

GEOTECHNICAL INVESTIGATIONS

**Highway Construction
km 1691.6 to 1700.4
Alaska Highway #1
Yukon, 2006-2007
Volume 1 of 3**



**Highways and Public Works
Transportation Engineering Branch**

Geotechnical Services

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HIGHWAY CONSTRUCTION

GEOTECHNICAL INVESTIGATION
km 1691.6 to 1700.4
YUKON, 2006-2007

ALASKA HIGHWAY #1

Highway Construction
km 1691.6 to 1700.4
Alaska Highway #1
Yukon, 2006-2007
Volume 1 of 3

This Data Package prepared for project viewing:

May, 2006

Transportation Engineering Branch
Geotechnical Services
461 Range Road
Whitehorse, Yukon

CONTENTS

Volume 1 of 3

INTRODUCTION

Investigation notes, classification methods and legends.

CENTRELINE TESTING km 1691.6 to 1700.4 Alaska Highway

Subsurface Exploration and Test Report Sheets are provided.
The reports for the Centreline testing holes are arranged according to project location, starting at km 1691+525 and increasing to km 1700+250.

2000	TEST HOLES 1602 to 1639	shown with prefix 558-
2004	TEST HOLES 30000 to 30046	shown with no prefix
2004	TEST HOLES 30177 to 30179	shown with no prefix

CONTENTS (continued)

Volume 2 of 3

CENTRELINE TESTING km 1691.6 to 1700.4 Alaska Highway

Laboratory Testing Result Sheets are provided.

The reports for the centreline holes are arranged according to test hole number, starting at 558-1602 and increasing to 30179.

2000	TEST HOLES 1602 to 1639	shown with prefix 558-
2004	TEST HOLES 30000 to 30046	shown with no prefix
2004	TEST HOLES 30177 to 30179	shown with no prefix

CONTENTS (continued)**Volume 3 of 3****GRANULAR SOURCE km 1635.8 RHS ALASKA HIGHWAY Pit ID 115 G-07**

NOTE: There is a kilometre chainage correction at km 1636.6 back and km 1694.0 ahead. Pit 115 G-07 is located at km 1635.8 back and km 1691 ahead.

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

Auger Testing

2001	TEST HOLES 1510 to 1514	shown with prefix 581-
2001	TEST HOLES 1515, 1517, 1518	shown with prefix 582-

Test Pit Testing

1991	TEST PITS 06 to 08	shown with prefix 152-
1992	TEST PITS 19 to 23	shown with prefix EBA-
2001	TEST PITS 1524 to 1528, 1541, & 1542	shown with prefix 583-
2001	TEST PITS 1544 to 1549 & 1552	shown with prefix 584-

HIGHWAY CONSTRUCTION

GEOTECHNICAL INVESTIGATION
km 1691.6 to 1700.4
YUKON, 2006-2007

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 & 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.

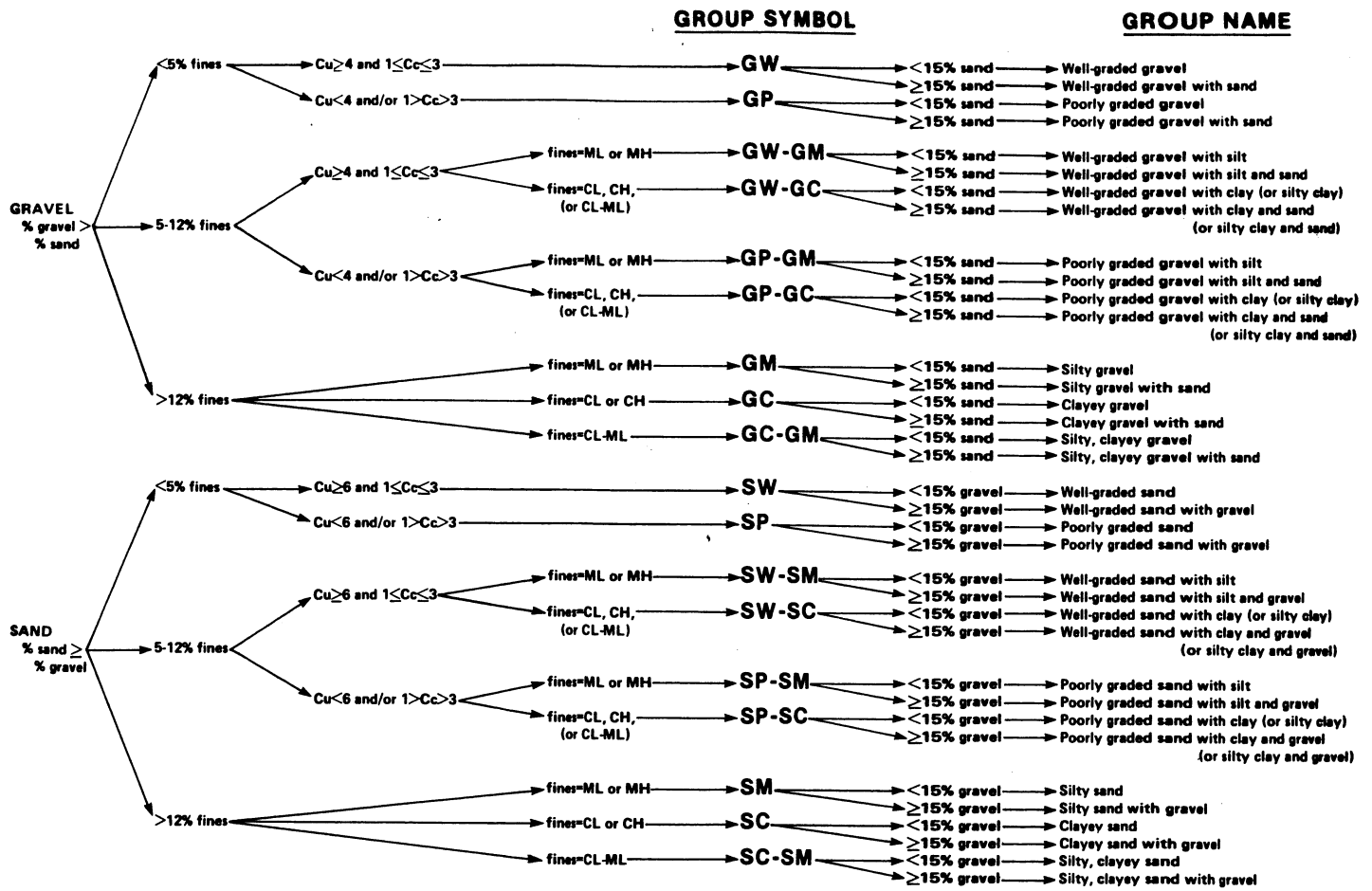
The sample laboratory testing data is provided to give detailed physical properties of selected retrieved samples within the subsurface profile. ***These tests may be conducted on disturbed samples and may exhibit properties different from the native materials. The sample classification may also vary 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.***

History of Aggregate Production Averages shown provide an unweighted average of the total individual quality control tests performed during the production of the indicated stockpiles. Individual test results may fall outside of the material type specification limit. Fracture tests may not have been performed on all samples collected.

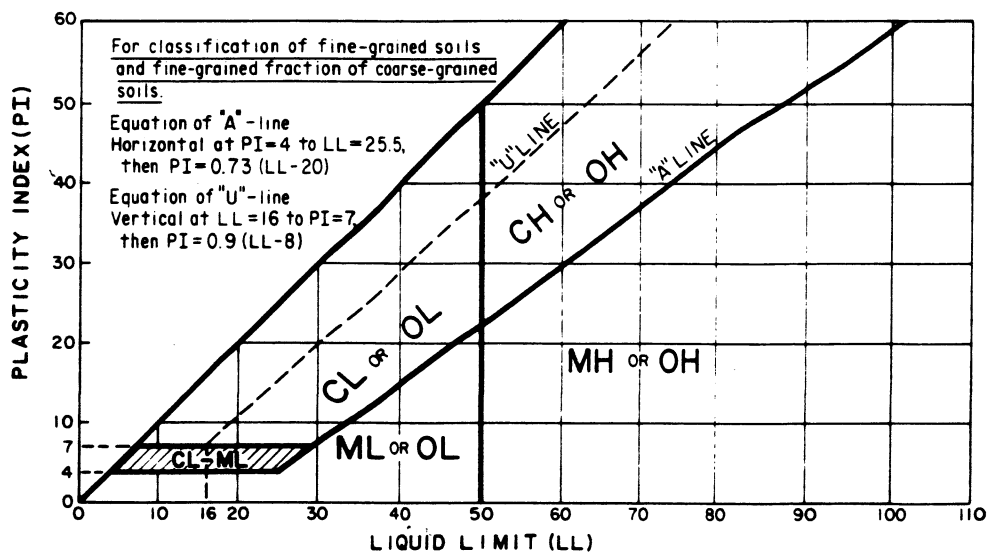
These descriptions and averages are not intended to be conclusive as to the nature of any material encountered, or to conditions between or around the test borings/pits.

Note: Development work may have taken place since the time of geotechnical investigation.

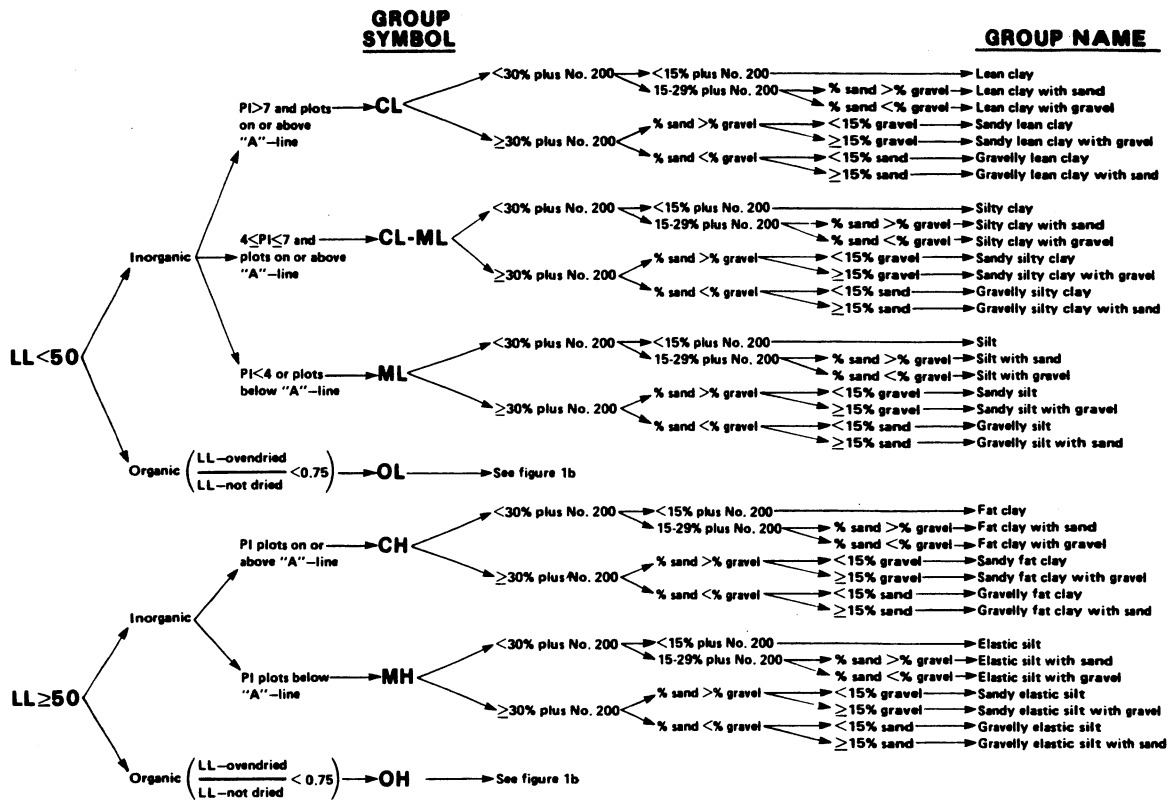
It is recommended that a site inspection, combined with consideration of the regional geology and climatic conditions be conducted. An evaluation of the investigation methods and development work done since the time of investigation should be done prior to interpreting the subsurface conditions at the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



Flow chart for classifying coarse-grained soil.



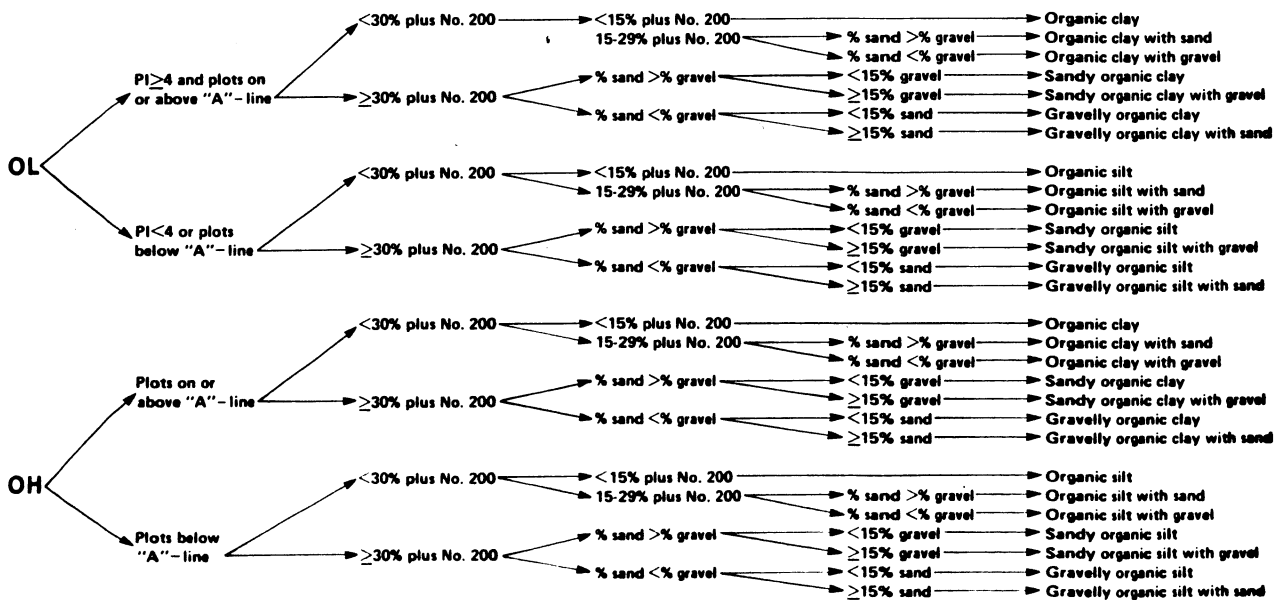
Plasticity chart.



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

- 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 $\geq 15\%$ 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 $\geq 30\%$ 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			
COARSE-GRAINED SOILS More than 50% retained on No. 200 sieve*	GRAVELS 50% or more of coarse fraction retained on No. 4 sieve	GW	Well-graded gravels and gravel-sand mixtures, little or no fines	Classification on basis of percentage of fines GW, GP, SW, SP GM, GC, SM, SC Borderline classification requiring use of dual symbols	$C_u = D_{60}/D_{10}$ Greater than 4 $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ Between 1 and 3		
		GP	Poorly-graded gravels and gravel-sand mixtures, little or no fines		Not meeting both criteria for GW		
		GM	Silty gravels, gravel-sand-silt mixtures		Atterberg limits plot below 'A' line or plasticity index less than 4	Atterberg limits plotting in hatched area are borderline classifications requiring use of dual symbols	
		GC	Clayey gravels, gravel-sand clay mixtures		Atterberg limits plot above 'A' line and plasticity index greater than 7		
	SANDS More than 50% of coarse fraction passes No. 4 sieve	CLEAN GRAVELS	SW	Well-graded sands and gravelly sands, little or no fines	Classification on basis of percentage of fines GW, GP, SW, SP GM, GC, SM, SC Borderline classification 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	
			SP	Poorly-graded sands and gravelly sands, little or no fines		Not meeting both criteria for SW	
		SANDS WITH FINES	SM	Silty sands, sand-silt mixtures		Atterberg limits plot below 'A' line or plasticity index less than 4	Atterberg limits plotting in hatched area are borderline classifications requiring use of dual symbols
			SC	Clayey sands, sand-clay mixtures		Atterberg limits plot above 'A' line and plasticity index greater than 7	
			ML	Inorganic silts, very fine sands, rock flour, silty or clayey fine sands		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: $PI = 0.73(LL - 20)$	
			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						
FINE-GRAINED SOILS 50% or more passes No. 200 sieve*	SILTS AND CLAYS Liquid limit 50% or less	MH	Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts	*Based on the material passing the 3 in. (75 mm) sieve †ASTM Designation D 2487, for identification procedure see D 2488			
		CH	Inorganic clay of high plasticity, fat clays				
		OH	Organic clays of medium to high plasticity				
	SILTS AND CLAYS Liquid limit greater than 50%	ML & OL					
		MH & OH					
		CH					
HIGHLY ORGANIC SOILS			PT	Peat, muck and other highly organic soils			

GROUND ICE DESCRIPTION

ICE NOT VISIBLE

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

- NOTE:**
- Dual symbols are used to indicate borderline or mixed ice classifications
 - Visual estimates of ice contents indicated on borehole logs $\pm 5\%$
 - This system of ground ice description has been modified from NRC Technical Memo 79, Guide to the Field Description of Permafrost for Engineering Purposes

LEGEND

Soil Ice

VISIBLE ICE LESS THAN 50% BY VOLUME

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

VISIBLE ICE GREATER THAN 50% BY VOLUME

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

	BOUNDARY LINES ON DRILL LOGS	TEST HOLE NO: 3
ENGINEERING-CAPITAL		Project No:
		ELEVATION: 0.00 (m)
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	<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								3.0
4.0	▼ A triangle over two lines indicates water level detected at the time of drilling, unless otherwise noted							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 1691.6 to 1700.4
YUKON, 2006-2007

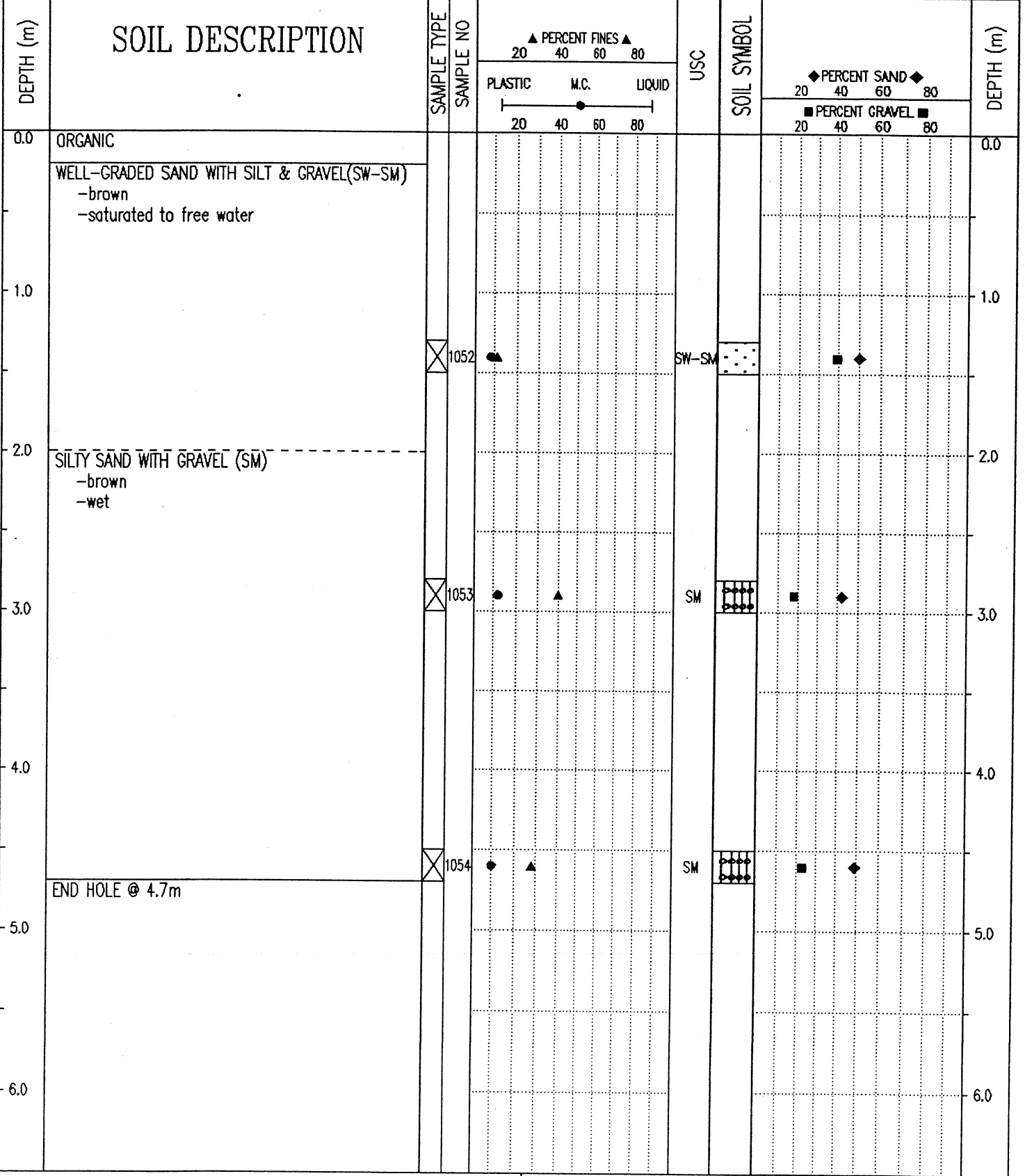
ALASKA HIGHWAY #1

**CENTRELINE TESTING
1691.6 to 1700.4
ALASKA HIGHWAY**

**Subsurface Exploration
and
Test Report Sheets**

SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEGMENT 9	TEST HOLE NO: 558-1639
ENGINEERING CAPITAL	KM 1664.5-1692.6 A/H	Project No: 092-202101-0363
B40-L MOBILE DRILL 6" AUGER	LOCATION: 1691+525 06M LT	ELEVATION: 0.00 (m)

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



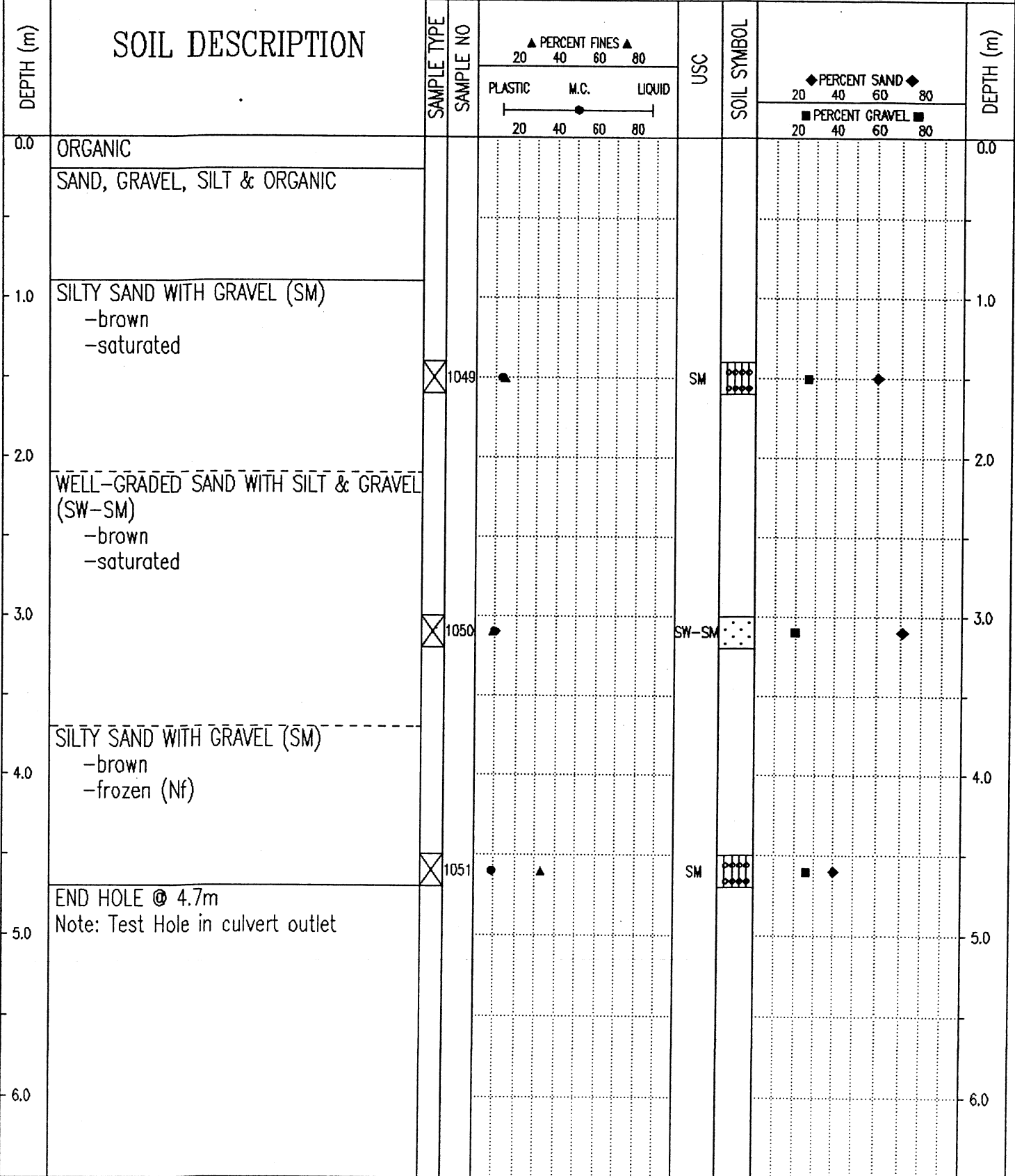
Government of Yukon
Transportation Engineering

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

COMPLETION DEPTH: 4.7 m
COMPLETE: 00/06/30

SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEGMENT 9	TEST HOLE NO: 558-1638
ENGINEERING CAPITAL	KM 1664.5-1692.6 A/H	Project No: 092-202101-0363
B40-L MOBILE DRILL 6" AUGER	LOCATION: 1691+595 20M RT	ELEVATION: 0.00 (m)

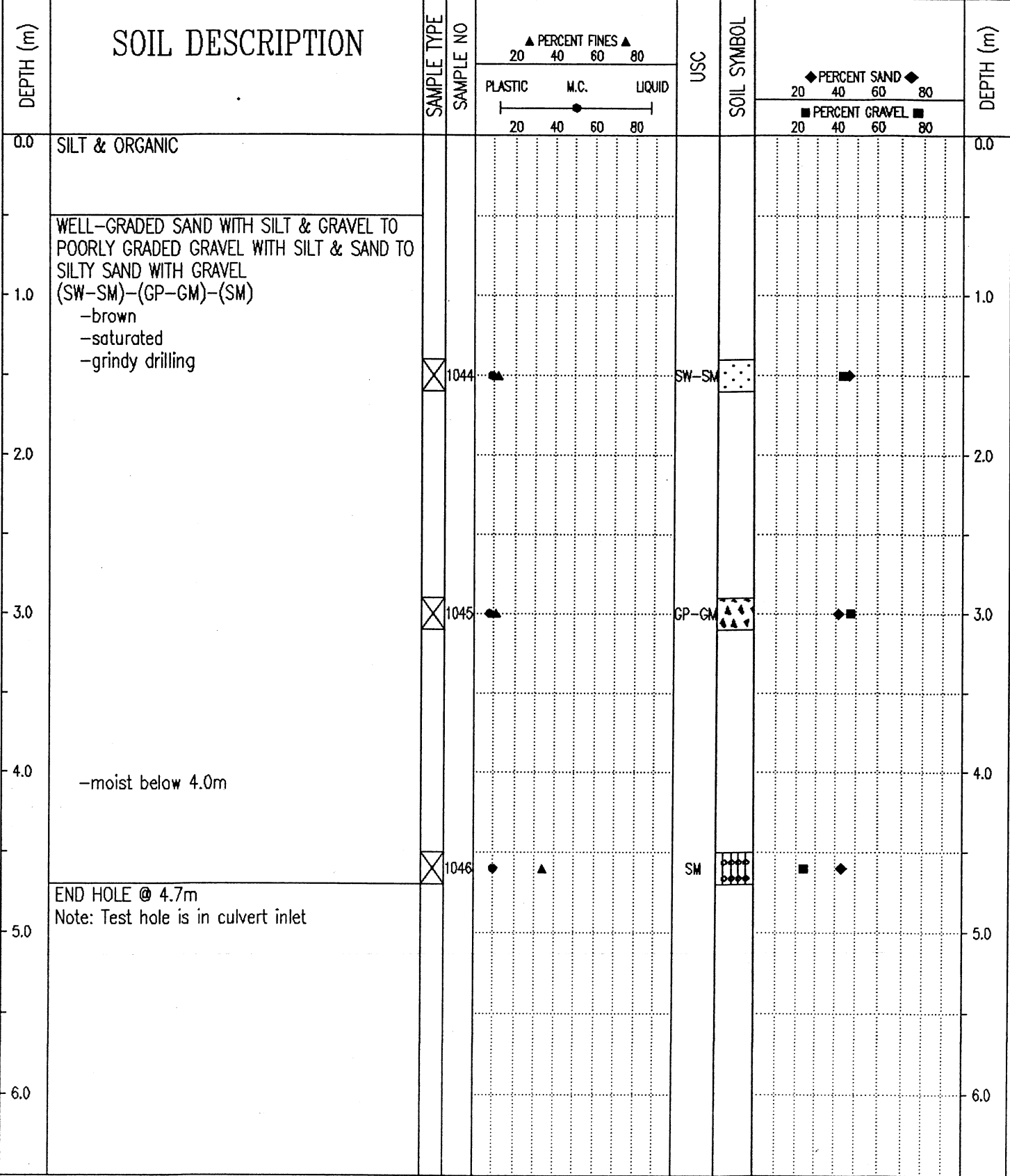
SAMPLE TYPE RETURN S.P.T. AUGER BULK TUBE CORE



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 Fig. No: Page 1 of 1

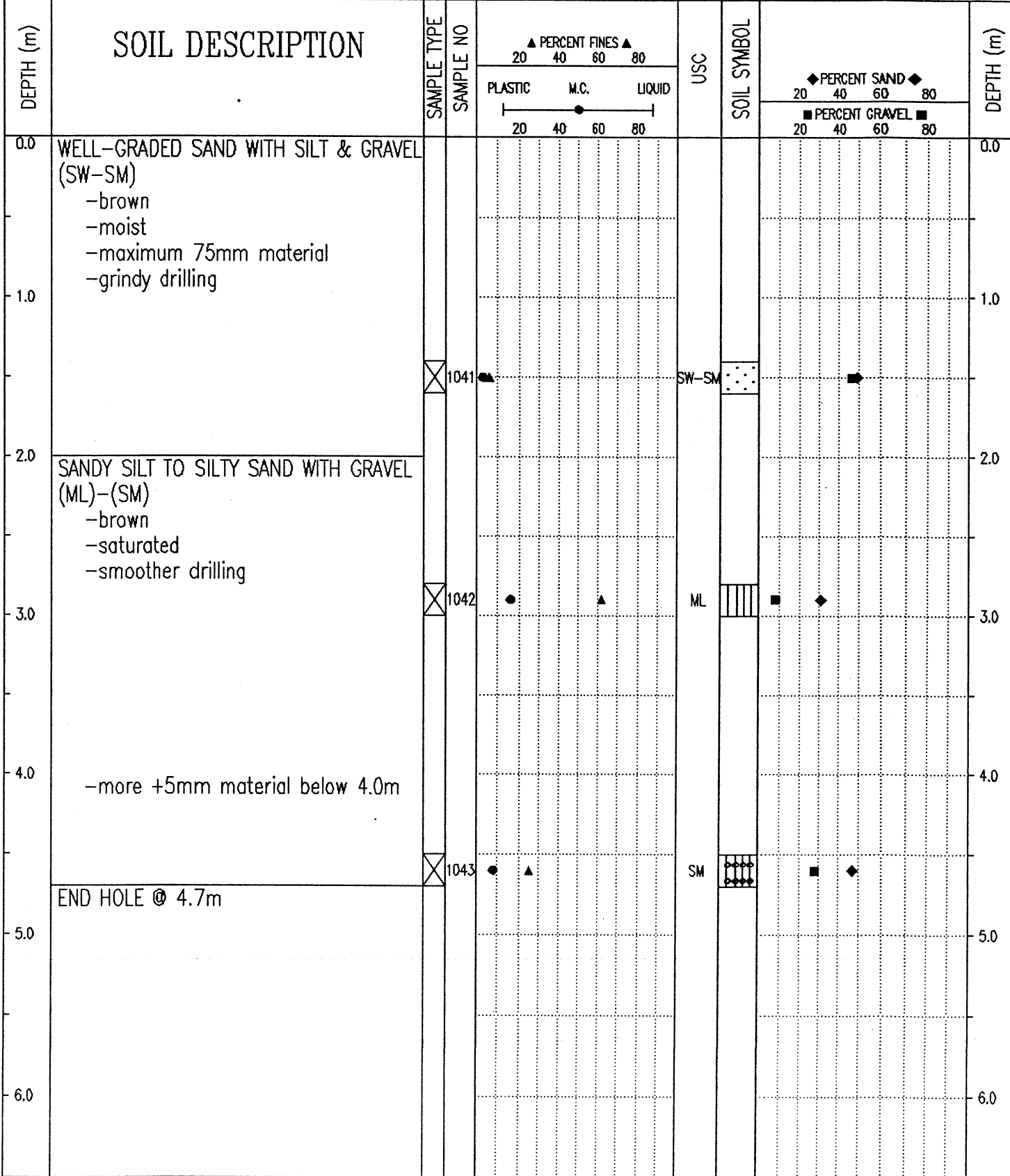
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ENGINEERING CAPITAL	KM 1664.5-1692.6 A/H	Project No: 092-202101-0363
B40-L MOBILE DRILL 6" AUGER	LOCATION: 1691+600 15M LT	ELEVATION: 0.00 (m)
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	Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEGMENT 9	TEST HOLE NO: 558-1635
ENGINEERING CAPITAL	KM 1664.5-1692.6 A/H	Project No: 092-202101-0363
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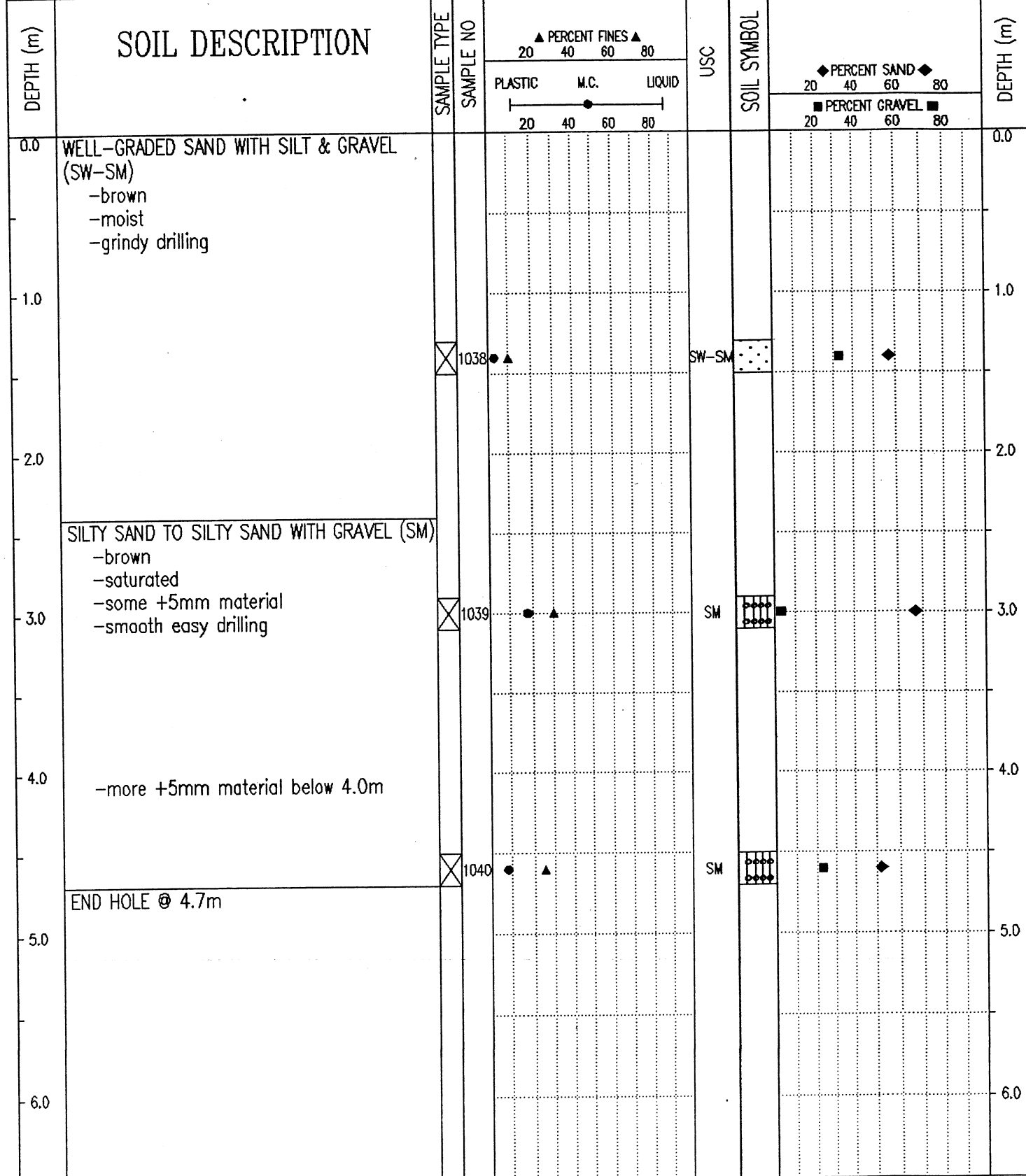


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COMPLETE: 00/06/29

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ENGINEERING CAPITAL		KM 1664.5-1692.6 A/H	Project No: 092-202101-0363
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		<input type="checkbox"/> BULK	<input type="checkbox"/> TUBE
			<input type="checkbox"/> CORE



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COMPLETION DEPTH: 4.7 m
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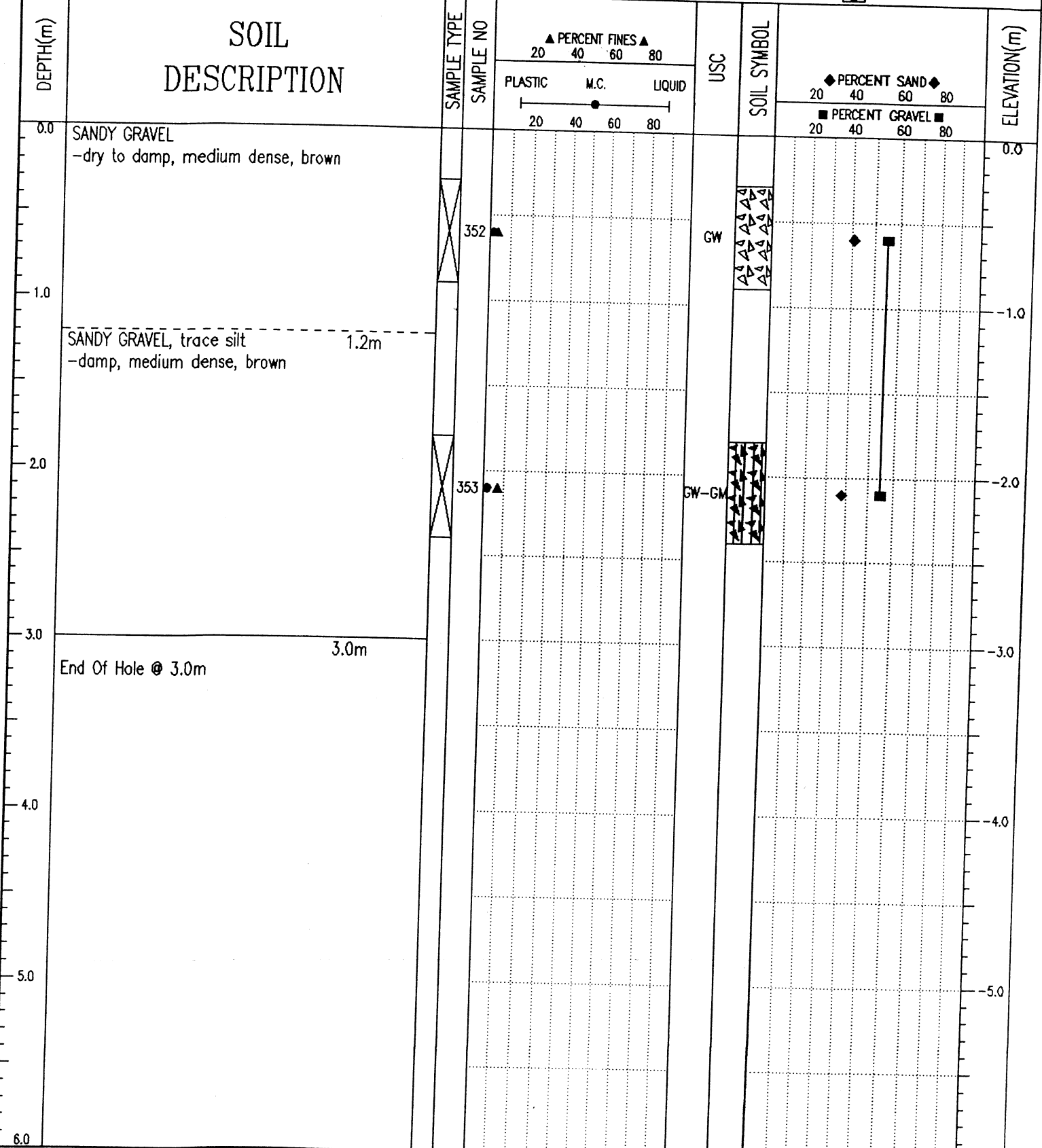
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Geotechnical Services
 Donjek Services Ltd.
 CME75 Drill on FN60 Flextrac Nodwell

Km 1691.7 to 1717.3 Alaska Highway #1
 UTM ZONE: - N6767988 E644064

TEST PIT NO: 30000
 PROJECT NO: 8002-318
 ELEVATION:

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



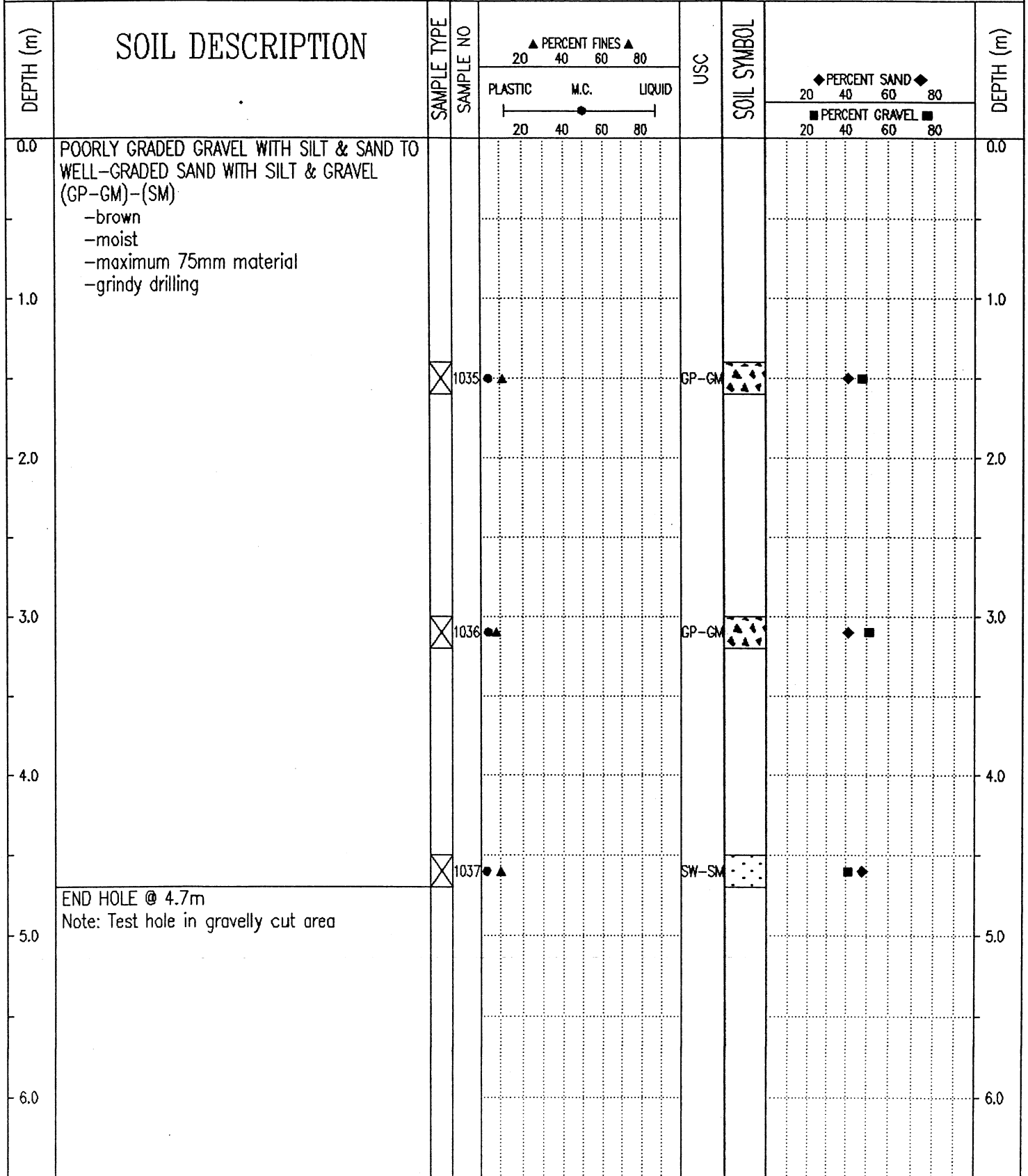
J. R. Paine & Associates Ltd.
 Whitehorse, Yukon

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SUBSURFACE EXPLORATION AND TEST REPORT		SHAKWAK SEGMENT 9	TEST HOLE NO: 558-1633
ENGINEERING CAPITAL		KM 1664.5-1692.6 A/H	Project No: 092-202101-0363
B40-L MOBILE DRILL 6" AUGER		LOCATION: 1691+875 15M LT	ELEVATION: 0.00 (m)
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		<input type="checkbox"/> BULK	<input type="checkbox"/> TUBE
			<input type="checkbox"/> CORE



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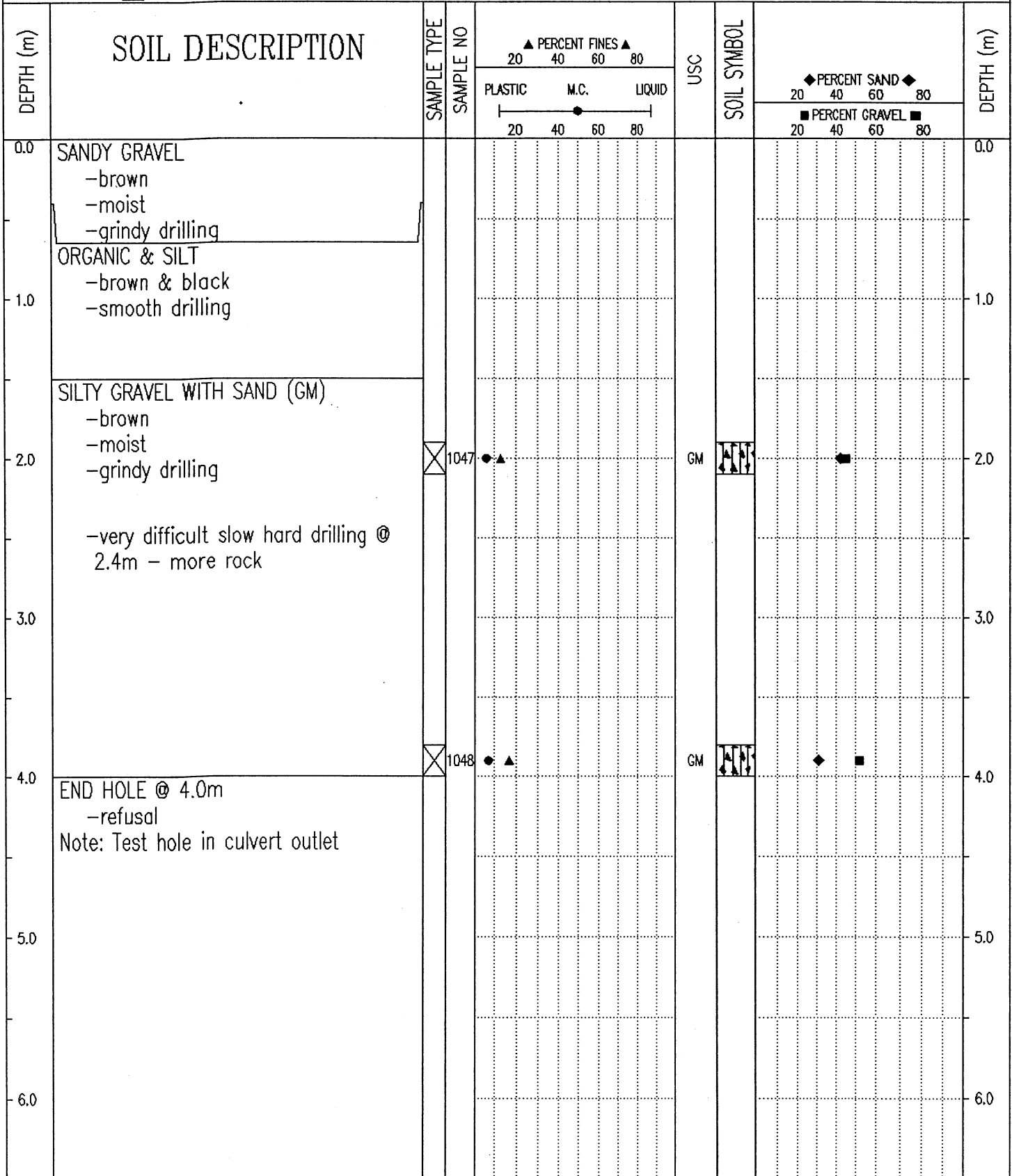
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COMPLETE: 00/06/29

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SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEGMENT 9	TEST HOLE NO: 558-1637
ENGINEERING CAPITAL	KM 1664.5-1692.6 A/H	Project No: 092-202101-0363
B40-L MOBILE DRILL 6" AUGER	LOCATION: 1691+984 20M 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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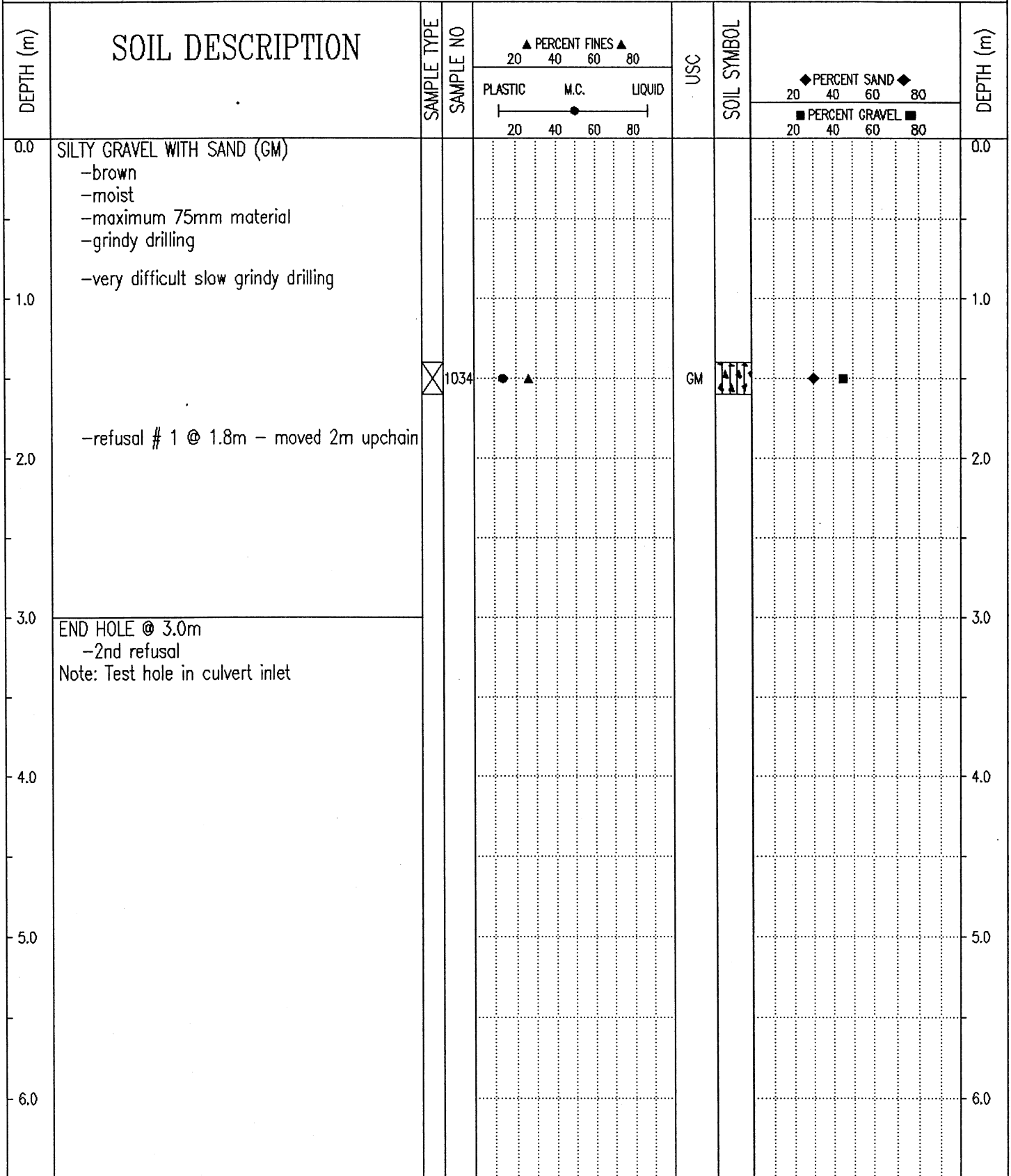
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COMPLETE: 00/06/29

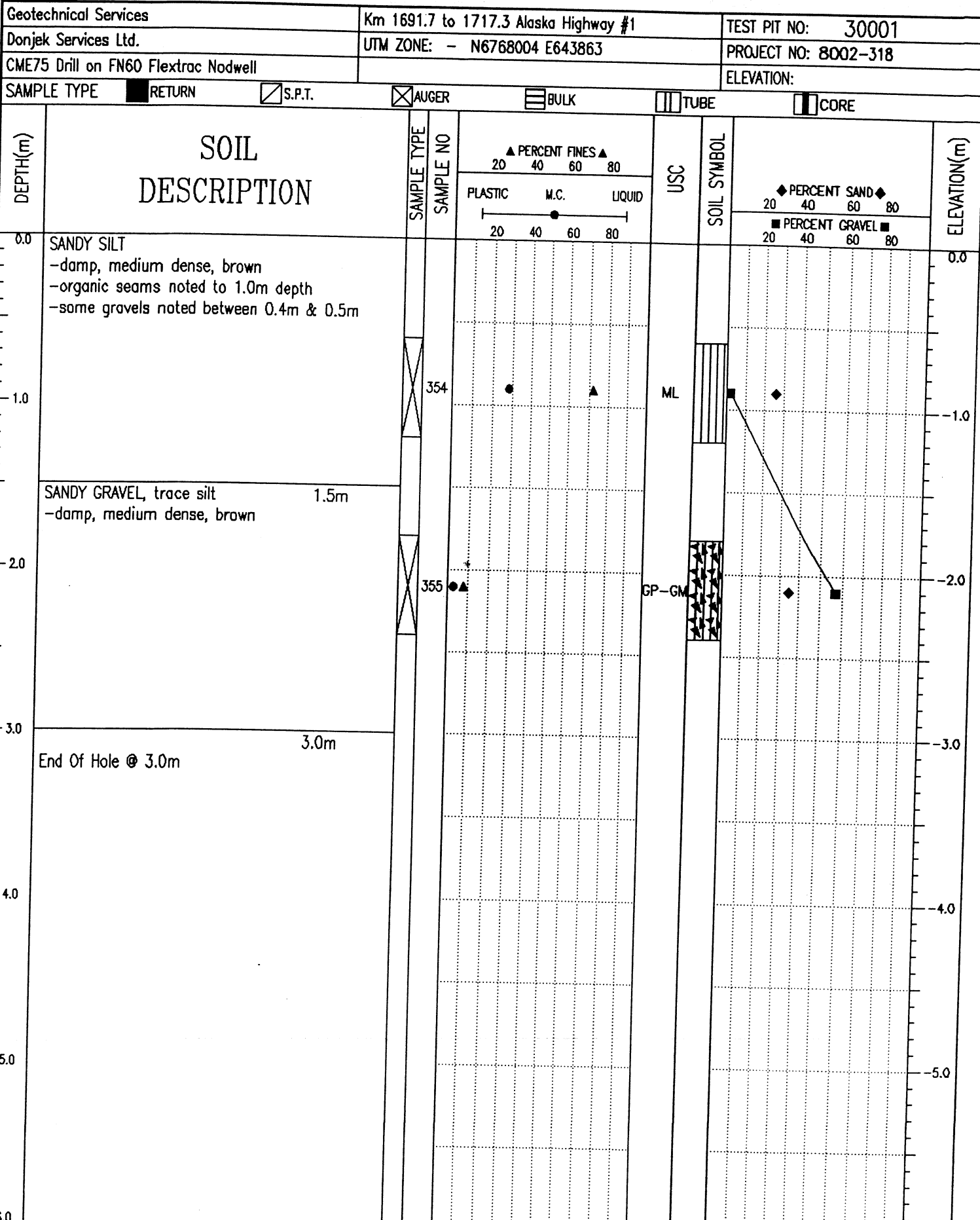
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SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEGMENT 9	TEST HOLE NO: 558-1632
ENGINEERING CAPITAL	KM 1664.5-1692.6 A/H	Project No: 092-202101-0363
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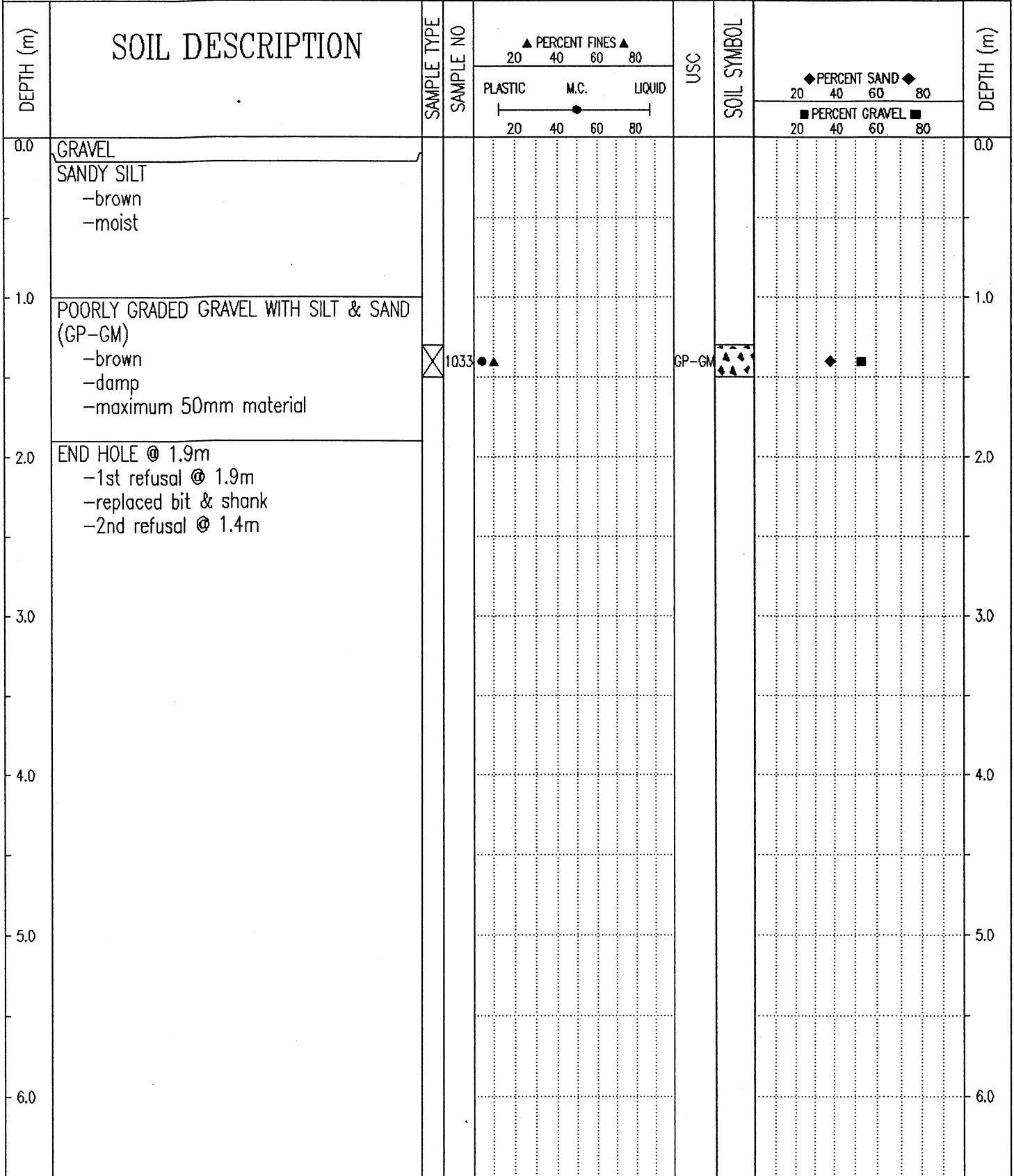


J. R. Paine & Associates Ltd.
Whitehorse, Yukon

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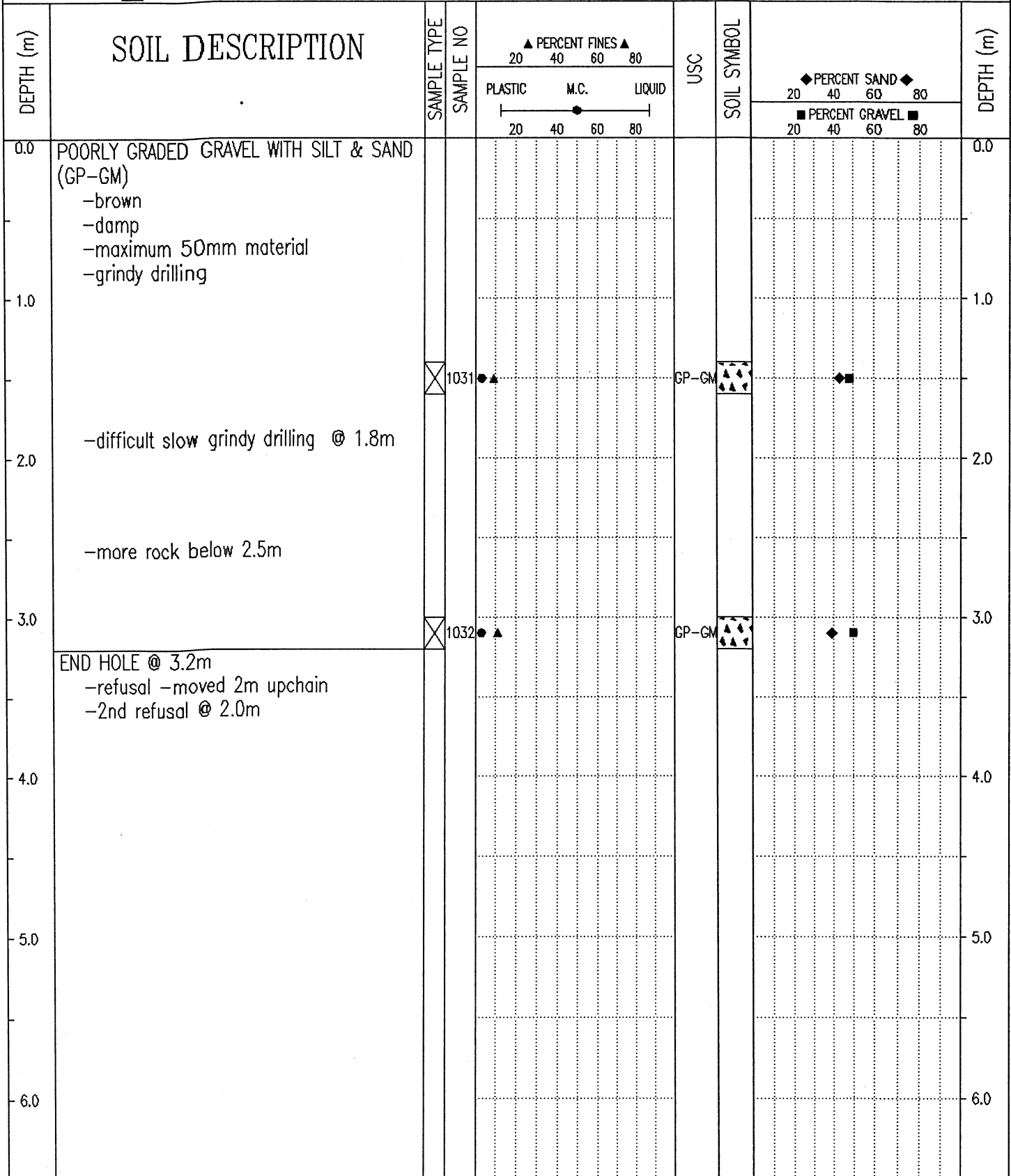
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COMPLETE: 08/16/04

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ENGINEERING CAPITAL	KM 1664.5-1692.6 A/H	Project No: 092-202101-0363
B40-L MOBILE DRILL 6" AUGER	LOCATION: 1692+050 15M LT	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



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	REVIEWED BY:	COMPLETE: 00/06/29
	Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEGMENT 9	TEST HOLE NO: 558-1630
ENGINEERING CAPITAL	KM 1664.5-1692.6 A/H	Project No: 092-202101-0363
B40-L MOBILE DRILL 6" AUGER	LOCATION: 1692+150 15M LT	ELEVATION: 0.00 (m)
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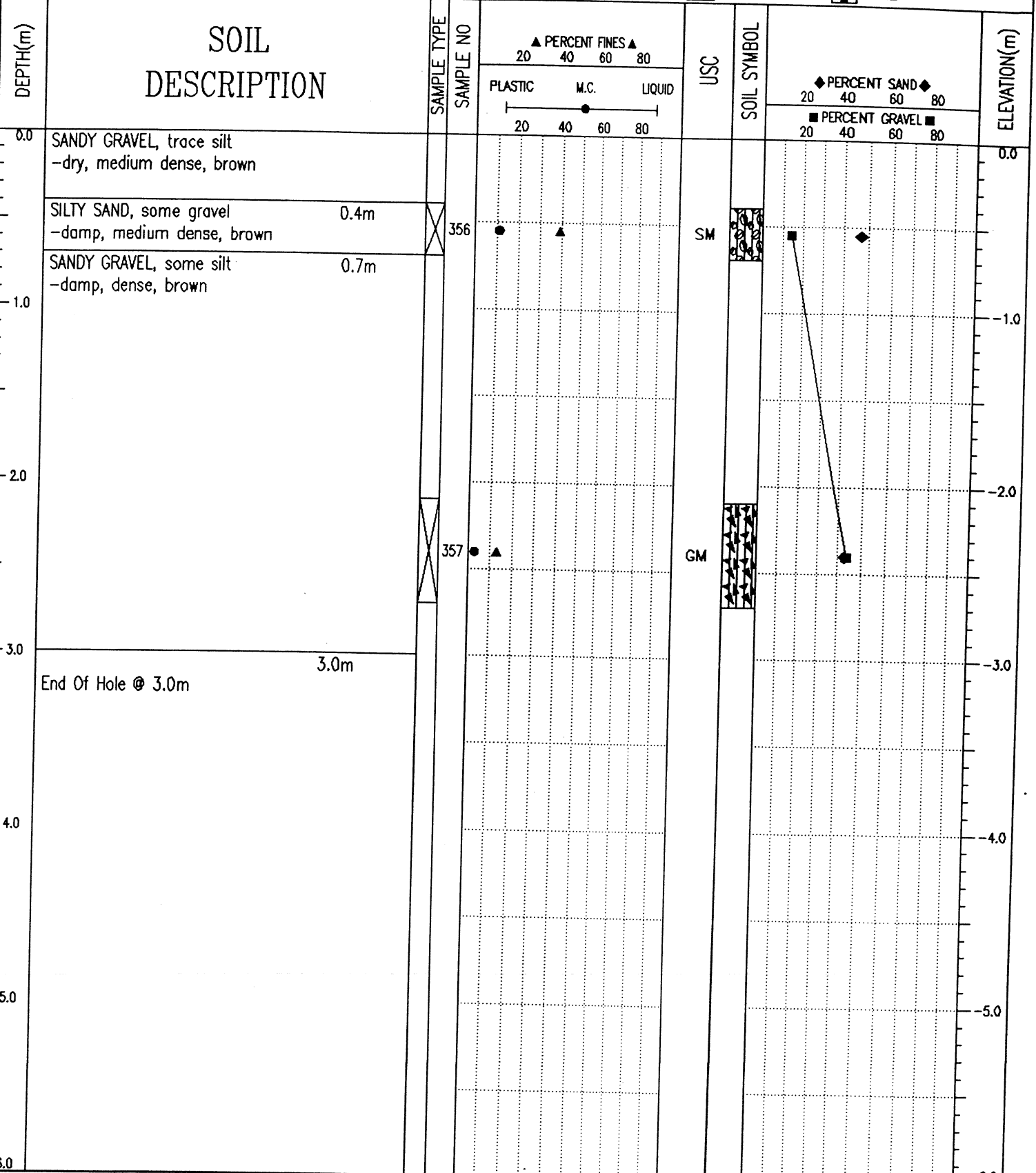
Fig. No:

COMPLETION DEPTH: 3.2 m

COMPLETE: 00/06/29

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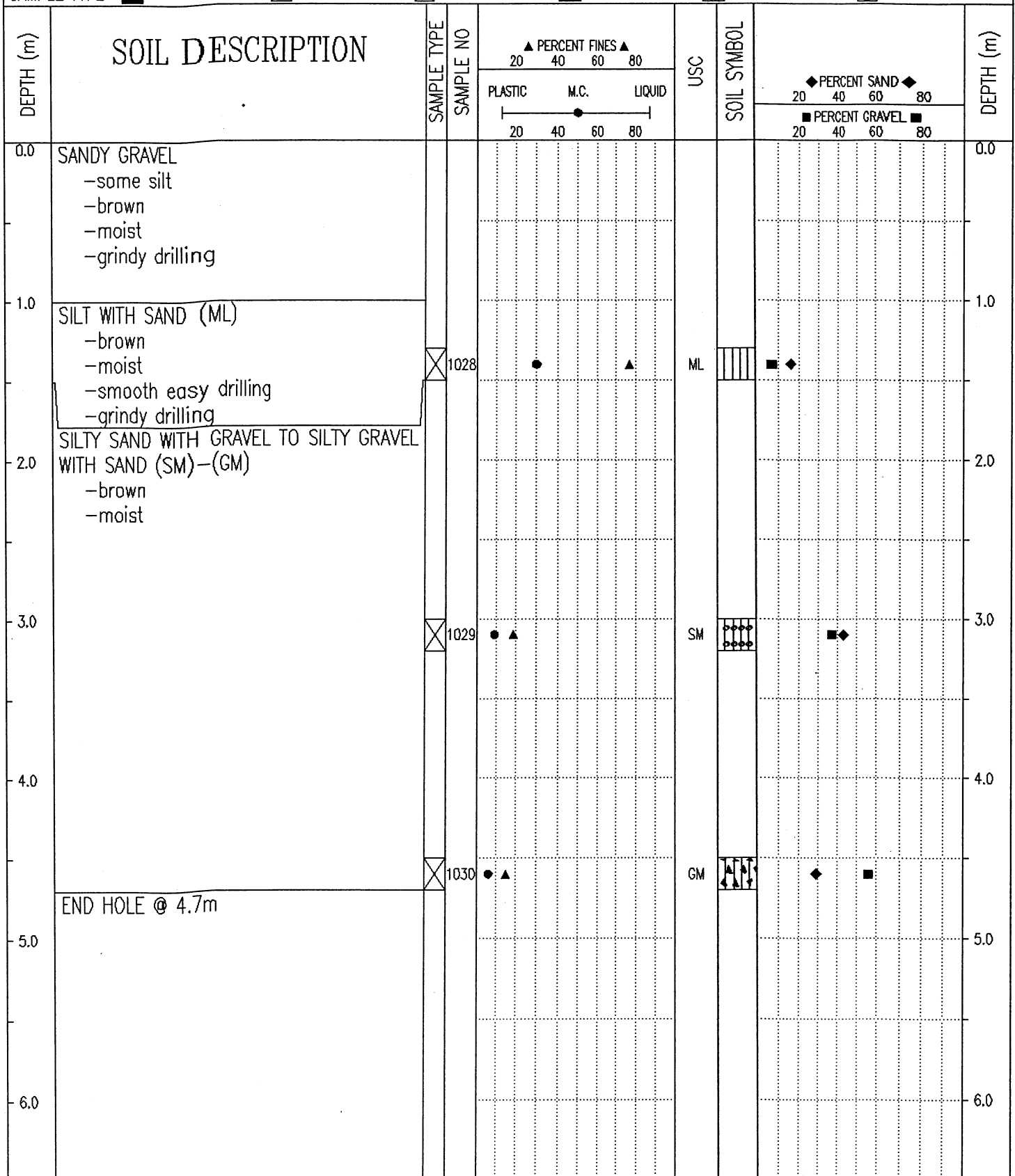
Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1 TEST PIT NO: 30002
 Donjek Services Ltd. UTM ZONE: - N6768001 E643667 PROJECT NO: 8002-318
 CME75 Drill on FN60 Flextrac Nodwell ELEVATION:



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LOGGED BY: RW	COMPLETION DEPTH: 3 m
REVIEWED BY:	COMPLETE: 08/16/04
Fig. No: 160	

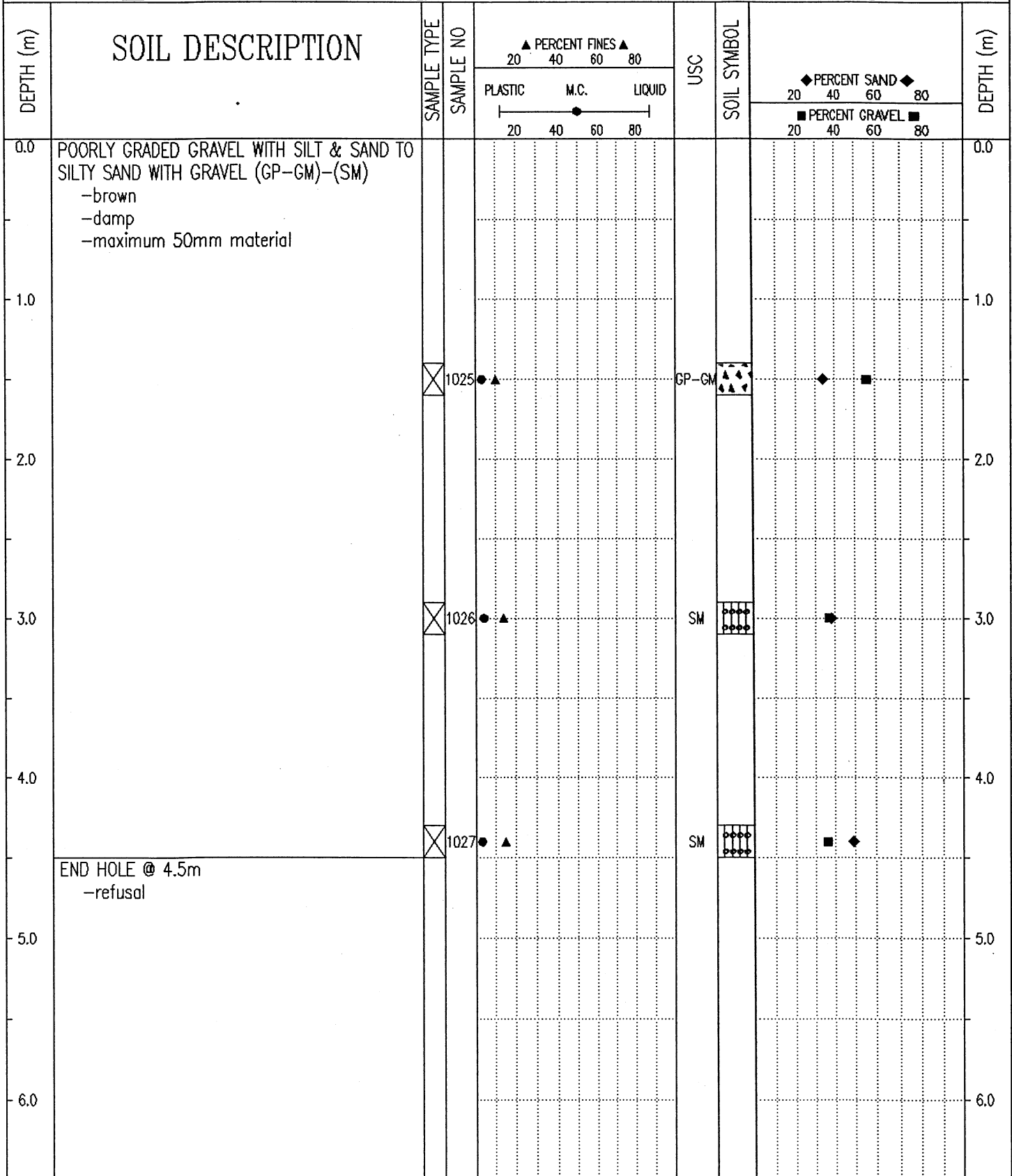
SUBSURFACE EXPLORATION AND TEST REPORT		SHAKWAK SEGMENT 9	TEST HOLE NO: 558-1629
ENGINEERING CAPITAL		KM 1664.5-1692.6 A/H	Project No: 092-202101-0363
B40-L MOBILE DRILL 6" AUGER		LOCATION: 1692+250 15M LT	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN	<input checked="" type="checkbox"/> 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: 4.7 m
REVIEWED BY:	COMPLETE: 00/06/29
Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEGMENT 9	TEST HOLE NO: 558-1628
ENGINEERING CAPITAL	KM 1664.5-1692.6 A/H	Project No: 092-202101-0363
B40-L MOBILE DRILL 6" AUGER	LOCATION: 1692+350 12M 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

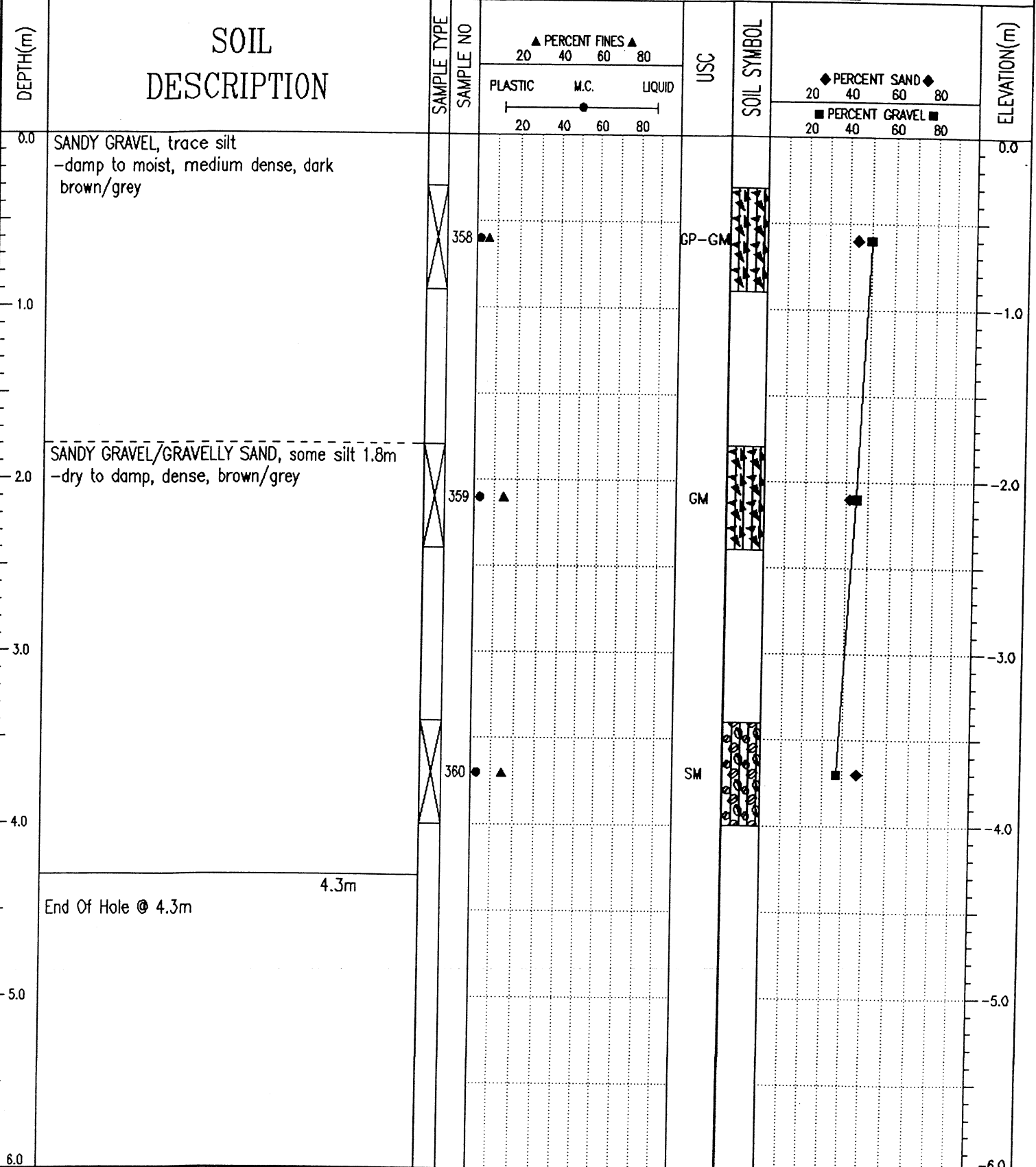


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LOGGED BY: D.T.
REVIEWED BY:
Fig. No:

COMPLETION DEPTH: 4.5 m
COMPLETE: 00/06/29

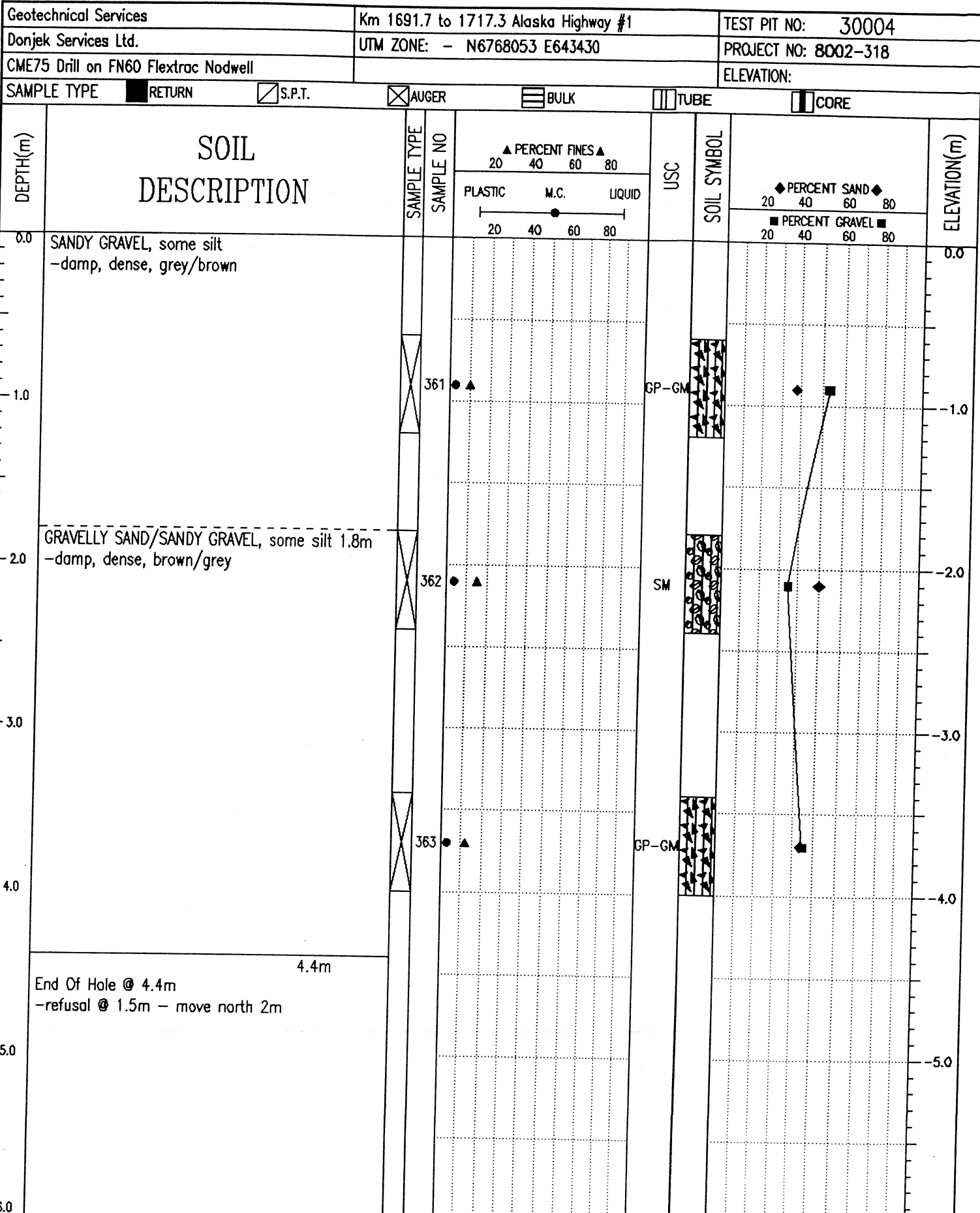
SAMPLE TYPE RETURN S.P.T. AUGER BULK TUBE CORE



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REVIEWED BY: -
Fig. No: 161

COMPLETION DEPTH: 4.3 m
COMPLETE: 08/16/04
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LOGGED BY: RW
REVIEWED BY: -
Fig. No: 162

COMPLETION DEPTH: 4.4 m
COMPLETE: 08/16/04

05/02/23 02:25PM (YIC_JHWS)

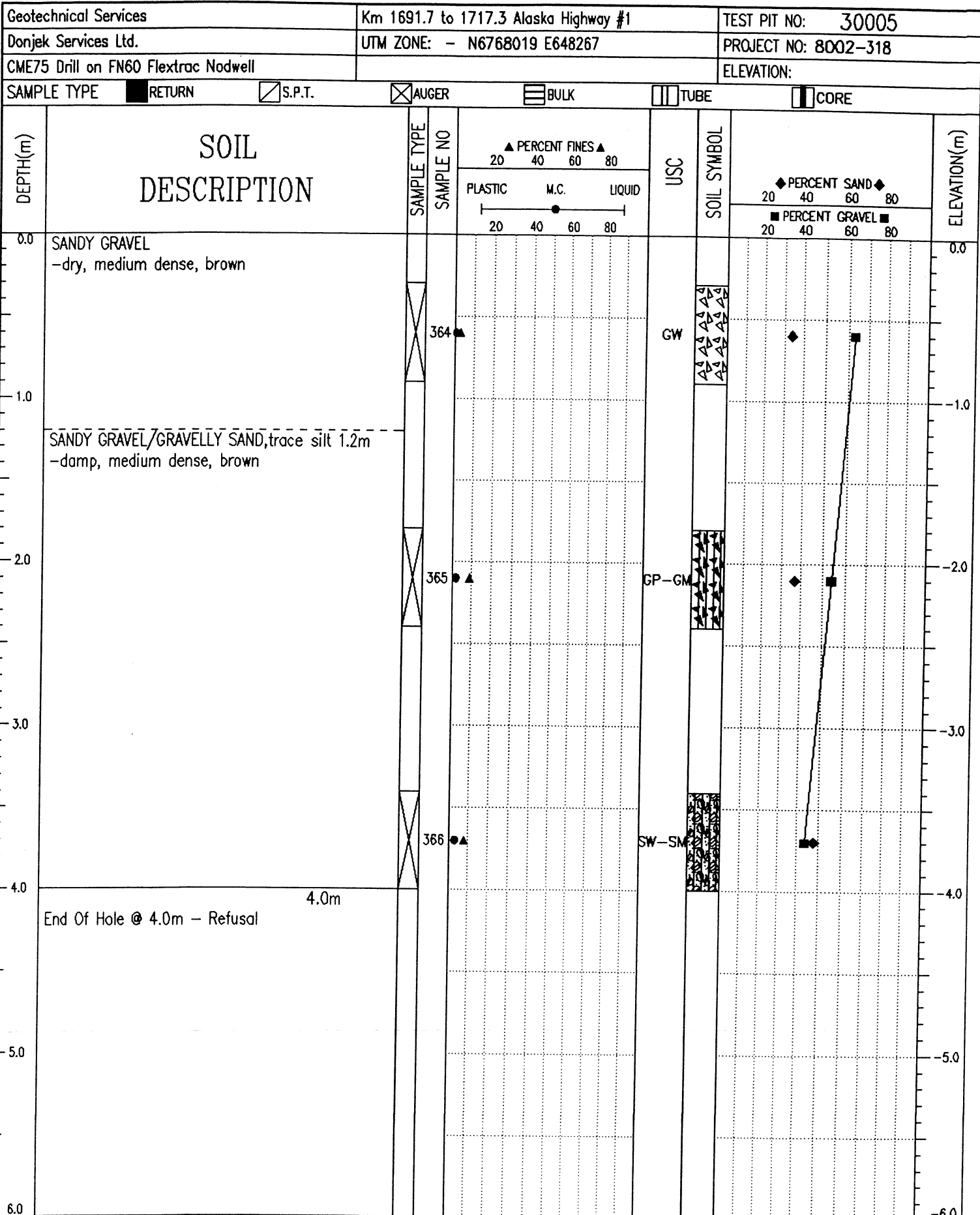
SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEGMENT 9	TEST HOLE NO: 558-1623
ENGINEERING CAPITAL	KM 1664.5-1692.6 A/H	Project No: 092-202101-0363
B40-L MOBILE DRILL 6" AUGER	LOCATION: 1692+500 11M LT	ELEVATION: 0.00 (m)
SAMPLE TYPE <input type="checkbox"/> RETURN <input checked="" type="checkbox"/> 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	POORLY GRADED GRAVEL (GP) -brown -damp -grindy drilling -maximum 75mm material -1st refusal @ .7m - moved 2m downchain											0.0
1.0												1.0
2.0												2.0
3.0	END HOLE @ 3.0m	<input checked="" type="checkbox"/>	1014				GP	▲▲▲▲	◆	■		3.0
4.0												4.0
5.0												5.0
6.0												6.0

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REVIEWED BY:
Fig. No:

COMPLETION DEPTH: 3.0 m
COMPLETE: 00/06/28



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LOGGED BY: RW
REVIEWED BY: -
Fig. No: 163

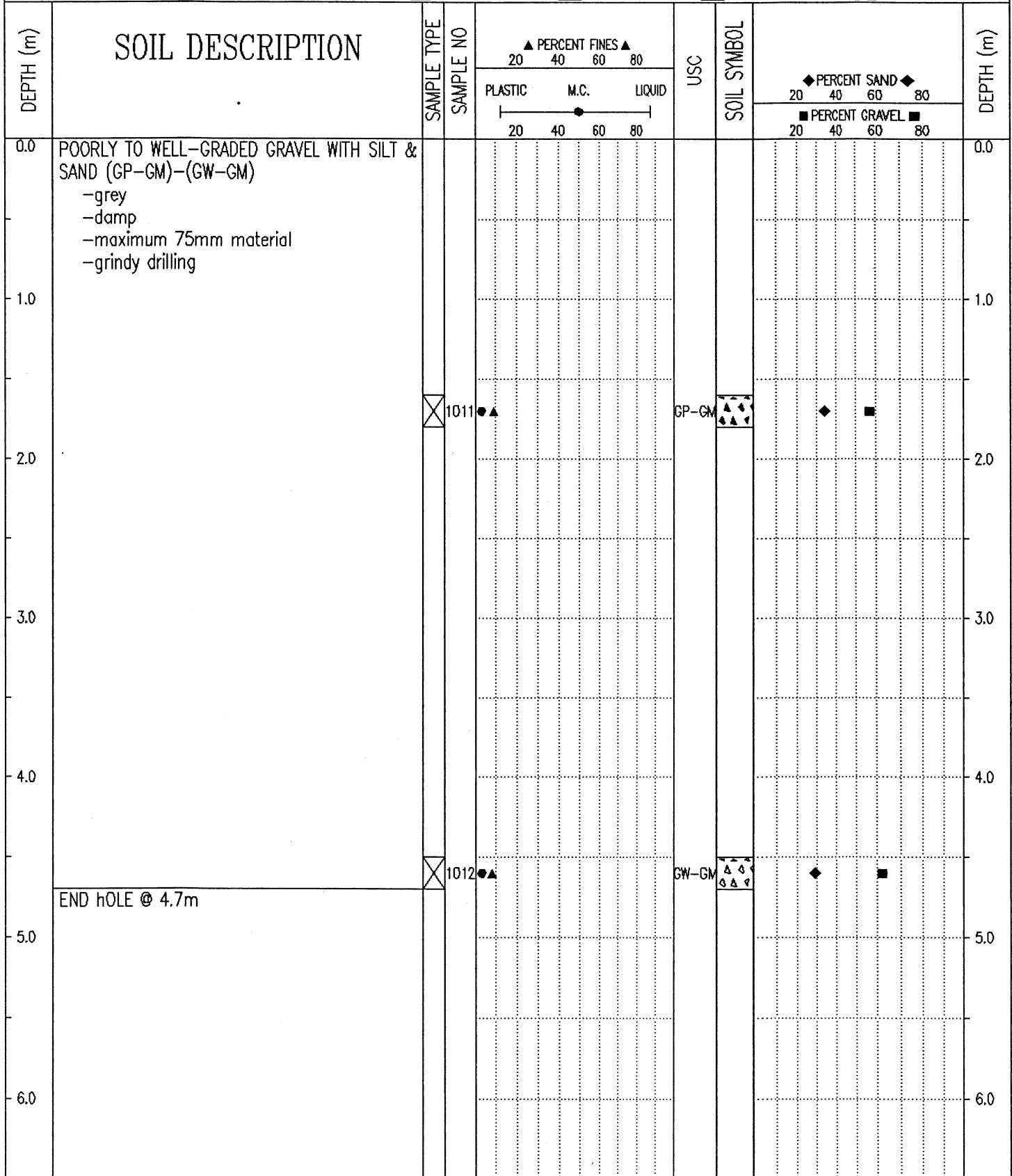
COMPLETION DEPTH: 4 m
COMPLETE: 08/18/04

SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEGMENT 9	TEST HOLE NO: 558-1622
ENGINEERING CAPITAL	KM 1664.5-1692.6 A/H	Project No: 092-202101-0363
B40-L MOBILE DRILL 6" AUGER	LOCATION: 1692+600 14M 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		

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	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM) -brown -damp -maximum 75mm material -grindy drilling											0.0
1.0												1.0
2.0			1013					GP-GM				2.0
3.0	-no sample recovered											3.0
4.0	END HOLE @ 4.0m -refusal											4.0
5.0												5.0
6.0												6.0

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	REVIEWED BY:	COMPLETE: 00/06/27
	Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEGMENT 9	TEST HOLE NO: 558-1621
ENGINEERING CAPITAL	KM 1664.5-1692.6 A/H	Project No: 092-202101-0363
B40-L MOBILE DRILL 6" AUGER	LOCATION: 1692+750 15M LT	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	

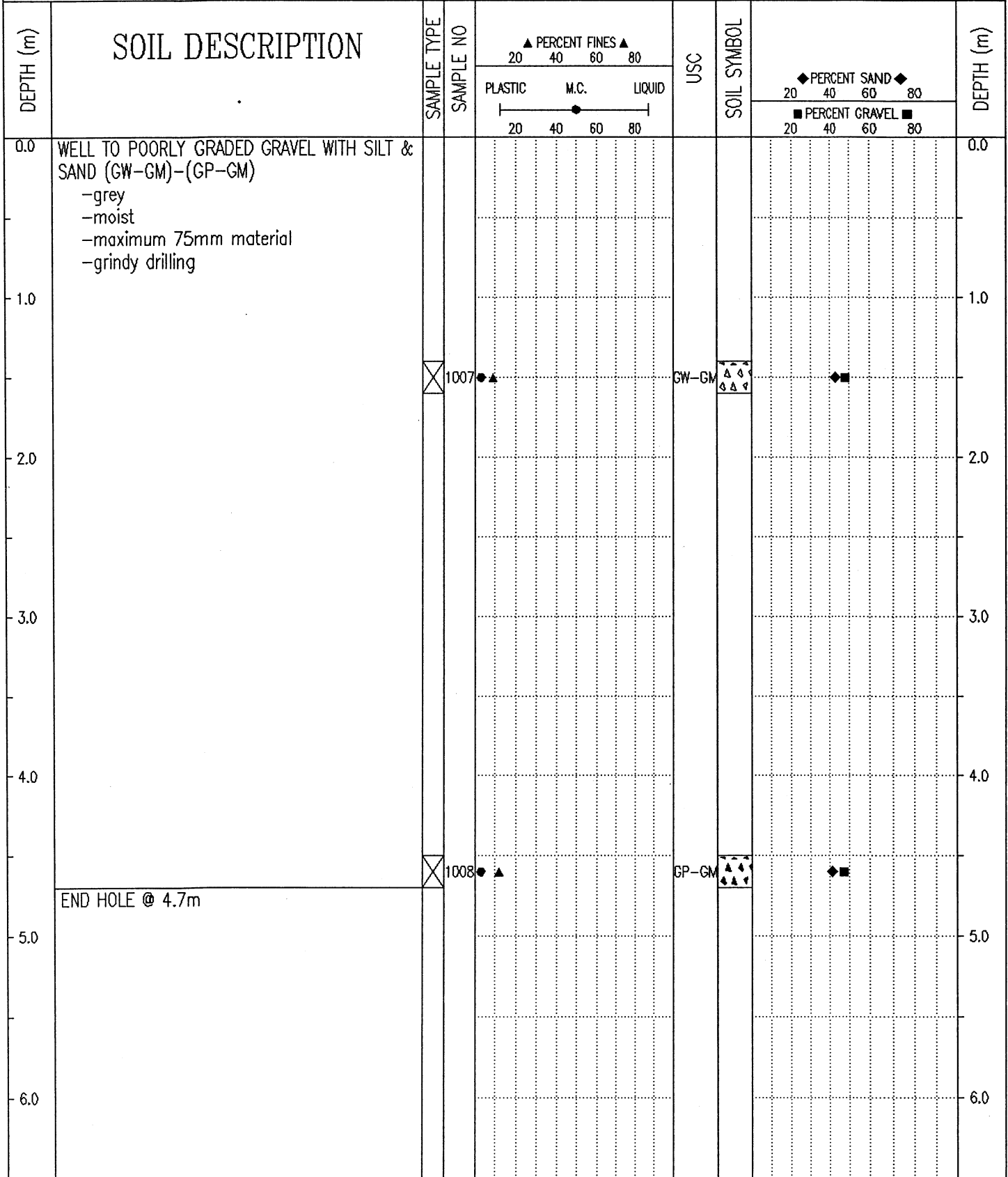


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REVIEWED BY:	COMPLETE: 00/06/27
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SUBSURFACE EXPLORATION AND TEST REPORT		SHAKWAK SEGMENT 9		TEST HOLE NO: 558-1620								
ENGINEERING CAPITAL		KM 1664.5-1692.6 A/H		Project No: 092-202101-0363								
B40-L MOBILE DRILL 6" AUGER		LOCATION: 1692+850 15M 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								
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	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM) -grey -damp -maximum 75mm material -grindy drilling											0.0
1.0												1.0
2.0		<input checked="" type="checkbox"/>	1009	▲			GP-GM	▲▲▲▲	◆	■		2.0
3.0												3.0
4.0												4.0
5.0	END HOLE @ 4.7m	<input checked="" type="checkbox"/>	1010	▲			GP-GM	▲▲▲▲	◆	■		5.0
6.0												6.0
Government of Yukon Transportation Engineering				LOGGED BY: D.T.				COMPLETION DEPTH: 4.7 m				
				REVIEWED BY:				COMPLETE: 00/06/27				
				Fig. No:				Page 1 of 1				

SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEGMENT 9	TEST HOLE NO: 558-1619
ENGINEERING CAPITAL	KM 1664.5-1692.6 A/H	Project No: 092-202101-0363
B40-L MOBILE DRILL 6" AUGER	LOCATION: 1692+950 15M 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

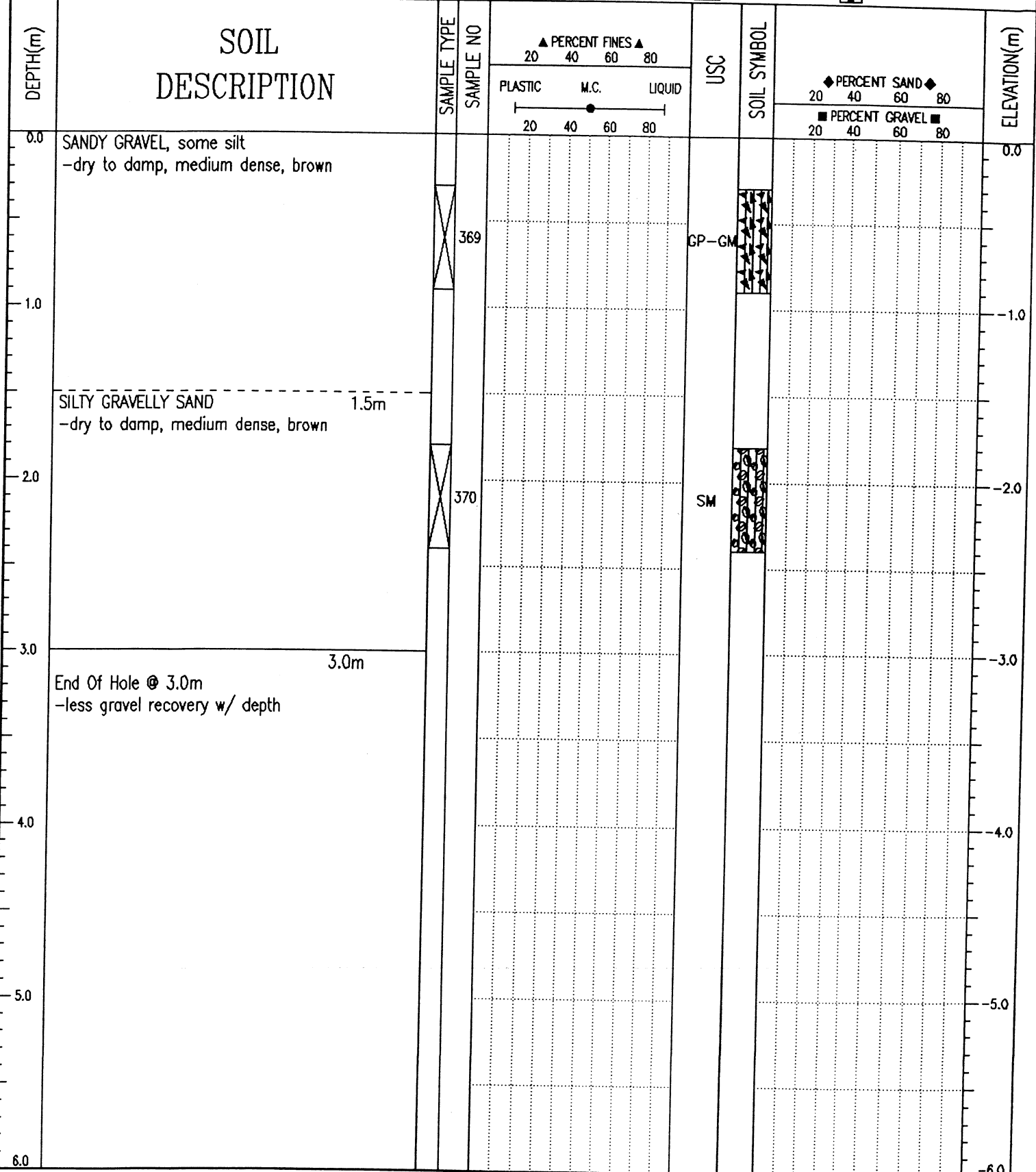


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REVIEWED BY:
Fig. No:

COMPLETION DEPTH: 4.7 m
COMPLETE: 00/06/27
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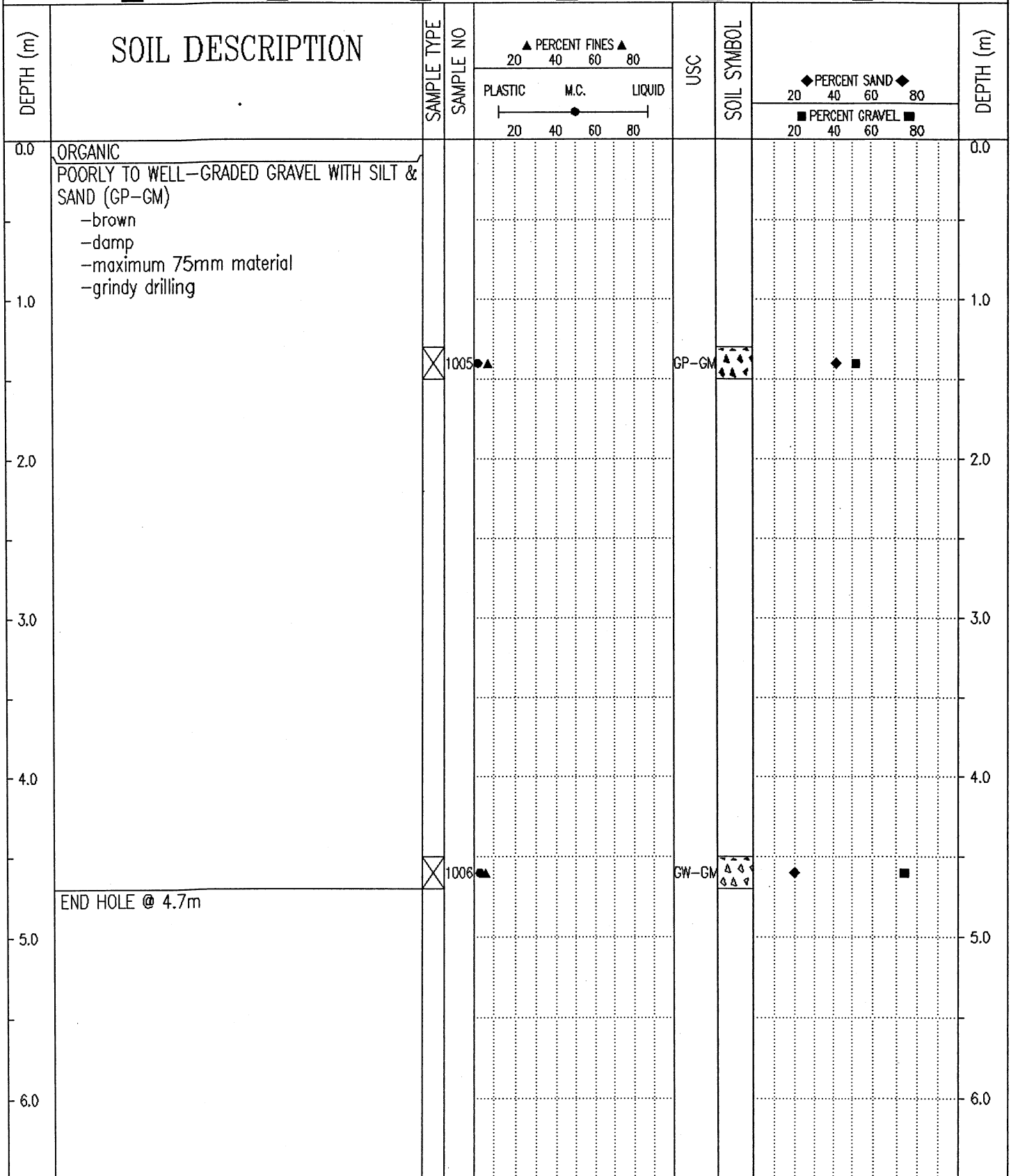
SAMPLE TYPE RETURN S.P.T. AUGER BULK TUBE CORE



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SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEGMENT 9	TEST HOLE NO: 558-1618
ENGINEERING CAPITAL	KM 1664.5-1692.6 A/H	Project No: 092-202101-0363
B40-L MOBILE DRILL 6" AUGER	LOCATION: 1693+050 15M LT	ELEVATION: 0.00 (m)
SAMPLE TYPE <input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE		

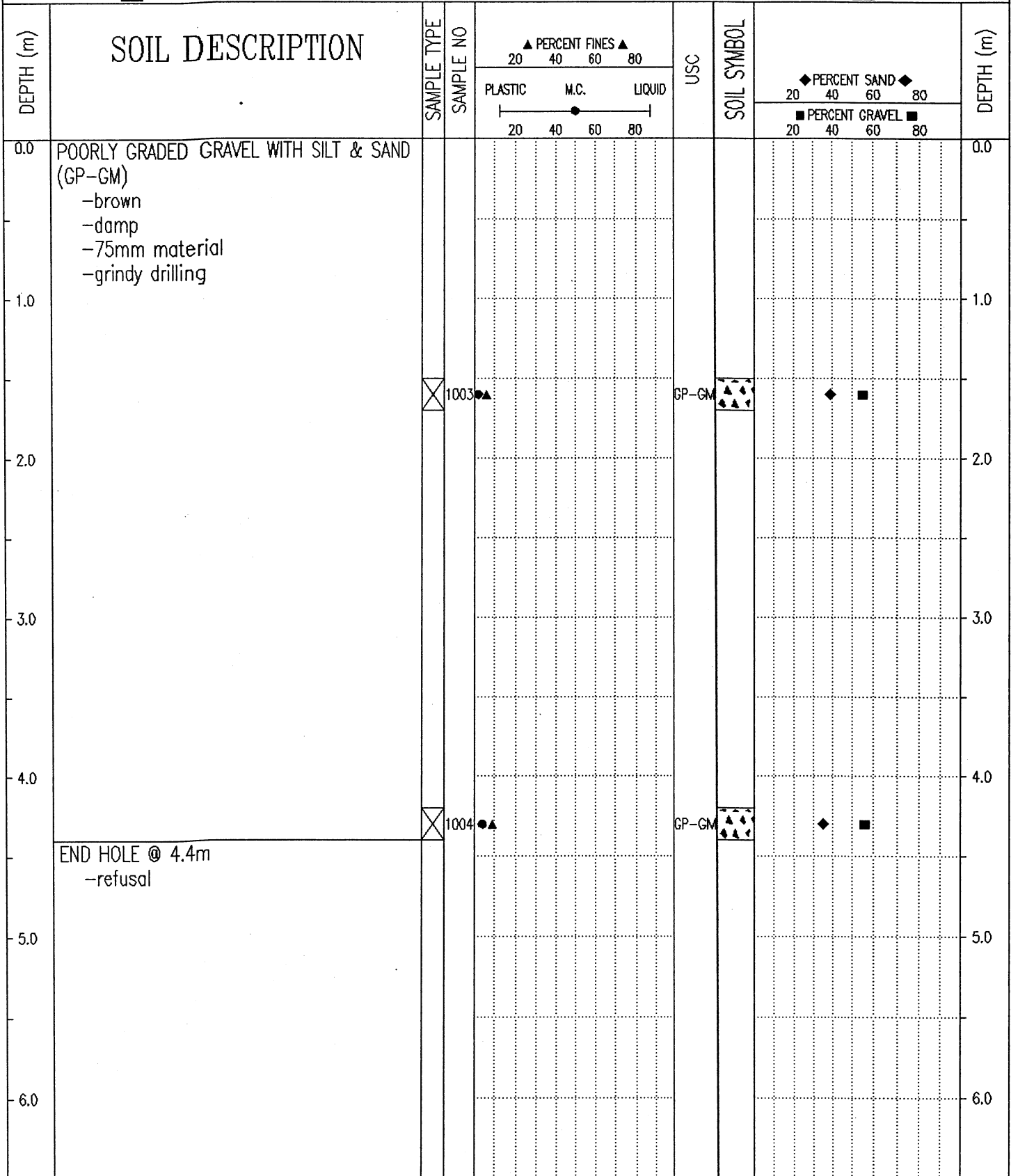


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LOGGED BY: D.T.
 REVIEWED BY:
 Fig. No:

COMPLETION DEPTH: 4.7 m
 COMPLETE: 00/06/27

SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEGMENT 9	TEST HOLE NO: 558-1617
ENGINEERING CAPITAL	KM 1664.5-1692.6 A/H	Project No: 092-202101-0363
B40-L MOBILE DRILL 6" AUGER	LOCATION: 1693+150 15M LT	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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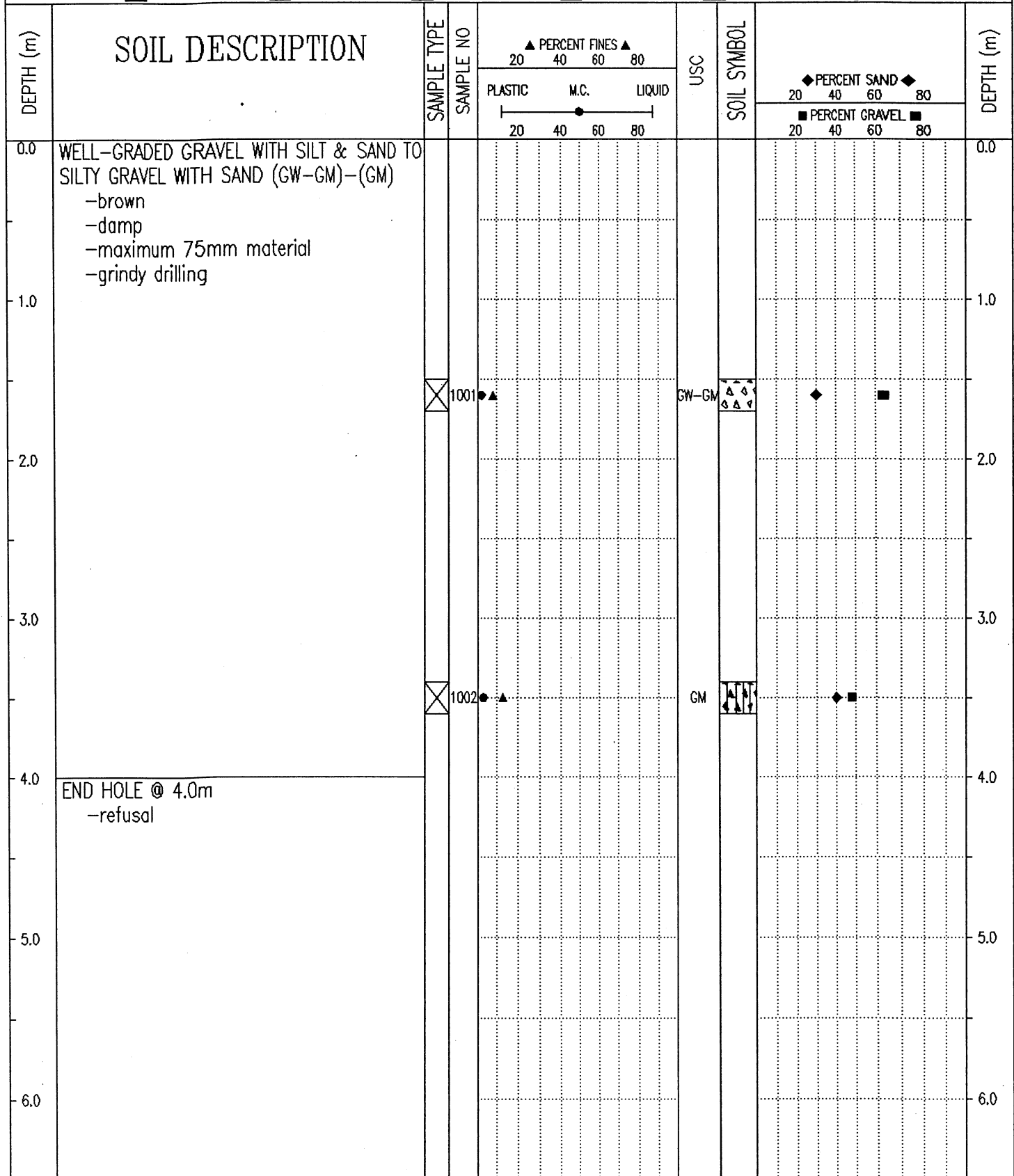
LOGGED BY: D.T.	COMPLETION DEPTH: 4.4 m
REVIEWED BY:	COMPLETE: 00/06/27
Fig. No:	Page 1 of 1

Geotechnical Services		Km 1691.7 to 1717.3 Alaska Highway #1		TEST PIT NO: 30007							
Donjek Services Ltd.		UTM ZONE: - N6768030 E642664		PROJECT NO: 8002-318							
CME75 Drill on FN60 Flextrac Nodwell				ELEVATION:							
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	ELEVATION(m)
				PLASTIC	M.C.			LIQUID	20		
0.0	GRAVELLY SAND, some silt -dry to damp, medium dense, brown										0.0
1.0			371				SW-SM				-1.0
1.5	SILTY GRAVELLY SAND 1.5m -dry to damp, medium dense, brown										
2.0			372				SM				-2.0
3.0	End Of Hole @ 3.0m -less gravel recovery w/ depth 3.0m										-3.0
4.0											-4.0
5.0											-5.0
6.0											-6.0

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REVIEWED BY:
Fig. No: 166
COMPLETION DEPTH: 3 m
COMPLETE: 08/18/04
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SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEGMENT 9	TEST HOLE NO: 558-1616
ENGINEERING CAPITAL	KM 1664.5-1692.6 A/H	Project No: 092-202101-0363
B40-L MOBILE DRILL 6" AUGER	LOCATION: 1693+250 15M LT	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		



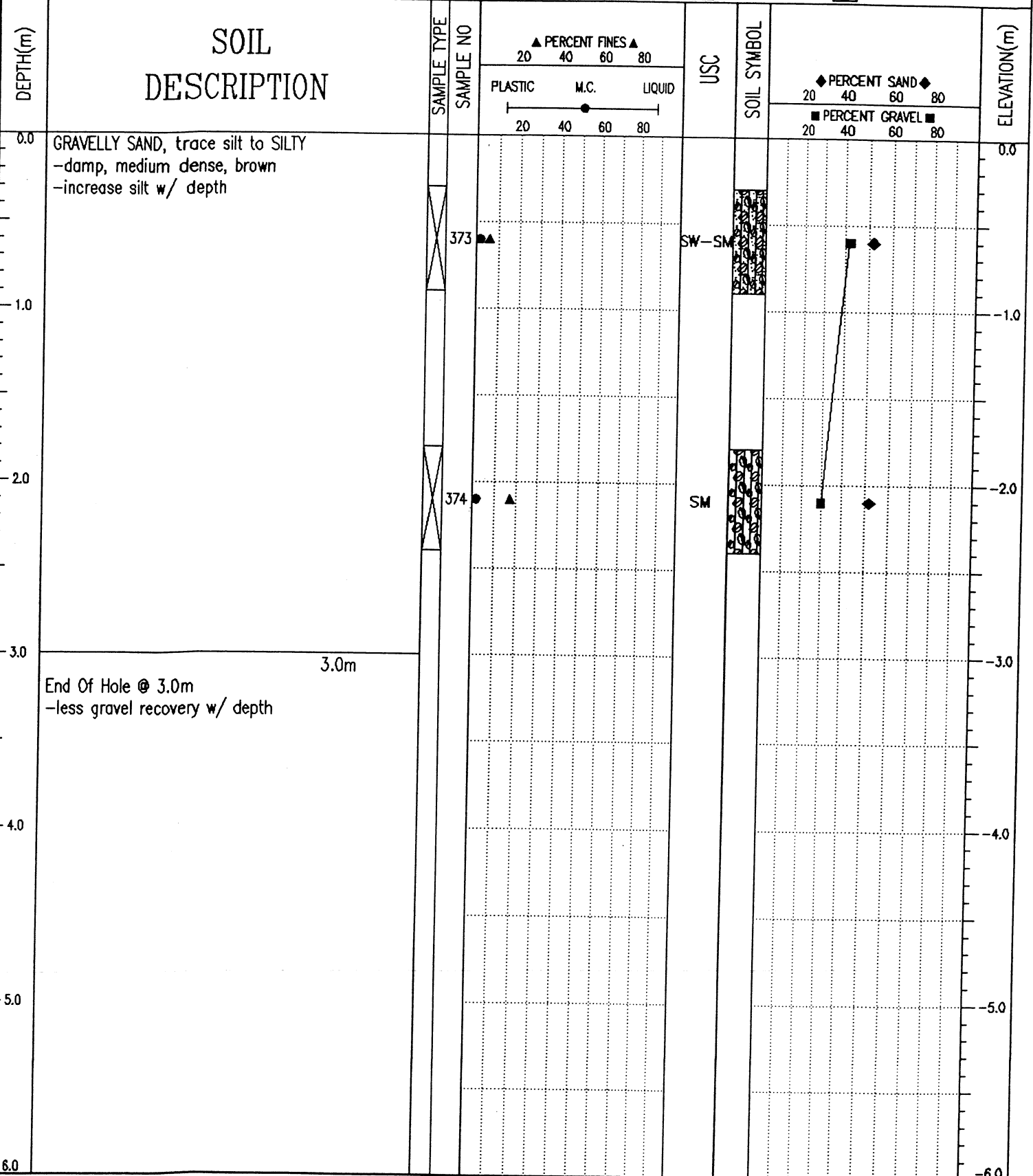
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Transportation Engineering

LOGGED BY: D.T.	COMPLETION DEPTH: 4.0 m
REVIEWED BY:	COMPLETE: 00/06/27
Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION AND TEST REPORT		SHAKWAK SEGMENT 9		TEST HOLE NO: 558-1615						
ENGINEERING CAPITAL		KM 1664.5-1692.6 A/H		Project No: 092-202101-0363						
B40-L MOBILE DRILL 6" AUGER		LOCATION: 1693+350 15M 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										
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80		USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80		DEPTH (m)
				PLASTIC	M.C.			LIQUID	■ PERCENT GRAVEL ■ 20 40 60 80	
0.0	ORGANIC POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM) -grey -moist -maximum 75mm material -grindy drilling	<input checked="" type="checkbox"/>								0.0
1.0										1.0
2.0	-replaced lead auger & bit.									2.0
3.0										3.0
4.0	SILTY SAND WITH GRAVEL (SM) -brown -saturated -easier drilling	<input checked="" type="checkbox"/>	999	●	▲		GP-GM	◆		4.0
5.0	END HOLE @ 4.7m									5.0
6.0										6.0
Government of Yukon Transportation Engineering				LOGGED BY: D.T. REVIEWED BY: Fig. No:		COMPLETION DEPTH: 4.7 m COMPLETE: 00/06/27		Page 1 of 1		

Geotechnical Services	Km 1691.7 to 1717.3 Alaska Highway #1	TEST PIT NO: 30008
Donjek Services Ltd.	UTM ZONE: - N6768033 E642462	PROJECT NO: 8002-318
CME75 Drill on FN60 Flextrac Nodwell		ELEVATION:

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

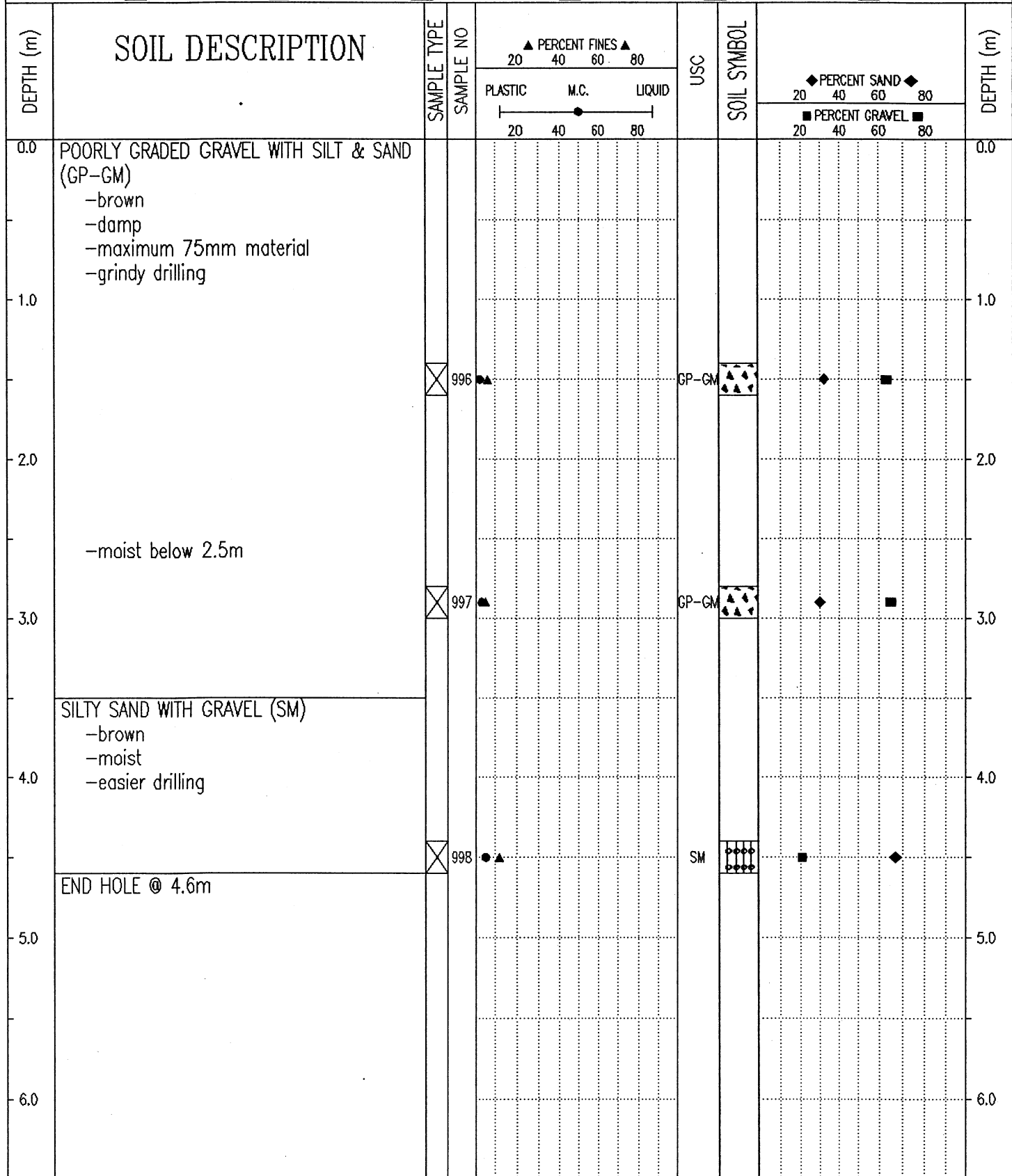


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LOGGED BY: RW
 REVIEWED BY:
 Fig. No: 167

COMPLETION DEPTH: 3 m
 COMPLETE: 08/18/04

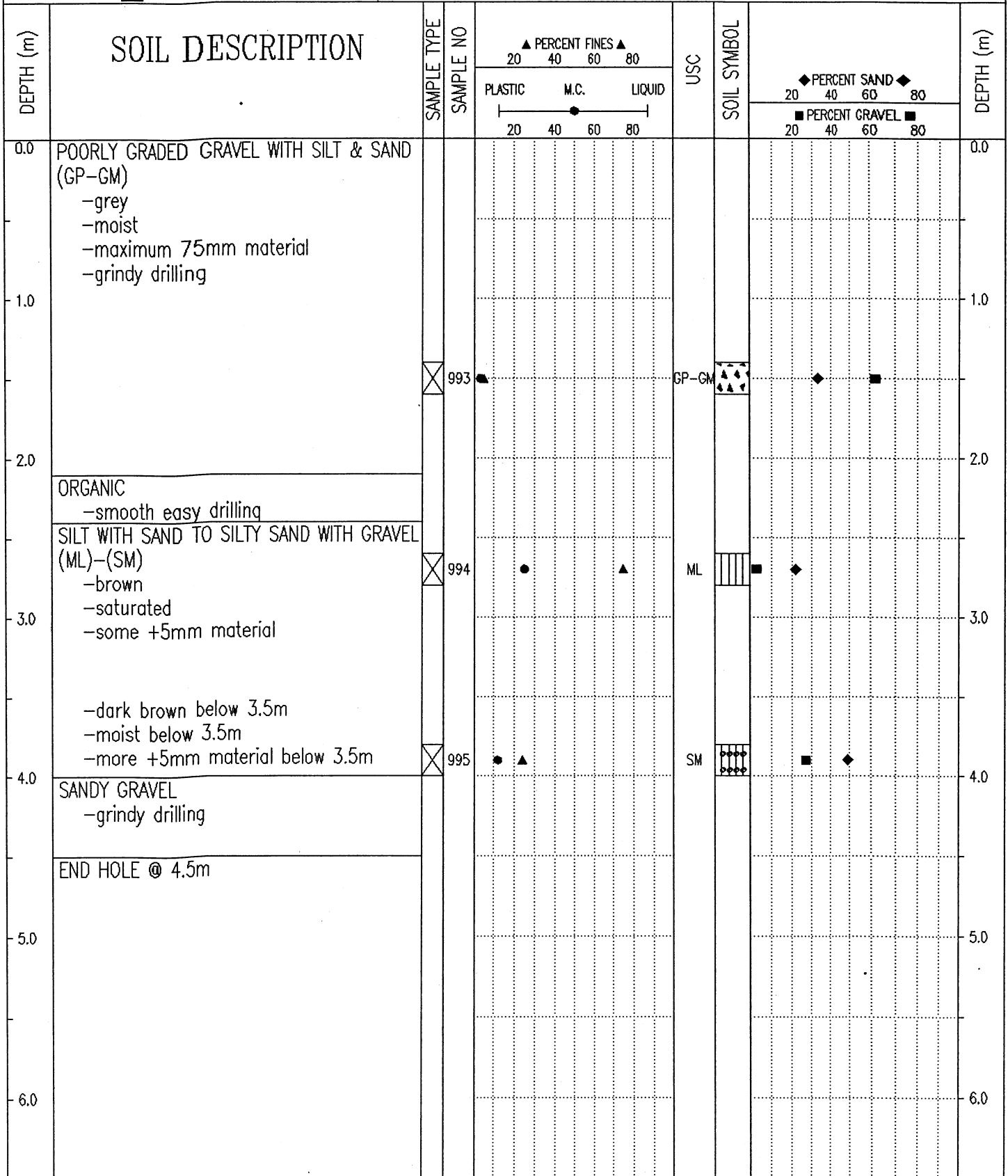
SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEGMENT 9	TEST HOLE NO: 558-1614
ENGINEERING CAPITAL	KM 1664.5-1692.6 A/H	Project No: 092-202101-0363
B40-L MOBILE DRILL 6" AUGER	LOCATION: 1693+450 12M LT	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN	<input checked="" type="checkbox"/> 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: 4.6 m
REVIEWED BY:	COMPLETE: 00/06/27
Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEGMENT 9	TEST HOLE NO: 558-1613
ENGINEERING CAPITAL	KM 1664.5-1692.6 A/H	Project No: 092-202101-0363
B40-L MOBILE DRILL 6" AUGER	LOCATION: 1693+550 15M LT	ELEVATION: 0.00 (m)
SAMPLE TYPE <input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE		



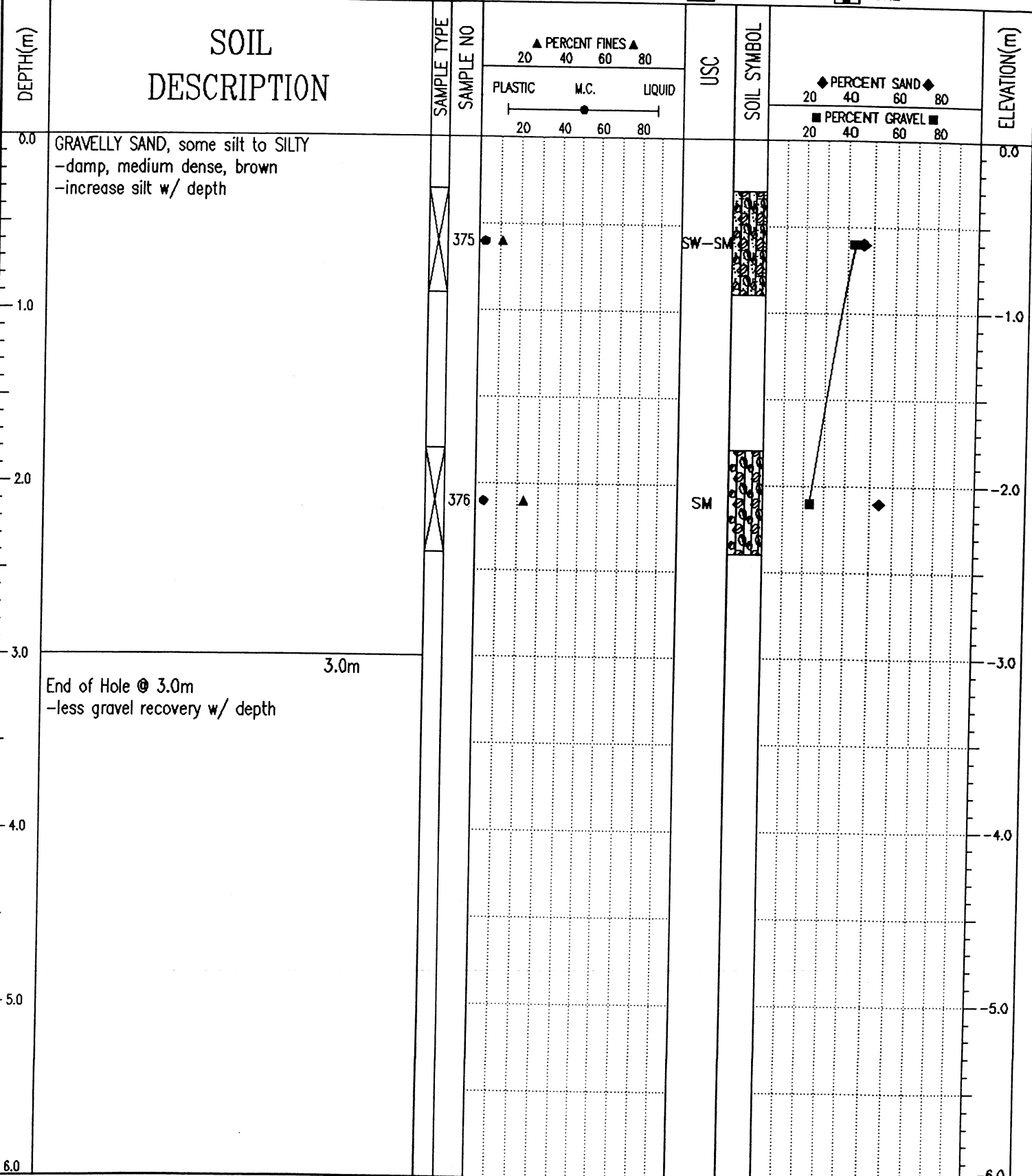
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Transportation Engineering

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

COMPLETION DEPTH: 4.5 m
COMPLETE: 00/06/26

Geotechnical Services	Km 1691.7 to 1717.3 Alaska Highway #1	TEST PIT NO: 30009
Donjek Services Ltd.	UTM ZONE: - N6768038 E642265	PROJECT NO: 8002-318
CME75 Drill on FN60 Flextrac Nodwell		ELEVATION:

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

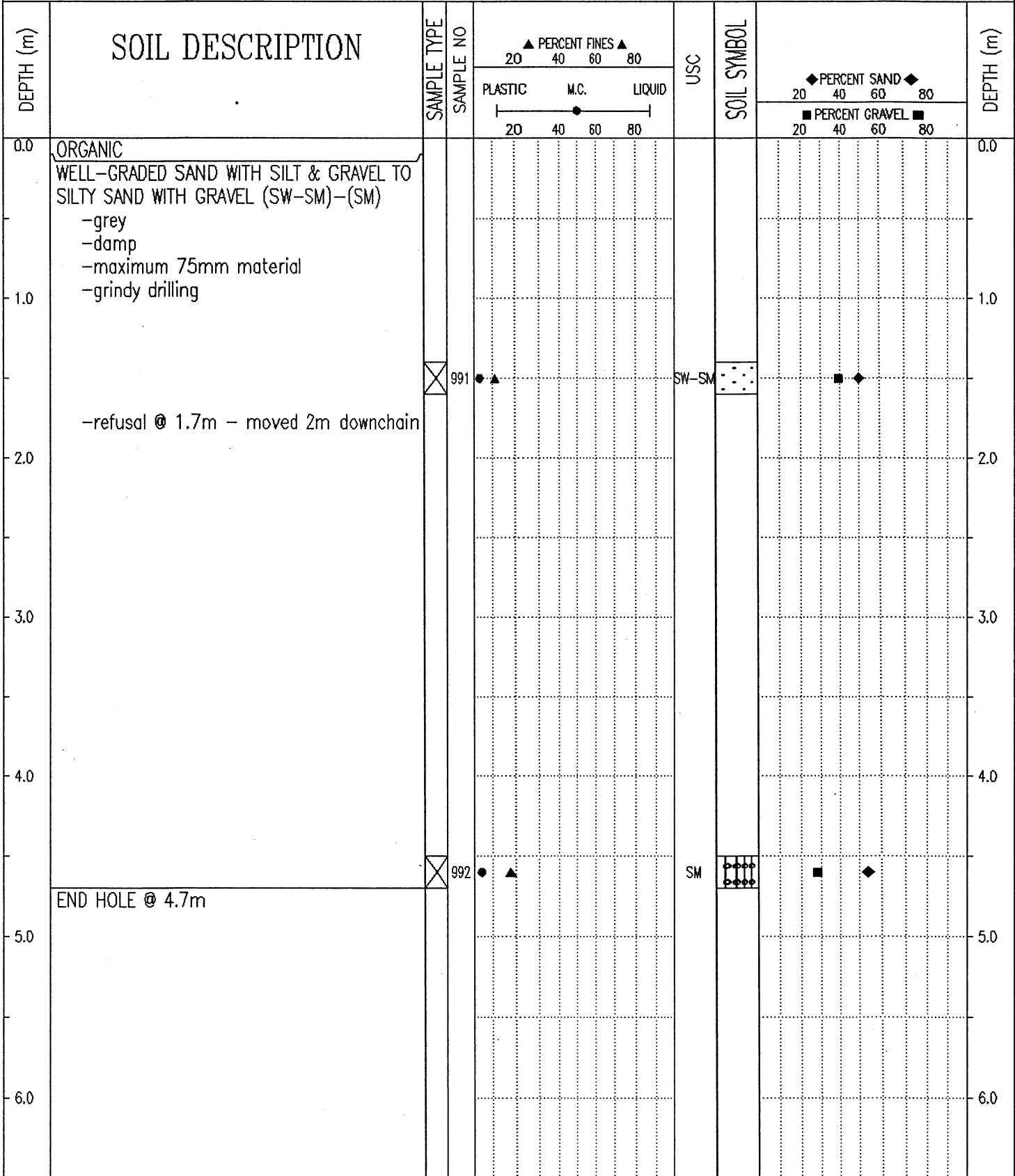


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LOGGED BY: RW
 REVIEWED BY:
 Fig. No: 169

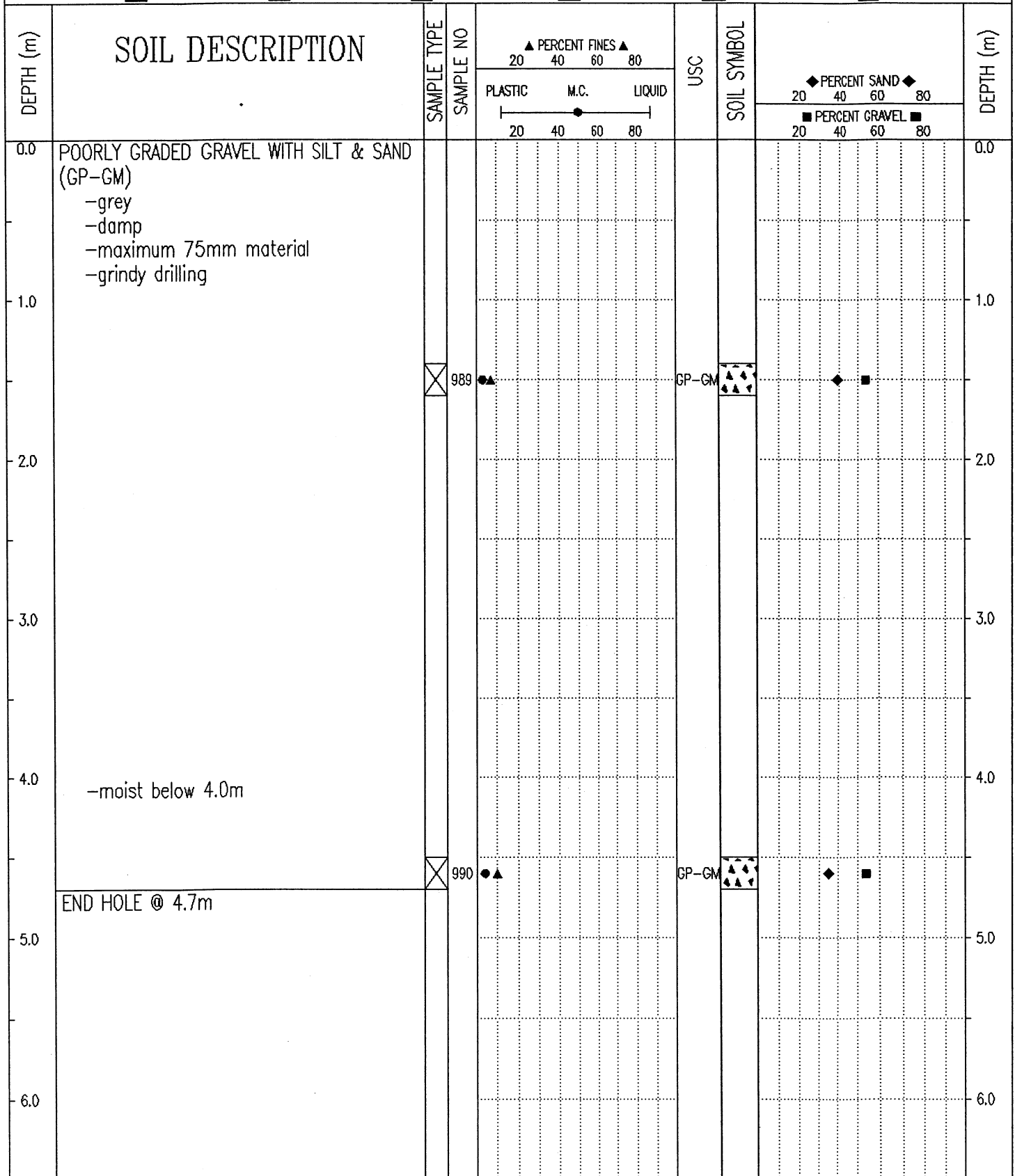
COMPLETION DEPTH: 3 m
 COMPLETE: 08/18/04
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SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEGMENT 9	TEST HOLE NO: 558-1612
ENGINEERING CAPITAL	KM 1664.5-1692.6 A/H	Project No: 092-202101-0363
B40-L MOBILE DRILL 6" AUGER	LOCATION: 1693+650 15M LT	ELEVATION: 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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	REVIEWED BY:	COMPLETE: 00/06/26
	Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEGMENT 9	TEST HOLE NO: 558-1611
ENGINEERING CAPITAL	KM 1664.5-1692.6 A/H	Project No: 092-202101-0363
B40-L MOBILE DRILL 6" AUGER	LOCATION: 1693+750 15M LT	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		



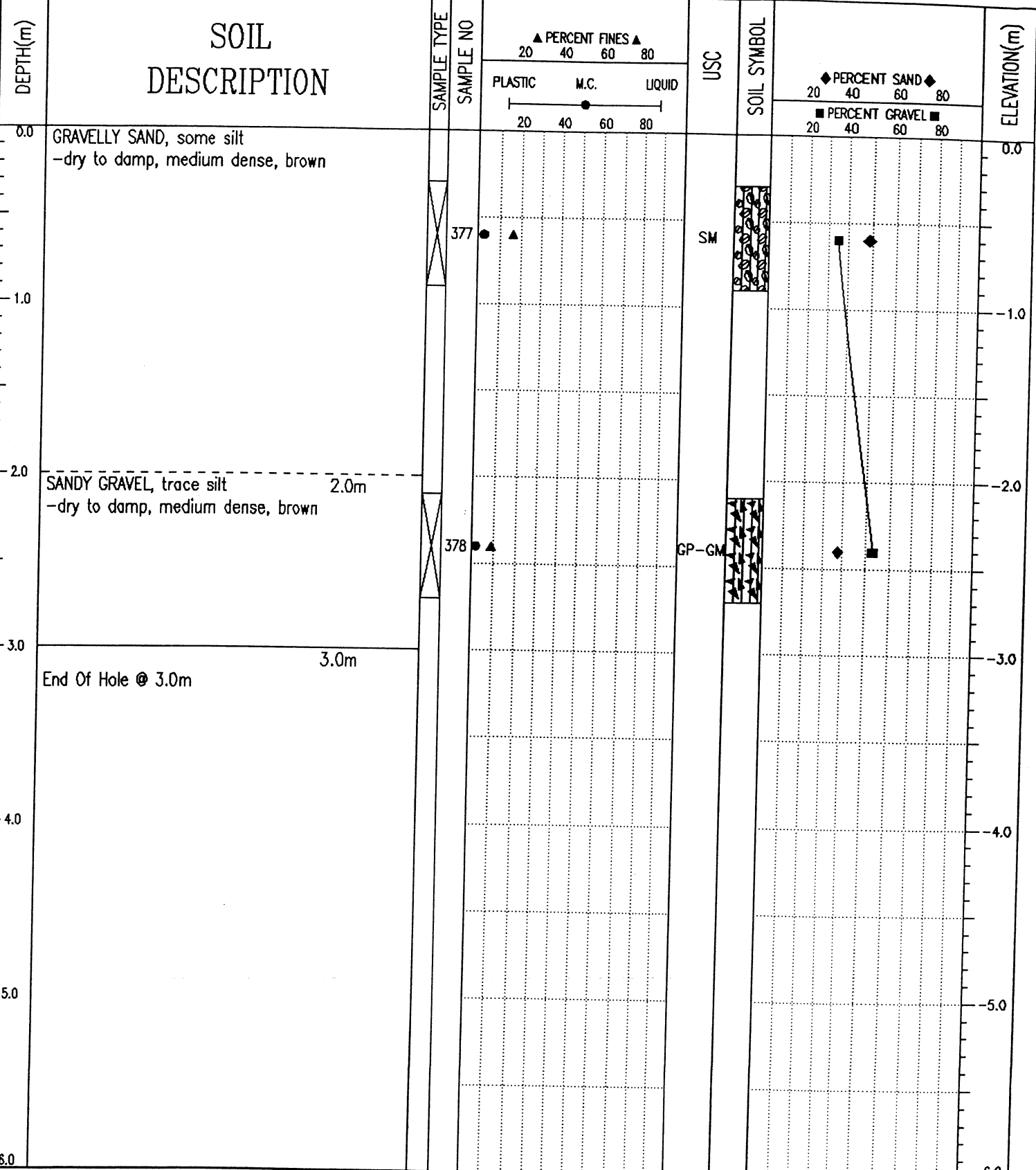
Government of Yukon Transportation Engineering	LOGGED BY: D.T.	COMPLETION DEPTH: 4.7 m
	REVIEWED BY:	COMPLETE: 00/06/26
	Fig. No:	Page 1 of 1

Geotechnical Services
 Donjek Services Ltd.
 CME75 Drill on FN60 Flextrac Nodwell

Km 1691.7 to 1717.3 Alaska Highway #1
 UTM ZONE: - N6768040 E642066

TEST PIT NO: 30010
 PROJECT NO: 8002-318
 ELEVATION:

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

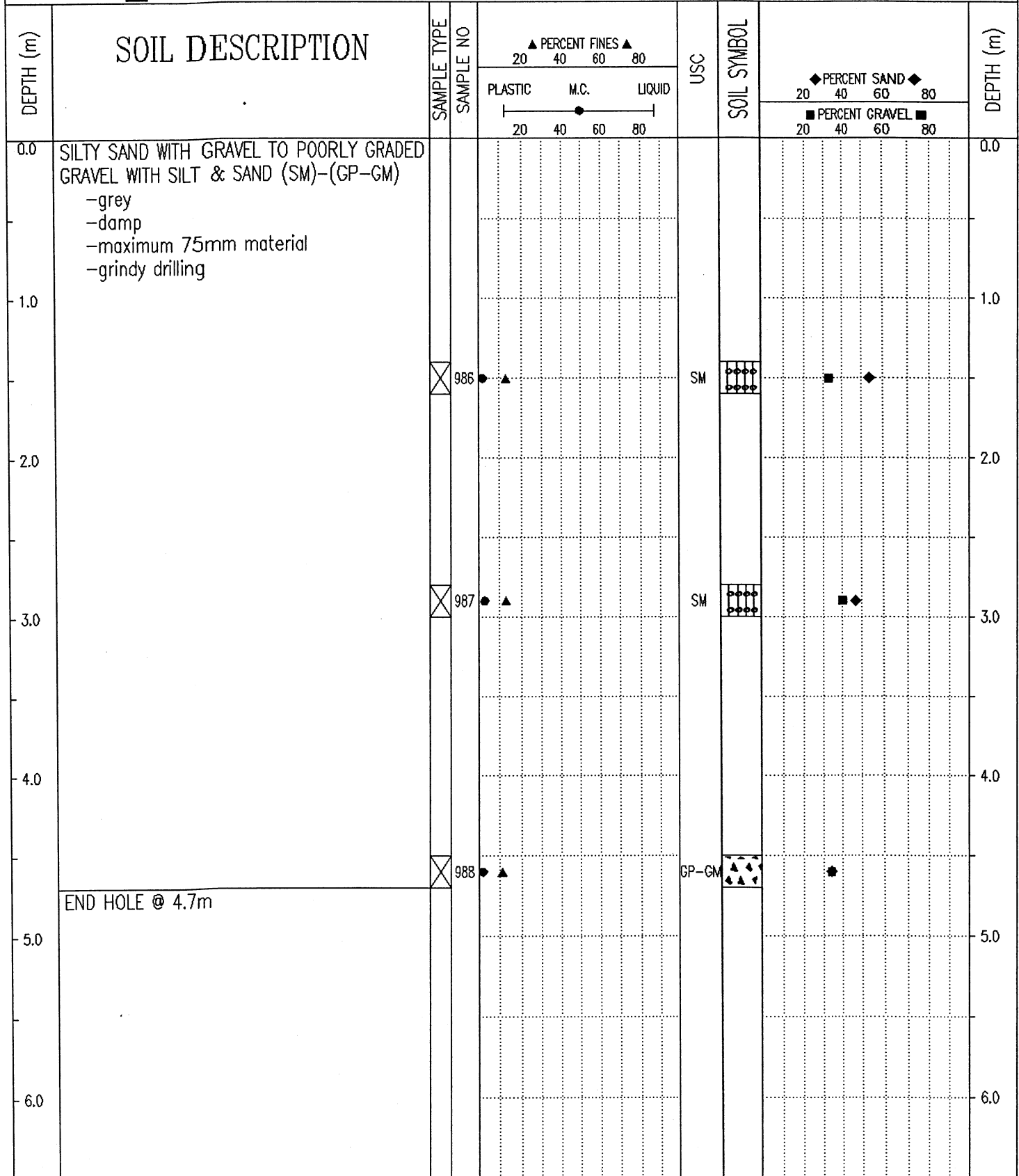


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 REVIEWED BY: -
 Fig. No: 170

COMPLETION DEPTH: 3 m
 COMPLETE: 08/18/04

SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEGMENT 9	TEST HOLE NO: 558-1610
ENGINEERING CAPITAL	KM 1664.5-1692.6 A/H	Project No: 092-202101-0363
B40-L MOBILE DRILL 6" AUGER	LOCATION: 1693+850 15M 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

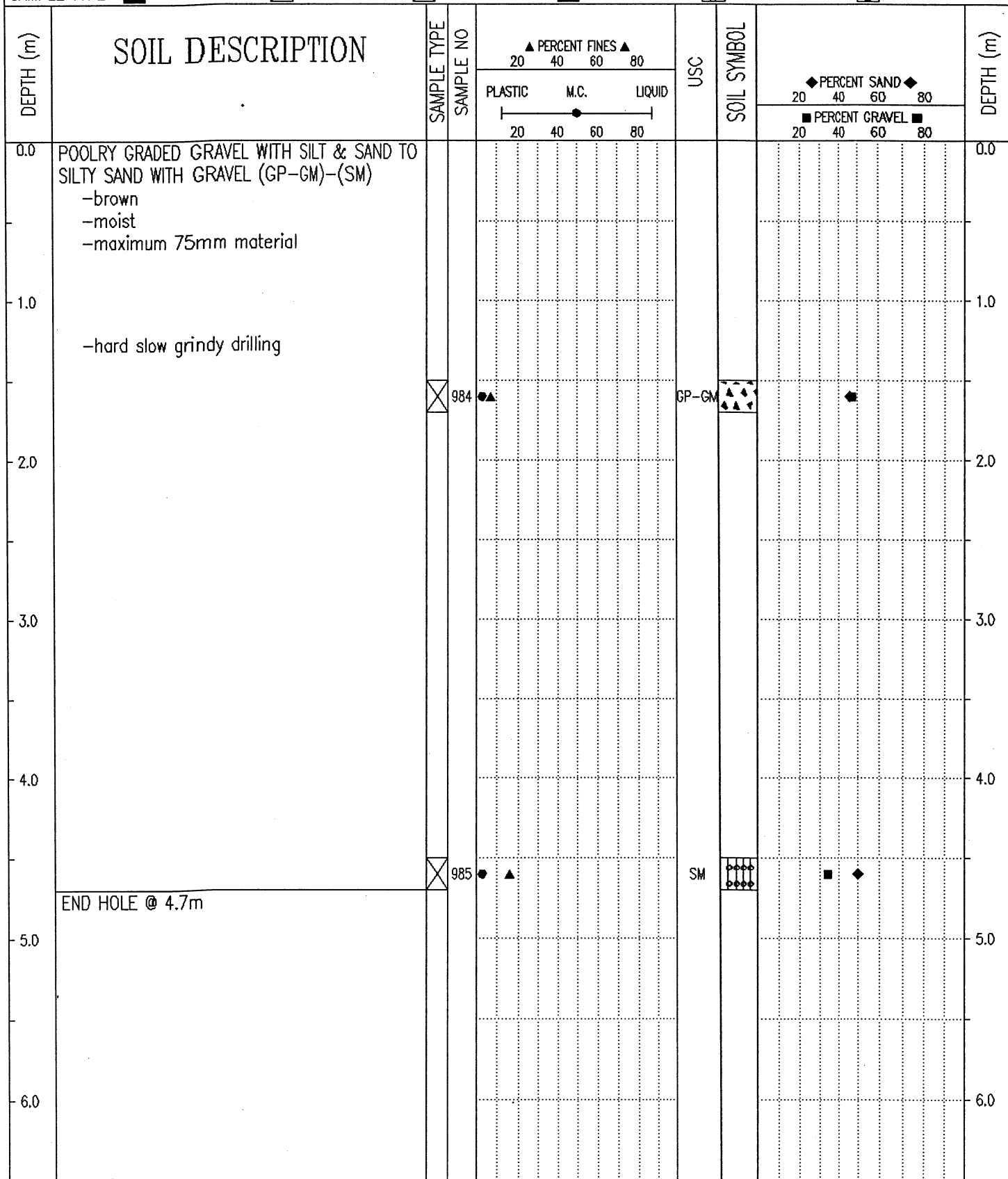


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LOGGED BY: D.T.
REVIEWED BY:
Fig. No:

COMPLETION DEPTH: 4.7 m
COMPLETE: 00/06/26
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SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEGMENT 9	TEST HOLE NO: 558-1609
ENGINEERING CAPITAL	KM 1664.5-1692.6 A/H	Project No: 092-202101-0363
B40-L MOBILE DRILL 6" AUGER	LOCATION: 1693+950 11M 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



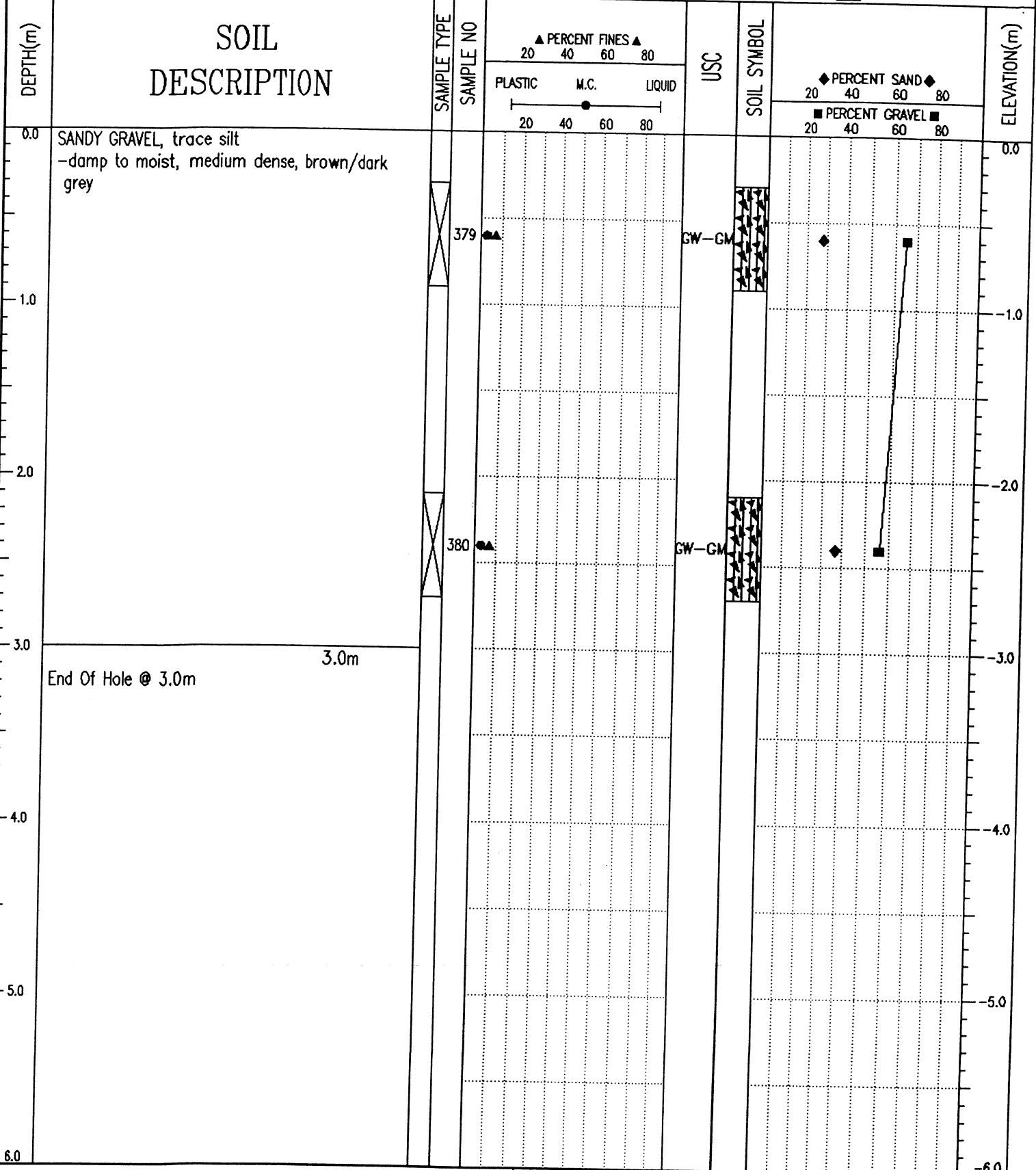
Government of Yukon
Transportation Engineering

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

COMPLETION DEPTH: 4.7 m
COMPLETE: 00/06/26

Geotechnical Services	Km 1691.7 to 1717.3 Alaska Highway #1	TEST PIT NO: 30011
Donjek Services Ltd.	UTM ZONE: - N6768044 E641865	PROJECT NO: 8002-318
CME75 Drill on FN60 Flextrac Nodwell		ELEVATION:

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

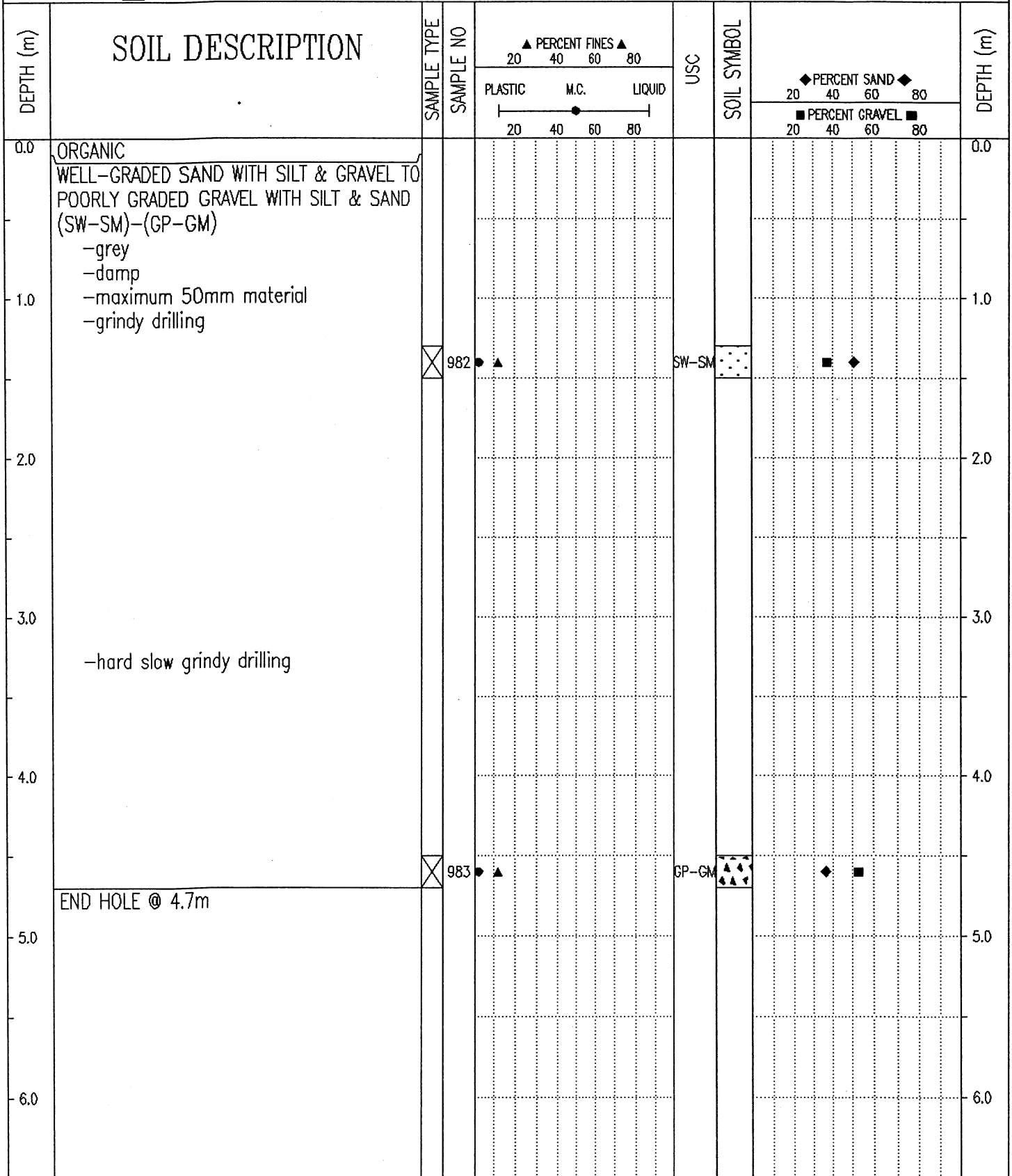


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LOGGED BY: RW
REVIEWED BY:
Fig. No: 171

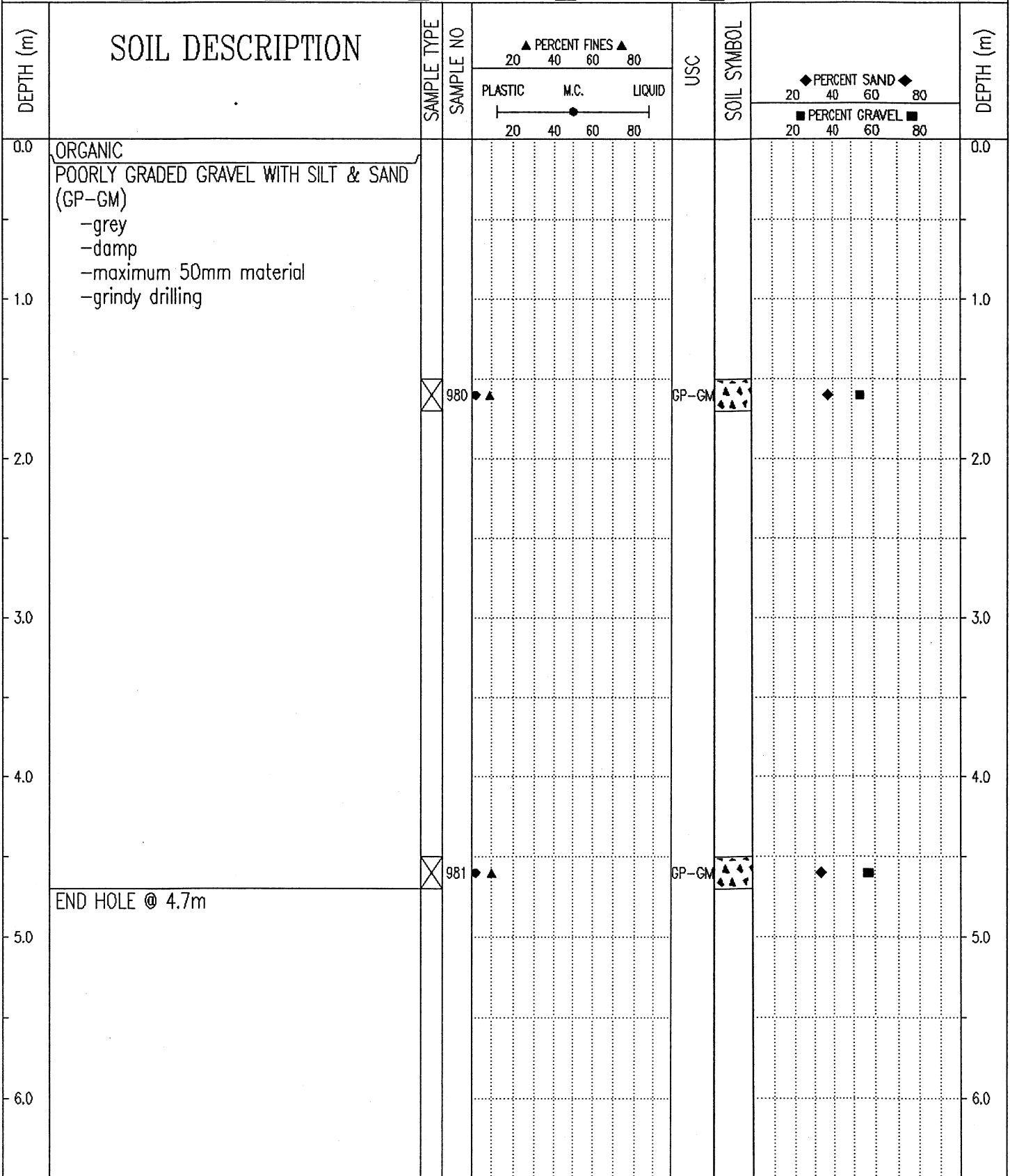
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COMPLETE: 08/18/04

SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEGMENT 9	TEST HOLE NO: 558-1608
ENGINEERING CAPITAL	KM 1664.5-1692.6 A/H	Project No: 092-202101-0363
B40-L MOBILE DRILL 6" AUGER	LOCATION: 1694+050 15M LT	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: 4.7 m
	REVIEWED BY:	COMPLETE: 00/06/26
	Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEGMENT 9	TEST HOLE NO: 558-1607
ENGINEERING CAPITAL	KM 1664.5-1692.6 A/H	Project No: 092-202101-0363
B40-L MOBILE DRILL 6" AUGER	LOCATION: 1694+150 13M LT	ELEVATION: 0.00 (m)
SAMPLE TYPE <input type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE		



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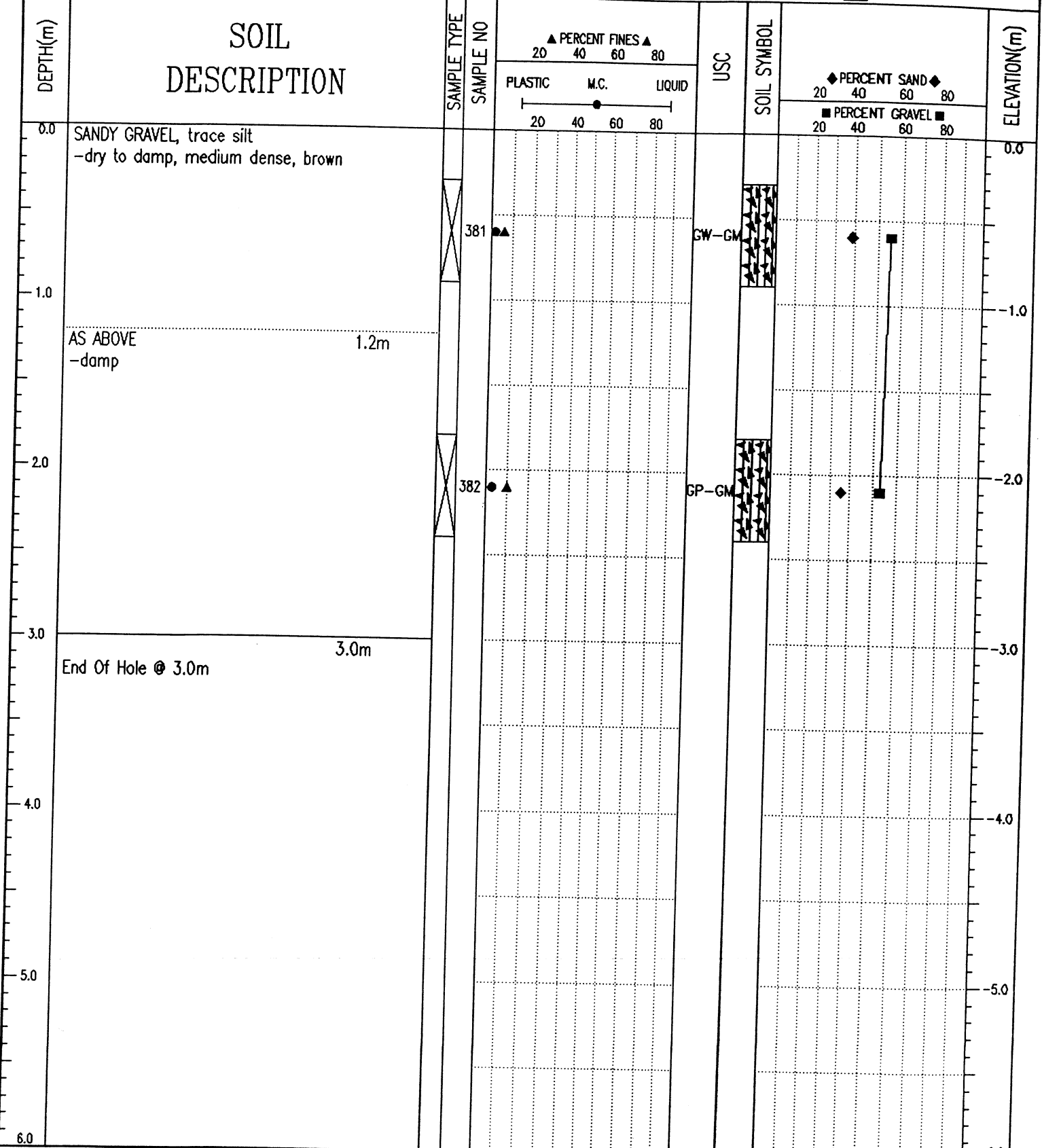
LOGGED BY: D.T.
REVIEWED BY:
Fig. No:

COMPLETION DEPTH: 4.7 m
COMPLETE: 00/06/26

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Geotechnical Services	Km 1691.7 to 1717.3 Alaska Highway #1	TEST PIT NO: 30012
Donjek Services Ltd.	UTM ZONE: - N6768049 E641666	PROJECT NO: 8002-318
CME75 Drill on FN60 Flextrac Nodwell		ELEVATION:

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



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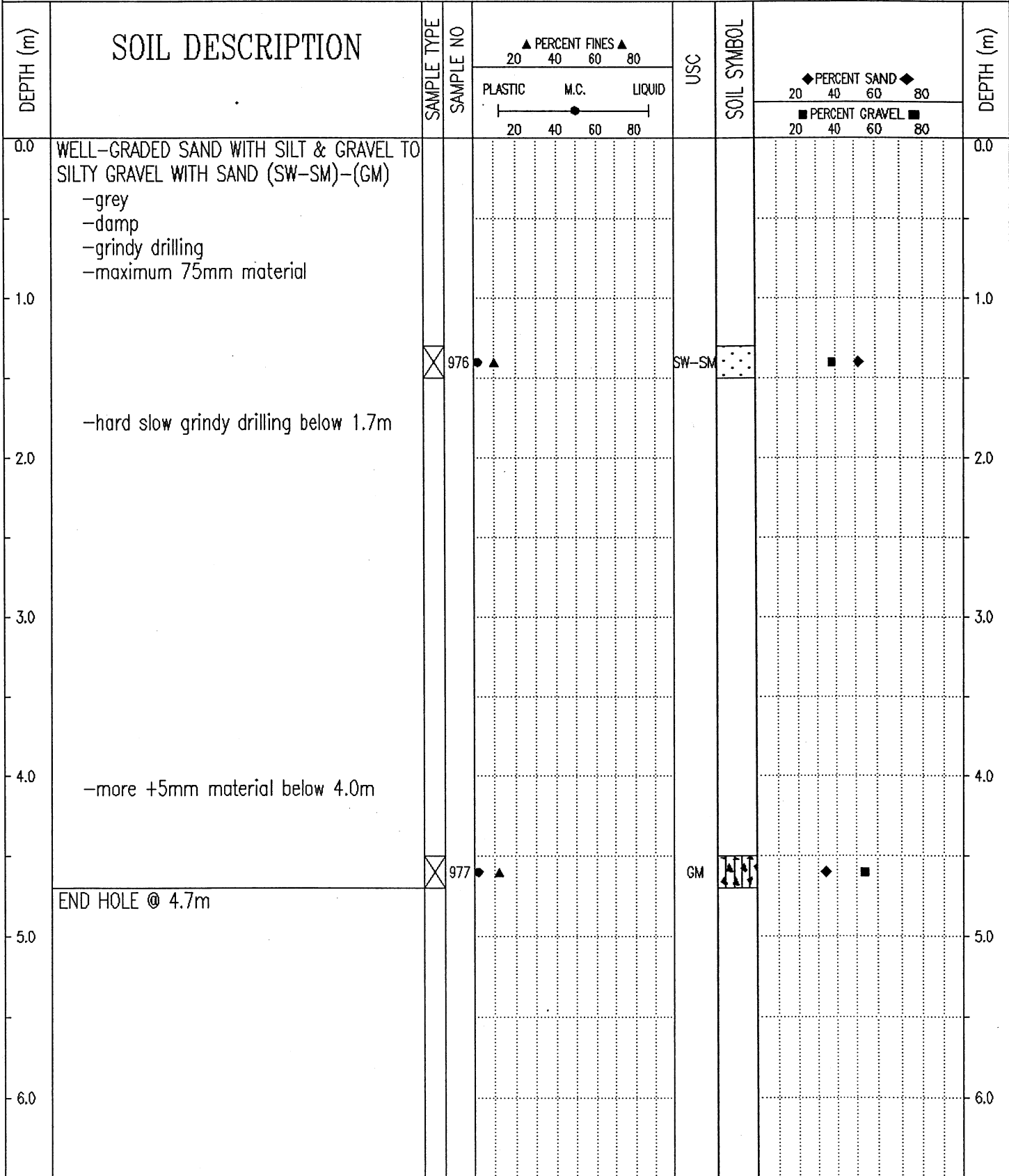
LOGGED BY: RW	COMPLETION DEPTH: 3 m
REVIEWED BY: -	COMPLETE: 08/18/04
Fig. No: 172	Page 1 of 1

SUBSURFACE EXPLORATION AND TEST REPORT		SHAKWAK SEGMENT 9		TEST HOLE NO: 558-1606								
ENGINEERING CAPITAL		KM 1664.5-1692.6 A/H		Project No: 092-202101-0363								
B40-L MOBILE DRILL 6" AUGER		LOCATION: 1694+250 11M 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								
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 WELL-GRADED SAND WITH SILT & GRAVEL TO POORLY GRADED GRAVEL WITH SILT & SAND (SW-SM)-GP-GM -grey -damp -grindy drilling -maximum 50mm material											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
0.0		<input checked="" type="checkbox"/>	978				SW-SM					
2.1	-hard slow grindy drilling below 2.1m											
4.0	-more +5mm material below 4.0m											
4.7	END HOLE @ 4.7m	<input checked="" type="checkbox"/>	979				GP-GM					

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REVIEWED BY:	COMPLETE: 00/06/26
Fig. No:	Page 1 of 1

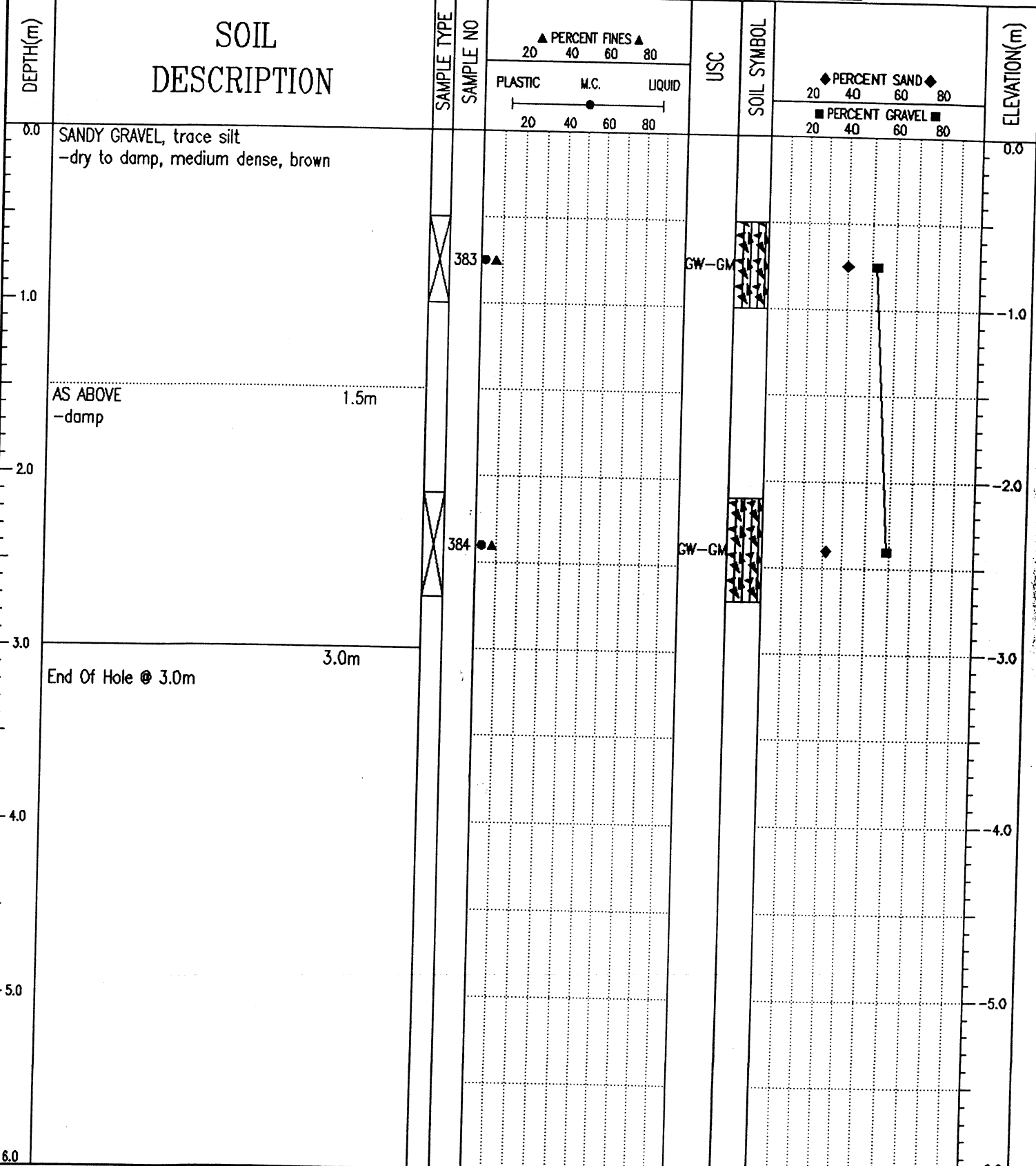
SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEGMENT 9	TEST HOLE NO: 558-1605
ENGINEERING CAPITAL	KM 1664.5-1692.6 A/H	Project No: 092-202101-0363
B40-L MOBILE DRILL 6" AUGER	LOCATION: 1694+350 11M LT	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN <input checked="" type="checkbox"/> S.P.T. <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input type="checkbox"/> TUBE <input type="checkbox"/> CORE	



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	REVIEWED BY:	COMPLETE: 00/06/26
	Fig. No:	Page 1 of 1

Geotechnical Services	Km 1691.7 to 1717.3 Alaska Highway #1	TEST PIT NO: 30013
Donjek Services Ltd.	UTM ZONE: - N6768054 E641469	PROJECT NO: 8002-318
CME75 Drill on FN60 Flextrac Nodwell		ELEVATION:

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

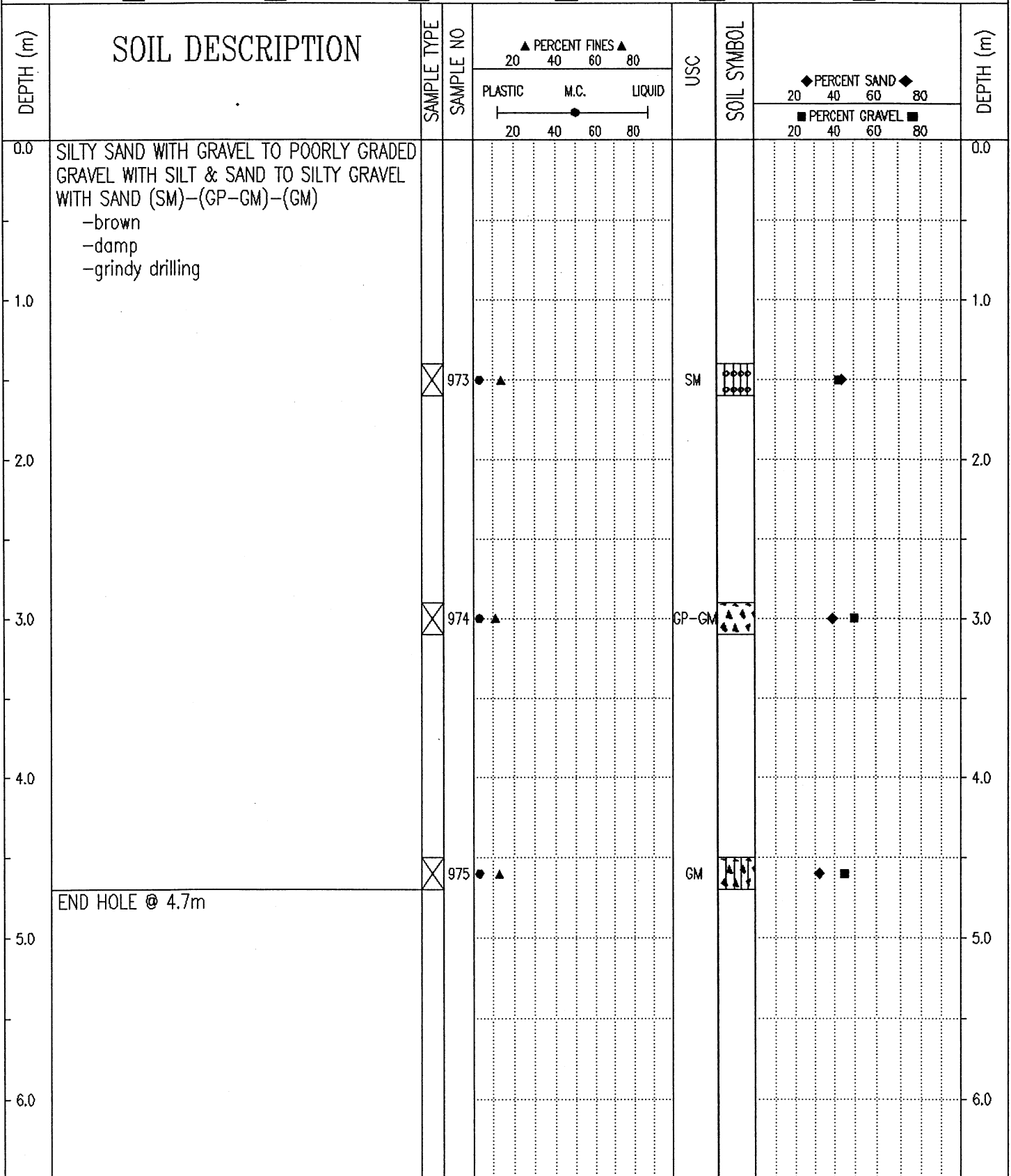


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LOGGED BY: RW	COMPLETION DEPTH: 3 m
REVIEWED BY: -	COMPLETE: 08/18/04
Fig. No: 173	Page 1 of 1

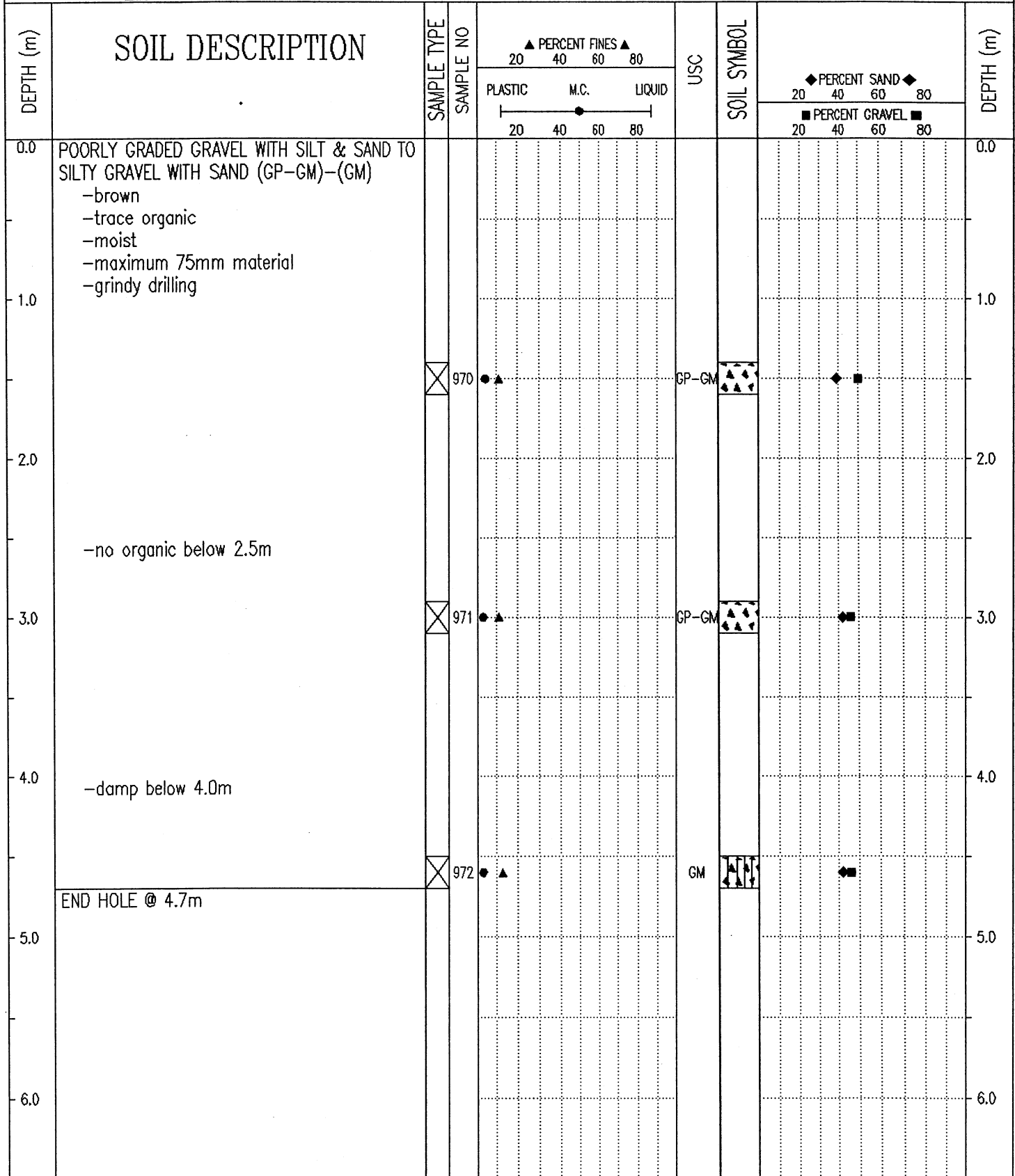
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ENGINEERING CAPITAL	KM 1664.5-1692.6 A/H	Project No: 092-202101-0363
B40-L MOBILE DRILL 6" AUGER	LOCATION: 1694+450 18M LT	ELEVATION: 0.00 (m)
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Government of Yukon Transportation Engineering	LOGGED BY: D.T.	COMPLETION DEPTH: 4.7 m
	REVIEWED BY:	COMPLETE: 00/06/26
	Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEGMENT 9	TEST HOLE NO: 558-1603
ENGINEERING CAPITAL	KM 1664.5-1692.6 A/H	Project No: 092-202101-0363
B40-L MOBILE DRILL 6" AUGER	LOCATION: 1694+550 20M LT	ELEVATION: 0.00 (m)
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	<input type="checkbox"/> TUBE	<input type="checkbox"/> CORE

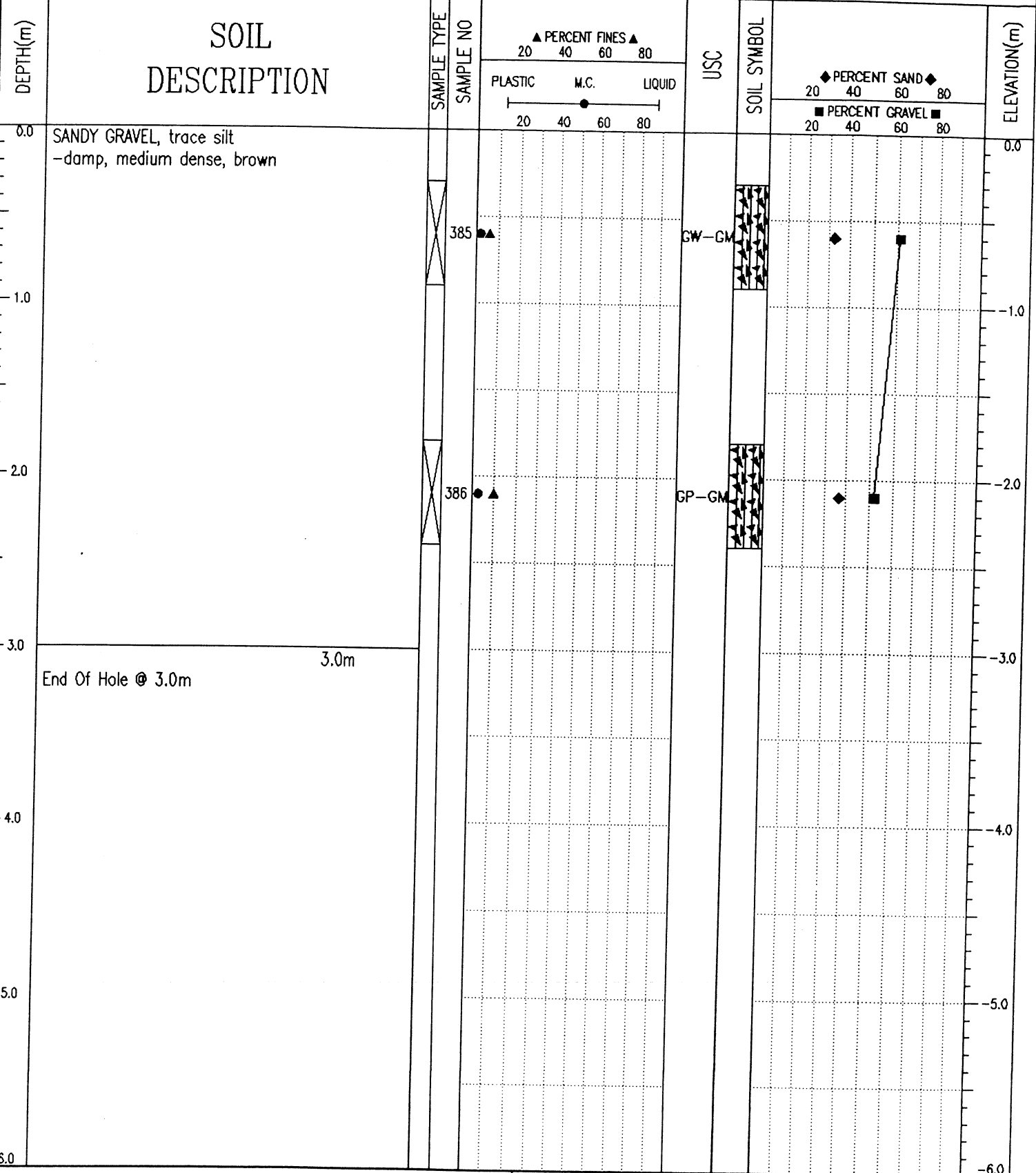


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LOGGED BY: D.T.	COMPLETION DEPTH: 4.7 m
REVIEWED BY:	COMPLETE: 00/06/26
Fig. No:	Page 1 of 1

Geotechnical Services	Km 1691.7 to 1717.3 Alaska Highway #1	TEST PIT NO: 30014
Donjek Services Ltd.	UTM ZONE: - N6768036 E641287	PROJECT NO: 8002-318
CME75 Drill on FN60 Flextrac Nodwell		ELEVATION:

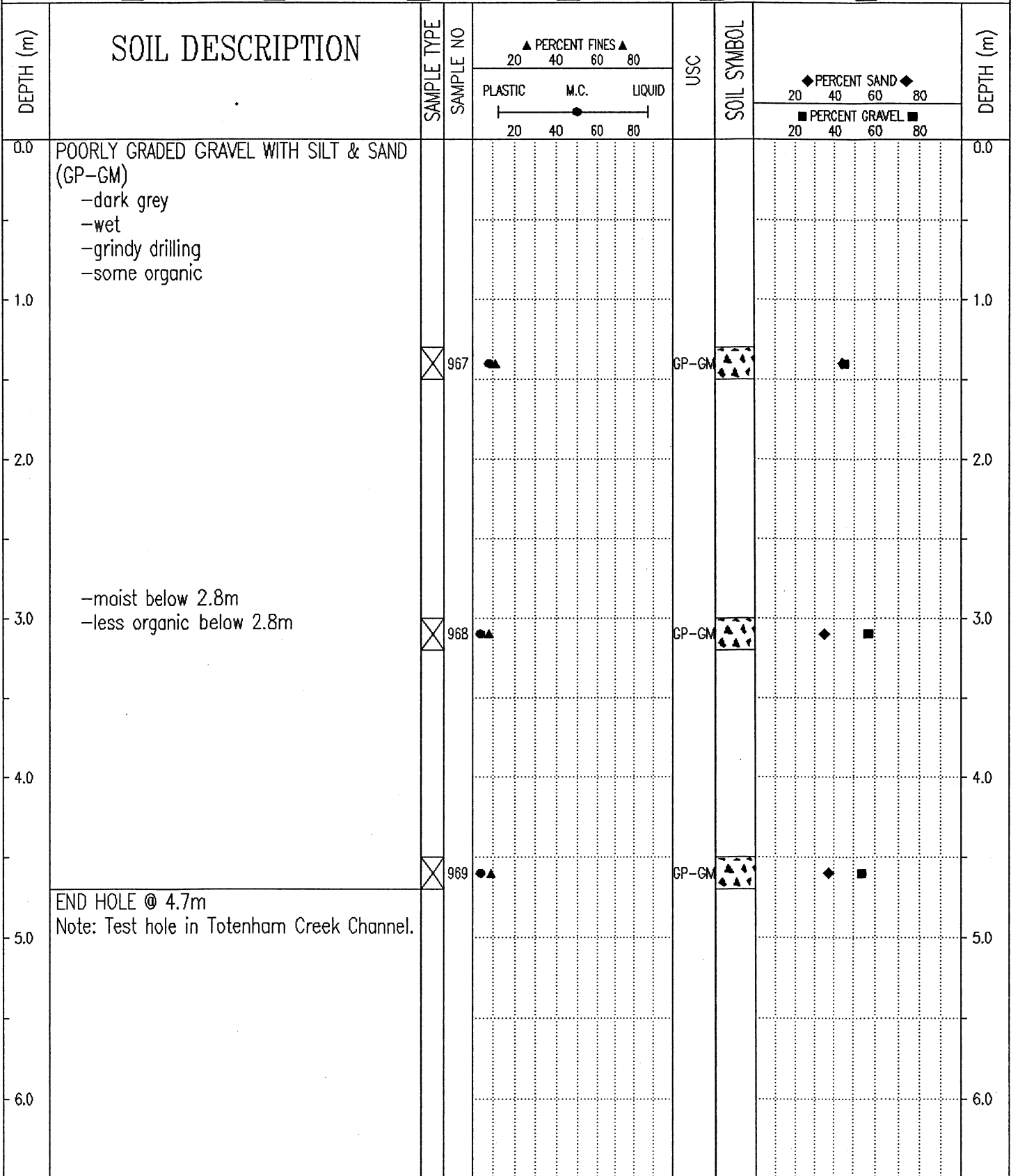
SAMPLE TYPE RETURN S.P.T. AUGER BULK TUBE CORE



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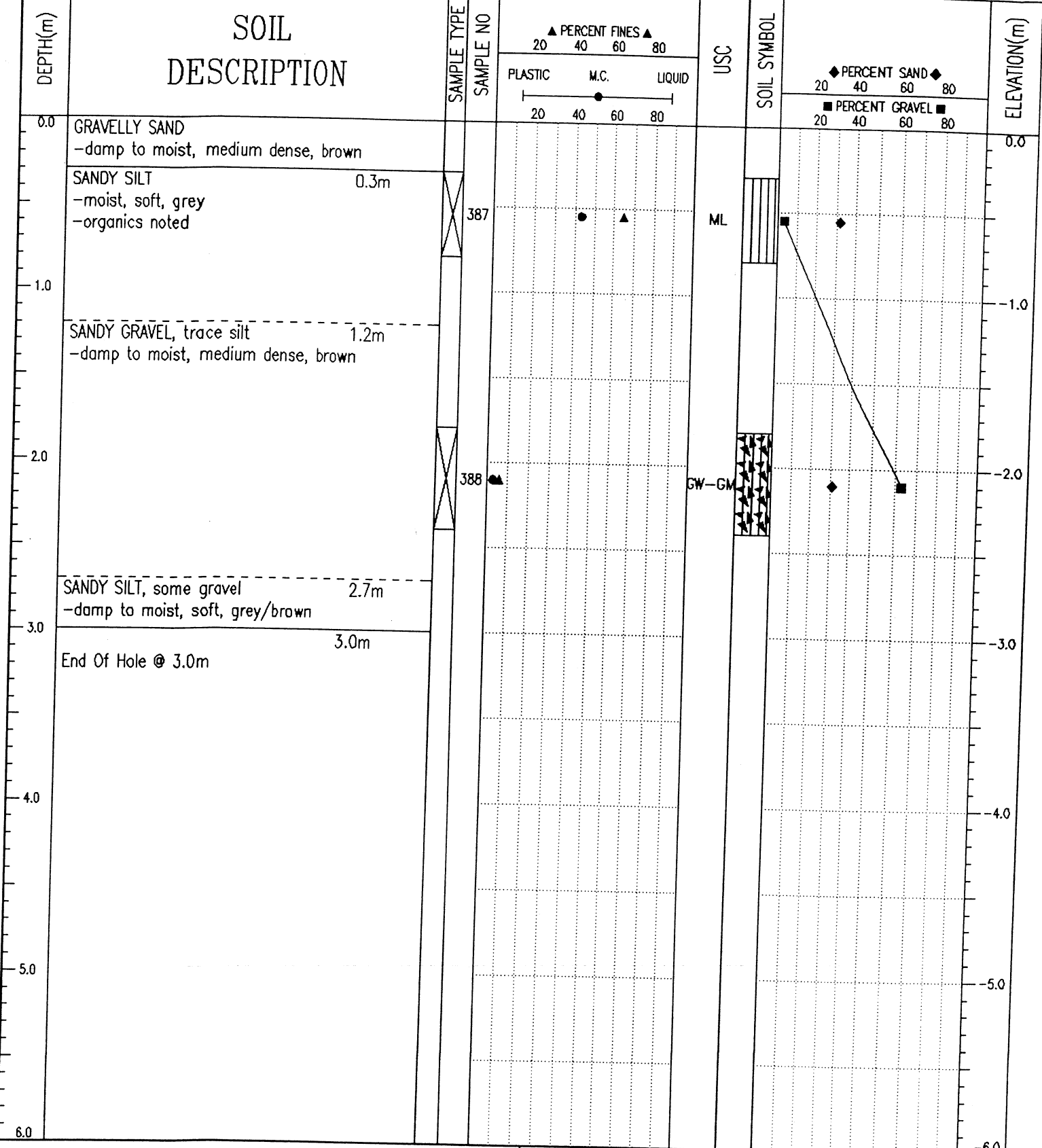
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REVIEWED BY:	COMPLETE: 08/18/04
Fig. No: 174	Page 1 of 1

SUBSURFACE EXPLORATION AND TEST REPORT	SHAKWAK SEGMENT 9	TEST HOLE NO: 558-1602
ENGINEERING CAPITAL	KM 1664.5-1692.6 A/H	Project No: 092-202101-0363
B40-L MOBILE DRILL 6" AUGER	LOCATION: 1694+650 18M 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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	REVIEWED BY:	COMPLETE: 00/06/26
	Fig. No:	Page 1 of 1

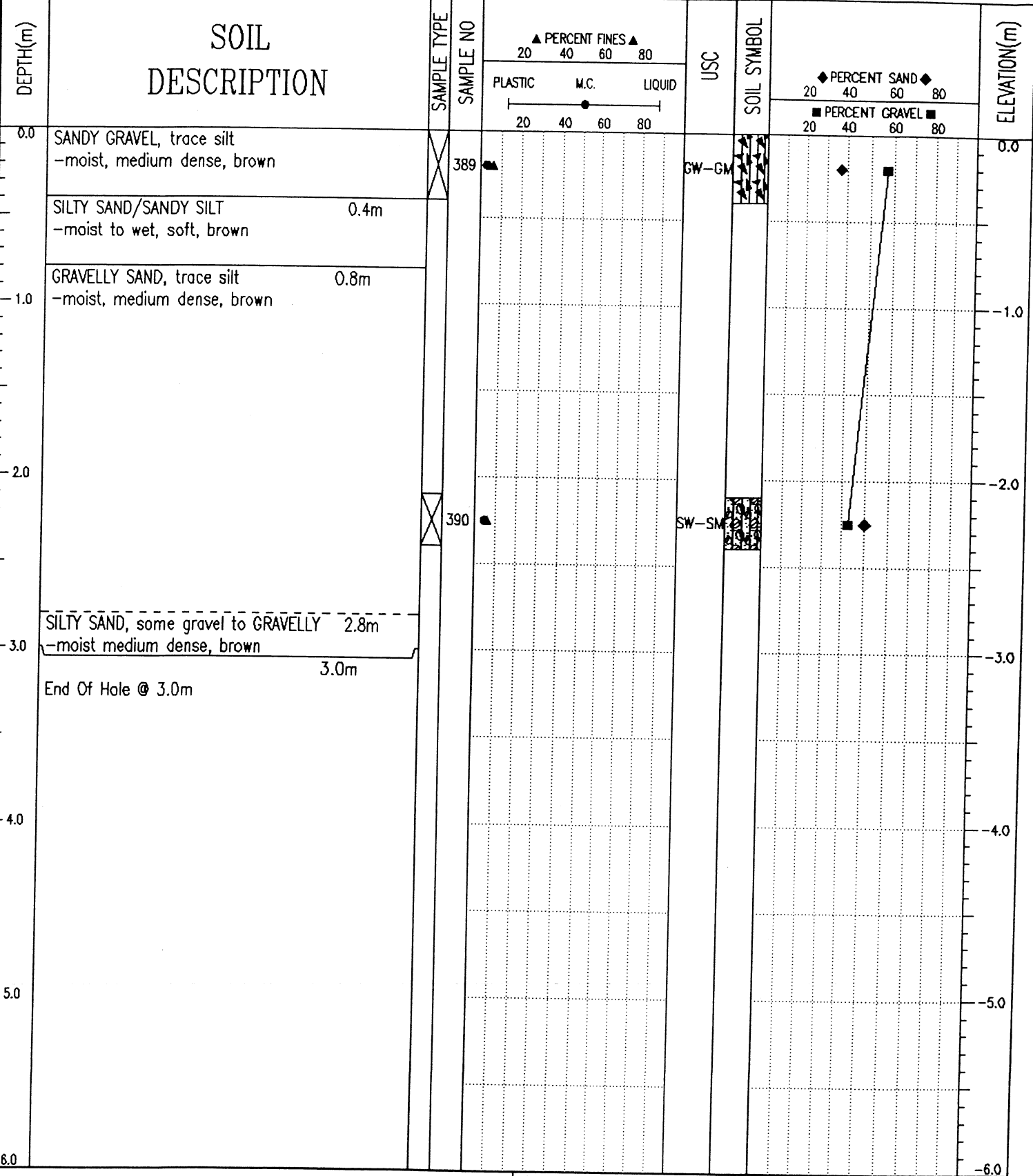
SAMPLE TYPE: RETURN S.P.T. AUGER BULK TUBE CORE



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LOGGED BY: RW	COMPLETION DEPTH: 3 m
REVIEWED BY: -	COMPLETE: 08/18/04
Fig. No: 175	

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

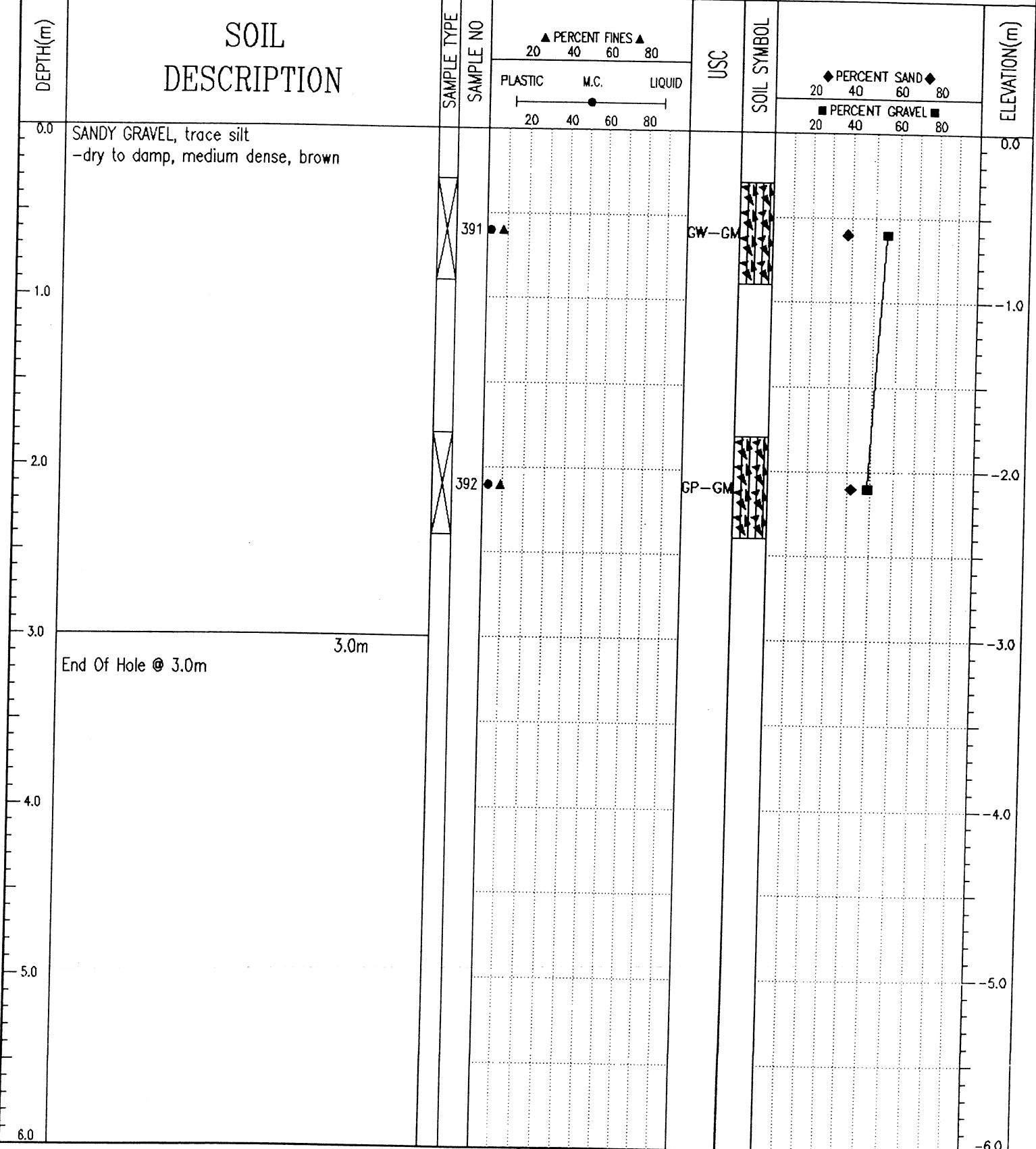


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REVIEWED BY: -	COMPLETE: 08/18/04
Fig. No: 176	

05/02/23 02:36PM (VIC_HHS)

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



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LOGGED BY: RW

REVIEWED BY: -

Fig. No: 177

COMPLETION DEPTH: 3 m

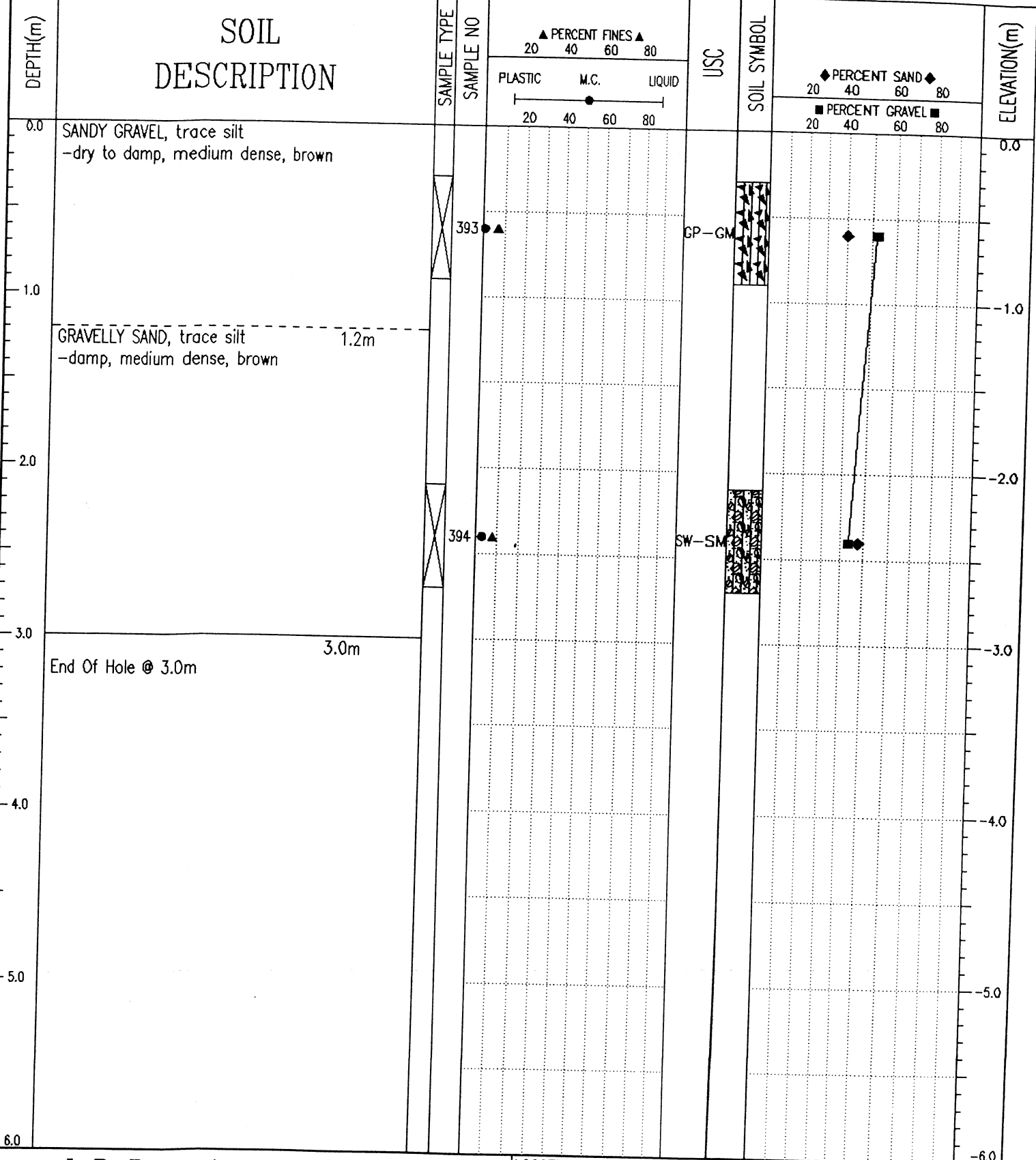
COMPLETE: 08/18/04

Geotechnical Services
 Donjek Services Ltd.
 CME75 Drill on FN60 Flextrac Nodwell

Km 1691.7 to 1717.3 Alaska Highway #1
 UTM ZONE: - N6767697 E640691

TEST PIT NO: 30018
 PROJECT NO: 8002-318
 ELEVATION:

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



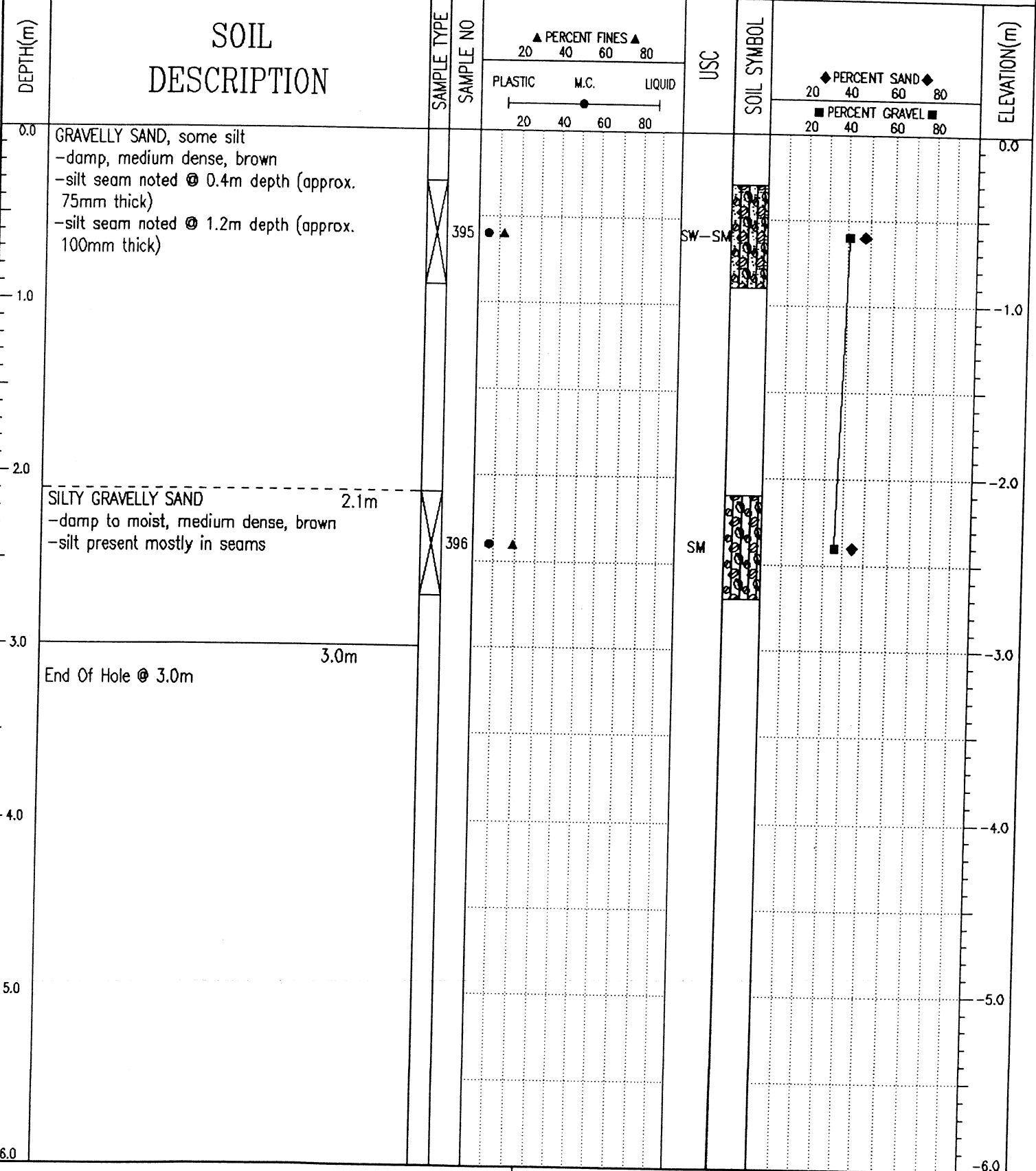
J. R. Paine & Associates Ltd.
 Whitehorse, Yukon

LOGGED BY: RW
 REVIEWED BY: -
 Fig. No: 178

COMPLETION DEPTH: 3 m
 COMPLETE: 08/18/04

Geotechnical Services	Km 1691.7 to 1717.3 Alaska Highway #1	TEST PIT NO: 30019
Donjek Services Ltd.	UTM ZONE: - N6767579 E640524	PROJECT NO: 8002-318
CME75 Drill on FN60 Flextrac Nodwell		ELEVATION:

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



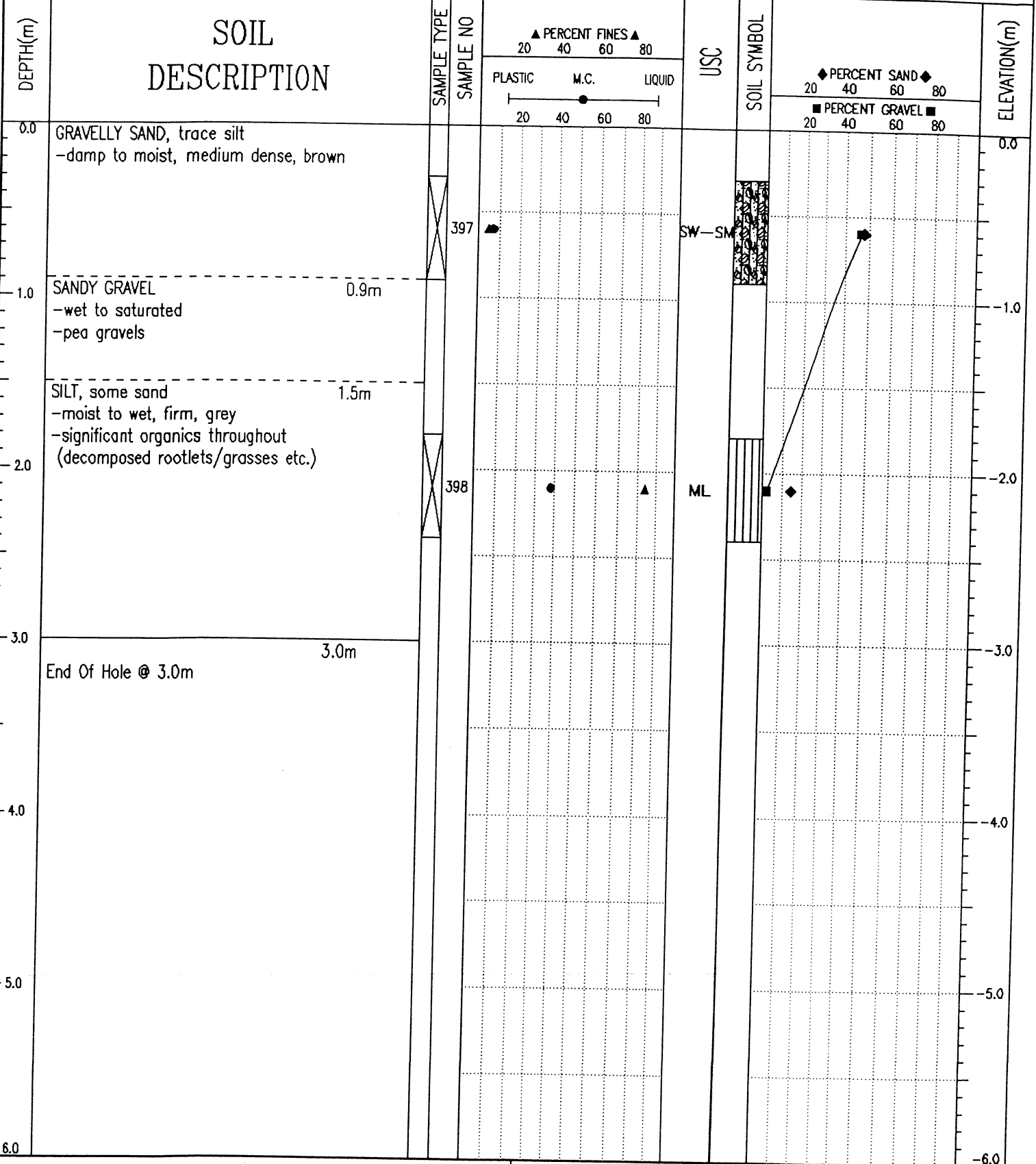
J. R. Paine & Associates Ltd.
Whitehorse, Yukon

LOGGED BY: RW
REVIEWED BY: -
Fig. No: 179

COMPLETION DEPTH: 3 m
COMPLETE: 08/18/04

Geotechnical Services	Km 1691.7 to 1717.3 Alaska Highway #1	TEST PIT NO: 30020
Donjek Services Ltd.	UTM ZONE: - N6767452 E640351	PROJECT NO: 8002-318
CME75 Drill on FN60 Flextrac Nodwell		ELEVATION:

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

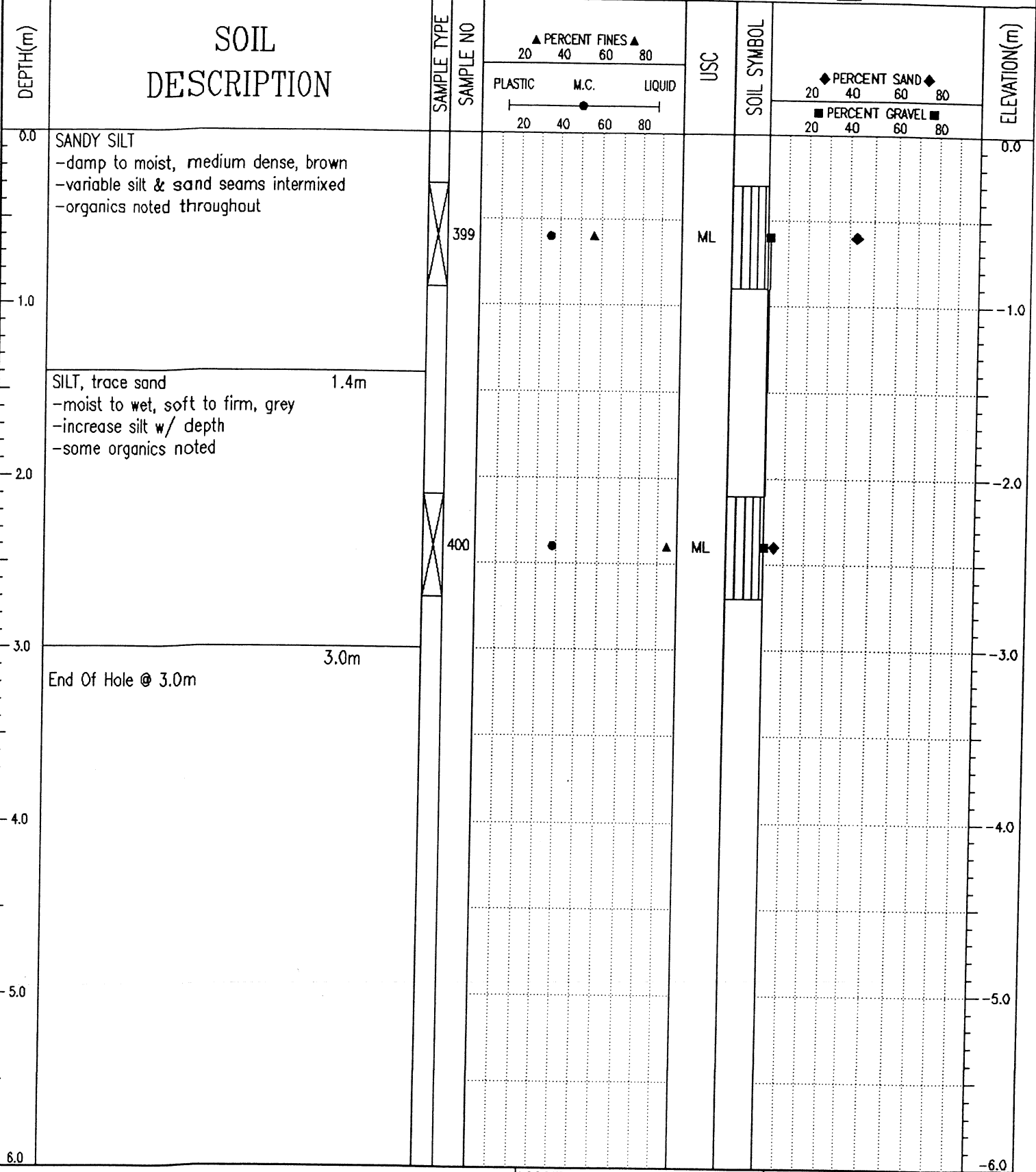


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LOGGED BY: RW	COMPLETION DEPTH: 3 m
REVIEWED BY: -	COMPLETE: 08/18/04
Fig. No: 180	Page 1 of 1

Geotechnical Services	Km 1691.7 to 1717.3 Alaska Highway #1	TEST PIT NO: 30021
Donjek Services Ltd.	UTM ZONE: - N6767340 E640194	PROJECT NO: 8002-318
CME75 Drill on FN60 Flextrac Nodwell		ELEVATION:

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



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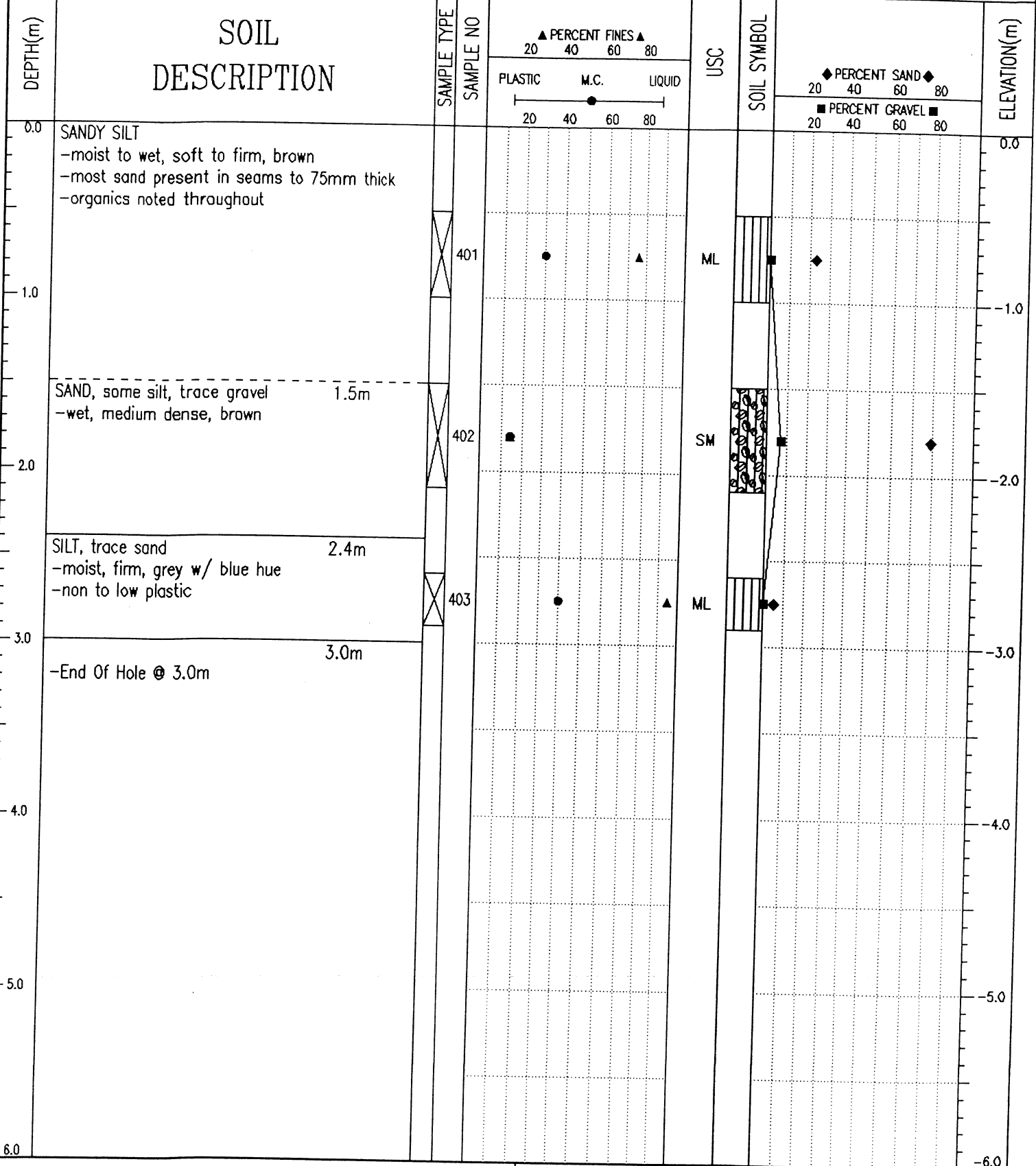
LOGGED BY: RW
REVIEWED BY:
Fig. No: 181

COMPLETION DEPTH: 3 m
COMPLETE: 08/18/04

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Geotechnical Services	Km 1691.7 to 1717.3 Alaska Highway #1	TEST PIT NO: 30022
Donjek Services Ltd.	UTM ZONE: - N6767232 E640041	PROJECT NO: 8002-318
CME75 Drill on FN60 Flextrac Nodwell		ELEVATION:

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



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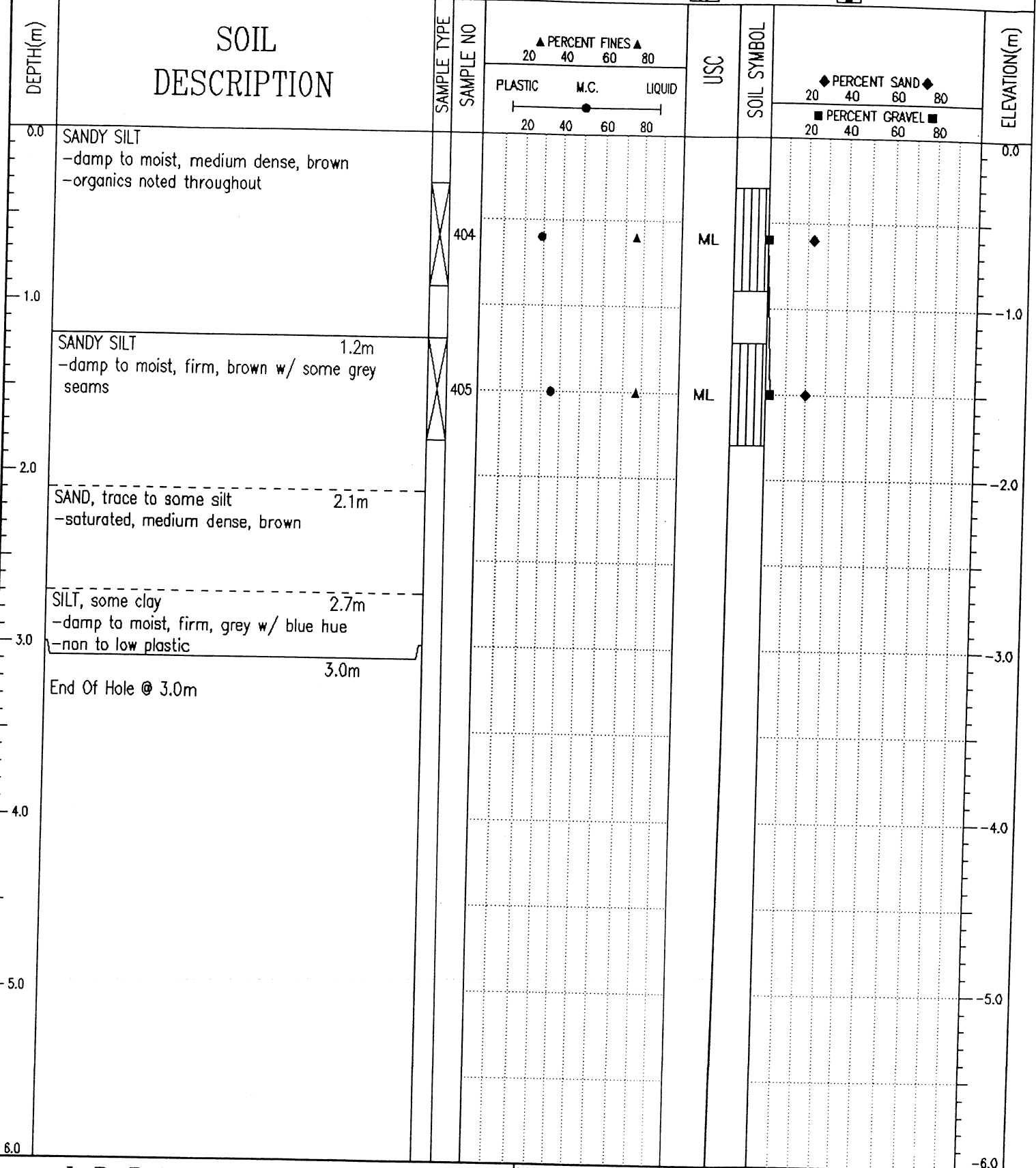
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REVIEWED BY: -	COMPLETE: 08/18/04
Fig. No: 182	Page 1 of 1

Geotechnical Services
 Donjek Services Ltd.
 CME75 Drill on FN60 Flextrac Nodwell

Km 1691.7 to 1717.3 Alaska Highway #1
 UTM ZONE: - N6767125 E639890

TEST PIT NO: 30023
 PROJECT NO: 8002-318
 ELEVATION:

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



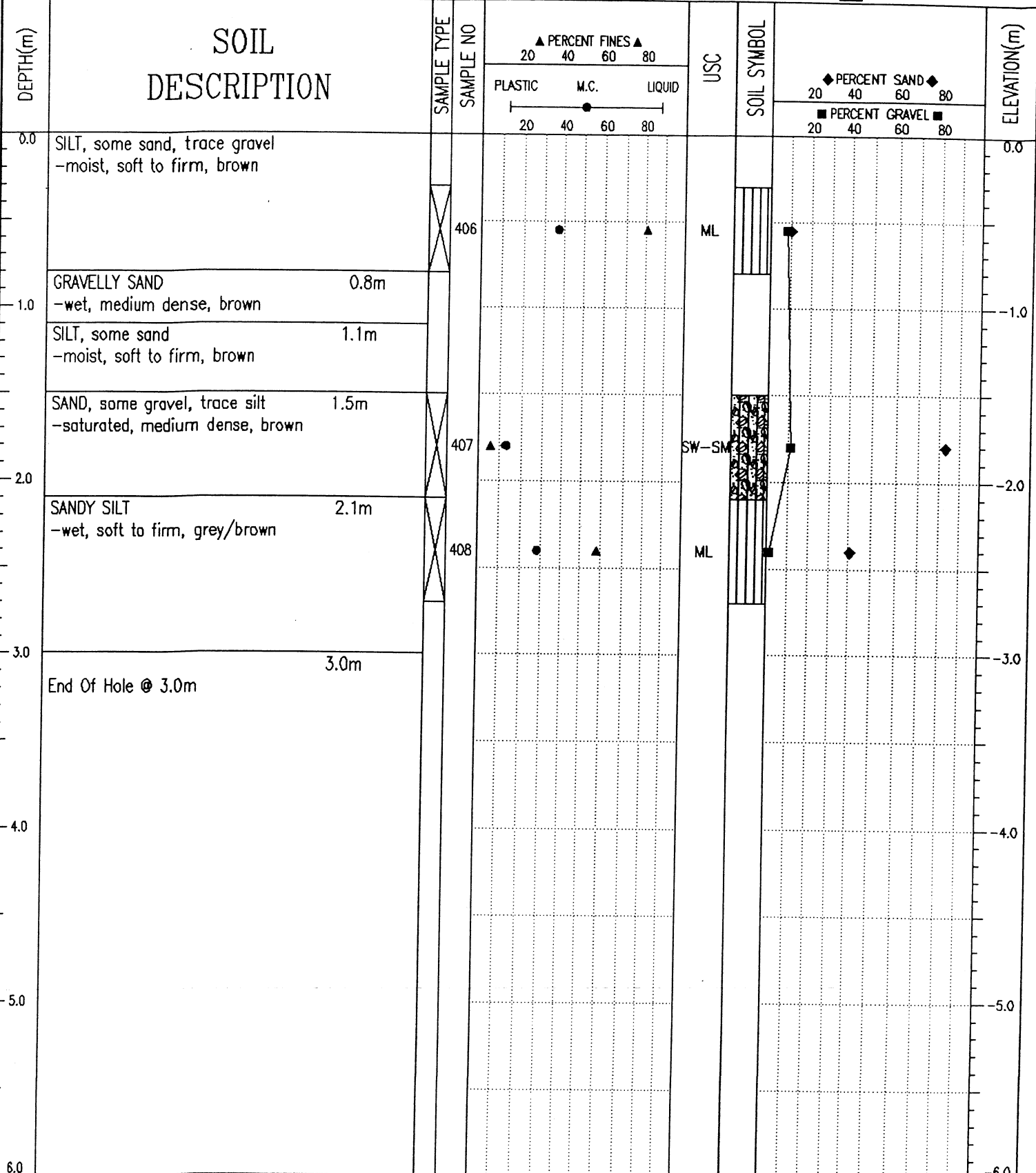
J. R. Paine & Associates Ltd.
 Whitehorse, Yukon

LOGGED BY: RW
 REVIEWED BY: -
 Fig. No: 183

COMPLETION DEPTH: 3 m
 COMPLETE: 08/18/04

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



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LOGGED BY: RW	COMPLETION DEPTH: 3 m
REVIEWED BY: -	COMPLETE: 08/18/04
Fig. No: 184	

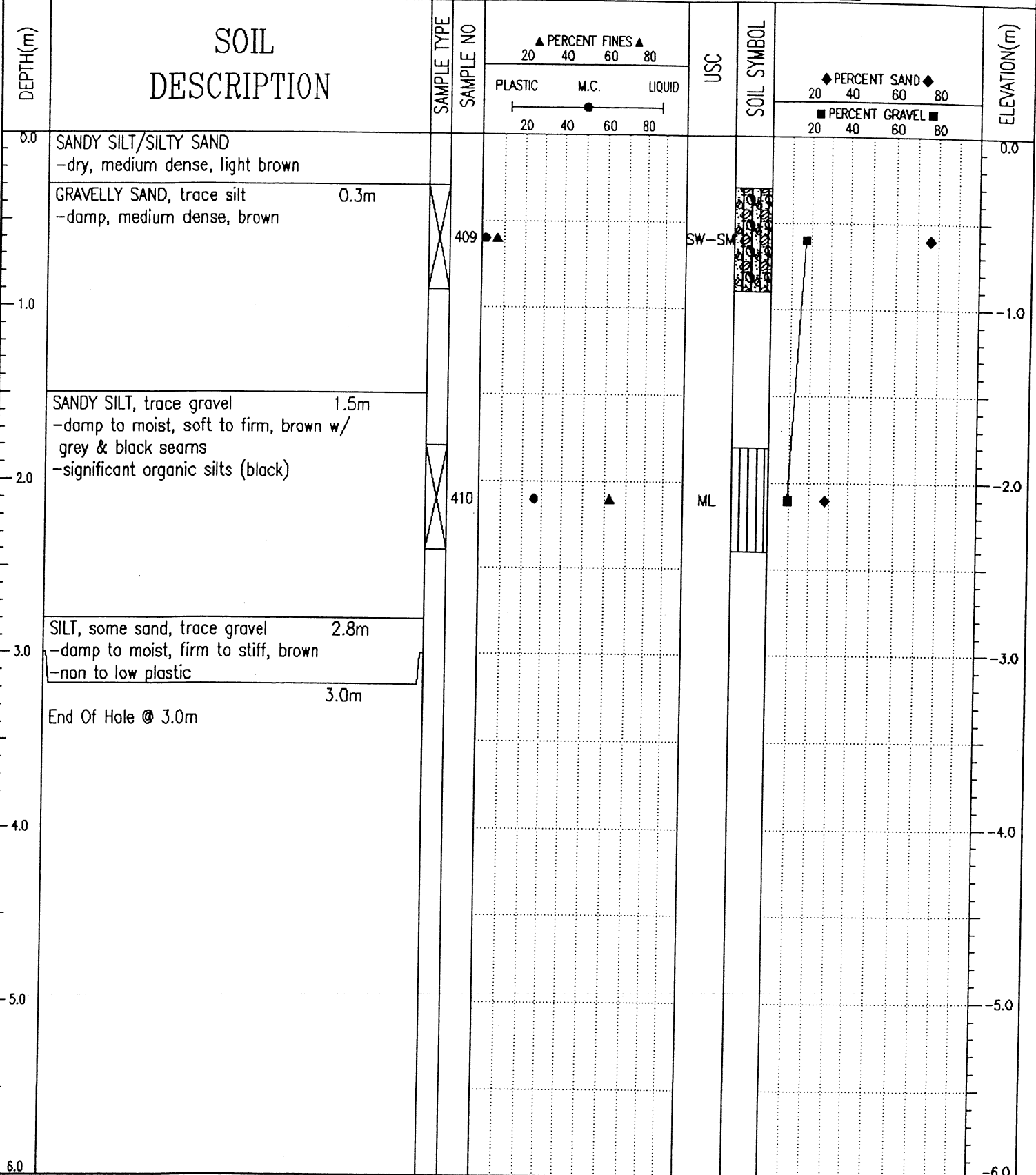
05/02/23 02:37PM (YIC_JRW/S)

Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1 TEST PIT NO: 30025

Donjek Services Ltd. UTM ZONE: - N6766885 E639558 PROJECT NO: 8002-318

CME75 Drill on FN60 Flextrac Nodwell ELEVATION:

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



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Whitehorse, Yukon

LOGGED BY: RW

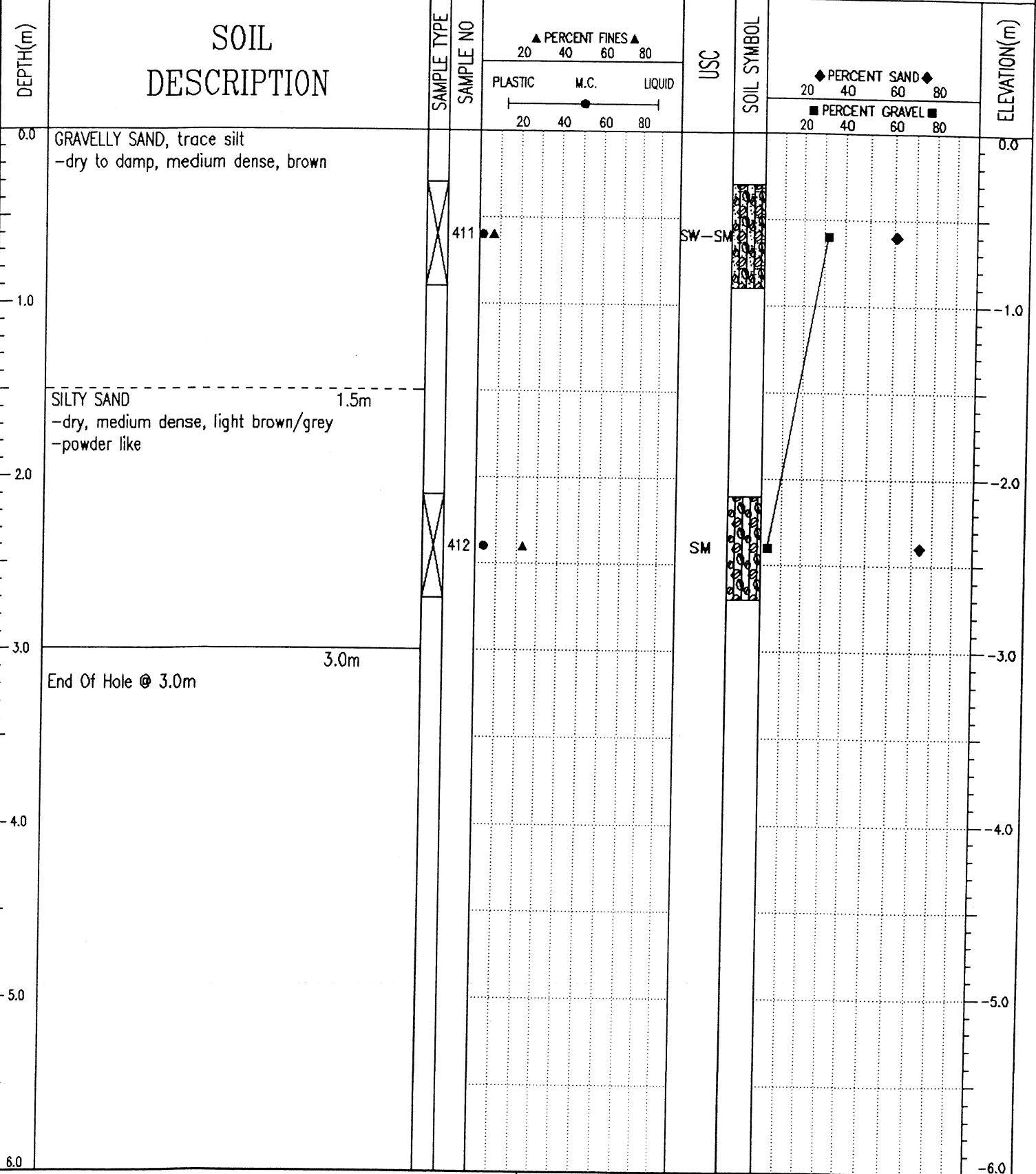
REVIEWED BY:

Fig. No: 185

COMPLETION DEPTH: 3 m

COMPLETE: 08/18/04

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



J. R. Paine & Associates Ltd.
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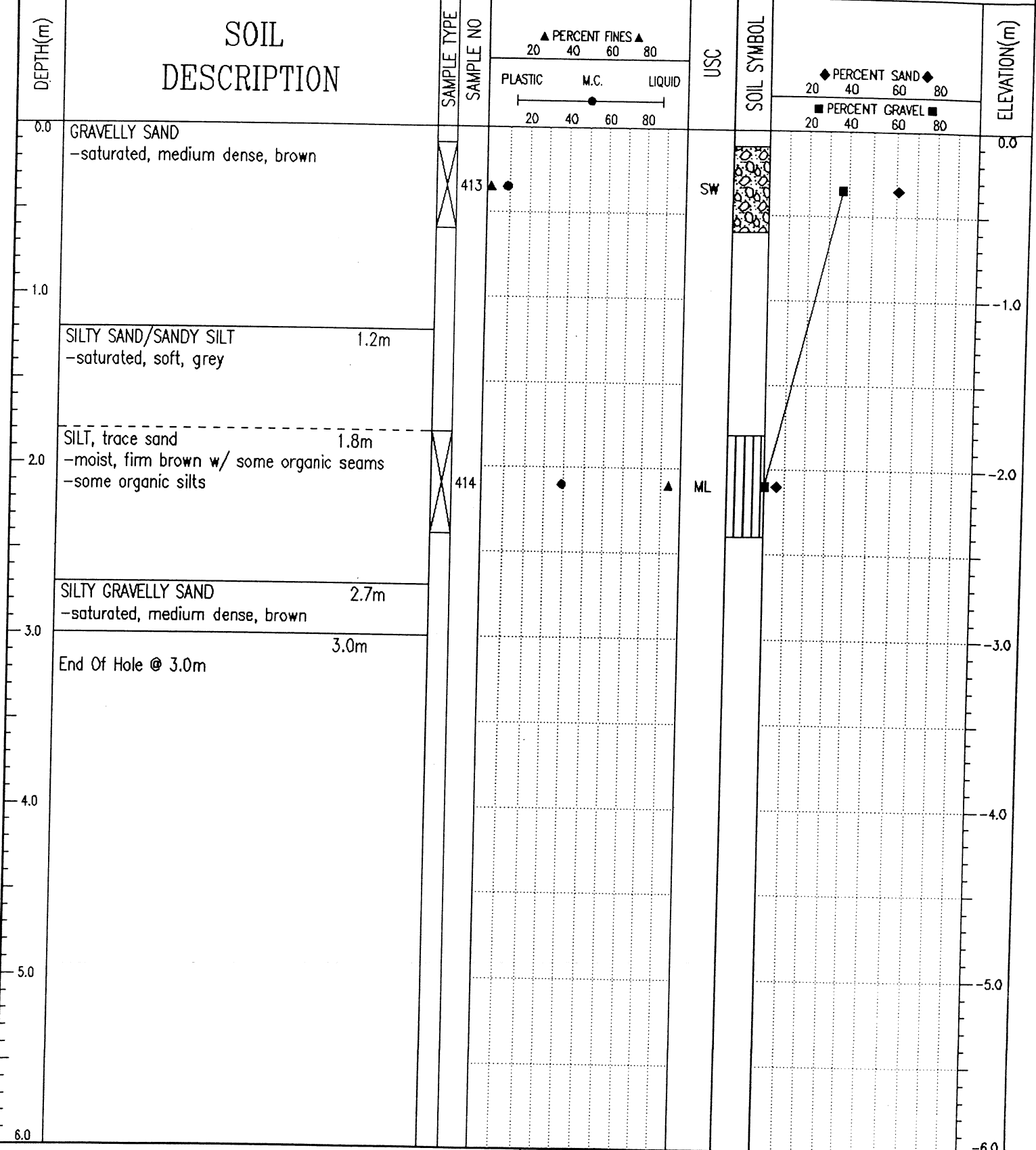
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REVIEWED BY:	COMPLETE: 08/18/04
Fig. No: 186	

Geotechnical Services
 Donjek Services Ltd.
 CME75 Drill on FN60 Flextrac Nodwell

Km 1691.7 to 1717.3 Alaska Highway #1
 UTM ZONE: - N6766735 E639213

TEST PIT NO: 30027
 PROJECT NO: 8002-318
 ELEVATION:

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



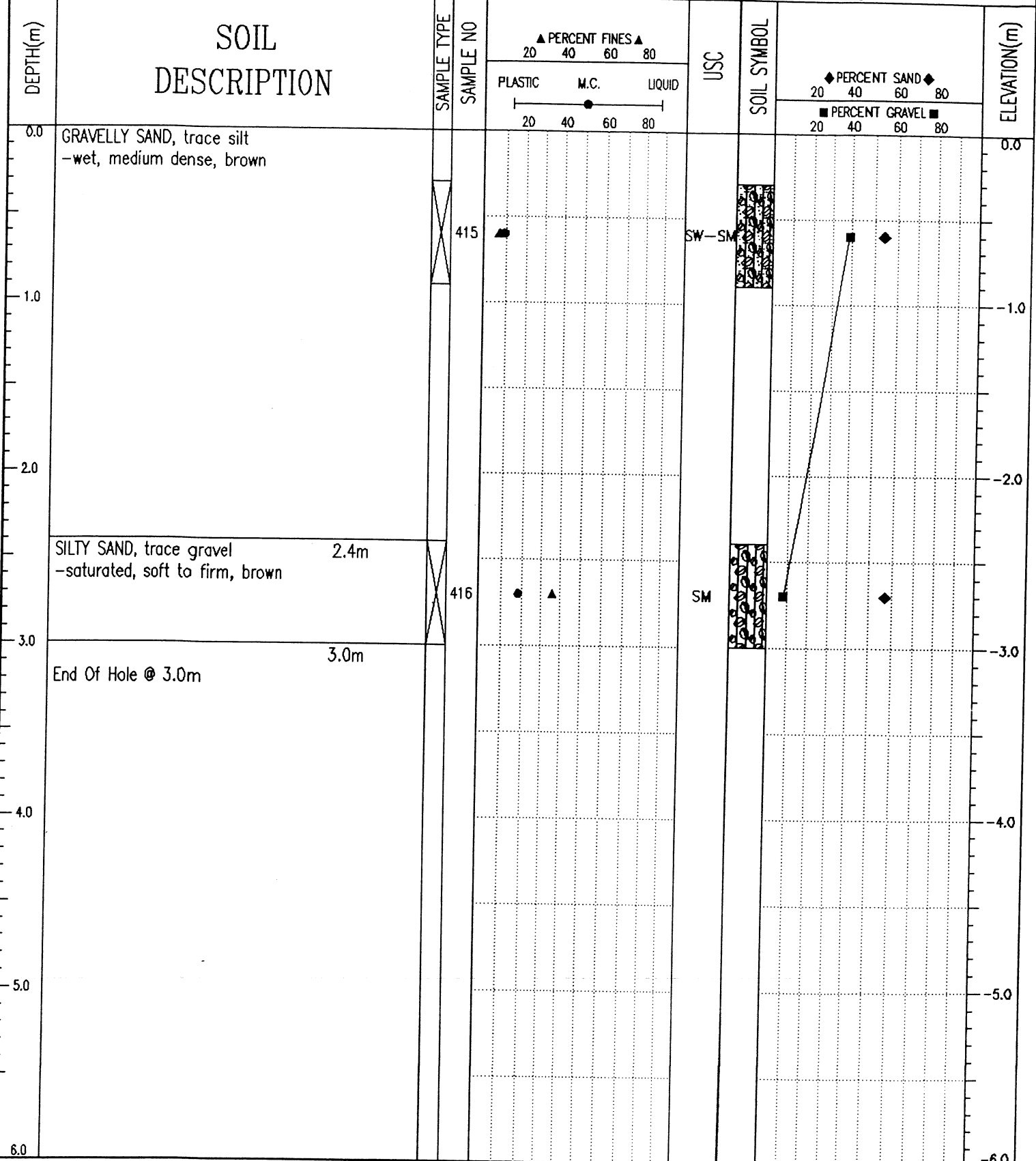
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LOGGED BY: RW
 REVIEWED BY: -
 Fig. No: 187

COMPLETION DEPTH: 3 m
 COMPLETE: 08/19/04

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

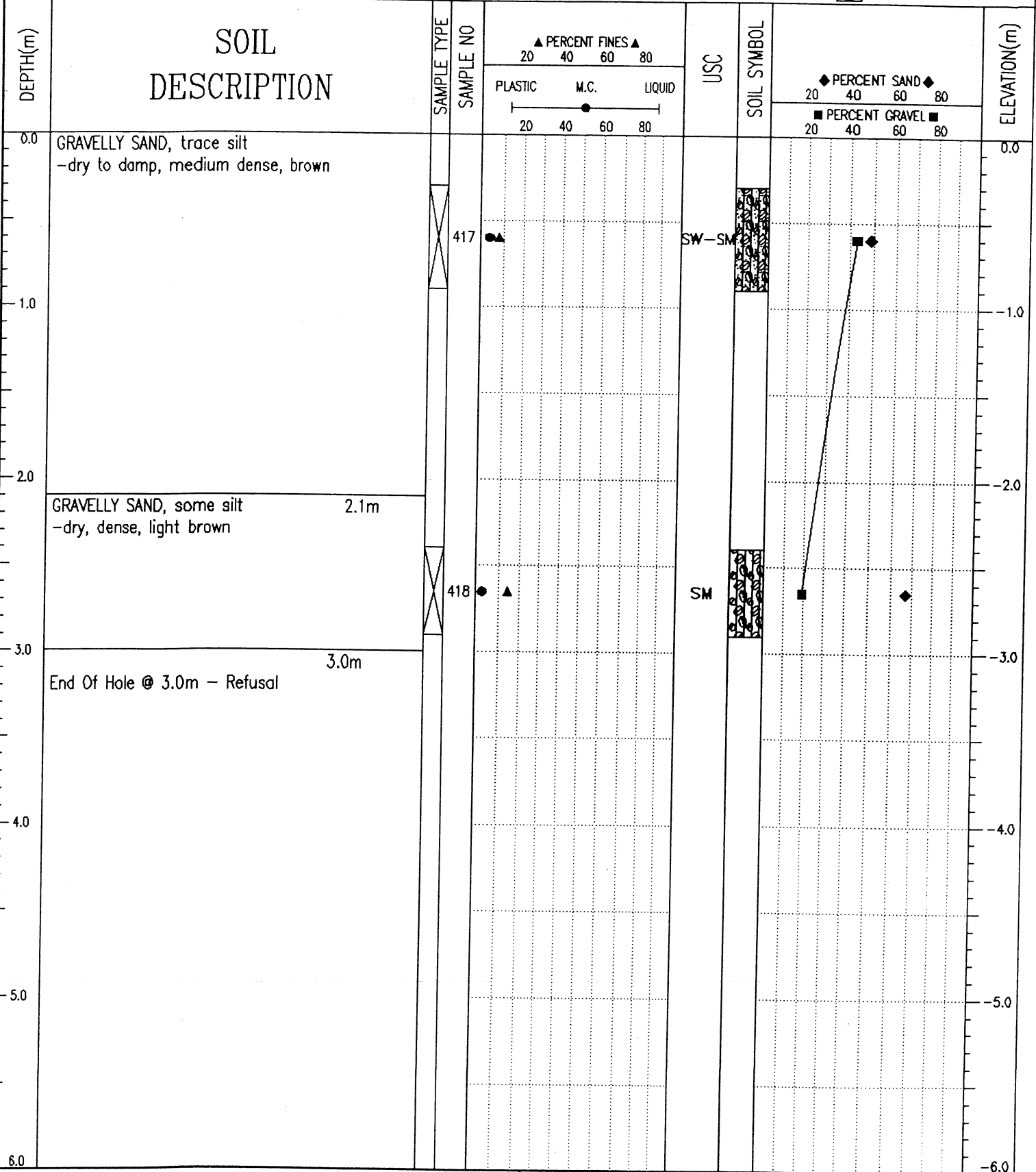


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LOGGED BY: RW	COMPLETION DEPTH: 3 m
REVIEWED BY:	COMPLETE: 08/19/04
Fig. No: 188	

Geotechnical Services	Km 1691.7 to 1717.3 Alaska Highway #1	TEST PIT NO: 30029
Donjek Services Ltd.	UTM ZONE: - N6766653 E639106	PROJECT NO: 8002-318
CME75 Drill on FN60 Flextrac Nodwell		ELEVATION:

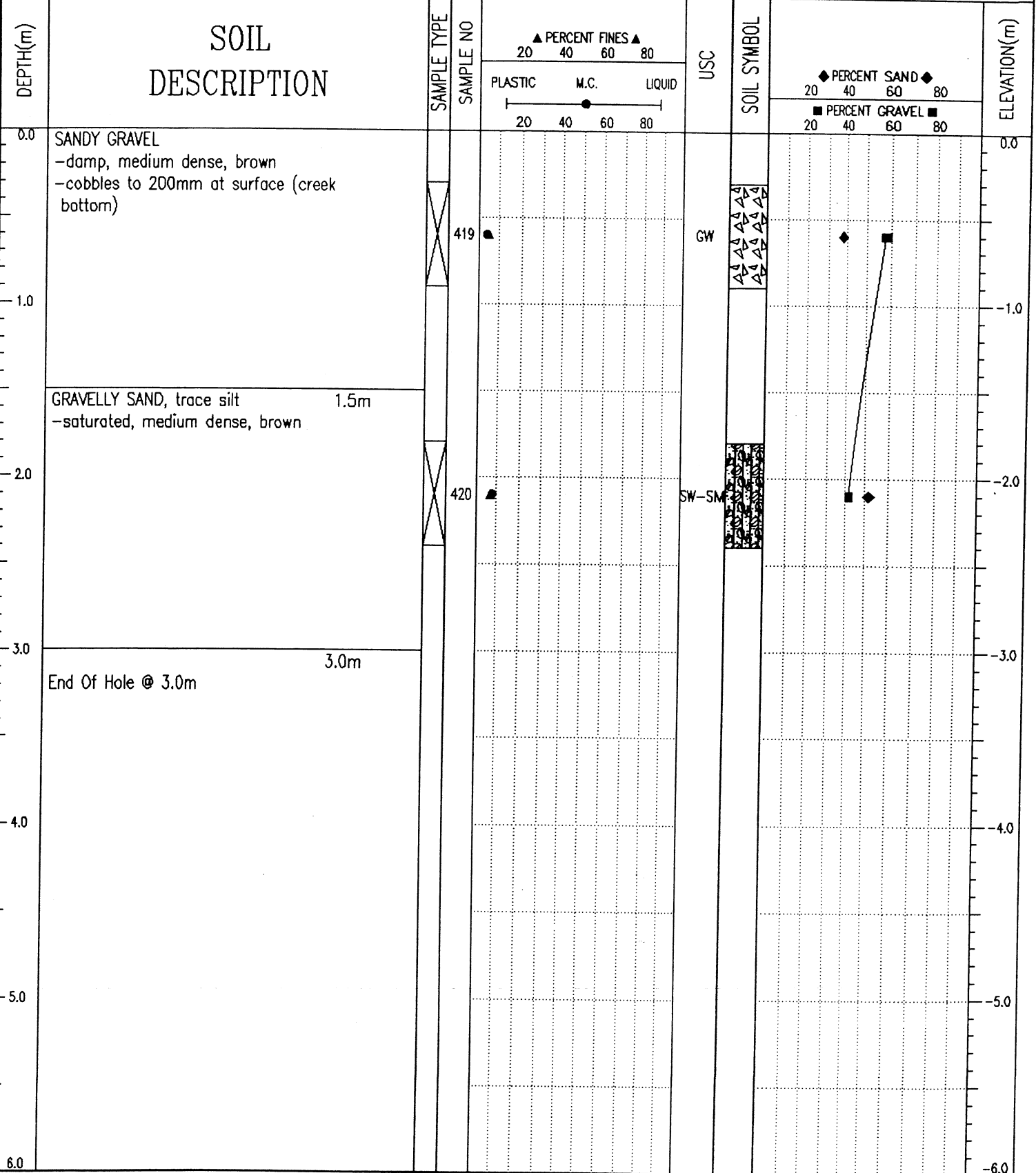
SAMPLE TYPE RETURN S.P.T. AUGER BULK TUBE CORE



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LOGGED BY: RW	COMPLETION DEPTH: 3 m
REVIEWED BY:	COMPLETE: 08/19/04
Fig. No: 189	Page 1 of 1

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

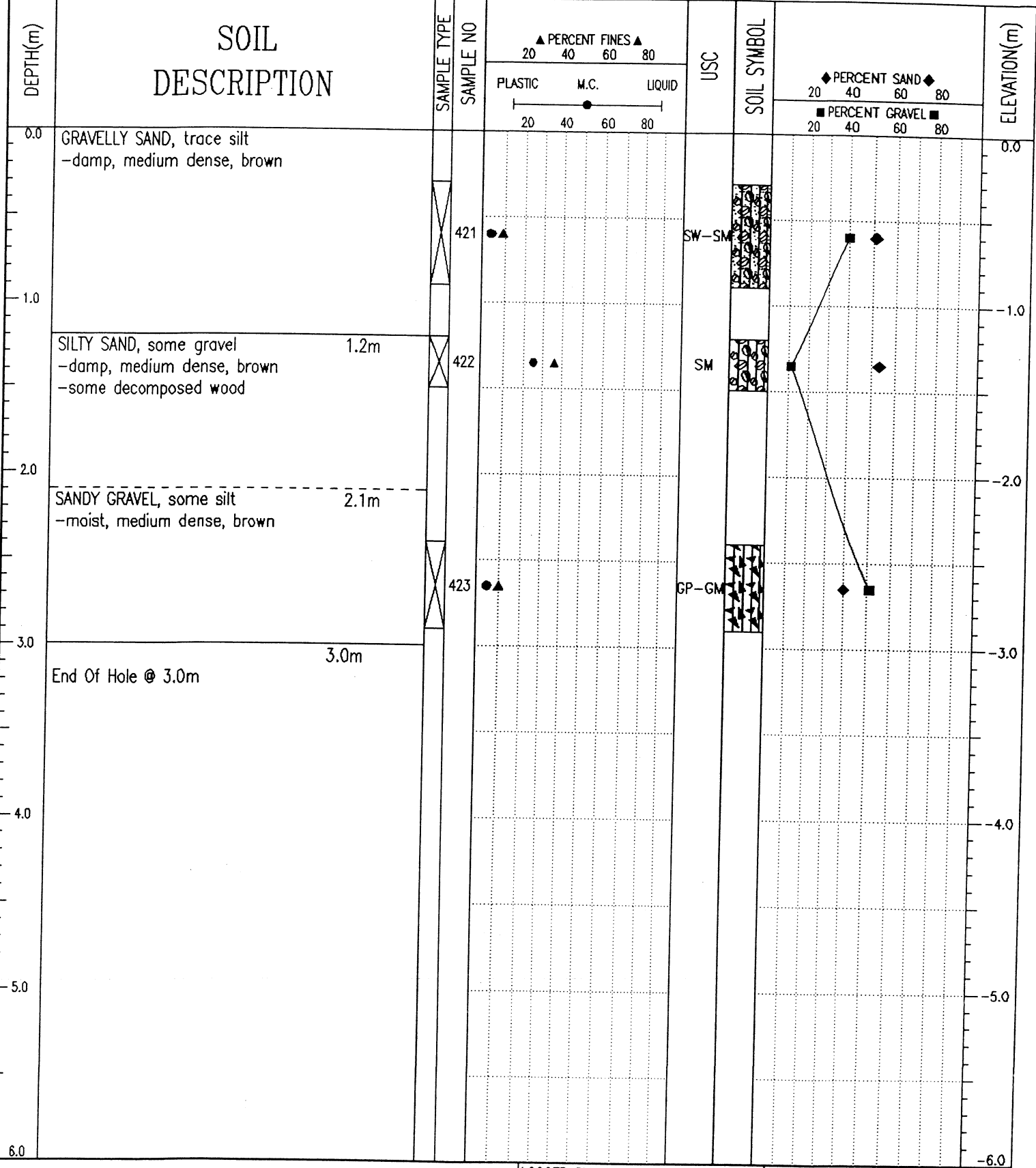


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LOGGED BY: RW	COMPLETION DEPTH: 3 m
REVIEWED BY:	COMPLETE: 08/19/04
Fig. No: 190	Page 1 of 1

Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1 TEST PIT NO: 30031
 Donjek Services Ltd. UTM ZONE: - N6766525 E638926 PROJECT NO: 8002-318
 CME75 Drill on FN60 Flextrac Nodwell ELEVATION:

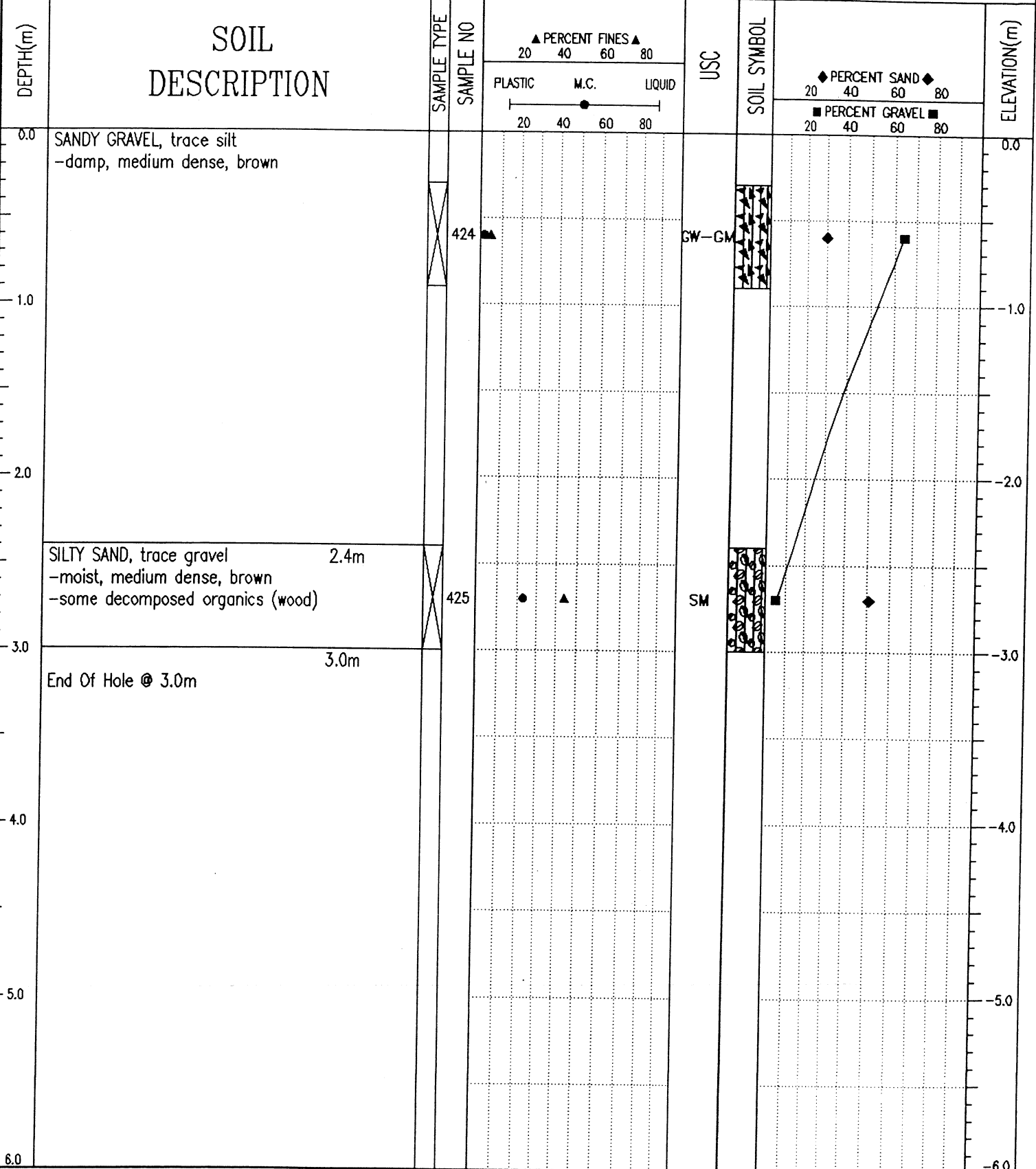
SAMPLE TYPE RETURN S.P.T. AUGER BULK TUBE CORE



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LOGGED BY: RW COMPLETION DEPTH: 3 m
 REVIEWED BY: COMPLETE: 08/19/04
 Fig. No: 191 Page 1 of 1

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



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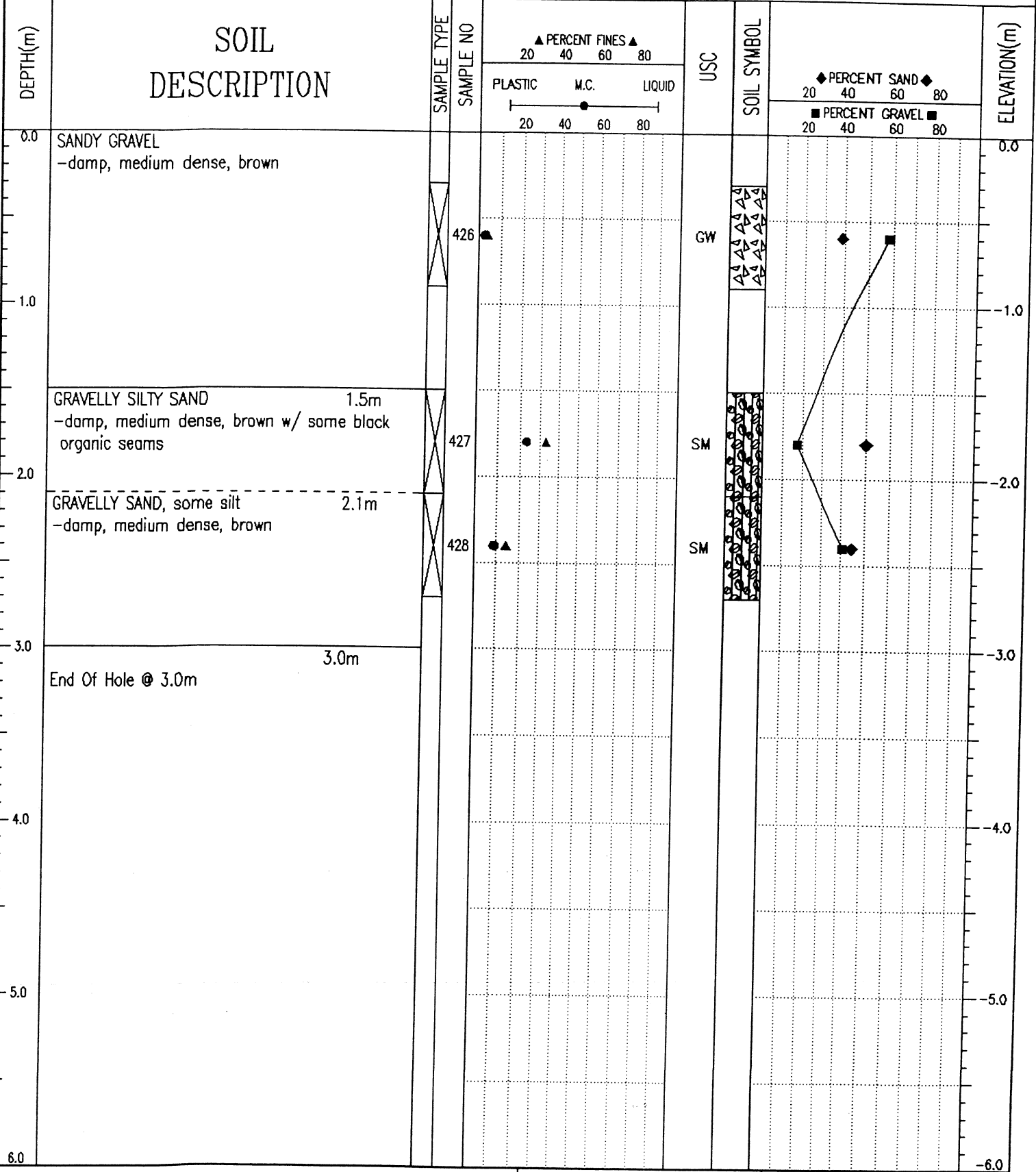
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REVIEWED BY: -	COMPLETE: 08/19/04
Fig. No: 192	

Geotechnical Services
 Donjek Services Ltd.
 CME75 Drill on FN60 Flextrac Nodwell

Km 1691.7 to 1717.3 Alaska Highway #1
 UTM ZONE: - N6766235 E638653

TEST PIT NO: 30033
 PROJECT NO: 8002-318
 ELEVATION:

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



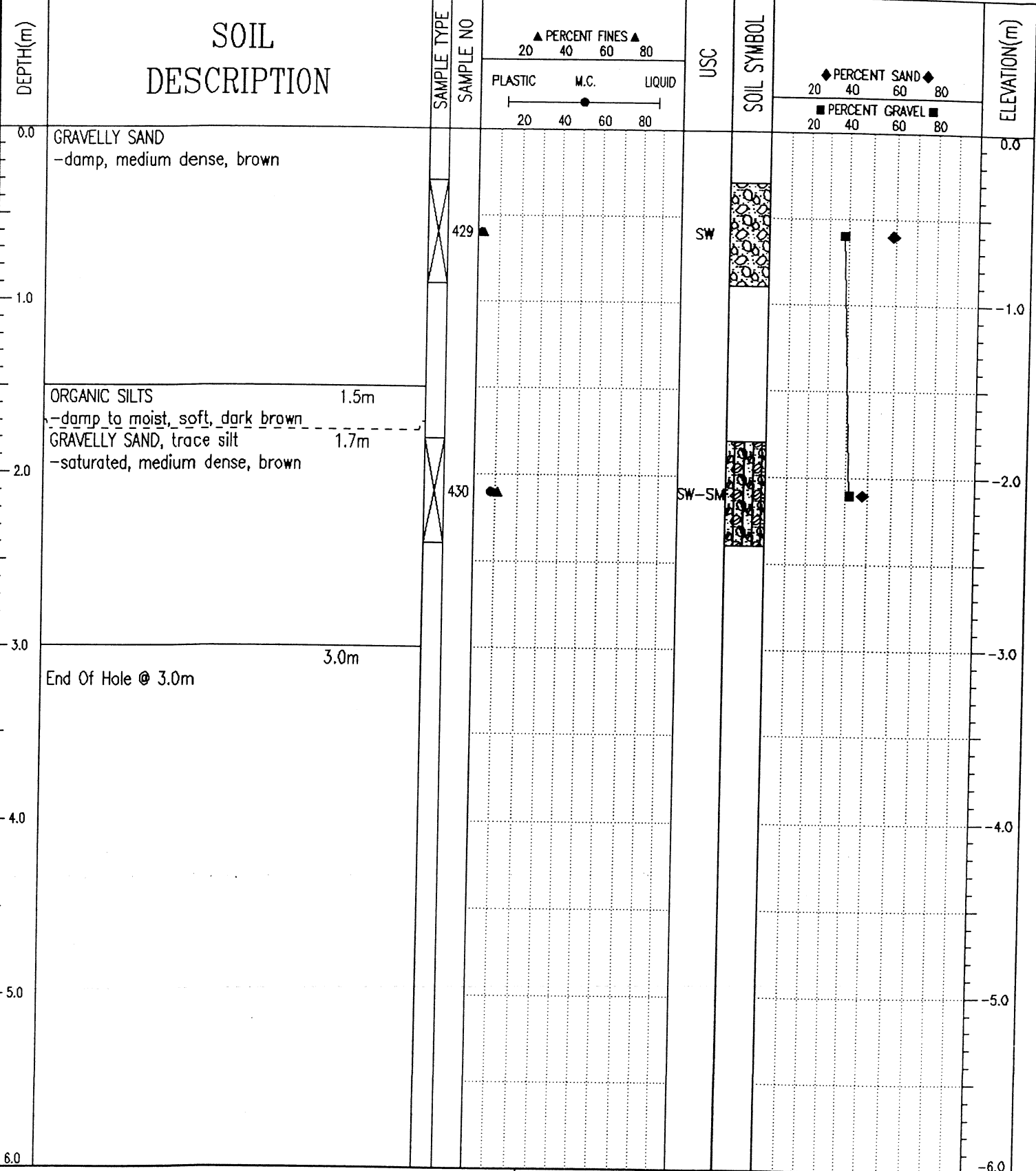
J. R. Paine & Associates Ltd.
 Whitehorse, Yukon

LOGGED BY: RW
 REVIEWED BY:
 Fig. No: 193

COMPLETION DEPTH: 3 m
 COMPLETE: 08/19/04

05/02/23 02:38PM (YIC_HWT)

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



J. R. Paine & Associates Ltd.
Whitehorse, Yukon

LOGGED BY: RW

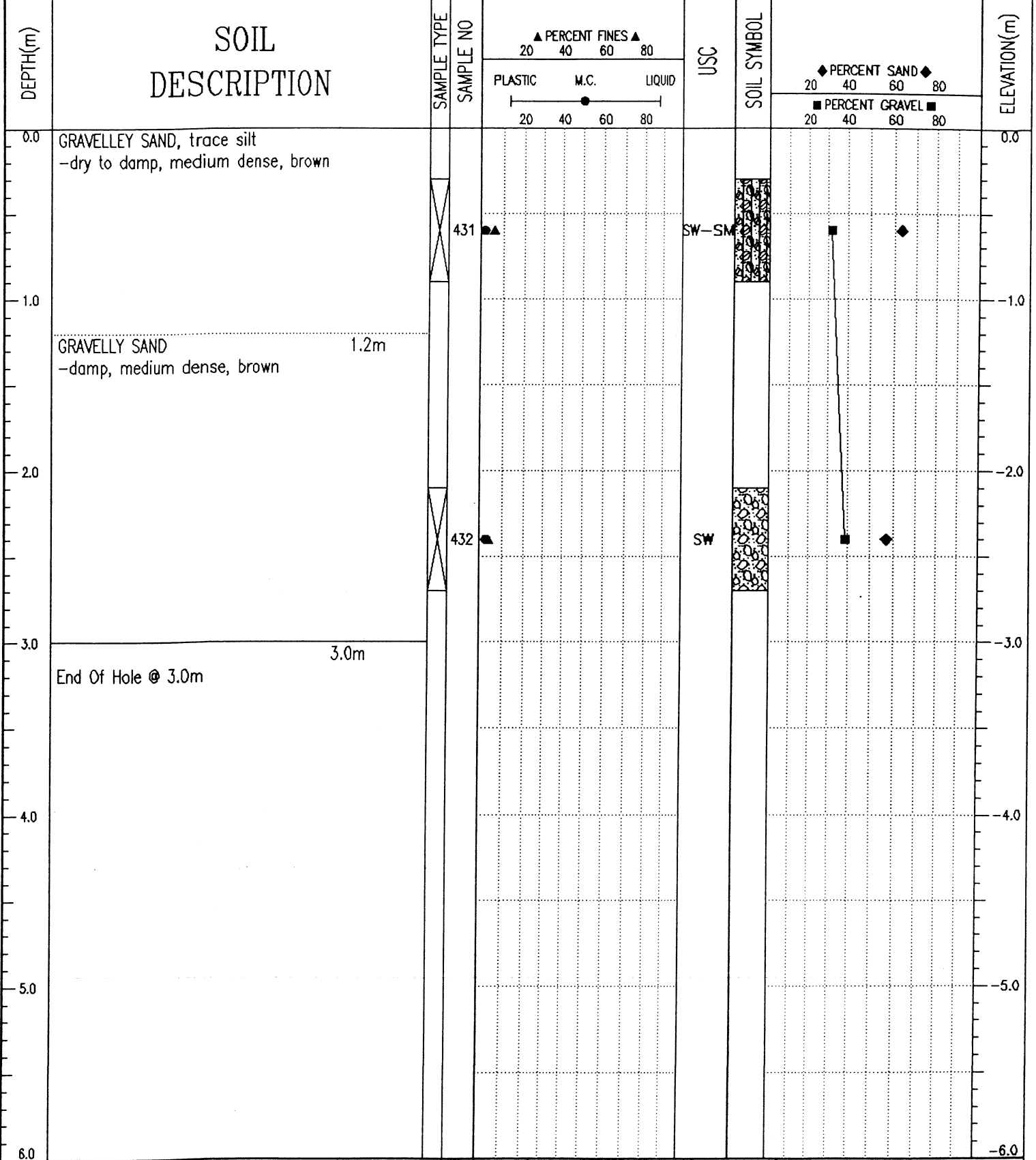
REVIEWED BY: -

Fig. No: 194

COMPLETION DEPTH: 3 m

COMPLETE: 08/19/04

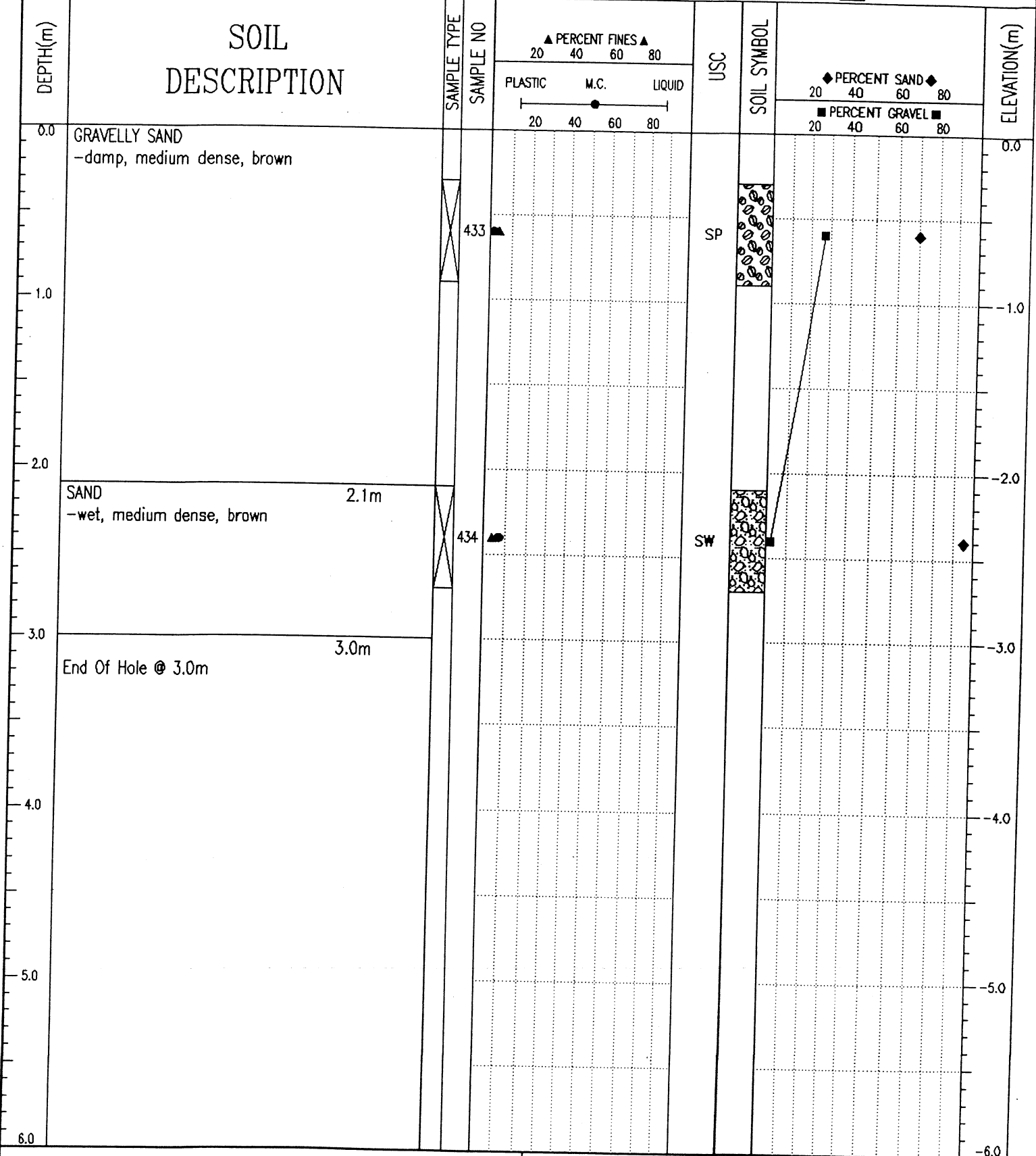
SAMPLE TYPE RETURN S.P.T. AUGER BULK TUBE CORE



J. R. Paine & Associates Ltd. Whitehorse, Yukon	LOGGED BY: RW REVIEWED BY: - Fig. No: 195	COMPLETION DEPTH: 3 m COMPLETE: 08/19/04
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Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1 TEST PIT NO: 30036
 Donjek Services Ltd. UTM ZONE: - N6766043 E638094 PROJECT NO: 8002-318
 CME75 Drill on FN60 Flextrac Nodwell ELEVATION:

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



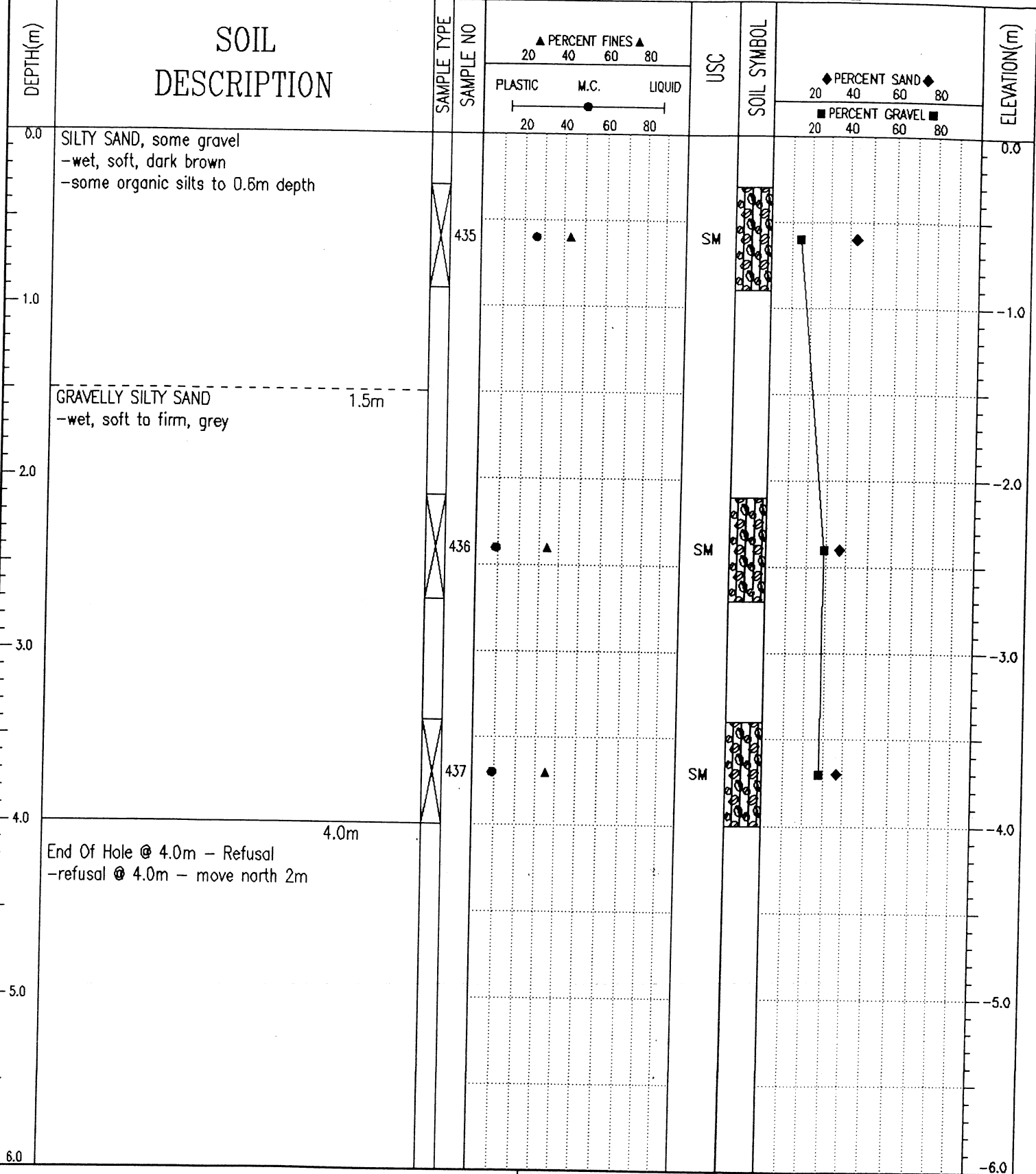
J. R. Paine & Associates Ltd. Whitehorse, Yukon
 LOGGED BY: RW COMPLETION DEPTH: 3 m
 REVIEWED BY: COMPLETE: 08/19/04
 Fig. No: 196 Page 1 of 1

Geotechnical Services
 Donjek Services Ltd.
 CME75 Drill on FN60 Flextrac Nodwell

Km 1691.7 to 1717.3 Alaska Highway #1
 UTM ZONE: - N6765969 E637902

TEST PIT NO: 30037
 PROJECT NO: 8002-318
 ELEVATION:

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



J. R. Paine & Associates Ltd.
 Whitehorse, Yukon

LOGGED BY: RW
 REVIEWED BY:
 Fig. No: 197

COMPLETION DEPTH: 4 m
 COMPLETE: 08/19/04

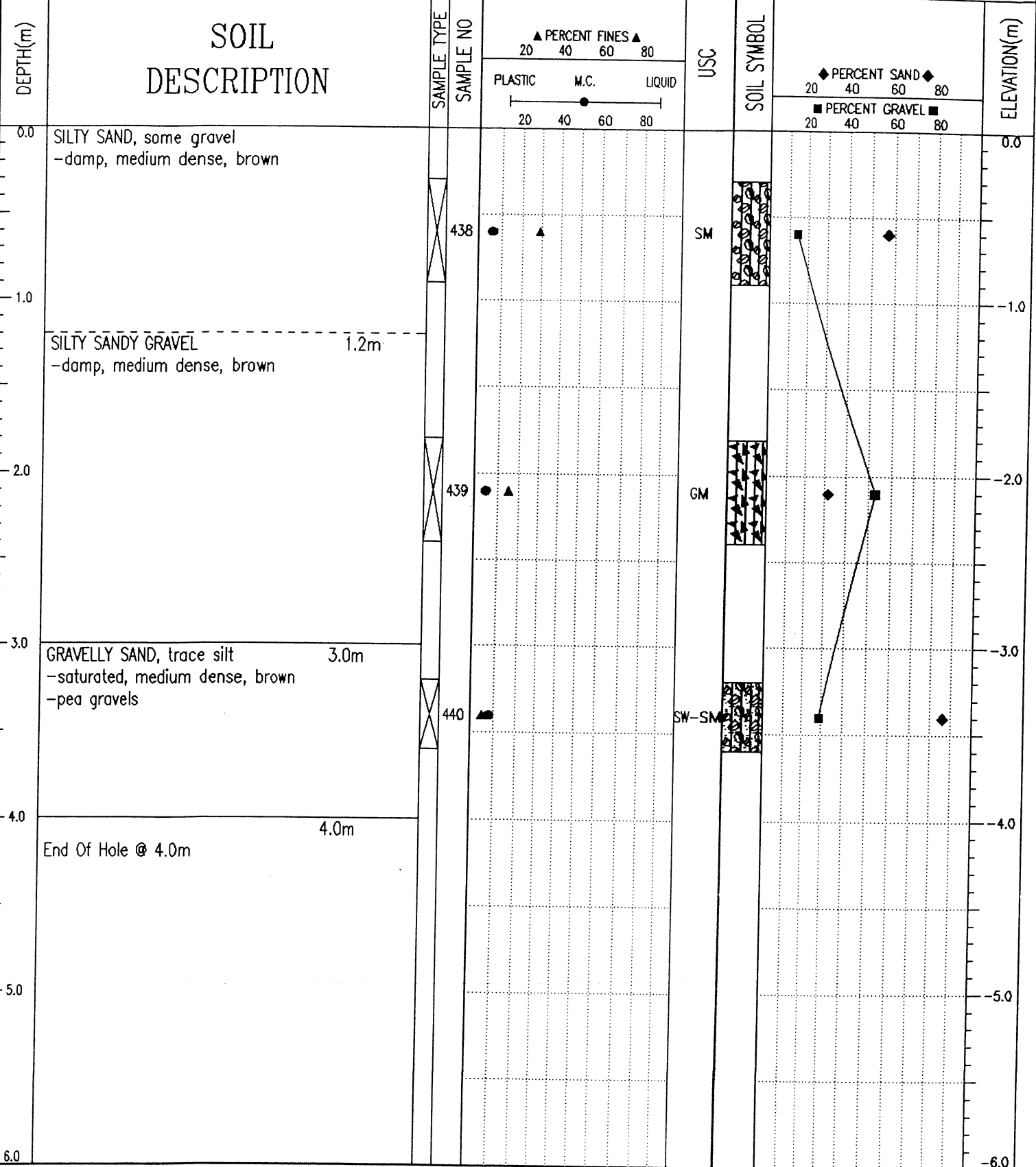
Page 1 of 1

Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1 TEST PIT NO: 30038

Donjek Services Ltd. UTM ZONE: - N6765920 E637704 PROJECT NO: 8002-318

CME75 Drill on FN60 Flextrac Nodwell ELEVATION:

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



J. R. Paine & Associates Ltd.
Whitehorse, Yukon

LOGGED BY: RW
REVIEWED BY:
Fig. No: 198

COMPLETION DEPTH: 4 m
COMPLETE: 08/19/04

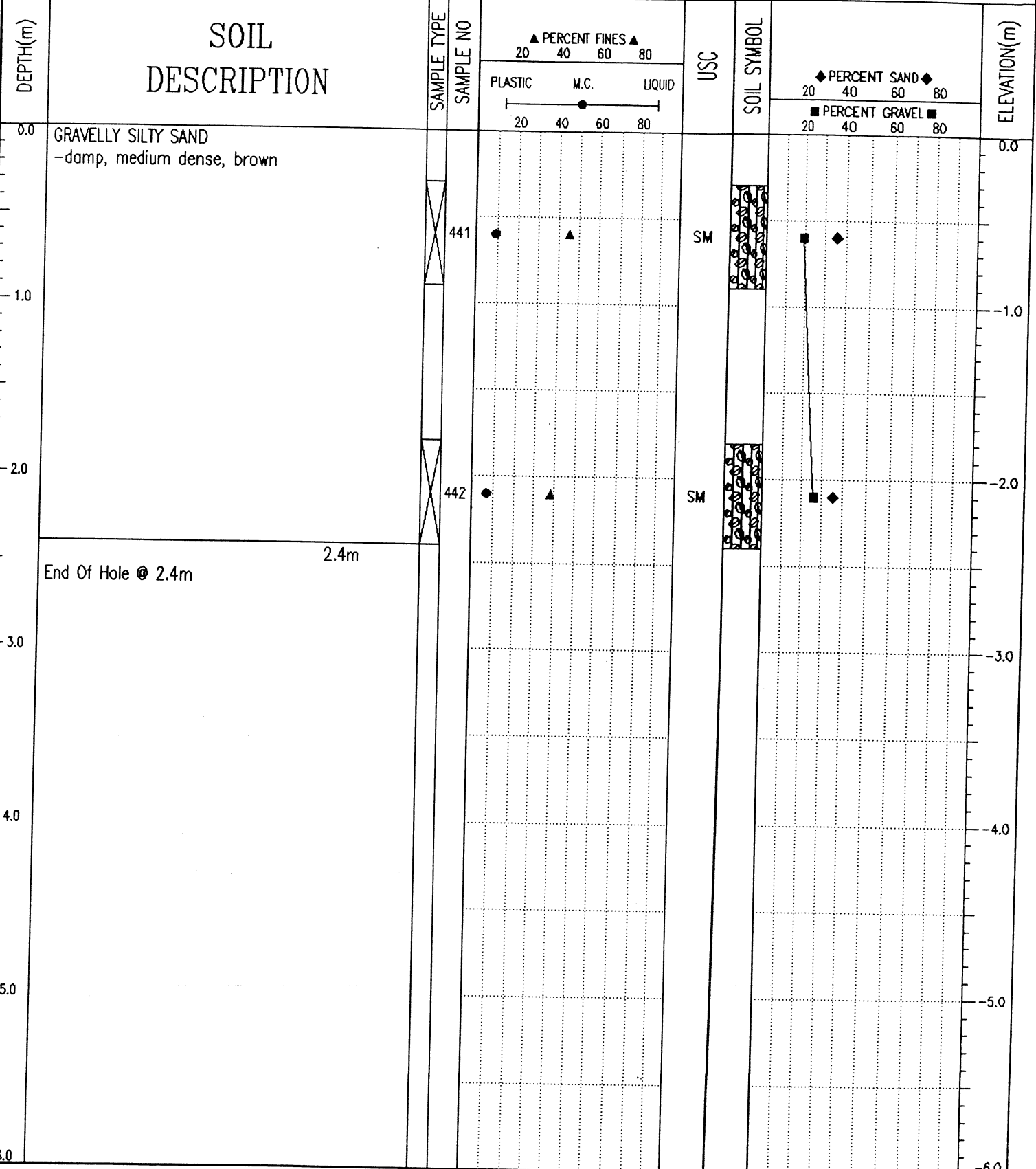
05/02/21 06:18AM (VIC_HWS)

Geotechnical Services
 Donjek Services Ltd.
 CME75 Drill on FN60 Flextrac Nodwell

Km 1691.7 to 1717.3 Alaska Highway #1
 UTM ZONE: - N6765818 E637563

TEST PIT NO: 30039
 PROJECT NO: 8002-318
 ELEVATION:

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

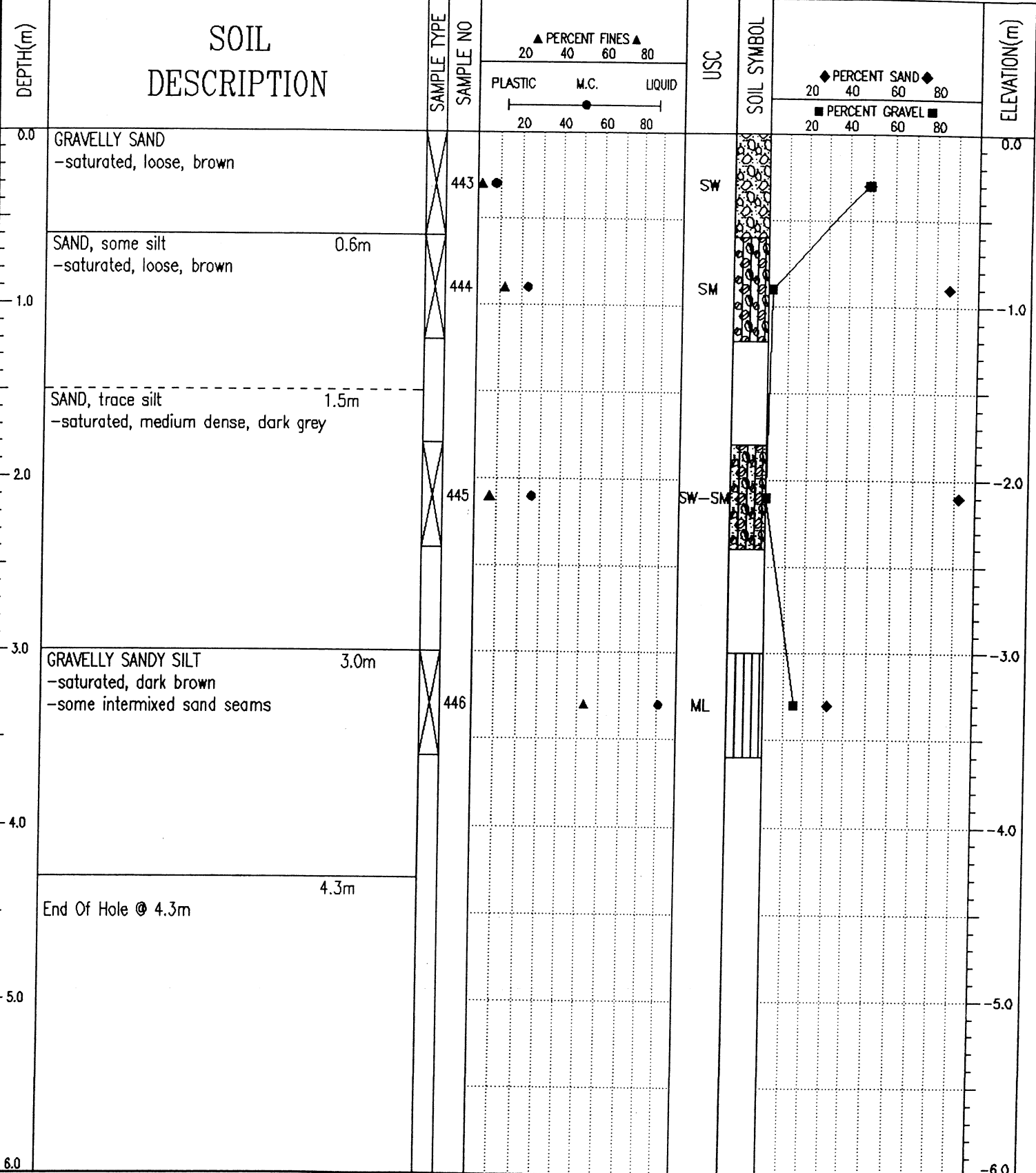


J. R. Paine & Associates Ltd.
 Whitehorse, Yukon

LOGGED BY: RW
 REVIEWED BY: -
 Fig. No: 199

COMPLETION DEPTH: 2.4 m
 COMPLETE: 08/19/04

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



J. R. Paine & Associates Ltd.
Whitehorse, Yukon

LOGGED BY: RW	COMPLETION DEPTH: 4.3 m
REVIEWED BY: -	COMPLETE: 08/19/04
Fig. No: 200	

Geotechnical Services Km 1691.7 to 1717.3 Alaska Highway #1 TEST PIT NO: 30041

Donjek Services Ltd. UTM ZONE: - N6765452 E637429 PROJECT NO: 8002-318

CME75 Drill on FN60 Flextrac Nodwell ELEVATION:

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

DEPTH(m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	SPT(N)	PERCENT FINES			USC	SOIL SYMBOL	PERCENT SAND		PERCENT GRAVEL		ELEVATION(m)
					PLASTIC	M.C.	LIQUID			20	40	60	80	
0.0													0.0	
1.0													-1.0	
2.0	SPT (N) @ 1.4m: 41+ -refusal at 10" SANDY GRAVEL/GRAVELLY SAND -dry to damp, medium dense, brown		447	41				GP	<input checked="" type="checkbox"/>				-2.0	
3.0	End Of Hole @ 2.4m - Refusal -refusal @ 2.4m - move north 2m -refusal @ 1.5m - move north 2m -refusal @ 1.8m - EOH												-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													-11.0	
12.0													-12.0	

J. R. Paine & Associates Ltd.
Whitehorse, Yukon

LOGGED BY: RW COMPLETION DEPTH: 2.4 m
REVIEWED BY: - COMPLETE: 08/20/04
Fig. No: 201 Page 1 of 1

SAMPLE TYPE

RETURN

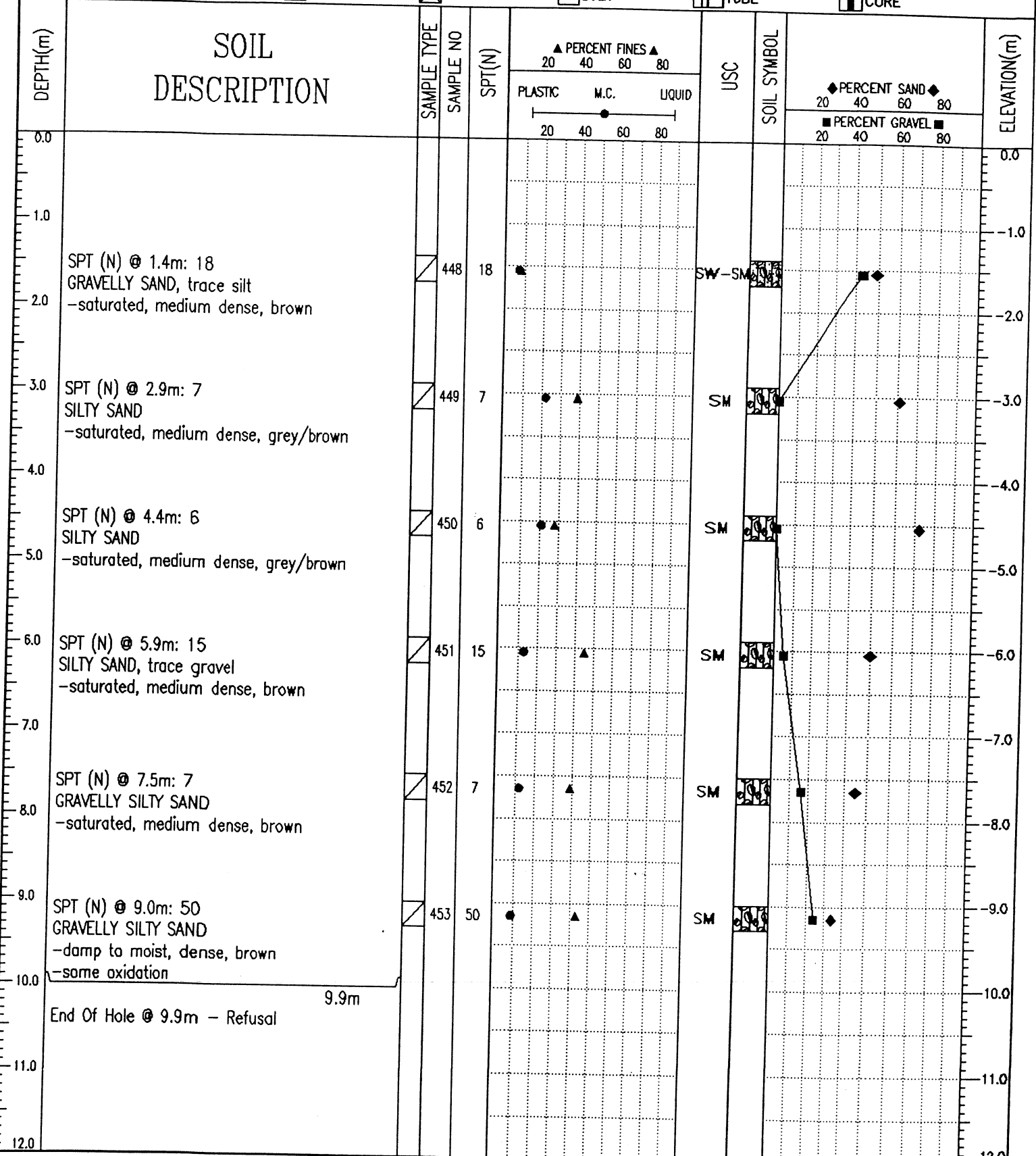
S.P.T.

AUGER

BULK

TUBE

CORE



J. R. Paine & Associates Ltd.
Whitehorse, Yukon

LOGGED BY: RW

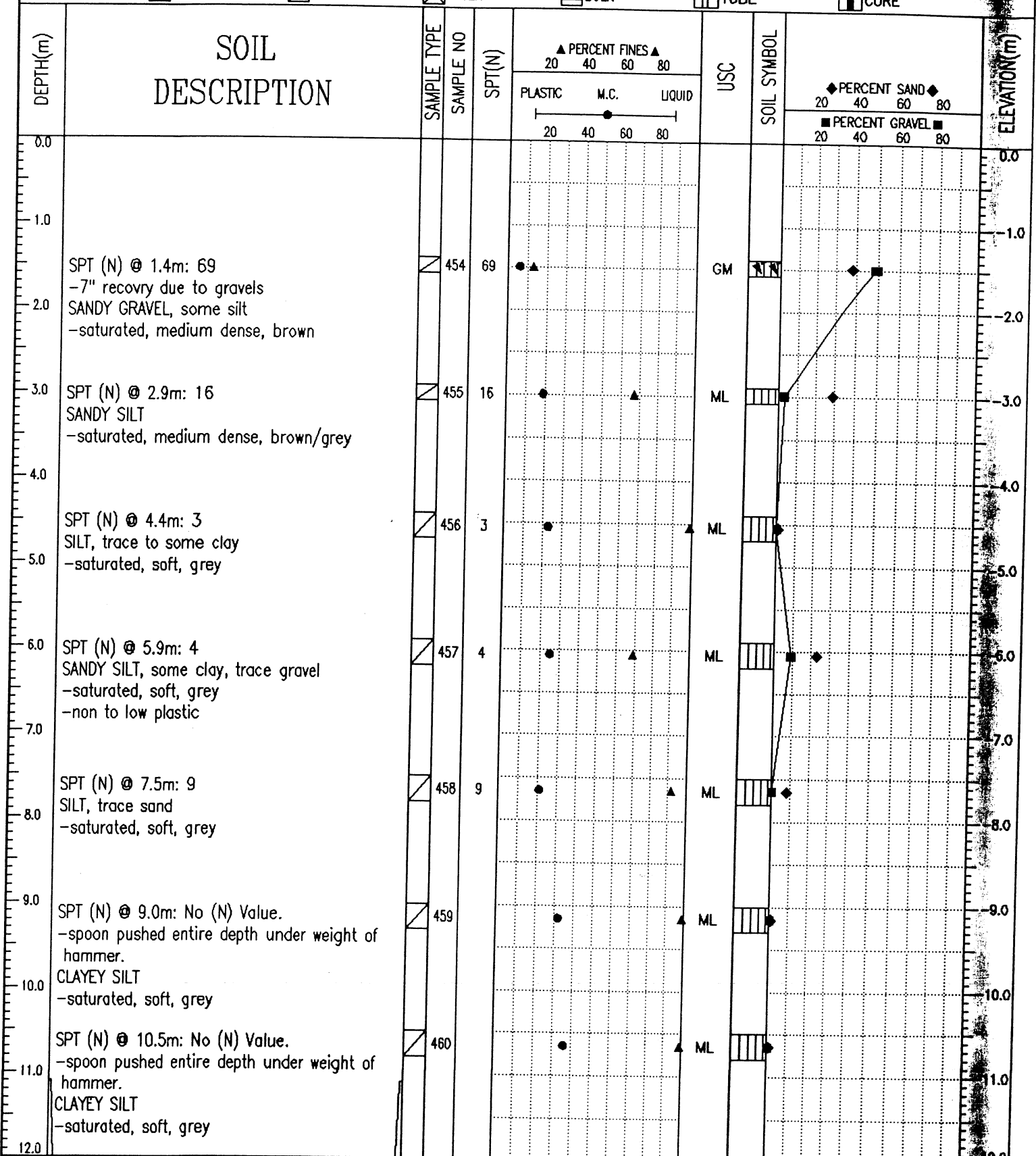
REVIEWED BY: -

Fig. No: 202

COMPLETION DEPTH: 9.9 m

COMPLETE: 08/20/04

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



J. R. Paine & Associates Ltd.
Whitehorse, Yukon

LOGGED BY: RW

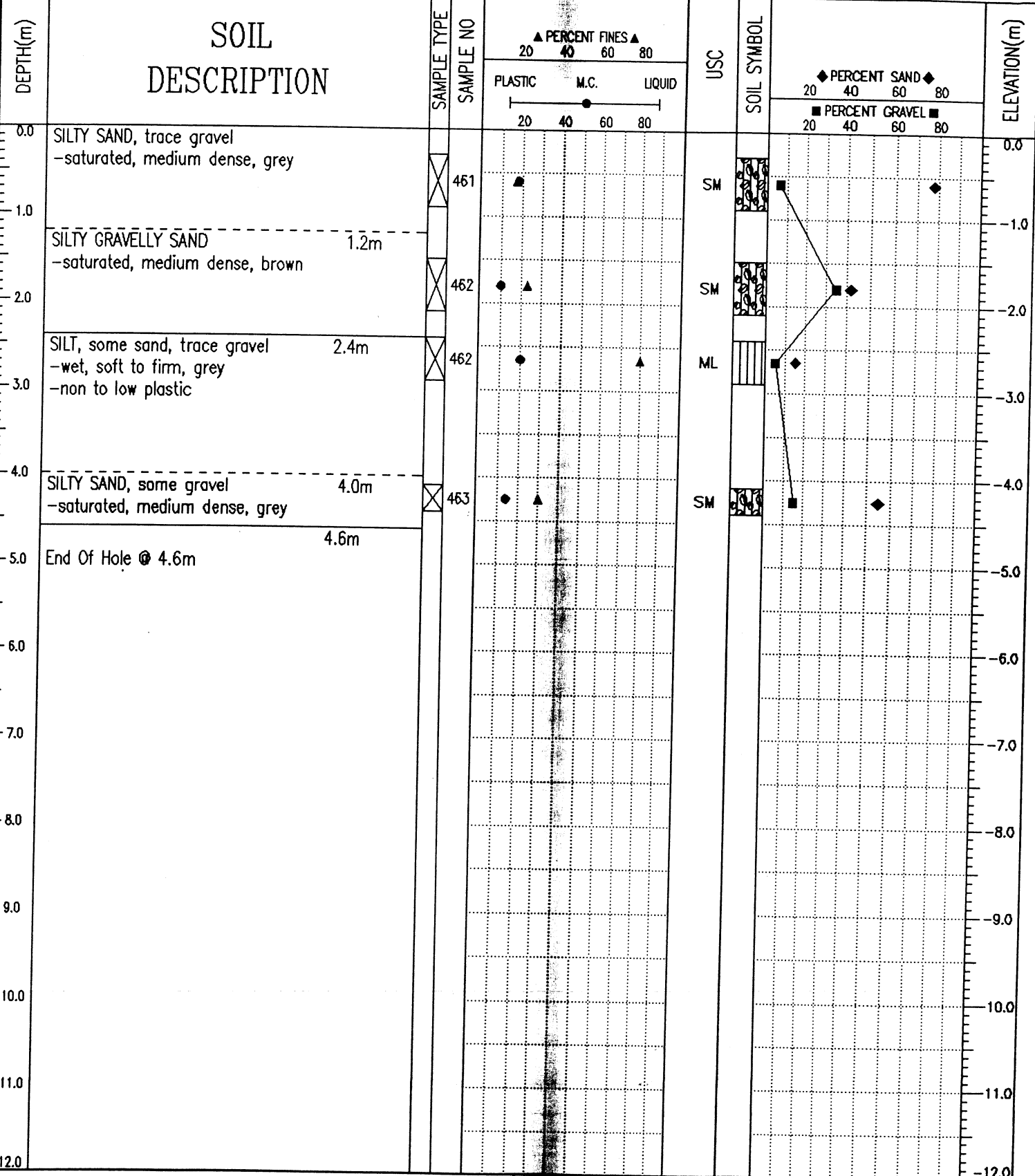
REVIEWED BY: -

Fig. No: 203

COMPLETION DEPTH: 11.1 m

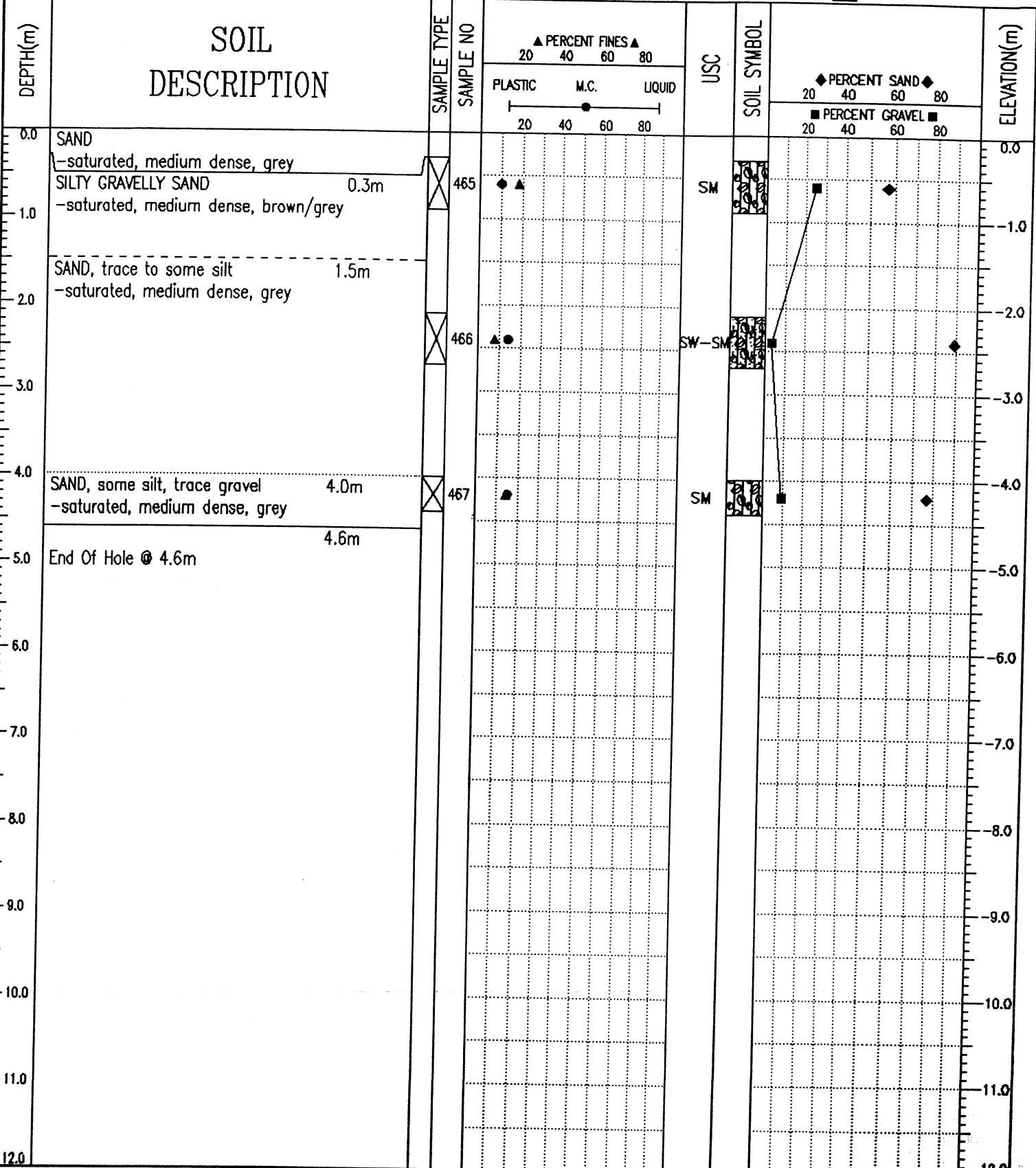
COMPLETE: 08/21/04

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



J. R. Paine & Associates Ltd.
Whitehorse, Yukon

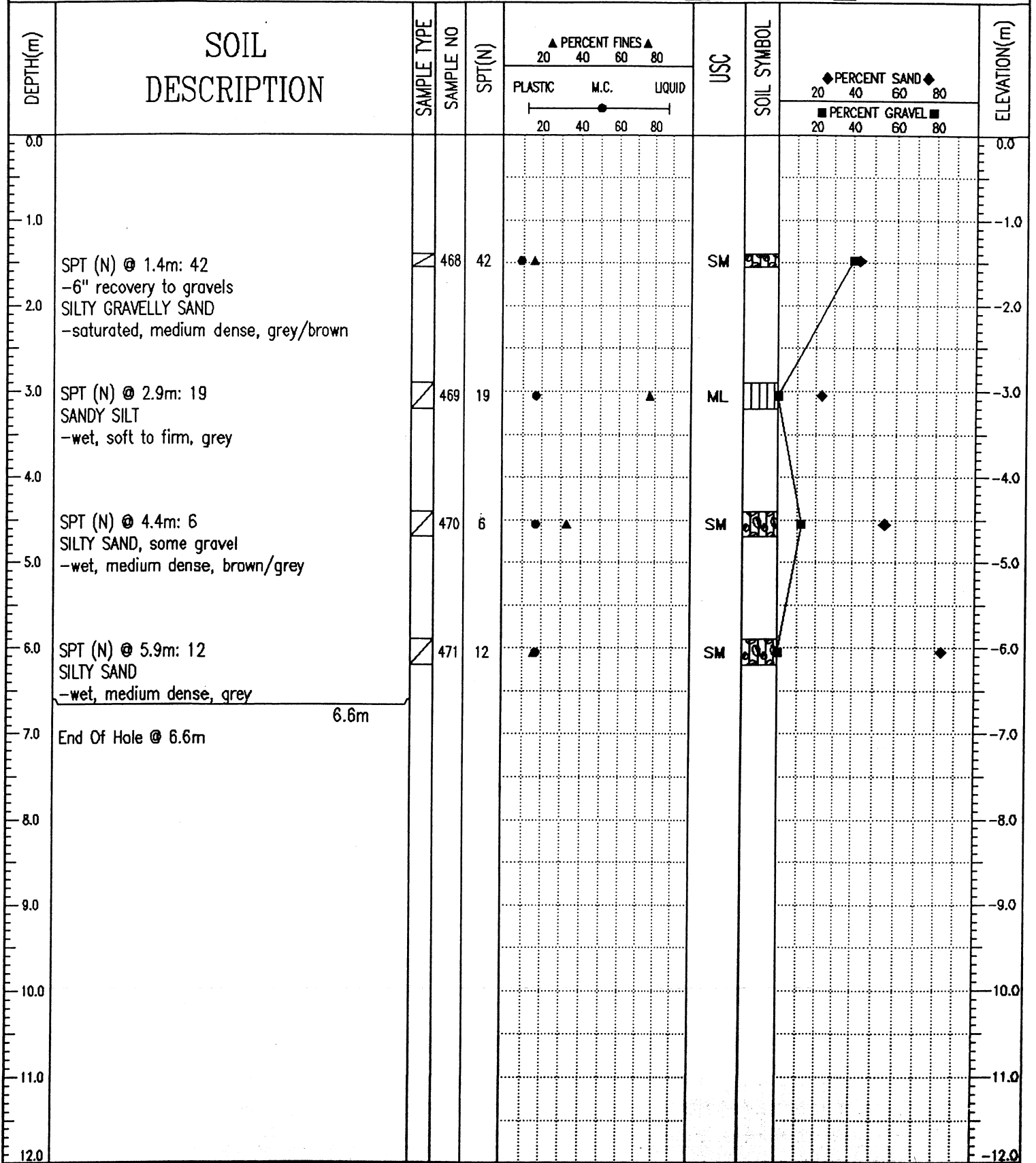
LOGGED BY: RW	COMPLETION DEPTH: 4.6 m
REVIEWED BY: -	COMPLETE: 08/21/04
Fig. No: 204	



J. R. Paine & Associates Ltd.
Whitehorse, Yukon

LOGGED BY: RW
REVIEWED BY: -
Fig. No: 205
COMPLETION DEPTH: 4.6 m
COMPLETE: 08/21/04
Page 1 of 1

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



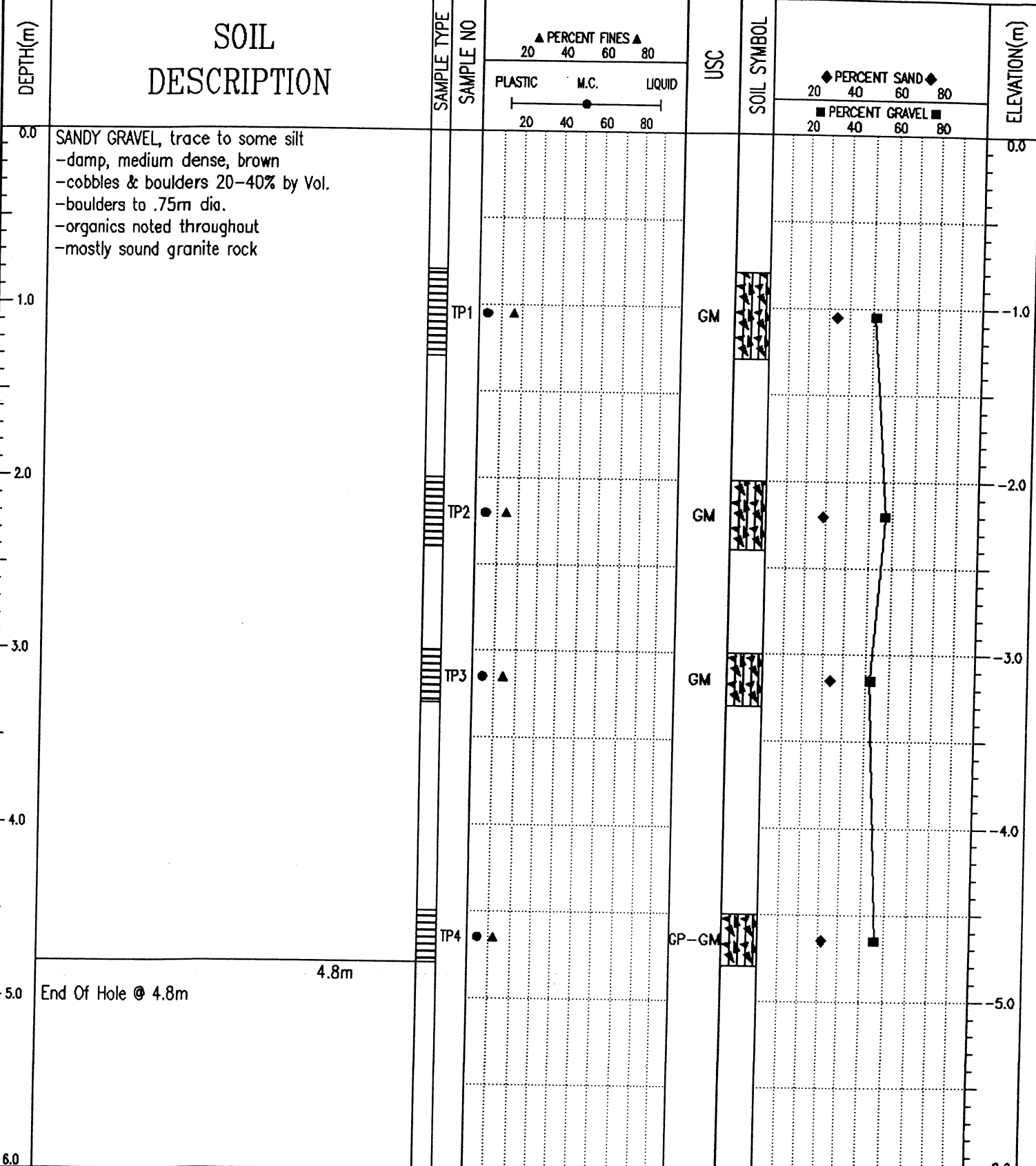
J. R. Paine & Associates Ltd.
Whitehorse, Yukon

LOGGED BY: RW
REVIEWED BY:
Fig. No: 206

COMPLETION DEPTH: 6.6 m
COMPLETE: 08/21/04

Geotechnical Services	Km 1691.7 to 1717.3 Alaska Highway #1	TEST PIT NO: 30177
Donjek Services Ltd.	UTM ZONE: - N6764614 E636646	PROJECT NO: 8002-318
CAT 318C Excavator		ELEVATION:

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



J. R. Paine & Associates Ltd.
 Whitehorse, Yukon

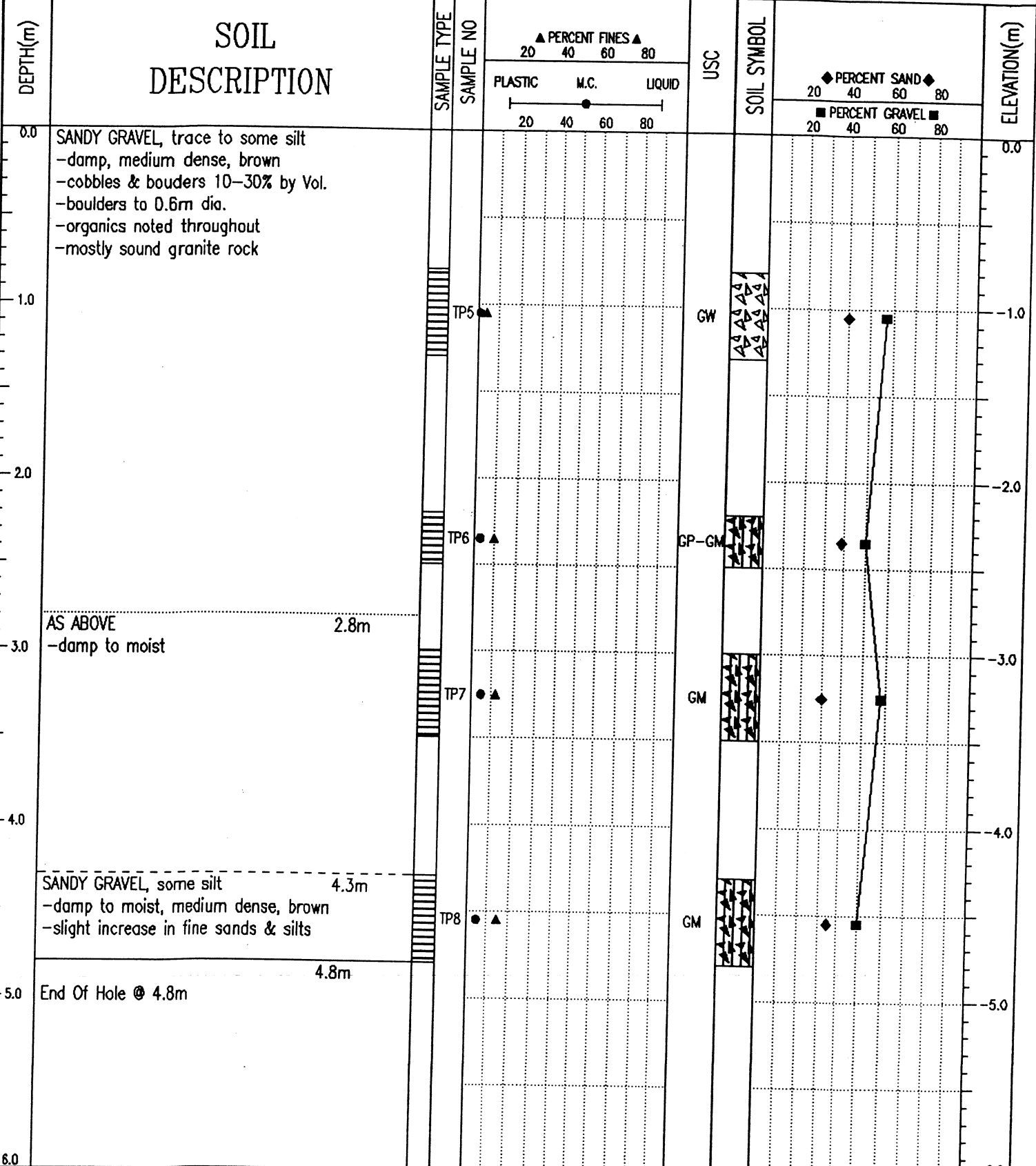
LOGGED BY: RW
 REVIEWED BY: -
 Fig. No: 230

COMPLETION DEPTH: 4.8 m
 COMPLETE: 08/10/04

Page 1 of 1

Geotechnical Services	Km 1691.7 to 1717.3 Alaska Highway #1	TEST PIT NO: 30178
Donjek Services Ltd.	UTM ZONE: - N6764616 E636697	PROJECT NO: 8002-318
CAT 318C Excavator		ELEVATION:

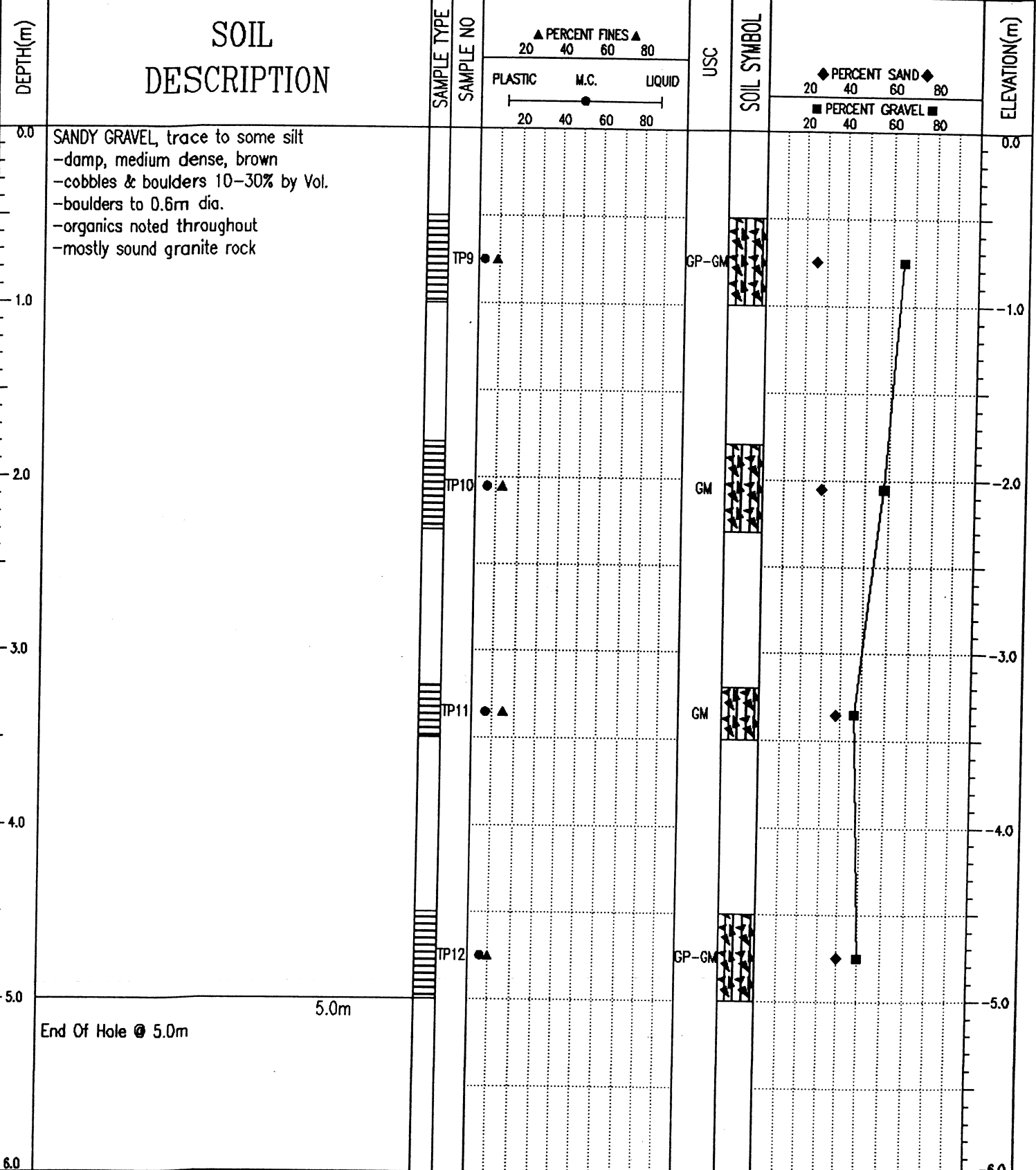
SAMPLE TYPE RETURN S.P.T. AUGER BULK TUBE CORE



J. R. Paine & Associates Ltd.
Whitehorse, Yukon

LOGGED BY: RW	COMPLETION DEPTH: 4.8 m
REVIEWED BY: -	COMPLETE: 08/10/04
Fig. No: 231	Page 1 of 1

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



J. R. Paine & Associates Ltd.
 Whitehorse, Yukon

LOGGED BY: RW	COMPLETION DEPTH: 5 m
REVIEWED BY: -	COMPLETE: 08/10/04
Fig. No: 232	Page 1 of 1