November 27, 2019

ISSUED FOR USE
FILE: 704-ENG.WARC03386-51
Via Email: Keori.Torigai@gov.yk.ca

Government of Yukon
Department of Community Services
Land Development Branch
Box 2703
Whitehorse, YT Y1A 2C6

Attention: Ms. Kaori Torigai, Senior Project Manager

Subject: Site Development Suitability
Dawson City, Yukon

1.0 INTRODUCTION

Tetra Tech Canada Inc. (Tetra Tech) was retained by Kaori Torigai, Senior Project Manager for the Government of Yukon (YG), Community Services, Land Development Branch to complete a geotechnical assessment of four sites in Dawson City, Yukon. The sites include:

- Lots 12 and 15; Block 14 along the south side of Turner Street;
- Area D and Area F (Lot 1059) located between the Klondike Highway and the Dome Road;
- Area A which is the area on the west side of the Dome Road where the YTG Gravel Reserve 670002 was located; and
- Area C which is located across the Dome Road from the old gravel pit and is currently an active placer claim.

To meet the objectives of this project, the following tasks have been completed:

- In-house project files were recovered and reviewed to establish geotechnical conditions throughout the areas listed above.
- The depositional history of the four areas being considered for development was established using the map entitled “Surficial Geology – Dawson – Open File 3288.
- Based in-house information, a summary of geotechnical conditions is presented.
- Potential for urban residential development (serviced lots) is discussed along with constraints for foundation construction throughout downtown Dawson along issues associated with deep utility and roadway design and construction.

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2.0 SITE CONDITIONS

2.1 Surficial Geology

2.1.1 Lots 12 and 15 – Turner Street

The surficial geology throughout downtown Dawson is indicative of floodplain deposition. The topography is quite flat and soil conditions include layers of organic silt with peat along with silty sand lenses overlying alluvial gravel in close proximity to the Yukon River.

2.1.2 Areas D and F (Lot 1059) – Between the Dome Road and the Klondike Highway

Surficial geology mapping designates the soil deposition throughout these two areas to be anthropogenic, comprised of sorted gravel, cobble and fines from the washing of Klondike River placer tailings from dredging operations. The topography throughout this area is quite flat and there are numerous perched ponds between the tailings piles throughout Area F.

2.1.3 Area A and Area C along the Dome Road

Surficial geology throughout the Midnight Dome typically comprises a colluvial (slope wash sediments) veneer (less than 2 m thick) or blanket (greater than 2 m thick). The surface topography generally conforms to the underlying bedrock surface.

However, there are also gravel plains and terraces located at a fairly common elevation above the Klondike Valley. This is the depositional process for soils throughout Areas A and C. These granular sediments range from poorly graded to well sorted. Area A is flat because the YG gravel pit has been depleted, while area C has very uneven terrain as is expected where placer mining has occurred.

2.2 Site Specific Geotechnical Conditions

Based on in-house information (which is presented in the attached Appendices), the geotechnical conditions for the areas being considered for development include:

2.2.1 Lots 12 and 15 - Turner Street

A single borehole was drilled in April 1972 at the historic site across from Lot 12 and two testpits were excavated in May 1990 at the Nurses Residence located at the intersection of Turner Street and 5th Avenue. Testhole logs are presented in Appendix B. The soil conditions found throughout this area of Dawson include 0.6 m to 1.5 m of granular fill constructed over silts and sands, which extend to between 3.6 m and 4.2 m where the alluvial gravel layer that underlies Dawson was encountered.

Permafrost (but not ice rich) was noted on the Historic Building site in 1972 but not on the Nurses Residence site during the 1990 site evaluation. Recent assessment of conditions encountered throughout downtown Dawson City acknowledges that the Church Street – Harper Street area is where there is a transition between permafrost soils (to the north) and non-permafrost soils (to the south). However, there is still potential to encounter pockets of permafrost where there has been minimal disturbance.

2.2.2 Areas D and F (Lot 1059)

No testhole information specific to Area D was recovered from the in-house testhole database. However, prior to the site grading that has been completed in Area D, conditions were likely consistent with the conditions noted during 2006 and 2007 testhole investigations when two testpits and five boreholes were advanced during the geotechnical evaluations of Lot 1059 (which was being considered for wastewater treatment facility development).

Gravel fill and tailings were noted over Klondike River alluvium. As well, borehole W14100004-BH06 encountered highly weathered schist bedrock at 6.0 m. Shallow groundwater and perched ponds located between the tailings piles throughout Area F (Lot 1059) are consistent throughout and will be a development issue.

Testhole logs are presented in Appendix C.

2.2.3 Area A

In 2003, YTG completed a testpitting program 21 testpits excavated and 53 sieves which established that:

- In 2003, there was between 1.5 and 4.6 m of fair to good quality gravel throughout the pit area;
- Shallow bedrock was encountered in three testpits and was noted in an exposure (that was close to one of the testpit where shallow bedrock was noted);
- No groundwater was noted; and
- No permafrost was noted.

A subsequent EBA Engineering Consultants Ltd. (EBA) evaluation report prepared in 2009 considered the site acceptable (but with constraints including shallow bedrock and steep slopes along backslopes at the north end of the pit) for both urban and country residential site development.

Testpit logs and accompanying sieve analysis test result report forms are presented in Appendix D.

2.2.4 Area C

In 2009. EBA completed an evaluation of two sites being considered for aerated lagoon site development. The one investigated was the Area C site. Three testpits were excavated and conditions noted included granular tailings overlying silty colluvium with gravel, cobble and boulder sized pieces.

No groundwater, bedrock, or permafrost was encountered. However, conditions noted verified that the area had undergone significant disturbance due to placer mining operations and all surfaces throughout the area are likely uncompacted. Testpit logs for this site are presented in Appendix E.

In 2008, a Geometric Slope Stability Assessment was completed to establish set-back distances form the crest that defines the south edge of Area C down to the Klondike River Valley. Based on various cross-sections of varying slopes, development setback distances of between 15 m and 40 m were suggested.

3.0 DEVELOPMENT FEASIBILITY AND RECOMMENDATION

3.1 Feasibility & Constraints

Areas A, C, D and F (Lot 1059) are all considered appropriate for residential development. However, there will be geotechnical constraints with each. Consider the following:

- Area A is larger than it was when the 2003 testpitting program was completed by YTG forces. The relocation of the Dome Road and the subsequent mining of the previous Dome Road alignment by the Area C placer miner may have resulted in the placement of uncontrolled and uncompacted fill as well as having an impact on the thickness of soil above the underlying bedrock surface. Slope stability may be an issue, so once conceptual planning has been completed, setback distances should be determined. Detailed contour information will be required to complete this task.
- Area C is a long, narrow strip that has steep slopes on the upgradient and down-gradient sides. Development setback distances may limit the amount of developable area.
- Development of Areas D and F (Lot 1059) are proposed over tailings. Significant site grading and the import of granular materials will be necessary to establish separation from shallow groundwater.

Although there are development constraints, urban development with serviced lots is considered preferable for the four Dome Road areas being considered for development. The biggest advantage will be the construction of smaller lots since larger lot development will not be required in order to provide space for on-site sewage disposal system construction. Shallow bedrock or groundwater may dictate shallow bury of deep utility lines; however, since areas A, C, D and F have all undergone significant disturbance, issues associated with permafrost degradation are not likely. Insulated utility lines will still be required but the Dawson “Super Pipe”, which is basically an insulated pipe inside a rigid CSP pipe may not be required to provide additional resistance to settlement (this issue will have to be addressed by the civil consultant).

For Lots 12 and 15 on Turner Street, the main constraint involves excavation close to property lines and buildings on adjoining lots. Historically, excavation and backfill work throughout downtown Dawson is quite often scheduled for late fall so that colder (sub-zero) temperatures will assist in (but not totally prevent) excavation sidewall stability.

3.2 Foundation Construction

3.2.1 Lots 12 and 15 – Turner Street

Anecdotal information provided to Community Services – Land Development personnel suggesting that significant fill has been placed on building sites throughout downtown Dawson City. This is true. The three testhole logs used for evaluation all note that between 0.5 and 1.5 m of fill had been placed during lot grading and the thickness of fill under the buildings on both sites may be greater.

It must be noted that two of the three testholes were terminated at the sand and silt/alluvial gravel interface. This is important to acknowledge since the foundation option that truly ensures serviceability and adequate design life in Dawson City includes the sub-excavation of organic and fine grained floodplain sediments down to the alluvial gravel interface and subsequent backfill, bringing the building footprint back up to grade using coarse granular material which is placed in lifts and adequately compacted to minimize future settlement. In the case of the Turner

Street area the subexcavation depth would be likely be around 4.0 m. Keep in mind, if this option is considered, it would allow for full basement construction which will results in less backfill within the building footprint.

If the subcut to alluvial gravel option is too costly for the infill development proposed, a second option exists. Since it is very likely that there is no permafrost in the soils underlying Lots 12 and 15, a 1.5 m sub-cut, followed by the construction of an engineered fill to support the foundation system is considered acceptable as long as the proposed structure has a foundation system that can be adjusted (such as a space frame system of timber cribs on PWF pads). Developers, builders and property owners will have to assume some risk if this option is preferred.

3.2.2 Dome Road Area A, C, D & Lot 1059

Shallow foundation systems, including strip & spread footings or monolithic slab-on-grade systems are all feasible. The only constraints include shallow ground water for Area D and Lot 1059 (which will limit foundation depth) and the possibility of having frost susceptible colluvial soils underlying portions of Areas A and C along the Dome Road (this will necessitate the use of perimeter insulation to minimize the potential for frost heave related movements and subsequent damage).

3.3 Roadway Construction

3.3.1 Areas D and F (Lot 1059)

Roadway construction on tailings will be straight forward. It is assumed that the two areas will require pregrading along roadway corridors and residential lot frontage. Once the subgrade surface has been established (this may require imported granular to establish design subgrade elevations), the constructed embankment must be compact and stable before sub-base and basecourse construction can commence. Roadway structure recommendations are consistent with the recommendations presented for the 2002 C-4 Subdivision and include 400 mm of pit run gravel sub-base (placed in 2 lifts, moisture conditioned to facilitate the compaction process, and compacted to at least 98% of Standard Proctor Maximum Dry Density) and 100 mm of crushed 20 mm basecourse gravel (placed in a single lift, moisture conditioned and compacted to at least 98% of Standard Proctor Maximum Dry Density).

3.3.2 Area A and Area C along the Dome Road

Regrading of Area C will be extensive and once completed, subgrade surfaces will likely have sections that will expose frost susceptible colluvial soil or good quality, non-frost susceptible granular soils. It is likely that better quality subgrade materials will be present throughout much of Area A (as suggested by the testpit data collected in 2003), but colluvium will be encountered along sections of roadway where previous gravel extraction left little to no pit run.

For Areas A and C, roadway structure should also include 400 mm of pit run gravel sub-base (placed in 2 lifts, moisture conditioned to facilitate the compaction process, and compacted to at least 98% of Standard Proctor Maximum Dry Density) and 100 mm of crushed 20 mm basecourse gravel (placed in a single lift, moisture conditioned and compacted to at least 98% of Standard Proctor Maximum Dry Density).

Imported granular materials specifications for use on this project are presented below and reflect the Aggregate Gradation Specifications included in most Government of Yukon construction project tenders.

Table 1: Recommended Granular Material Specifications

Gran D – 80 mm Pit Run Sub-Base		Gran A - 20 mm Basecourse Gravel	
Particle Size (mm)	**% Passing by Mass**	**Particle Size (mm)**	**% Passing by Mass**
80	100		
25	55 – 100	20	100
12.5	42 – 84	12.5	64 – 100
5	26 – 65	5	36 – 72
2.5		2.5	18 - 54
1.25	11 – 47	1.25	12 – 42
0.315	3 – 30	0.315	4 – 22
0.080	0 – 8	0.080	3 – 6

3.4 Deep Utility Installation & Site Servicing – Dome Road Sites

3.4.1 Thermal Analysis

Thermal analysis will be very important for Areas D and F (Lot 1059) where shallow burial will be required due to groundwater. The 2002 C -4 Subdivision project included detailed thermal analysis and it was determined that winter time ground temperatures at 4.0 m depth could reach -4 Celsius so water and sewer lines installed at depths of between 1 m and 2 m depth would require additional protection (pipe insulation and/or the use of re-circulation lines). These recommendations were developed for installations in tailings but can be considered for use throughout Areas A and C as well since deep utility construction may require shallow burial due shallow bedrock (in Area A) or clean granular soils with thermal properties that are not conducive to shallow burial of water and sewer lines. It is assumed that the civil consultant will revisit this analysis as it is believed that global warming will be part of the assessment.

3.4.2 Pipe Bedding

Deep and shallow utility lines must be properly bedded to ensure support for the pipe and protection from coarse granular backfill. In areas where groundwater is not an issue, bedding sand can be utilized and in areas where shallow groundwater is encountered, bedding stone is recommended. Gradation specifications for imported bedding material is presented below.

Table 2: Recommended Pipe Bedding Materials Specifications

Bedding Sand		25 mm Bedding Stone	
Particle Size (mm)	**% Passing by Mass**	**Particle Size (mm)**	**% Passing by Mass**
10.000	100	25.000	100
5.000	80 – 100	20.000	70 - 100
2.000	55 – 100	12.500	55 – 100
0.630	25 – 65	10.00	30 – 80
0.250	10 – 40	5.000	0 – 40
0.080	3 – 30	2.000	0 – 10

3.4.3 Additional Site Servicing Recommendations:

Excavation of utility trenches and trench sideslopes must conform to the Yukon *Occupational Health & Safety Regulations*. Trench side slopes may have to be relaxed to 2H:1V (or even shallower) in areas where significant thicknesses of coarse tailings are encountered during trench excavation due to the potential for sloughing into the trenches.

It is recommended that a Class "B" pipe bedding configuration be specified for this project (in-house research suggests that this configuration is presented in the City of Whitehorse Servicing Standards Manual but adopted on most Government of Yukon infrastructure development projects). This includes at least 150 mm of approved bedding material below piping and at least 300 mm over the pipe for protection of the utility lines during backfill. Bedding may be bedding sand (in dry areas), or 25 mm bedding stone along sections where groundwater is encountered.

4.0 RECOMMENDATIONS FOR ADDITIONAL WORK

4.1 Lots 12 and 15 – Turner Street

To support the recommendations made in Section 3.2.1, it is recommended that a borehole be drilled through the surficial soils and into the underlying alluvial gravels on each lot. This level of geotechnical evaluation will define the site-specific stratigraphy at the two lots and that information can be used to establish whether or not a full sub-cut down to alluvial gravel is necessary or not.

During construction, compaction testing services will be required during the construction of the engineered fill on both lots.

4.2 Areas A, C, D & Lot 1059

Predesign level geotechnical evaluations should be performed throughout all of the Dome Road development areas. Ideally this would include a review of concept plans and then the completion of a testpitting program along proposed roadways to establish depth to groundwater (Area D and Lot 1059); sections where there is shallow bedrock in Area A and subgrade conditions in all areas.

During construction, compaction testing of subgrade, sub-base and basecourse surfaces will be required. Compaction testing will also be required during deep and shallow utility trench backfill. Testing of proposed backfill materials should also be completed to ensure compliance with project specifications.

4.3 Utility Line Routes From Existing to New Development Areas

Once the water main and sewer line routes that tie into existing infrastructure has been established, geotechnical drilling or testpitting is recommended to establish conditions and constraints along the proposed routes.

5.0 LIMITATIONS OF REPORT

This report and its contents are intended for the sole use of the Government of Yukon and their agents. Tetra Tech Canada Inc. (Tetra Tech) does not accept any responsibility for the accuracy of any of the data, the analysis, or the recommendations contained or referenced in the report when the report is used or relied upon by any Party other than Government of Yukon, or for any Project other than the proposed development at the subject site. Any such unauthorized use of this report is at the sole risk of the user. Tetra Tech's General Conditions are provided in Appendix A of this report.

6.0 CLOSURE

We trust this report meets your present requirements. If you have any questions or comments, please contact the undersigned.

Respectfully submitted,
Tetra Tech Canada Inc.

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PROFESSIONAL ENGINEER
YUKON TERRITORY
CHADWYCK P. COWAN
Nov 27/19

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TETRA TECH CANADA INC.
SIGNATURE
Date Nov 27/19
PERMIT NUMBER PP003
Association of Professional Engineers of Yukon

APPENDIX A

TETRA TECH'S LIMITATIONS ON THE USE OF THIS DOCUMENT

LIMITATIONS ON USE OF THIS DOCUMENT

GEOTECHNICAL – YUKON GOVERNMENT

1.1 USE OF DOCUMENT AND OWNERSHIP

This document pertains to a specific site, a specific development, and a specific scope of work. The document may include plans, drawings, profiles and other supporting documents that collectively constitute the document (the "Professional Document").

The Professional Document is intended for the sole use of TETRA TECH's Client (**Yukon Government**) as specifically identified in the TETRA TECH Services Agreement or other Contractual Agreement entered into with the Client (either of which is termed the "Contract" herein). TETRA TECH does not accept any responsibility for the accuracy of any of the data, analyses, recommendations or other contents of the Professional Document when it is used or relied upon by any party other than the Client, unless authorized in writing by TETRA TECH.

Any unauthorized use of the Professional Document is at the sole risk of the user. TETRA TECH accepts no responsibility whatsoever for any loss or damage where such loss or damage is alleged to be or, is in fact, caused by the unauthorized use of the Professional Document.

Where TETRA TECH has expressly authorized the use of the Professional Document by a third party (an "Authorized Party"), consideration for such authorization is the Authorized Party's acceptance of these Limitations on Use of this Document as well as any limitations on liability contained in the Contract with the Client (all of which is collectively termed the "Limitations on Liability"). The Authorized Party should carefully review both these Limitations on Use of this Document and the Contract prior to making any use of the Professional Document. Any use made of the Professional Document by an Authorized Party constitutes the Authorized Party's express acceptance of, and agreement to, the Limitations on Liability.

The Professional Document and any other form or type of data or documents generated by TETRA TECH during the performance of the work are TETRA TECH's professional work product and shall remain the copyright property of TETRA TECH.

The Professional Document is subject to copyright and shall not be reproduced either wholly or in part without the prior, written permission of the Yukon Government or TETRA TECH. It is acknowledged that the Yukon Government, the Client, may reproduce the report freely for internal usage.

1.2 ALTERNATIVE DOCUMENT FORMAT

Where TETRA TECH submits electronic file and/or hard copy versions of the Professional Document or any drawings or other project-related documents and deliverables (collectively termed TETRA TECH's "Instruments of Professional Service"), only the signed and/or sealed versions shall be considered final. The original signed and/or sealed electronic file and/or hard copy version archived by TETRA TECH shall be deemed to be the original. TETRA TECH will archive a protected digital copy of the original signed and/or sealed version for a period of 10 years.

Both electronic file and/or hard copy versions of TETRA TECH's Instruments of Professional Service shall not, under any circumstances, be altered by any party except TETRA TECH. TETRA TECH's Instruments of Professional Service will be used only and exactly as submitted by TETRA TECH.

Electronic files submitted by TETRA TECH have been prepared and submitted using specific software and hardware systems. TETRA TECH makes no representation about the compatibility of these files with the Client's current or future software and hardware systems.

1.3 STANDARD OF CARE

Services performed by TETRA TECH for the Professional Document have been conducted in accordance with the Contract, in a manner consistent with the level of skill ordinarily exercised by members of the profession currently practicing under similar conditions in the jurisdiction in which the services are provided. Professional judgment has been applied in developing the conclusions and/or recommendations provided in this Professional Document. No warranty or guarantee, express or implied, is made concerning the test results, comments, recommendations, or any other portion of the Professional Document.

If any error or omission is detected by the Client or an Authorized Party, the error or omission must be immediately brought to the attention of TETRA TECH.

1.4 DISCLOSURE OF INFORMATION BY CLIENT

The Client acknowledges that it has fully cooperated with TETRA TECH with respect to the provision of all available information on the past, present, and proposed conditions on the site, including historical information respecting the use of the site. The Client further acknowledges that in order for TETRA TECH to properly provide the services contracted for in the Contract, TETRA TECH has relied upon the Client with respect to both the full disclosure and accuracy of any such information.

1.5 INFORMATION PROVIDED TO TETRA TECH BY OTHERS

During the performance of the work and the preparation of this Professional Document, TETRA TECH may have relied on information provided by third parties other than the Client.

While TETRA TECH endeavours to verify the accuracy of such information, TETRA TECH accepts no responsibility for the accuracy or the reliability of such information even where inaccurate or unreliable information impacts any recommendations, design or other deliverables and causes the Client or an Authorized Party loss or damage.

1.6 GENERAL LIMITATIONS OF DOCUMENT

This Professional Document is based solely on the conditions presented and the data available to TETRA TECH at the time the data were collected in the field or gathered from available databases.

The Client, and any Authorized Party, acknowledges that the Professional Document is based on limited data and that the conclusions, opinions, and recommendations contained in the Professional Document are the result of the application of professional judgment to such limited data.

The Professional Document is not applicable to any other sites, nor should it be relied upon for types of development other than those to which it refers. Any variation from the site conditions present, or variation in assumed conditions which might form the basis of design or recommendations as outlined in this document, at or on the development proposed as of the date of the Professional Document requires a supplementary exploration, investigation, and assessment.

TETRA TECH is neither qualified to, nor is it making, any recommendations with respect to the purchase, sale, investment or development of the property, the decisions on which are the sole responsibility of the Client.

1.7 ENVIRONMENTAL AND REGULATORY ISSUES

Unless stipulated in the report, TETRA TECH has not been retained to explore, address or consider and has not explored, addressed or considered any environmental or regulatory issues associated with development on the subject site.

1.8 NATURE AND EXACTNESS OF SOIL AND ROCK DESCRIPTIONS

Classification and identification of soils and rocks are based upon commonly accepted systems, methods and standards employed in professional geotechnical practice. This report contains descriptions of the systems and methods used. Where deviations from the system or method prevail, they are specifically mentioned.

Classification and identification of geological units are judgmental in nature as to both type and condition. TETRA TECH does not warrant conditions represented herein as exact, but infers accuracy only to the extent that is common in practice.

Where subsurface conditions encountered during development are different from those described in this report, qualified geotechnical personnel should revisit the site and review recommendations in light of the actual conditions encountered.

1.9 LOGS OF TESTHOLES

The testhole logs are a compilation of conditions and classification of soils and rocks as obtained from field observations and laboratory testing of selected samples. Soil and rock zones have been interpreted. Change from one geological zone to the other, indicated on the logs as a distinct line, can be, in fact, transitional. The extent of transition is interpretive. Any circumstance which requires precise definition of soil or rock zone transition elevations may require further investigation and review.

1.10 STRATIGRAPHIC AND GEOLOGICAL INFORMATION

The stratigraphic and geological information indicated on drawings contained in this report are inferred from logs of test holes and/or soil/rock exposures. Stratigraphy is known only at the locations of the test hole or exposure. Actual geology and stratigraphy between test holes and/or exposures may vary from that shown on these drawings. Natural variations in geological conditions are inherent and are a function of the historical environment. TETRA TECH does not represent the conditions illustrated as exact but recognizes that variations will exist. Where knowledge of more precise locations of geological units is necessary, additional exploration and review may be necessary.

1.11 PROTECTION OF EXPOSED GROUND

Excavation and construction operations expose geological materials to climatic elements (freeze/thaw, wet/dry) and/or mechanical disturbance which can cause severe deterioration. Unless otherwise specifically indicated in this report, the walls and floors of excavations must be protected from the elements, particularly moisture, desiccation, frost action and construction traffic.

1.12 SUPPORT OF ADJACENT GROUND AND STRUCTURES

Unless otherwise specifically advised, support of ground and structures adjacent to the anticipated construction and preservation of adjacent ground and structures from the adverse impact of construction activity is required.

1.13 INFLUENCE OF CONSTRUCTION ACTIVITY

Construction activity can impact structural performance of adjacent buildings and other installations. The influence of all anticipated construction activities should be considered by the contractor, owner, architect and prime engineer in consultation with a geotechnical engineer when the final design and construction techniques, and construction sequence are known.

1.14 OBSERVATIONS DURING CONSTRUCTION

Because of the nature of geological deposits, the judgmental nature of geotechnical engineering, and the potential of adverse circumstances arising from construction activity, observations during site preparation, excavation and construction should be carried out by a geotechnical engineer. These observations may then serve as the basis for confirmation and/or alteration of geotechnical recommendations or design guidelines presented herein.

1.15 DRAINAGE SYSTEMS

Where temporary or permanent drainage systems are installed within or around a structure, the systems which will be installed must protect the structure from loss of ground due to internal erosion and must be designed so as to assure continued satisfactory performance of the drains. Specific design detail of such systems should be developed or reviewed by the geotechnical engineer. Unless otherwise specified, it is a condition of this report that effective temporary and permanent drainage systems are required and that they must be considered in relation to project purpose and function.

1.16 DESIGN PARAMETERS

Bearing capacities for Limit States or Allowable Stress Design, strength/stiffness properties and similar geotechnical design parameters quoted in this report relate to a specific soil or rock type and condition. Construction activity and environmental circumstances can materially change the condition of soil or rock. The elevation at which a soil or rock type occurs is variable. It is a requirement of this report that structural elements be founded in and/or upon geological materials of the type and in the condition used in this report. Sufficient observations should be made by qualified geotechnical personnel during construction to assure that the soil and/or rock conditions considered in this report in fact exist at the site.

1.17 SAMPLES

TETRA TECH will retain all soil and rock samples for 30 days after this report is issued. Further storage or transfer of samples can be made at the Client's expense upon written request, otherwise samples will be discarded.

1.18 APPLICABLE CODES, STANDARDS, GUIDELINES & BEST PRACTICE

This document has been prepared based on the applicable codes, standards, guidelines or best practice as identified in the report. Some mandated codes, standards and guidelines (such as ASTM, AASHTO Bridge Design/Construction Codes, Canadian Highway Bridge Design Code, National/Provincial Building Codes) are routinely updated and corrections made. TETRA TECH cannot predict nor be held liable for any such future changes, amendments, errors or omissions in these documents that may have a bearing on the assessment, design or analyses included in this report.

APPENDIX B

TESTHOLE DATA FOR THE TURNER STREET AREA

LEGEND

- BOREHOLE LOCATION
- TESTPIT LOCATION

0 50m

Scale: 1:1,500 @ 8.5"x11"

CLIENT

Yukon Government
Department of Community Services
Land Development Branch

TETRA TECH

DAWSON CITY SITE DEVELOPMENT

SITE PLAN SHOWING TESTHOLE LOCATIONS ALONG TURNER STREET

PROJECT NO.	DWN	CKD	REV
ENG.WARC03386-51	CB	MCP	0

OFFICE	DATE
EBA-WHSE	November 4, 2019

Figure 1

Q:\Whitehorse\Data\0201drawings\Dawson City Area\ENG.WARC03386-51 Dawson City Site Development\ENG.WARC03386-51 Fig.1-R0.dwg [FIGURE 1] November 06, 2019 - 8:38:42 am (BY: BUCHAN, CAMERON)

PROJECT Dawson (Historic Sites Building) | TESTHOLE No. 12

SURFACE ELEVATION 1049.8' | JOB No. E - 381 - C

Depth ft.	Soil Description	Ice Description
1	FILL - gravel - silt & gravel mixed, some peat	
2	SILT - peat & sand laminations brown to grey - peat laminations [32 % sand 62 % silt 4 % clay]	Nbn Ice coating on peat Nf Nbn Ice coating on peat & some Nf
3		
4		
5		Nf
6		
7	SAND - fine clean - medium	Nbn
8	- coarse	
9	- silty, peat laminations	
10		
11	- coarse, silty fine sand laminations - medium to coarse sand	
12		
13	GRAVEL OR BOULDERS No Penetration	

Water Content % ● — 10 20 30 40

Temperature °F — 10 15 20 25 30 35

10 20 30 40 50

Penetration Resistance N

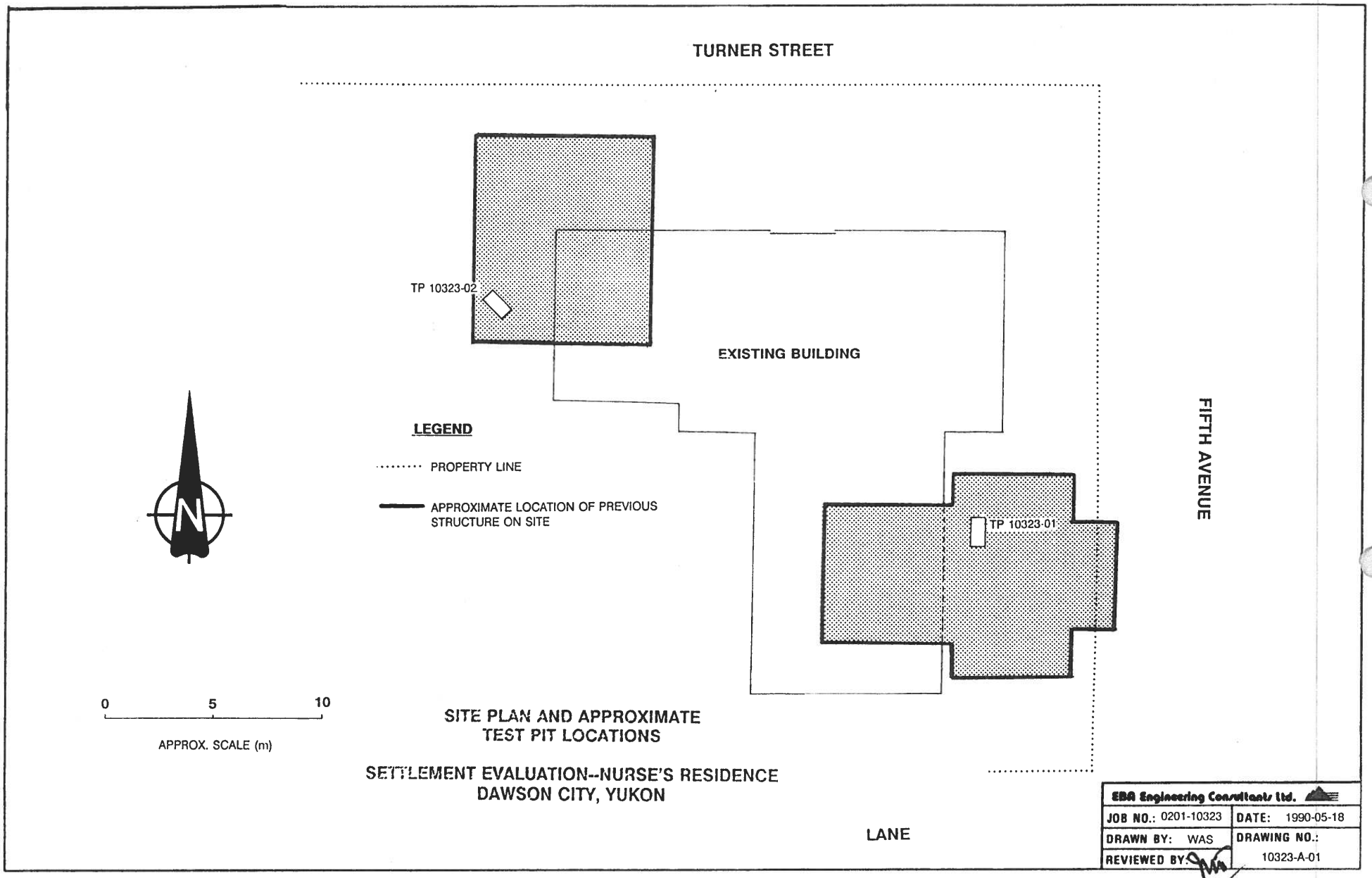
BROOKER & ASSOCIATES

Completion Depth 12.5' Date Apr. 23/72

Depth to Water in Boring Dry

Page 1 of 1

Dwg. No.



SITE PLAN AND APPROXIMATE TEST PIT LOCATIONS

SETTLEMENT EVALUATION--NURSE'S RESIDENCE
DAWSON CITY, YUKON

EBA Engineering Consultants Ltd.	
JOB NO.: 0201-10323	DATE: 1990-05-18
DRAWN BY: WAS	DRAWING NO.: 10323-A-01
REVIEWED BY:	

SETTLEMENT EVALUATION–NURSE'S RESIDENCE	CLIENT: STANLEY ASSOCIATES ENG. LTD.	BOREHOLE No. 10323–01
FIFTH AVENUE AND TURNER STREET	BACKHOE: BANTAM C–366	Project No: 0201–10323
DAWSON CITY, YUKON	UTM ZONE: 8 N7103850.00 E576300.00	ELEVATION 0.00 (m)

SAMPLE TYPE ■ GRAB SAMPLE ⧄ NO RECOVERY ⊠ STANDARD PEN. ▤ 75 mm SPOON ▯ 75 mm CRREL ▮ 100 mm CRREL

DEPTH (m)	SAMPLE TYPE	SAMPLE NO	USC	SOIL DESCRIPTION
0.0				TOPSOIL over white channel gravel FILL
				FILL–organic silt, pieces of timber, car parts, diesel and paint odour
1.0				– timber mud sill at 1.2 m
				SILT–sandy, trace of gravel, black organic laminations, moist to wet, olive brown
2.0	■	1		– unfrozen
				SAND AND SILT–black organics throughout
3.0				– light brown sand layer
				– Temperature = +2.1 degrees C.
				– wet below 3.5 m
	■	2		– dark grey silt and sand, organic
4.0				– just touching gravel at 4.2 m
				END OF BOREHOLE AT 4.2 m
5.0				

■ STANDARD PENETRATION ■ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

● PERCENT SAND ● 20 40 60 80

▲ PERCENT FINES ▲ 20 40 60 80

◆ PERCENT CLAY ◆ 20 40 60 80

DEPTH (ft): 0.0, 2.0, 4.0, 6.0, 8.0, 10.0, 12.0, 14.0, 16.0

EBA Engineering Consultants Ltd. Whitehorse, Yukon	COMPLETION DEPTH 4.2 m	COMPLETE 90/05/08
	LOGGED BY JRT	DWG NO.
		Page 1 of 1

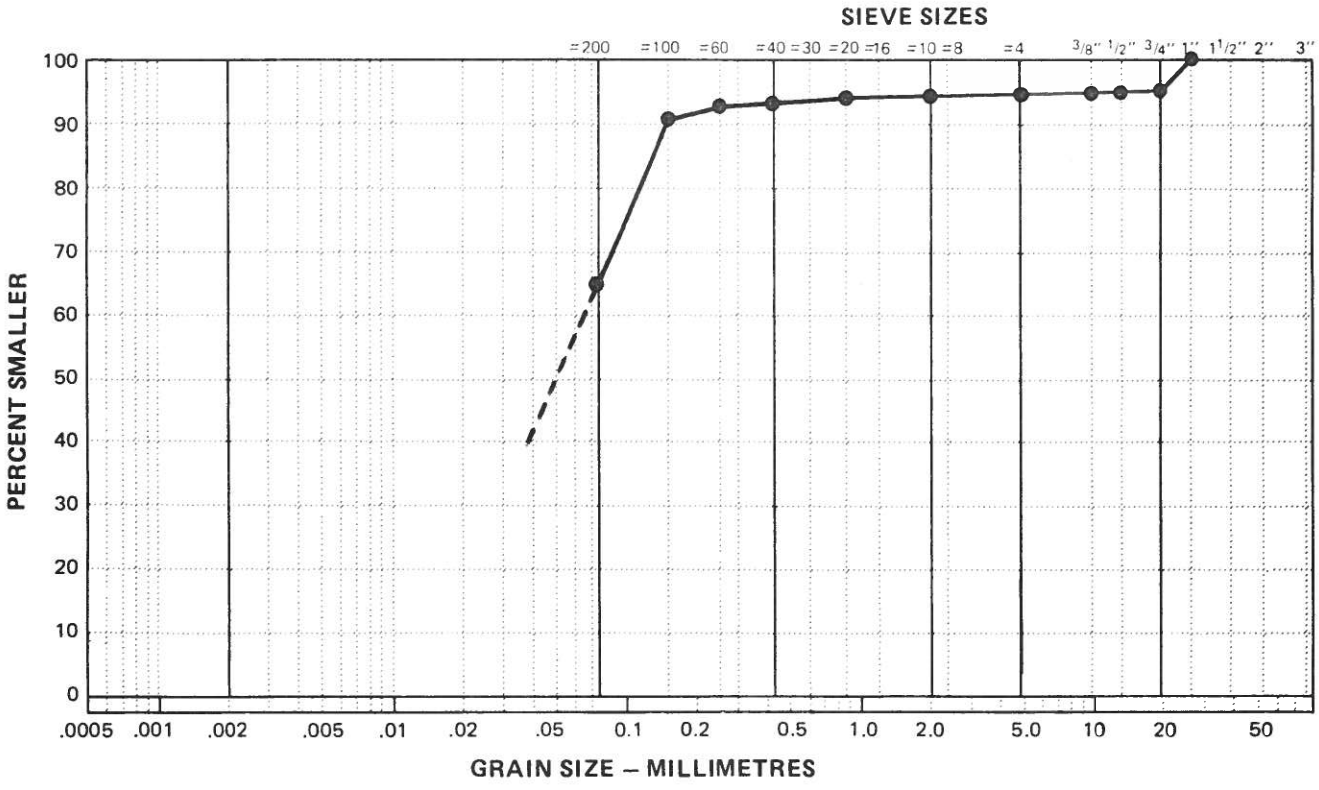
EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: Nurses Residence
Dawson City, Yukon
Project Number: 0201 10323
Date Tested: 1990-05-11
Borehole Number: 10323-01
Depth: 1.8 - 2.0 m
Soil Description: SILT(ML)-sandy, some organics, trace of gravel
Cu:
Cc:
Natural Moisture Content: 26.9 %
Remarks:

SIEVE	PERCENTAGE PASSING
3"	
1 1/2"	
1"	100
3/4"	95
1/2"	95
3/8"	95
No. 4	95
No. 10	95
No. 20	95
No. 40	94
No. 60	93
No. 100	91
No. 200	65

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



Tested in accordance with ASTM D422 unless otherwise noted.

SETTLEMENT EVALUATION–NURSE'S RESIDENCE	CLIENT: STANLEY ASSOCIATES ENG. LTD.	BOREHOLE No. 10323–02
FIFTH AND TURNER STREET	BACKHOE: BANTAM C–366	Project No: 0201–10323
DAWSON CITY, YUKON	UTM ZONE: 8 N7103850.00 E576300.00	ELEVATION 0.00 (m)

SAMPLE TYPE ■ GRAB SAMPLE ⊘ NO RECOVERY ⊠ STANDARD PEN. ▤ 75 mm SPOON ▥ 75 mm CRREL ▥ 100 mm CRREL

DEPTH (m)	SAMPLE TYPE	SAMPLE NO	USC	SOIL DESCRIPTION	DEPTH (ft)
0.0				TOPSOIL over white channel gravel	0.0
				– seasonal frost from 0.8 – 1.7 m	
				– dark brown organic silt FILL, with pieces of wood from 0.8 – 1.2 m	2.0
1.0					
				SILT–sandy, interbedded with organic silt, some rootlets throughout, moist to wet, dark grey	4.0
				– unfrozen	
2.0					6.0
					8.0
3.0					10.0
				SAND AND SILT–uniform in appearance, dry to damp, grey brown	
				– unfrozen	12.0
				END OF TEST PIT AT 3.8 m	
4.0				NOTE: –No sample taken––probe hole only.	14.0
5.0					16.0

■ STANDARD PENETRATION ■ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

● PERCENT SAND ● 20 40 60 80

▲ PERCENT FINES ▲ 20 40 60 80

◆ PERCENT CLAY ◆ 20 40 60 80

EBA Engineering Consultants Ltd. Whitehorse, Yukon	COMPLETION DEPTH 3.8 m	COMPLETE 90/05/08
	LOGGED BY JRT	DWG NO.
		Page 1 of 1

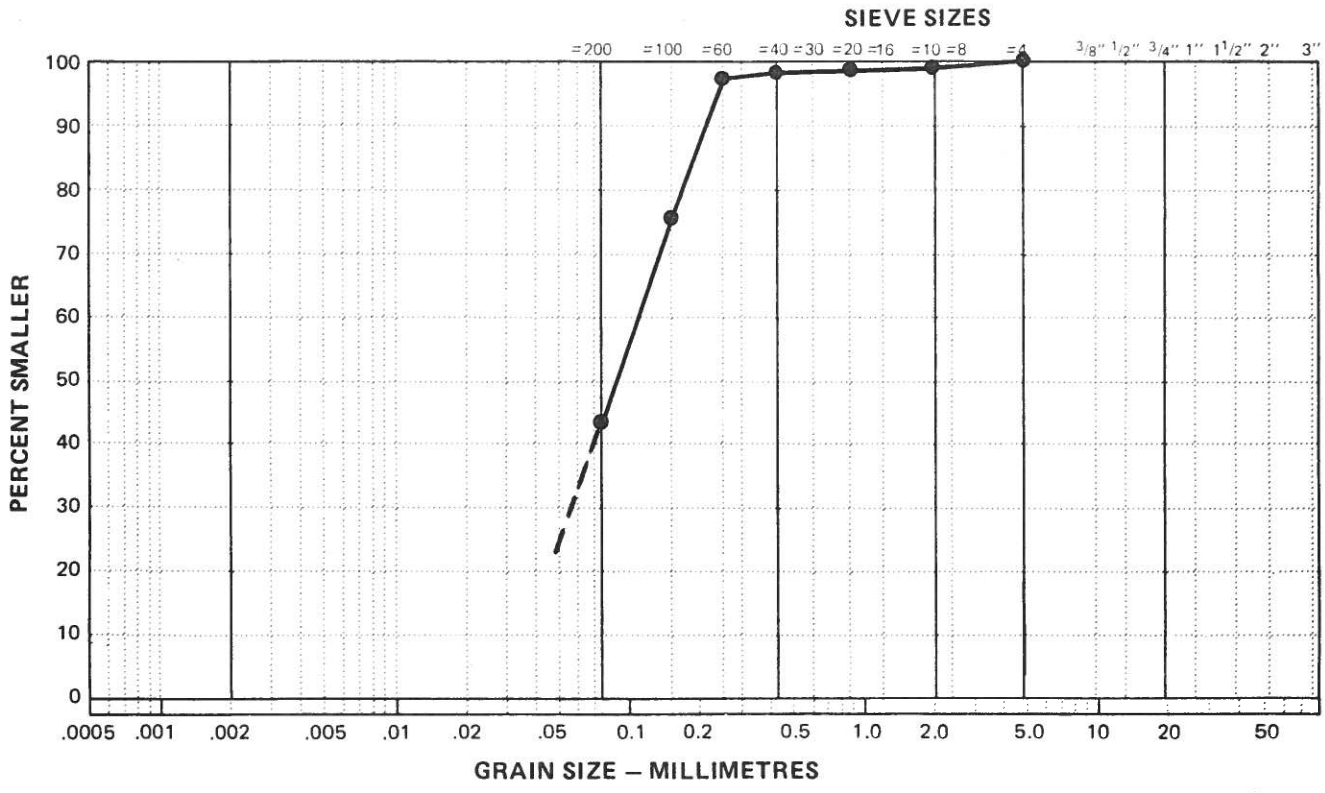
EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: Nurses Residence
Dawson City, Yukon
Project Number: 0201-10323
Date Tested: 1990-05-11
Borehole Number: 10323-02
Depth: 3.8 - 4.0 m
Soil Description: SAND AND SILT(SM)-trace to some organics
Cu:
Cc:
Natural Moisture Content: 30.0 %
Remarks:

SIEVE	PERCENTAGE PASSING
3"	
1 1/2"	
1"	
3/4"	
1/2"	
3/8"	
No. 4	100
No. 10	99
No. 20	99
No. 40	99
No. 60	97
No. 100	76
No. 200	43

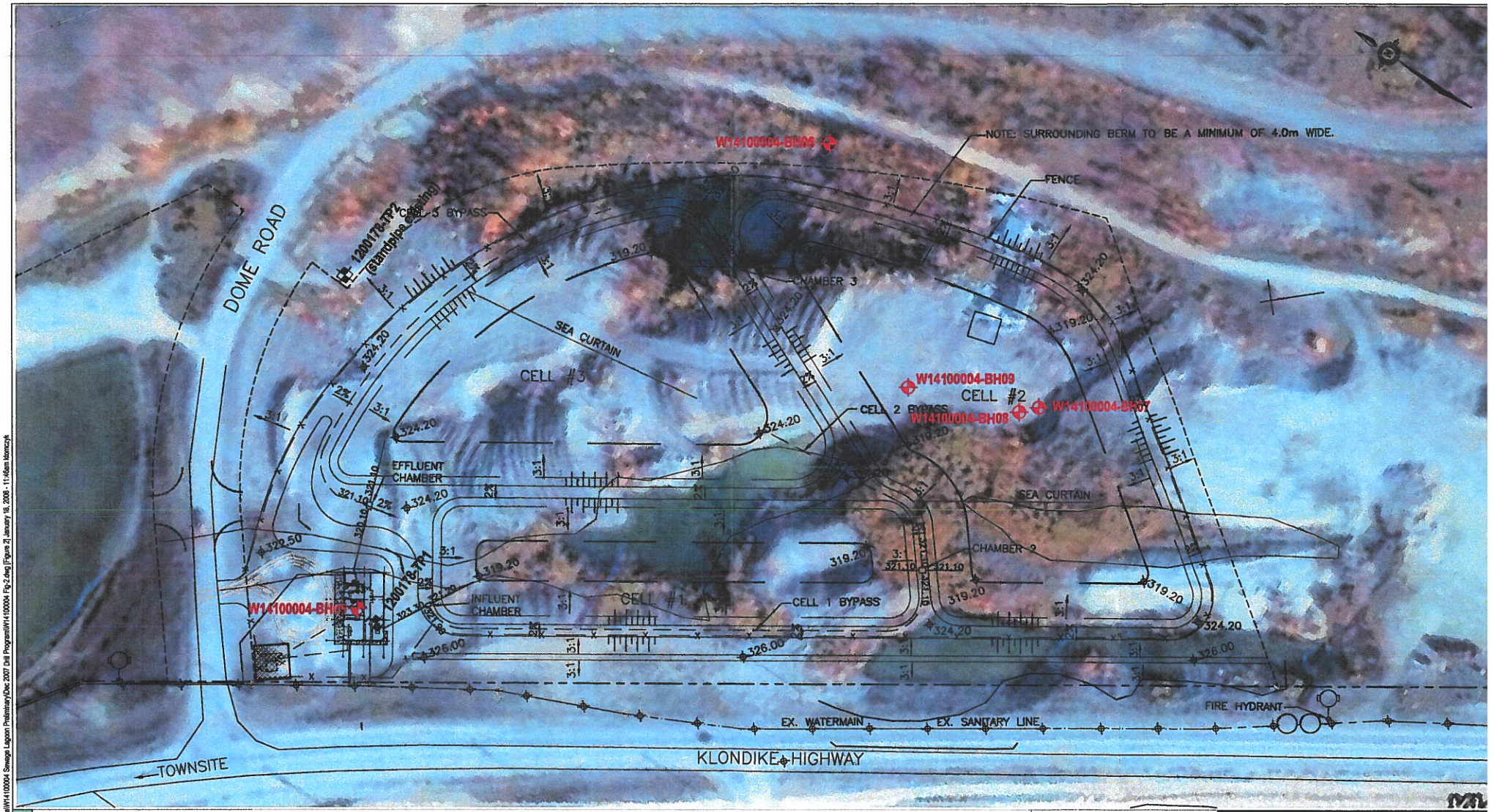
CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



Tested in accordance with ASTM D422 unless otherwise noted.

APPENDIX C

TESTHOLE DATA FOR THE AREAS D AND F (LOT 1059)



LEGEND

EBA BOREHOLE LOCATIONS

NOTES:

1) BACKGROUND IMAGE PROVIDED BY GOOGLE EARTH
2) BASE PLAN OBTAINED FROM EARTH TECH (CANADA) DAWSON CITY SEWAGE TREATMENT IMPROVEMENTS DRAWING C-03

0 10 20 40 60 80 100 metres

SCALE = 1 : 1250

CLIENT

EarthTech
A tyco International Ltd. Company

EBA Engineering Consultants Ltd.

Geotechnical Field Program and Design Consideration
Proposed Wastewater Treatment Facility
Dawson City, YT

SITE PLAN SHOWING WWTF BOREHOLE LOCATIONS

PROJECT NO.	DWN	CKD	REV
W14100004	JSB	CJD/JRT	0
OFFICE: EBA-WHSE	DATE: January 18, 2007		

Figure 1

Q:\Whitehorse\Data\2201\drawings\Dawson City Area\W14100004 Sewage Lagoon Preliminary\Dec 2007 Dat Program\W14100004 Fig-2.dwg [Figure 2] January 18, 2008 - 11:46am tomczyk

Geotechnical Services	Government of Yukon	TESTPIT NO: 1200178.001-TP01
Proposed Sewage Lagoon	Kubota	PROJECT NO: 1200178.001
Dawson City, YT	7103329N;577026E;Z8	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	MOISTURE CONTENT (PLASTIC — M.C. — LIQUID; 20 40 60 80)	◆ UNCONFINED (kPa) ◆ 50 100 150 200; ▲ POCKET PEN. (kPa) ▲ 100 200 300 400	Depth (ft)
0	GRAVEL (FILL/TAILINGS) - trace of sand, trace of silt, subrounded, loose to compact, dry, brown				0
	- cobbles and some small boulders throughout				
1					
					5
2					
3					10
4					
	END OF TESTPIT 4.5 m				15
5					16

EBA Engineering Consultants Ltd.

LOGGED BY: JSB	COMPLETION DEPTH: 4.5m
REVIEWED BY: JRT	COMPLETE: 7/29/2006
DRAWING NO:	Page 1 of 1

Geotechnical Services	Government of Yukon	TESTPIT NO: 1200178.001-TP02
Proposed Sewage Lagoon	Kubota	PROJECT NO: 1200178.001
Dawson City, YT	7103405N;577142E;Z8	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

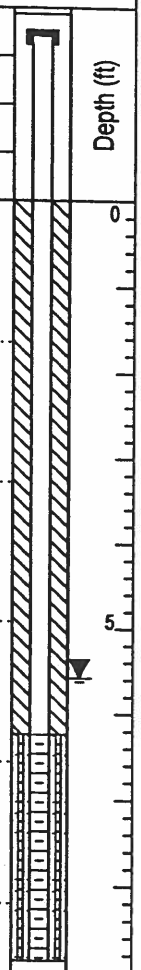
BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	MOISTURE CONTENT
0	GRAVEL (TAILINGS/FILL) - some sand, trace of silt		
1	SILT (FLUVIAL) - sandy, fine grained, very moist, compact, medium grey - rootlets throughout		
	- sand, content increases, less silt below 1.2 m		32.3
2			
	END OF TESTPIT 2.7 m - hole sloughing from gravel layer		
3			
4			
5			

PLASTIC M.C. LIQUID
20 40 60 80

◆ UNCONFINED (kPa) ◆
50 100 150 200
▲ POCKET PEN. (kPa) ▲
100 200 300 400

Depth (ft): 0, 5, 10, 15, 16



EBA Engineering Consultants Ltd.

LOGGED BY: JSB	COMPLETION DEPTH: 2.7m
REVIEWED BY: JRT	COMPLETE: 7/29/2006
DRAWING NO:	Page 1 of 1

GEOTECHNICAL DAWSON - 1200178.001.GPJ EBA.GDT 06/09/28

Proposed Wastewater Treatment Facility	Client: Earth Tech	PROJECT NO. - BOREHOLE NO.
WWTF	Drill Type: Nodwell Mounted Auger	W14100004 BH05
Dawson City, YT	7103526N; 576887E; Zone 7	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	NOTES & COMMENTS	Depth (ft)
0	GRAVEL (FILL / TAILINGS)				0
1					5
2					
3					10
4					
	SAND - gravelly, trace of silt, coarse grained angular sand, fine to medium sub-rounded gravel, loose, very wet mottled grey and brown - easy drilling around 4.2 m		1		15
5					
6					20
			2		
7	END OF BOREHOLE @ 6.7 m				25
8					
9					30
10					33

EBA Engineering Consultants Ltd.

LOGGED BY: JSB	COMPLETION DEPTH: 6.7m
REVIEWED BY: JRT	COMPLETE: 11/29/2007
DRAWING NO: Figure 1	Page 1 of 1

Proposed Wastewater Treatment Facility	Client: Earth Tech	PROJECT NO. - BOREHOLE NO.
WWTF	Drill Type: Nodwell Mounted Auger	W14100004 BH06
Dawson City, YT	7103494N; 577116E; Zone 7	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	NOTES & COMMENTS	Depth (ft)
0	ORGANIC ROOT MAT				0
	GRAVEL (FILL) - sandy, trace silt, well graded sub-angular gravel, medium to coarse sand, compact, dry, white and light grey		1		
1	- color changes to light greyish brown at 1.0 m				
			2		5
	- color changes to medium to dark brown around 1.5 m		3		
2	- becomes gravel (FILL / TAILINGS) around 2.0 m				
3					10
4	▼				▼
	- easier drilling below 4.2 m - water encountered				15
5					
6	BEDROCK (SCHIST) - highly weathered, poor quality				20
			4		
7	END OF BOREHOLE @ 6.7 m - hole sloughing in tailings				25
8					
9					30
10					33

EBA Engineering Consultants Ltd.

LOGGED BY: JSB	COMPLETION DEPTH: 6.7m
REVIEWED BY: JRT	COMPLETE: 11/29/2007
DRAWING NO: Figure 1	Page 1 of 1

Proposed Wastewater Treatment Facility	Client: Earth Tech	PROJECT NO. - BOREHOLE NO.
WWTF	Drill Type: Nodwell Mounted Auger	W14100004 BH07
Dawson City, YT	7103380N; 577085E; Zone 7	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	NOTES & COMMENTS	Depth (ft)
0	GRAVEL (FILL / TAILINGS)			0
1	- very hard drilling below 1.3 m			5
	END OF BOREHOLE @ 1.5 m (REFUSAL)			
2				10
3				
4				15
5				
6				20
7				
8				25
9				30
10				33

EBA Engineering Consultants Ltd.

LOGGED BY: JSB	COMPLETION DEPTH: 1.5m
REVIEWED BY: JRT	COMPLETE: 11/29/2007
DRAWING NO: Figure 1	Page 1 of 1

Proposed Wastewater Treatment Facility	Client: Earth Tech	PROJECT NO. - BOREHOLE NO.
WWTF	Drill Type: Nodwell Mounted Auger	W14100004 BH08
Dawson City, YT	7103384N; 577080E; Zone 7	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	NOTES & COMMENTS	Depth (ft)
0	GRAVEL (FILL / TAILINGS)			0
1				5
	- very hard drilling below 1.5 m			
2	END OF BOREHOLE @ 1.8 m (REFUSAL)			10
3				
4				15
5				
6				20
7				
8				25
9				30
10				33

EBA Engineering Consultants Ltd.

LOGGED BY: JSB	COMPLETION DEPTH: 1.8m
REVIEWED BY: JRT	COMPLETE: 11/29/2007
DRAWING NO: Figure 1	Page 1 of 1

Proposed Wastewater Treatment Facility	Client: Earth Tech	PROJECT NO. - BOREHOLE NO.
WWTF	Drill Type: Nodwell Auger	W14100004 BH09
Dawson City, YT	7103426N; 577064E; Zone 7	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

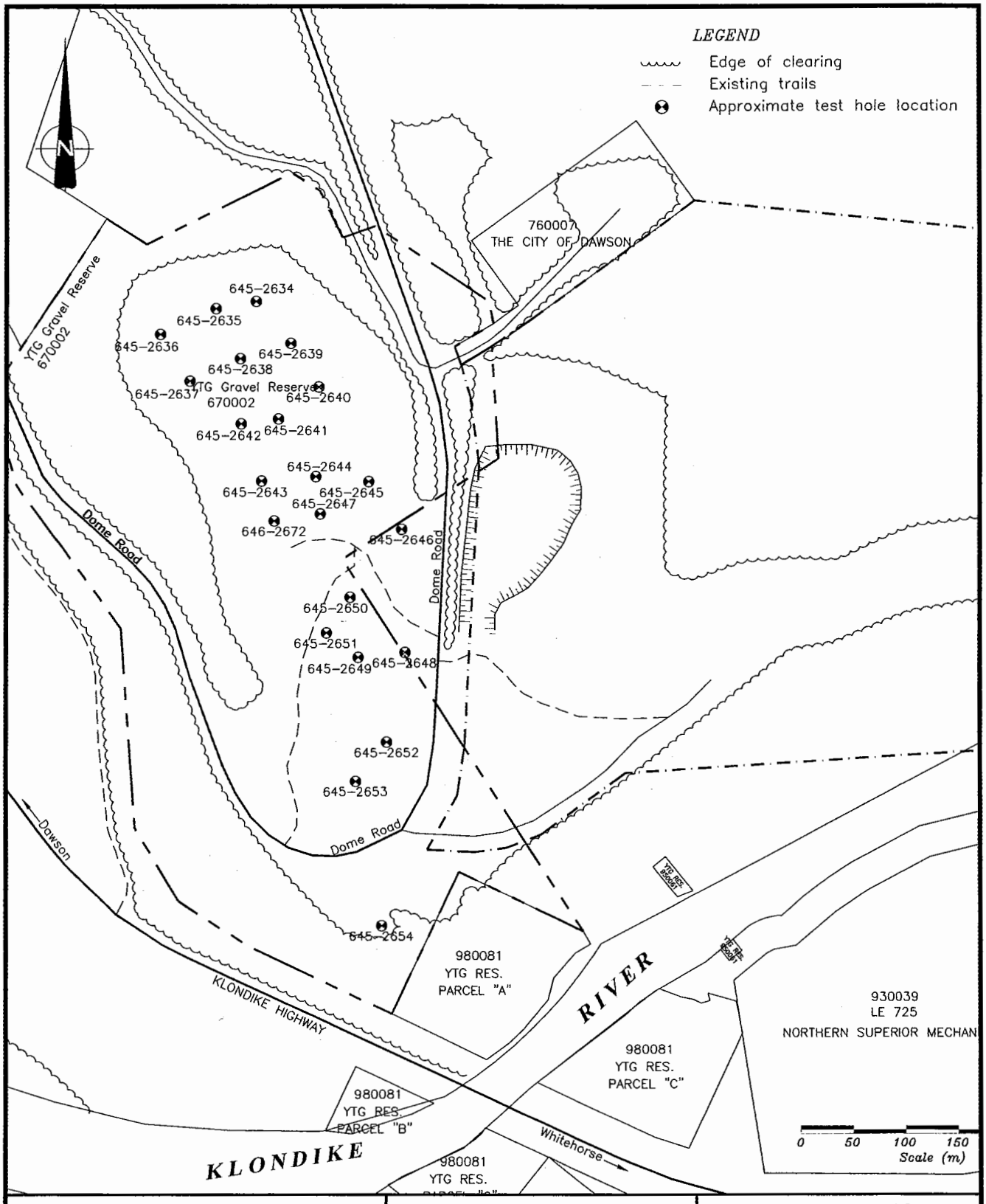
Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	NOTES & COMMENTS	Depth (ft)
0	GRAVEL (FILL / TAILINGS)			UNFROZEN	0
5	SAND AND GRAVEL (ALLUVIUM) - trace silt, well graded sub-rounded sand and gravel, mottled grey/black/brown - easier drilling below 4.8 m		1	FROZEN Vx, Vc 10-15% below 4.8 m	15
8	- less gravel below 7.5 m - some silt below 7.5 m		2		25
10	END OF BOREHOLE @ 8.2 m				33

EBA Engineering Consultants Ltd.

LOGGED BY: JSB	COMPLETION DEPTH: 8.2m
REVIEWED BY: JRT	COMPLETE: 11/29/2007
DRAWING NO: Figure 1	Page 1 of 1

APPENDIX D

TESTHOLE AND LABORATORY TEST RESULT DATA FOR AREA A



Yukon
Highways and Public Works

Transportation Engineering Branch

SITE PLAN
GRANULAR PIT
km 713.4 RHS
(Dome Road)
KLONDIKE HWY. YUKON

pit file:	116 B–18
revision:	2009–Temp
drawn:	JJM
date:	2009–01–29
scale:	1: 5000
drwg:	116b–18S

SUBSURFACE EXPLORATION & TESTING REPORT	DOME ROAD GRANULAR INVESTIGATION	TEST PIT NO: 645-2634
ENGINEERING CAPITAL	KM 713.4 K/H	Project No: 552-202001-0204
BACK HOE KOMATSU PC-120	LOCATION: 116-B-18 SEE PLAN	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	WELL-GRADED GRAVEL WITH SILT (GW-GM) -brown -damp -maximum 250mm diameter -estimate 5-10% +75mm material -easy digging		1	▲	GW-GM		◆ ■	0.0
1.0								1.0
2.0	SILTY GRAVEL WITH SAND (GM) -brown -wet -maximum 250mm diameter -estimate 5% +75mm material -digging is more difficult with increased silts		2	▲	GM		◆ ■	2.0
3.0	END HOLE @ 3.0m							3.0
4.0								4.0
5.0								5.0
6.0								6.0

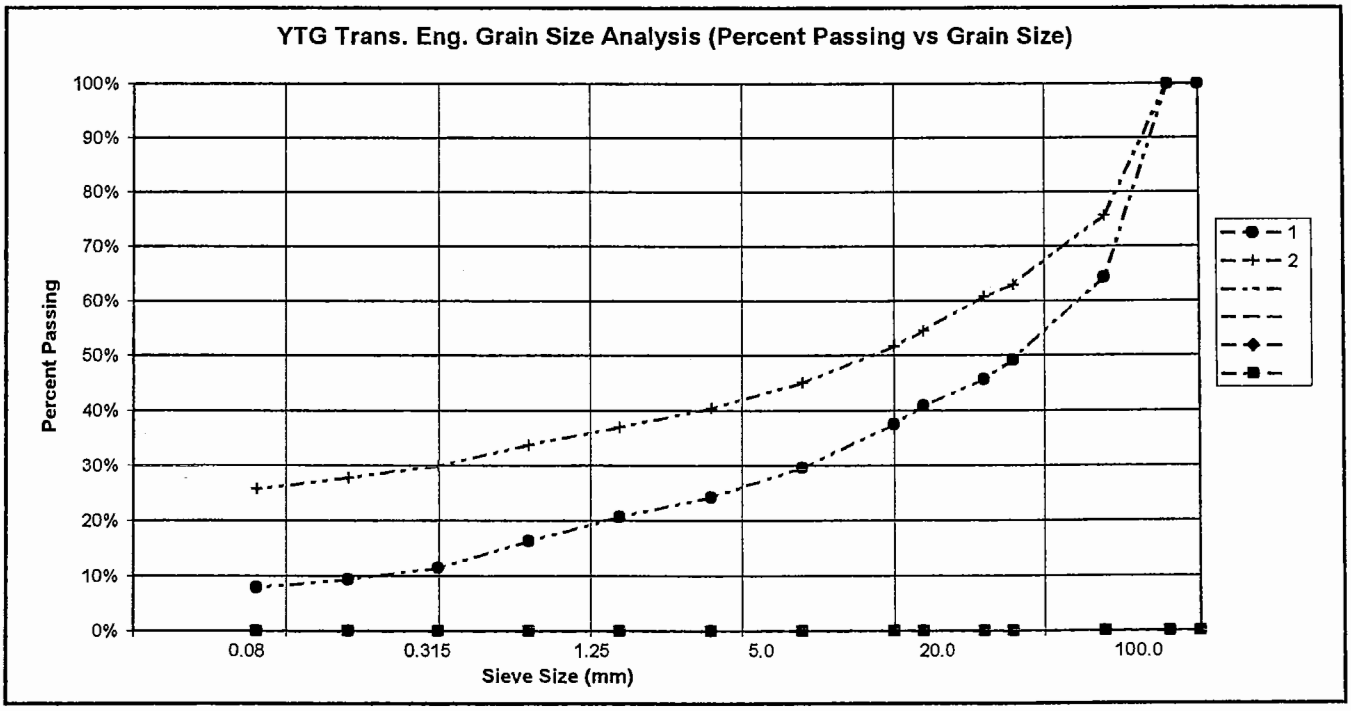
Government of Yukon
Transportation Engineering

LOGGED BY: JRP	COMPLETION DEPTH: 3.0 m
REVIEWED BY:	COMPLETE: 03/06/25
Fig. No:	Page 1 of 1

03/12/04 10:52AM

PROJECT NUMBER:	552-202001-0204-02		HOLE No.: 645-2634
CLIENT:	Engineering Capital		
PROJECT NAME:	Dome Road Granular Investigation		
PROJECT LOCATION:	Km 713.4 RHS Klondike Hwy 116-B-18		
DRILL UNIT:	Kamatsu PC 120		
HOLE LOCATION:	See plan		
LOGGED BY:	JRP		DATE COMP: 2003/06/26

FIELD NO:	1	2				
LAB NO:	15	16				
DEPTH:	0.5-0.7	2.6-3.0				
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING				
100.0	100%	100%				
80.0	100%	100%				
50.0	64%	76%				
25.0	49%	63%				
20.0	46%	61%				
12.5	41%	54%				
10.0	37%	52%				
5.0	30%	45%				
2.5	24%	40%				
1.25	21%	37%				
0.630	16%	34%				
0.315	11%	30%				
0.160	9%	28%				
0.080	8%	26%				
M.C.(%):						
LIQUID LIMIT:	0.0	0.0				
PLASTIC LIMIT:	0.0	0.0				
PLASTIC INDEX.:	0.0	0.0				
% GRAVEL:	70	55				
% SAND:	22	19				
% FINES:	8	26				
CLASSIFICATION	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)	SILTY GRAVEL WITH SAND (GM)				



SUBSURFACE EXPLORATION & TESTING REPORT	DOME ROAD GRANULAR INVESTIGATION	TEST PIT NO: 645-2635
ENGINEERING CAPITAL	KM 713.4 K/H	Project No: 552-202001-0204
BACK HOE KOMATSU PC-120	LOCATION: 116-B-18 SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⧄ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

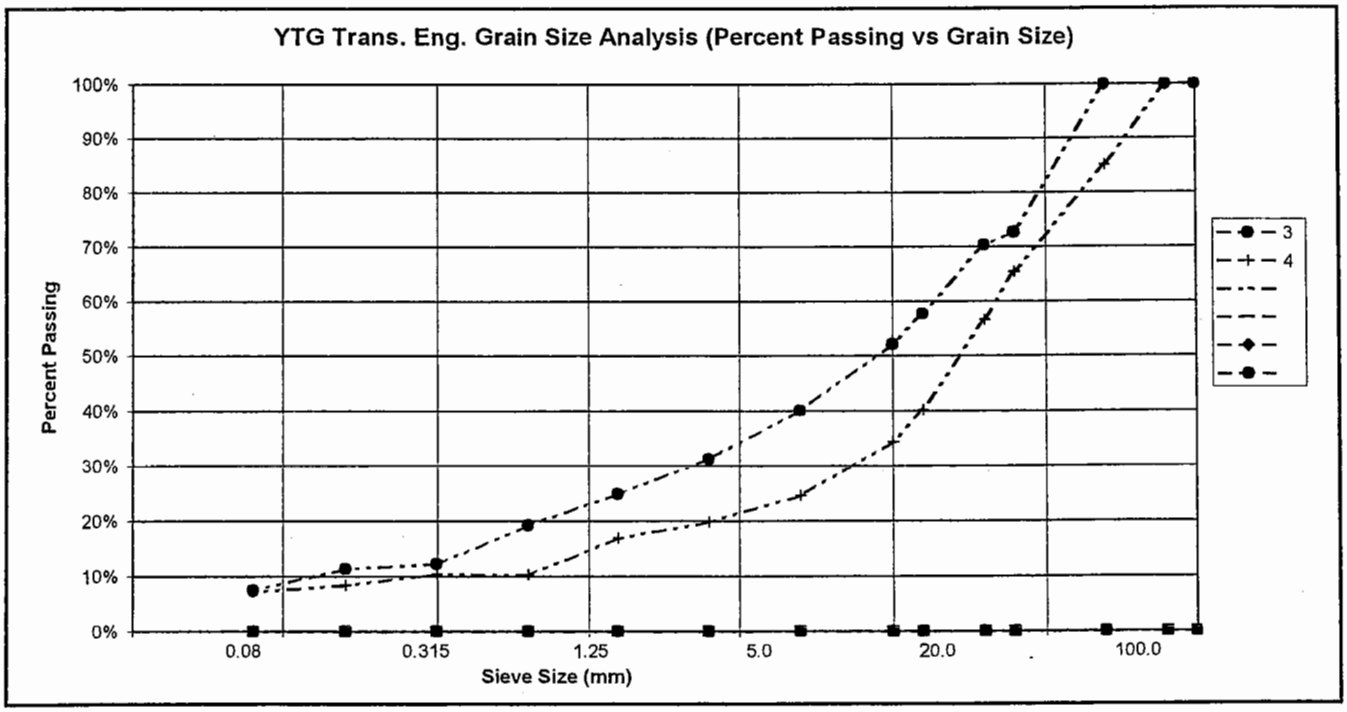
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	POORLY TO WELL-GRADED GRAVEL WITH SILT AND SAND (GP-GM)-(GW-GM) -brown -damp -maximum 200mm diameter -estimate 5-10% +75mm material							0.0
1.0			3	▲	GP-GM		◆ ■	1.0
2.0								2.0
3.0								3.0
4.0	-moist to wet below 4.0m -maximum 200mm diameter below 4.0m -estimate 10-15% +75mm material below 4.0m		4	▲	GW-GM		◆ ■	4.0
	END HOLE @ 4.3m							
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: JRP	COMPLETION DEPTH: 4.3 m
	REVIEWED BY:	COMPLETE: 03/06/25
	Fig. No:	Page 1 of 1

03/12/04 10:52AM

PROJECT NUMBER:	552-202001-0204-02		HOLE No.: 645-2635
CLIENT:	Engineering Capital		
PROJECT NAME:	Dome Road Granular Investigation		
PROJECT LOCATION:	Km 713.4 RHS Klondike Hwy 116-B-18		
DRILL UNIT:	Kamatsu PC 120		
HOLE LOCATION:	See Plan		
LOGGED BY:	JRP		DATE COMP: 2003/06/26

FIELD NO:	3	4				
LAB NO:	17	18				
DEPTH:	1.1-1.3	4.1-4.3				
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING				
100.0	100%	100%				
80.0	100%	100%				
50.0	100%	85%				
25.0	73%	65%				
20.0	70%	57%				
12.5	58%	40%				
10.0	52%	34%				
5.0	40%	25%				
2.5	31%	20%				
1.25	25%	17%				
0.630	19%	10%				
0.315	12%	10%				
0.160	11%	8%				
0.080	8%	7%				
M.C.(%):						
LIQUID LIMIT:	0.0	0.0				
PLASTIC LIMIT:	0.0	0.0				
PLASTIC INDEX.:	0.0	0.0				
% GRAVEL:	60	75				
% SAND:	33	17				
% FINES:	8	7				
CLASSIFICATION	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)				



SUBSURFACE EXPLORATION & TESTING REPORT	DOME ROAD GRANULAR INVESTIGATION	TEST PIT NO: 645-2636
ENGINEERING CAPITAL	KM 713.4 K/H	Project No: 552-202001-0204
BACK HOE KOMATSU PC-120	LOCATION: 116-B-18 SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID / 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	POORLY GRADED GRAVEL WITH SAND (GP) -brown -dry to damp -maximum 250mm diameter -estimate 5% +75mm material -easy digging							0.0
1.0								1.0
2.0	-cobbles to 450mm (few)		5	▲	GP		◆ ■	2.0
3.0								3.0
4.0	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM) -brown -dry to damp -maximum 250mm diameter -estimate 5-10% +75mm material -hole walls didn't slough END HOLE @ 4.0m		6	▲	GW-GM		◆ ■	4.0
5.0								5.0
6.0								6.0

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LOGGED BY: JRP	COMPLETION DEPTH: 4.0 m
REVIEWED BY:	COMPLETE: 03/06/25
Fig. No:	Page 1 of 1

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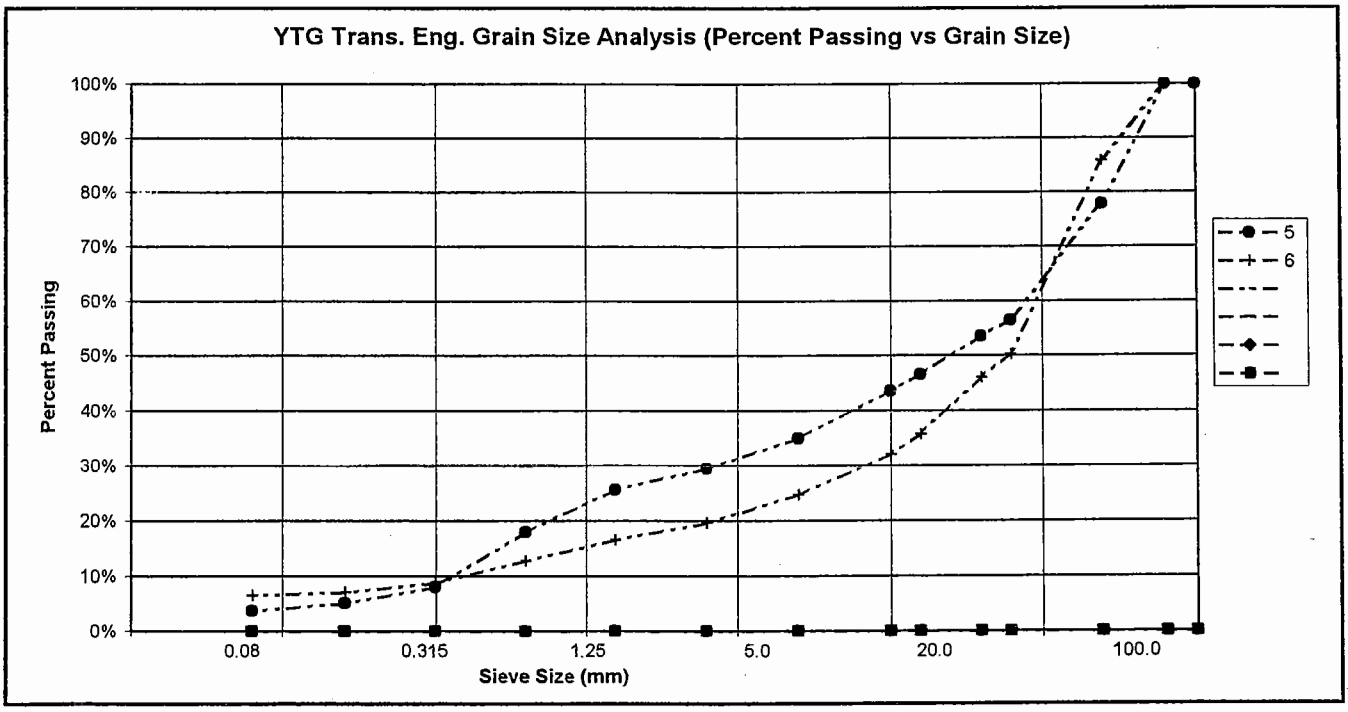
PROJECT NUMBER:	552-202001-0204-02		HOLE No.: 645-2636
CLIENT:	Engineering Capital		
PROJECT NAME:	Dome Road Granular Investigation		
PROJECT LOCATION:	Km 713.4 RHS Klondike Hwy 116-B-18		
DRILL UNIT:	Kamatsu PC 120		
HOLE LOCATION:	See Plan		
LOGGED BY:	JRP		DATE COMP: 2003/06/26

FIELD NO:	5	6				
LAB NO:	19	20				
DEPTH:	1.9-2.2	3.7-4.0				
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING				
100.0	100%	100%				
80.0	100%	100%				
50.0	78%	86%				
25.0	57%	50%				
20.0	54%	46%				
12.5	47%	36%				
10.0	44%	32%				
5.0	35%	25%				
2.5	30%	20%				
1.25	26%	17%				
0.630	18%	13%				
0.315	8%	9%				
0.160	5%	7%				
0.080	4%	7%				
M.C.(%):						
LIQUID LIMIT:	0.0	0.0				
PLASTIC LIMIT:	0.0	0.0				
PLASTIC INDEX.:	0.0	0.0				
% GRAVEL:	65	75				
% SAND:	31	18				
% FINES:	4	7				
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)				



SUBSURFACE EXPLORATION & TESTING REPORT	DOME ROAD GRANULAR INVESTIGATION	TEST PIT NO: 645-2637
ENGINEERING CAPITAL	KM 713.4 K/H	Project No: 552-202001-0204
BACK HOE KOMATSU PC-120	LOCATION: 116-B-18 SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	WELL-GRADED GRAVEL (GW) -brown -dry -maximum 450mm diameter -estimate 10-15% +75mm material -easy digging -cobbly in top 1.2m -very consistent going down							0.0
1.0								1.0
2.0			7	▲	GW		◆ ■	2.0
3.0	WELL-GRADED GRAVEL WITH SAND (GW) -brown -damp -maximum 400mm diameter -estimate 5-10% +75mm material		8	▲	GW		◆ ■	3.0
4.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -damp -estimate 10-15% =75mm material		9	▲	GP-GM		◆ ■	4.0
	END HOLE @ 4.6m							
5.0								5.0
6.0								6.0

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LOGGED BY: JRP	COMPLETION DEPTH: 4.6 m
REVIEWED BY:	COMPLETE: 03/06/25
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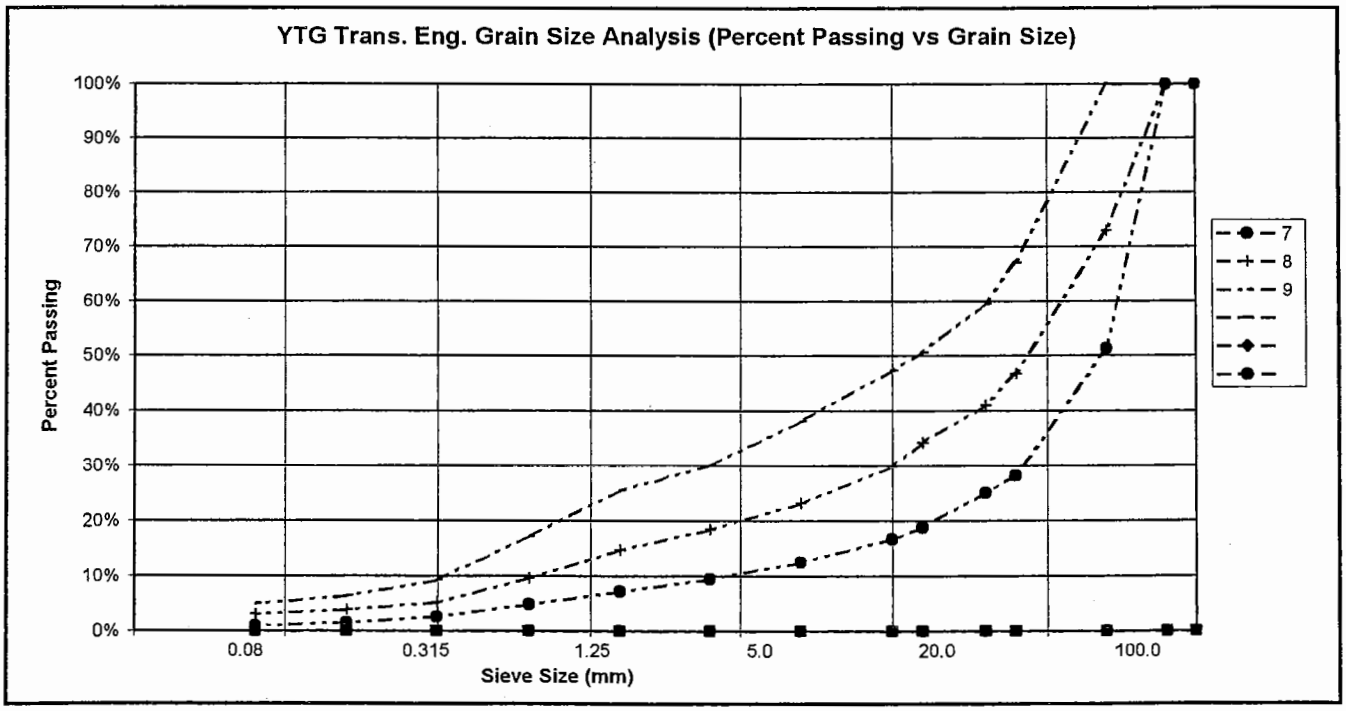
PROJECT NUMBER:	552-202001-0204-02		HOLE No.: 645-2637
CLIENT:	Engineering Capital		
PROJECT NAME:	Dome Road Granular Investigation		
PROJECT LOCATION:	Km 713.4 RHS Klondike Hwy 116-B-18		
DRILL UNIT:	Kamatsu PC 120		
HOLE LOCATION:	See Plan		
LOGGED BY:	JRP		DATE COMP: 2003/06/26

FIELD NO:	7	8	9			
LAB NO:	21	22	23			
DEPTH:	1.9-2.2	2.9-3.3	3.9-4.1			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	51%	73%	100%			
25.0	28%	47%	67%			
20.0	25%	41%	60%			
12.5	19%	34%	51%			
10.0	17%	30%	47%			
5.0	13%	23%	38%			
2.5	9%	18%	30%			
1.25	7%	15%	26%			
0.630	5%	10%	17%			
0.315	3%	5%	9%			
0.160	2%	4%	6%			
0.080	1%	3%	5%			
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	87	77	62			
% SAND:	12	20	33			
% FINES:	1	3	5			
CLASSIFICATION	WELL-GRADED GRAVEL (GW)	WELL-GRADED GRAVEL WITH SAND (GW)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)			



SUBSURFACE EXPLORATION & TESTING REPORT	DOME ROAD GRANULAR INVESTIGATION	TEST PIT NO: 645-2638
ENGINEERING CAPITAL	KM 713.4 K/H	Project No: 552-202001-0204
BACK HOE KOMATSU PC-120	LOCATION: 116-B-18 SEE PLAN	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM) -brown -damp -maximum 300mm diameter -estimate 0-5% +75mm material -easy digging							0.0
1.0	-slough below 1.2m							1.0
			10	▲	GP-GM		◆ ■	
2.0	-rootlets @ 2.0m							2.0
	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM) -brown -damp -maximum 300mm diameter -estimate 5-10% +75mm material -rootlets							
3.0			11	▲	GW-GM		◆ ■	3.0
	-increase in H20 with material change		12	▲	GM		◆ ■	
4.0	SILTY GRAVEL WITH SAND (GM) -brown -damp to moist -more H20							4.0
	END HOLE @ 4.2m							
5.0								5.0
6.0								6.0

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LOGGED BY: JRP	COMPLETION DEPTH: 4.2 m
REVIEWED BY:	COMPLETE: 03/06/25
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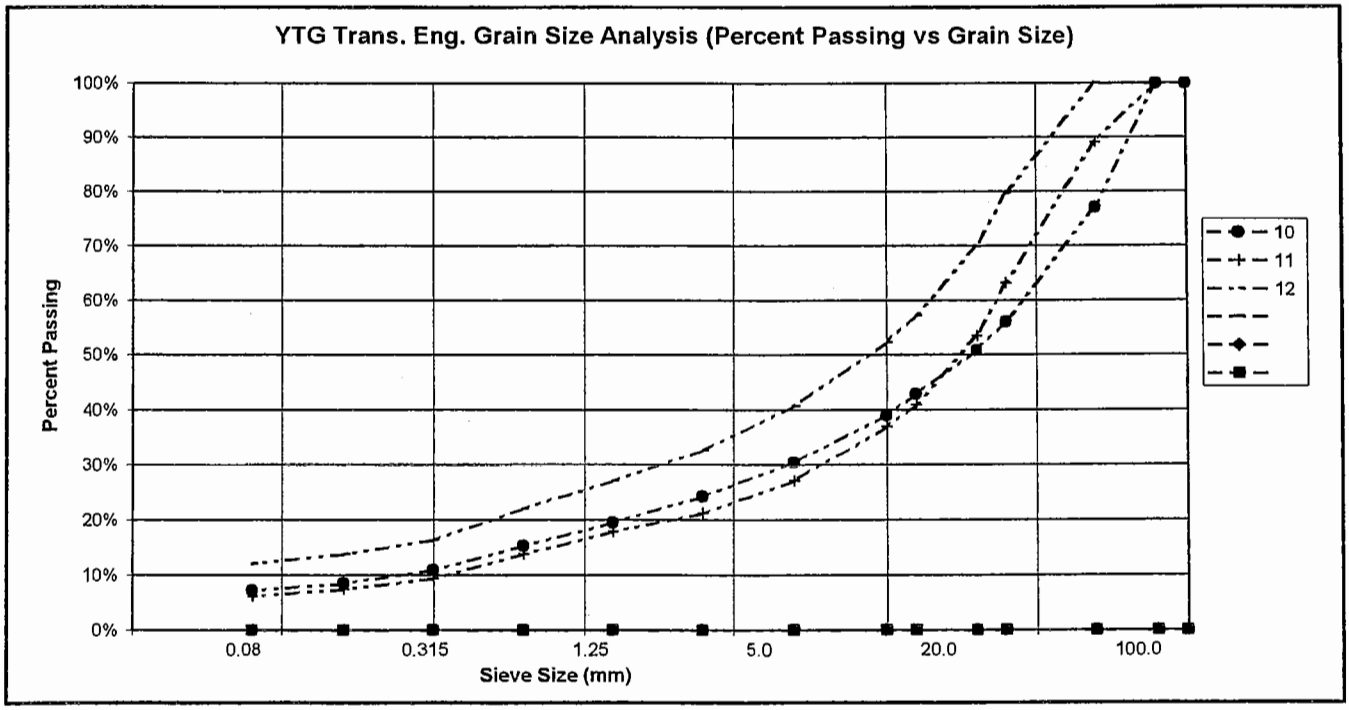
PROJECT NUMBER:	552-202001-0204-02		HOLE No.: 645-2638
CLIENT:	Engineering Capital		
PROJECT NAME:	Dome Road Granular Investigation		
PROJECT LOCATION:	Km 713.4 RHS Klondike Hwy 116-B-18		
DRILL UNIT:	Kamatsu PC 120		
HOLE LOCATION:	See Plan		
LOGGED BY:	JRP		DATE COMP: 2003/06/26

FIELD NO:	10	11	12			
LAB NO:	24	25	26			
DEPTH:	1.5-1.8	2.9-3.2	3.8-4.0			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	77%	89%	100%			
25.0	56%	63%	80%			
20.0	51%	53%	70%			
12.5	43%	41%	57%			
10.0	39%	37%	52%			
5.0	30%	27%	41%			
2.5	24%	21%	33%			
1.25	20%	18%	27%			
0.630	15%	14%	22%			
0.315	11%	9%	16%			
0.160	9%	8%	14%			
0.080	7%	6%	12%			
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	70	73	59			
% SAND:	23	21	29			
% FINES:	7	6	12			
CLASSIFICATION	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)	SILTY GRAVEL WITH SAND (GM)			



SUBSURFACE EXPLORATION & TESTING REPORT	DOME ROAD GRANULAR INVESTIGATION	TEST PIT NO: 645-2639
ENGINEERING CAPITAL	KM 713.4 K/H	Project No: 552-202001-0204
BACK HOE KOMATSU PC-120	LOCATION: 116-B-18 SEE PLAN	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID / 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	POORLY GRADED GRAVEL WITH SAND (GP) -brown -damp to moist -maximum 200mm diameter -estimate 0-10% +75mm material -med to hard digging							0.0
1.0								1.0
			13	▲	GP		◆ ◆ ■	
2.0								2.0
3.0	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM) -brown -dry to damp -maximum 250mm diameter -estimate 10-15% +75mm material -odd cobble to 400mm diameter -hard digging		14	▲	GP-GM		◆ ◆ ■	3.0
4.0			15	▲	GM		◆ ■	4.0
	SILTY GRAVEL WITH SAND (GM) -brown -damp to wet -maximum 400mm diameter -estimate 0-10% +75mm material -odd boulder to 750mm							
5.0	END HOLE @ 4.4m							5.0
6.0								6.0

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LOGGED BY: JRP	COMPLETION DEPTH: 4.4 m
REVIEWED BY:	COMPLETE: 03/06/25
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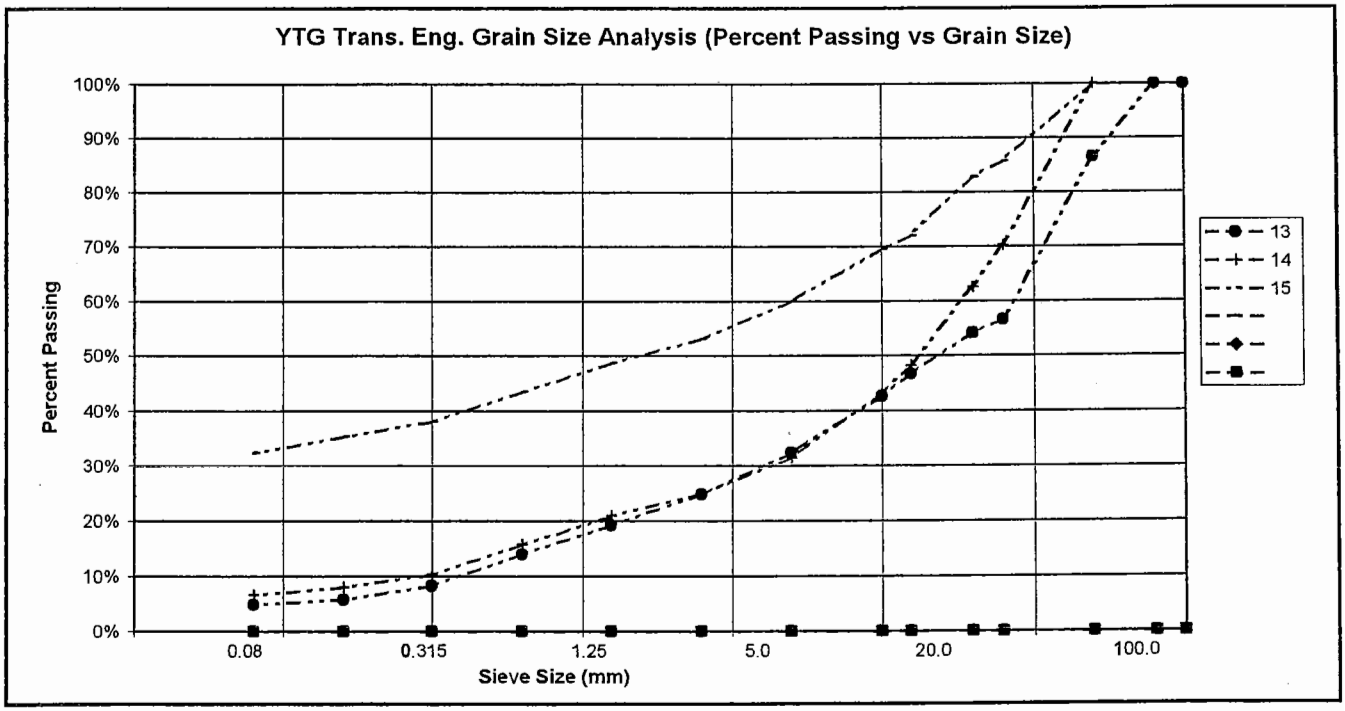
PROJECT NUMBER:	552-202001-0204-02		HOLE No.: 645-2639
CLIENT:	Engineering Capital		
PROJECT NAME:	Dome Road Granular Investigation		
PROJECT LOCATION:	Km 713.4 RHS Klondike Hwy 116-B-18		
DRILL UNIT:	Kamatsu PC 120		
HOLE LOCATION:	See Plan		
LOGGED BY:	JRP		DATE COMP: 2003/06/26

FIELD NO:	13	14	15			
LAB NO:	27	28	29			
DEPTH:	1.6-1.9	2.9-3.1	3.9-4.1			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	86%	100%	100%			
25.0	57%	70%	86%			
20.0	54%	63%	83%			
12.5	47%	48%	72%			
10.0	43%	43%	69%			
5.0	32%	32%	60%			
2.5	25%	25%	53%			
1.25	19%	21%	49%			
0.630	14%	16%	44%			
0.315	8%	10%	38%			
0.160	6%	8%	35%			
0.080	5%	7%	32%			
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	68	68	40			
% SAND:	28	25	28			
% FINES:	5	7	32			
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	SILTY GRAVEL WITH SAND (GM)			



SUBSURFACE EXPLORATION & TESTING REPORT	DOME ROAD GRANULAR INVESTIGATION	TEST PIT NO: 645-2640
ENGINEERING CAPITAL	KM 713.4 K/H	Project No: 552-202001-0204
BACK HOE KOMATSU PC-120	LOCATION: 116-B-18 SEE PLAN	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM) -brown -dry to damp -maximum 300mm diameter -estimate 0-5% +75mm material -easy digging		16	▲	GW-GM		◆ ■	0.0
1.0								1.0
	-tough digging below 1.5m							
2.0	-side walls intact @ 2.0m							2.0
3.0	-damp below 3.0m -maximum 300mm diameter below 3.0m -estimate 0-10% +75mm below 3.0m		17	▲	GW-GM		◆ ■	3.0
	-estimate 10-15% +75mm material below 3.8m							
4.0	-no slough - sidewalls holding		18	▲	GW-GM		◆ ■	4.0
	END HOLE @ 4.4m							
5.0								5.0
6.0								6.0

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LOGGED BY: JRP	COMPLETION DEPTH: 4.4 m
REVIEWED BY:	COMPLETE: 03/06/25
Fig. No:	Page 1 of 1

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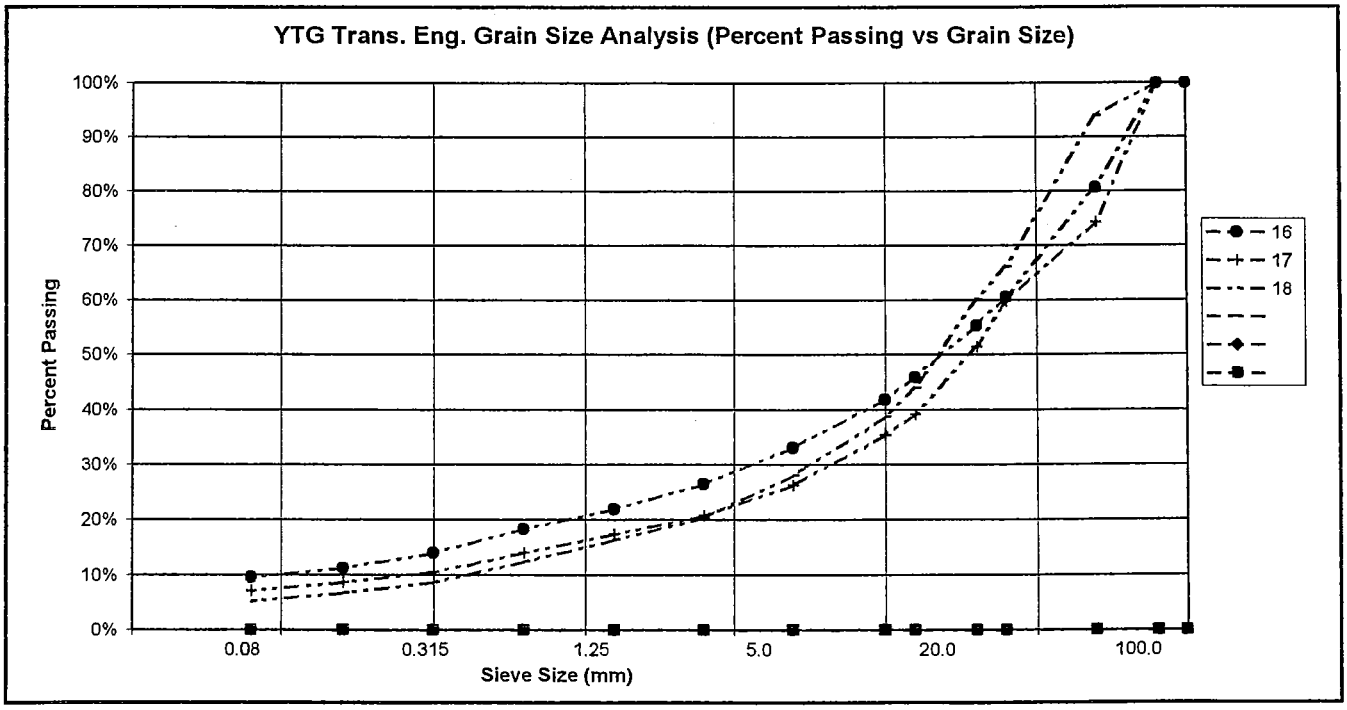
PROJECT NUMBER:	552-202001-0204-02		HOLE No.: 645-2640
CLIENT:	Engineering Capital		
PROJECT NAME:	Dome Road Granular Investigation		
PROJECT LOCATION:	Km 713.4 RHS Klondike Hwy 116-B-18		
DRILL UNIT:	Kamatsu PC 120		
HOLE LOCATION:	See Plan		
LOGGED BY:	JRP		DATE COMP: 2003/06/26

FIELD NO:	16	17	18			
LAB NO:	30	31	32			
DEPTH:	0.8-1.0	3.0-3.2	3.9-4.1			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	81%	74%	94%			
25.0	61%	60%	66%			
20.0	55%	51%	60%			
12.5	46%	39%	44%			
10.0	42%	35%	39%			
5.0	33%	26%	28%			
2.5	26%	21%	20%			
1.25	22%	18%	16%			
0.630	18%	14%	12%			
0.315	14%	11%	9%			
0.160	11%	9%	7%			
0.080	10%	7%	5%			
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	67	74	72			
% SAND:	24	19	23			
% FINES:	10	7	5			
CLASSIFICATION	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)			



SUBSURFACE EXPLORATION & TESTING REPORT	DOME ROAD GRANULAR INVESTIGATION	TEST PIT NO: 645-2641
ENGINEERING CAPITAL	KM 713.4 K/H	Project No: 552-202001-0204
BACK HOE KOMATSU PC-120	LOCATION: 116-B-18 SEE PLAN	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	WELL-GRADED GRAVEL WITH SAND (GW) -brown -dry to damp -maximum 300mm diameter -estimate 0-10% +75mm material							0.0
1.0			19	▲	GW		◆ ■	1.0
2.0	SILTY GRAVEL WITH SAND (GM) -brown -damp to moist -maximum 300mm diameter -estimate 0-10% +75mm material -wood, organics, roots mix below 2.6m		20	▲	GM		◆ ■	2.0
3.0	SILTY GRAVEL (GM) -brown -moist -maximum 200mm diameter -estimate 0-5% +75mm material		21	▲	GM		◆ ■	3.0
4.0	SILT WITH GRAVEL (ML) -brown -wet to moist		22	▲	ML		◆ ■	4.0
	END HOLE @ 4.6m							
5.0								5.0
6.0								6.0

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LOGGED BY: JRP	COMPLETION DEPTH: 4.6 m
REVIEWED BY:	COMPLETE: 03/06/25
Fig. No:	Page 1 of 1

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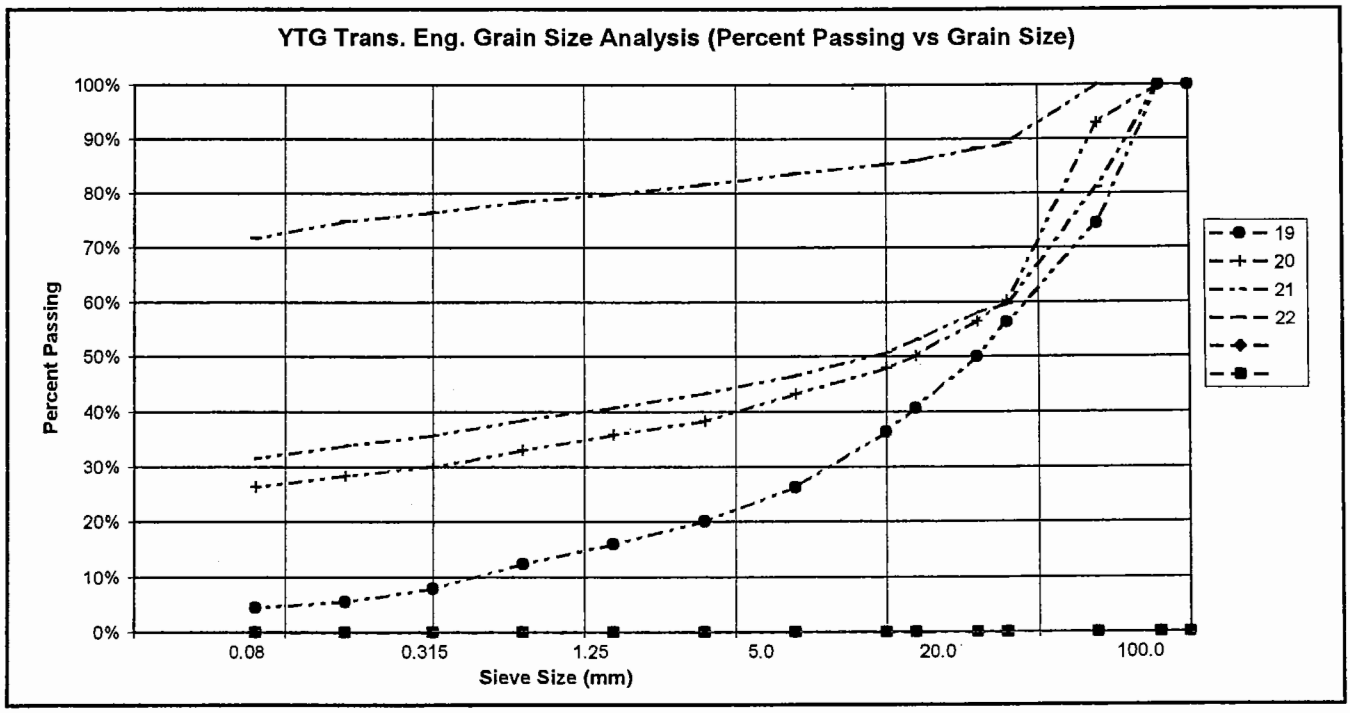
PROJECT NUMBER:	552-202001-0204-02		HOLE No.: 645-2641
CLIENT:	Engineering Capital		
PROJECT NAME:	Dome Road Granular Investigation		
PROJECT LOCATION:	Km 713.4 RHS Klondike Hwy 116-B-18		
DRILL UNIT:	Kamatsu PC 120		
HOLE LOCATION:	See Plan		
LOGGED BY:	JRP		DATE COMP: 2003/06/26

FIELD NO:	19	20	21	22		
LAB NO:	33	34	35	36		
DEPTH:	1.0-1.3	2.1-2.4	2.9-3.2	4.1-4.4		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	74%	93%	81%	100%		
25.0	56%	60%	60%	89%		
20.0	50%	56%	58%	88%		
12.5	41%	50%	53%	86%		
10.0	36%	48%	51%	85%		
5.0	26%	43%	47%	84%		
2.5	20%	38%	43%	82%		
1.25	16%	36%	41%	80%		
0.630	12%	33%	39%	78%		
0.315	8%	30%	36%	76%		
0.160	6%	28%	34%	75%		
0.080	5%	26%	32%	72%		
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	74	57	53	16		
% SAND:	22	17	15	12		
% FINES:	5	26	32	72		
CLASSIFICATION	WELL-GRADED GRAVEL WITH SAND (GW)	SILTY GRAVEL WITH SAND (GM)	SILTY GRAVEL (GM)	SILT WITH GRAVEL (ML)		



SUBSURFACE EXPLORATION & TESTING REPORT	DOME ROAD GRANULAR INVESTIGATION	TEST PIT NO: 645-2642
ENGINEERING CAPITAL	KM 713.4 K/H	Project No: 552-202001-0204
BACK HOE KOMATSU PC-120	LOCATION: 116-B-18 SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM) -brown -dry to moist -maximum 300mm diameter -estimate 0-10% +75mm material -easy digging		23	▲	GP-GM		◆ ■	0.0
1.0								1.0
2.0	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM) -brown -moist -maximum 300mm diameter -estimate 0-15% +75mm material		24	▲	GW-GM		◆ ■	2.0
3.0	SILTY GRAVEL WITH SAND (GM) -brown -moist to wet		25	▲	GM		◆ ■	3.0
4.0	END HOLE @ 3.9m							4.0
5.0								5.0
6.0								6.0

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LOGGED BY: JRP	COMPLETION DEPTH: 3.9 m
REVIEWED BY:	COMPLETE: 03/06/25
Fig. No:	Page 1 of 1

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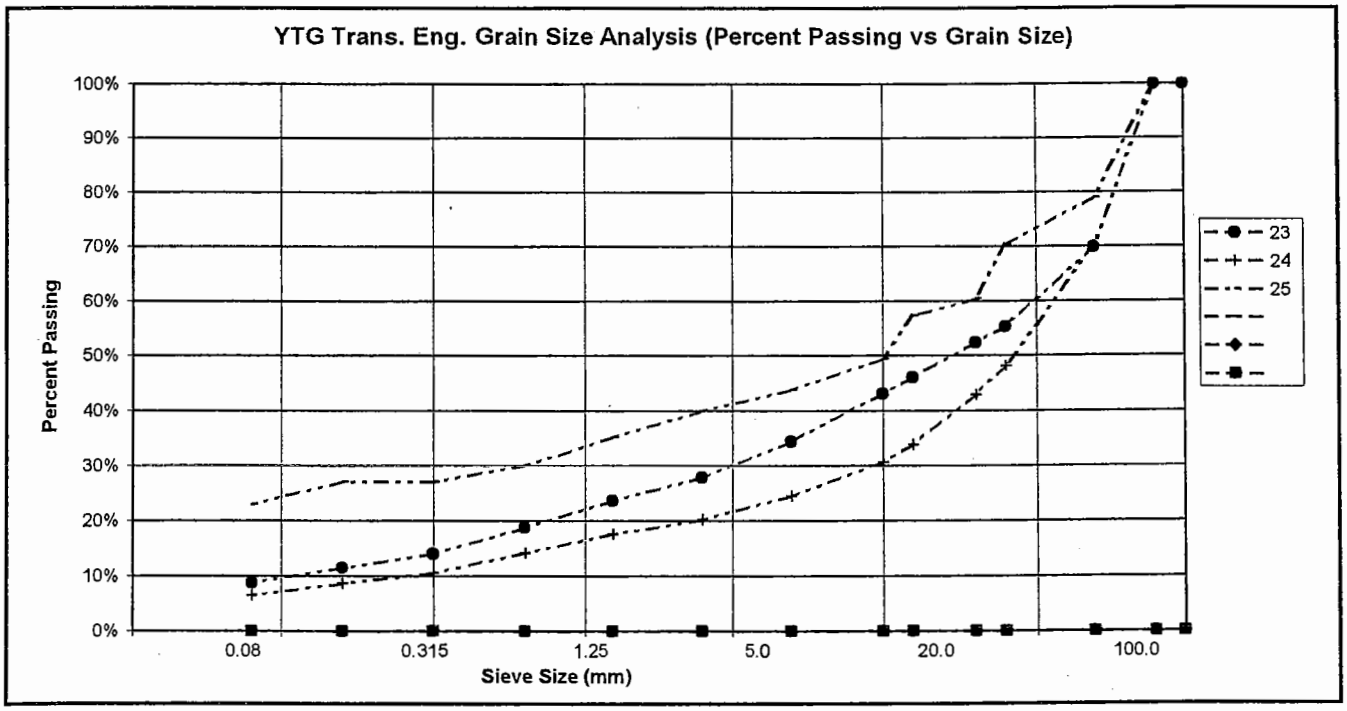
PROJECT NUMBER:	552-202001-0204-02		HOLE No.: 645-2642
CLIENT:	Engineering Capital		
PROJECT NAME:	Dome Road Granular Investigation		
PROJECT LOCATION:	Km 713.4 RHS Klondike Hwy 116-B-18		
DRILL UNIT:	Kamatsu PC 120		
HOLE LOCATION:	See Plan		
LOGGED BY:	JRP		DATE COMP: 2003/06/26

FIELD NO:	23	24	25			
LAB NO:	37	38	39			
DEPTH:	0.9-1.2	1.9-2.2	3.0-3.2			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	70%	70%	79%			
25.0	55%	48%	70%			
20.0	52%	43%	60%			
12.5	46%	34%	57%			
10.0	43%	31%	50%			
5.0	34%	24%	44%			
2.5	28%	20%	40%			
1.25	24%	18%	35%			
0.630	19%	14%	30%			
0.315	14%	11%	27%			
0.160	11%	9%	27%			
0.080	9%	7%	23%			
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	66	76	56			
% SAND:	26	18	21			
% FINES:	9	7	23			
CLASSIFICATION	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)	SILTY GRAVEL WITH SAND (GM)			



SUBSURFACE EXPLORATION & TESTING REPORT	DOME ROAD GRANULAR INVESTIGATION	TEST PIT NO: 645-2643
ENGINEERING CAPITAL	KM 713.4 K/H	Project No: 552-202001-0204
BACK HOE KOMATSU PC-120	LOCATION: 116-B-18 SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	WELL-GRADED GRAVEL WITH SAND (GW) -brown -dry to damp -maximum 300mm material -estimate 10-15% +75mm material -easy digging -hard digging below 0.7m -very hard digging below 1.3m		26	▲	GW		◆ ■	0.0
1.0								1.0
2.0	POORLY TO WELL-GRADED GRAVEL WITH SILT AND SAND (GP-GM)-(GW-GM) -brown -damp -maximum 300mm diameter -estimate 0-5% +75mm material		27	▲	GP-GM		◆ ■	2.0
3.0			28	▲	GW-GM		◆ ■	3.0
	END HOLE @ 3.4m							
4.0								4.0
5.0								5.0
6.0								6.0

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LOGGED BY: JRP	COMPLETION DEPTH: 3.4 m
REVIEWED BY:	COMPLETE: 03/06/25
Fig. No:	Page 1 of 1

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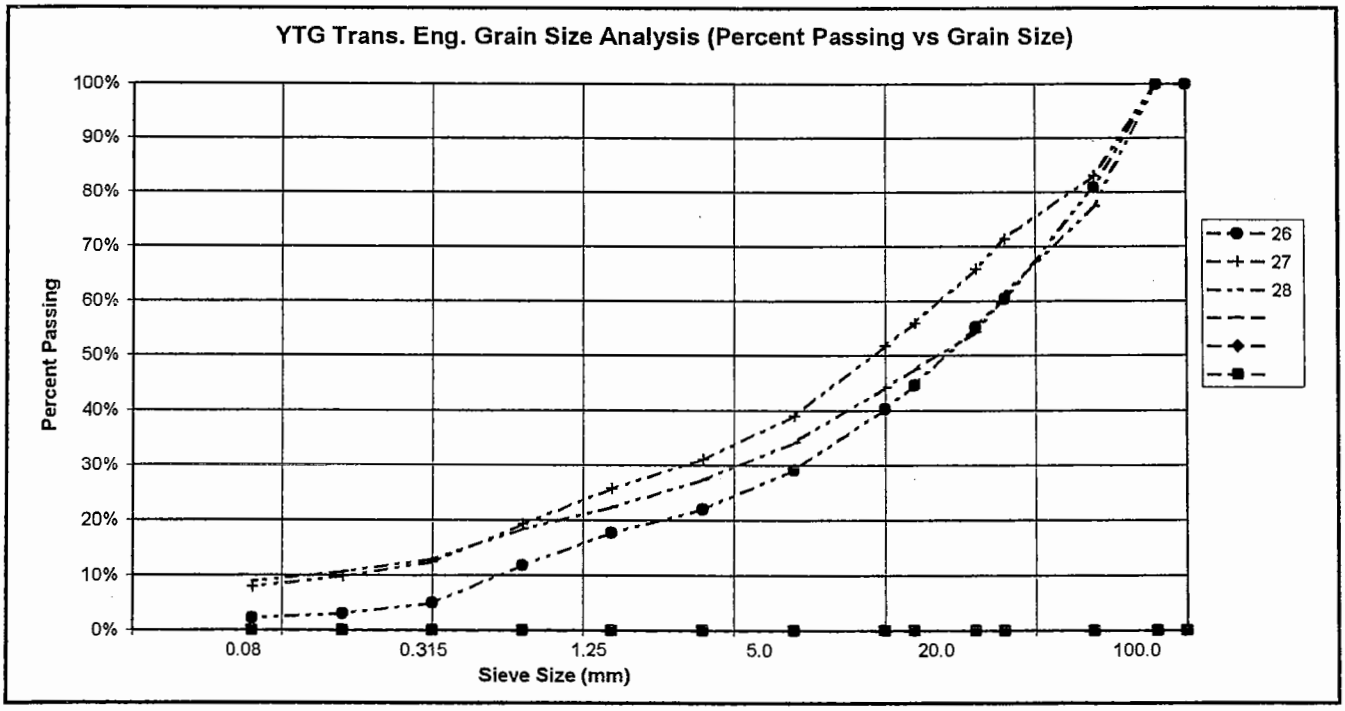
PROJECT NUMBER:	552-202001-0204-02		HOLE No.: 645-2643
CLIENT:	Engineering Capital		
PROJECT NAME:	Dome Road Granular Investigation		
PROJECT LOCATION:	Km 713.4 RHS Klondike Hwy 116-B-18		
DRILL UNIT:	Kamatsu PC 120		
HOLE LOCATION:	See Plan		
LOGGED BY:	JRP		DATE COMP: 2003/06/26

FIELD NO:	26	27	28			
LAB NO:	40	41	42			
DEPTH:	0.6-0.8	1.8-2.3	3.0-3.2			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	81%	83%	77%			
25.0	60%	71%	61%			
20.0	55%	66%	54%			
12.5	45%	56%	48%			
10.0	40%	52%	44%			
5.0	29%	39%	34%			
2.5	22%	31%	27%			
1.25	18%	26%	22%			
0.630	12%	19%	18%			
0.315	5%	12%	13%			
0.160	3%	10%	11%			
0.080	2%	8%	9%			
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	71	61	66			
% SAND:	27	31	25			
% FINES:	2	8	9			
CLASSIFICATION	WELL-GRADED GRAVEL WITH SAND (GW)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)			



SUBSURFACE EXPLORATION & TESTING REPORT	DOME ROAD GRANULAR INVESTIGATION	TEST PIT NO: 645-2644
ENGINEERING CAPITAL	KM 713.4 K/H	Project No: 552-202001-0204
BACK HOE KOMATSU PC-120	LOCATION: 116-B-18 SEE PLAN	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	WELL-GRADED GRAVEL WITH SAND (GW) -brown -dry to damp -maximum 300mm diameter -estimate 0-15% +75mm material -easy digging -odd cobble over 300mm diameter -pit walls slough		29 ▲		GW	◆ ■	0.0
1.0							1.0
2.0	POORLY GRADED GRAVEL WITH SAND (GP) -brown -damp -maximum 550mm diameter -estimate 0-15% +75mm material -few cobbles over 300mm -wall staying open		30 ▲		GP	◆ ■	2.0
3.0	WELL-GRADED GRAVEL WITH SAND (GW) -brown -dry to damp -maximum 550mm diameter -estimate 0-15% +75mm material		31 ▲		GW	◆ ■	3.0
4.0	END HOLE @ 3.9m						4.0
5.0							5.0
6.0							6.0

Government of Yukon Transportation Engineering	LOGGED BY: JRP	COMPLETION DEPTH: 3.9 m
	REVIEWED BY:	COMPLETE: 03/06/25
	Fig. No:	Page 1 of 1

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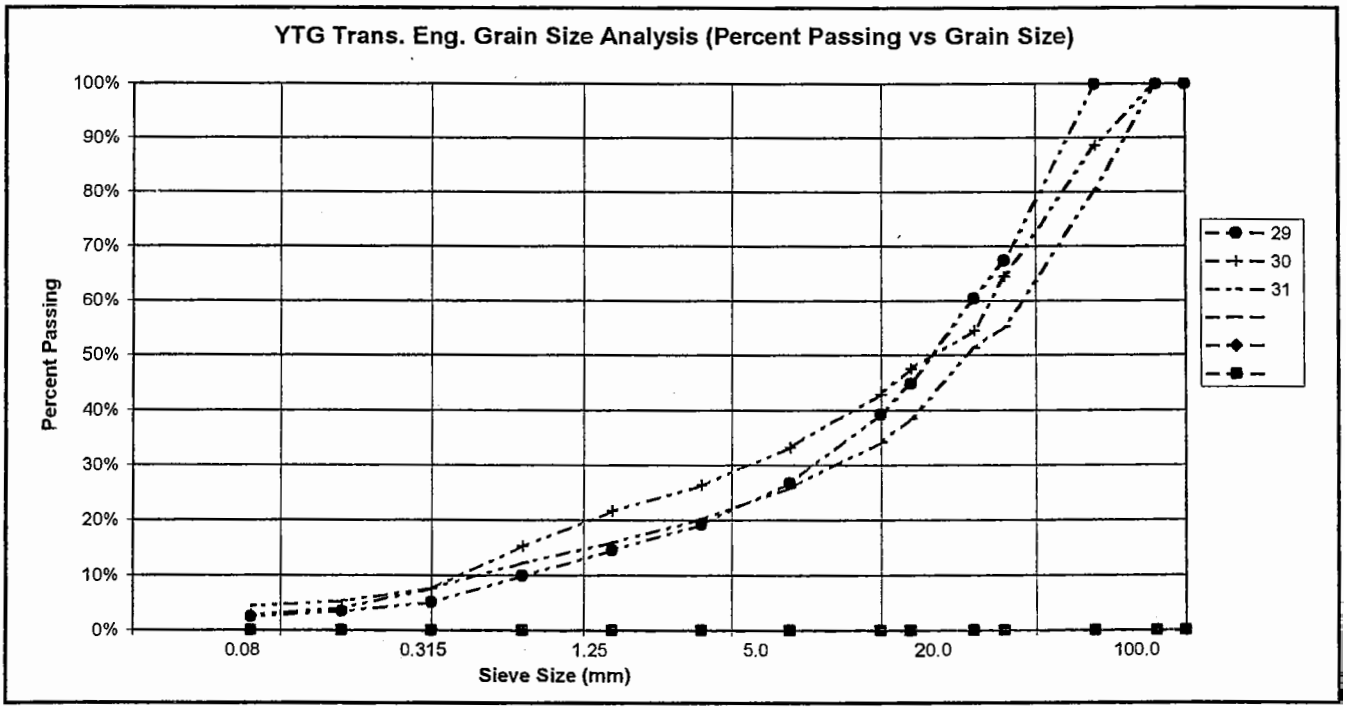
PROJECT NUMBER:	552-202001-0204-02		HOLE No.: 645-2644
CLIENT:	Engineering Capital		
PROJECT NAME:	Dome Road Granular Investigation		
PROJECT LOCATION:	Km 713.4 RHS Klondike Hwy 116-B-18		
DRILL UNIT:	Kamatsu PC 120		
HOLE LOCATION:	See Plan		
LOGGED BY:	JRP		DATE COMP: 2003/06/26

FIELD NO:	29	30	31			
LAB NO:	43	44	45			
DEPTH:	0.9-1.1	1.8-2.1	2.9-3.3			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	100%	89%	80%			
25.0	67%	64%	55%			
20.0	60%	55%	51%			
12.5	45%	48%	38%			
10.0	39%	43%	34%			
5.0	27%	33%	26%			
2.5	19%	26%	20%			
1.25	15%	22%	16%			
0.630	10%	15%	12%			
0.315	5%	8%	8%			
0.160	4%	4%	5%			
0.080	2%	3%	4%			
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	73	67	74			
% SAND:	24	31	21			
% FINES:	2	3	4			
CLASSIFICATION	WELL-GRADED GRAVEL WITH SAND (GW)	POORLY GRADED GRAVEL WITH SAND (GP)	WELL-GRADED GRAVEL WITH SAND (GW)			



SUBSURFACE EXPLORATION & TESTING REPORT	DOME ROAD GRANULAR INVESTIGATION	TEST PIT NO: 645-2645
ENGINEERING CAPITAL	KM 713.4 K/H	Project No: 552-202001-0204
BACK HOE KOMATSU PC-120	LOCATION: 116-B-18 SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID / 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SILTY GRAVEL (GM) -light brown -dry -maximum 200mm diameter -estimate 0-5% +75mm material -easy digging							0.0
1.0	-gravel layer @ 1.2m aprox .5m thick		32	▲	GM		◆ ■	1.0
2.0	POORLY GRADED GRAVEL WITH SILT (GP-GM) -light brown -dry -maximum 350 diameter -estimate 10-20% +75mm		33	▲	GP-GM		◆ ■	2.0
3.0	END HOLE @ 3.0m -refusal - bedrock							3.0
4.0								4.0
5.0								5.0
6.0								6.0

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Transportation Engineering

LOGGED BY: JRP	COMPLETION DEPTH: 3.0 m
REVIEWED BY:	COMPLETE: 03/06/25
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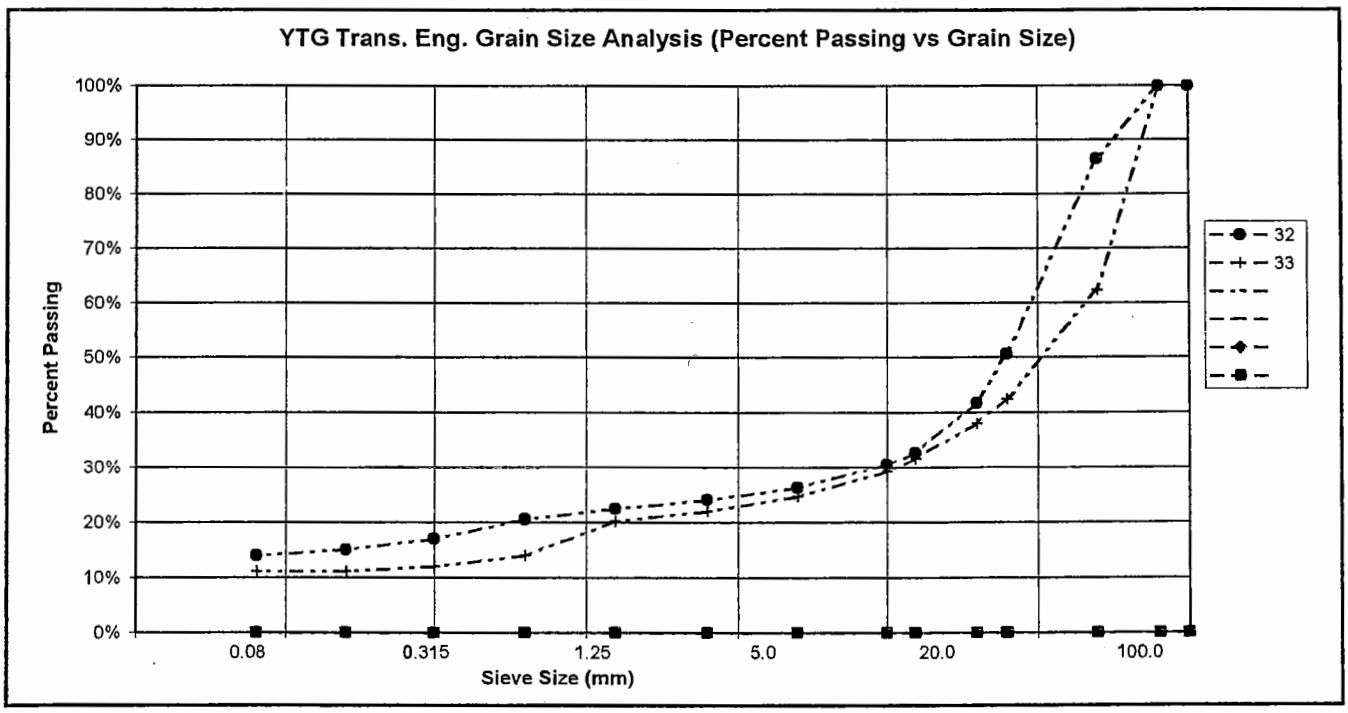
PROJECT NUMBER:	552-202001-0204-02		HOLE No.: 645-2645
CLIENT:	Engineering Capital		
PROJECT NAME:	Dome Road Granular Investigation		
PROJECT LOCATION:	Km 713.4 RHS Klondike Hwy 116-B-18		
DRILL UNIT:	Kamatsu PC 120		
HOLE LOCATION:	See Plan		
LOGGED BY:	JRP		DATE COMP: 2003/06/26

FIELD NO:	32	33				
LAB NO:	46	47				
DEPTH:	0.8-1.2	2.6-2.8				
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING				
100.0	100%	100%				
80.0	100%	100%				
50.0	87%	62%				
25.0	51%	42%				
20.0	42%	38%				
12.5	33%	32%				
10.0	31%	29%				
5.0	26%	25%				
2.5	24%	22%				
1.25	23%	20%				
0.630	21%	14%				
0.315	17%	12%				
0.160	15%	11%				
0.080	14%	11%				
M.C.(%):						
LIQUID LIMIT:	0.0	0.0				
PLASTIC LIMIT:	0.0	0.0				
PLASTIC INDEX.:	0.0	0.0				
% GRAVEL:	74	75				
% SAND:	12	14				
% FINES:	14	11				
CLASSIFICATION	SILTY GRAVEL (GM)	POORLY GRADED GRAVEL WITH SILT (GP-GM)				



SUBSURFACE EXPLORATION & TESTING REPORT	DOME ROAD GRANULAR INVESTIGATION	TEST PIT NO: 645-2646
ENGINEERING CAPITAL	KM 713.4 K/H	Project No: 552-202001-0204
BACK HOE KOMATSU PC-120	LOCATION: 116-B-18 SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⧄ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SILTY GRAVEL WITH SAND (GM) -brown -dry -maximum 300mm diameter -estimate 0-5% +75mm material -easy digging							0.0
1.0			34	▲	GM		◆ ■	1.0
2.0	SILT WITH SAND (ML) -light brown -dry		35	▲	ML		◆ ■	2.0
3.0	END HOLE @ 3.2m -unsuitable material							3.0
4.0								4.0
5.0								5.0
6.0								6.0

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LOGGED BY: JRP	COMPLETION DEPTH: 3.0 m
REVIEWED BY:	COMPLETE: 03/06/25
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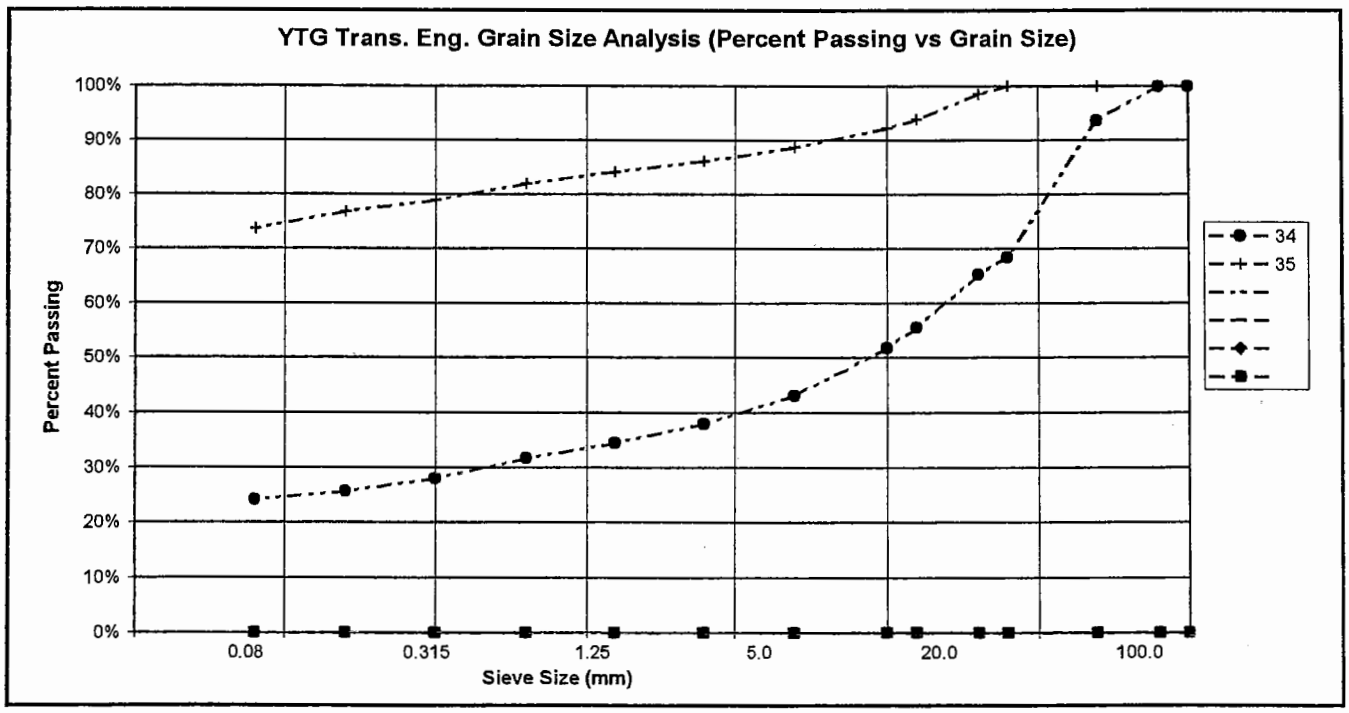
PROJECT NUMBER:	552-202001-0204-02
CLIENT:	Engineering Capital
PROJECT NAME:	Dome Road Granular Investigation
PROJECT LOCATION:	Km 713.4 RHS Klondike Hwy 116-B-18
DRILL UNIT:	Kamatsu PC 120
HOLE LOCATION:	See Plan
LOGGED BY:	JRP

HOLE No.: 645-2646

DATE COMP: 2003/06/26

FIELD NO:	34	35				
LAB NO:	48	49				
DEPTH:	0.9-1.1	2.0-2.2				
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING				
100.0	100%	100%				
80.0	100%	100%				
50.0	94%	100%				
25.0	68%	100%				
20.0	65%	99%				
12.5	56%	94%				
10.0	52%	92%				
5.0	43%	89%				
2.5	38%	86%				
1.25	35%	84%				
0.630	32%	82%				
0.315	28%	79%				
0.160	26%	77%				
0.080	24%	74%				
M.C.(%):						
LIQUID LIMIT:	0.0	0.0				
PLASTIC LIMIT:	0.0	0.0				
PLASTIC INDEX.:	0.0	0.0				
% GRAVEL:	57	11				
% SAND:	19	15				
% FINES:	24	74				
CLASSIFICATION	SILTY GRAVEL WITH SAND (GM)	SILT WITH SAND (ML)				



SUBSURFACE EXPLORATION & TESTING REPORT	DOME ROAD GRANULAR INVESTIGATION	TEST PIT NO: 645-2647
ENGINEERING CAPITAL	KM 713.4 K/H	Project No: 552-202001-0204
BACK HOE KOMATSU PC-120	LOCATION: 116-B-18 SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ▩ AUGER ▤ BULK ▥ TUBE ▦ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	POORLY GRADED GRAVEL WITH SAND (GP) -brown -dry -maximum 300mm diameter -estimate 0-5% +75mm material -easy digging		36 ▲		GP		◆ ■	0.0
1.0	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM) -brown -dry -maximum 300mm diameter -estimate 0-10% +75mm material		37 ▲		GW-GM		◆ ■	1.0
2.0								2.0
3.0	POORLY GRADED GRAVEL WITH SAND (GP) -brown -dry to moist -maximum 300mm diameter -estimate 0-10% +75mm material		38 ▲		GP		◆ ■	3.0
4.0	END HOLE @ 3.7m							4.0
5.0								5.0
6.0								6.0

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LOGGED BY: JRP	COMPLETION DEPTH: 3.7 m
REVIEWED BY:	COMPLETE: 03/06/25
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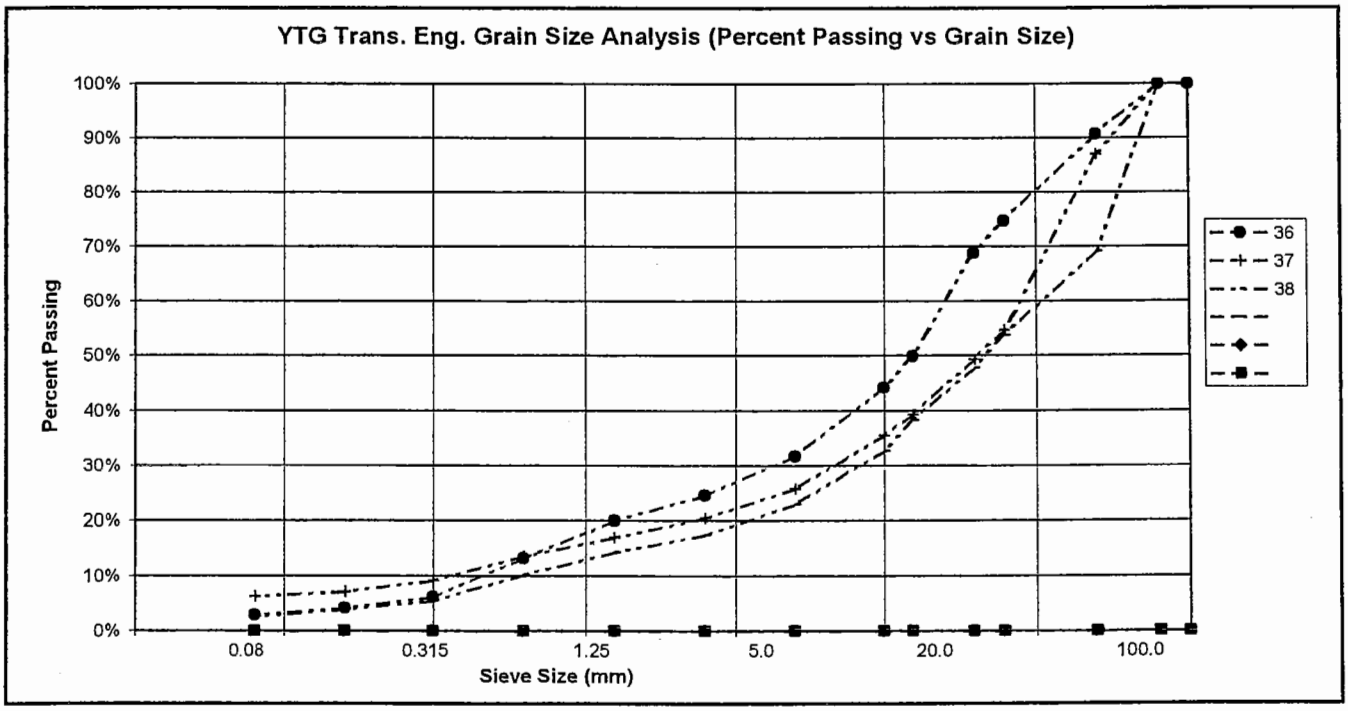
PROJECT NUMBER:	552-202001-0204-02		HOLE No.: 645-2647
CLIENT:	Engineering Capital		
PROJECT NAME:	Dome Road Granular Investigation		
PROJECT LOCATION:	Km 713.4 RHS Klondike Hwy 116-B-18		
DRILL UNIT:	Kamatsu PC 120		
HOLE LOCATION:	See Plan		
LOGGED BY:	JRP		DATE COMP: 2003/06/26

FIELD NO:	36	37	38			
LAB NO:	50	51	52			
DEPTH:	0.5-0.8	1.9-2.0	3.0-3.2			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	91%	87%	69%			
25.0	75%	55%	54%			
20.0	69%	49%	48%			
12.5	50%	39%	38%			
10.0	44%	36%	33%			
5.0	32%	26%	23%			
2.5	25%	21%	17%			
1.25	20%	17%	14%			
0.630	13%	14%	10%			
0.315	6%	9%	6%			
0.160	4%	7%	4%			
0.080	3%	6%	3%			
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	68	74	77			
% SAND:	29	20	20			
% FINES:	3	6	3			
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)	POORLY GRADED GRAVEL WITH SAND (GP)			



SUBSURFACE EXPLORATION & TESTING REPORT	DOME ROAD GRANULAR INVESTIGATION	TEST PIT NO: 645-2648
ENGINEERING CAPITAL	KM 713.4 K/H	Project No: 552-202001-0204
BACK HOE KOMATSU PC-120	LOCATION: 116-B-18 SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL	DEPTH (m)
0.0	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM) -brown / grey -moist -maximum 300mm diameter -estimate 0-5% +75mm material -easy digging -odd +300mm cobble @ 1.0m		39	GW-GM		0.0
1.0						1.0
2.0	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM) -brown -moist to damp -maximum 200mm diameter -estimate 0-10% +75mm material -gets siltier with depth		40	GP-GM		2.0
3.0	GRAVELLY SILT (ML) -brown -damp -maximum 200mm diameter -estimate 0-5% +75mm material		41	ML		3.0
4.0	END HOLE @ 3.9m					4.0
5.0						5.0
6.0						6.0

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

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LOGGED BY: JRP	COMPLETION DEPTH: 3.9 m
REVIEWED BY:	COMPLETE: 03/06/25
Fig. No:	Page 1 of 1

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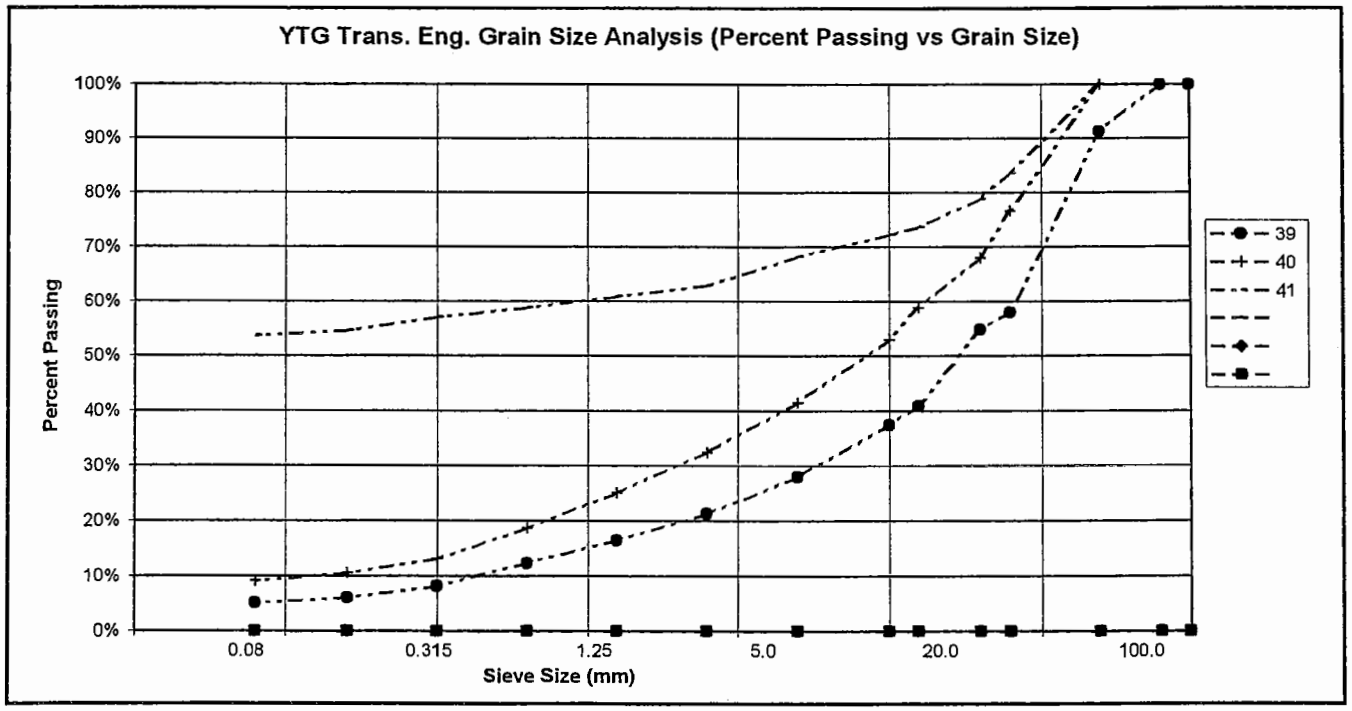
PROJECT NUMBER:	552-202001-0204-02		HOLE No.: 645-2648
CLIENT:	Engineering Capital		
PROJECT NAME:	Dome Road Granular Investigation		
PROJECT LOCATION:	Km 713.4 RHS Klondike Hwy 116-B-18		
DRILL UNIT:	Kamatsu PC 120		
HOLE LOCATION:	See Plan		
LOGGED BY:	JRP		DATE COMP: 2003/06/26

FIELD NO:	39	40	41			
LAB NO:	53	54	55			
DEPTH:	0.9-1.1	1.9-2.1	3.1-3.3			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	91%	100%	100%			
25.0	58%	77%	84%			
20.0	55%	68%	79%			
12.5	41%	59%	74%			
10.0	37%	53%	72%			
5.0	28%	42%	68%			
2.5	21%	33%	63%			
1.25	16%	25%	61%			
0.630	12%	19%	59%			
0.315	8%	13%	57%			
0.160	6%	11%	55%			
0.080	5%	9%	54%			
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	72	58	32			
% SAND:	23	32	15			
% FINES:	5	9	54			
CLASSIFICATION	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	GRAVELLY SILT (ML)			



SUBSURFACE EXPLORATION & TESTING REPORT	DOME ROAD GRANULAR INVESTIGATION	TEST PIT NO: 645-2649
ENGINEERING CAPITAL	KM 713.4 K/H	Project No: 552-202001-0204
BACK HOE KOMATSU PC-120	LOCATION: 116-B-18 SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	POORLY GRADED GRAVEL WITH SAND (GP) -brown -moist to damp -maximum 300mm diameter -estimate 0-5% +75mm material -easy digging		42	▲	GP		◆ ■	0.0
1.0								1.0
2.0	SILTY GRAVEL WITH SAND (GM) -brown -damp -maximum 300mm diameter -estimate 0-10% +75mm material -siltier with depth -damp to wet below 2.5m		43	▲	GM		◆ ■	2.0
3.0			44	▲	GM		◆ ■	3.0
4.0								4.0
5.0	END HOLE @ 4.4m							5.0
6.0								6.0

Government of Yukon
Transportation Engineering

LOGGED BY: JRP	COMPLETION DEPTH: 4.4 m
REVIEWED BY:	COMPLETE: 03/06/25
Fig. No:	Page 1 of 1

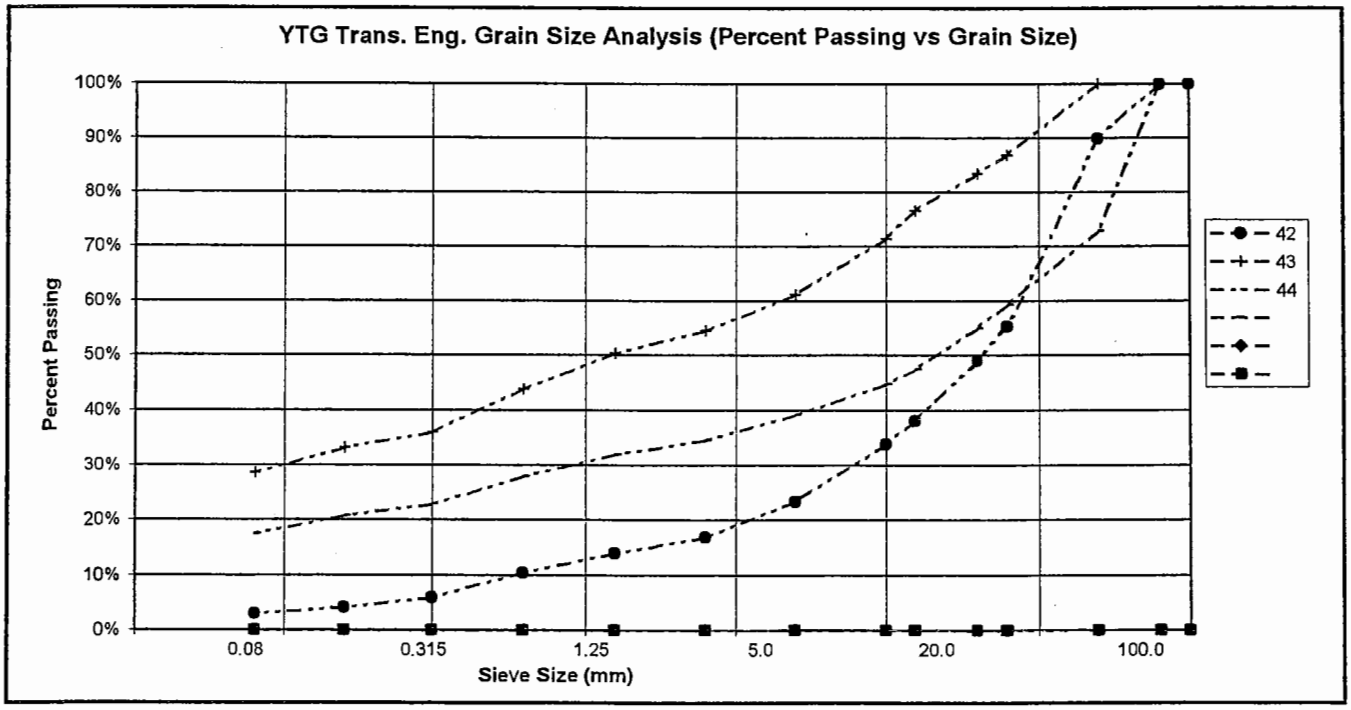
03/12/04 10:52AM

PROJECT NUMBER:	552-202001-0204-02
CLIENT:	Engineering Capital
PROJECT NAME:	Dome Road Granular Investigation
PROJECT LOCATION:	Km 713.4 RHS Klondike Hwy 116-B-18
DRILL UNIT:	Kamatsu PC 120
HOLE LOCATION:	See Plan
LOGGED BY:	JRP

HOLE No.: 645-2649

DATE COMP: 2003/06/26

FIELD NO:	42	43	44			
LAB NO:	56	57	58			
DEPTH:	0.7-1.0	1.6-1.9	2.7-3.0			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	90%	100%	73%			
25.0	55%	87%	59%			
20.0	49%	83%	55%			
12.5	38%	77%	48%			
10.0	34%	71%	45%			
5.0	23%	61%	39%			
2.5	17%	54%	35%			
1.25	14%	50%	32%			
0.630	10%	44%	28%			
0.315	6%	36%	23%			
0.160	4%	33%	21%			
0.080	3%	29%	18%			
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	77	39	61			
% SAND:	20	33	22			
% FINES:	3	29	18			
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	SILTY GRAVEL WITH SAND (GM)	SILTY GRAVEL WITH SAND (GM)			



SUBSURFACE EXPLORATION & TESTING REPORT	DOME ROAD GRANULAR INVESTIGATION	TEST PIT NO: 645-2650
ENGINEERING CAPITAL	KM 713.4 K/H	Project No: 552-202001-0204
BACK HOE KOMATSU PC-120	LOCATION: 116-B-18 SEE PLAN	ELEVATION: 0.00 (m)

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

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SILTY GRAVEL WITH SAND (GM) –grey / brown –dry to damp –easy digging		45	▲	GM		◆ ■	0.0
1.0								1.0
	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM) –grey / brown –dry to damp –maximum 300mm diameter –estimate 10-15% material							
2.0								2.0
	–increase in silt & moisture with depth		46	▲	GP-GM		◆ ■	
3.0								3.0
	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM) –brown –damp / moist –maximum 300mm diameter –estimate 10-15% +75mm material		47	▲	GW-GM		◆ ■	
4.0								4.0
	END HOLE @ 4.2m							
5.0								5.0
6.0								6.0

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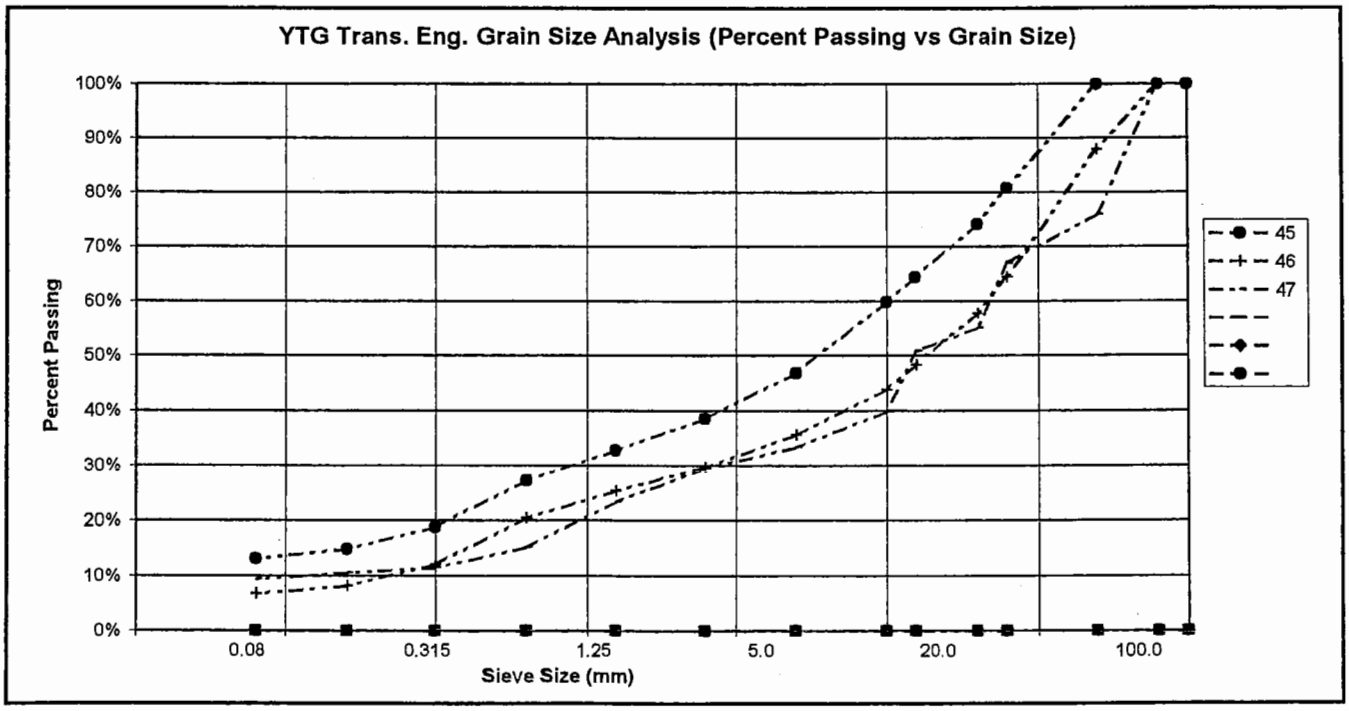
Transportation Engineering

LOGGED BY: JRP	COMPLETION DEPTH: 4.2 m
REVIEWED BY:	COMPLETE: 03/06/26
Fig. No:	Page 1 of 1

03/12/04 10:52AM

PROJECT NUMBER:	552-202001-0204-02		HOLE No.: 645-2650
CLIENT:	Engineering Capital		
PROJECT NAME:	Dome Road Granular Investigation		
PROJECT LOCATION:	Km 713.4 RHS Klondike Hwy 116-B-18		
DRILL UNIT:	Kamatsu PC 120		
HOLE LOCATION:	See Plan		
LOGGED BY:	JRP		DATE COMP: 2003/06/26

FIELD NO:	45	46	47			
LAB NO:	59	60	61			
DEPTH:	0.6-0.9	2.4-2.7	3.2-3.7			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	100%	88%	76%			
25.0	81%	64%	67%			
20.0	74%	58%	55%			
12.5	65%	48%	51%			
10.0	60%	44%	40%			
5.0	47%	36%	33%			
2.5	39%	30%	29%			
1.25	33%	25%	23%			
0.630	27%	21%	15%			
0.315	19%	12%	12%			
0.160	15%	8%	11%			
0.080	13%	7%	9%			
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	53	64	67			
% SAND:	34	29	24			
% FINES:	13	7	9			
CLASSIFICATION	SILTY GRAVEL WITH SAND (GM)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)			



SUBSURFACE EXPLORATION & TESTING REPORT	DOME ROAD GRANULAR INVESTIGATION	TEST PIT NO: 645-2651
ENGINEERING CAPITAL	KM 713.4 K/H	Project No: 552-202001-0204
BACK HOE KOMATSU PC-120	LOCATION: 116-B-18 SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⧄ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SANDY GRAVEL WITH SILT -brown / grey -dry -moist below 0.7m -estimate 5-10% +75mm material below .7							0.0
1.0								1.0
	END HOLE @ 1.4m -refusal - bedrock							
2.0								2.0
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0

Government of Yukon
Transportation Engineering

LOGGED BY: JRP	COMPLETION DEPTH: 1.4 m
REVIEWED BY:	COMPLETE: 03/06/26
Fig. No:	Page 1 of 1

03/12/04 10:52AM

SUBSURFACE EXPLORATION & TESTING REPORT	DOME ROAD GRANULAR INVESTIGATION	TEST PIT NO: 645-2652
ENGINEERING CAPITAL	KM 713.4 K/H	Project No: 552-202001-0204
BACK HOE KOMATSU PC-120	LOCATION: 116-B-18 SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⧄ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	POORLY GRADED GRAVEL WITH SAND (GP) –brown –dry –maximum 300mm diameter –estimate 5–10% +75mm material –easy digging –pit wall sloughing –excessive sloughing below 1.0m							0.0
1.0			48 ▲		GP		◆ ■	1.0
2.0	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM) –brown –moist –maximum 300mm diameter –estimate 10–15% +75mm material –fractured bedrock in material @ 2.5m							2.0
3.0			49 ▲		GP-GM		◆ ■	3.0
4.0	END HOLE @ 3.3m –excessive sloughing –exposed bedrock @ surface within 10m of testhole –suspect old tailings							4.0
5.0								5.0
6.0								6.0

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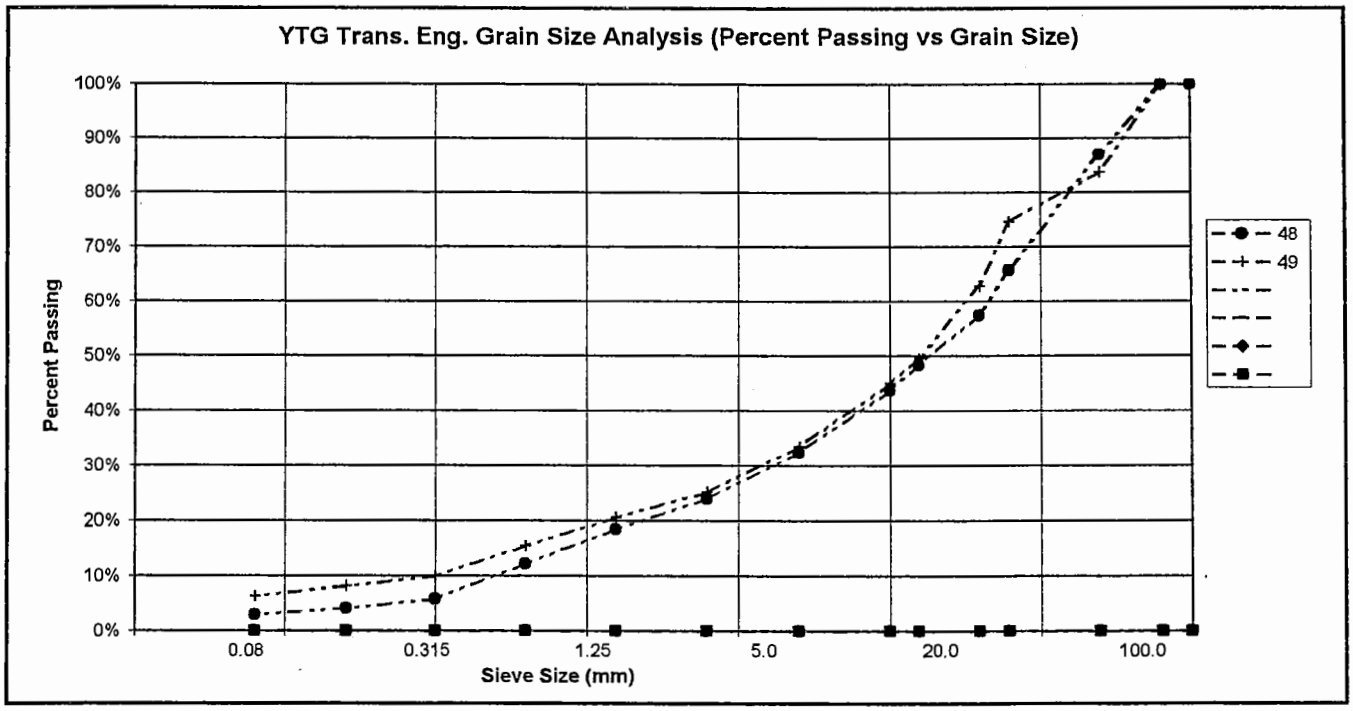
Transportation Engineering

LOGGED BY: JRP	COMPLETION DEPTH: 3.3 m
REVIEWED BY:	COMPLETE: 03/06/25
Fig. No:	Page 1 of 1

03/12/04 10:52AM

PROJECT NUMBER:	552-202001-0204-02				HOLE No.: 645-2652	
CLIENT:	Engineering Capital					
PROJECT NAME:	Dome Road Granular Investigation					
PROJECT LOCATION:	Km 713.4 RHS Klondike Hwy 116-B-18					
DRILL UNIT:	Kamatsu PC 120					
HOLE LOCATION:	See Plan					
LOGGED BY:	JRP				DATE COMP: 2003/06/26	

FIELD NO:	48	49				
LAB NO:	62	63				
DEPTH:	0.8-1.0	2.7-3.0				
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING				
100.0	100%	100%				
80.0	100%	100%				
50.0	87%	84%				
25.0	66%	75%				
20.0	57%	63%				
12.5	48%	50%				
10.0	44%	45%				
5.0	32%	34%				
2.5	24%	25%				
1.25	19%	21%				
0.630	12%	16%				
0.315	6%	10%				
0.160	4%	8%				
0.080	3%	6%				
M.C.(%):						
LIQUID LIMIT:	0.0	0.0				
PLASTIC LIMIT:	0.0	0.0				
PLASTIC INDEX.:	0.0	0.0				
% GRAVEL:	68	66				
% SAND:	29	27				
% FINES:	3	6				
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)				



SUBSURFACE EXPLORATION & TESTING REPORT	DOME ROAD GRANULAR INVESTIGATION	TEST PIT NO: 645-2653
ENGINEERING CAPITAL	KM 713.4 K/H	Project No: 552-202001-0204
BACK HOE KOMATSU PC-120	LOCATION: 116-B-18 SEE PLAN	ELEVATION: 0.00 (m)

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

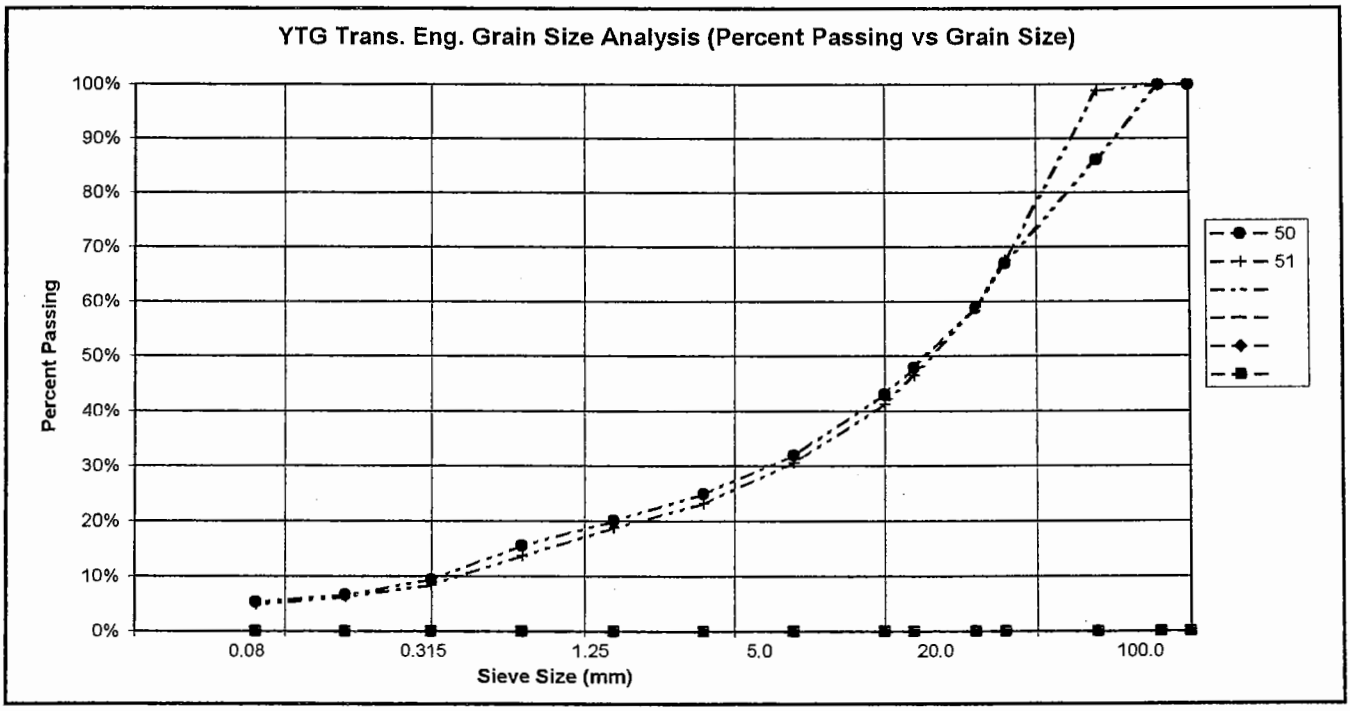
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	POORLY GRADED GRAVEL WITH SAND (GP-GM) -brown -damp -maximum 300mm diameter -estimate 0-10% +75mm material -easy digging -sloughing		50	▲	GP-GM		◆ ■	0.0
1.0								1.0
	POORLY GRADED GRAVEL WITH SAND (GP) -lots of sloughing		51	▲	GP		◆ ■	
2.0								2.0
3.0	END HOLE @ 3.0m -excessive sloughing							3.0
4.0								4.0
5.0								5.0
6.0								6.0

Government of Yukon
Transportation Engineering

LOGGED BY: JRP	COMPLETION DEPTH: 3.3 m
REVIEWED BY:	COMPLETE: 03/06/26
Fig. No:	Page 1 of 1

03/12/04 10:52AM

PROJECT NUMBER:	552-202001-0204-02				HOLE No.: 645-2653	
CLIENT:	Engineering Capital					
PROJECT NAME:	Dome Road Granular Investigation					
PROJECT LOCATION:	Km 713.4 RHS Klondike Hwy 116-B-18					
DRILL UNIT:	Kamatsu PC 120					
HOLE LOCATION:	See Plan					
LOGGED BY:	JRP				DATE COMP: 2003/06/26	
FIELD NO:	50	51				
LAB NO:	64	65				
DEPTH:	0.8-1.1	1.6-1.8				
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING				
100.0	100%	100%				
80.0	100%	100%				
50.0	86%	99%				
25.0	67%	68%				
20.0	59%	59%				
12.5	48%	47%				
10.0	43%	41%				
5.0	32%	31%				
2.5	25%	23%				
1.25	20%	19%				
0.630	16%	14%				
0.315	9%	8%				
0.160	7%	6%				
0.080	5%	5%				
M.C.(%):						
LIQUID LIMIT:	0.0	0.0				
PLASTIC LIMIT:	0.0	0.0				
PLASTIC INDEX.:	0.0	0.0				
% GRAVEL:	68	69				
% SAND:	27	26				
% FINES:	5	5				
CLASSIFICATION	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	POORLY GRADED GRAVEL WITH SAND (GP)				



SUBSURFACE EXPLORATION & TESTING REPORT	DOME ROAD GRANULAR INVESTIGATION	TEST PIT NO: 646-2672
ENGINEERING CAPITAL	KM 713.4 K/H	Project No: 552-202001-0204
BACK-HOE KOMATSU-PC-120	LOCATION: 116-B-18 SEE PLAN	ELEVATION: 0.00 (m)

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

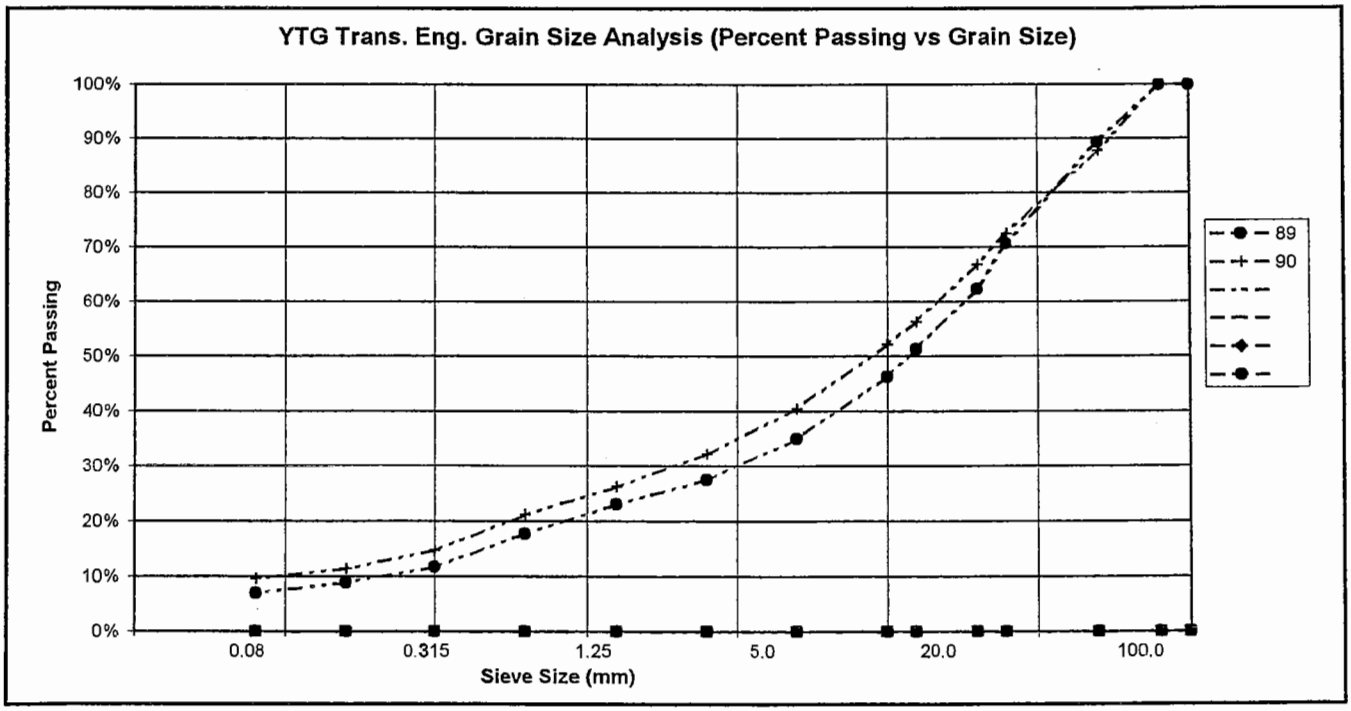
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM) -brown -dry -maximum 200mm diameter -estimate 0-5% +75mm material -hard digging		89	▲	GP-GM		◆ ■	0.0
1.0	-grey / brown below 1.2m -moist below 1.2m -more colour change below 1.3m (green) -roots mixed in @ 1.3m -odd cobble over 350mm diameter		90	▲	GP-GM		◆ ■	1.0
2.0	-brown below 2.0m							2.0
3.0	END HOLE @ 3.2m							3.0
4.0								4.0
5.0								5.0
6.0								6.0

Government of Yukon
Transportation Engineering

LOGGED BY: JRP	COMPLETION DEPTH: 3.2 m
REVIEWED BY:	COMPLETE: 03/06/27
Fig. No:	Page 1 of 1

03/12/04 10:48AM

PROJECT NUMBER:	552-202001-0204-02				HOLE No.: 646-2672	
CLIENT:	Engineering Capital					
PROJECT NAME:	Dome Road Granular Investigation					
PROJECT LOCATION:	Km 713.4 RHS Klondike Hwy 116-B-18					
DRILL UNIT:	Kamatsu PC 120					
HOLE LOCATION:	See Plan					
LOGGED BY:	JRP				DATE COMP: 2003/06/26	
FIELD NO:	89	90				
LAB NO:	103	104				
DEPTH:	0.8-1.0	1.7-1.9				
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING				
100.0	100%	100%				
80.0	100%	100%				
50.0	89%	88%				
25.0	71%	72%				
20.0	62%	67%				
12.5	51%	56%				
10.0	46%	52%				
5.0	35%	40%				
2.5	28%	32%				
1.25	23%	26%				
0.630	18%	21%				
0.315	12%	15%				
0.160	9%	11%				
0.080	7%	10%				
M.C.(%):						
LIQUID LIMIT:	0.0	0.0				
PLASTIC LIMIT:	0.0	0.0				
PLASTIC INDEX.:	0.0	0.0				
% GRAVEL:	65	60				
% SAND:	28	31				
% FINES:	7	10				
CLASSIFICATION	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)				



APPENDIX E

TESTHOLE DATA & SLOPE SETBACK ASSESSMENT FOR AREA C

LEGEND

TESTPIT LOCATIONS

0 250

Scale: 1: 6 000 (metres)

CLIENT

Yukon
Highways and Public Works
Property Management Agency

EBA Engineering Consultants Ltd.

PROPOSED AERATED LAGOON SITES
DAWSON, YT

SITE PLAN SHOWING
TESTPIT LOCATIONS

PROJECT NO.	DWN	CKD	REV
W14101357	JSB	MCP	0
OFFICE: WHSE	DATE: December 11, 2009		

Figure 1

Q:\Whitehorse\Data\02\01drawings\2008 EBA Title Blocks\Title Block_8.5x11_landscape.dwg [FIGURE 1] December 11, 2009 - 3:46:03 pm (BY: JAMES BUYCK)

Proposed Aerated Lagoon Sites	CLIENT: Yukon Government	PROJECT NO. - TESTPIT NO.
Dome Road, Dawson City, YT	EXCAVATOR: Hitachi EX200LC	W14101357 TP01
	7103067N; 577726E; Zone 7	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	MOISTURE CONTENT	PLASTIC M.C. LIQUID (20 40 60 80)	STANDARD PENETRATION (N) (20 40 60 80) / UNCONFINED (kPa) (50 100 150 200) / POCKET PEN. (kPa) (100 200 300 400)	Depth (ft)
0	20 mm CRUSHED GRAVEL (Old Staging Area) - sandy, trace silt, seasonally frozen, grey		2.3			0
1	SILT - some fine sand, trace clay, occasional gravel, cobbles and boulder sized fragments in silt matrix, damp to moist, firm to stiff with depth (no permafrost noted), dark brown		17.4			5
2			13.6			
3			14.4			10
4			12.6			
	ENT OF TESTPIT @ 4.2 m					15
5						
6						20

EBA Engineering Consultants Ltd.

LOGGED BY: MCP	COMPLETION DEPTH: 4.2m
REVIEWED BY: CPC	COMPLETE: 11/5/2009
DRAWING NO:	Page 1 of 1

Proposed Aerated Lagoon Sites	CLIENT: Yukon Government	PROJECT NO. - TESTPIT NO.
Dome Road, Dawson City, YT	EXCAVATOR: Hitachi EX200LC	W14101357 TP02
	7103147N; 577711E; Zone 7	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	MOISTURE CONTENT	PLASTIC M.C. LIQUID (20 40 60 80)	STANDARD PENETRATION (N) (20 40 60 80) / UNCONFINED (kPa) (50 100 150 200) / POCKET PEN. (kPa) (100 200 300 400)	Depth (ft)
0	GRAVEL - sandy, some silt, well rounded and sub-rounded, seasonally frozen, dark grey to brown		2.6			0
1			4			5
	SILT - some fine sand, trace clay, fine grained, uniform, damp to moist, soft, medium brown with some grey inclusions					
2			12			
3	- gravel and cobble sized particles in silt matrix		15.9			10
4			20.3			
	END OF TESTPIT @ 4.5 m					15
5						
6						20

EBA Engineering Consultants Ltd.

LOGGED BY: MCP	COMPLETION DEPTH: 4.5m
REVIEWED BY: CPC	COMPLETE: 11/5/2009
DRAWING NO:	Page 1 of 1

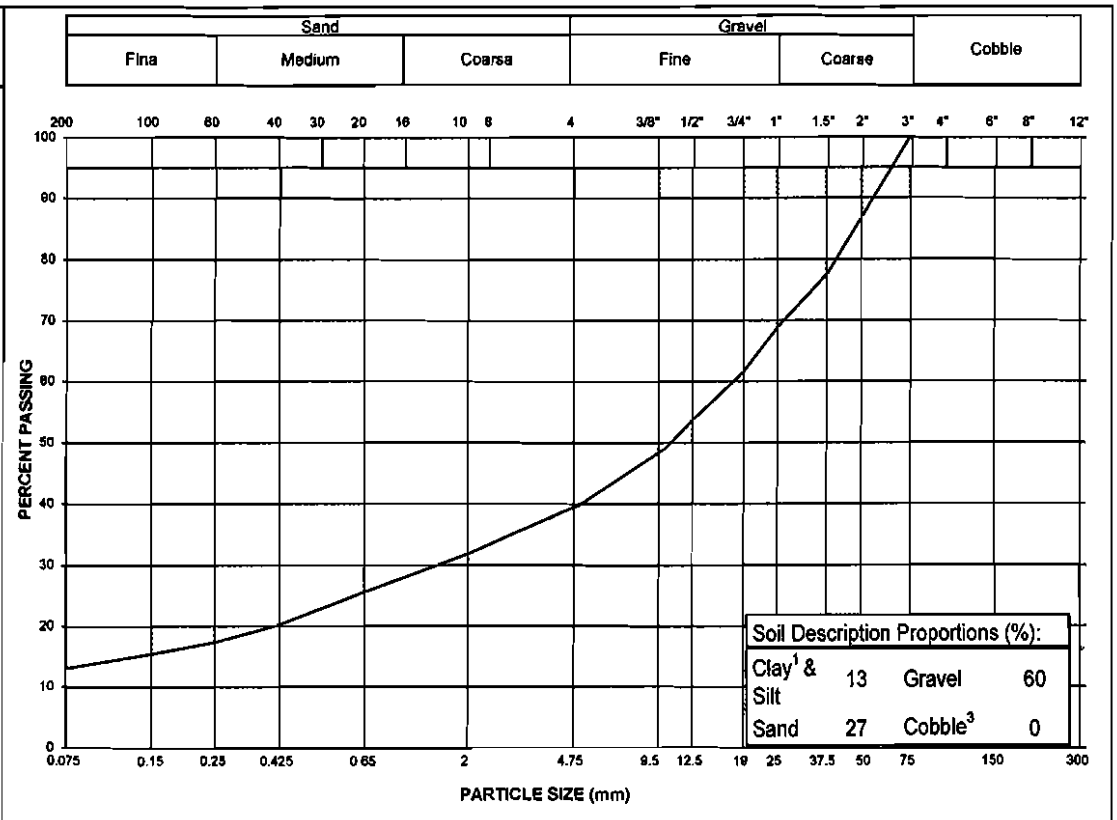
PARTICLE SIZE ANALYSIS TEST REPORT

ASTM D422 & C136

Project:	Dome Road and South Bench Lagoon Sites	Client:	Yukon Government
Project No.:	W14101357	Client Rep.:	
Site:	Dawson City, YT		

Material Type:		Date Tested:	12-Nov-2009	By:	SMS
Sample No.:		Soil Description[2]:	GRAVEL - sandy, some silt		
Sample Loc.:	TP02				
Sample Depth:	1.0 m	USC Classification:		Cu:	
Sampling Method:	Grab			Cc:	
Date sampled:	6-Nov-2009 By: MCP	Moisture Content:	4.0		

Particle Size (mm)	Percent Passing
300	
200	
150	
100	
75	100
50	
38	78
25	69
19	62
12.5	54
10	49
5	40
2	32
0.85	26
0.425	20
0.25	17
0.15	15
0.075	13



Notes:

[1] The upper clay size of 2 um, per the Canadian Foundation Engineering Manual

[2] The description is visually based & subject to EBA description protocols

[3] If cobbles are present, sampling procedure may not meet ASTM C702 & D75

Specification: _____

Remarks: _____

_____

_____

_____

Reviewed By: _____

EBA Engineering Consultants Ltd. eba

Proposed Aerated Lagoon Sites	CLIENT: Yukon Government	PROJECT NO. - TESTPIT NO.
Dome Road, Dawson City, YT	EXCAVATOR: Hitachi EX200LC	W14101357 TP03
	4103177N; 577808E; Zone 7	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	MOISTURE CONTENT	PLASTIC / M.C. / LIQUID (20 40 60 80)	STANDARD PENETRATION (N) (20 40 60 80); UNCONFINED (kPa) (50 100 150 200); POCKET PEN. (kPa) (100 200 300 400)	Depth (ft)
0	GRAVEL - sandy, trace silt, well rounded, finer on top, more cobbles below, damp, seasonally frozen to 1.0 m, dark grey		2.8			0
1			1.9			5
2			2.2			
3	SILT - some fine sand, trace clay, fine grained, uniform, soft to 3.0 m, firm below 3.0 m, moist, medium brown with grey inclusions - gravel, cobbles, and boulder sized particles in silt matrix below 3.0 m		15.4			10
4			15.2			15
5	END OF TESTPIT @ 4.5 m					
6						20

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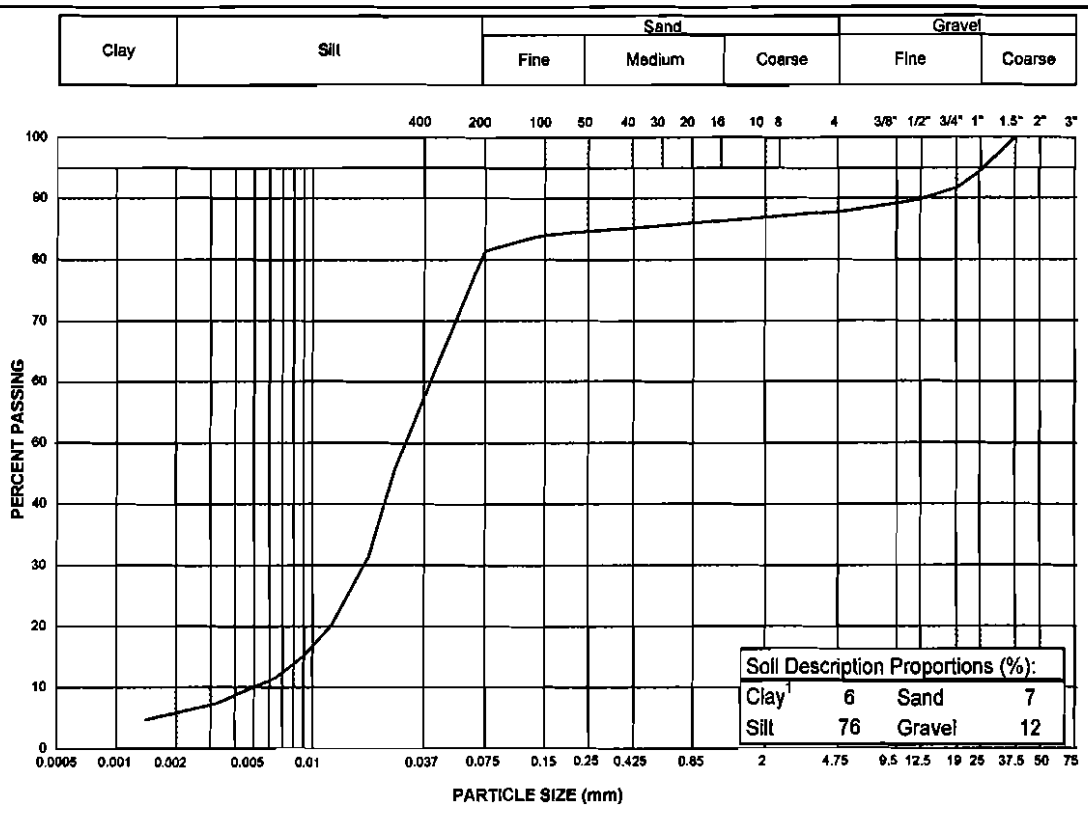
LOGGED BY: MCP	COMPLETION DEPTH: 4.5m
REVIEWED BY: CPC	COMPLETE: 11/5/2009
DRAWING NO:	Page 1 of 1

PARTICLE SIZE ANALYSIS TEST REPORT

ASTM D422 & C136

Project:	Dome Road and South Bench Lagoon Sites	Client:	Yukon Government
Project No.:	W14101357	Client Rep.:	
Site:	Dawson City, YT		
Material Type:		Date Tested:	16-Nov-2009 By: SMS
Sample No.:		Soil Description[2]:	SILT - some gravel, trace sand, trace clay
Sample Loc.:	TP03		
Sample Depth:	3.0 m	USC Classification:	Cu: 8.7
Sampling Method:	Grab		Cc: 1.4
Date sampled:	6-Nov-2009 By: MCP	Moisture Content:	15.4

Particle Size (mm)	Percent Passing
75	
50	
38	100
25	94
19	92
12.5	90
10	89
5	88
2	87
0.85	86
0.425	85
0.25	85
0.15	84
0.075	81
0.0262	45.5
0.0193	31.4
0.0123	19.8
0.0090	15.0
0.0065	11.6
0.0032	7.3
0.0014	4.7



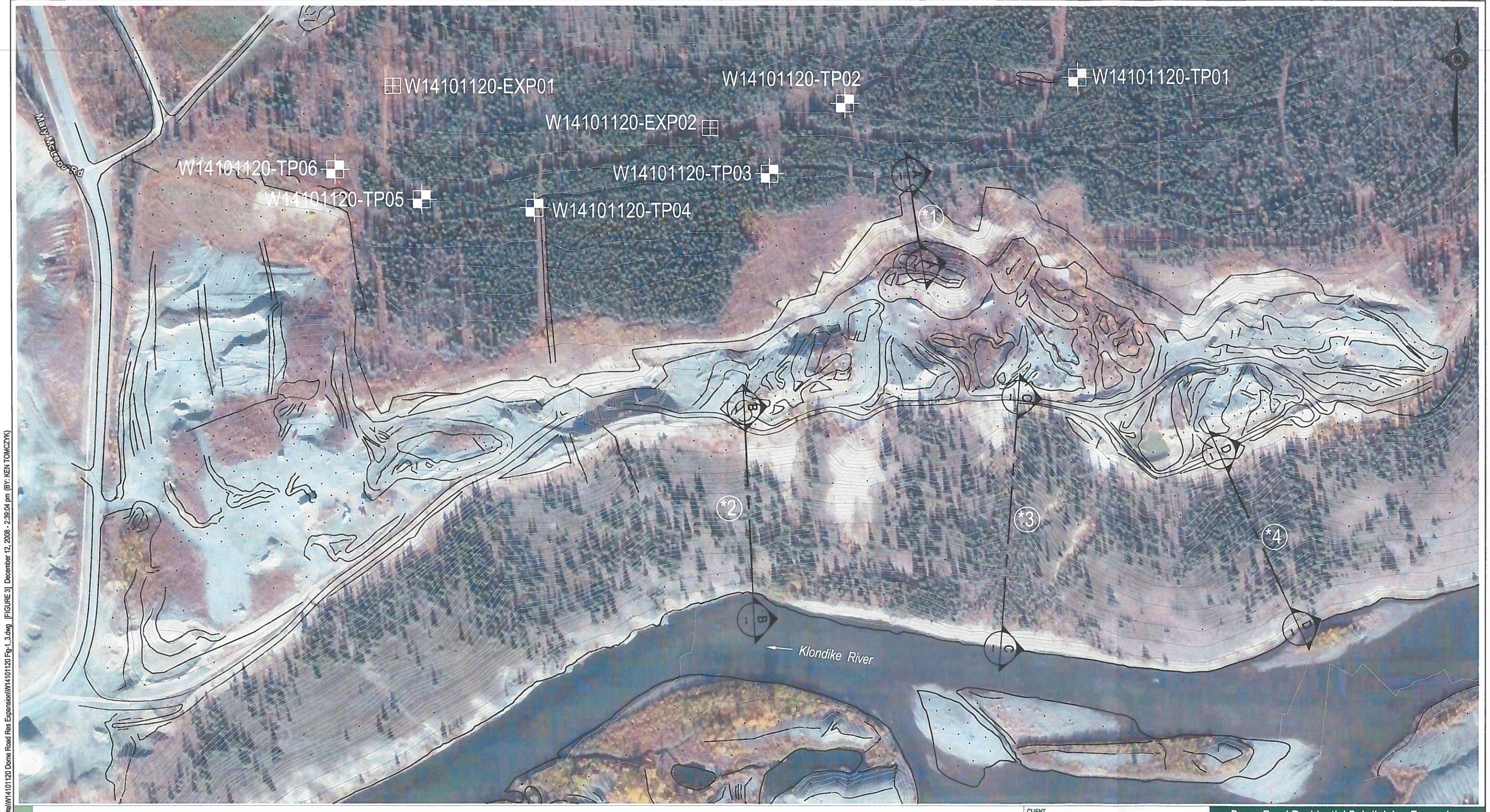
Notes:
[1] The upper clay size of 2 um, per the Canadian Foundation Engineering Manual
[2] The description is visually based & subject to EBA description protocols

Specification: _____

Remarks: _____

Reviewed By: _____

EBA Engineering Consultants Ltd.



LEGEND

- TESTPIT LOCATIONS (SHOWN WHITE)
- EXPOSURE LOCATIONS (SHOWN WHITE)

NOTES

1. BASE PLAN ADAPTED FROM ORIGINAL PROVIDED BY INUKSHUK PLANNING.
2. IMAGE OBTAINED FROM GOOGLE EARTH

*SECTION NOTES:

1. SECTION A - A SLOPE ANGLE = 39°; SETBACK RECOMMENDATION - 15 m
2. SECTION B - B SLOPE ANGLE = 35°; SETBACK RECOMMENDATION - 40 m
2. SECTION C -C SLOPE ANGLE = 24°; SETBACK RECOMMENDATION - 15 m
2. SECTION D - D SLOPE ANGLE = 30°; SETBACK RECOMMENDATION - 20 m

0 250

Scale: 1: 5 000 (metres)

CLIENT

Yukon Government
Community Development Branch

Dome Road Residential Subdivision Expansion
Dawson City, Yukon

GEOMETRIC SLOPE STABILITY
CROSS SECTION LOCATIONS

EBA Engineering Consultants Ltd.

PROJECT NO.	DWN	CKD	REV
W14101120	JSB	MCP	0
OFFICE: WHSE	DATE: December 5, 2008		

Figure 3

Q:\Whitehorse\Data\2201\drawings\Dawson City Area\W14101120 Dome Road Res Expansion\W14101120 Fig-1_3.dwg [FIGURE 3] December 12, 2008 - 2:39:04 pm (BY: KEN TOMCZYK)