

# ***EBA Engineering Consultants Ltd.***

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*Civil, Geotechnical and Materials Engineers*

**FINAL REPORT  
GRANULAR SOURCE INVESTIGATION  
km 1693  
NORTH ALASKA HIGHWAY, YUKON**

**0201-10922**

**April, 1992**





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km 1693  
NORTH ALASKA HIGHWAY, YUKON**

**0201-10922**

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# **EBA Engineering Consultants Ltd.**

**Civil, Geotechnical and Materials Engineers**

May 1, 1992

Government of Yukon  
Department of Community and  
Transportation Services  
Box 2703  
Whitehorse, Yukon  
Y1A 2C6

EBA File: 0201-10922

Attention: Mr. Iain Blown, P.Eng.  
Geotechnical Projects Manager  
Transportation Engineering Branch

Dear Sir:

Subject: Final Report  
Granular Source Evaluation  
km 1693 RHS Pit - Silver City Area  
North Alaska Highway

We are pleased to submit our final report for the above captioned site. Included herein are the following:

- A site plan utilizing an airphoto laser copy showing recent testhole locations (both EBA and PWC);
- EBA and PWC testpit logs of the subject site in ESEbase format;
- grain size distribution report forms for all sieves completed on samples collected during the EBA and PWC field investigations; and
- photographs of spoil piles and/or testpits as well as some general photos of the deposit.

## **1.0 FIELD INVESTIGATIONS**

Two investigations were recently completed at the subject site. PWC completed an investigation in November, 1991. Eight testpits were excavated along the east side of the esker complex which comprises the source as well as a limited laboratory testing to verify aggregate quality.



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On April 21 and 22, 1992, EBA completed a subsequent geotechnical investigation consisting of 11 testpits excavated to a maximum depth of 5.0 m. Testpits were excavated utilizing a CAT 225 tracked backhoe contracted from Arctic Backhoe Services of Whitehorse, Yukon.

Since the east side of the esker complex was investigated by PWC, the EBA investigation included the existing crush pit on the west side of the Silver City access road as well as the central portion and northwest edge of the esker complex on the east side of the Silver City access road. All EBA testpits were logged by a Senior EBA Technician and photographs of all spoil piles and/or testpits were taken. Detailed testpit logs for both the EBA and PWC investigations are presented in Appendix A following the site plan and colour laser copies of all photographs are presented in Appendix B. It should be noted that the EBA and PWC plot formats and presentation of test results differ slightly, but basically the same information is presented. To be consistent, EBA has adopted the ASTM soil classification system for this project.

All testpit locations were recorded utilizing a Trimble Transpak global positioning system (GPS) locator. The latitude:longitude readout was converted into UTM locations with in-house software.

On Drawing 10922-A-01, in Appendix A, the locations of all testholes excavated by EBA and PWC are presented along with other pertinent information such as approximate reserve boundaries and existing pit limits.

## **2.0 SAMPLING AND LABORATORY TESTING PROGRAM**

During the field investigation, disturbed grab samples were collected at regular intervals or at major interfaces of differing soils. Sample size was sufficient to facilitate moisture and grain size testing with additional sample for trial crushing or L.A. Abrasion testing if deemed necessary in the near future. All EBA test results are found on the testpit logs in Appendix A with report forms following the appropriate log. The PWC test results are included following the logs.

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### 3.0 GRANULAR SOURCE DESCRIPTION

The following describes the km 1693 granular source:

**Location:** Alaska Highway, km 1693 - Right Hand Side, approximately 800 m north of the Alaska Highway.

**Surface Area:** Surveyed reserve encompasses 171.5 ha.

**Access Road:** Area is accessed along Silver City access road.

**Geologic Unit:** Extensive esker complex located southeast of Kluane Lake.

**Land Status:** Crown Land - reserve established by PWC in 1991  
- While on site, evidence of ongoing research in the form of a communications tower and test plots were noted.

**Existing Borrow Pit Exposures:** Pit Exposures of up to 10.0 m in height surround the larger existing pit located on the west side of the access road to Silver City. The previously mentioned tower is located at the top of the north face. At the south end of the east pit face overburden from previous clearing exists. Also, a small pit and access road is located on the opposite side of the Silver City access road from the larger pit. Exposures in the small pit vary from 3.0 to 6.0 m in height and are granular from top to bottom.

#### Surficial Features:

**Vegetation:** Throughout the area it was observed that poplars with grass ground cover exist along south facing slopes while moderately dense white spruce (10 m in height with 250 mm maximum butt diameter) grow along north facing slopes.

**Topography:** The area is dissected by the parallel eskers extending from the southwest end of the reserve to the north end of the reserve.

**Drainage:** The area is well drained along the eskers comprising the source but low lying areas between the eskers may pond water during spring thaw.

**Other:** Permafrost was encountered at depth in the existing gravel pit but not along the esker complex. No groundwater was noted in either the EBA or PWC investigations.

Materials Description

Based on 8 testpits by PWC and 11 by EBA, a generalized description of the granular materials found at the km 1693 pit is as follows:

Depth from Surface Elevations		Soil Description
OVERBURDEN THICKNESS	(0.2 m min.) (0.8 m max.)	ORGANICS AND SILT
GRANULAR MATERIALS	average of 4.5 m of proven depth thickness of gravel	WELL GRADED GRAVEL WITH SAND POORLY GRADED GRAVEL WITH SAND POORLY GRADED SAND

**Overburden Materials:** Thicknesses listed above are based on thicknesses of the surficial veneer of organics and silt.

**Granular Materials:** The gravels found throughout the site are variable (GW to GP) and occasional silt and/or sand lenses should be anticipated. The testpit excavated in the existing pit floor indicates that underlying the good quality gravels is SILTY GRAVEL to an undetermined depth.

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**Oversize Materials:** The gravels observed throughout the subject site were noted as being up to 300 mm maximum size with up to 10% larger than 100 mm.

**Estimated Volumes:**

Area Investigated	-	approx. 45 ha was investigated (the southern half of the reserve)
Volume of Overburden	-	88,000 m <sup>3</sup>
Volume of Gravel	-	1,000,000 m <sup>3</sup>

Note: Gravel volumes based on area x 0.5 (to account for area lost between eskers) x 4.5 m average testpit depth.

Probable Volume of Total Reserve	-	1,500,000 m <sup>3</sup>
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#### 4.0 SITE DEVELOPMENT RECOMMENDATIONS

It is understood that requirements for the 1992 Crushing Program are for 5,000 m<sup>3</sup> of granular A and 3,000 m<sup>3</sup> of BST aggregate from the km 1693 pit. It is anticipated that sufficient volumes for this years crushing program exist in the existing pit on the west side of the Silver City access road.

##### 4.1 Recommendations for 1992 Production

- In the existing pit, the top of northern pit face is encroaching on the research tower. If the tower is relocated, approximately double the required volumes for this years production can be realized.
- Care should be taken that the previously stockpiled overburden located at the southern tip of the east pit face not be allowed to contaminate the gravel being extracted from the pit face.
- Grain size distribution curves for Testpit 92-014E indicate the presence of an abundance of medium to coarse grained sand. Past crushing control records (1988 and 1984) indicate that some coarse and medium sand may

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have to be removed to meet aggregate specifications. (Production averages for the 1988 and 1984 crushing programs are presented following the PWC testpit and lab testing results in Appendix A.)

- Clearing and grubbing on the north face of the pit area will entail the removal of mature spruce trees (approximately 10 m in height with 200 mm maximum butt diameter) and surficial silts. Overburden should be retained for future reclamation.
- There is presently adequate area to situate stockpiles within the pit area. The yard portion to the south of the pit face is founded on gravel which will provide a good base for the movement of equipment during production.

#### 4.2 Future Source Development

- Since there is evidence of ongoing scientific research within the reserve area, all user groups should be notified prior to development on the east side of the Silver City access road.
- To minimize visual impact, it is suggested that future pit development commence northeast of the small existing pit located on the east side of the road. This would utilize the section of the esker complex at the southeast corner of the reserve as a screen. A haul road exists into the pit area so it could be extended around the pit area to the subsequent development area. The present haul road would require upgrading to handle construction traffic.
- Anticipated overburden thicknesses throughout the esker complex are estimated as between 0.2 m on the south facing slopes and ridges with up to 0.8 m along the base of the north facing sides. Larger vegetation in the form of moderately dense stands of spruce exists throughout sheltered portions of the esker complex. Stripping and grubbing should proceed in a methodical fashion so that reclamation utilizing overburden (where present) can follow extraction of gravel in depleted sections of the reserve.

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- The low lying area located southeast of the esker complex can be utilized as an initial yard area. Based on testpit 152-08 (PWC) excavated in the low lying area, gravel is present below 0.8 m of surficial silts. A constructed gravel pad would likely be necessary in the yard area prior to stockpiling aggregates.
  - Development within the reserve should maintain proper surface drainage and prevent any ponding of water in both the pit and yard areas.
  - Extraction methods will be straightforward. A rubber tired loader should suffice for feeding the crusher from the pit face.

## 5.0 CLOSURE

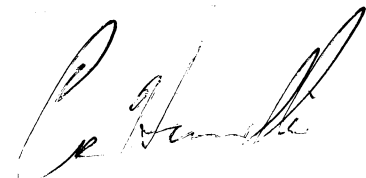
Information presented in this report is based on the results of the 1992 EBA and 1991 PWC geotechnical investigations of the subject site, results of previous crushing contracts and general observations of the area. Results presented in this report and recommendations made are considered to be representative and pertinent but, if discrepancies are noted during development, EBA requests that we be notified so that the area assessment can be modified.

If questions arise upon review, please contact this office at your convenience.

Respectfully submitted,  
EBA Engineering Consultants Ltd.



M.C. Plaunt, C.E.T.  
Engineering Technologist

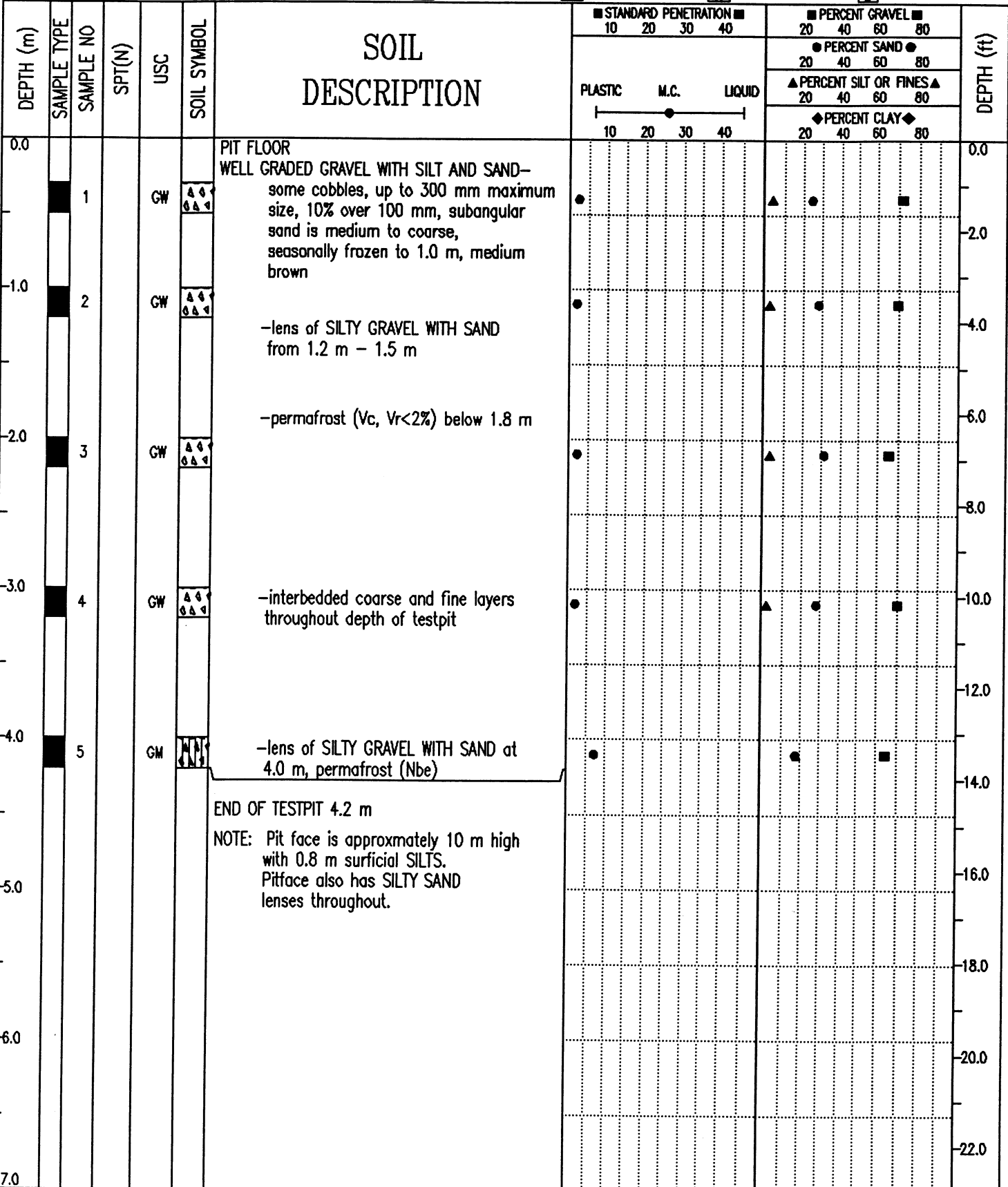


J.R. Trimble, P.Eng.  
Project Director  
Office Manager

MCP/JRT/rsz

GRANULAR SOURCE EVALUATION km 1693	CLIENT: YTG - TRANSPORTATION ENG.	BOREHOLE No: 92-013E
SILVER CITY AREA	HOE: CAT 225 TRACKED BACKHOE	Project No: 0201-10922
NORTH ALASKA HIGHWAY	UTM ZONE: 7 N6768099.00 E644114.00	ELEVATION: 0.00 (m)

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



EBA Engineering Consultants Ltd.  
Whitehorse, Yukon

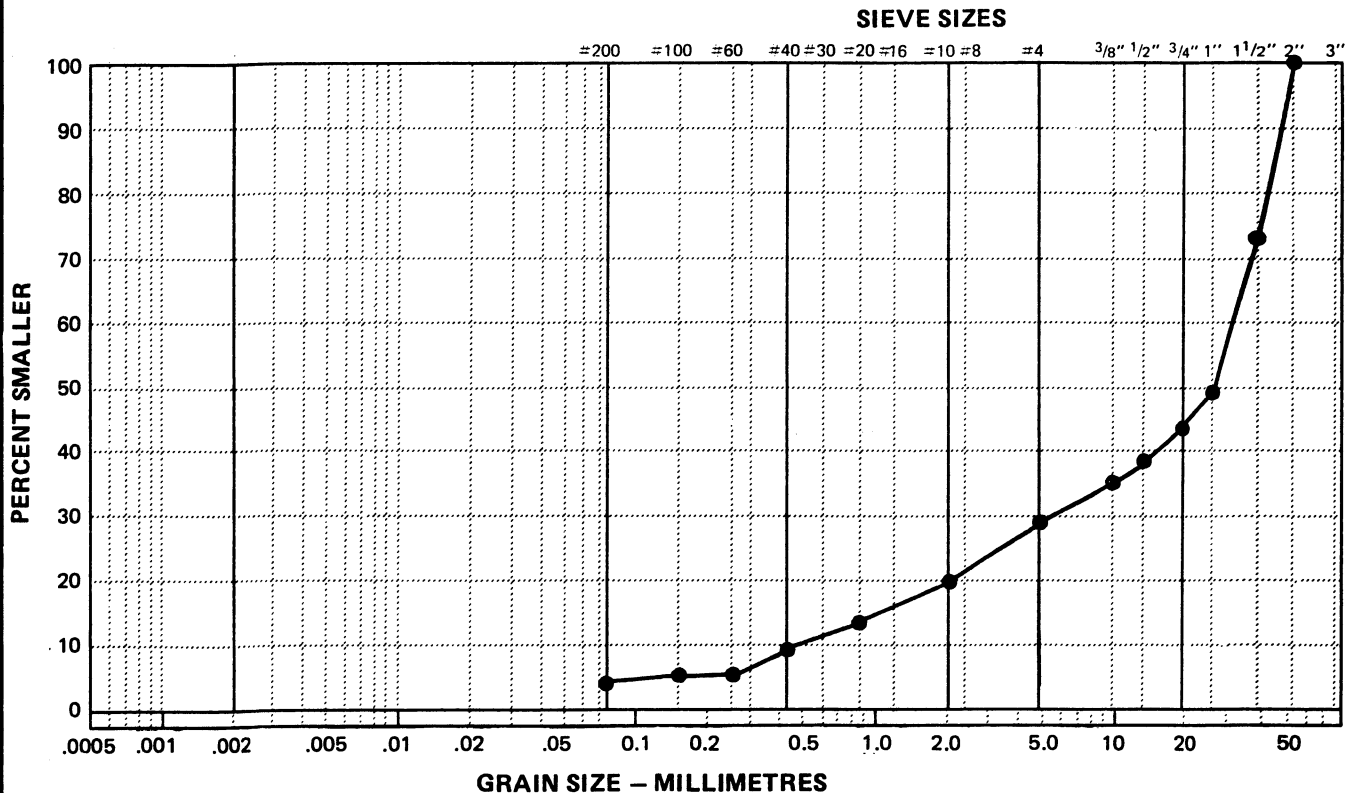
LOGGED BY: MCP	COMPLETION DEPTH: 4.2 m
REVIEWED BY:	COMPLETE: 92/04/21
Fig. No:	Page 1 of 1

## 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:** 92-013E  
**Depth:** 0.5 m  
**Soil Description:** WELL GRADED GRAVEL WITH SAND (GW)  
**Cu:** 62  
**Cc:** 1.7  
**Natural Moisture Content:** 2.4 %  
**Remarks:** Gravel 71.5%  
 Sand 24.5%  
 Silt 4.0%

SIEVE	PERCENTAGE PASSING
3"	
2"	100.0
1 1/2"	72.6
1"	49.0
3/4"	43.7
3/8"	35.5
No. 4	28.5
No. 10	19.9
No. 20	13.4
No. 40	8.8
No. 60	6.4
No. 100	5.0
No. 200	4.0

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

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-013E

Depth: 1.0 m

Soil Description: WELL GRADED GRAVEL WITH SAND (GW)

Cu: 103.4

Cc: 2.9

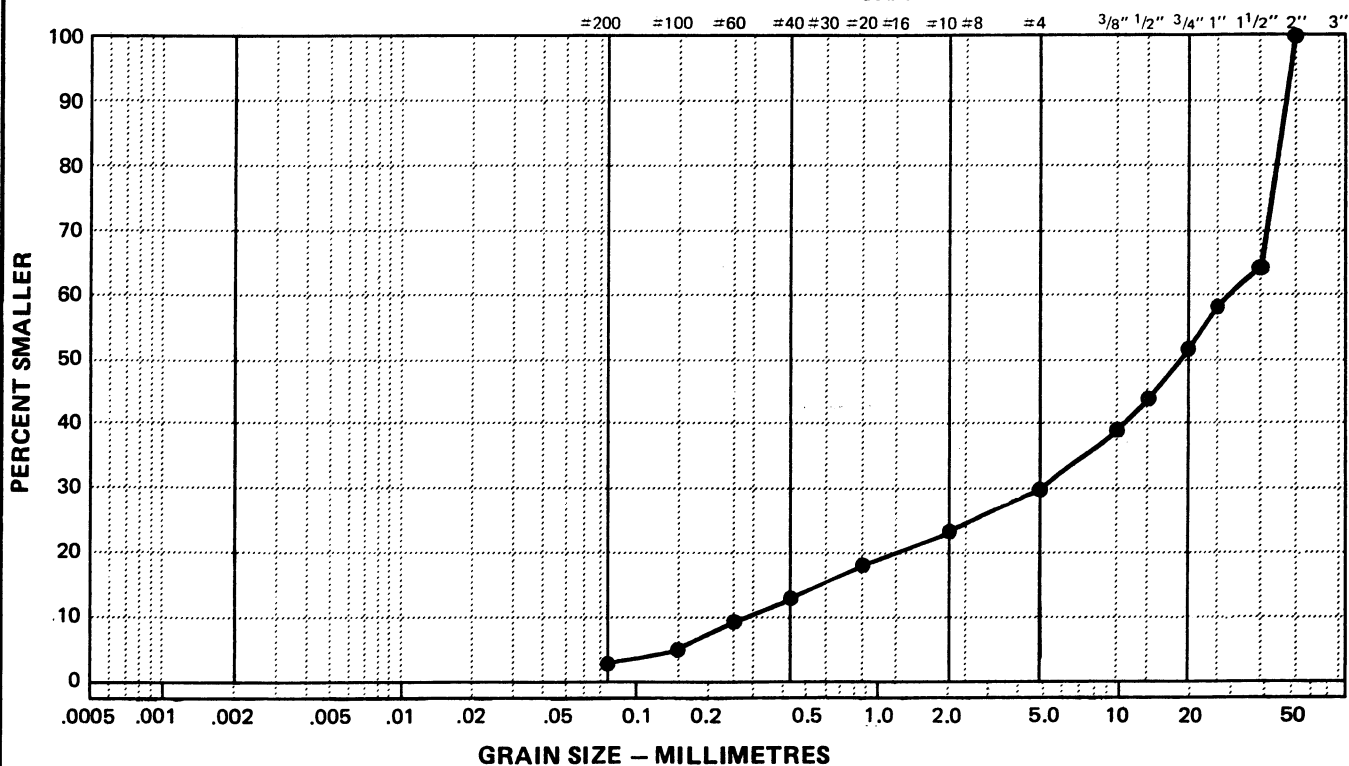
Natural Moisture Content: 1.9 %

Remarks: Gravel 69.5%  
Sand 27.9%  
Silt 2.9%

SIEVE	PERCENTAGE PASSING
3"	
2"	100.0
1 1/2"	64.2
1"	58.3
3/4"	51.9
3/8"	38.6
No. 4	30.5
No. 10	22.9
No. 20	17.3
No. 40	12.6
No. 60	8.5
No. 100	4.7
No. 200	2.6

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE

### SIEVE SIZES



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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: 92-013E

Depth: 2.0 m

Soil Description: WELL GRADED GRAVEL WITH SAND (GW)

Cu: 85

Cc: 2.0

Natural Moisture Content: 2.2 %

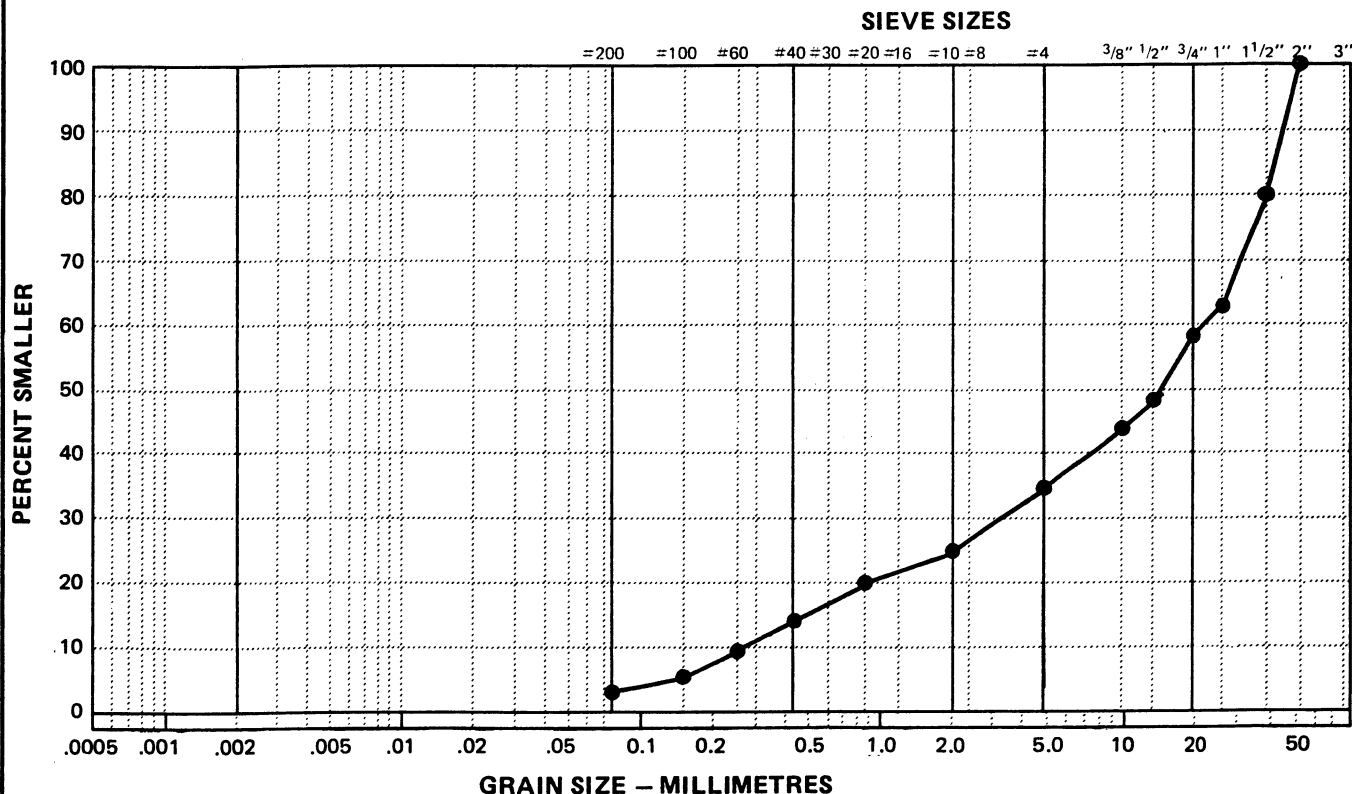
Remarks: Gravel 65.4%

Sand 31.2%

Silt 3.4%

SIEVE	PERCENTAGE PASSING
3"	
2"	100.0
1 1/2"	80.3
1"	62.6
3/4"	56.8
3/8"	43.8
No. 4	34.6
No. 10	26.3
No. 20	19.6
No. 40	14.2
No. 60	8.9
No. 100	5.2
No. 200	3.4

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

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-013E

Depth: 3.0 m

Soil Description: WELL GRADED GRAVEL WITH SAND (GW)

Cu: 43

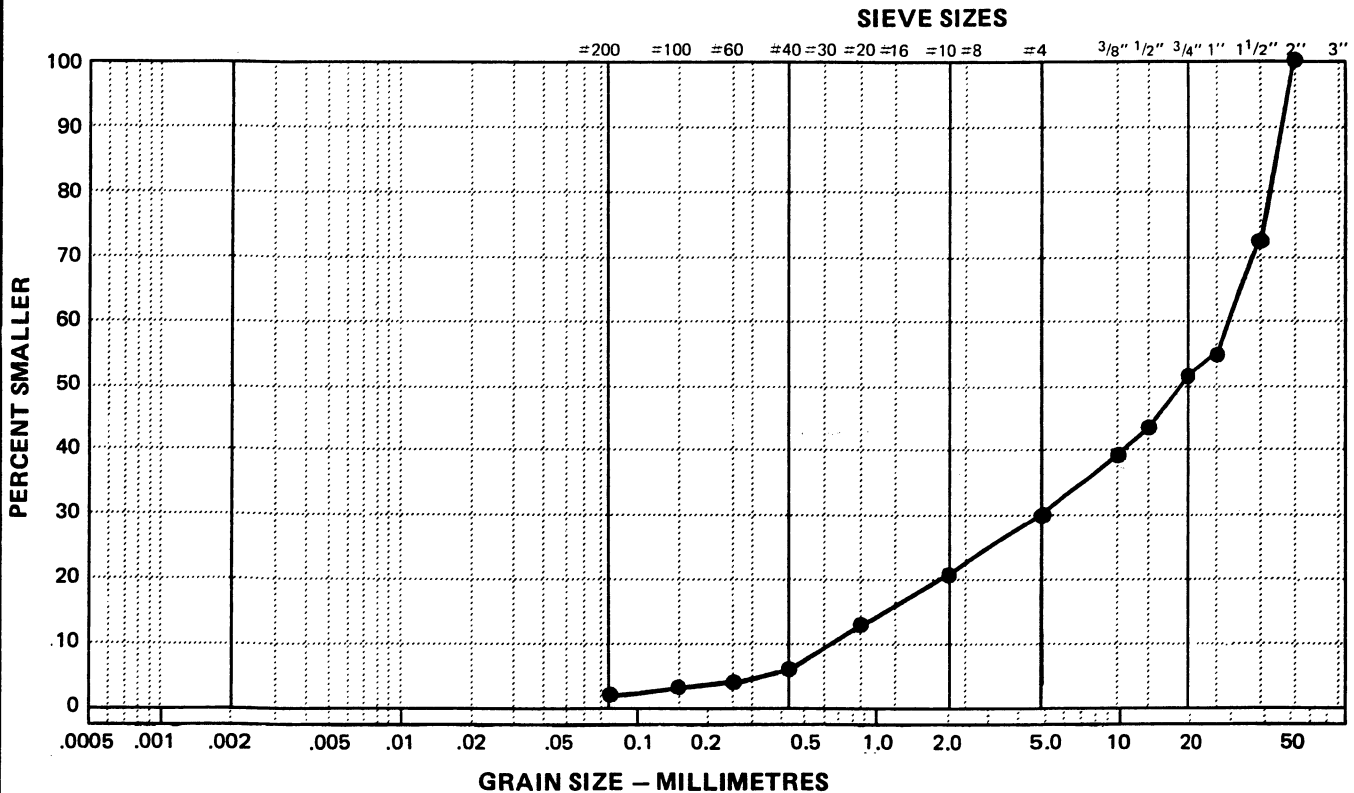
Cc: 1.1

Natural Moisture Content: 1.9 %

Remarks: Gravel 70.0%  
Sand 27.7%  
Silt 2.3%

SIEVE	PERCENTAGE PASSING
3"	
2"	100.0
1 1/2"	71.8
1"	55.2
3/4"	51.7
3/8"	38.7
No. 4	30.0
No. 10	20.7
No. 20	12.5
No. 40	6.6
No. 60	3.9
No. 100	2.8
No. 200	2.3

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: 92-013E

Depth: 4.0 m

Soil Description: SILTY GRAVEL WITH SAND (GM)

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

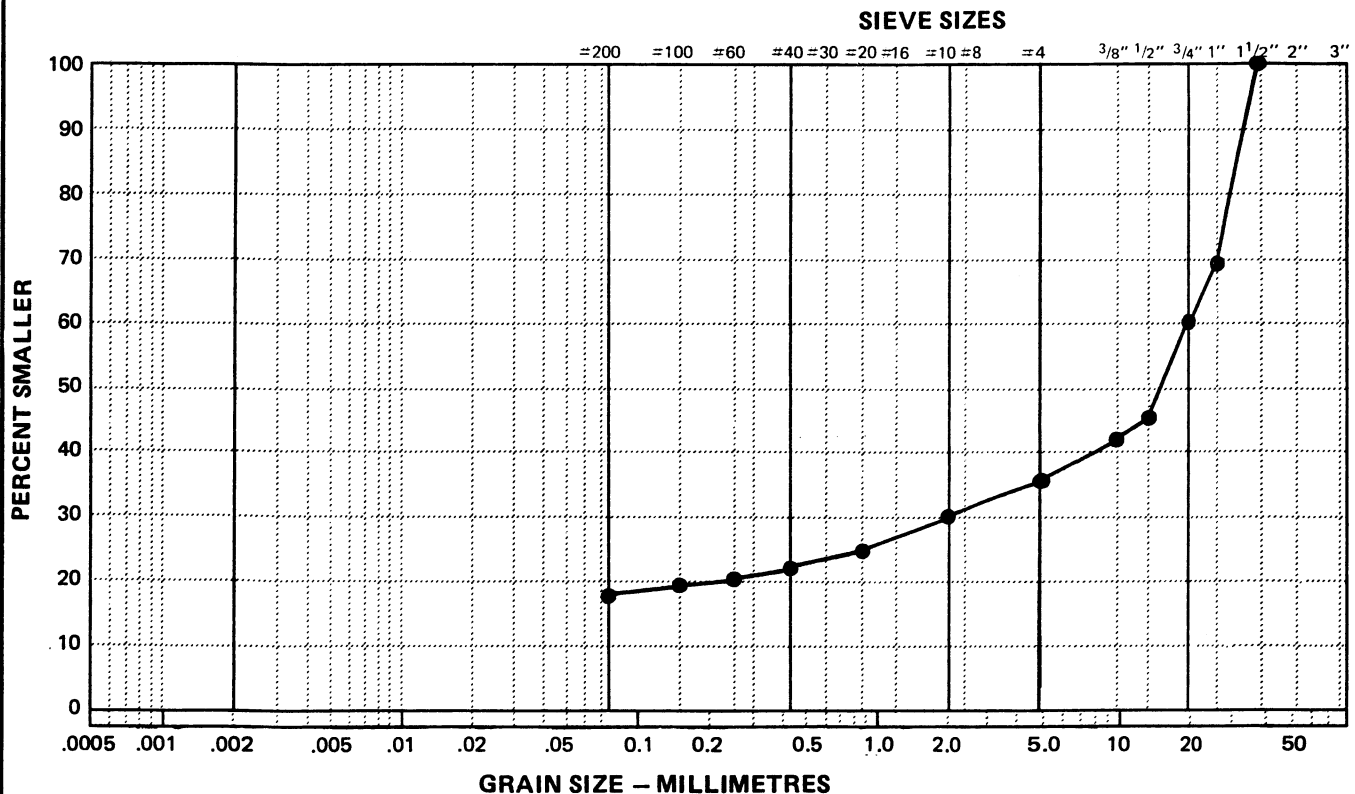
Cc: \_\_\_\_\_

Natural Moisture Content: 7.2 %

Remarks: Gravel 64.4%  
Sand 17.5%  
Silt 18.1%

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	100.0
1"	69.0
3/4"	60.4
3/8"	45.8
No. 4	42.0
No. 10	35.6
No. 20	25.3
No. 40	22.1
No. 60	20.3
No. 100	19.1
No. 200	18.1

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



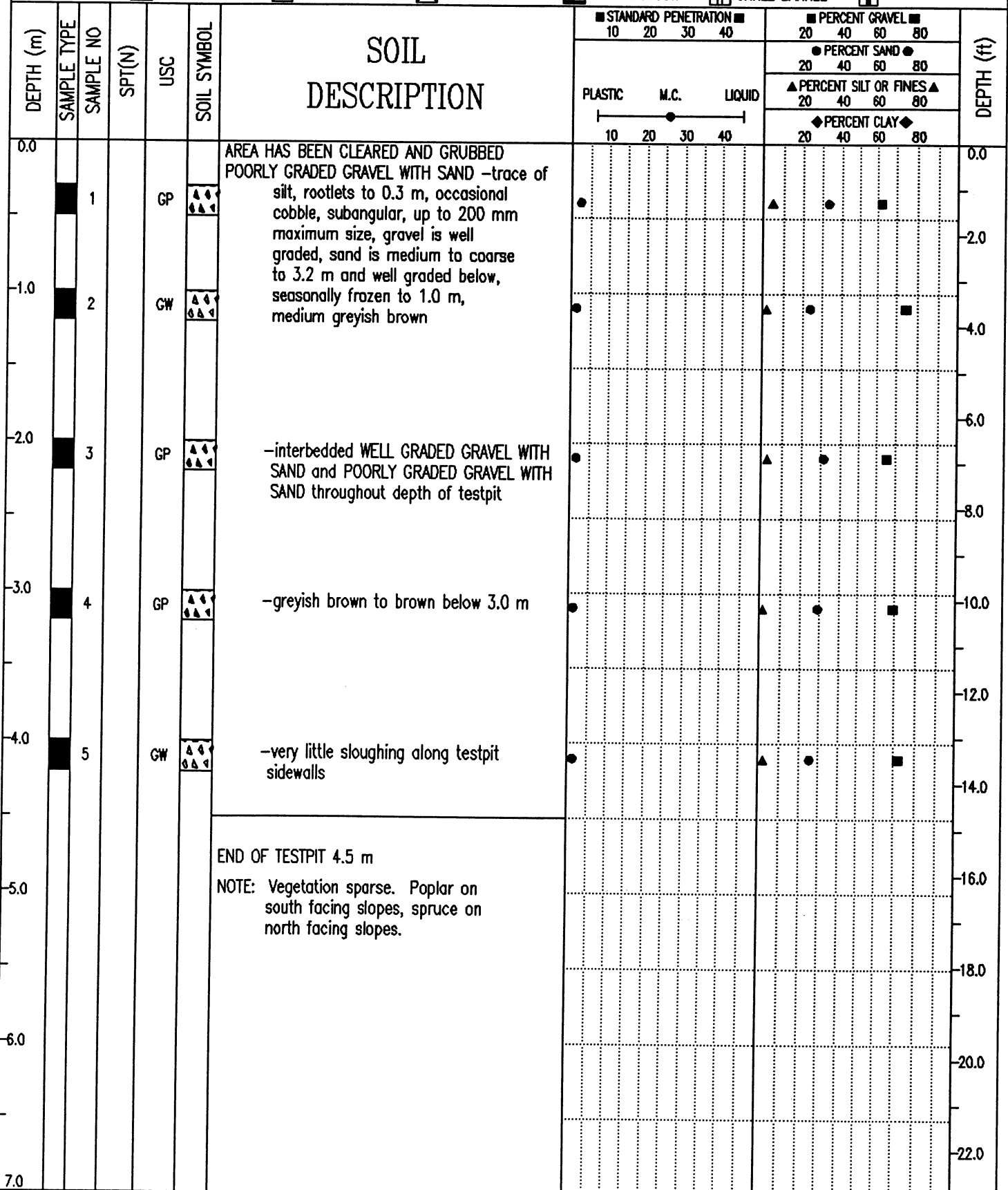
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GRANULAR SOURCE EVALUATION km 1693	CLIENT: YTG - TRANSPORTATION ENG.	BOREHOLE No: 92-014E
SILVER CITY AREA	HOE: CAT 225 TRACKED BACKHOE	Project No: 0201-10922
NORTH ALASKA HIGHWAY	UTM ZONE: 7 N6768022.00 E644061.00	ELEVATION: 0.00 (m)

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: 92/04/21
Fig. No:	Page 1 of 1

# EBA Engineering Consultants Ltd.

## PARTICLE - SIZE ANALYSIS OF SOILS

Project: Granular Source Evaluation  
km 1693, North Alaska Highway

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-014E

Depth: 0.5 m

Soil Description: POORLY GRADED GRAVEL WITH SAND (GP)

Cu: 51.1

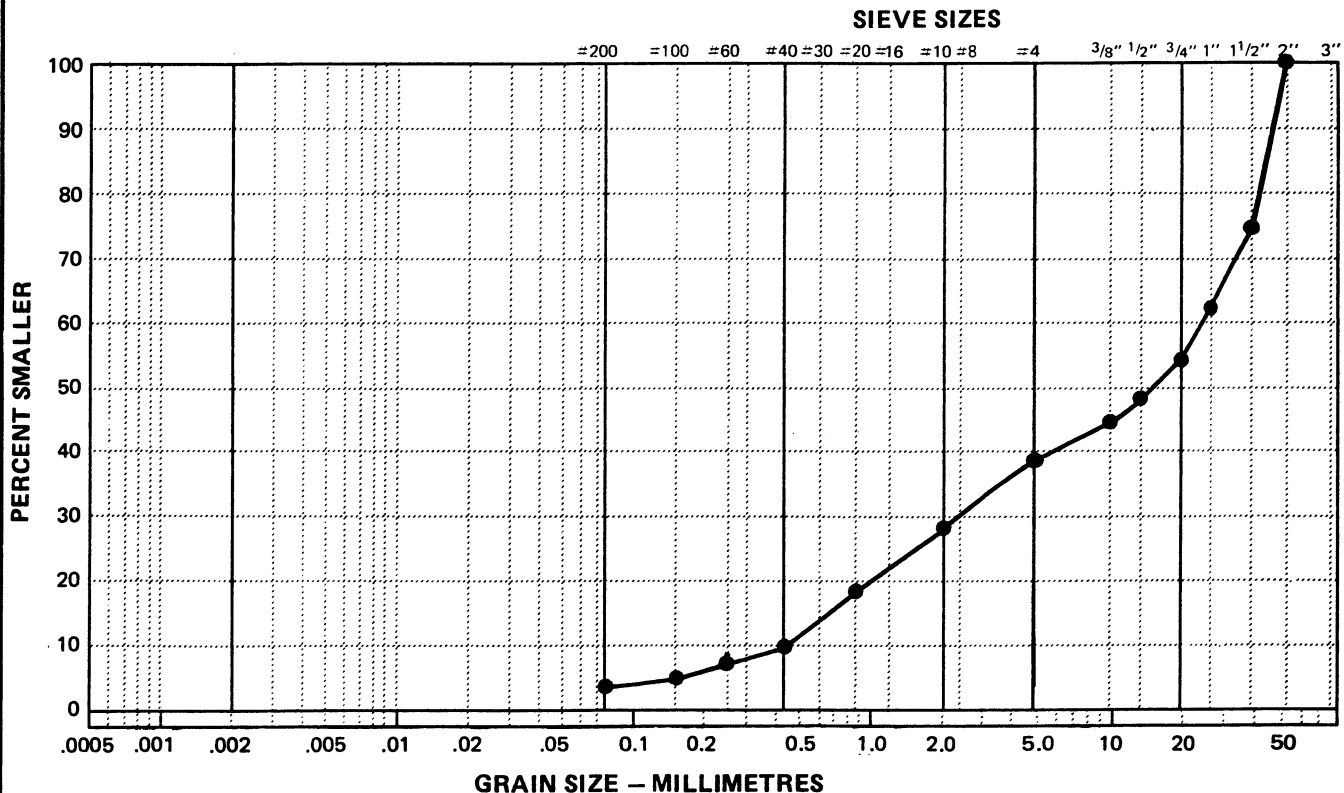
Cc: 0.56

Natural Moisture Content: 2.4 %

Remarks: Gravel 62.1%  
Sand 33.1%  
Silt 4.8%

SIEVE	PERCENTAGE PASSING
3"	
2"	100.0
1 1/2"	74.7
1"	61.6
3/4"	54.9
3/8"	45.4
No. 4	37.9
No. 10	28.3
No. 20	18.2
No. 40	10.1
No. 60	7.1
No. 100	5.8
No. 200	4.8

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

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-014E

Depth: 1.0 m

Soil Description: WELL GRADED GRAVEL WITH SAND (GW)

Cu: 30.7

Cc: 2.1

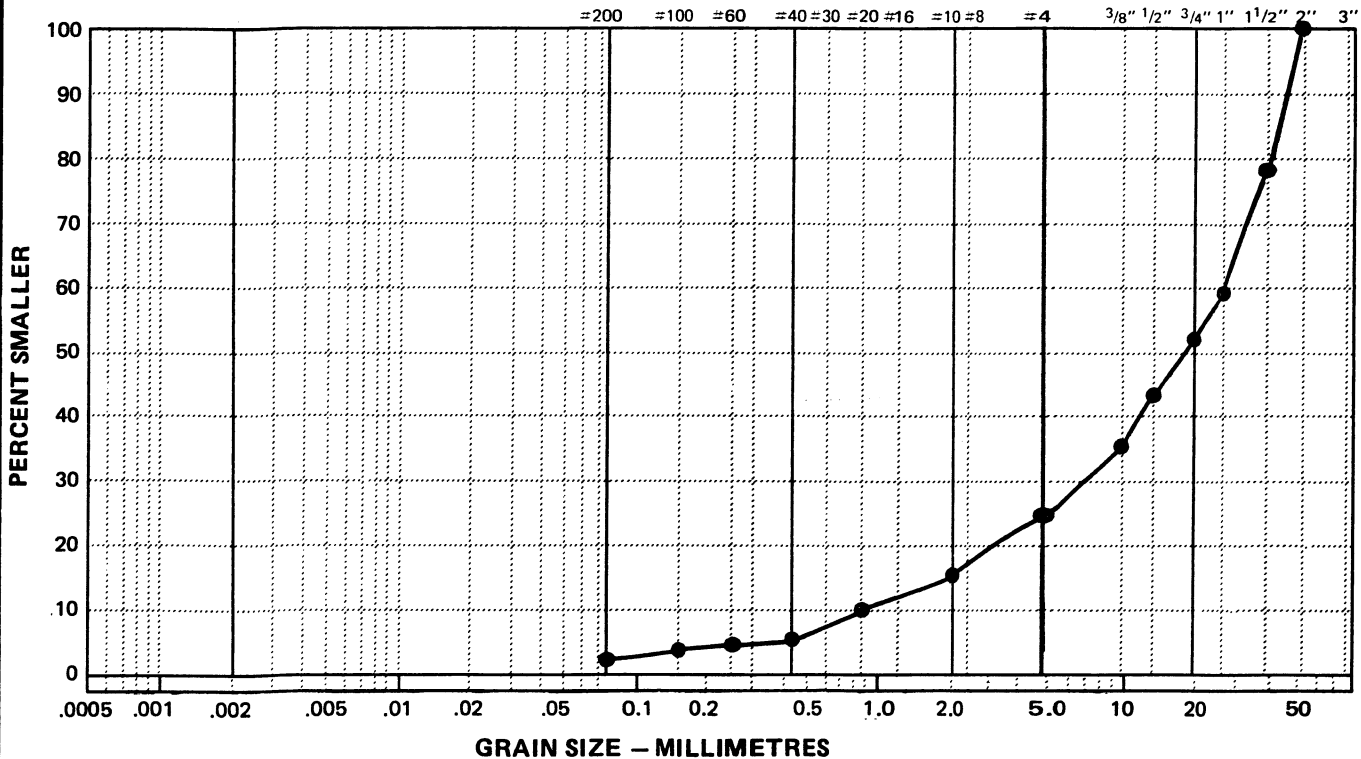
Natural Moisture Content: 1.3 %

Remarks: Gravel 74.3%  
Sand 23.7%  
Silt 2.0%

SIEVE	PERCENTAGE PASSING
3"	
2"	100.0
1 1/2"	78.0
1"	58.6
3/4"	52.1
3/8"	35.7
No. 4	25.3
No. 10	16.1
No. 20	10.3
No. 40	5.7
No. 60	4.6
No. 100	2.7
No. 200	2.0

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE

### SIEVE SIZES



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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: 92-014E

Depth: 2.0 m

Soil Description: POORLY GRADED GRAVEL WITH SAND (GP)

Cu: 24.3

Cc: 0.8

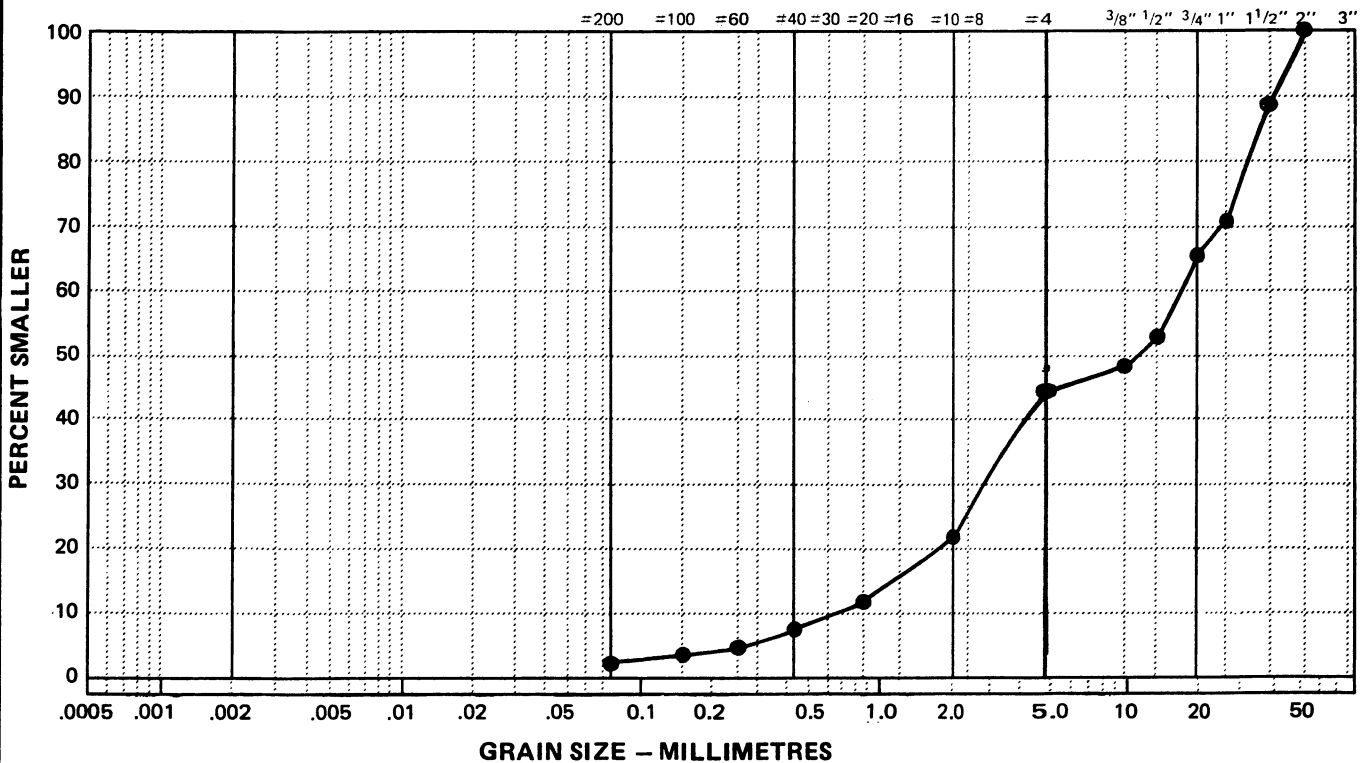
Natural Moisture Content: 1.6 %

Remarks: Gravel 65.5%  
 Sand 31.3%  
 Silt 3.2%

SIEVE	PERCENTAGE PASSING
3"	
2"	100.0
1 1/2"	87.8
1"	70.7
3/4"	65.5
3/8"	47.5
No. 4	34.5
No. 10	21.9
No. 20	12.2
No. 40	6.9
No. 60	5.0
No. 100	4.0
No. 200	

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE

### SIEVE SIZES



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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: 92-014E

Depth: 3.0 m

Soil Description: POORLY GRADED GRAVEL WITH SAND (GP)

Cu: 37.5

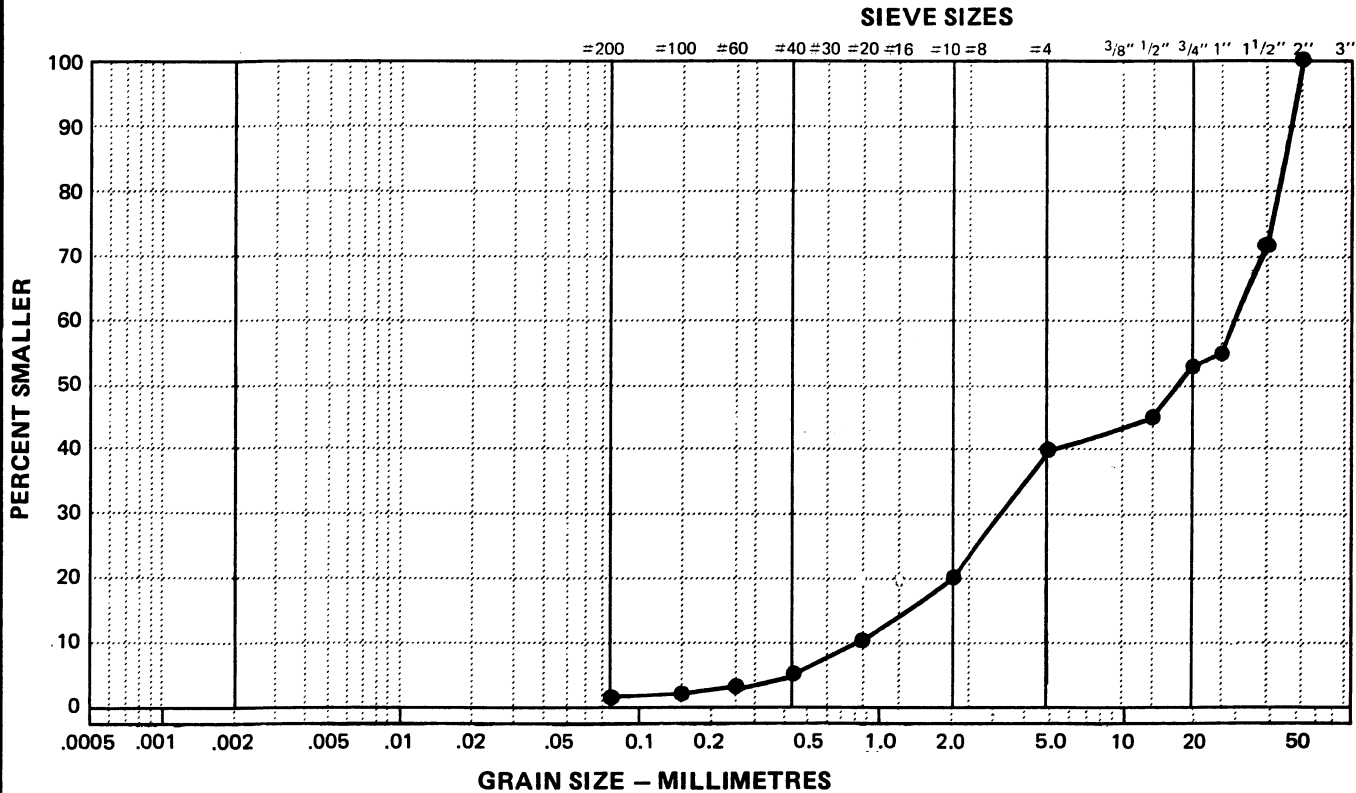
Cc: 0.4

Natural Moisture Content: 1.2 %

Remarks: Gravel 69.2%  
 Sand 29.0%  
 Silt 1.8%

SIEVE	PERCENTAGE PASSING
3"	
2"	100.0
1 1/2"	72.1
1"	54.9
3/4"	53.0
3/8"	40.2
No. 4	30.8
No. 10	19.7
No. 20	11.4
No. 40	5.6
No. 60	3.3
No. 100	2.4
No. 200	1.8

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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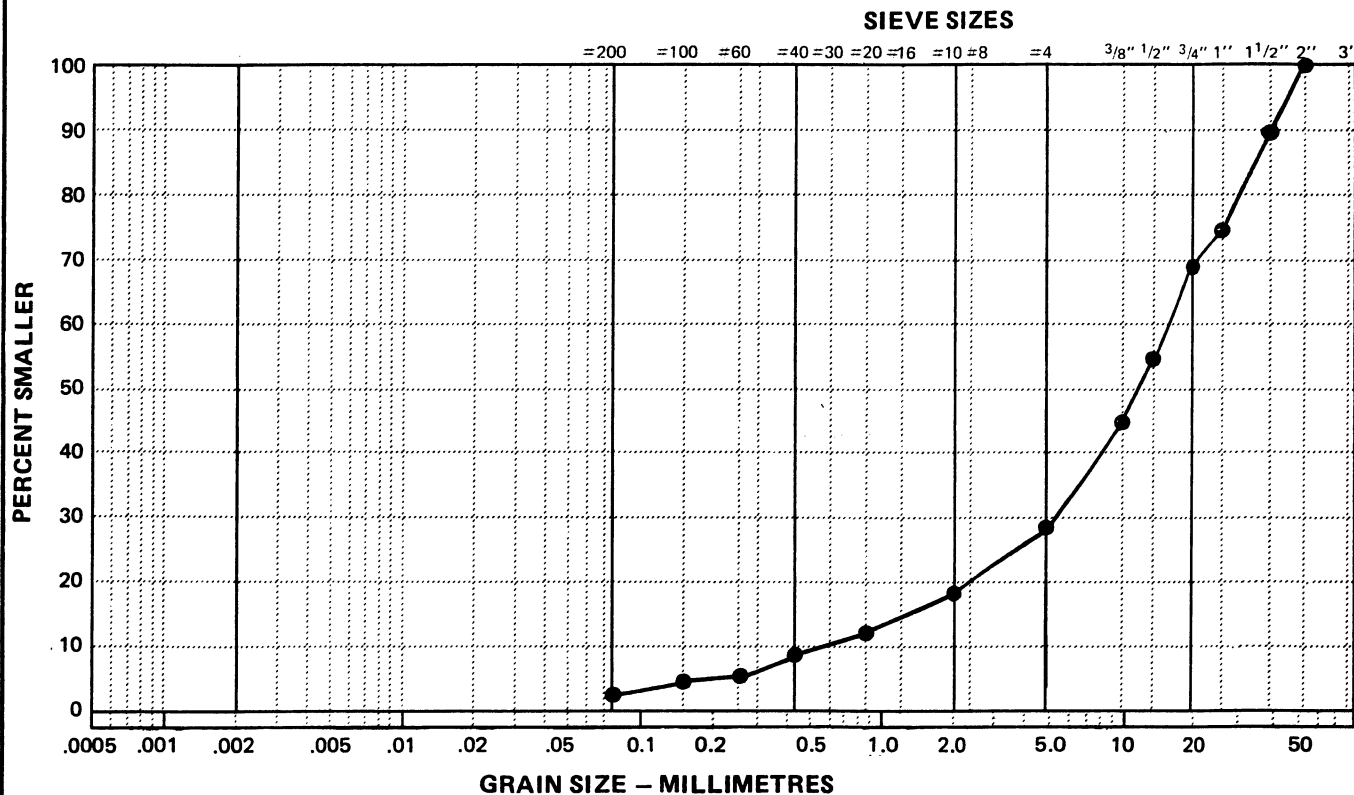


## PARTICLE - SIZE ANALYSIS OF SOILS

**Project:** Granular Source Evaluation  
 km 1693, North Alaska Highway  
**Project Number:** 0201-10922  
**Date Tested:** 92-04-29  
**Borehole Number:** 92-014E  
**Depth:** 4.0 m  
**Soil Description:** WELL GRADED GRAVEL WITH SAND (GW)  
**Cu:** 28.6  
**Cc:** 3.0  
**Natural Moisture Content:** 1.4 %  
**Remarks:** Gravel 72.1%  
 Sand 25.3%  
 Silt 2.6%

SIEVE	PERCENTAGE PASSING
3"	
2"	100.0
1 1/2"	89.3
1"	73.6
3/4"	68.6
3/8"	45.2
No. 4	27.9
No. 10	17.5
No. 20	12.3
No. 40	8.1
No. 60	5.4
No. 100	3.8
No. 200	2.6

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE

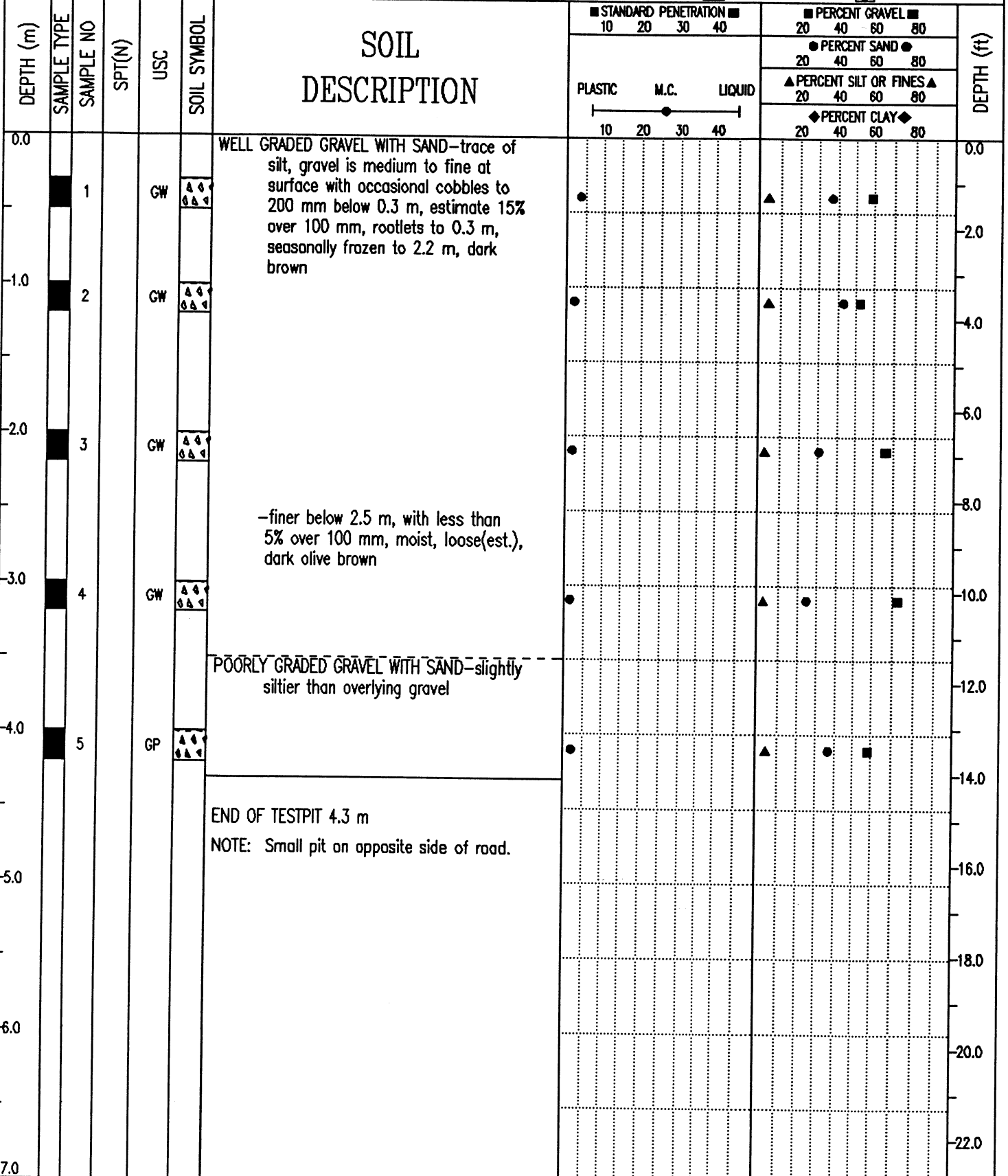


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GRANULAR SOURCE EVALUATION km 1693	CLIENT: YTG - TRANSPORTATION ENG.	BOREHOLE No: 92-015E
SILVER CITY AREA	HOE: CAT 225 TRACKED BACKHOE	Project No: 0201-10922
NORTH ALASKA HIGHWAY	UTM ZONE: 7 N6768151.00 E644327.00	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB SAMPLE <input checked="" 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: 4.3 m
REVIEWED BY:	COMPLETE: 92/04/21
Fig. No:	Page 1 of 1

## 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: 92-015E

Depth: 0.5 m

Soil Description: WELL GRADED GRAVEL WITH SAND (GW)

Cu: 28.6

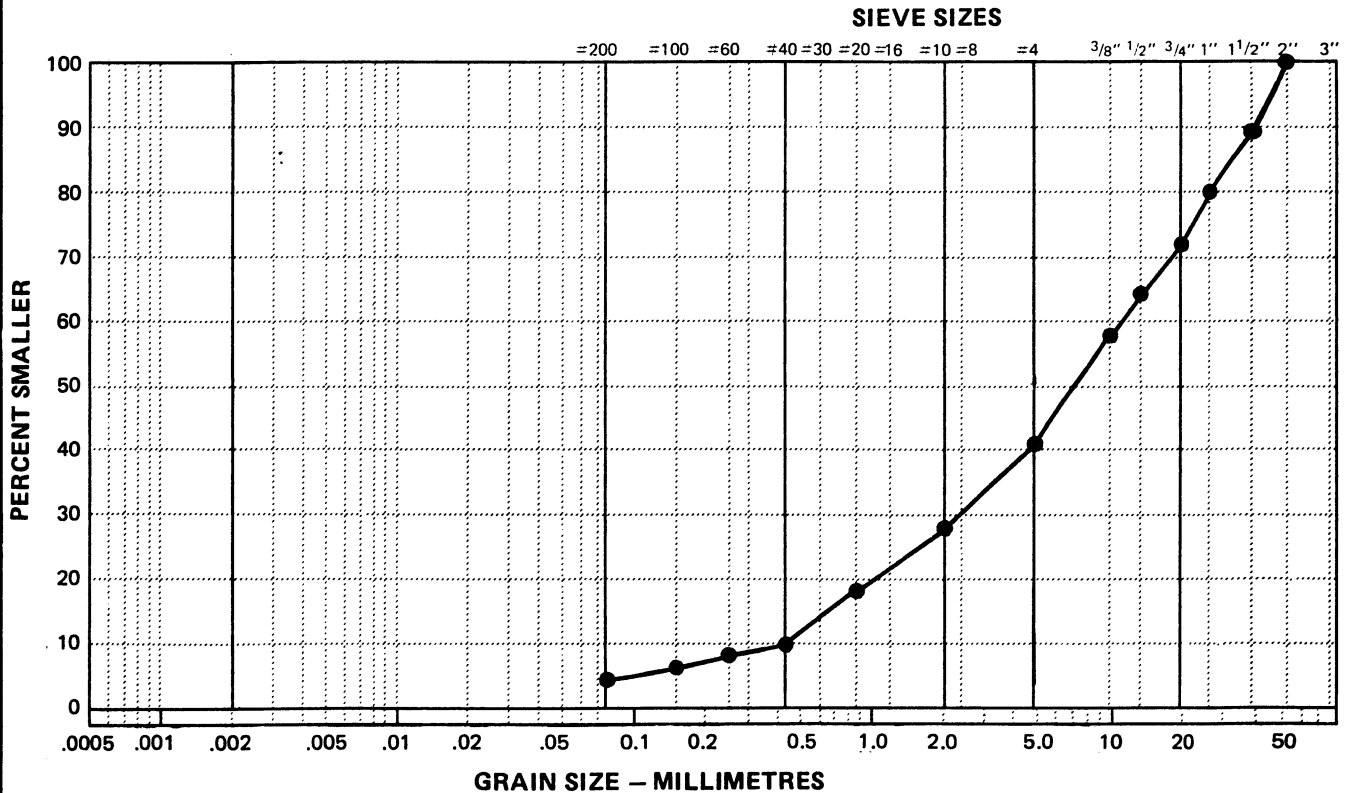
Cc: 1.2

Natural Moisture Content: 3.7 %

Remarks: Gravel 58.9%  
Sand 36.7%  
Silt 4.4%

SIEVE	PERCENTAGE PASSING
3"	
2"	100.0
1 1/2"	88.6
1"	80.2
3/4"	72.1
3/8"	56.8
No. 4	41.1
No. 10	26.7
No. 20	16.8
No. 40	10.3
No. 60	7.4
No. 100	5.8
No. 200	4.4

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

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-015E

Depth: 1.0 m

Soil Description: POORLY GRADED GRAVEL WITH SAND (GP)

Cu: 42

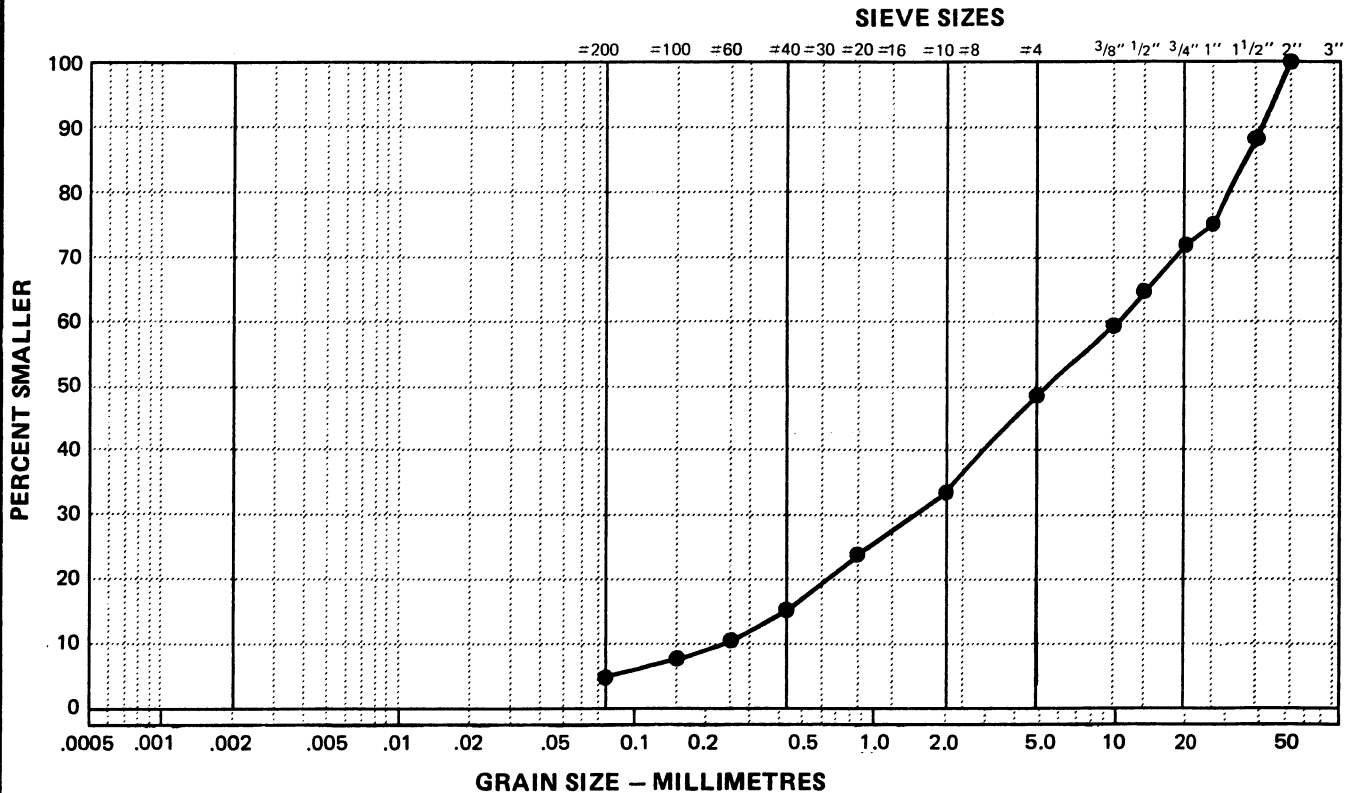
Cc: 0.9

Natural Moisture Content: 2.1 %

Remarks: Gravel 52.5%  
Sand 42.8%  
Silt 4.7%

SIEVE	PERCENTAGE PASSING
3"	
2"	100.0
1 1/2"	87.6
1"	74.6
3/4"	72.2
3/8"	59.2
No. 4	47.5
No. 10	34.4
No. 20	24.4
No. 40	16.3
No. 60	10.5
No. 100	6.8
No. 200	4.7

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: 92-015E

Depth: 2.0 m

Soil Description: WELL GRADED GRAVEL WITH SAND (GW)

Cu: 50

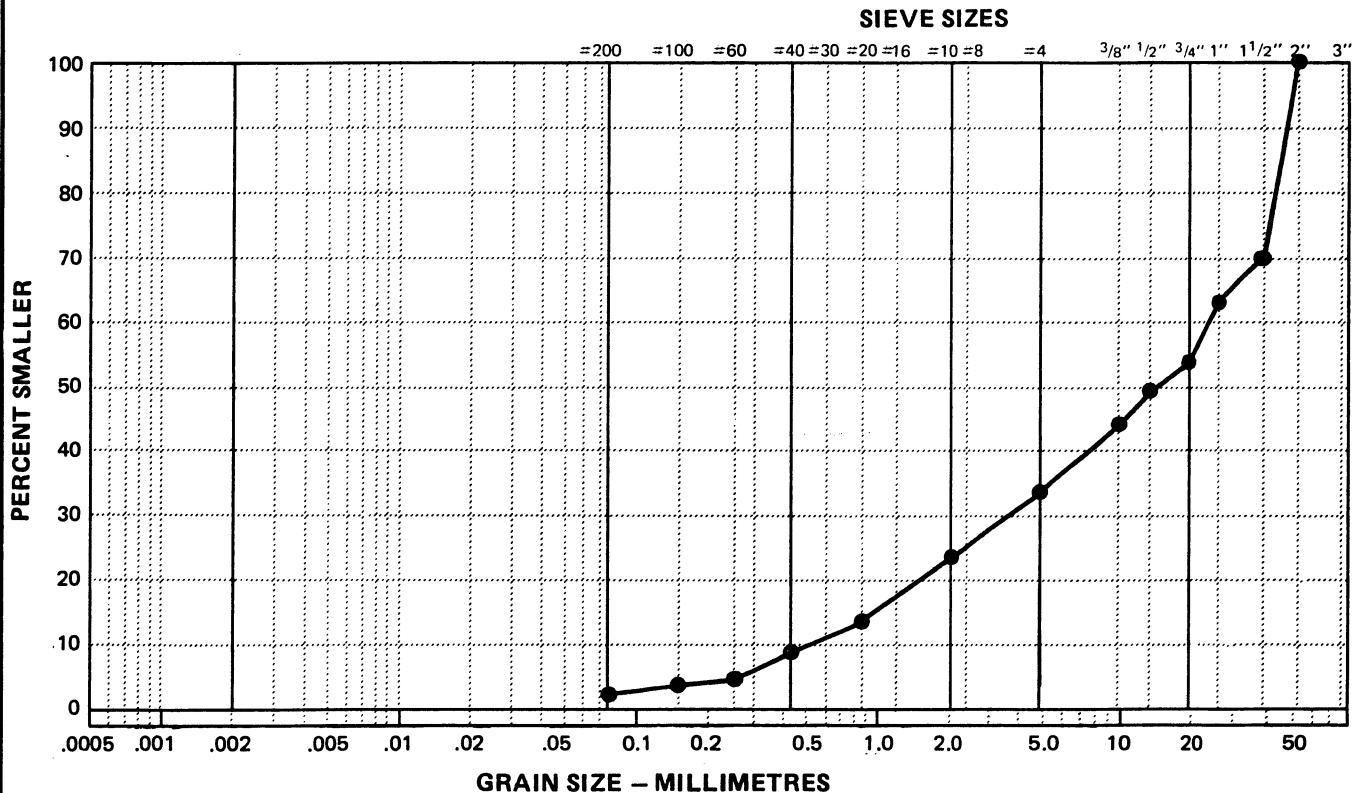
Cc: 1.2

Natural Moisture Content: 1.8 %

Remarks: Gravel 66.3%  
Sand 30.4%  
Silt 3.3%

SIEVE	PERCENTAGE PASSING
3"	
2"	100.0
1 1/2"	69.6
1"	63.2
3/4"	54.1
3/8"	44.3
No. 4	33.7
No. 10	22.9
No. 20	14.3
No. 40	7.9
No. 60	5.2
No. 100	4.1
No. 200	3.3

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: 92-015E

Depth: 3.0 m

Soil Description: WELL GRADED GRAVEL WITH SAND (GW)

Cu: 58

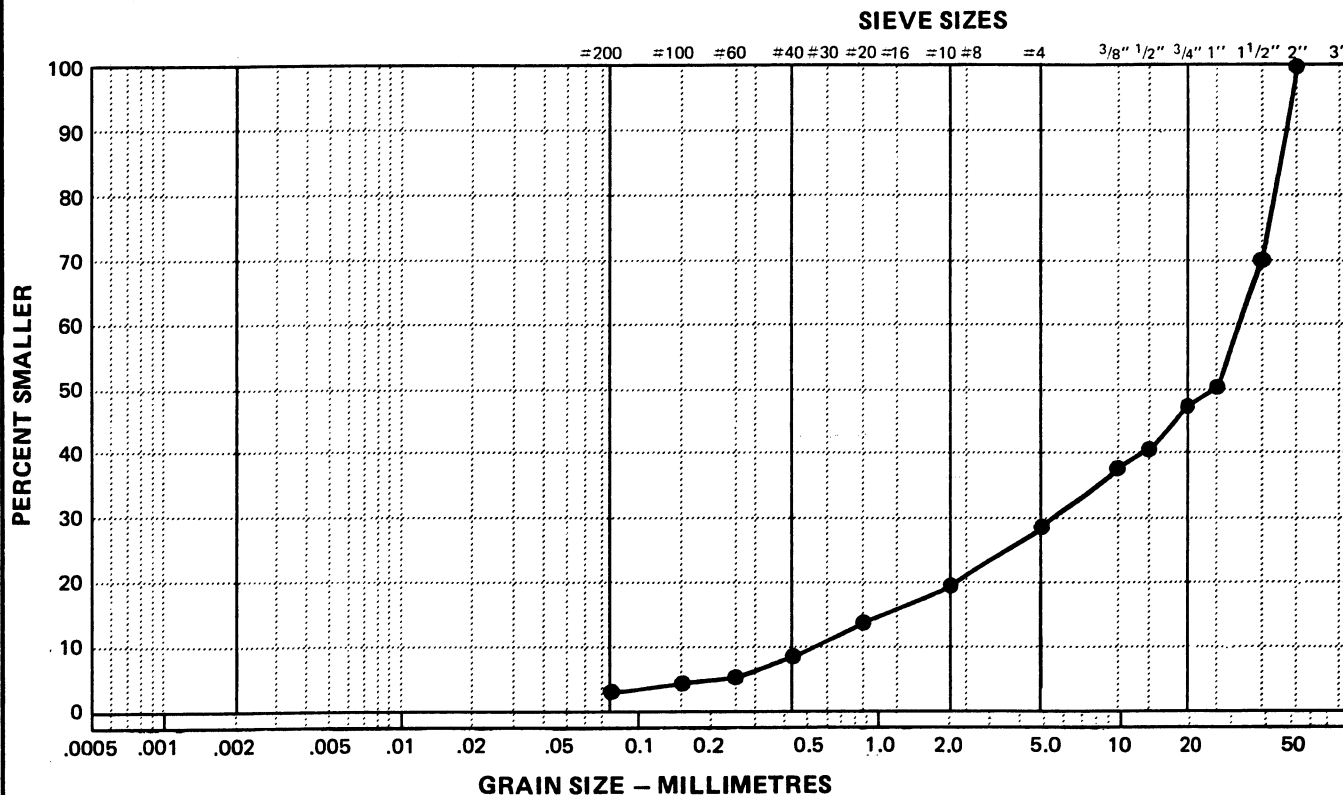
Cc: 1.8

Natural Moisture Content: 1.5 %

Remarks: Gravel 72.3%  
Sand 24.5%  
Silt 3.2%

SIEVE	PERCENTAGE PASSING
3"	
2"	100.0
1 1/2"	69.6
1"	50.6
3/4"	47.4
3/8"	36.5
No. 4	27.7
No. 10	19.0
No. 20	13.1
No. 40	8.3
No. 60	5.4
No. 100	4.0
No. 200	3.2

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: 92-015E

Depth: 4.0 m

Soil Description: POORLY GRADED GRAVEL WITH SAND (GP)

Cu: 37.5

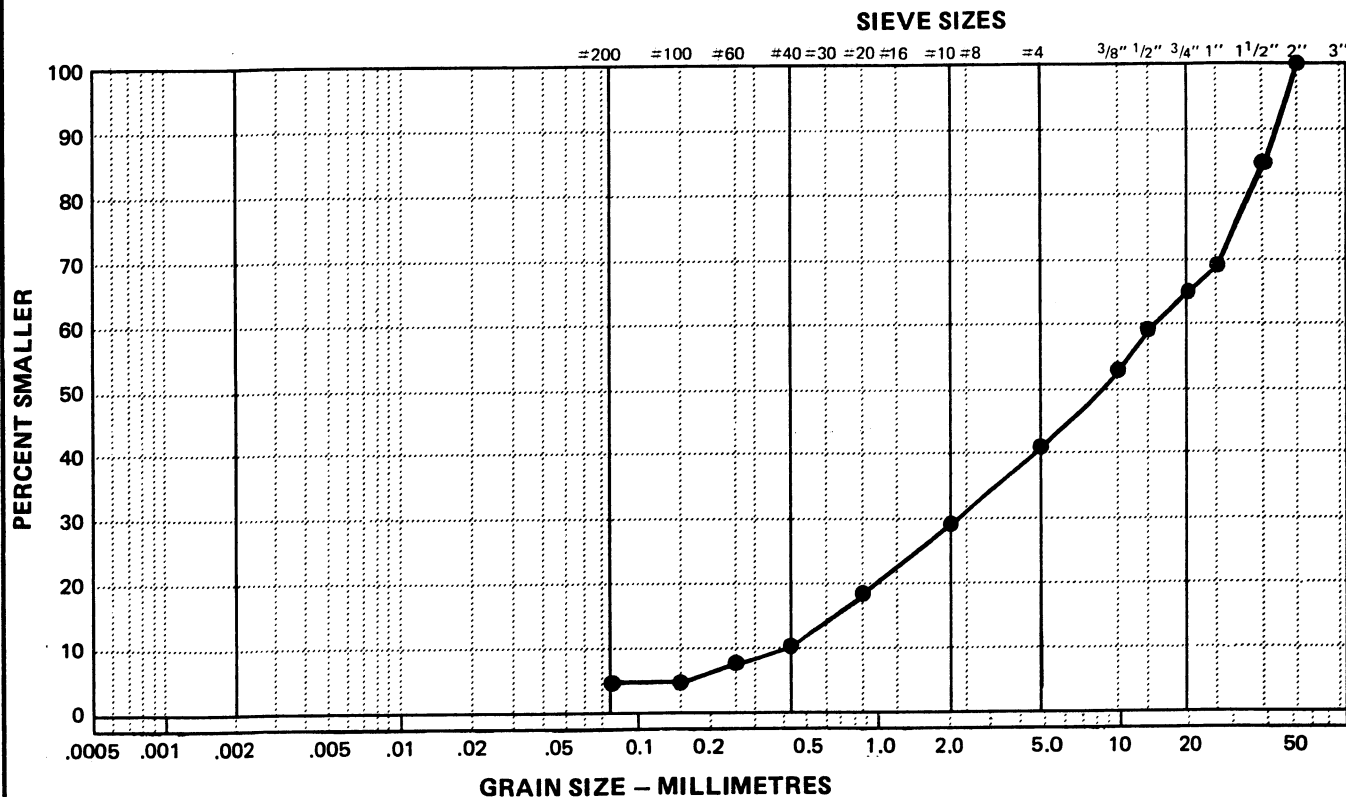
Cc: 0.9

Natural Moisture Content: 2.1 %

Remarks: Gravel 58.6%  
Sand 36.5%  
Silt 4.9%

SIEVE	PERCENTAGE PASSING
3"	
2"	100.0
1 1/2"	85.3
1"	68.7
3/4"	65.8
3/8"	53.3
No. 4	41.4
No. 10	29.2
No. 20	18.4
No. 40	10.5
No. 60	7.2
No. 100	5.8
No. 200	4.9

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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GRANULAR SOURCE EVALUATION km 1693			CLIENT: YTG - TRANSPORTATION ENG.			BOREHOLE No: 92-016E						
SILVER CITY AREA			HOE: CAT 225 TRACKED BACKHOE			Project No: 0201-10922						
NORTH ALASKA HIGHWAY			UTM ZONE: 7 N6768220.00 E644199.00			ELEVATION: 0.00 (m)						
SAMPLE TYPE			<input checked="" type="checkbox"/> GRAB SAMPLE <input checked="" type="checkbox"/> NO RECOVERY <input checked="" type="checkbox"/> STANDARD PEN. <input type="checkbox"/> 75 mm SPOON <input type="checkbox"/> CRREL BARREL <input type="checkbox"/>									
DEPTH (m)	SAMPLE TYPE	SAMPLE NO	SPT(N)	USC	SOIL SYMBOL	SOIL DESCRIPTION		STANDARD PENETRATION		PERCENT GRAVEL		DEPTH (ft)
						PLASTIC	M.C.	LIQUID	10	20	30	
0.0		1		GP/GW	▲▲▲	SPARSE GRASS GROUND COVER POORLY GRADED GRAVEL WITH SILT AND SAND- fibrous organics to 0.5 m, occasional cobble to 200 mm maximum size						0.0
1.0		2		GW	▲▲▲	WELL GRADED GRAVEL WITH SAND-trace of silt, cobbles throughout, subangular, up to 300 mm with 10% over 100 mm, seasonally frozen to 1.0 m, damp, medium brown						2.0
2.0		3		GP	▲▲▲	-not much sloughing in testpit						4.0
3.0		4		GW	▲▲▲							6.0
4.0		5		SP/SW	○○○○	-300 mm thick lens of POORLY GRADED SAND WITH SILT AND GRAVEL at 4.0 m, discontinuous in testpit						8.0
5.0						END OF TESTPIT 4.8 m						10.0
6.0												12.0
7.0												14.0
												16.0
												18.0
												20.0
												22.0
EBA Engineering Consultants Ltd.						LOGGED BY: MCP		COMPLETION DEPTH: 4.8 m				
Whitehorse, Yukon						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

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-016E

Depth: 0.5 m

Soil Description: POORLY GRADED GRAVEL WITH SILT AND SAND

Cu: 85 (GP/GM)

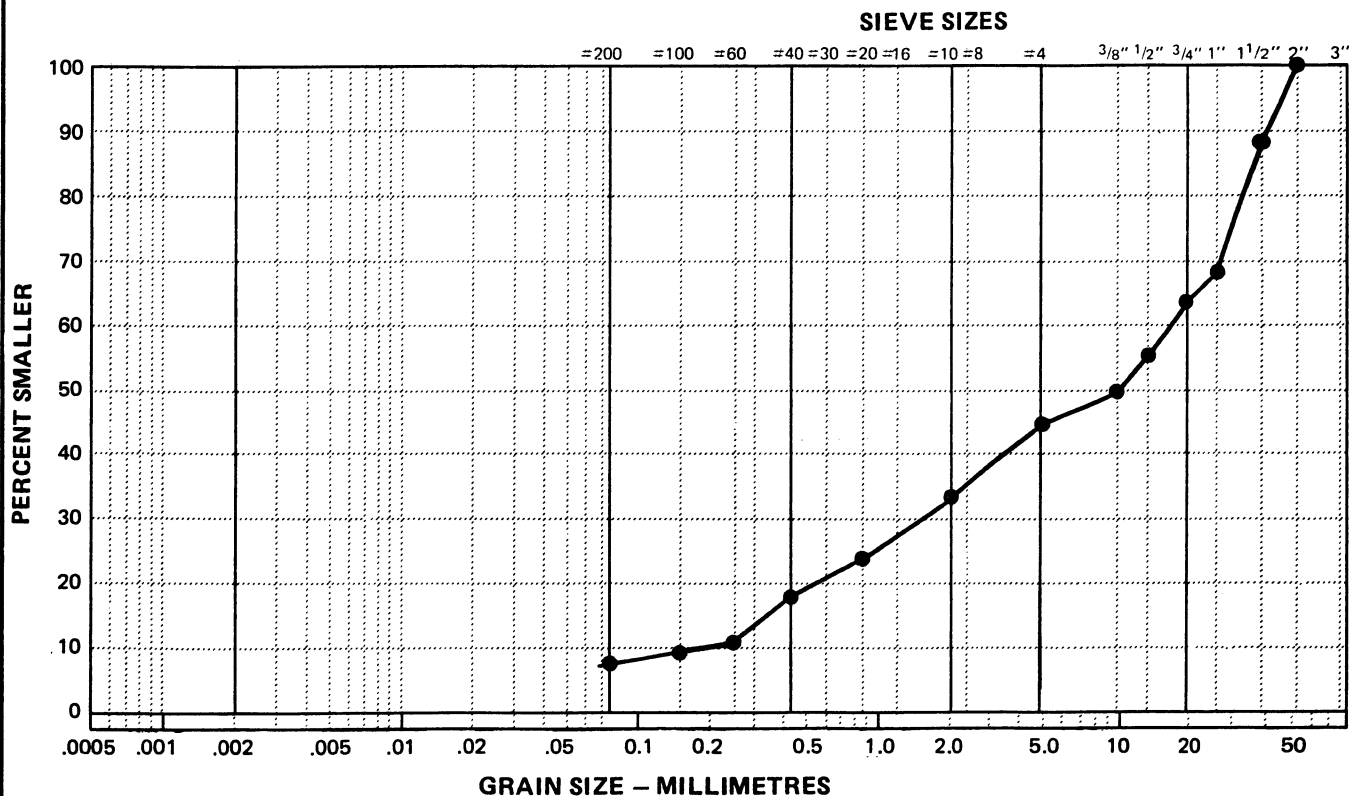
Cc: 0.29

Natural Moisture Content: 3.4 %

Remarks: Gravel 65.8%  
 Sand 27.2%  
 Silt 7.0%

SIEVE	PERCENTAGE PASSING
3"	
2"	100.0
1 1/2"	87.7
1"	68.1
3/4"	64.1
3/8"	50.2
No. 4	44.9
No. 10	34.2
No. 20	24.3
No. 40	16.8
No. 60	11.4
No. 100	8.6
No. 200	7.0

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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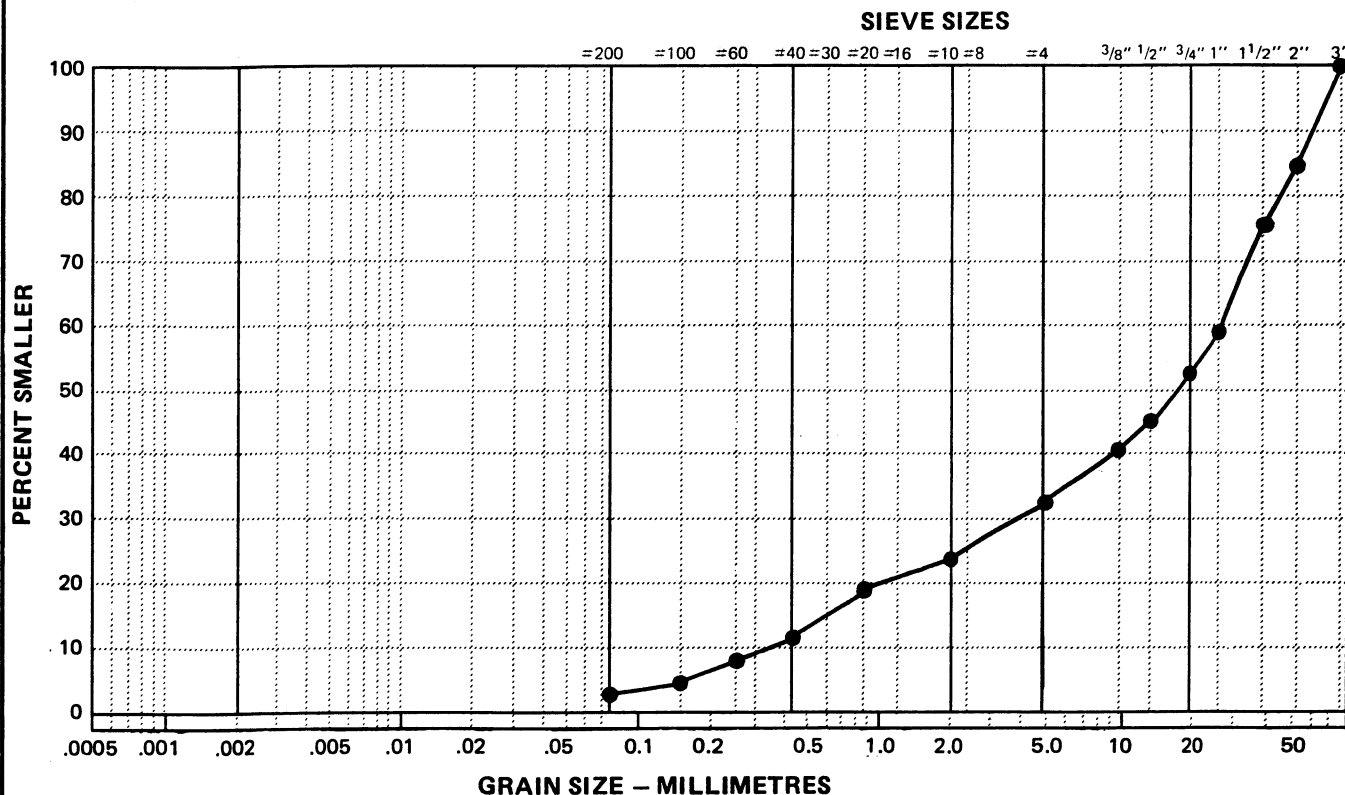


## PARTICLE - SIZE ANALYSIS OF SOILS

**Project:** Granular Source Evaluation  
 km 1693, North Alaska Highway  
**Project Number:** 0201-10922  
**Date Tested:** 92-04-29  
**Borehole Number:** 92-016E  
**Depth:** 1.0 m  
**Soil Description:** WELL GRADED GRAVEL WITH SAND (GW)  
**Cu:** 74  
**Cc:** 1.8  
**Natural Moisture Content:** 1.3 %  
**Remarks:** Gravel 68.5%  
 Sand 29.8%  
 Silt 1.7%

SIEVE	PERCENTAGE PASSING
3"	100.0
2"	83.6
1 1/2"	75.8
1"	57.9
3/4"	53.3
3/8"	40.8
No. 4	31.5
No. 10	23.5
No. 20	17.5
No. 40	11.9
No. 60	7.1
No. 100	3.5
No. 200	1.7

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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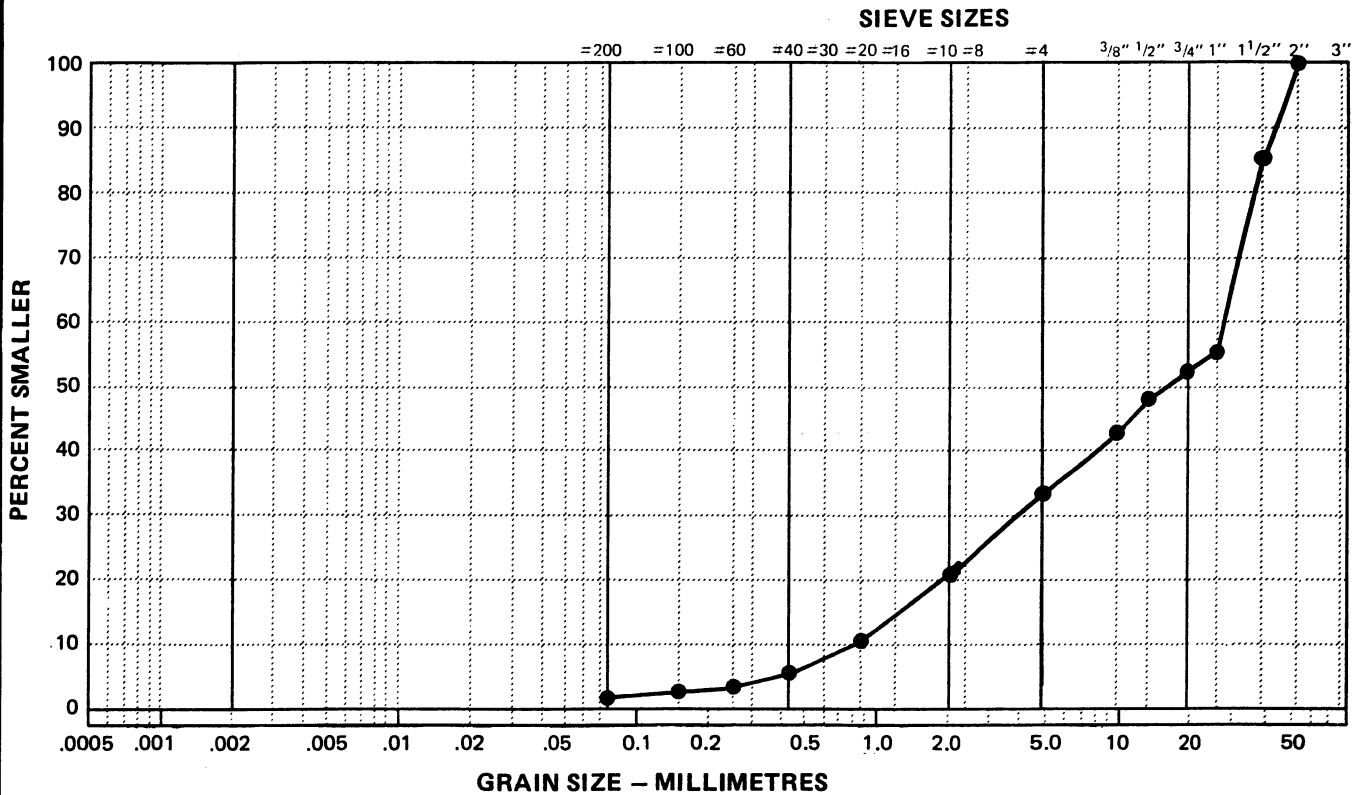


## PARTICLE - SIZE ANALYSIS OF SOILS

**Project:** Granular Source Evaluation  
 km 1693, North Alaska Highway  
**Project Number:** 0201-10922  
**Date Tested:** 92-04-29  
**Borehole Number:** 92-016E  
**Depth:** 2.0 m  
**Soil Description:** POORLY GRADED GRAVEL WITH SAND (GP)  
**Cu:** 37.5  
**Cc:** 0.7  
**Natural Moisture Content:** 1.3 %  
**Remarks:** Gravel 66.9%  
 Sand 31.3%  
 Silt 1.8%

SIEVE	PERCENTAGE PASSING
3"	
2"	100.0
1 1/2"	86.0
1"	56.3
3/4"	53.2
3/8"	42.8
No. 4	33.1
No. 10	20.9
No. 20	10.6
No. 40	5.3
No. 60	3.1
No. 100	2.2
No. 200	1.8

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

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-016E

Depth: 3.0 m

Soil Description: WELL GRADED GRAVEL WITH SAND (GW)

Cu: 36.7

Cc: 1.2

Natural Moisture Content: 1.4 %

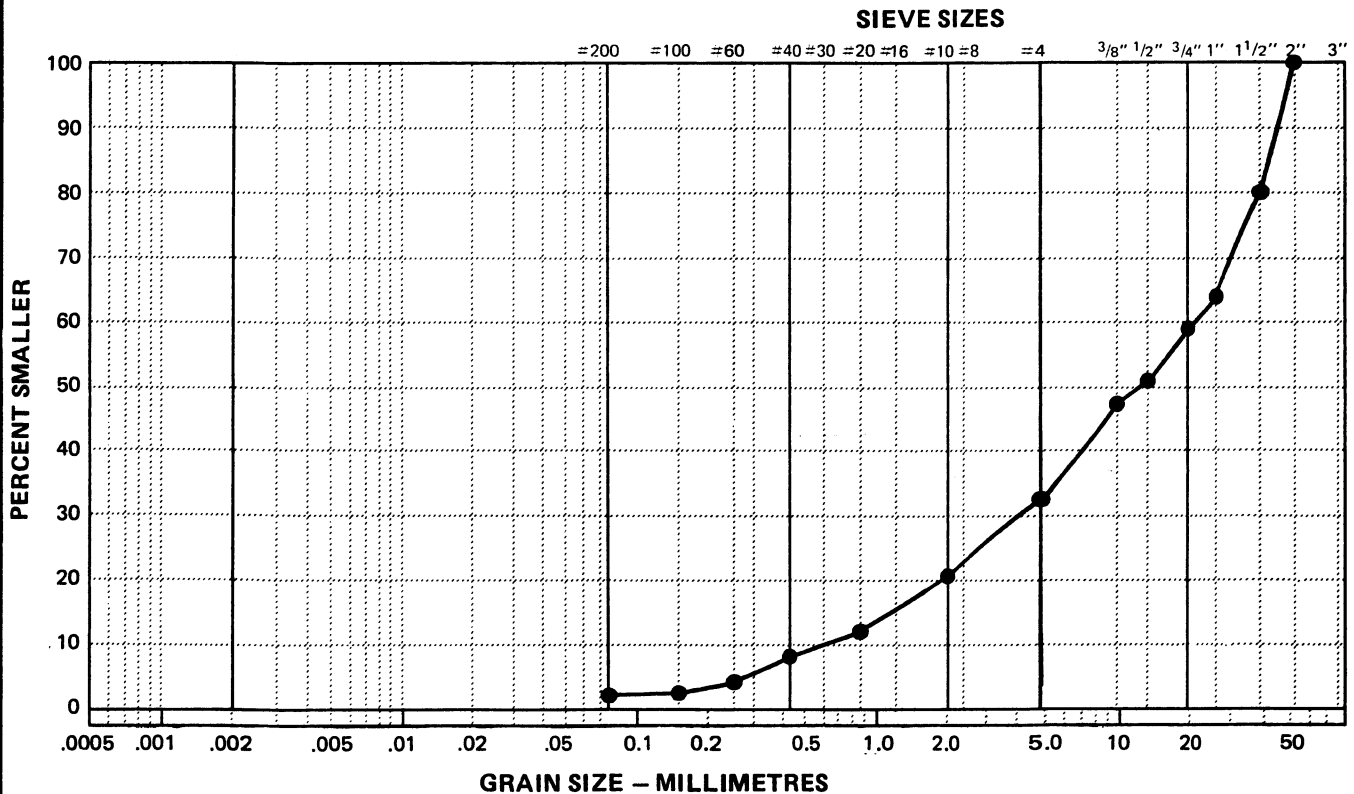
Remarks: Gravel 66.7%

Sand 31.1%

Silt 3.2%

SIEVE	PERCENTAGE PASSING
3"	
2"	100.0
1 1/2"	80.4
1"	63.6
3/4"	58.8
3/8"	46.7
No. 4	33.3
No. 10	20.7
No. 20	12.3
No. 40	6.5
No. 60	4.1
No. 100	3.0
No. 200	2.2

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: 92-016E

Depth: 4.0 m

Soil Description: POORLY GRADED SAND WITH SILT AND GRAVEL

Cu: 47.0 (SP/SM)

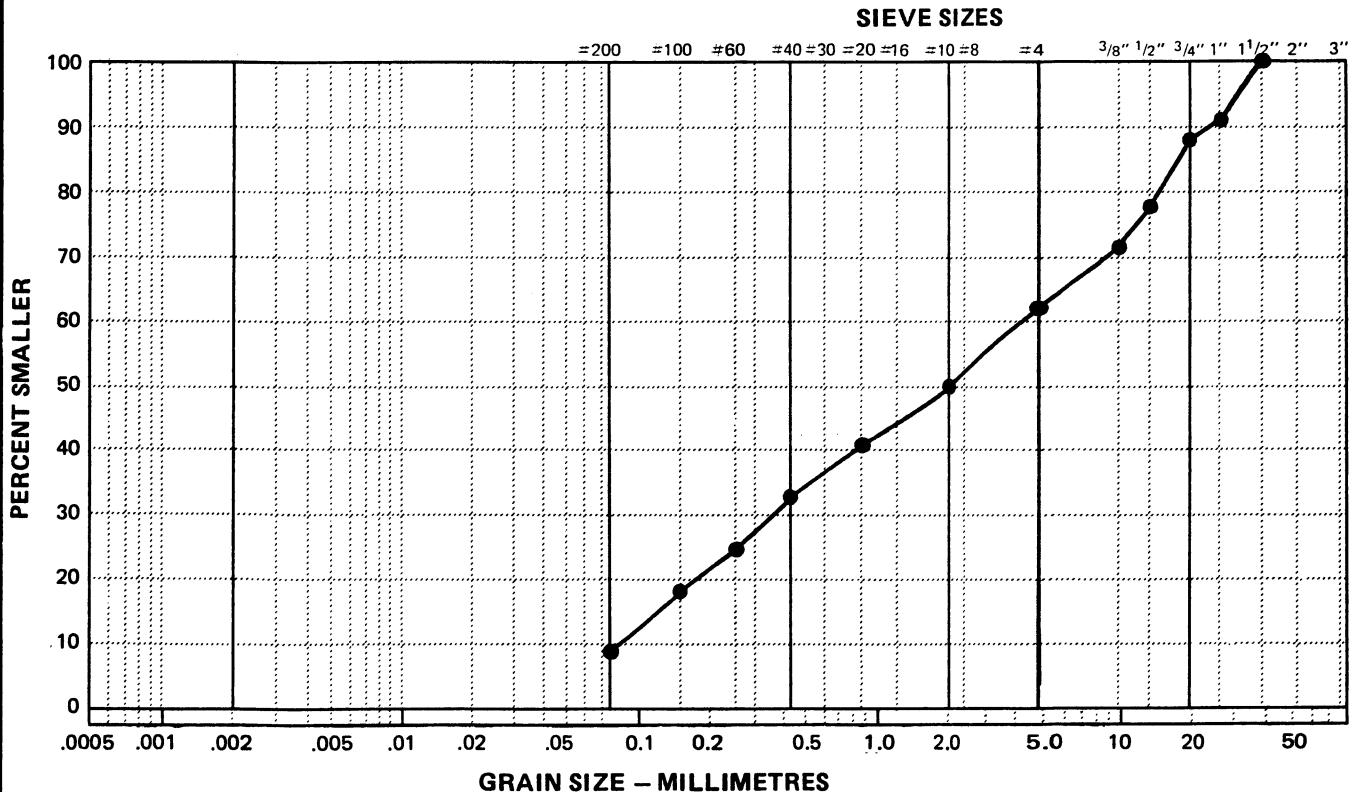
Cc: 0.3

Natural Moisture Content: 2.3 %

Remarks: Gravel 38.5%  
Sand 53.6%  
Silt 7.9%

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	100.0
1"	91.4
3/4"	86.5
3/8"	72.0
No. 4	61.5
No. 10	50.0
No. 20	41.1
No. 40	32.9
No. 60	25.4
No. 100	16.8
No. 200	7.9

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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GRANULAR SOURCE EVALUATION km 1693		CLIENT: YTG - TRANSPORTATION ENG.		BOREHOLE No: 92-017E		
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		<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

DEPTH (m)	SAMPLE TYPE	SAMPLE NO	SPT(N)	USC	SOIL SYMBOL	SOIL DESCRIPTION	STANDARD PENETRATION		PERCENT GRAVEL		PERCENT SAND		PERCENT SILT OR FINES		PERCENT CLAY		DEPTH (ft)
							10	20	20	40	20	40	20	40	20	40	
0.0						GRASS AND TEA GROUND COVER										0.0	
		1			GW	SILT WITH GRAVEL—seasonally frozen, brown										2.0	
		2			GW	WELL GRADED GRAVEL WITH SAND—trace of silt, rootlets to 1.3 m, gravel is subangular, up to 100 mm in size, some siltier pockets, seasonally frozen, olive brown										4.0	
		3			GP/GM	POORLY GRADED GRAVEL WITH SAND—trace of silt, occasional cobble, maximum size 150 mm, 5% over 100 mm, damp, medium brown										6.0	
		4			GW	-occasional siltier pockets throughout										8.0	
		5			GP	-200 m thick SAND WITH SILT lens at 3.6 m -gravel is cleaner and darker brown -very little sloughing along testpit walls										10.0	
						END OF TESTPIT 4.5 m										12.0	
																14.0	
																16.0	
																18.0	
																20.0	
																22.0	

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

## 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

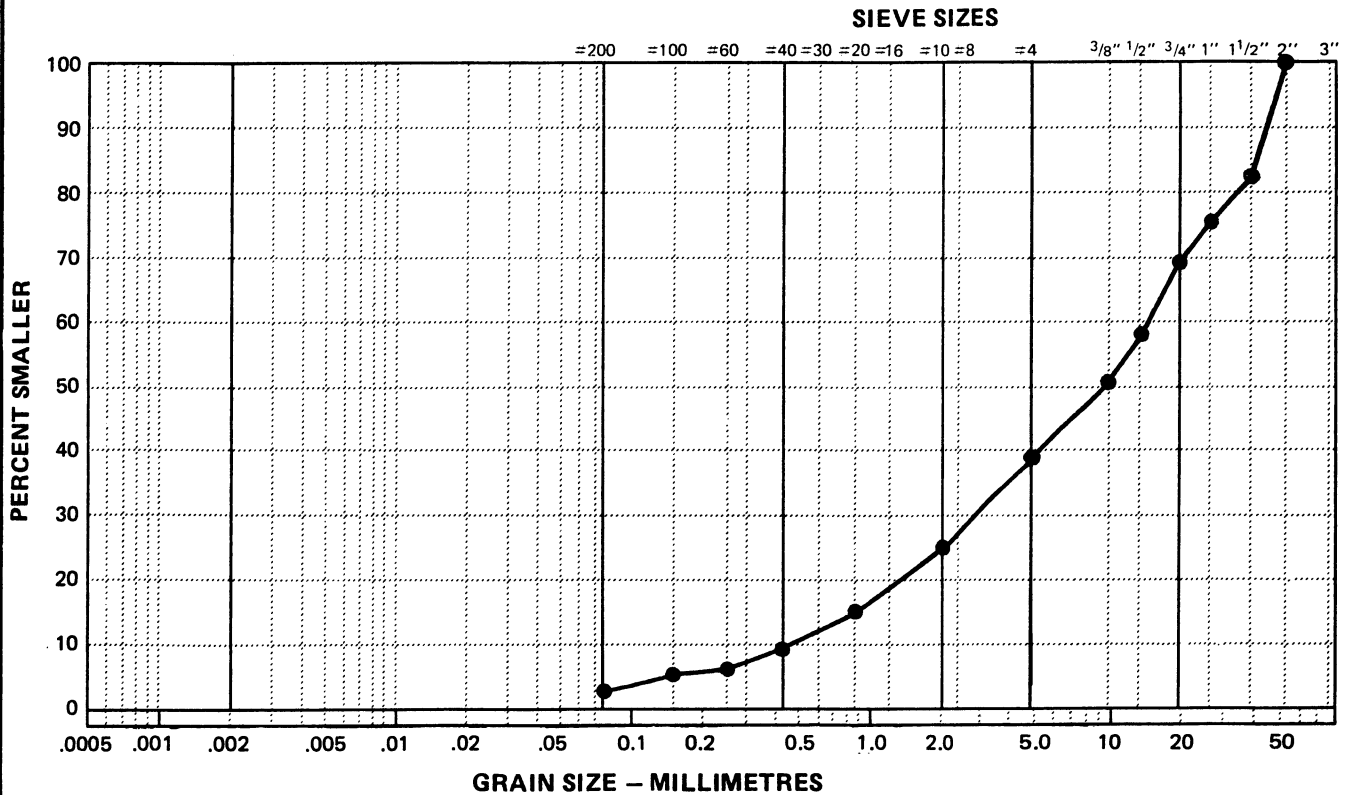
Cc: 1.2

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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# EBA Engineering Consultants Ltd.

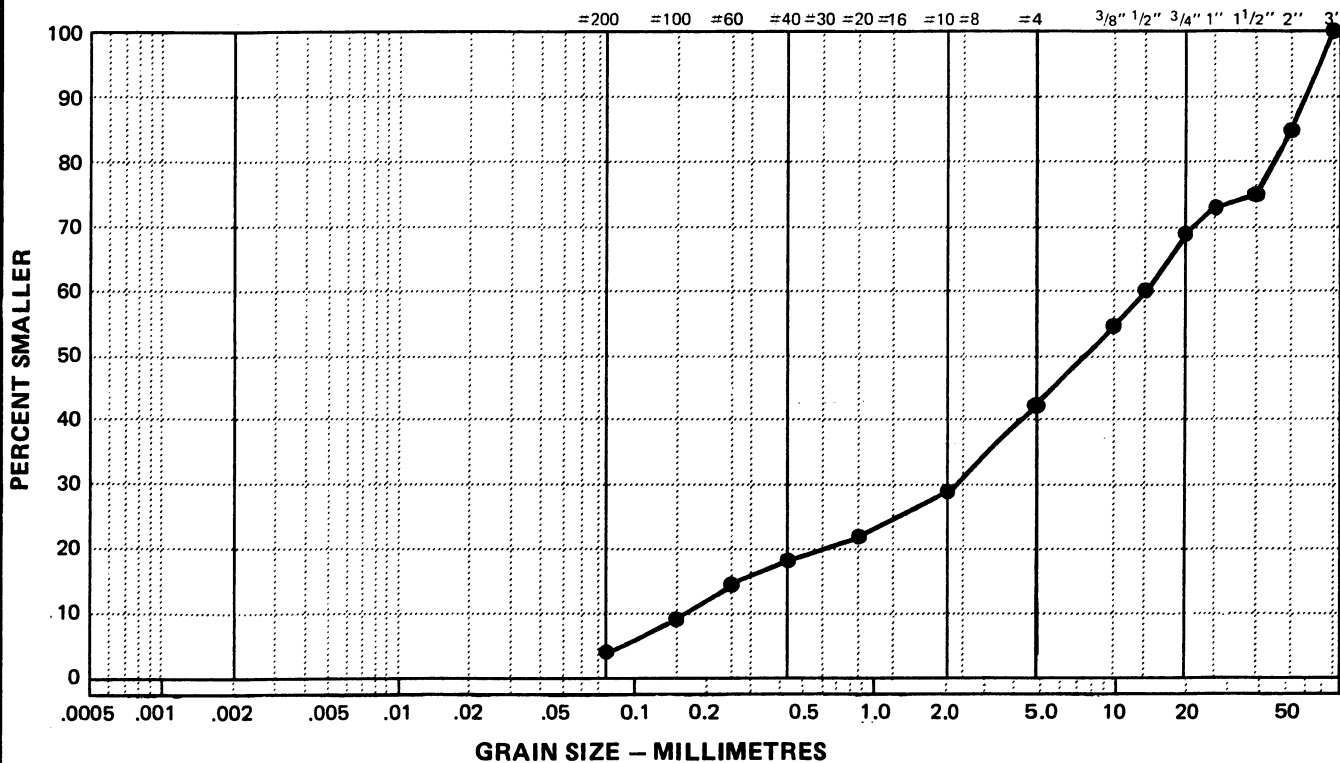
## PARTICLE - SIZE ANALYSIS OF SOILS

**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

### SIEVE SIZES



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# EBA Engineering Consultants Ltd.

## PARTICLE - SIZE ANALYSIS OF SOILS

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

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-017E

Depth: 2.0 m

Soil Description: POORLY GRADED GRAVEL WITH SILT AND SAND

Cu: 43 (GP/GM)

Cc: 0.6

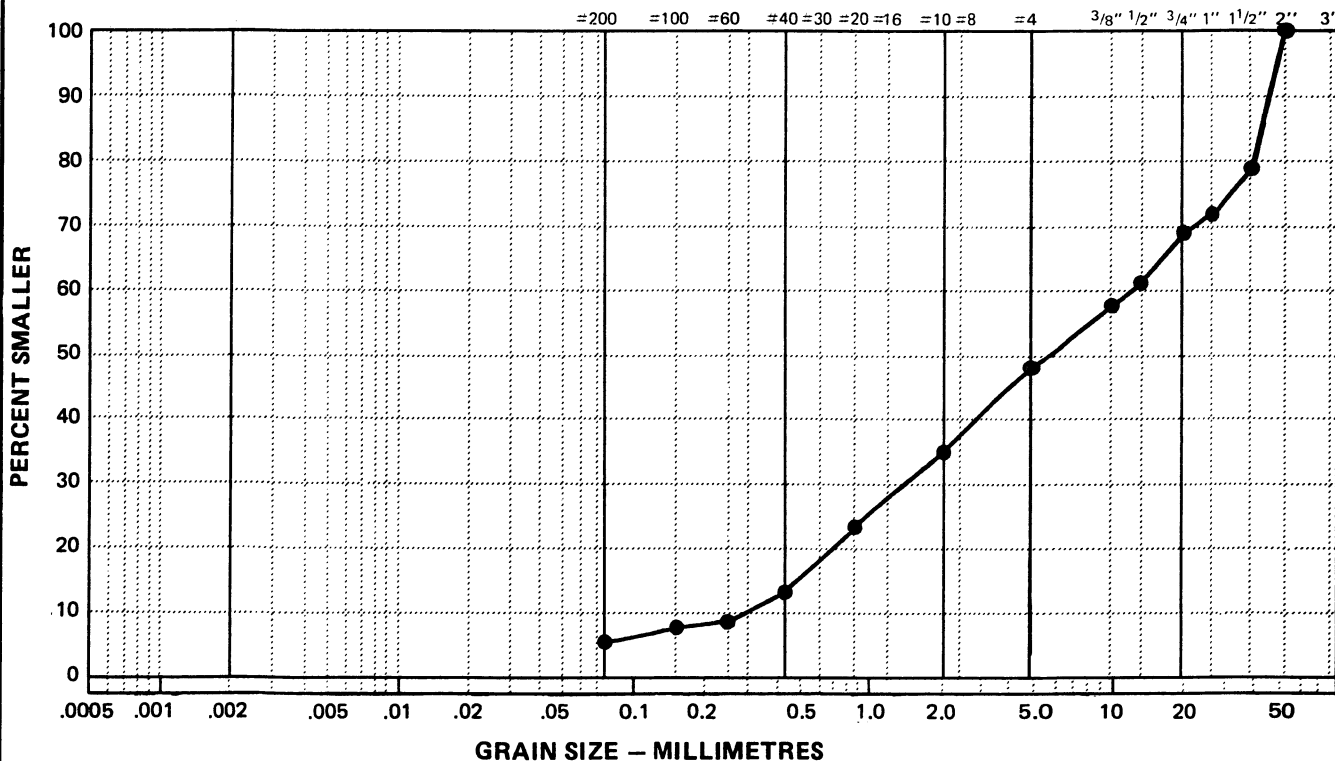
Natural Moisture Content: 1.8 %

Remarks: Gravel 53.3%  
Sand 41.4%  
Silt 5.3%

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

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE

### SIEVE SIZES



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# EBA Engineering Consultants Ltd.

## PARTICLE - SIZE ANALYSIS OF SOILS

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

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-017E

Depth: 3.0 m

Soil Description: WELL GRADED GRAVEL WITH SAND (GW)

Cu: 37

Cc: 1.2

Natural Moisture Content: 1.3 %

Remarks: Gravel 69.4%  
Sand 28.9%  
Silt 1.7%

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

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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# EBA Engineering Consultants Ltd.

## PARTICLE - SIZE ANALYSIS OF SOILS

Project: Granular Source Evaluation  
km 1693 North Alaska Highway

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-017E

Depth: 4.0 m

Soil Description: POORLY GRADED GRAVEL WITH SAND (GP)

Cu: 32

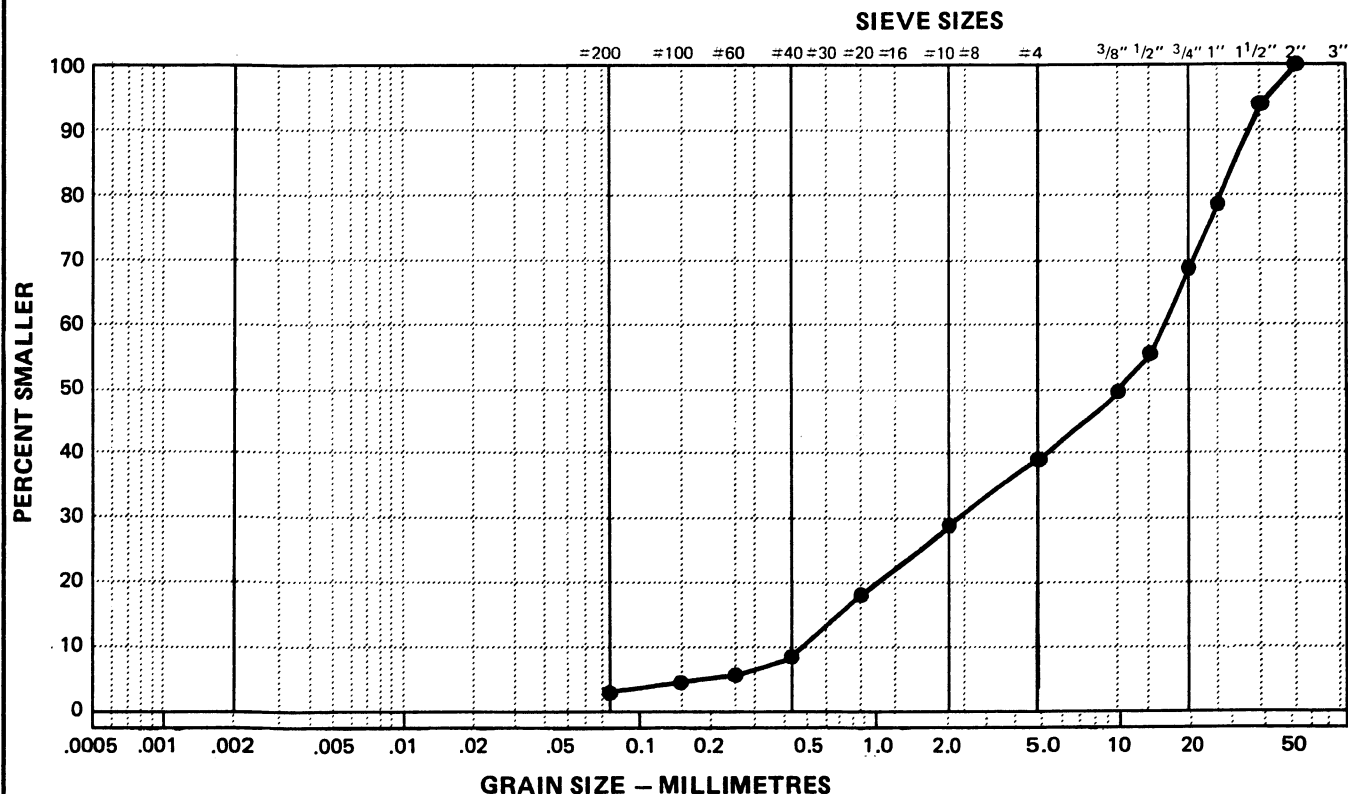
Cc: 0.7

Natural Moisture Content: 1.8 %

Remarks: Gravel 60.9%  
Sand 35.7%  
Silt 3.4%

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

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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GRANULAR SOURCE EVALUATION km 1693			CLIENT: YTG - TRANSPORTATION ENG.			BOREHOLE No: 92-018E								
SILVER CITY AREA			HOE: CAT 225 TRACKED BACKHOE			Project No: 0201-10922								
NORTH ALASKA HIGHWAY			UTM ZONE: 7 N6768517.00 E644046.00			ELEVATION: 0.00 (m)								
SAMPLE TYPE			<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"/>											
DEPTH (m)	SAMPLE TYPE	SAMPLE NO	SPT(N)	USC	SOIL SYMBOL	SOIL DESCRIPTION	STANDARD PENETRATION			PERCENT GRAVEL				DEPTH (ft)
							10	20	30	40	20	40	60	
							PLASTIC    M.C.    LIQUID 10    20    30    40			● PERCENT SAND ● 20    40    60    80 ▲ PERCENT SILT OR FINES ▲ 20    40    60    80 ◆ PERCENT CLAY ◆ 20    40    60    80				
0.0						SPARSE GRASS GROUND COVER ORGANICS AND SILT-seasonally frozen, dark brown								0.0
		1		GP	▲▲▲	SILT WITH GRAVEL-some sand, rootlets to 0.7 m, seasonally frozen, greyish brown	●			▲	●	■		2.0
		2		GP	▲▲▲	POORLY GRADED GRAVEL WITH SAND-trace of silt, occasional cobble to 150 mm maximum size, less than 5% over 100 mm, gravel is well graded, sand is medium to coarse, seasonally frozen to 2.0 m, discontinuous silty lenses of gravel at 1.3 m and 2.7 m	●			▲	●	■		4.0
		3		GW	▲▲▲		●			▲	●	■		6.0
		4		SP/SM	○○○○	POORLY GRADED SAND WITH SILT-medium to fine grained, damp, brown	●			■	●		●	10.0
		5		SP	○○○○	POORLY GRADED SAND WITH GRAVEL-trace of silt, medium to coarse, damp, brown	●			▲	■	●		14.0
						END OF TESTPIT 4.5 m								16.0
														18.0
														20.0
														22.0
7.0														

EBA Engineering Consultants Ltd.  
Whitehorse, Yukon

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

## 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

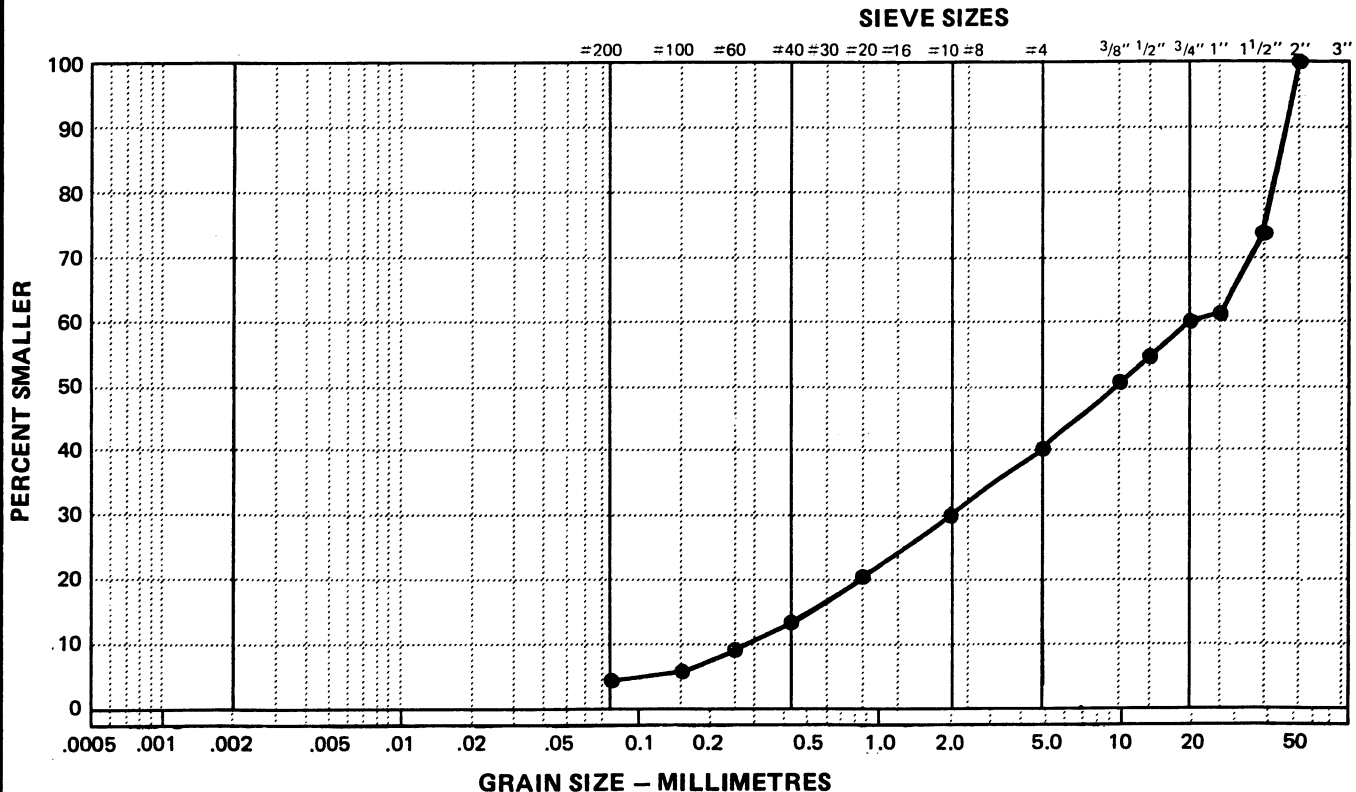
Cc: 0.7

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

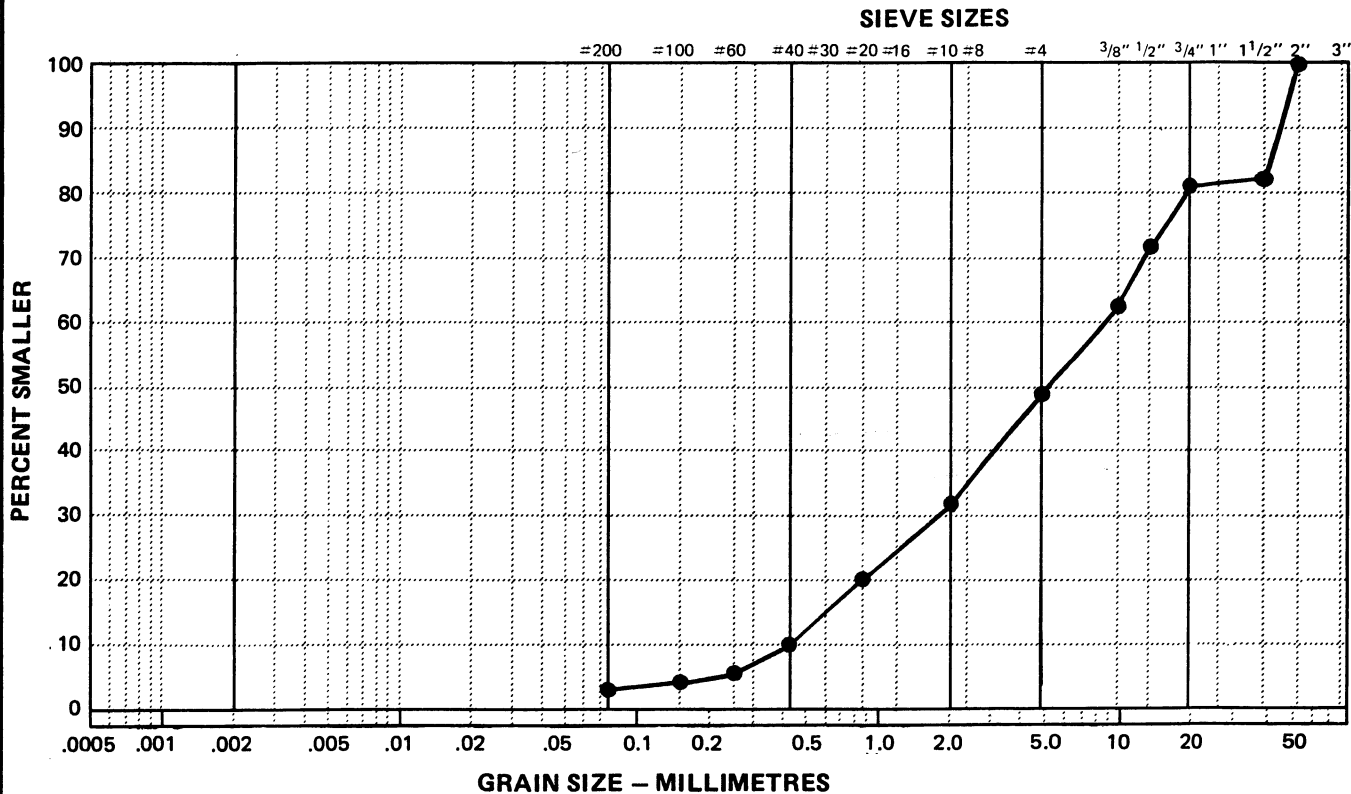
Cc: 0.8

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

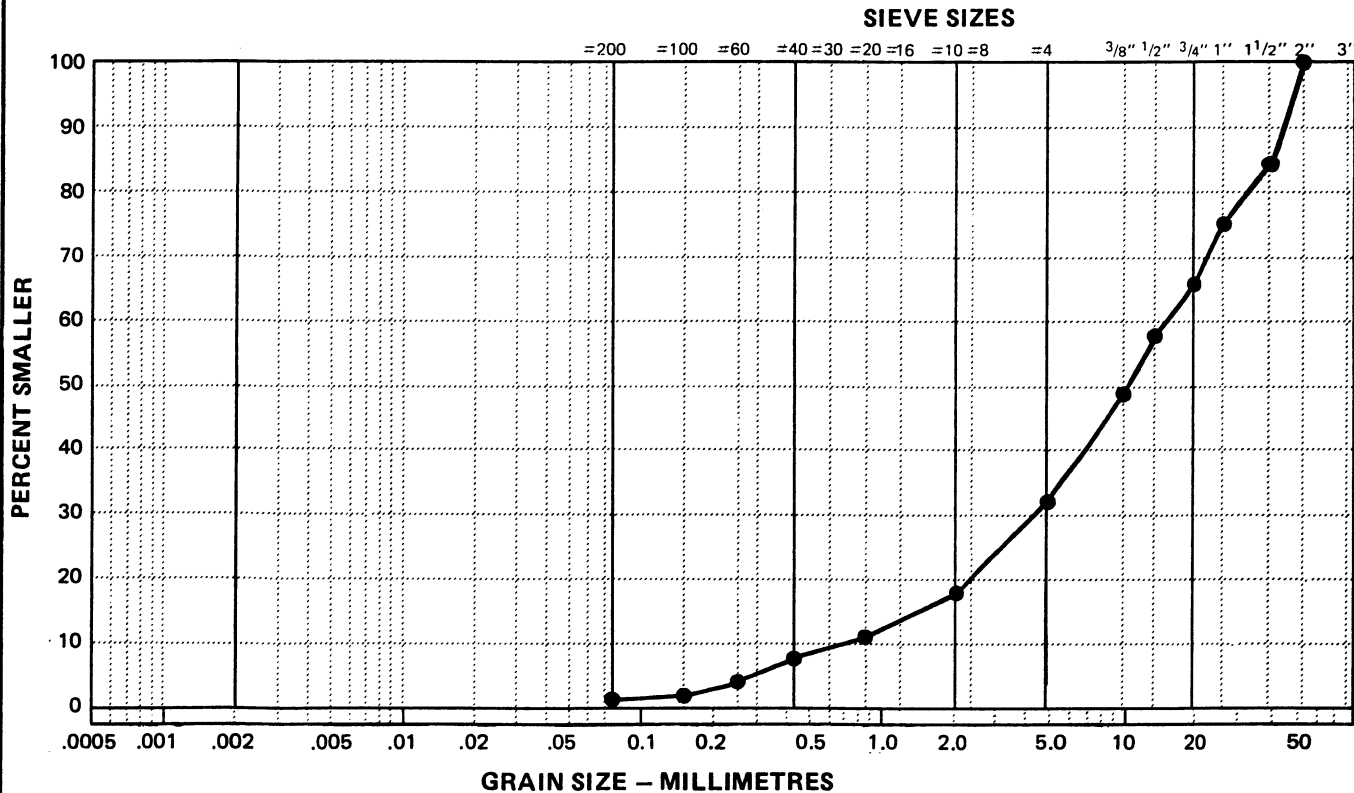
Cc: 1.9

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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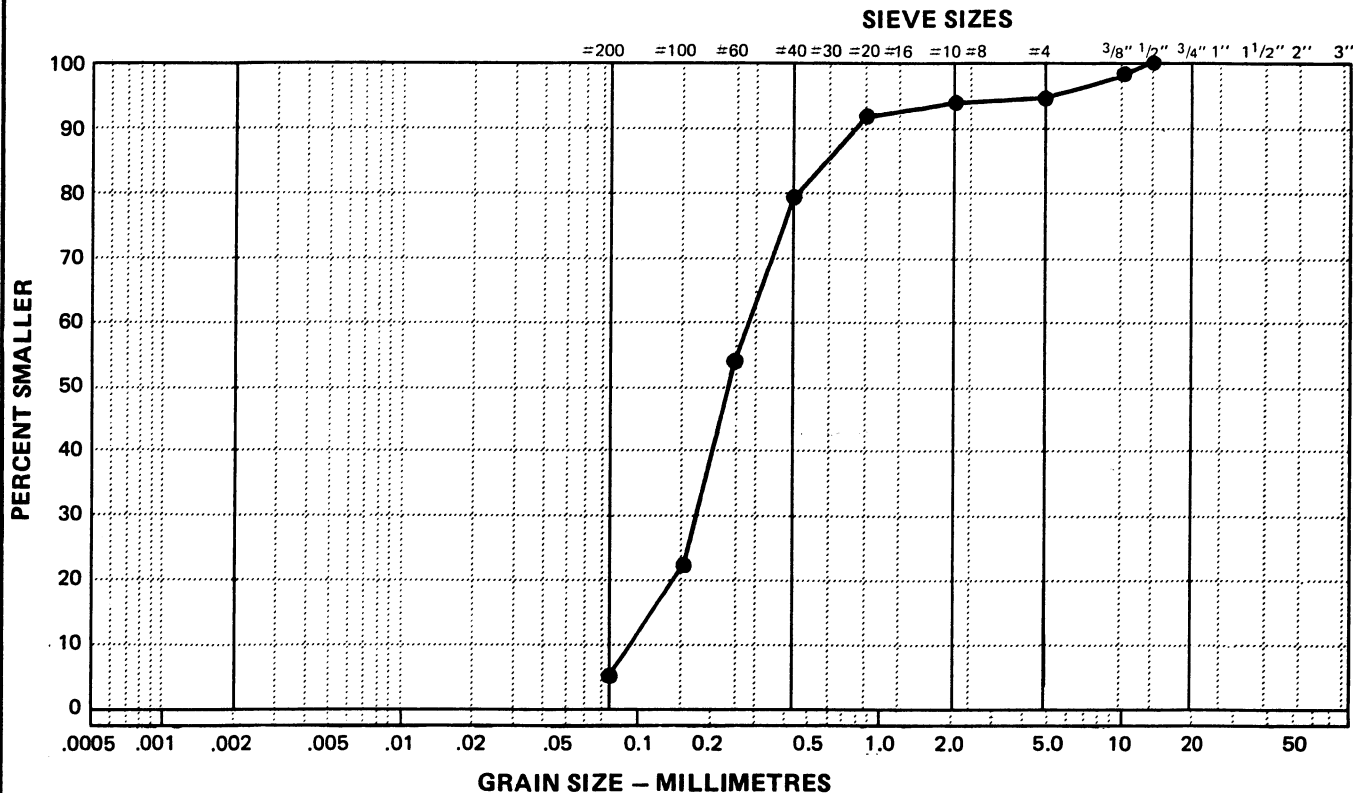


## PARTICLE - SIZE ANALYSIS OF SOILS

**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

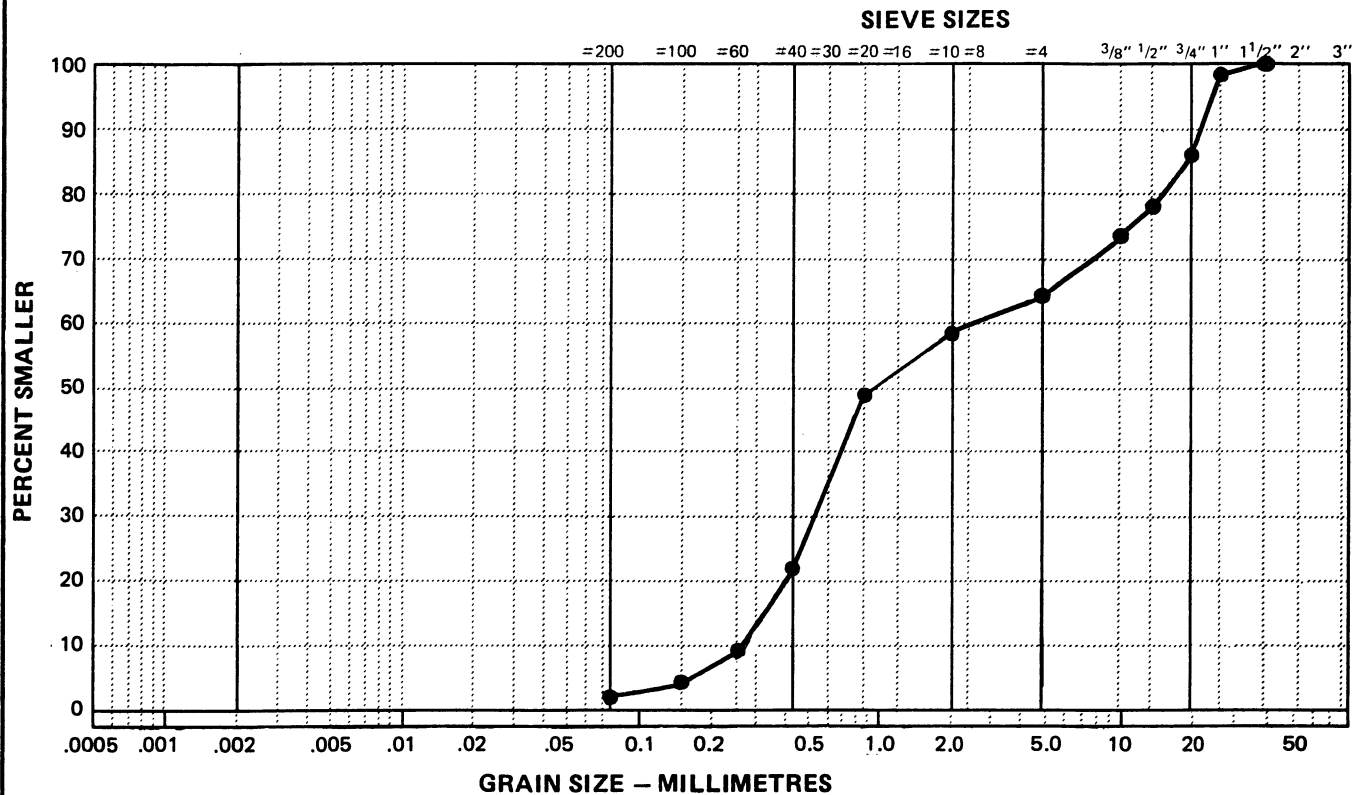
Cc: 0.4

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

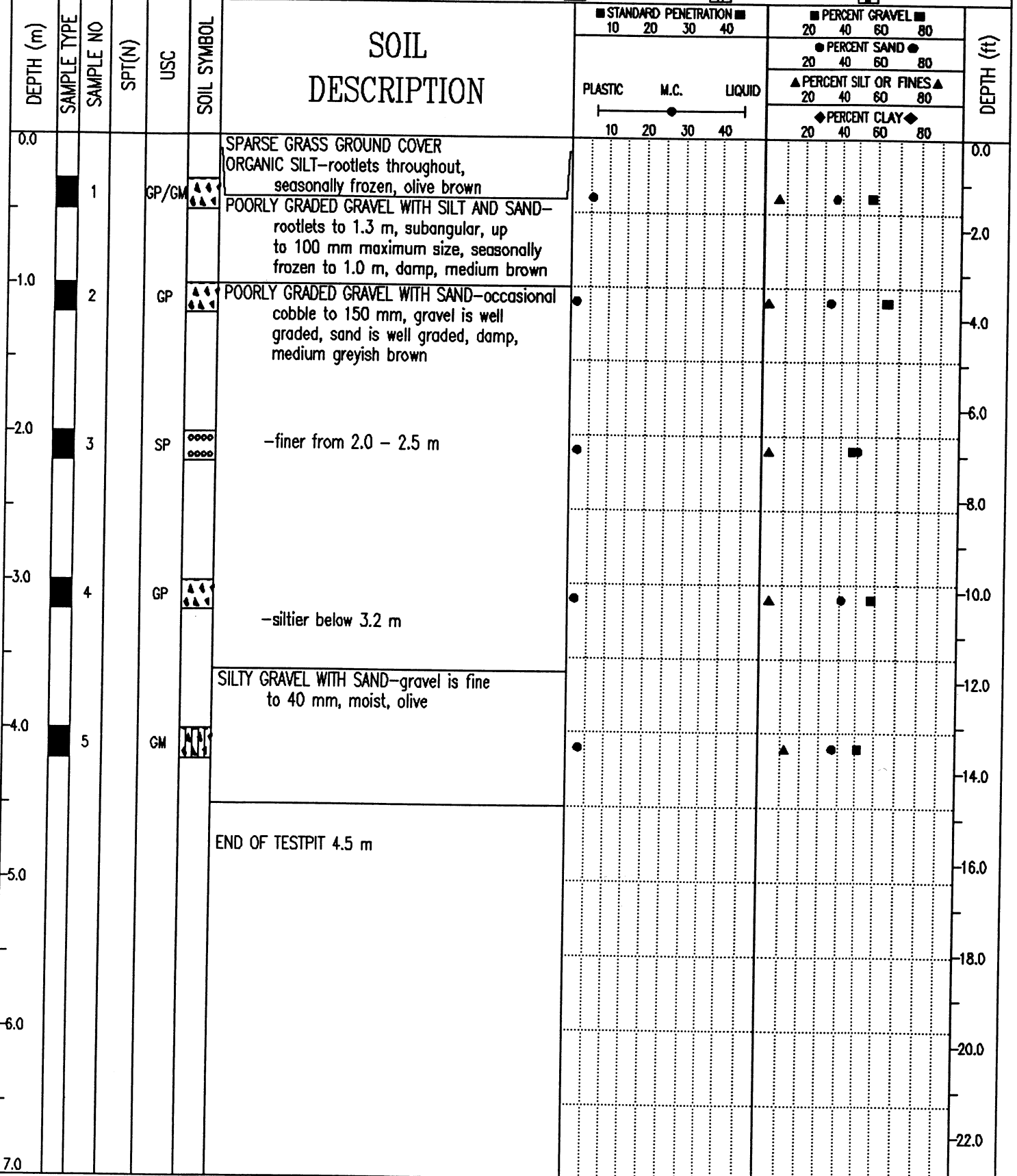


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GRANULAR SOURCE EVALUATION km 1693	CLIENT: YTG - TRANSPORTATION ENG.	BOREHOLE No: 92-019E
SILVER CITY AREA	HOE: CAT 225 TRACKED BACKHOE	Project No: 0201-10922
NORTH ALASKA HIGHWAY	UTM ZONE: 7 N6768572.00 E644108.00	ELEVATION: 0.00 (m)
SAMPLE TYPE	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

REVIEWED BY:

Fig. No:

COMPLETION DEPTH: 4.5 m

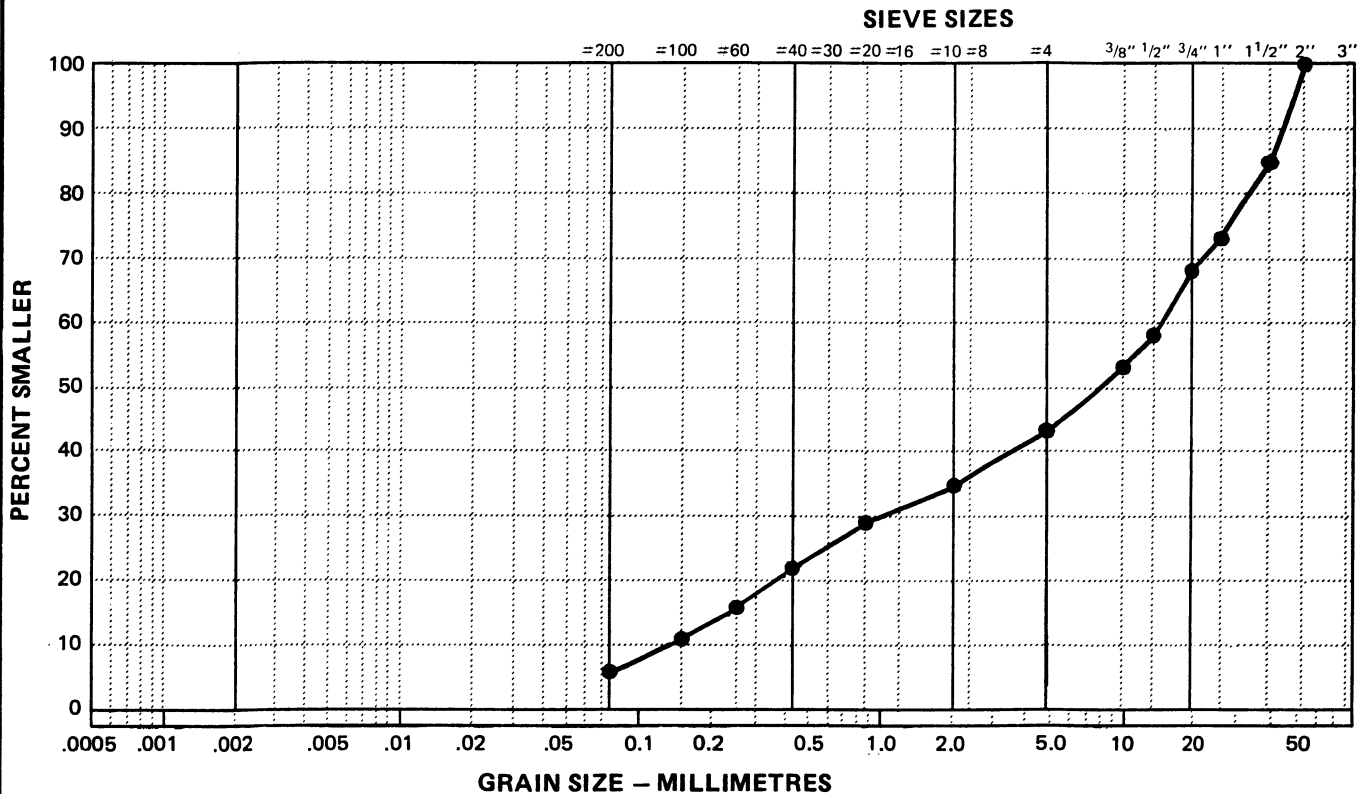
COMPLETE: 92/04/22

## 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

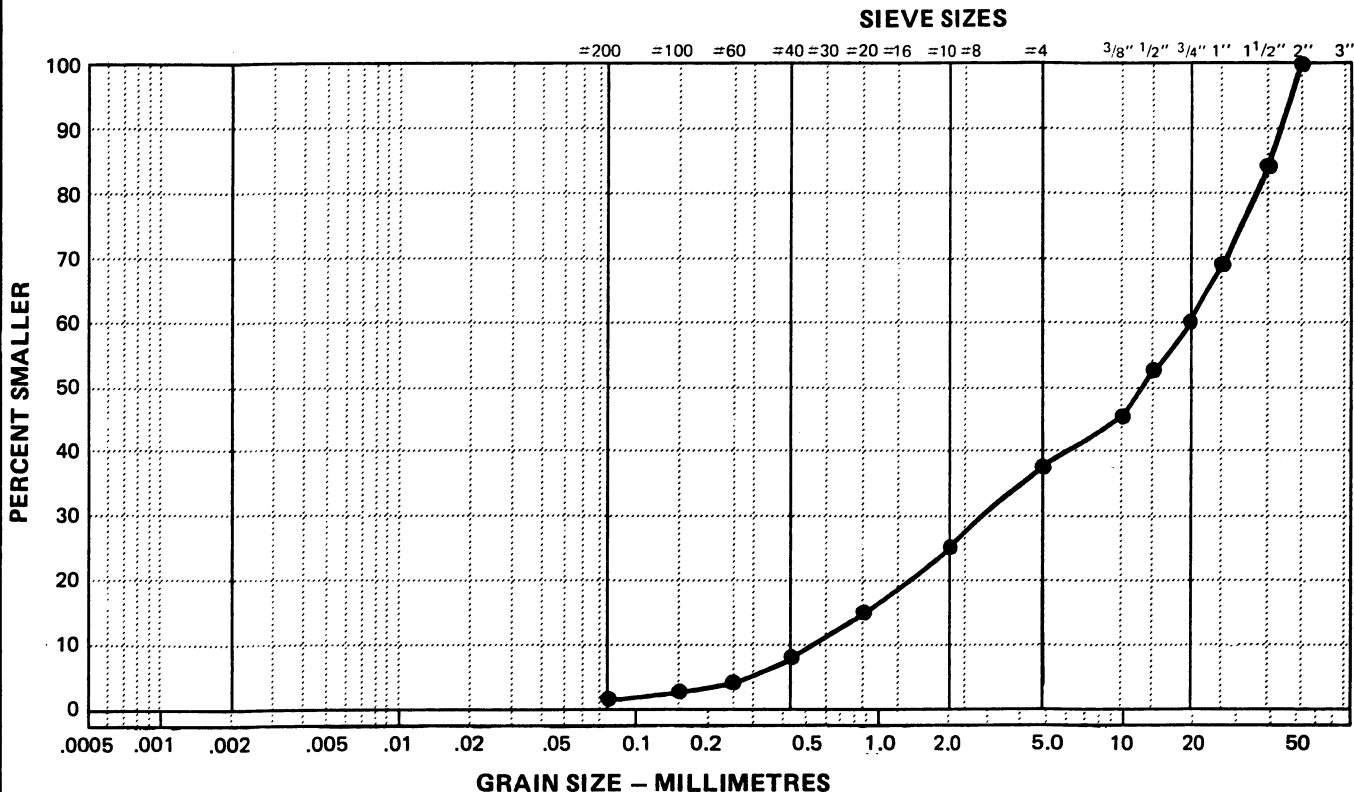
Cc: 0.9

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

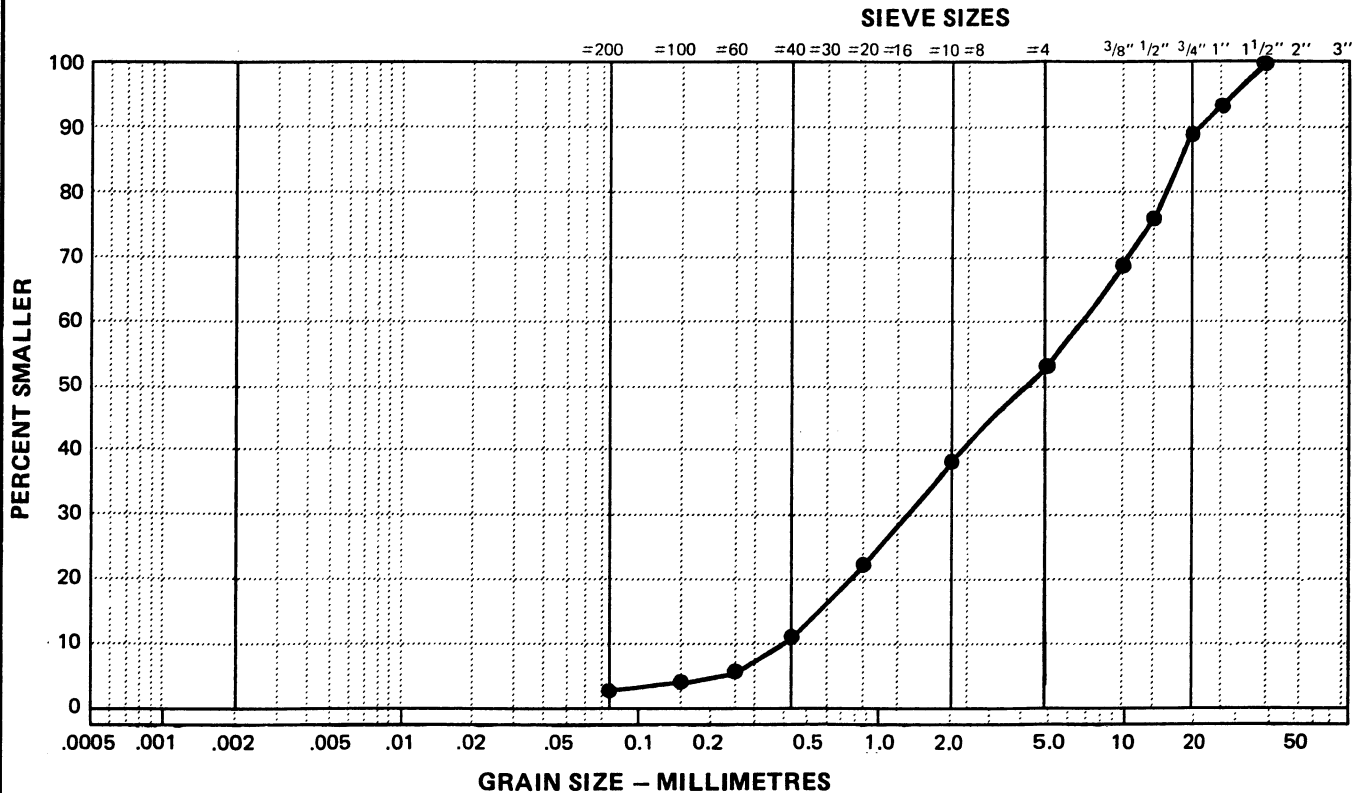
Cc: 0.9

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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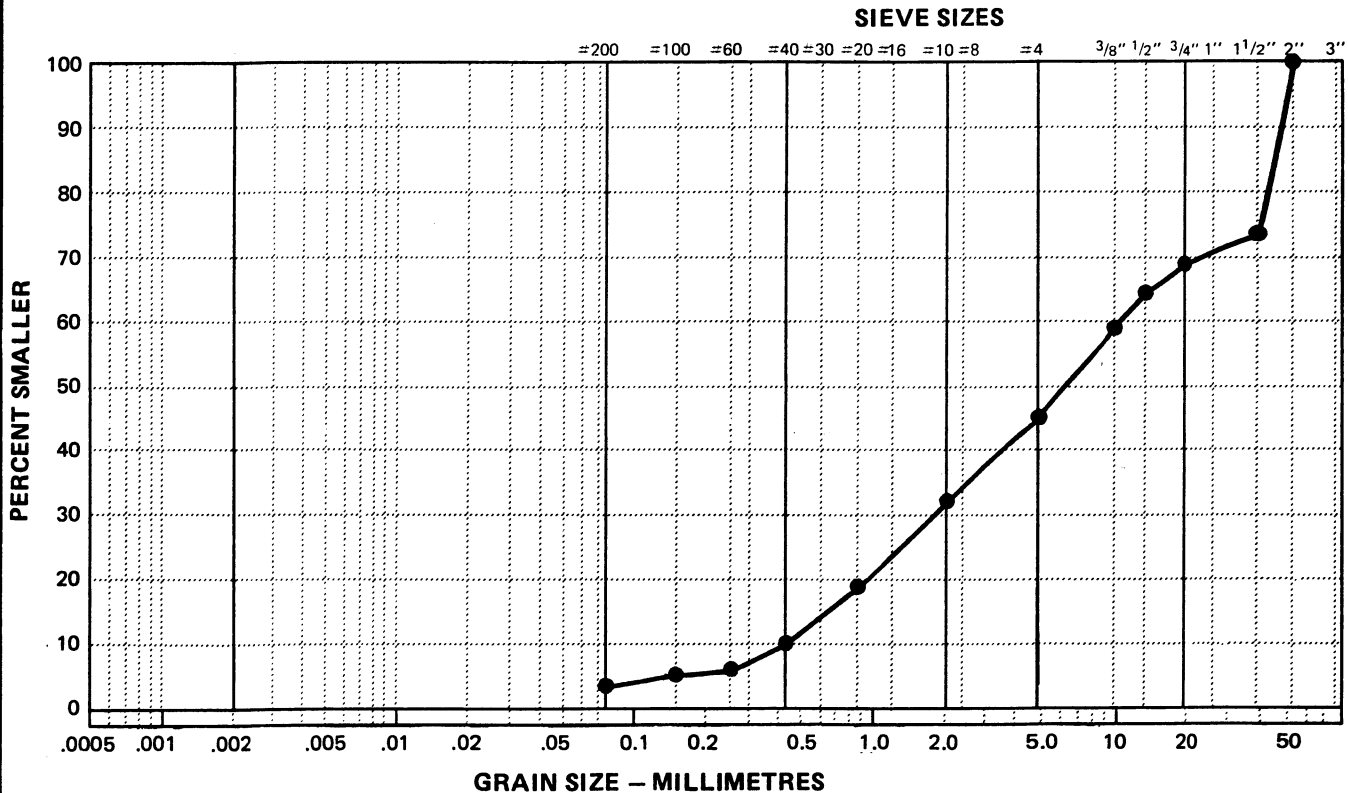


## PARTICLE - SIZE ANALYSIS OF SOILS

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

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

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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# EBA Engineering Consultants Ltd.

## PARTICLE - SIZE ANALYSIS OF SOILS

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

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-019E

Depth: 4.0 m

Soil Description: SILTY GRAVEL WITH SAND (GM)

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

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

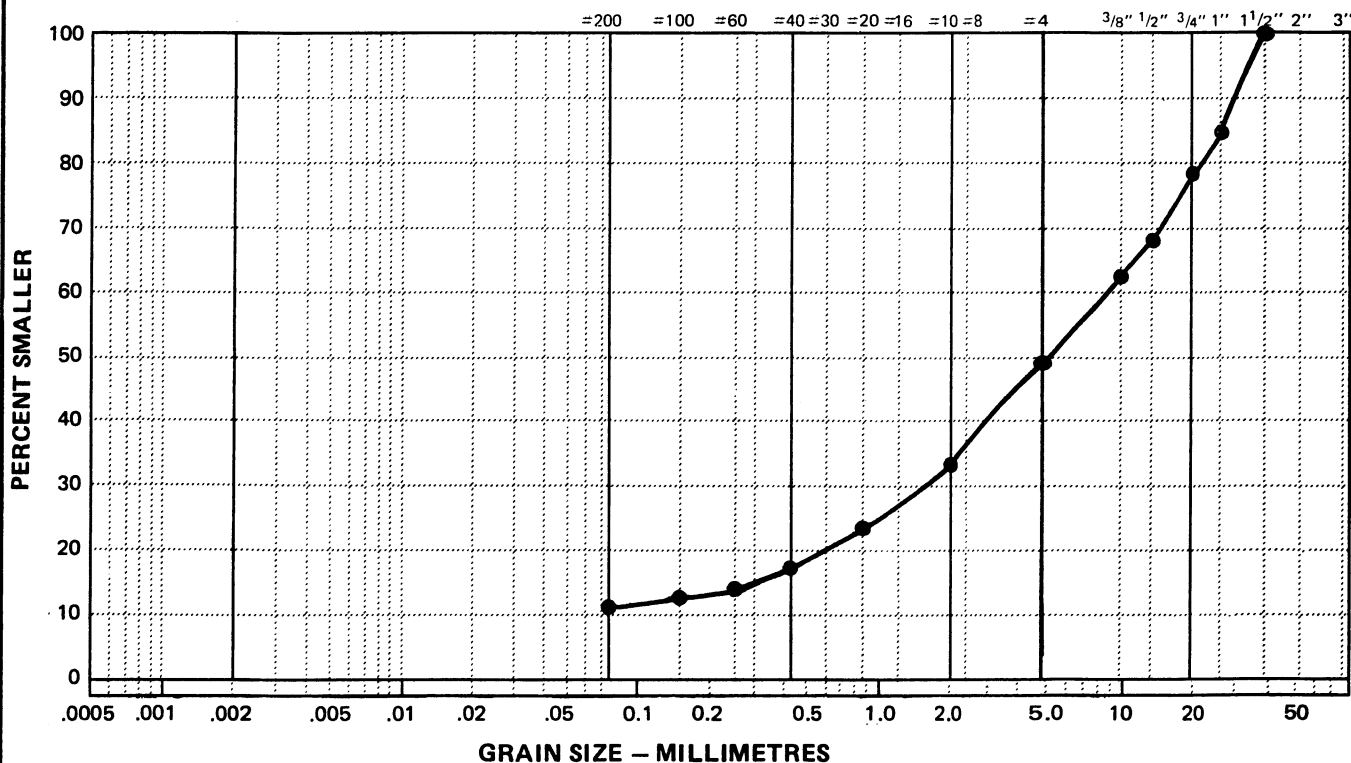
Natural Moisture Content: 3.2 %

Remarks: Gravel 51.2%  
Sand 36.7%  
Silt 12.1%

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

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE

### SIEVE SIZES

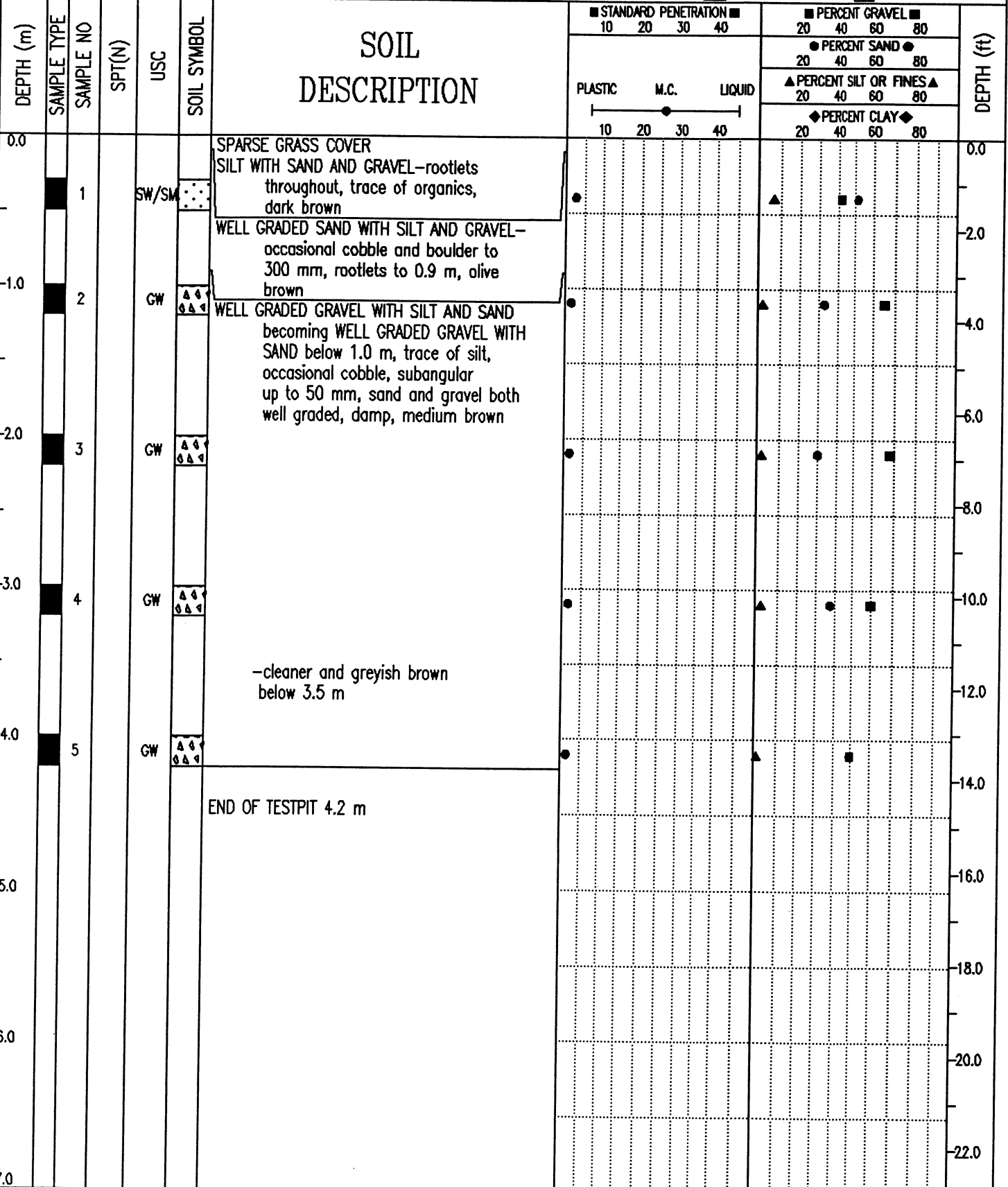


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GRANULAR SOURCE EVALUATION km 1693	CLIENT: YTG - TRANSPORTATION ENG.	BOREHOLE No: 92-020E
SILVER CITY AREA	HOE: CAT 225 TRACKED BACKHOE	Project No: 0201-10922
NORTH ALASKA HIGHWAY	UTM ZONE: 7 N6768724.00 E644176.00	ELEVATION: 0.00 (m)
SAMPLE TYPE	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

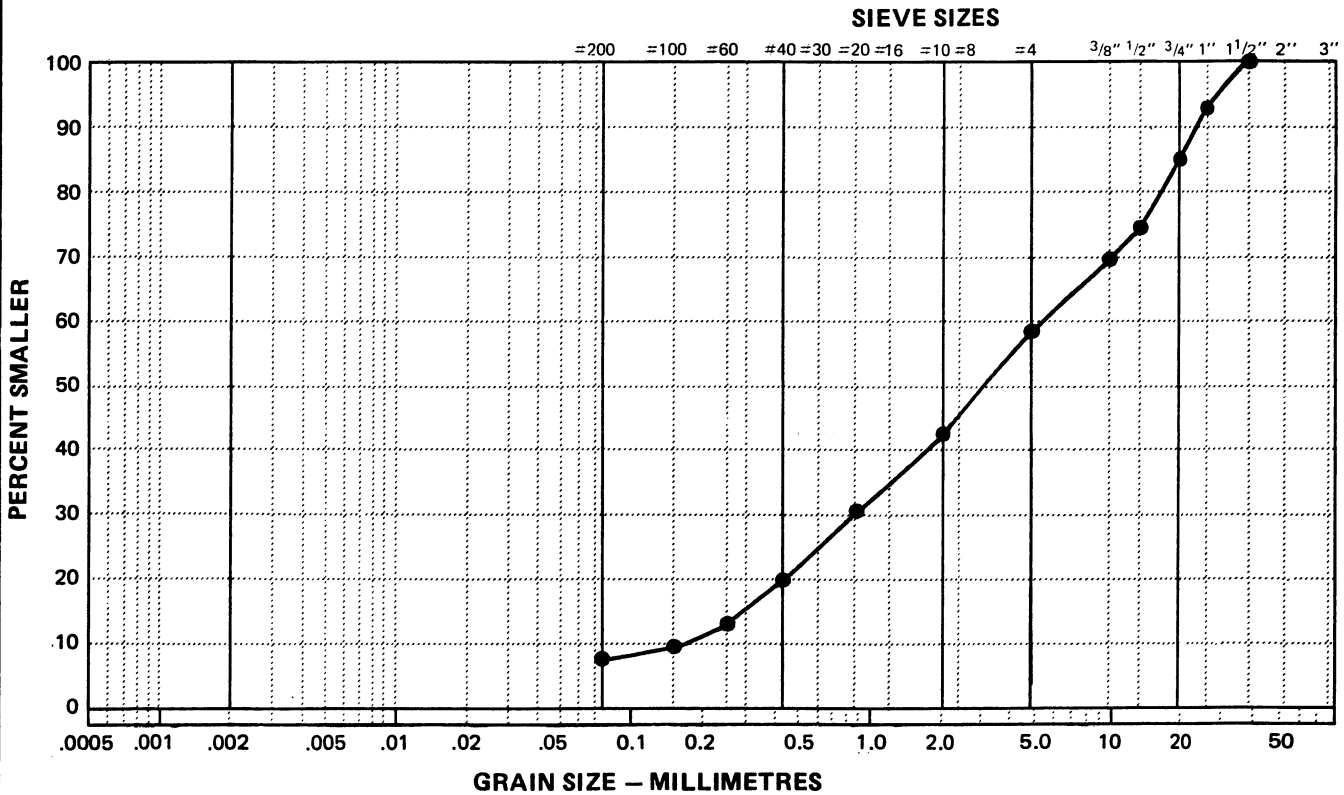
# EBA Engineering Consultants Ltd.

## PARTICLE - SIZE ANALYSIS OF SOILS

**Project:** Granular Source Evaluation  
 km 1693 North Alaska Highway, Yukon  
**Project Number:** 0201-10922  
**Date Tested:** 92-04-29  
**Borehole Number:** 92-020E  
**Depth:** 0.5 m  
**Soil Description:** WELL GRADED SAND WITH SILT AND GRAVEL (SW/SM)  
**Cu:** 29.4  
**Cc:** 1.0  
**Natural Moisture Content:** 2.6 %  
**Remarks:** Gravel 41.8%  
 Sand 51.5%  
 Silt 6.7%

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

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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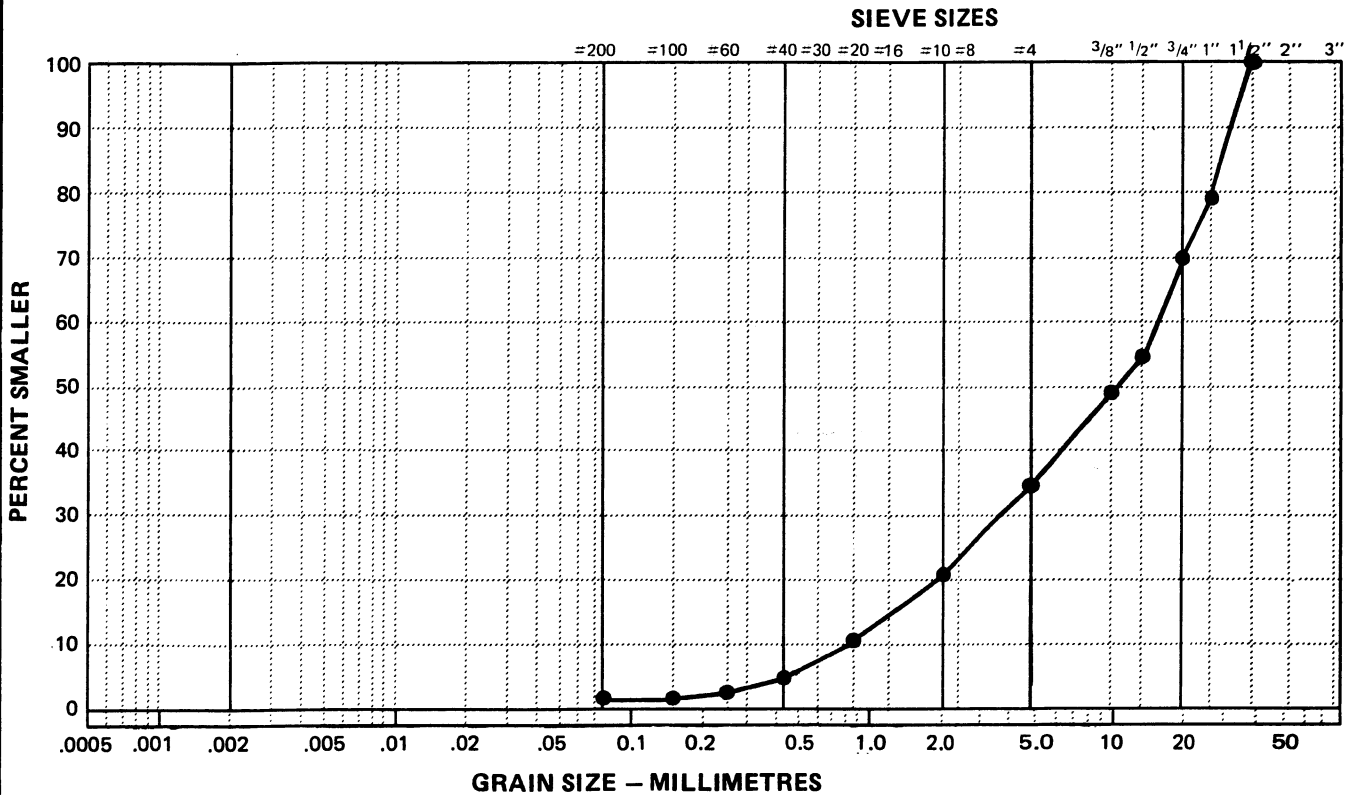
# EBA Engineering Consultants Ltd.

## PARTICLE - SIZE ANALYSIS OF SOILS

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

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

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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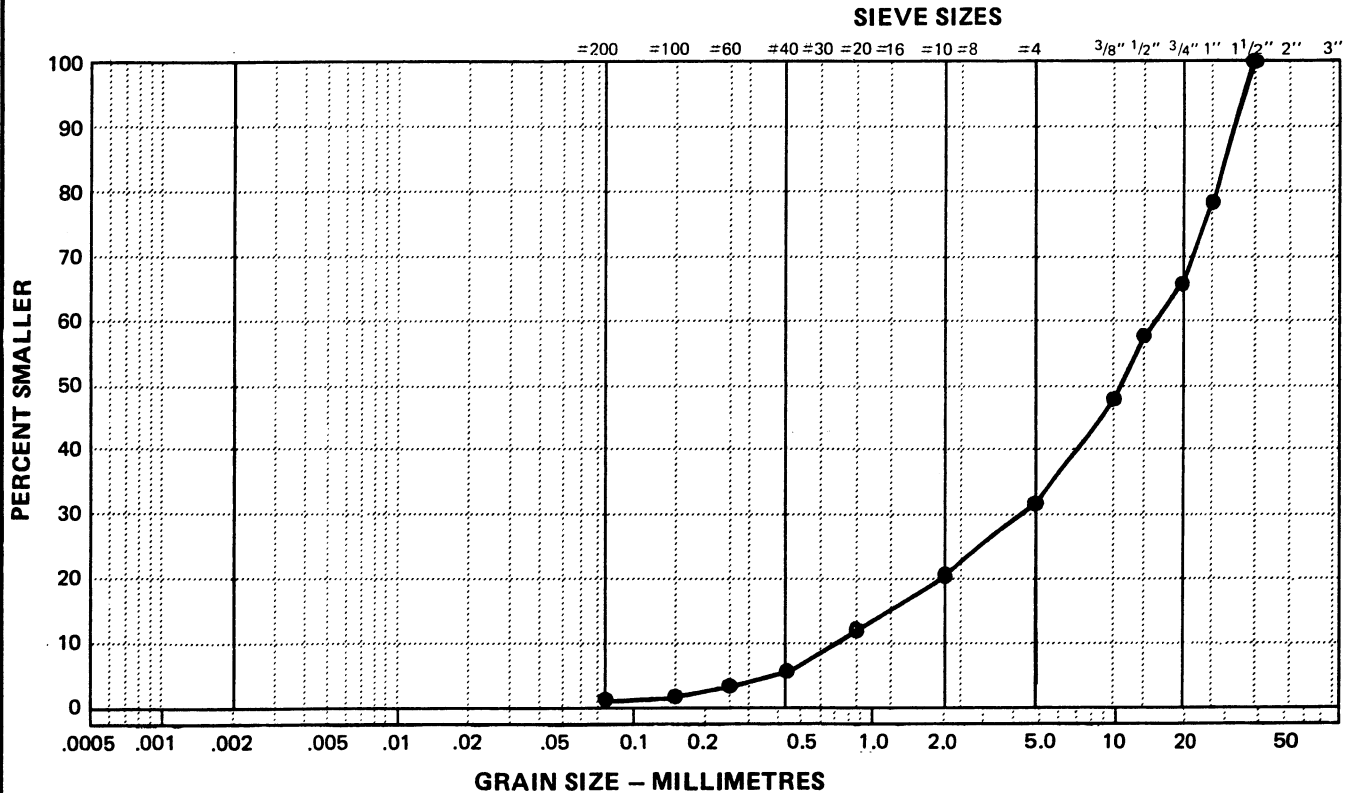


## PARTICLE - SIZE ANALYSIS OF SOILS

**Project:** Granular Source Evaluation  
 km 1693 North Alaska Highway, Yukon  
**Project Number:** 0201-10922  
**Date Tested:** 92-04-29  
**Borehole Number:** 92-020E  
**Depth:** 2.0 m  
**Soil Description:** WELL GRADED GRAVEL WITH SAND (GW)  
**Cu:** 26.7  
**Cc:** 1.7  
**Natural Moisture Content:** 1.5 %  
**Remarks:** Gravel 68.1%  
 Sand 29.8%  
 Silt 2.1%

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

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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## PARTICLE - SIZE ANALYSIS OF SOILS

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

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-020E

Depth: 3.0 m

Soil Description: WELL GRADED GRAVEL WITH SAND (GW)

Cu: 30

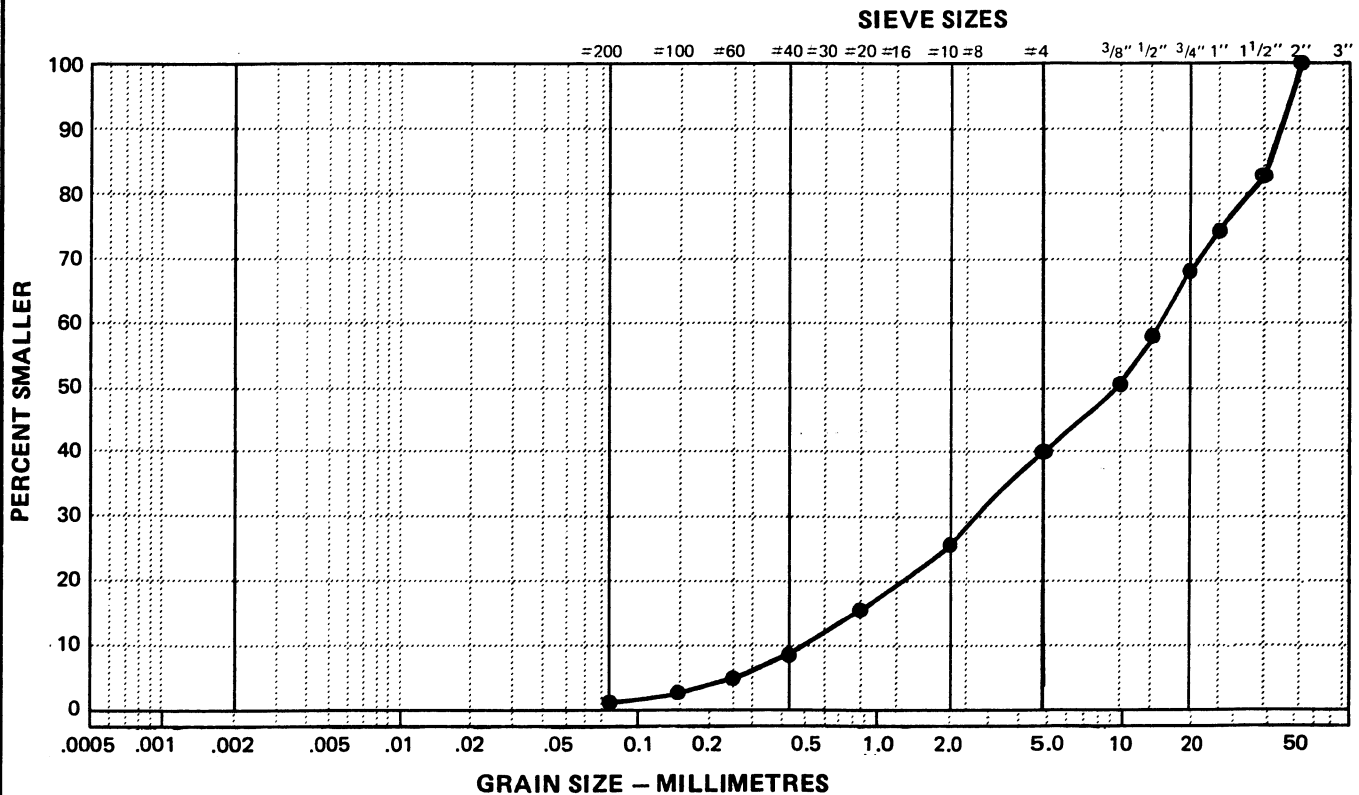
Cc: 1.2

Natural Moisture Content: 1.6 %

Remarks: Gravel 60.0%  
Sand 37.4%  
Silt 2.6%

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

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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## PARTICLE - SIZE ANALYSIS OF SOILS

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

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-020E

Depth: 4.0 m

Soil Description: WELL GRADED GRAVEL AND SAND (GW)

Cu: 8.9

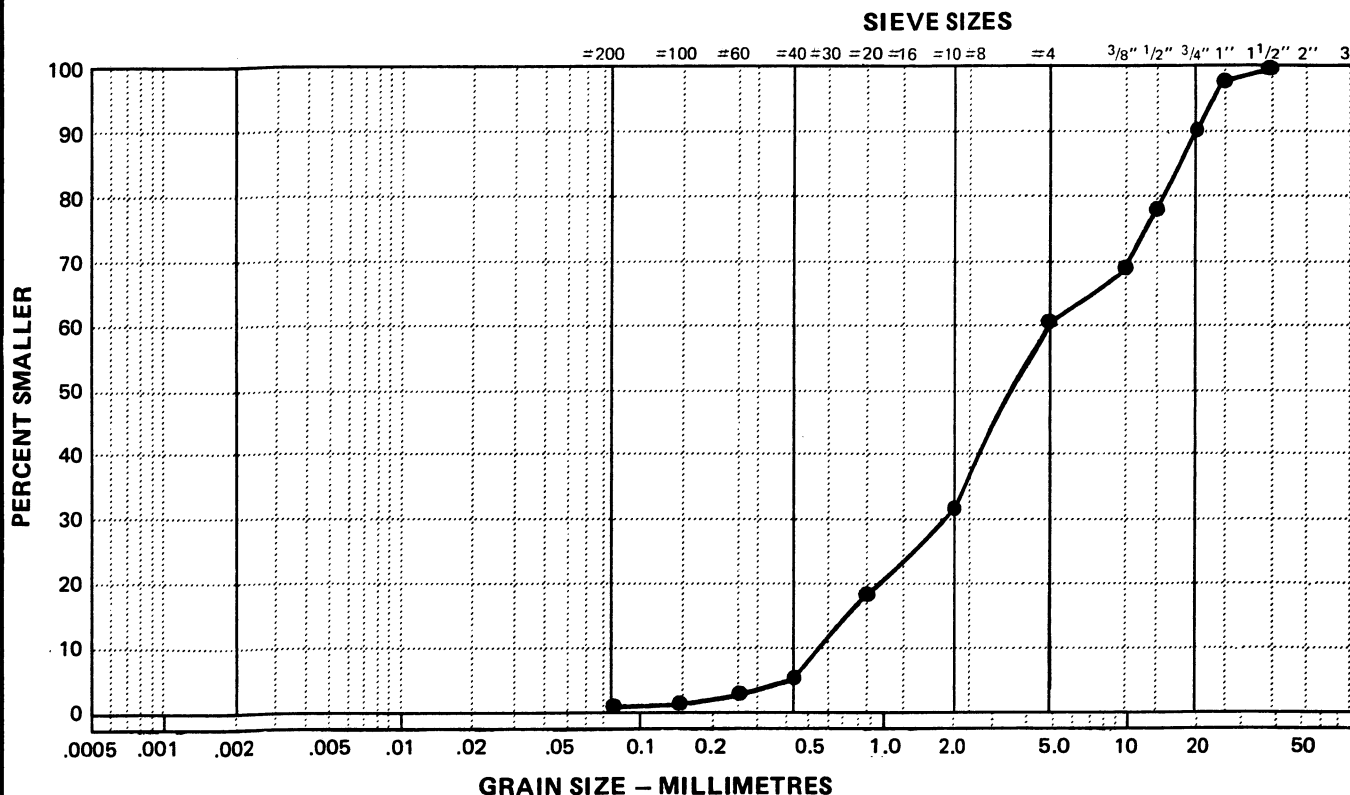
Cc: 1.2

Natural Moisture Content: 1.5 %

Remarks: Gravel 49.4%  
Sand 49.3%  
Silt 1.3%

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

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE

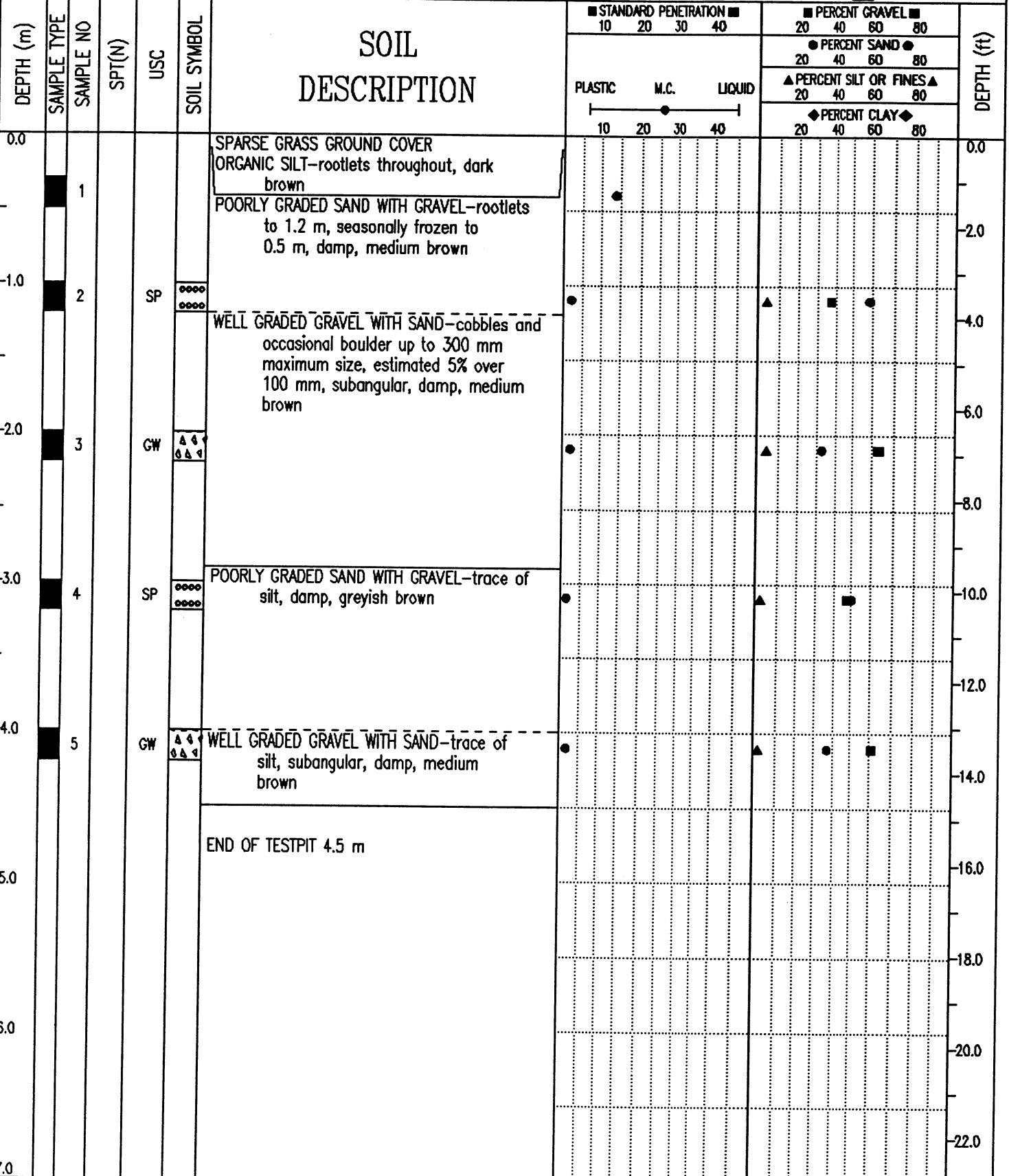


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GRANULAR SOURCE EVALUATION km 1693	CLIENT: YTG - TRANSPORTATION ENG.	BOREHOLE No: 92-021E
SILVER CITY AREA	HOE: CAT 225 TRACKED BACKHOE	Project No: 0201-10922
NORTH ALASKA HIGHWAY	UTM ZONE: 7 N6768968.00 E644160.00	ELEVATION: 0.00 (m)
SAMPLE TYPE	<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: 4.5 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: 92-04-30

Borehole Number: 92-021E

Depth: 1.0 m

Soil Description: POORLY GRADED SAND WITH GRAVEL (SP)

Cu: 20

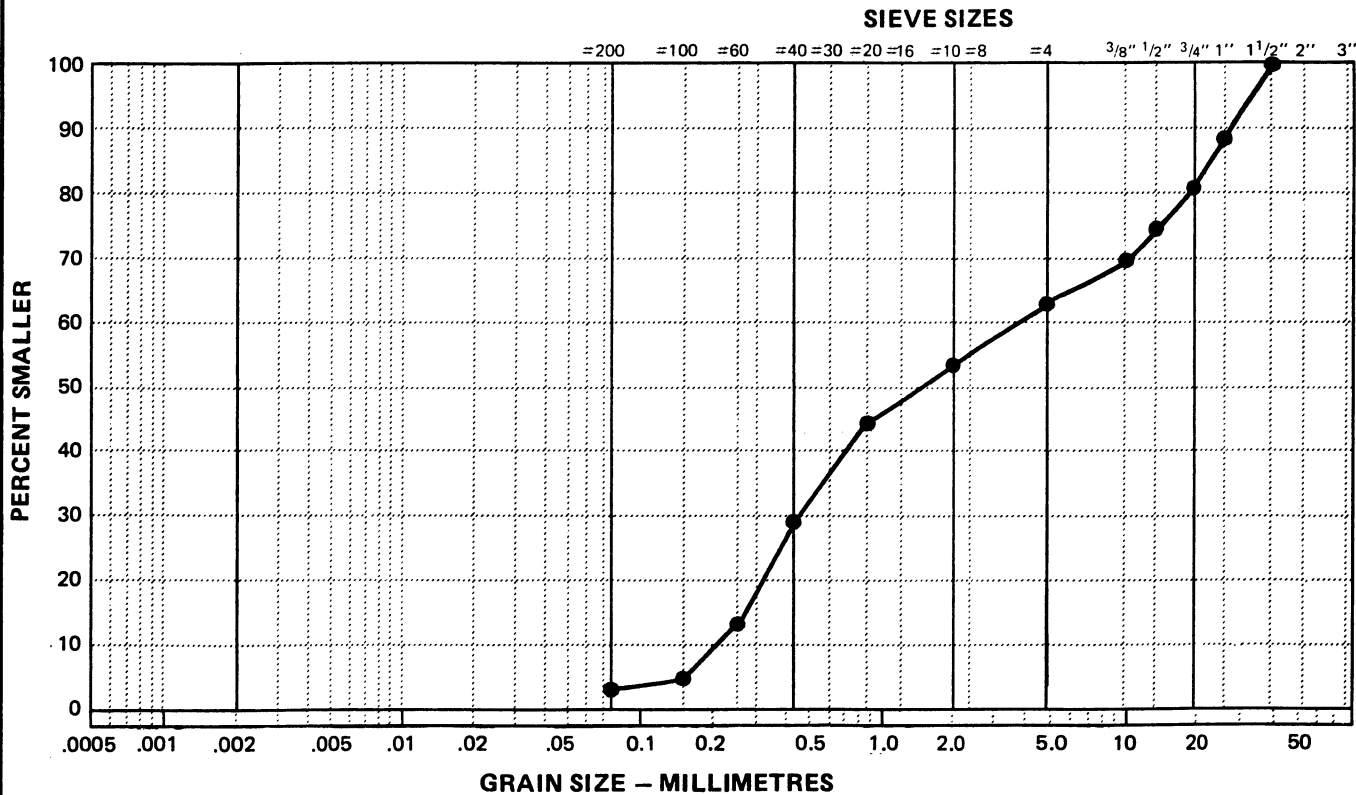
Cc: 0.3

Natural Moisture Content: 2.1 %

Remarks: Gravel 37.2%  
 Sand 58.7%  
 Silt 4.1%

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	100.0
1"	88.4
3/4"	80.5
3/8"	69.6
No. 4	62.8
No. 10	54.0
No. 20	45.4
No. 40	28.7
No. 60	12.5
No. 100	6.3
No. 200	4.1

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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# EBA Engineering Consultants Ltd.

## PARTICLE - SIZE ANALYSIS OF SOILS

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

Project Number: 0201-10922

Date Tested: 92-04-29

Borehole Number: 92-021E

Depth: 2.0 m

Soil Description: WELL GRADED GRAVEL WITH SAND (GW)

Cu: 34.0

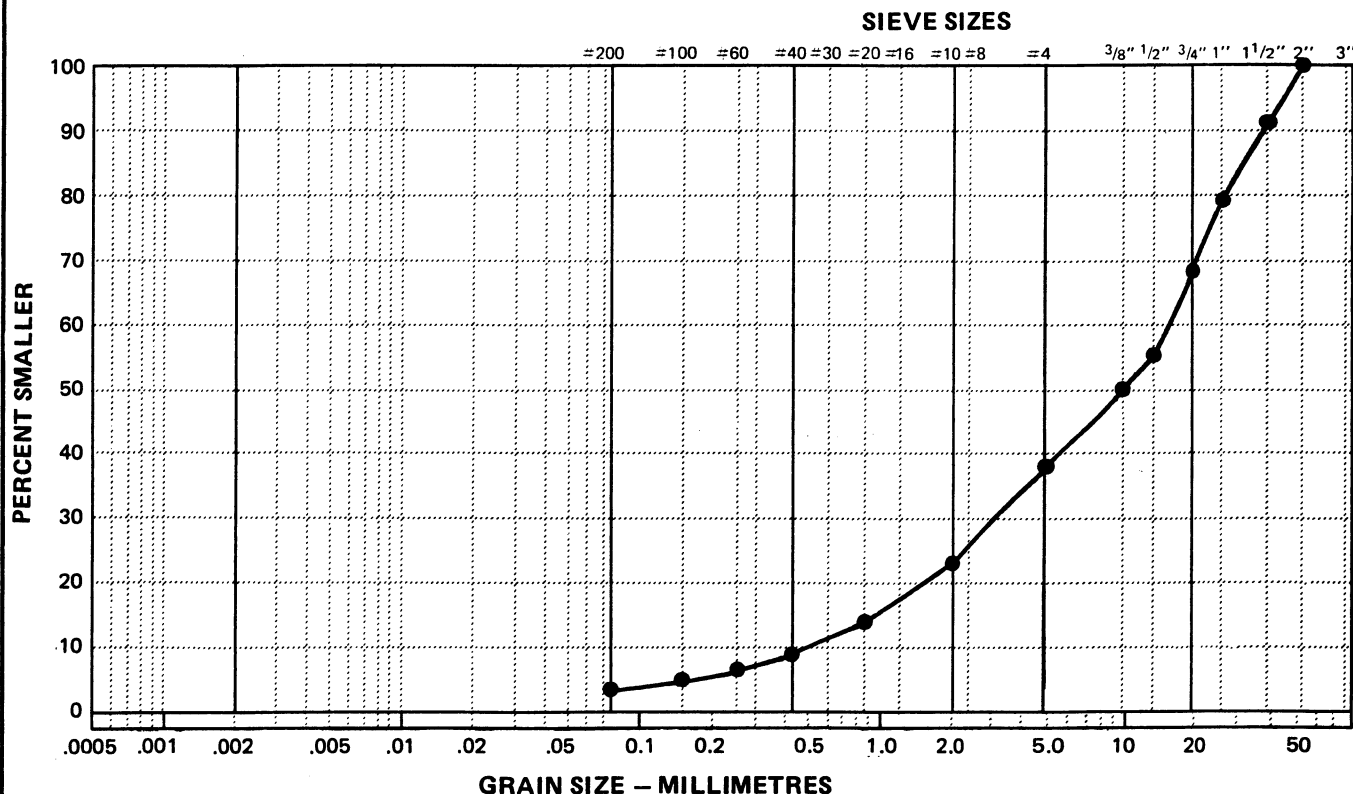
Cc: 1.1

Natural Moisture Content: 2.1 %

Remarks: Gravel 63.3%  
Sand 32.3%  
Silt 4.4%

SIEVE	PERCENTAGE PASSING
3"	
2"	100.0
1 1/2"	91.7
1"	79.3
3/4"	67.6
3/8"	49.9
No. 4	36.7
No. 10	23.1
No. 20	14.1
No. 40	8.8
No. 60	6.5
No. 100	5.3
No. 200	4.4

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: 92-021E

Depth: 3.0 m

Soil Description: POORLY GRADED SAND WITH GRAVEL (SP)

Cu: 20.0

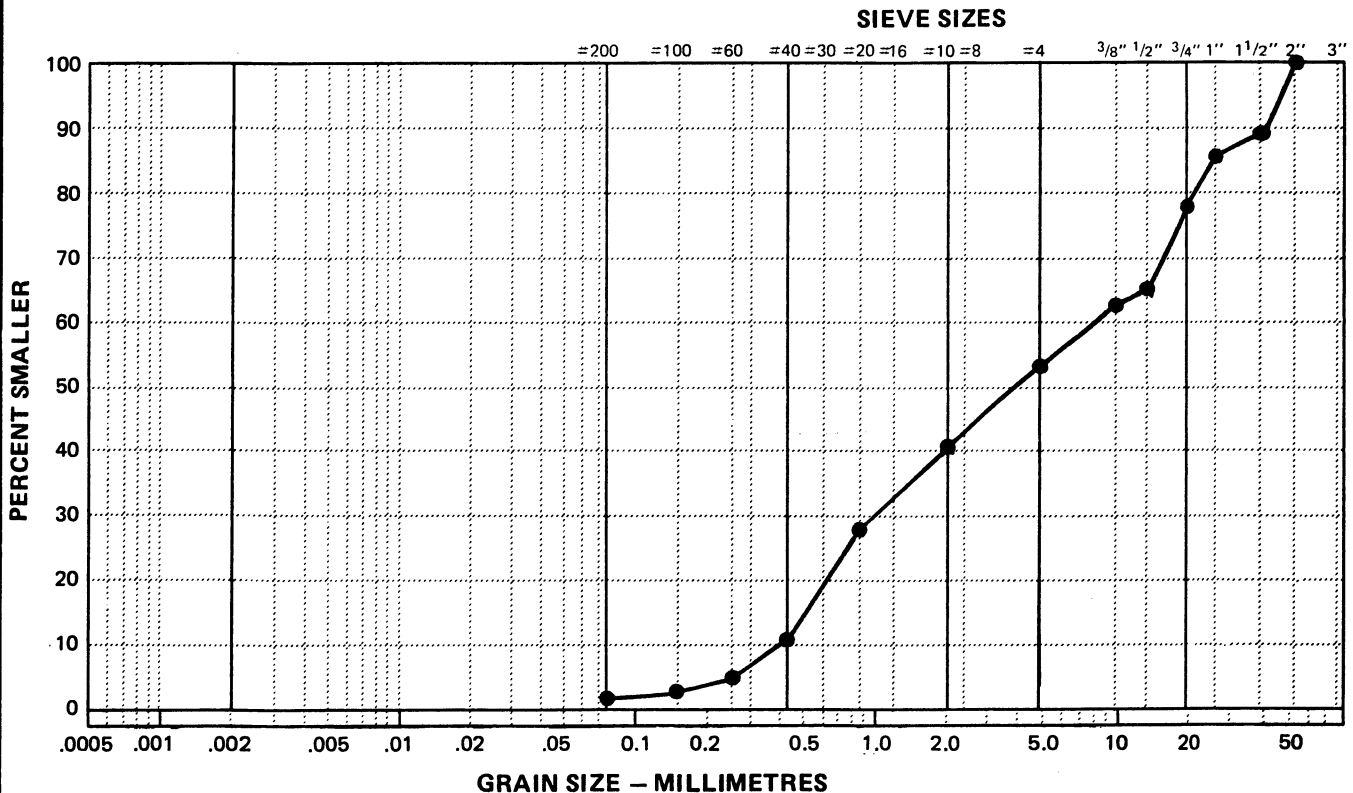
Cc: 0.3

Natural Moisture Content: 1.5 %

Remarks: Gravel 47.3%  
Sand 50.3%  
Silt 2.4%

SIEVE	PERCENTAGE PASSING
3"	
2"	100.0
1 1/2"	89.2
1"	86.4
3/4"	77.2
3/8"	62.1
No. 4	52.7
No. 10	40.7
No. 20	27.3
No. 40	10.8
No. 60	4.5
No. 100	3.0
No. 200	2.4

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: 92-04-30

Borehole Number: 92-021E

Depth: 4.0 m

Soil Description: WELL GRADED GRAVEL WITH SAND (GW)

Cu: 40.0

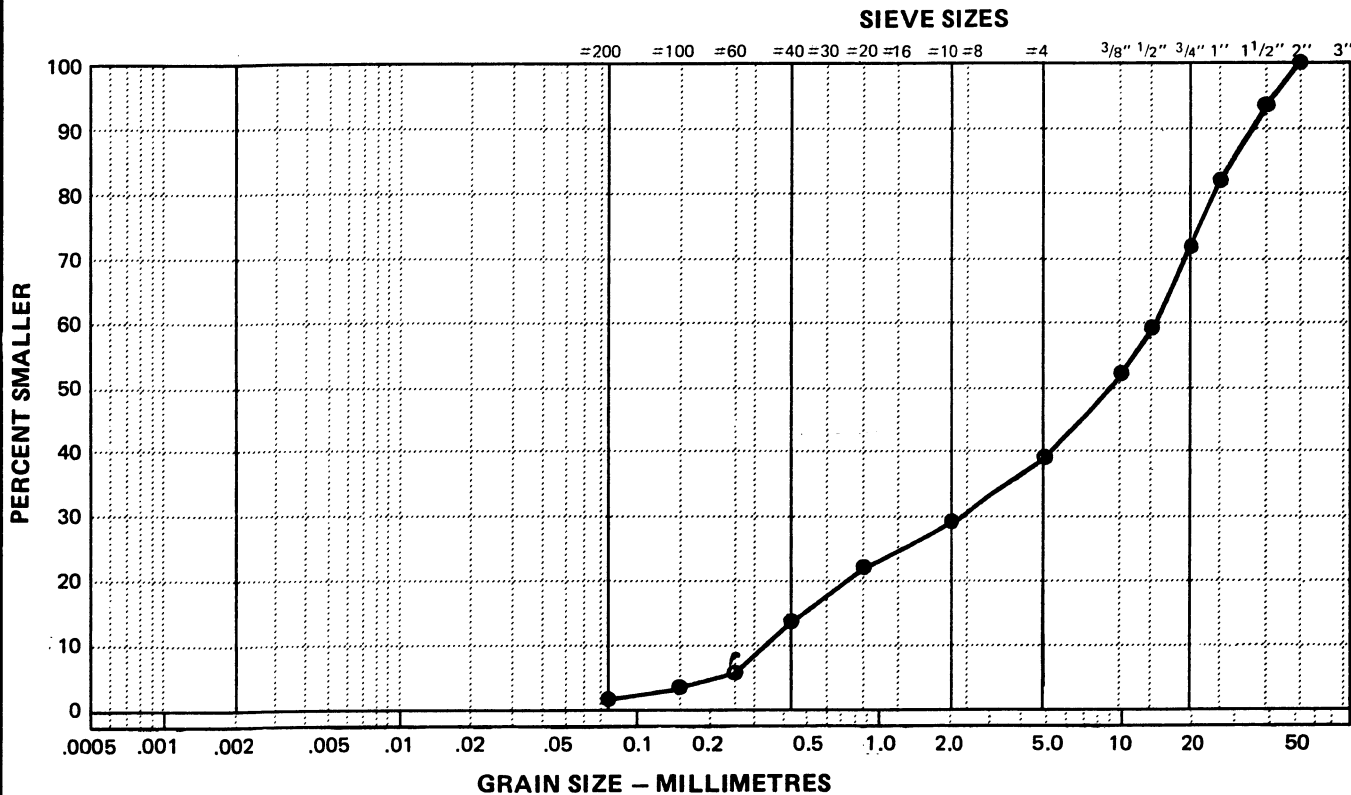
Cc: 1.2

Natural Moisture Content: 1.8 %

Remarks: Gravel 61.1%  
Sand 36.8%  
Silt 2.1%

SIEVE	PERCENTAGE PASSING
3"	
2"	100.0
1 1/2"	93.6
1"	81.6
3/4"	72.3
3/8"	52.3
No. 4	38.9
No. 10	29.1
No. 20	22.4
No. 40	12.9
No. 60	5.9
No. 100	3.2
No. 200	2.1

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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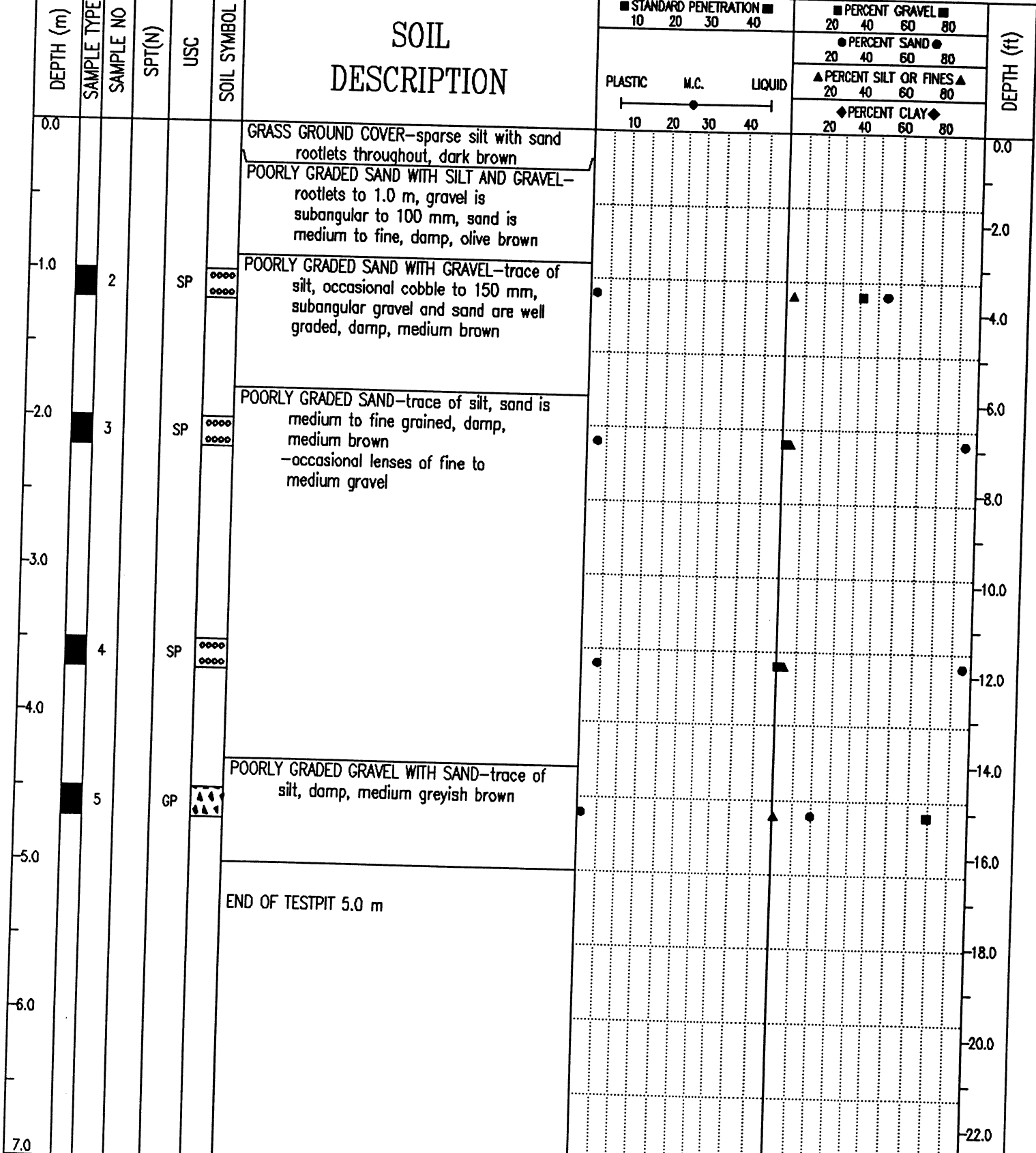
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GRANULAR SOURCE EVALUATION km 1693	CLIENT: YTG - TRANSPORTATION ENG.	BOREHOLE No: 92-022E
SILVER CITY AREA	HOE: CAT 225 TRACKED BACKHOE	Project No: 0201-10922
NORTH ALASKA HIGHWAY	UTM ZONE: 7 N6768930.00 E644215.00	ELEVATION: 0.00 (m)

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

## SOIL DESCRIPTION



EBA Engineering Consultants Ltd.  
Whitehorse, Yukon

LOGGED BY: MCP	COMPLETION DEPTH: 5.0 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: 92-04-30

Borehole Number: 92-022E

Depth: 1.0 m

Soil Description: POORLY GRADED SAND WITH GRAVEL (SP)

Cu: 30.0

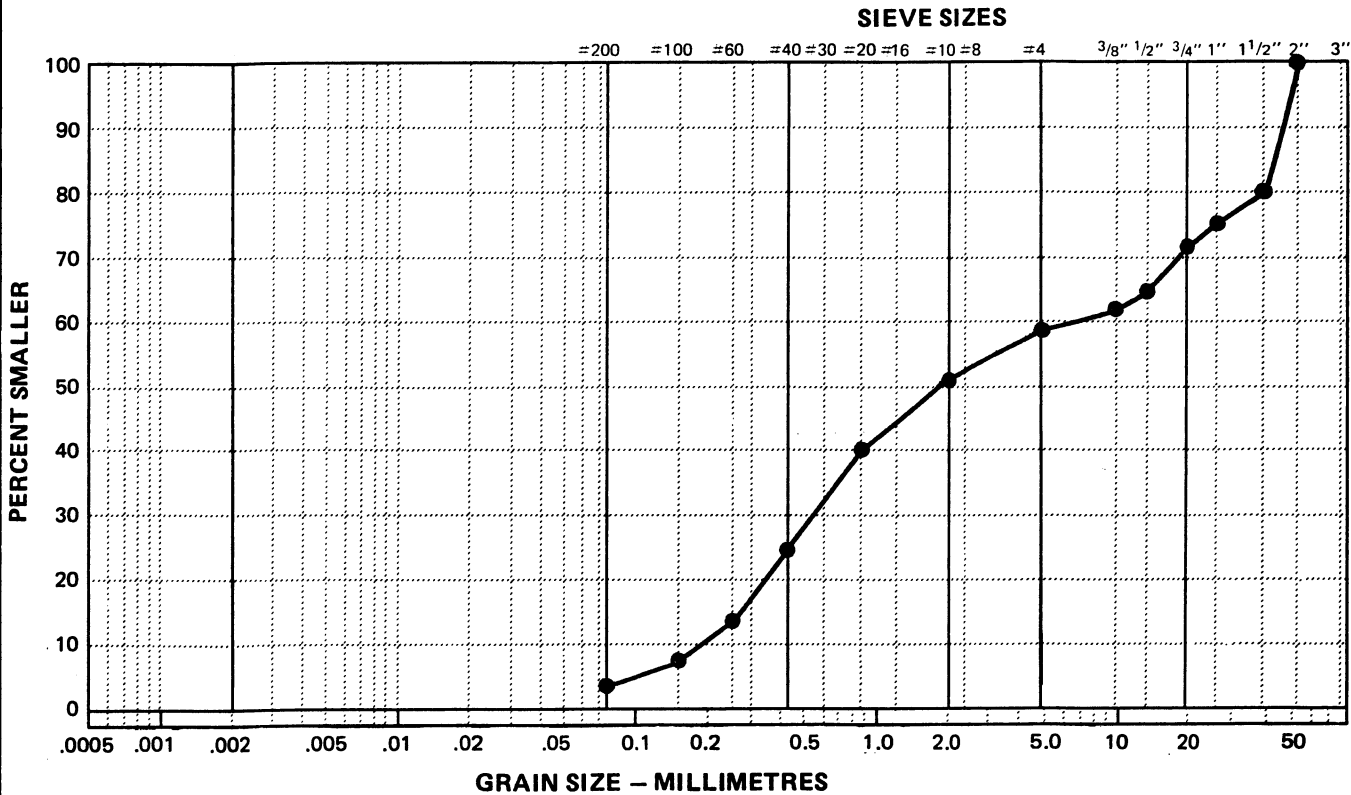
Cc: 0.3

Natural Moisture Content: 1.6 %

Remarks: Gravel 41.8%  
 Sand 54.3%  
 Silt 3.9%

SIEVE	PERCENTAGE PASSING
3"	
2"	100.0
1 1/2"	80.0
1"	75.6
3/4"	71.6
3/8"	62.4
No. 4	58.2
No. 10	50.8
No. 20	39.7
No. 40	24.5
No. 60	13.4
No. 100	7.3
No. 200	3.9

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: 92-04-30

Borehole Number: 92-022E

Depth: 2.0 m

Soil Description: POORLY GRADED SAND (SP)

Cu: 2.9

Cc: 1.0

Natural Moisture Content: 2.7 %

Remarks: Gravel 1.7%  
 Sand 94.0%  
 Silt 4.3%

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	
1"	
3/4"	100.0
3/8"	99.2
No. 4	98.3
No. 10	96.1
No. 20	93.1
No. 40	76.2
No. 60	42.7
No. 100	15.6
No. 200	4.3

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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# EBA Engineering Consultants Ltd.

## PARTICLE - SIZE ANALYSIS OF SOILS

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

Project Number: 0201-10922

Date Tested: 92-04-30

Borehole Number: 92-022E

Depth: 3.5 m

Soil Description: POORLY GRADED SAND (SP)

Cu: 2.4

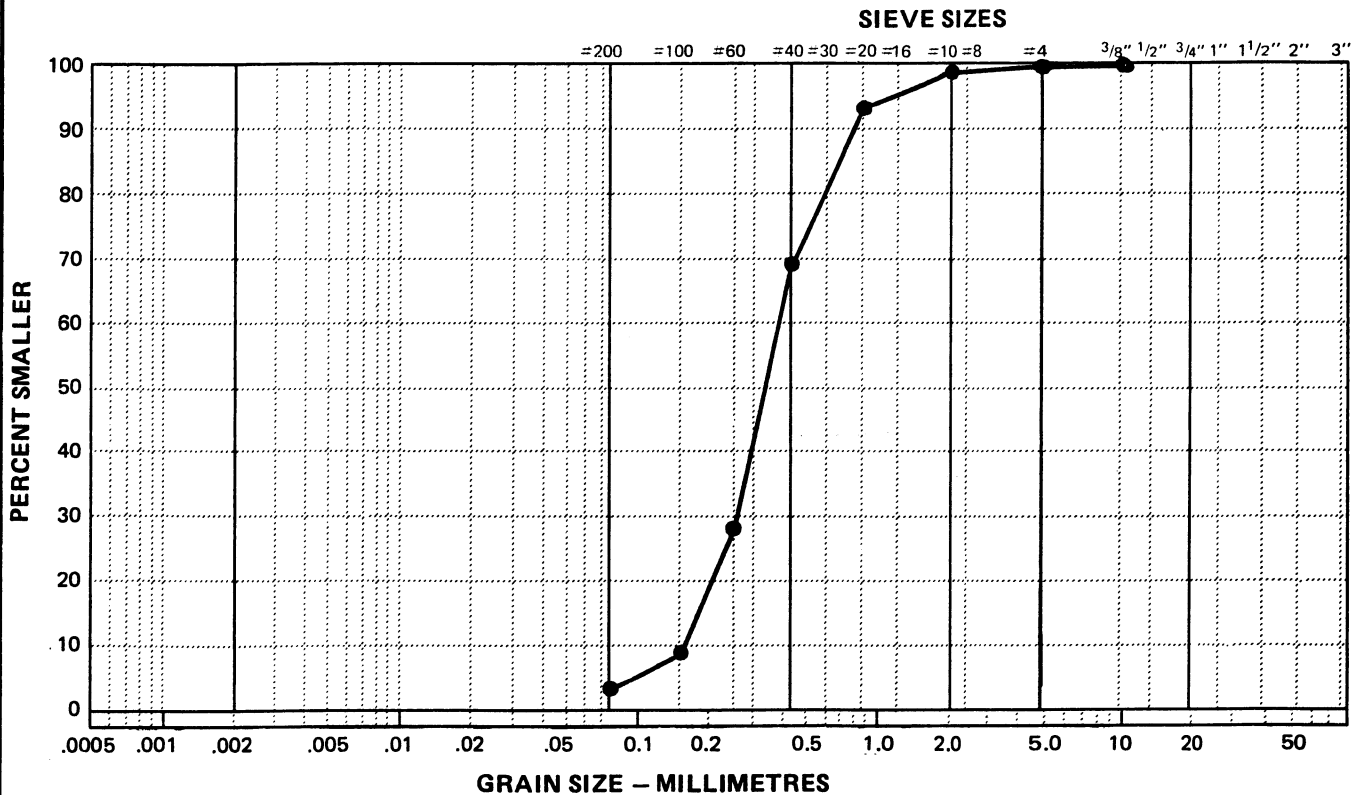
Cc: 1.0

Natural Moisture Content: 4.1 %

Remarks: Gravel 0.7%  
Sand 95.5%  
Silt 3.8%

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	
1"	
3/4"	
3/8"	100.0
No. 4	99.3
No. 10	98.4
No. 20	93.5
No. 40	69.3
No. 60	28.1
No. 100	9.0
No. 200	3.8

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: 92-04-30

Borehole Number: 92-022E

Depth: 4.5 m

Soil Description: POORLY GRADED GRAVEL WITH SAND (GP)

Cu: 50.0

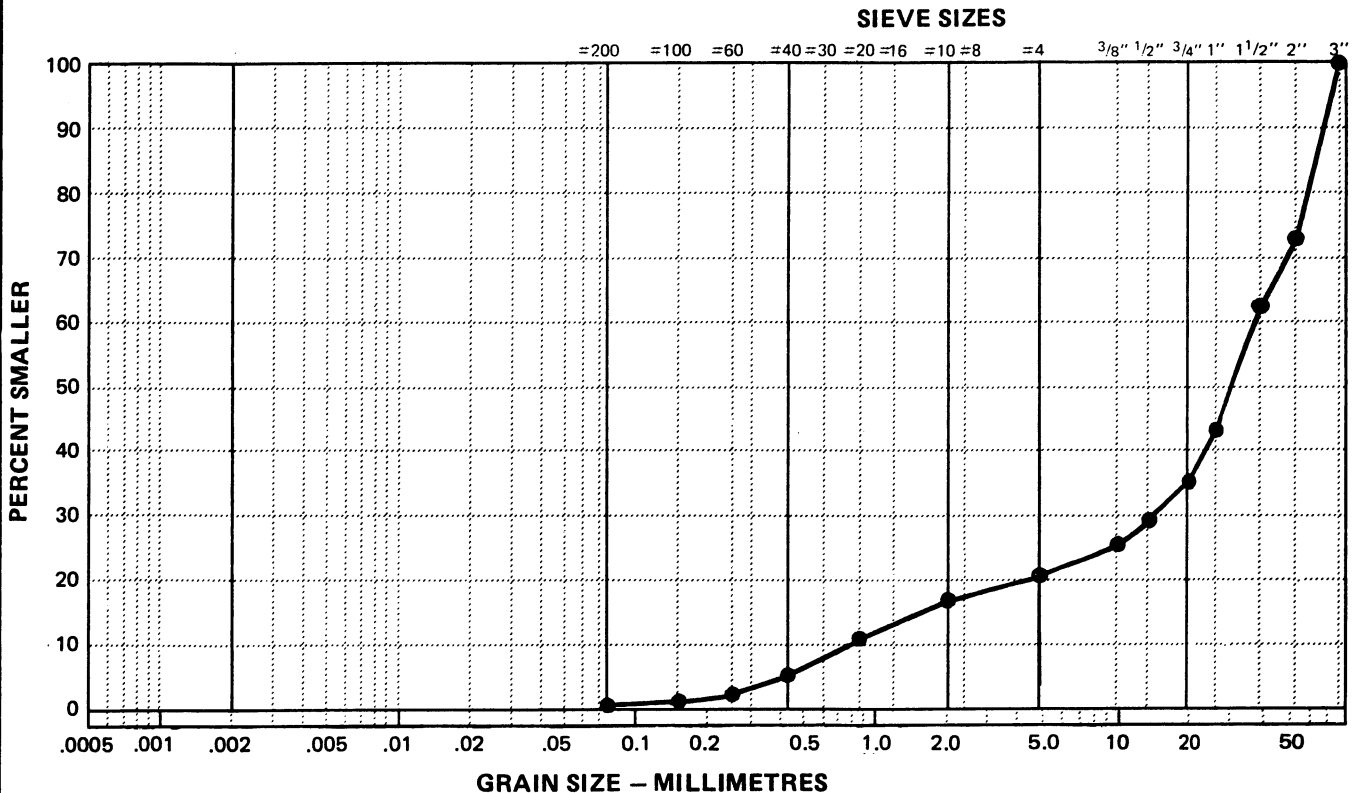
Cc: 5.3

Natural Moisture Content: 0.9 %

Remarks: Gravel 79.0%  
Sand 19.5%  
Silt 0.5%

SIEVE	PERCENTAGE PASSING
3"	100.0
2"	71.5
1 1/2"	61.5
1"	44.2
3/4"	35.7
3/8"	26.2
No. 4	21.0
No. 10	17.0
No. 20	11.3
No. 40	5.1
No. 60	2.4
No. 100	1.0
No. 200	0.5

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE

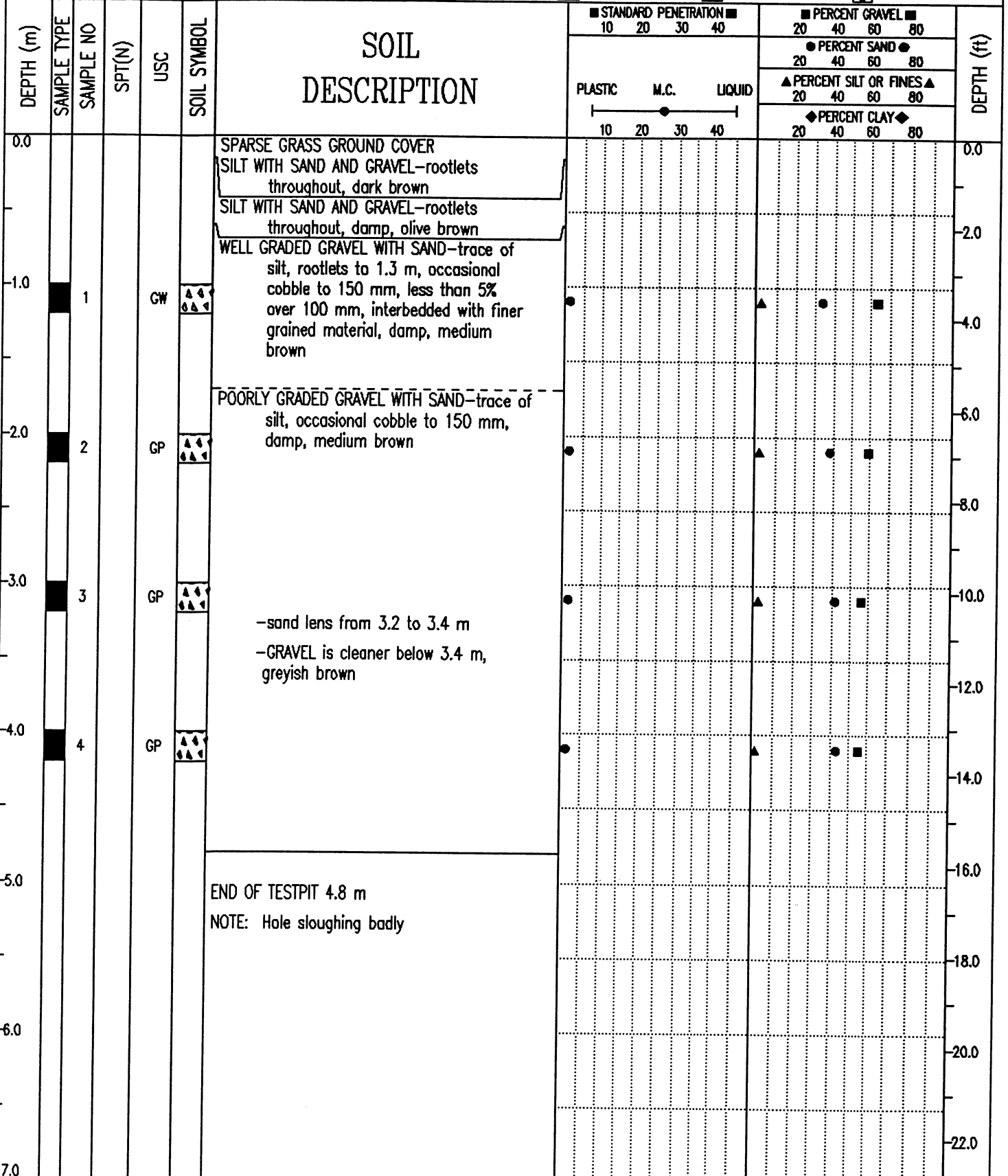


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GRANULAR SOURCE EVALUATION km 1693	CLIENT: YTG - TRANSPORTATION ENG.	BOREHOLE No: 92-023E
SILVER CITY AREA	HOE: CAT 225 TRACKED BACKHOE	Project No: 0201-10922
NORTH ALASKA HIGHWAY	UTM ZONE: 7 N6769148.00 E644316.00	ELEVATION: 0.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB SAMPLE <input type="checkbox"/> NO RECOVERY <input checked="" type="checkbox"/> STANDARD PEN.	<input checked="" type="checkbox"/> 75 mm SPOON <input type="checkbox"/> CRREL BARREL <input type="checkbox"/>



EBA Engineering Consultants Ltd.  
Whitehorse, Yukon

LOGGED BY: MCP	COMPLETION DEPTH: 4.8 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: 92-04-30

Borehole Number: 92-023E

Depth: 1.0 m

Soil Description: WELL GRADED GRAVEL WITH SAND (GW)

Cu: 40.0

Cc: 1.1

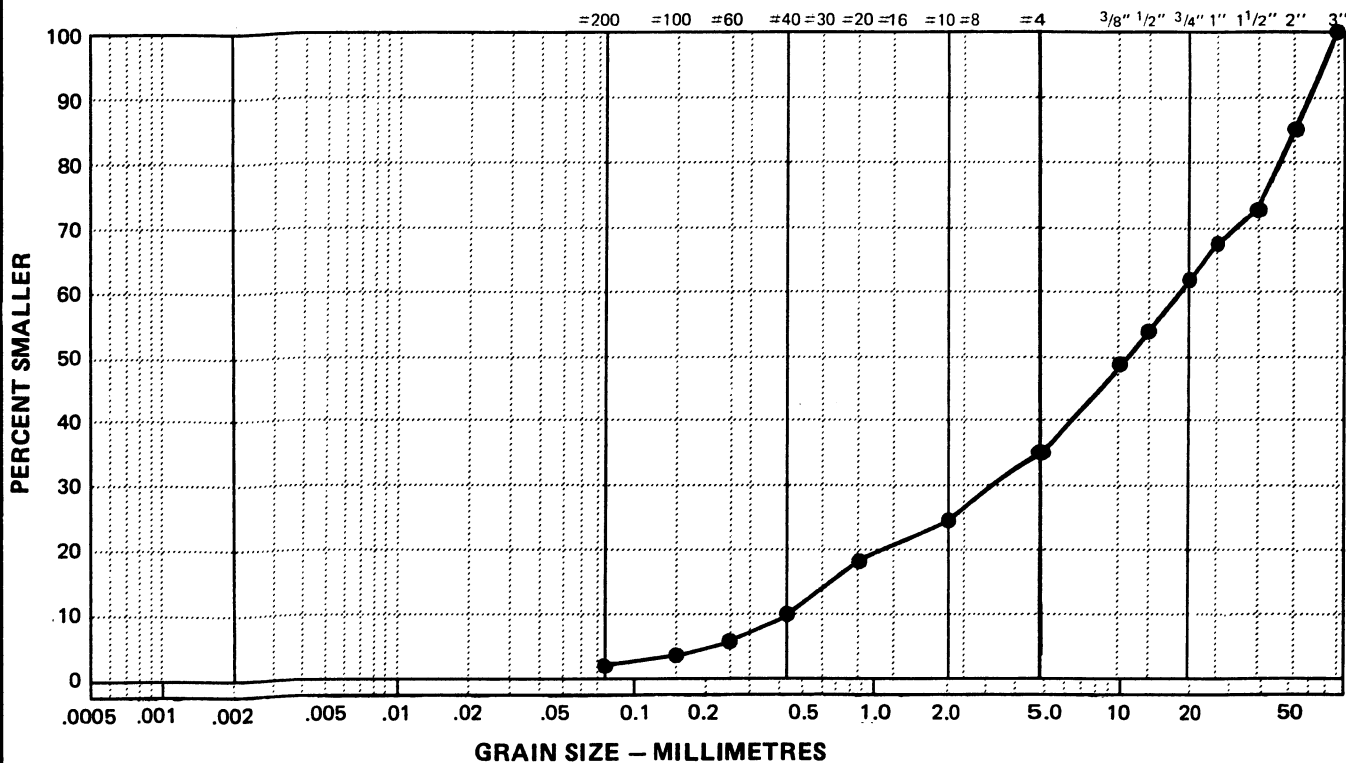
Natural Moisture Content: 1.3 %

Remarks: Gravel 63.8%  
Sand 33.5%  
Silt 2.7%

SIEVE	PERCENTAGE PASSING
3"	100.0
2"	84.7
1 1/2"	72.3
1"	67.3
3/4"	62.0
3/8"	48.7
No. 4	36.2
No. 10	25.7
No. 20	17.9
No. 40	10.3
No. 60	6.1
No. 100	3.9
No. 200	2.7

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE

### SIEVE SIZES



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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, Yukon

Project Number: 0201-10922

Date Tested: 92-04-30

Borehole Number: 92-023E

Depth: 2.0 m

Soil Description: POORLY GRADED GRAVEL WITH SAND (GP)

Cu: 33.3

Cc: 0.9

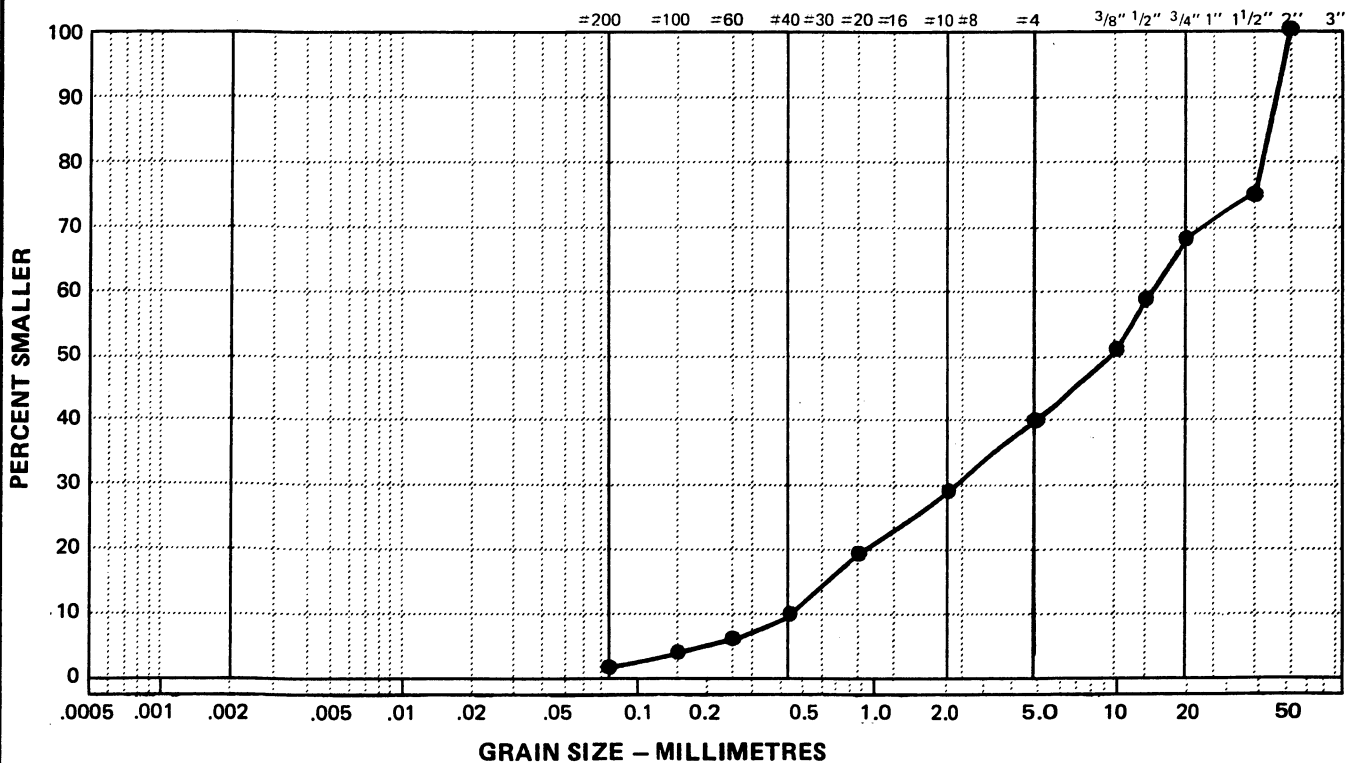
Natural Moisture Content: 1.5 %

Remarks: Gravel 59.6%  
Sand 38.0%  
Silt 2.4%

SIEVE	PERCENTAGE PASSING
3"	
2"	100.0
1 1/2"	74.6
1"	
3/4"	68.4
3/8"	51.3
No. 4	40.4
No. 10	29.1
No. 20	19.0
No. 40	10.1
No. 60	5.7
No. 100	3.6
No. 200	2.4

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE

### SIEVE SIZES



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# EBA Engineering Consultants Ltd.

## PARTICLE - SIZE ANALYSIS OF SOILS

Project: Granular Source Evaluation  
km 1693 North Alaska Highway

Project Number: 0201-10922

Date Tested: 92-04-30

Borehole Number: 92-023E

Depth: 3.0 m

Soil Description: POORLY GRADED GRAVEL WITH SAND (GP)

Cu: 24.0

Cc: 0.7

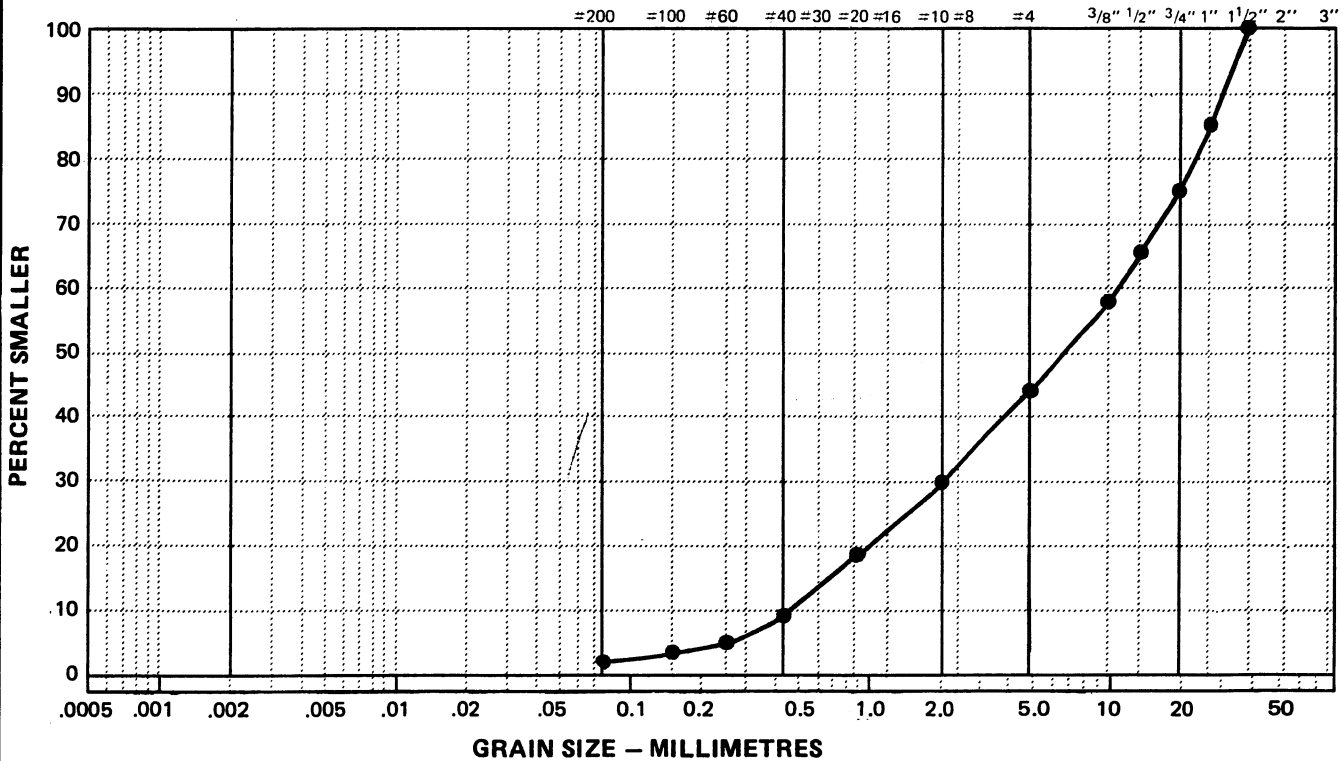
Natural Moisture Content: 1.6 %

Remarks: Gravel 56.1%  
Sand 41.4%  
Silt 2.5%

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	100.0
1"	86.1
3/4"	74.7
3/8"	57.5
No. 4	43.9
No. 10	29.6
No. 20	17.9
No. 40	9.2
No. 60	5.2
No. 100	3.5
No. 200	2.5

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE

### SIEVE SIZES



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## PARTICLE - SIZE ANALYSIS OF SOILS

Project: Granular Source Evaluation  
km 1693 North Alaska Highway

Project Number: 0201-10922

Date Tested: 92-04-30

Borehole Number: 92-023E

Depth: 4.0 m

Soil Description: POORLY GRADED GRAVEL WITH SAND (GP)

Cu: 40.0

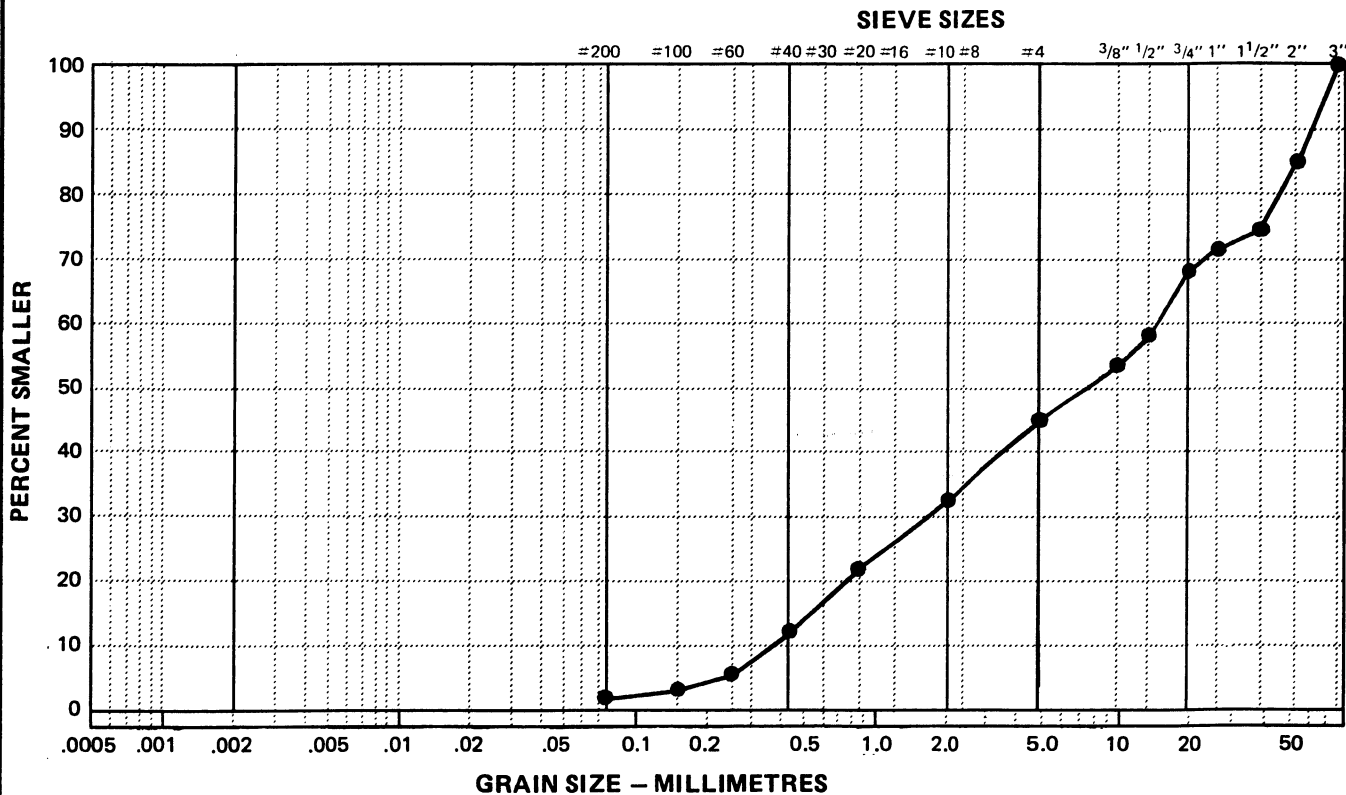
Cc: 0.3

Natural Moisture Content: 1.4 %

Remarks: Gravel 55.3%  
Sand 42.9%  
Silt 1.8%

SIEVE	PERCENTAGE PASSING
3"	100.0
2"	84.7
1 1/2"	74.6
1"	71.5
3/4"	67.4
3/8"	54.4
No. 4	44.7
No. 10	33.1
No. 20	22.2
No. 40	11.8
No. 60	5.6
No. 100	2.9
No. 200	1.8

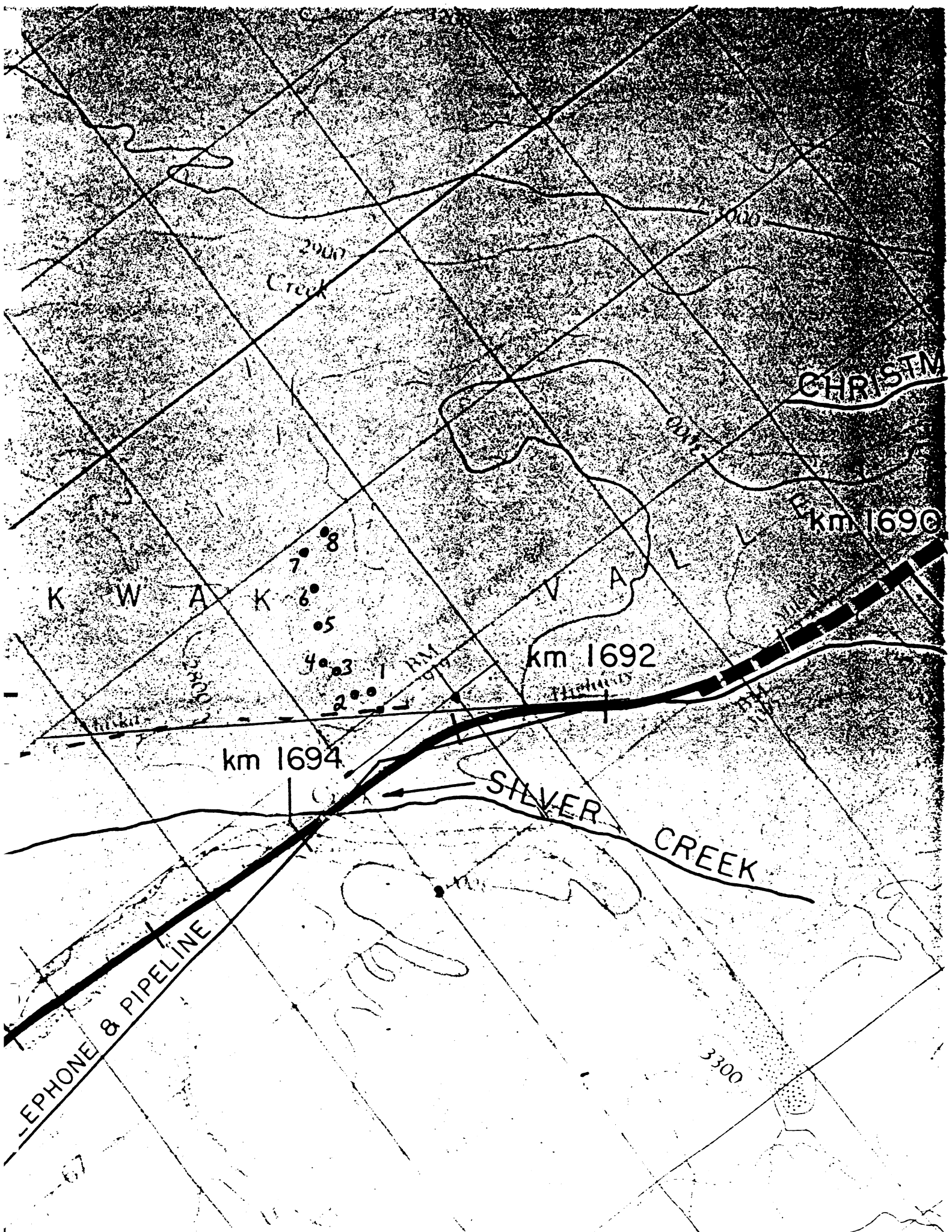
CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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2900  
Creek

CHRISTMAS

K W A K

VALLEY

km 1690

km 1692

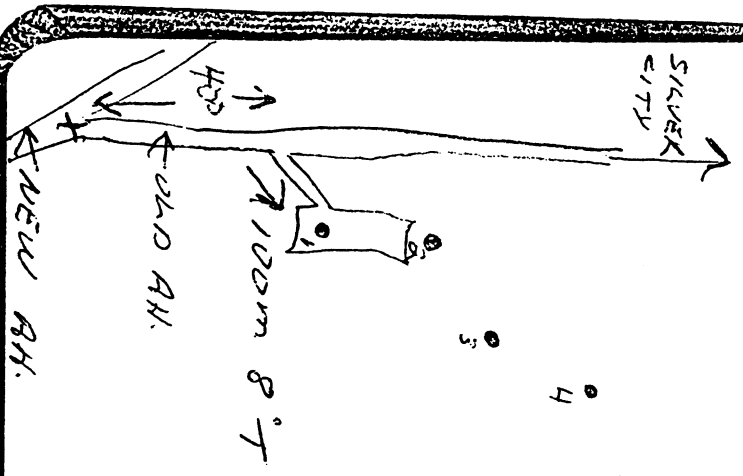
km 1694

SILVER  
CREEK

PHONE & PIPELINE

3300

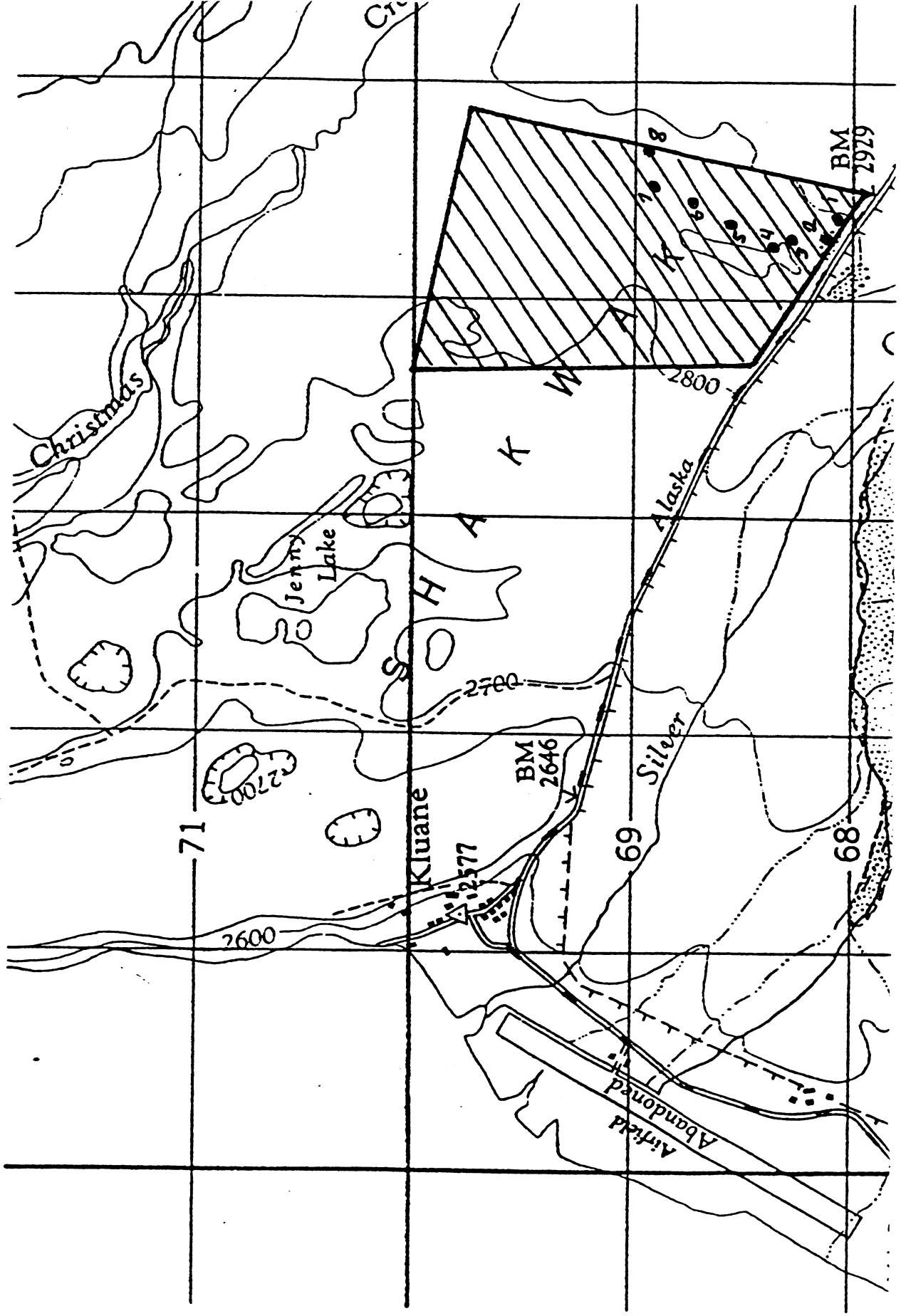
67



- 1 → 2 = 300° T, 90m
- 2 → 3 = 0° T, 150m
- 3 → 4 = 340° T, 100m
- 4 → 5 = 25° T, 200m
- 5 → 6 = 30° T, 200m
- 6 → 7 = ~~30~~ 1°, 200m

- 7 → 8 = 80° T, 165m
- ~~8 → 9 = 60° T, 100m~~
- 8 → 9 = 340° T

Siber City



**GRANULAR INVESTIGATION  
KM 1692, R.H.S.  
ALASKA HIGHWAY, Y.T.**

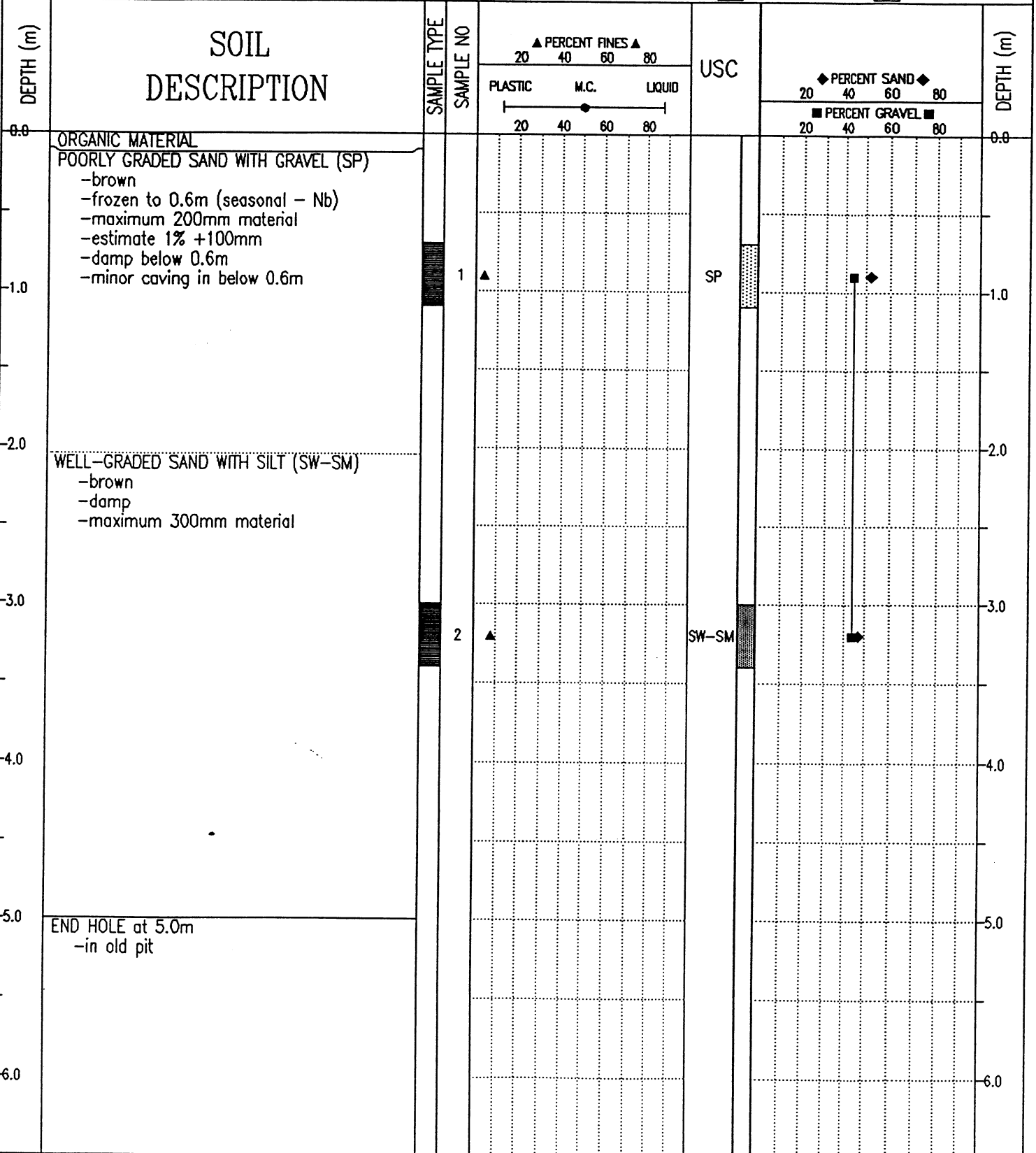
**PIT IDENT: 115 G-07**

**1991 BACKHOE TESTING  
HOLES 01 - 08, LOG BOOK 152  
SAMPLE # 1 - 14 (LAB # 5399 - 5412)**

**COMBINED LOS ANGELES ABRASION RESULT  
(GRADATION B) - 17.8% LOSS**

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY GRANULAR INVESTIGATION	BOREHOLE No. 152-01
PWC/O&M YUKON	A/H KM 1692 RHS	Project No: 859167
BACKHOE: CASE 688	LOCATION: See Plan	ELEVATION 0.000 (m)

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

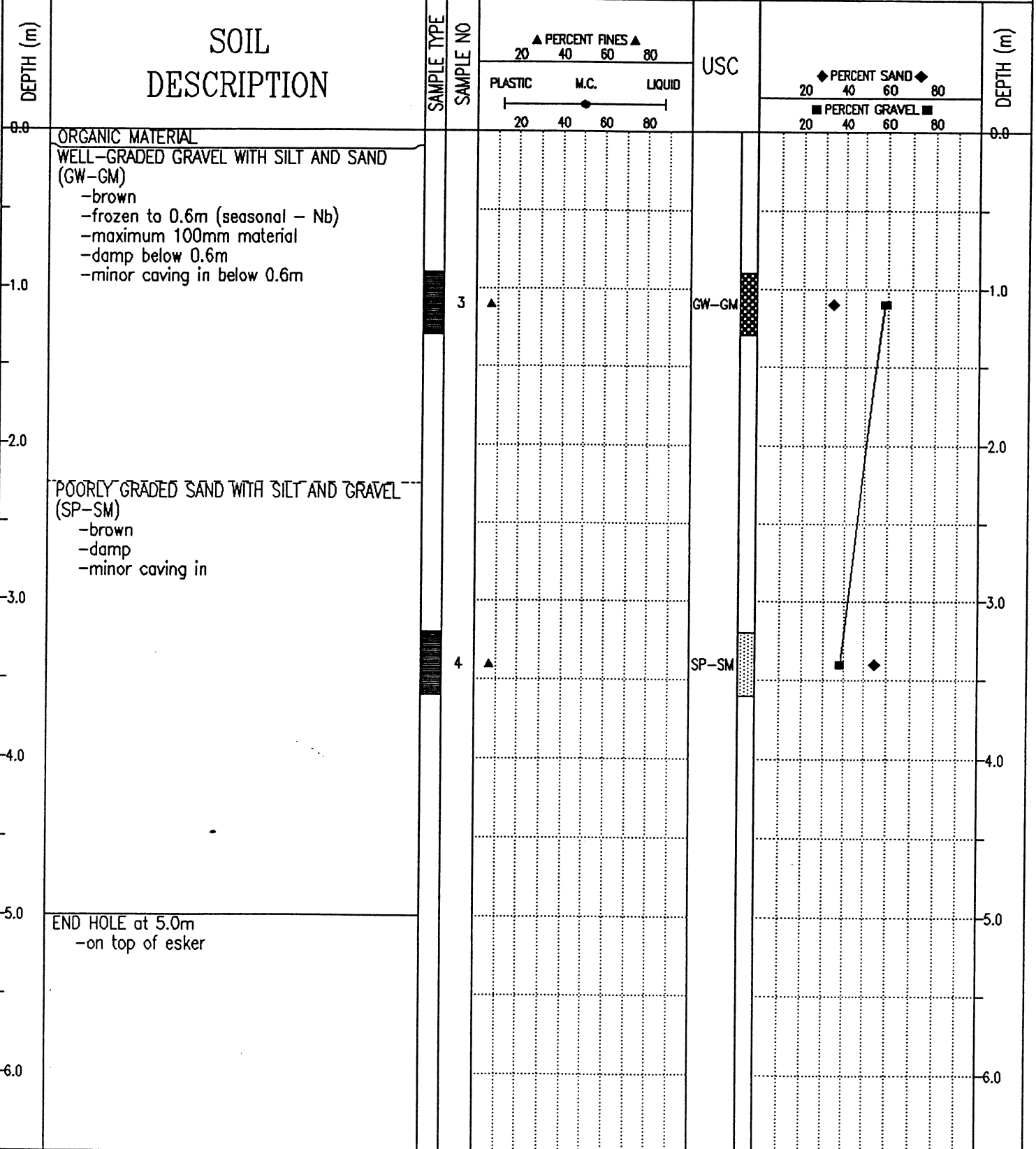


Public Works Canada  
Whitehorse, Yukon Territory.

COMPLETION DEPTH 5.0 m  
COMPLETE 91/11/05  
LOGGED BY DT  
DWG NO.  
Page 1 of 1

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY GRANULAR INVESTIGATION	BOREHOLE No. 152-02
PWC/O&M YUKON	A/H KM 1692 RHS	Project No: 859167
BACKHOE: CASE 688	LOCATION: See Plan	ELEVATION 0.000 (m)

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



Public Works Canada  
Whitehorse, Yukon Territory.

COMPLETION DEPTH 5.0 m

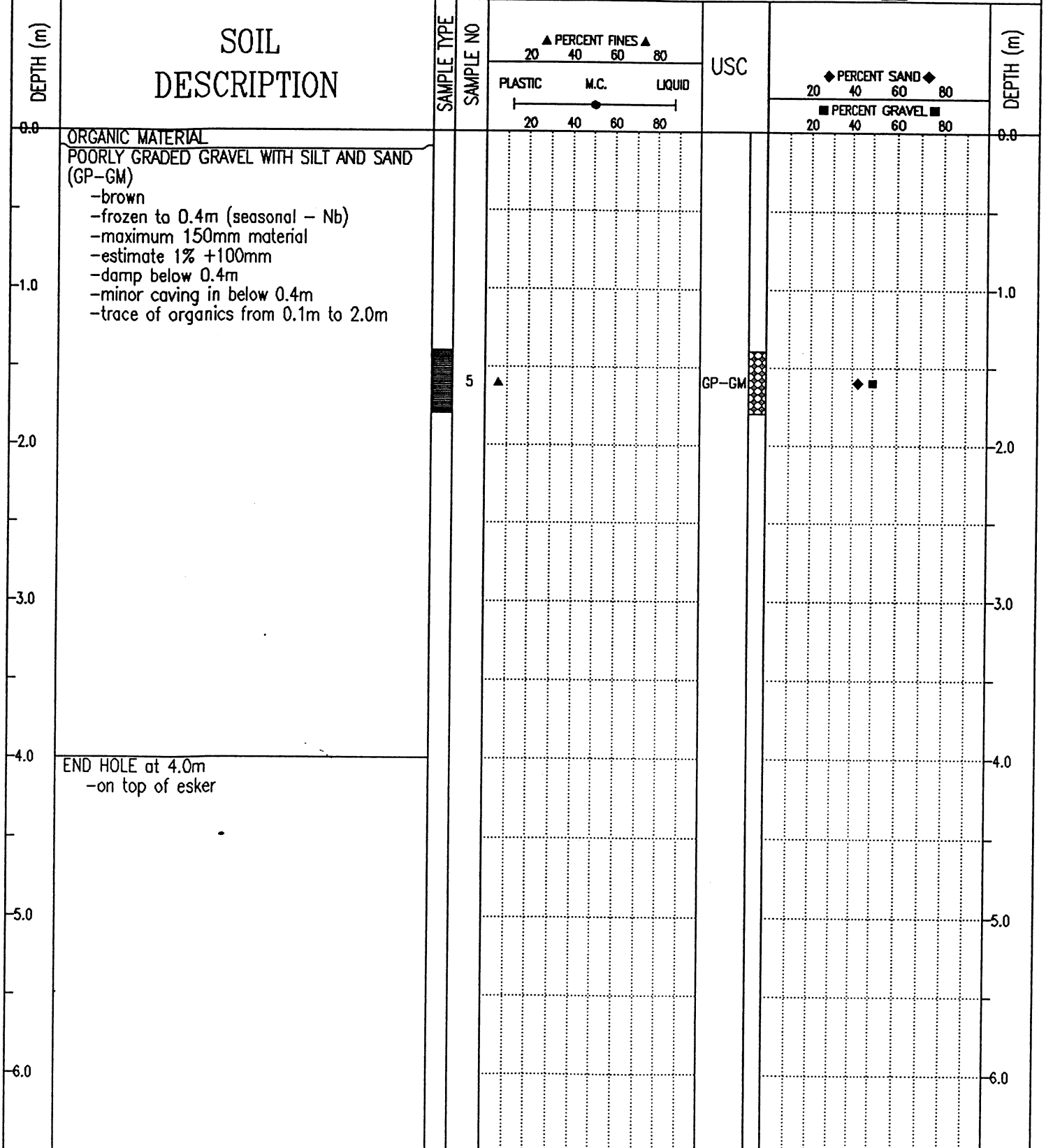
COMPLETE 91/11/05

LOGGED BY DT

DWG NO.

Page 1 of 1

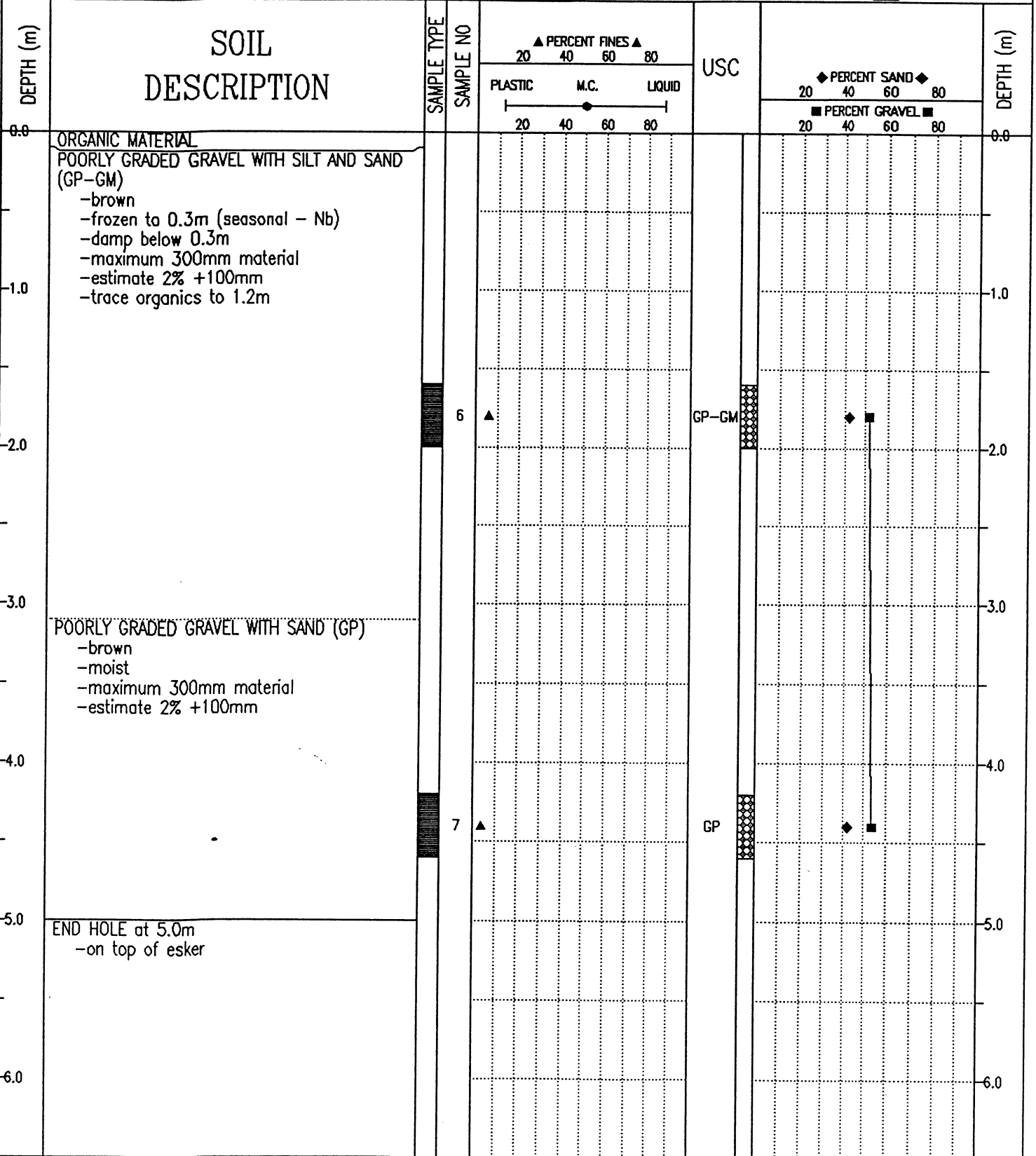
SUBSURFACE EXPLORATION AND TEST REPORT		ALASKA HIGHWAY GRANULAR INVESTIGATION	BOREHOLE No. 152-03
PWC/O&M YUKON		A/H KM 1692 RHS	Project No: 859167
BACKHOE: CASE 688		LOCATION: See Plan	ELEVATION 0.000 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> RETURN	<input checked="" type="checkbox"/> S.P.T.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



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

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

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



Public Works Canada  
Whitehorse, Yukon Territory.

COMPLETION DEPTH 5.0 m

COMPLETE 91/11/05

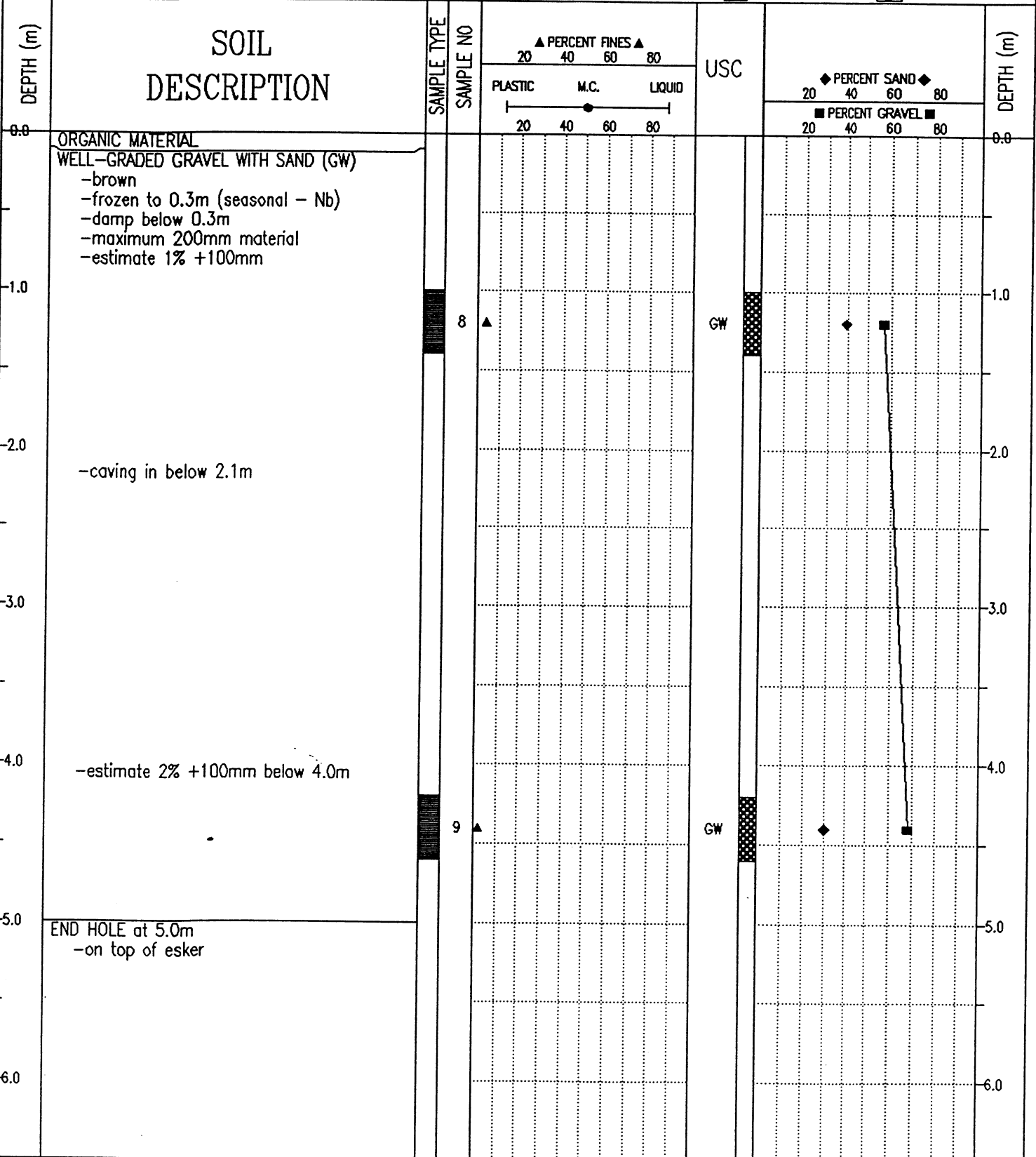
LOGGED BY DT

DWG NO.

Page 1 of 1

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

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



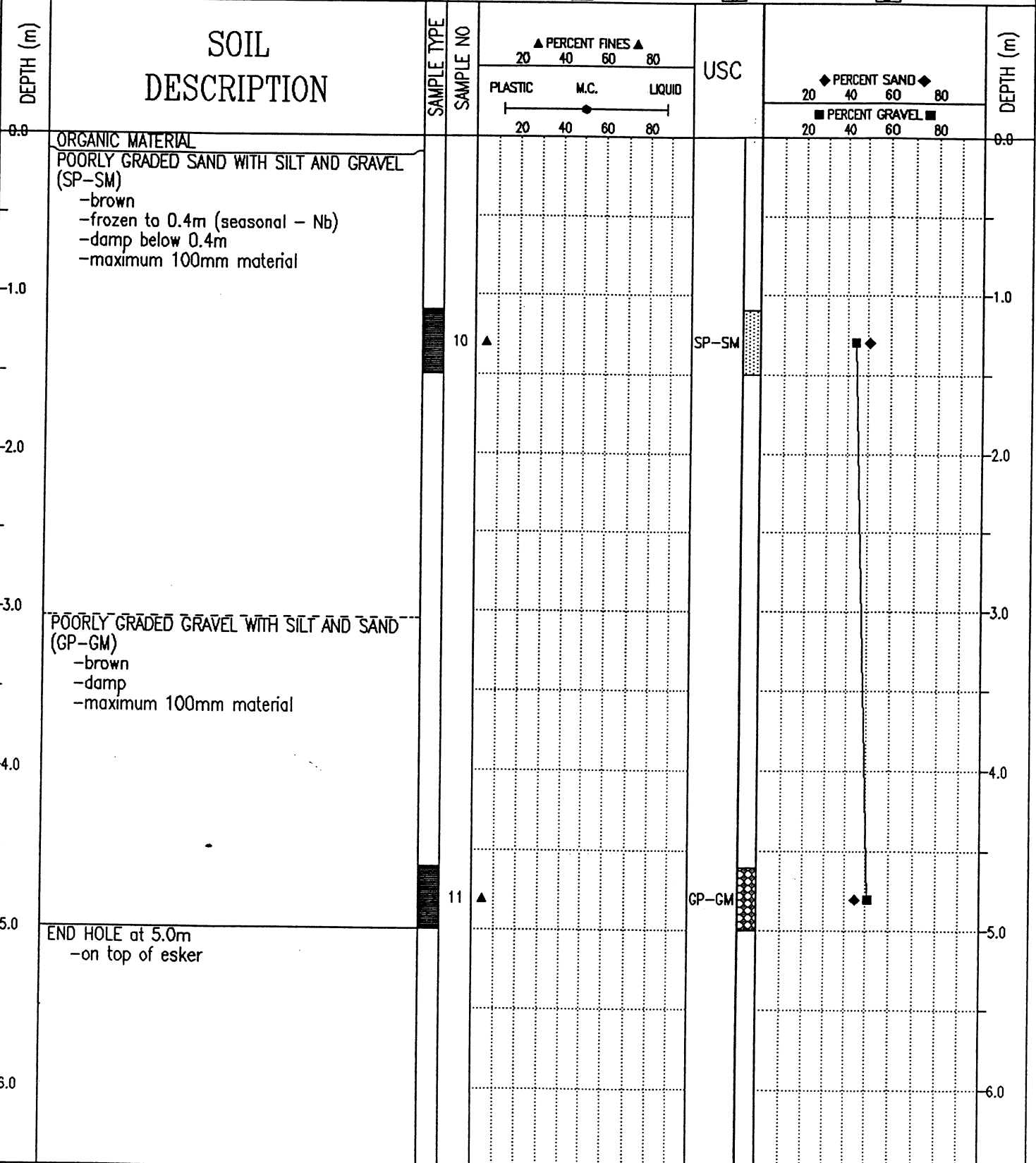
Public Works Canada  
Whitehorse, Yukon Territory.

COMPLETION DEPTH 5.0 m COMPLETE 91/11/05

LOGGED BY DT DWG NO. Page 1 of 1

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

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



Public Works Canada  
Whitehorse, Yukon Territory.

COMPLETION DEPTH 5.0 m

COMPLETE 91/11/05

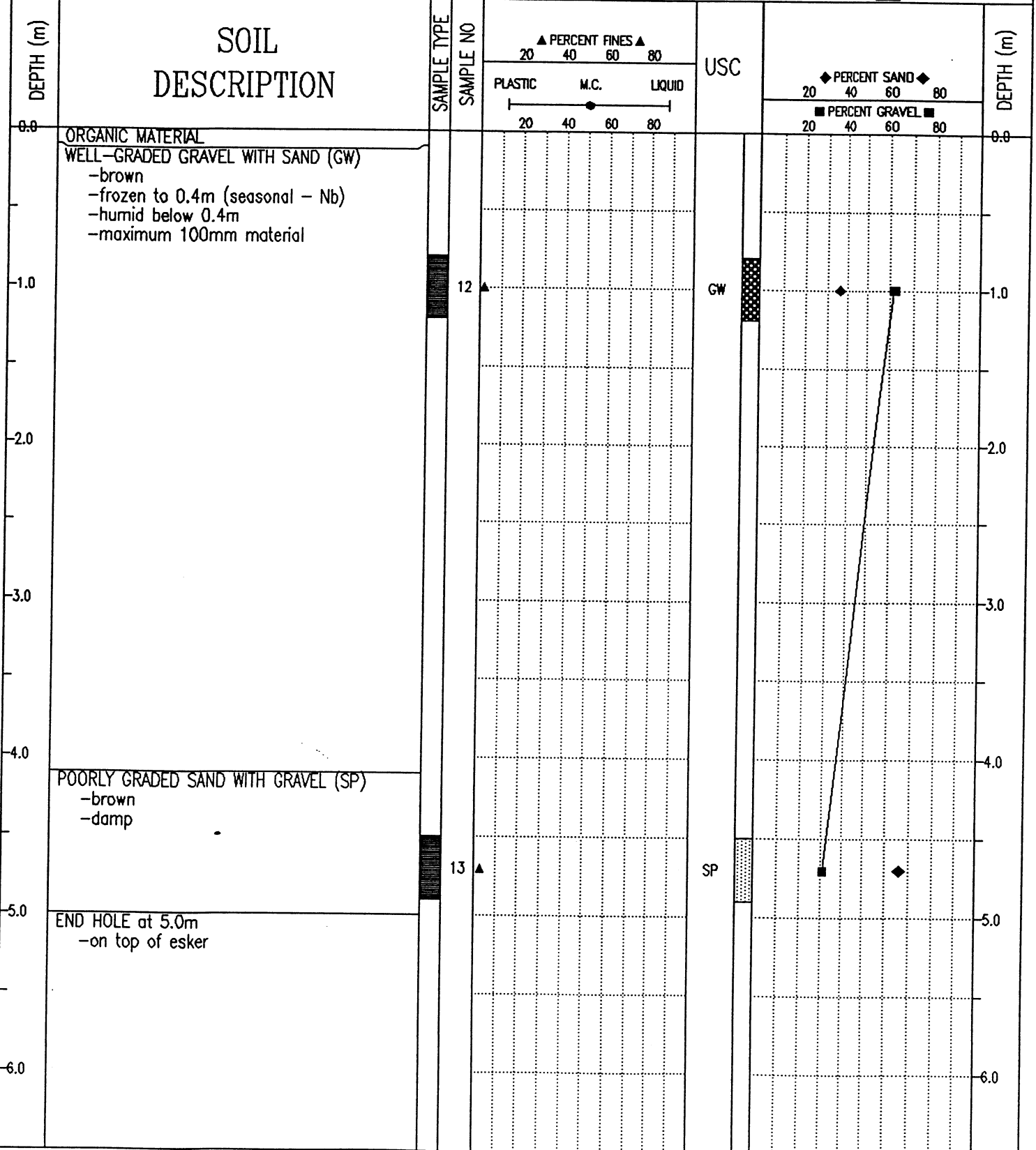
LOGGED BY DT

DWG NO.

Page 1 of 1

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY GRANULAR INVESTIGATION	BOREHOLE No. 152-07
PWC/O&M YUKON	A/H KM 1692 RHS	Project No: 859167
BACKHOE: CASE 688	LOCATION: See Plan	ELEVATION 0.000 (m)

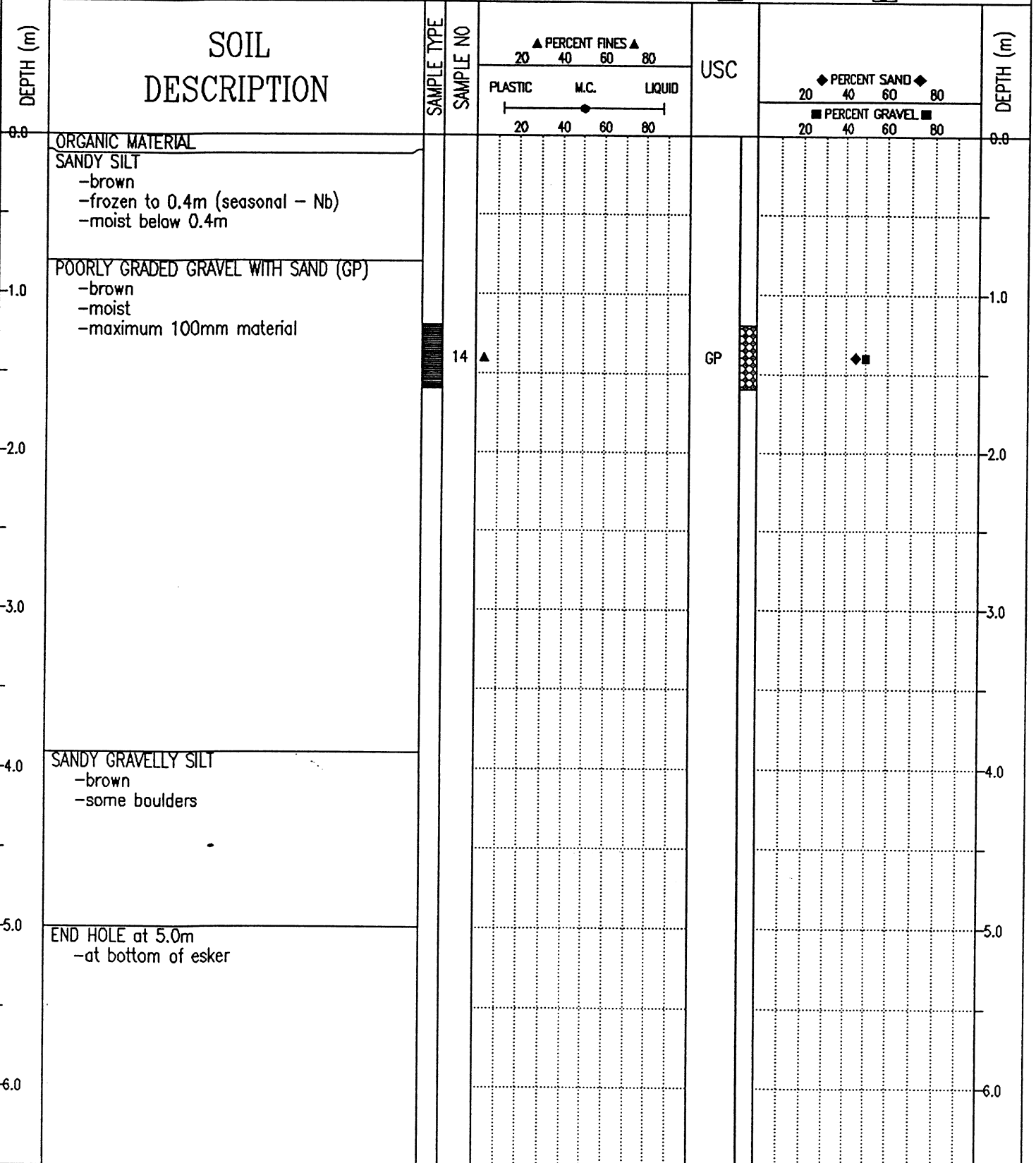
SAMPLE TYPE  RETURN  S.P.T.  AUGER  BULK  TUBE  CORE



Public Works Canada  
Whitehorse, Yukon Territory.

COMPLETION DEPTH 5.0 m	COMPLETE 91/11/07
LOGGED BY DT	DWG NO.
	Page 1 of 1

SUBSURFACE EXPLORATION AND TEST REPORT		ALASKA HIGHWAY GRANULAR INVESTIGATION	BOREHOLE No. 152-08
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



Public Works Canada  
Whitehorse, Yukon Territory.

COMPLETION DEPTH 5.0 m	COMPLETE 91/11/07
LOGGED BY DT	DWG NO.
	Page 1 of 1

PROJECT NUMBER: 859167 HOLE NUMBER: 152-01  
 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: 1  
 LAB NO: 5399  
 DEPTH: 0.7-1.1  
 TYPE: BULK

FIELD NO: 2  
 LAB NO: 5400  
 DEPTH: 3.0-3.4  
 TYPE: BULK

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

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

101.6	--
76.2	--
50.8	100
38.1	89
25.4	89
19.0	82
12.7	74
9.5	69
4.76	56
2.38	--
2.00	39
1.19	--
0.841	22
0.595	--
0.42	12
0.297	--
0.177	--
0.149	5
0.074	4

101.6	--
76.2	--
50.8	100
38.1	96
25.4	96
19.0	91
12.7	80
9.5	72
4.76	56
2.38	--
2.00	37
1.19	--
0.841	25
0.595	--
0.42	18
0.297	--
0.177	--
0.149	10
0.074	8

M.C. (%): --

M.C. (%): --

LIMITS

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

LIMITS

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

% GRAVEL: 44  
 % SAND: 52  
 % FINES: 4

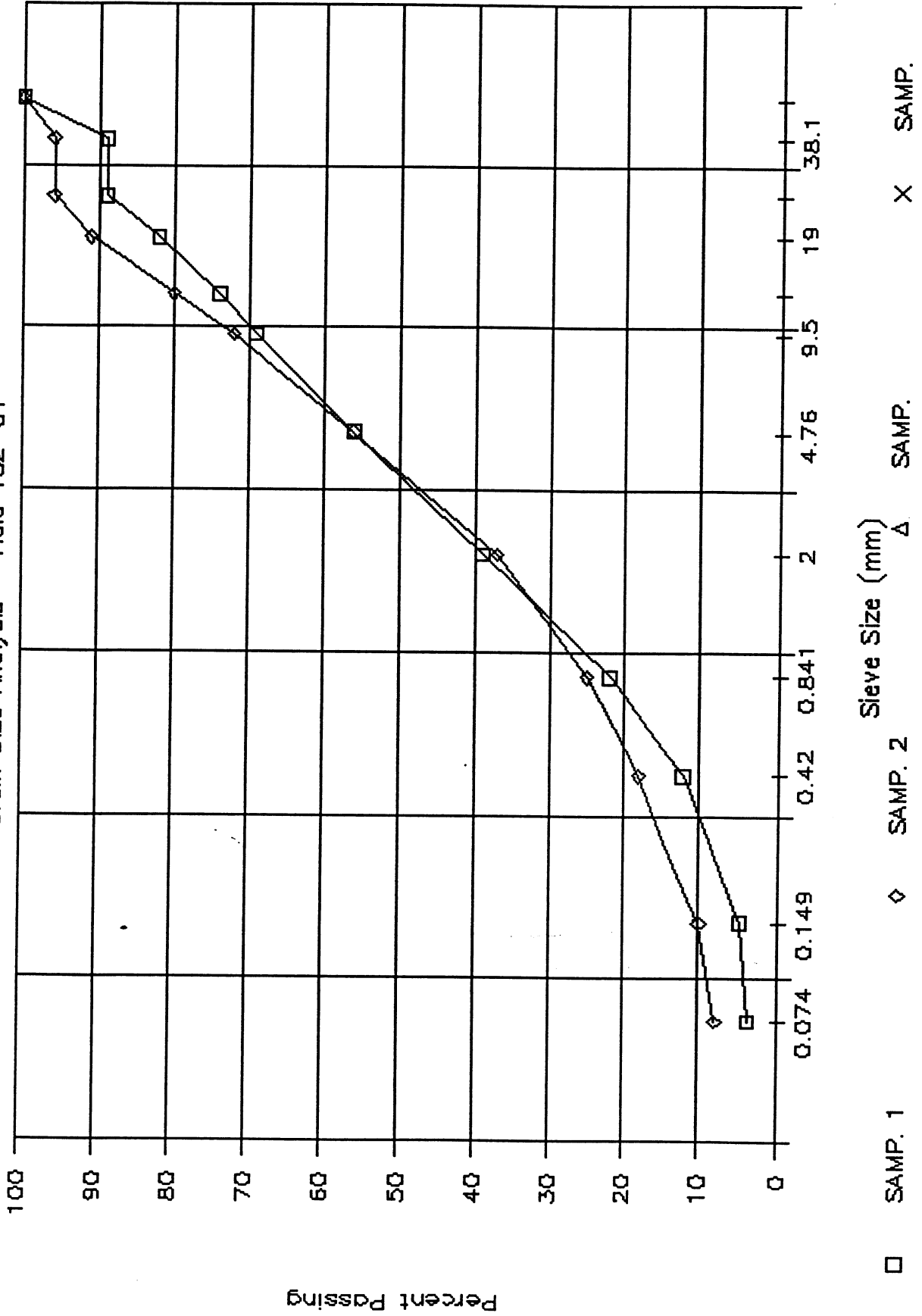
% GRAVEL: 44  
 % SAND: 47  
 % FINES: 8

CLASSIFICATION:  
 POORLY GRADED  
 SAND WITH GRAVEL  
 (SP)

CLASSIFICATION:  
 WELL-GRADED SAND  
 WITH SILT &  
 GRAVEL (SW-SM)

# PUBLIC WORKS CANADA - WHITEHORSE, Y.T.

Grain Size Analysis - Hole 152-Q1



□ SAMP. 1

◇ SAMP. 2

Sieve Size (mm)

△ SAMP.

X SAMP.

○ SAMP.

PROJECT NUMBER: 859167 HOLE NUMBER: 152-02  
 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: 3  
 LAB NO: 5401  
 DEPTH: 0.9-1.3  
 TYPE: BULK

FIELD NO: 4  
 LAB NO: 5402  
 DEPTH: 3.2-3.6  
 TYPE: BULK

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

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

101.6	--
76.2	--
50.8	100
38.1	98
25.4	84
19.0	75
12.7	61
9.5	54
4.76	41
2.38	--
2.00	31
1.19	--
0.841	21
0.595	--
0.42	14
0.297	--
0.177	--
0.149	9
0.074	7

101.6	--
76.2	--
50.8	100
38.1	94
25.4	90
19.0	87
12.7	80
9.5	75
4.76	62
2.38	--
2.00	47
1.19	--
0.841	34
0.595	--
0.42	22
0.297	--
0.177	--
0.149	10
0.074	7

M.C. (%): --

M.C. (%): --

LIMITS

LIMITS

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

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

% GRAVEL: 59  
 % SAND: 34  
 % FINES: 7

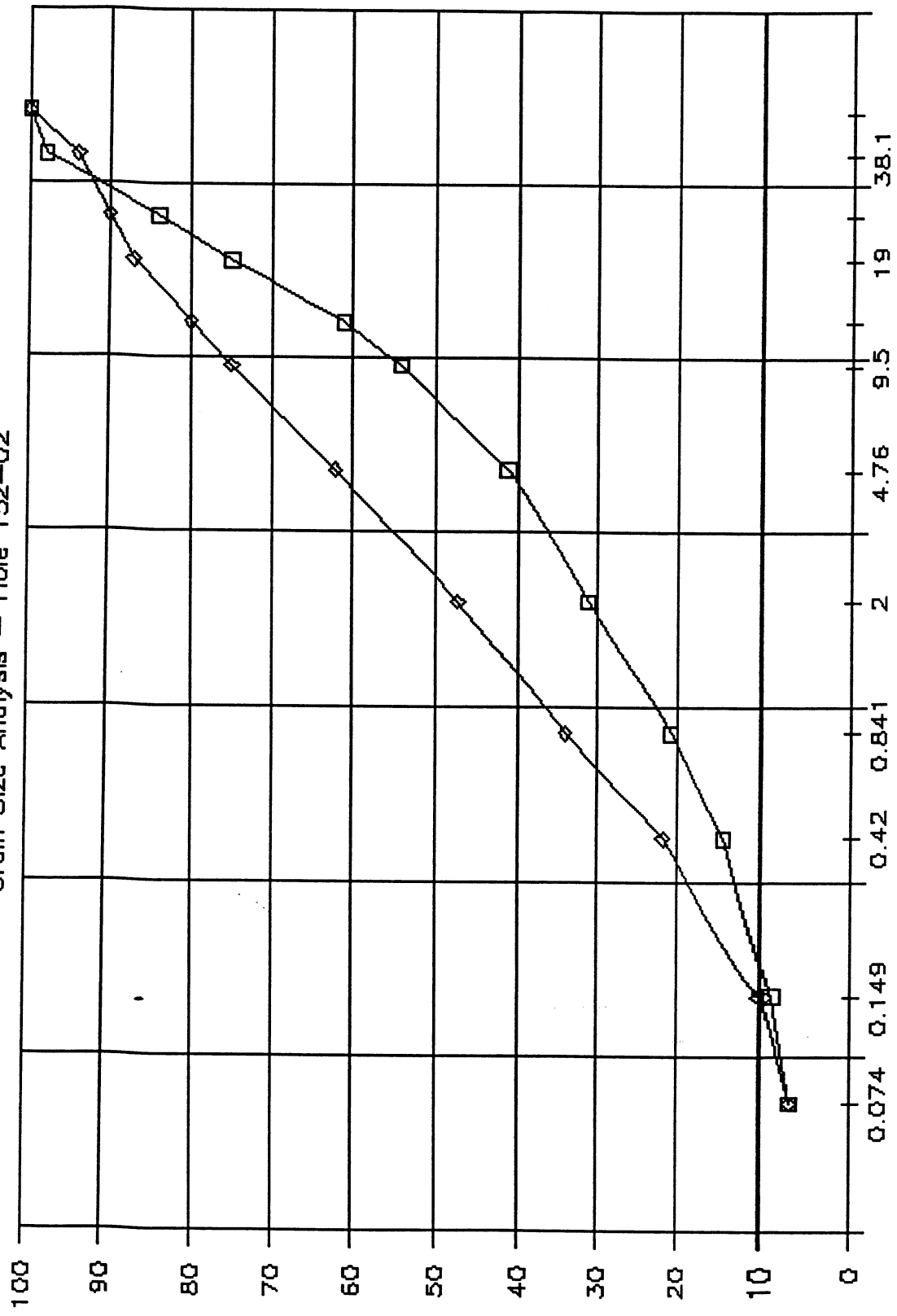
% GRAVEL: 38  
 % SAND: 55  
 % FINES: 7

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

CLASSIFICATION:  
 POORLY GRADED  
 SAND WITH SILT &  
 GRAVEL (SP-SM)

# PUBLIC WORKS CANADA - WHITEHORSE, Y.T.

Grain Size Analysis - Hole 152-02



□ SAMP. 3      ◇ SAMP. 4      Δ SAMP.      X SAMP.

Percent Passing

Sieve Size (mm)

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

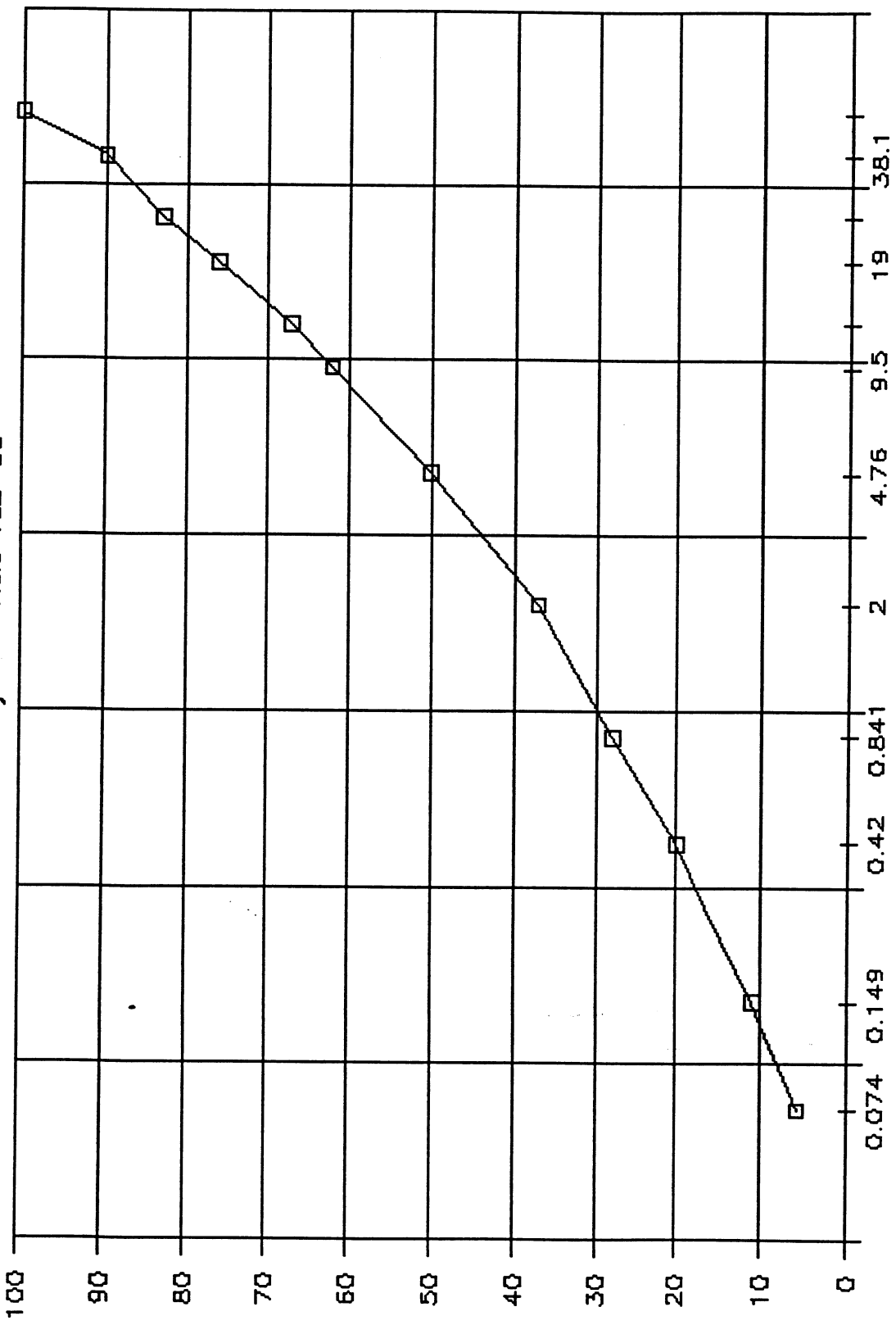
LIQUID: --  
 PLASTIC: --  
 P.I.: N.P.

% 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



□ SAMP. 5      ◇ SAMP.      △ SAMP.      X SAMP.

Percent Passing

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

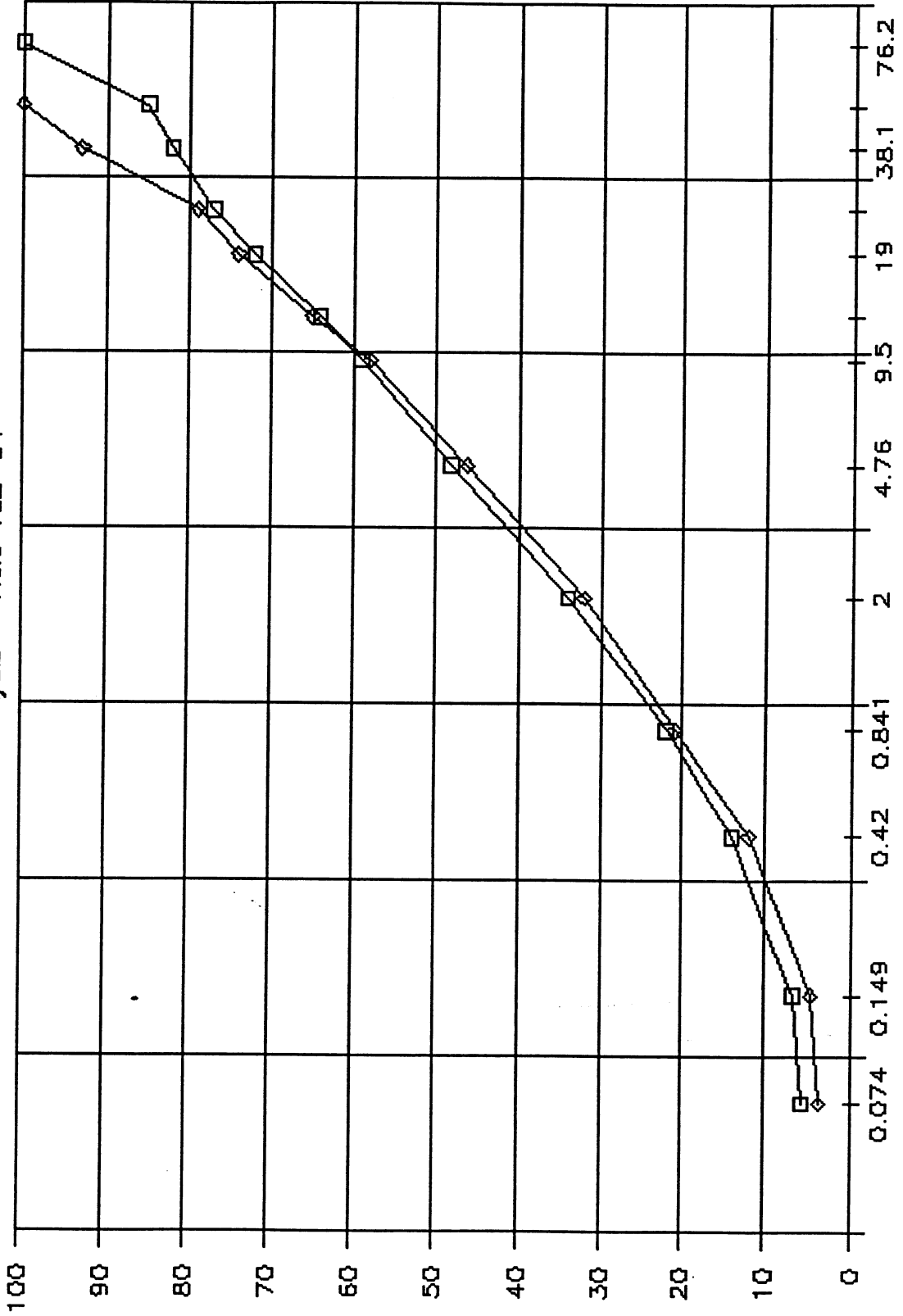
% GRAVEL: 54  
 % SAND: 42  
 % FINES: 4

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-Q4



□ SAMP. 6      ◇ SAMP. 7      Δ SAMP. 8      X SAMP. 9

Percent Passing

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

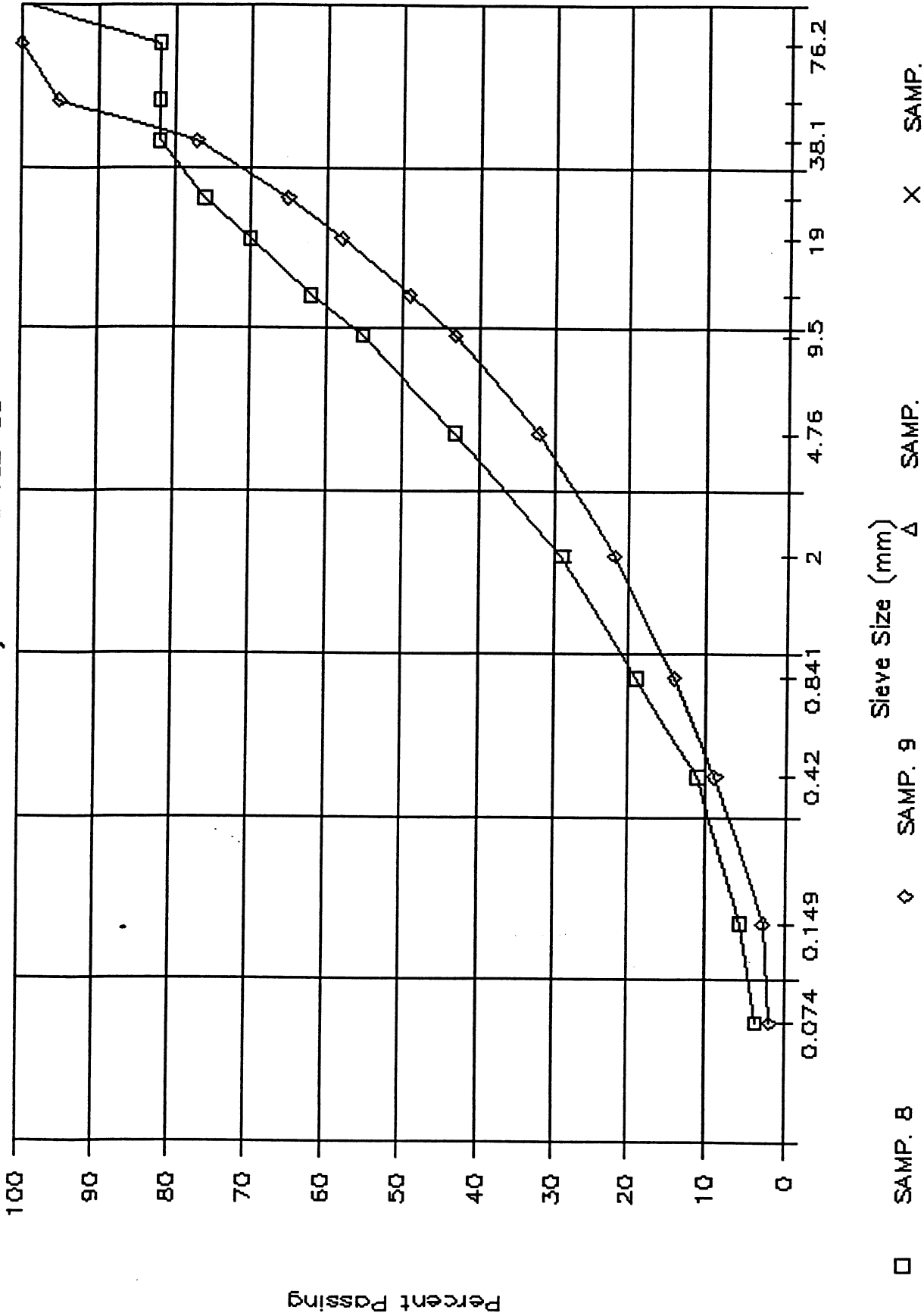
% GRAVEL: 68  
 % SAND: 30  
 % FINES: 2

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



PROJECT NUMBER: 859167 HOLE NUMBER: 152-06  
 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: 10  
 LAB NO: 5408  
 DEPTH: 1.1-1.5  
 TYPE: BULK

FIELD NO: 11  
 LAB NO: 5409  
 DEPTH: 4.6-5.0  
 TYPE: BULK

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

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

101.6	--
76.2	--
50.8	100
38.1	97
25.4	90
19.0	82
12.7	76
9.5	69
4.76	56
2.38	--
2.00	40
1.19	--
0.841	27
0.595	--
0.42	16
0.297	--
0.177	--
0.149	6
0.074	5

101.6	--
76.2	100
50.8	92
38.1	85
25.4	77
19.0	74
12.7	67
9.5	61
4.76	49
2.38	--
2.00	36
1.19	--
0.841	26
0.595	--
0.42	19
0.297	--
0.177	--
0.149	8
0.074	5

M.C. (%): --

M.C. (%): --

LIMITS

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

LIMITS

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

% GRAVEL: 44  
 % SAND: 51  
 % FINES: 5

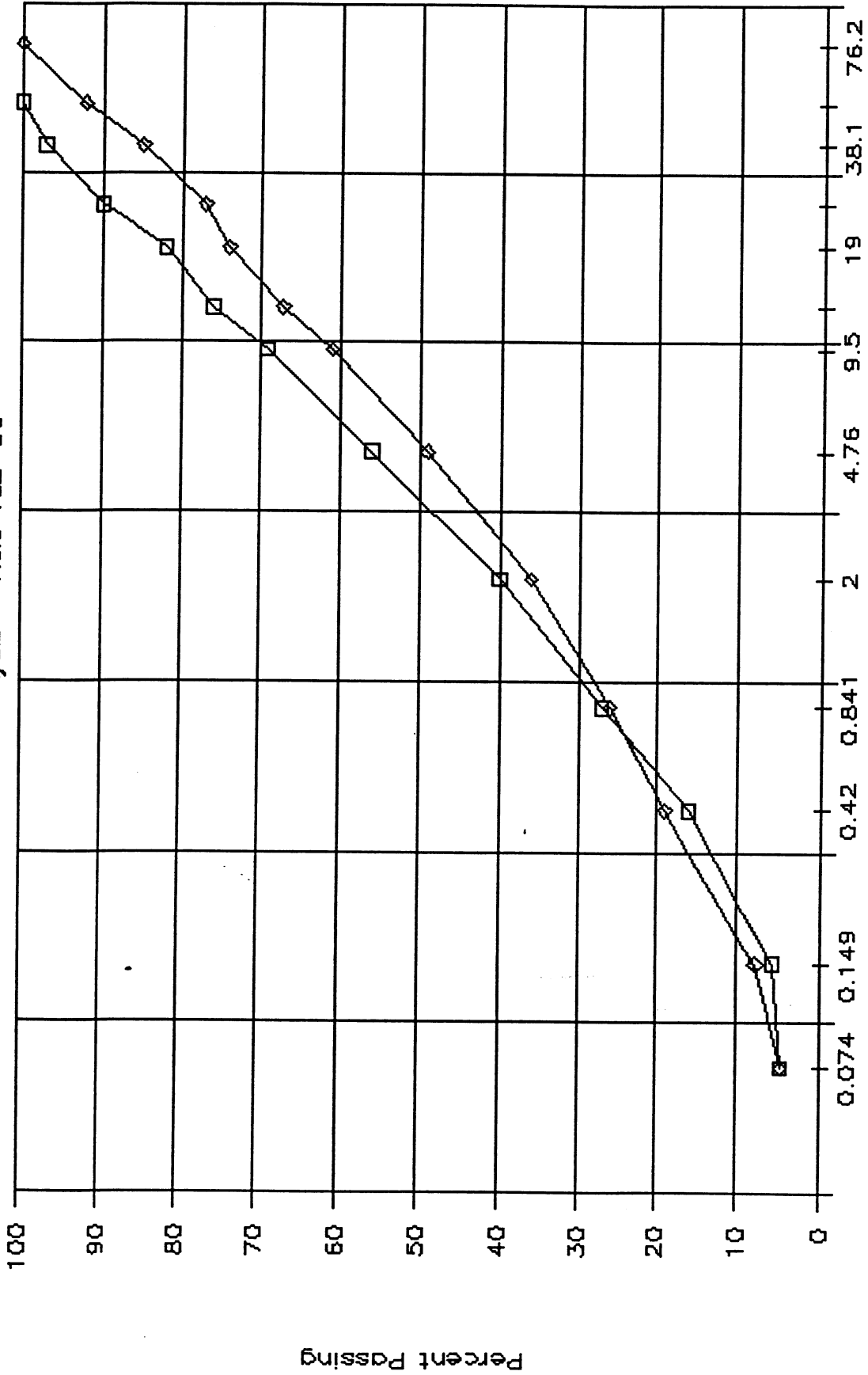
% GRAVEL: 51  
 % SAND: 45  
 % FINES: 5

CLASSIFICATION:  
 POORLY GRADED  
 SAND WITH SILT &  
 GRAVEL (SP-SM)

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

# PUBLIC WORKS CANADA - WHITEHORSE, Y.T.

Grain Size Analysis - Hole 152-06



□ SAMP. 10      ◇ SAMP. 11      Sieve Size (mm)      △ SAMP.      X SAMP.

PROJECT NUMBER: 859167 HOLE NUMBER: 152-07  
 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: 91.11.07

FIELD NO: 12  
 LAB NO: 5410  
 DEPTH: 0.8-1.2  
 TYPE: BULK

FIELD NO: 13  
 LAB NO: 5411  
 DEPTH: 4.5-4.9  
 TYPE: BULK

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	100
50.8	94
38.1	90
25.4	79
19.0	74
12.7	60
9.5	52
4.76	38
2.38	--
2.00	25
1.19	--
0.841	13
0.595	--
0.42	7
0.297	--
0.177	--
0.149	3
0.074	2

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	100
25.4	95
19.0	93
12.7	85
9.5	81
4.76	69
2.38	--
2.00	54
1.19	--
0.841	37
0.595	--
0.42	21
0.297	--
0.177	--
0.149	4
0.074	3

M.C. (%): --

M.C. (%): --

LIMITS

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

LIMITS

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

% GRAVEL: 62  
 % SAND: 36  
 % FINES: 2

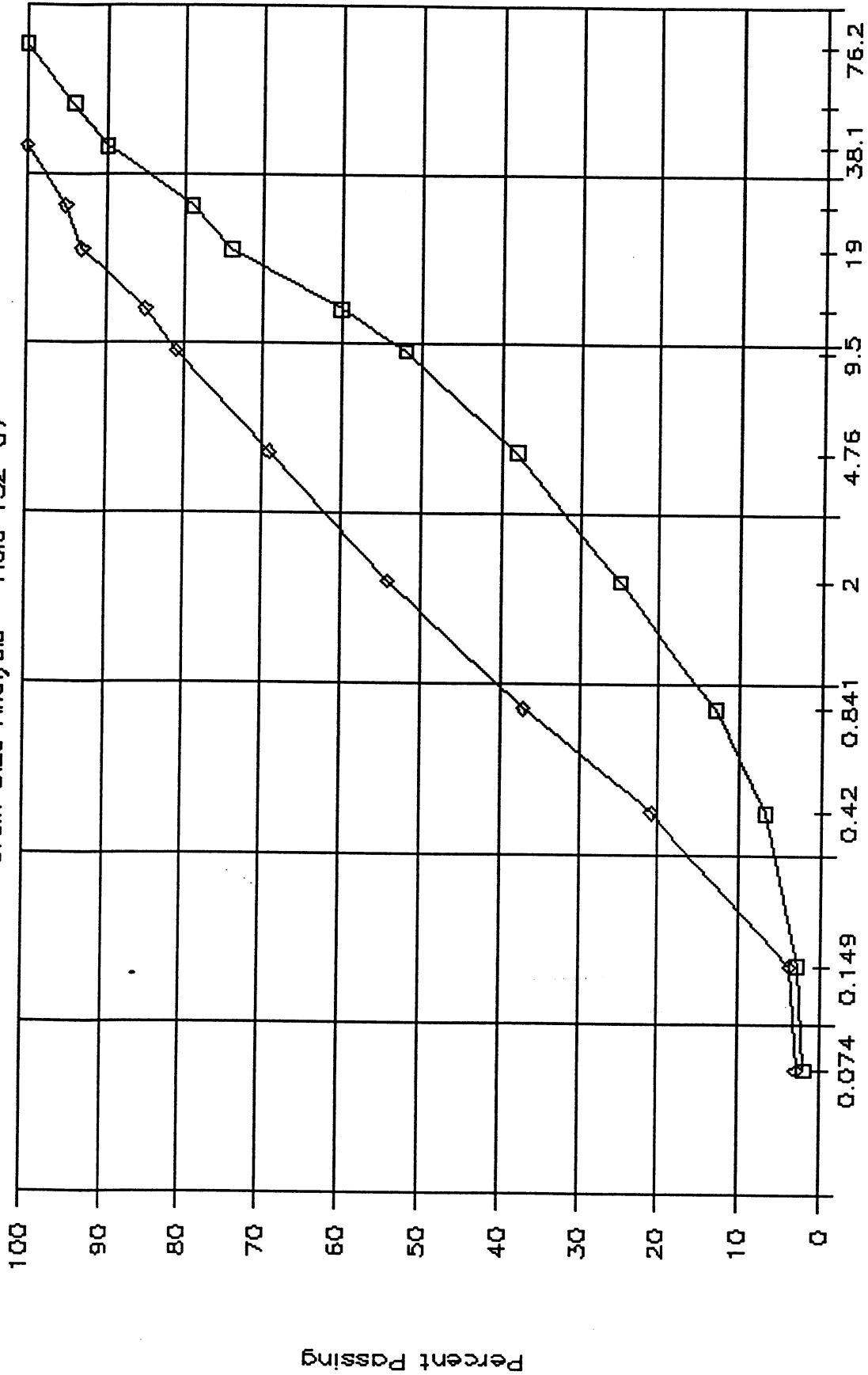
% GRAVEL: 31  
 % SAND: 66  
 % FINES: 3

CLASSIFICATION:  
 WELL-GRADED  
 GRAVEL WITH SAND  
 (GW)

CLASSIFICATION:  
 POORLY GRADED  
 SAND WITH GRAVEL  
 (SP)

# PUBLIC WORKS CANADA - WHITEHORSE, Y.T.

Grain Size Analysis - Hole 152-07



□ SAMP. 12      ◇ SAMP. 13      Sieve Size (mm)      △ SAMP.      X SAMP.

PROJECT NUMBER: 859167 HOLE NUMBER: 152-08  
 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: 91.11.07

FIELD NO: 14  
 LAB NO: 5412  
 DEPTH: 1.2-1.6  
 TYPE: BULK

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	100
50.8	89
38.1	89
25.4	82
19.0	75
12.7	69
9.5	63
4.76	50
2.38	--
2.00	36
1.19	--
0.841	24
0.595	--
0.42	15
0.297	--
0.177	--
0.149	7
0.074	4

M.C. (%): --

LIMITS

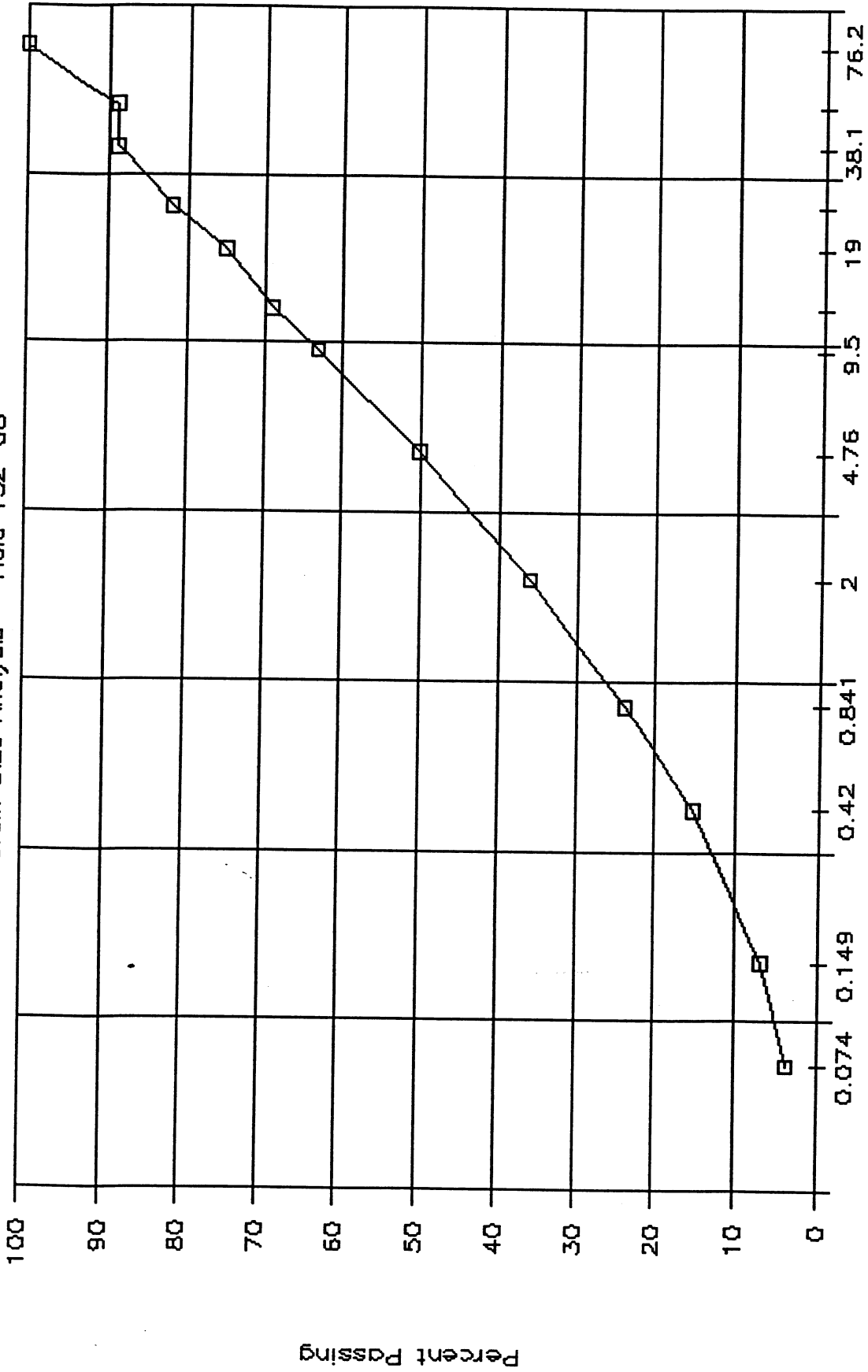
LIQUID: --  
 PLASTIC: --  
 P.I.: N.P.

% GRAVEL: 50  
 % SAND: 45  
 % FINES: 4

CLASSIFICATION:  
 POORLY GRADED  
 GRAVEL WITH SAND  
 (GP)

# PUBLIC WORKS CANADA — WHITEHORSE, Y.T.

Grain Size Analysis — Hole 152-08



□ SAMP. 14      ◇ SAMP.      △ SAMP.      X SAMP.

TL/TF 17

FILE NO. \_\_\_\_\_

Los Angeles Abrasion Test

SILVER CITY.

LAB. SAMPLE NO. \_\_\_\_\_

AHKM 1892

MATERIAL GRADING -19mm

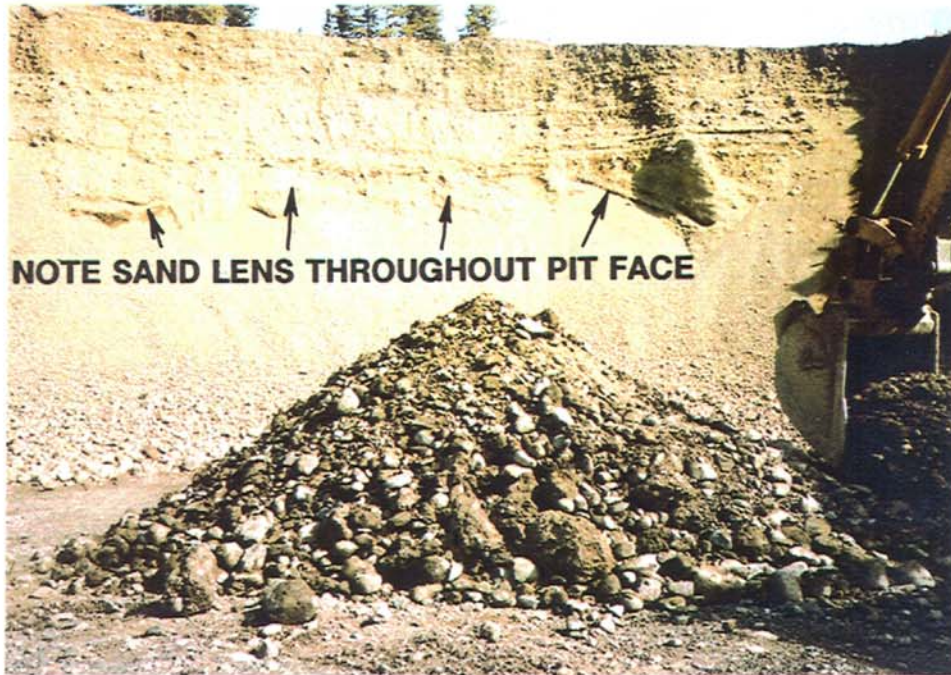
Actual Sieve Sizes		Amount	
- 3/4	+ 1/2	2501.7	gms.
- 1/2	+ 3/8	2500.5	gms.
-	+		gms.
-	+		gms.
		Total sample	gms.
NO. of revolutions	500	<b>Remarks:</b> <u>TEST SAMPLE TAKEN</u> <u>FROM A COMBINATION</u> <u>OF ALL SAMPLES</u> <u>FROM AHKM 1892</u>	
NO. of spheres	11		
Wt. of spheres	4580.3 gms.		
Total samples	5002.2 gms.		
+ #12 material after	4113.6 gms.		
- #12 material	888.6 gms.		
$\% \text{ Loss} = \frac{-\#12}{\text{total sample}} \times 100 \text{ } \_\_\_\_\_\_ \times 100 \text{ } \_\_\_\_\_\_ \%$			
$= 17.8\%$			







km 1693 R.H.S.



TP 92-013E



TP 92-014E

km 1693 R.H.S.



TP 92-015E



TP 92-016E

km 1693 R.H.S.



TP-92-017E



TP-92-018E

km 1693 R.H.S.



TP 92-019E



TP 92-020E

km 1693 R.H.S.



TP 92-021E



TP 92-022E

INTERBEDDED WITH GRAVEL OVER SAND  
WITH GRAVEL AT BASE OF TEST PIT

km 1693 R.H.S.

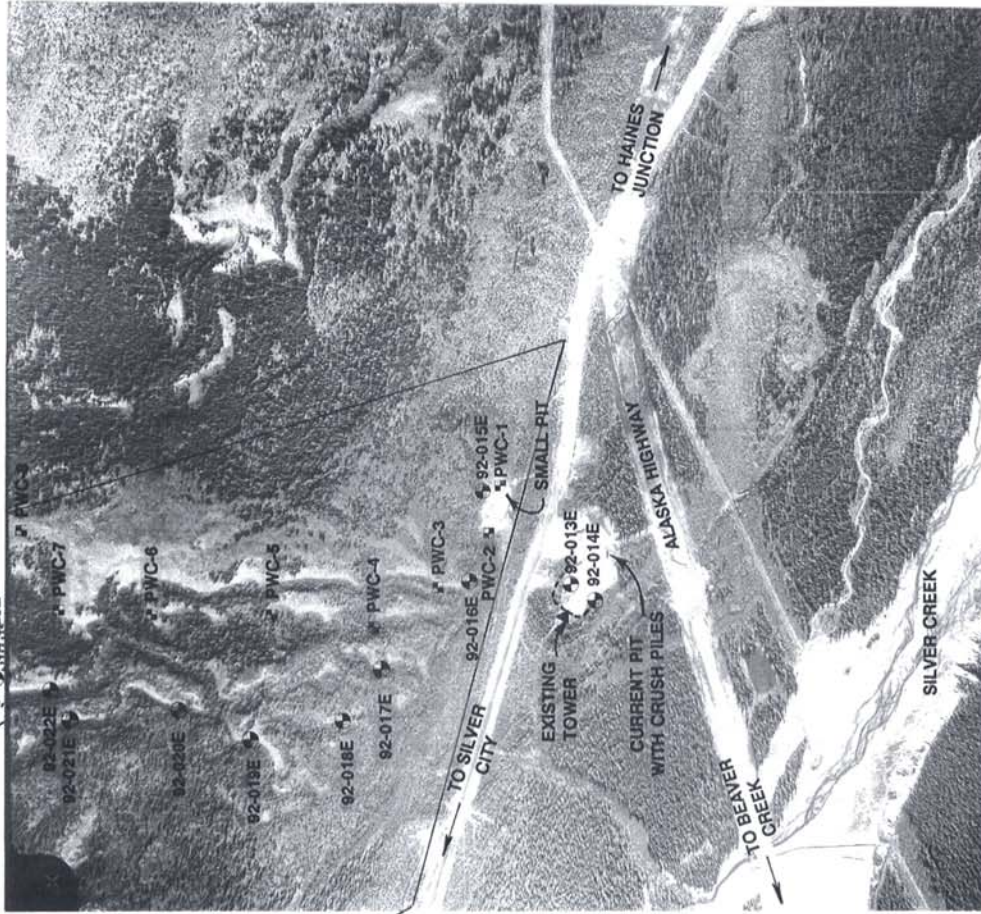


TP 92-023E



ESKER COMPLEX CONTINUING NORTH TOWARDS KLUANE LAKE

ESKER COMPLEX CONTINUES  
NORTH TOWARDS  
KLUANE LAKE



● 1992 TESTPITS (EBA ENGINEERING)

■ 1991 TESTPITS (PWC)

GRANULAR SOURCE: km 1693 R.H.S.  
NORTH ALASKA HIGHWAY

APPROXIMATE SCALE OF AIR PHOTO  
1:8,000

PROJECT		GRANULAR SOURCE EVALUATION	
CLIENT		SITE PLAN SHOWING RECENT TESTHOLE LOCATIONS	
DATE		FILE NO.	
92-04-29	DWN. MCP	0201-10922	10922-A-01