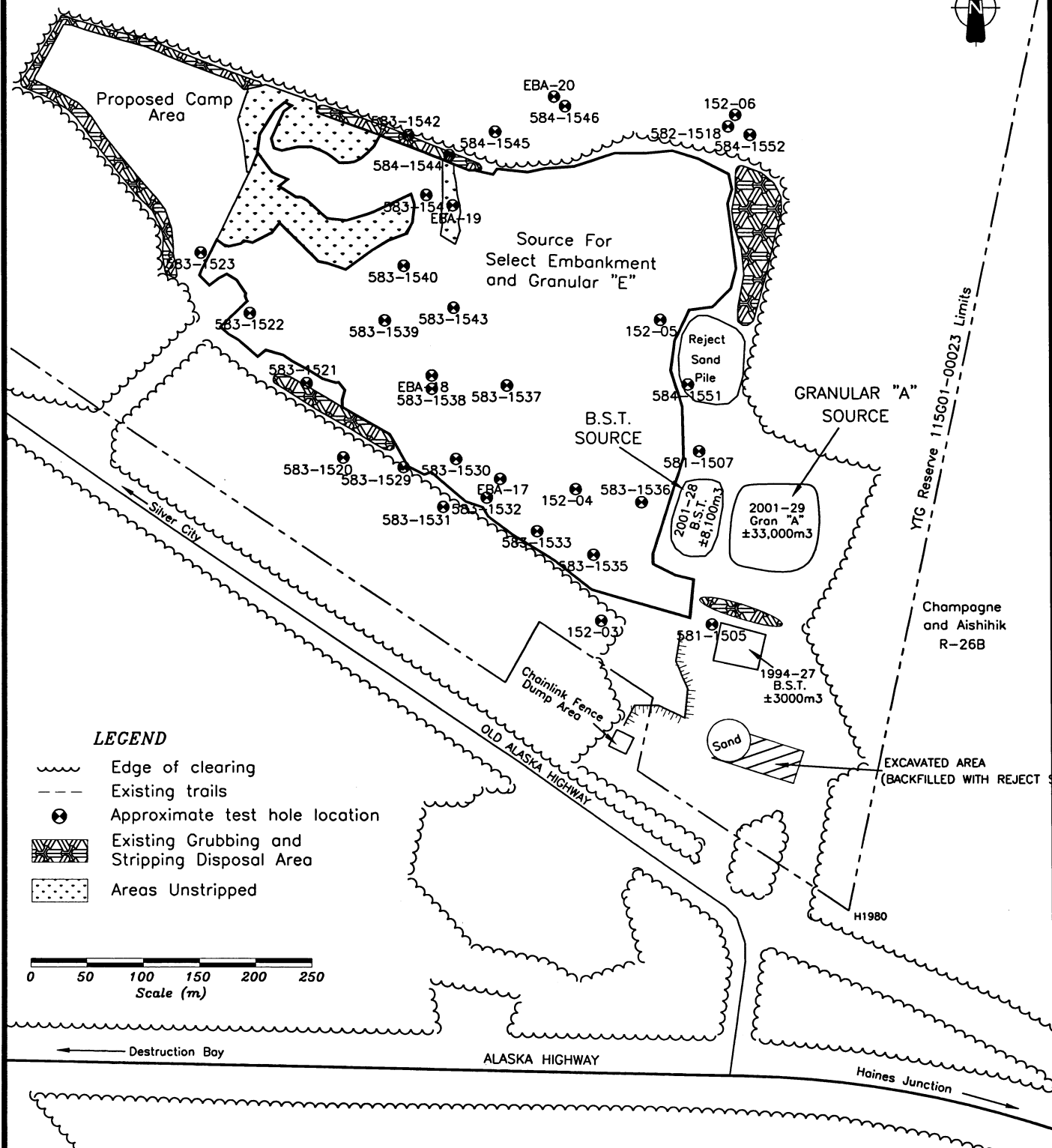
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 Sieve Size mm - 20.0 12.5 10.0 5.00 2.50 1.25 0.315 0.080  
 Percent Passing - 100 87.2 -- 52.9 38.5 28.4 11.7 5.9  
 Moisture Content - 2.2 % Standard Proctor  
 Fracture - 63.4 % 2246 Kg/m<sup>3</sup> @ 7.4 % moisture  
 =====

File Number --- 2550-22/01-24 Contractor --- North American Roads (Nuway)  
 Stockpile ID --- 2001-28 Commenced --- 01-07-26 Completed --- 01-08-01  
 Type of aggregate --- 20 mm B.S.T. Aggregate  
 Amount Produced ---  $\pm 10,900 \text{ m}^3$  No. of tests --- 38

-----  
 Sieve Size mm - 20.0 12.5 10.0 5.00 2.50 1.25 0.315 0.080  
 Percent Passing - 100 83.3 -- 41.4 28.3 20.4 9.0 4.4  
 Moisture Content - 1.5 % Standard Proctor  
 Fracture - 61.6 % Kg/m<sup>3</sup> @ % moisture  
 =====

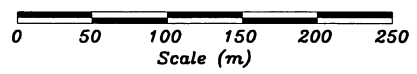
File Number --- 2550-22/01-24 Contractor --- North American Roads (Nuway)  
 Stockpile ID --- 2001-29 Commenced --- 01-10-10 Completed --- 02-06-01  
 Type of aggregate --- Granular "A" Base Course  
 Amount Produced ---  $\pm 37,200 \text{ m}^3$  No. of tests --- 144

-----  
 Sieve Size mm - 20.0 12.5 10.0 5.00 2.50 1.25 0.315 0.080  
 Percent Passing - 100 83.0 -- 48.0 -- 24.6 10.2 4.9  
 Moisture Content - 2.2 % Standard Proctor  
 Fracture - 66.1 % Kg/m<sup>3</sup> @ % moisture  
 \*\* 18,200 m<sup>3</sup> produced in Fall 2001; 19,000 m<sup>3</sup> produced in spring 2002  
 =====



**LEGEND**

- Edge of clearing
- Existing trails
- Approximate test hole location
- Existing Grubbing and Stripping Disposal Area
- Areas Unstripped



	<p>SITE PLAN GRANULAR PIT Km 1691.3 R.H.S. (Silver City) ALASKA HWY. YUKON</p>	pit file: 115 G-07
		revision: 03-Proposed
<p>Transportation Engineering Branch</p>		drawn: JJM
		date: 03-05-01
		scale: 1: 5000
		drwg: 115g-07S

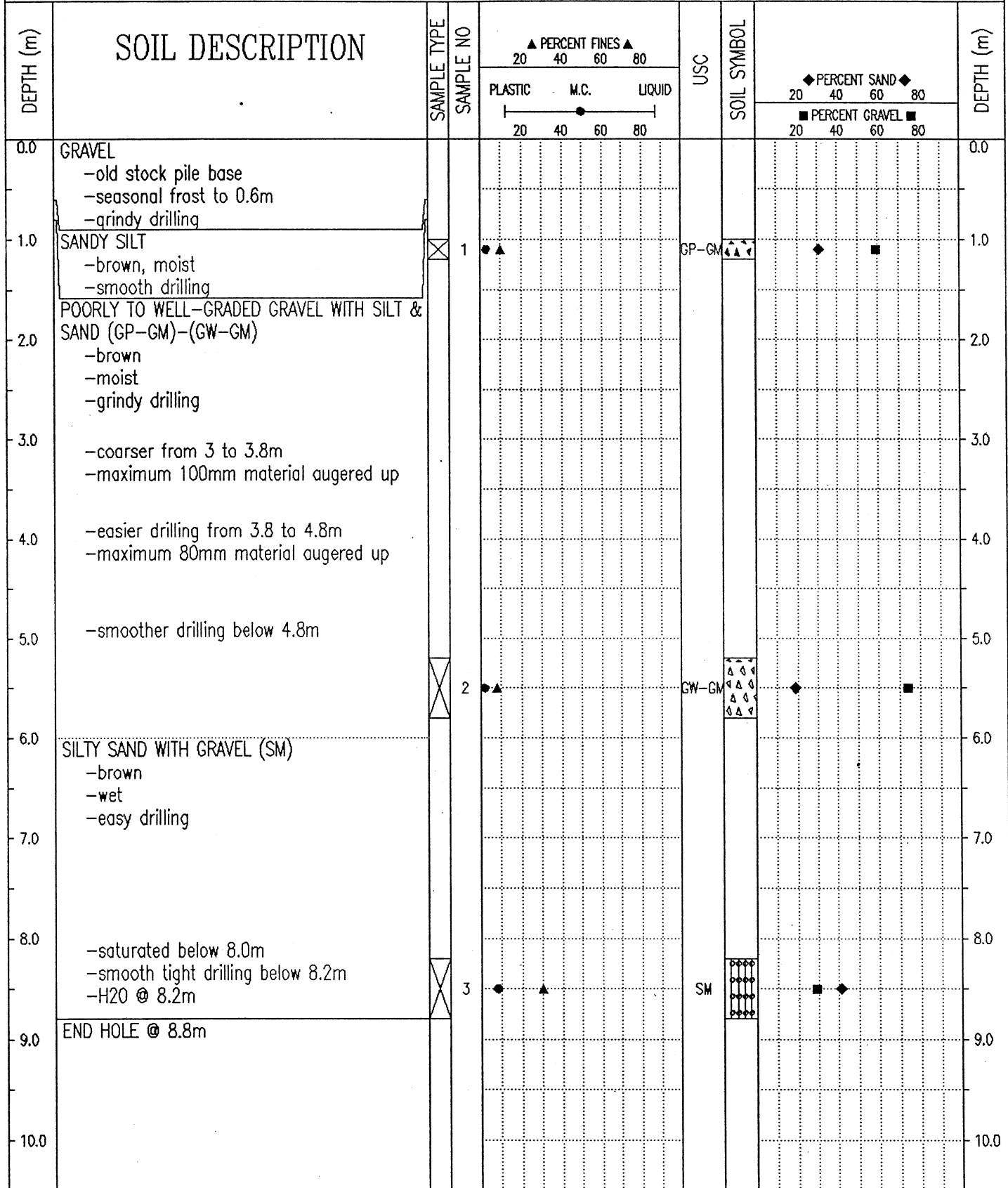
Km 1691.3 RHS Alaska Highway #1  
Pit Ident. 115 G-07  
(Silver City)

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

Auger Hole Logs

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

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



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LOGGED BY: JM

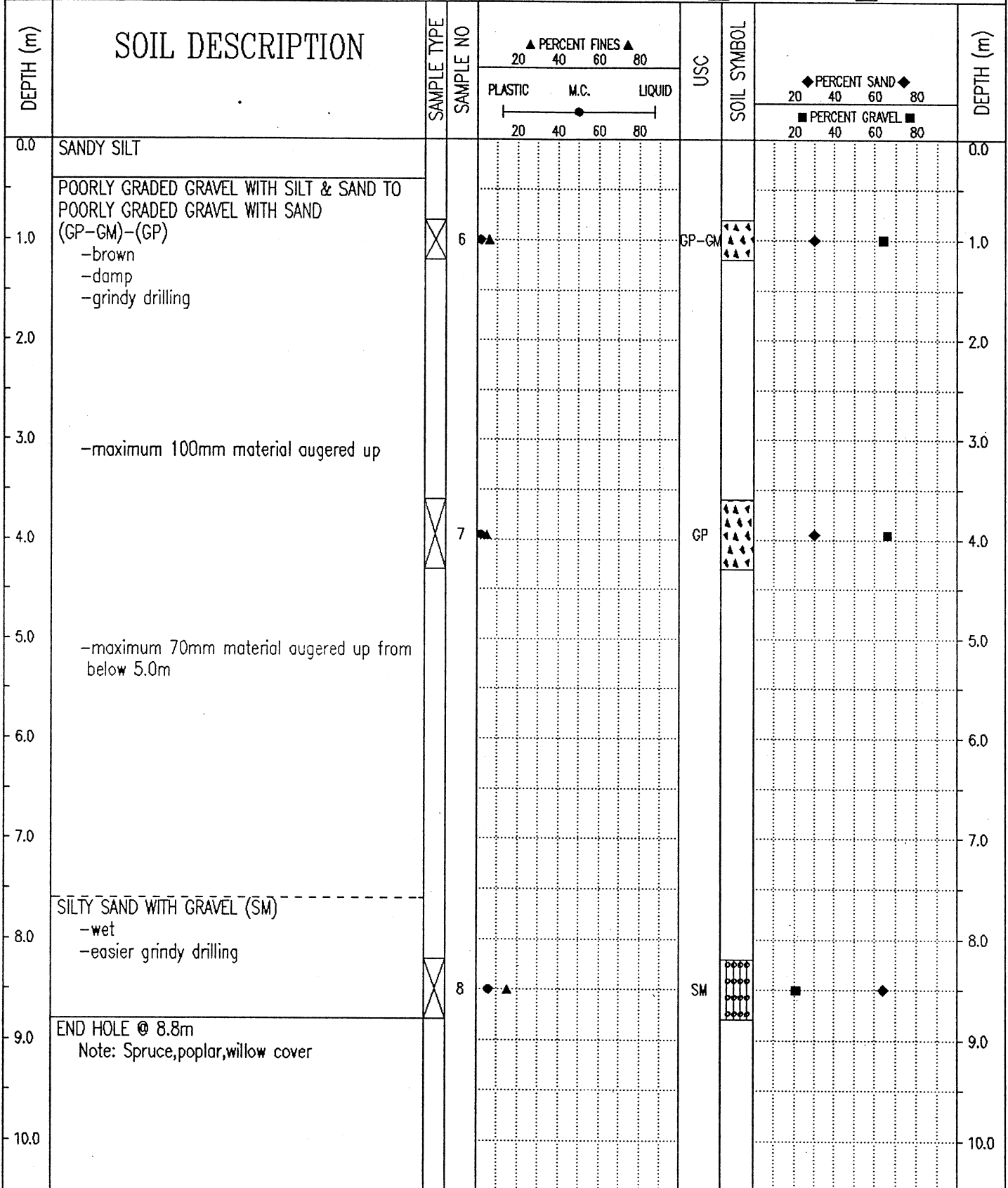
REVIEWED BY:

Fig. No: 115-G-07

COMPLETION DEPTH: 8.8 m

COMPLETE: 01/02/20

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST HOLE NO: 581-1507
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
D-4 CAT B40 L	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN	<input checked="" type="checkbox"/> S.P.T.
	<input checked="" type="checkbox"/> AUGER	<input type="checkbox"/> BULK
	<input type="checkbox"/> TUBE	<input type="checkbox"/> CORE



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

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST HOLE NO: 582-1518
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
D-4 CAT B40 L	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)
SAMPLE TYPE <input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE		

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

Government of Yukon  
Transportation Engineering

LOGGED BY: D.T.

REVIEWED BY:

Fig. No: 115-G-07

COMPLETION DEPTH: 7.6 m

COMPLETE: 01/02/28

Page 1 of 1

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

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

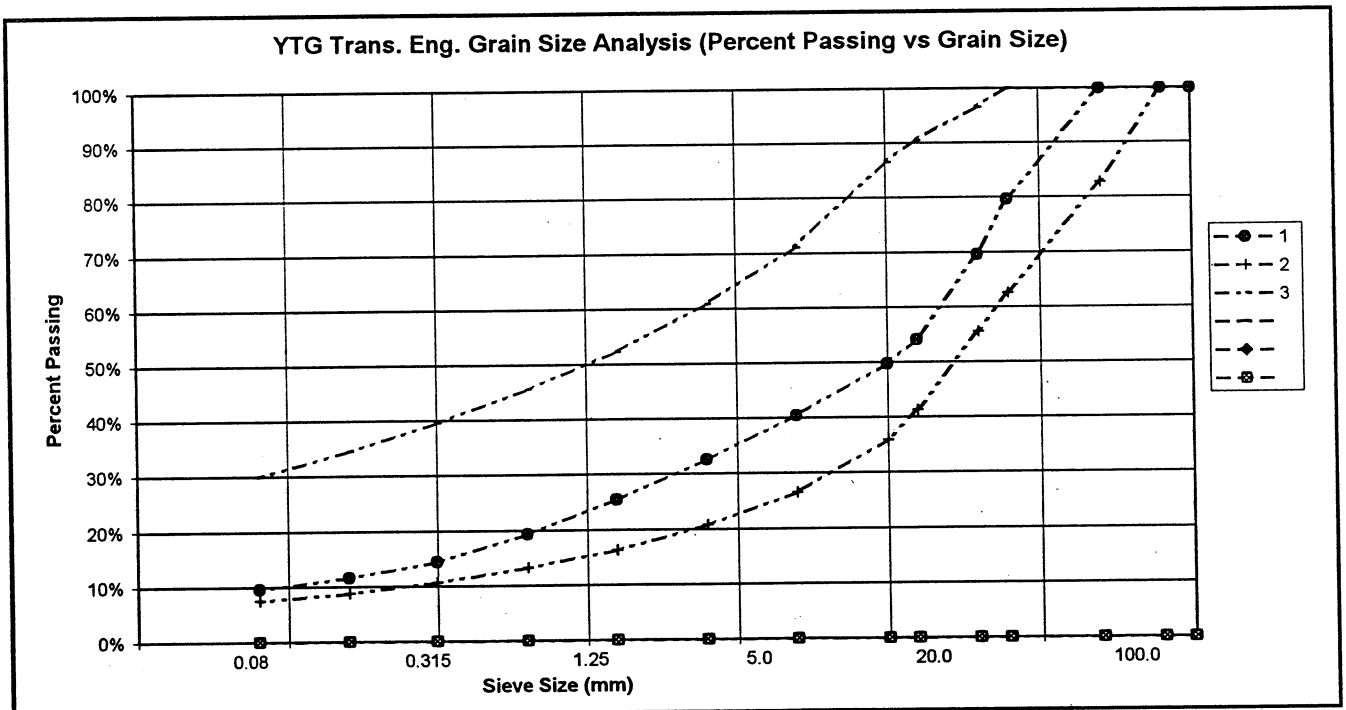
Auger Sample Results

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

HOLE No.: 581-1505

DATE COMP: 2000/02/20

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

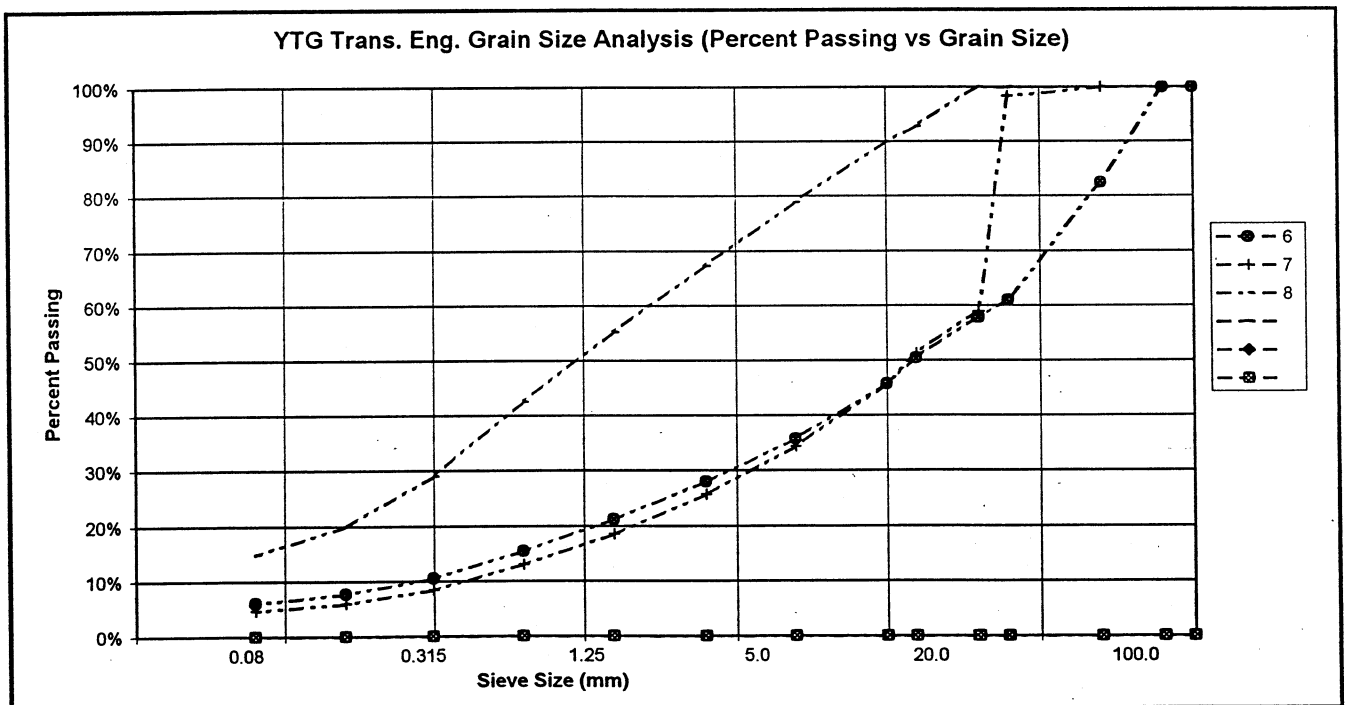


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Silver Creek Reserve Km 1694 A/H  
 DRILL UNIT: MOBILE B40 L - D-4 CAT  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: J.M.

HOLE No.: 581-1507

DATE COMP: 2000/02/20

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

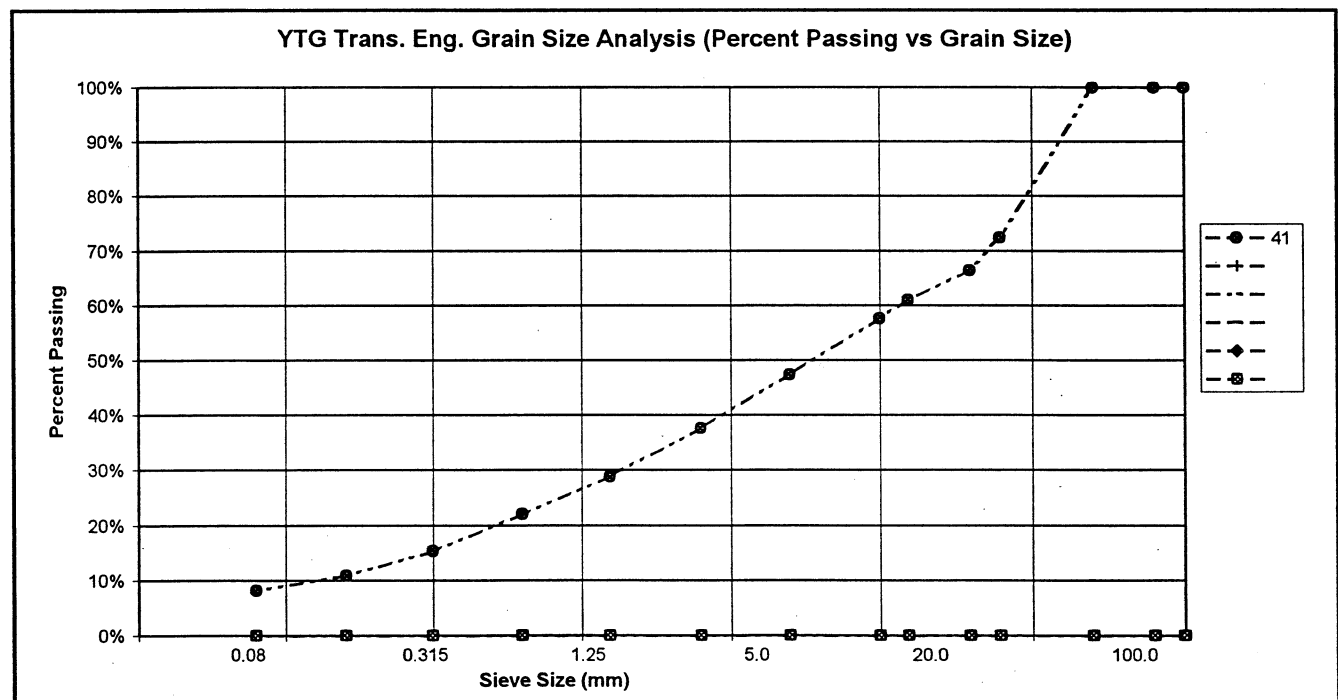


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Silver Cr Reserve Km 1694 A/H  
 DRILL UNIT: D-4 CAT  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: D.T.

HOLE No.: 582-1518

DATE COMP: 2001/02/28

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

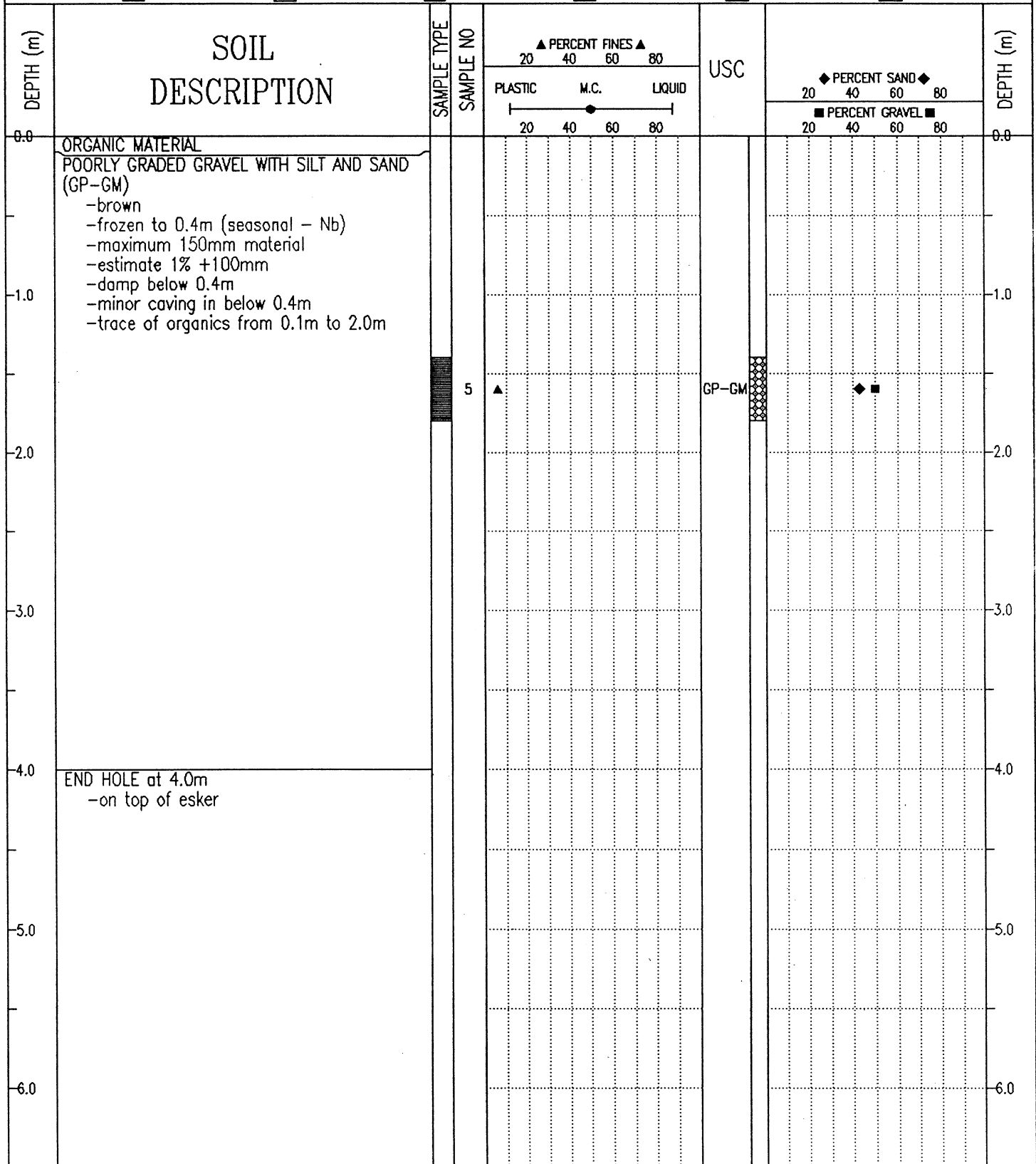


Km 1691.3 RHS Alaska Highway #1  
Pit Ident. 115 G-07  
(Silver City)

November 1991  
Book # 152  
Test Hole 1 to 8

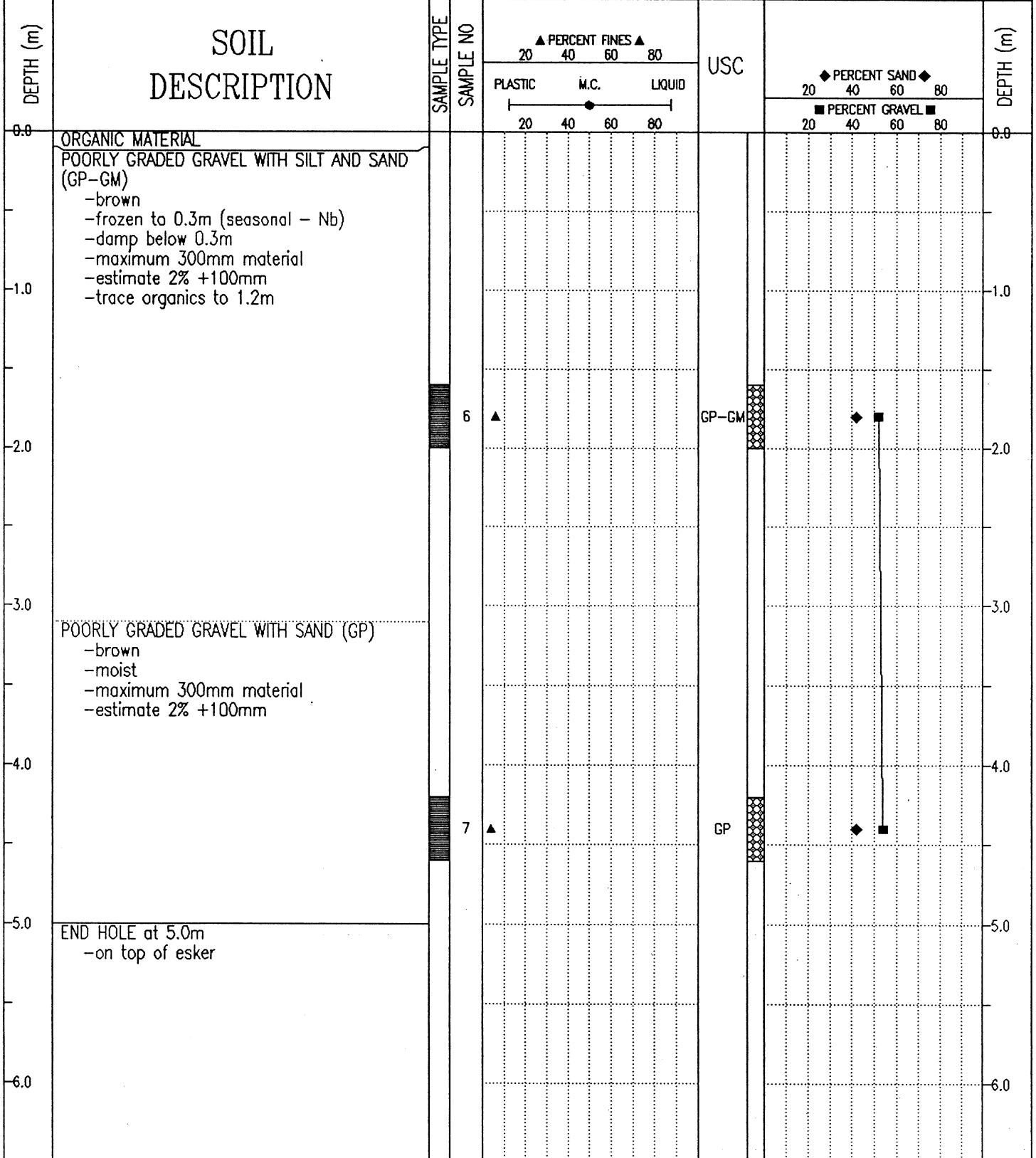
Test Pit Logs

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY GRANULAR INVESTIGATION	BOREHOLE No. 152-03
PWC/O&M YUKON	A/H KM 1692 RHS	Project No: 859167
BACKHOE: CASE 688	LOCATION: See Plan	ELEVATION 0.000 (m)
SAMPLE TYPE <input checked="" type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE		

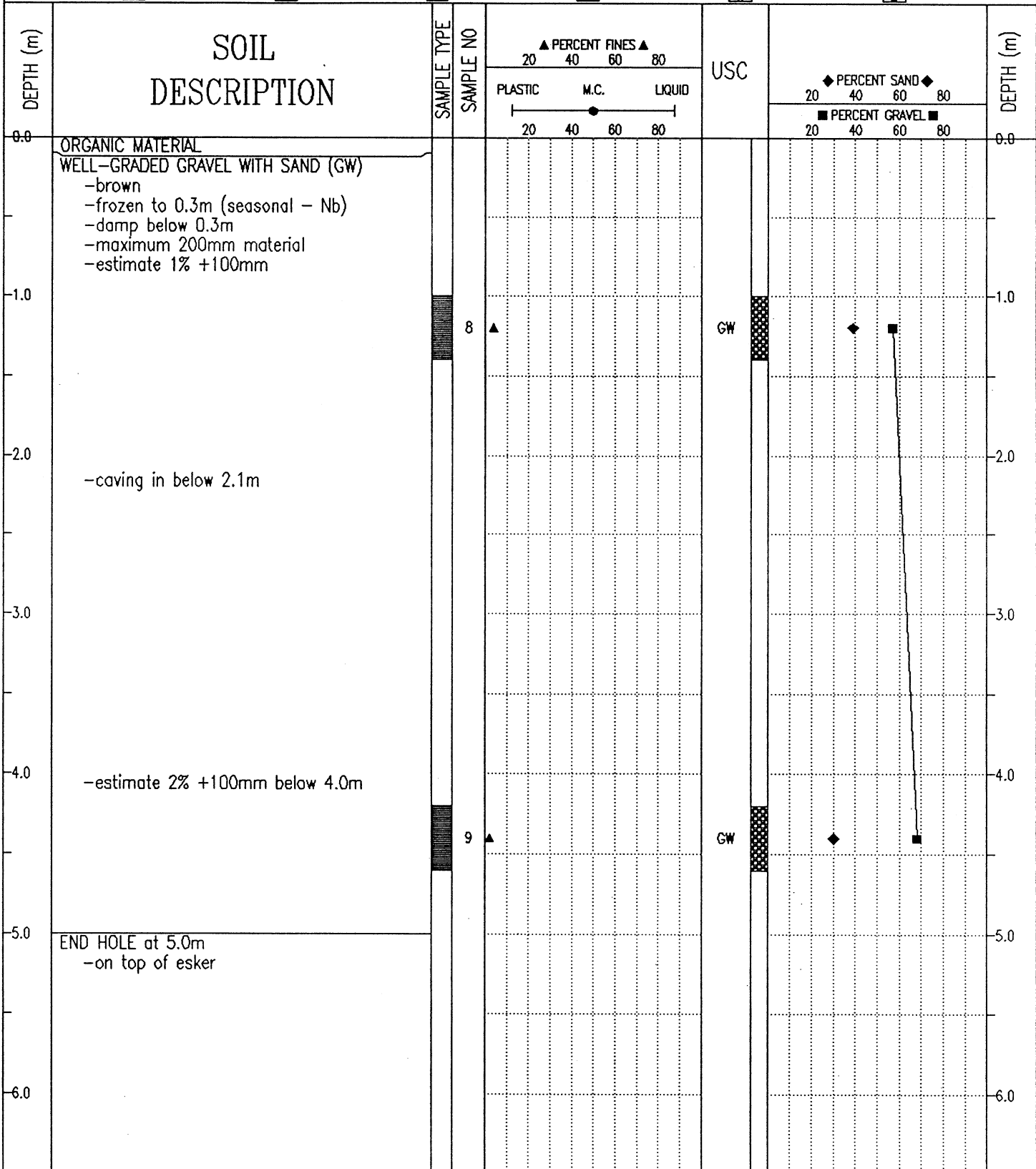


SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY GRANULAR INVESTIGATION	BOREHOLE No. 152-04
PWC/O&M YUKON	A/H KM 1692 RHS	Project No: 859167
BACKHOE: CASE 688	LOCATION: See Plan	ELEVATION 0.000 (m)

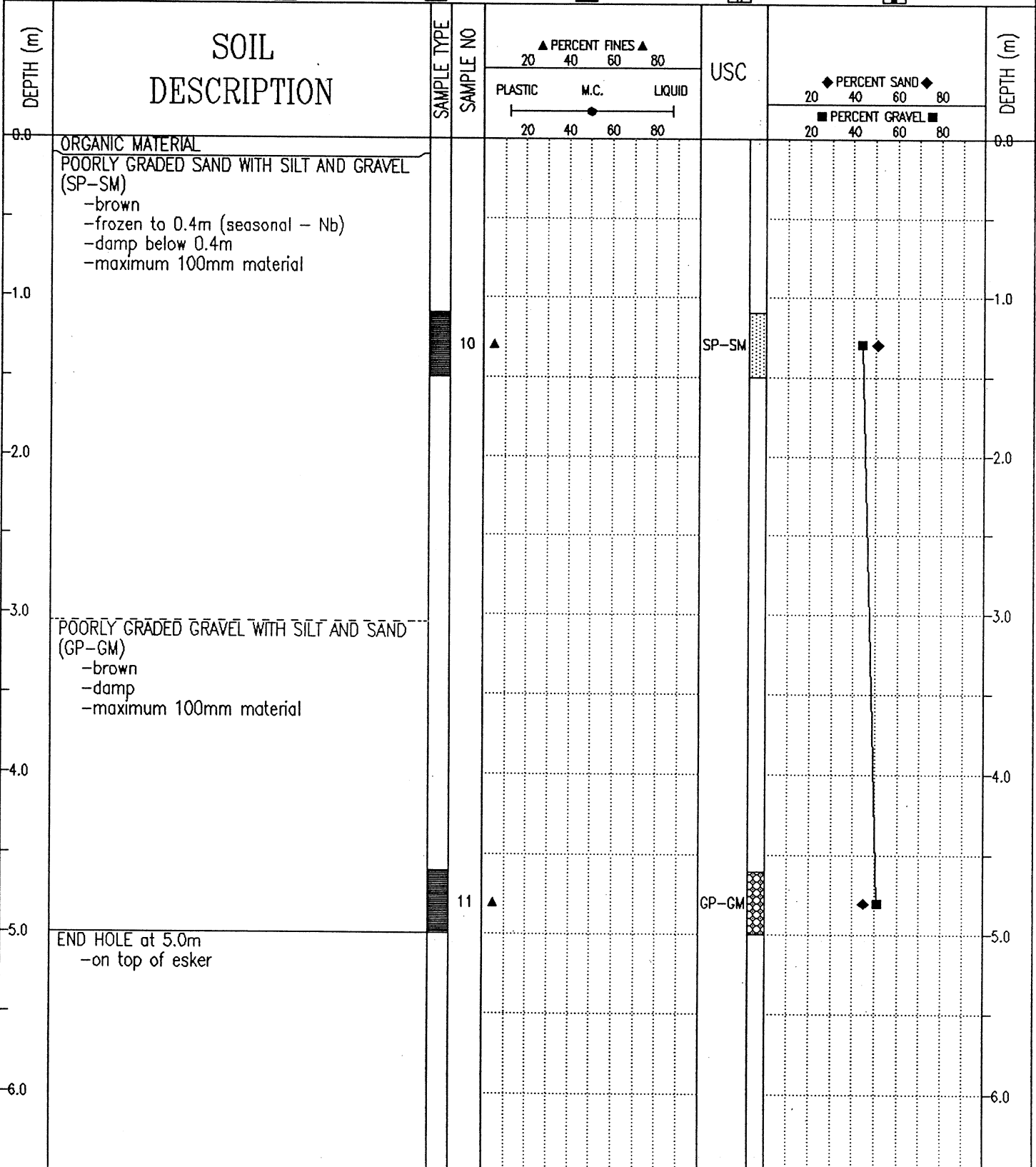
SAMPLE TYPE  RETURN  S.P.T.  AUGER  BULK  TUBE  CORE



SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY GRANULAR INVESTIGATION	BOREHOLE No. 152-05
PWC/O&M YUKON	A/H KM 1692 RHS	Project No: 859167
BACKHOE: CASE 688	LOCATION: See Plan	ELEVATION 0.000 (m)
SAMPLE TYPE <input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE		



SUBSURFACE EXPLORATION AND TEST REPORT		ALASKA HIGHWAY GRANULAR INVESTIGATION	BOREHOLE No. 152-06
PWC/O&M YUKON		A/H KM 1692 RHS	Project No: 859167
BACKHOE: CASE 688		LOCATION: See Plan	ELEVATION 0.000 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN	<input checked="" type="checkbox"/> S.P.T.	<input checked="" type="checkbox"/> AUGER
		<input type="checkbox"/> BULK	<input type="checkbox"/> TUBE
			<input type="checkbox"/> CORE



Public Works Canada  
Whitehorse, Yukon Territory.

COMPLETION DEPTH 5.0 m

COMPLETE 91/11/05

LOGGED BY DT

DWG NO.

Page 1 of 1

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

November 1991  
Book # 152  
Test Hole 1 to 8

Pit Run Sample Results

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

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

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

M.C. (%): --

LIMITS

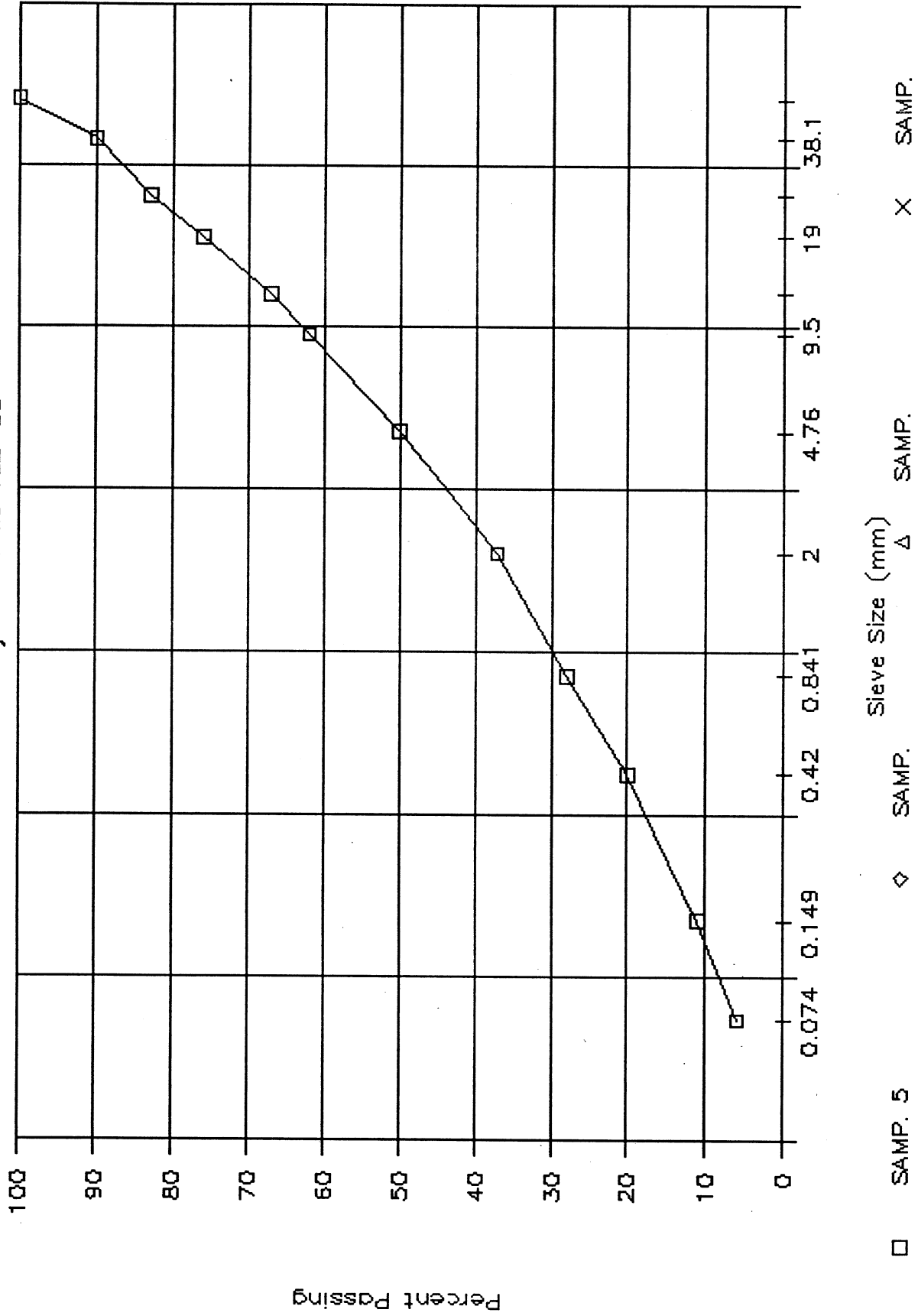
LIQUID: --  
 PLASTIC: --  
 P.I.: N.P.

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

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

# PUBLIC WORKS CANADA - WHITEHORSE, Y.T.

Grain Size Analysis - Hole 152-03



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

FIELD NO: 6  
 LAB NO: 5404  
 DEPTH: 1.6-2.0  
 TYPE: BULK

FIELD NO: 7  
 LAB NO: 5405  
 DEPTH: 4.2-4.6  
 TYPE: BULK

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

101.6	--
76.2	100
50.8	85
38.1	82
25.4	77
19.0	72
12.7	64
9.5	59
4.76	48
2.38	--
2.00	34
1.19	--
0.841	22
0.595	--
0.42	14
0.297	--
0.177	--
0.149	7
0.074	6

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

101.6	--
76.2	--
50.8	100
38.1	93
25.4	79
19.0	74
12.7	65
9.5	58
4.76	46
2.38	--
2.00	32
1.19	--
0.841	21
0.595	--
0.42	12
0.297	--
0.177	--
0.149	5
0.074	4

M.C. (%): --

M.C. (%): --

LIMITS

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

LIMITS

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

% GRAVEL: 52  
 % SAND: 42  
 % FINES: 6

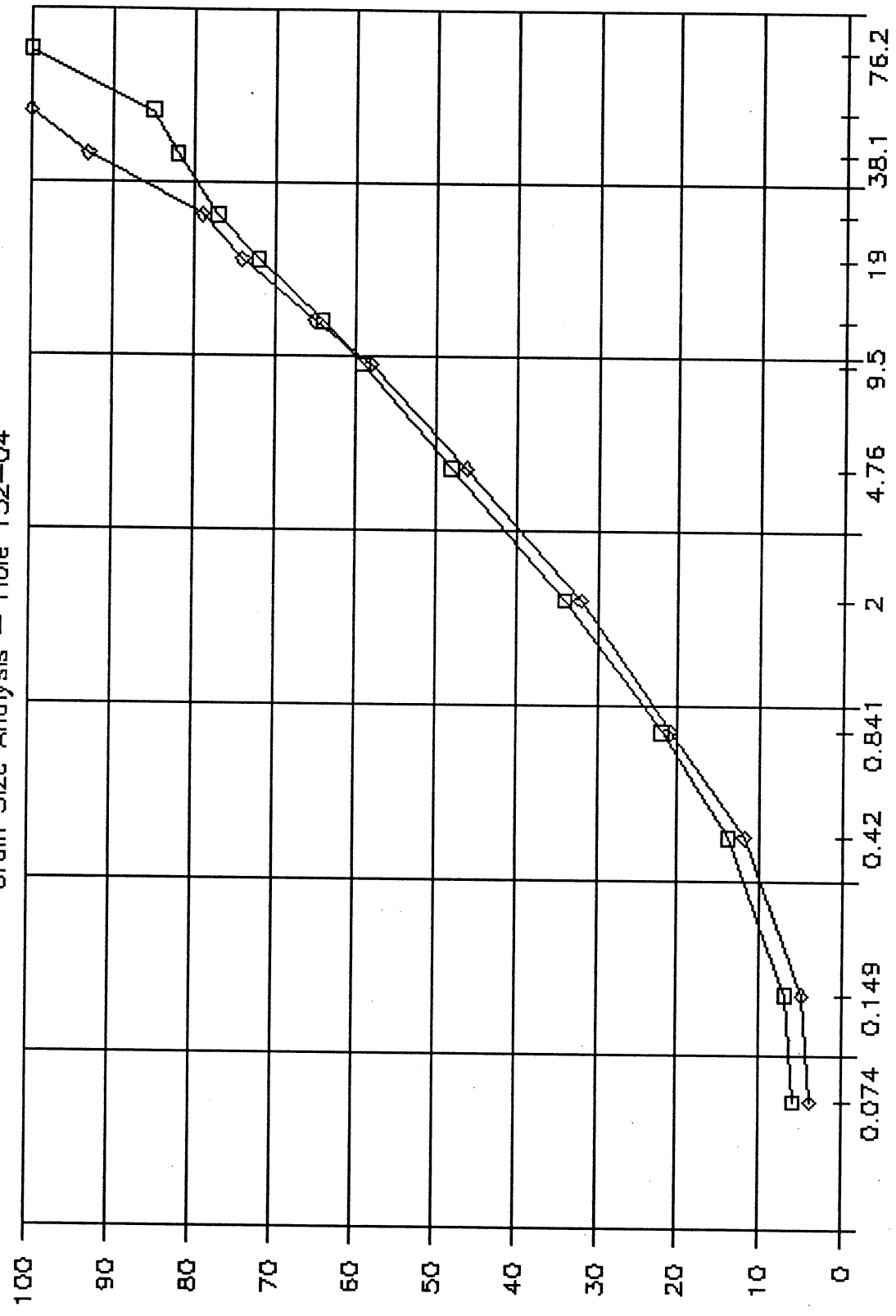
% GRAVEL: 54  
 % SAND: 42  
 % FINES: 4

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

CLASSIFICATION:  
 POORLY GRADED  
 GRAVEL WITH SAND  
 (GP)

# PUBLIC WORKS CANADA - WHITEHORSE, Y.T.

Grain Size Analysis - Hole 152-04



□ SAMP. 6      ◇ SAMP. 7      Sieve Size (mm)      △ SAMP.      X SAMP.

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

FIELD NO: 8  
 LAB NO: 5406  
 DEPTH: 1.0-1.4  
 TYPE: BULK

FIELD NO: 9  
 LAB NO: 5407  
 DEPTH: 4.2-4.6  
 TYPE: BULK

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

101.6	100
76.2	82
50.8	82
38.1	82
25.4	76
19.0	70
12.7	62
9.5	55
4.76	43
2.38	--
2.00	29
1.19	--
0.841	19
0.595	--
0.42	11
0.297	--
0.177	--
0.149	6
0.074	4

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

101.6	--
76.2	100
50.8	95
38.1	77
25.4	65
19.0	58
12.7	49
9.5	43
4.76	32
2.38	--
2.00	22
1.19	--
0.841	14
0.595	--
0.42	9
0.297	--
0.177	--
0.149	3
0.074	2

M.C. (%): --

M.C. (%): --

LIMITS

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

LIMITS

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

% GRAVEL: 57  
 % SAND: 39  
 % FINES: 4

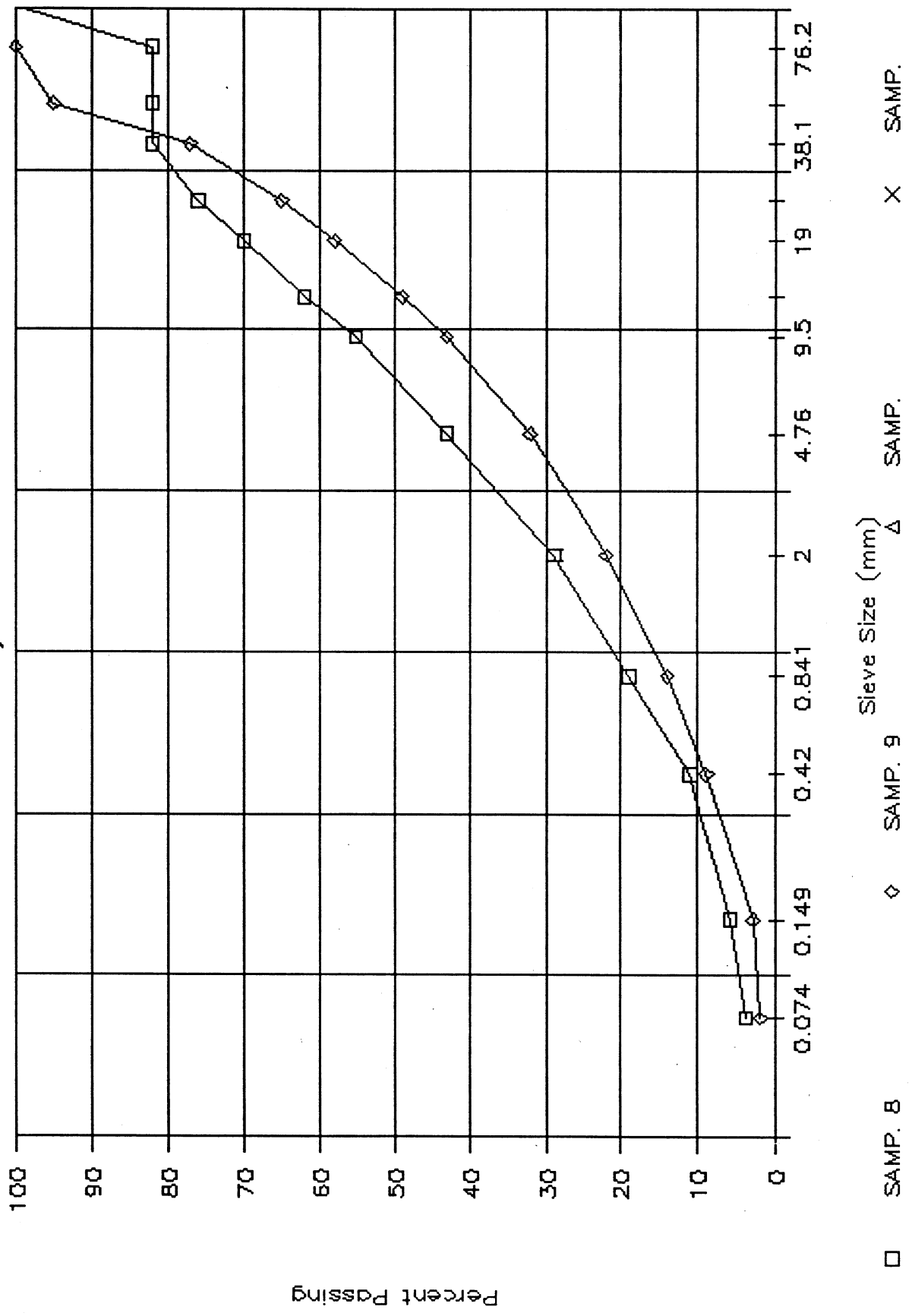
% GRAVEL: 68  
 % SAND: 30  
 % FINES: 2

CLASSIFICATION:  
 WELL-GRADED  
 GRAVEL WITH SAND  
 (GW)

CLASSIFICATION:  
 WELL-GRADED  
 GRAVEL WITH SAND  
 (GW)

# PUBLIC WORKS CANADA — WHITEHORSE, Y.T.

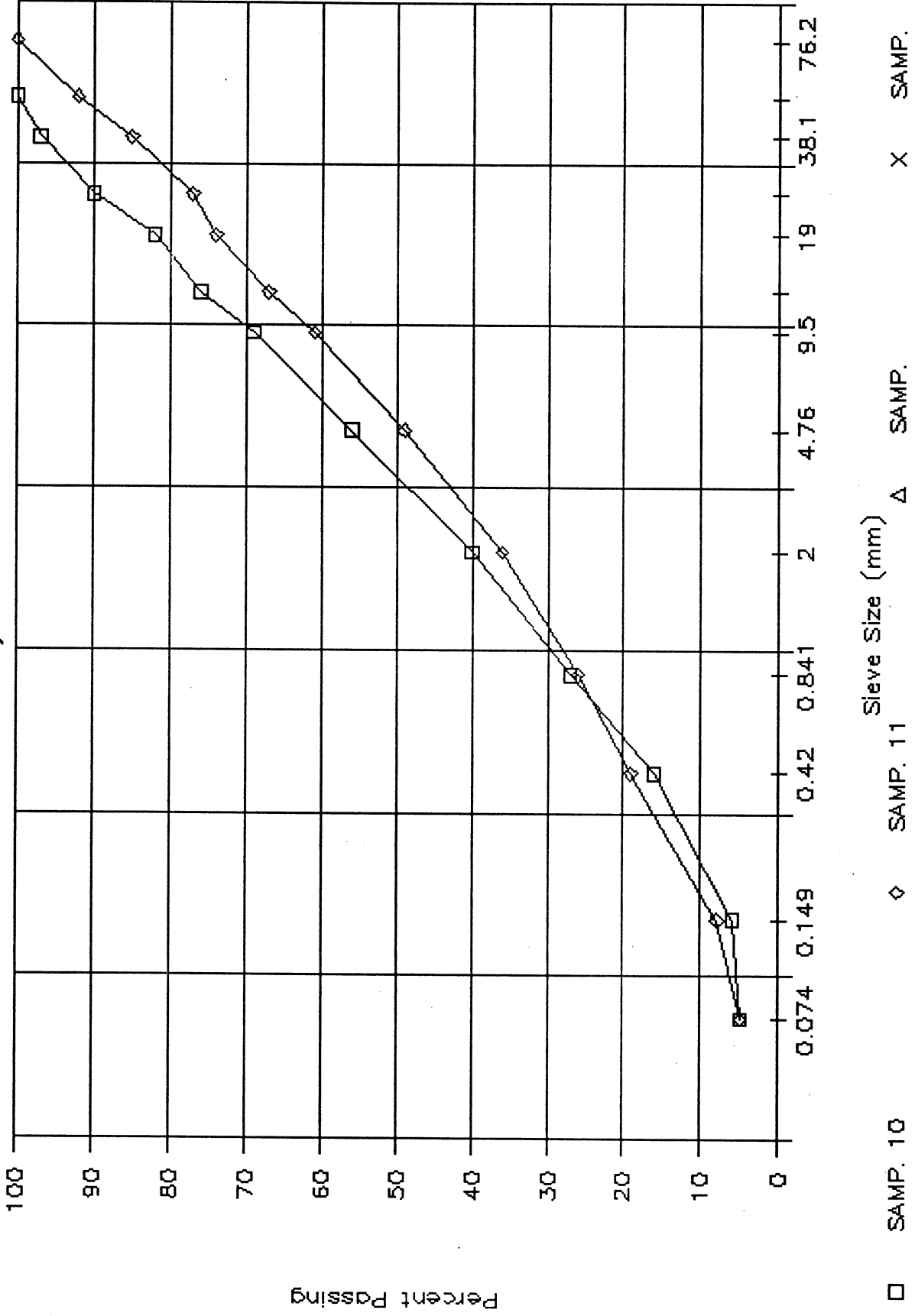
Grain Size Analysis — Hole 152-05



SAMP. 8
  SAMP. 9
  Sieve Size (mm)
  SAMP. X
  SAMP.

# PUBLIC WORKS CANADA - WHITEHORSE, Y.T.

Grain Size Analysis - Hole 152-06



□ SAMP. 10      ◇ SAMP. 11

Sieve Size (mm)

△ SAMP.      X SAMP.

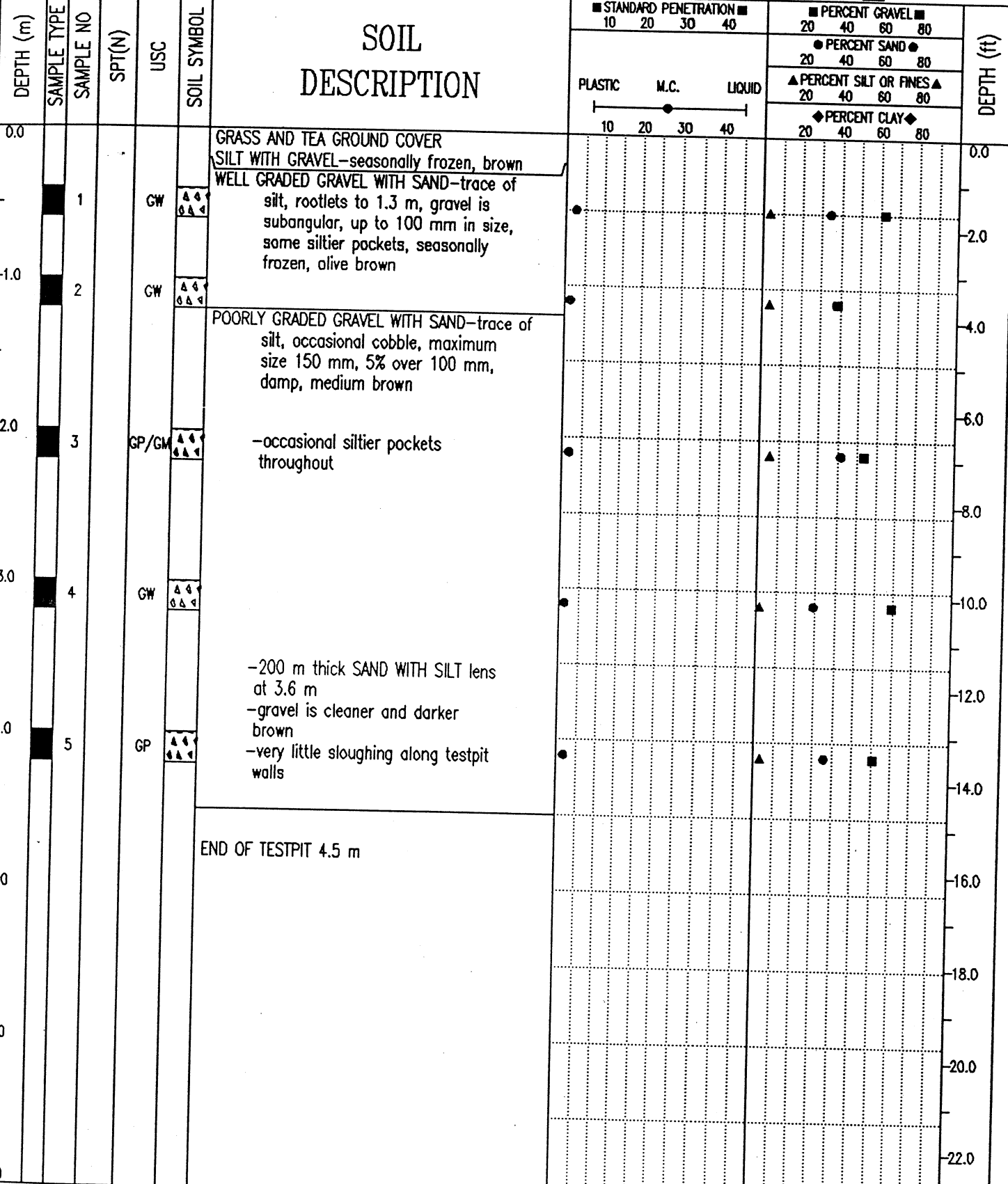
**Km 1691.3 RHS Alaska Highway #1  
Pit Ident. 115 G-07  
(Silver City)**

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

**Test Pit Logs  
Pit Run Sample Results**

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

SAMPLE TYPE  GRAB SAMPLE  NO RECOVERY  STANDARD PEN.  75 mm SPOON  CRREL BARREL



EBA Engineering Consultants Ltd.  
Whitehorse, Yukon

LOGGED BY: MCP	COMPLETION DEPTH: 4.5 m
REVIEWED BY:	COMPLETE: 92/04/22
Fig. No:	

## PARTICLE - SIZE ANALYSIS OF SOILS

Project: Granular Source Evaluation  
km 1693 North Alaska Highway

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-017E

Depth: 0.6 m

Soil Description: WELL GRADED GRAVEL WITH SAND (GW)

Cu: 30

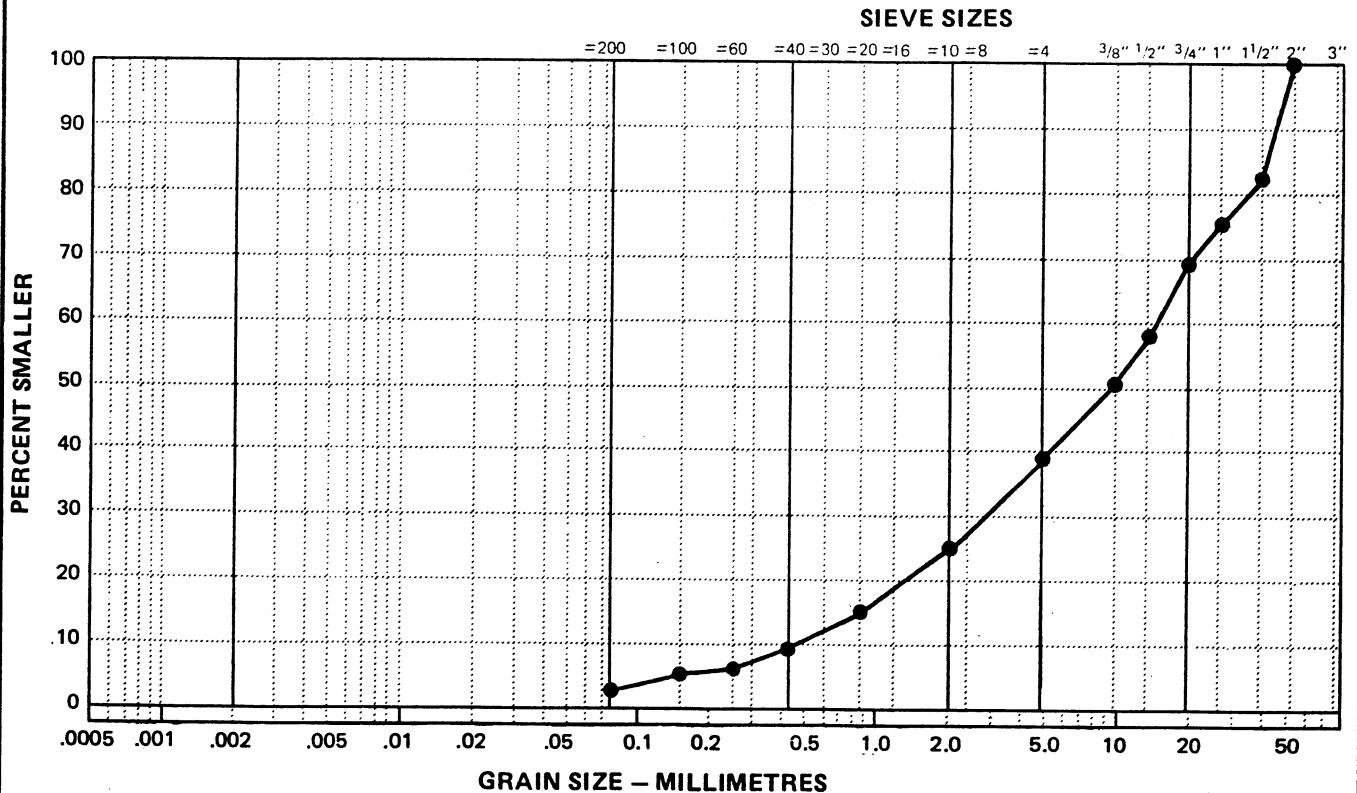
Cc: 1.2

Natural Moisture Content: 2.6 %

Remarks: Gravel 62.3%  
Sand 34.3%  
Silt 3.4%

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

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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

# EBA Engineering Consultants Ltd.

## PARTICLE - SIZE ANALYSIS OF SOILS

Project: Granular Source Evaluation  
km 1693 North Alaska Highway

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-017E

Depth: 1.0 m

Soil Description: WELL GRADED GRAVEL WITH SAND (GW)

Cu: 78

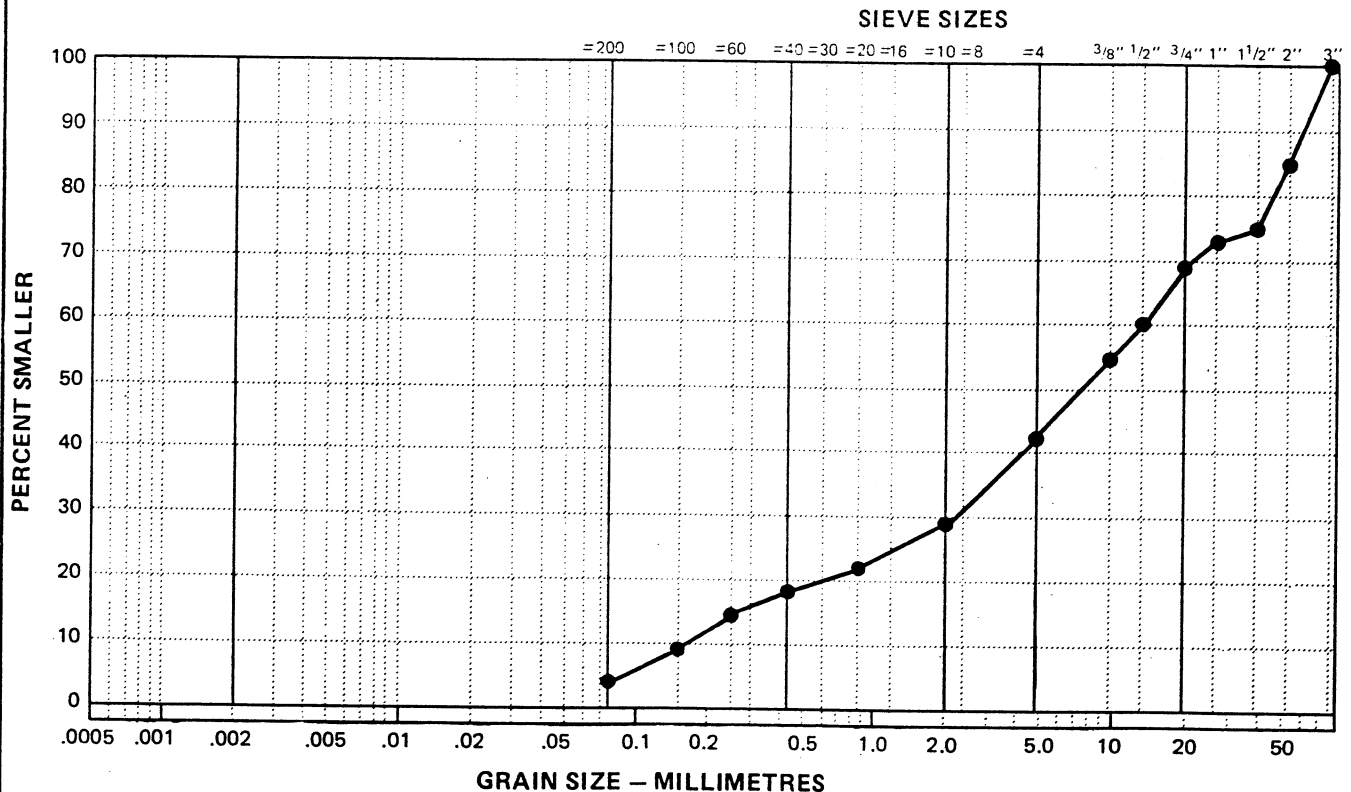
Cc: 2.3

Natural Moisture Content: 1.4 %

Remarks: Gravel 38.5%  
Sand 37.8%  
Silt 3.7%

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

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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## PARTICLE - SIZE ANALYSIS OF SOILS

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

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-017E

Depth: 2.0 m

Soil Description: POORLY GRADED GRAVEL WITH SILT AND SAND

Cu: 43 (GP/GM)

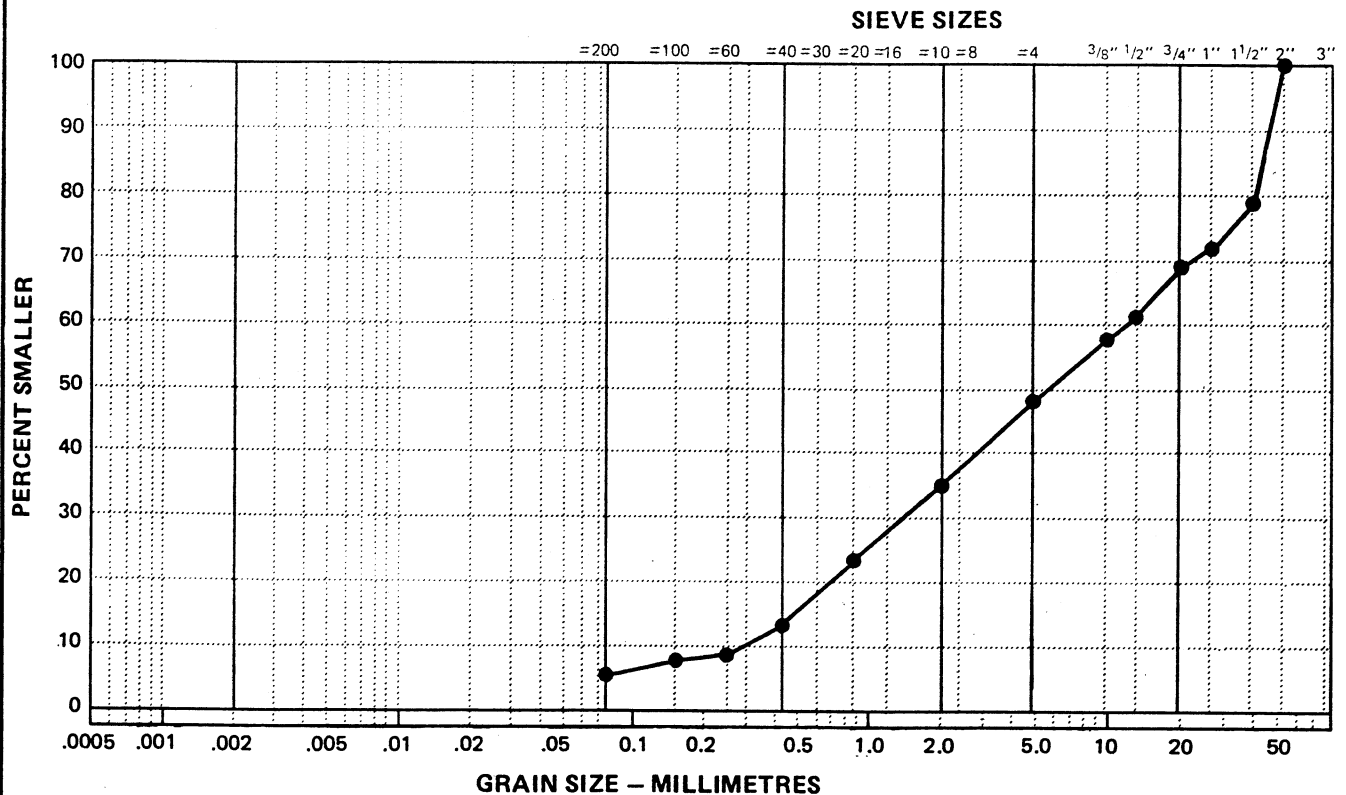
Cc: 0.6

Natural Moisture Content: 1.8 %

Remarks: Gravel 53.3%  
Sand 41.4%  
Silt 5.3%

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

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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# EBA Engineering Consultants Ltd.

## PARTICLE - SIZE ANALYSIS OF SOILS

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

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-017E

Depth: 3.0 m

Soil Description: WELL GRADED GRAVEL WITH SAND (GW)

Cu: 37

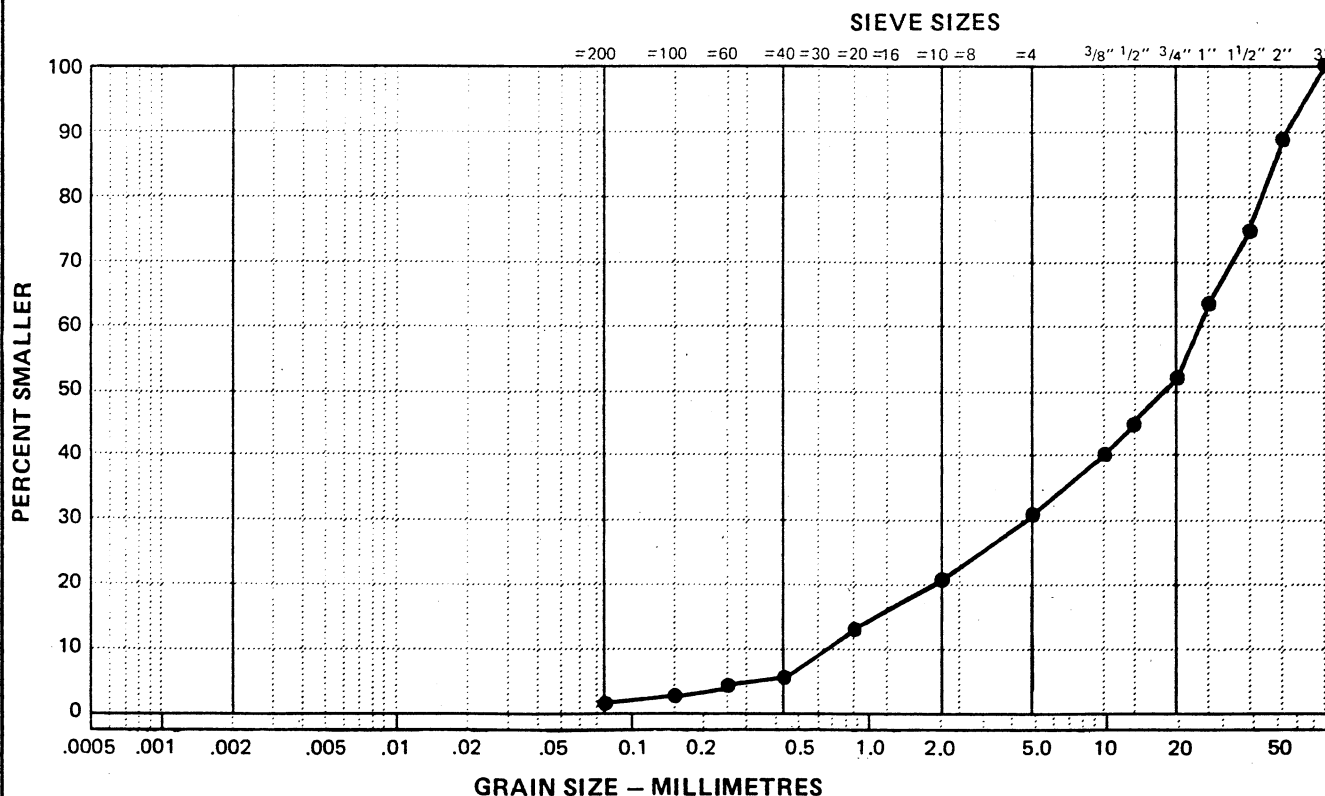
Cc: 1.2

Natural Moisture Content: 1.3 %

Remarks: Gravel 69.4%  
 Sand 28.9%  
 Silt 1.7%

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

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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## PARTICLE - SIZE ANALYSIS OF SOILS

Project: Granular Source Evaluation  
km 1693 North Alaska Highway

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-017E

Depth: 4.0 m

Soil Description: POORLY GRADED GRAVEL WITH SAND (GP)

Cu: 32

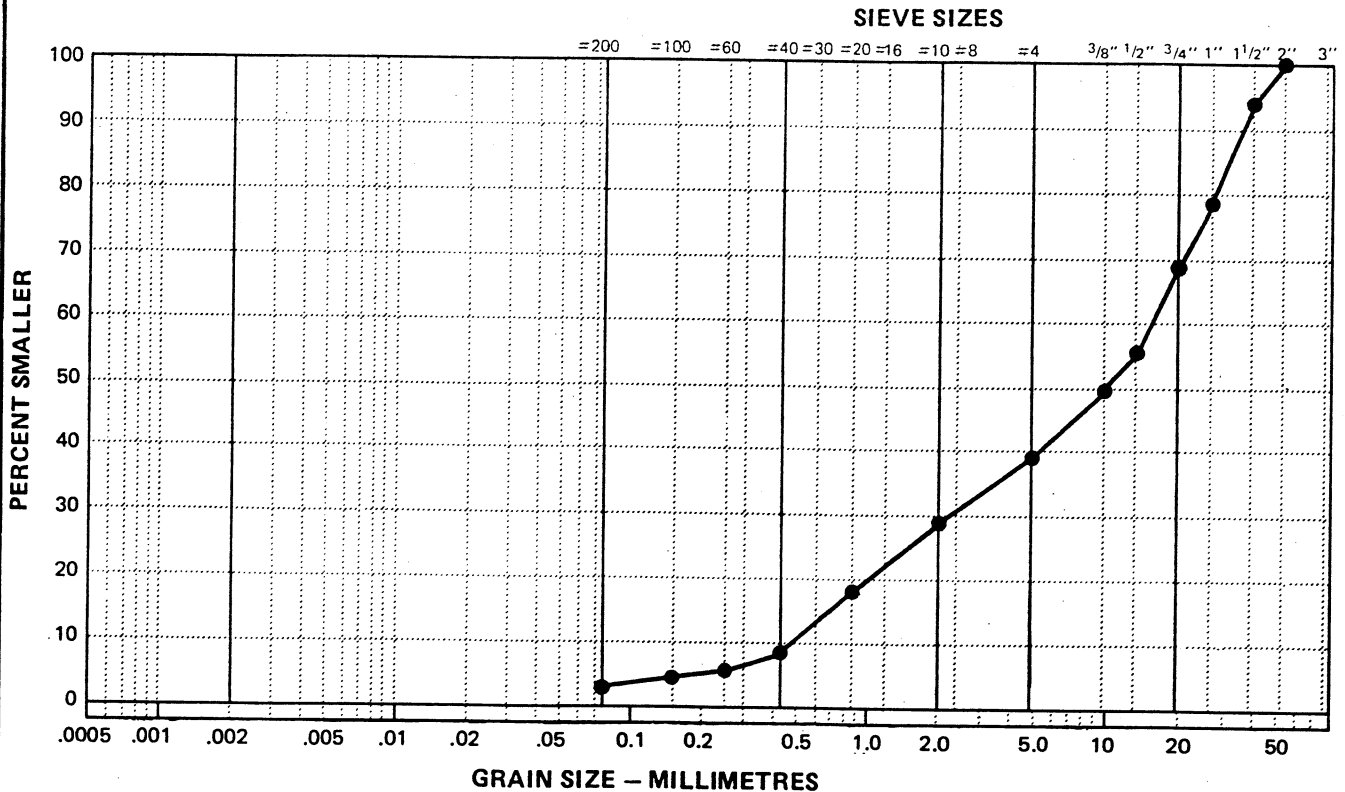
Cc: 0.7

Natural Moisture Content: 1.8 %

Remarks: Gravel 60.9%  
Sand 35.7%  
Silt 3.4%

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

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE

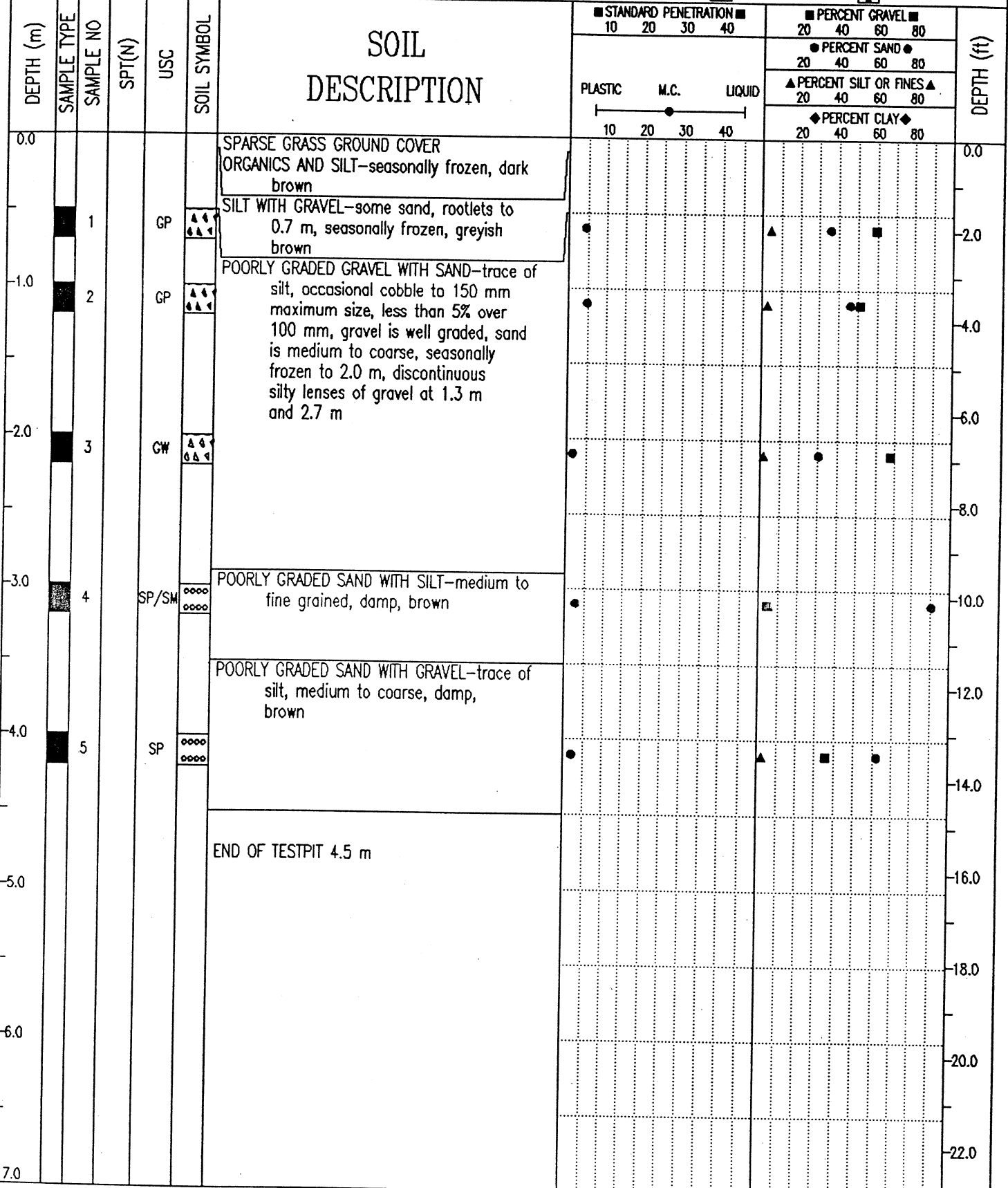


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GRANULAR SOURCE EVALUATION km 1693	CLIENT: YTG - TRANSPORTATION ENG.	BOREHOLE No: 92-018E
SILVER CITY AREA	HOE: CAT 225 TRACKED BACKHOE	Project No: 0201-10922
NORTH ALASKA HIGHWAY	UTM ZONE: 7 N6768517.00 E644046.00	ELEVATION: 0.00 (m)

SAMPLE TYPE  GRAB SAMPLE  NO RECOVERY  STANDARD PEN.  75 mm SPOON  CRREL BARREL



EBA Engineering Consultants Ltd.  
Whitehorse, Yukon

LOGGED BY: MCP  
REVIEWED BY:  
Fig. No:  
COMPLETION DEPTH: 4.5 m  
COMPLETE: 92/04/22  
Page 1 of 1

## PARTICLE - SIZE ANALYSIS OF SOILS

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

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-018E

Depth: 0.5 m

Soil Description: POORLY GRADED GRAVEL WITH SAND (GP)

Cu: 71.4

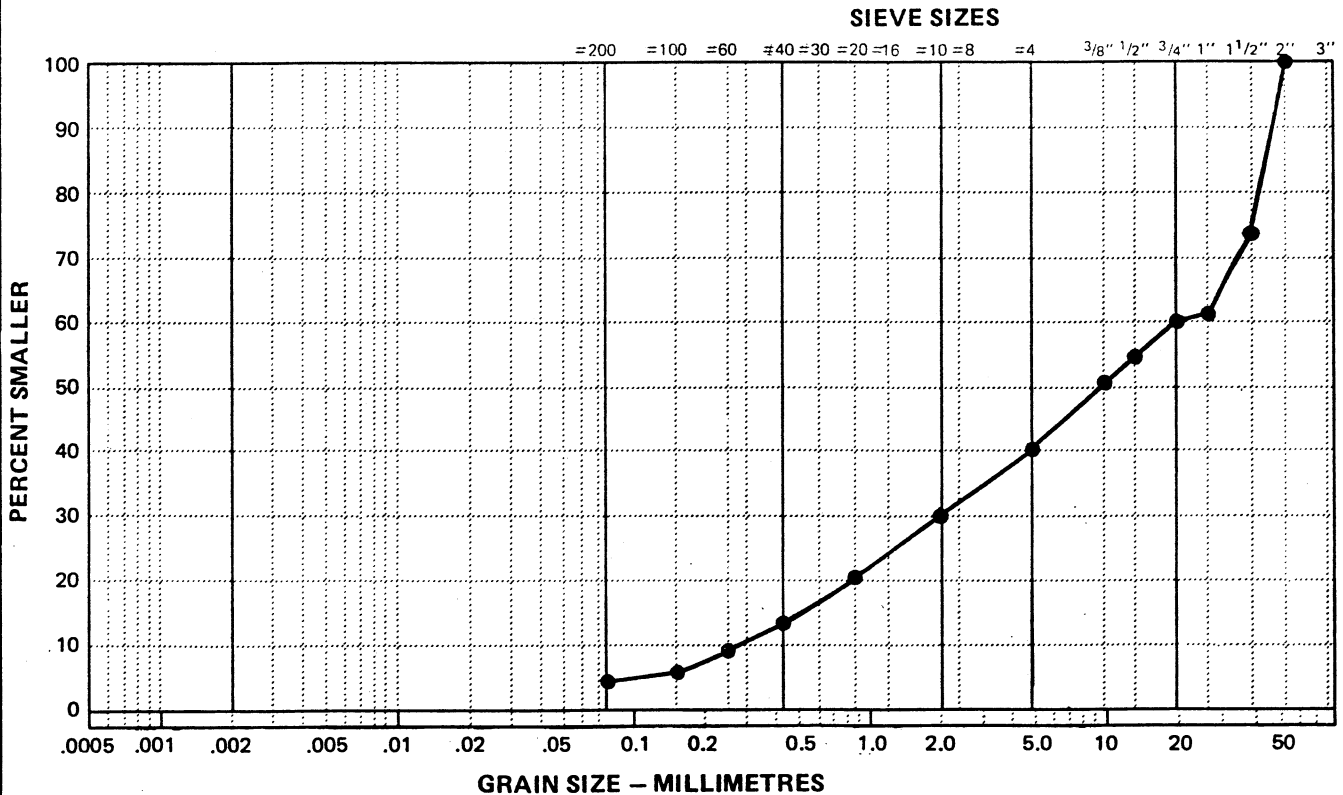
Cc: 0.7

Natural Moisture Content: 4.4 %

Remarks: Gravel 59.6%  
Sand 35.8%  
Silt 4.6%

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

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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## PARTICLE - SIZE ANALYSIS OF SOILS

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

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-018E

Depth: 1.0 m

Soil Description: POORLY GRADED GRAVEL WITH SAND (GP)

Cu: 20

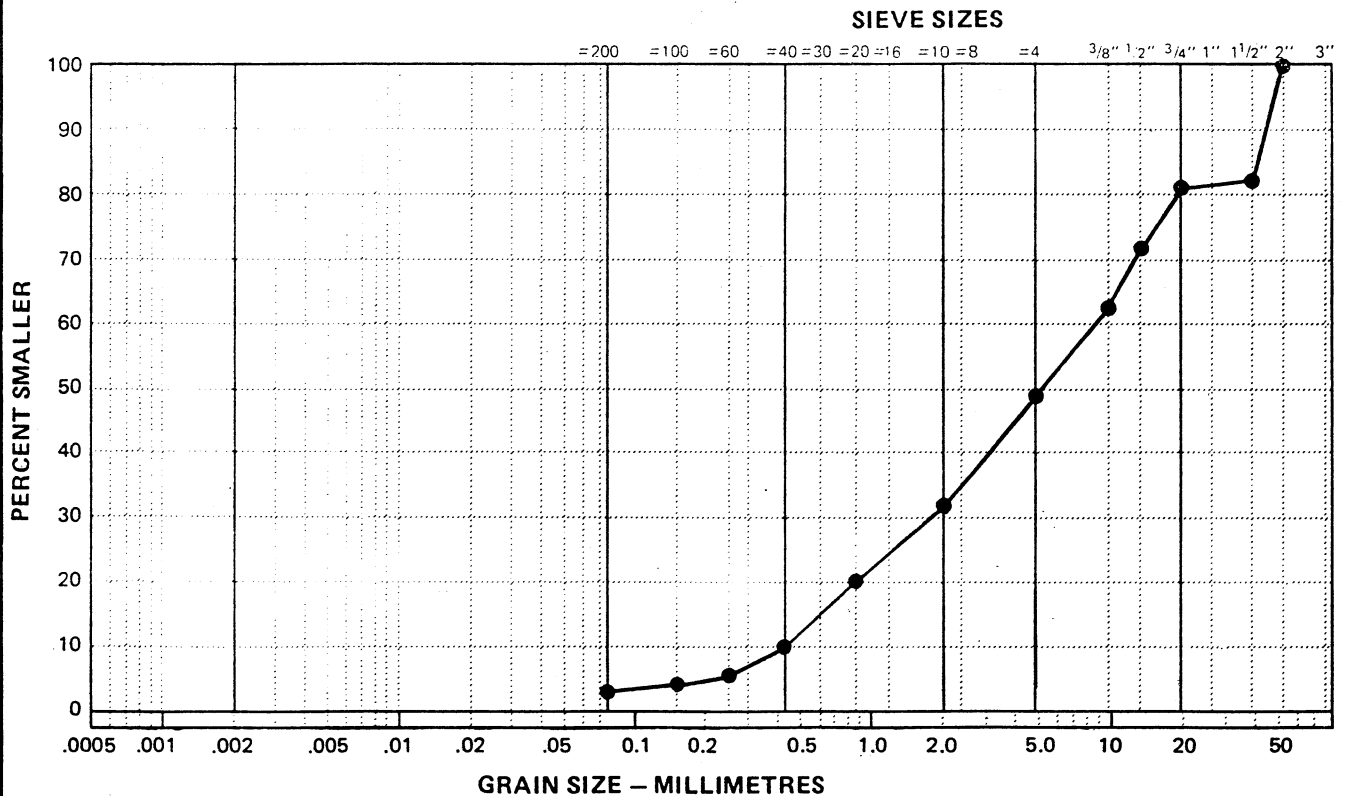
Cc: 0.8

Natural Moisture Content: 4.8 %

Remarks: Gravel 51.2%  
Sand 46.0%  
Silt 2.8%

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

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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## PARTICLE - SIZE ANALYSIS OF SOILS

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

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-018E

Depth: 2.0 m

Soil Description: WELL GRADED GRAVEL WITH SAND (GW)

Cu: 21.4

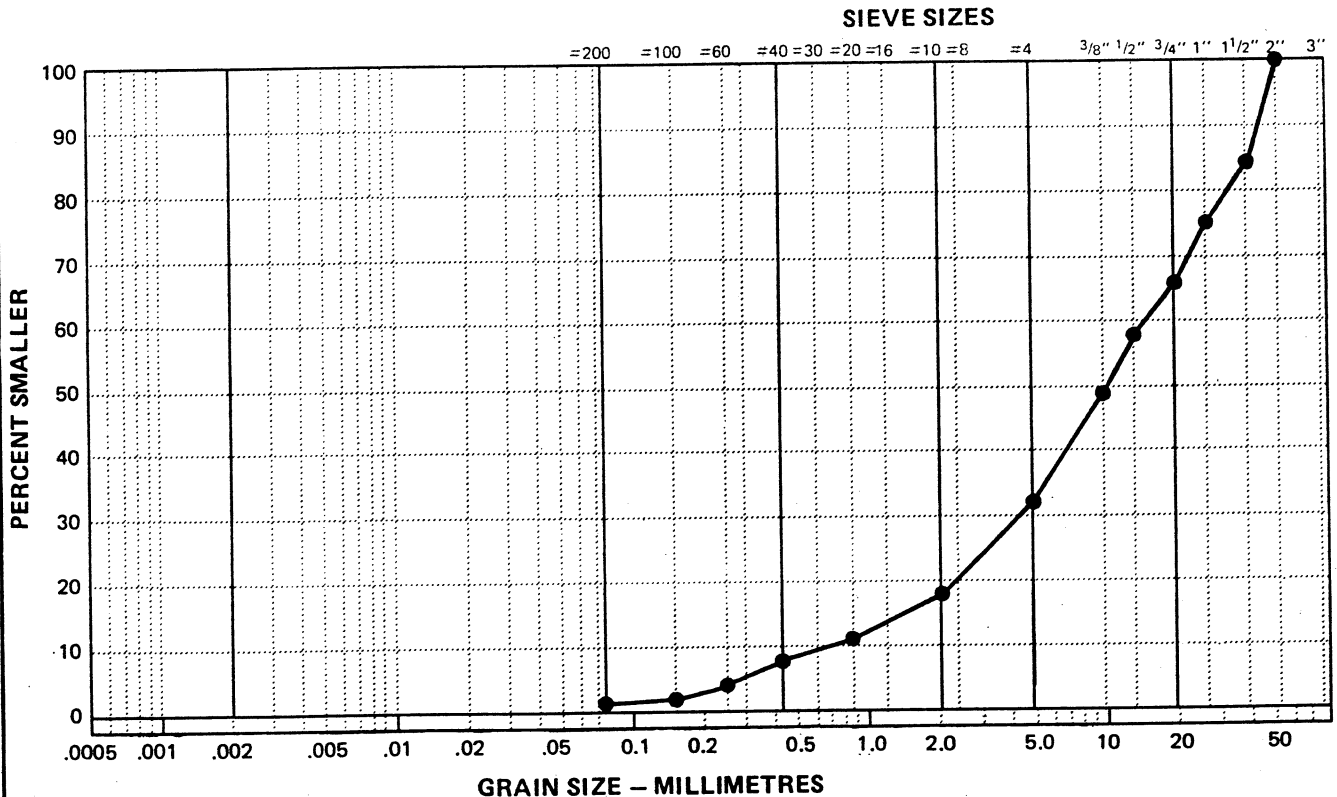
Cc: 1.9

Natural Moisture Content: 1.5 %

Remarks: Gravel 68.0%  
Sand 30.3%  
Silt 1.7%

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

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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## PARTICLE - SIZE ANALYSIS OF SOILS

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

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-018E

Depth: 3.0 m

Soil Description: POORLY GRADED SAND WITH SILT (SP/SM)

Cu: 3.2

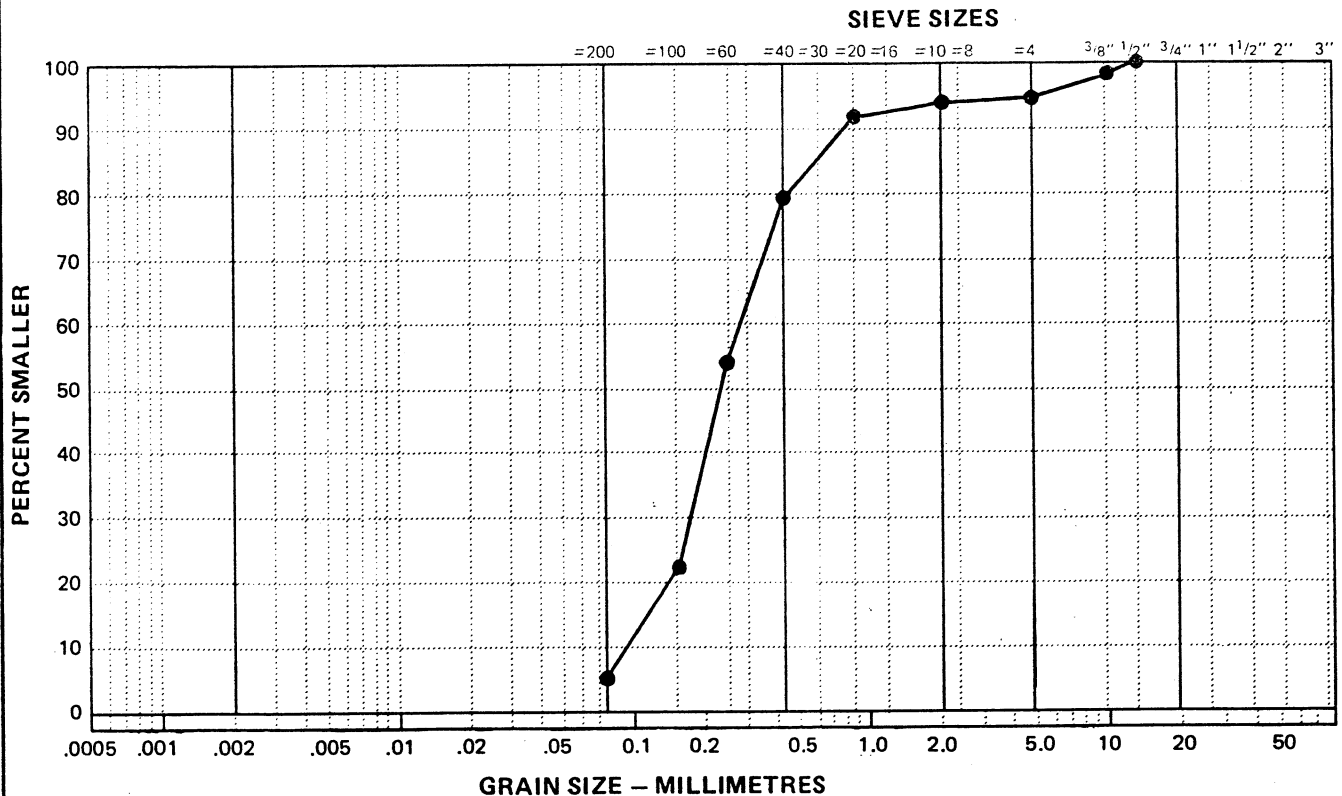
Cc: 1.4

Natural Moisture Content: 2.7 %

Remarks: Gravel 4.2%  
Sand 90.4%  
Silt 5.4%

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

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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## PARTICLE - SIZE ANALYSIS OF SOILS

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

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-018E

Depth: 4.0 m

Soil Description: POORLY GRADED SAND WITH GRAVEL (SP)

Cu: 8.9

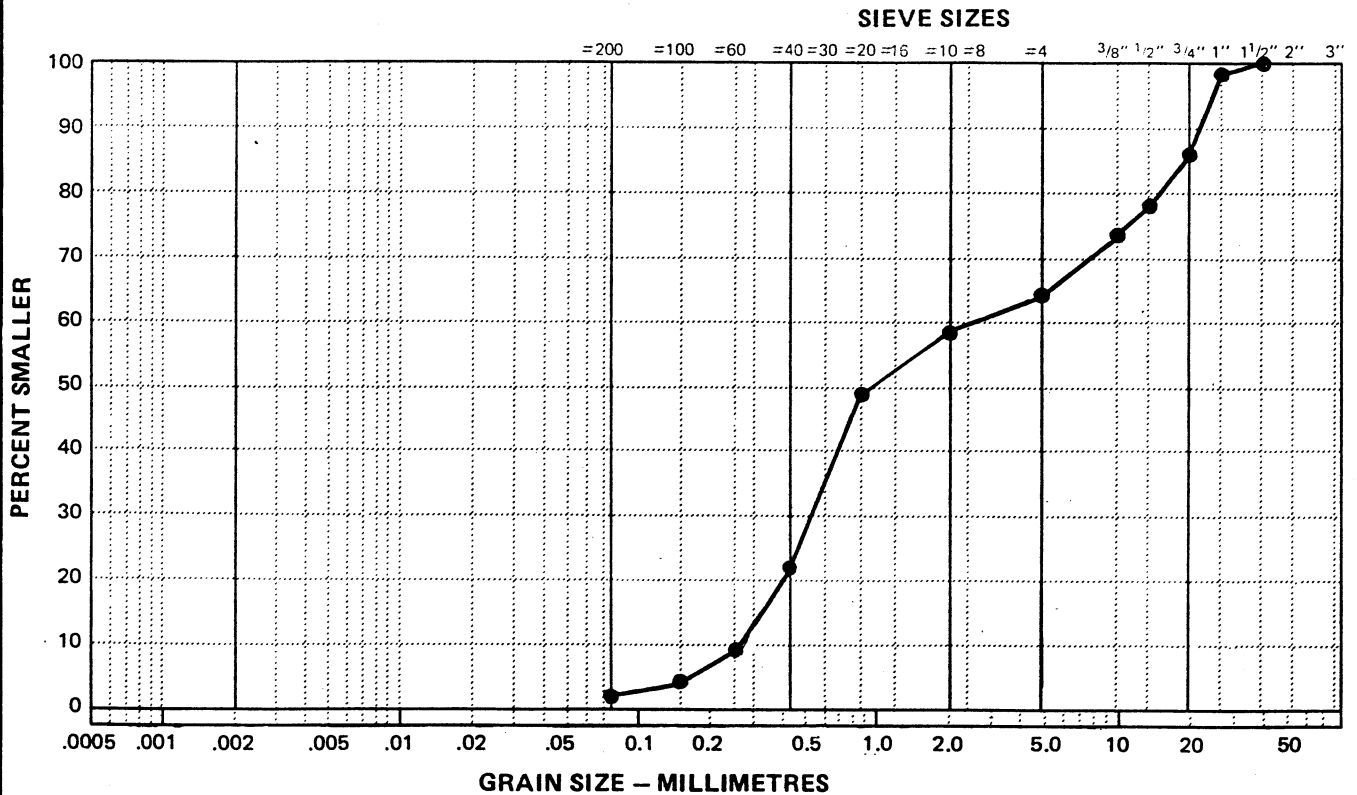
Cc: 0.4

Natural Moisture Content: 2.1 %

Remarks: Gravel 35.7%  
Sand 62.0%  
Silt 2.3%

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

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE

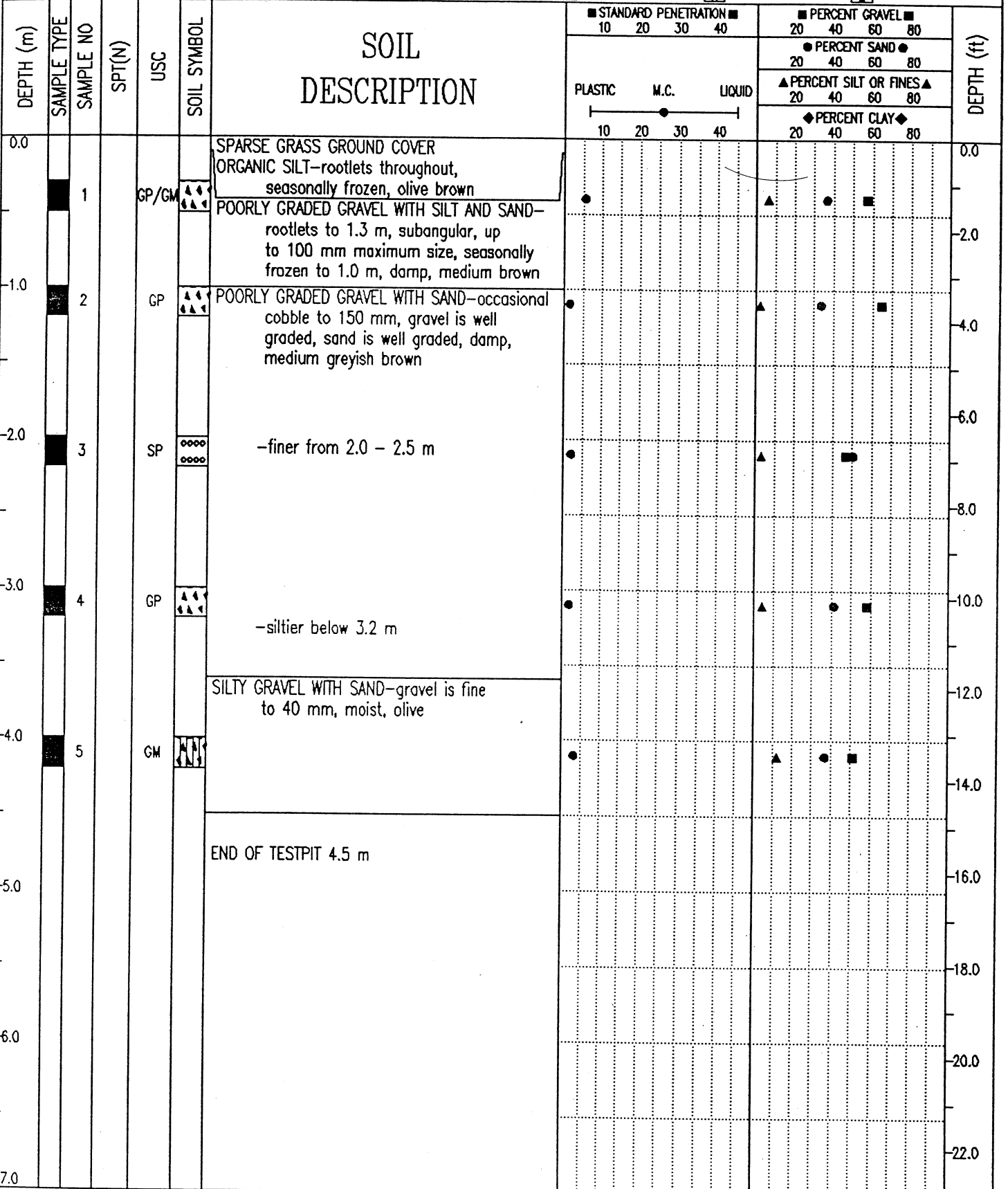


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GRANULAR SOURCE EVALUATION km 1693	CLIENT: YTG - TRANSPORTATION ENG.	BOREHOLE No: 92-019E
SILVER CITY AREA	HOE: CAT 225 TRACKED BACKHOE	Project No: 0201-10922
NORTH ALASKA HIGHWAY	UTM ZONE: 7 N6768572.00 E644108.00	ELEVATION: 0.00 (m)

SAMPLE TYPE  GRAB SAMPLE  NO RECOVERY  STANDARD PEN.  75 mm SPOON  CRREL BARREL



EBA Engineering Consultants Ltd.  
Whitehorse, Yukon

LOGGED BY: MCP  
REVIEWED BY:  
Fig. No:

COMPLETION DEPTH: 4.5 m  
COMPLETE: 92/04/22

## PARTICLE - SIZE ANALYSIS OF SOILS

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

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-019E

Depth: 0.5 m

Soil Description: POORLY GRADED GRAVEL WITH SILT & SAND (GP/GM)

Cu: 115

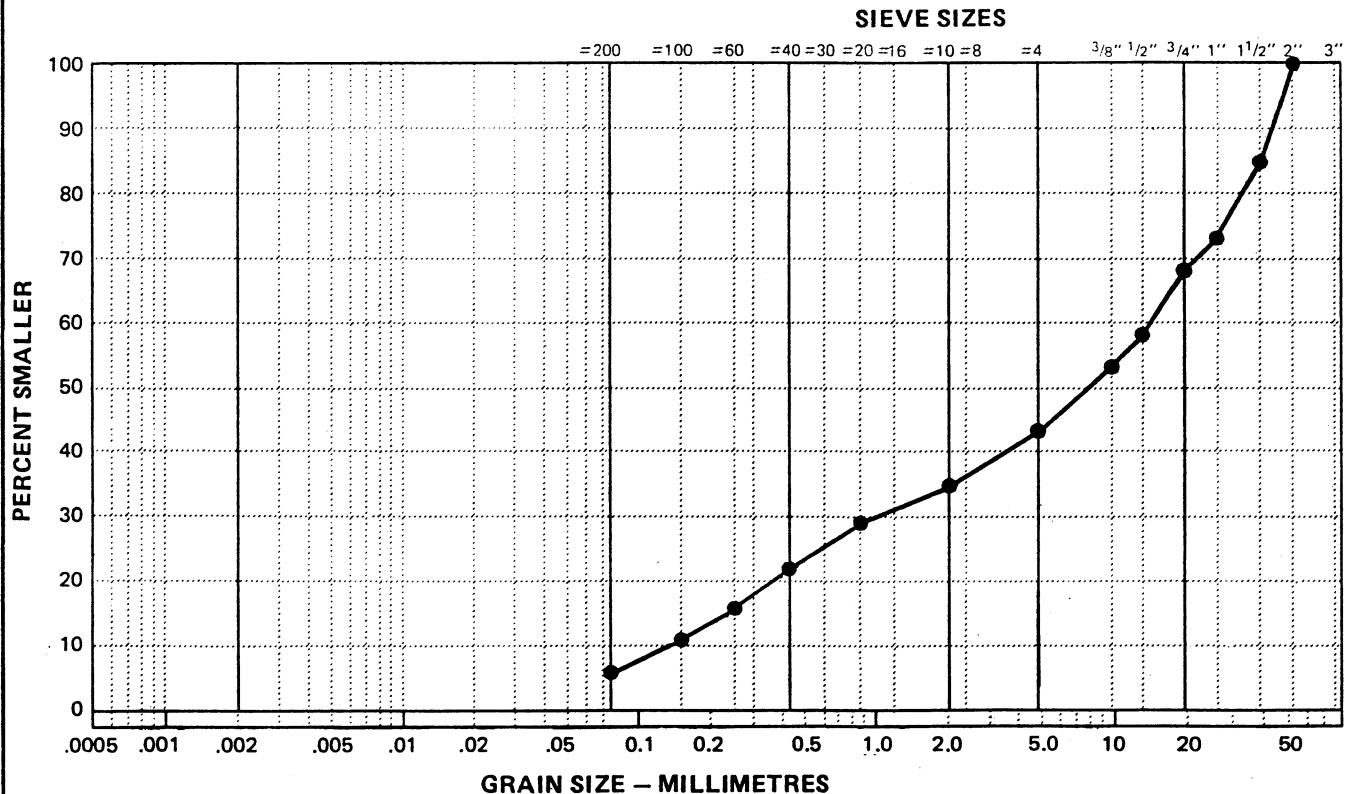
Cc: 0.5

Natural Moisture Content: 5.5 %

Remarks: Gravel 57.1%  
Sand 36.6%  
Silt 6.3%

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

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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## PARTICLE - SIZE ANALYSIS OF SOILS

Project: Granular Source Evaluation  
km 1693 North Alaska Highway

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-019E

Depth: 1.0 m

Soil Description: POORLY GRADED GRAVEL WITH SAND (GP)

Cu: 40

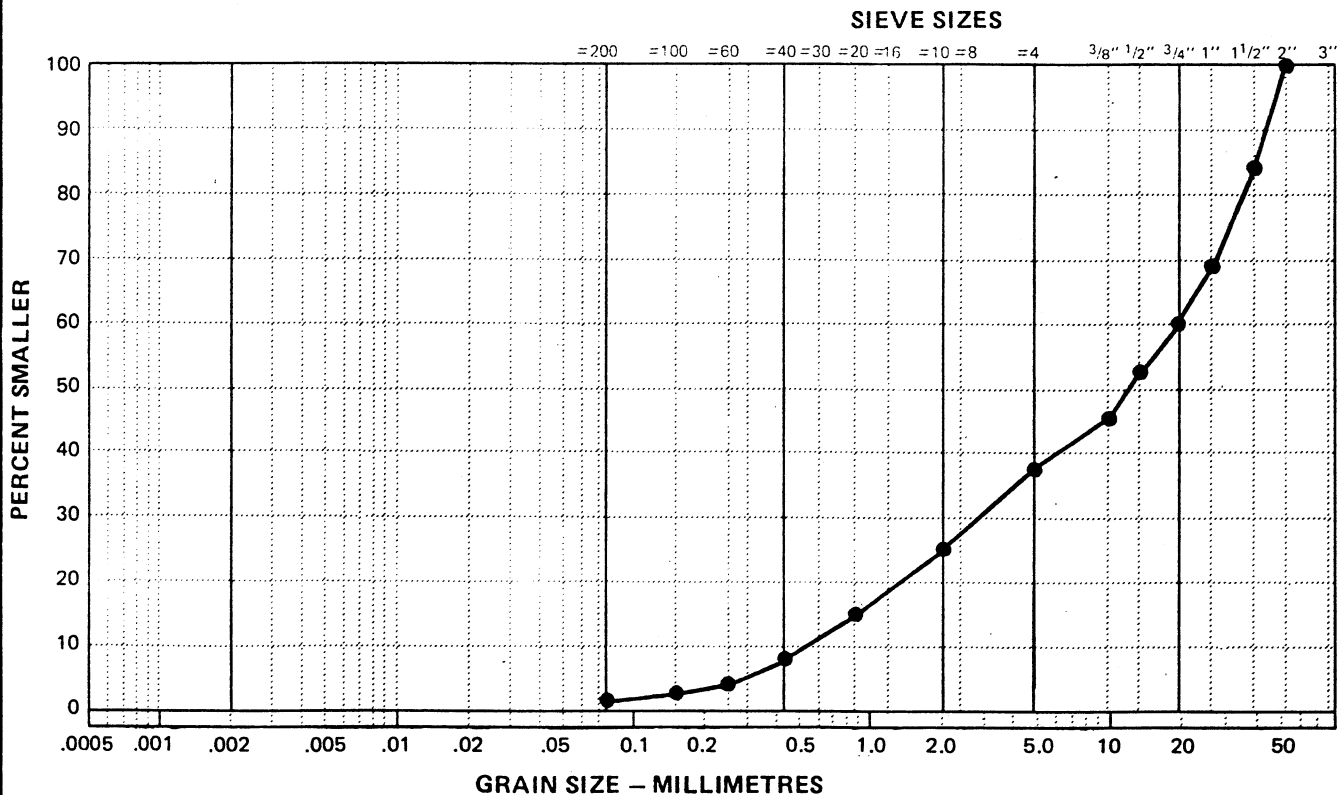
Cc: 0.9

Natural Moisture Content: 1.5 %

Remarks: Gravel 64.4%  
Sand 33.6%  
Silt 2.0%

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

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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# EBA Engineering Consultants Ltd.

## PARTICLE - SIZE ANALYSIS OF SOILS

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

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-019E

Depth: 2.0 m

Soil Description: POORLY GRADED SAND WITH GRAVEL (SP)

Cu: 16.3

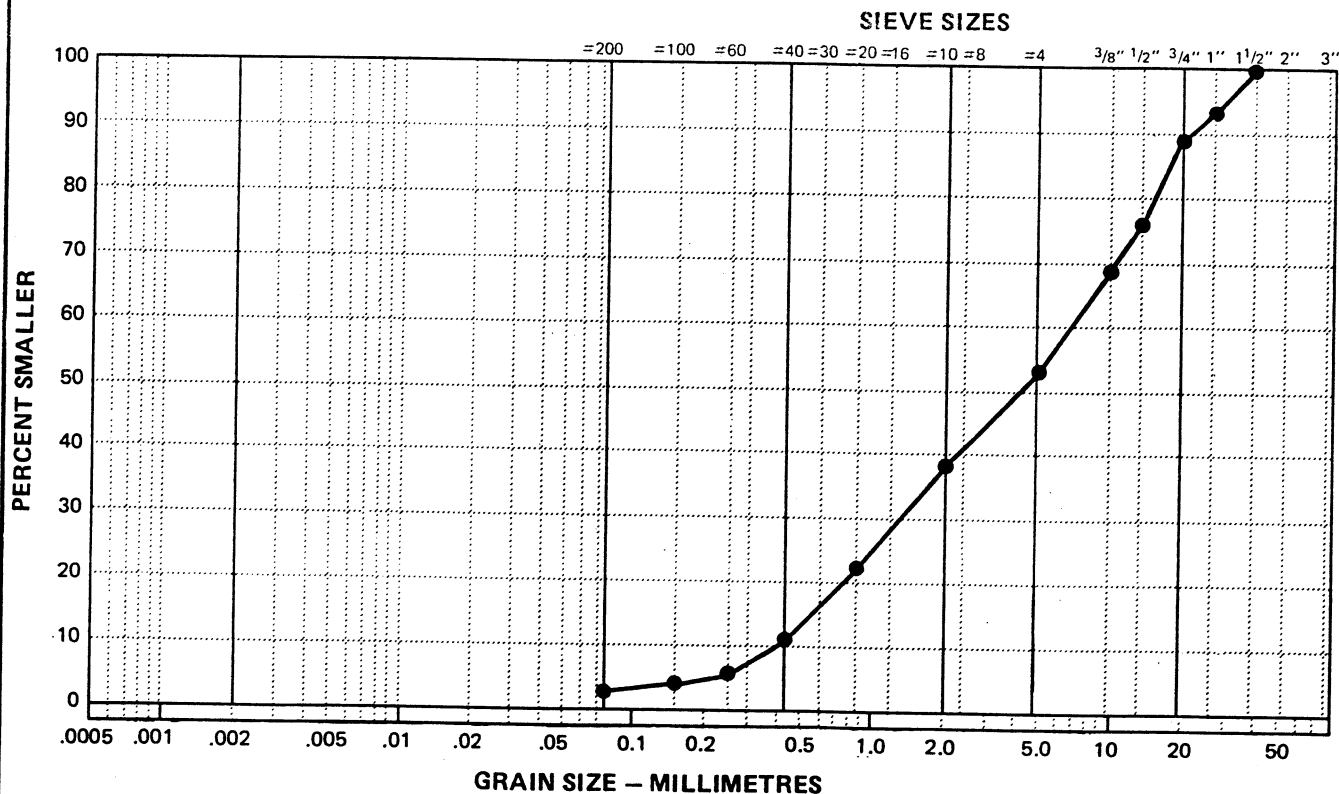
Cc: 0.9

Natural Moisture Content: 2.0 %

Remarks: Gravel 46.6%  
Sand 50.2%  
Silt 3.2%

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

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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# EBA Engineering Consultants Ltd.

## PARTICLE - SIZE ANALYSIS OF SOILS

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

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-019E

Depth: 3.0 m

Soil Description: POORLY GRADED GRAVEL WITH SAND (GP)

Cu: 22.2

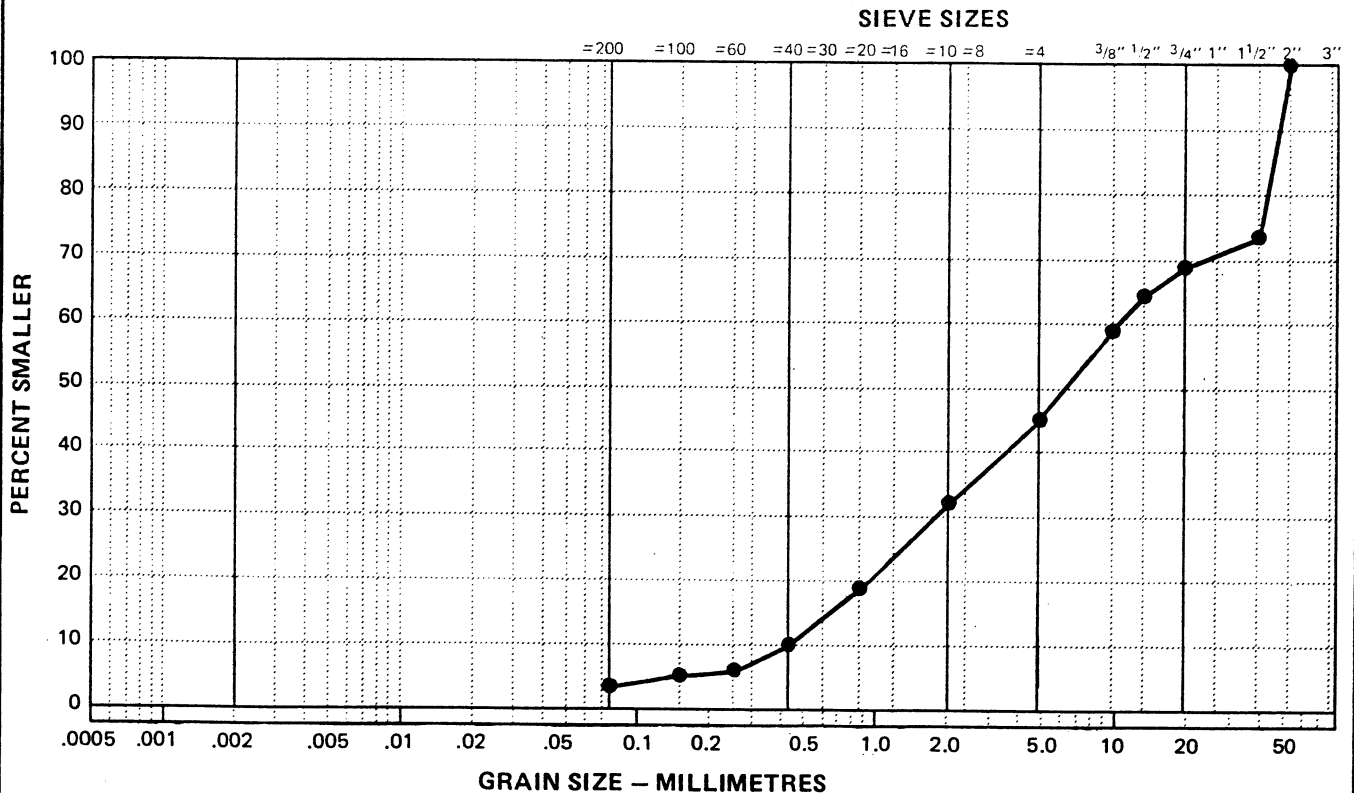
Cc: 0.7

Natural Moisture Content: 1.8 %

Remarks: Gravel 58.1%  
Sand 41.1%  
Silt 4.3%

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

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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## PARTICLE - SIZE ANALYSIS OF SOILS

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

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-019E

Depth: 4.0 m

Soil Description: SILTY GRAVEL WITH SAND (GM)

Cu: \_\_\_\_\_

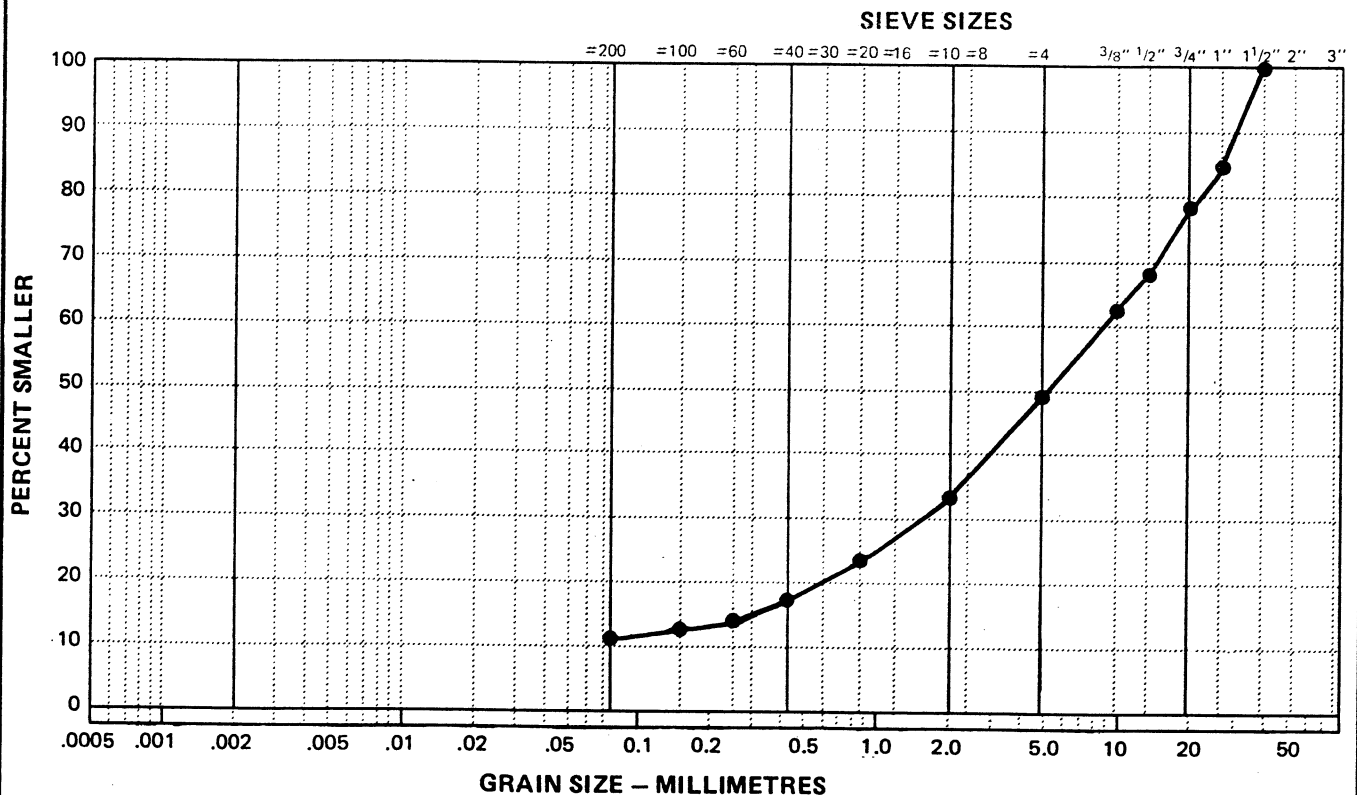
Cc: \_\_\_\_\_

Natural Moisture Content: 3.2 %

Remarks: Gravel 51.2%  
Sand 36.7%  
Silt 12.1%

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

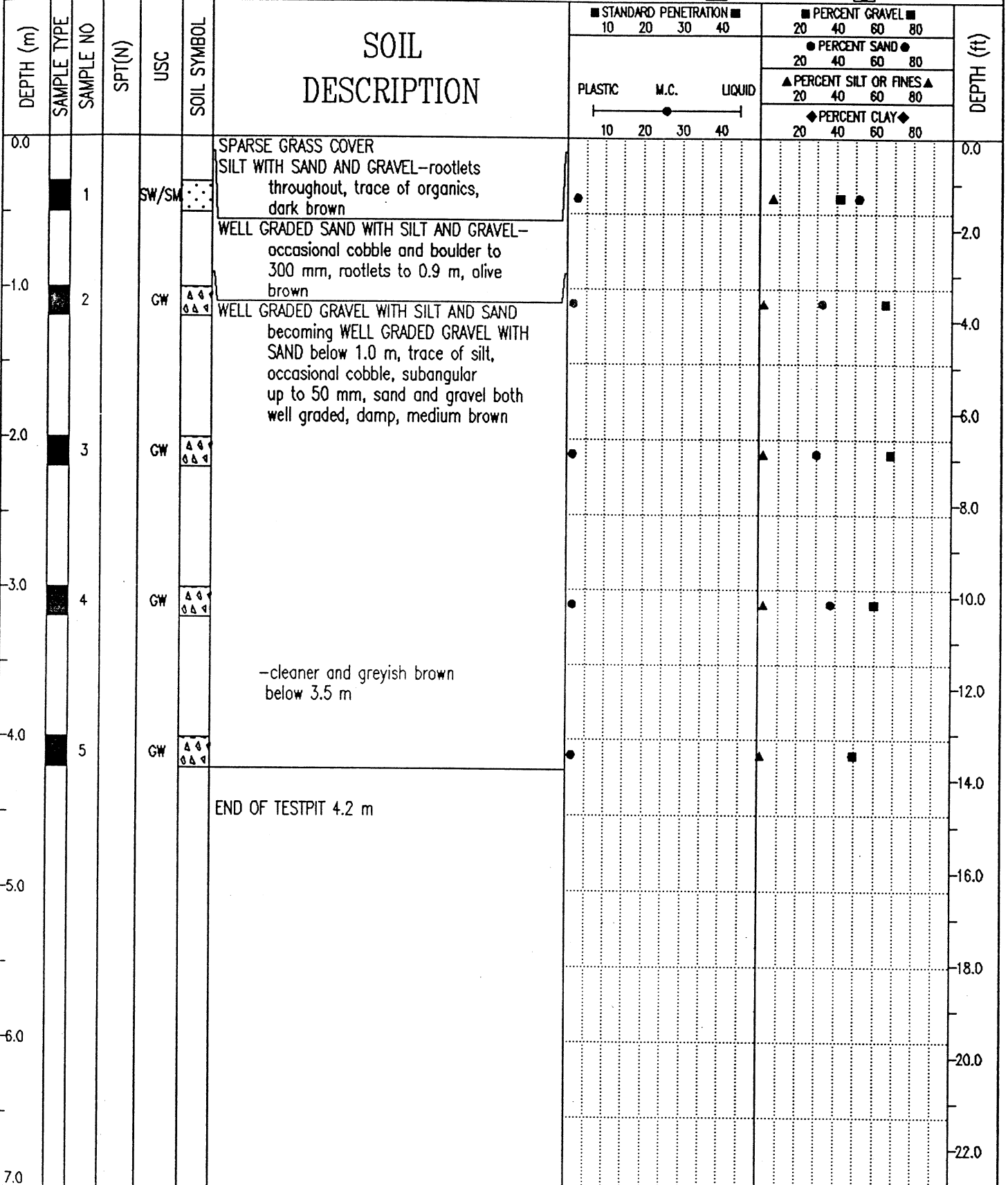
CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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GRANULAR SOURCE EVALUATION km 1693	CLIENT: YTG - TRANSPORTATION ENG.	BOREHOLE No: 92-020E
SILVER CITY AREA	HOE: CAT 225 TRACKED BACKHOE	Project No: 0201-10922
NORTH ALASKA HIGHWAY	UTM ZONE: 7 N6768724.00 E644176.00	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB SAMPLE <input type="checkbox"/> NO RECOVERY <input checked="" type="checkbox"/> STANDARD PEN.	<input type="checkbox"/> 75 mm SPOON <input type="checkbox"/> CRREL BARREL <input type="checkbox"/>



EBA Engineering Consultants Ltd.  
Whitehorse, Yukon

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

## PARTICLE - SIZE ANALYSIS OF SOILS

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

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-020E

Depth: 0.5 m

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

Cu: 29.4

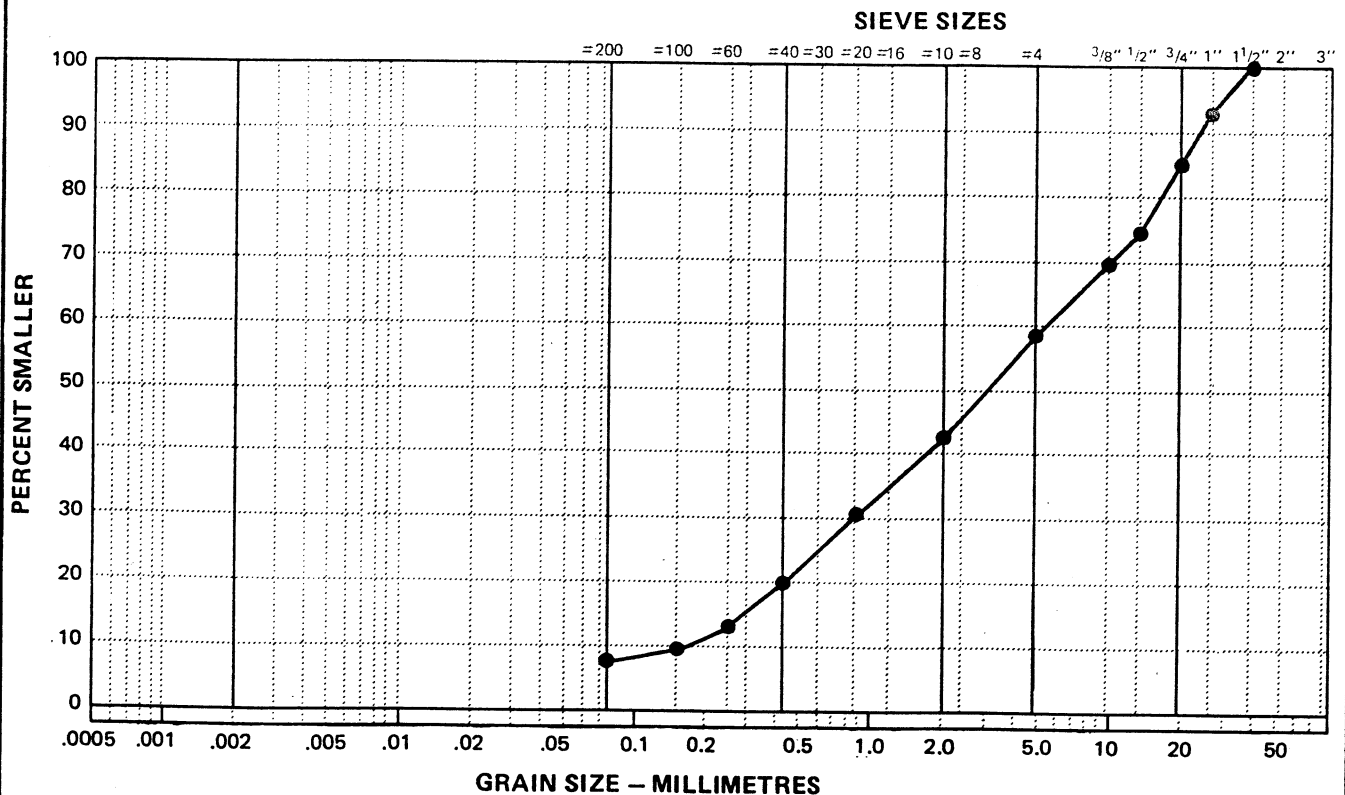
Cc: 1.0

Natural Moisture Content: 2.6 %

Remarks: Gravel 41.8%  
Sand 51.5%  
Silt 6.7%

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

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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# EBA Engineering Consultants Ltd.

## PARTICLE - SIZE ANALYSIS OF SOILS

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

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-020E

Depth: 1.0 m

Soil Description: WELL GRADED GRAVEL WITH SAND (GW)

Cu: 20

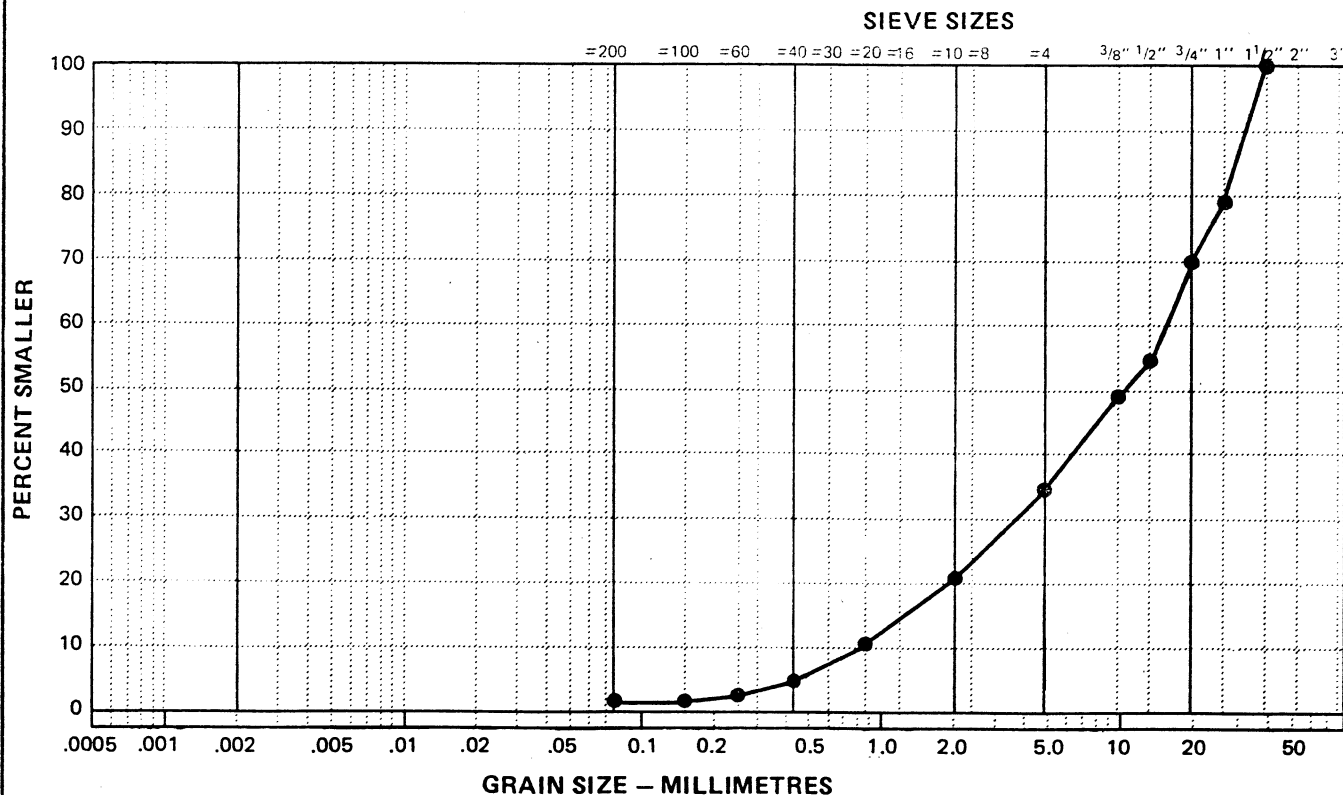
Cc: 1.0

Natural Moisture Content: 1.6 %

Remarks: Gravel 65.3%  
Sand 32.6%  
Silt 2.1%

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

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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## PARTICLE - SIZE ANALYSIS OF SOILS

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

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-020E

Depth: 2.0 m

Soil Description: WELL GRADED GRAVEL WITH SAND (GW)

Cu: 26.7

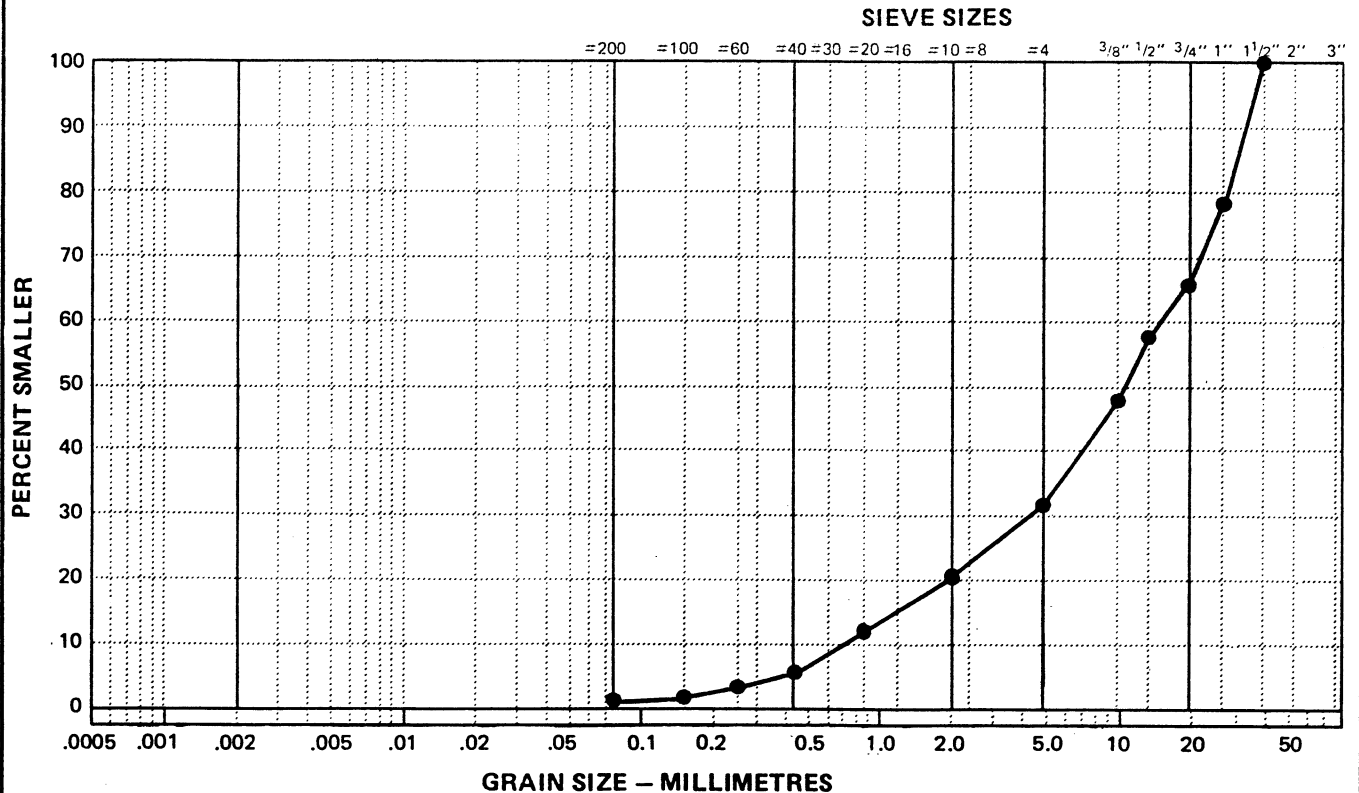
Cc: 1.7

Natural Moisture Content: 1.5 %

Remarks: Gravel 68.1%  
 Sand 29.8%  
 Silt 2.1%

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

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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

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

## PARTICLE - SIZE ANALYSIS OF SOILS

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

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-020E

Depth: 3.0 m

Soil Description: WELL GRADED GRAVEL WITH SAND (GW)

Cu: 30

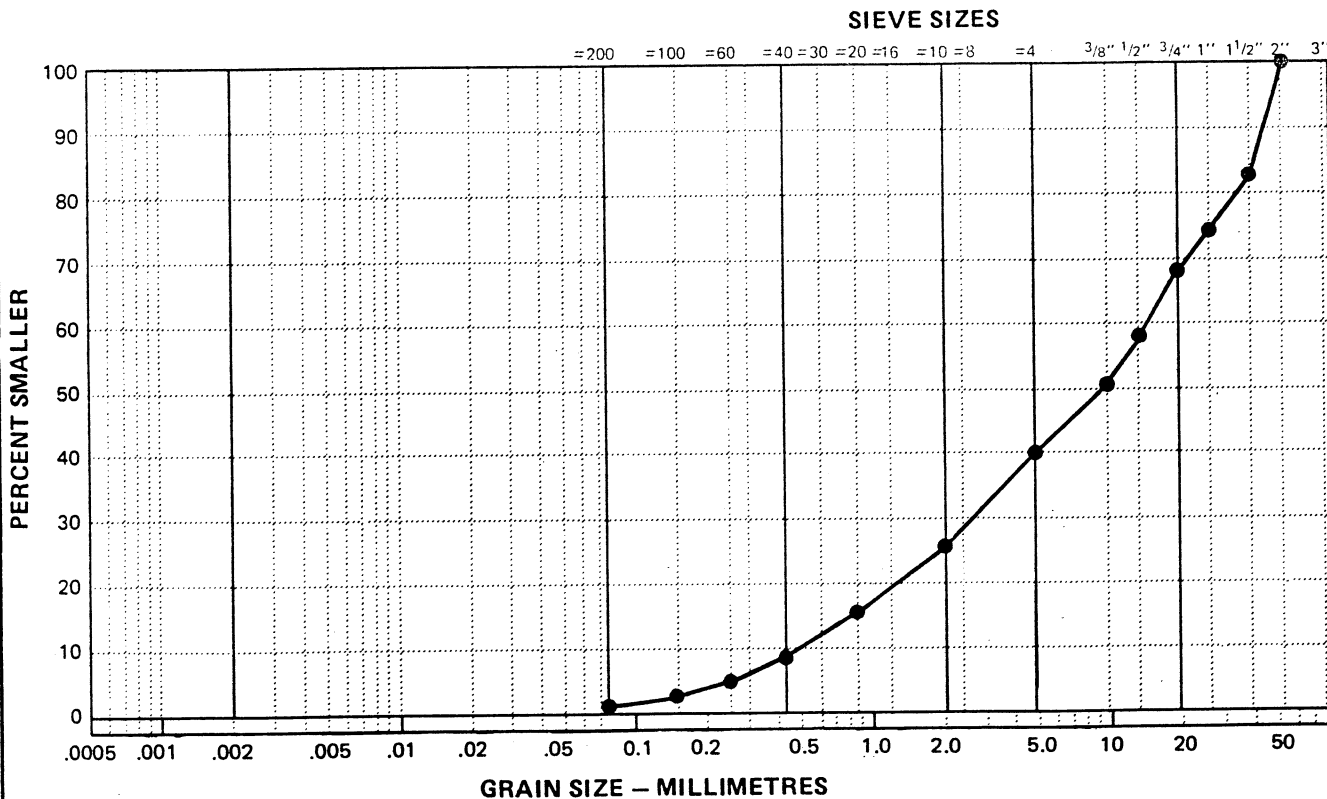
Cc: 1.2

Natural Moisture Content: 1.6 %

Remarks: Gravel 60.0%  
Sand 37.4%  
Silt 2.6%

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

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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## PARTICLE - SIZE ANALYSIS OF SOILS

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

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-020E

Depth: 4.0 m

Soil Description: WELL GRADED GRAVEL AND SAND (GW)

Cu: 8.9

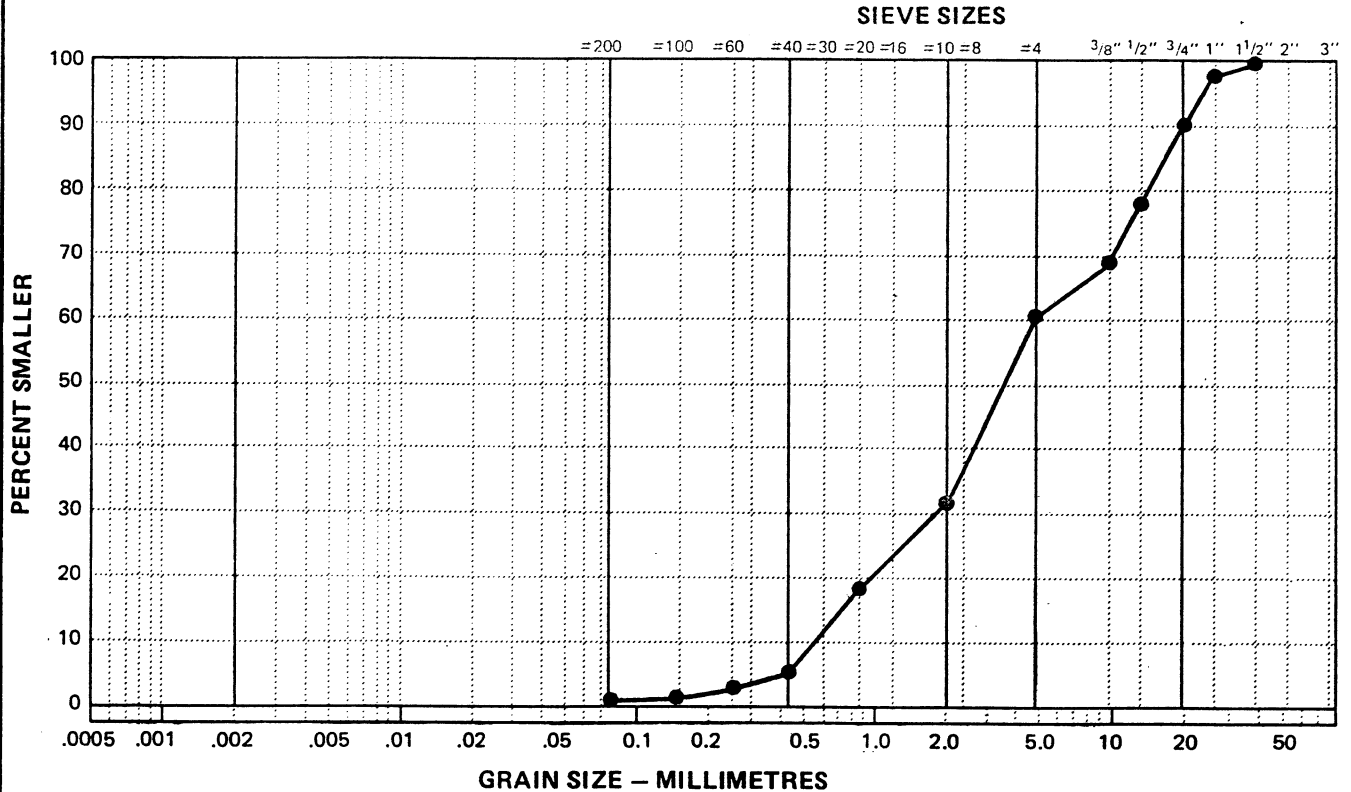
Cc: 1.2

Natural Moisture Content: 1.5 %

Remarks: Gravel 49.4%  
Sand 49.3%  
Silt 1.3%

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

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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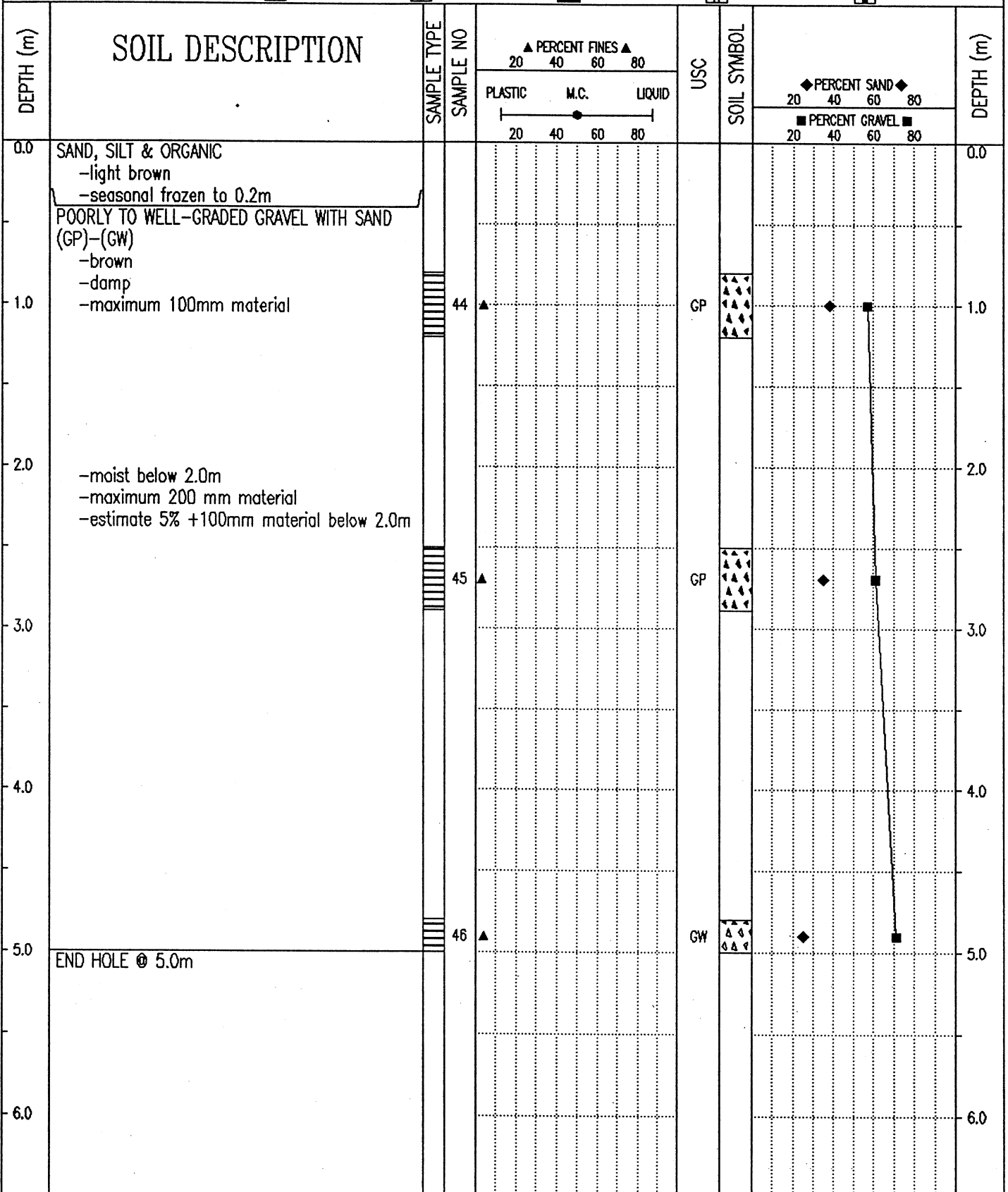
The testing services reported herein have been performed by an EBA technician to recognized industry standards, unless otherwise noted. No other warranty is made. These data do not include or represent any interpretation or opinion of specification compliance or material suitability. Should engineering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

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

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

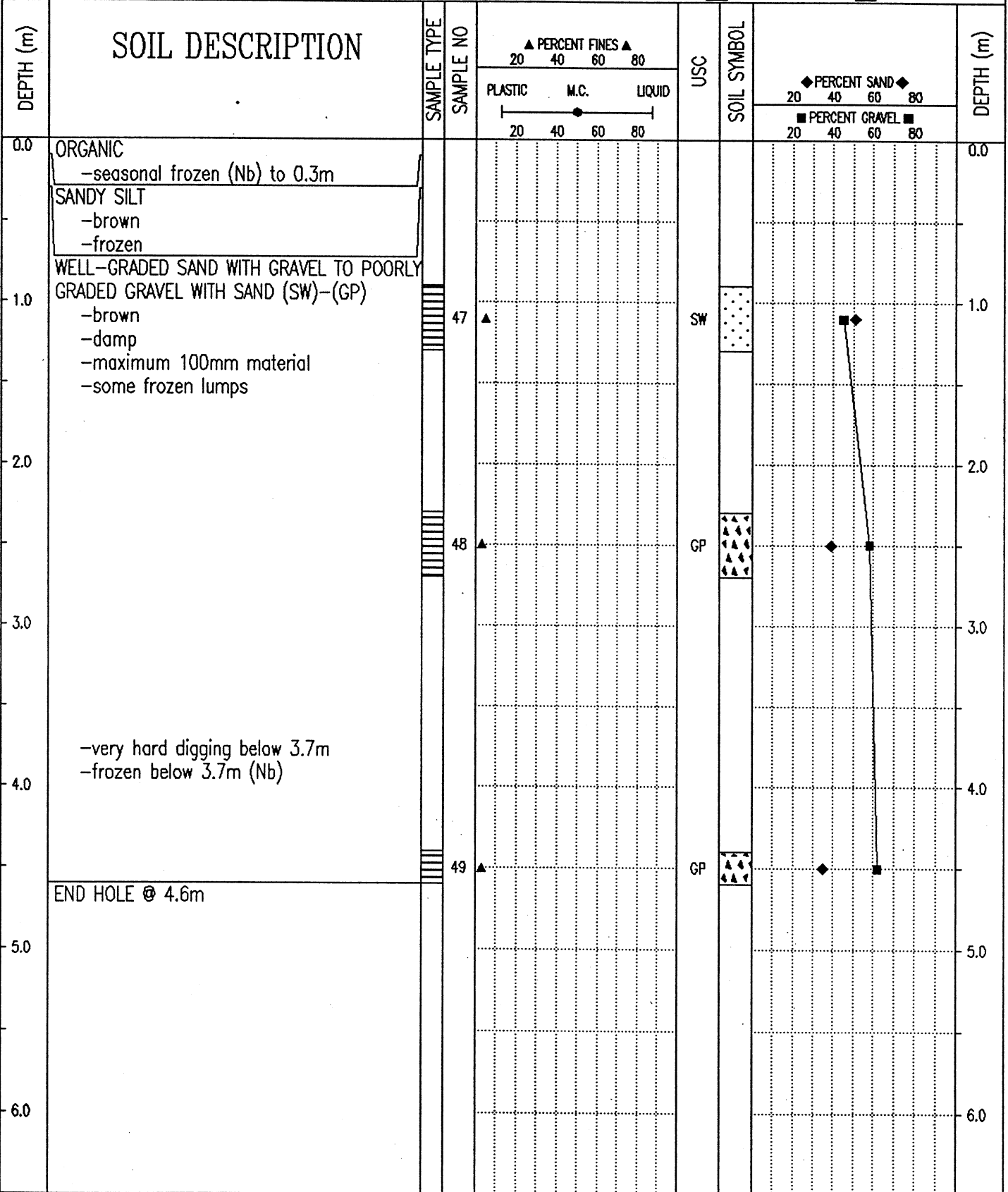
**Test Pit Logs**

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST PIT NO: 583-1520
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
CAT 320 EXCAVATOR	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)
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Government of Yukon Transportation Engineering	LOGGED BY: D.T.	COMPLETION DEPTH: 5.0 m
	REVIEWED BY:	COMPLETE: 01/03/12
	Fig. No: 115-G-07	Page 1 of 1

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

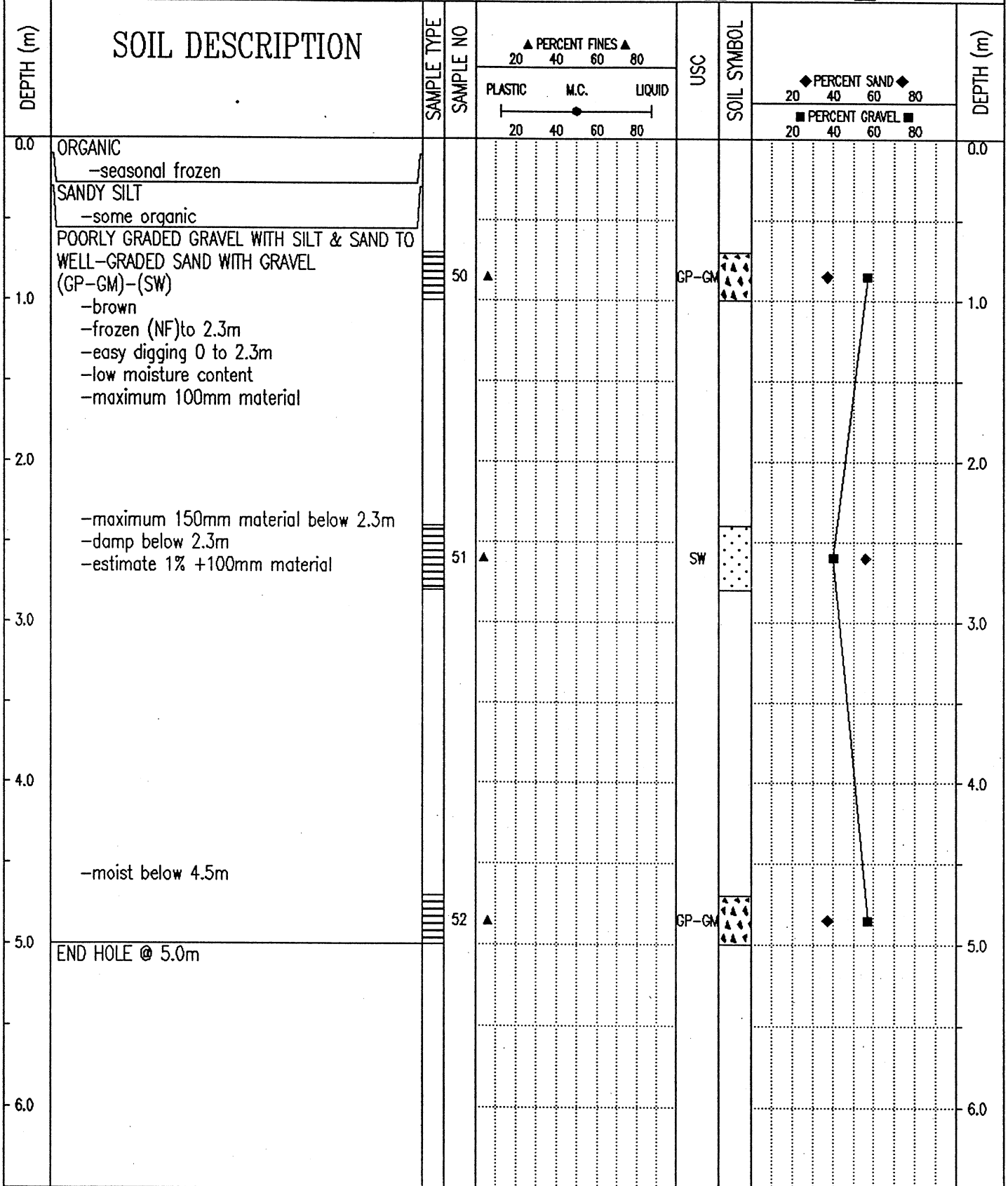
Fig. No: 115-G-07

COMPLETION DEPTH: 4.6 m

COMPLETE: 01/03/12

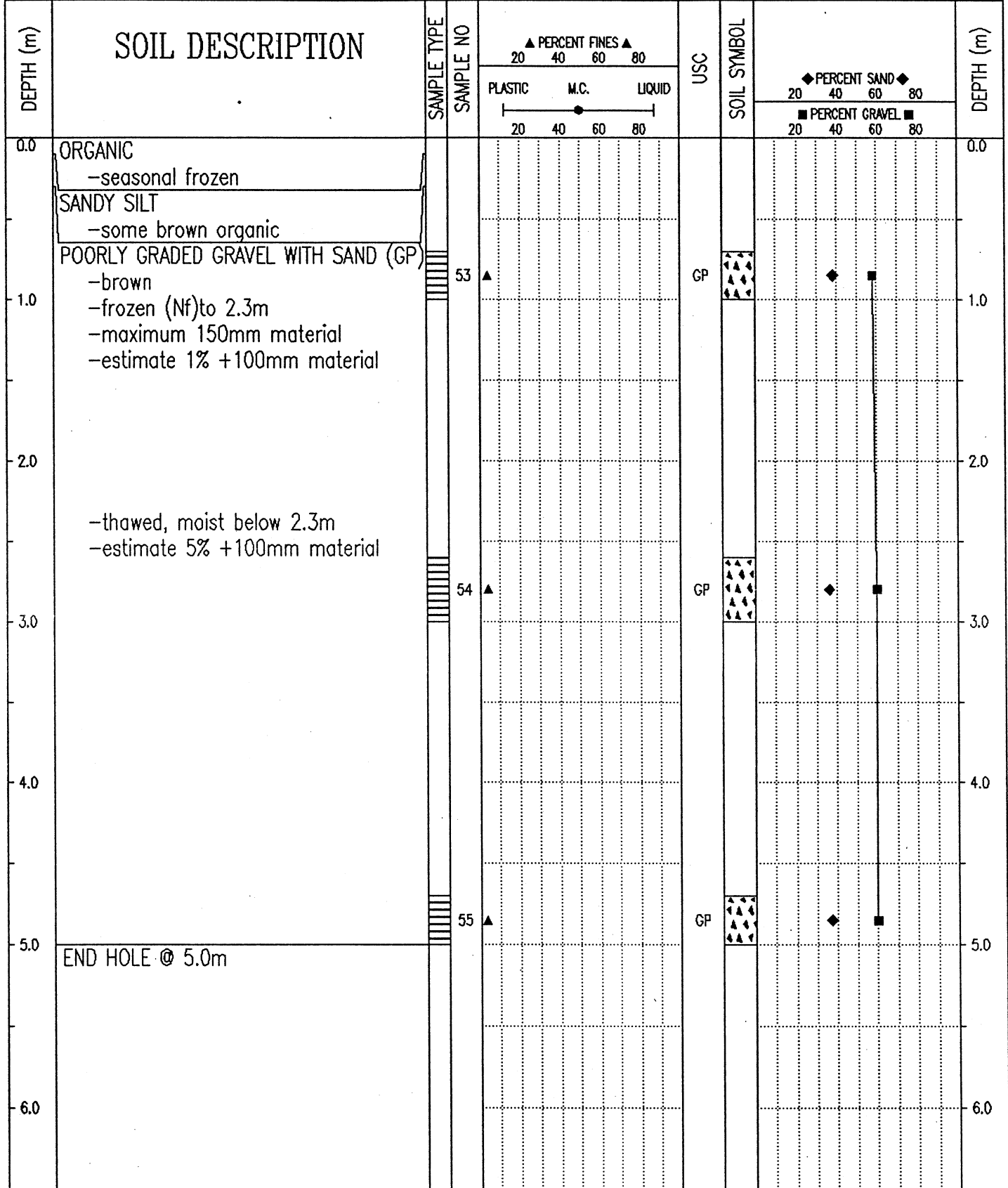
SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST PIT NO: 583-1522
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
CAT 320 EXCAVATOR	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)

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



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

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

LOGGED BY: D.T.

REVIEWED BY:

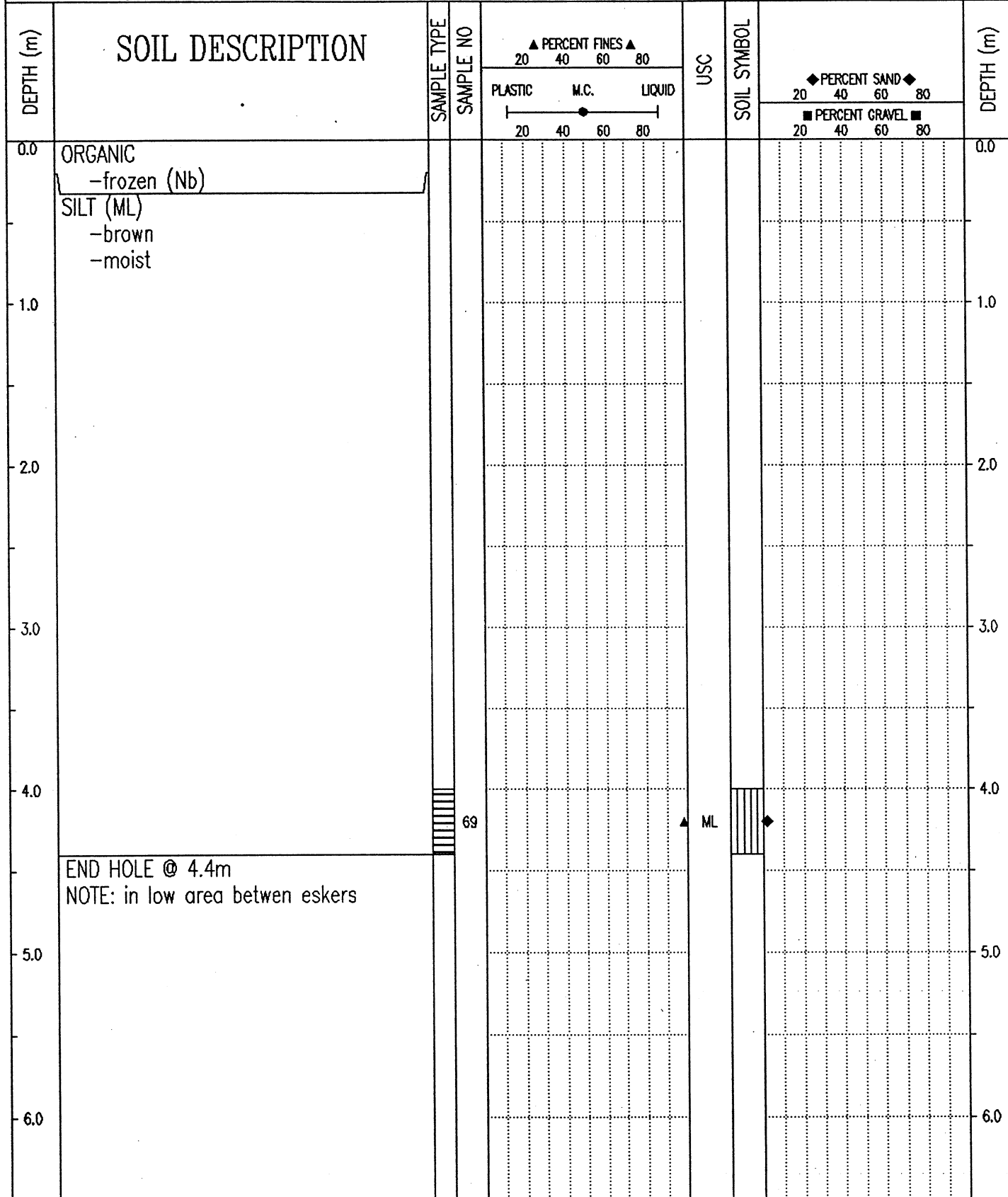
Fig. No: 115-G-07

COMPLETION DEPTH: 5.0 m

COMPLETE: 01/03/12

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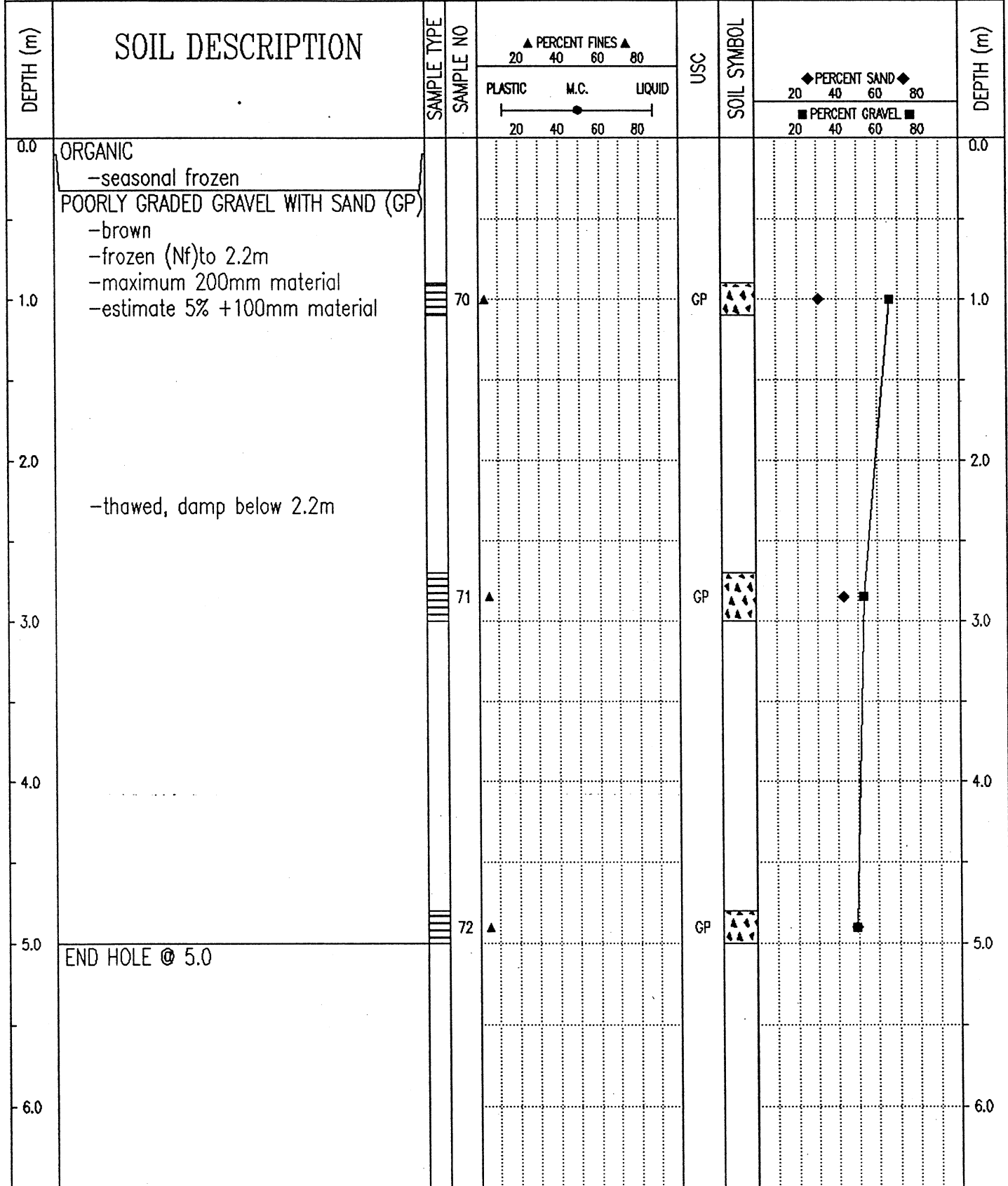
SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST PIT NO: 583-1529
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
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LOGGED BY: D.T.	COMPLETION DEPTH: 4.4 m
REVIEWED BY:	COMPLETE: 01/03/13
Fig. No: 115-G-07	Page 1 of 1

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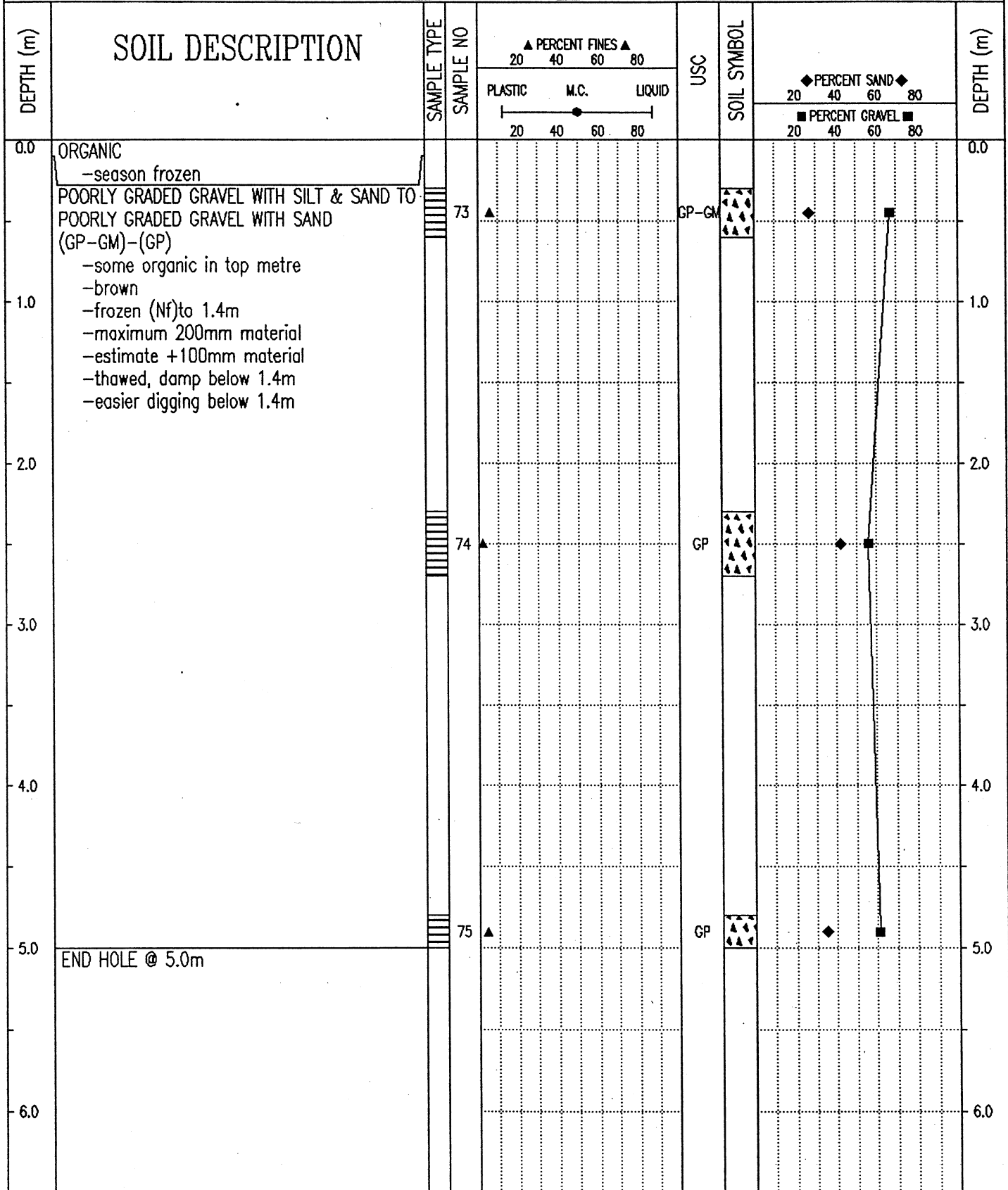


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LOGGED BY: D.T.  
REVIEWED BY:  
Fig. No: 115-G-07

COMPLETION DEPTH: 5.0 m  
COMPLETE: 01/03/13  
Page 1 of 1

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

LOGGED BY: D.T.

REVIEWED BY:

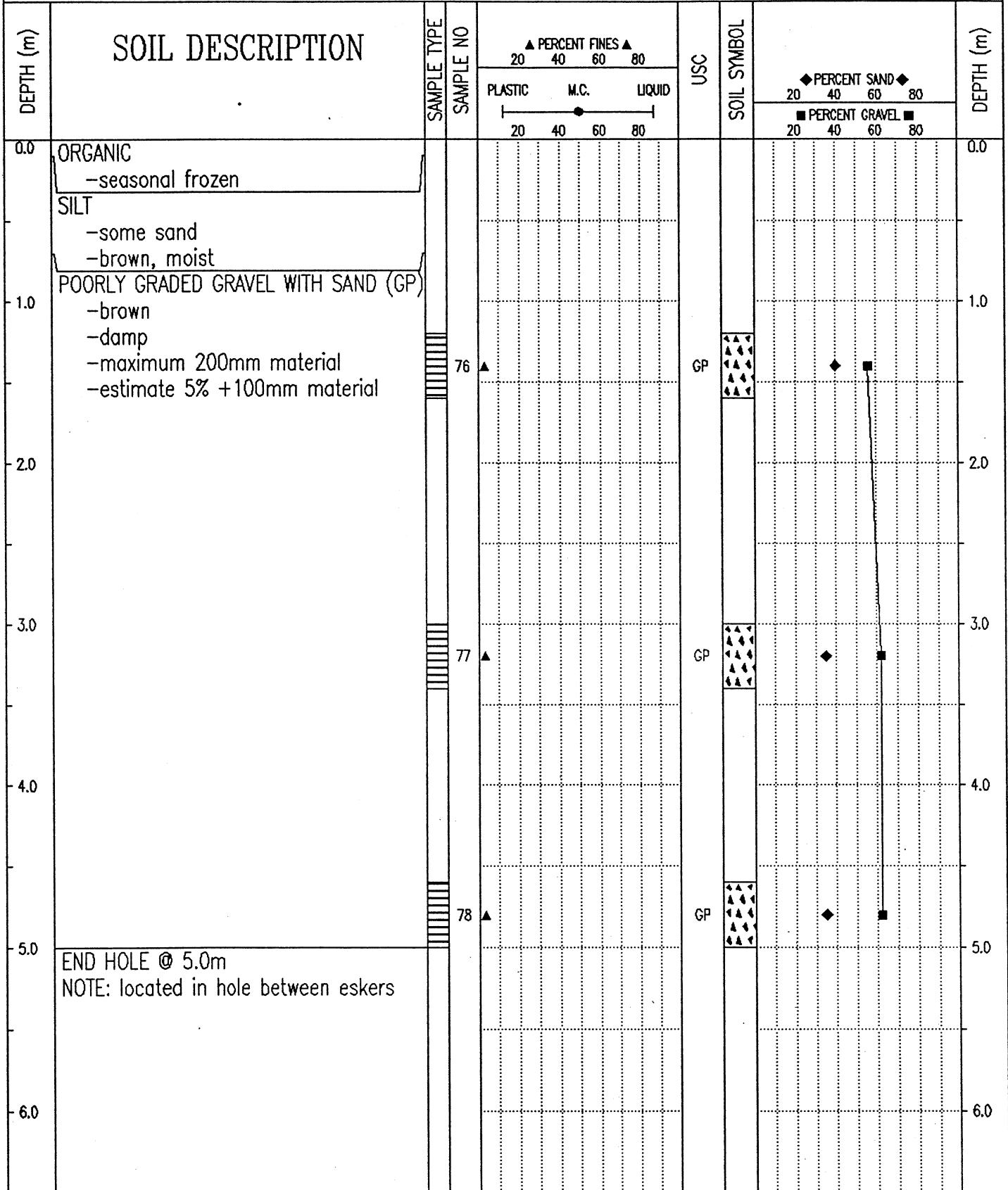
Fig. No: 115-G-07

COMPLETION DEPTH: 5.0 m

COMPLETE: 01/03/13

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

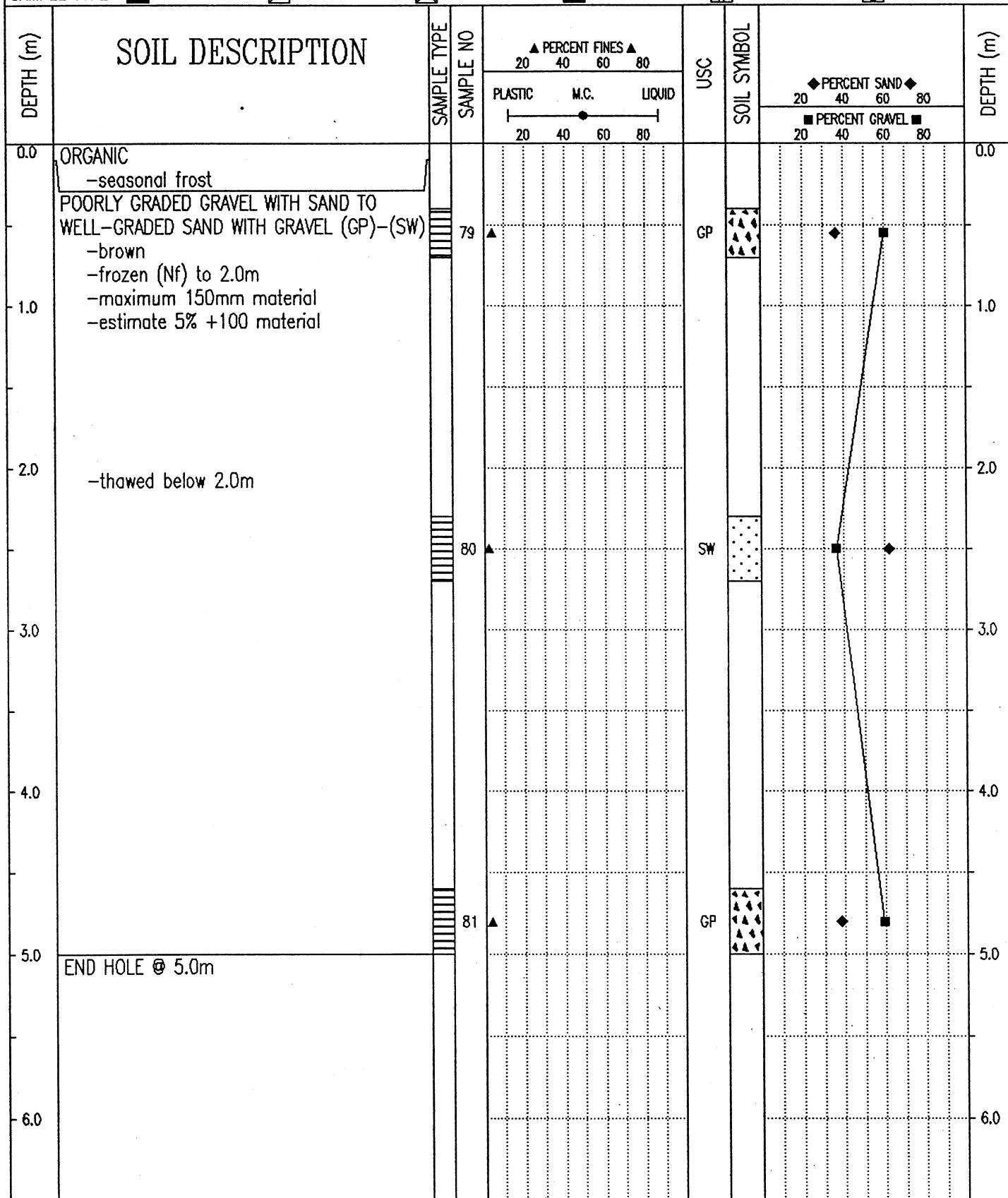
Fig. No: 115-G-07

COMPLETION DEPTH: 5.0 m

COMPLETE: 01/03/13

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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST PIT NO: 583-1533
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
CAT 320 EXCAVATOR	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)
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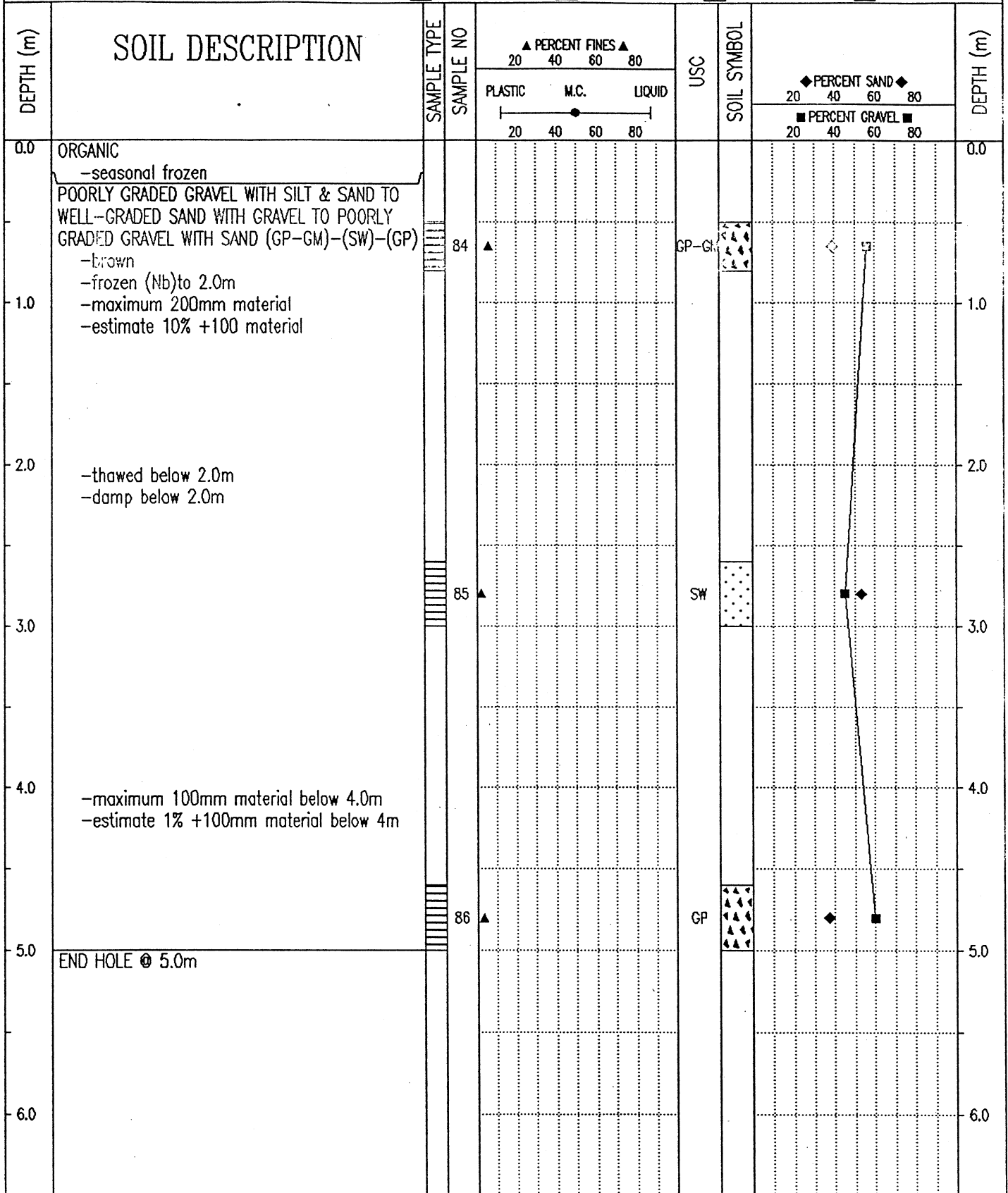
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COMPLETION DEPTH: 5.0 m

COMPLETE: 01/03/13

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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST PIT NO: 583-1535
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
CAT 320 EXCAVATOR	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)
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Fig. No: 115-G-07

COMPLETION DEPTH: 5.0 m

COMPLETE: 01/03/13

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SUBSURFACE EXPLORATION & TESTING REPORT		SHAKWAK SEG 9 KM 1694 A/H		TEST PIT NO: 583-1536								
ENGINEERING CAPITAL		SILVER CREEK RESERVE		Project No: 092-202101-0363								
CAT 320 EXCAVATOR		LOCATION : SEE PLAN / GPS		ELEVATION: 0.00 (m)								
SAMPLE TYPE		RETURN		S.P.T.								
		AUGER		BULK								
		TUBE		CORE								
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES ▲			USC	SOIL SYMBOL	PERCENT SAND ◆			DEPTH (m)
				PLASTIC	M.C.	LIQUID			PERCENT GRAVEL ■			
0.0	ORGANIC -seasonal frozen										0.0	
	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)											
1.0	-brown -frozen (Nf) to 1.9m -maximum 150mm material -estimate 5% +100mm material		87				GP-GM				1.0	
2.0	-thawed & easier digging below 1.9m										2.0	
3.0											3.0	
4.0	-damp below 4.0m										4.0	
5.0	END HOLE @ 5.0m		88				GP-GM				5.0	
6.0											6.0	

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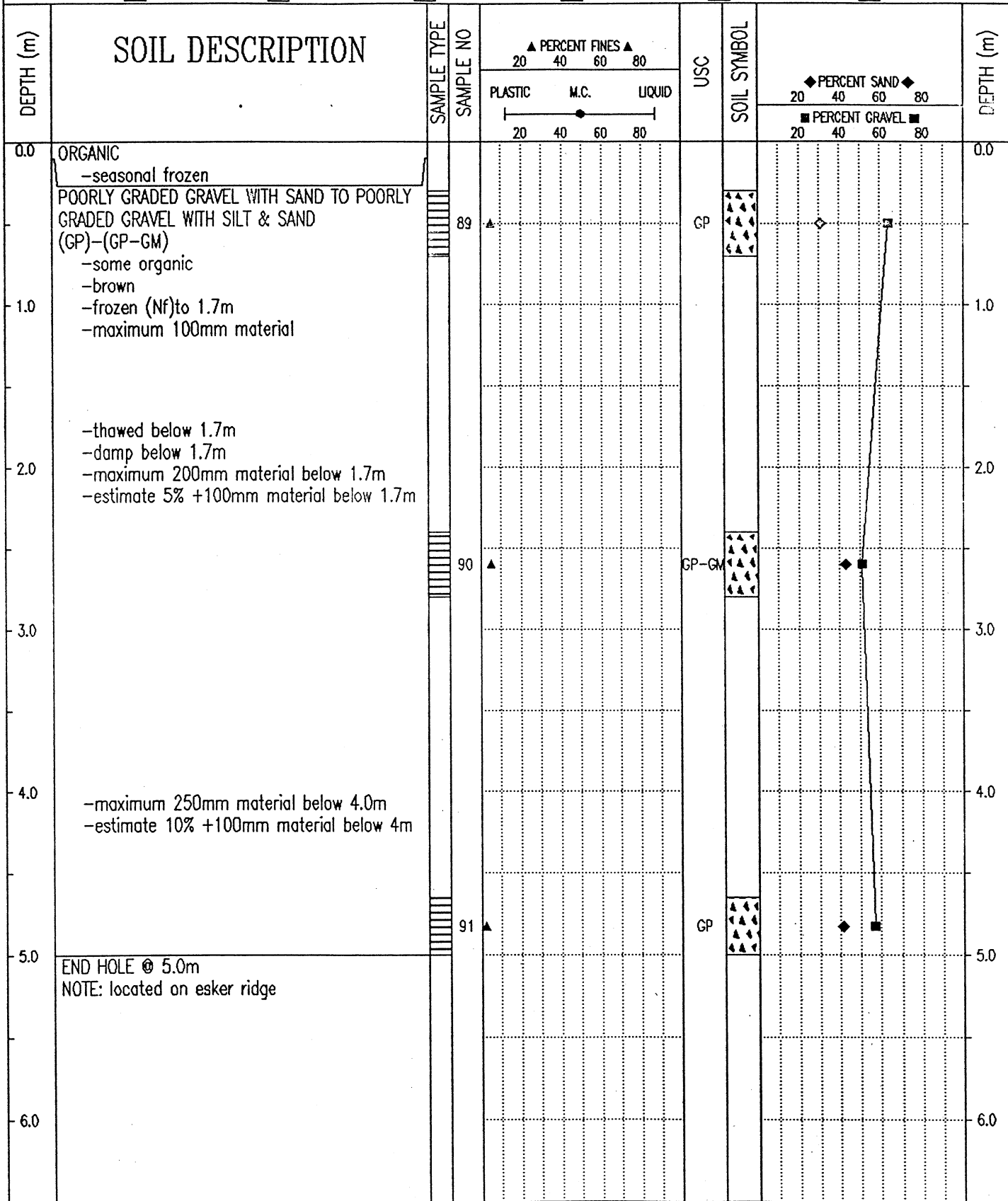
Fig. No: 115-G-07

COMPLETION DEPTH: 5.0 m

COMPLETE: 01/03/13

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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST PIT NO: 583-1537
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
CAT 320 EXCAVATOR	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)
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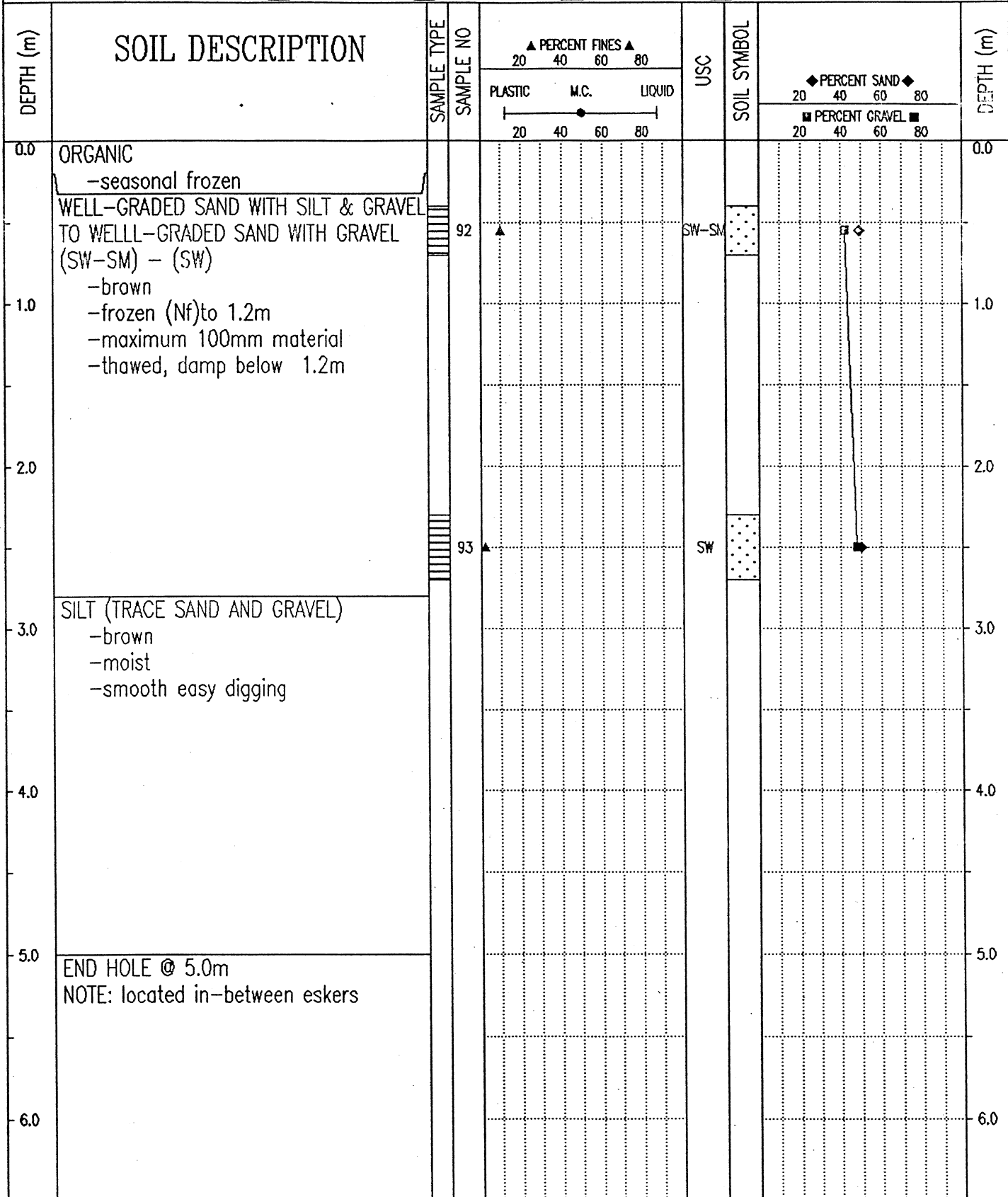
Fig. No: 115-G-07

COMPLETION DEPTH: 5.0 m

COMPLETE: 01/03/13

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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST PIT NO: 583-1538
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
CAT 320 EXCAVATOR	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)
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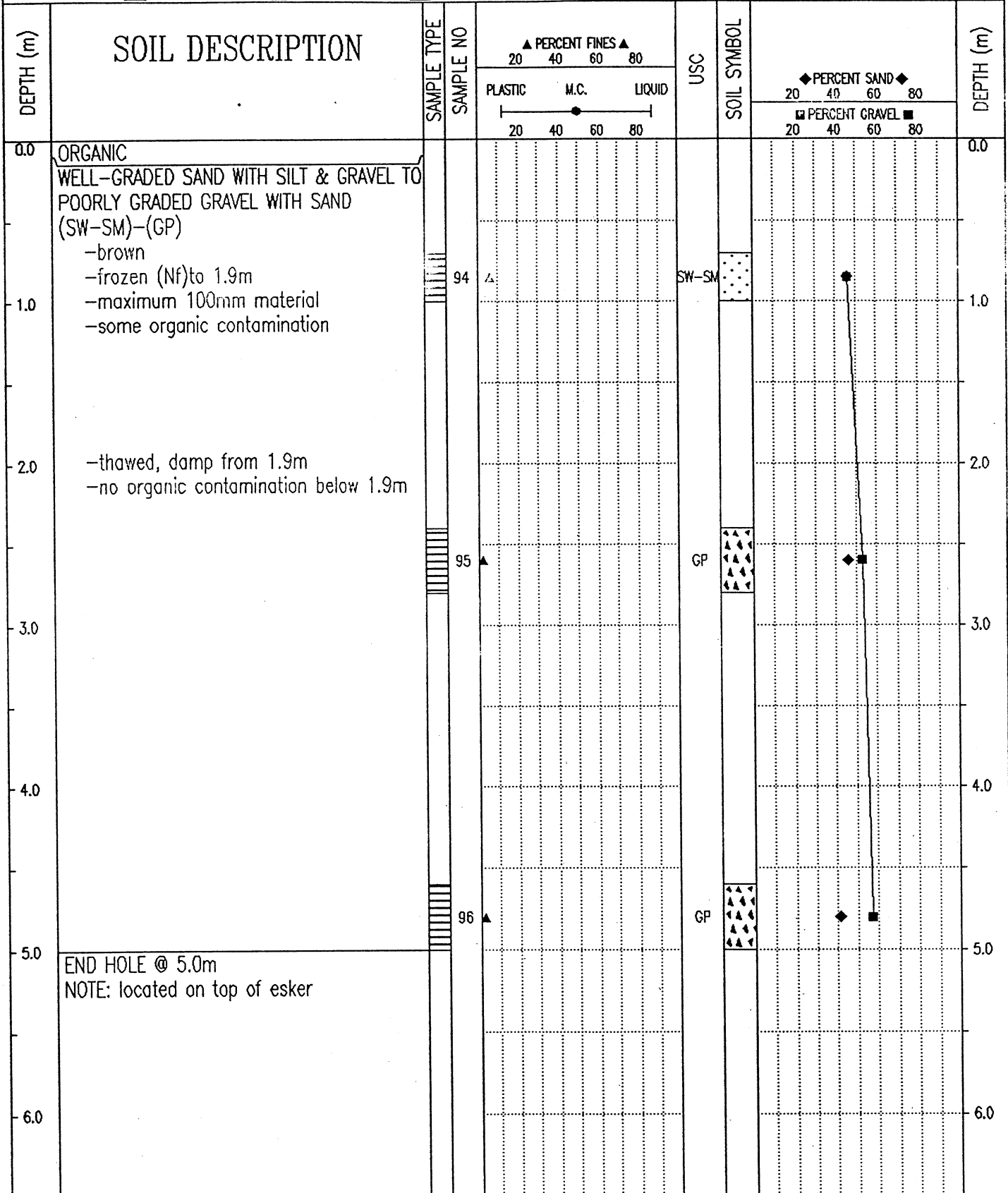
Fig. No: 115-G-07

COMPLETION DEPTH: 5.0 m

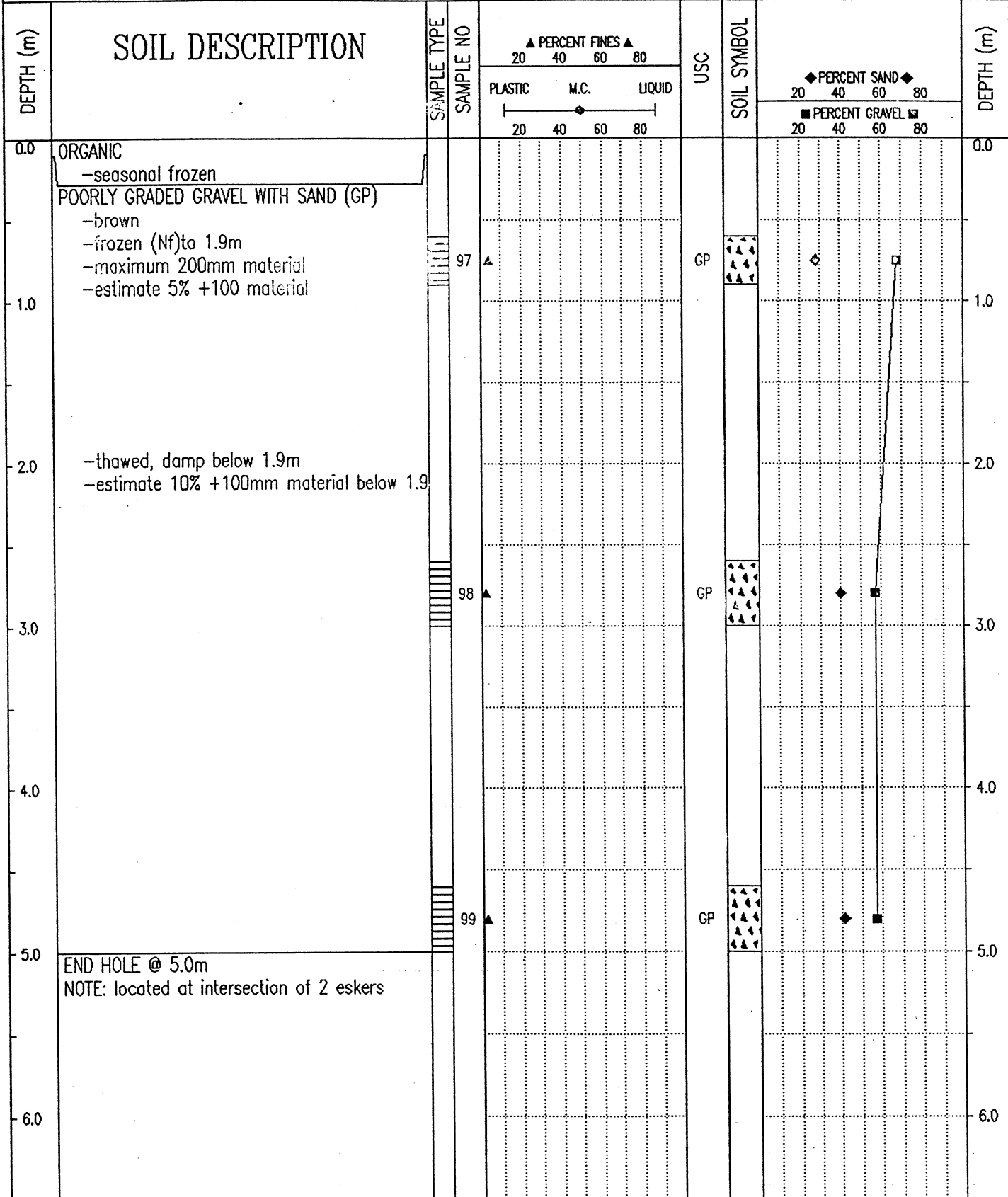
COMPLETE: 01/03/13

Page 1 of 1

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



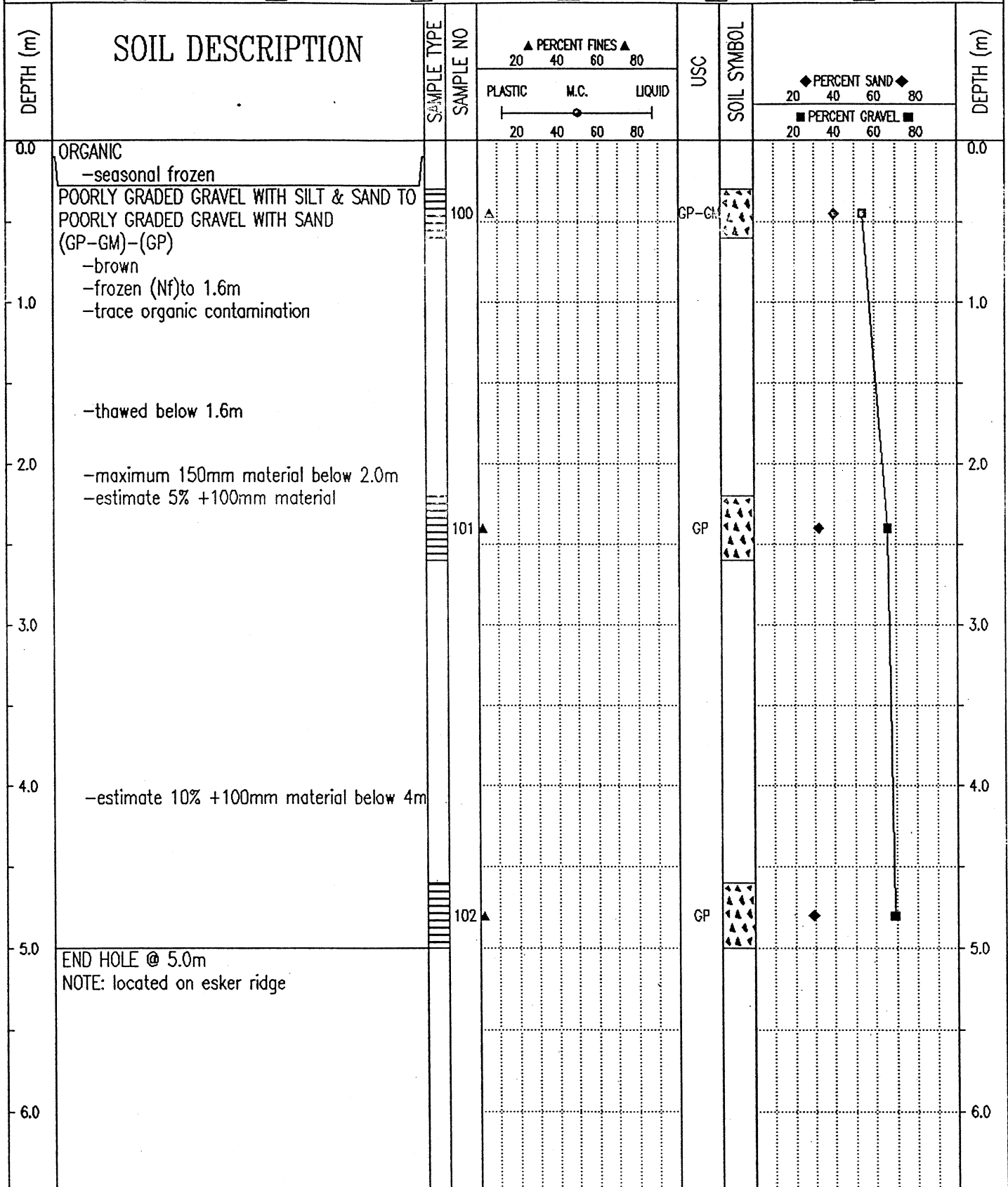
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ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
CAT 320 EXCAVATOR	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)
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	<input type="checkbox"/> TUBE	<input type="checkbox"/> CORE



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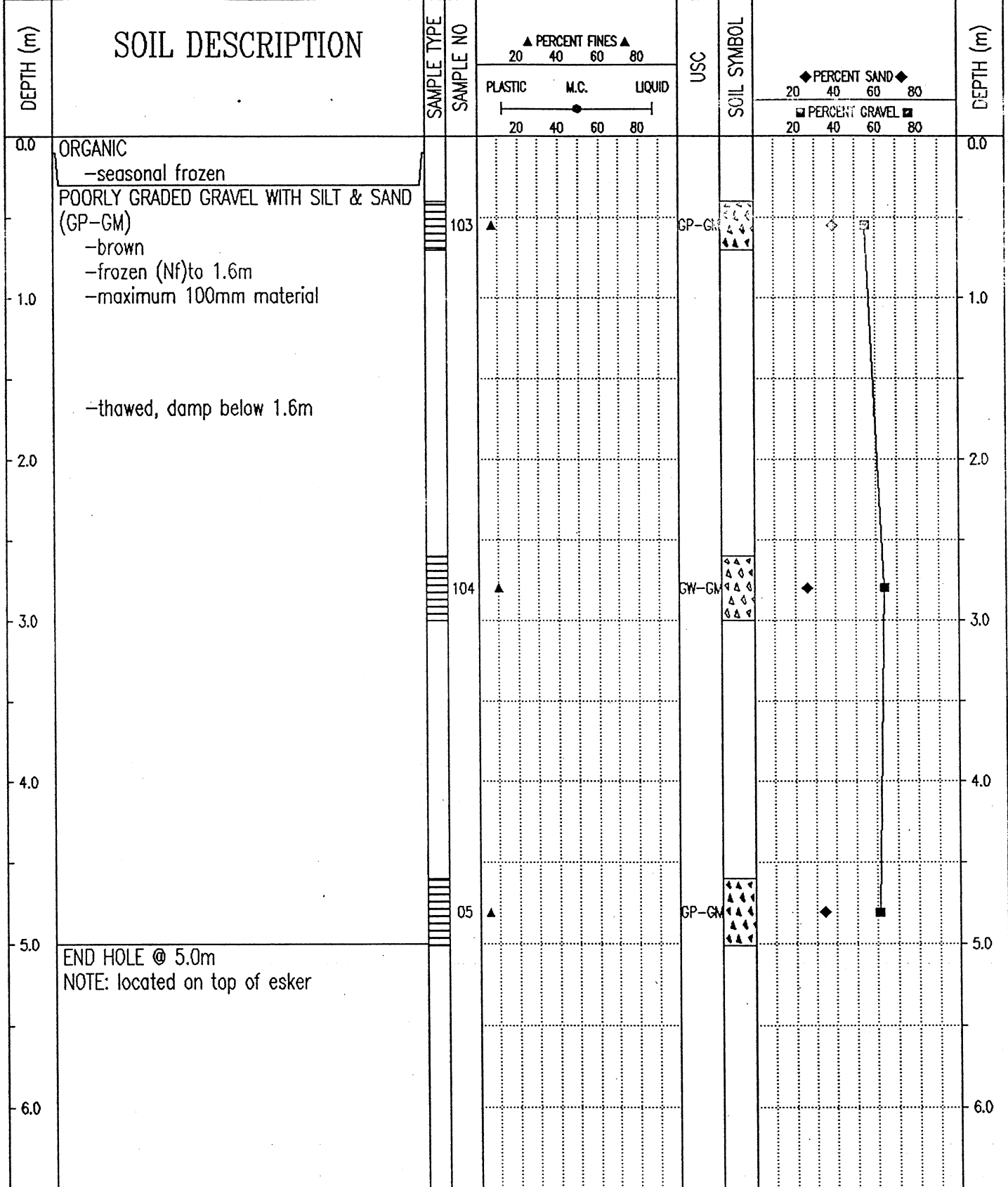
LOGGED BY: D.T.	COMPLETION DEPTH: 5.0 m
REVIEWED BY:	COMPLETE: 01/03/13
Fig. No: 115-G-07	Page 1 of 1

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST PIT NO: 583-1541
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
CAT 320 EXCAVATOR	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST PIT NO: 583-1542
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
CAT 320 EXCAVATOR	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)

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



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Transportation Engineering

LOGGED BY: D.T.

REVIEWED BY:

Fig. No: 115-G-07

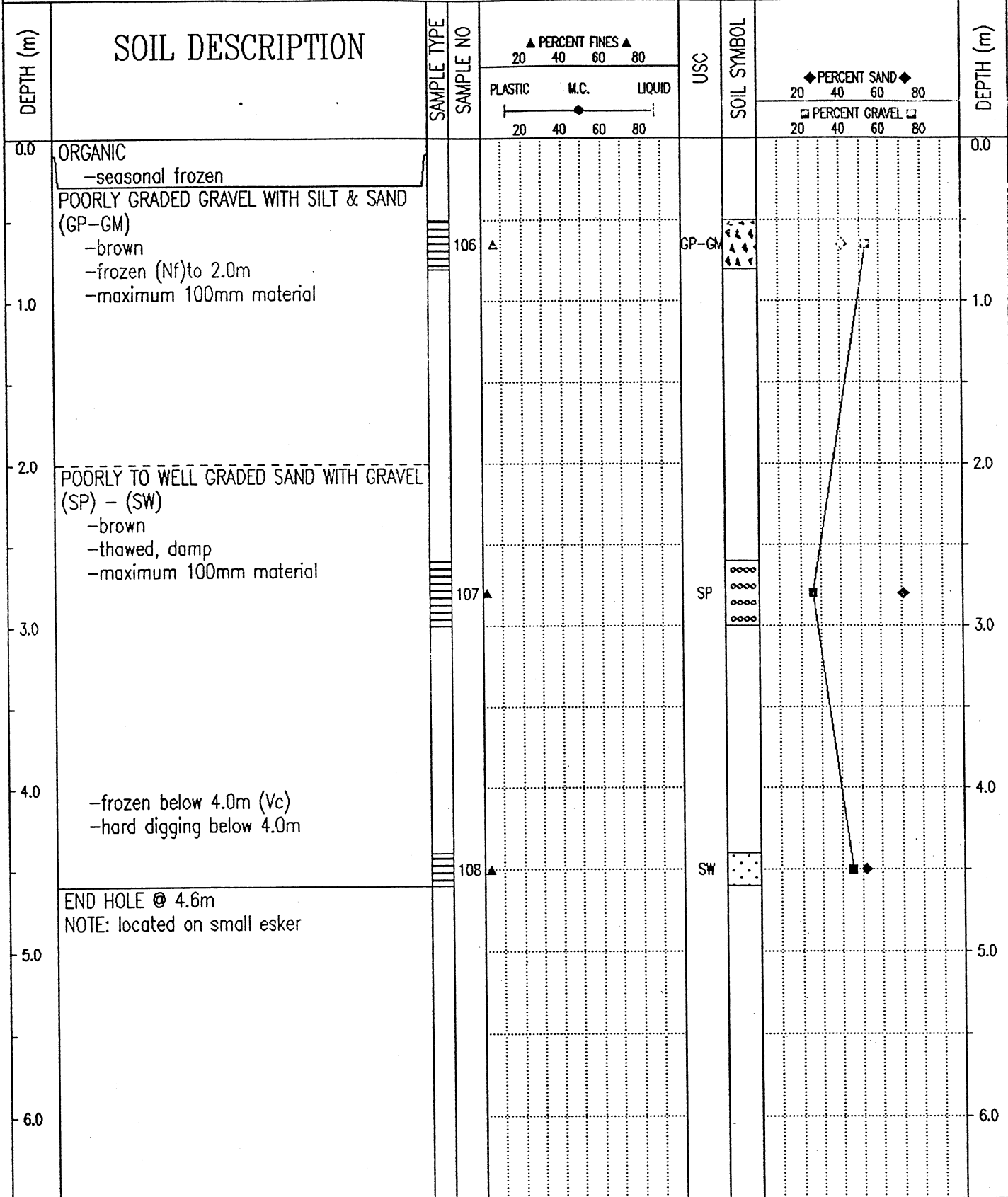
COMPLETION DEPTH: 5.0 m

COMPLETE: 01/03/13

Page 1 of 1

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

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



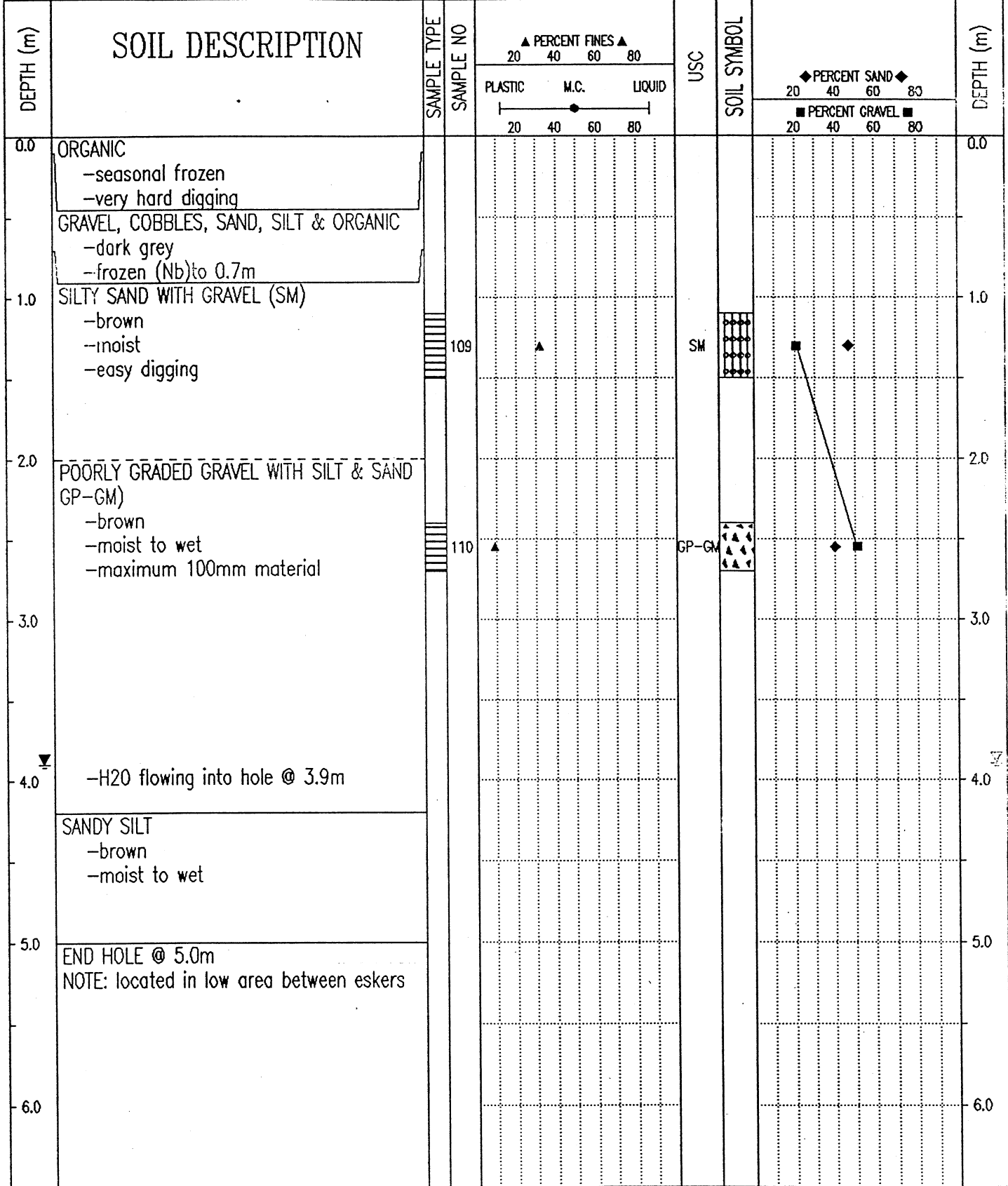
Government of Yukon  
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LOGGED BY: D.T.  
REVIEWED BY:  
Fig. No: 115-G-07

COMPLETION DEPTH: 4.6 m  
COMPLETE: 01/03/13

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



Government of Yukon  
Transportation Engineering

LOGGED BY: D.T.

REVIEWED BY:

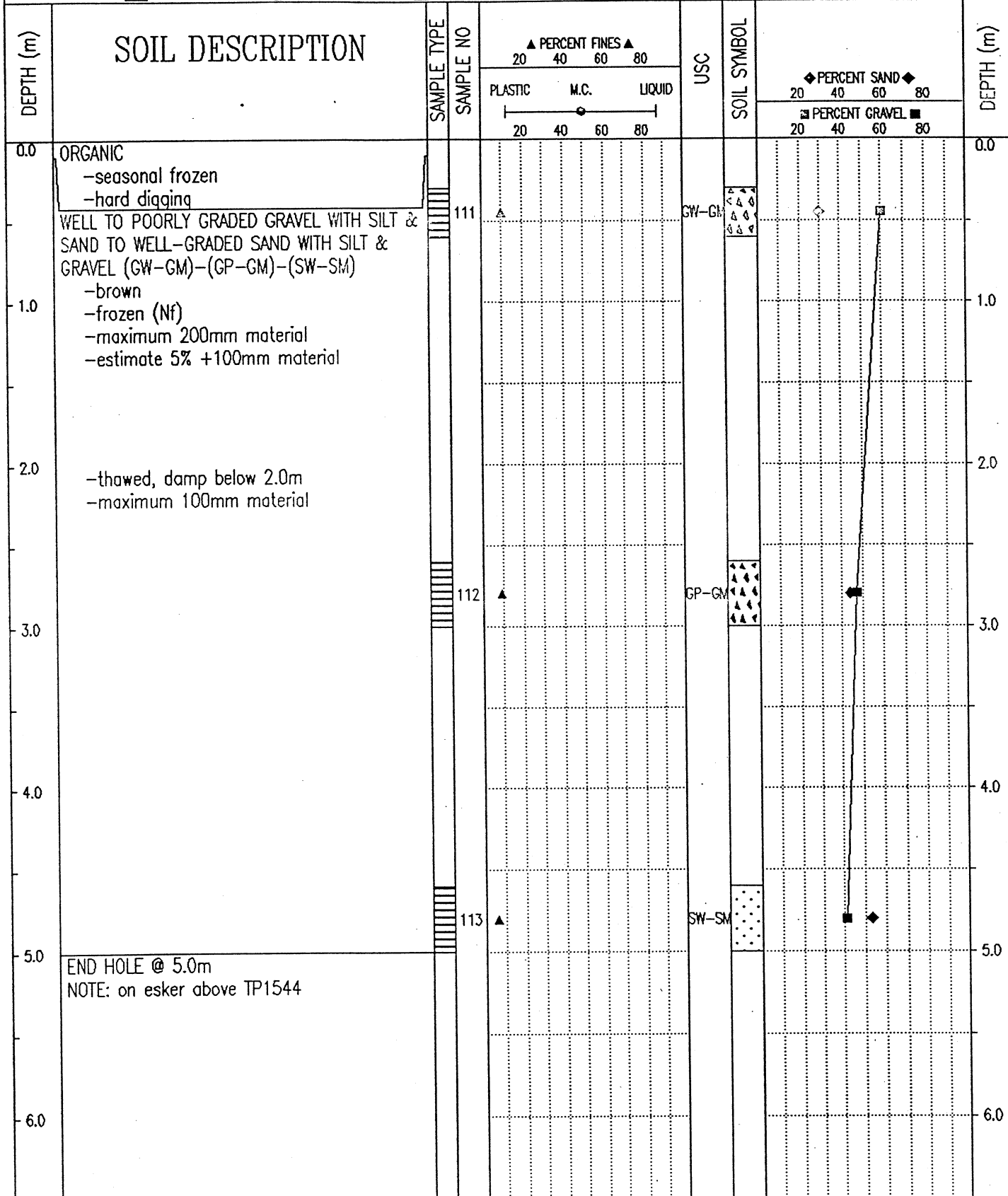
Fig. No: 115-G-07

COMPLETION DEPTH: 5.0 m

COMPLETE: 01/03/15

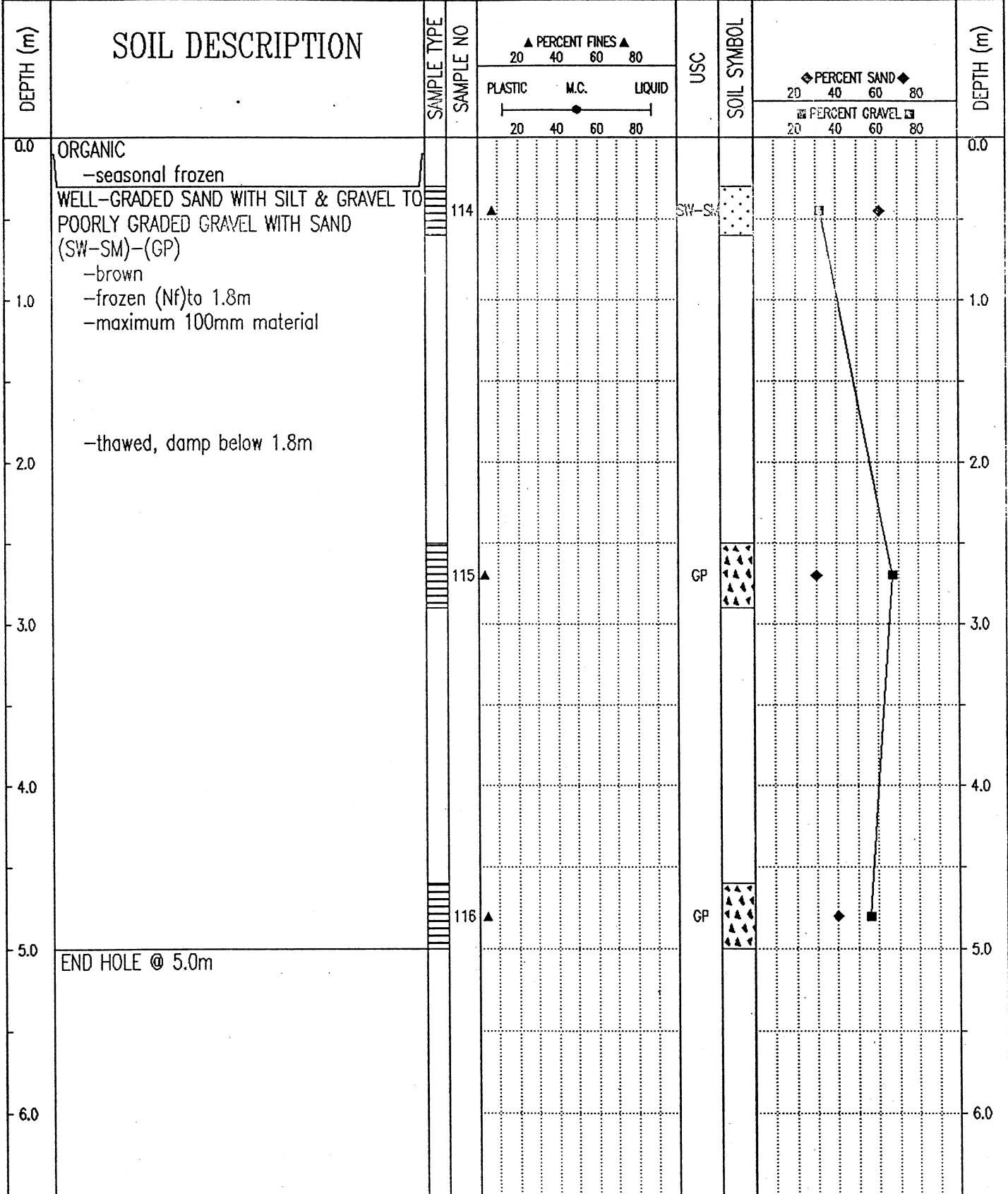
Page 1 of 1

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST PIT NO: 584-1545
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
CAT 320 EXCAVATOR	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST PIT NO: 584-1546
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
CAT 320 EXCAVATOR	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)

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



Government of Yukon  
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LOGGED BY: D.T.

REVIEWED BY:

Fig. No: 115-G-07

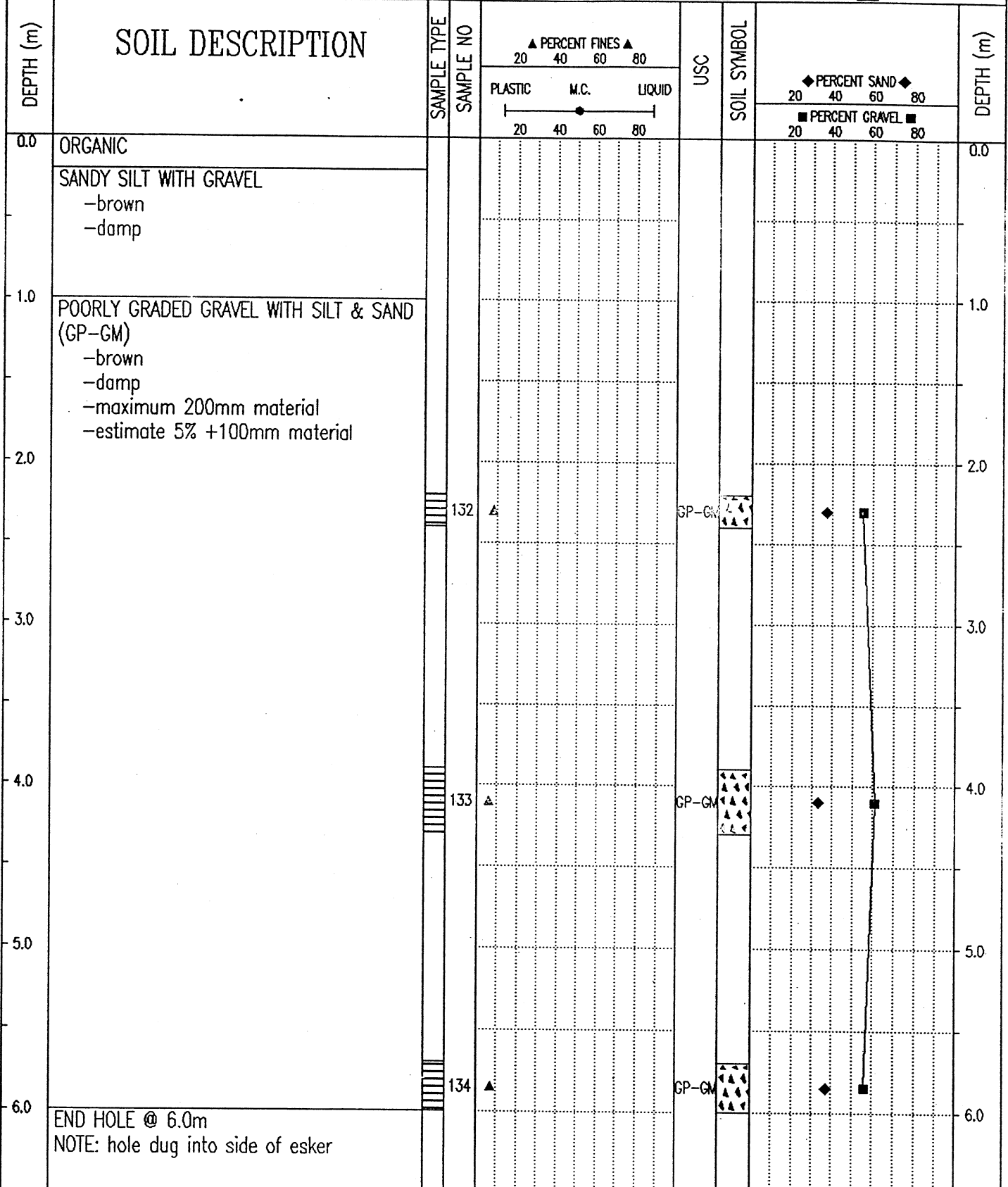
COMPLETION DEPTH: 5.0 m

COMPLETE: 01/03/15

Page 1 of 1

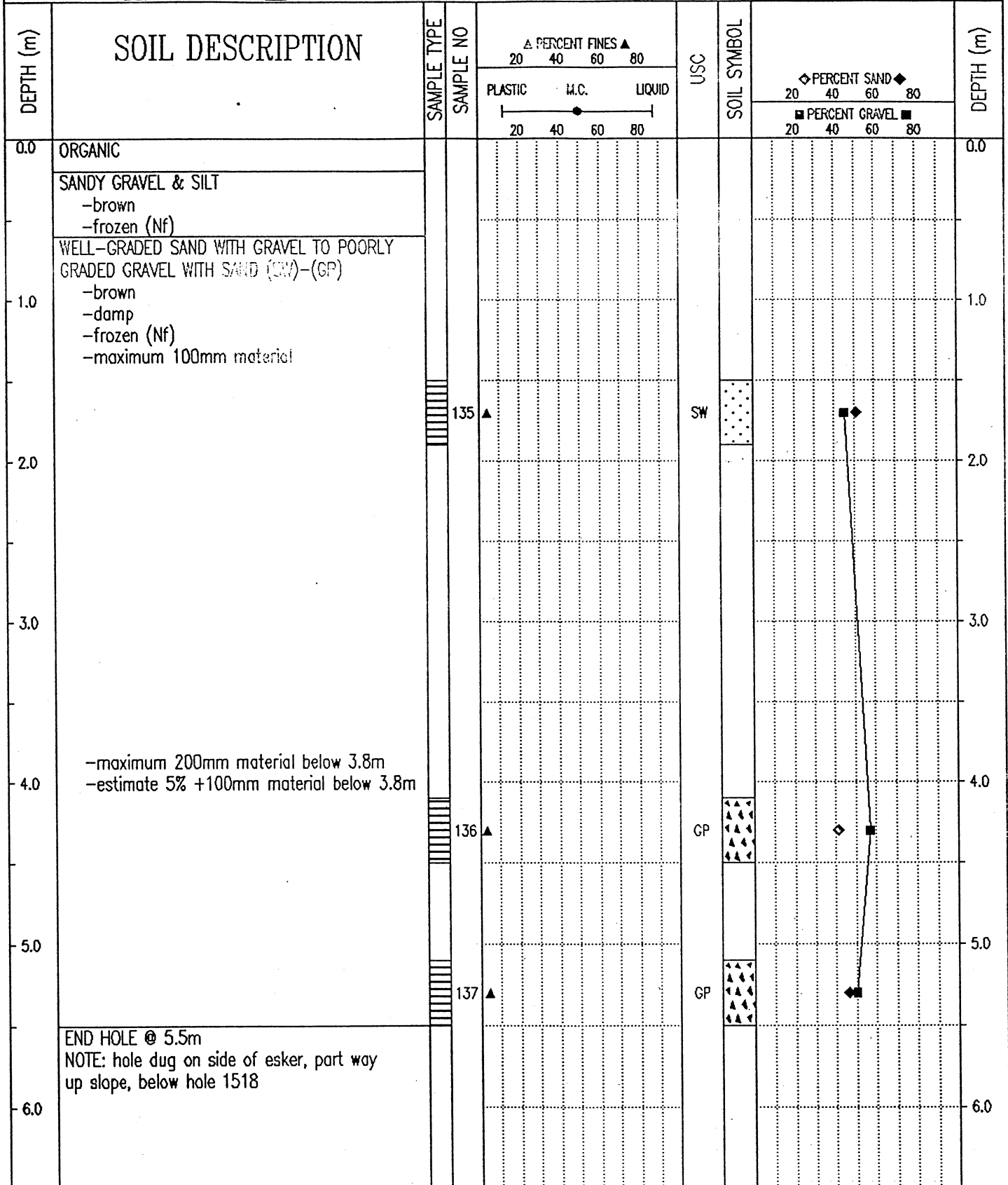
SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST PIT NO: 584-1551
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
CAT 320 EXCAVATOR	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)

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



01/03/28 08:16AM

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEG 9 KM 1694 A/H	TEST PIT NO: 584-1552
ENGINEERING CAPITAL	SILVER CREEK RESERVE	Project No: 092-202101-0363
CAT 320 EXCAVATOR	LOCATION : SEE PLAN / GPS	ELEVATION: 0.00 (m)
SAMPLE TYPE <input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE		



Government of Yukon Transportation Engineering	LOGGED BY: D.T.	COMPLETION DEPTH: 5.5 m
	REVIEWED BY:	COMPLETE: 01/03/15
	Fig. No: 115-G-07	Page 1 of 1

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

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

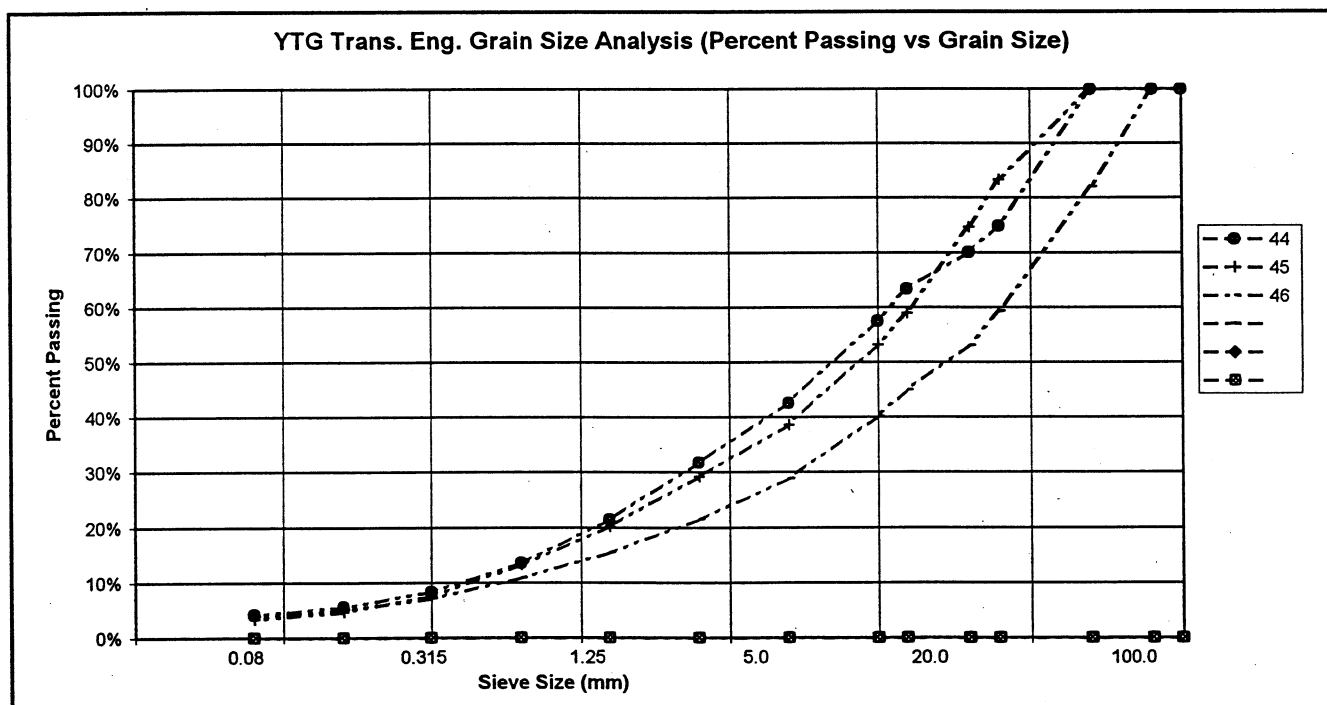
Pit Run Sample Results

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

HOLE No.: 583-1520

DATE COMP: 2001/03/12

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

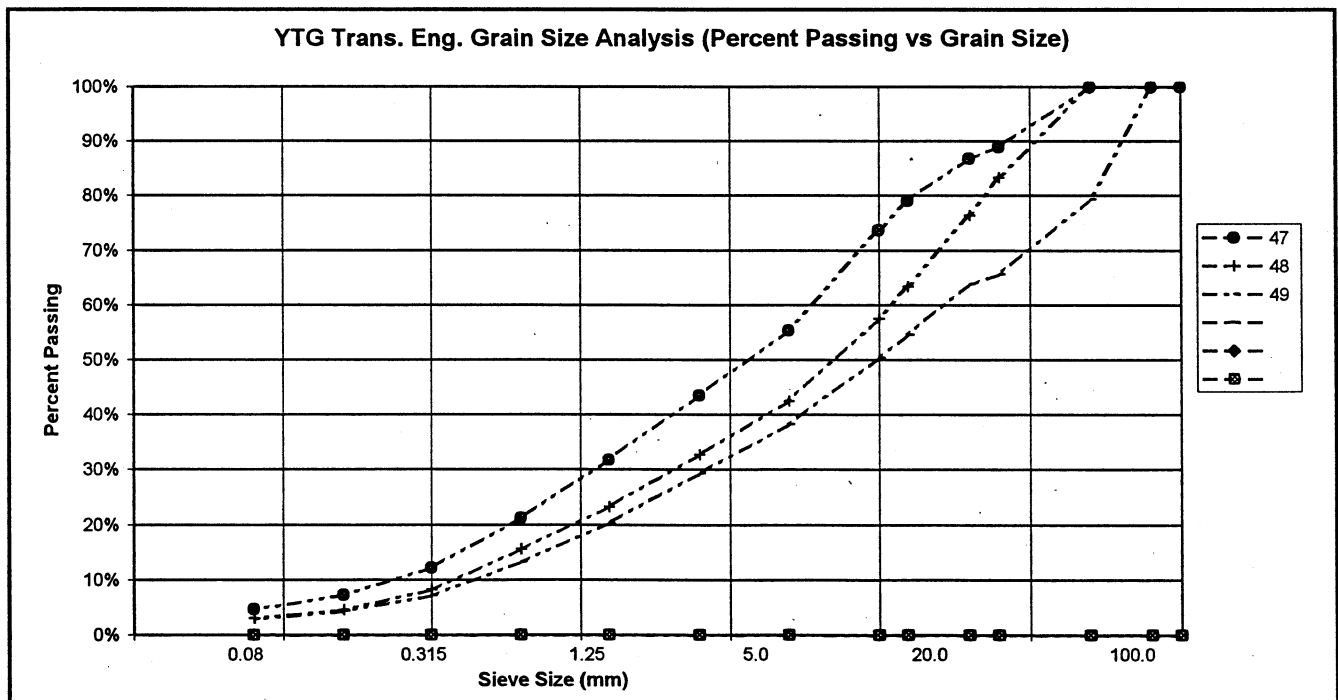


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1694 A/H Silver Creek  
 DRILL UNIT: Cat 320 Excavator  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: D.T.

HOLE No.: 583-1521

DATE COMP: 2001/03/12

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

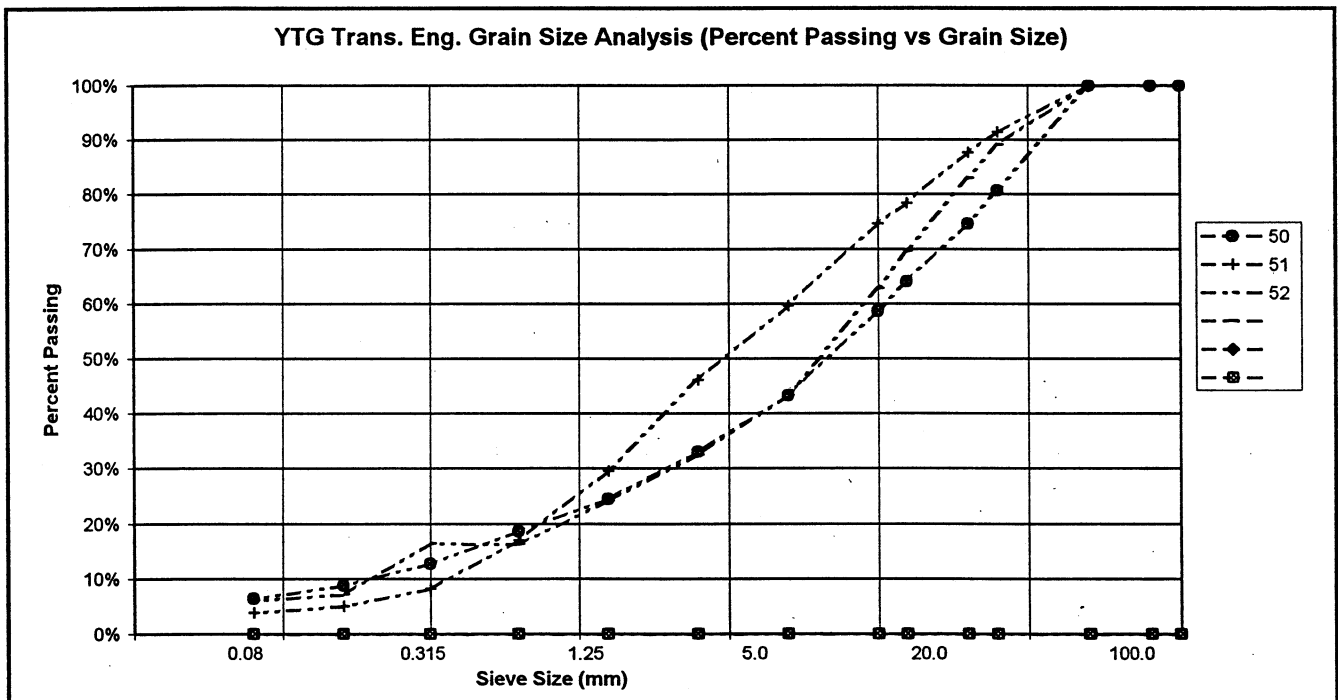


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1694 A/H Silver Creek  
 DRILL UNIT: Cat 320 Excavator  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: D.T.

HOLE No.: 583-1522

DATE COMP: 2001/03/12

FIELD NO:	50	51	52		
LAB NO:	50	51	52		
DEPTH:	0.7-1.0	2.4-2.8	4.7-5.0		
TYPE:	BULK	BULK	BULK	BULK	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%		
80.0	100%	100%	100%		
60.0	100%	100%	100%		
25.0	81%	91%	89%		
20.0	75%	88%	83%		
12.5	64%	78%	70%		
10.0	59%	75%	63%		
5.0	43%	60%	43%		
2.5	33%	46%	33%		
1.25	25%	30%	24%		
0.630	19%	17%	16%		
0.315	13%	8%	16%		
0.160	9%	5%	7%		
0.080	6%	4%	6%		
M.C.(%):					
LIQUID LIMIT:	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0		
PLASTIC INDEX:	0.0	0.0	0.0		
% GRAVEL:	57	40	57		
% SAND:	37	56	37		
% FINES:	6	4	6		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	WELL-GRADED SAND WITH GRAVEL (SW)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)		

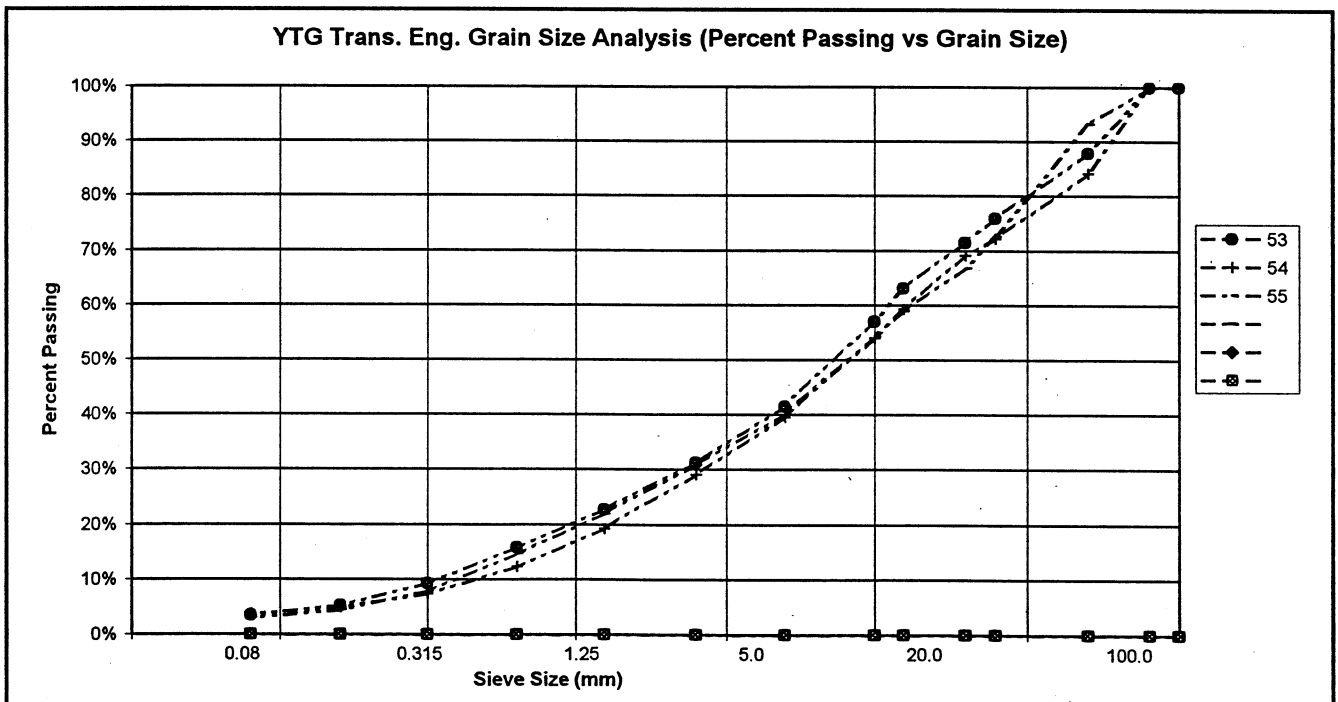


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1694 A/H Silver Creek  
 DRILL UNIT: Cat 320 Excavator  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: D.T.

HOLE No.: 583-1523

DATE COMP: 2001/03/12

FIELD NO:	53	54	55		
LAB NO:	53	54	55		
DEPTH:	0.7-1.0	2.6-3.0	4.7-5.0		
TYPE:	BULK	BULK	BULK	BULK	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%		
80.0	100%	100%	100%		
60.0	88%	84%	93%		
25.0	76%	72%	73%		
20.0	71%	69%	67%		
12.5	63%	59%	59%		
10.0	57%	54%	54%		
5.0	42%	40%	40%		
2.5	31%	29%	31%		
1.25	23%	19%	22%		
0.630	16%	12%	15%		
0.315	9%	7%	8%		
0.160	5%	5%	4%		
0.080	4%	4%	3%		
M.C.(%):					
LIQUID LIMIT:	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0		
% GRAVEL:	58	60	60		
% SAND:	38	36	37		
% FINES:	4	4	3		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)		

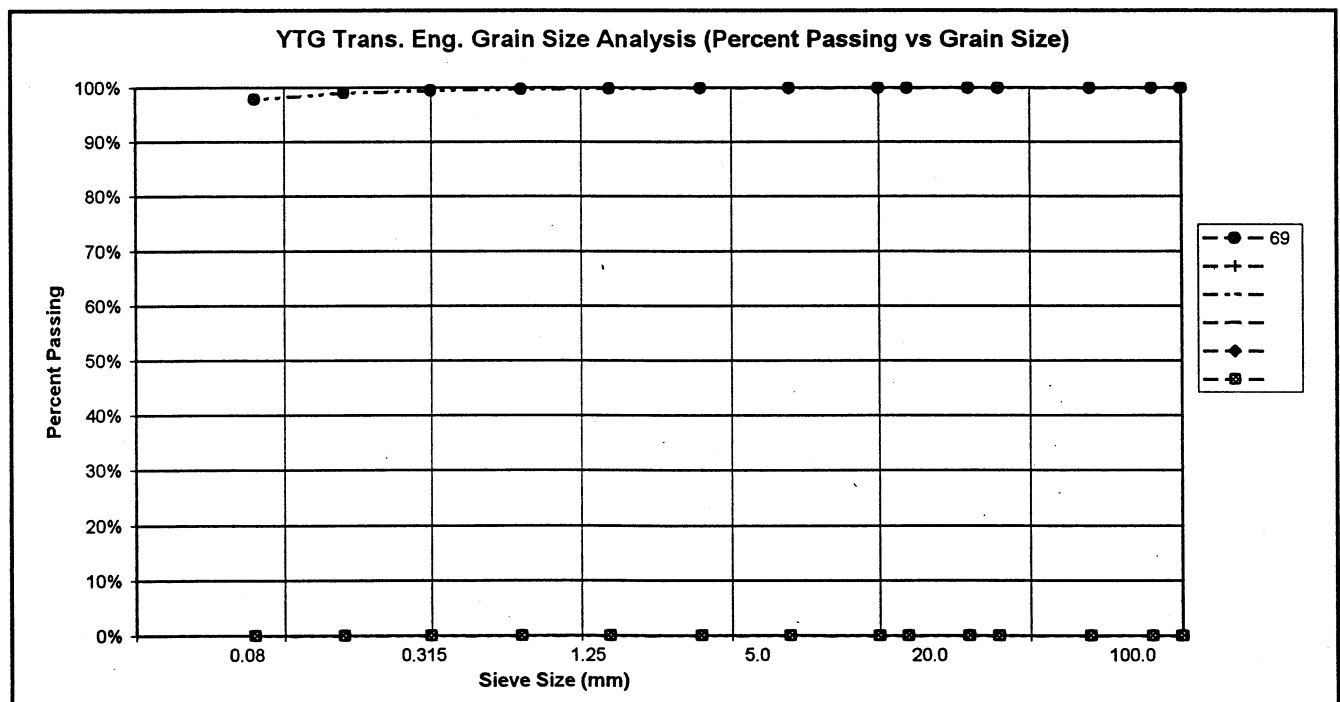


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1694 A/H Silver Creek  
 DRILL UNIT: Cat 320 Excavator  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: D.T.

HOLE No.: 583-1529

DATE COMP: 2001/03/13

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

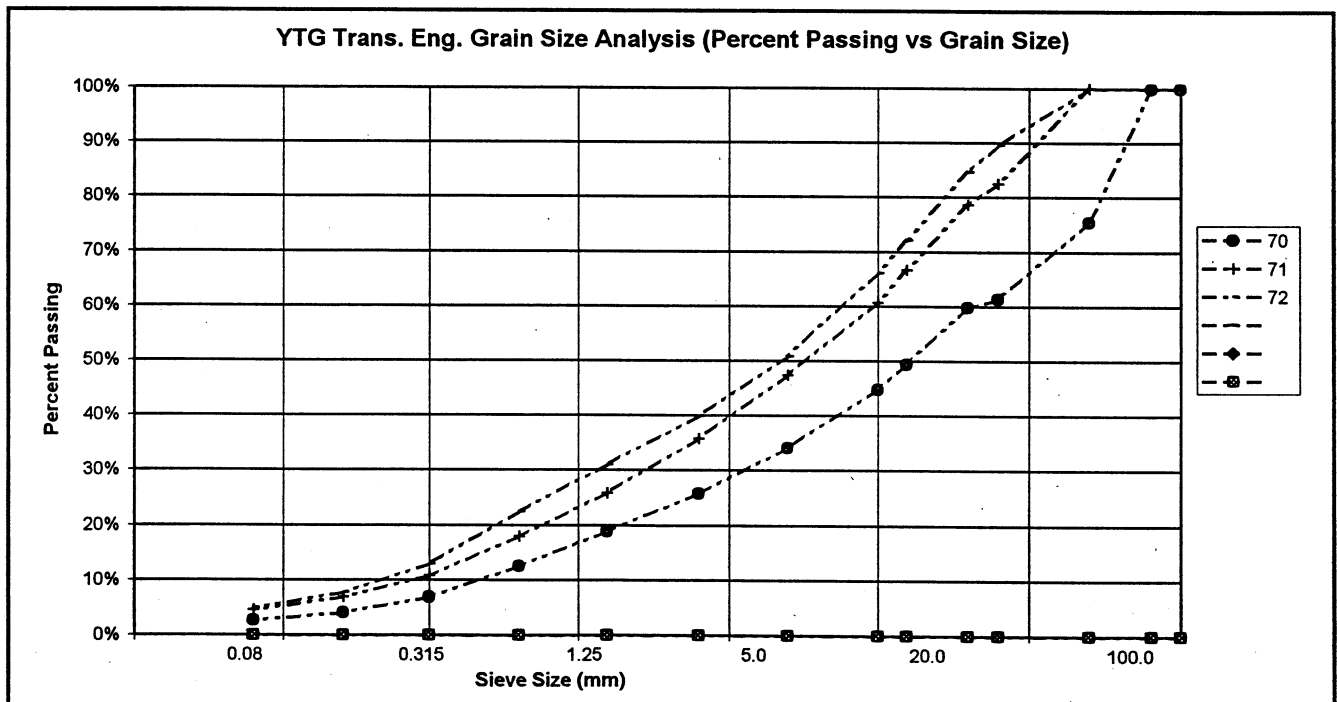


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1694 A/H Silver Creek  
 DRILL UNIT: Cat 320 Excavator  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: D.T.

HOLE No.: 583-1530

DATE COMP: 2001/03/13

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

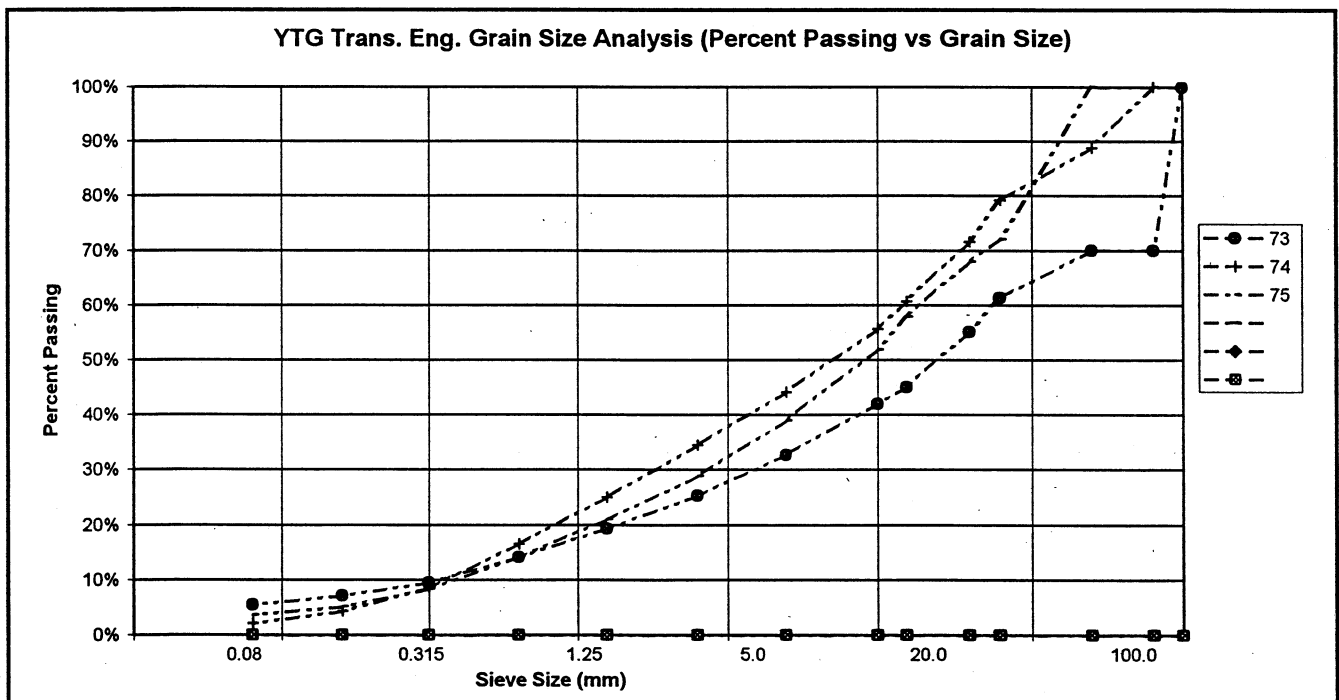


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1694 A/H Silver Creek  
 DRILL UNIT: Cat 320 Excavator  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: D.T.

HOLE No.: 583-1531

DATE COMP: 2001/03/13

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



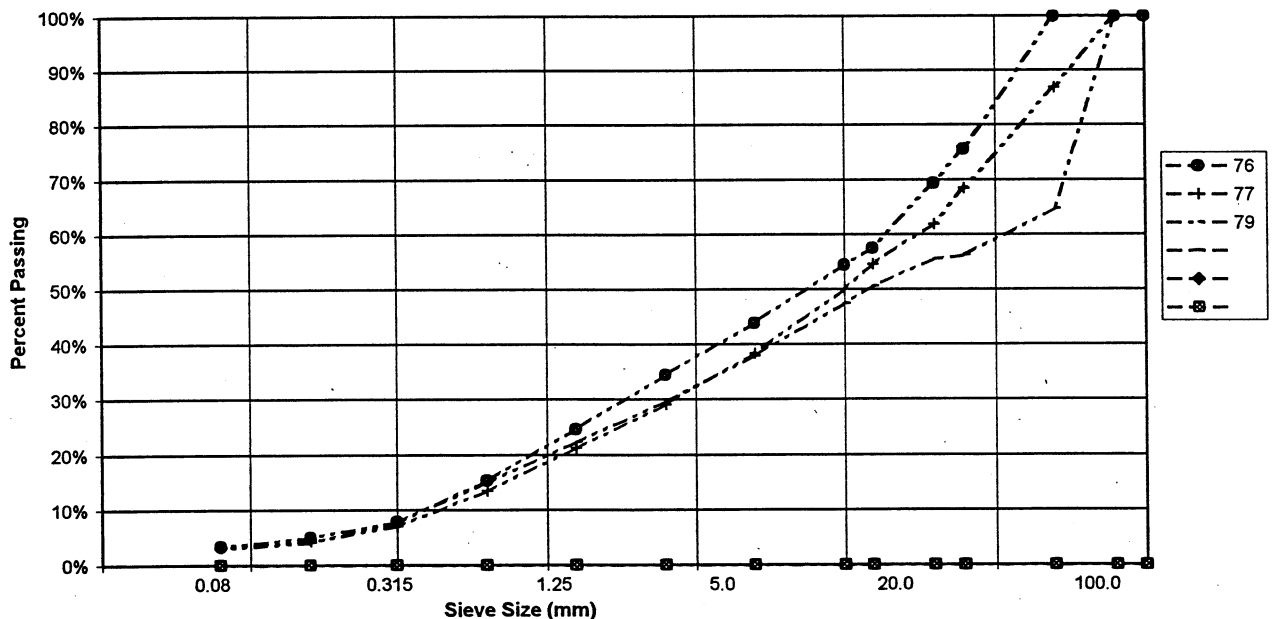
PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1694 A/H Silver Creek  
 DRILL UNIT: Cat 320 Excavator  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: D.T.

HOLE No.: 583-1532

DATE COMP: 2001/03/13

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

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

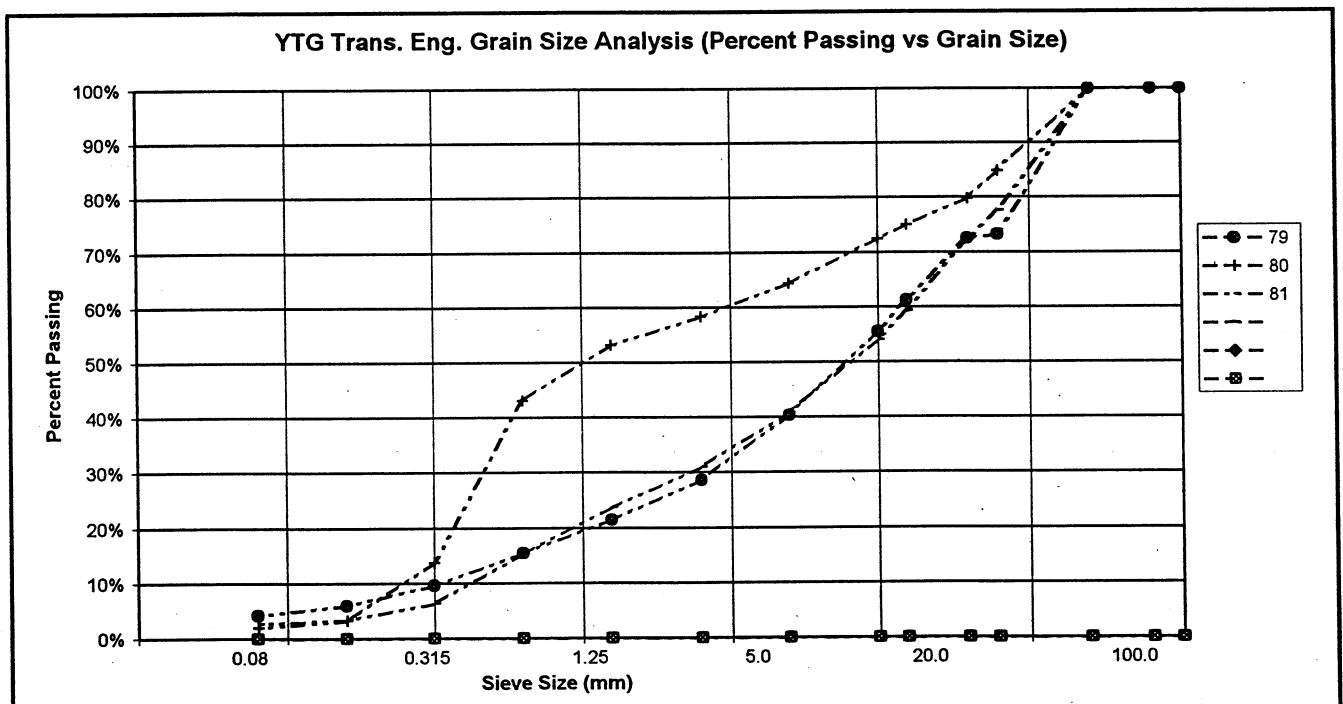


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1694 A/H Silver Creek  
 DRILL UNIT: Cat 320 Excavator  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: D.T.

HOLE No.: 583-1533

DATE COMP: 2001/03/13

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

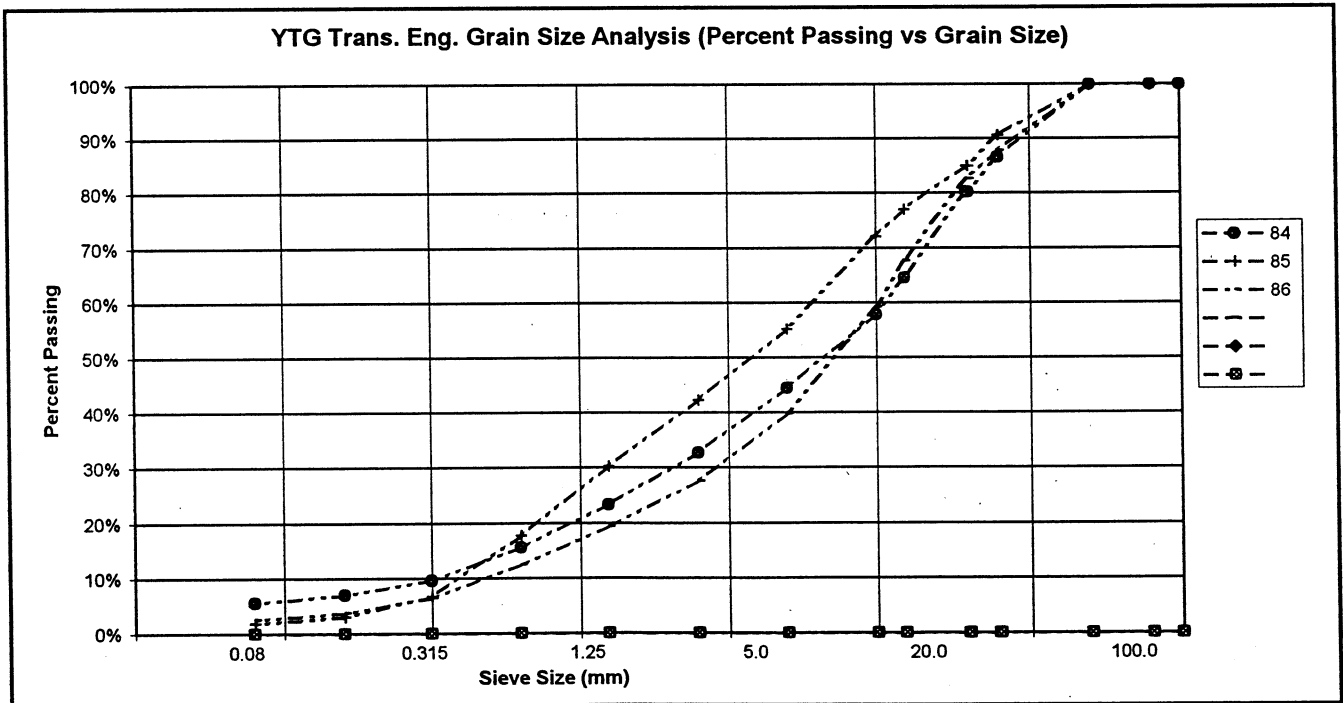


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1694 A/H Silver Creek  
 DRILL UNIT: Cat 320 Excavator  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: D.T.

HOLE No.: 583-1535

DATE COMP: 2001/03/13

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

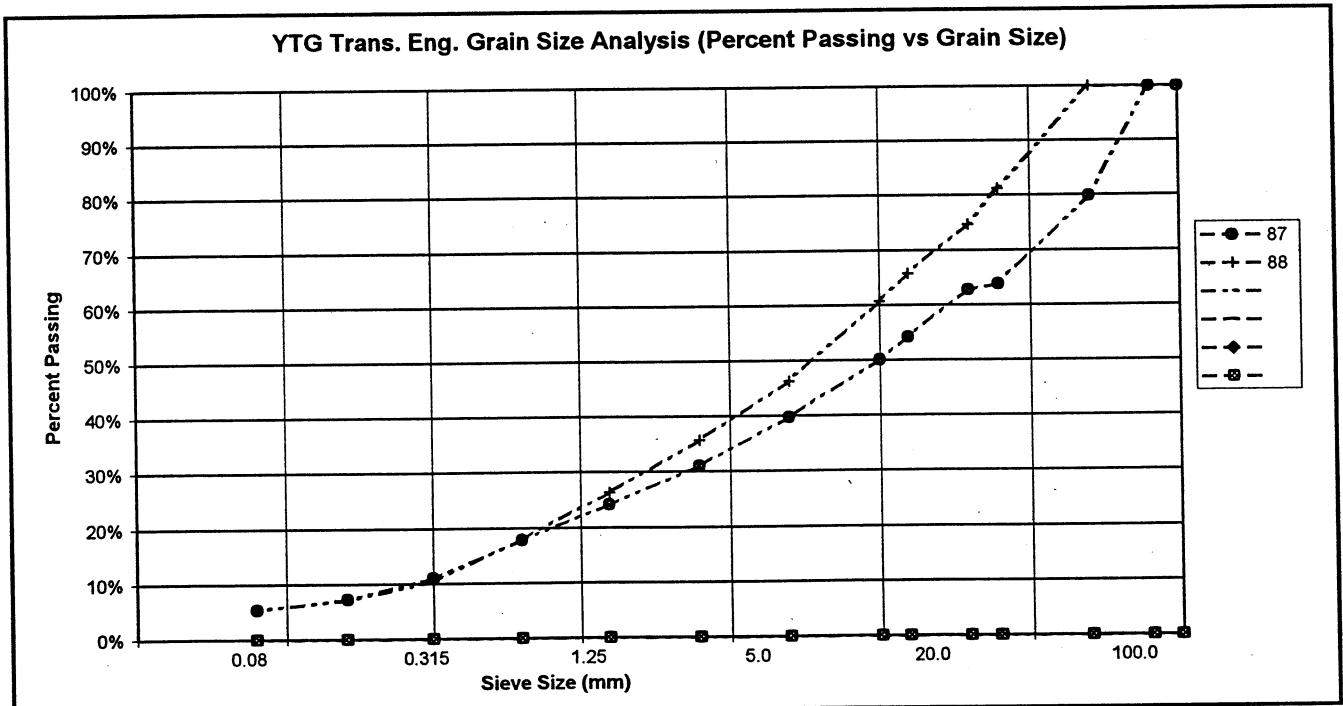


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1694 A/H Silver Creek  
 DRILL UNIT: Cat 320 Excavator  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: D.T.

HOLE No.: 583-1536

DATE COMP: 2001/03/13

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

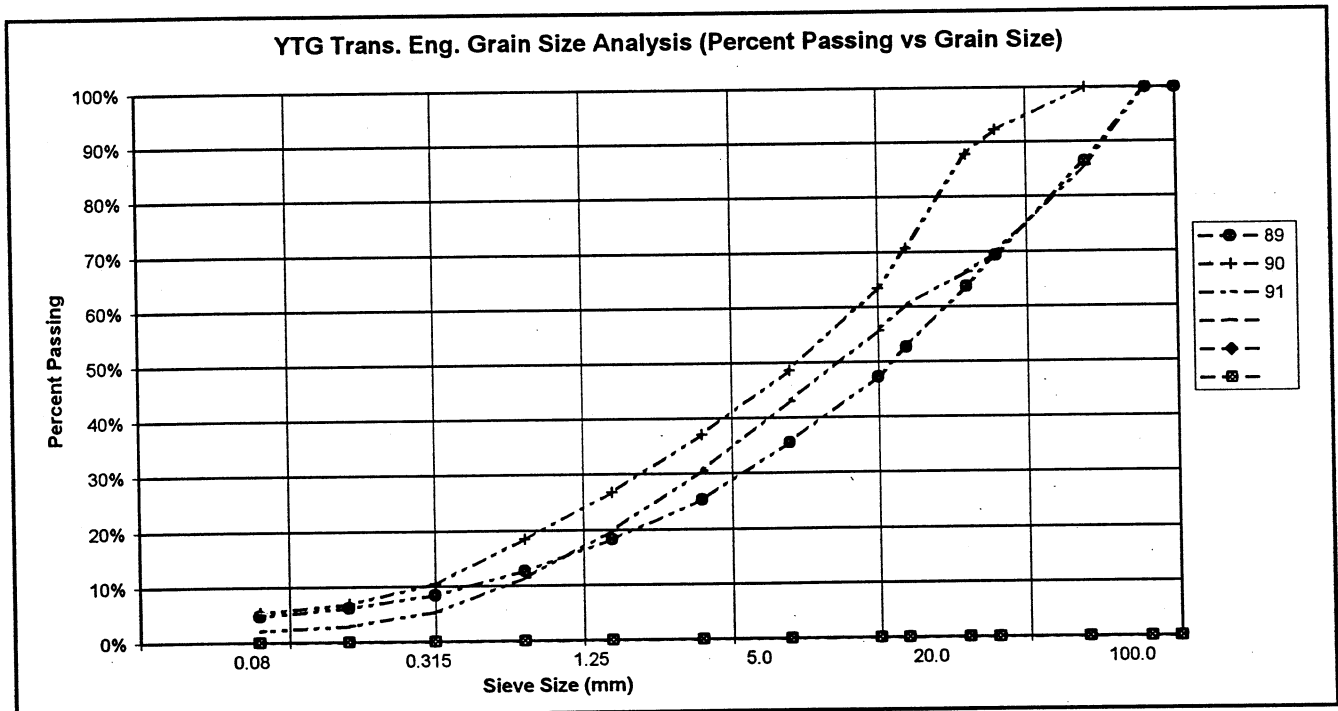


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1694 A/H Silver Creek  
 DRILL UNIT: Cat 320 Excavator  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: D.T.

HOLE No.: 583-1537

DATE COMP: 2001/03/14

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

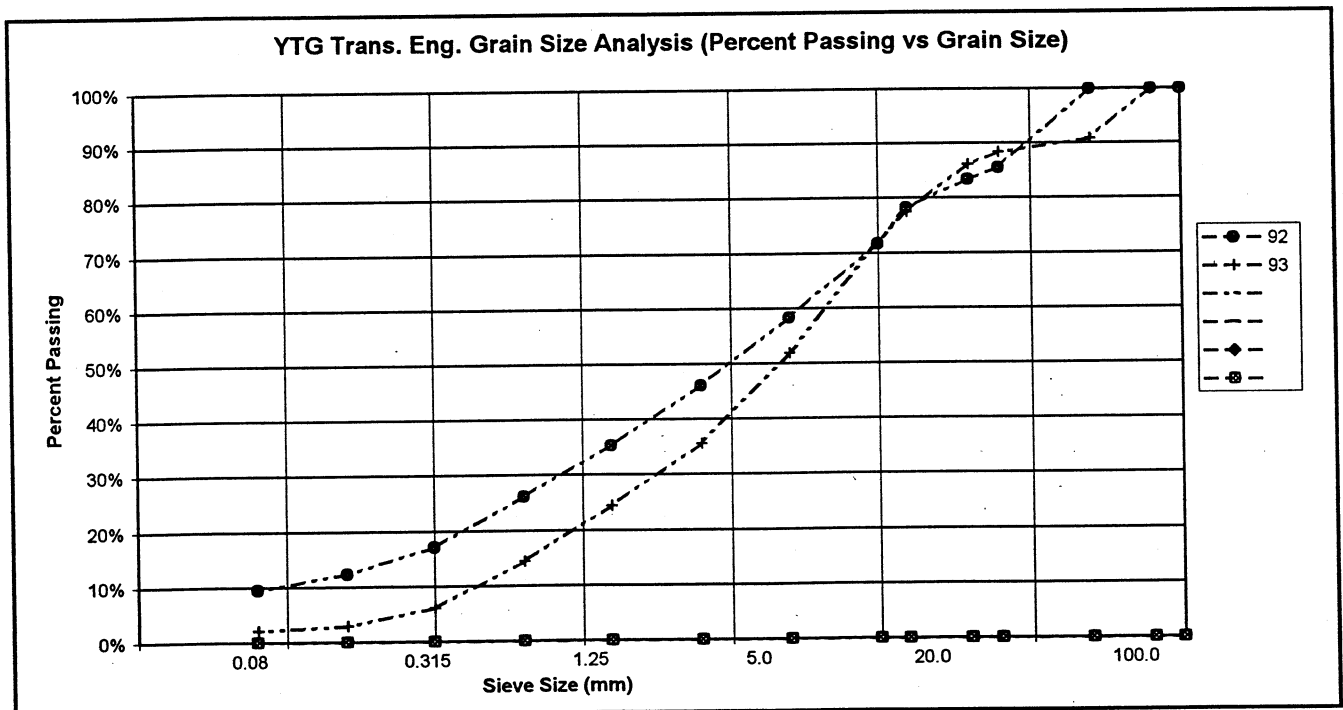


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1694 A/H Silver Creek  
 DRILL UNIT: Cat 320 Excavator  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: D.T.

HOLE No.: 583-1538

DATE COMP: 2001/03/14

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

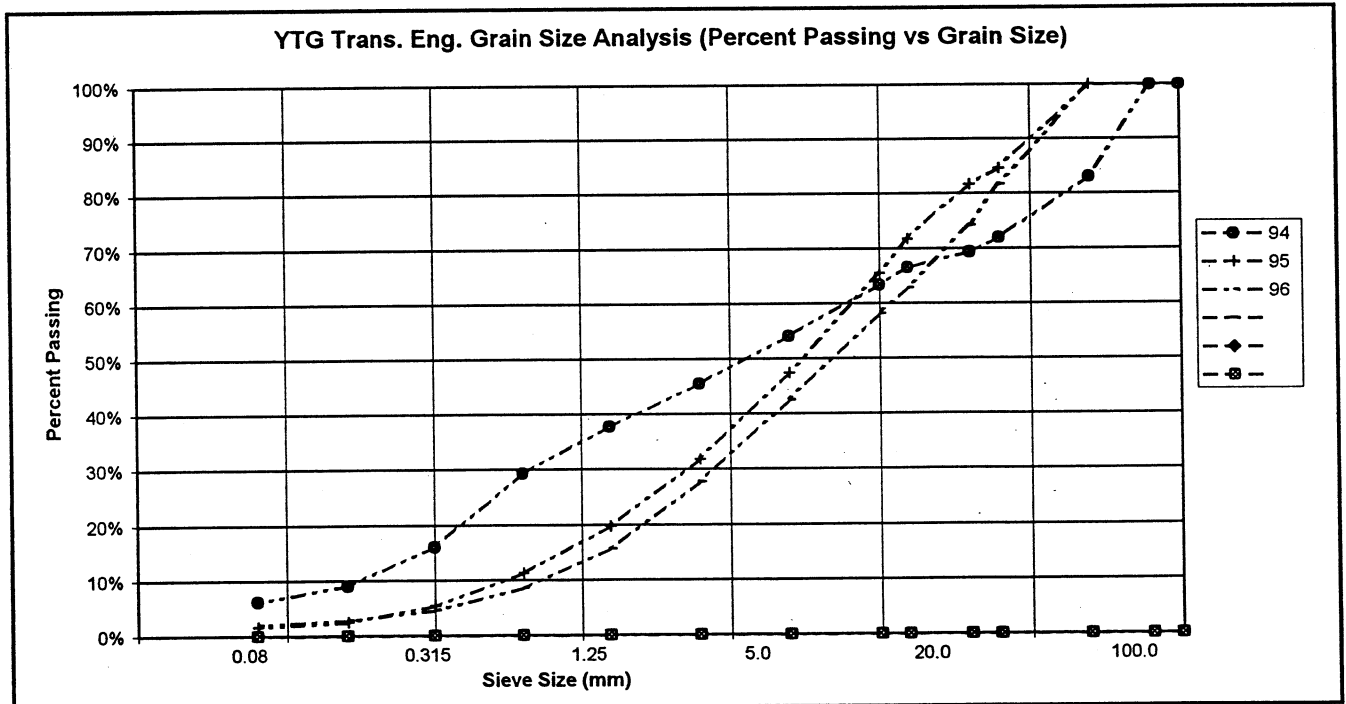


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1694 A/H Silver Creek  
 DRILL UNIT: Cat 320 Excavator  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: D.T.

HOLE No.: 583-1539

DATE COMP: 2001/03/14

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

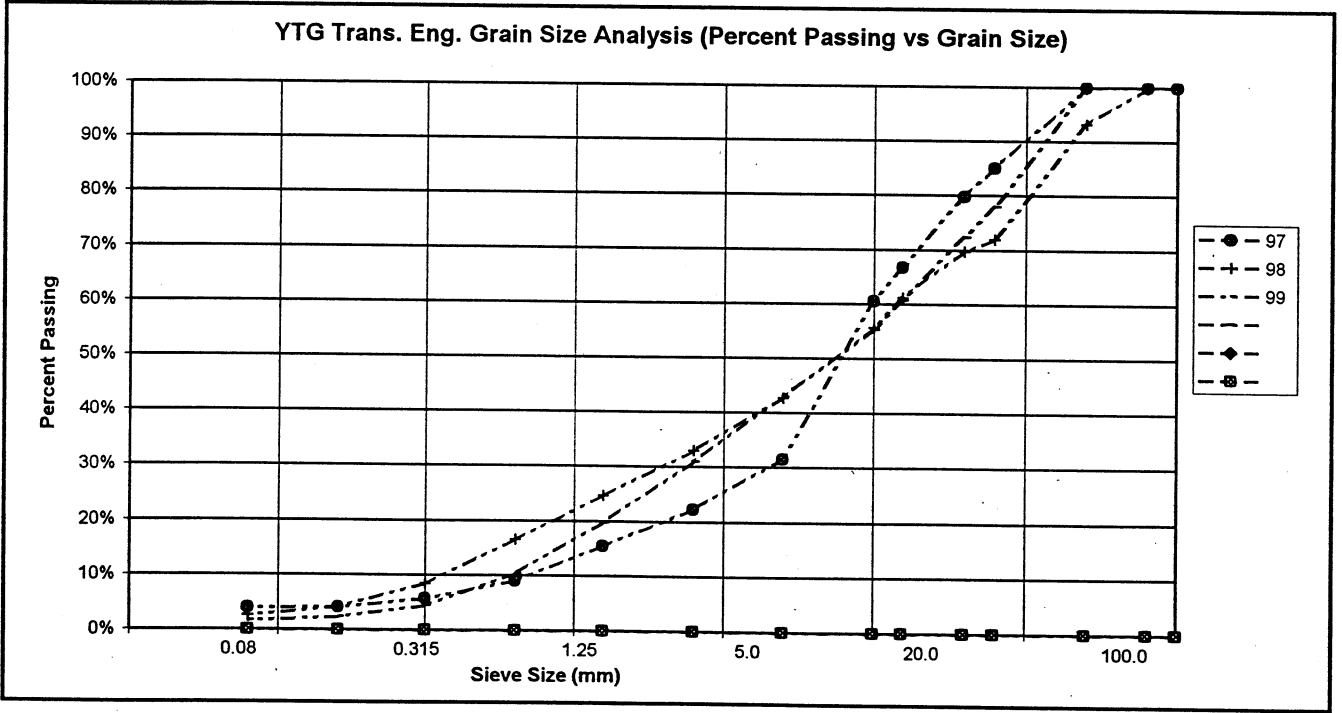


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1694 A/H Silver Creek  
 DRILL UNIT: Cat 320 Excavator  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: D.T.

HOLE No.: 583-1540

DATE COMP: 2001/03/14

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

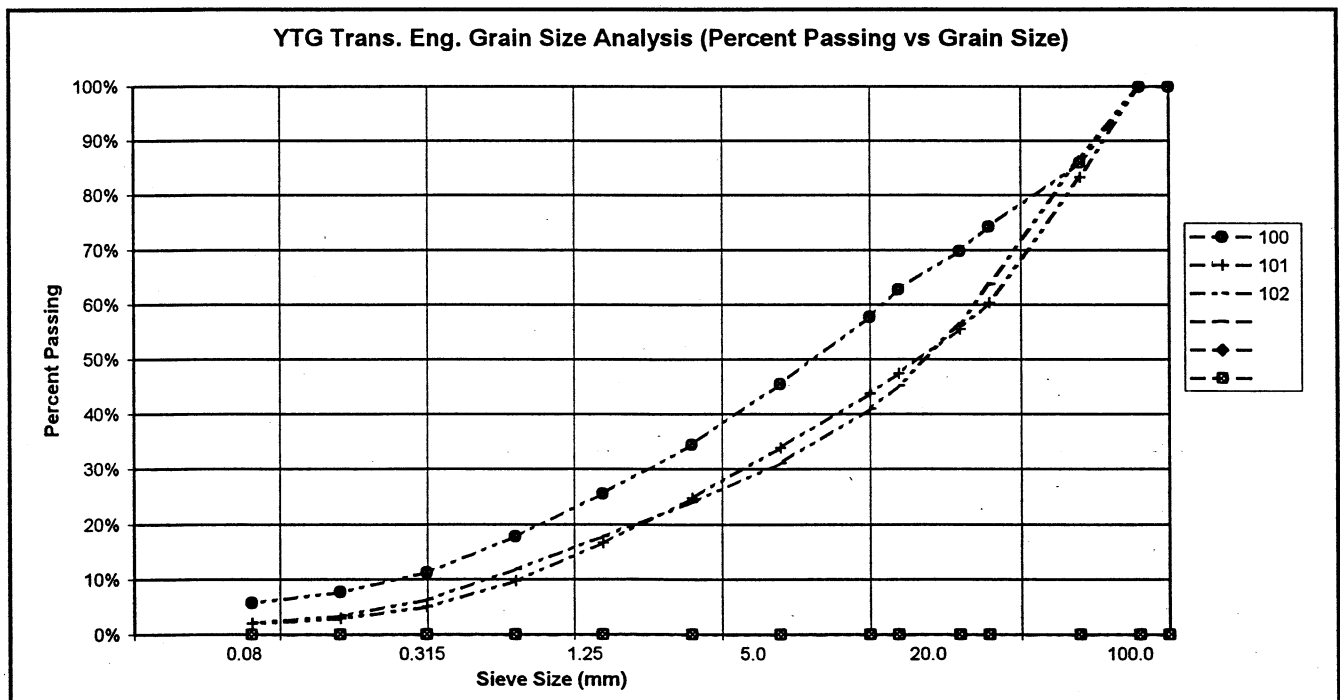


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1694 A/H Silver Creek  
 DRILL UNIT: Cat 320 Excavator  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: D.T.

HOLE No.: 583-1541

DATE COMP: 2001/03/14

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

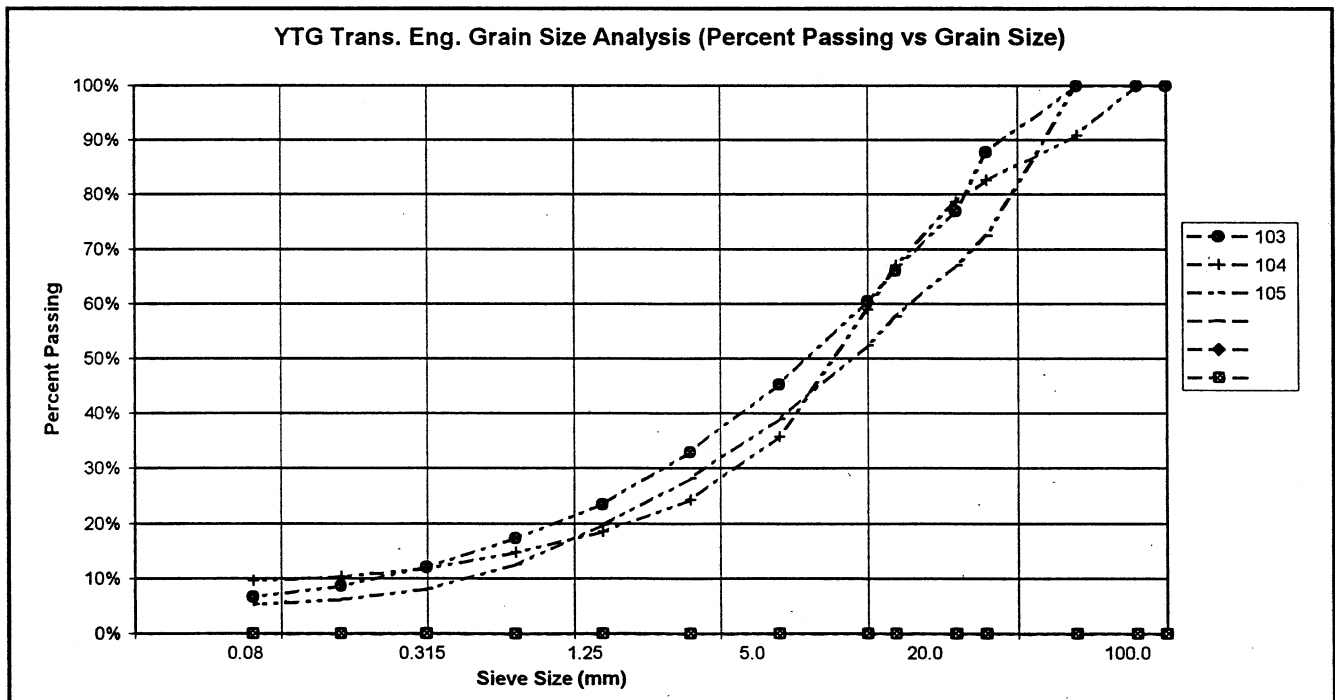


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1694 A/H Silver Creek  
 DRILL UNIT: Cat 320 Excavator  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: D.T.

HOLE No.: 583-1542

DATE COMP: 2001/03/14

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

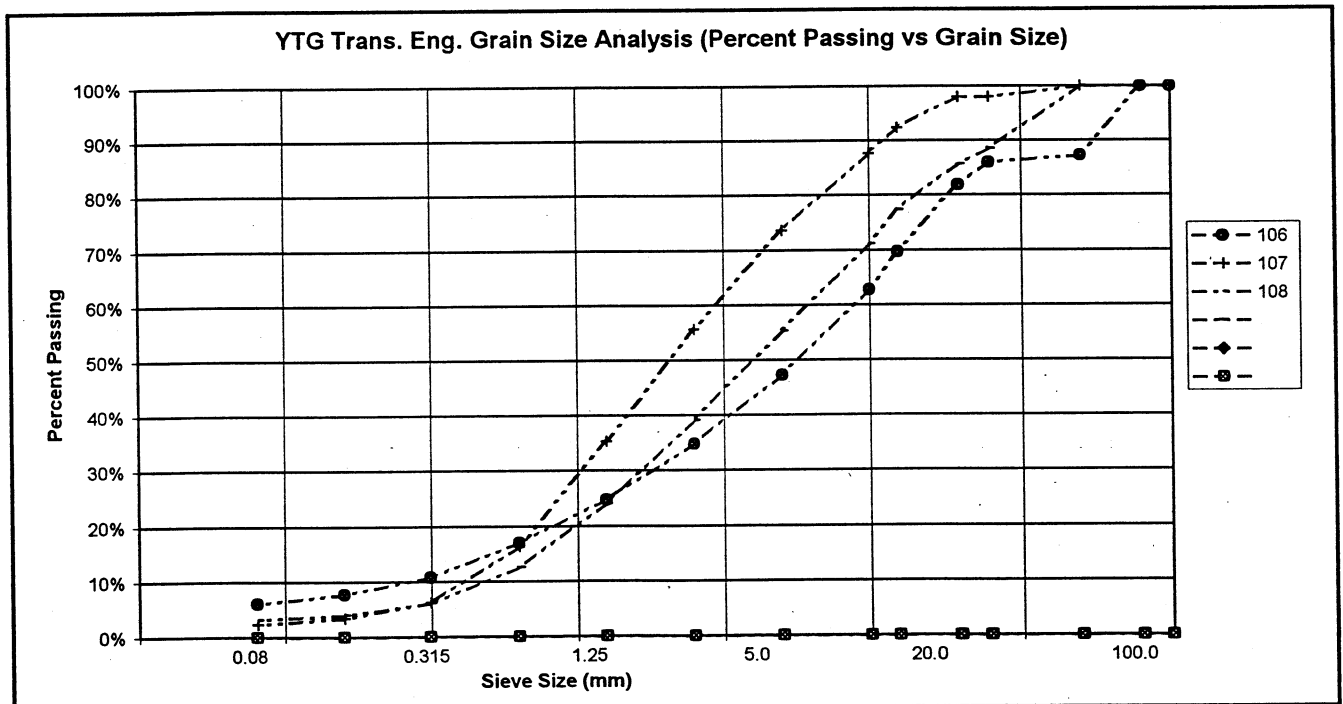


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1694 A/H Silver Creek  
 DRILL UNIT: Cat 320 Excavator  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: D.T.

HOLE No.: 583-1543

DATE COMP: 2001/03/14

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

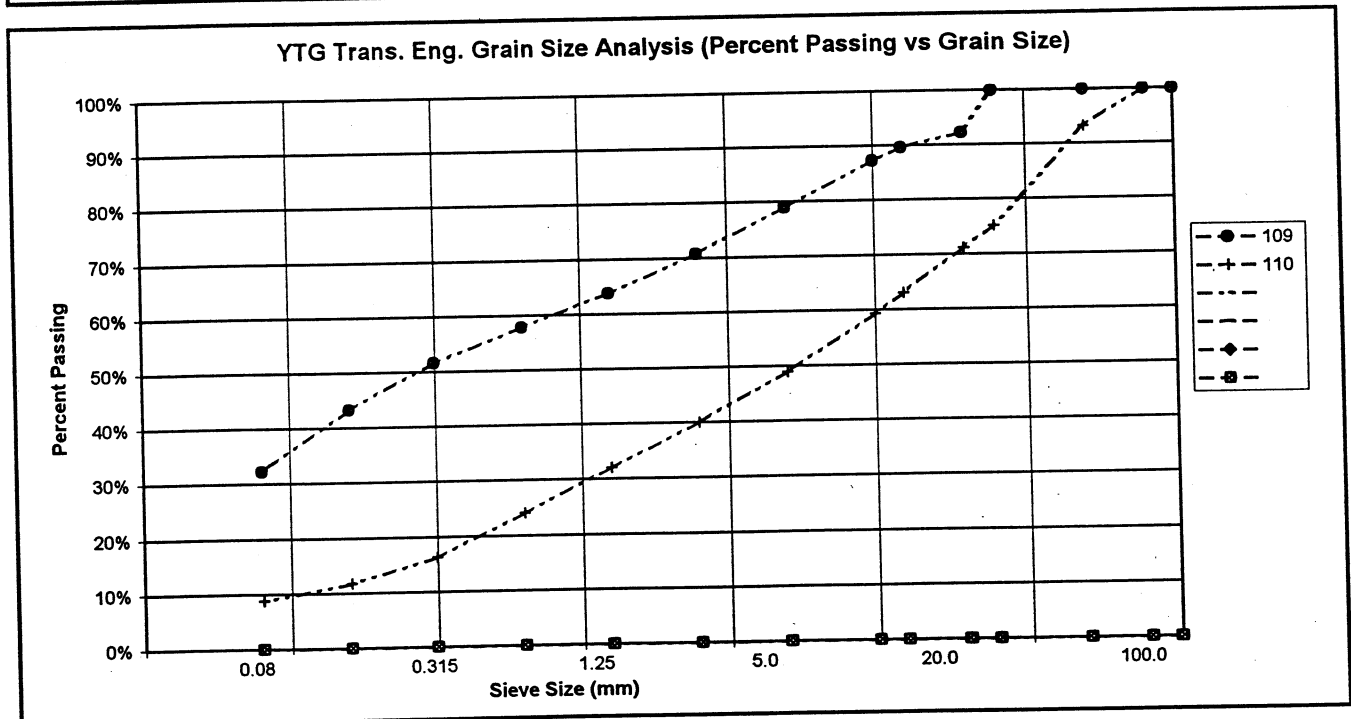


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1694 A/H  
 DRILL UNIT: CAT 320 L EXCAVATOR  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: D.T.

HOLE No.: 584-1544

DATE COMP: 2001/03/15

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

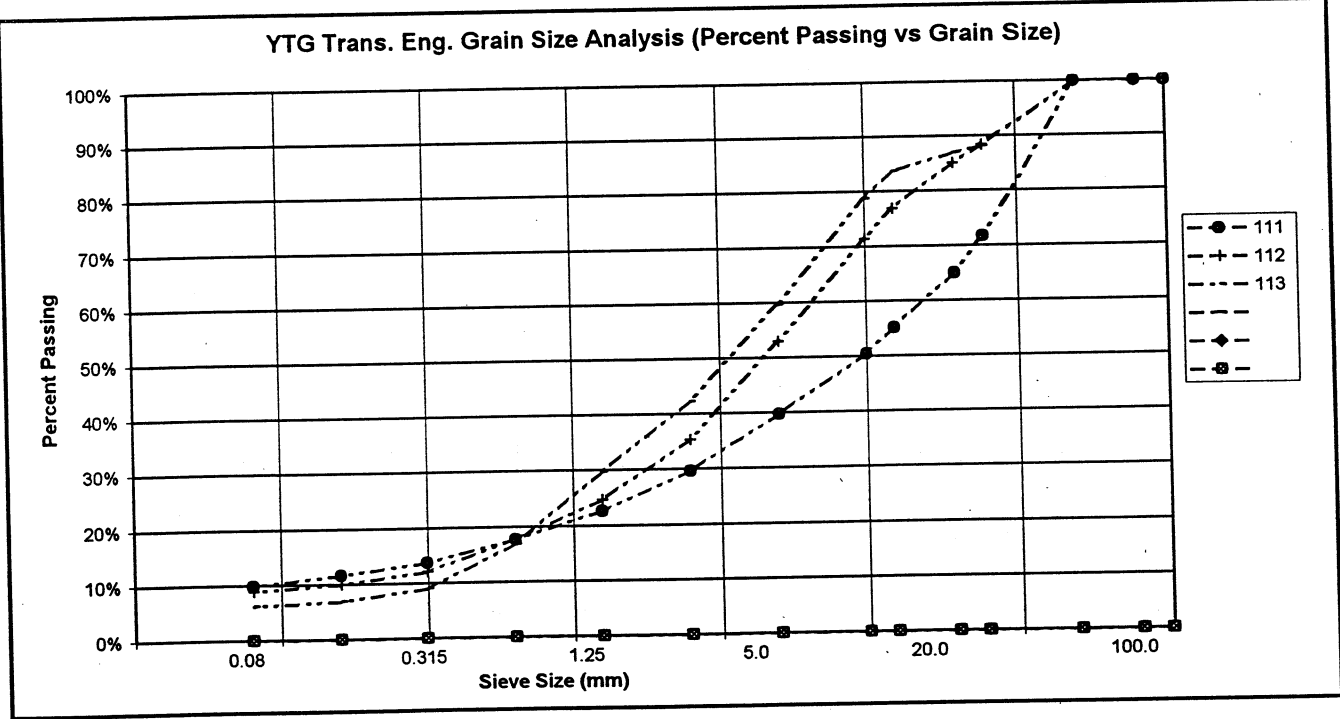


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1694 A/H  
 DRILL UNIT: CAT 320 L EXCAVATOR  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: D.T.

HOLE No.: 584-1545

DATE COMP: 2001/03/15

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

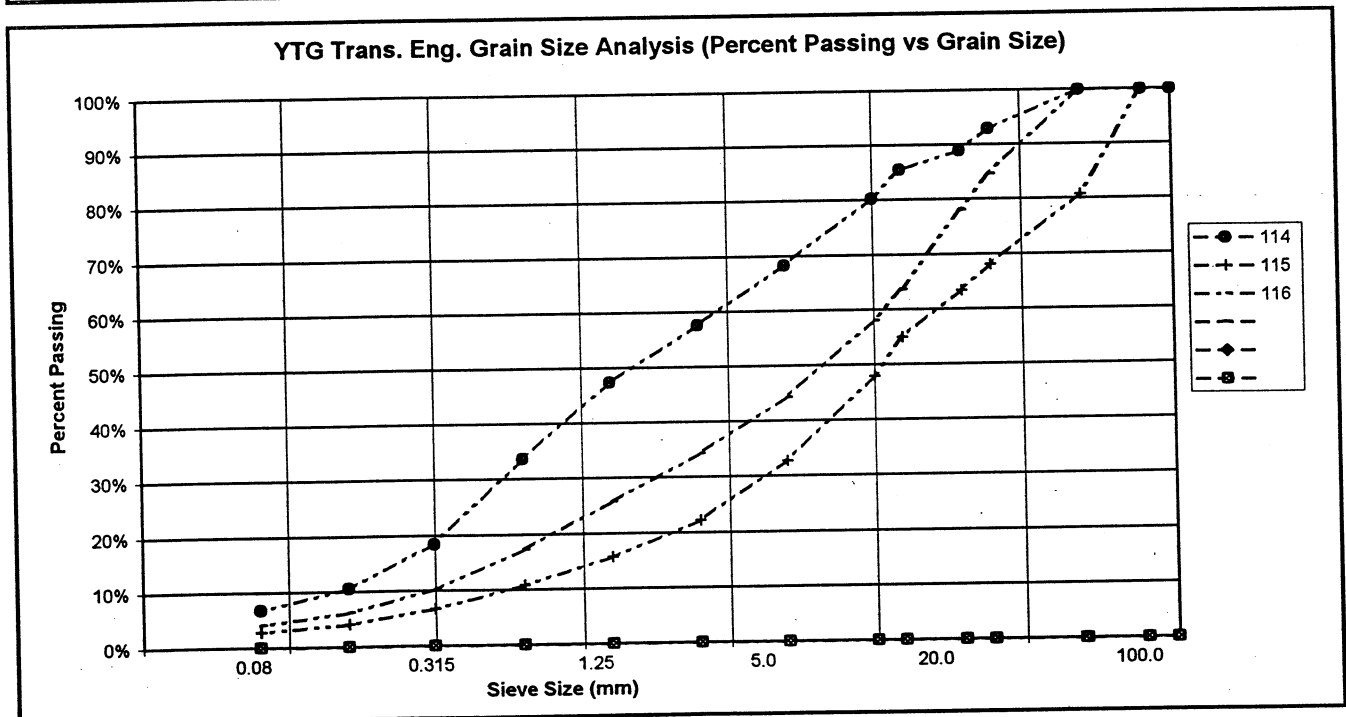


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1694 A/H  
 DRILL UNIT: CAT 320 L EXCAVATOR  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: D.T.

HOLE No.: 584-1546

DATE COMP: 2001/03/15

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

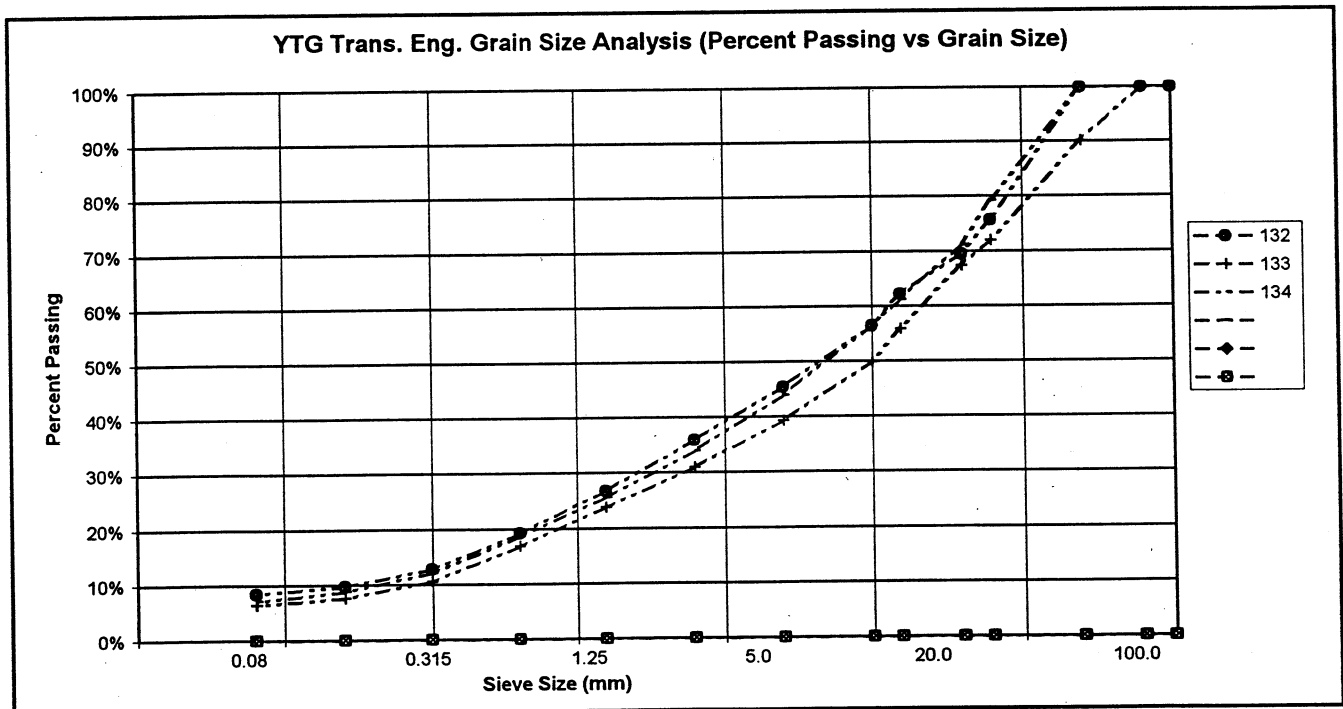


PROJECT NUMBER: 092-202101-0363-1  
 CLIENT: ENGINEERING CAPITAL  
 PROJECT NAME: SHAKWAK SEG 09  
 PROJECT LOCATION: Km 1694 A/H  
 DRILL UNIT: CAT 320 L EXCAVATOR  
 HOLE LOCATION: SEE PLAN  
 LOGGED BY: D.T.

HOLE No.: 584-1551

DATE COMP: 2001/03/15

FIELD NO:	132	133	134			
LAB NO:	132	133	134			
DEPTH:	2.2-2.4	3.9-4.3	5.7-6.0			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE:	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
60.0	100%	90%	100%			
25.0	76%	72%	79%			
20.0	69%	67%	71%			
12.5	62%	56%	61%			
10.0	57%	50%	56%			
5.0	45%	39%	44%			
2.5	36%	31%	34%			
1.25	27%	24%	26%			
0.630	19%	17%	19%			
0.315	13%	11%	12%			
0.160	10%	8%	9%			
0.080	8%	6%	7%			
M.C.(%)						
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	55	61	56			
% SAND:	37	33	37			
% FINES:	8	6	7			
CLASSIFICATION	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)			



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

HOLE No.: 584-1552

DATE COMP: 2001/03/15

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

